Remedial Investigation and Feasibility Study Work Plan

Vacuum Oil Refinery
936 Exchange Street and 22 Flint Street Site
New York State Department of Environmental Conservation
Site # C828193

Prepared for:

Flint Redevelopment, LLC
1400 Crossroads Building
2 State Street
Rochester, New York 14604

Prepared by:

Leader Professional Services, Inc.
271 Marsh Road, Suite 2
Pittsford, New York 14534

Modified by New York State Department of Environmental Conservation

April 2019

900.003

Leader

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 8
6274 East Avon-Lima Road, Avon, NY 14414-9516
P: (585) 226-5353 I F: (585) 226-8139
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April 30, 2019

Mr. Alan Adams
Flint Redevelopment LLC
470 Long Pond Road, Suite 200
Rochester, NY 14612

Dear Mr. Adams:

Subject: **Vacuum Oil Refinery, Site #C828193**
Remedial Investigation and Feasibility Study Work Plan
April 2019
City of Rochester, Monroe County

The New York State Departments of Environmental Conservation (NYSDEC) and Health, collectively referred to as the Departments, have completed their review of the document entitled *Remedial Investigation and Feasibility Study Work Plan* dated April 2019 (the Work Plan) prepared by Leader Professional Services, Inc. for the Vacuum Oil Refinery site located in the City of Rochester. The Departments have determined that the Work Plan, with modifications, substantially addresses the requirements of the Brownfield Cleanup Agreement. A complete copy of the approved modified Work Plan is attached to the electronic copy of this letter.

The first task of the modified Work Plan is to provide the Departments with the following additional information by May 21, 2019:

- Identify the laboratory selected to perform the 1,4-dioxane and TAL PFAS soil and groundwater analyses and provide the laboratory's reporting limits for each of these compounds.
- The results of the geophysical investigations previously completed at the site. The completion of previous geophysical investigations is implied in Section 3.1.8 which states: "Any areas not already investigated using geophysical methods for an AOC will be investigated….".

With the understanding that the Departments' modified Work Plan is agreed to, the attached Work Plan is hereby approved.

Please attach this letter to the Work Plan and distribute as follows within 30-days:

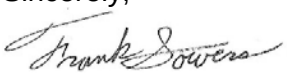
- Frank Sowers (NYSDEC, Avon) - 2 hard copies; and
- Document repositories (PLEX Neighborhood Association and Phillis Wheatley Community Library)- 1 hard copy each.

The hard copies of the approved modified Work Plan should be submitted double-sided.

If Flint Redevelopment LLC chooses not to accept the approved modified Work Plan, you are required to notify this office within 20 days after receipt of this letter. In this event, I suggest a meeting be scheduled to discuss your concerns prior to the end of this 20-day period.

We look forward to working together to bring this site back into productive use. Please contact me at 585-226-5357 if you have questions or concerns on this matter.

Sincerely,



Frank Sowers, P.E.
Professional Engineer 1

e-enclosure

ec: w/enclosure

Sara Bogardus	Dixon Rollins
Justin Deming	Michael Rumrill
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Bernette Schilling	Alan Knauf
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Leader
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900.003

May 20, 2019

Frank Sowers, P.E.
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 8
6274 East Avon-Lima Road
Avon, New York 14414-9516

Re: Vacuum Oil Refinery, Site #C828193
Remedial Investigation and Feasibility Study Work Plan
April 2019
City of Rochester, Monroe County

Dear Mr. Sowers:

As the consultant for Flint Redevelopment LLC, we are responding to your letter of April 30, 2019 regarding the Remedial Investigation and Feasibility Study Work Plan for the referenced project.

Flint Redevelopment LLC accepts the modifications with the understanding that an asbestos-containing materials ("ACM") inspection will be conducted in individual areas before work progresses in those areas. Suspect materials will be sampled, and if confirmed to be ACM will be abated as necessary based on the likelihood of being disturbed. Friable asbestos will be abated but non-friable materials will not be abated unless it will be disturbed during the investigation or abatement is otherwise necessary. An ACM Operation and Maintenance Plan ("O&M Plan") will be prepared to address the asbestos that remains. Please let us know if you agree with this approach, which will allow work to progress outside and in other areas prior to abatement across each building.

The laboratory we have tentatively selected to perform the 1,4-dioxane and TAL PFAS soil and groundwater analyses is ALS Environmental. The laboratory's reporting limits for PFAs in water, soil and sediments are: water - 2 ng/l and soil/sediments - 1 ug/kg. Leader conducted geophysical testing during our Phase II Environmental Site Investigation in April 2016. We used ground penetrating radar work to detect underground utilities and structures in order to locate borings. We did not prepare a separate report of the geophysical study findings.

If you have any questions or need additional information at this time, please call us at 585-248-2413 or email: mrumrill@leaderlink.com or pvonschondorf@leaderlink.com

Very truly yours,
LEADER PROFFESSIONAL SERVICES, INC.

Michael P. Rumrill
President

cc: Ben Conlon, Esq.
Mr. Justin Deming
Alan J. Knauf, Esq.
Dixon Rollins, P.E.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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June 11, 2019

Mr. Luke Stodola
Refinery Management LLC
996 Exchange Street
Rochester, NY 14608

Dear Mr. Stodola:

Subject: **Vacuum Oil Refinery, Site #C828193**
May 20, 2019 Letter Regarding
Remedial Investigation and Feasibility Study Work Plan
April 2019
City of Rochester, Monroe County

The New York State Departments of Environmental Conservation (NYSDEC) and Health, collectively referred to as the Departments, have completed their review of the May 20, 2019 letter (the letter) from Leader Professional Services (Leader) regarding the Remedial Investigation and Feasibility Study Work Plan dated April 2019 for the Vacuum Oil Refinery site.

Based on the information in the letter and subsequent emails with Leader, the Departments agree to the following:

- An asbestos containing materials (ACM) inspection will be conducted in all sampling areas before work progresses in those areas. Suspect materials will be sampled and, if confirmed to be ACM, will be abated as necessary based on the likelihood of being disturbed. Friable asbestos will be abated, but non-friable materials will not be abated unless it will be disturbed during the investigation or abatement is otherwise necessary.
- Air sampling for asbestos will be conducted before the field work begins if any suspected ACM remains or if air sampling is otherwise necessary to comply with local, state, and federal requirements.
- The ACM inspection and abatement activities will be performed by personnel who are licensed by the New York State Department of Labor (NYSDOL) to perform those tasks.
- The geophysical investigation conducted prior to the start of ground intrusive activities will include all exterior areas of the site and the findings will be reported to the Departments.

In addition, the Departments understand that Leader intends to create an ACM – Operation and Maintenance Plan for remaining ACM. This plan will not be part of the Brownfield Cleanup Program and will not be approved by the Departments since NYSDOL regulates ACM in buildings. However, the Departments request an electronic copy of the final document. Future modification work concerning ACM within the buildings should be handled by the local city building code official, as needed, and in accordance with all local, state, and federal requirements.

Please contact me at (585) 226-5357 if you have any questions or concerns regarding this letter.

Sincerely,

Frank Sowers, P.E.
Professional Engineer 1

ec:

Steve Berninger	Dixon Rollins
Justin Deming	Michael Rumrill
Ben Conlon	Melissa Valle
Bernette Schilling	Alan Knauf
Wade Silkworth	Peter vonSchondorf
Sara Bogardus	

Certification

I, Peter von Schondorf, certify that I am a Qualified Environmental Professional as defined in 6 NYCRR Part 375, and that this Remedial Investigation/Feasibility Study Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Peter von Schondorf

4-5-19

Date

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1.0 INTRODUCTION

This remedial investigation and feasibility study ("RI/FS") Work Plan is provided in partial fulfillment of Flint Redevelopment LLC's entry into the New York State Department of Environmental Conservation ("NYSDEC") Brownfield Cleanup Program ("BCP") on the property located at 936 Exchange Street and 22 Flint Street in the City Rochester and County of Monroe ("the Site"), see Figure 1. The Site property is identified by NYSDEC in the BCP as "Vacuum Oil Refinery" and the site code C828193.

2.0 BACKGROUND

2.1 Property Location

The Site is located on the east side of Exchange Street and north of Flint Street in the City of Rochester. The property is identified as 936 Exchange Street and 22 Flint Street and is bordered to the north by a vacant industrial property, to the east by the former Erie Canal path and the Genesee River, to the south by another BCP project site known as the "former Vacuum Oil Refinery" and commercial property, and to the west by commercial and residential property. This area of the City of Rochester is known as the Plymouth-Exchange ("PLEX") neighborhood.

2.2 Site Description

The Site covers approximately 2.9 acres and has two commercial buildings, see Figure 2. The buildings are located on the east and west sides of the property with a driveway entrance from Flint Street. The driveway enters the Site and onto a paved area which is used for employee parking and building deliveries. On the east side of the 22 Flint Street building there is a fenced enclosure, which is gravel/grass covered and used for storage of boats and unused equipment.

The Site is zoned as an M-1 district which allows the following uses: research laboratories; corporate headquarters; local service offices, such as real estate sales, insurance agencies, doctor's offices, or other offices typically found in commercial districts when in a structure or integrated complex of at least 25,000 square feet of gross area; manufacturing, high-tech or light industrial uses; warehouses and wholesale distribution facilities; mixed use facilities with a minimum of 25,000 square feet at initial development; vehicle repair stations; vehicle sales, rental, and storage; technical and vocational schools; animal hospitals and kennels; sexually oriented businesses; self-storage, ancillary parking lots and garages; community parking lots and garages; dwelling conversions; live-work space; retail sales; offices and clinics; bars and restaurants; day-care centers; entertainment; funeral parlors and mortuaries; places of worship; pawnbrokers and secondhand dealers. The immediately adjacent to the Site includes other M-1 zoned property (north, northeast, northwest and southwest) and R-1 residential property to the west, southwest, southeast and east. Figure 3 provides a zoning map.

2.2.1 936 Exchange Street

The largest building is at 936 Exchange Street located on the west side of the Site property. It is a four story, L-shaped building and covers approximately 100,000 square feet. The building is a complex of two or three buildings, which have been joined together over time using additions and opening walls to form passageways. A small area of the building along Exchange Street has two basements, where at one time utilities may have entered the building.

The first floor is used for commercial purposes including: studios for painters, photographers, and tattoo artists; warehousing of bicycles and bicycle parts, computers and computer parts, motorcycles, household goods, and construction materials for the building renovation; mushroom cultivation, a bakery, and smoked meats and nuts; studios for yoga classes and performance artists (historical reenactments); and vehicles and equipment used to collect household food waste for composting. Table 1 provides the most recent tenant list. Outside of the building several companies store construction equipment.

2.2.2 22 Flint Street

At 22 Flint Street, there is a two-story building covering approximately 25,000 square feet, which is used for office space, work areas and storage areas by Rainbow International of Monroe County ("Rainbow") and Freestyle Restorations, Inc., a furniture restoration shop. Rainbow provides water, fire and smoke restoration services. In addition to business office areas, located on the second floor in the center of the building, Rainbow uses the first floor as cleaning areas to remove water, mold and smoke odors from carpets, furniture, and other items. The first floor is also used for vehicle storage, equipment and supplies. The south side of the building does not have a second floor, the warehouse space has a high-bay style ceiling. It appears Rainbow or a previous user built shelving units to use the open ceiling space and enclosed portions of the floor space for cleaning rooms. The space above these rooms is also used for storage.

Freestyle Restorations, Inc. has a work shop on the first floor of 22 Flint Street, where the upholstery is completed on furniture, vehicles and boats. The shop covers an area of approximately 350 square feet.

2.3 Site History

2.3.1 Site and Area Use History

The Flint Redevelopment LLC properties at 936 Exchange Street and 22 Flint Street are located within an area referred to as the "Vacuum Oil Site" by the City of Rochester and the NYSDEC. North, east and south of the site, the properties are undeveloped, vacant or under-utilized. To the west, along Exchange Street, there are some established business, but predominately it is a residential neighborhood. The City considers the area as a gateway for development because of its location to the adjacent Genesee River and the University of Rochester ("UR"). Once developed, the site area will offer recreational and business opportunities, which will augment and be supported by the neighborhood and student/faculty population of the UR.

The former Vacuum Oil Works operated from approximately 1866 until 1935 as an oil refinery using the subject property and the adjacent parcels. The refinery had rail access which had rail spurs entering the site at several locations, see Figure 4. Presumably the rail spurs were closely tied to the manufacturing operations, providing feedstock chemicals and receiving product. Aboveground storage tanks and industrial processes were situated in the courtyard area or in the adjacent buildings. The tanks and processes were closely linked to the rail spurs and a "barrel run" trestle. Some of the process tanks are shown within building spaces. Assuming the refinery worked similar to a modern-day equivalent, there were probably overhead and buried piping

used to move product, chemicals, waste and steam, although with the exception of water pipes none of these are shown. Much of this information was obtained from dated Sanborn Fire Insurance maps, but an undated map of the "Vacuum Oil Company Rochester Works" shows more detail; however, limited identification of the building uses or tank contents. This drawing did show that east of the building(s) at 22 Flint Street there is a large coal storage pile situated between rail spurs.

Between 1938 and 1950 one of the majority users of the Site was Rochester Distilling Company which fermented grain into alcohol, and at least in 1938 whiskey. In 1950 the Sanborn map indicates the Rochester Gas & Electric Company was a tenant. Subsequent to Vacuum Oil's use of the subject property, other companies conducted operations at the property including: Rochester Distilling Company, Socony Vacuum Oil Company (1931), Kolko Paper Company (1975), Genesee Brewery Company, Inc. (1954), Exchange Flint Corporation (1954) and Genesee Development Corporation (1957). The subject property is currently owned by Foodlink Foundation, Inc. (1999), which operated a food storage and distribution warehouse until recently.

The contamination left behind from the legacy companies include petroleum products and intermediates to the refining process. Chlorinated solvents have been identified in the soil, groundwater and soil gas. These compounds may be an artifact of any of the former operators or an operator from a neighboring property.

2.3.2 Site Regulatory History

The Site does not have a significant regulatory background outside of being a part of the larger Vacuum Oil site. 936 Exchange had a NYSDEC solid waste facility registration to operate a composting facility, but that has been inactivated. Two spills were reported on the Site: 22 Flint Street reported a spill on November 2, 1987 (spill number 8706537) when the Rochester Water Bureau found fuel oil seeping into an excavation used to repair a water valve; and on March 10, 2016 Leader reported a spill (spill number 1511740) when petroleum impacted soil was found during the completion of soil borings.

The location of the November 2, 1987 spill is not identified but assumed to be in the street or on the 22 Flint Street property where a water valve might be located. The NYSDEC Spill Report identified a neighboring junkyard as a possible source of the fuel oil. On November 4, 1987, the spill was closed with no documented remedial actions.

The March 10, 2016 spill identified by Leader was located within the courtyard area of the Site, where Leader was completing soil borings. The multiple locations where petroleum impacted materials were found suggests this is Site-wide contamination and not necessarily from a single source. The spill is being addresses under the BCP and remains open.

2.4 Previous Environmental Investigations

Previous environmental investigations completed at the site include a Leader April 3, 2016 Phase II Environmental Site Investigation ("Phase II"); ExxonMobil ("EM") soil and groundwater sample results from March 11, 2016; and a June 22, 2016 Supplemental Phase II Environmental Site Investigation completing a Sub-Slab Vapor Sampling. Figures 5, 6 and 7 show the results of the Leader and EM's Phase II investigation data for soil, groundwater and soil vapor.

2.4.1 April 3, 2017 Phase II Environmental Site Investigation Report

A Phase II Environmental Site Investigation by Leader Professional Services, Inc. completed nine soil borings and installed three monitoring wells to evaluate subsurface soil and groundwater conditions. The field work was conducted on March 10 and 11, 2016, see Figure 5 for a sample location map.

The soil borings and monitoring wells installed for the Phase II were completed using a truck mounted direct push sampling tools. Each sample was collected using a dedicated PVC sample tube liner which is roughly 1.5-inches in diameter and 4-feet long. Each sample was driven to refusal. The materials found during the sampling of the soil borings included miscellaneous fill materials consisting of gravel, soil, brick, asphalt-covered fine gravel and cinders ranging in depth from 3.0 to 7.0 feet below the ground surface. The natural soils and sediments consisted of fine sand, silt, and clay layers. Mixtures of the materials were commonly found in the borings, but infrequently gravel was found with these materials. Many of the soil borings could not penetrate beyond approximately 11.5 feet because of a compacted till or large gravel layer. Groundwater was encountered between 4.2 and 7.7 feet below the ground surface. Attachment 1 provides a copy of the Phase II Report.

Each sample was screened with a portable organic vapor meter using a photoionization detector ("PID"). Leader visually inspected each sample and noted any odors or presence of free product. In general, all of the samples, with perhaps the exception of the upper 1.0 to 2.0 feet of fill, possessed a faint to strong petroleum odor, but many of these registered only a slight response of less than 10.0 parts per million ("ppm") on the PID. Strong PID responses were found in some soil intervals between 4.0 and 11.5 feet below the ground surface and these ranged from 35.0 to over 200.0 ppm. Along with the elevated PID response, evidence of free product was observed and exhibited as a sheen on the soil samples and droplets of oil on the groundwater sampling bailers.

Samples selected for chemical analysis were picked based on odors/PID response, the presence of potential free product, or the consistency of the material found (e.g., fill composed of cinders). Once collected the samples were placed in glassware appropriate the contemplated analysis and placed on ice. Samples were shipped for analysis on March 11, 2016 to ESC's analytical laboratory in Mt. Juliet, Tennessee.

The soil samples were analyzed for USEPA's Target Compound List ("TCL") volatile organic compounds ("VOCs") using USEPA Methods 5035 and 8260 and Method 8270 for polynuclear aromatic hydrocarbons ("PAHs") related to petroleum. Groundwater samples were analyzed using USEPA Method 8260 for TCL VOCs and PAHs using Method 8270 SIMS. Three samples were also sent to Torkelson Geochemistry, Inc. ("Torkelson") for hydrocarbon fingerprinting. Samples from the following soil borings were submitted to Torkelson: B-1 the sample from 7.0 feet below the ground surface; B-6 the sample from 9.0 to 10.0 feet below the ground surface; and B-8 the sample from 5.0 to 6.0 feet below the ground surface.

None of the detected soil contaminant concentrations exceeded the unrestricted use soil cleanup objectives ("SCO"), however, in several instances the reporting limit of the analysis exceeded the SCO.

Groundwater samples were collected with dedicated PVC 0.75-inch bottom loading bailers. Samples were collected after bailing approximately 3-well volumes or after the monitoring well was evacuated of all water. When the monitoring well was bailed to dryness, samples were collected immediately once the monitoring groundwater recharged the well. Groundwater samples were analyzed for TCL VOCs and PAH's using Methods 8260 and 8270-SIMS. The groundwater analytical results were compared to NYSDEC Class GA groundwater quality criteria found in 6 NYCRR Part 703.5 ("groundwater criteria"). Chrysene and Benzo(a)anthracene were found at concentrations which exceeded NYSDEC's groundwater quality criteria. Each of the samples exceeded the Chrysene groundwater criteria of 0.002 micrograms per liter ("µg/L"). The detected concentrations of Chrysene in groundwater range from 0.057µg/L in the groundwater sample from monitoring well B-9 to 4.95 µg/L in the sample from monitoring well B-5. The samples obtained from monitoring wells B-2 and B-5 were found to have Benzo(a)anthracene at concentrations which exceed the groundwater criteria of 0.002 µg/L. The sample from monitoring well B-2 contained Benzo(a)anthracene at a concentration of 0.386 µg/L and the sample from monitoring well B-5 contained a concentration of 3.26 µg/L. All three monitoring well samples B-2, B-5 and B-9 detected Benzo(b)Fluoranthene and Benzo(k)Fluoranthene, however, the laboratory's reporting limits exceeded the groundwater quality criteria of 0.002 µg/L. Figure 6 compares the Leader groundwater data with those of EM.

In addition to the compounds which exceeded the groundwater criteria, other volatile organic compounds and PAHs were reported that do not have a standard or were found at concentrations below standards. These compounds include:

- Methyl cyclohexane at a concentration of 12.7 µg/L in the sample from monitoring well B-5.

- Methyl tert butyl ether at a concentration of 1.14 µg/L in the sample from monitoring well B-2 and at a concentration of 3.94 µg/L in the sample from monitoring well B-5. The groundwater quality criteria for MTBE is 10 µg/L.

- Acenapthalene was found at a concentration of 0.312 µg/L in the sample from monitoring well B-2 and 1.38 µg/L in the sample from monitoring well B-5.

- Benzo(a) pyrene was found at a concentration of 0.125 µg/L in the sample from monitoring well B-2.

- 1-Methyl naphthalene was found at a concentration of 0.626 µg/L in the sample from monitoring well B-2.

- Benzo(ghi)perylene was found at a concentration of 0.0675 µg/L in the sample from monitoring well B-9.

The results from Torkelson analysis of the sample from soil boring sample B-1 shows a highly-weathered gasoline and lubricating oil. The sample from B-6 shows a weathered fuel oil or diesel fuel. It is also possible because of the weathering of the contaminants, that these chromatographs are the signatures of some intermediate product in the petroleum refining process, since Vacuum Oil refined crude oil on the Site. The sample from B-8, however, is different and suggests a spill that might have occurred within the last 20 years. This is based on the concentration ratios between the different compounds.

The findings in both the soil and groundwater show mixed results; there is visual evidence of gross contamination, but the analytical results show only minor amounts of PAHs and even lower amounts of VOCs. This indicates that the contamination present consists of chemical compounds not within the range of detectable compounds normally analyzed for using methods appropriate for the quantification of TCL VOCs and PAHs. Since approximately 100 years have lapsed from when the property began refining petroleum, it is possible that the contaminants normally associated with oil, gasoline or fuel oil have been weathered, lowering the individual compound concentrations, or the degradation processes have removed the volatile compounds entirely. The contamination present on the east side of the Site, based on the sample analysis of the B-8 soil sample, may be from a later spill of petroleum, possibly including gasoline, and occurring in the last 20 years.

2.4.2 Exxon-Mobil Sample Results

EM consultant Roux Engineers ("Roux") joined Leader on the last day of sampling and split samples from selected soil borings. The soil and groundwater samples were collected using the same techniques as Leader described in Section 2.4.1. EM also split groundwater samples from the monitoring wells. EM soil samples were analyzed for VOCs, SVOCs, Metals, Pesticides, and PCBs. Fourteen soil samples were submitted for chemical analysis. EM submitted three groundwater samples for the same chemical testing as the soil samples. A written report on the EM sampling was not prepared; however, a copy of the laboratory report is provided as Attachment 2.

In general, EM soil sample results found minor exceedances of the restricted residential SCO and were the result of PAHs. One soil sample in particular stood out; samples analyzed as RX-1 found the following which were a departure from Leader's Phase II results:

- Benzene at a concentration of 197 micrograms per kilogram ("µg/kg"), which has an unrestricted SCO is 60 µg/kg;
- Cis 1,2-Dichlroethene at a concentration of 639 µg/kg, which has an unrestricted SCO of 250 µg/kg;
- Trichloroethene at a concentration of 9,360 µg/kg, which has an unrestricted SCO of 470 µg/kg.

Groundwater samples when compared to Leader's showed differences and similarities. In general, the differences were that EM found VOCs compounds and SVOCs in one monitoring well sample, while Leader found VOCs and SVOCs in all samples. Leader's findings found VOCs at concentrations less than NYSDEC's groundwater quality criteria. Both EM and Leader found SVOCs at concentrations exceeding NYSDEC's groundwater quality criteria.

EM's findings from sample RXGW1 included:

- MTBE at a concentration of 5.4 µg/L;
- Chrysene at a concentration of 125 µg/L; and
- Phenanthrene at a concentration of 204 µg/L.

EM also reported elevated levels of metals but since the monitoring wells were not purged adequately and by the time containers were filled for metals, the sample was either thick with sediment or the monitoring well went dry requiring the sampler to wait until the groundwater recharged the monitoring well. No pesticides or PCBs were reported.

2.4.3 Supplemental Phase II – Sub-Slab Vapor Sampling

The Supplemental Phase II for sub-slab vapor sampling was completed on June 2, 2016. A copy of the investigation report is provided as Attachment 3. Sample locations were selected to provide information on the sub-slab vapor conditions below the buildings 936 Exchange Street and 22 Flint Street, see Figure 7 for sample locations. The interior of each building was inspected prior to sampling to evaluate building conditions which might impact sampling. These conditions included holes in the floor, tenant traffic within the building area, presence of basements or crawl spaces and the sample locations relative to soil and groundwater samples collected during the previous Phase II. During the assessment, certain areas of both buildings were avoided because of the presence of a concrete floor heating system located in the southeast corner of the 936 Exchange Street building and crawl space beneath the north side of 22 Flint Street. The sampling locations are shown on Figure 7.

Sub-slab sample locations were drilled using an electric hammer drill to bore hole with an approximate diameter of 0.5-inches. The hole was drilled downward through the floor and into the soil/fill below. The length of the hole extending into the soil/fill ranged from 3 to 6 inches. The sampling point was formed by placing a dedicated PVC tube, rated for potable water use, into the hole and backfilling with clean fine to medium grained sand. The top of the sand was brought up to the bottom of the concrete slab or approximately 1 to 2-inches into the concrete. The hole was then filled with hydrated bentonite clay to form a seal. Prior to the collection of samples, each hole was tested to determine if the seal formed around the sample tube the day before was competent. This was determined by placing and sealing a sheet of plastic over the sample location, connecting the sample tube to an instrument with a Helium detector, and then introducing Helium beneath the plastic sheet while monitoring the Helium detector. The monitoring was performed for several minutes. If Helium was detected, then the seal was repaired and retested. Following seal testing the soil vapor was measured using a Mini Rae 3000 volatile organic analyzer using a PID with a 10.6 electron volt lamp. The results of the TO-15 analysis and the PID measurements are shown on Table 2. In general, the PID measurements did not show any elevated concentrations.

The sub-slab samples were collected over a period of 1-hour in 6-liter Summa canisters and analyzed using Method TO-15. Each sample was split with EM by splitting the sample tubing into two legs, with each leg going to the respective sample canister. The results of the sub-slab sampling show both chlorinated hydrocarbons and aromatics common with petroleum use.

Figure 8 provides a summary of the sub-slab sample results. The sample results for chlorinated solvents shows a large range of concentrations found: Tetrachloroethene ("PCE") ranging in concentration from 3.04 µg/m^3 to 652 micrograms per cubic meter ("µg/m^3"); Trichloroethene ("TCE") ranging in concentration from 1.26 µg/m^3 to 1,230 µg/m^3; cis-1,2-Dichloroethene found at 9.13 µg/m^3 and 247.0 µg/m^3; Trans 1,2-Dichlorothene was found at 4.77 µg/$m^3$and 9.78 µg/m^3.

Petroleum related compounds were also found at a wide range of concentrations. The following are of interest because of their detected concentration, but also because they were all found at location SV-7 located at 22 Flint Street at the southernmost end of the building: Acetone was found at a concentration of 22.4 µg/m^3; Ethanol was found at a concentration of 109.0 µg/m^3; Heptane was found at a concentration of 5.79 µg/m^3; N-Hexane was found at a concentration of 20.2 µg/m^3; Methylene Chloride was found at a concentration of 40.8 µg/m^3 (also found at lower concentrations in sample blanks); 2-Butanone was found at a concentration of 16.0 µg/m^3; 2-Propanol was found at a concentration of 9.81 µg/m^3; and 2,2,4-Trimethylpentane was found at a concentration of 10.3 µg/m^3.

2.4.4 Exxon-Mobil Sub-Slab Sample Results

During the June 2, 2016, sub-slab vapor sampling conducted by Leader, EM split samples with Leader and collected two indoor air samples. The spilt samples were collected from the same sub-slab sampling point by splitting the vapor using a 1 to 2 tubing splitter and equal lengths of sample tubing going to each Summa Canister. EM and Leader used the same Summa Canister volume.

EM samples were analyzed by Alpha Laboratory for TO-15 VOCs, and in addition to TO-15 compounds were analyzed using a selective ion monitoring method or "SIM" for aromatic petroleum hydrocarbons, sulfides and mercaptans, fixed gases, and a suite of compounds identified as PIANO which includes pentanes, butanes, MTBE, and other aromatic hydrocarbons. EM's sample results are summarized with Leader's sample results on Figure 8. In general, the EM sample results were similar to Leader's with the exception, EM frequently measured higher concentrations of compounds such as TCE at a concentration of 2,200 µg/M^3 and PCE at a concentration of 1,220 µg/M^3. The distribution of TCE and PCE were the same with the exception of one sample point on the southwest corner of the 936 Exchange Street building where EM found TCE and PCE and Leader did not. Unlike Leader, EM collected and analyzed two indoor air samples one on the north side of building at 936 Exchange and one on the south side of the building at 22 Flint Street. The indoor air samples did not indicate that vapor intrusion was an issue. Figure 7 provides a sample location map for the EM samples. A copy of EM's laboratory reports for the sub-slab and indoor air samples is provided in Attachment 4.

2.5 Areas of Concern

The historical use of the Site indicates the entire Site property was used for industrial purposes, which could potentially lead to some form of impact. This was also brought out by the findings of the previous investigations. Until further investigation is completed, the assignment of areas of concern ("AOC") now for the Site may be premature, since a designated use, as indicated on a drawing, may or may not indicate that contamination is present. Nevertheless, the assignment of

AOCs may be helpful to organize the proposed sampling for the remedial investigation. The proposed AOCs include:

- AOC 1 – Recent Petroleum spills;
- AOC 2 - Trichloroethylene ("TCE") contamination;
- AOC 3 – Bleacher Area including tanks;
- AOC 4 – Tank House 1 and 3;
- AOC 5 – Tank House Adjacent to (east) of 22 Flint Street;
- AOC 6 – Solvent Tanks and Oil Tanks Adjacent to (west) of 22 Flint Street;
- AOC 7 - Historical Water Lines from the Genesee River;
- AOC 8 - Historical Drain Lines; and
- AOC 9 - Historic Fill.

These individual AOCs are shown on Figures 9 through 16.

AOC 1 is the suspected location where in 1987 Rochester Water Bureau reported finding fuel oil seeping into an excavation used to repair a water valve. In 2016 Leader reported a second petroleum spill during the completion of a Phase II investigation for contamination found across the courtyard area. The suspected location of the petroleum is shown on Figure 9. The spill reported by Leader was for Site-wide contamination and it is suspected not a single source of contamination. As a result, only the spill identified by the Rochester Water Bureau will be identified as AOC 1.

AOC 2 is the TCE contamination found in various samples. The goal will be to identify the source of this contamination. TCE was found in several locations in the soil: off the northwest corner of 22 Flint Street, EM location RX-1; in the soil off the east side of 22 Flint Street, EM location RX-8, and in the soil at EM location RX-7. The location of the TCE soil and groundwater impacts are shown on Figure 5 and 7. TCE was also found in the soil vapor with the highest concentration found on the north side of 936 Exchange Street, Leader sample locations SV-3 and EM sample location RX-SSVP-03 and in 22 Flint Street at Leader sample location SV-6 and EM sample location RX-SSVP-07.

AOC 3 is the former Bleacher process area of the Vacuum Oil Refinery. This area also included several above ground storage tanks and although these could be separate AOCs Leader combined them since they (process and tanks) are in one area. This area is shown on Figure 11 and is located at the south end of the Site where the building at 936 Exchange Street fronts on both Exchange Street and Flint Street. The process area and tanks appear to be primarily located in the courtyard/parking area adjacent to the building. Leader Phase II sample locations B-4 and B-5 were completed in this area.

AOC 4 is the former Tank House 1 and 3 of the Vacuum Oil Refinery. This area is located on the north end of the Site and it appears the former footprint is primarily beneath north end of the building and partially in the courtyard. Figure 12 shows the approximate location of the two buildings. Leader Phase II sample locations B-2 and B-3 were completed in this area and sub-slab vapor samples SV-3, SV-4 and SV-5 were collected in this area.

AOC 5 is the tank house located on the east side of 22 Flint Street, where Sanborn Fire Insurance maps indicate there was a building containing two storage tanks. The undated Vacuum Oil Company Rochester Works drawing shows this building, tanks, and also a coal pile. Leader's Phase II sample location B-9 was collected in this area. Figure 13 shows the location of AOC 5.

AOC 6 is a collection of storage tanks located within the courtyard formed by the two Site buildings and is immediately adjacent to and west of 22 Flint Street's building, see Figure 14 The Sanborn maps indicate there were oil tanks and solvent tanks in this area. Leader's Phase II sampling locations B-1, B-3 and B-6 were completed in this area.

AOC 7 is the historic water lines from the Genesee River into the former Vacuum Oil Refinery and the Site. Figure 15 shows the approximate route of the water into the Site, which skirts AOC-5, the east side of the building at 22 Flint Street, before crossing the footprint of the building and entering the courtyard. In the courtyard the water line divides and one of routes goes to the north and south. Leader's Phase II sample locations B-3, B-5, B-6, B-7 and B-9 were completed in the pipeline's general area.

AOC 8, the historical drain (sewer) lines are discussed and shown in the "Detailed Historical Site Assessment of the Vacuum Oil Company's Facilities and Locations", dated September 1990 and prepared by the City of Rochester which Leader has. Part of the investigation will be to conduct geophysical investigations to identify and delineate buried structures. As these structures are revealed, soil borings or test pits will be completed to characterize the conditions in those areas.

AOC 9 addresses the historic fill that is present beneath the surface of the Site. The historic fill, composed of non-indigenous or non-native materials (soil), and its extent, both vertically and horizontally, will be determined. The historic fill will be characterized to determine its significance as a source of contamination and exposure. Previous investigations indicate the entire Site is underlain with fill, some of which may be considered historic fill. Figure 16 shows locations where surface soil samples and one soil boring will be completed for AOC 9; it should be understood that all soil borings and monitoring wells will have soil samples collected targeting the various man-made or placed fill materials and natural soils. Collectively, this data set will be used to characterize the nature and extent of historic fill, refinery-related fill, and other types of fill material.

2.6 Conceptual Site Model

The spotting of sample locations on a Site drawing is typically based on the past use of the Site and the location of Site specific historical or current day features (processes, tank farms, etc.), the Site's or regional geology, topography, and groundwater characteristics, and assumptions of the types of contaminants present. Figure 17 showing the location of historical features of interest is one of the many parts used to form our Conceptual Site Model ("CSM"). Past investigations also strongly influence the CSM since they provide some information on the geology of the Site (both man-made and undisturbed-native conditions), the hydrology of the Site, and the types of contaminants present. Our current understanding of the Site conditions indicates the Site's overburden geology has been heavily impacted introducing fill materials and both fill and native soils being impacted by contaminants.

Contaminants found to date include weathered petroleum products and by-products (by-products from the refining of petroleum and chemical intermediates from refining) and chlorinated solvents (Perchloroethylene and TCE). Other contaminants have not been identified to date, but the additional RI sampling will improve our understanding of the chemical contaminants present. The presence of petroleum products and by-products and chlorinated solvents will require the investigation of all subsurface depth intervals since the contaminant characteristics tend to distinguish themselves into contaminants that tend to float and those that tend to sink. Petroleum products often are thought to be lighter than water and tend to float on the water table with a dissolved phase having the ability to migrate vertically into the subsurface. In general, these wastes should migrate with groundwater flow. Refining by products, refining intermediates, and refining wastes may behave differently. Chlorinated solvents are often heavier than water and in a pure product phase often found pooled on soils or bedrock having lower permeabilities. Solvent waste may be diluted with water or other chemicals at the time of disposal may not behave exactly like a pure product and dissolve in the groundwater and migrate with groundwater flow as oppose to a gravity induced flow pattern.

Our understanding of the Site geology and groundwater flow in the Site area suggests the overburden (fill and native soil) is the thickest on the east side of the Site and composed of a mixture of demolition debris, cinders, and soil, with native soils composed of fine sand, silt and clay layers, with gravel sometimes found above till or bedrock. Till or bedrock was encountered at approximately 4.5 to approximately 12-feet below the ground surface. Bedrock is suspected to be either shale or limestone. Groundwater was encountered in the overburden at a depth of approximately 4 to 8 feet below the ground surface. Groundwater in the overburden is reported to flow to the east toward the Genesee River. There may be on-Site deviations to this general flow pattern caused by historic infrastructure, more or less permeable fill or soils and an erratic bedrock surface. As a result, the layout of monitoring wells assumes our hydraulically up-gradient location is along Exchanges Street.

2.7 Future Use

The proposed future use of the Site will be commercial and residential apartments and/or condominiums.

3.0 SCOPE OF WORK

The goal of the proposed fieldwork is to characterize the nature and extent of contamination on the Site and to address potential off-site impacts related to the former Vacuum Oil Site operations. In addition, investigation may be necessary where data indicates the disposal of contaminants at the Site has occurred and contamination is potentially present at levels and, or frequency sufficient for NYSDEC to require a full delineation of the nature and extent of contamination, to allow a decision by NYSDEC regarding any necessary remediation. To achieve this goal, a multi-task effort is proposed which includes: characterizing the Site's geology and hydrology; determining the nature of the chemical contaminants found on the Site; to determine the horizontal and vertical extent of the historic fill and the chemical contamination originating from the Site; and evaluating how the current conditions are impacting environmental and human health. As necessary offsite investigation may be required to fully delineate those contaminants originating on the Site

The environmental media to be sampled during the field investigation will include: surface and subsurface soils, sediment, soil vapor, and groundwater.

In addition to sampling and analysis of the various environmental media, a location and elevation survey will be conducted to locate our samples and show the Site's attributes on report figures. Attributes to be shown will include: The Site's property lines, ground surface topography, the location of buildings, roads, and easements or right of ways. The ground surface elevation and each sample location's northing and easting will be determined relative to the World Geodetic System of 1984 ("WGS84").

The Scope of Work is presented as individual tasks. The tasks will be conducted concurrently to make the best use of equipment and labor, and to allow the facility to continue to operate efficiently. For example, a surface soil sample that is co-located with a soil boring will be collected when the soil boring is completed.

This work plan will be amended, as needed, to complete additional investigation activities until the overall Remedial Investigation objectives are achieved. All amendments to the work plan must be approved by NYSDEC prior to the start of associate activities.

3.1 AOC Investigations

In general, each of the identified AOC will be investigated using the tasks detailed in the following sections of the Work Plan. In most cases each AOC will use each of the noted tasks, but certain circumstances a task may not be included. For example, sampling conducted within one of the Site's buildings will not have surface soil sampling conducted. The following is a discussion of the investigations to be conducted for each AOC.

3.1.1 AOC 1 Petroleum Spill

AOC 1 is the suspected location where petroleum spill was found when the Rochester Water Bureau found fuel oil seeping into an excavation used to repair a water valve. The suspected location of petroleum spill is adjacent to 22 Flint Street. A geophysical survey will be conducted in this area to determine if there are underground utilities are present but also abandon process or utility lines. Three soil borings will be completed in the area shown on Figure 9 to evaluate the overburden for contaminants. At least one monitoring well will be installed and sampled in this area. Surface soil samples in this area will be collected per section 3.1.9.

3.1.2 AOC 2 TCE Contamination

TCE and other chlorinated solvents were identified during the previous investigations and may originate from the north side of the Site beneath the building located at 936 Exchange Street and migrate to the east beneath the courtyard and beneath the building at 22 Flint Street. To investigate the source of contamination investigation activities will include conducting a geophysical survey to determine if there are underground utilities or abandon former process lines, utilities lines or process tanks. To evaluate the subsurface materials the sampling of soil borings and the placement of overburden and bedrock monitoring wells, see Figure 10, will be completed. Existing monitoring wells B-2 and B-9 from Leader's Phase II investigation will be

redeveloped and evaluated for re-use. As necessary these monitoring wells will be replaced. Soil vapor samples will not be collected, because sub-slab vapor mitigation is being conducted. Since the source of the TCE is unknown a surface soil source cannot be excluded; however, if TCE was spilled on the ground surface, it is likely to be greatly degraded and not be able to provide any relevant information. Surface soils will be collected and analyzed as a part of historic fill evaluations and the evaluation of sediment/overland flow assessments.

3.1.3 AOC 3 Former Bleacher Process Area and Bleacher Tanks

AOC 3 is the former Bleacher process area and Bleacher tanks are located in the approximate area shown on Figure 11. To investigate this area a geophysical survey will be conducted to determine if there are underground utilities or abandon former process lines, utilities lines or process tanks. Soil borings will be sampled to evaluate the subsurface materials and monitoring wells will be installed and sampled to evaluate the condition of the groundwater. Existing monitoring well B-5 from Leader's Phase II investigation will be redeveloped and evaluated for re-use. As necessary this monitoring well will be replaced. Sub-slab vapor sampling will not be completed since sub-slab vapor mitigation is being completed.

3.1.4 AOC 4 Tank House 1 and 3

AOC 4 an area of the Site where part of each of these former building is not located beneath the building at 936 Exchange Street and the courtyard immediately to the east, see Figure 12. Also associated with Tank House 3 are two above ground storage tanks identified as slop tanks on a 1938 Sanborn Fire Insurance map.

Some of this area is also within the area suspected to be the source of TCE (AOC 2); hence some of the sampling will be completed with the investigation of AOC 2. is the former Tank House 1 and 3 of the Vacuum Oil Refinery. To investigate this area a geophysical survey will be conducted to determine if there are underground utilities or abandon former process lines, utilities lines or process tanks. Surface soil samples will be collected in an area of exposed soil immediately east of the building at 936 Exchange Street to evaluate potential contaminants and potential soil exposure issues. Soil borings will be sampled to evaluate the subsurface materials and monitoring wells will be installed and sampled to evaluate the condition of the groundwater. Existing monitoring well B-2 from Leader's Phase II investigation will be redeveloped and evaluated for re-use. As necessary this monitoring well will be replaced.

3.1.5 AOC 5 Tank House East of 22 Flint Street

AOC 5 is the tank house located on the east side of 22 Flint Street, where Sanborn Fire Insurance maps indicate there was a building containing two oil storage tanks. The undated Vacuum Oil Company Rochester Works drawing shows this building, the tanks and also a coal pile, see Figure 17 To investigate this area a geophysical survey will be conducted to determine if there are underground utilities or abandon former process lines, utilities lines or process tanks. Surface soil samples will be collected in an area to evaluate potential contaminants and potential soil exposure issues. The surface soil samples will also be used to evaluate the potential for contaminants to migrate off the Site via runoff (overland flow). Soil borings will be sampled to evaluate the subsurface materials and monitoring wells will be installed and sampled to evaluate the condition of the groundwater. Existing monitoring well B-9 from Leader's Phase II

investigation will be redeveloped and evaluated for re-use. As necessary this monitoring well will be replaced. Soil vapor sampling will not be conducted because sub-slab vapor mitigation is planned for 22 Flint Street. Figure 13 shows the approximate locations of the AOC 5 investigation.

3.1.6 AOC 6 Courtyard Storage Tanks

AOC 6 is a collection of storage tanks located within the courtyard formed by the two Site buildings and is immediately adjacent to and west of 22 Flint Street's building, see Figure 14.

To investigate this area a geophysical survey will be conducted to determine if there are underground utilities or abandon former process lines, utilities lines or process tanks. Surface soil samples will be collected in an open soil area on the north end of the Site, between 22 Flint Street and the building at 936 Exchange Street to evaluate potential contaminants and potential soil exposure issues. The surface soil samples will also be used to evaluate the potential for contaminants to migrate off the Site via runoff (overland flow).

Leader's Phase II sampling locations B-1, B-3 and B-6 were completed in this area and these locations will be re-sampled along with other soil borings to evaluate the subsurface materials and to confirm sample results obtained during the Phase II. Monitoring wells will be installed and sampled to evaluate the condition of the groundwater. Existing monitoring well B-9 from Leader's Phase II investigation will be redeveloped and evaluated for re-use. As necessary this monitoring well will be replaced. Soil vapor sampling will not be conducted because sub-slab vapor mitigation is planned for 22 Flint Street. Monitoring well B-9 is reportedly downgradient of the tank area and also next to another tank area associated with AOC 5.

3.1.7 AOC 7 Historic Water Lines

AOC 7 is the historic water lines from the Genesee River into the former Vacuum Oil Refinery and the Site. Figure 15 shows the approximate route of the water into the Site, which either skirts or intersects the following AOC's; AOC 3, AOC 4, AOC 5, and AOC 6. A geophysical survey will be conducted as a part of these AOCs but will be expanded to include areas where the water lines may have been routed. Unless a suspected buried pipeline is found no additional investigation will be completed for the sole purpose of investigating the water lines. Possible additional investigation may include soil borings in the vicinity of a suspected pipeline.

3.1.8 AOC 8 Historic Drain Lines

AOC 8 is the historic drain lines (sewer) within the Site. Text and figures regarding the location of former drain lines, oil traps, manholes, outfall to the Genesee River and other associated infrastructure are provided in the "Detailed Historical Site Assessment of the Vacuum Oil Company's Facilities and Locations", dated September 1990 and prepared by the City of Rochester. Leader will review this document and conduct a geophysical survey to identify these buried features. Any areas not already investigated[1] using geophysical methods for an AOC will be investigated to identify possible buried features. Unless a suspected buried pipeline (or other sewer infrastructure) is found no additional investigation will be completed for the sole purpose of investigating the drain lines. Possible additional investigation may include soil borings near a suspected pipeline.

1.The Departments understand that no areas of the Site have already been investigated using geophysical methods. If such investigations have been completed, the results will be sent to the Departments within 30 days of Work Plan approval.

3.1.9 AOC 9 Historic Fill

AOC 9 addresses the historic fill that is present beneath the surface of the Site and potential off-site migration. Since the investigation of the other AOCs will accomplish much of the delineation needed to characterize the historic fill, this investigation will be limited to the collection of surface soil, cover evaluation, and perimeter subsurface samples, soil borings, and monitoring wells primarily on the north end of the Site where there is an uncovered soil area, on the south side of the Site along Flint Street, on the east side of the site, and an uncovered (or partially covered) soil area in the central courtyard, see Figure 16.

3.2 Investigation and Reporting Tasks

Task 1 consists of providing the additional information requested in NYSDEC's approval letter.

Task 2 is the asbestos evaluation discussed in Section 5.

3.2.1 Task 3: Existing Well Redevelopment

During previous investigations at the site one-inch diameter monitoring wells were installed and sampled. The sampling of the monitoring wells had difficulties obtaining adequate volumes of water to fill all the sample containers. There are possibly several reasons for this; low water table or inadequate development. Task 1 is proposed to redevelop the monitoring wells to determine if they are viable for characterizing the site's groundwater conditions or need to be replaced. Figure 18 provides the locations of the existing monitoring wells.

If the existing monitoring wells cannot be used, the NYSDEC Project Manager will be notified and a decision made to replace the monitoring well or to put a monitoring well in a new location.

3.2.2 Task 4: Magnetometer Survey

A magnetometer survey will be completed in the open areas of the Site between the buildings and east of the building at 22 Flint Street. The goal of the magnetometer survey will be to locate large metal objects or objects that retain a magnetic signature; this will include tanks, pipes, train tracks, electrical wire and conduits, and some fill materials. Features found by the analysis of the magnetic signature will be identified on the ground surface with paint and identified on sketches and the Site survey drawings.

3.2.3 Task 5: Surface Soil Investigation

Address mulch area along Flint Street include soil borings in ROW extent of petroleum contamination. The surface soil investigation will be conducted where the Site has uncovered soil, gravel or grass and will have the following goals: (1) the identification and the distribution of the chemical and elemental compounds in the surface soils; (2) evaluate surface soil as as exposure pathway; and (3) an evaluation of how contaminant levels that will influence the cleanup of the property. Since the majority of the Site was covered with asphalt pavement, concrete pavement or building space sampling will be limited to those areas identified on Figure 18. On the south side of 936 Exchange Street, the current surface is covered with wood mulch. If the mulch is covering bare soil and is on the Site property, then additional soil samples will be collected to confirm the surface soil conditions. Each surface

soil sample (0 to 2-inches below the ground surface) will be analyzed for Target Compound List ("TCL") semi-volatile organic compounds including 1,4-dioxane ("SVOCs") plus tentatively identified compounds ("TICs"), pesticides, herbicides, PCBs, Target Analyte List ("TAL") metals plus mercury and cyanide, and TAL PFAS (1 in 5). These samples will be collected from as grab samples directly from the upper two inches of soil.

During the collection of surface soil samples, an evaluation of the ground surface will be completed using three evaluation techniques: a visual assessment (presence of stains, possible fill material, etc.), the presence of volatile organic compounds ("VOCs") using a portable organic vapor analyzer with a photoionization detector ("PID") and the presence of discernable odors. Our observations, instrument readings and the presence of noticeable odors or unusual soil characteristics will be included in the sampling notes along with location, date and time. Sample locations within the stone fill will also be excavated with a shovel or trowel to measure the depth of the stone fill. This information will be included with our sampling notes.

Below the 2-inch sampling depth, the following sampling schedule will be completed will be referred to as cover evaluation samples:

- Samples collected from 2 to 6 inches below the ground surface, 6 to 12 inches below the ground surface, and 12 to 24 inches below the ground surface will be analyzed for TCL VOCs plus TICs; SVOC (including 1,4-dioxane) plus TICs; pesticides, herbicides; PCBs; TAL metals which includes mercury and cyanide; and TAL PFAS (1 in 5).

The laboratory results will be compared to the Title 6 of New York State Codes, Rules and Regulations ("6 NYCRR") Part 375 (NYSDEC Division of Environmental Remediation, 2010), Soil Cleanup Objectives ("SCOs") for unrestricted use and restricted residential use for the protection of public health and protection of groundwater where applicable.

3.2.4 Task 6: Subsurface Investigation

3.2.4.1 Overburden Sampling

The subsurface soil sampling being proposed is a complement to the surface soil sampling and hydrogeologic investigation. Samples will be collected at multiple locations across the Site as shown on Figure 18[1] and vertically at each location. The soil samples will be collected from different intervals based initially on the materials encountered; different fill materials, different geologic strata, and the groundwater interface, for chemical analysis. The decision where to collect the sample will be based on multiple factors: the presence of visual contamination; presence of a nuisance odors; and presence of elevated PID readings. If contamination is suspected or identified in a sample, the interval will be retained for possible chemical analysis. If there are multiple intervals exhibiting contamination, then the interval with the most pronounced visual, olfactory, or PID indicator of contamination will be selected for that strata or fill unit. The next interval not exhibiting an indicator of contamination will also be sampled. If contamination extends into the saturate zone, a sample from both the unsaturated and the saturated zone will be collected. If an obstruction or bedrock is encountered, then sampling will be discontinued. For planning purposes, all soil borings will be sampled to refusal where the boring will be terminated unless it is to be used as a bedrock monitoring well.

1. Figure 18 is a compilation of Figures 9 to 16 which show sample locations (inside and outside of buildings) targeting specific areas of concern based on spills, past sample results, historic operations, suspected underground structures, etc.

If no visual contamination, nuisance odor or elevated PID readings are found, the default interval for sample submittal for analysis will be based on the location of the soil boring:

- Samples collected from inside buildings, the interval from immediately below the floor to four feet below the floor will be targeted. If the materials immediately below the floor consists of gravel, the interval below the gravel will be considered for sampling, because of the likelihood contaminants will seep through the gravel. If there are no indicators of contamination the unsaturated fill/native soil interface will be sampled. It the fill extends to the saturated zone, then the top of the saturated zone will be sampled. (Borings inside buildings will still be advanced to refusal).

- Samples collected from outdoor areas, the fill types and different geologic strata located above the saturated zone will be targeted.

In addition to interval sampling, each sample core collected will be screened with the PID, and visually described. Portions of each sample will be retained in either a zip lock sandwich bag or a clean glass jar for additional headspace screening. A separate portion of the sample will be used for chemical analysis. If air temperatures drop below 70 degrees Fahrenheit ("F") when the sampling is conducted, the headspace sample will be warmed for approximately five minutes to elevate its temperature before it is screened with the PID.

Samples will be analyzed for TCL VOCs plus TICs, TCL SVOCs plus TICs, TCL pesticides and herbicides (1 in 4), TAL metals including mercury and cyanide, PCBs (1 in 4), and TAL PFAS (1 in 5). Results from the subsurface soil sample analysis will be compared to 6 NYCRR Part 375 SCO's for unrestricted use and restricted residential use for the protection of public health and the protection of groundwater.

During the sampling, field notes will be collected based on our observations, instrument readings and the presence of noticeable odors or unusual soil characteristics. After the soil boring and samples have been placed in the appropriate containers and the sample cooler, the location will be staked for locating purposes.

Subsurface soil samples will be collected with either direct push sampling tools or sampling using hollow stem auger drilling equipment with split spoon samplers. During the probing or drilling process, samples will be collected continuously from the ground surface to a point below the water table where the monitoring wells will be screened (or refusal if a well is not installed in the boring). If overburden sampling encounters contamination and the soil boring is at its planned depth, sampling will continue to refusal. The anticipated depth of the overburden monitoring wells will be less than 20 feet (bedrock in the area ranges from 4 to 18 feet). The measured depth to groundwater ranges from approximately 7-feet to the top of the bedrock.

Since the overburden may not be saturated in some areas of the Site, if those conditions are encountered the drilling contractor will be instructed to use the hollow stem augers to advance into the fractured bedrock surface until a point where the hollow stem augers cannot be advanced. The conditions will be assessed at this time with the NYSDEC Project Manager to determine if an overburden monitoring well should be constructed.

The collected soil samples will be used to describe the geology and hydrogeology of the Site and to evaluate deeper soil intervals for impacts from past and current operations.

3.2.4.2 Bedrock Sampling

Four soil borings will be used to investigate the geology and hydrogeology of the shallow bedrock, see Figure 18. Sampling of the overburden will be conducted at the adjacent overburden monitoring well, if one is planned or unless there is a problem with the sample collection, then soil sampling will proceed as described in Section 3.3.1.

Once the top of the bedrock is defined, the contractor will drill two feet into the bedrock surface with a tri-cone roller bit and form a socket to install a four-inch diameter steel casing, see Section 3.4.2 for procedures. Once the four-inch casing is installed and the grout has cured, the hole will be advanced 10 feet using a HX coring bit. When rock core is removed the depth to the water will be measured, then the core will be screened with a PID and visually described. The location and number of fractures will be noted along with the presence of stains, odors or free product. After describing the core, the depth to the water will be measured to evaluate if the monitoring well will produce a volume of water that can be sampled. If the water level drops from the initial measuring, the core hole will be bailed and evaluated again after 10 minutes. If it appears the monitoring well will not produce water, a five-foot core will be drilled to complete the monitoring well.

3.2.5 Task 7 and 10: Groundwater Investigation

The groundwater investigation will consist of the installation and sampling of conventional monitoring wells and measuring groundwater elevations. Eight monitoring wells will be screened within the shallow groundwater zone and four monitoring wells will be bored into the upper 10 feet of bedrock. There will be 2 groundwater sampling events to evaluate seasonal variation[1]. The second sampling event is Task 10.

During the drilling, construction, development and sampling portions of this task, field notes will be recorded of the information and data needed for preparing sample logs, geologic logs and monitoring well construction diagrams, and making interpretations of the geology, hydrology and contaminant conditions. The location of the monitoring well will be surveyed and the casing elevation calculated once all monitoring wells have been installed.

3.2.5.1 Overburden Monitoring Wells

The conventional monitoring wells will be installed using hollow stem drilling equipment or direct push sampling equipment. The decision to use hollow stem drilling equipment or direct push equipment will be based on whether the hollow stem drilling equipment can enter the location(s). In the event the area cannot be accessed, then direct push equipment will be used to install a one-inch diameter monitoring well.

Regardless of the type of drilling equipment used, the subsurface soil will be sampled continuously from the ground surface to point in the overburden eight feet below the water table where a monitoring well screen will be placed. If bedrock or a point of refusal is encountered before the eight feet of saturated thickness can be penetrated, then the NYSDEC Project Manager will be informed and an alternate monitoring well design will be proposed using a

1. The second round of groundwater samples must be submitted for inclusion into EQuIS, but do not require Category B deliverables and DUSRs. The analyte list for the second round may also be reduced upon NYSDEC approval.

shorter screen length. Based on previous on and off-Site investigations, the groundwater zone is anticipated to be encountered at a depth of approximately seven feet or lower below the ground surface.

The monitoring wells will be constructed from either one inch or two-inch diameter PVC and use five to 10 feet of slotted monitoring well screen. The screen will be placed so a portion (ideally two feet) of the monitoring well screen straddles the top of the water table.

To protect the monitoring well from on-site traffic, site flooding and to facilitate locating the monitoring wells when snow is present, the following completions will be used on the monitoring wells:

- For on-site monitoring wells in undeveloped area (east of the 22 Flint Street building), a "stick-up" style protective casing with a locked lid or a locked plug inserted into the monitoring well riser will be used. The casing will be sealed in a ring of concrete extending several feet into the ground while inside the casing there will be a layer of sand extending from the former ground surface to a point below the steel casing, which will allow water to drain back into the soil.

- Monitoring wells placed in developed areas (driveway, parking lot or loading dock) will use metal protective casings which will be installed flush to the ground surface so not be damaged by vehicles or imped traffic. These monitoring well casings will be fitted with a water tight gasket and the monitoring well will have a water tight locking plug. A layer of sand will be used inside the casing and extend below the casing's sides to allow any storm water to flow back into the soil. The outside of the casing will be secured in concrete. The metal cap will facilitate locating the well during winter with a metal detector.

3.2.5.2 Bedrock Monitoring Wells

Four bedrock monitoring wells will be drilled and constructed on the Site to evaluate groundwater quality and the direction of groundwater flow. When sampling and drilling the monitoring well location, the soil will be sampled to the top of the bedrock. The hollow stem augers will be turned into the weathered bedrock surface to a point of refusal. If the bedrock can be drilled more than two feet into bedrock a split spoon sample will be collected to determine if the material is rock or till.

Once competent bedrock is identified, the bedrock will be drilled approximately two feet to create a socket where a steel casing will be inserted and tremie grouted with bentonite-cemented into place. Approximately 24-hours after the grout has been placed, the bedrock will be core drilled another 10 feet.

The monitoring well will be constructed using a stick-up style protective casing as described above.

3.2.5.3 Groundwater Sampling

Following construction, each bedrock monitoring well will be developed by initially removing the approximate volume of water introduced during drilling (if any) and an additional five (5) well volumes. In the event more than 55-gallons of water was lost during drilling, then Leader will contact NYSDEC's Project Manager to discuss an alternate monitoring well development plan. Development will continue as needed to remove sediment until a clear (less than or equal to 50 Nephelometric units) groundwater sample can be obtained. Overburden wells will be developed by removing at least 10 well volumes and will continue as needed to remove sediment until a clear (less than or equal to 50 Nephelometric units) groundwater sample can be obtained. Approximately two weeks after the completion of the monitoring well installation and development, each monitoring well will be sampled.

Groundwater sampling will involve the collection of field parameters as well as samples for chemical analysis. Field parameters will include: turbidity, oxidation reduction potential, dissolved oxygen, pH, temperature, and conductivity. As purging proceeds the depth to groundwater will be monitored as will the rate of flow from the monitoring well. A low flow groundwater sampling technique will be used for purging, which will require monitoring the water level and flow during the procedure. The goal is to minimally stress the groundwater zone by minimizing the water level drawdown during pumping to approximately 0.125 feet (from the initial water level) and maintaining a steady stream of water flow. During the purging procedure field parameters will be measured until the values have stabilized.

During sampling turbidity will be measured until a value is sustained at 50 Nephelometric units ("NTU") or below, then the other field parameter measurement can begin. If development and purging of the monitoring well does not result in producing a groundwater flow with a turbidity of less than 50 NTUs after a reasonable amount time, then the NYSDEC Project Manager will be consulted and they will decide whether or not to approve the collection of filtered and unfiltered samples for selected organic and inorganic compounds. When the NTU value is reached the groundwater discharge will be directed to a flow through cell for the measurement of the remaining field parameters. These values will be measured at 10-minute intervals until they stabilized (within 20% of the preceding three values).

Samples collected for laboratory chemical analysis will be analyzed for TCL VOCs plus TICs, TCL SVOCs plus TICs, TCL pesticides and herbicides, PCBs and TAL metals including mercury and cyanide. Three overburden monitoring wells will also be sampled and analyzed for 1,4-dioxane and per- and polyfluoroalkyl substances ("PFAS"). Monitoring wells selected for this sampling will include an up-gradient monitoring well, one-monitoring well within the courtyard and one-monitoring well located on the east side of the 22 Flint Street building.

Samples will be collected using a low-flow groundwater sampling technique with dedicated tubing. Prior to sampling, water level measurements will be taken with an oil/water interface probe to evaluate the presence of floating NAPL layers and to obtain groundwater elevation data for groundwater surface contouring. The laboratory results will be compared to Technical Operational Guidance Series document 1.1.1 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations ("TOGs"), for Class GA groundwater.

3.2.5.4 Groundwater Elevations

Prior to the sampling of the newly installed monitoring wells, all Site monitoring wells will be measured to determine the groundwater elevation. The groundwater depths will be measured to the 1/100th of a foot at the north end of the monitoring well riser or casing.

3.2.6 Task 8: Property and Land Survey

A property line and topographic survey of the Site and the immediate surrounding area will be completed so the property line can be defined and a usable drawing can be made to illustrate the Site's important features (buildings; stationary equipment; buried gas, electric, and water lines; storm water catch basins and conveyances; sumps and drains; and sampling locations). Another important attribute of the Site is the ground surface topography and the Site features. This information is important to assist in the interpretation of surface and groundwater flow, and contaminant migration. The topographic map will be drawn using one-foot contours. Once monitoring wells and all other sampling locations have been identified the ground surface elevations and northing and easting values of these locations will be determined so they can also be added to a drawing of the Site.

Ground surface elevations and northings and eastings will be calculated using World Geodetic System of 1984 ("WGS84") and reported to 6 decimal places as a northing (y-coordinate) and easting (x-coordinate). Elevations will be measured to the nearest 10th of a foot.

In addition to producing a suitable site map, location and elevation data, the Surveyor will also prepare a metes and bounds description for the property.

3.2.7 Task 9 and 11: Draft and Final Remedial Report

Preparation of the final report is discussed in Section 7. If additional phases are required to further characterize the Site conditions or if an IRM is to be conducted before issuing a final report, Flint Redevelopment will communicate this information and the preliminary Site characterization data to NYSDEC. The need to prepare an addendum to this Work Plan to address additional sampling needs will be discussed with NYSDEC.

4.0 QUALITY ASSURANCE/QUALITY CONTROL PROTOCOLS

This section describes the protocols and procedures to be used for the collection, handling, analysis of samples and the documentation of standards of site activities. This section also identifies the management of the project and the responsibilities of each person involved with the project. Leader's project Quality Assurance Project Plan is provided as Appendix A.

4.1 Project Management

NYSDEC Project Manager - Frank Sowers, PE, Division of Environmental Remediation, in Avon, New York (585) 226-5357.
NYSDOH Project Manager - Sara Bogardus, Empire State Plaza, Corning Tower Rm. 1787 Albany, NY 12237 (518) 402-7860 beei@health.ny.gov.
Mr. Sowers and Ms. Bogardus manage the project for the State. Both will be notified prior to deviating from the procedures presented herein and if there has been a problem with the procedures or analyses because of Site-specific conditions. All correspondence will be sent to both.

Leader Professional Services, Inc. Principal-in-Charge - Michael Rumrill 271 Marsh Road, Suite 2, Pittsford, New York 14534 (585) 248-2413. Mr. Rumrill's responsibility is for overall quality control and to ensure that adequate resources are dedicated to this project.

Leader Professional Services, Inc. Project Quality Assurance Officer – Michael Rumrill, 271 Marsh Road, Suite 2, Pittsford, New York 14534 (585) 248-2413. Mr. Rumrill's responsibility is to ensure that the Work Plan is adhered to and to enforce any corrective actions needed. Mr. Michael Rumrill will be notified by Leader's Site Manager or by the analytical laboratory of any field problems with implementing the procedures or analyses because of Site-specific conditions, or if there has been a deviation from the protocols presented herein.

Leader Professional Services, Inc. Project Manager and Project Engineer - Dixon Rollins, P.E., 271 Marsh Road, Suite 2, Pittsford, New York 14534 (585) 248-2413. Mr. Rollins' responsibility is to ensure that the Work Plan is adhered to, enforce any corrective actions needed and to supervise all technical aspects of the project implementation and report writing. Mr. Rollins will be notified by Leader's Site Manager or Project Manager of any problems with implementing the procedures or analyses because of Site-specific conditions, or deviations from the protocols presented herein.

Leader Professional Services, Inc. Site Manager – Matthew Knight, 271 Marsh Road, Suite 2, Pittsford, New York 14534, (585) 248-2413. Mr. Knight's responsibility is to manage the remedial investigation and to ensure that aspects of the project are completed in accordance with the Work Plan.

Mark Perrielo, CIH, CSP, Health and Safety Officer – Mr. Perrielo, 271 Marsh Road, Suite 2, Pittsford, New York 14534, (585) 248-2413. Mr. Perrielo's responsibility is to manage the health and safety aspects of the field investigation and provide input on the evaluation of the laboratory data and a laboratory data quality assurance review.

Ms. Mary Ellen Holvey, with ME Holvey Consulting, LLC will prepare the project's Data Usability Summary Report ("DUSR"). ME Holvey Consulting, LLC is located in Pittsford, New York.

4.2 Procedures for the Collection of Samples

Three types of samples will be collected during the the remedial investigation: headspace samples, soil samples and groundwater samples. Soil samples may be collected with three different types of equipment; sampling trowels, direct push sampling tools and/or split spoon samplers. Although each of these tools are used differently, handling the sample is relatively the same. Procedures for the collection of headspace samples, soil samples and groundwater samples are provided in Appendix A.

4.3 Field Procedures

Completion of field activities will involve the completion of a series of tasks, which have one or more specific procedures and/or requirements. Appendix A provides individual procedures for the field activities. NYSDEC guidance for sampling and analysis of emerging contaminants in soil and groundwater is provided in Appendix A and will be followed.

4.4 Analytical Requirements

A NYSDOH Environmental Laboratory Approval Program ("ELAP") certified laboratory will be used to analyze all samples. In general, each sample will be analyzed for the following list of chemical parameters, with the exception of surface soil samples: VOCs plus 10 tentatively identified compounds ("TIC"), SVOCs (including 1,4-dioxane[1]) plus 20 TICs, TCL Pesticides and Herbicides, PCBs, and TAL metals including mercury and cyanide. Surface soil samples (0 to 2-inches) will be analyzed for SVOCs (including 1,4-dioxane[1]) plus TICs, TCL Pesticides and Herbicides, PCBs, TAL metals and including mercury and cyanide. One in five soil samples will be analyzed for TAL PFAS. Selected groundwater samples will also be analyzed for emerging contaminants in three monitoring wells, one up-gradient of the Site, and two on the Site (see Figure 14 for locations). Emerging contaminants include: TAL PFAS. These emerging contaminants will require specialized sampling requirements found in NYSDEC guidance "Groundwater Sampling for Emerging Contaminants," dated April 2018. These requirements are incorporated into the project's QAPP, see Appendix A.

In general, all soil and groundwater samples will be analyzed using methods from the USEPA's "Test Methods for Evaluating Solid Waste" know as (SW-846) methods and have reporting limits at a minimum will be below the soil cleanup objectives for unrestricted use. TAL PFAS will be analyzed using EPA Method 537 Modified by a lab that is ELAP certified for Method 537. All laboratory results will be prepared with Category B deliverables and in an electronic format suitable for uploading into NYSDEC's EQUIS database. Table 3 provides a list of analyses for each media.

4.5 Quality Assurance Samples

Quality assurance samples will be collected and analyzed as a part of the project to determine if cross contamination is problematic, to verify laboratory results (consistency between samples) and to evaluate if the sample matrix is causing interference with the analytical methods. To accomplish these goals, four types of quality assurance samples will be collected: trip blanks, sample tool rinse samples, duplicates, and matrix spike samples and matrix spike duplicates. Table 3 provides a list of the samples, analyses and the frequency of the sample collection.

Trip blanks are samples composed of distilled and deionized water, which have been placed into 40 milliliter vials and used for the analysis of VOCs. These samples have been historically analyzed for VOCs because volatile organic vapors can migrate into samples. One trip blank sample will be placed into one of the sample shipment coolers with each shipment to the analytical laboratory.

Sample tool rinse samples are samples composed of distilled and deionized water poured over a clean sampling tool. The sample is analyzed for all parameters the normal sample is analyzed for to evaluate the decontamination procedures and their impact on the samples. Since Geoprobe/direct push samples and groundwater low flow samples will be collected from new disposable sampling equipment, a field rinse sample will not be collected from the Geoprobe/ direct push sample tool or sample tubing. One rinse sample will be collected for split spoons, sample trowels or spoons, and groundwater bailers.

Duplicate samples are samples collected by physically splitting the sample into equal portions or collecting a portion from the sample in a sampling device. When sampling monitoring wells using a low flow sampling pump dividing the sample into two equal portions is not feasible, because it introduces a potential for the loss of constituents when transferring the sample from the sample tubing into a sample container and then a second sample container which

1. 1,4-Dioxane is considered an emerging contaminant, but it is also considered a compound of potential concern where chlorinated solvents are also present.

forms the duplicate. To minimize any bias when the duplicate sample is collected, the sampler will alternative sample containers between the sample and the duplicate when collecting for a particular parameter or contaminant group (i.e. VOCs). These samples are collected to evaluate the homogeneity of the sample and the consistency or reproducibility of the analytical procedures.

Matrix and matrix spike duplicates are samples collected and prepared in the field and submitted to the laboratory. The laboratory then introduces a chemical spike into the samples to determine how the spike reacts with the sample media and the consistency of the analysis.

In general, duplicates, and matrix spike samples will be collected and analyzed at a frequency of one sample per twenty samples analyzed.

5.0 HEALTH AND SAFETY

Leader has developed a site-specific Health and Safety Plan ("HASP") in general accordance with 29 CRF 1910.120 and Leader's experience with similar investigation activities. Appendix B provides a copy of the HASP. This plan will be implemented by the project's health and safety coordinator ("H&SC"). The H&SC will provide and implement the health and safety procedures for all project employees and any subcontractors ("Team") who may be working on the site. Prior to beginning the field activities, field team members are required to read and sign this HASP. All Site contractors will be responsible for their employee's health and safety while on-Site.

Since this is an active commercial property Site conditions relative to the buildings will need to be reviewed prior to the start of field work. There is a potential for the tenants to have completed renovations to eliminate or expose unforeseen hazards. Previously, suspected asbestos containing building materials have been identified in the basement area and on the first-floor area of Building E located on the west side of 936 Exchange Street. It is suspected similar conditions may have existed elsewhere on the property. Prior to beginning field work, a qualified person will inspect all on-site buildings for suspected asbestos containing materials (ACM). As needed, samples will be collected of indoor air and suspected ACM to determine if an asbestos or another hazard is present[1]. Results will be shared with NYSDEC upon receipt.
The HASP has been developed to provide a mechanism for establishing safe working procedures and conditions during the investigation activities at the Site. The safety organization, procedures, and protective equipment have been established based upon an analysis of potential hazards. Specific hazard control methodologies have been evaluated and selected with the goal of eliminating the potential of accident or injury. The content of the HASP may change based upon additional information made available to health and safety personnel, monitoring results, or changes in the technical scope of work. Changes to the HASP will be made by adding an addendum.

6.0 COMMUNITY AIR MONITORING PLAN

In addition to having a HASP for the project there will also be a site-specific Community Air Monitoring Plan ("CAMP). The CAMP will be conducted in cooperation with the HASP to monitor air quality at the perimeter of the unique work areas (i.e. drilling location, inside of buildings, etc.) to the perimeter of the exclusion and beyond. The goal of the CAMP is to protect

1. If there is suspected ACM on-site, then the entire building should be sampled and, if necessary, remediated in accordance with NYSDOH and NYSDOL regulations before additional renovations, or remedial investigations occur within the buildings.

air quality in areas where residents, occupants, and passersby might be impacted. Appendix C provides a CAMP for the project. HASP monitoring is not a supplement or a replacement for CAMP monitoring.

If dust or VOCs exceeds thresholds at the upwind monitoring location during the investigative activities, Leader will instruct the site manager to take appropriate corrective action. If dust or VOCs from the sampling or drilling operations exceed project thresholds at the downwind monitoring location compared to the upwind monitoring location, the field manager will determine what is causing the problem and seek a remedy, and if needed, they will stop work until it can be corrected. As a result, air monitors will be located up and down wind of the investigation work. Details are provided in the CAMP in Appendix C.

CAMP monitoring for while working inside buildings or within 20 feet of potentially exposed populations or occupied structures will be conducted in accordance with the Special Requirements CAMP provided in Appendix C.

In addition dust monitoring using instruments, the CAMP requires visual monitoring for fugitive dust with the goal of having no visible dust leave the site boundary. Appropriate corrective action will be taken if this goal is not achieved.

7.0 REPORTING

Three written reports will be prepared for documenting the remedial investigation: monthly reports, data usability reports and the project final report. If needed, an interim report will be prepared to report on a second phase of sampling or an IRM(s).

7.1 Monthly Reports

Monthly reports will be prepared during the the remedial investigation and feasibility study so that all parties are kept informed of the project's progress, changes and schedule.

7.2 Interim Report

An interim report may be prepared in the event a second phase of sampling is needed or there is a need to finish the IRM before the preparation of the final report. This need will be discussed with NYSDEC prior to moving forward.

7.3 Data Usability Summary Report

The Data Usability Summary Report ("DUSR") will be prepared once the data is obtained to thoroughly evaluate the analytical data with the primary objective to determine whether the data,

as presented, meets the site/project specific criteria for data quality and data use. Data problems will most likely stem from improper sample preservation, exceeding sample holding times, or analytical problems such as instrument calibration problems or matrix interferences. These problems may cause some of the data to be unusable or qualified with special notes for their use, requiring re-analyzed, or re-collected samples for analysis. This report will be prepared by an experienced environmental scientist or chemist who is capable of conducting a full data validation so the data is not misused in the remedial investigation report.

DUSRs will be completed and the validated results submitted in an acceptable format to NYSDEC's EQuIS group within 90-days of sample collection.

7.4 Final Report – Remedial Investigation Report and Remedial Alternative Analysis Report

The final report consists of two documents: A Remedial Investigation Report (also referred to as the RI Report) and the Remedial Alternatives Analysis Report ("RAAR"). Both documents will be completed in significant conformance with DER-10. The RI Report, in general, will discuss the findings of the investigation. In addition to discussing the findings, the report also summarizes site history, a site records search results, description of the physical setting of the project and the surrounding area, the potentially impacted receptors including fish and wildlife resource impact (on and off-site), a qualitative health exposure assessment (on and off-site) and identify the potential future use of the property. The report will also discuss any deviations from the Work Plan (including documentation of NYSDEC approval of all deviations) and the outcome on the project's goals.

The project's findings will be discussed in terms of the project setting, the site history and the site's future use. During this discussion, the results will be compared to the applicable environmental quality standards, criteria and guidance values. This comparison will be used along with a comparison between results (a location to location comparison) to determine where contaminant source areas are located, the extent of contamination, and which exposure pathways are completed. The report will also include conclusions. All data will be presented in table format and summarized on a drawing of the site using a usable scale such as one inch equals 40 feet or less.

The primary objective of the RAAR is to propose a remedial alternative(s) to restore the site to the extent possible and feasible to pre-disposal conditions, to eliminate or mitigate significant environmental and human health threats, and to make the site suitable for the continued use as a commercial business and residential apartment property. To accomplish these goals, a decision-making matrix is used to develop remedial alternatives.

There are seven steps in the decision-making process:

1. Establish remedial goals
2. Establish remedial action objectives
3. Identify response actions to address contaminants or contaminated media
4. Identify and screen technologies for each of the response actions
5. Assemble technologies in operable units or site wide alternatives

6. Analyze the alternatives pursuant to specific criteria:
    a. Overall protection of health and environment
    b. Compliance with standards, criteria and guidance
    c. Long term effectiveness and performance
    d. Reduction of toxicity, mobility, or volume
    e. Short-term effectiveness
    f. Implementability
    g. Cost
    h. Community Acceptance
7. Consider the potential for natural resource damage
8. Recommend a remedy

The RAAR will be presented with seven main sections:

1. Executive summary
2. Purpose
3. Site description and historic land use
4. Future land use
5. Summary of previous investigations, remedial activities, and exposure/risk assessment
6. Site characterization and nature and extent of impacts to receptors
7. Identification of standards, criteria and guidelines for cleanup
8. Remedial action objectives
9. Identification and screening of technologies and development of remedial alternatives
10. Detailed evaluation of remedial alternatives
11. Selection of remedy

The RI Report will be certified by a Qualified Environmental Professional (as defined in Part 375) employed by Leader. The RAAR will be certified and stamped by a New York State licensed Professional Engineer that has a direct contract with the Applicant and is either a sole proprietor or has a Certificate of Authorization, used by the New York State Department of Education ("NYSED") to practice professional engineering.

8.0 SCHEDULE

Upon receiving approval of the Work Plan, Leader and Flint will begin to schedule site activities. Leader plans to mobilize to the Site within two weeks of Work Plan approval. Many of the activities of Task 1, 2 and 3 will be conducted concurrently, but Task 1 will begin the field work portion of the project. The following schedule begins with day one being the date of NYSDEC's approval letter. For the sole purpose of this schedule, workdays are counted as days.

Task 0 - Scheduling, days 1 to 15.
Task 1 - Submit Additional Information, day15.

Task 2 - Asbestos Evaluation, days 15 to 25.
Task 3 – Existing Well Redevelopment, days 27 and 28.

Task 4 – Magnetic Survey, days 28 and 29.

Task 5 – Surface Soil Sampling, days 28 and 29.

Task 6 – Subsurface Investigation, days 29 to 39.

Task 7 – Groundwater Investigation (1st Round), days 31 to 50.

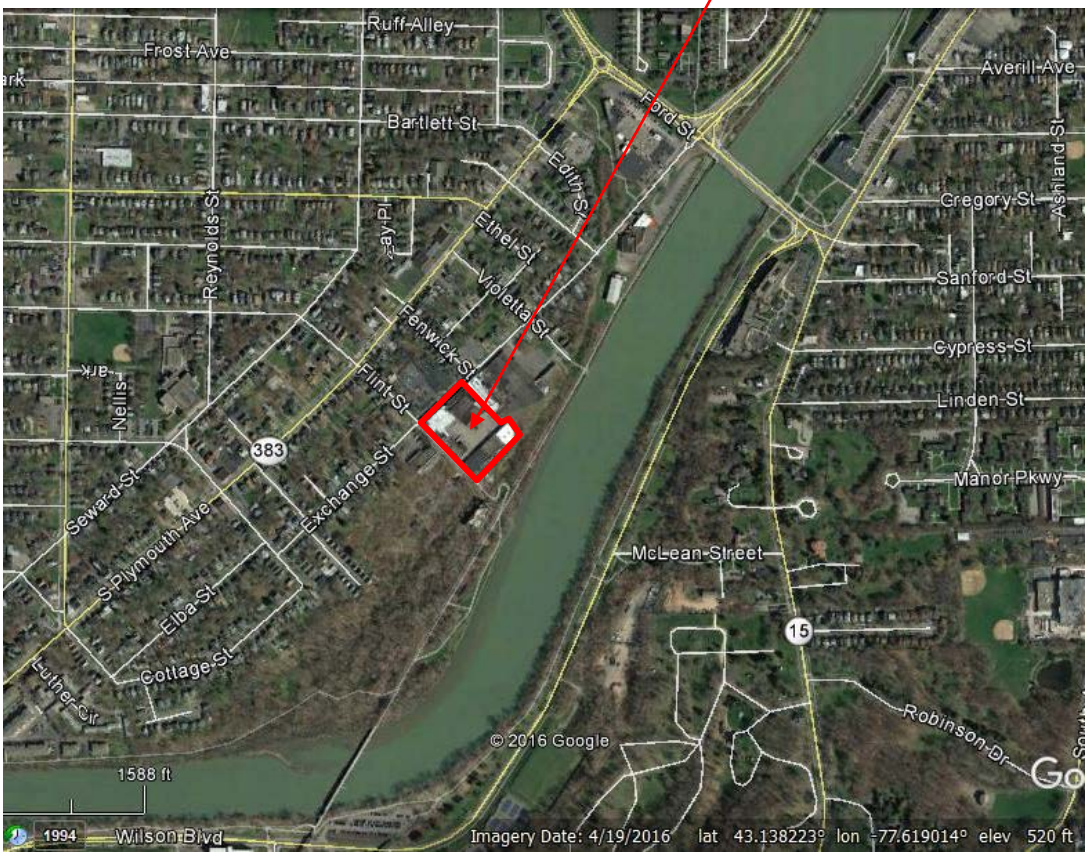
Task 8 – Property and Land Survey, days 36 to 46.

Task 9 – Draft RI Report Submittal, day 140.

Task 10 - Groundwater Investigation (2nd Round), 4 to 6 calendar months after 1st Round.

Task 11 – Revised RI Report and draft RAAR Submittal (or Supplemental RI Work Plan if necessary), 40 days after 2nd round groundwater sampling.

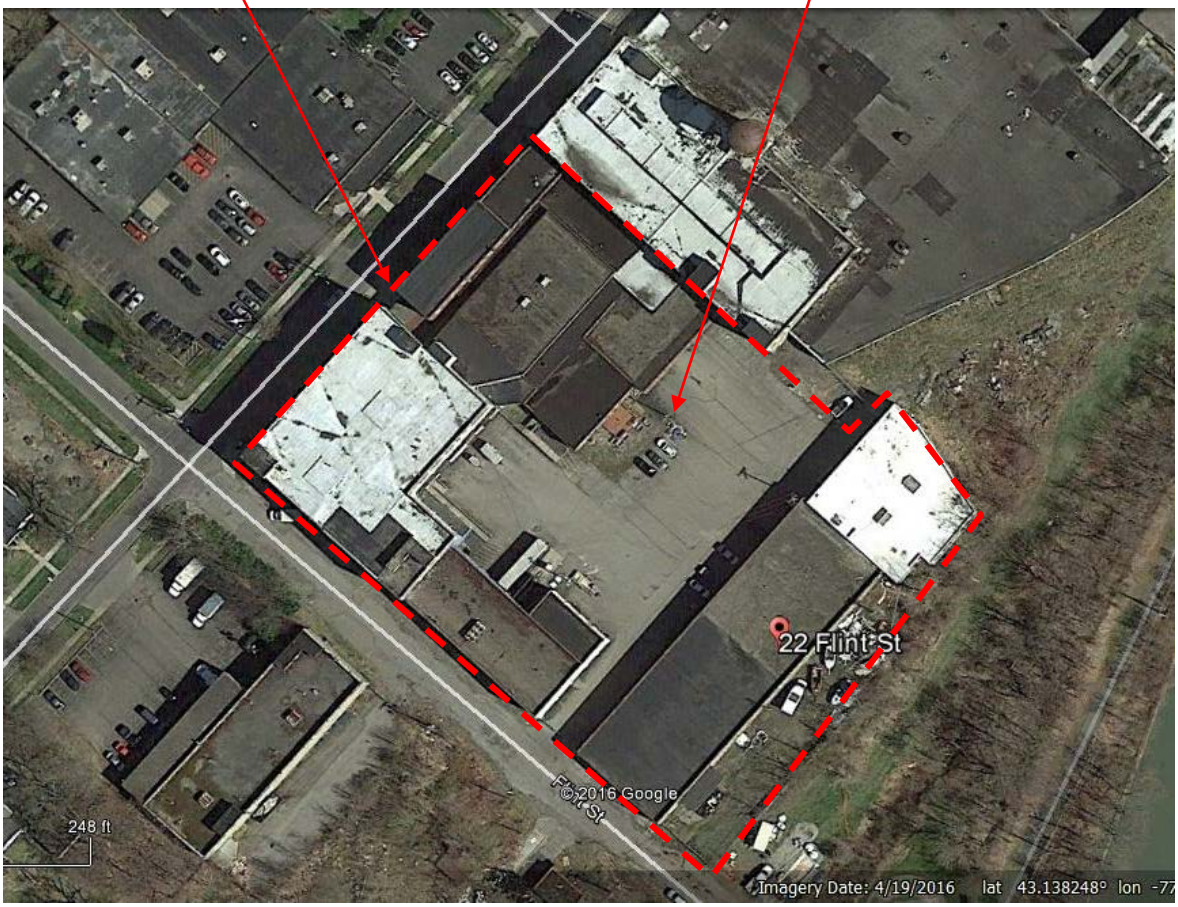
Any changes to this schedule must be approved in writing by NYSDEC.



Title:	Site Location 936 Exchange Street and 22 Flint Street Rochester, New York 14608
Prepared For:	Flint Redevelopment LLC 2 State Street Rochester, New York

Leader Professional Services, Inc
271 Marsh Road-Suite 2
Pittsford, New York 14534
(585) 248-2413
Fax (585) 248-2834

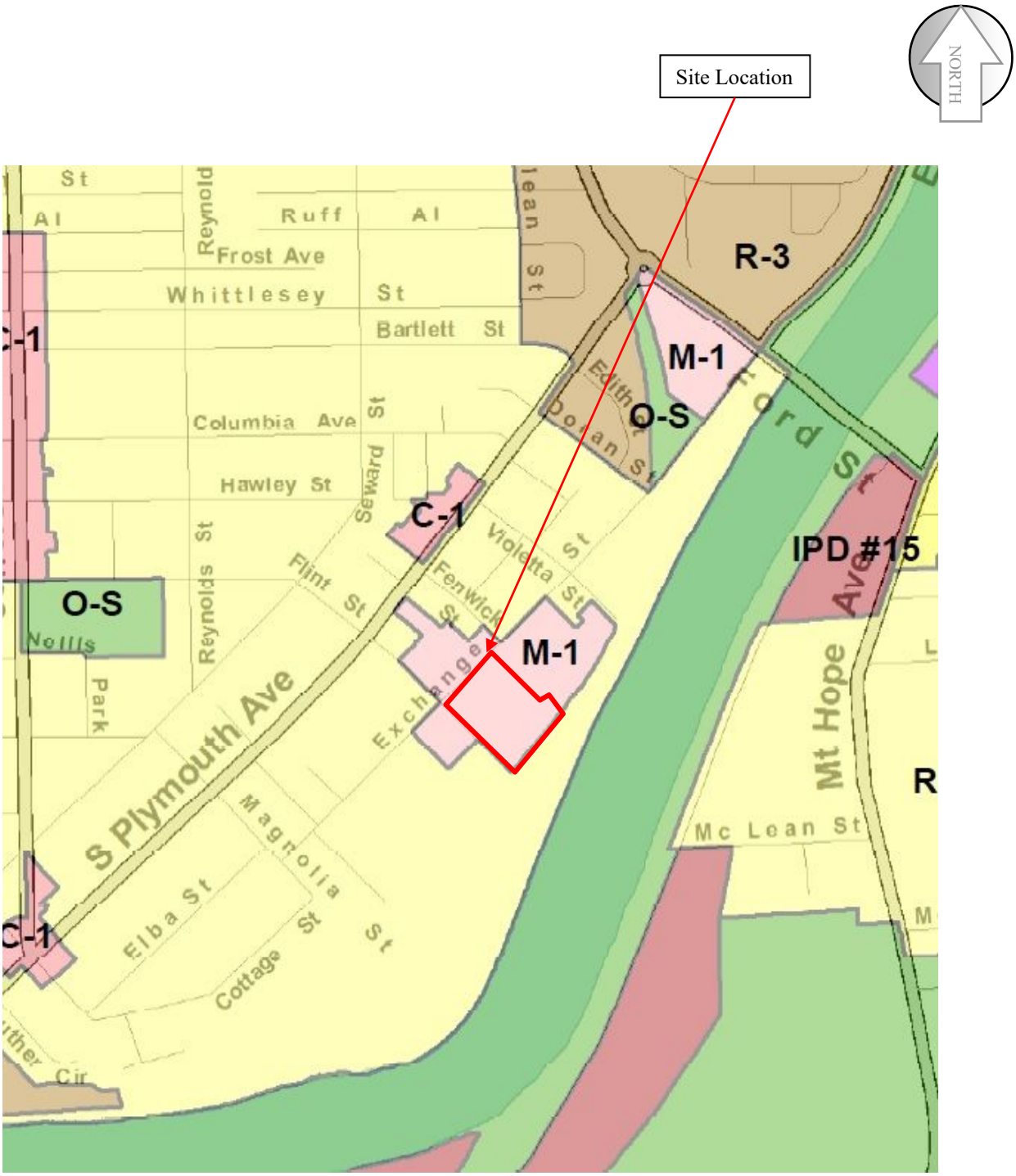
Project	900.003
Date	February 2, 2017
Scale	NTS
Drawn	PVS
Checked	MPR
File Name	Location Map
Figure	1



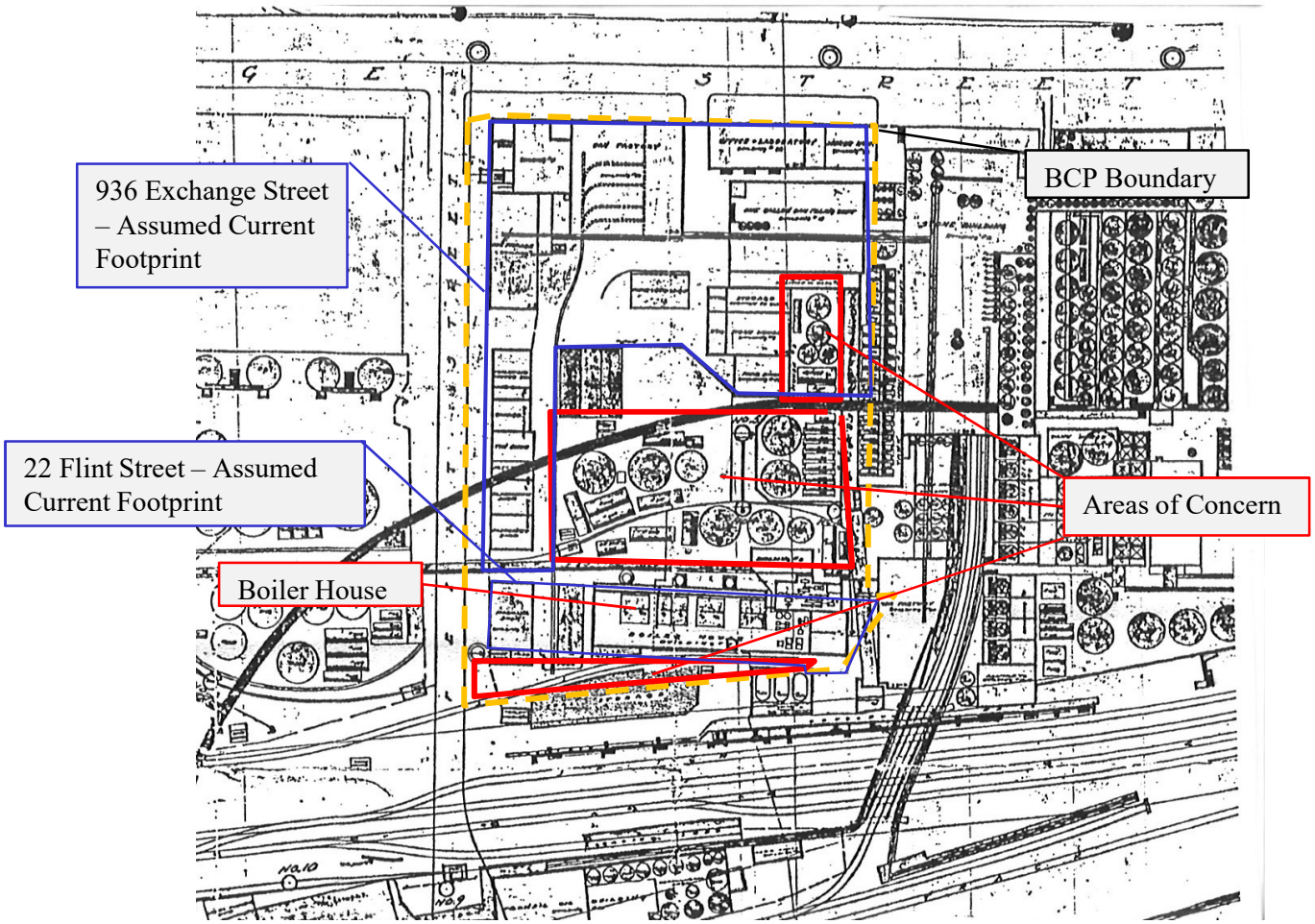
Title:	Site Map 936 Exchange Street and 22 Flint Street Rochester, New York 14608
Prepared For:	Flint Redevelopment LLC 2 State Street Rochester, New York

Leader Professional Services, Inc
271 Marsh Road-Suite 2
Pittsford, New York 14534
(585) 248-2413
Fax (585) 248-2834

Project	900.003
Date	February 2, 2017
Scale	NTS
Drawn	PVS
Checked	MPR
File Name	Location Map
Figure	2



Title: Site Location 936 Exchange Street and 22 Flint Street Rochester, New York 14608	Leader Professional Services, Inc 271 Marsh Road-Suite 2 Pittsford, New York 14534 (585) 248-2413 Fax (585) 248-2834	Project 900.003 Date June 25, 2018 Scale NTS	Drawn EPD Checked MPR File Name Location Map	Figure 3
Prepared For: Flint Redevelopment LLC 2 State Street Rochester, New York				

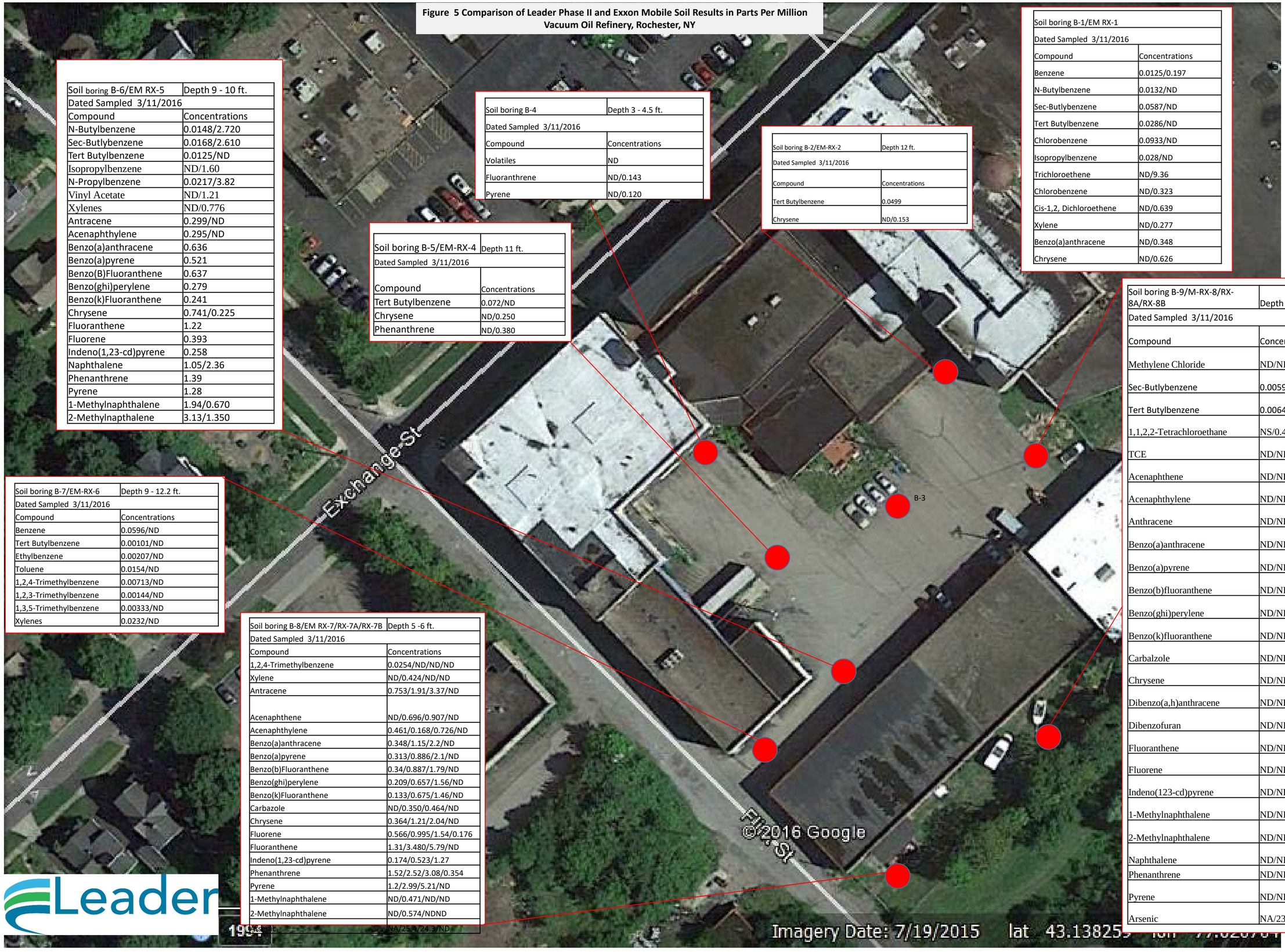


Title	Historic Site Map with Areas of Concern 936 Exchange and 22 Flint St. Site #C
Prepared For	Flint Redevelopment LLC 2 State Street Rochester, New York

Leader Professional Services, Inc
271 Marsh Road-Suite 2
Pittsford, New York 14534
(585) 248-2413
FAX (585) 248-2834

Project	900.003
Date	2/2/2017
Scale	NTS
Drawn	PVS
Checked	MPR
File Name	900.003
Figure	4

Figure 5 Comparison of Leader Phase II and Exxon Mobile Soil Results in Parts Per Million
Vacuum Oil Refinery, Rochester, NY



Soil boring B-6/EM RX-5	Depth 9 - 10 ft.
Dated Sampled 3/11/2016	
Compound	Concentrations
N-Butylbenzene	0.0148/2.720
Sec-Butlybenzene	0.0168/2.610
Tert Butylbenzene	0.0125/ND
Isopropylbenzene	ND/1.60
N-Propylbenzene	0.0217/3.82
Vinyl Acetate	ND/1.21
Xylenes	ND/0.776
Antracene	0.299/ND
Acenaphthylene	0.295/ND
Benzo(a)anthracene	0.636
Benzo(a)pyrene	0.521
Benzo(B)Fluoranthene	0.637
Benzo(ghi)perylene	0.279
Benzo(k)Fluoranthene	0.241
Chrysene	0.741/0.225
Fluoranthene	1.22
Fluorene	0.393
Indeno(1,23-cd)pyrene	0.258
Naphthalene	1.05/2.36
Phenanthrene	1.39
Pyrene	1.28
1-Methylnaphthalene	1.94/0.670
2-Methylnapthalene	3.13/1.350

Soil boring B-4	Depth 3 - 4.5 ft.
Dated Sampled 3/11/2016	
Compound	Concentrations
Volatiles	ND
Fluoranthrene	ND/0.143
Pyrene	ND/0.120

Soil boring B-5/EM-RX-4	Depth 11 ft.
Dated Sampled 3/11/2016	
Compound	Concentrations
Tert Butylbenzene	0.072/ND
Chrysene	ND/0.250
Phenanthrene	ND/0.380

Soil boring B-2/EM-RX-2	Depth 12 ft.
Dated Sampled 3/11/2016	
Compound	Concentrations
Tert Butylbenzene	0.0499
Chrysene	ND/0.153

Soil boring B-1/EM RX-1	
Dated Sampled 3/11/2016	
Compound	Concentrations
Benzene	0.0125/0.197
N-Butylbenzene	0.0132/ND
Sec-Butlybenzene	0.0587/ND
Tert Butylbenzene	0.0286/ND
Chlorobenzene	0.0933/ND
Isopropylbenzene	0.028/ND
Trichloroethene	ND/9.36
Chlorobenzene	ND/0.323
Cis-1,2, Dichloroethene	ND/0.639
Xylene	ND/0.277
Benzo(a)anthracene	ND/0.348
Chrysene	ND/0.626

Soil boring B-9/M-RX-8/RX-8A/RX-8B	Depth 10 -11ft.
Dated Sampled 3/11/2016	
Compound	Concentrations
Methylene Chloride	ND/ND/0.06/0.0073
Sec-Butlybenzene	0.0059/0.992/ND/ND
Tert Butylbenzene	0.0064/ND/ND/ND
1,1,2,2-Tetrachloroethane	NS/0.443/ND/ND
TCE	ND/ND/0.0425/ND
Acenaphthene	ND/ND/0.204/ND
Acenaphthylene	ND/ND/0.155/ND
Anthracene	ND/ND/0.402/ND
Benzo(a)anthracene	ND/ND/0.959/0.289
Benzo(a)pyrene	ND/ND/0.754/0.175
Benzo(b)fluoranthene	ND/ND/0.724/0.204
Benzo(ghi)perylene	ND/ND/0.568/0.121
Benzo(k)fluoranthene	ND/ND/0.681/0.140
Carbalzole	ND/ND/0.202/ND
Chrysene	ND/ND/1.0/0.451
Dibenzo(a,h)anthracene	ND/ND/0.179/ND
Dibenzofuran	ND/ND/0.301/0.291
Fluoranthene	ND/ND/2.19/0.511
Fluorene	ND/ND/0.18/ND
Indeno(123-cd)pyrene	ND/ND/0.449/ND
1-Methylnaphthalene	ND/ND/0.738/1.39
2-Methylnaphthalene	ND/ND/0.707/0.919
Naphthalene	ND/ND/0.524/0.36
Phenanthrene	ND/ND/2.5/1.43
Pyrene	ND/ND/1.92/0.465
Arsenic	NA/23.7/129/327

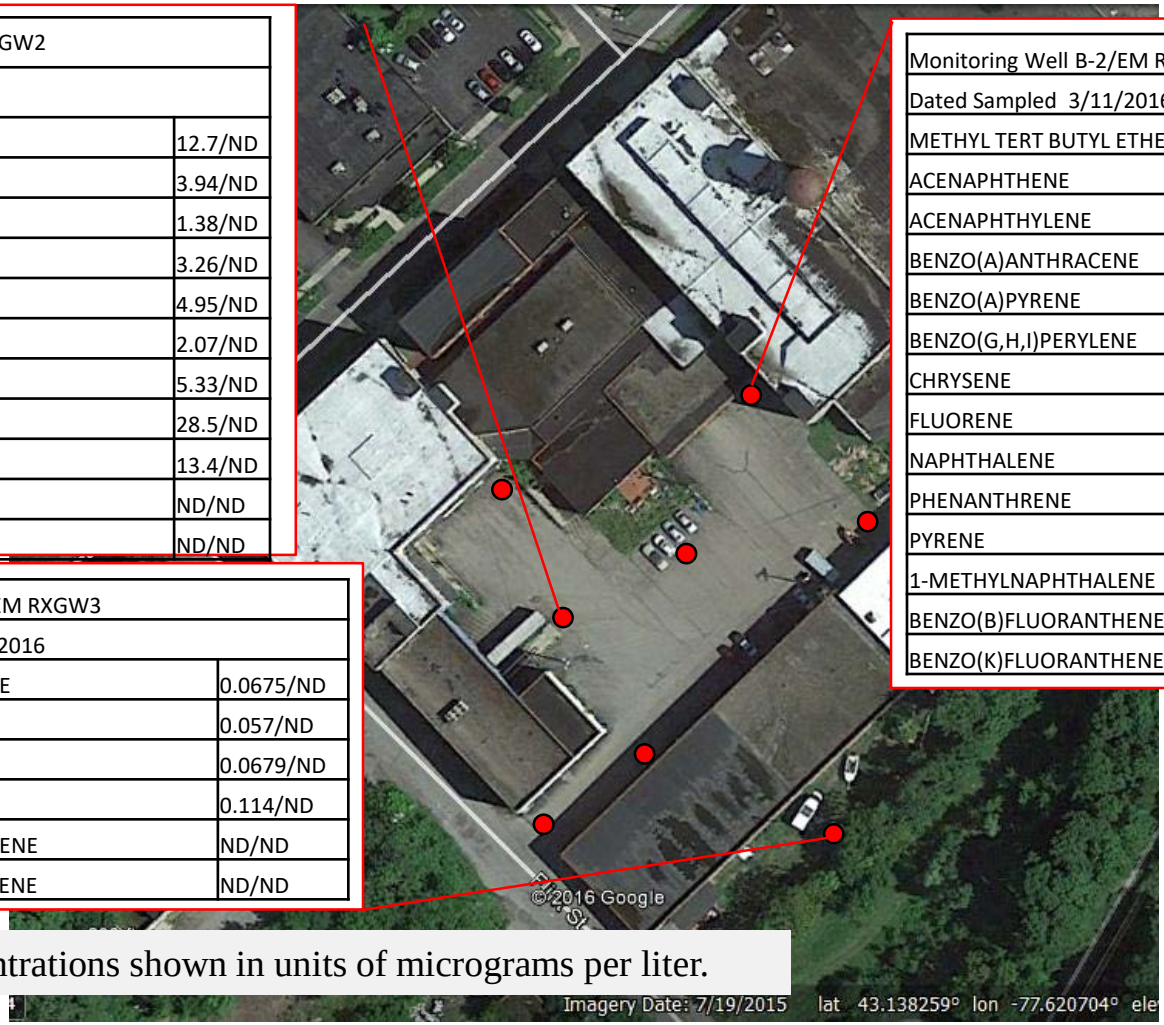
Soil boring B-7/EM-RX-6	Depth 9 - 12.2 ft.
Dated Sampled 3/11/2016	
Compound	Concentrations
Benzene	0.0596/ND
Tert Butylbenzene	0.00101/ND
Ethylbenzene	0.00207/ND
Toluene	0.0154/ND
1,2,4-Trimethylbenzene	0.00713/ND
1,2,3-Trimethylbenzene	0.00144/ND
1,3,5-Trimethylbenzene	0.00333/ND
Xylenes	0.0232/ND

Soil boring B-8/EM RX-7/RX-7A/RX-7B	Depth 5 -6 ft.
Dated Sampled 3/11/2016	
Compound	Concentrations
1,2,4-Trimethylbenzene	0.0254/ND/ND/ND
Xylene	ND/0.424/ND/ND
Antracene	0.753/1.91/3.37/ND
Acenaphthene	ND/0.696/0.907/ND
Acenaphthylene	0.461/0.168/0.726/ND
Benzo(a)anthracene	0.348/1.15/2.2/ND
Benzo(a)pyrene	0.313/0.886/2.1/ND
Benzo(b)Fluoranthene	0.34/0.887/1.79/ND
Benzo(ghi)perylene	0.209/0.657/1.56/ND
Benzo(k)Fluoranthene	0.133/0.675/1.46/ND
Carbazole	ND/0.350/0.464/ND
Chrysene	0.364/1.21/2.04/ND
Fluorene	0.566/0.995/1.54/0.176
Fluoranthene	1.31/3.480/5.79/ND
Indeno(1,23-cd)pyrene	0.174/0.523/1.27
Phenanthrene	1.52/2.52/3.08/0.354
Pyrene	1.2/2.99/5.21/ND
1-Methylnaphthalene	ND/0.471/ND/ND
2-Methylnaphthalene	ND/0.574/NDND
[illegible]	NA/25.4/24.3/ND

Monitoring Well B-5/EM RXGW2	
Dated Sampled 3/11/2016	
METHYL CYCLOHEXANE	12.7/ND
METHYL TERT BUTYL ETHER	3.94/ND
ACENAPHTHYLENE	1.38/ND
BENZO(A)ANTHRACENE	3.26/ND
CHRYSENE	4.95/ND
FLUORANTHENE	2.07/ND
FLUORENE	5.33/ND
PHENANTHRENE	28.5/ND
PYRENE	13.4/ND
BENZO(B)FLUORANTHENE	ND/ND
BENZO(K)FLUORANTHENE	ND/ND

Monitoring Well B-9/EM RXGW3	
Dated Sampled 3/11/2016	
BENZO(G,H,I)PERYLENE	0.0675/ND
CHRYSENE	0.057/ND
PHENANTHRENE	0.0679/ND
PYRENE	0.114/ND
BENZO(B)FLUORANTHENE	ND/ND
BENZO(K)FLUORANTHENE	ND/ND

Monitoring Well B-2/EM RXGW1	
Dated Sampled 3/11/2016	
METHYL TERT BUTYL ETHER	1.14/5.4
ACENAPHTHENE	1.07/ND
ACENAPHTHYLENE	0.312/ND
BENZO(A)ANTHRACENE	0.386?ND
BENZO(A)PYRENE	0.125/ND
BENZO(G,H,I)PERYLENE	0.1/ND
CHRYSENE	0.469/125
FLUORENE	1.96/ND
NAPHTHALENE	0.453/ND
PHENANTHRENE	1.89/204
PYRENE	1.45/ND
1-METHYLNAPHTHALENE	0.626/ND
BENZO(B)FLUORANTHENE	ND/ND
BENZO(K)FLUORANTHENE	ND/ND



Notes: All concentrations shown in units of micrograms per liter.

Title
Summary of Groundwater Results
Vacuum Oil Refinery
Rochester, New York

Prepared For
Flint Redevelopment, LLC
1400 Crossroads Building
Rochester, New York

Leader Professional Services, Inc
271 Marsh Road-Suite 2
Pittsford, New York 14534
(585) 248-2413
FAX (585) 248-2834

Project 900.001
Date 10/2/2018
Scale NTS

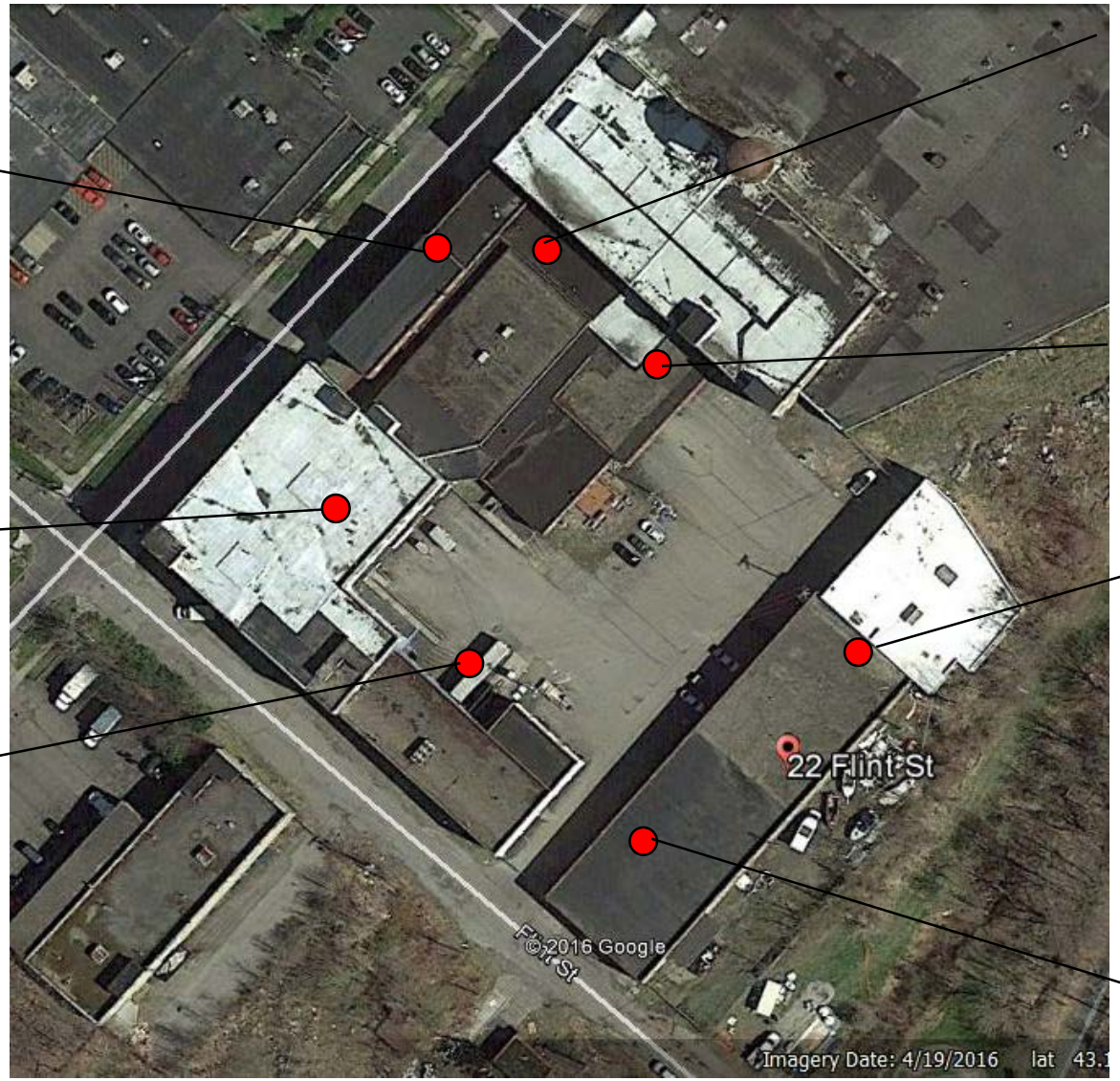
Drawn PVS
Checked MPR
File Name 856.001

Figure 6

Client Sample ID	SV-5	RX-SSVP-05
Analyte	Result	
CARBON TETRACHLORIDE	ND	0.447
CIS-1,2-DICHLOROETHENE	ND	ND
TRANS-1,2-DICHLOROETHENE	ND	ND
METHYLENE CHLORIDE	ND	ND
TETRACHLOROETHENE	14.5	2.51
1,1,1-TRICHLOROETHANE	ND	ND
TRICHLOROETHENE	ND	1.13

Client Sample ID	SV-2	RX-SSVP-02
Analyte		Result
CARBON TETRACHLORIDE	ND	0.956
TRANS-1,2-DICHLOROETHENE	ND	6.54
METHYLENE CHLORIDE	0.745	ND
TETRACHLOROETHENE	ND	47
1,1,1-TRICHLOROETHANE	ND	0.884
TRICHLOROETHENE	ND	8.06

Client Sample ID	SV-1	RX-1-SSVP-01
Analyte	Result	
CARBON TETRACHLORIDE	ND	0.371
METHYLENE CHLORIDE	1.01	ND
TETRACHLOROETHENE	3.04	12.5
TRICHLOROETHENE	1.26	ND



Client Sample ID	SV-4	RX-SSVP-04
Analyte	Result	
CARBON TETRACHLORIDE	1.51	ND
TRANS-1,2-DICHLOROETHENE	9.78	ND
METHYLENE CHLORIDE	0.81	ND
TETRACHLOROETHENE	52.9	3.49
1,1,1-TRICHLOROETHANE	1.41	ND
TRICHLOROETHENE	10.7	ND

Client Sample ID	SV-3	RX-SSVP-03
Analyte		Result
CIS-1,2-DICHLOROETHENE	9.13	11.3
TRANS-1,2-DICHLOROETHENE	4.77	5.31
TETRACHLOROETHENE	652	1220
TRICHLOROETHENE	1230	2200

Cient Sample ID	SV-6	RX-SSVP-06
Analyte		Result
CARBON TETRACHLORIDE	1.81	1.7
CIS-1,2-DICHLOROETHENE	247	312
METHYLENE CHLORIDE	11.9	2.81
TETRACHLOROETHENE	570	698
TRICHLOROETHENE	1130	1290

Client Sample ID	SV-7	RX-SSVP-07
Analyte		Result
METHYLENE CHLORIDE	40.8	1.61
TETRACHLOROETHENE	1.73	9.15
1,1,1-TRICHLOROETHANE	ND	1.74
TRICHLOROETHENE	ND	0.57

Title: Comparison of Summarized Sub-Slab Vapor Results
Vacuum Oil Refinery
Rochester, New York

Prepared For: Flint Redevelopment LLC
1400 Crossroads Building
Rochester, New York

Leader

Figure 7

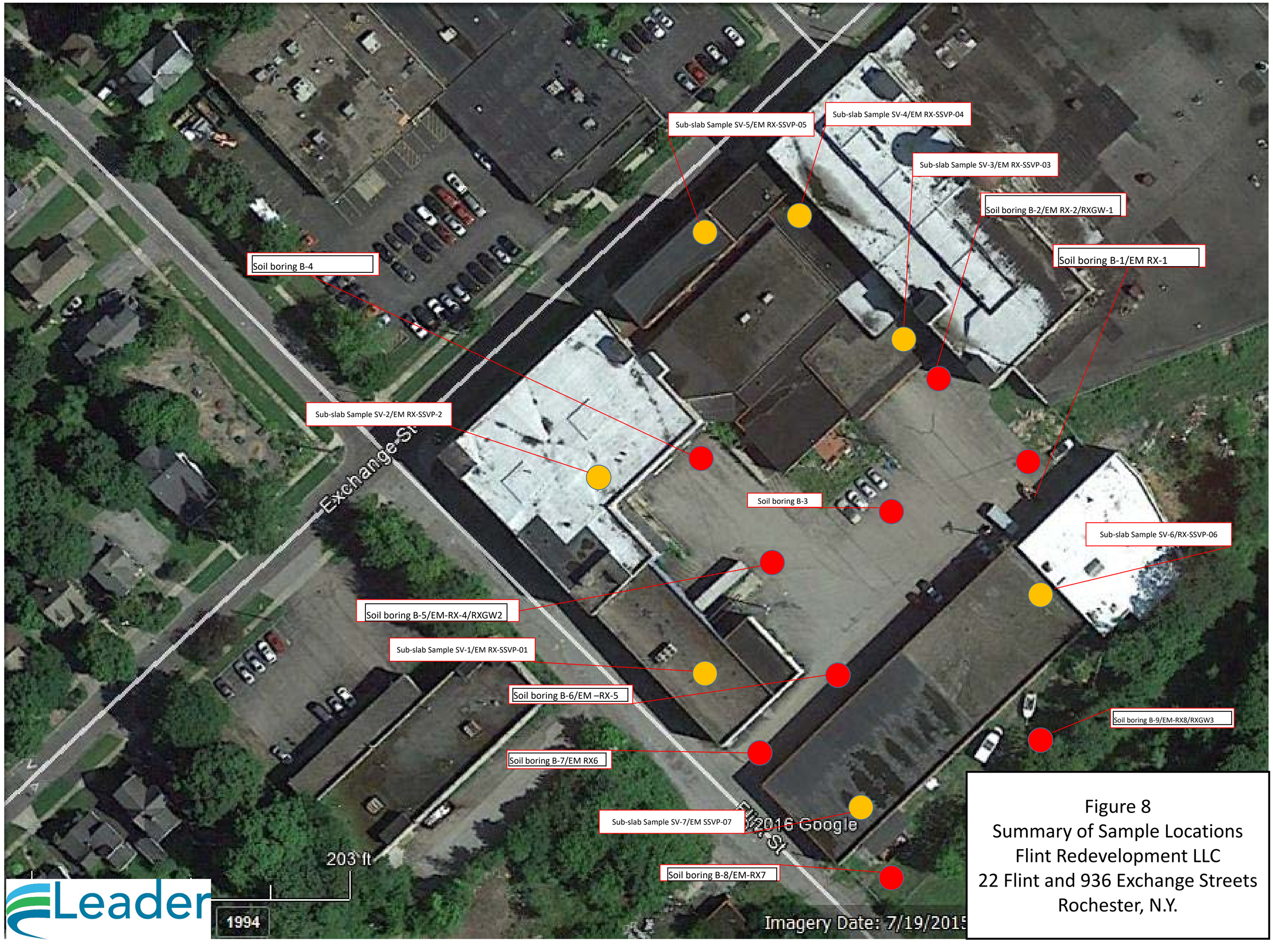
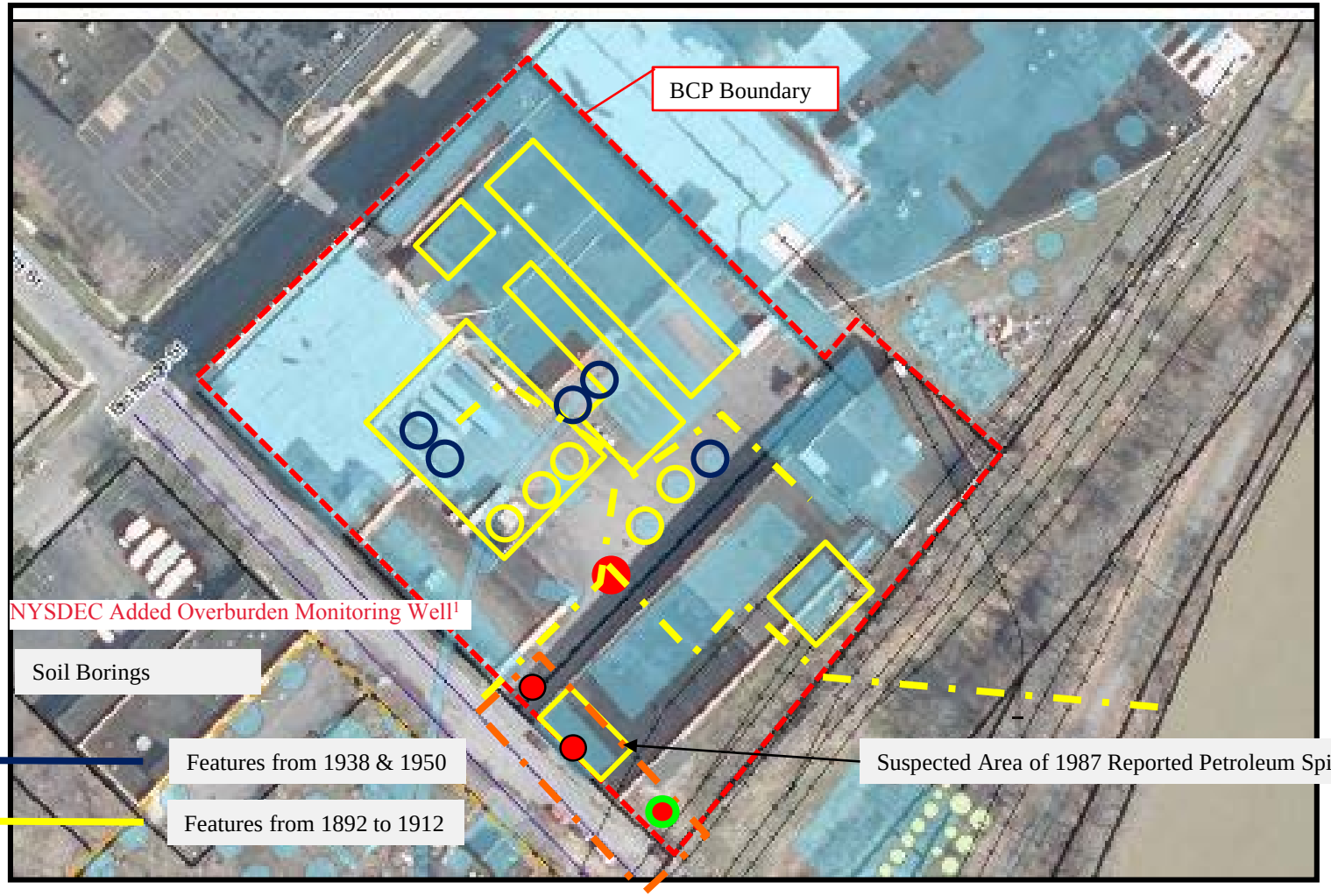


Figure 8
Summary of Sample Locations
Flint Redevelopment LLC
22 Flint and 936 Exchange Streets
Rochester, N.Y.

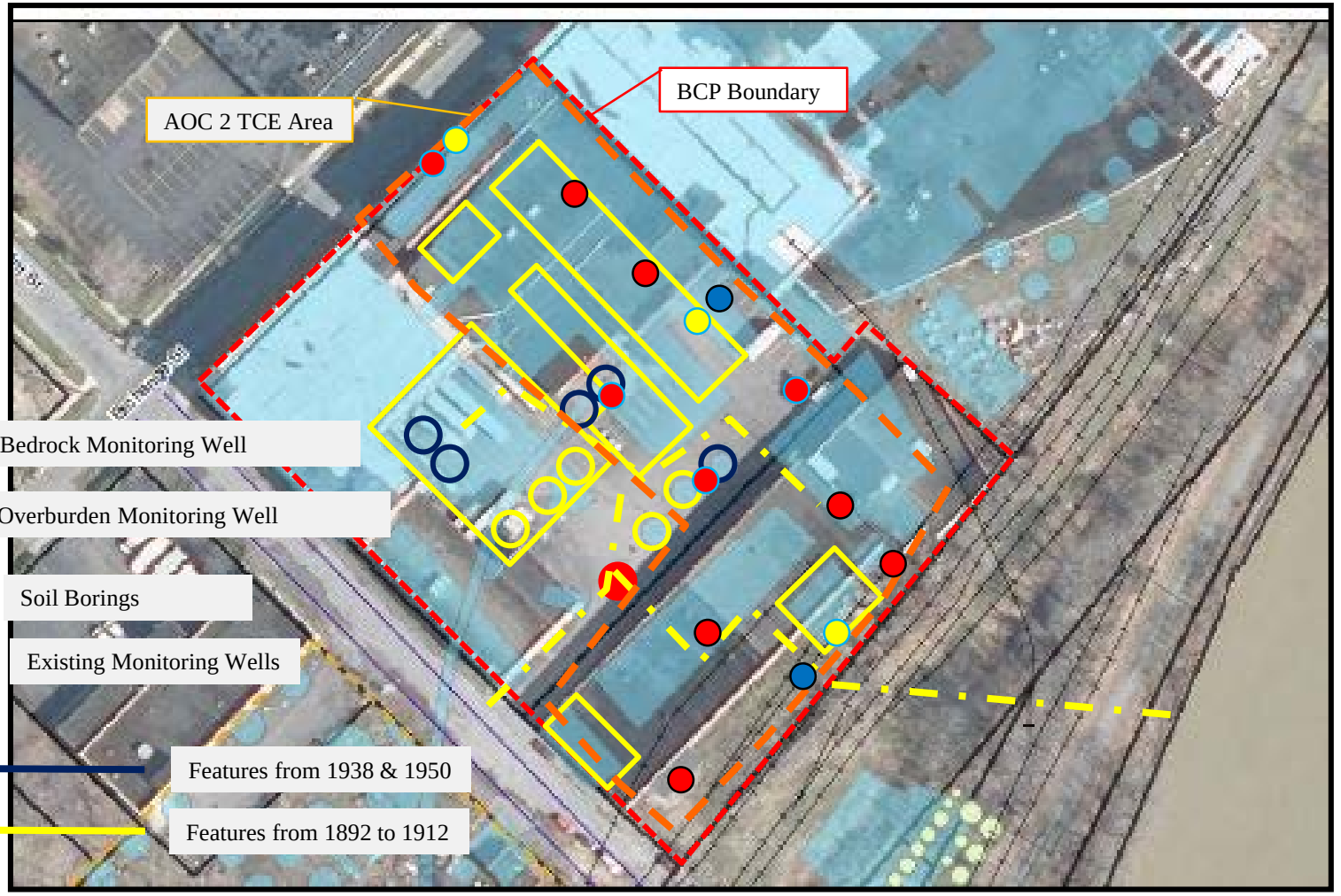


1. Default well location based sampling conducted in the Flint Street ROW for the City of Rochester. Another soil boring from this group may be converted to a well instead, based on evidence of contamination during field screening.

Title	AOC 1 Recent Petroleum Spills 936 Exchange and 22 Flint St. Site #C
Prepared For	Flint Redevelopment LLC 2 State Street Rochester, New York

Leader Professional Services, Inc
271 Marsh Road-Suite 2
Pittsford, New York 14534
(585) 248-2413
FAX (585) 248-2834

Project	900.003
Date	2/2/2017
Scale	NTS
Drawn	PVS
Checked	MPR
File Name	900.003
Figure	9



Title	AOC 2 TCE Contamination 936 Exchange and 22 Flint St. Site #C
Prepared For	Flint Redevelopment LLC 2 State Street Rochester, New York

Leader Professional Services, Inc
271 Marsh Road-Suite 2
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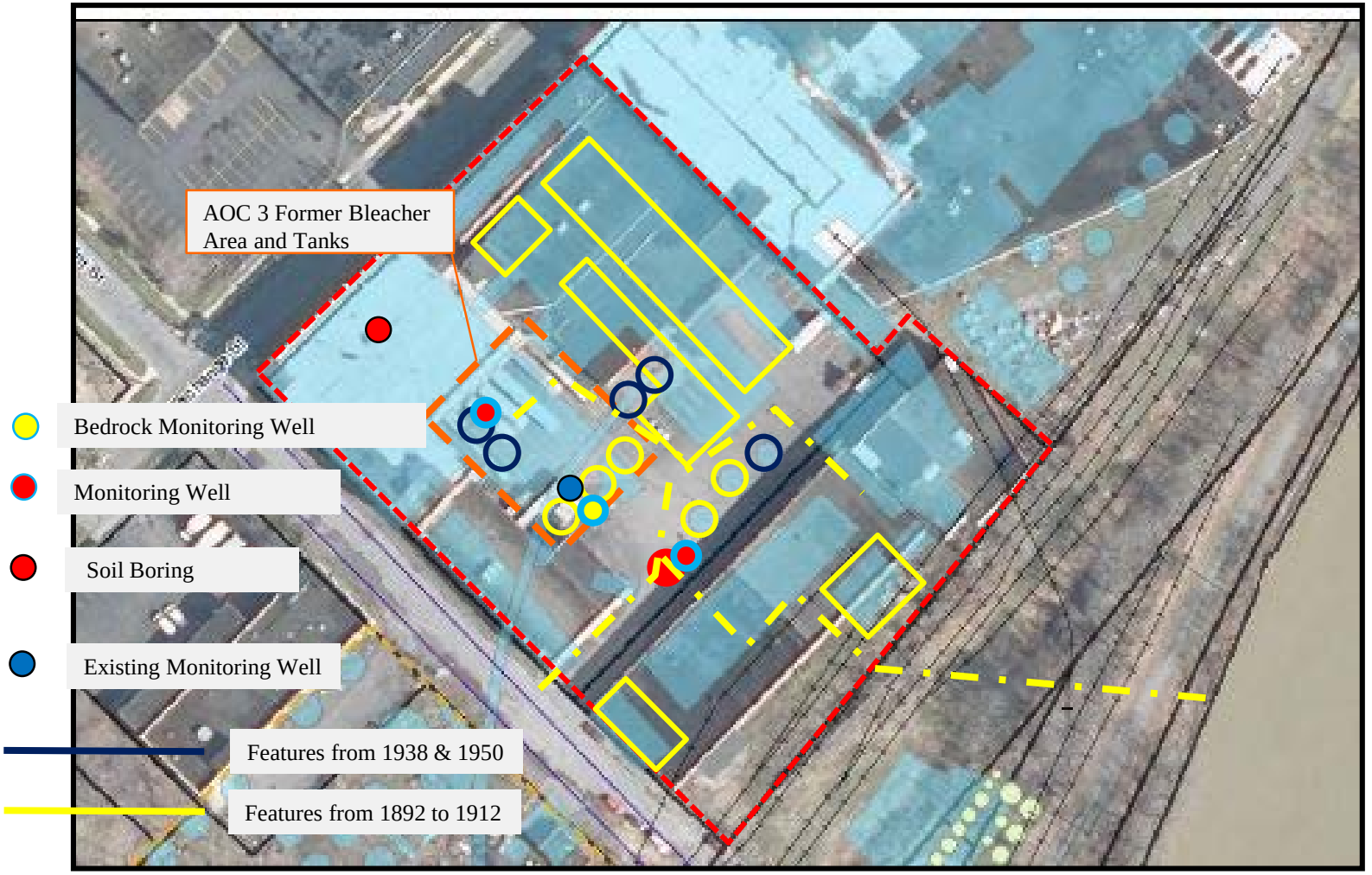
Project	900.003
Date	2/2/2017
Scale	NTS
Drawn	PVS
Checked	MPR
File Name	900.003
Figure	10



Title
AOC 3 Former Bleacher Area and Bleacher Tanks
936 Exchange and 22 Flint St.
Site #C

Prepared For
Flint Redevelopment LLC
2 State Street
Rochester, New York

Leader Professional Services, Inc
271 Marsh Road-Suite 2
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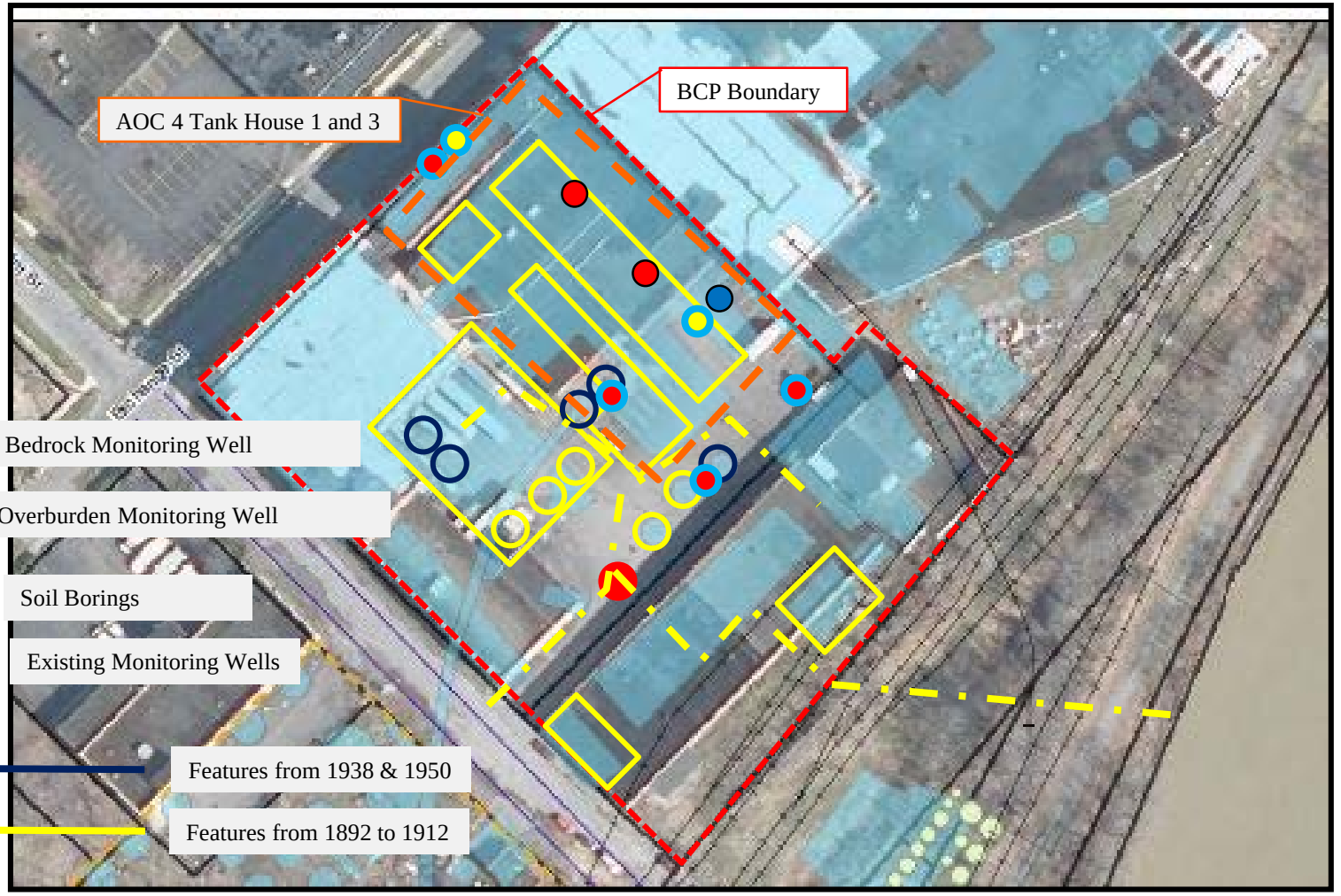
FAX (585) 248-2834

Project: 900.003
Date: 2/2/2017
Scale: NTS

Drawn: PVS
Checked: MPR
File Name: 900.003

Figure
11



Title	AOC 4 Tank House 1 and 3 936 Exchange and 22 Flint St. Site #C
Prepared For	Flint Redevelopment LLC 2 State Street Rochester, New York

Leader Professional Services, Inc
271 Marsh Road-Suite 2
Pittsford, New York 14534
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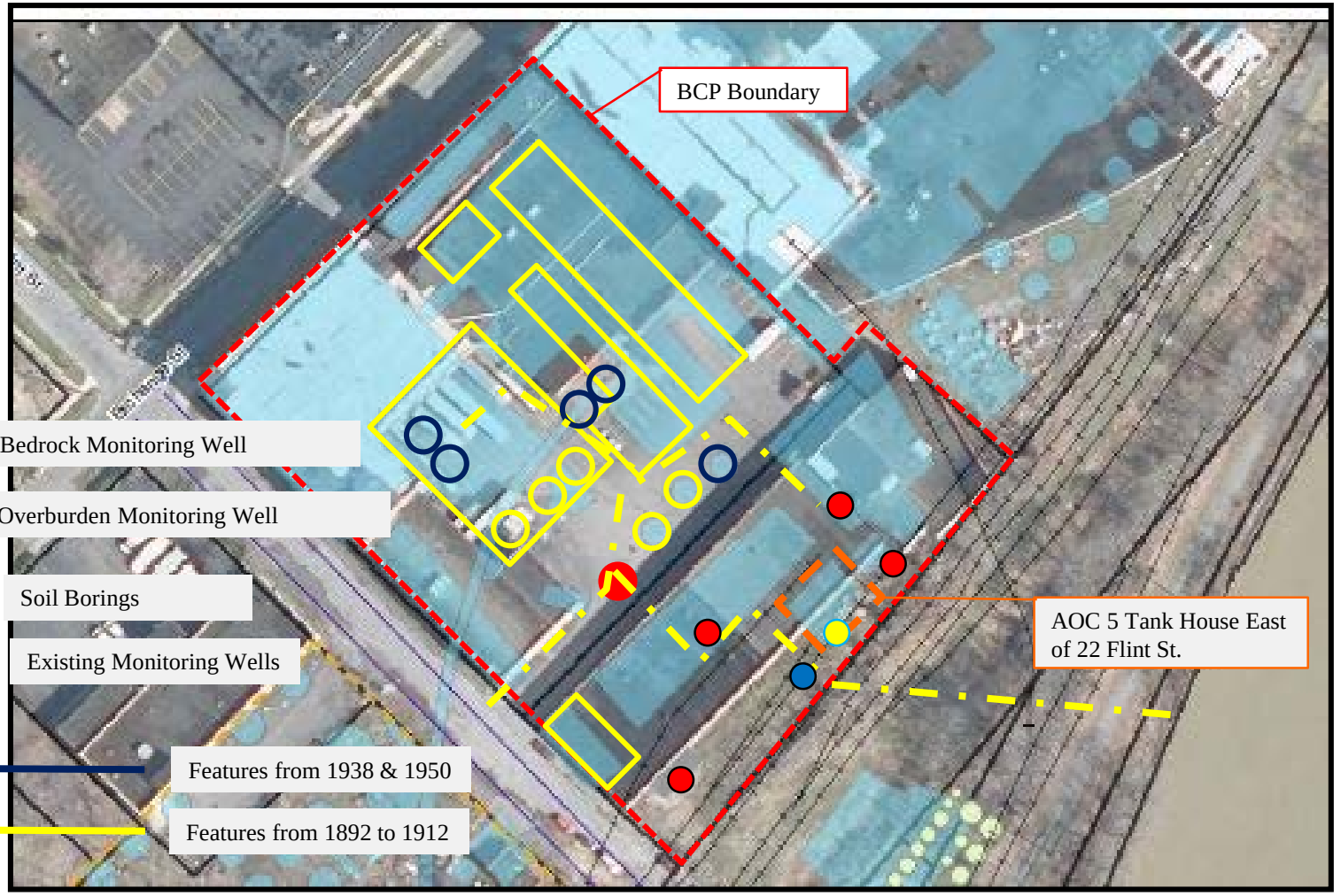
FAX (585) 248-2834

Project	900.003
Date	2/2/2017
Scale	NTS
Drawn	PVS
Checked	MPR
File Name	900.003
Figure	12



Title	AOC 5 Former Tank House East of 22 Flint Street 936 Exchange and 22 Flint St. Site #C
Prepared For	Flint Redevelopment LLC 2 State Street Rochester, New York

Leader Professional Services, Inc
271 Marsh Road-Suite 2
Pittsford, New York 14534
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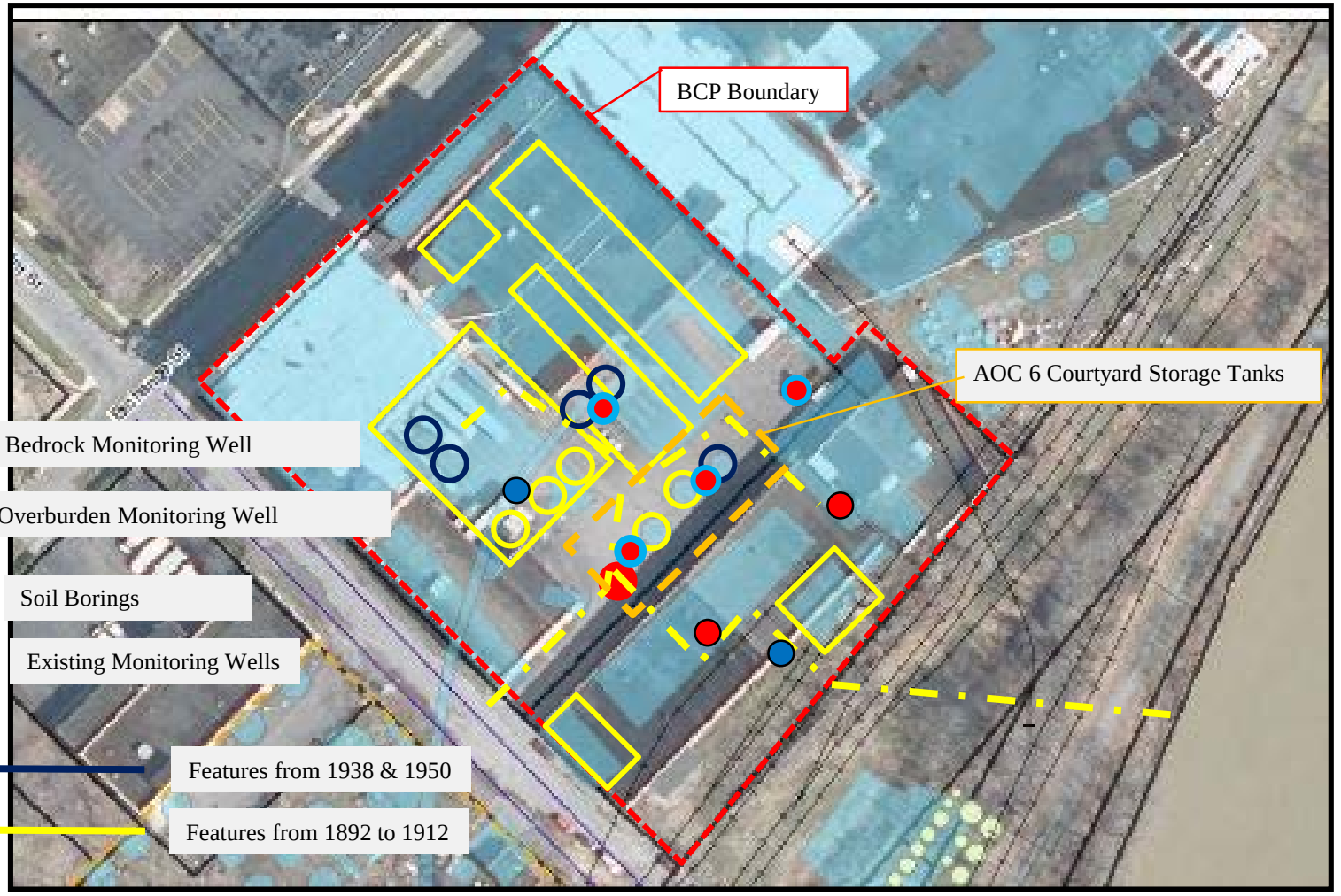
FAX (585) 248-2834

Project	900.003
Date	2/2/2017
Scale	NTS
Drawn	PVS
Checked	MPR
File Name	900.003
Figure	13



Title: AOC 6 Courtyard Storage Tanks 936 Exchange and 22 Flint St. Site #C	Leader Professional Services, Inc 271 Marsh Road-Suite 2 Pittsford, New York 14534 (585) 248-2413 FAX (585) 248-2834	Project: 900.003 Date: 2/2/2017 Scale: NTS	Drawn: PVS Checked: MPR File Name: 900.003	Figure: 14
Prepared For: Flint Redevelopment LLC 2 State Street Rochester, New York				

Title	AOC 7 Historic Water Lines 936 Exchange and 22 Flint St. Site #C
Prepared For	Flint Redevelopment LLC 2 State Street Rochester, New York

Leader Professional Services, Inc
271 Marsh Road-Suite 2
Pittsford, New York 14534
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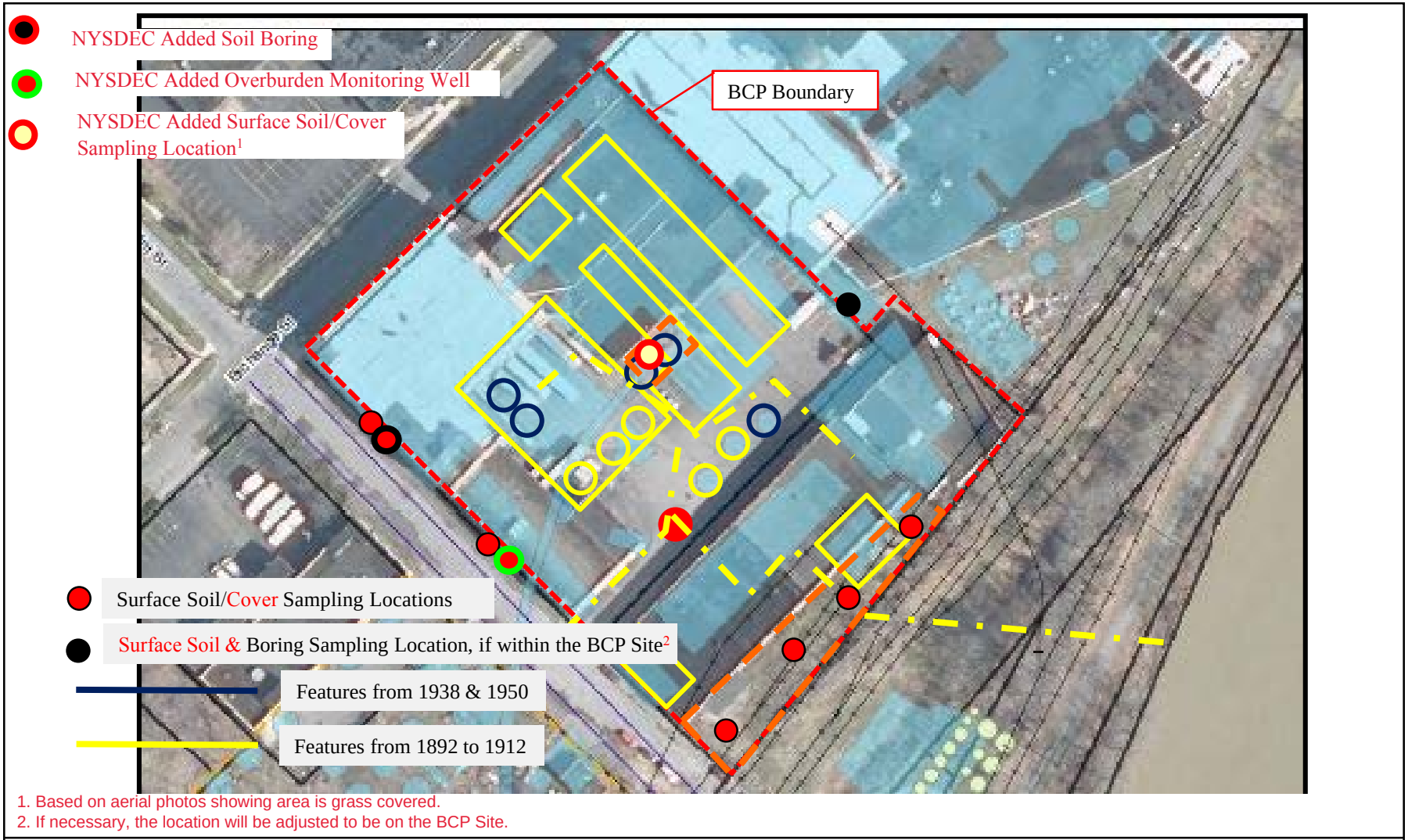
Project	900.003
Date	2/2/2017
Scale	NTS
Drawn	PVS
Checked	MPR
File Name	900.003
Figure	15



1. Based on aerial photos showing area is grass covered.
2. If necessary, the location will be adjusted to be on the BCP Site.

Title	AOC 9 Historic Fill (Plus Surface Soil/ Cover System & Perimeter Evaluation) 936 Exchange and 22 Flint St. Site C
Prepared For	Flint Redevelopment LLC 2 State Street Rochester, New York

Leader Professional Services, Inc
271 Marsh Road-Suite 2
Pittsford, New York 14534
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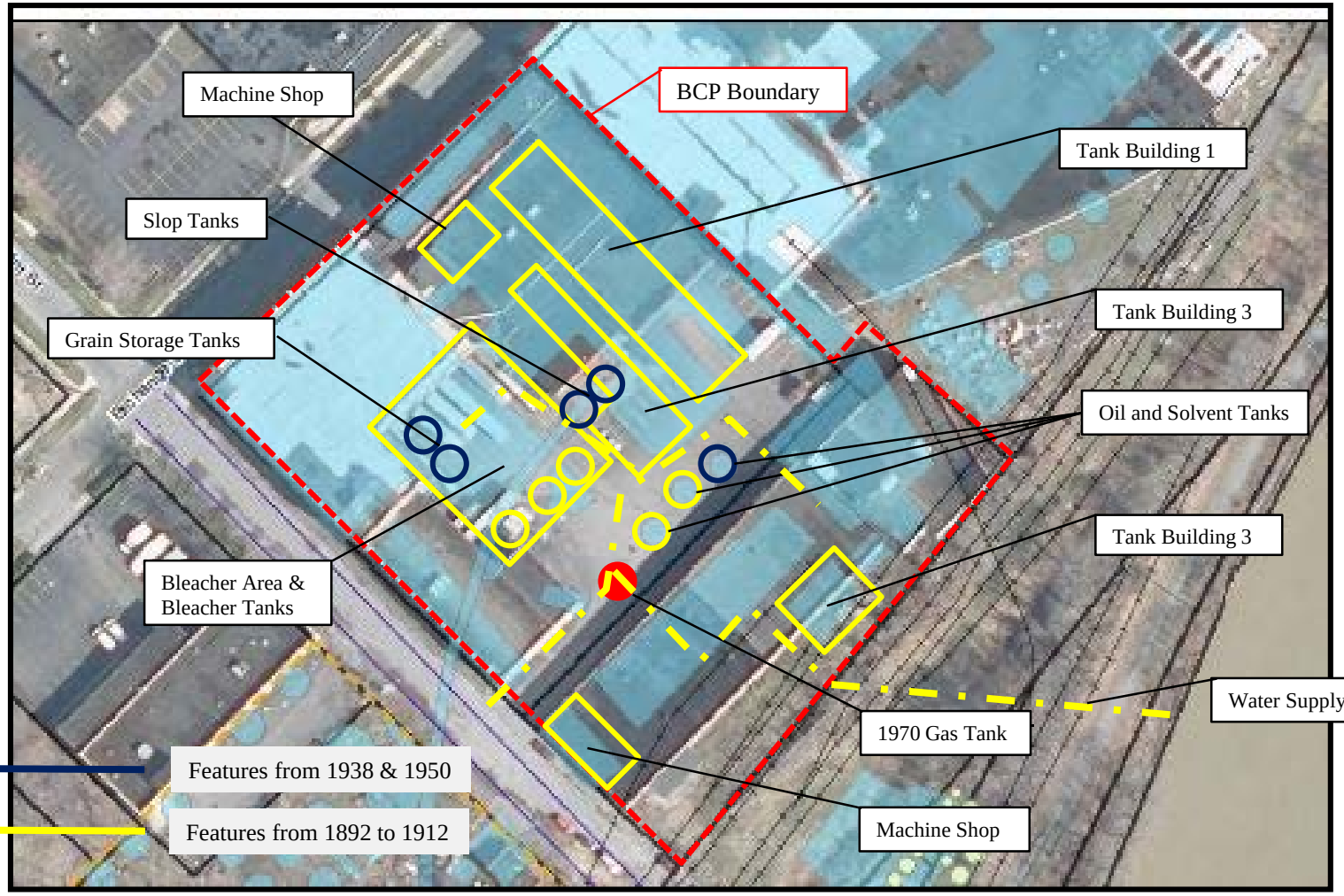
Project	900.003
Date	2/2/2017
Scale	NTS
Drawn	PVS
Checked	MPR
File Name	900.003
Figure	16



Title	Historic Site Map with Areas of Concern 936 Exchange and 22 Flint St. Site #C
Prepared For	Flint Redevelopment LLC 2 State Street Rochester, New York

Leader Professional Services, Inc
271 Marsh Road-Suite 2
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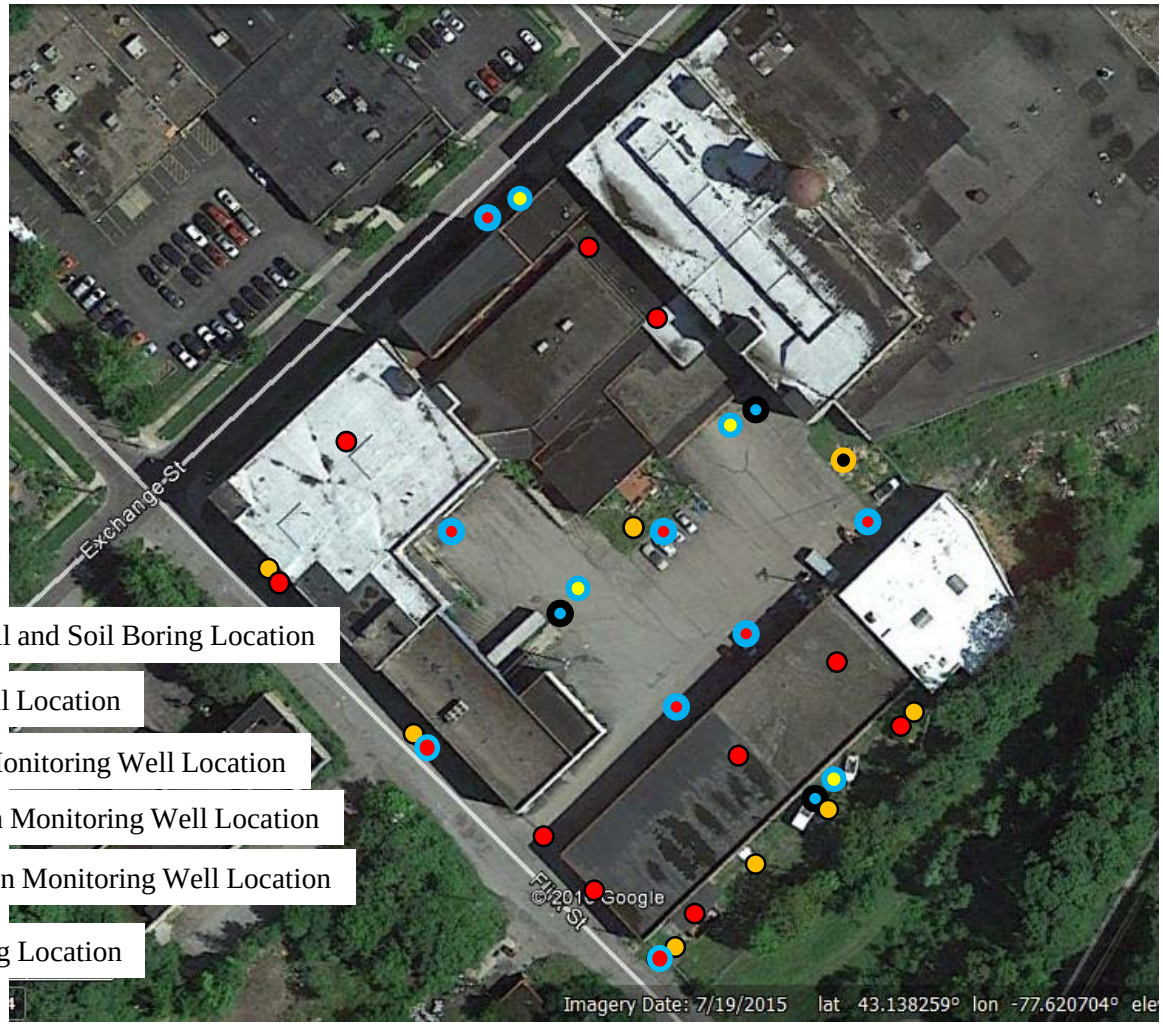
Project	900.003
Date	2/2/2017
Scale	NTS
Drawn	PVS
Checked	MPR
File Name	900.003
Figure	17



- Proposed Surface Soil and Soil Boring Location
- Proposed Surface Soil Location
- Proposed Bedrock Monitoring Well Location
- Existing Overburden Monitoring Well Location
- Proposed Overburden Monitoring Well Location
- Proposed Soil Boring Location

Title
Proposed Sampling Locations
Vacuum Oil Refinery
Rochester, New York

Prepared For
Flint Redevelopment, LLC
1400 Crossroads Building
Rochester, New York

Leader Professional Services, Inc
271 Marsh Road-Suite 2
Pittsford, New York 14534
(585) 248-2413
FAX (585) 248-2834

Project: 900.001
Date: 10/2/2018
Scale: NTS

Drawn: PVS
Checked: MPR
File Name: 856.001

Figure
18

Table 1
Tenant List

Name	Use
R Community Bikes, Inc.	Site Occupant
Saint's Place	Site Occupant
Sweet Beez	Site Occupant
Kaleidescope Inc.	Wellness Classes
Smugtown Mushroom Co. LLC	Mushroom Cultivation, sales, processing, work-shops and classes
Redshield-1391 Inc.	Events and Classes
Sole Rehab	Music Studio
Lizz DeSimone	Art Studio
Saint's Place	Storage
Spotted Rabbit Creative Arts Therapy PLLC	Art Studio
Phill Coleman	Art Studio
Lorenzo Guerrini	Art Studio
Joel Thompson	Band Practice
Darrel Ashford	Storage
Jon Mueller	Storage
Cameron Yager	Storage
PCHO Inc.	Office space and storage
Aaron Rubin	Computer repair and storage
Chloe Smith Illustration	Art Studio
Kate Huggler	Office
Stomping Ground Camp, Inc.	Office Space
Joseph Klem	Storage and Vehicle Parking
R Community Bikes Inc.	Storage
Brian Trzaskos	Vehicle Storage
Community Composting LLC	Equipment Storage, Cleaning and Maintenance
Lighthouse Tattoo LLC	Tattoo Studio
Perl Lifestyle LLC	Beauty and Wellness Consulting
Smoke Shack Jerky LLC	Food Production
Joseph Vella	Art Studio
Tim Cerqua	Artist Studio
Tykwaun Allen	Music Studio
Pure Mint Beauty Lab	Hair Salon
Chris's Affordable Tree Service	Vehicle Storage

TABLE 2
Soil Sample PID Response and Free Product Observations
22 Flint Street and 396 Exchange Street
Flint Redevelopment LLC
Rochester, New York

Soil Interval/Sampling Location Id.	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-9
0-2	BG PID	BG PID	BG PID	BG PID	BG PID	BG PID	BG PID	BG PID	BG PID
2-4	17 ppm	BG PID	6.5 ppm	5 ppm	BG PID Petroleum odor.	BG PID	0.7 ppm Possible free product	39 ppm	BG PID
4-6	BG PID	BG PID	BG PID	7.5 ppm	BG PID	234 ppm	BG PID	121 ppm	BG PID
6-8	249 ppm Sheen on sample.	Sheen on WT and on samples. Petroleum odor.	11.6 ppm Petroleum odor.	Boring terminated at 4.5 ft.	92 ppm, Petroleum odor. Sheen on WT	98 ppm	BG PID, Sheen on WT. Petroleum odor.	24 ppm	BG PID
8-10	Boring terminated at 7.8 ft.	BG PID	Boring terminated at 8 ft.		Stained soil.	54 ppm	BG PID	Boring terminated at 8.2 ft.	BG PID
10-12		7.5 ppm Sheen on samples, petroleum odor.			7.5 ppm	BK PID	BK PID		10 ppm
12-14		Boring terminated at 12.4 ft.			Boring terminated at 11.5 ft.	Boring terminated at 11.4 ft.	Boring terminated at 12.2 ft.		Boring terminated at 12 ft.

Notes:
BG PID = Background levels recorded on portable organic vapor analyzer with a photoionization detector.

ppm = part per million based on PID calibration using an Isobutylene gas.

TABLE 3

Sample Analytical Requirements and Sample Numbers

Analytical Methods		Headspace Samples, PID	TCL VOCS +20 TICs, SW-846 8260B	TCL SVOCS +20 TICs, SW-846 8270; 1,4-dioxane, 8270-SIM	TCL Pesticides and Herbicides, SW-846 8081B	TAL Metals + Mercury and Cyanide SW-846 6010, 6020, 7471, 9012	PCBs, SW-846 8081	TAL PFAS 537-Modified
Sample Types								
Surface Soil								
0-2"		8		8	8	8	8	2
Cover Evaluation/Historic Fill Soil								
2-6"		8	8	8	8	8	8	2
6-12"		8	8					
12-24"		8	8	8	8	8	8	2
Subsurface Soil (soil boring and well installations)[1]								
Fill materials/native soil/unsaturated/ saturated/perimeter		Each interval	23	23	6	23	6	3
Groundwater (Overburden + Bedrock)								
First Sampling Event			15	15	15	15	15	3
Second Sampling Event			15	tbd[2]	tbd[2]	tbd[2]	tbd[2]	tbd[2]
QA/QC Samples								
Duplicates (one sample per type or 1:20 samples)	Soil		2	2	2	2	2	1
	Groundwater		2	1	1	1	1	1
Matrix Spike (one sample per media at a frequency of 1:20 samples)	Soil		2	2	2	2	2	1
	Groundwater		2	1	1	1	1	1
Matrix Spike Duplicate (one sample per media at a frequency of 1:20 samples)	Soil		2	2	2	2	2	1
	Groundwater		2	1	1	1	1	1
Field Blank (one per sampling tool used)	Soil		2	2	2	2	2	1
	Groundwater		2	1	1	1	1	1
Trip Blanks (one per sample shipment)	Total		9	0	0	0	0	
Total Number of Samples			102	74	57	74	57	20

Notes:

1. **Based on 1 soil sample per soil boring, overburden well, and bedrock well. Additional soil samples will be collected from each boring, as needed, in accordance with the Work Plan.**
2. **tbd: To be determined based on the results of the first sampling event.**

ATTACHMENT 1
Leader's Phase II Site Investigation Report

Leader Professional Services, Inc.
271 Marsh Road, Suite 2
Pittsford, New York 14534

(585) 248-2413
(585) 248-2834 (Fax)
www.leaderlink.com

900.001

April 3, 2016

Mr. Alan J. Knauf, Esq.
Flint Redevelopment LLC
c/o Knauf Shaw LLP
1400 Crossroads Building
2 State Street
Rochester, New York 14614

Re: Phase II Environmental Site Investigation Report
936 Exchange Street and 22 Flint Street
Rochester, New York

Dear Mr. Knauf:

Leader Professional Services, Inc. ("Leader") is pleased to present this Phase II Environmental Site Investigation ("Phase II") Report to Flint Redevelopment LLC for the property located at 936 Exchange and 22 Flint Street in Rochester, New York ("Site"). The goal of the project was to evaluate potential Recognized Environmental Conditions ("RECs") at the subject Site and the impacts from the Vacuum Oil-New York State Department of Environmental Conservation ("NYSDEC") Inactive Hazardous Waste Disposal Site ("IHWDS") and the Spill site associated with Vacuum Oil-NYSDEC Spill number 0370583.

SCOPE OF WORK

Leader completed the project following the scope of work provided in our proposal to you dated March 3, 2016. During the project several unanticipated situations occurred, which changed our scope of work:

- The participation of ExxonMobil's consultant Roux Associates with the sampling, which increased and extended the sampling into the following day.

- The collection of two additional soil samples.

ExxonMobil requested the Roux Associates ("Roux") to participate in the Phase II, when Leader found evidence of free product petroleum and petroleum impacted soils in the borings. ExxonMobil requested that Leader duplicate the sampling conducted on Thursday March 10, 2016 again on Friday March 11, 2016 when Roux could be on the Site. In order for the sample results to be as consistent as possible, Leader split samples with Roux and submitted those samples to ESC Lab Sciences Corporation ("ESC") for analysis. Because of the time constraints, including obtaining access to the property, Rouxs' available time in

Rochester and the sample shipping deadline, the monitoring well at soil boring location B-7 was not sampled.

Findings

To evaluate the subsurface conditions on the property, Leader conducted an investigation which included the sampling of nine soil borings and converting four of the soil borings into permanent monitoring wells. The sample collection was performed using Geoprobe™ track mounted equipment pushing a 4-foot long sampler into the ground. A new clear acrylic sampling sleeve was used for each sample. The monitoring wells were constructed using 1-inch diameter PVC monitoring well screen and riser pipe. Figure 1 shows the locations of the soil borings and monitoring wells.

Prior to the start of sampling, Leader obtained underground utilities clearance by requesting a utility stake out with Dig Safely New York and checking each location using ground penetrating radar.

The materials found during the sampling of the soil borings included miscellaneous fill materials consisting of gravel, soil, brick, asphalt-covered fine gravel and cinders ranging in depth from 3.0 to 7.0 feet below the ground surface. The natural soils and sediments consisted of fine sand, silt, and clay layers. Mixtures of these materials were also commonly found in the borings, but infrequently gravel was found with these materials. Many of the soil borings could not penetrate beyond approximately 11.5 feet because of a compacted till or large gravel layer. Groundwater was encountered between 4.2 and 7.7 feet below the ground surface. Attachment 1 provides copies of Leader's soil boring logs.

Each sample was screened with a portable organic vapor meter using a photoionization detector ("PID"). Leader visually inspected each sample and also noted any odors or presence of free product. Also, these observations are noted on the soil boring logs and on Table 1. In general, all of the samples, with perhaps the exception of the upper 1.0 to 2.0 feet of fill, possessed a faint to strong petroleum odor, but many of these registered only a slight response of less than 10 parts per million ("ppm") on the PID. Strong PID responses were found in some soil intervals between 4 and 11.5 feet below the ground surface and these ranged from 35 to over 200 ppm. Along with the elevated PID response evidence of free product was observed and was exhibited as a sheen on the soil samples and droplets of oil on the groundwater sampling bailers.

The soil samples were analyzed for USEPA's Target Compound List ("TCL") volatile organic compounds ("VOCs") using USEPA Methods 5035 and 8260 and Method 8270 for polynuclear aromatic hydrocarbons ("PAHs") related to petroleum. Method 5035 divides the Method 8260 analysis into two samples; one sample is preserved with a solution of Methanol and the other sample is preserved in a solution of water and Sodium Bisulfite. The preservatives and water were both provided with the sample bottles by ESC. Groundwater samples were analyzed using USEPA Method 8260 for TCL VOCs and PAHs using Method 8270 SIMS. Three samples were also sent to Torkelson Geochemistry,

Incorporated for hydrocarbon fingerprinting. Samples from the following soil borings were submitted to Torkelson: B-1 the sample from 7.0 feet below the ground surface; B-6 the sample from 9 to 10 feet below the ground surface; and B-8 the sample from 5.0 to 6.0 feet below the ground surface.

Table 2 provides the sample results compared to Title 6 of the New York State Code Rules and Regulations ("6 NYCRR") Part 375 unrestricted use Soil Cleanup Objectives ("SCO"). None of the detected contaminant concentrations exceeded the unrestricted use SCO, however, in several instances the reporting limit of the analysis exceeded the SCO. These values are provided in bold on Table 2. Table 3 attached compares the soil sample results to those of NYSDEC's Commissioner's Policy 51 ("CP-51") where 2-Methylnapthalene exceeded the SCO of 0.41 milligrams per kilogram ("mg/Kg") for residential property. 2-Methylnaphthalene was found in the sample from soil boring B-6 at a depth of 9 to 10 feet below the ground surface at a concentration of 3.13 mg/Kg. 2-Methylnaphthalene does not have a guidance value for restricted residential, commercial, or industrial settings in either CP-51 or 6 NYCRR Part 375. The soil sample results are also summarized on Figure 2 attached.

The soil sample analysis also found VOCs and PAHs at concentration that do not exceed the 6 NYCRR Part 375 unrestricted use SCO or the CP-51 residential SCO. These included the following compounds: Benzene, Ethylbenzene, N-Butylbenzene, sec-Butylbenzene, tert-Butylbenzene, Chlorobenzene, Isopropyltoluene, Methylene Chloride, Anthracene, Acenaphthylene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fuoranthene, Benzo(ghi)perylene, Benzo(k)fluoranthene, Chrysene, Fluoranthene, Fluorene, indeno(1,2,3-cd)pyrene, Naphthalene, Phenanthrene, Pyrene, and 1-Methylnaphthalene.

The groundwater analytical results are presented on Table 4 and compared to NYSDEC Class GA groundwater quality criteria found in 6 NYCRR Part 703.5 ("groundwater criteria"). Chrysene and Benzo(a)anthracene were found at concentrations which exceeded NYSDEC's groundwater quality criteria. Each of the samples exceeded the Chrysene groundwater criteria of 0.002 micrograms per liter ("µg/L"). The detected concentrations of Chrysene in groundwater range from 0.057µg/L in the groundwater sample from monitoring well B-9 to 4.95 µg/L in the sample from monitoring well B-5. The samples obtained from monitoring wells B-2 and B-5 were found to have Benzo(a)anthracene at concentrations which exceed the groundwater criteria of 0.002 µg/L. The sample from monitoring well B-2 contained Benzo(a)anthracene at a concentration of 0.386 µg/L and the sample from monitoring well B-5 contained a concentration of 3.26 µg/L. All three monitoring well samples B-2, B-5 and B-9 detected Benzo(b)Fluoranthene and Benzo(k)Fluoranthene, however, the laboratory's reporting limits exceeded the groundwater quality criteria of 0.002 µg/L.

In addition to the aforementioned compounds which exceeded the groundwater criteria, other volatile organic compounds and PAHs were reported that either do not have a standard or were found at concentrations below standards. These compounds include:

- Methyl cyclohexane at a concentration of 12.7 µg/L in the sample from monitoring well B-5.

- Methyl tert butylether at a concentration of 1.14 µg/L in the sample from monitoring well B-2 and at a concentration of 3.94 µg/L in the sample from monitoring well B-5. The groundwater quality criteria for MTBE is 10 µg/L.

- Acenapthalene was found at a concentration of 0.312 µg/L in the sample from monitoring well B-2 and 1.38 µg/L in the sample from monitoring well B-5.

- Benzo(a) pyrene was found at a concentration of 0.125 µg/L in the sample from monitoring well B-2.

- 1-Methyl naphthalene was found at a concentration of 0.626 µg/L in the sample from monitoring well B-2.

- Benzo(ghi)perylene was found at a concentration of 0.675 µg/L in the sample from monitoring well B-9.

The results from Torkelson Geochemistry, Inc. are presented as Appendix 2. The chromatographs from soil boring sample B-1 shows a highly weathered gasoline and lubricating oil. The sample from B-6 shows a weathered fuel oil or diesel fuel. It is also possible because of the weathering of the contaminants, that these chromatographs are the signatures of some intermediate product in the petroleum refining process, since Vacuum Oil refined crude oil on the Site. The sample from B-8, however, is different and suggests a spill that might have occurred within the last 20 years. This is based on the concentration ratios between the different compounds.

Summary

The findings in both the soil and groundwater show mixed results; there is visual evidence of gross contamination, but the analytical results show only minor amounts of PAHs and even lower amounts of VOCs. This indicates that the contamination present consists of chemical compounds not within the range of detectable compounds normally analyzed for using methods appropriate for the quantification of TCL VOCs and PAHs. Since approximately 100 years have lapsed from when the property began refining petroleum, it is possible that either the contaminants normally associated with oil, gasoline or fuel oil have either been weathered, lowering the individual compound concentrations, or the degradation processes have removed the volatile compounds entirely. The contamination present on the east side of the Site, based on the sample analysis of the B-8 soil sample, could be from a later spill of petroleum possibly including gasoline, but occurring in the last 20 years.

During the completion of the soil sampling conducted on March 10, 2016 the NYSDEC was notified of a spill because of the gross contamination found on the soil and groundwater. Spill number 1511740 was assigned to the 936 Exchange Street, Rochester Site address.

The use of the Geoprobe method of investigating the Site, although cheaper than other sampling and drilling methods it can also be limiting, because dense materials such as glacial till or fractured bedrock can stop the advancement of the sampling tools. We would recommend additional investigation with either hollow stem auger style sampling and drilling equipment or rotary equipment to investigate the deeper water bearing units.

If you have any questions regarding our report please call us at 585-248-2413.

Very truly yours,
LEADER PROFESSIONAL SERVICES, INC.

Peter von Schondorf
Senior Project Manager

Michael P. Rumrill
President

Enclosures as noted

TABLE 1
Soil Sample PID Response and Free Product Observations
22 Flint Street and 396 Exchange Street
Flint Redevelopment LLC
Rochester, New York

Soil Interval/Sampling Location Id.	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-9
0-2	BG PID	BG PID	BG PID	BG PID	BG PID	BG PID	BG PID	BG PID	BG PID
2-4	17 ppm	BG PID	6.5 ppm	5 ppm	BG PID Petroleum odor.	BG PID	0.7 ppm Possible free product	39 ppm	BG PID
4-6	BG PID	BG PID	BG PID	7.5 ppm	BG PID	234 ppm	BG PID	121 ppm	BG PID
6-8	249 ppm Sheen on sample.	Sheen on WT and on samples. Petroleum odor.	11.6 ppm Petroleum odor.	Boring terminated at 4.5 ft.	92 ppm, Petroleum odor. Sheen on WT	98 ppm	BG PID, Sheen on WT. Petroleum odor.	24 ppm	BG PID
8-10	Boring terminated at 7.8 ft.	BG PID	Boring terminated at 8 ft.		Stained soil.	54 ppm	BG PID	Boring terminated at 8.2 ft.	BG PID
10-12		7.5 ppm Sheen on samples, petroleum odor.			7.5 ppm	BK PID	BK PID		10 ppm
12-14		Boring terminated at 12.4 ft.			Boring terminated at 11.5 ft.	Boring terminated at 11.4 ft.	Boring terminated at 12.2 ft.		Boring terminated at 12 ft.

Notes:
BG PID = Background levels recorded on portable organic vapor analyzer with a photoionization detector.

ppm = part per million based on PID calibration using an Isobutylene gas.

Table 2
Soil Sample Results Compared to Unrestricted Use Soil Cleanup Objectives
Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-01		L823238-02	
		Client Sample ID/Sample Depth in Feet	B-1 7 FT		B-2 12 FT	
		Date Collected	3/11/2016		3/11/2016	
Analyte	Units	Part 375 Unrestricted Use SCOs	Result	Qualifier	Result	Qualifier
TOTAL SOLIDS	%	No Standard	81.9		82.4	
ACETONE	mg/kg	0.05	<0.562		<0.525	
ACRYLONITRILE	mg/kg	No Standard	<0.112		<0.105	
BENZENE	mg/kg	0.06	0.0125		<0.0105	
BROMOBENZENE	mg/kg	No Standard	<0.0112		<0.0105	
BROMODICHLOROMETHANE	mg/kg	No Standard	<0.0112		<0.0105	
BROMOFORM	mg/kg	No Standard	<0.0112		<0.0105	
BROMOMETHANE	mg/kg	No Standard	<0.0562		<0.0525	
N-BUTYLBENZENE	mg/kg	12	0.0132		<0.0105	
SEC-BUTYLBENZENE	mg/kg	11	0.0587		<0.0105	
TERT-BUTYLBENZENE	mg/kg	5.9	0.0286		0.0499	
CARBON TETRACHLORIDE	mg/kg	0.76	<0.0112		<0.0105	
CHLOROBENZENE	mg/kg	1.1	0.933		<0.0105	
CHLORODIBROMOMETHANE	mg/kg	No Standard	<0.0112		<0.0105	
CHLOROETHANE	mg/kg	No Standard	<0.0562		<0.0525	
2-CHLOROETHYL VINYL ETHER	mg/kg	No Standard	<0.562		<0.525	
CHLOROFORM	mg/kg	0.37	<0.0562		<0.0525	
CHLOROMETHANE	mg/kg	No Standard	<0.0281		<0.0262	
2-CHLOROTOLUENE	mg/kg	No Standard	<0.0112		<0.0105	
4-CHLOROTOLUENE	mg/kg	No Standard	<0.0112		<0.0105	
1,2-DIBROMO-3-CHLOROPROPANE	mg/kg	No Standard	<0.0562		<0.0525	
1,2-DIBROMOETHANE	mg/kg	No Standard	<0.0112		<0.0105	
DIBROMOMETHANE	mg/kg	No Standard	<0.0112		<0.0105	
1,2-DICHLOROBENZENE	mg/kg	1.1	<0.0112		<0.0105	

Notes:
SCO = Soil Cleanup Objectives
mg/Kg = milligrams per kilogram

Table 2
Soil Sample Results Compared to Unrestricted Use Soil Cleanup Objectives
Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-01		L823238-02	
		Client Sample ID/Sample Depth in Feet	B-1 7 FT		B-2 12 FT	
		Date Collected	3/11/2016		3/11/2016	
Analyte	Units	Part 375 Unrestricted Use SCOs	Result	Qualifier	Result	Qualifier
1,3-DICHLOROBENZENE	mg/kg	2.4	<0.0112		<0.0105	
1,4-DICHLOROBENZENE	mg/kg	1.8	<0.0112		<0.0105	
DICHLORODIFLUOROMETHANE	mg/kg	No Standard	<0.0562		<0.0525	
1,1-DICHLOROETHANE	mg/kg	0.27	<0.0112		<0.0105	
1,2-DICHLOROETHANE	mg/kg	0.02	<0.0112		<0.0105	
1,1-DICHLOROETHENE	mg/kg	0.33	<0.0112		<0.0105	
CIS-1,2-DICHLOROETHENE	mg/kg	0.25	<0.0112		<0.0105	
TRANS-1,2-DICHLOROETHENE	mg/kg	0.19	<0.0112		<0.0105	
1,2-DICHLOROPROPANE	mg/kg	No Standard	<0.0112		<0.0105	
1,1-DICHLOROPROPENE	mg/kg	No Standard	<0.0112		<0.0105	
1,3-DICHLOROPROPANE	mg/kg	No Standard	<0.0112		<0.0105	
CIS-1,3-DICHLOROPROPENE	mg/kg	No Standard	<0.0112		<0.0105	
TRANS-1,3-DICHLOROPROPENE	mg/kg	No Standard	<0.0112		<0.0105	
2,2-DICHLOROPROPANE	mg/kg	No Standard	<0.0112		<0.0105	
DI-ISOPROPYL ETHER	mg/kg	No Standard	<0.0112		<0.0105	
ETHYLBENZENE	mg/kg	1	<0.0112		<0.0105	
HEXACHLORO-1,3-BUTADIENE	mg/kg	No Standard	<0.0112		<0.0105	
ISOPROPYLBENZENE	mg/kg	No Standard	0.028		<0.0105	
P-ISOPROPYLTOLUENE	mg/kg	No Standard	<0.0112		<0.0105	
2-BUTANONE (MEK)	mg/kg	0.12	<0.112		<0.105	
METHYLENE CHLORIDE	mg/kg	0.05	**<0.0562**		**<0.0525**	
4-METHYL-2-PENTANONE (MIBK)	mg/kg	No Standard	<0.112		<0.105	
METHYL TERT-BUTYL ETHER	mg/kg	0.93	<0.0112		<0.0105	
NAPHTHALENE	mg/kg	12	<0.0562		<0.0525	

Notes:
SCO = Soil Cleanup Objectives
mg/Kg = milligrams per kilogram

Table 2
Soil Sample Results Compared to Unrestricted Use Soil Cleanup Objectives
Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-01		L823238-02	
		Client Sample ID/Sample Depth in Feet	B-1 7 FT		B-2 12 FT	
		Date Collected	3/11/2016		3/11/2016	
Analyte	Units	Part 375 Unrestricted Use SCOs	Result	Qualifier	Result	Qualifier
N-PROPYLBENZENE	mg/kg	3.9	<0.0112		<0.0105	
STYRENE	mg/kg	No Standard	<0.0112		<0.0105	
1,1,1,2-TETRACHLOROETHANE	mg/kg	No Standard	<0.0112		<0.0105	
1,1,2,2-TETRACHLOROETHANE	mg/kg	No Standard	<0.0112		<0.0105	
1,1,2-TRICHLOROTRIFLUOROETHANE	mg/kg	No Standard	<0.0112		<0.0105	
TETRACHLOROETHENE	mg/kg	1.3	<0.0112		<0.0105	
TOLUENE	mg/kg	0.7	<0.0562		<0.0525	
1,2,3-TRICHLOROBENZENE	mg/kg	No Standard	<0.0112		<0.0105	
1,2,4-TRICHLOROBENZENE	mg/kg	No Standard	<0.0112		<0.0105	
1,1,1-TRICHLOROETHANE	mg/kg	0.68	<0.0112		<0.0105	
1,1,2-TRICHLOROETHANE	mg/kg	No Standard	<0.0112		<0.0105	
TRICHLOROETHENE	mg/kg	0.47	<0.0112		<0.0105	
TRICHLOROFLUOROMETHANE	mg/kg	No Standard	<0.0562		<0.0525	
1,2,3-TRICHLOROPROPANE	mg/kg	No Standard	<0.0281		<0.0262	
1,2,4-TRIMETHYLBENZENE	mg/kg	3.6	<0.0112		<0.0105	
1,2,3-TRIMETHYLBENZENE	mg/kg	No Standard	<0.0112		<0.0105	
VINYL CHLORIDE	mg/kg	0.02	<0.0112		<0.0105	
1,3,5-TRIMETHYLBENZENE	mg/kg	8.4	<0.0112		<0.0105	
XYLENES, TOTAL	mg/kg	0.26	<0.0338		<0.0315	
ANTHRACENE	mg/kg	100	<0.12		<0.12	
ACENAPHTHENE	mg/kg	20	<0.12		<0.12	
ACENAPHTHYLENE	mg/kg	100	<0.12		<0.12	
BENZO(A)ANTHRACENE	mg/kg	1	<0.12		<0.12	
BENZO(A)PYRENE	mg/kg	1	<0.12		<0.12	

Notes:
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mg/Kg = milligrams per kilogram

Table 2
Soil Sample Results Compared to Unrestricted Use Soil Cleanup Objectives
Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-01		L823238-02	
		Client Sample ID/Sample Depth in Feet	B-1 7 FT		B-2 12 FT	
		Date Collected	3/11/2016		3/11/2016	
Analyte	Units	Part 375 Unrestricted Use SCOs	Result	Qualifier	Result	Qualifier
BENZO(B)FLUORANTHENE	mg/kg	1	<0.12		<0.12	
BENZO(G,H,I)PERYLENE	mg/kg	100	<0.12		<0.12	
BENZO(K)FLUORANTHENE	mg/kg	0.8	<0.12		<0.12	
CHRYSENE	mg/kg	1	<0.12		<0.12	
DIBENZ(A,H)ANTHRACENE	mg/kg	0.33	<0.12		<0.12	
FLUORANTHENE	mg/kg	100	<0.12		<0.12	
FLUORENE	mg/kg	30	<0.12		<0.12	
INDENO(1,2,3-CD)PYRENE	mg/kg	0.5	<0.12		<0.12	
NAPHTHALENE	mg/kg	12	<0.4		<0.4	
PHENANTHRENE	mg/kg	100	<0.12		<0.12	
PYRENE	mg/kg	100	<0.12		<0.12	
1-METHYLNAPHTHALENE	mg/kg	No Standard	<0.4		<0.4	
2-METHYLNAPHTHALENE	mg/kg	No Standard	<0.4		<0.4	
2-CHLORONAPHTHALENE	mg/kg	No Standard	<0.4		<0.4	

Notes:
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Table 2
Soil Sample Results Compared to Unrestricted Use Soil Cleanup Objectives
Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-03		L823238-04	
		Client Sample ID/Sample Depth in Feet	B-4 3-4.5 FT		B-5 11 FT	
		Date Collected	3/11/2016		3/11/2016	
Analyte	Units	Part 375 Unrestricted Use SCOs	Result	Qualifier	Result	Qualifier
TOTAL SOLIDS	%	No Standard	90		80.7	
ACETONE	mg/kg	0.05	<5		<2.2	
ACRYLONITRILE	mg/kg	No Standard	<1		<0.44	
BENZENE	mg/kg	0.06	<0.1		<0.044	
BROMOBENZENE	mg/kg	No Standard	<0.1		<0.044	
BROMODICHLOROMETHANE	mg/kg	No Standard	<0.1		<0.044	
BROMOFORM	mg/kg	No Standard	<0.1		<0.044	
BROMOMETHANE	mg/kg	No Standard	<0.5		<0.22	
N-BUTYLBENZENE	mg/kg	12	<0.1		<0.044	
SEC-BUTYLBENZENE	mg/kg	11	<0.1		<0.044	
TERT-BUTYLBENZENE	mg/kg	5.9	<0.1		0.0726	
CARBON TETRACHLORIDE	mg/kg	0.76	<0.1		<0.044	
CHLOROBENZENE	mg/kg	1.1	<0.1		<0.044	
CHLORODIBROMOMETHANE	mg/kg	No Standard	<0.1		<0.044	
CHLOROETHANE	mg/kg	No Standard	<0.5		<0.22	
2-CHLOROETHYL VINYL ETHER	mg/kg	No Standard	<5		<2.2	
CHLOROFORM	mg/kg	0.37	<0.5		<0.22	
CHLOROMETHANE	mg/kg	No Standard	<0.25		<0.11	
2-CHLOROTOLUENE	mg/kg	No Standard	<0.1		<0.044	
4-CHLOROTOLUENE	mg/kg	No Standard	<0.1		<0.044	
1,2-DIBROMO-3-CHLOROPROPANE	mg/kg	No Standard	<0.5		<0.22	
1,2-DIBROMOETHANE	mg/kg	No Standard	<0.1		<0.044	
DIBROMOMETHANE	mg/kg	No Standard	<0.1		<0.044	
1,2-DICHLOROBENZENE	mg/kg	1.1	<0.1		<0.044	

Notes:
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mg/Kg = milligrams per kilogram

Table 2
Soil Sample Results Compared to Unrestricted Use Soil Cleanup Objectives
Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-03		L823238-04	
		Client Sample ID/Sample Depth in Feet	B-4 3-4.5 FT		B-5 11 FT	
		Date Collected	3/11/2016		3/11/2016	
Analyte	Units	Part 375 Unrestricted Use SCOs	Result	Qualifier	Result	Qualifier
1,3-DICHLOROBENZENE	mg/kg	2.4	<0.1		<0.044	
1,4-DICHLOROBENZENE	mg/kg	1.8	<0.1		<0.044	
DICHLORODIFLUOROMETHANE	mg/kg	No Standard	<0.5		<0.22	
1,1-DICHLOROETHANE	mg/kg	0.27	<0.1		<0.044	
1,2-DICHLOROETHANE	mg/kg	0.02	<0.1		<0.044	
1,1-DICHLOROETHENE	mg/kg	0.33	<0.1		<0.044	
CIS-1,2-DICHLOROETHENE	mg/kg	0.25	<0.1		<0.044	
TRANS-1,2-DICHLOROETHENE	mg/kg	0.19	<0.1		<0.044	
1,2-DICHLOROPROPANE	mg/kg	No Standard	<0.1		<0.044	
1,1-DICHLOROPROPENE	mg/kg	No Standard	<0.1		<0.044	
1,3-DICHLOROPROPANE	mg/kg	No Standard	<0.1		<0.044	
CIS-1,3-DICHLOROPROPENE	mg/kg	No Standard	<0.1		<0.044	
TRANS-1,3-DICHLOROPROPENE	mg/kg	No Standard	<0.1		<0.044	
2,2-DICHLOROPROPANE	mg/kg	No Standard	<0.1		<0.044	
DI-ISOPROPYL ETHER	mg/kg	No Standard	<0.1		<0.044	
ETHYLBENZENE	mg/kg	1	<0.1		<0.044	
HEXACHLORO-1,3-BUTADIENE	mg/kg	No Standard	<0.1		<0.044	
ISOPROPYLBENZENE	mg/kg	No Standard	<0.1		<0.044	
P-ISOPROPYLTOLUENE	mg/kg	No Standard	<0.1		<0.044	
2-BUTANONE (MEK)	mg/kg	0.12	**<1**		**<0.44**	
METHYLENE CHLORIDE	mg/kg	0.05	**<0.5**		**<0.22**	
4-METHYL-2-PENTANONE (MIBK)	mg/kg	No Standard	<1		<0.44	
METHYL TERT-BUTYL ETHER	mg/kg	0.93	<0.1		<0.044	
NAPHTHALENE	mg/kg	12	<0.5		<0.22	

Notes:
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mg/Kg = milligrams per kilogram

Table 2
Soil Sample Results Compared to Unrestricted Use Soil Cleanup Objectives
Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-03		L823238-04	
		Client Sample ID/Sample Depth in Feet	B-4 3-4.5 FT		B-5 11 FT	
		Date Collected	3/11/2016		3/11/2016	
Analyte	Units	Part 375 Unrestricted Use SCOs	Result	Qualifier	Result	Qualifier
N-PROPYLBENZENE	mg/kg	3.9	<0.1		<0.044	
STYRENE	mg/kg	No Standard	<0.1		<0.044	
1,1,1,2-TETRACHLOROETHANE	mg/kg	No Standard	<0.1		<0.044	
1,1,2,2-TETRACHLOROETHANE	mg/kg	No Standard	<0.1		<0.044	
1,1,2-TRICHLOROTRIFLUOROETHANE	mg/kg	No Standard	<0.1		<0.044	
TETRACHLOROETHENE	mg/kg	1.3	<0.1		<0.044	
TOLUENE	mg/kg	0.7	<0.5		<0.22	
1,2,3-TRICHLOROBENZENE	mg/kg	No Standard	<0.1		<0.044	
1,2,4-TRICHLOROBENZENE	mg/kg	No Standard	<0.1		<0.044	
1,1,1-TRICHLOROETHANE	mg/kg	0.68	<0.1		<0.044	
1,1,2-TRICHLOROETHANE	mg/kg	No Standard	<0.1		<0.044	
TRICHLOROETHENE	mg/kg	0.47	<0.1		<0.044	
TRICHLOROFLUOROMETHANE	mg/kg	No Standard	<0.5		<0.22	
1,2,3-TRICHLOROPROPANE	mg/kg	No Standard	<0.25		<0.11	
1,2,4-TRIMETHYLBENZENE	mg/kg	3.6	<0.1		<0.044	
1,2,3-TRIMETHYLBENZENE	mg/kg	No Standard	<0.1		<0.044	
VINYL CHLORIDE	mg/kg	0.02	**<0.1**		**<0.044**	
1,3,5-TRIMETHYLBENZENE	mg/kg	8.4	<0.1		<0.044	
XYLENES, TOTAL	mg/kg	0.26	<0.3		<0.132	
ANTHRACENE	mg/kg	100	<0.12		<0.12	
ACENAPHTHENE	mg/kg	20	<0.12		<0.12	
ACENAPHTHYLENE	mg/kg	100	<0.12		<0.12	
BENZO(A)ANTHRACENE	mg/kg	1	<0.12		<0.12	
BENZO(A)PYRENE	mg/kg	1	<0.12		<0.12	

Notes:
SCO = Soil Cleanup Objectives
mg/Kg = milligrams per kilogram

Table 2
Soil Sample Results Compared to Unrestricted Use Soil Cleanup Objectives
Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-03		L823238-04	
		Client Sample ID/Sample Depth in Feet	B-4 3-4.5 FT		B-5 11 FT	
		Date Collected	3/11/2016		3/11/2016	
Analyte	Units	Part 375 Unrestricted Use SCOs	Result	Qualifier	Result	Qualifier
BENZO(B)FLUORANTHENE	mg/kg	1	<0.12		<0.12	
BENZO(G,H,I)PERYLENE	mg/kg	100	<0.12		<0.12	
BENZO(K)FLUORANTHENE	mg/kg	0.8	<0.12		<0.12	
CHRYSENE	mg/kg	1	<0.12		<0.12	
DIBENZ(A,H)ANTHRACENE	mg/kg	0.33	<0.12		<0.12	
FLUORANTHENE	mg/kg	100	<0.12		<0.12	
FLUORENE	mg/kg	30	<0.12		<0.12	
INDENO(1,2,3-CD)PYRENE	mg/kg	0.5	<0.12		<0.12	
NAPHTHALENE	mg/kg	12	<0.4		<0.4	
PHENANTHRENE	mg/kg	100	<0.12		<0.12	
PYRENE	mg/kg	100	<0.12		<0.12	
1-METHYLNAPHTHALENE	mg/kg	No Standard	<0.4		<0.4	
2-METHYLNAPHTHALENE	mg/kg	No Standard	<0.4		<0.4	
2-CHLORONAPHTHALENE	mg/kg	No Standard	<0.4		<0.4	

Notes:
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Table 2
Soil Sample Results Compared to Unrestricted Use Soil Cleanup Objectives
Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-05		L823238-06		L823238-07		L823238-08	
		Client Sample ID/Sample Depth in Feet	B-6 9-10 FT		B-7 9-12.2 FT		B-8 5-6 FT		B-9 10-11 FT	
		Date Collected	3/11/2016		3/11/2016		3/11/2016		3/11/2016	
Analyte	Units	Part 375 Unrestricted Use SCOs	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
TOTAL SOLIDS	%	No Standard	89.3		88		75.4		81.5	
ACETONE	mg/kg	0.05	**<0.538**		<0.05		**<1.25**		**<0.25**	
ACRYLONITRILE	mg/kg	No Standard	<0.108		<0.01		<0.25		<0.05	
BENZENE	mg/kg	0.06	<0.0108		0.00596		<0.025		<0.005	
BROMOBENZENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
BROMODICHLOROMETHANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
BROMOFORM	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
BROMOMETHANE	mg/kg	No Standard	<0.0538		<0.005		<0.125		<0.025	
N-BUTYLBENZENE	mg/kg	12	0.0148		<0.001		<0.025		<0.005	
SEC-BUTYLBENZENE	mg/kg	11	0.0168		<0.001		<0.025		0.0059	
TERT-BUTYLBENZENE	mg/kg	5.9	0.0125		0.00101		<0.025		0.00604	
CARBON TETRACHLORIDE	mg/kg	0.76	<0.0108		<0.001		<0.025		<0.005	
CHLOROBENZENE	mg/kg	1.1	<0.0108		<0.001		<0.025		<0.005	
CHLORODIBROMOMETHANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
CHLOROETHANE	mg/kg	No Standard	<0.0538		<0.005		<0.125		<0.025	
2-CHLOROETHYL VINYL ETHER	mg/kg	No Standard	<0.538		<0.05		<1.25		<0.25	
CHLOROFORM	mg/kg	0.37	<0.0538		<0.005		<0.125		<0.025	
CHLOROMETHANE	mg/kg	No Standard	<0.0269		<0.0025		<0.0625		<0.0125	
2-CHLOROTOLUENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
4-CHLOROTOLUENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,2-DIBROMO-3-CHLOROPROPANE	mg/kg	No Standard	<0.0538		<0.005		<0.125		<0.025	
1,2-DIBROMOETHANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
DIBROMOMETHANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,2-DICHLOROBENZENE	mg/kg	1.1	<0.0108		<0.001		<0.025		<0.005	

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Table 2
Soil Sample Results Compared to Unrestricted Use Soil Cleanup Objectives
Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-05		L823238-06		L823238-07		L823238-08	
		Client Sample ID/Sample Depth in Feet	B-6 9-10 FT		B-7 9-12.2 FT		B-8 5-6 FT		B-9 10-11 FT	
		Date Collected	3/11/2016		3/11/2016		3/11/2016		3/11/2016	
Analyte	Units	Part 375 Unrestricted Use SCOs	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,3-DICHLOROBENZENE	mg/kg	2.4	<0.0108		<0.001		<0.025		<0.005	
1,4-DICHLOROBENZENE	mg/kg	1.8	<0.0108		<0.001		<0.025		<0.005	
DICHLORODIFLUOROMETHANE	mg/kg	No Standard	<0.0538		<0.005		<0.125		<0.025	
1,1-DICHLOROETHANE	mg/kg	0.27	<0.0108		<0.001		<0.025		<0.005	
1,2-DICHLOROETHANE	mg/kg	0.02	<0.0108		<0.001		<0.025		<0.005	
1,1-DICHLOROETHENE	mg/kg	0.33	<0.0108		<0.001		<0.025		<0.005	
CIS-1,2-DICHLOROETHENE	mg/kg	0.25	<0.0108		<0.001		<0.025		<0.005	
TRANS-1,2-DICHLOROETHENE	mg/kg	0.19	<0.0108		<0.001		<0.025		<0.005	
1,2-DICHLOROPROPANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,1-DICHLOROPROPENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,3-DICHLOROPROPANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
CIS-1,3-DICHLOROPROPENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
TRANS-1,3-DICHLOROPROPENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
2,2-DICHLOROPROPANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
DI-ISOPROPYL ETHER	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
ETHYLBENZENE	mg/kg	1	<0.0108		0.00207		<0.025		<0.005	
HEXACHLORO-1,3-BUTADIENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
ISOPROPYLBENZENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
P-ISOPROPYLTOLUENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
2-BUTANONE (MEK)	mg/kg	0.12	<0.108		<0.01		**<0.25**		<0.05	
METHYLENE CHLORIDE	mg/kg	0.05	**<0.0538**		<0.005		**<0.125**		<0.025	
4-METHYL-2-PENTANONE (MIBK)	mg/kg	No Standard	<0.108		<0.01		<0.25		<0.05	
METHYL TERT-BUTYL ETHER	mg/kg	0.93	<0.0108		<0.001		<0.025		<0.005	
NAPHTHALENE	mg/kg	12	<0.0538		<0.005		<0.125		<0.025	

Notes:
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Table 2
Soil Sample Results Compared to Unrestricted Use Soil Cleanup Objectives
Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-05		L823238-06		L823238-07		L823238-08	
		Client Sample ID/Sample Depth in Feet	B-6 9-10 FT		B-7 9-12.2 FT		B-8 5-6 FT		B-9 10-11 FT	
		Date Collected	3/11/2016		3/11/2016		3/11/2016		3/11/2016	
Analyte	Units	Part 375 Unrestricted Use SCOs	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
N-PROPYLBENZENE	mg/kg	3.9	0.0217		<0.001		<0.025		<0.005	
STYRENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,1,1,2-TETRACHLOROETHANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,1,2,2-TETRACHLOROETHANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,1,2-TRICHLOROTRIFLUOROETHANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
TETRACHLOROETHENE	mg/kg	1.3	<0.0108		<0.001		<0.025		<0.005	
TOLUENE	mg/kg	0.7	<0.0538		0.0154		<0.125		<0.025	
1,2,3-TRICHLOROBENZENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,2,4-TRICHLOROBENZENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,1,1-TRICHLOROETHANE	mg/kg	0.68	<0.0108		<0.001		<0.025		<0.005	
1,1,2-TRICHLOROETHANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
TRICHLOROETHENE	mg/kg	0.47	<0.0108		<0.001		<0.025		<0.005	
TRICHLOROFLUOROMETHANE	mg/kg	No Standard	<0.0538		<0.005		<0.125		<0.025	
1,2,3-TRICHLOROPROPANE	mg/kg	No Standard	<0.0269		<0.0025		<0.0625		<0.0125	
1,2,4-TRIMETHYLBENZENE	mg/kg	3.6	<0.0108		0.00713		0.0254		<0.005	
1,2,3-TRIMETHYLBENZENE	mg/kg	No Standard	<0.0108		0.00144		<0.025		<0.005	
VINYL CHLORIDE	mg/kg	0.02	<0.0108		<0.001		**<0.025**		<0.005	
1,3,5-TRIMETHYLBENZENE	mg/kg	8.4	<0.0108		0.00333		<0.025		<0.005	
XYLENES, TOTAL	mg/kg	0.26	<0.0322		0.0232		<0.075		<0.015	
ANTHRACENE	mg/kg	100	0.299		<0.12		0.753		<0.12	
ACENAPHTHENE	mg/kg	20	0.295		<0.12		0.461		<0.12	
ACENAPHTHYLENE	mg/kg	100	<0.12		<0.12		<0.12		<0.12	
BENZO(A)ANTHRACENE	mg/kg	1	0.636		<0.12		0.348		<0.12	
BENZO(A)PYRENE	mg/kg	1	0.521		<0.12		0.313		<0.12	

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Table 2
Soil Sample Results Compared to Unrestricted Use Soil Cleanup Objectives
Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-05		L823238-06		L823238-07		L823238-08	
		Client Sample ID/Sample Depth in Feet	B-6 9-10 FT		B-7 9-12.2 FT		B-8 5-6 FT		B-9 10-11 FT	
		Date Collected	3/11/2016		3/11/2016		3/11/2016		3/11/2016	
Analyte	Units	Part 375 Unrestricted Use SCOs	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
BENZO(B)FLUORANTHENE	mg/kg	1	0.637		<0.12		0.34		<0.12	
BENZO(G,H,I)PERYLENE	mg/kg	100	0.279		<0.12		0.209		<0.12	
BENZO(K)FLUORANTHENE	mg/kg	0.8	0.241		<0.12		0.133		<0.12	
CHRYSENE	mg/kg	1	0.741		<0.12		0.364		<0.12	
DIBENZ(A,H)ANTHRACENE	mg/kg	0.33	<0.12		<0.12		<0.12		<0.12	
FLUORANTHENE	mg/kg	100	1.22		<0.12		1.31		<0.12	
FLUORENE	mg/kg	30	0.393		<0.12		0.566		<0.12	
INDENO(1,2,3-CD)PYRENE	mg/kg	0.5	0.258		<0.12		0.174		<0.12	
NAPHTHALENE	mg/kg	12	1.05		<0.4		<0.4		<0.4	
PHENANTHRENE	mg/kg	100	1.39		<0.12		1.52		<0.12	
PYRENE	mg/kg	100	1.28		<0.12		1.2		<0.12	
1-METHYLNAPHTHALENE	mg/kg	No Standard	1.94		<0.4		<0.4		<0.4	
2-METHYLNAPHTHALENE	mg/kg	No Standard	3.13		<0.4		<0.4		<0.4	
2-CHLORONAPHTHALENE	mg/kg	No Standard	<0.4		<0.4		<0.4		<0.4	

Notes:
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Table 3
Soil Sample Results Compared to Residential Use Soil Cleanup Guidance Found in CP-51
Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-01		L823238-02	
		Client Sample ID/Sample Depth in Feet	B-1 7 FT		B-2 12 FT	
		Date Collected	3/11/2016		3/11/2016	
Analyte	Units	CP-51 Residential Use SCOs	Result	Qualifier	Result	Qualifier
TOTAL SOLIDS	%	No Standard	81.9		82.4	
ACETONE	mg/kg	No Standard	<0.562		<0.525	
ACRYLONITRILE	mg/kg	No Standard	<0.112		<0.105	
BENZENE	mg/kg	No Standard	0.0125		<0.0105	
BROMOBENZENE	mg/kg	No Standard	<0.0112		<0.0105	
BROMODICHLOROMETHANE	mg/kg	No Standard	<0.0112		<0.0105	
BROMOFORM	mg/kg	No Standard	<0.0112		<0.0105	
BROMOMETHANE	mg/kg	No Standard	<0.0562		<0.0525	
N-BUTYLBENZENE	mg/kg	No Standard	0.0132		<0.0105	
SEC-BUTYLBENZENE	mg/kg	No Standard	0.0587		<0.0105	
TERT-BUTYLBENZENE	mg/kg	No Standard	0.0286		0.0499	
CARBON TETRACHLORIDE	mg/kg	No Standard	<0.0112		<0.0105	
CHLOROBENZENE	mg/kg	No Standard	0.933		<0.0105	
CHLORODIBROMOMETHANE	mg/kg	No Standard	<0.0112		<0.0105	
CHLOROETHANE	mg/kg	No Standard	<0.0562		<0.0525	
2-CHLOROETHYL VINYL ETHER	mg/kg	No Standard	<0.562		<0.525	
CHLOROFORM	mg/kg	No Standard	<0.0562		<0.0525	
CHLOROMETHANE	mg/kg	No Standard	<0.0281		<0.0262	
2-CHLOROTOLUENE	mg/kg	No Standard	<0.0112		<0.0105	
4-CHLOROTOLUENE	mg/kg	No Standard	<0.0112		<0.0105	
1,2-DIBROMO-3-CHLOROPROPANE	mg/kg	No Standard	<0.0562		<0.0525	
1,2-DIBROMOETHANE	mg/kg	No Standard	<0.0112		<0.0105	
DIBROMOMETHANE	mg/kg	No Standard	<0.0112		<0.0105	
1,2-DICHLOROBENZENE	mg/kg	No Standard	<0.0112		<0.0105	

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Table 3
Soil Sample Results Compared to Residential Use Soil Cleanup Guidance Found in CP-51
Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-01		L823238-02	
		Client Sample ID/Sample Depth in Feet	B-1 7 FT		B-2 12 FT	
		Date Collected	3/11/2016		3/11/2016	
Analyte	Units	CP-51 Residential Use SCOs	Result	Qualifier	Result	Qualifier
1,3-DICHLOROBENZENE	mg/kg	No Standard	<0.0112		<0.0105	
1,4-DICHLOROBENZENE	mg/kg	No Standard	<0.0112		<0.0105	
DICHLORODIFLUOROMETHANE	mg/kg	No Standard	<0.0562		<0.0525	
1,1-DICHLOROETHANE	mg/kg	No Standard	<0.0112		<0.0105	
1,2-DICHLOROETHANE	mg/kg	No Standard	<0.0112		<0.0105	
1,1-DICHLOROETHENE	mg/kg	No Standard	<0.0112		<0.0105	
CIS-1,2-DICHLOROETHENE	mg/kg	No Standard	<0.0112		<0.0105	
TRANS-1,2-DICHLOROETHENE	mg/kg	No Standard	<0.0112		<0.0105	
1,2-DICHLOROPROPANE	mg/kg	No Standard	<0.0112		<0.0105	
1,1-DICHLOROPROPENE	mg/kg	No Standard	<0.0112		<0.0105	
1,3-DICHLOROPROPANE	mg/kg	No Standard	<0.0112		<0.0105	
CIS-1,3-DICHLOROPROPENE	mg/kg	No Standard	<0.0112		<0.0105	
TRANS-1,3-DICHLOROPROPENE	mg/kg	No Standard	<0.0112		<0.0105	
2,2-DICHLOROPROPANE	mg/kg	No Standard	<0.0112		<0.0105	
DI-ISOPROPYL ETHER	mg/kg	No Standard	<0.0112		<0.0105	
ETHYLBENZENE	mg/kg	No Standard	<0.0112		<0.0105	
HEXACHLORO-1,3-BUTADIENE	mg/kg	No Standard	<0.0112		<0.0105	
ISOPROPYLBENZENE	mg/kg	100	0.028		<0.0105	
P-ISOPROPYLTOLUENE	mg/kg	No Standard	<0.0112		<0.0105	
2-BUTANONE (MEK)	mg/kg	100	<0.112		<0.105	
METHYLENE CHLORIDE	mg/kg	No Standard	<0.0562		<0.0525	
4-METHYL-2-PENTANONE (MIBK)	mg/kg	No Standard	<0.112		<0.105	
METHYL TERT-BUTYL ETHER	mg/kg	No Standard	<0.0112		<0.0105	
NAPHTHALENE	mg/kg	No Standard	<0.0562		<0.0525	

Notes:
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Table 3
Soil Sample Results Compared to Residential Use Soil Cleanup Guidance Found in CP-51
Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-01		L823238-02	
		Client Sample ID/Sample Depth in Feet	B-1 7 FT		B-2 12 FT	
		Date Collected	3/11/2016		3/11/2016	
Analyte	Units	CP-51 Residential Use SCOs	Result	Qualifier	Result	Qualifier
N-PROPYLBENZENE	mg/kg	No Standard	<0.0112		<0.0105	
STYRENE	mg/kg	No Standard	<0.0112		<0.0105	
1,1,1,2-TETRACHLOROETHANE	mg/kg	No Standard	<0.0112		<0.0105	
1,1,2,2-TETRACHLOROETHANE	mg/kg	No Standard	<0.0112		<0.0105	
1,1,2-TRICHLOROTRIFLUOROETHANE	mg/kg	No Standard	<0.0112		<0.0105	
TETRACHLOROETHENE	mg/kg	No Standard	<0.0112		<0.0105	
TOLUENE	mg/kg	No Standard	<0.0562		<0.0525	
1,2,3-TRICHLOROBENZENE	mg/kg	No Standard	<0.0112		<0.0105	
1,2,4-TRICHLOROBENZENE	mg/kg	No Standard	<0.0112		<0.0105	
1,1,1-TRICHLOROETHANE	mg/kg	No Standard	<0.0112		<0.0105	
1,1,2-TRICHLOROETHANE	mg/kg	No Standard	<0.0112		<0.0105	
TRICHLOROETHENE	mg/kg	No Standard	<0.0112		<0.0105	
TRICHLOROFLUOROMETHANE	mg/kg	No Standard	<0.0562		<0.0525	
1,2,3-TRICHLOROPROPANE	mg/kg	No Standard	<0.0281		<0.0262	
1,2,4-TRIMETHYLBENZENE	mg/kg	No Standard	<0.0112		<0.0105	
1,2,3-TRIMETHYLBENZENE	mg/kg	No Standard	<0.0112		<0.0105	
VINYL CHLORIDE	mg/kg	No Standard	<0.0112		<0.0105	
1,3,5-TRIMETHYLBENZENE	mg/kg	No Standard	<0.0112		<0.0105	
XYLENES, TOTAL	mg/kg	No Standard	<0.0338		<0.0315	
ANTHRACENE	mg/kg	No Standard	<0.12		<0.12	
ACENAPHTHENE	mg/kg	No Standard	<0.12		<0.12	
ACENAPHTHYLENE	mg/kg	No Standard	<0.12		<0.12	
BENZO(A)ANTHRACENE	mg/kg	No Standard	<0.12		<0.12	
BENZO(A)PYRENE	mg/kg	No Standard	<0.12		<0.12	

Notes:
SCO = Soil Cleanup Objectives
mg/Kg = milligrams per kilogram

Table 3
Soil Sample Results Compared to Residential Use Soil Cleanup Guidance Found in CP-51
Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-01		L823238-02	
		Client Sample ID/Sample Depth in Feet	B-1 7 FT		B-2 12 FT	
		Date Collected	3/11/2016		3/11/2016	
Analyte	Units	CP-51 Residential Use SCOs	Result	Qualifier	Result	Qualifier
BENZO(B)FLUORANTHENE	mg/kg	No Standard	<0.12		<0.12	
BENZO(G,H,I)PERYLENE	mg/kg	No Standard	<0.12		<0.12	
BENZO(K)FLUORANTHENE	mg/kg	No Standard	<0.12		<0.12	
CHRYSENE	mg/kg	No Standard	<0.12		<0.12	
DIBENZ(A,H)ANTHRACENE	mg/kg	No Standard	<0.12		<0.12	
FLUORANTHENE	mg/kg	No Standard	<0.12		<0.12	
FLUORENE	mg/kg	No Standard	<0.12		<0.12	
INDENO(1,2,3-CD)PYRENE	mg/kg	No Standard	<0.12		<0.12	
NAPHTHALENE	mg/kg	No Standard	<0.4		<0.4	
PHENANTHRENE	mg/kg	No Standard	<0.12		<0.12	
PYRENE	mg/kg	No Standard	<0.12		<0.12	
1-METHYLNAPHTHALENE	mg/kg	No Standard	<0.4		<0.4	
2-METHYLNAPHTHALENE	mg/kg	0.41	<0.4		<0.4	
2-CHLORONAPHTHALENE	mg/kg	No Standard	<0.4		<0.4	

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Table 3
Soil Sample Results Compared to Residential Use Soil Cleanup Guidance Found in CP-51
Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-03		L823238-04	
		Client Sample ID/Sample Depth in Feet	B-4 3-4.5 FT		B-5 11 FT	
		Date Collected	3/11/2016		3/11/2016	
Analyte	Units	CP-51 Residential Use SCOs	Result	Qualifier	Result	Qualifier
TOTAL SOLIDS	%	No Standard	90		80.7	
ACETONE	mg/kg	No Standard	<5		<2.2	
ACRYLONITRILE	mg/kg	No Standard	<1		<0.44	
BENZENE	mg/kg	No Standard	<0.1		<0.044	
BROMOBENZENE	mg/kg	No Standard	<0.1		<0.044	
BROMODICHLOROMETHANE	mg/kg	No Standard	<0.1		<0.044	
BROMOFORM	mg/kg	No Standard	<0.1		<0.044	
BROMOMETHANE	mg/kg	No Standard	<0.5		<0.22	
N-BUTYLBENZENE	mg/kg	No Standard	<0.1		<0.044	
SEC-BUTYLBENZENE	mg/kg	No Standard	<0.1		<0.044	
TERT-BUTYLBENZENE	mg/kg	No Standard	<0.1		0.0726	
CARBON TETRACHLORIDE	mg/kg	No Standard	<0.1		<0.044	
CHLOROBENZENE	mg/kg	No Standard	<0.1		<0.044	
CHLORODIBROMOMETHANE	mg/kg	No Standard	<0.1		<0.044	
CHLOROETHANE	mg/kg	No Standard	<0.5		<0.22	
2-CHLOROETHYL VINYL ETHER	mg/kg	No Standard	<5		<2.2	
CHLOROFORM	mg/kg	No Standard	<0.5		<0.22	
CHLOROMETHANE	mg/kg	No Standard	<0.25		<0.11	
2-CHLOROTOLUENE	mg/kg	No Standard	<0.1		<0.044	
4-CHLOROTOLUENE	mg/kg	No Standard	<0.1		<0.044	
1,2-DIBROMO-3-CHLOROPROPANE	mg/kg	No Standard	<0.5		<0.22	
1,2-DIBROMOETHANE	mg/kg	No Standard	<0.1		<0.044	
DIBROMOMETHANE	mg/kg	No Standard	<0.1		<0.044	
1,2-DICHLOROBENZENE	mg/kg	No Standard	<0.1		<0.044	

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Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-03		L823238-04	
		Client Sample ID/Sample Depth in Feet	B-4 3-4.5 FT		B-5 11 FT	
		Date Collected	3/11/2016		3/11/2016	
Analyte	Units	CP-51 Residential Use SCOs	Result	Qualifier	Result	Qualifier
1,3-DICHLOROBENZENE	mg/kg	No Standard	<0.1		<0.044	
1,4-DICHLOROBENZENE	mg/kg	No Standard	<0.1		<0.044	
DICHLORODIFLUOROMETHANE	mg/kg	No Standard	<0.5		<0.22	
1,1-DICHLOROETHANE	mg/kg	No Standard	<0.1		<0.044	
1,2-DICHLOROETHANE	mg/kg	No Standard	<0.1		<0.044	
1,1-DICHLOROETHENE	mg/kg	No Standard	<0.1		<0.044	
CIS-1,2-DICHLOROETHENE	mg/kg	No Standard	<0.1		<0.044	
TRANS-1,2-DICHLOROETHENE	mg/kg	No Standard	<0.1		<0.044	
1,2-DICHLOROPROPANE	mg/kg	No Standard	<0.1		<0.044	
1,1-DICHLOROPROPENE	mg/kg	No Standard	<0.1		<0.044	
1,3-DICHLOROPROPANE	mg/kg	No Standard	<0.1		<0.044	
CIS-1,3-DICHLOROPROPENE	mg/kg	No Standard	<0.1		<0.044	
TRANS-1,3-DICHLOROPROPENE	mg/kg	No Standard	<0.1		<0.044	
2,2-DICHLOROPROPANE	mg/kg	No Standard	<0.1		<0.044	
DI-ISOPROPYL ETHER	mg/kg	No Standard	<0.1		<0.044	
ETHYLBENZENE	mg/kg	No Standard	<0.1		<0.044	
HEXACHLORO-1,3-BUTADIENE	mg/kg	No Standard	<0.1		<0.044	
ISOPROPYLBENZENE	mg/kg	100	<0.1		<0.044	
P-ISOPROPYLTOLUENE	mg/kg	No Standard	<0.1		<0.044	
2-BUTANONE (MEK)	mg/kg	100	<1		<0.44	
METHYLENE CHLORIDE	mg/kg	No Standard	<0.5		<0.22	
4-METHYL-2-PENTANONE (MIBK)	mg/kg	No Standard	<1		<0.44	
METHYL TERT-BUTYL ETHER	mg/kg	No Standard	<0.1		<0.044	
NAPHTHALENE	mg/kg	No Standard	<0.5		<0.22	

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Table 3
Soil Sample Results Compared to Residential Use Soil Cleanup Guidance Found in CP-51
Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-03		L823238-04	
		Client Sample ID/Sample Depth in Feet	B-4 3-4.5 FT		B-5 11 FT	
		Date Collected	3/11/2016		3/11/2016	
Analyte	Units	CP-51 Residential Use SCOs	Result	Qualifier	Result	Qualifier
N-PROPYLBENZENE	mg/kg	No Standard	<0.1		<0.044	
STYRENE	mg/kg	No Standard	<0.1		<0.044	
1,1,1,2-TETRACHLOROETHANE	mg/kg	No Standard	<0.1		<0.044	
1,1,2,2-TETRACHLOROETHANE	mg/kg	No Standard	<0.1		<0.044	
1,1,2-TRICHLOROTRIFLUOROETHANE	mg/kg	No Standard	<0.1		<0.044	
TETRACHLOROETHENE	mg/kg	No Standard	<0.1		<0.044	
TOLUENE	mg/kg	No Standard	<0.5		<0.22	
1,2,3-TRICHLOROBENZENE	mg/kg	No Standard	<0.1		<0.044	
1,2,4-TRICHLOROBENZENE	mg/kg	No Standard	<0.1		<0.044	
1,1,1-TRICHLOROETHANE	mg/kg	No Standard	<0.1		<0.044	
1,1,2-TRICHLOROETHANE	mg/kg	No Standard	<0.1		<0.044	
TRICHLOROETHENE	mg/kg	No Standard	<0.1		<0.044	
TRICHLOROFLUOROMETHANE	mg/kg	No Standard	<0.5		<0.22	
1,2,3-TRICHLOROPROPANE	mg/kg	No Standard	<0.25		<0.11	
1,2,4-TRIMETHYLBENZENE	mg/kg	No Standard	<0.1		<0.044	
1,2,3-TRIMETHYLBENZENE	mg/kg	No Standard	<0.1		<0.044	
VINYL CHLORIDE	mg/kg	No Standard	<0.1		<0.044	
1,3,5-TRIMETHYLBENZENE	mg/kg	No Standard	<0.1		<0.044	
XYLENES, TOTAL	mg/kg	No Standard	<0.3		<0.132	
ANTHRACENE	mg/kg	No Standard	<0.12		<0.12	
ACENAPHTHENE	mg/kg	No Standard	<0.12		<0.12	
ACENAPHTHYLENE	mg/kg	No Standard	<0.12		<0.12	
BENZO(A)ANTHRACENE	mg/kg	No Standard	<0.12		<0.12	
BENZO(A)PYRENE	mg/kg	No Standard	<0.12		<0.12	

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Table 3
Soil Sample Results Compared to Residential Use Soil Cleanup Guidance Found in CP-51
Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-03		L823238-04	
		Client Sample ID/Sample Depth in Feet	B-4 3-4.5 FT		B-5 11 FT	
		Date Collected	3/11/2016		3/11/2016	
Analyte	Units	CP-51 Residential Use SCOs	Result	Qualifier	Result	Qualifier
BENZO(B)FLUORANTHENE	mg/kg	No Standard	<0.12		<0.12	
BENZO(G,H,I)PERYLENE	mg/kg	No Standard	<0.12		<0.12	
BENZO(K)FLUORANTHENE	mg/kg	No Standard	<0.12		<0.12	
CHRYSENE	mg/kg	No Standard	<0.12		<0.12	
DIBENZ(A,H)ANTHRACENE	mg/kg	No Standard	<0.12		<0.12	
FLUORANTHENE	mg/kg	No Standard	<0.12		<0.12	
FLUORENE	mg/kg	No Standard	<0.12		<0.12	
INDENO(1,2,3-CD)PYRENE	mg/kg	No Standard	<0.12		<0.12	
NAPHTHALENE	mg/kg	No Standard	<0.4		<0.4	
PHENANTHRENE	mg/kg	No Standard	<0.12		<0.12	
PYRENE	mg/kg	No Standard	<0.12		<0.12	
1-METHYLNAPHTHALENE	mg/kg	No Standard	<0.4		<0.4	
2-METHYLNAPHTHALENE	mg/kg	0.41	<0.4		<0.4	
2-CHLORONAPHTHALENE	mg/kg	No Standard	<0.4		<0.4	

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Table 3
Soil Sample Results Compared to Residential Use Soil Cleanup Guidance Found in CP-51
Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-05		L823238-06		L823238-07		L823238-08	
		Client Sample ID/Sample Depth in Feet	B-6 9-10 FT		B-7 9-12.2 FT		B-8 5-6 FT		B-9 10-11 FT	
		Date Collected	3/11/2016		3/11/2016		3/11/2016		3/11/2016	
Analyte	Units	CP-51 Residential Use SCOs	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
TOTAL SOLIDS	%	No Standard	89.3		88		75.4		81.5	
ACETONE	mg/kg	No Standard	<0.538		<0.05		<1.25		**<0.25**	
ACRYLONITRILE	mg/kg	No Standard	<0.108		<0.01		<0.25		<0.05	
BENZENE	mg/kg	No Standard	<0.0108		0.00596		<0.025		<0.005	
BROMOBENZENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
BROMODICHLOROMETHANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
BROMOFORM	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
BROMOMETHANE	mg/kg	No Standard	<0.0538		<0.005		<0.125		<0.025	
N-BUTYLBENZENE	mg/kg	No Standard	0.0148		<0.001		<0.025		<0.005	
SEC-BUTYLBENZENE	mg/kg	No Standard	0.0168		<0.001		<0.025		0.0059	
TERT-BUTYLBENZENE	mg/kg	No Standard	0.0125		0.00101		<0.025		0.00604	
CARBON TETRACHLORIDE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
CHLOROBENZENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
CHLORODIBROMOMETHANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
CHLOROETHANE	mg/kg	No Standard	<0.0538		<0.005		<0.125		<0.025	
2-CHLOROETHYL VINYL ETHER	mg/kg	No Standard	<0.538		<0.05		<1.25		<0.25	
CHLOROFORM	mg/kg	No Standard	<0.0538		<0.005		<0.125		<0.025	
CHLOROMETHANE	mg/kg	No Standard	<0.0269		<0.0025		<0.0625		<0.0125	
2-CHLOROTOLUENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
4-CHLOROTOLUENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,2-DIBROMO-3-CHLOROPROPANE	mg/kg	No Standard	<0.0538		<0.005		<0.125		<0.025	
1,2-DIBROMOETHANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
DIBROMOMETHANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,2-DICHLOROBENZENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	

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		Lab Sample ID	L823238-05		L823238-06		L823238-07		L823238-08	
		Client Sample ID/Sample Depth in Feet	B-6 9-10 FT		B-7 9-12.2 FT		B-8 5-6 FT		B-9 10-11 FT	
		Date Collected	3/11/2016		3/11/2016		3/11/2016		3/11/2016	
Analyte	Units	CP-51 Residential Use SCOs	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
1,3-DICHLOROBENZENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,4-DICHLOROBENZENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
DICHLORODIFLUOROMETHANE	mg/kg	No Standard	<0.0538		<0.005		<0.125		<0.025	
1,1-DICHLOROETHANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,2-DICHLOROETHANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,1-DICHLOROETHENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
CIS-1,2-DICHLOROETHENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
TRANS-1,2-DICHLOROETHENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,2-DICHLOROPROPANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,1-DICHLOROPROPENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,3-DICHLOROPROPANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
CIS-1,3-DICHLOROPROPENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
TRANS-1,3-DICHLOROPROPENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
2,2-DICHLOROPROPANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
DI-ISOPROPYL ETHER	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
ETHYLBENZENE	mg/kg	No Standard	<0.0108		0.00207		<0.025		<0.005	
HEXACHLORO-1,3-BUTADIENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
ISOPROPYLBENZENE	mg/kg	100	<0.0108		<0.001		<0.025		<0.005	
P-ISOPROPYLTOLUENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
2-BUTANONE (MEK)	mg/kg	100	<0.108		<0.01		<0.25		<0.05	
METHYLENE CHLORIDE	mg/kg	No Standard	<0.0538		<0.005		<0.125		<0.025	
4-METHYL-2-PENTANONE (MIBK)	mg/kg	No Standard	<0.108		<0.01		<0.25		<0.05	
METHYL TERT-BUTYL ETHER	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
NAPHTHALENE	mg/kg	No Standard	<0.0538		<0.005		<0.125		<0.025	

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Flint Redevelopment LLC
Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-05		L823238-06		L823238-07		L823238-08	
		Client Sample ID/Sample Depth in Feet	B-6 9-10 FT		B-7 9-12.2 FT		B-8 5-6 FT		B-9 10-11 FT	
		Date Collected	3/11/2016		3/11/2016		3/11/2016		3/11/2016	
Analyte	Units	CP-51 Residential Use SCOs	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
N-PROPYLBENZENE	mg/kg	No Standard	0.0217		<0.001		<0.025		<0.005	
STYRENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,1,1,2-TETRACHLOROETHANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,1,2,2-TETRACHLOROETHANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,1,2-TRICHLOROTRIFLUOROETHANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
TETRACHLOROETHENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
TOLUENE	mg/kg	No Standard	<0.0538		0.0154		<0.125		<0.025	
1,2,3-TRICHLOROBENZENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,2,4-TRICHLOROBENZENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,1,1-TRICHLOROETHANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,1,2-TRICHLOROETHANE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
TRICHLOROETHENE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
TRICHLOROFLUOROMETHANE	mg/kg	No Standard	<0.0538		<0.005		<0.125		<0.025	
1,2,3-TRICHLOROPROPANE	mg/kg	No Standard	<0.0269		<0.0025		<0.0625		<0.0125	
1,2,4-TRIMETHYLBENZENE	mg/kg	No Standard	<0.0108		0.00713		0.0254		<0.005	
1,2,3-TRIMETHYLBENZENE	mg/kg	No Standard	<0.0108		0.00144		<0.025		<0.005	
VINYL CHLORIDE	mg/kg	No Standard	<0.0108		<0.001		<0.025		<0.005	
1,3,5-TRIMETHYLBENZENE	mg/kg	No Standard	<0.0108		0.00333		<0.025		<0.005	
XYLENES, TOTAL	mg/kg	No Standard	<0.0322		0.0232		<0.075		<0.015	
ANTHRACENE	mg/kg	No Standard	0.299		<0.12		0.753		<0.12	
ACENAPHTHENE	mg/kg	No Standard	0.295		<0.12		0.461		<0.12	
ACENAPHTHYLENE	mg/kg	No Standard	<0.12		<0.12		<0.12		<0.12	
BENZO(A)ANTHRACENE	mg/kg	No Standard	0.636		<0.12		0.348		<0.12	
BENZO(A)PYRENE	mg/kg	No Standard	0.521		<0.12		0.313		<0.12	

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Project 22 Flint Street and 396 Exchange Street
Rochester, New York

		Lab Sample ID	L823238-05		L823238-06		L823238-07		L823238-08	
		Client Sample ID/Sample Depth in Feet	B-6 9-10 FT		B-7 9-12.2 FT		B-8 5-6 FT		B-9 10-11 FT	
		Date Collected	3/11/2016		3/11/2016		3/11/2016		3/11/2016	
Analyte	Units	CP-51 Residential Use SCOs	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
BENZO(B)FLUORANTHENE	mg/kg	No Standard	0.637		<0.12		0.34		<0.12	
BENZO(G,H,I)PERYLENE	mg/kg	No Standard	0.279		<0.12		0.209		<0.12	
BENZO(K)FLUORANTHENE	mg/kg	No Standard	0.241		<0.12		0.133		<0.12	
CHRYSENE	mg/kg	No Standard	0.741		<0.12		0.364		<0.12	
DIBENZ(A,H)ANTHRACENE	mg/kg	No Standard	<0.12		<0.12		<0.12		<0.12	
FLUORANTHENE	mg/kg	No Standard	1.22		<0.12		1.31		<0.12	
FLUORENE	mg/kg	No Standard	0.393		<0.12		0.566		<0.12	
INDENO(1,2,3-CD)PYRENE	mg/kg	No Standard	0.258		<0.12		0.174		<0.12	
NAPHTHALENE	mg/kg	No Standard	1.05		<0.4		<0.4		<0.4	
PHENANTHRENE	mg/kg	No Standard	1.39		<0.12		1.52		<0.12	
PYRENE	mg/kg	No Standard	1.28		<0.12		1.2		<0.12	
1-METHYLNAPHTHALENE	mg/kg	No Standard	1.94		<0.4		<0.4		<0.4	
2-METHYLNAPHTHALENE	mg/kg	0.41	**3.13**		<0.4		<0.4		<0.4	
2-CHLORONAPHTHALENE	mg/kg	No Standard	<0.4		<0.4		<0.4		<0.4	

Notes:
SCO = Soil Cleanup Objectives
mg/Kg = milligrams per kilogram

TABLE 4
Groundwater Sample Results Compared to NYSDEC GA Class Groundwater Standards and Guidance Values
Flint Redevelopment LLC
22 Flint and 396 Exchange Streets
Rochester, New York

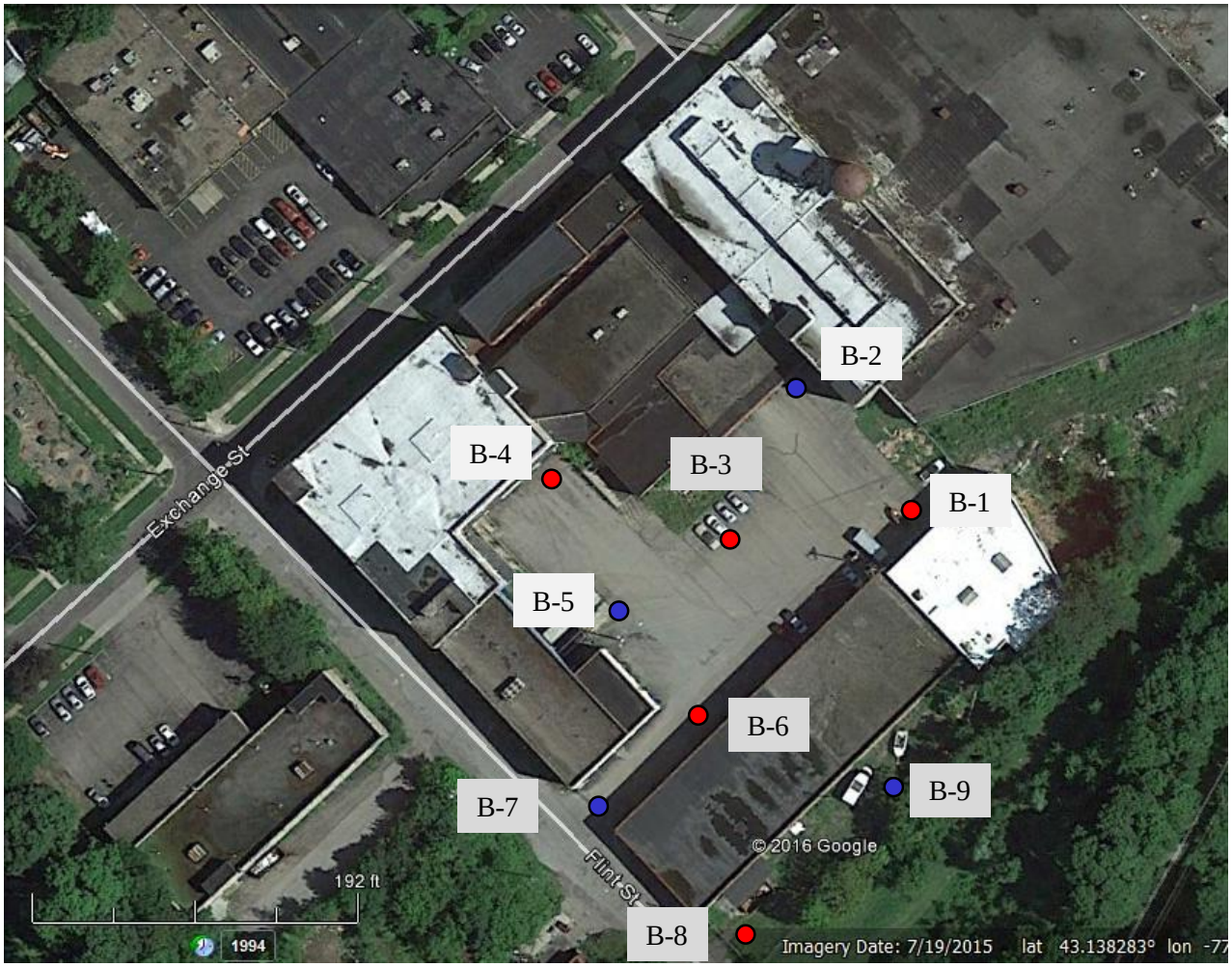
Lab Sample ID			L823238-09		L823238-10		L823238-11		L823238-12	
Client Sample ID			B-5		B-2		B-9		TRIPBLANK	
Date Collected			3/11/2016		3/11/2016		3/11/2016		3/11/2016	
Analyte	Units	NYSDEC Class GA Groundwater Standards and Guidance Values	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
ACETONE	ug/l	50	<50		<50		<50		<50	
BENZENE	ug/l	1	<1		<1		<1		<1	
BROMOCHLOROMETHANE	ug/l	No Standard	<1		<1		<1		<1	
BROMODICHLOROMETHANE	ug/l	50	<1		<1		<1		<1	
BROMOFORM	ug/l	50	<1		<1		<1		<1	
BROMOMETHANE	ug/l	5	<5		<5		<5		<5	
CARBON DISULFIDE	ug/l	No Standard	<1		<1		<1		<1	
CARBON TETRACHLORIDE	ug/l	5	<1		<1		<1		<1	
CHLOROBENZENE	ug/l	5	<1		<1		<1		<1	
CHLORODIBROMOMETHANE	ug/l	50	<1		<1		<1		<1	
CHLOROETHANE	ug/l	5	<5		<5		<5		<5	
CHLOROFORM	ug/l	7	<5		<5		<5		<5	
CHLOROMETHANE	ug/l	No Standard	<2.5		<2.5		<2.5		<2.5	
CYCLOHEXANE	ug/l	No Standard	<1		<1		<1		<1	
1,2-DIBROMO-3-CHLOROPROPANE	ug/l	0.04	**<5**		**<5**	J3	**<5**	J3	<5	
1,2-DIBROMOETHANE	ug/l	No Standard	<1		<1		<1		<1	
1,2-DICHLOROBENZENE	ug/l	3	<1		<1		<1		<1	
1,3-DICHLOROBENZENE	ug/l	3	<1		<1		<1		<1	
1,4-DICHLOROBENZENE	ug/l	3	<1		<1		<1		<1	
DICHLORODIFLUOROMETHANE	ug/l	5	<5		<5		<5		<5	
1,1-DICHLOROETHANE	ug/l	5	<1		<1		<1		<1	
1,2-DICHLOROETHANE	ug/l	0.6	**<1**		**<1**		**<1**		**<1**	
1,1-DICHLOROETHENE	ug/l	5	<1		<1		<1		<1	
CIS-1,2-DICHLOROETHENE	ug/l	5	<1		<1		<1		<1	
TRANS-1,2-DICHLOROETHENE	ug/l	5	<1		<1		<1		<1	
1,2-DICHLOROPROPANE	ug/l	1	<1		<1		<1		<1	
CIS-1,3-DICHLOROPROPENE	ug/l	0.4	**<1**		**<1**		**<1**		**<1**	
TRANS-1,3-DICHLOROPROPENE	ug/l	4	<1		<1		<1		<1	
ETHYLBENZENE	ug/l	5	<1		<1		<1		<1	
2-HEXANONE	ug/l	50	<10		<10		<10		<10	
ISOPROPYLBENZENE	ug/l	5	<1		<1		<1		<1	
2-BUTANONE (MEK)	ug/l	50	<10		<10		<10		<10	
METHYL ACETATE	ug/l	No Standard	<20		<20		<20		<20	
METHYL CYCLOHEXANE	ug/l	No Standard	12.7		<1		<1		<1	
METHYLENE CHLORIDE	ug/l	5	<5		<5		<5		<5	
4-METHYL-2-PENTANONE (MIBK)	ug/l	No Standard	<10		<10		<10		<10	
METHYL TERT-BUTYL ETHER	ug/l	10	3.94		1.14		<1		<1	
STYRENE	ug/l	5	<1		<1		<1		<1	
1,1,2,2-TETRACHLOROETHANE	ug/l	5	<1		<1		<1		<1	
TETRACHLOROETHENE	ug/l	5	<1		<1		<1		<1	
TOLUENE	ug/l	5	<5		<5		<5		<5	
1,2,3-TRICHLOROBENZENE	ug/l	5	<1		<1		<1		<1	
1,2,4-TRICHLOROBENZENE	ug/l	5	<1		<1		<1		<1	
1,1,1-TRICHLOROETHANE	ug/l	5	<1		<1		<1		<1	
1,1,2-TRICHLOROETHANE	ug/l	1	<1		<1		<1		<1	
TRICHLOROETHENE	ug/l	5	<1		<1		<1		<1	
TRICHLOROFLUOROMETHANE	ug/l	5	<5		<5		<5		<5	
1,1,2-TRICHLOROTRIFLUOROETHANE	ug/l	5	<1		<1		<1		<1	
VINYL CHLORIDE	ug/l	2	<1		<1		<1		<1	
XYLENES, TOTAL	ug/l	5	<3		<3		<3		<3	
ANTHRACENE	ug/l	50	<1		<1		<0.05		NS	
ACENAPHTHENE	ug/l	20	<1		1.07		<0.05		NS	
ACENAPHTHYLENE	ug/l	No Standard	1.38		0.312		<0.05		NS	
BENZO(A)ANTHRACENE	ug/l	0.002	3.26		**0.386**		<0.05		NS	
BENZO(A)PYRENE	ug/l	No Standard	<1		0.125		<0.05		NS	
BENZO(B)FLUORANTHENE	ug/l	0.002	**<1**		**<0.05**		**<0.05**		NS	
BENZO(G,H,I)PERYLENE	ug/l	No Standard	<1		0.1		0.0675		NS	
BENZO(K)FLUORANTHENE	ug/l	0.002	**<1**		**<0.05**		**<0.05**		NS	
CHRYSENE	ug/l	0.002	**4.95**		**0.469**		**0.057**		NS	
DIBENZ(A,H)ANTHRACENE	ug/l	No Standard	<1		<0.05		<0.05		NS	

Notes:
ug/l = micrograms per liter

TABLE 4
Groundwater Sample Results Compared to NYSDEC GA Class Groundwater Standards and Guidance Values
Flint Redevelopment LLC
22 Flint and 396 Exchange Streets
Rochester, New York

Lab Sample ID			L823238-09		L823238-10		L823238-11		L823238-12	
Client Sample ID			B-5		B-2		B-9		TRIPBLANK	
Date Collected			3/11/2016		3/11/2016		3/11/2016		3/11/2016	
Analyte	Units	NYSDEC Class GA Groundwater Standards and Guidance Values	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
FLUORANTHENE	ug/l	50	2.07		<1		<0.05		NS	
FLUORENE	ug/l	50	5.33		1.96		<0.05		NS	
INDENO(1,2,3-CD)PYRENE	ug/l	0.002	<1		<0.05		<0.05		NS	
NAPHTHALENE	ug/l	10	<5		0.453		<0.25		NS	
PHENANTHRENE	ug/l	50	28.5		1.89		0.0679		NS	
PYRENE	ug/l	50	13.4		1.45		0.114		NS	
1-METHYLNAPHTHALENE	ug/l	No Standard	<5		0.626		<0.25		NS	
2-METHYLNAPHTHALENE	ug/l	No Standard	<5		<0.25		<0.25		NS	
2-CHLORONAPHTHALENE	ug/l	10	<5		<0.25		<0.25		NS	

Notes:
ug/l = micrograms per liter



- B-1 = Soil Boring Location
- B-2 = Soil Boring and Monitoring Well Location

Title: Sample Location Map 22 Flint Street and 936 Exchange Street Rochester, New York	LEADER Leader Professional Services 271 Marsh Road, Suite 2 Pittsford, NY 14534 (585) 248-2413 FAX (585) 248-2834	Project: 900.001 Date: 3/14/16 Scale: NTS	Drawn: PVS Checked: MPR File Name: Site Map	Figure: 1
Prepared For: Flint Redevelopment, LLC 1400 Crossroads Building Rochester, New York				

Note: All concentrations shown in milligrams per kilogram
Values shown in Red exceed CP-51 Residential Soil Cleanup Objectives

Soil boring B-6	Depth 9 - 10 ft.
Dated Sampled 3/11/2016	
Compound	Concentrations
N-Butylbenzene	0.0148
Sec-Butlybenzene	0.0168
Tert Butylbenzene	0.0125
N-Propylbenzene	0.0217
Antracene	0.299
Acenaphthylene	0.295
Benzo(a)anthracene	0.636
Benzo(a)pyrene	0.521
Benzo(B)Fluoranthene	0.637
Benzo(ghi)perylene	0.279
Benzo(k)Fluoranthene	0.241
Chrysene	0.741
Fluoranthene	1.22
Fluorene	0.393
Indeno(1,23-cd)pyrene	0.258
Naphthalene	1.05
Phenanthrene	1.39
Pyrene	1.28
1-Methylnaphthalene	1.94
2-Methylnapthalene	**3.13**

Soil boring B-4	Depth 3 - 4.5 ft.
Dated Sampled 3/11/2016	
Compound	Concentrations
Volatiles	ND
Semivolatiles	ND

Soil boring B-2	Depth 12 ft.
Dated Sampled 3/11/2016	
Compound	Concentrations
Tert Butylbenzene	0.0499

Soil boring B-1	
Dated Sampled 3/11/2016	
Compound	Concentrations
Benzene	0.0125
N-Butylbenzene	0.0132
Sec-Butlybenzene	0.0587
Tert Butylbenzene	0.0499
Chlorobenzene	0.0933
Isopropylbenzene	0.028

Soil boring B-5	Depth 11 ft.
Dated Sampled 3/11/2016	
Compound	Concentrations
Tert Butylbenzene	0.072

Soil boring B-7	Depth 9 - 12.2 ft.
Dated Sampled 3/11/2016	
Compound	Concentrations
Benzene	0.0596
Tert Butylbenzene	0.00101
Ethylbenzene	0.00207
Toluene	0.0154
1,2,4-Trimethylbenzene	0.00713
1,2,3-Trimethylbenzene	0.00144
1,3,5-Trimethylbenzene	0.00333
Xylenes	0.0232

Soil boring B-8	Depth 5 -6 ft.
Dated Sampled 3/11/2016	
Compound	Concentrations
1,2,4-Trimethylbenzene	0.0254
Antracene	0.0753
Acenaphthylene	0.461
Benzo(a)anthracene	0.348
Benzo(a)pyrene	0.313
Benzo(b)Fluoranthene	0.34
Benzo(ghi)perylene	0.209
Benzo(k)Fluoranthene	0.133
Chrysene	0.364
Fluoranthene	0.566
Indeno(1,23-cd)pyrene	0.174
Phenanthrene	1.52
Pyrene	1.2

Soil boring B-9	Depth 10 - 11ft.
Dated Sampled 3/11/2016	
Compound	Concentrations
Sec-Butlybenzene	0.0059
Tert Butylbenzene	0.0064

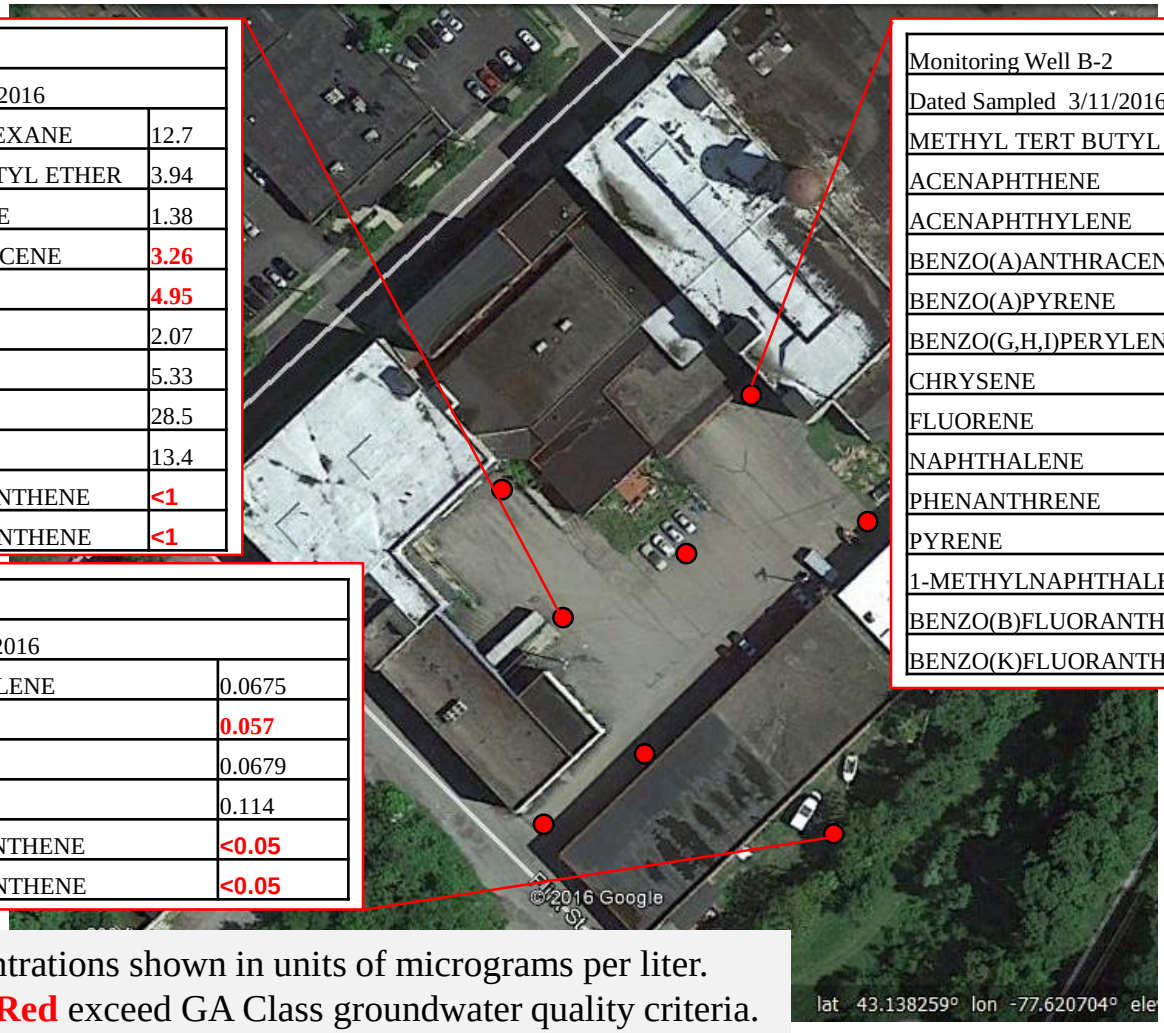
LEADER

Figure 2
Summary of Soil Sample Results
Flint Redevelopment LLC
22 Flint and 936 Exchange Streets
Rochester, N.Y.

Monitoring Well B-5	
Dated Sampled 3/11/2016	
METHYL CYCLOHEXANE	12.7
METHYL TERT BUTYL ETHER	3.94
ACENAPHTHYLENE	1.38
BENZO(A)ANTHRACENE	**3.26**
CHRYSENE	**4.95**
FLUORANTHENE	2.07
FLUORENE	5.33
PHENANTHRENE	28.5
PYRENE	13.4
BENZO(B)FLUORANTHENE	**<1**
BENZO(K)FLUORANTHENE	**<1**

Monitoring Well B-2	
Dated Sampled 3/11/2016	
METHYL TERT BUTYL ETHER	1.14
ACENAPHTHENE	1.07
ACENAPHTHYLENE	0.312
BENZO(A)ANTHRACENE	**0.386**
BENZO(A)PYRENE	0.125
BENZO(G,H,I)PERYLENE	0.1
CHRYSENE	**0.469**
FLUORENE	1.96
NAPHTHALENE	0.453
PHENANTHRENE	1.89
PYRENE	1.45
1-METHYLNAPHTHALENE	0.626
BENZO(B)FLUORANTHENE	**<0.05**
BENZO(K)FLUORANTHENE	**<0.05**

Monitoring Well B-9	
Dated Sampled 3/11/2016	
BENZO(G,H,I)PERYLENE	0.0675
CHRYSENE	**0.057**
PHENANTHRENE	0.0679
PYRENE	0.114
BENZO(B)FLUORANTHENE	**<0.05**
BENZO(K)FLUORANTHENE	**<0.05**



Notes: All concentrations shown in units of micrograms per liter.
Values shown in **Red** exceed GA Class groundwater quality criteria.

Title
Summary of Groundwater Results
22 Flint and 936 Exchange Streets
Rochester, New York

Prepared For
Flint Redevelopment, LLC
1400 Crossroads Building
Rochester, New York

LEADER
Leader Professional Services, Inc
271 Marsh Road-Suite 2
Pittsford, New York 14534
(585) 248-2413
FAX (585) 248-2834

Project 900.001
Date 3/28/2016
Scale NTS

Drawn PVS
Checked MPR
File Name 856.001

Figure 3

Laboratory Package

ANALYTICAL REPORT

March 23, 2016

Leader Environmental

Sample Delivery Group:	L823238
Samples Received:	03/12/2016
Project Number:	900.001
Description:	Foodlink Flint Street Project

Report To:

Mr. Peter von Schondorf
271 Marsh Road, Suite 2
Pittsford, NY 14534

Entire Report Reviewed By:

Terrie Fudge
Technical Service Representative

TABLE OF CONTENTS

B-1 7 L823238-01 Solid

Collected by: Pete VonSchondorf
Collected date/time: 03/10/16 08:25
Received date/time: 03/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG857147	20	03/17/16 10:42	03/18/16 10:56	KMP
Total Solids by Method 2540 G-2011	WG856737	1	03/16/16 08:14	03/17/16 10:43	KDW
Volatile Organic Compounds (GC/MS) by Method 8260C	WG857090	11.25	03/18/16 12:11	03/18/16 18:12	JHH

B-2 12 L823238-02 Solid

Collected by: Pete VonSchondorf
Collected date/time: 03/10/16 08:55
Received date/time: 03/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG857147	20	03/17/16 10:42	03/18/16 11:17	KMP
Total Solids by Method 2540 G-2011	WG856737	1	03/16/16 08:14	03/17/16 10:43	KDW
Volatile Organic Compounds (GC/MS) by Method 8260C	WG857090	10.5	03/18/16 12:11	03/18/16 18:31	JHH

B-4 3-4.5 L823238-03 Solid

Collected by: Pete VonSchondorf
Collected date/time: 03/10/16 10:08
Received date/time: 03/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG857147	20	03/17/16 10:42	03/18/16 11:38	KMP
Total Solids by Method 2540 G-2011	WG856737	1	03/16/16 08:14	03/17/16 10:43	KDW
Volatile Organic Compounds (GC/MS) by Method 8260C	WG857090	100	03/18/16 12:11	03/18/16 18:49	ACG

B-5 11 L823238-04 Solid

Collected by: Pete VonSchondorf
Collected date/time: 03/10/16 10:24
Received date/time: 03/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG857147	20	03/17/16 10:42	03/18/16 09:10	KMP
Total Solids by Method 2540 G-2011	WG856737	1	03/16/16 08:14	03/17/16 10:43	KDW
Volatile Organic Compounds (GC/MS) by Method 8260C	WG857090	44	03/18/16 12:11	03/18/16 19:07	JHH

B-6 9-10FT L823238-05 Solid

Collected by: Pete VonSchondorf
Collected date/time: 03/10/16 10:53
Received date/time: 03/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG857147	20	03/17/16 10:42	03/18/16 09:32	KMP
Total Solids by Method 2540 G-2011	WG856737	1	03/16/16 08:14	03/17/16 10:43	KDW
Volatile Organic Compounds (GC/MS) by Method 8260C	WG858268	10.75	03/22/16 02:48	03/22/16 10:42	ACG

B-7 9-12.2 L823238-06 Solid

Collected by: Pete VonSchondorf
Collected date/time: 03/10/16 11:23
Received date/time: 03/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG857147	20	03/17/16 10:42	03/18/16 09:53	KMP
Total Solids by Method 2540 G-2011	WG856737	1	03/16/16 08:14	03/17/16 10:43	KDW
Volatile Organic Compounds (GC/MS) by Method 8260C	WG857090	1	03/18/16 12:11	03/18/16 19:44	JHH

B-8 5-6 L823238-07 Solid

Collected by: Pete VonSchondorf
Collected date/time: 03/10/16 13:05
Received date/time: 03/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG857147	20	03/17/16 10:42	03/18/16 10:14	KMP
Total Solids by Method 2540 G-2011	WG856739	1	03/16/16 07:51	03/17/16 10:06	KDW
Volatile Organic Compounds (GC/MS) by Method 8260C	WG857090	25	03/18/16 12:11	03/18/16 20:02	JHH

B-9 10-11FT L823238-08 Solid

Collected by: Pete VonSchondorf
Collected date/time: 03/10/16 13:45
Received date/time: 03/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG857147	20	03/17/16 10:42	03/18/16 10:35	KMP
Total Solids by Method 2540 G-2011	WG856739	1	03/16/16 07:51	03/17/16 10:07	KDW
Volatile Organic Compounds (GC/MS) by Method 8260C	WG857090	5	03/18/16 12:11	03/18/16 20:20	JHH

B-5 L823238-09 GW

Collected by: Pete VonSchondorf
Collected date/time: 03/10/16 12:13
Received date/time: 03/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG856973	20	03/17/16 13:31	03/18/16 18:36	FMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG857606	1	03/19/16 09:25	03/19/16 09:25	JHH

B-2 L823238-10 GW

Collected by: Pete VonSchondorf
Collected date/time: 03/10/16 14:29
Received date/time: 03/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG856973	1	03/17/16 13:31	03/18/16 01:36	FMB
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG856973	20	03/17/16 13:31	03/21/16 22:35	FMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG856381	1	03/18/16 11:09	03/18/16 11:09	DAH

B-9 L823238-11 GW

Collected by: Pete VonSchondorf
Collected date/time: 03/10/16 16:00
Received date/time: 03/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG856973	1	03/17/16 13:31	03/18/16 01:59	FMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG856381	1	03/18/16 11:30	03/18/16 11:30	DAH

TRIPBLANK L823238-12 GW

Collected by: Pete VonSchondorf
Collected date/time: 03/10/16 00:00
Received date/time: 03/12/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG856815	1	03/16/16 19:29	03/16/16 19:29	BMB

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Terrie Fudge
Technical Service Representative

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	81.9		1	03/17/2016 10:43	WG856737

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/kg		ug/kg		date / time	
Acetone	ND		562	11.25	03/18/2016 18:12	WG857090
Acrylonitrile	ND		112	11.25	03/18/2016 18:12	WG857090
Benzene	12.5		11.2	11.25	03/18/2016 18:12	WG857090
Bromobenzene	ND		11.2	11.25	03/18/2016 18:12	WG857090
Bromodichloromethane	ND		11.2	11.25	03/18/2016 18:12	WG857090
Bromoform	ND		11.2	11.25	03/18/2016 18:12	WG857090
Bromomethane	ND		56.2	11.25	03/18/2016 18:12	WG857090
n-Butylbenzene	13.2		11.2	11.25	03/18/2016 18:12	WG857090
sec-Butylbenzene	58.7		11.2	11.25	03/18/2016 18:12	WG857090
tert-Butylbenzene	28.6		11.2	11.25	03/18/2016 18:12	WG857090
Carbon tetrachloride	ND		11.2	11.25	03/18/2016 18:12	WG857090
Chlorobenzene	933		11.2	11.25	03/18/2016 18:12	WG857090
Chlorodibromomethane	ND		11.2	11.25	03/18/2016 18:12	WG857090
Chloroethane	ND		56.2	11.25	03/18/2016 18:12	WG857090
2-Chloroethyl vinyl ether	ND		562	11.25	03/18/2016 18:12	WG857090
Chloroform	ND		56.2	11.25	03/18/2016 18:12	WG857090
Chloromethane	ND		28.1	11.25	03/18/2016 18:12	WG857090
2-Chlorotoluene	ND		11.2	11.25	03/18/2016 18:12	WG857090
4-Chlorotoluene	ND		11.2	11.25	03/18/2016 18:12	WG857090
1,2-Dibromo-3-Chloropropane	ND		56.2	11.25	03/18/2016 18:12	WG857090
1,2-Dibromoethane	ND		11.2	11.25	03/18/2016 18:12	WG857090
Dibromomethane	ND		11.2	11.25	03/18/2016 18:12	WG857090
1,2-Dichlorobenzene	ND		11.2	11.25	03/18/2016 18:12	WG857090
1,3-Dichlorobenzene	ND		11.2	11.25	03/18/2016 18:12	WG857090
1,4-Dichlorobenzene	ND		11.2	11.25	03/18/2016 18:12	WG857090
Dichlorodifluoromethane	ND		56.2	11.25	03/18/2016 18:12	WG857090
1,1-Dichloroethane	ND		11.2	11.25	03/18/2016 18:12	WG857090
1,2-Dichloroethane	ND		11.2	11.25	03/18/2016 18:12	WG857090
1,1-Dichloroethene	ND		11.2	11.25	03/18/2016 18:12	WG857090
cis-1,2-Dichloroethene	ND		11.2	11.25	03/18/2016 18:12	WG857090
trans-1,2-Dichloroethene	ND		11.2	11.25	03/18/2016 18:12	WG857090
1,2-Dichloropropane	ND		11.2	11.25	03/18/2016 18:12	WG857090
1,1-Dichloropropene	ND		11.2	11.25	03/18/2016 18:12	WG857090
1,3-Dichloropropane	ND		11.2	11.25	03/18/2016 18:12	WG857090
cis-1,3-Dichloropropene	ND		11.2	11.25	03/18/2016 18:12	WG857090
trans-1,3-Dichloropropene	ND		11.2	11.25	03/18/2016 18:12	WG857090
2,2-Dichloropropane	ND		11.2	11.25	03/18/2016 18:12	WG857090
Di-isopropyl ether	ND		11.2	11.25	03/18/2016 18:12	WG857090
Ethylbenzene	ND		11.2	11.25	03/18/2016 18:12	WG857090
Hexachloro-1,3-butadiene	ND		11.2	11.25	03/18/2016 18:12	WG857090
Isopropylbenzene	28.0		11.2	11.25	03/18/2016 18:12	WG857090
p-Isopropyltoluene	ND		11.2	11.25	03/18/2016 18:12	WG857090
2-Butanone (MEK)	ND		112	11.25	03/18/2016 18:12	WG857090
Methylene Chloride	ND		56.2	11.25	03/18/2016 18:12	WG857090
4-Methyl-2-pentanone (MIBK)	ND		112	11.25	03/18/2016 18:12	WG857090
Methyl tert-butyl ether	ND		11.2	11.25	03/18/2016 18:12	WG857090
Naphthalene	ND		56.2	11.25	03/18/2016 18:12	WG857090
n-Propylbenzene	ND		11.2	11.25	03/18/2016 18:12	WG857090
Styrene	ND		11.2	11.25	03/18/2016 18:12	WG857090
1,1,1,2-Tetrachloroethane	ND		11.2	11.25	03/18/2016 18:12	WG857090

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/kg	Qualifier	RDL ug/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND		11.2	11.25	03/18/2016 18:12	WG857090
1,1,2-Trichlorotrifluoroethane	ND		11.2	11.25	03/18/2016 18:12	WG857090
Tetrachloroethene	ND		11.2	11.25	03/18/2016 18:12	WG857090
Toluene	ND		56.2	11.25	03/18/2016 18:12	WG857090
1,2,3-Trichlorobenzene	ND		11.2	11.25	03/18/2016 18:12	WG857090
1,2,4-Trichlorobenzene	ND		11.2	11.25	03/18/2016 18:12	WG857090
1,1,1-Trichloroethane	ND		11.2	11.25	03/18/2016 18:12	WG857090
1,1,2-Trichloroethane	ND		11.2	11.25	03/18/2016 18:12	WG857090
Trichloroethene	ND		11.2	11.25	03/18/2016 18:12	WG857090
Trichlorofluoromethane	ND		56.2	11.25	03/18/2016 18:12	WG857090
1,2,3-Trichloropropane	ND		28.1	11.25	03/18/2016 18:12	WG857090
1,2,4-Trimethylbenzene	ND		11.2	11.25	03/18/2016 18:12	WG857090
1,2,3-Trimethylbenzene	ND		11.2	11.25	03/18/2016 18:12	WG857090
Vinyl chloride	ND		11.2	11.25	03/18/2016 18:12	WG857090
1,3,5-Trimethylbenzene	ND		11.2	11.25	03/18/2016 18:12	WG857090
Xylenes, Total	ND		33.8	11.25	03/18/2016 18:12	WG857090
(S) Toluene-d8	*95.0*		*88.7-115*		*03/18/2016 18:12*	WG857090
(S) Dibromofluoromethane	*91.1*		*76.3-123*		*03/18/2016 18:12*	WG857090
(S) 4-Bromofluorobenzene	*98.6*		*69.7-129*		*03/18/2016 18:12*	WG857090

Sample Narrative:

8260C L823238-01 WG857090: Non-target compounds too high to run at a lower dilution.

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result ug/kg	Qualifier	RDL ug/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		120	20	03/18/2016 10:56	WG857147
Acenaphthene	ND		120	20	03/18/2016 10:56	WG857147
Acenaphthylene	ND		120	20	03/18/2016 10:56	WG857147
Benzo(a)anthracene	ND		120	20	03/18/2016 10:56	WG857147
Benzo(a)pyrene	ND		120	20	03/18/2016 10:56	WG857147
Benzo(b)fluoranthene	ND		120	20	03/18/2016 10:56	WG857147
Benzo(g,h,i)perylene	ND		120	20	03/18/2016 10:56	WG857147
Benzo(k)fluoranthene	ND		120	20	03/18/2016 10:56	WG857147
Chrysene	ND		120	20	03/18/2016 10:56	WG857147
Dibenz(a,h)anthracene	ND		120	20	03/18/2016 10:56	WG857147
Fluoranthene	ND		120	20	03/18/2016 10:56	WG857147
Fluorene	ND		120	20	03/18/2016 10:56	WG857147
Indeno(1,2,3-cd)pyrene	ND		120	20	03/18/2016 10:56	WG857147
Naphthalene	ND		400	20	03/18/2016 10:56	WG857147
Phenanthrene	ND		120	20	03/18/2016 10:56	WG857147
Pyrene	ND		120	20	03/18/2016 10:56	WG857147
1-Methylnaphthalene	ND		400	20	03/18/2016 10:56	WG857147
2-Methylnaphthalene	ND		400	20	03/18/2016 10:56	WG857147
2-Chloronaphthalene	ND		400	20	03/18/2016 10:56	WG857147
(S) Nitrobenzene-d5	*78.9*	J7	*22.1-146*		*03/18/2016 10:56*	WG857147
(S) 2-Fluorobiphenyl	*79.2*	J7	*40.6-122*		*03/18/2016 10:56*	WG857147
(S) p-Terphenyl-d14	*78.1*	J7	*32.2-131*		*03/18/2016 10:56*	WG857147

Sample Narrative:

8270D-SIM L823238-01 WG857147: Dilution due to matrix

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	82.4		1	03/17/2016 10:43	WG856737

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/kg		ug/kg		date / time	
Acetone	ND		525	10.5	03/18/2016 18:31	WG857090
Acrylonitrile	ND		105	10.5	03/18/2016 18:31	WG857090
Benzene	ND		10.5	10.5	03/18/2016 18:31	WG857090
Bromobenzene	ND		10.5	10.5	03/18/2016 18:31	WG857090
Bromodichloromethane	ND		10.5	10.5	03/18/2016 18:31	WG857090
Bromoform	ND		10.5	10.5	03/18/2016 18:31	WG857090
Bromomethane	ND		52.5	10.5	03/18/2016 18:31	WG857090
n-Butylbenzene	ND		10.5	10.5	03/18/2016 18:31	WG857090
sec-Butylbenzene	ND		10.5	10.5	03/18/2016 18:31	WG857090
tert-Butylbenzene	49.9		10.5	10.5	03/18/2016 18:31	WG857090
Carbon tetrachloride	ND		10.5	10.5	03/18/2016 18:31	WG857090
Chlorobenzene	ND		10.5	10.5	03/18/2016 18:31	WG857090
Chlorodibromomethane	ND		10.5	10.5	03/18/2016 18:31	WG857090
Chloroethane	ND		52.5	10.5	03/18/2016 18:31	WG857090
2-Chloroethyl vinyl ether	ND		525	10.5	03/18/2016 18:31	WG857090
Chloroform	ND		52.5	10.5	03/18/2016 18:31	WG857090
Chloromethane	ND		26.2	10.5	03/18/2016 18:31	WG857090
2-Chlorotoluene	ND		10.5	10.5	03/18/2016 18:31	WG857090
4-Chlorotoluene	ND		10.5	10.5	03/18/2016 18:31	WG857090
1,2-Dibromo-3-Chloropropane	ND		52.5	10.5	03/18/2016 18:31	WG857090
1,2-Dibromoethane	ND		10.5	10.5	03/18/2016 18:31	WG857090
Dibromomethane	ND		10.5	10.5	03/18/2016 18:31	WG857090
1,2-Dichlorobenzene	ND		10.5	10.5	03/18/2016 18:31	WG857090
1,3-Dichlorobenzene	ND		10.5	10.5	03/18/2016 18:31	WG857090
1,4-Dichlorobenzene	ND		10.5	10.5	03/18/2016 18:31	WG857090
Dichlorodifluoromethane	ND		52.5	10.5	03/18/2016 18:31	WG857090
1,1-Dichloroethane	ND		10.5	10.5	03/18/2016 18:31	WG857090
1,2-Dichloroethane	ND		10.5	10.5	03/18/2016 18:31	WG857090
1,1-Dichloroethene	ND		10.5	10.5	03/18/2016 18:31	WG857090
cis-1,2-Dichloroethene	ND		10.5	10.5	03/18/2016 18:31	WG857090
trans-1,2-Dichloroethene	ND		10.5	10.5	03/18/2016 18:31	WG857090
1,2-Dichloropropane	ND		10.5	10.5	03/18/2016 18:31	WG857090
1,1-Dichloropropene	ND		10.5	10.5	03/18/2016 18:31	WG857090
1,3-Dichloropropane	ND		10.5	10.5	03/18/2016 18:31	WG857090
cis-1,3-Dichloropropene	ND		10.5	10.5	03/18/2016 18:31	WG857090
trans-1,3-Dichloropropene	ND		10.5	10.5	03/18/2016 18:31	WG857090
2,2-Dichloropropane	ND		10.5	10.5	03/18/2016 18:31	WG857090
Di-isopropyl ether	ND		10.5	10.5	03/18/2016 18:31	WG857090
Ethylbenzene	ND		10.5	10.5	03/18/2016 18:31	WG857090
Hexachloro-1,3-butadiene	ND		10.5	10.5	03/18/2016 18:31	WG857090
Isopropylbenzene	ND		10.5	10.5	03/18/2016 18:31	WG857090
p-Isopropyltoluene	ND		10.5	10.5	03/18/2016 18:31	WG857090
2-Butanone (MEK)	ND		105	10.5	03/18/2016 18:31	WG857090
Methylene Chloride	ND		52.5	10.5	03/18/2016 18:31	WG857090
4-Methyl-2-pentanone (MIBK)	ND		105	10.5	03/18/2016 18:31	WG857090
Methyl tert-butyl ether	ND		10.5	10.5	03/18/2016 18:31	WG857090
Naphthalene	ND		52.5	10.5	03/18/2016 18:31	WG857090
n-Propylbenzene	ND		10.5	10.5	03/18/2016 18:31	WG857090
Styrene	ND		10.5	10.5	03/18/2016 18:31	WG857090
1,1,1,2-Tetrachloroethane	ND		10.5	10.5	03/18/2016 18:31	WG857090

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/kg	Qualifier	RDL ug/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND		10.5	10.5	03/18/2016 18:31	WG857090
1,1,2-Trichlorotrifluoroethane	ND		10.5	10.5	03/18/2016 18:31	WG857090
Tetrachloroethene	ND		10.5	10.5	03/18/2016 18:31	WG857090
Toluene	ND		52.5	10.5	03/18/2016 18:31	WG857090
1,2,3-Trichlorobenzene	ND		10.5	10.5	03/18/2016 18:31	WG857090
1,2,4-Trichlorobenzene	ND		10.5	10.5	03/18/2016 18:31	WG857090
1,1,1-Trichloroethane	ND		10.5	10.5	03/18/2016 18:31	WG857090
1,1,2-Trichloroethane	ND		10.5	10.5	03/18/2016 18:31	WG857090
Trichloroethene	ND		10.5	10.5	03/18/2016 18:31	WG857090
Trichlorofluoromethane	ND		52.5	10.5	03/18/2016 18:31	WG857090
1,2,3-Trichloropropane	ND		26.2	10.5	03/18/2016 18:31	WG857090
1,2,4-Trimethylbenzene	ND		10.5	10.5	03/18/2016 18:31	WG857090
1,2,3-Trimethylbenzene	ND		10.5	10.5	03/18/2016 18:31	WG857090
Vinyl chloride	ND		10.5	10.5	03/18/2016 18:31	WG857090
1,3,5-Trimethylbenzene	ND		10.5	10.5	03/18/2016 18:31	WG857090
Xylenes, Total	ND		31.5	10.5	03/18/2016 18:31	WG857090
(S) Toluene-d8	*100*		*88.7-115*		*03/18/2016 18:31*	WG857090
(S) Dibromofluoromethane	*93.5*		*76.3-123*		*03/18/2016 18:31*	WG857090
(S) 4-Bromofluorobenzene	*111*		*69.7-129*		*03/18/2016 18:31*	WG857090

Sample Narrative:

8260C L823238-02 WG857090: Non-target compounds too high to run at a lower dilution.

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result ug/kg	Qualifier	RDL ug/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		120	20	03/18/2016 11:17	WG857147
Acenaphthene	ND		120	20	03/18/2016 11:17	WG857147
Acenaphthylene	ND		120	20	03/18/2016 11:17	WG857147
Benzo(a)anthracene	ND		120	20	03/18/2016 11:17	WG857147
Benzo(a)pyrene	ND		120	20	03/18/2016 11:17	WG857147
Benzo(b)fluoranthene	ND		120	20	03/18/2016 11:17	WG857147
Benzo(g,h,i)perylene	ND		120	20	03/18/2016 11:17	WG857147
Benzo(k)fluoranthene	ND		120	20	03/18/2016 11:17	WG857147
Chrysene	ND		120	20	03/18/2016 11:17	WG857147
Dibenz(a,h)anthracene	ND		120	20	03/18/2016 11:17	WG857147
Fluoranthene	ND		120	20	03/18/2016 11:17	WG857147
Fluorene	ND		120	20	03/18/2016 11:17	WG857147
Indeno(1,2,3-cd)pyrene	ND		120	20	03/18/2016 11:17	WG857147
Naphthalene	ND		400	20	03/18/2016 11:17	WG857147
Phenanthrene	ND		120	20	03/18/2016 11:17	WG857147
Pyrene	ND		120	20	03/18/2016 11:17	WG857147
1-Methylnaphthalene	ND		400	20	03/18/2016 11:17	WG857147
2-Methylnaphthalene	ND		400	20	03/18/2016 11:17	WG857147
2-Chloronaphthalene	ND		400	20	03/18/2016 11:17	WG857147
(S) Nitrobenzene-d5	*71.6*	J7	*22.1-146*		*03/18/2016 11:17*	WG857147
(S) 2-Fluorobiphenyl	*70.9*	J7	*40.6-122*		*03/18/2016 11:17*	WG857147
(S) p-Terphenyl-d14	*66.8*	J7	*32.2-131*		*03/18/2016 11:17*	WG857147

Sample Narrative:

8270D-SIM L823238-02 WG857147: Dilution due to matrix

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.0		1	03/17/2016 10:43	WG856737

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/kg		ug/kg		date / time	
Acetone	ND		5000	100	03/18/2016 18:49	WG857090
Acrylonitrile	ND		1000	100	03/18/2016 18:49	WG857090
Benzene	ND		100	100	03/18/2016 18:49	WG857090
Bromobenzene	ND		100	100	03/18/2016 18:49	WG857090
Bromodichloromethane	ND		100	100	03/18/2016 18:49	WG857090
Bromoform	ND		100	100	03/18/2016 18:49	WG857090
Bromomethane	ND		500	100	03/18/2016 18:49	WG857090
n-Butylbenzene	ND		100	100	03/18/2016 18:49	WG857090
sec-Butylbenzene	ND		100	100	03/18/2016 18:49	WG857090
tert-Butylbenzene	ND		100	100	03/18/2016 18:49	WG857090
Carbon tetrachloride	ND		100	100	03/18/2016 18:49	WG857090
Chlorobenzene	ND		100	100	03/18/2016 18:49	WG857090
Chlorodibromomethane	ND		100	100	03/18/2016 18:49	WG857090
Chloroethane	ND		500	100	03/18/2016 18:49	WG857090
2-Chloroethyl vinyl ether	ND		5000	100	03/18/2016 18:49	WG857090
Chloroform	ND		500	100	03/18/2016 18:49	WG857090
Chloromethane	ND		250	100	03/18/2016 18:49	WG857090
2-Chlorotoluene	ND		100	100	03/18/2016 18:49	WG857090
4-Chlorotoluene	ND		100	100	03/18/2016 18:49	WG857090
1,2-Dibromo-3-Chloropropane	ND		500	100	03/18/2016 18:49	WG857090
1,2-Dibromoethane	ND		100	100	03/18/2016 18:49	WG857090
Dibromomethane	ND		100	100	03/18/2016 18:49	WG857090
1,2-Dichlorobenzene	ND		100	100	03/18/2016 18:49	WG857090
1,3-Dichlorobenzene	ND		100	100	03/18/2016 18:49	WG857090
1,4-Dichlorobenzene	ND		100	100	03/18/2016 18:49	WG857090
Dichlorodifluoromethane	ND		500	100	03/18/2016 18:49	WG857090
1,1-Dichloroethane	ND		100	100	03/18/2016 18:49	WG857090
1,2-Dichloroethane	ND		100	100	03/18/2016 18:49	WG857090
1,1-Dichloroethene	ND		100	100	03/18/2016 18:49	WG857090
cis-1,2-Dichloroethene	ND		100	100	03/18/2016 18:49	WG857090
trans-1,2-Dichloroethene	ND		100	100	03/18/2016 18:49	WG857090
1,2-Dichloropropane	ND		100	100	03/18/2016 18:49	WG857090
1,1-Dichloropropene	ND		100	100	03/18/2016 18:49	WG857090
1,3-Dichloropropane	ND		100	100	03/18/2016 18:49	WG857090
cis-1,3-Dichloropropene	ND		100	100	03/18/2016 18:49	WG857090
trans-1,3-Dichloropropene	ND		100	100	03/18/2016 18:49	WG857090
2,2-Dichloropropane	ND		100	100	03/18/2016 18:49	WG857090
Di-isopropyl ether	ND		100	100	03/18/2016 18:49	WG857090
Ethylbenzene	ND		100	100	03/18/2016 18:49	WG857090
Hexachloro-1,3-butadiene	ND		100	100	03/18/2016 18:49	WG857090
Isopropylbenzene	ND		100	100	03/18/2016 18:49	WG857090
p-Isopropyltoluene	ND		100	100	03/18/2016 18:49	WG857090
2-Butanone (MEK)	ND		1000	100	03/18/2016 18:49	WG857090
Methylene Chloride	ND		500	100	03/18/2016 18:49	WG857090
4-Methyl-2-pentanone (MIBK)	ND		1000	100	03/18/2016 18:49	WG857090
Methyl tert-butyl ether	ND		100	100	03/18/2016 18:49	WG857090
Naphthalene	ND		500	100	03/18/2016 18:49	WG857090
n-Propylbenzene	ND		100	100	03/18/2016 18:49	WG857090
Styrene	ND		100	100	03/18/2016 18:49	WG857090
1,1,1,2-Tetrachloroethane	ND		100	100	03/18/2016 18:49	WG857090

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/kg	Qualifier	RDL ug/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND		100	100	03/18/2016 18:49	WG857090
1,1,2-Trichlorotrifluoroethane	ND		100	100	03/18/2016 18:49	WG857090
Tetrachloroethene	ND		100	100	03/18/2016 18:49	WG857090
Toluene	ND		500	100	03/18/2016 18:49	WG857090
1,2,3-Trichlorobenzene	ND		100	100	03/18/2016 18:49	WG857090
1,2,4-Trichlorobenzene	ND		100	100	03/18/2016 18:49	WG857090
1,1,1-Trichloroethane	ND		100	100	03/18/2016 18:49	WG857090
1,1,2-Trichloroethane	ND		100	100	03/18/2016 18:49	WG857090
Trichloroethene	ND		100	100	03/18/2016 18:49	WG857090
Trichlorofluoromethane	ND		500	100	03/18/2016 18:49	WG857090
1,2,3-Trichloropropane	ND		250	100	03/18/2016 18:49	WG857090
1,2,4-Trimethylbenzene	ND		100	100	03/18/2016 18:49	WG857090
1,2,3-Trimethylbenzene	ND		100	100	03/18/2016 18:49	WG857090
Vinyl chloride	ND		100	100	03/18/2016 18:49	WG857090
1,3,5-Trimethylbenzene	ND		100	100	03/18/2016 18:49	WG857090
Xylenes, Total	ND		300	100	03/18/2016 18:49	WG857090
(S) Toluene-d8	*99.8*		*88.7-115*		*03/18/2016 18:49*	WG857090
(S) Dibromofluoromethane	*96.1*		*76.3-123*		*03/18/2016 18:49*	WG857090
(S) 4-Bromofluorobenzene	*103*		*69.7-129*		*03/18/2016 18:49*	WG857090

Sample Narrative:

8260C L823238-03 WG857090: Internal standards fail high when ran at a lower dilution.

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result ug/kg	Qualifier	RDL ug/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		120	20	03/18/2016 11:38	WG857147
Acenaphthene	ND		120	20	03/18/2016 11:38	WG857147
Acenaphthylene	ND		120	20	03/18/2016 11:38	WG857147
Benzo(a)anthracene	ND		120	20	03/18/2016 11:38	WG857147
Benzo(a)pyrene	ND		120	20	03/18/2016 11:38	WG857147
Benzo(b)fluoranthene	ND		120	20	03/18/2016 11:38	WG857147
Benzo(g,h,i)perylene	ND		120	20	03/18/2016 11:38	WG857147
Benzo(k)fluoranthene	ND		120	20	03/18/2016 11:38	WG857147
Chrysene	ND		120	20	03/18/2016 11:38	WG857147
Dibenz(a,h)anthracene	ND		120	20	03/18/2016 11:38	WG857147
Fluoranthene	ND		120	20	03/18/2016 11:38	WG857147
Fluorene	ND		120	20	03/18/2016 11:38	WG857147
Indeno(1,2,3-cd)pyrene	ND		120	20	03/18/2016 11:38	WG857147
Naphthalene	ND		400	20	03/18/2016 11:38	WG857147
Phenanthrene	ND		120	20	03/18/2016 11:38	WG857147
Pyrene	ND		120	20	03/18/2016 11:38	WG857147
1-Methylnaphthalene	ND		400	20	03/18/2016 11:38	WG857147
2-Methylnaphthalene	ND		400	20	03/18/2016 11:38	WG857147
2-Chloronaphthalene	ND		400	20	03/18/2016 11:38	WG857147
(S) Nitrobenzene-d5	*83.6*	J7	*22.1-146*		*03/18/2016 11:38*	WG857147
(S) 2-Fluorobiphenyl	*65.6*	J7	*40.6-122*		*03/18/2016 11:38*	WG857147
(S) p-Terphenyl-d14	*65.8*	J7	*32.2-131*		*03/18/2016 11:38*	WG857147

Sample Narrative:

8270D-SIM L823238-03 WG857147: Dilution due to matrix

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	80.7		1	03/17/2016 10:43	WG856737

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/kg		ug/kg		date / time	
Acetone	ND		2200	44	03/18/2016 19:07	WG857090
Acrylonitrile	ND		440	44	03/18/2016 19:07	WG857090
Benzene	ND		44.0	44	03/18/2016 19:07	WG857090
Bromobenzene	ND		44.0	44	03/18/2016 19:07	WG857090
Bromodichloromethane	ND		44.0	44	03/18/2016 19:07	WG857090
Bromoform	ND		44.0	44	03/18/2016 19:07	WG857090
Bromomethane	ND		220	44	03/18/2016 19:07	WG857090
n-Butylbenzene	ND		44.0	44	03/18/2016 19:07	WG857090
sec-Butylbenzene	ND		44.0	44	03/18/2016 19:07	WG857090
tert-Butylbenzene	72.6		44.0	44	03/18/2016 19:07	WG857090
Carbon tetrachloride	ND		44.0	44	03/18/2016 19:07	WG857090
Chlorobenzene	ND		44.0	44	03/18/2016 19:07	WG857090
Chlorodibromomethane	ND		44.0	44	03/18/2016 19:07	WG857090
Chloroethane	ND		220	44	03/18/2016 19:07	WG857090
2-Chloroethyl vinyl ether	ND		2200	44	03/18/2016 19:07	WG857090
Chloroform	ND		220	44	03/18/2016 19:07	WG857090
Chloromethane	ND		110	44	03/18/2016 19:07	WG857090
2-Chlorotoluene	ND		44.0	44	03/18/2016 19:07	WG857090
4-Chlorotoluene	ND		44.0	44	03/18/2016 19:07	WG857090
1,2-Dibromo-3-Chloropropane	ND		220	44	03/18/2016 19:07	WG857090
1,2-Dibromoethane	ND		44.0	44	03/18/2016 19:07	WG857090
Dibromomethane	ND		44.0	44	03/18/2016 19:07	WG857090
1,2-Dichlorobenzene	ND		44.0	44	03/18/2016 19:07	WG857090
1,3-Dichlorobenzene	ND		44.0	44	03/18/2016 19:07	WG857090
1,4-Dichlorobenzene	ND		44.0	44	03/18/2016 19:07	WG857090
Dichlorodifluoromethane	ND		220	44	03/18/2016 19:07	WG857090
1,1-Dichloroethane	ND		44.0	44	03/18/2016 19:07	WG857090
1,2-Dichloroethane	ND		44.0	44	03/18/2016 19:07	WG857090
1,1-Dichloroethene	ND		44.0	44	03/18/2016 19:07	WG857090
cis-1,2-Dichloroethene	ND		44.0	44	03/18/2016 19:07	WG857090
trans-1,2-Dichloroethene	ND		44.0	44	03/18/2016 19:07	WG857090
1,2-Dichloropropane	ND		44.0	44	03/18/2016 19:07	WG857090
1,1-Dichloropropene	ND		44.0	44	03/18/2016 19:07	WG857090
1,3-Dichloropropane	ND		44.0	44	03/18/2016 19:07	WG857090
cis-1,3-Dichloropropene	ND		44.0	44	03/18/2016 19:07	WG857090
trans-1,3-Dichloropropene	ND		44.0	44	03/18/2016 19:07	WG857090
2,2-Dichloropropane	ND		44.0	44	03/18/2016 19:07	WG857090
Di-isopropyl ether	ND		44.0	44	03/18/2016 19:07	WG857090
Ethylbenzene	ND		44.0	44	03/18/2016 19:07	WG857090
Hexachloro-1,3-butadiene	ND		44.0	44	03/18/2016 19:07	WG857090
Isopropylbenzene	ND		44.0	44	03/18/2016 19:07	WG857090
p-Isopropyltoluene	ND		44.0	44	03/18/2016 19:07	WG857090
2-Butanone (MEK)	ND		440	44	03/18/2016 19:07	WG857090
Methylene Chloride	ND		220	44	03/18/2016 19:07	WG857090
4-Methyl-2-pentanone (MIBK)	ND		440	44	03/18/2016 19:07	WG857090
Methyl tert-butyl ether	ND		44.0	44	03/18/2016 19:07	WG857090
Naphthalene	ND		220	44	03/18/2016 19:07	WG857090
n-Propylbenzene	ND		44.0	44	03/18/2016 19:07	WG857090
Styrene	ND		44.0	44	03/18/2016 19:07	WG857090
1,1,1,2-Tetrachloroethane	ND		44.0	44	03/18/2016 19:07	WG857090

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/kg	Qualifier	RDL ug/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND		44.0	44	03/18/2016 19:07	WG857090
1,1,2-Trichlorotrifluoroethane	ND		44.0	44	03/18/2016 19:07	WG857090
Tetrachloroethene	ND		44.0	44	03/18/2016 19:07	WG857090
Toluene	ND		220	44	03/18/2016 19:07	WG857090
1,2,3-Trichlorobenzene	ND		44.0	44	03/18/2016 19:07	WG857090
1,2,4-Trichlorobenzene	ND		44.0	44	03/18/2016 19:07	WG857090
1,1,1-Trichloroethane	ND		44.0	44	03/18/2016 19:07	WG857090
1,1,2-Trichloroethane	ND		44.0	44	03/18/2016 19:07	WG857090
Trichloroethene	ND		44.0	44	03/18/2016 19:07	WG857090
Trichlorofluoromethane	ND		220	44	03/18/2016 19:07	WG857090
1,2,3-Trichloropropane	ND		110	44	03/18/2016 19:07	WG857090
1,2,4-Trimethylbenzene	ND		44.0	44	03/18/2016 19:07	WG857090
1,2,3-Trimethylbenzene	ND		44.0	44	03/18/2016 19:07	WG857090
Vinyl chloride	ND		44.0	44	03/18/2016 19:07	WG857090
1,3,5-Trimethylbenzene	ND		44.0	44	03/18/2016 19:07	WG857090
Xylenes, Total	ND		132	44	03/18/2016 19:07	WG857090
(S) Toluene-d8	*100*		*88.7-115*		*03/18/2016 19:07*	WG857090
(S) Dibromofluoromethane	*93.9*		*76.3-123*		*03/18/2016 19:07*	WG857090
(S) 4-Bromofluorobenzene	*102*		*69.7-129*		*03/18/2016 19:07*	WG857090

Sample Narrative:

8260C L823238-04 WG857090: Non-target compounds too high to run at a lower dilution.

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result ug/kg	Qualifier	RDL ug/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		120	20	03/18/2016 09:10	WG857147
Acenaphthene	ND		120	20	03/18/2016 09:10	WG857147
Acenaphthylene	ND		120	20	03/18/2016 09:10	WG857147
Benzo(a)anthracene	ND		120	20	03/18/2016 09:10	WG857147
Benzo(a)pyrene	ND		120	20	03/18/2016 09:10	WG857147
Benzo(b)fluoranthene	ND		120	20	03/18/2016 09:10	WG857147
Benzo(g,h,i)perylene	ND		120	20	03/18/2016 09:10	WG857147
Benzo(k)fluoranthene	ND		120	20	03/18/2016 09:10	WG857147
Chrysene	ND		120	20	03/18/2016 09:10	WG857147
Dibenz(a,h)anthracene	ND		120	20	03/18/2016 09:10	WG857147
Fluoranthene	ND		120	20	03/18/2016 09:10	WG857147
Fluorene	ND		120	20	03/18/2016 09:10	WG857147
Indeno(1,2,3-cd)pyrene	ND		120	20	03/18/2016 09:10	WG857147
Naphthalene	ND		400	20	03/18/2016 09:10	WG857147
Phenanthrene	ND		120	20	03/18/2016 09:10	WG857147
Pyrene	ND		120	20	03/18/2016 09:10	WG857147
1-Methylnaphthalene	ND		400	20	03/18/2016 09:10	WG857147
2-Methylnaphthalene	ND		400	20	03/18/2016 09:10	WG857147
2-Chloronaphthalene	ND		400	20	03/18/2016 09:10	WG857147
(S) Nitrobenzene-d5	*256*	J7	*22.1-146*		*03/18/2016 09:10*	WG857147
(S) 2-Fluorobiphenyl	*73.7*	J7	*40.6-122*		*03/18/2016 09:10*	WG857147
(S) p-Terphenyl-d14	*74.5*	J7	*32.2-131*		*03/18/2016 09:10*	WG857147

Sample Narrative:

8270D-SIM L823238-04 WG857147: Dilution due to matrix

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.3		1	03/17/2016 10:43	WG856737

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/kg		ug/kg		date / time	
Acetone	ND		538	10.75	03/22/2016 10:42	WG858268
Acrylonitrile	ND		108	10.75	03/22/2016 10:42	WG858268
Benzene	ND		10.8	10.75	03/22/2016 10:42	WG858268
Bromobenzene	ND		10.8	10.75	03/22/2016 10:42	WG858268
Bromodichloromethane	ND		10.8	10.75	03/22/2016 10:42	WG858268
Bromoform	ND		10.8	10.75	03/22/2016 10:42	WG858268
Bromomethane	ND		53.8	10.75	03/22/2016 10:42	WG858268
n-Butylbenzene	14.8		10.8	10.75	03/22/2016 10:42	WG858268
sec-Butylbenzene	16.8		10.8	10.75	03/22/2016 10:42	WG858268
tert-Butylbenzene	12.5		10.8	10.75	03/22/2016 10:42	WG858268
Carbon tetrachloride	ND		10.8	10.75	03/22/2016 10:42	WG858268
Chlorobenzene	ND		10.8	10.75	03/22/2016 10:42	WG858268
Chlorodibromomethane	ND		10.8	10.75	03/22/2016 10:42	WG858268
Chloroethane	ND		53.8	10.75	03/22/2016 10:42	WG858268
2-Chloroethyl vinyl ether	ND		538	10.75	03/22/2016 10:42	WG858268
Chloroform	ND		53.8	10.75	03/22/2016 10:42	WG858268
Chloromethane	ND		26.9	10.75	03/22/2016 10:42	WG858268
2-Chlorotoluene	ND		10.8	10.75	03/22/2016 10:42	WG858268
4-Chlorotoluene	ND		10.8	10.75	03/22/2016 10:42	WG858268
1,2-Dibromo-3-Chloropropane	ND		53.8	10.75	03/22/2016 10:42	WG858268
1,2-Dibromoethane	ND		10.8	10.75	03/22/2016 10:42	WG858268
Dibromomethane	ND		10.8	10.75	03/22/2016 10:42	WG858268
1,2-Dichlorobenzene	ND		10.8	10.75	03/22/2016 10:42	WG858268
1,3-Dichlorobenzene	ND		10.8	10.75	03/22/2016 10:42	WG858268
1,4-Dichlorobenzene	ND		10.8	10.75	03/22/2016 10:42	WG858268
Dichlorodifluoromethane	ND		53.8	10.75	03/22/2016 10:42	WG858268
1,1-Dichloroethane	ND		10.8	10.75	03/22/2016 10:42	WG858268
1,2-Dichloroethane	ND		10.8	10.75	03/22/2016 10:42	WG858268
1,1-Dichloroethene	ND		10.8	10.75	03/22/2016 10:42	WG858268
cis-1,2-Dichloroethene	ND		10.8	10.75	03/22/2016 10:42	WG858268
trans-1,2-Dichloroethene	ND		10.8	10.75	03/22/2016 10:42	WG858268
1,2-Dichloropropane	ND		10.8	10.75	03/22/2016 10:42	WG858268
1,1-Dichloropropene	ND		10.8	10.75	03/22/2016 10:42	WG858268
1,3-Dichloropropane	ND		10.8	10.75	03/22/2016 10:42	WG858268
cis-1,3-Dichloropropene	ND		10.8	10.75	03/22/2016 10:42	WG858268
trans-1,3-Dichloropropene	ND		10.8	10.75	03/22/2016 10:42	WG858268
2,2-Dichloropropane	ND		10.8	10.75	03/22/2016 10:42	WG858268
Di-isopropyl ether	ND		10.8	10.75	03/22/2016 10:42	WG858268
Ethylbenzene	ND		10.8	10.75	03/22/2016 10:42	WG858268
Hexachloro-1,3-butadiene	ND		10.8	10.75	03/22/2016 10:42	WG858268
Isopropylbenzene	ND		10.8	10.75	03/22/2016 10:42	WG858268
p-Isopropyltoluene	ND		10.8	10.75	03/22/2016 10:42	WG858268
2-Butanone (MEK)	ND		108	10.75	03/22/2016 10:42	WG858268
Methylene Chloride	ND		53.8	10.75	03/22/2016 10:42	WG858268
4-Methyl-2-pentanone (MIBK)	ND		108	10.75	03/22/2016 10:42	WG858268
Methyl tert-butyl ether	ND		10.8	10.75	03/22/2016 10:42	WG858268
Naphthalene	ND		53.8	10.75	03/22/2016 10:42	WG858268
n-Propylbenzene	21.7		10.8	10.75	03/22/2016 10:42	WG858268
Styrene	ND		10.8	10.75	03/22/2016 10:42	WG858268
1,1,1,2-Tetrachloroethane	ND		10.8	10.75	03/22/2016 10:42	WG858268

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/kg	Qualifier	RDL ug/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND		10.8	10.75	03/22/2016 10:42	WG858268
1,1,2-Trichlorotrifluoroethane	ND		10.8	10.75	03/22/2016 10:42	WG858268
Tetrachloroethene	ND		10.8	10.75	03/22/2016 10:42	WG858268
Toluene	ND		53.8	10.75	03/22/2016 10:42	WG858268
1,2,3-Trichlorobenzene	ND		10.8	10.75	03/22/2016 10:42	WG858268
1,2,4-Trichlorobenzene	ND		10.8	10.75	03/22/2016 10:42	WG858268
1,1,1-Trichloroethane	ND		10.8	10.75	03/22/2016 10:42	WG858268
1,1,2-Trichloroethane	ND		10.8	10.75	03/22/2016 10:42	WG858268
Trichloroethene	ND		10.8	10.75	03/22/2016 10:42	WG858268
Trichlorofluoromethane	ND		53.8	10.75	03/22/2016 10:42	WG858268
1,2,3-Trichloropropane	ND		26.9	10.75	03/22/2016 10:42	WG858268
1,2,4-Trimethylbenzene	ND		10.8	10.75	03/22/2016 10:42	WG858268
1,2,3-Trimethylbenzene	ND		10.8	10.75	03/22/2016 10:42	WG858268
Vinyl chloride	ND		10.8	10.75	03/22/2016 10:42	WG858268
1,3,5-Trimethylbenzene	ND		10.8	10.75	03/22/2016 10:42	WG858268
Xylenes, Total	ND		32.2	10.75	03/22/2016 10:42	WG858268
(S) Toluene-d8	*104*		*88.7-115*		*03/22/2016 10:42*	WG858268
(S) Dibromofluoromethane	*95.3*		*76.3-123*		*03/22/2016 10:42*	WG858268
(S) 4-Bromofluorobenzene	*112*		*69.7-129*		*03/22/2016 10:42*	WG858268

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result ug/kg	Qualifier	RDL ug/kg	Dilution	Analysis date / time	Batch
Anthracene	299		120	20	03/18/2016 09:32	WG857147
Acenaphthene	295		120	20	03/18/2016 09:32	WG857147
Acenaphthylene	ND		120	20	03/18/2016 09:32	WG857147
Benzo(a)anthracene	636		120	20	03/18/2016 09:32	WG857147
Benzo(a)pyrene	521		120	20	03/18/2016 09:32	WG857147
Benzo(b)fluoranthene	637		120	20	03/18/2016 09:32	WG857147
Benzo(g,h,i)perylene	279		120	20	03/18/2016 09:32	WG857147
Benzo(k)fluoranthene	241		120	20	03/18/2016 09:32	WG857147
Chrysene	741		120	20	03/18/2016 09:32	WG857147
Dibenz(a,h)anthracene	ND		120	20	03/18/2016 09:32	WG857147
Fluoranthene	1220		120	20	03/18/2016 09:32	WG857147
Fluorene	393		120	20	03/18/2016 09:32	WG857147
Indeno(1,2,3-cd)pyrene	258		120	20	03/18/2016 09:32	WG857147
Naphthalene	1050		400	20	03/18/2016 09:32	WG857147
Phenanthrene	1390		120	20	03/18/2016 09:32	WG857147
Pyrene	1280		120	20	03/18/2016 09:32	WG857147
1-Methylnaphthalene	1940		400	20	03/18/2016 09:32	WG857147
2-Methylnaphthalene	3130		400	20	03/18/2016 09:32	WG857147
2-Chloronaphthalene	ND		400	20	03/18/2016 09:32	WG857147
(S) Nitrobenzene-d5	*437*	J7	*22.1-146*		*03/18/2016 09:32*	WG857147
(S) 2-Fluorobiphenyl	*67.9*	J7	*40.6-122*		*03/18/2016 09:32*	WG857147
(S) p-Terphenyl-d14	*65.3*	J7	*32.2-131*		*03/18/2016 09:32*	WG857147

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	88.0		1	03/17/2016 10:43	WG856737

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/kg		ug/kg		date / time	
Acetone	ND		50.0	1	03/18/2016 19:44	WG857090
Acrylonitrile	ND		10.0	1	03/18/2016 19:44	WG857090
Benzene	5.96		1.00	1	03/18/2016 19:44	WG857090
Bromobenzene	ND		1.00	1	03/18/2016 19:44	WG857090
Bromodichloromethane	ND		1.00	1	03/18/2016 19:44	WG857090
Bromoform	ND		1.00	1	03/18/2016 19:44	WG857090
Bromomethane	ND		5.00	1	03/18/2016 19:44	WG857090
n-Butylbenzene	ND		1.00	1	03/18/2016 19:44	WG857090
sec-Butylbenzene	ND		1.00	1	03/18/2016 19:44	WG857090
tert-Butylbenzene	1.01		1.00	1	03/18/2016 19:44	WG857090
Carbon tetrachloride	ND		1.00	1	03/18/2016 19:44	WG857090
Chlorobenzene	ND		1.00	1	03/18/2016 19:44	WG857090
Chlorodibromomethane	ND		1.00	1	03/18/2016 19:44	WG857090
Chloroethane	ND		5.00	1	03/18/2016 19:44	WG857090
2-Chloroethyl vinyl ether	ND		50.0	1	03/18/2016 19:44	WG857090
Chloroform	ND		5.00	1	03/18/2016 19:44	WG857090
Chloromethane	ND		2.50	1	03/18/2016 19:44	WG857090
2-Chlorotoluene	ND		1.00	1	03/18/2016 19:44	WG857090
4-Chlorotoluene	ND		1.00	1	03/18/2016 19:44	WG857090
1,2-Dibromo-3-Chloropropane	ND		5.00	1	03/18/2016 19:44	WG857090
1,2-Dibromoethane	ND		1.00	1	03/18/2016 19:44	WG857090
Dibromomethane	ND		1.00	1	03/18/2016 19:44	WG857090
1,2-Dichlorobenzene	ND		1.00	1	03/18/2016 19:44	WG857090
1,3-Dichlorobenzene	ND		1.00	1	03/18/2016 19:44	WG857090
1,4-Dichlorobenzene	ND		1.00	1	03/18/2016 19:44	WG857090
Dichlorodifluoromethane	ND		5.00	1	03/18/2016 19:44	WG857090
1,1-Dichloroethane	ND		1.00	1	03/18/2016 19:44	WG857090
1,2-Dichloroethane	ND		1.00	1	03/18/2016 19:44	WG857090
1,1-Dichloroethene	ND		1.00	1	03/18/2016 19:44	WG857090
cis-1,2-Dichloroethene	ND		1.00	1	03/18/2016 19:44	WG857090
trans-1,2-Dichloroethene	ND		1.00	1	03/18/2016 19:44	WG857090
1,2-Dichloropropane	ND		1.00	1	03/18/2016 19:44	WG857090
1,1-Dichloropropene	ND		1.00	1	03/18/2016 19:44	WG857090
1,3-Dichloropropane	ND		1.00	1	03/18/2016 19:44	WG857090
cis-1,3-Dichloropropene	ND		1.00	1	03/18/2016 19:44	WG857090
trans-1,3-Dichloropropene	ND		1.00	1	03/18/2016 19:44	WG857090
2,2-Dichloropropane	ND		1.00	1	03/18/2016 19:44	WG857090
Di-isopropyl ether	ND		1.00	1	03/18/2016 19:44	WG857090
Ethylbenzene	2.07		1.00	1	03/18/2016 19:44	WG857090
Hexachloro-1,3-butadiene	ND		1.00	1	03/18/2016 19:44	WG857090
Isopropylbenzene	ND		1.00	1	03/18/2016 19:44	WG857090
p-Isopropyltoluene	ND		1.00	1	03/18/2016 19:44	WG857090
2-Butanone (MEK)	ND		10.0	1	03/18/2016 19:44	WG857090
Methylene Chloride	ND		5.00	1	03/18/2016 19:44	WG857090
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	03/18/2016 19:44	WG857090
Methyl tert-butyl ether	ND		1.00	1	03/18/2016 19:44	WG857090
Naphthalene	ND		5.00	1	03/18/2016 19:44	WG857090
n-Propylbenzene	ND		1.00	1	03/18/2016 19:44	WG857090
Styrene	ND		1.00	1	03/18/2016 19:44	WG857090
1,1,1,2-Tetrachloroethane	ND		1.00	1	03/18/2016 19:44	WG857090

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/kg	Qualifier	RDL ug/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND		1.00	1	03/18/2016 19:44	WG857090
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	03/18/2016 19:44	WG857090
Tetrachloroethene	ND		1.00	1	03/18/2016 19:44	WG857090
Toluene	15.4		5.00	1	03/18/2016 19:44	WG857090
1,2,3-Trichlorobenzene	ND		1.00	1	03/18/2016 19:44	WG857090
1,2,4-Trichlorobenzene	ND		1.00	1	03/18/2016 19:44	WG857090
1,1,1-Trichloroethane	ND		1.00	1	03/18/2016 19:44	WG857090
1,1,2-Trichloroethane	ND		1.00	1	03/18/2016 19:44	WG857090
Trichloroethene	ND		1.00	1	03/18/2016 19:44	WG857090
Trichlorofluoromethane	ND		5.00	1	03/18/2016 19:44	WG857090
1,2,3-Trichloropropane	ND		2.50	1	03/18/2016 19:44	WG857090
1,2,4-Trimethylbenzene	7.13		1.00	1	03/18/2016 19:44	WG857090
1,2,3-Trimethylbenzene	1.44		1.00	1	03/18/2016 19:44	WG857090
Vinyl chloride	ND		1.00	1	03/18/2016 19:44	WG857090
1,3,5-Trimethylbenzene	3.33		1.00	1	03/18/2016 19:44	WG857090
Xylenes, Total	23.2		3.00	1	03/18/2016 19:44	WG857090
(S) Toluene-d8	*96.8*		*88.7-115*		*03/18/2016 19:44*	WG857090
(S) Dibromofluoromethane	*108*		*76.3-123*		*03/18/2016 19:44*	WG857090
(S) 4-Bromofluorobenzene	*187*	J1	*69.7-129*		*03/18/2016 19:44*	WG857090

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result ug/kg	Qualifier	RDL ug/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		120	20	03/18/2016 09:53	WG857147
Acenaphthene	ND		120	20	03/18/2016 09:53	WG857147
Acenaphthylene	ND		120	20	03/18/2016 09:53	WG857147
Benzo(a)anthracene	ND		120	20	03/18/2016 09:53	WG857147
Benzo(a)pyrene	ND		120	20	03/18/2016 09:53	WG857147
Benzo(b)fluoranthene	ND		120	20	03/18/2016 09:53	WG857147
Benzo(g,h,i)perylene	ND		120	20	03/18/2016 09:53	WG857147
Benzo(k)fluoranthene	ND		120	20	03/18/2016 09:53	WG857147
Chrysene	ND		120	20	03/18/2016 09:53	WG857147
Dibenz(a,h)anthracene	ND		120	20	03/18/2016 09:53	WG857147
Fluoranthene	ND		120	20	03/18/2016 09:53	WG857147
Fluorene	ND		120	20	03/18/2016 09:53	WG857147
Indeno(1,2,3-cd)pyrene	ND		120	20	03/18/2016 09:53	WG857147
Naphthalene	ND		400	20	03/18/2016 09:53	WG857147
Phenanthrene	ND		120	20	03/18/2016 09:53	WG857147
Pyrene	ND		120	20	03/18/2016 09:53	WG857147
1-Methylnaphthalene	ND		400	20	03/18/2016 09:53	WG857147
2-Methylnaphthalene	ND		400	20	03/18/2016 09:53	WG857147
2-Chloronaphthalene	ND		400	20	03/18/2016 09:53	WG857147
(S) Nitrobenzene-d5	*67.7*	J7	*22.1-146*		*03/18/2016 09:53*	WG857147
(S) 2-Fluorobiphenyl	*60.6*	J7	*40.6-122*		*03/18/2016 09:53*	WG857147
(S) p-Terphenyl-d14	*59.6*	J7	*32.2-131*		*03/18/2016 09:53*	WG857147

Sample Narrative:

8270D-SIM L823238-06 WG857147: Dilution due to matrix

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	75.4		1	03/17/2016 10:06	WG856739

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/kg		ug/kg		date / time	
Acetone	ND		1250	25	03/18/2016 20:02	WG857090
Acrylonitrile	ND		250	25	03/18/2016 20:02	WG857090
Benzene	ND		25.0	25	03/18/2016 20:02	WG857090
Bromobenzene	ND		25.0	25	03/18/2016 20:02	WG857090
Bromodichloromethane	ND		25.0	25	03/18/2016 20:02	WG857090
Bromoform	ND		25.0	25	03/18/2016 20:02	WG857090
Bromomethane	ND		125	25	03/18/2016 20:02	WG857090
n-Butylbenzene	ND		25.0	25	03/18/2016 20:02	WG857090
sec-Butylbenzene	ND		25.0	25	03/18/2016 20:02	WG857090
tert-Butylbenzene	ND		25.0	25	03/18/2016 20:02	WG857090
Carbon tetrachloride	ND		25.0	25	03/18/2016 20:02	WG857090
Chlorobenzene	ND		25.0	25	03/18/2016 20:02	WG857090
Chlorodibromomethane	ND		25.0	25	03/18/2016 20:02	WG857090
Chloroethane	ND		125	25	03/18/2016 20:02	WG857090
2-Chloroethyl vinyl ether	ND		1250	25	03/18/2016 20:02	WG857090
Chloroform	ND		125	25	03/18/2016 20:02	WG857090
Chloromethane	ND		62.5	25	03/18/2016 20:02	WG857090
2-Chlorotoluene	ND		25.0	25	03/18/2016 20:02	WG857090
4-Chlorotoluene	ND		25.0	25	03/18/2016 20:02	WG857090
1,2-Dibromo-3-Chloropropane	ND		125	25	03/18/2016 20:02	WG857090
1,2-Dibromoethane	ND		25.0	25	03/18/2016 20:02	WG857090
Dibromomethane	ND		25.0	25	03/18/2016 20:02	WG857090
1,2-Dichlorobenzene	ND		25.0	25	03/18/2016 20:02	WG857090
1,3-Dichlorobenzene	ND		25.0	25	03/18/2016 20:02	WG857090
1,4-Dichlorobenzene	ND		25.0	25	03/18/2016 20:02	WG857090
Dichlorodifluoromethane	ND		125	25	03/18/2016 20:02	WG857090
1,1-Dichloroethane	ND		25.0	25	03/18/2016 20:02	WG857090
1,2-Dichloroethane	ND		25.0	25	03/18/2016 20:02	WG857090
1,1-Dichloroethene	ND		25.0	25	03/18/2016 20:02	WG857090
cis-1,2-Dichloroethene	ND		25.0	25	03/18/2016 20:02	WG857090
trans-1,2-Dichloroethene	ND		25.0	25	03/18/2016 20:02	WG857090
1,2-Dichloropropane	ND		25.0	25	03/18/2016 20:02	WG857090
1,1-Dichloropropene	ND		25.0	25	03/18/2016 20:02	WG857090
1,3-Dichloropropane	ND		25.0	25	03/18/2016 20:02	WG857090
cis-1,3-Dichloropropene	ND		25.0	25	03/18/2016 20:02	WG857090
trans-1,3-Dichloropropene	ND		25.0	25	03/18/2016 20:02	WG857090
2,2-Dichloropropane	ND		25.0	25	03/18/2016 20:02	WG857090
Di-isopropyl ether	ND		25.0	25	03/18/2016 20:02	WG857090
Ethylbenzene	ND		25.0	25	03/18/2016 20:02	WG857090
Hexachloro-1,3-butadiene	ND		25.0	25	03/18/2016 20:02	WG857090
Isopropylbenzene	ND		25.0	25	03/18/2016 20:02	WG857090
p-Isopropyltoluene	ND		25.0	25	03/18/2016 20:02	WG857090
2-Butanone (MEK)	ND		250	25	03/18/2016 20:02	WG857090
Methylene Chloride	ND		125	25	03/18/2016 20:02	WG857090
4-Methyl-2-pentanone (MIBK)	ND		250	25	03/18/2016 20:02	WG857090
Methyl tert-butyl ether	ND		25.0	25	03/18/2016 20:02	WG857090
Naphthalene	ND		125	25	03/18/2016 20:02	WG857090
n-Propylbenzene	ND		25.0	25	03/18/2016 20:02	WG857090
Styrene	ND		25.0	25	03/18/2016 20:02	WG857090
1,1,1,2-Tetrachloroethane	ND		25.0	25	03/18/2016 20:02	WG857090

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/kg	Qualifier	RDL ug/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND		25.0	25	03/18/2016 20:02	WG857090
1,1,2-Trichlorotrifluoroethane	ND		25.0	25	03/18/2016 20:02	WG857090
Tetrachloroethene	ND		25.0	25	03/18/2016 20:02	WG857090
Toluene	ND		125	25	03/18/2016 20:02	WG857090
1,2,3-Trichlorobenzene	ND		25.0	25	03/18/2016 20:02	WG857090
1,2,4-Trichlorobenzene	ND		25.0	25	03/18/2016 20:02	WG857090
1,1,1-Trichloroethane	ND		25.0	25	03/18/2016 20:02	WG857090
1,1,2-Trichloroethane	ND		25.0	25	03/18/2016 20:02	WG857090
Trichloroethene	ND		25.0	25	03/18/2016 20:02	WG857090
Trichlorofluoromethane	ND		125	25	03/18/2016 20:02	WG857090
1,2,3-Trichloropropane	ND		62.5	25	03/18/2016 20:02	WG857090
1,2,4-Trimethylbenzene	25.4		25.0	25	03/18/2016 20:02	WG857090
1,2,3-Trimethylbenzene	ND		25.0	25	03/18/2016 20:02	WG857090
Vinyl chloride	ND		25.0	25	03/18/2016 20:02	WG857090
1,3,5-Trimethylbenzene	ND		25.0	25	03/18/2016 20:02	WG857090
Xylenes, Total	ND		75.0	25	03/18/2016 20:02	WG857090
(S) Toluene-d8	*94.5*		*88.7-115*		*03/18/2016 20:02*	WG857090
(S) Dibromofluoromethane	*95.3*		*76.3-123*		*03/18/2016 20:02*	WG857090
(S) 4-Bromofluorobenzene	*98.7*		*69.7-129*		*03/18/2016 20:02*	WG857090

Sample Narrative:

8260C L823238-07 WG857090: Non-target compounds too high to run at a lower dilution.

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result ug/kg	Qualifier	RDL ug/kg	Dilution	Analysis date / time	Batch
Anthracene	753		120	20	03/18/2016 10:14	WG857147
Acenaphthene	461		120	20	03/18/2016 10:14	WG857147
Acenaphthylene	ND		120	20	03/18/2016 10:14	WG857147
Benzo(a)anthracene	348		120	20	03/18/2016 10:14	WG857147
Benzo(a)pyrene	313		120	20	03/18/2016 10:14	WG857147
Benzo(b)fluoranthene	340		120	20	03/18/2016 10:14	WG857147
Benzo(g,h,i)perylene	209		120	20	03/18/2016 10:14	WG857147
Benzo(k)fluoranthene	133		120	20	03/18/2016 10:14	WG857147
Chrysene	364		120	20	03/18/2016 10:14	WG857147
Dibenz(a,h)anthracene	ND		120	20	03/18/2016 10:14	WG857147
Fluoranthene	1310		120	20	03/18/2016 10:14	WG857147
Fluorene	566		120	20	03/18/2016 10:14	WG857147
Indeno(1,2,3-cd)pyrene	174		120	20	03/18/2016 10:14	WG857147
Naphthalene	ND		400	20	03/18/2016 10:14	WG857147
Phenanthrene	1520		120	20	03/18/2016 10:14	WG857147
Pyrene	1200		120	20	03/18/2016 10:14	WG857147
1-Methylnaphthalene	ND		400	20	03/18/2016 10:14	WG857147
2-Methylnaphthalene	ND		400	20	03/18/2016 10:14	WG857147
2-Chloronaphthalene	ND		400	20	03/18/2016 10:14	WG857147
(S) Nitrobenzene-d5	*136*	J7	*22.1-146*		*03/18/2016 10:14*	WG857147
(S) 2-Fluorobiphenyl	*49.8*	J7	*40.6-122*		*03/18/2016 10:14*	WG857147
(S) p-Terphenyl-d14	*48.2*	J7	*32.2-131*		*03/18/2016 10:14*	WG857147

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	81.5		1	03/17/2016 10:07	WG856739

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/kg		ug/kg		date / time	
Acetone	ND		250	5	03/18/2016 20:20	WG857090
Acrylonitrile	ND		50.0	5	03/18/2016 20:20	WG857090
Benzene	ND		5.00	5	03/18/2016 20:20	WG857090
Bromobenzene	ND		5.00	5	03/18/2016 20:20	WG857090
Bromodichloromethane	ND		5.00	5	03/18/2016 20:20	WG857090
Bromoform	ND		5.00	5	03/18/2016 20:20	WG857090
Bromomethane	ND		25.0	5	03/18/2016 20:20	WG857090
n-Butylbenzene	ND		5.00	5	03/18/2016 20:20	WG857090
sec-Butylbenzene	5.90		5.00	5	03/18/2016 20:20	WG857090
tert-Butylbenzene	6.04		5.00	5	03/18/2016 20:20	WG857090
Carbon tetrachloride	ND		5.00	5	03/18/2016 20:20	WG857090
Chlorobenzene	ND		5.00	5	03/18/2016 20:20	WG857090
Chlorodibromomethane	ND		5.00	5	03/18/2016 20:20	WG857090
Chloroethane	ND		25.0	5	03/18/2016 20:20	WG857090
2-Chloroethyl vinyl ether	ND		250	5	03/18/2016 20:20	WG857090
Chloroform	ND		25.0	5	03/18/2016 20:20	WG857090
Chloromethane	ND		12.5	5	03/18/2016 20:20	WG857090
2-Chlorotoluene	ND		5.00	5	03/18/2016 20:20	WG857090
4-Chlorotoluene	ND		5.00	5	03/18/2016 20:20	WG857090
1,2-Dibromo-3-Chloropropane	ND		25.0	5	03/18/2016 20:20	WG857090
1,2-Dibromoethane	ND		5.00	5	03/18/2016 20:20	WG857090
Dibromomethane	ND		5.00	5	03/18/2016 20:20	WG857090
1,2-Dichlorobenzene	ND		5.00	5	03/18/2016 20:20	WG857090
1,3-Dichlorobenzene	ND		5.00	5	03/18/2016 20:20	WG857090
1,4-Dichlorobenzene	ND		5.00	5	03/18/2016 20:20	WG857090
Dichlorodifluoromethane	ND		25.0	5	03/18/2016 20:20	WG857090
1,1-Dichloroethane	ND		5.00	5	03/18/2016 20:20	WG857090
1,2-Dichloroethane	ND		5.00	5	03/18/2016 20:20	WG857090
1,1-Dichloroethene	ND		5.00	5	03/18/2016 20:20	WG857090
cis-1,2-Dichloroethene	ND		5.00	5	03/18/2016 20:20	WG857090
trans-1,2-Dichloroethene	ND		5.00	5	03/18/2016 20:20	WG857090
1,2-Dichloropropane	ND		5.00	5	03/18/2016 20:20	WG857090
1,1-Dichloropropene	ND		5.00	5	03/18/2016 20:20	WG857090
1,3-Dichloropropane	ND		5.00	5	03/18/2016 20:20	WG857090
cis-1,3-Dichloropropene	ND		5.00	5	03/18/2016 20:20	WG857090
trans-1,3-Dichloropropene	ND		5.00	5	03/18/2016 20:20	WG857090
2,2-Dichloropropane	ND		5.00	5	03/18/2016 20:20	WG857090
Di-isopropyl ether	ND		5.00	5	03/18/2016 20:20	WG857090
Ethylbenzene	ND		5.00	5	03/18/2016 20:20	WG857090
Hexachloro-1,3-butadiene	ND		5.00	5	03/18/2016 20:20	WG857090
Isopropylbenzene	ND		5.00	5	03/18/2016 20:20	WG857090
p-Isopropyltoluene	ND		5.00	5	03/18/2016 20:20	WG857090
2-Butanone (MEK)	ND		50.0	5	03/18/2016 20:20	WG857090
Methylene Chloride	ND		25.0	5	03/18/2016 20:20	WG857090
4-Methyl-2-pentanone (MIBK)	ND		50.0	5	03/18/2016 20:20	WG857090
Methyl tert-butyl ether	ND		5.00	5	03/18/2016 20:20	WG857090
Naphthalene	ND		25.0	5	03/18/2016 20:20	WG857090
n-Propylbenzene	ND		5.00	5	03/18/2016 20:20	WG857090
Styrene	ND		5.00	5	03/18/2016 20:20	WG857090
1,1,1,2-Tetrachloroethane	ND		5.00	5	03/18/2016 20:20	WG857090

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/kg	Qualifier	RDL ug/kg	Dilution	Analysis date / time	Batch
1,1,2,2-Tetrachloroethane	ND		5.00	5	03/18/2016 20:20	WG857090
1,1,2-Trichlorotrifluoroethane	ND		5.00	5	03/18/2016 20:20	WG857090
Tetrachloroethene	ND		5.00	5	03/18/2016 20:20	WG857090
Toluene	ND		25.0	5	03/18/2016 20:20	WG857090
1,2,3-Trichlorobenzene	ND		5.00	5	03/18/2016 20:20	WG857090
1,2,4-Trichlorobenzene	ND		5.00	5	03/18/2016 20:20	WG857090
1,1,1-Trichloroethane	ND		5.00	5	03/18/2016 20:20	WG857090
1,1,2-Trichloroethane	ND		5.00	5	03/18/2016 20:20	WG857090
Trichloroethene	ND		5.00	5	03/18/2016 20:20	WG857090
Trichlorofluoromethane	ND		25.0	5	03/18/2016 20:20	WG857090
1,2,3-Trichloropropane	ND		12.5	5	03/18/2016 20:20	WG857090
1,2,4-Trimethylbenzene	ND		5.00	5	03/18/2016 20:20	WG857090
1,2,3-Trimethylbenzene	ND		5.00	5	03/18/2016 20:20	WG857090
Vinyl chloride	ND		5.00	5	03/18/2016 20:20	WG857090
1,3,5-Trimethylbenzene	ND		5.00	5	03/18/2016 20:20	WG857090
Xylenes, Total	ND		15.0	5	03/18/2016 20:20	WG857090
(S) Toluene-d8	*101*		*88.7-115*		*03/18/2016 20:20*	WG857090
(S) Dibromofluoromethane	*103*		*76.3-123*		*03/18/2016 20:20*	WG857090
(S) 4-Bromofluorobenzene	*103*		*69.7-129*		*03/18/2016 20:20*	WG857090

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result ug/kg	Qualifier	RDL ug/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		120	20	03/18/2016 10:35	WG857147
Acenaphthene	ND		120	20	03/18/2016 10:35	WG857147
Acenaphthylene	ND		120	20	03/18/2016 10:35	WG857147
Benzo(a)anthracene	ND		120	20	03/18/2016 10:35	WG857147
Benzo(a)pyrene	ND		120	20	03/18/2016 10:35	WG857147
Benzo(b)fluoranthene	ND		120	20	03/18/2016 10:35	WG857147
Benzo(g,h,i)perylene	ND		120	20	03/18/2016 10:35	WG857147
Benzo(k)fluoranthene	ND		120	20	03/18/2016 10:35	WG857147
Chrysene	ND		120	20	03/18/2016 10:35	WG857147
Dibenz(a,h)anthracene	ND		120	20	03/18/2016 10:35	WG857147
Fluoranthene	ND		120	20	03/18/2016 10:35	WG857147
Fluorene	ND		120	20	03/18/2016 10:35	WG857147
Indeno(1,2,3-cd)pyrene	ND		120	20	03/18/2016 10:35	WG857147
Naphthalene	ND		400	20	03/18/2016 10:35	WG857147
Phenanthrene	ND		120	20	03/18/2016 10:35	WG857147
Pyrene	ND		120	20	03/18/2016 10:35	WG857147
1-Methylnaphthalene	ND		400	20	03/18/2016 10:35	WG857147
2-Methylnaphthalene	ND		400	20	03/18/2016 10:35	WG857147
2-Chloronaphthalene	ND		400	20	03/18/2016 10:35	WG857147
(S) Nitrobenzene-d5	*69.6*	J7	*22.1-146*		*03/18/2016 10:35*	WG857147
(S) 2-Fluorobiphenyl	*43.1*	J7	*40.6-122*		*03/18/2016 10:35*	WG857147
(S) p-Terphenyl-d14	*42.2*	J7	*32.2-131*		*03/18/2016 10:35*	WG857147

Sample Narrative:

8270D-SIM L823238-08 WG857147: Dilution due to matrix

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	03/19/2016 09:25	WG857606
Benzene	ND		1.00	1	03/19/2016 09:25	WG857606
Bromochloromethane	ND		1.00	1	03/19/2016 09:25	WG857606
Bromodichloromethane	ND		1.00	1	03/19/2016 09:25	WG857606
Bromoform	ND		1.00	1	03/19/2016 09:25	WG857606
Bromomethane	ND		5.00	1	03/19/2016 09:25	WG857606
Carbon disulfide	ND		1.00	1	03/19/2016 09:25	WG857606
Carbon tetrachloride	ND		1.00	1	03/19/2016 09:25	WG857606
Chlorobenzene	ND		1.00	1	03/19/2016 09:25	WG857606
Chlorodibromomethane	ND		1.00	1	03/19/2016 09:25	WG857606
Chloroethane	ND		5.00	1	03/19/2016 09:25	WG857606
Chloroform	ND		5.00	1	03/19/2016 09:25	WG857606
Chloromethane	ND		2.50	1	03/19/2016 09:25	WG857606
Cyclohexane	ND		1.00	1	03/19/2016 09:25	WG857606
1,2-Dibromo-3-Chloropropane	ND		5.00	1	03/19/2016 09:25	WG857606
1,2-Dibromoethane	ND		1.00	1	03/19/2016 09:25	WG857606
1,2-Dichlorobenzene	ND		1.00	1	03/19/2016 09:25	WG857606
1,3-Dichlorobenzene	ND		1.00	1	03/19/2016 09:25	WG857606
1,4-Dichlorobenzene	ND		1.00	1	03/19/2016 09:25	WG857606
Dichlorodifluoromethane	ND		5.00	1	03/19/2016 09:25	WG857606
1,1-Dichloroethane	ND		1.00	1	03/19/2016 09:25	WG857606
1,2-Dichloroethane	ND		1.00	1	03/19/2016 09:25	WG857606
1,1-Dichloroethene	ND		1.00	1	03/19/2016 09:25	WG857606
cis-1,2-Dichloroethene	ND		1.00	1	03/19/2016 09:25	WG857606
trans-1,2-Dichloroethene	ND		1.00	1	03/19/2016 09:25	WG857606
1,2-Dichloropropane	ND		1.00	1	03/19/2016 09:25	WG857606
cis-1,3-Dichloropropene	ND		1.00	1	03/19/2016 09:25	WG857606
trans-1,3-Dichloropropene	ND		1.00	1	03/19/2016 09:25	WG857606
Ethylbenzene	ND		1.00	1	03/19/2016 09:25	WG857606
2-Hexanone	ND		10.0	1	03/19/2016 09:25	WG857606
Isopropylbenzene	ND		1.00	1	03/19/2016 09:25	WG857606
2-Butanone (MEK)	ND		10.0	1	03/19/2016 09:25	WG857606
Methyl Acetate	ND		20.0	1	03/19/2016 09:25	WG857606
Methyl Cyclohexane	12.7		1.00	1	03/19/2016 09:25	WG857606
Methylene Chloride	ND		5.00	1	03/19/2016 09:25	WG857606
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	03/19/2016 09:25	WG857606
Methyl tert-butyl ether	3.94		1.00	1	03/19/2016 09:25	WG857606
Styrene	ND		1.00	1	03/19/2016 09:25	WG857606
1,1,2,2-Tetrachloroethane	ND		1.00	1	03/19/2016 09:25	WG857606
Tetrachloroethene	ND		1.00	1	03/19/2016 09:25	WG857606
Toluene	ND		5.00	1	03/19/2016 09:25	WG857606
1,2,3-Trichlorobenzene	ND		1.00	1	03/19/2016 09:25	WG857606
1,2,4-Trichlorobenzene	ND		1.00	1	03/19/2016 09:25	WG857606
1,1,1-Trichloroethane	ND		1.00	1	03/19/2016 09:25	WG857606
1,1,2-Trichloroethane	ND		1.00	1	03/19/2016 09:25	WG857606
Trichloroethene	ND		1.00	1	03/19/2016 09:25	WG857606
Trichlorofluoromethane	ND		5.00	1	03/19/2016 09:25	WG857606
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	03/19/2016 09:25	WG857606
Vinyl chloride	ND		1.00	1	03/19/2016 09:25	WG857606
Xylenes, Total	ND		3.00	1	03/19/2016 09:25	WG857606
(S) Toluene-d8	*105*		*90.0-115*		*03/19/2016 09:25*	WG857606
(S) Dibromofluoromethane	*100*		*79.0-121*		*03/19/2016 09:25*	WG857606
(S) a,a,a-Trifluorotoluene	*103*		*90.4-116*		*03/19/2016 09:25*	WG857606
(S) 4-Bromofluorobenzene	*103*		*80.1-120*		*03/19/2016 09:25*	WG857606

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	ND		1.00	20	03/18/2016 18:36	WG856973
Acenaphthene	ND		1.00	20	03/18/2016 18:36	WG856973
Acenaphthylene	1.38		1.00	20	03/18/2016 18:36	WG856973
Benzo(a)anthracene	3.26		1.00	20	03/18/2016 18:36	WG856973
Benzo(a)pyrene	ND		1.00	20	03/18/2016 18:36	WG856973
Benzo(b)fluoranthene	ND		1.00	20	03/18/2016 18:36	WG856973
Benzo(g,h,i)perylene	ND		1.00	20	03/18/2016 18:36	WG856973
Benzo(k)fluoranthene	ND		1.00	20	03/18/2016 18:36	WG856973
Chrysene	4.95		1.00	20	03/18/2016 18:36	WG856973
Dibenz(a,h)anthracene	ND		1.00	20	03/18/2016 18:36	WG856973
Fluoranthene	2.07		1.00	20	03/18/2016 18:36	WG856973
Fluorene	5.33		1.00	20	03/18/2016 18:36	WG856973
Indeno(1,2,3-cd)pyrene	ND		1.00	20	03/18/2016 18:36	WG856973
Naphthalene	ND		5.00	20	03/18/2016 18:36	WG856973
Phenanthrene	28.5		1.00	20	03/18/2016 18:36	WG856973
Pyrene	13.4		1.00	20	03/18/2016 18:36	WG856973
1-Methylnaphthalene	ND		5.00	20	03/18/2016 18:36	WG856973
2-Methylnaphthalene	ND		5.00	20	03/18/2016 18:36	WG856973
2-Chloronaphthalene	ND		5.00	20	03/18/2016 18:36	WG856973
(S) Nitrobenzene-d5	*2440*	J7	*45.1-170*		*03/18/2016 18:36*	WG856973
(S) 2-Fluorobiphenyl	*105*	J7	*57.7-153*		*03/18/2016 18:36*	WG856973
(S) p-Terphenyl-d14	*101*	J7	*53.2-156*		*03/18/2016 18:36*	WG856973

Sample Narrative:

8270D-SIM L823238-09 WG856973: Dilution due to matrix

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	03/18/2016 11:09	WG856381
Benzene	ND		1.00	1	03/18/2016 11:09	WG856381
Bromochloromethane	ND		1.00	1	03/18/2016 11:09	WG856381
Bromodichloromethane	ND		1.00	1	03/18/2016 11:09	WG856381
Bromoform	ND		1.00	1	03/18/2016 11:09	WG856381
Bromomethane	ND		5.00	1	03/18/2016 11:09	WG856381
Carbon disulfide	ND		1.00	1	03/18/2016 11:09	WG856381
Carbon tetrachloride	ND		1.00	1	03/18/2016 11:09	WG856381
Chlorobenzene	ND		1.00	1	03/18/2016 11:09	WG856381
Chlorodibromomethane	ND		1.00	1	03/18/2016 11:09	WG856381
Chloroethane	ND		5.00	1	03/18/2016 11:09	WG856381
Chloroform	ND		5.00	1	03/18/2016 11:09	WG856381
Chloromethane	ND		2.50	1	03/18/2016 11:09	WG856381
Cyclohexane	ND		1.00	1	03/18/2016 11:09	WG856381
1,2-Dibromo-3-Chloropropane	ND	J3	5.00	1	03/18/2016 11:09	WG856381
1,2-Dibromoethane	ND		1.00	1	03/18/2016 11:09	WG856381
1,2-Dichlorobenzene	ND		1.00	1	03/18/2016 11:09	WG856381
1,3-Dichlorobenzene	ND		1.00	1	03/18/2016 11:09	WG856381
1,4-Dichlorobenzene	ND		1.00	1	03/18/2016 11:09	WG856381
Dichlorodifluoromethane	ND		5.00	1	03/18/2016 11:09	WG856381
1,1-Dichloroethane	ND		1.00	1	03/18/2016 11:09	WG856381
1,2-Dichloroethane	ND		1.00	1	03/18/2016 11:09	WG856381
1,1-Dichloroethene	ND		1.00	1	03/18/2016 11:09	WG856381
cis-1,2-Dichloroethene	ND		1.00	1	03/18/2016 11:09	WG856381
trans-1,2-Dichloroethene	ND		1.00	1	03/18/2016 11:09	WG856381
1,2-Dichloropropane	ND		1.00	1	03/18/2016 11:09	WG856381
cis-1,3-Dichloropropene	ND		1.00	1	03/18/2016 11:09	WG856381
trans-1,3-Dichloropropene	ND		1.00	1	03/18/2016 11:09	WG856381
Ethylbenzene	ND		1.00	1	03/18/2016 11:09	WG856381
2-Hexanone	ND		10.0	1	03/18/2016 11:09	WG856381
Isopropylbenzene	ND		1.00	1	03/18/2016 11:09	WG856381
2-Butanone (MEK)	ND		10.0	1	03/18/2016 11:09	WG856381
Methyl Acetate	ND		20.0	1	03/18/2016 11:09	WG856381
Methyl Cyclohexane	ND		1.00	1	03/18/2016 11:09	WG856381
Methylene Chloride	ND		5.00	1	03/18/2016 11:09	WG856381
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	03/18/2016 11:09	WG856381
Methyl tert-butyl ether	1.14		1.00	1	03/18/2016 11:09	WG856381
Styrene	ND		1.00	1	03/18/2016 11:09	WG856381
1,1,2,2-Tetrachloroethane	ND		1.00	1	03/18/2016 11:09	WG856381
Tetrachloroethene	ND		1.00	1	03/18/2016 11:09	WG856381
Toluene	ND		5.00	1	03/18/2016 11:09	WG856381
1,2,3-Trichlorobenzene	ND		1.00	1	03/18/2016 11:09	WG856381
1,2,4-Trichlorobenzene	ND		1.00	1	03/18/2016 11:09	WG856381
1,1,1-Trichloroethane	ND		1.00	1	03/18/2016 11:09	WG856381
1,1,2-Trichloroethane	ND		1.00	1	03/18/2016 11:09	WG856381
Trichloroethene	ND		1.00	1	03/18/2016 11:09	WG856381
Trichlorofluoromethane	ND		5.00	1	03/18/2016 11:09	WG856381
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	03/18/2016 11:09	WG856381
Vinyl chloride	ND		1.00	1	03/18/2016 11:09	WG856381
Xylenes, Total	ND		3.00	1	03/18/2016 11:09	WG856381
(S) Toluene-d8	*105*		*90.0-115*		*03/18/2016 11:09*	WG856381
(S) Dibromofluoromethane	*99.5*		*79.0-121*		*03/18/2016 11:09*	WG856381
(S) a,a,a-Trifluorotoluene	*106*		*90.4-116*		*03/18/2016 11:09*	WG856381
(S) 4-Bromofluorobenzene	*106*		*80.1-120*		*03/18/2016 11:09*	WG856381

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	ND		1.00	20	03/21/2016 22:35	WG856973
Acenaphthene	1.07		0.0500	1	03/18/2016 01:36	WG856973
Acenaphthylene	0.312		0.0500	1	03/18/2016 01:36	WG856973
Benzo(a)anthracene	0.386		0.0500	1	03/18/2016 01:36	WG856973
Benzo(a)pyrene	0.125		0.0500	1	03/18/2016 01:36	WG856973
Benzo(b)fluoranthene	ND		0.0500	1	03/18/2016 01:36	WG856973
Benzo(g,h,i)perylene	0.100		0.0500	1	03/18/2016 01:36	WG856973
Benzo(k)fluoranthene	ND		0.0500	1	03/18/2016 01:36	WG856973
Chrysene	0.469		0.0500	1	03/18/2016 01:36	WG856973
Dibenz(a,h)anthracene	ND		0.0500	1	03/18/2016 01:36	WG856973
Fluoranthene	ND		1.00	20	03/21/2016 22:35	WG856973
Fluorene	1.96		0.0500	1	03/18/2016 01:36	WG856973
Indeno(1,2,3-cd)pyrene	ND		0.0500	1	03/18/2016 01:36	WG856973
Naphthalene	0.453		0.250	1	03/18/2016 01:36	WG856973
Phenanthrene	1.89		1.00	20	03/21/2016 22:35	WG856973
Pyrene	1.45		0.0500	1	03/18/2016 01:36	WG856973
1-Methylnaphthalene	0.626		0.250	1	03/18/2016 01:36	WG856973
2-Methylnaphthalene	ND		0.250	1	03/18/2016 01:36	WG856973
2-Chloronaphthalene	ND		0.250	1	03/18/2016 01:36	WG856973
(S) Nitrobenzene-d5	*124*		*45.1-170*		*03/18/2016 01:36*	WG856973
(S) 2-Fluorobiphenyl	*96.8*		*57.7-153*		*03/18/2016 01:36*	WG856973
(S) p-Terphenyl-d14	*113*		*53.2-156*		*03/18/2016 01:36*	WG856973

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	03/18/2016 11:30	WG856381
Benzene	ND		1.00	1	03/18/2016 11:30	WG856381
Bromochloromethane	ND		1.00	1	03/18/2016 11:30	WG856381
Bromodichloromethane	ND		1.00	1	03/18/2016 11:30	WG856381
Bromoform	ND		1.00	1	03/18/2016 11:30	WG856381
Bromomethane	ND		5.00	1	03/18/2016 11:30	WG856381
Carbon disulfide	ND		1.00	1	03/18/2016 11:30	WG856381
Carbon tetrachloride	ND		1.00	1	03/18/2016 11:30	WG856381
Chlorobenzene	ND		1.00	1	03/18/2016 11:30	WG856381
Chlorodibromomethane	ND		1.00	1	03/18/2016 11:30	WG856381
Chloroethane	ND		5.00	1	03/18/2016 11:30	WG856381
Chloroform	ND		5.00	1	03/18/2016 11:30	WG856381
Chloromethane	ND		2.50	1	03/18/2016 11:30	WG856381
Cyclohexane	ND		1.00	1	03/18/2016 11:30	WG856381
1,2-Dibromo-3-Chloropropane	ND	J3	5.00	1	03/18/2016 11:30	WG856381
1,2-Dibromoethane	ND		1.00	1	03/18/2016 11:30	WG856381
1,2-Dichlorobenzene	ND		1.00	1	03/18/2016 11:30	WG856381
1,3-Dichlorobenzene	ND		1.00	1	03/18/2016 11:30	WG856381
1,4-Dichlorobenzene	ND		1.00	1	03/18/2016 11:30	WG856381
Dichlorodifluoromethane	ND		5.00	1	03/18/2016 11:30	WG856381
1,1-Dichloroethane	ND		1.00	1	03/18/2016 11:30	WG856381
1,2-Dichloroethane	ND		1.00	1	03/18/2016 11:30	WG856381
1,1-Dichloroethene	ND		1.00	1	03/18/2016 11:30	WG856381
cis-1,2-Dichloroethene	ND		1.00	1	03/18/2016 11:30	WG856381
trans-1,2-Dichloroethene	ND		1.00	1	03/18/2016 11:30	WG856381
1,2-Dichloropropane	ND		1.00	1	03/18/2016 11:30	WG856381
cis-1,3-Dichloropropene	ND		1.00	1	03/18/2016 11:30	WG856381
trans-1,3-Dichloropropene	ND		1.00	1	03/18/2016 11:30	WG856381
Ethylbenzene	ND		1.00	1	03/18/2016 11:30	WG856381
2-Hexanone	ND		10.0	1	03/18/2016 11:30	WG856381
Isopropylbenzene	ND		1.00	1	03/18/2016 11:30	WG856381
2-Butanone (MEK)	ND		10.0	1	03/18/2016 11:30	WG856381
Methyl Acetate	ND		20.0	1	03/18/2016 11:30	WG856381
Methyl Cyclohexane	ND		1.00	1	03/18/2016 11:30	WG856381
Methylene Chloride	ND		5.00	1	03/18/2016 11:30	WG856381
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	03/18/2016 11:30	WG856381
Methyl tert-butyl ether	ND		1.00	1	03/18/2016 11:30	WG856381
Styrene	ND		1.00	1	03/18/2016 11:30	WG856381
1,1,2,2-Tetrachloroethane	ND		1.00	1	03/18/2016 11:30	WG856381
Tetrachloroethene	ND		1.00	1	03/18/2016 11:30	WG856381
Toluene	ND		5.00	1	03/18/2016 11:30	WG856381
1,2,3-Trichlorobenzene	ND		1.00	1	03/18/2016 11:30	WG856381
1,2,4-Trichlorobenzene	ND		1.00	1	03/18/2016 11:30	WG856381
1,1,1-Trichloroethane	ND		1.00	1	03/18/2016 11:30	WG856381
1,1,2-Trichloroethane	ND		1.00	1	03/18/2016 11:30	WG856381
Trichloroethene	ND		1.00	1	03/18/2016 11:30	WG856381
Trichlorofluoromethane	ND		5.00	1	03/18/2016 11:30	WG856381
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	03/18/2016 11:30	WG856381
Vinyl chloride	ND		1.00	1	03/18/2016 11:30	WG856381
Xylenes, Total	ND		3.00	1	03/18/2016 11:30	WG856381
(S) Toluene-d8	*107*		*90.0-115*		*03/18/2016 11:30*	WG856381
(S) Dibromofluoromethane	*104*		*79.0-121*		*03/18/2016 11:30*	WG856381
(S) a,a,a-Trifluorotoluene	*105*		*90.4-116*		*03/18/2016 11:30*	WG856381
(S) 4-Bromofluorobenzene	*108*		*80.1-120*		*03/18/2016 11:30*	WG856381

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	ND		0.0500	1	03/18/2016 01:59	WG856973
Acenaphthene	ND		0.0500	1	03/18/2016 01:59	WG856973
Acenaphthylene	ND		0.0500	1	03/18/2016 01:59	WG856973
Benzo(a)anthracene	ND		0.0500	1	03/18/2016 01:59	WG856973
Benzo(a)pyrene	ND		0.0500	1	03/18/2016 01:59	WG856973
Benzo(b)fluoranthene	ND		0.0500	1	03/18/2016 01:59	WG856973
Benzo(g,h,i)perylene	0.0675		0.0500	1	03/18/2016 01:59	WG856973
Benzo(k)fluoranthene	ND		0.0500	1	03/18/2016 01:59	WG856973
Chrysene	0.0570		0.0500	1	03/18/2016 01:59	WG856973
Dibenz(a,h)anthracene	ND		0.0500	1	03/18/2016 01:59	WG856973
Fluoranthene	ND		0.0500	1	03/18/2016 01:59	WG856973
Fluorene	ND		0.0500	1	03/18/2016 01:59	WG856973
Indeno(1,2,3-cd)pyrene	ND		0.0500	1	03/18/2016 01:59	WG856973
Naphthalene	ND		0.250	1	03/18/2016 01:59	WG856973
Phenanthrene	0.0679		0.0500	1	03/18/2016 01:59	WG856973
Pyrene	0.114		0.0500	1	03/18/2016 01:59	WG856973
1-Methylnaphthalene	ND		0.250	1	03/18/2016 01:59	WG856973
2-Methylnaphthalene	ND		0.250	1	03/18/2016 01:59	WG856973
2-Chloronaphthalene	ND		0.250	1	03/18/2016 01:59	WG856973
(S) Nitrobenzene-d5	*122*		*45.1-170*		*03/18/2016 01:59*	WG856973
(S) 2-Fluorobiphenyl	*111*		*57.7-153*		*03/18/2016 01:59*	WG856973
(S) p-Terphenyl-d14	*103*		*53.2-156*		*03/18/2016 01:59*	WG856973

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		50.0	1	03/16/2016 19:29	WG856815
Benzene	ND		1.00	1	03/16/2016 19:29	WG856815
Bromochloromethane	ND		1.00	1	03/16/2016 19:29	WG856815
Bromodichloromethane	ND		1.00	1	03/16/2016 19:29	WG856815
Bromoform	ND		1.00	1	03/16/2016 19:29	WG856815
Bromomethane	ND		5.00	1	03/16/2016 19:29	WG856815
Carbon disulfide	ND		1.00	1	03/16/2016 19:29	WG856815
Carbon tetrachloride	ND		1.00	1	03/16/2016 19:29	WG856815
Chlorobenzene	ND		1.00	1	03/16/2016 19:29	WG856815
Chlorodibromomethane	ND		1.00	1	03/16/2016 19:29	WG856815
Chloroethane	ND		5.00	1	03/16/2016 19:29	WG856815
Chloroform	ND		5.00	1	03/16/2016 19:29	WG856815
Chloromethane	ND		2.50	1	03/16/2016 19:29	WG856815
Cyclohexane	ND		1.00	1	03/16/2016 19:29	WG856815
1,2-Dibromo-3-Chloropropane	ND		5.00	1	03/16/2016 19:29	WG856815
1,2-Dibromoethane	ND		1.00	1	03/16/2016 19:29	WG856815
1,2-Dichlorobenzene	ND		1.00	1	03/16/2016 19:29	WG856815
1,3-Dichlorobenzene	ND		1.00	1	03/16/2016 19:29	WG856815
1,4-Dichlorobenzene	ND		1.00	1	03/16/2016 19:29	WG856815
Dichlorodifluoromethane	ND		5.00	1	03/16/2016 19:29	WG856815
1,1-Dichloroethane	ND		1.00	1	03/16/2016 19:29	WG856815
1,2-Dichloroethane	ND		1.00	1	03/16/2016 19:29	WG856815
1,1-Dichloroethene	ND		1.00	1	03/16/2016 19:29	WG856815
cis-1,2-Dichloroethene	ND		1.00	1	03/16/2016 19:29	WG856815
trans-1,2-Dichloroethene	ND		1.00	1	03/16/2016 19:29	WG856815
1,2-Dichloropropane	ND		1.00	1	03/16/2016 19:29	WG856815
cis-1,3-Dichloropropene	ND		1.00	1	03/16/2016 19:29	WG856815
trans-1,3-Dichloropropene	ND		1.00	1	03/16/2016 19:29	WG856815
Ethylbenzene	ND		1.00	1	03/16/2016 19:29	WG856815
2-Hexanone	ND		10.0	1	03/16/2016 19:29	WG856815
Isopropylbenzene	ND		1.00	1	03/16/2016 19:29	WG856815
2-Butanone (MEK)	ND		10.0	1	03/16/2016 19:29	WG856815
Methyl Acetate	ND		20.0	1	03/16/2016 19:29	WG856815
Methyl Cyclohexane	ND		1.00	1	03/16/2016 19:29	WG856815
Methylene Chloride	ND		5.00	1	03/16/2016 19:29	WG856815
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	03/16/2016 19:29	WG856815
Methyl tert-butyl ether	ND		1.00	1	03/16/2016 19:29	WG856815
Styrene	ND		1.00	1	03/16/2016 19:29	WG856815
1,1,2,2-Tetrachloroethane	ND		1.00	1	03/16/2016 19:29	WG856815
Tetrachloroethene	ND		1.00	1	03/16/2016 19:29	WG856815
Toluene	ND		5.00	1	03/16/2016 19:29	WG856815
1,2,3-Trichlorobenzene	ND		1.00	1	03/16/2016 19:29	WG856815
1,2,4-Trichlorobenzene	ND		1.00	1	03/16/2016 19:29	WG856815
1,1,1-Trichloroethane	ND		1.00	1	03/16/2016 19:29	WG856815
1,1,2-Trichloroethane	ND		1.00	1	03/16/2016 19:29	WG856815
Trichloroethene	ND		1.00	1	03/16/2016 19:29	WG856815
Trichlorofluoromethane	ND		5.00	1	03/16/2016 19:29	WG856815
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	03/16/2016 19:29	WG856815
Vinyl chloride	ND		1.00	1	03/16/2016 19:29	WG856815
Xylenes, Total	ND		3.00	1	03/16/2016 19:29	WG856815
(S) Toluene-d8	*98.1*		*90.0-115*		*03/16/2016 19:29*	WG856815
(S) Dibromofluoromethane	*101*		*79.0-121*		*03/16/2016 19:29*	WG856815
(S) a,a,a-Trifluorotoluene	*98.0*		*90.4-116*		*03/16/2016 19:29*	WG856815
(S) 4-Bromofluorobenzene	*99.2*		*80.1-120*		*03/16/2016 19:29*	WG856815

Method Blank (MB)

(MB) 03/17/16 10:42

Analyte	MB Result	MB Qualifier	MB RDL
	%		%
Total Solids	0.000600		

L823238-04 Original Sample (OS) • Duplicate (DUP)

(OS) 03/17/16 10:43 • (DUP) 03/17/16 10:43

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	%	%		%		%
Total Solids	80.7	84.4	1	4.47		5

Laboratory Control Sample (LCS)

(LCS) 03/17/16 10:42

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) 03/17/16 10:05

Analyte	MB Result %	MB Qualifier	MB RDL %
Total Solids	0.000700		

L823297-01 Original Sample (OS) • Duplicate (DUP)

(OS) 03/17/16 10:10 • (DUP) 03/17/16 10:09

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	89.5	81.9	1	8.83	J3	5

Laboratory Control Sample (LCS)

(LCS) 03/17/16 10:05

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) 03/18/16 03:41

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Acetone	ND		0.0500
Benzene	ND		0.00100
Bromodichloromethane	ND		0.00100
Bromochloromethane	ND		0.00100
Bromoform	ND		0.00100
Bromomethane	ND		0.00500
Carbon disulfide	ND		0.00100
Carbon tetrachloride	ND		0.00100
Chlorobenzene	ND		0.00100
Chlorodibromomethane	ND		0.00100
Chloroethane	ND		0.00500
Chloroform	ND		0.00500
Chloromethane	ND		0.00250
Cyclohexane	ND		0.00100
1,2-Dibromo-3-Chloropropane	ND		0.00500
1,2-Dibromoethane	ND		0.00100
1,2-Dichlorobenzene	ND		0.00100
1,3-Dichlorobenzene	ND		0.00100
1,4-Dichlorobenzene	ND		0.00100
Dichlorodifluoromethane	ND		0.00500
1,1-Dichloroethane	ND		0.00100
1,2-Dichloroethane	ND		0.00100
1,1-Dichloroethene	ND		0.00100
cis-1,2-Dichloroethene	ND		0.00100
trans-1,2-Dichloroethene	ND		0.00100
1,2-Dichloropropane	ND		0.00100
cis-1,3-Dichloropropene	ND		0.00100
trans-1,3-Dichloropropene	ND		0.00100
Ethylbenzene	ND		0.00100
2-Hexanone	ND		0.0100
Isopropylbenzene	ND		0.00100
2-Butanone (MEK)	ND		0.0100
Methyl Acetate	ND		0.0200
Methyl Cyclohexane	ND		0.00100
Methylene Chloride	ND		0.00500
4-Methyl-2-pentanone (MIBK)	ND		0.0100

Method Blank (MB)

(MB) 03/18/16 03:41

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Methyl tert-butyl ether	ND		0.00100
Styrene	ND		0.00100
1,1,2,2-Tetrachloroethane	ND		0.00100
Tetrachloroethene	ND		0.00100
Toluene	ND		0.00500
1,1,2-Trichlorotrifluoroethane	ND		0.00100
1,2,3-Trichlorobenzene	ND		0.00100
1,2,4-Trichlorobenzene	ND		0.00100
1,1,1-Trichloroethane	ND		0.00100
1,1,2-Trichloroethane	ND		0.00100
Trichloroethene	ND		0.00100
Trichlorofluoromethane	ND		0.00500
Vinyl chloride	ND		0.00100
Xylenes, Total	ND		0.00300
(S) Toluene-d8	*105*		*90.0-115*
(S) Dibromofluoromethane	*101*		*79.0-121*
(S) α,α,α-Trifluorotoluene	*104*		*90.4-116*
(S) 4-Bromofluorobenzene	*99.5*		*80.1-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/18/16 01:59 • (LCSD) 03/18/16 02:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.162	0.140	129	112	28.7-175			14.6	20.9
Benzene	0.0250	0.0236	0.0215	94.4	86.0	73.0-122			9.36	20
Bromodichloromethane	0.0250	0.0251	0.0229	100	91.6	75.5-121			9.26	20
Bromochloromethane	0.0250	0.0251	0.0227	101	90.8	78.9-123			10.1	20
Bromoform	0.0250	0.0260	0.0232	104	92.9	71.5-131			11.3	20
Bromomethane	0.0250	0.0263	0.0241	105	96.4	22.4-187			8.61	20
Carbon disulfide	0.0250	0.0263	0.0237	105	94.9	53.0-134			10.4	20
Carbon tetrachloride	0.0250	0.0250	0.0227	99.8	90.8	70.9-129			9.47	20
Chlorobenzene	0.0250	0.0254	0.0236	102	94.5	79.7-122			7.18	20
Chlorodibromomethane	0.0250	0.0261	0.0242	104	96.7	78.2-124			7.53	20
Chloroethane	0.0250	0.0258	0.0236	103	94.4	41.2-153			8.92	20
Chloroform	0.0250	0.0240	0.0219	95.9	87.6	73.2-125			9.13	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/18/16 01:59 • (LCSD) 03/18/16 02:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloromethane	0.0250	0.0209	0.0186	83.4	74.4	55.8-134			11.5	20
1,2-Dibromo-3-Chloropropane	0.0250	0.0245	0.0199	98.2	79.5	64.8-131		J3	21.0	20
1,2-Dibromoethane	0.0250	0.0242	0.0222	97.0	88.9	79.8-122			8.69	20
1,2-Dichlorobenzene	0.0250	0.0249	0.0226	99.5	90.5	84.7-118			9.52	20
1,3-Dichlorobenzene	0.0250	0.0239	0.0220	95.7	88.0	77.6-127			8.40	20
1,4-Dichlorobenzene	0.0250	0.0239	0.0213	95.5	85.2	82.2-114			11.3	20
Dichlorodifluoromethane	0.0250	0.0302	0.0286	121	114	56.0-134			5.42	20
1,1-Dichloroethane	0.0250	0.0247	0.0221	98.7	88.5	71.7-127			10.9	20
1,2-Dichloroethane	0.0250	0.0218	0.0197	87.0	78.6	65.3-126			10.1	20
1,1-Dichloroethene	0.0250	0.0246	0.0224	98.5	89.7	59.9-137			9.40	20
cis-1,2-Dichloroethene	0.0250	0.0255	0.0227	102	90.9	77.3-122			11.3	20
trans-1,2-Dichloroethene	0.0250	0.0257	0.0234	103	93.7	72.6-125			9.39	20
1,2-Dichloropropane	0.0250	0.0253	0.0225	101	90.2	77.4-125			11.3	20
cis-1,3-Dichloropropene	0.0250	0.0265	0.0238	106	95.3	77.7-124			10.8	20
trans-1,3-Dichloropropene	0.0250	0.0256	0.0235	102	93.8	73.5-127			8.60	20
Ethylbenzene	0.0250	0.0253	0.0236	101	94.6	80.9-121			6.87	20
2-Hexanone	0.125	0.143	0.130	114	104	59.4-151			9.39	20
Isopropylbenzene	0.0250	0.0251	0.0233	100	93.3	81.6-124			7.46	20
2-Butanone (MEK)	0.125	0.133	0.118	106	94.4	46.4-155			11.8	20
Methylene Chloride	0.0250	0.0241	0.0220	96.4	88.2	69.5-120			8.90	20
4-Methyl-2-pentanone (MIBK)	0.125	0.107	0.0926	85.6	74.1	63.3-138			14.4	20
Methyl tert-butyl ether	0.0250	0.0246	0.0218	98.3	87.4	70.1-125			11.7	20
Styrene	0.0250	0.0262	0.0241	105	96.4	79.9-124			8.25	20
1,1,2,2-Tetrachloroethane	0.0250	0.0226	0.0200	90.5	80.0	79.3-123			12.3	20
Tetrachloroethene	0.0250	0.0256	0.0232	103	92.8	73.5-130			10.0	20
Toluene	0.0250	0.0239	0.0219	95.7	87.7	77.9-116			8.78	20
1,1,2-Trichlorotrifluoroethane	0.0250	0.0271	0.0238	108	95.3	62.0-141			12.9	20
1,2,3-Trichlorobenzene	0.0250	0.0258	0.0237	103	94.6	75.7-134			8.63	20
1,2,4-Trichlorobenzene	0.0250	0.0266	0.0247	107	98.7	76.1-136			7.63	20
1,1,1-Trichloroethane	0.0250	0.0248	0.0223	99.2	89.1	71.1-129			10.7	20
1,1,2-Trichloroethane	0.0250	0.0246	0.0217	98.6	86.9	81.6-120			12.5	20
Trichloroethene	0.0250	0.0255	0.0233	102	93.4	79.5-121			9.01	20
Trichlorofluoromethane	0.0250	0.0265	0.0237	106	94.8	49.1-157			11.0	20
Vinyl chloride	0.0250	0.0281	0.0250	113	100	61.5-134			11.8	20
Xylenes, Total	0.0750	0.0776	0.0708	103	94.4	79.2-122			9.14	20
(S) Toluene-d8				*103*	*102*	*90.0-115*				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/18/16 01:59 • (LCSD) 03/18/16 02:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
(S) Dibromofluoromethane				*101*	*96.8*	*79.0-121*				
(S) α,α,α-Trifluorotoluene				*106*	*104*	*90.4-116*				
(S) 4-Bromofluorobenzene				*98.0*	*99.7*	*80.1-120*				

L823203-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/18/16 05:44 • (MS) 03/18/16 04:01 • (MSD) 03/18/16 04:22

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.00903	0.177	0.169	134	128	1	25.0-156			4.64	21.5
Benzene	0.0250	ND	0.0235	0.0235	93.8	94.1	1	58.6-133			0.340	20
Bromodichloromethane	0.0250	ND	0.0252	0.0251	101	101	1	69.2-127			0.360	20
Bromochloromethane	0.0250	ND	0.0253	0.0252	101	101	1	74.4-128			0.500	20
Bromoform	0.0250	ND	0.0260	0.0259	104	104	1	66.3-140			0.240	20
Bromomethane	0.0250	ND	0.0250	0.0244	99.8	97.7	1	16.6-183			2.14	20.5
Carbon disulfide	0.0250	0.000419	0.0251	0.0242	98.6	95.0	1	34.9-138			3.65	20
Carbon tetrachloride	0.0250	ND	0.0242	0.0235	96.7	93.9	1	60.6-139			3.02	20
Chlorobenzene	0.0250	ND	0.0247	0.0249	98.8	99.7	1	70.1-130			0.880	20
Chlorodibromomethane	0.0250	ND	0.0260	0.0267	104	107	1	71.6-132			2.51	20
Chloroethane	0.0250	ND	0.0250	0.0238	99.9	95.0	1	33.3-155			5.04	20
Chloroform	0.0250	ND	0.0235	0.0235	94.1	94.2	1	66.1-133			0.0100	20
Chloromethane	0.0250	ND	0.0195	0.0192	78.2	76.8	1	40.7-139			1.86	20
1,2-Dibromo-3-Chloropropane	0.0250	ND	0.0235	0.0229	94.0	91.5	1	63.9-142			2.68	20.2
1,2-Dibromoethane	0.0250	ND	0.0244	0.0243	97.7	97.1	1	73.8-131			0.580	20
1,2-Dichlorobenzene	0.0250	ND	0.0241	0.0246	96.5	98.6	1	77.4-127			2.10	20
1,3-Dichlorobenzene	0.0250	ND	0.0232	0.0242	93.0	96.7	1	67.9-136			3.90	20
1,4-Dichlorobenzene	0.0250	ND	0.0228	0.0237	91.4	94.9	1	74.4-123			3.71	20
Dichlorodifluoromethane	0.0250	ND	0.0309	0.0279	124	112	1	42.2-146			10.3	20
1,1-Dichloroethane	0.0250	ND	0.0239	0.0236	95.6	94.6	1	64.0-134			1.07	20
1,2-Dichloroethane	0.0250	ND	0.0224	0.0226	89.7	90.2	1	60.7-132			0.530	20
1,1-Dichloroethene	0.0250	ND	0.0239	0.0231	95.6	92.5	1	48.8-144			3.32	20
cis-1,2-Dichloroethene	0.0250	0.00352	0.0275	0.0272	95.8	94.8	1	60.6-136			0.910	20
trans-1,2-Dichloroethene	0.0250	ND	0.0248	0.0238	99.0	95.2	1	61.0-132			3.96	20
1,2-Dichloropropane	0.0250	ND	0.0254	0.0254	102	102	1	69.7-130			0.170	20
cis-1,3-Dichloropropene	0.0250	ND	0.0261	0.0264	104	106	1	71.1-129			1.14	20
trans-1,3-Dichloropropene	0.0250	ND	0.0262	0.0263	105	105	1	66.3-136			0.510	20

L823203-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/18/16 05:44 • (MS) 03/18/16 04:01 • (MSD) 03/18/16 04:22

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	0.0250	ND	0.0245	0.0244	98.0	97.5	1	62.7-136			0.570	20
2-Hexanone	0.125	0.00113	0.145	0.145	115	115	1	59.4-154			0.210	20.1
Isopropylbenzene	0.0250	ND	0.0245	0.0243	98.0	97.3	1	67.4-136			0.630	20
2-Butanone (MEK)	0.125	0.00204	0.137	0.134	108	106	1	45.0-156			1.83	20.8
Methylene Chloride	0.0250	0.00309	0.0261	0.0258	92.1	91.0	1	61.5-125			1.00	20
4-Methyl-2-pentanone (MIBK)	0.125	ND	0.108	0.106	86.3	84.7	1	60.7-150			1.77	20
Methyl tert-butyl ether	0.0250	ND	0.0240	0.0246	95.9	98.5	1	61.4-136			2.63	20
Styrene	0.0250	ND	0.0257	0.0262	103	105	1	68.2-133			1.89	20
1,1,2,2-Tetrachloroethane	0.0250	ND	0.0229	0.0228	91.5	91.1	1	64.9-145			0.510	20
Tetrachloroethene	0.0250	0.0454	0.0443	0.0443	0.000	0.000	1	57.4-141	J6	J6	0.0100	20
Toluene	0.0250	0.000622	0.0237	0.0234	92.4	91.2	1	67.8-124			1.23	20
1,1,2-Trichlorotrifluoroethane	0.0250	ND	0.0259	0.0248	103	99.1	1	53.7-150			4.23	20
1,2,3-Trichlorobenzene	0.0250	ND	0.0252	0.0260	101	104	1	65.7-143			3.29	20
1,2,4-Trichlorobenzene	0.0250	ND	0.0265	0.0278	106	111	1	67.0-146			4.84	20
1,1,1-Trichloroethane	0.0250	ND	0.0238	0.0229	95.2	91.4	1	58.7-134			4.08	20
1,1,2-Trichloroethane	0.0250	ND	0.0240	0.0244	96.0	97.4	1	74.1-130			1.45	20
Trichloroethene	0.0250	0.00484	0.0278	0.0271	91.9	89.2	1	48.9-148			2.45	20
Trichlorofluoromethane	0.0250	ND	0.0246	0.0243	98.4	97.2	1	39.9-165			1.22	20
Vinyl chloride	0.0250	ND	0.0266	0.0252	106	101	1	44.3-143			5.24	20
Xylenes, Total	0.0750	0.000526	0.0751	0.0744	99.4	98.5	1	65.6-133			0.830	20
(S) Toluene-d8					*103*	*103*		*90.0-115*				
(S) Dibromofluoromethane					*100*	*101*		*79.0-121*				
(S) α,α,α-Trifluorotoluene					*103*	*101*		*90.4-116*				
(S) 4-Bromofluorobenzene					*97.8*	*98.4*		*80.1-120*				

Method Blank (MB)

(MB) 03/16/16 09:49

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Acetone	ND		0.0500
Benzene	ND		0.00100
Bromodichloromethane	ND		0.00100
Bromochloromethane	ND		0.00100
Bromoform	ND		0.00100
Bromomethane	ND		0.00500
Carbon disulfide	ND		0.00100
Carbon tetrachloride	ND		0.00100
Chlorobenzene	ND		0.00100
Chlorodibromomethane	ND		0.00100
Chloroethane	ND		0.00500
Chloroform	ND		0.00500
Chloromethane	ND		0.00250
Cyclohexane	ND		0.00100
1,2-Dibromo-3-Chloropropane	ND		0.00500
1,2-Dibromoethane	ND		0.00100
1,2-Dichlorobenzene	ND		0.00100
1,3-Dichlorobenzene	ND		0.00100
1,4-Dichlorobenzene	ND		0.00100
Dichlorodifluoromethane	ND		0.00500
1,1-Dichloroethane	ND		0.00100
1,2-Dichloroethane	ND		0.00100
1,1-Dichloroethene	ND		0.00100
cis-1,2-Dichloroethene	ND		0.00100
trans-1,2-Dichloroethene	ND		0.00100
1,2-Dichloropropane	ND		0.00100
cis-1,3-Dichloropropene	ND		0.00100
trans-1,3-Dichloropropene	ND		0.00100
Ethylbenzene	ND		0.00100
2-Hexanone	ND		0.0100
Isopropylbenzene	ND		0.00100
2-Butanone (MEK)	ND		0.0100
Methyl Acetate	ND		0.0200
Methyl Cyclohexane	ND		0.00100
Methylene Chloride	ND		0.00500
4-Methyl-2-pentanone (MIBK)	ND		0.0100

Method Blank (MB)

(MB) 03/16/16 09:49

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Methyl tert-butyl ether	ND		0.00100
Styrene	ND		0.00100
1,1,2,2-Tetrachloroethane	ND		0.00100
Tetrachloroethene	ND		0.00100
Toluene	ND		0.00500
1,1,2-Trichlorotrifluoroethane	ND		0.00100
1,2,3-Trichlorobenzene	ND		0.00100
1,2,4-Trichlorobenzene	ND		0.00100
1,1,1-Trichloroethane	ND		0.00100
1,1,2-Trichloroethane	ND		0.00100
Trichloroethene	ND		0.00100
Trichlorofluoromethane	ND		0.00500
Vinyl chloride	ND		0.00100
Xylenes, Total	ND		0.00300
(S) Toluene-d8	*96.7*		*90.0-115*
(S) Dibromofluoromethane	*100*		*79.0-121*
(S) α,α,α-Trifluorotoluene	*97.8*		*90.4-116*
(S) 4-Bromofluorobenzene	*98.2*		*80.1-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/16/16 08:28 • (LCSD) 03/16/16 08:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.0640	0.0603	51.2	48.2	28.7-175			5.97	20.9
Benzene	0.0250	0.0256	0.0233	102	93.1	73.0-122			9.32	20
Bromodichloromethane	0.0250	0.0252	0.0226	101	90.5	75.5-121			10.7	20
Bromochloromethane	0.0250	0.0269	0.0244	108	97.4	78.9-123			10.0	20
Bromoform	0.0250	0.0279	0.0257	111	103	71.5-131			7.97	20
Bromomethane	0.0250	0.0277	0.0244	111	97.5	22.4-187			12.8	20
Carbon disulfide	0.0250	0.0234	0.0212	93.5	84.9	53.0-134			9.59	20
Carbon tetrachloride	0.0250	0.0217	0.0198	86.9	79.1	70.9-129			9.46	20
Chlorobenzene	0.0250	0.0274	0.0252	110	101	79.7-122			8.59	20
Chlorodibromomethane	0.0250	0.0272	0.0252	109	101	78.2-124			7.78	20
Chloroethane	0.0250	0.0271	0.0240	108	95.8	41.2-153			12.2	20
Chloroform	0.0250	0.0249	0.0227	99.8	90.8	73.2-125			9.47	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/16/16 08:28 • (LCSD) 03/16/16 08:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloromethane	0.0250	0.0261	0.0231	104	92.6	55.8-134			11.8	20
1,2-Dibromo-3-Chloropropane	0.0250	0.0252	0.0244	101	97.4	64.8-131			3.26	20
1,2-Dibromoethane	0.0250	0.0273	0.0250	109	100	79.8-122			8.62	20
1,2-Dichlorobenzene	0.0250	0.0270	0.0250	108	99.9	84.7-118			7.78	20
1,3-Dichlorobenzene	0.0250	0.0275	0.0251	110	101	77.6-127			8.85	20
1,4-Dichlorobenzene	0.0250	0.0264	0.0246	106	98.5	82.2-114			7.10	20
Dichlorodifluoromethane	0.0250	0.0297	0.0270	119	108	56.0-134			9.65	20
1,1-Dichloroethane	0.0250	0.0249	0.0225	99.7	90.0	71.7-127			10.2	20
1,2-Dichloroethane	0.0250	0.0232	0.0213	92.8	85.2	65.3-126			8.58	20
1,1-Dichloroethene	0.0250	0.0238	0.0220	95.2	88.0	59.9-137			7.86	20
cis-1,2-Dichloroethene	0.0250	0.0269	0.0240	108	96.0	77.3-122			11.4	20
trans-1,2-Dichloroethene	0.0250	0.0267	0.0238	107	95.4	72.6-125			11.2	20
1,2-Dichloropropane	0.0250	0.0257	0.0233	103	93.2	77.4-125			9.64	20
cis-1,3-Dichloropropene	0.0250	0.0261	0.0238	104	95.1	77.7-124			9.33	20
trans-1,3-Dichloropropene	0.0250	0.0254	0.0236	102	94.2	73.5-127			7.64	20
Ethylbenzene	0.0250	0.0276	0.0250	110	100	80.9-121			9.63	20
2-Hexanone	0.125	0.136	0.129	109	103	59.4-151			5.31	20
Isopropylbenzene	0.0250	0.0273	0.0247	109	98.7	81.6-124			10.0	20
2-Butanone (MEK)	0.125	0.111	0.103	89.1	82.2	46.4-155			8.04	20
Methylene Chloride	0.0250	0.0255	0.0229	102	91.8	69.5-120			10.5	20
4-Methyl-2-pentanone (MIBK)	0.125	0.124	0.117	99.3	93.3	63.3-138			6.17	20
Methyl tert-butyl ether	0.0250	0.0241	0.0225	96.3	90.0	70.1-125			6.70	20
Styrene	0.0250	0.0279	0.0255	112	102	79.9-124			8.91	20
1,1,2,2-Tetrachloroethane	0.0250	0.0268	0.0250	107	99.8	79.3-123			7.08	20
Tetrachloroethene	0.0250	0.0275	0.0250	110	100	73.5-130			9.44	20
Toluene	0.0250	0.0257	0.0232	103	92.7	77.9-116			10.3	20
1,1,2-Trichlorotrifluoroethane	0.0250	0.0252	0.0225	101	90.0	62.0-141			11.3	20
1,2,3-Trichlorobenzene	0.0250	0.0268	0.0256	107	102	75.7-134			4.73	20
1,2,4-Trichlorobenzene	0.0250	0.0280	0.0261	112	105	76.1-136			6.88	20
1,1,1-Trichloroethane	0.0250	0.0241	0.0216	96.4	86.5	71.1-129			10.8	20
1,1,2-Trichloroethane	0.0250	0.0268	0.0245	107	97.9	81.6-120			8.89	20
Trichloroethene	0.0250	0.0259	0.0229	104	91.5	79.5-121			12.5	20
Trichlorofluoromethane	0.0250	0.0256	0.0229	102	91.5	49.1-157			11.1	20
Vinyl chloride	0.0250	0.0247	0.0223	99.0	89.3	61.5-134			10.3	20
Xylenes, Total	0.0750	0.0827	0.0748	110	99.8	79.2-122			9.95	20
(S) Toluene-d8				*97.0*	*97.4*	*90.0-115*				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/16/16 08:28 • (LCSD) 03/16/16 08:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
(S) Dibromofluoromethane				*98.4*	*98.2*	*79.0-121*				
(S) α,α,α-Trifluorotoluene				*99.2*	*96.2*	*90.4-116*				
(S) 4-Bromofluorobenzene				*95.7*	*96.1*	*80.1-120*				

L823372-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/16/16 11:49 • (MS) 03/16/16 12:10 • (MSD) 03/16/16 12:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	ND	0.0749	0.0726	59.9	58.0	1	25.0-156			3.16	21.5
Benzene	0.0250	0.0103	0.0318	0.0319	86.0	86.6	1	58.6-133			0.470	20
Bromodichloromethane	0.0250	ND	0.0229	0.0231	91.4	92.6	1	69.2-127			1.27	20
Bromochloromethane	0.0250	ND	0.0245	0.0249	98.0	99.8	1	74.4-128			1.81	20
Bromoform	0.0250	ND	0.0256	0.0260	103	104	1	66.3-140			1.33	20
Bromomethane	0.0250	ND	0.0251	0.0251	100	100	1	16.6-183			0.0300	20.5
Carbon disulfide	0.0250	ND	0.0219	0.0218	87.5	87.2	1	34.9-138			0.340	20
Carbon tetrachloride	0.0250	ND	0.0198	0.0200	79.4	80.0	1	60.6-139			0.720	20
Chlorobenzene	0.0250	ND	0.0247	0.0249	98.8	99.5	1	70.1-130			0.680	20
Chlorodibromomethane	0.0250	ND	0.0247	0.0252	98.7	101	1	71.6-132			2.30	20
Chloroethane	0.0250	ND	0.0261	0.0250	104	100	1	33.3-155			4.11	20
Chloroform	0.0250	ND	0.0237	0.0239	94.8	95.5	1	66.1-133			0.700	20
Chloromethane	0.0250	ND	0.0236	0.0234	94.4	93.5	1	40.7-139			0.950	20
1,2-Dibromo-3-Chloropropane	0.0250	ND	0.0250	0.0247	100	98.6	1	63.9-142			1.42	20.2
1,2-Dibromoethane	0.0250	ND	0.0251	0.0253	100	101	1	73.8-131			0.860	20
1,2-Dichlorobenzene	0.0250	ND	0.0249	0.0250	99.8	100	1	77.4-127			0.160	20
1,3-Dichlorobenzene	0.0250	ND	0.0245	0.0249	98.0	99.5	1	67.9-136			1.55	20
1,4-Dichlorobenzene	0.0250	ND	0.0244	0.0246	97.5	98.2	1	74.4-123			0.800	20
Dichlorodifluoromethane	0.0250	ND	0.0285	0.0275	114	110	1	42.2-146			3.47	20
1,1-Dichloroethane	0.0250	ND	0.0232	0.0235	93.0	93.9	1	64.0-134			0.950	20
1,2-Dichloroethane	0.0250	ND	0.0215	0.0217	86.2	86.9	1	60.7-132			0.880	20
1,1-Dichloroethene	0.0250	ND	0.0222	0.0219	88.9	87.6	1	48.8-144			1.47	20
cis-1,2-Dichloroethene	0.0250	ND	0.0248	0.0249	99.2	99.5	1	60.6-136			0.240	20
trans-1,2-Dichloroethene	0.0250	ND	0.0242	0.0244	97.0	97.5	1	61.0-132			0.540	20
1,2-Dichloropropane	0.0250	ND	0.0233	0.0233	93.1	93.0	1	69.7-130			0.0400	20
cis-1,3-Dichloropropene	0.0250	ND	0.0232	0.0236	92.9	94.6	1	71.1-129			1.76	20
trans-1,3-Dichloropropene	0.0250	ND	0.0224	0.0230	89.5	92.2	1	66.3-136			2.97	20

L823372-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/16/16 11:49 • (MS) 03/16/16 12:10 • (MSD) 03/16/16 12:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	0.0250	0.0248	0.0460	0.0455	84.6	82.8	1	62.7-136			1.02	20
2-Hexanone	0.125	0.000288	0.102	0.101	81.3	80.6	1	59.4-154			0.760	20.1
Isopropylbenzene	0.0250	0.0132	0.0359	0.0358	90.7	90.2	1	67.4-136			0.320	20
2-Butanone (MEK)	0.125	ND	0.107	0.106	85.7	84.7	1	45.0-156			1.18	20.8
Methylene Chloride	0.0250	ND	0.0233	0.0235	93.1	93.9	1	61.5-125			0.870	20
4-Methyl-2-pentanone (MIBK)	0.125	ND	0.114	0.112	91.3	89.5	1	60.7-150			2.03	20
Methyl tert-butyl ether	0.0250	0.0735	0.0949	0.0959	85.5	89.4	1	61.4-136			1.01	20
Styrene	0.0250	0.000450	0.0258	0.0258	102	101	1	68.2-133			0.120	20
1,1,2,2-Tetrachloroethane	0.0250	ND	0.0249	0.0252	99.7	101	1	64.9-145			1.29	20
Tetrachloroethene	0.0250	ND	0.0245	0.0248	98.0	99.4	1	57.4-141			1.35	20
Toluene	0.0250	0.00160	0.0242	0.0243	90.2	90.8	1	67.8-124			0.540	20
1,1,2-Trichlorotrifluoroethane	0.0250	ND	0.0237	0.0239	94.7	95.4	1	53.7-150			0.720	20
1,2,3-Trichlorobenzene	0.0250	ND	0.0248	0.0255	99.2	102	1	65.7-143			2.91	20
1,2,4-Trichlorobenzene	0.0250	ND	0.0258	0.0264	103	105	1	67.0-146			2.13	20
1,1,1-Trichloroethane	0.0250	ND	0.0226	0.0227	90.2	90.9	1	58.7-134			0.730	20
1,1,2-Trichloroethane	0.0250	ND	0.0259	0.0261	104	104	1	74.1-130			0.900	20
Trichloroethene	0.0250	ND	0.0227	0.0229	90.9	91.5	1	48.9-148			0.560	20
Trichlorofluoromethane	0.0250	ND	0.0235	0.0232	93.8	92.8	1	39.9-165			1.06	20
Vinyl chloride	0.0250	ND	0.0231	0.0229	92.2	91.7	1	44.3-143			0.560	20
Xylenes, Total	0.0750	0.00956	0.0823	0.0830	96.9	97.9	1	65.6-133			0.860	20
(S) Toluene-d8					*95.7*	*95.8*		*90.0-115*				
(S) Dibromofluoromethane					*99.8*	*99.7*		*79.0-121*				
(S) α,α,α-Trifluorotoluene					*95.8*	*96.9*		*90.4-116*				
(S) 4-Bromofluorobenzene					*94.8*	*96.3*		*80.1-120*				

Method Blank (MB)

(MB) 03/19/16 02:02

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Acetone	ND		0.0500
Benzene	ND		0.00100
Bromodichloromethane	ND		0.00100
Bromochloromethane	ND		0.00100
Bromoform	ND		0.00100
Bromomethane	ND		0.00500
Carbon disulfide	ND		0.00100
Carbon tetrachloride	ND		0.00100
Chlorobenzene	ND		0.00100
Chlorodibromomethane	ND		0.00100
Chloroethane	ND		0.00500
Chloroform	ND		0.00500
Chloromethane	ND		0.00250
Cyclohexane	ND		0.00100
1,2-Dibromo-3-Chloropropane	ND		0.00500
1,2-Dibromoethane	ND		0.00100
1,2-Dichlorobenzene	ND		0.00100
1,3-Dichlorobenzene	ND		0.00100
1,4-Dichlorobenzene	ND		0.00100
Dichlorodifluoromethane	ND		0.00500
1,1-Dichloroethane	ND		0.00100
1,2-Dichloroethane	ND		0.00100
1,1-Dichloroethene	ND		0.00100
cis-1,2-Dichloroethene	ND		0.00100
trans-1,2-Dichloroethene	ND		0.00100
1,2-Dichloropropane	ND		0.00100
cis-1,3-Dichloropropene	ND		0.00100
trans-1,3-Dichloropropene	ND		0.00100
Ethylbenzene	ND		0.00100
2-Hexanone	ND		0.0100
Isopropylbenzene	ND		0.00100
2-Butanone (MEK)	ND		0.0100
Methyl Acetate	ND		0.0200
Methyl Cyclohexane	ND		0.00100
Methylene Chloride	ND		0.00500
4-Methyl-2-pentanone (MIBK)	ND		0.0100

Method Blank (MB)

(MB) 03/19/16 02:02

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Methyl tert-butyl ether	ND		0.00100
Styrene	ND		0.00100
1,1,2,2-Tetrachloroethane	ND		0.00100
Tetrachloroethene	ND		0.00100
Toluene	ND		0.00500
1,1,2-Trichlorotrifluoroethane	ND		0.00100
1,2,3-Trichlorobenzene	ND		0.00100
1,2,4-Trichlorobenzene	ND		0.00100
1,1,1-Trichloroethane	ND		0.00100
1,1,2-Trichloroethane	ND		0.00100
Trichloroethene	ND		0.00100
Trichlorofluoromethane	ND		0.00500
Vinyl chloride	ND		0.00100
Xylenes, Total	ND		0.00300
(S) Toluene-d8	*103*		*90.0-115*
(S) Dibromofluoromethane	*105*		*79.0-121*
(S) α,α,α-Trifluorotoluene	*100*		*90.4-116*
(S) 4-Bromofluorobenzene	*95.2*		*80.1-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/19/16 00:11 • (LCSD) 03/19/16 00:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.0756	0.0789	60.5	63.1	28.7-175			4.17	20.9
Benzene	0.0250	0.0233	0.0231	93.3	92.5	73.0-122			0.860	20
Bromodichloromethane	0.0250	0.0236	0.0234	94.5	93.5	75.5-121			1.05	20
Bromochloromethane	0.0250	0.0250	0.0242	99.9	96.7	78.9-123			3.26	20
Bromoform	0.0250	0.0243	0.0238	97.1	95.4	71.5-131			1.85	20
Bromomethane	0.0250	0.0332	0.0316	133	126	22.4-187			4.93	20
Carbon disulfide	0.0250	0.0262	0.0256	105	102	53.0-134			2.34	20
Carbon tetrachloride	0.0250	0.0232	0.0225	93.0	90.1	70.9-129			3.10	20
Chlorobenzene	0.0250	0.0256	0.0257	102	103	79.7-122			0.160	20
Chlorodibromomethane	0.0250	0.0257	0.0256	103	102	78.2-124			0.450	20
Chloroethane	0.0250	0.0275	0.0266	110	106	41.2-153			3.27	20
Chloroform	0.0250	0.0246	0.0236	98.4	94.4	73.2-125			4.15	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/19/16 00:11 • (LCSD) 03/19/16 00:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloromethane	0.0250	0.0214	0.0202	85.6	81.0	55.8-134			5.54	20
1,2-Dibromo-3-Chloropropane	0.0250	0.0237	0.0229	94.9	91.6	64.8-131			3.57	20
1,2-Dibromoethane	0.0250	0.0256	0.0249	102	99.6	79.8-122			2.63	20
1,2-Dichlorobenzene	0.0250	0.0252	0.0249	101	99.6	84.7-118			1.33	20
1,3-Dichlorobenzene	0.0250	0.0244	0.0235	97.6	93.9	77.6-127			3.77	20
1,4-Dichlorobenzene	0.0250	0.0245	0.0250	98.2	100	82.2-114			1.84	20
Dichlorodifluoromethane	0.0250	0.0202	0.0202	80.7	80.7	56.0-134			0.0100	20
1,1-Dichloroethane	0.0250	0.0240	0.0233	96.2	93.3	71.7-127			3.04	20
1,2-Dichloroethane	0.0250	0.0242	0.0237	96.7	95.0	65.3-126			1.76	20
1,1-Dichloroethene	0.0250	0.0271	0.0263	108	105	59.9-137			3.04	20
cis-1,2-Dichloroethene	0.0250	0.0248	0.0245	99.1	98.2	77.3-122			0.930	20
trans-1,2-Dichloroethene	0.0250	0.0251	0.0247	100	98.9	72.6-125			1.53	20
1,2-Dichloropropane	0.0250	0.0235	0.0237	94.0	94.9	77.4-125			0.980	20
cis-1,3-Dichloropropene	0.0250	0.0252	0.0252	101	101	77.7-124			0.0400	20
trans-1,3-Dichloropropene	0.0250	0.0260	0.0250	104	99.9	73.5-127			3.92	20
Ethylbenzene	0.0250	0.0251	0.0255	100	102	80.9-121			1.66	20
2-Hexanone	0.125	0.112	0.112	89.7	89.9	59.4-151			0.310	20
Isopropylbenzene	0.0250	0.0244	0.0239	97.4	95.6	81.6-124			1.95	20
2-Butanone (MEK)	0.125	0.0995	0.0995	79.6	79.6	46.4-155			0.0300	20
Methylene Chloride	0.0250	0.0236	0.0227	94.6	90.8	69.5-120			4.04	20
4-Methyl-2-pentanone (MIBK)	0.125	0.114	0.114	91.4	91.6	63.3-138			0.170	20
Methyl tert-butyl ether	0.0250	0.0237	0.0226	94.6	90.2	70.1-125			4.75	20
Styrene	0.0250	0.0259	0.0259	104	104	79.9-124			0.0700	20
1,1,2,2-Tetrachloroethane	0.0250	0.0235	0.0233	94.2	93.3	79.3-123			0.950	20
Tetrachloroethene	0.0250	0.0251	0.0249	101	99.4	73.5-130			1.12	20
Toluene	0.0250	0.0231	0.0230	92.3	92.0	77.9-116			0.300	20
1,1,2-Trichlorotrifluoroethane	0.0250	0.0271	0.0285	108	114	62.0-141			5.23	20
1,2,3-Trichlorobenzene	0.0250	0.0229	0.0226	91.5	90.3	75.7-134			1.32	20
1,2,4-Trichlorobenzene	0.0250	0.0234	0.0232	93.5	92.9	76.1-136			0.680	20
1,1,1-Trichloroethane	0.0250	0.0240	0.0237	95.8	94.9	71.1-129			0.920	20
1,1,2-Trichloroethane	0.0250	0.0248	0.0257	99.3	103	81.6-120			3.51	20
Trichloroethene	0.0250	0.0246	0.0245	98.3	97.8	79.5-121			0.440	20
Trichlorofluoromethane	0.0250	0.0261	0.0255	105	102	49.1-157			2.63	20
Vinyl chloride	0.0250	0.0240	0.0241	96.1	96.5	61.5-134			0.420	20
Xylenes, Total	0.0750	0.0764	0.0749	102	99.9	79.2-122			2.01	20
(S) Toluene-d8				*99.0*	*102*	*90.0-115*				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/19/16 00:11 • (LCSD) 03/19/16 00:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
(S) Dibromofluoromethane				*101*	*101*	*79.0-121*				
(S) α,α,α-Trifluorotoluene				*99.2*	*99.8*	*90.4-116*				
(S) 4-Bromofluorobenzene				*97.4*	*95.7*	*80.1-120*				

L824140-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/19/16 03:34 • (MS) 03/19/16 02:20 • (MSD) 03/19/16 02:38

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.00211	0.0462	0.0446	35.2	34.0	1	25.0-156			3.40	21.5
Benzene	0.0250	ND	0.0212	0.0189	84.6	75.4	1	58.6-133			11.5	20
Bromodichloromethane	0.0250	ND	0.0229	0.0210	91.4	84.0	1	69.2-127			8.45	20
Bromochloromethane	0.0250	ND	0.0233	0.0208	93.3	83.4	1	74.4-128			11.3	20
Bromoform	0.0250	ND	0.0233	0.0215	93.3	86.0	1	66.3-140			8.12	20
Bromomethane	0.0250	ND	0.0298	0.0262	119	105	1	16.6-183			12.6	20.5
Carbon disulfide	0.0250	ND	0.0195	0.0168	78.0	67.0	1	34.9-138			15.1	20
Carbon tetrachloride	0.0250	ND	0.0211	0.0175	84.5	70.0	1	60.6-139			18.7	20
Chlorobenzene	0.0250	ND	0.0220	0.0207	88.2	82.7	1	70.1-130			6.39	20
Chlorodibromomethane	0.0250	ND	0.0242	0.0227	96.7	90.8	1	71.6-132			6.29	20
Chloroethane	0.0250	ND	0.0245	0.0214	98.1	85.5	1	33.3-155			13.7	20
Chloroform	0.0250	ND	0.0228	0.0198	91.2	79.1	1	66.1-133			14.3	20
Chloromethane	0.0250	ND	0.0191	0.0167	76.4	66.9	1	40.7-139			13.3	20
1,2-Dibromo-3-Chloropropane	0.0250	ND	0.0226	0.0222	90.6	88.9	1	63.9-142			1.89	20.2
1,2-Dibromoethane	0.0250	ND	0.0238	0.0220	95.2	87.9	1	73.8-131			7.94	20
1,2-Dichlorobenzene	0.0250	ND	0.0224	0.0215	89.8	85.9	1	77.4-127			4.34	20
1,3-Dichlorobenzene	0.0250	ND	0.0210	0.0195	84.2	78.2	1	67.9-136			7.39	20
1,4-Dichlorobenzene	0.0250	ND	0.0218	0.0205	87.3	82.1	1	74.4-123			6.19	20
Dichlorodifluoromethane	0.0250	ND	0.0254	0.0211	102	84.5	1	42.2-146			18.5	20
1,1-Dichloroethane	0.0250	ND	0.0221	0.0189	88.3	75.7	1	64.0-134			15.3	20
1,2-Dichloroethane	0.0250	ND	0.0226	0.0209	90.3	83.5	1	60.7-132			7.84	20
1,1-Dichloroethene	0.0250	ND	0.0241	0.0193	96.6	77.3	1	48.8-144		J3	22.1	20
cis-1,2-Dichloroethene	0.0250	ND	0.0228	0.0198	91.0	79.2	1	60.6-136			13.9	20
trans-1,2-Dichloroethene	0.0250	ND	0.0224	0.0192	89.4	76.6	1	61.0-132			15.4	20
1,2-Dichloropropane	0.0250	ND	0.0219	0.0202	87.6	80.8	1	69.7-130			8.04	20
cis-1,3-Dichloropropene	0.0250	ND	0.0229	0.0212	91.7	85.0	1	71.1-129			7.60	20
trans-1,3-Dichloropropene	0.0250	ND	0.0231	0.0227	92.3	90.8	1	66.3-136			1.54	20

L824140-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/19/16 03:34 • (MS) 03/19/16 02:20 • (MSD) 03/19/16 02:38

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	0.0250	ND	0.0212	0.0200	84.9	79.8	1	62.7-136			6.19	20
2-Hexanone	0.125	ND	0.0953	0.0879	76.3	70.3	1	59.4-154			8.17	20.1
Isopropylbenzene	0.0250	ND	0.0214	0.0190	85.4	76.0	1	67.4-136			11.7	20
2-Butanone (MEK)	0.125	0.000363	0.0727	0.0673	57.9	53.6	1	45.0-156			7.71	20.8
Methylene Chloride	0.0250	ND	0.0219	0.0190	87.7	75.9	1	61.5-125			14.5	20
4-Methyl-2-pentanone (MIBK)	0.125	ND	0.114	0.110	91.0	88.0	1	60.7-150			3.40	20
Methyl tert-butyl ether	0.0250	ND	0.0219	0.0203	87.4	81.4	1	61.4-136			7.19	20
Styrene	0.0250	ND	0.0224	0.0210	89.7	84.0	1	68.2-133			6.61	20
1,1,2,2-Tetrachloroethane	0.0250	ND	0.0235	0.0216	94.2	86.5	1	64.9-145			8.54	20
Tetrachloroethene	0.0250	0.000212	0.0214	0.0187	84.8	74.1	1	57.4-141			13.4	20
Toluene	0.0250	ND	0.0206	0.0195	82.5	77.8	1	67.8-124			5.91	20
1,1,2-Trichlorotrifluoroethane	0.0250	ND	0.0265	0.0226	106	90.4	1	53.7-150			15.9	20
1,2,3-Trichlorobenzene	0.0250	ND	0.0204	0.0204	81.7	81.5	1	65.7-143			0.310	20
1,2,4-Trichlorobenzene	0.0250	ND	0.0197	0.0197	78.8	78.7	1	67.0-146			0.0700	20
1,1,1-Trichloroethane	0.0250	ND	0.0226	0.0190	90.2	76.0	1	58.7-134			17.1	20
1,1,2-Trichloroethane	0.0250	ND	0.0234	0.0222	93.5	88.9	1	74.1-130			4.97	20
Trichloroethene	0.0250	ND	0.0219	0.0190	87.6	76.2	1	48.9-148			14.0	20
Trichlorofluoromethane	0.0250	ND	0.0228	0.0190	91.2	76.0	1	39.9-165			18.2	20
Vinyl chloride	0.0250	ND	0.0223	0.0191	89.2	76.5	1	44.3-143			15.3	20
Xylenes, Total	0.0750	ND	0.0673	0.0598	89.7	79.8	1	65.6-133			11.8	20
(S) Toluene-d8					*100*	*103*		*90.0-115*				
(S) Dibromofluoromethane					*101*	*98.4*		*79.0-121*				
(S) α,α,α-Trifluorotoluene					*102*	*100*		*90.4-116*				
(S) 4-Bromofluorobenzene					*95.4*	*95.2*		*80.1-120*				

Method Blank (MB)

(MB) 03/18/16 15:45

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
Acetone	ND		0.0500
Acrylonitrile	ND		0.0100
Benzene	ND		0.00100
Bromobenzene	ND		0.00100
Bromodichloromethane	ND		0.00100
Bromoform	ND		0.00100
Bromomethane	ND		0.00500
n-Butylbenzene	ND		0.00100
sec-Butylbenzene	ND		0.00100
tert-Butylbenzene	ND		0.00100
Carbon tetrachloride	ND		0.00100
Chlorobenzene	ND		0.00100
Chlorodibromomethane	ND		0.00100
Chloroethane	ND		0.00500
2-Chloroethyl vinyl ether	ND		0.0500
Chloroform	ND		0.00500
Chloromethane	ND		0.00250
2-Chlorotoluene	ND		0.00100
4-Chlorotoluene	ND		0.00100
1,2-Dibromo-3-Chloropropane	ND		0.00500
1,2-Dibromoethane	ND		0.00100
Dibromomethane	ND		0.00100
1,2-Dichlorobenzene	ND		0.00100
1,3-Dichlorobenzene	ND		0.00100
1,4-Dichlorobenzene	ND		0.00100
Dichlorodifluoromethane	ND		0.00500
1,1-Dichloroethane	ND		0.00100
1,2-Dichloroethane	ND		0.00100
1,1-Dichloroethene	ND		0.00100
cis-1,2-Dichloroethene	ND		0.00100
trans-1,2-Dichloroethene	ND		0.00100
1,2-Dichloropropane	ND		0.00100
1,1-Dichloropropene	ND		0.00100
1,3-Dichloropropane	ND		0.00100
cis-1,3-Dichloropropene	ND		0.00100
trans-1,3-Dichloropropene	ND		0.00100

Method Blank (MB)

(MB) 03/18/16 15:45

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
2,2-Dichloropropane	ND		0.00100
Di-isopropyl ether	ND		0.00100
Ethylbenzene	ND		0.00100
Hexachloro-1,3-butadiene	ND		0.00100
Isopropylbenzene	ND		0.00100
p-Isopropyltoluene	ND		0.00100
2-Butanone (MEK)	ND		0.0100
Methylene Chloride	ND		0.00500
4-Methyl-2-pentanone (MIBK)	ND		0.0100
Methyl tert-butyl ether	ND		0.00100
Naphthalene	ND		0.00500
n-Propylbenzene	ND		0.00100
Styrene	ND		0.00100
1,1,1,2-Tetrachloroethane	ND		0.00100
1,1,2,2-Tetrachloroethane	ND		0.00100
Tetrachloroethene	ND		0.00100
Toluene	ND		0.00500
1,1,2-Trichlorotrifluoroethane	ND		0.00100
1,2,3-Trichlorobenzene	ND		0.00100
1,2,4-Trichlorobenzene	ND		0.00100
1,1,1-Trichloroethane	ND		0.00100
1,1,2-Trichloroethane	ND		0.00100
Trichloroethene	ND		0.00100
Trichlorofluoromethane	ND		0.00500
1,2,3-Trichloropropane	ND		0.00250
1,2,3-Trimethylbenzene	ND		0.00100
1,2,4-Trimethylbenzene	ND		0.00100
1,3,5-Trimethylbenzene	ND		0.00100
Vinyl chloride	ND		0.00100
Xylenes, Total	ND		0.00300
(S) Toluene-d8	*101*		*88.7-115*
(S) Dibromofluoromethane	*102*		*76.3-123*
(S) 4-Bromofluorobenzene	*99.4*		*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/18/16 14:14 • (LCSD) 03/18/16 14:32

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.0815	0.0908	65.2	72.6	25.3-178			10.8	22.9
Acrylonitrile	0.125	0.112	0.116	89.2	92.8	57.8-143			3.91	20
Benzene	0.0250	0.0220	0.0223	87.9	89.2	72.6-120			1.44	20
Bromobenzene	0.0250	0.0233	0.0233	93.3	93.0	80.3-115			0.260	20
Bromodichloromethane	0.0250	0.0231	0.0233	92.3	93.3	75.3-119			1.02	20
Bromoform	0.0250	0.0239	0.0238	95.4	95.0	69.1-135			0.410	20
Bromomethane	0.0250	0.0306	0.0322	122	129	23.0-191			5.12	20
n-Butylbenzene	0.0250	0.0235	0.0237	93.8	94.8	74.2-134			1.05	20
sec-Butylbenzene	0.0250	0.0228	0.0235	91.3	93.9	77.8-129			2.72	20
tert-Butylbenzene	0.0250	0.0229	0.0231	91.7	92.5	77.2-129			0.790	20
Carbon tetrachloride	0.0250	0.0205	0.0219	81.9	87.5	69.4-129			6.56	20
Chlorobenzene	0.0250	0.0238	0.0242	95.2	96.8	78.9-122			1.62	20
Chlorodibromomethane	0.0250	0.0249	0.0245	99.8	98.2	76.4-126			1.62	20
Chloroethane	0.0250	0.0248	0.0271	99.4	108	47.2-147			8.63	20
2-Chloroethyl vinyl ether	0.125	0.144	0.145	116	116	16.7-162			0.280	23.7
Chloroform	0.0250	0.0223	0.0234	89.1	93.7	73.3-122			5.00	20
Chloromethane	0.0250	0.0197	0.0207	78.9	82.8	53.1-135			4.89	20
2-Chlorotoluene	0.0250	0.0236	0.0239	94.3	95.6	74.6-127			1.40	20
4-Chlorotoluene	0.0250	0.0232	0.0239	92.9	95.6	79.5-123			2.87	20
1,2-Dibromo-3-Chloropropane	0.0250	0.0223	0.0227	89.1	90.8	64.9-131			1.82	20
1,2-Dibromoethane	0.0250	0.0243	0.0246	97.2	98.5	67.2-121			1.31	20
Dibromomethane	0.0250	0.0237	0.0244	94.9	97.8	78.5-117			3.05	20
1,2-Dichlorobenzene	0.0250	0.0234	0.0237	93.7	94.9	83.6-119			1.18	20
1,3-Dichlorobenzene	0.0250	0.0232	0.0234	92.8	93.4	75.9-129			0.690	20
1,4-Dichlorobenzene	0.0250	0.0235	0.0235	93.9	94.1	81.0-115			0.230	20
Dichlorodifluoromethane	0.0250	0.0191	0.0209	76.3	83.6	50.9-139			9.15	20
1,1-Dichloroethane	0.0250	0.0218	0.0228	87.2	91.2	71.7-125			4.42	20
1,2-Dichloroethane	0.0250	0.0224	0.0233	89.6	93.2	67.2-121			3.94	20
1,1-Dichloroethene	0.0250	0.0245	0.0267	98.1	107	60.6-133			8.34	20
cis-1,2-Dichloroethene	0.0250	0.0224	0.0230	89.6	92.2	76.1-121			2.81	20
trans-1,2-Dichloroethene	0.0250	0.0229	0.0235	91.4	94.0	70.7-124			2.74	20
1,2-Dichloropropane	0.0250	0.0228	0.0232	91.2	92.9	76.9-123			1.82	20
1,1-Dichloropropene	0.0250	0.0220	0.0233	87.9	93.3	71.2-126			6.00	20
1,3-Dichloropropane	0.0250	0.0233	0.0242	93.3	96.8	80.3-114			3.67	20
cis-1,3-Dichloropropene	0.0250	0.0241	0.0239	96.4	95.4	77.3-123			0.980	20
trans-1,3-Dichloropropene	0.0250	0.0239	0.0250	95.8	100	73.0-127			4.41	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/18/16 14:14 • (LCSD) 03/18/16 14:32

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2,2-Dichloropropane	0.0250	0.0213	0.0224	85.3	89.5	61.9-132			4.84	20
Di-isopropyl ether	0.0250	0.0205	0.0211	81.8	84.3	67.2-131			3.04	20
Ethylbenzene	0.0250	0.0233	0.0237	93.2	94.6	78.6-124			1.54	20
Hexachloro-1,3-butadiene	0.0250	0.0231	0.0226	92.4	90.5	69.2-136			2.02	20
Isopropylbenzene	0.0250	0.0226	0.0232	90.2	92.6	79.4-126			2.58	20
p-Isopropyltoluene	0.0250	0.0244	0.0241	97.4	96.4	75.4-132			1.07	20
2-Butanone (MEK)	0.125	0.0889	0.0965	71.1	77.2	44.5-154			8.19	21.3
Methylene Chloride	0.0250	0.0218	0.0227	87.3	90.7	68.2-119			3.81	20
4-Methyl-2-pentanone (MIBK)	0.125	0.113	0.122	90.2	97.5	61.1-138			7.76	20
Methyl tert-butyl ether	0.0250	0.0209	0.0215	83.4	85.8	70.2-122			2.83	20
Naphthalene	0.0250	0.0221	0.0217	88.5	86.8	69.9-132			2.00	20
n-Propylbenzene	0.0250	0.0236	0.0240	94.3	96.2	80.2-124			1.95	20
Styrene	0.0250	0.0242	0.0251	96.8	100	79.4-124			3.61	20
1,1,1,2-Tetrachloroethane	0.0250	0.0240	0.0245	96.1	98.2	76.7-127			2.18	20
1,1,2,2-Tetrachloroethane	0.0250	0.0236	0.0233	94.5	93.2	78.8-124			1.32	20
Tetrachloroethene	0.0250	0.0233	0.0244	93.3	97.5	71.1-133			4.49	20
Toluene	0.0250	0.0218	0.0227	87.2	90.8	76.7-116			4.13	20
1,1,2-Trichlorotrifluoroethane	0.0250	0.0251	0.0288	100	115	62.6-138			13.8	20
1,2,3-Trichlorobenzene	0.0250	0.0235	0.0232	94.0	92.9	72.5-137			1.19	20
1,2,4-Trichlorobenzene	0.0250	0.0236	0.0230	94.6	92.0	74.0-137			2.83	20
1,1,1-Trichloroethane	0.0250	0.0219	0.0227	87.6	90.9	69.9-127			3.68	20
1,1,2-Trichloroethane	0.0250	0.0234	0.0245	93.6	98.0	81.9-119			4.60	20
Trichloroethene	0.0250	0.0231	0.0237	92.6	95.0	77.2-122			2.54	20
Trichlorofluoromethane	0.0250	0.0239	0.0263	95.7	105	51.5-151			9.56	20
1,2,3-Trichloropropane	0.0250	0.0236	0.0242	94.2	96.7	74.0-124			2.63	20
1,2,3-Trimethylbenzene	0.0250	0.0232	0.0235	92.6	94.0	79.4-118			1.47	20
1,2,4-Trimethylbenzene	0.0250	0.0231	0.0244	92.4	97.6	77.1-124			5.45	20
1,3,5-Trimethylbenzene	0.0250	0.0225	0.0231	89.9	92.5	79.0-125			2.88	20
Vinyl chloride	0.0250	0.0225	0.0231	90.0	92.4	58.4-134			2.61	20
Xylenes, Total	0.0750	0.0713	0.0720	95.1	96.0	78.1-123			1.03	20
(S) Toluene-d8				*102*	*102*	*88.7-115*				
(S) Dibromofluoromethane				*96.8*	*100*	*76.3-123*				
(S) 4-Bromofluorobenzene				*97.0*	*99.1*	*69.7-129*				

L823535-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/18/16 20:39 • (MS) 03/18/16 20:57 • (MSD) 03/18/16 21:15

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.0370	0.412	0.456	60.0	67.0	5	5.00-182			10.2	31.5
Acrylonitrile	0.125	ND	0.416	0.501	66.6	80.2	5	39.3-152			18.5	27.2
Benzene	0.0250	0.000622	0.0762	0.0914	60.5	72.6	5	47.8-131			18.1	22.8
Bromobenzene	0.0250	0.000338	0.0481	0.0619	38.2	49.2	5	40.0-130	J6		25.0	27.4
Bromodichloromethane	0.0250	ND	0.0762	0.0868	61.0	69.5	5	50.6-128			13.1	22.8
Bromoform	0.0250	ND	0.0626	0.0783	50.0	62.6	5	43.3-139			22.3	25.9
Bromomethane	0.0250	ND	0.116	0.139	92.5	112	5	5.00-189			18.7	26.7
n-Butylbenzene	0.0250	ND	0.0178	0.0288	14.2	23.0	5	23.6-146	J6	J3 J6	47.4	39.2
sec-Butylbenzene	0.0250	ND	0.0233	0.0361	18.7	28.9	5	31.0-142	J6	J3 J6	42.9	34.7
tert-Butylbenzene	0.0250	ND	0.0295	0.0430	23.6	34.4	5	36.9-142	J6	J3 J6	37.3	31.7
Carbon tetrachloride	0.0250	ND	0.0636	0.0789	50.8	63.1	5	46.0-140			21.5	27.2
Chlorobenzene	0.0250	ND	0.0600	0.0744	48.0	59.5	5	44.1-134			21.5	25.7
Chlorodibromomethane	0.0250	ND	0.0746	0.0882	59.7	70.5	5	49.7-134			16.7	24
Chloroethane	0.0250	ND	0.105	0.122	83.6	97.6	5	5.00-164			15.4	28.4
2-Chloroethyl vinyl ether	0.125	ND	0.507	0.582	81.2	93.1	5	5.00-159			13.7	40
Chloroform	0.0250	ND	0.0831	0.0972	66.5	77.8	5	51.2-133			15.7	22.8
Chloromethane	0.0250	ND	0.0835	0.0994	66.8	79.6	5	31.4-141			17.4	24.6
2-Chlorotoluene	0.0250	ND	0.0420	0.0552	33.6	44.1	5	36.1-137	J6		27.1	28.9
4-Chlorotoluene	0.0250	ND	0.0410	0.0544	32.8	43.5	5	35.4-137	J6		28.1	29.8
1,2-Dibromo-3-Chloropropane	0.0250	ND	0.0510	0.0610	40.8	48.8	5	40.4-138			17.9	30.8
1,2-Dibromoethane	0.0250	ND	0.0760	0.0911	60.8	72.9	5	50.2-133			18.0	23.6
Dibromomethane	0.0250	ND	0.0838	0.0995	67.1	79.6	5	52.4-128			17.1	23
1,2-Dichlorobenzene	0.0250	ND	0.0384	0.0518	30.7	41.4	5	34.6-139	J6		29.8	29.9
1,3-Dichlorobenzene	0.0250	ND	0.0350	0.0454	28.0	36.3	5	28.4-142	J6		25.8	31.2
1,4-Dichlorobenzene	0.0250	ND	0.0384	0.0489	30.7	39.1	5	35.0-133	J6		24.0	31.1
Dichlorodifluoromethane	0.0250	ND	0.0735	0.0886	58.8	70.9	5	31.2-144			18.6	30.2
1,1-Dichloroethane	0.0250	ND	0.0847	0.103	67.7	82.2	5	49.1-136			19.3	22.9
1,2-Dichloroethane	0.0250	ND	0.0859	0.100	68.8	80.1	5	47.1-129			15.2	22.7
1,1-Dichloroethene	0.0250	ND	0.0948	0.120	75.8	95.6	5	36.1-142			23.1	25.6
cis-1,2-Dichloroethene	0.0250	ND	0.0832	0.0985	66.5	78.8	5	50.6-133			16.9	23
trans-1,2-Dichloroethene	0.0250	ND	0.0834	0.101	66.7	80.5	5	43.8-135			18.7	24.8
1,2-Dichloropropane	0.0250	ND	0.0776	0.0928	62.1	74.2	5	50.3-134			17.8	22.7
1,1-Dichloropropene	0.0250	ND	0.0661	0.0841	52.9	67.3	5	43.0-137			23.9	26.4
1,3-Dichloropropane	0.0250	ND	0.0800	0.0916	64.0	73.3	5	51.4-127			13.5	23.1
cis-1,3-Dichloropropene	0.0250	ND	0.0785	0.0918	62.8	73.5	5	48.4-134			15.7	23.6
trans-1,3-Dichloropropene	0.0250	ND	0.0751	0.0903	60.1	72.2	5	46.6-135			18.4	25.3

L823535-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/18/16 20:39 • (MS) 03/18/16 20:57 • (MSD) 03/18/16 21:15

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
2,2-Dichloropropane	0.0250	ND	0.0782	0.0928	62.6	74.3	5	45.2-141			17.1	26.8
Di-isopropyl ether	0.0250	ND	0.0837	0.0999	66.9	79.9	5	46.7-140			17.7	23.5
Ethylbenzene	0.0250	0.00135	0.0541	0.0673	42.2	52.7	5	44.8-135	J6		21.7	26.9
Hexachloro-1,3-butadiene	0.0250	ND	0.00624	0.0124	4.99	9.95	5	10.0-149	J6	J3 J6	66.3	40
Isopropylbenzene	0.0250	0.000263	0.0397	0.0547	31.6	43.6	5	41.9-139	J6	J3	31.8	29.3
p-Isopropyltoluene	0.0250	ND	0.0249	0.0369	19.9	29.5	5	27.3-146	J6	J3	38.9	35.1
2-Butanone (MEK)	0.125	0.00345	0.375	0.441	59.5	70.0	5	23.9-170			16.1	28.3
Methylene Chloride	0.0250	0.000475	0.0873	0.104	69.5	83.1	5	46.7-125			17.7	22.2
4-Methyl-2-pentanone (MIBK)	0.125	0.000791	0.414	0.498	66.2	79.5	5	42.4-146			18.2	26.7
Methyl tert-butyl ether	0.0250	ND	0.0863	0.104	69.0	83.4	5	50.4-131			18.9	24.8
Naphthalene	0.0250	0.00178	0.0337	0.0439	25.5	33.7	5	18.4-145			26.4	34
n-Propylbenzene	0.0250	0.000317	0.0355	0.0484	28.1	38.4	5	35.2-139	J6		30.8	31.9
Styrene	0.0250	ND	0.0558	0.0709	44.7	56.7	5	39.7-137			23.8	28.2
1,1,1,2-Tetrachloroethane	0.0250	ND	0.0657	0.0787	52.6	63.0	5	48.8-136			17.9	25.5
1,1,2,2-Tetrachloroethane	0.0250	ND	ND	0.00191	1.16	1.53	5	45.7-140	J6	J3 J6	27.1	26.4
Tetrachloroethene	0.0250	ND	0.0476	0.0605	38.1	48.4	5	37.7-140			23.9	29.2
Toluene	0.0250	0.00523	0.0680	0.0802	50.2	60.0	5	47.8-127			16.5	24.3
1,1,2-Trichlorotrifluoroethane	0.0250	ND	0.0667	0.0863	53.4	69.0	5	35.7-146			25.6	28.8
1,2,3-Trichlorobenzene	0.0250	ND	0.0173	0.0258	13.9	20.7	5	10.0-150		J3	39.3	38.5
1,2,4-Trichlorobenzene	0.0250	ND	0.0167	0.0249	13.4	19.9	5	10.0-153		J3	39.6	39.3
1,1,1-Trichloroethane	0.0250	ND	0.0732	0.0890	58.6	71.2	5	49.0-138			19.5	25.3
1,1,2-Trichloroethane	0.0250	ND	0.0731	0.0819	58.5	65.5	5	52.3-132			11.3	23.4
Trichloroethene	0.0250	ND	0.119	0.147	95.1	117	5	48.0-132			21.0	24.8
Trichlorofluoromethane	0.0250	ND	0.0788	0.0985	63.0	78.8	5	12.8-169			22.3	29.7
1,2,3-Trichloropropane	0.0250	ND	0.0684	0.0830	54.8	66.4	5	44.4-138			19.3	26.3
1,2,3-Trimethylbenzene	0.0250	0.000743	0.0412	0.0533	32.4	42.0	5	41.0-133	J6		25.5	27.6
1,2,4-Trimethylbenzene	0.0250	0.00207	0.0394	0.0509	29.8	39.0	5	32.9-139	J6		25.5	30.6
1,3,5-Trimethylbenzene	0.0250	0.00134	0.0362	0.0492	27.9	38.3	5	37.1-138	J6		30.4	30.6
Vinyl chloride	0.0250	ND	0.0908	0.109	72.6	87.2	5	32.0-146			18.3	26.3
Xylenes, Total	0.0750	ND	0.169	0.206	45.2	55.0	5	42.7-135	J6		19.6	26.6
(S) Toluene-d8					*100*	*98.8*		*88.7-115*				
(S) Dibromofluoromethane					*87.0*	*80.0*		*76.3-123*				
(S) 4-Bromofluorobenzene					*95.4*	*95.6*		*69.7-129*				

Method Blank (MB)

(MB) 03/22/16 05:39

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
Acetone	ND		0.0500
Acrylonitrile	ND		0.0100
Benzene	ND		0.00100
Bromobenzene	ND		0.00100
Bromodichloromethane	ND		0.00100
Bromoform	ND		0.00100
Bromomethane	ND		0.00500
n-Butylbenzene	ND		0.00100
sec-Butylbenzene	ND		0.00100
tert-Butylbenzene	ND		0.00100
Carbon tetrachloride	ND		0.00100
Chlorobenzene	ND		0.00100
Chlorodibromomethane	ND		0.00100
Chloroethane	ND		0.00500
2-Chloroethyl vinyl ether	ND		0.0500
Chloroform	ND		0.00500
Chloromethane	ND		0.00250
2-Chlorotoluene	ND		0.00100
4-Chlorotoluene	ND		0.00100
1,2-Dibromo-3-Chloropropane	ND		0.00500
1,2-Dibromoethane	ND		0.00100
Dibromomethane	ND		0.00100
1,2-Dichlorobenzene	ND		0.00100
1,3-Dichlorobenzene	ND		0.00100
1,4-Dichlorobenzene	ND		0.00100
Dichlorodifluoromethane	ND		0.00500
1,1-Dichloroethane	ND		0.00100
1,2-Dichloroethane	ND		0.00100
1,1-Dichloroethene	ND		0.00100
cis-1,2-Dichloroethene	ND		0.00100
trans-1,2-Dichloroethene	ND		0.00100
1,2-Dichloropropane	ND		0.00100
1,1-Dichloropropene	ND		0.00100
1,3-Dichloropropane	ND		0.00100
cis-1,3-Dichloropropene	ND		0.00100
trans-1,3-Dichloropropene	ND		0.00100

Method Blank (MB)

(MB) 03/22/16 05:39

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
2,2-Dichloropropane	ND		0.00100
Di-isopropyl ether	ND		0.00100
Ethylbenzene	ND		0.00100
Hexachloro-1,3-butadiene	ND		0.00100
Isopropylbenzene	ND		0.00100
p-Isopropyltoluene	ND		0.00100
2-Butanone (MEK)	ND		0.0100
Methylene Chloride	ND		0.00500
4-Methyl-2-pentanone (MIBK)	ND		0.0100
Methyl tert-butyl ether	ND		0.00100
Naphthalene	ND		0.00500
n-Propylbenzene	ND		0.00100
Styrene	ND		0.00100
1,1,1,2-Tetrachloroethane	ND		0.00100
1,1,2,2-Tetrachloroethane	ND		0.00100
Tetrachloroethene	ND		0.00100
Toluene	ND		0.00500
1,1,2-Trichlorotrifluoroethane	ND		0.00100
1,2,3-Trichlorobenzene	ND		0.00100
1,2,4-Trichlorobenzene	ND		0.00100
1,1,1-Trichloroethane	ND		0.00100
1,1,2-Trichloroethane	ND		0.00100
Trichloroethene	ND		0.00100
Trichlorofluoromethane	ND		0.00500
1,2,3-Trichloropropane	ND		0.00250
1,2,3-Trimethylbenzene	ND		0.00100
1,2,4-Trimethylbenzene	ND		0.00100
1,3,5-Trimethylbenzene	ND		0.00100
Vinyl chloride	ND		0.00100
Xylenes, Total	ND		0.00300
(S) Toluene-d8	*104*		*88.7-115*
(S) Dibromofluoromethane	*103*		*76.3-123*
(S) 4-Bromofluorobenzene	*94.6*		*69.7-129*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/22/16 04:07 • (LCSD) 03/22/16 04:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.0904	0.0891	72.3	71.3	25.3-178			1.45	22.9
Acrylonitrile	0.125	0.114	0.110	91.1	87.6	57.8-143			3.88	20
Benzene	0.0250	0.0222	0.0223	88.9	89.3	72.6-120			0.420	20
Bromobenzene	0.0250	0.0228	0.0236	91.2	94.4	80.3-115			3.40	20
Bromodichloromethane	0.0250	0.0227	0.0232	91.0	92.7	75.3-119			1.86	20
Bromoform	0.0250	0.0220	0.0227	88.1	90.9	69.1-135			3.15	20
Bromomethane	0.0250	0.0343	0.0359	137	143	23.0-191			4.37	20
n-Butylbenzene	0.0250	0.0236	0.0237	94.2	94.8	74.2-134			0.590	20
sec-Butylbenzene	0.0250	0.0230	0.0236	91.9	94.2	77.8-129			2.52	20
tert-Butylbenzene	0.0250	0.0225	0.0237	89.8	94.9	77.2-129			5.46	20
Carbon tetrachloride	0.0250	0.0224	0.0227	89.6	90.7	69.4-129			1.28	20
Chlorobenzene	0.0250	0.0236	0.0244	94.5	97.5	78.9-122			3.09	20
Chlorodibromomethane	0.0250	0.0239	0.0240	95.5	96.0	76.4-126			0.590	20
Chloroethane	0.0250	0.0298	0.0308	119	123	47.2-147			3.29	20
2-Chloroethyl vinyl ether	0.125	0.141	0.143	113	114	16.7-162			0.850	23.7
Chloroform	0.0250	0.0234	0.0237	93.7	94.9	73.3-122			1.20	20
Chloromethane	0.0250	0.0237	0.0238	94.9	95.4	53.1-135			0.530	20
2-Chlorotoluene	0.0250	0.0217	0.0229	86.7	91.7	74.6-127			5.60	20
4-Chlorotoluene	0.0250	0.0240	0.0237	96.0	94.6	79.5-123			1.42	20
1,2-Dibromo-3-Chloropropane	0.0250	0.0214	0.0208	85.6	83.3	64.9-131			2.68	20
1,2-Dibromoethane	0.0250	0.0237	0.0237	94.7	95.0	67.2-121			0.280	20
Dibromomethane	0.0250	0.0233	0.0240	93.3	95.9	78.5-117			2.75	20
1,2-Dichlorobenzene	0.0250	0.0229	0.0233	91.6	93.1	83.6-119			1.69	20
1,3-Dichlorobenzene	0.0250	0.0223	0.0226	89.0	90.6	75.9-129			1.75	20
1,4-Dichlorobenzene	0.0250	0.0233	0.0230	93.1	92.0	81.0-115			1.13	20
Dichlorodifluoromethane	0.0250	0.0290	0.0284	116	113	50.9-139			2.07	20
1,1-Dichloroethane	0.0250	0.0227	0.0228	90.7	91.3	71.7-125			0.620	20
1,2-Dichloroethane	0.0250	0.0231	0.0234	92.4	93.8	67.2-121			1.49	20
1,1-Dichloroethene	0.0250	0.0271	0.0285	109	114	60.6-133			4.97	20
cis-1,2-Dichloroethene	0.0250	0.0234	0.0240	93.8	95.8	76.1-121			2.17	20
trans-1,2-Dichloroethene	0.0250	0.0240	0.0244	96.0	97.5	70.7-124			1.52	20
1,2-Dichloropropane	0.0250	0.0230	0.0227	92.1	90.8	76.9-123			1.43	20
1,1-Dichloropropene	0.0250	0.0245	0.0245	98.0	98.0	71.2-126			0.0100	20
1,3-Dichloropropane	0.0250	0.0229	0.0230	91.5	91.9	80.3-114			0.480	20
cis-1,3-Dichloropropene	0.0250	0.0238	0.0243	95.1	97.0	77.3-123			2.02	20
trans-1,3-Dichloropropene	0.0250	0.0249	0.0242	99.6	96.9	73.0-127			2.73	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/22/16 04:07 • (LCSD) 03/22/16 04:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2,2-Dichloropropane	0.0250	0.0234	0.0247	93.7	98.9	61.9-132			5.46	20
Di-isopropyl ether	0.0250	0.0224	0.0223	89.8	89.0	67.2-131			0.810	20
Ethylbenzene	0.0250	0.0238	0.0246	95.3	98.5	78.6-124			3.24	20
Hexachloro-1,3-butadiene	0.0250	0.0217	0.0213	87.0	85.2	69.2-136			2.15	20
Isopropylbenzene	0.0250	0.0226	0.0238	90.5	95.0	79.4-126			4.85	20
p-Isopropyltoluene	0.0250	0.0234	0.0240	93.8	96.1	75.4-132			2.50	20
2-Butanone (MEK)	0.125	0.104	0.100	83.0	80.3	44.5-154			3.33	21.3
Methylene Chloride	0.0250	0.0225	0.0228	90.1	91.4	68.2-119			1.38	20
4-Methyl-2-pentanone (MIBK)	0.125	0.117	0.115	93.4	91.7	61.1-138			1.85	20
Methyl tert-butyl ether	0.0250	0.0218	0.0225	87.1	89.8	70.2-122			3.05	20
Naphthalene	0.0250	0.0203	0.0204	81.4	81.5	69.9-132			0.200	20
n-Propylbenzene	0.0250	0.0235	0.0243	94.1	97.3	80.2-124			3.34	20
Styrene	0.0250	0.0236	0.0244	94.2	97.7	79.4-124			3.56	20
1,1,1,2-Tetrachloroethane	0.0250	0.0230	0.0245	92.1	98.0	76.7-127			6.16	20
1,1,2,2-Tetrachloroethane	0.0250	0.0223	0.0231	89.4	92.2	78.8-124			3.14	20
Tetrachloroethene	0.0250	0.0232	0.0236	92.9	94.6	71.1-133			1.78	20
Toluene	0.0250	0.0226	0.0226	90.4	90.4	76.7-116			0.0200	20
1,1,2-Trichlorotrifluoroethane	0.0250	0.0294	0.0294	118	118	62.6-138			0.100	20
1,2,3-Trichlorobenzene	0.0250	0.0212	0.0214	84.7	85.7	72.5-137			1.14	20
1,2,4-Trichlorobenzene	0.0250	0.0220	0.0217	88.0	87.0	74.0-137			1.16	20
1,1,1-Trichloroethane	0.0250	0.0240	0.0241	96.0	96.5	69.9-127			0.500	20
1,1,2-Trichloroethane	0.0250	0.0234	0.0235	93.6	94.1	81.9-119			0.580	20
Trichloroethene	0.0250	0.0230	0.0237	91.8	94.7	77.2-122			3.09	20
Trichlorofluoromethane	0.0250	0.0257	0.0263	103	105	51.5-151			2.28	20
1,2,3-Trichloropropane	0.0250	0.0228	0.0231	91.1	92.2	74.0-124			1.26	20
1,2,3-Trimethylbenzene	0.0250	0.0227	0.0233	90.6	93.0	79.4-118			2.64	20
1,2,4-Trimethylbenzene	0.0250	0.0233	0.0241	93.1	96.3	77.1-124			3.42	20
1,3,5-Trimethylbenzene	0.0250	0.0228	0.0237	91.4	94.7	79.0-125			3.54	20
Vinyl chloride	0.0250	0.0266	0.0263	107	105	58.4-134			1.08	20
Xylenes, Total	0.0750	0.0709	0.0732	94.5	97.5	78.1-123			3.14	20
(S) Toluene-d8				*102*	*104*	*88.7-115*				
(S) Dibromofluoromethane				*101*	*101*	*76.3-123*				
(S) 4-Bromofluorobenzene				*97.9*	*101*	*69.7-129*				

Method Blank (MB)

(MB) 03/17/16 17:24

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Anthracene	ND		0.0000500
Anthracene	ND		0.0000500
Acenaphthene	ND		0.0000500
Acenaphthene	ND		0.0000500
Acenaphthylene	ND		0.0000500
Acenaphthylene	ND		0.0000500
Benzo(a)anthracene	ND		0.0000500
Benzo(a)anthracene	ND		0.0000500
Benzo(a)pyrene	ND		0.0000500
Benzo(a)pyrene	ND		0.0000500
Benzo(b)fluoranthene	ND		0.0000500
Benzo(b)fluoranthene	ND		0.0000500
Benzo(g,h,i)perylene	ND		0.0000500
Benzo(g,h,i)perylene	ND		0.0000500
Benzo(k)fluoranthene	ND		0.0000500
Benzo(k)fluoranthene	ND		0.0000500
Chrysene	ND		0.0000500
Chrysene	ND		0.0000500
Dibenz(a,h)anthracene	ND		0.0000500
Dibenz(a,h)anthracene	ND		0.0000500
Fluoranthene	ND		0.0000500
Fluoranthene	ND		0.0000500
Fluorene	ND		0.0000500
Fluorene	ND		0.0000500
Indeno(1,2,3-cd)pyrene	ND		0.0000500
Indeno(1,2,3-cd)pyrene	ND		0.0000500
Naphthalene	ND		0.000250
Naphthalene	ND		0.000250
Phenanthrene	ND		0.0000500
Phenanthrene	ND		0.0000500
Pyrene	ND		0.0000500
Pyrene	ND		0.0000500
1-Methylnaphthalene	ND		0.000250
1-Methylnaphthalene	ND		0.000250
2-Methylnaphthalene	ND		0.000250
2-Chloronaphthalene	ND		0.000250

Method Blank (MB)

(MB) 03/17/16 17:24

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
2-Chloronaphthalene	ND		0.000250
2-Methylnaphthalene	ND		0.000250
(S) Nitrobenzene-d5	*105*		*33.8-179*
(S) Nitrobenzene-d5	*105*		*33.8-179*
(S) 2-Fluorobiphenyl	*95.9*		*55.5-150*
(S) 2-Fluorobiphenyl	*95.9*		*55.5-150*
(S) p-Terphenyl-d14	*86.9*		*46.2-163*
(S) p-Terphenyl-d14	*86.9*		*46.2-163*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/17/16 16:37 • (LCSD) 03/17/16 17:00

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Anthracene	0.00200	0.00192	0.00187	96.2	93.3	68.9-153			3.05	20
Anthracene	0.00200	0.00192	0.00187	96.2	93.3	68.9-153			3.05	20
Acenaphthene	0.00200	0.00188	0.00180	93.9	90.0	67.7-153			4.33	20
Acenaphthene	0.00200	0.00188	0.00180	93.9	90.0	67.7-141			4.33	20
Acenaphthylene	0.00200	0.00193	0.00183	96.4	91.7	66.9-141			5.00	20
Acenaphthylene	0.00200	0.00193	0.00183	96.4	91.7	66.9-141			5.00	20
Benzo(a)anthracene	0.00200	0.00181	0.00170	90.3	84.8	63.1-147			6.29	20
Benzo(a)anthracene	0.00200	0.00181	0.00170	90.3	84.8	63.1-147			6.29	20
Benzo(a)pyrene	0.00200	0.00191	0.00180	95.5	90.0	62.2-150			5.98	20
Benzo(a)pyrene	0.00200	0.00191	0.00180	95.5	90.0	62.2-150			5.98	20
Benzo(b)fluoranthene	0.00200	0.00183	0.00183	91.7	91.4	58.4-148			0.360	20
Benzo(b)fluoranthene	0.00200	0.00183	0.00183	91.7	91.4	58.4-148			0.360	20
Benzo(g,h,i)perylene	0.00200	0.00190	0.00178	95.0	88.9	57.4-152			6.65	20
Benzo(g,h,i)perylene	0.00200	0.00190	0.00178	95.0	88.9	57.4-152			6.65	20
Benzo(k)fluoranthene	0.00200	0.00204	0.00186	102	92.9	60.5-154			9.48	20
Benzo(k)fluoranthene	0.00200	0.00204	0.00186	102	92.9	60.5-154			9.48	20
Chrysene	0.00200	0.00208	0.00205	104	102	64.8-155			1.66	20
Chrysene	0.00200	0.00208	0.00205	104	102	64.8-155			1.66	20
Dibenz(a,h)anthracene	0.00200	0.00174	0.00158	87.2	78.8	53.5-153			10.1	20
Dibenz(a,h)anthracene	0.00200	0.00174	0.00158	87.2	78.8	53.5-153			10.1	20
Fluoranthene	0.00200	0.00223	0.00216	111	108	68.6-153			2.89	20
Fluoranthene	0.00200	0.00223	0.00216	111	108	68.6-153			2.89	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/17/16 16:37 • (LCSD) 03/17/16 17:00

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Fluorene	0.00200	0.00185	0.00175	92.7	87.3	67.3-141			5.96	20
Fluorene	0.00200	0.00185	0.00175	92.7	87.3	67.3-141			5.96	20
Indeno(1,2,3-cd)pyrene	0.00200	0.00186	0.00171	93.0	85.5	57.0-155			8.38	20
Indeno(1,2,3-cd)pyrene	0.00200	0.00186	0.00171	93.0	85.5	57.0-155			8.38	20
Naphthalene	0.00200	0.00199	0.00191	99.7	95.4	66.7-135			4.43	20
Naphthalene	0.00200	0.00199	0.00191	99.7	95.4	66.7-135			4.43	20
Phenanthrene	0.00200	0.00179	0.00170	89.7	84.9	64.3-143			5.47	20
Phenanthrene	0.00200	0.00179	0.00170	89.7	84.9	64.3-143			5.47	20
Pyrene	0.00200	0.00179	0.00172	89.7	85.9	60.2-154			4.28	20
Pyrene	0.00200	0.00179	0.00172	89.7	85.9	60.2-154			4.28	20
1-Methylnaphthalene	0.00200	0.00201	0.00193	100	96.4	68.3-144			4.09	20
1-Methylnaphthalene	0.00200	0.00201	0.00193	100	96.4	68.3-144			4.09	20
2-Chloronaphthalene	0.00200	0.00183	0.00175	91.5	87.4	69.7-144			4.57	20
2-Methylnaphthalene	0.00200	0.00202	0.00193	101	96.5	67.6-143			4.51	20
2-Chloronaphthalene	0.00200	0.00183	0.00175	91.5	87.4	69.7-144			4.57	20
2-Methylnaphthalene	0.00200	0.00202	0.00193	101	96.5	67.6-143			4.51	20
(S) Nitrobenzene-d5				*106*	*101*	*33.8-179*				
(S) Nitrobenzene-d5				*106*	*101*	*33.8-179*				
(S) 2-Fluorobiphenyl				*96.7*	*92.3*	*55.5-150*				
(S) 2-Fluorobiphenyl				*96.7*	*92.3*	*55.5-150*				
(S) p-Terphenyl-d14				*86.1*	*81.2*	*46.2-163*				
(S) p-Terphenyl-d14				*86.1*	*81.2*	*46.2-163*				

Method Blank (MB)

(MB) 03/17/16 13:26

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
Anthracene	ND		0.00600
Acenaphthene	ND		0.00600
Acenaphthylene	ND		0.00600
Benzo(a)anthracene	ND		0.00600
Benzo(a)pyrene	ND		0.00600
Benzo(b)fluoranthene	ND		0.00600
Benzo(g,h,i)perylene	ND		0.00600
Benzo(k)fluoranthene	ND		0.00600
Chrysene	ND		0.00600
Dibenz(a,h)anthracene	ND		0.00600
Fluoranthene	ND		0.00600
Fluorene	ND		0.00600
Indeno(1,2,3-cd)pyrene	ND		0.00600
Naphthalene	ND		0.0200
Phenanthrene	ND		0.00600
Pyrene	ND		0.00600
1-Methylnaphthalene	ND		0.0200
2-Methylnaphthalene	ND		0.0200
2-Chloronaphthalene	ND		0.0200
(S) p-Terphenyl-d14	*91.0*		*32.2-131*
(S) Nitrobenzene-d5	*89.6*		*22.1-146*
(S) 2-Fluorobiphenyl	*92.3*		*40.6-122*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/17/16 12:43 • (LCSD) 03/17/16 13:05

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0800	0.0794	0.0797	99.2	99.6	50.3-130			0.380	20
Acenaphthene	0.0800	0.0795	0.0787	99.4	98.4	52.4-120			1.00	20
Acenaphthylene	0.0800	0.0791	0.0779	98.9	97.4	49.6-120			1.56	20
Benzo(a)anthracene	0.0800	0.0800	0.0795	100	99.3	46.7-125			0.730	20
Benzo(a)pyrene	0.0800	0.0787	0.0825	98.3	103	42.3-119			4.77	20
Benzo(b)fluoranthene	0.0800	0.0828	0.0768	104	96.0	43.6-124			7.58	20
Benzo(g,h,i)perylene	0.0800	0.0835	0.0843	104	105	45.1-132			0.950	20
Benzo(k)fluoranthene	0.0800	0.0760	0.0828	95.0	104	46.1-131			8.65	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 03/17/16 12:43 • (LCSD) 03/17/16 13:05

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chrysene	0.0800	0.0822	0.0824	103	103	49.5-131			0.200	20
Dibenz(a,h)anthracene	0.0800	0.0842	0.0843	105	105	44.8-133			0.200	20
Fluoranthene	0.0800	0.0781	0.0773	97.7	96.6	49.3-128			1.07	20
Fluorene	0.0800	0.0782	0.0780	97.7	97.5	50.6-121			0.170	20
Indeno(1,2,3-cd)pyrene	0.0800	0.0852	0.0855	107	107	46.1-135			0.320	20
Naphthalene	0.0800	0.0738	0.0741	92.2	92.7	49.6-115			0.460	20
Phenanthrene	0.0800	0.0768	0.0752	96.0	94.0	48.8-121			2.08	20
Pyrene	0.0800	0.0895	0.0899	112	112	44.7-130			0.450	20
1-Methylnaphthalene	0.0800	0.0784	0.0787	98.0	98.4	50.6-122			0.380	20
2-Methylnaphthalene	0.0800	0.0780	0.0781	97.5	97.6	50.4-120			0.180	20
2-Chloronaphthalene	0.0800	0.0775	0.0759	96.8	94.9	53.9-121			1.97	20
(S) p-Terphenyl-d14				*91.9*	*95.0*	*32.2-131*				
(S) Nitrobenzene-d5				*95.1*	*102*	*22.1-146*				
(S) 2-Fluorobiphenyl				*98.2*	*99.9*	*40.6-122*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

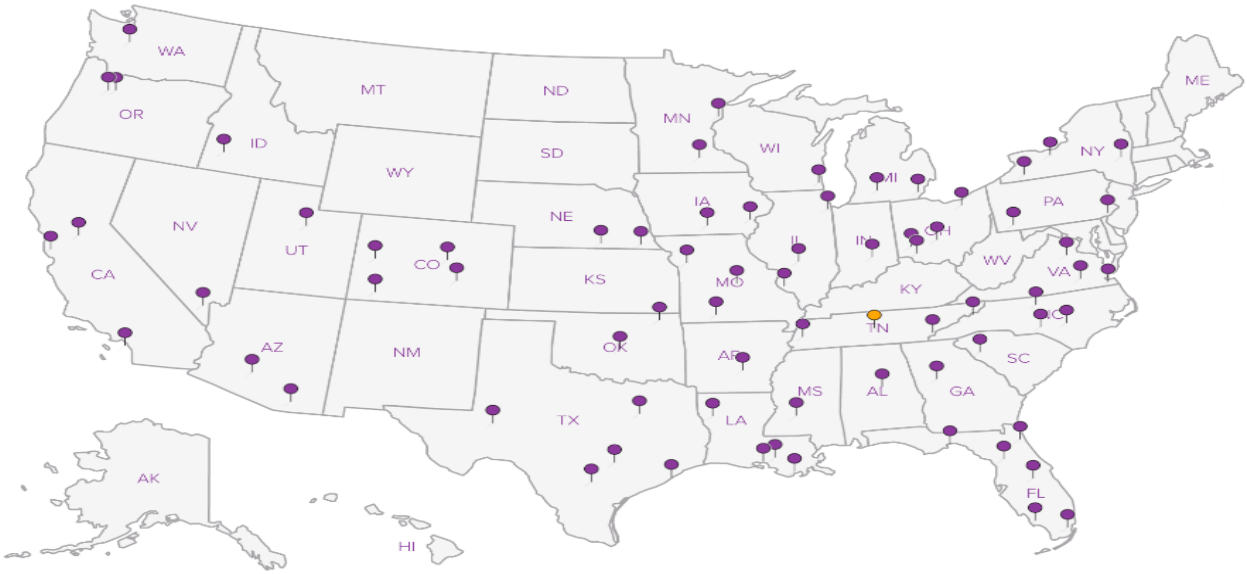
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



Leader Environmental

271 Marsh Road, Suite 2
Pittsford, NY 14534

Billing Information:
Accounts Payable
271 Marsh Road, Suite 2
Pittsford, NY 14534

Report to: Mr. Peter von Schondorf

Email To: pvonschondorf@leaderlink.com

Project Description: **Foodlink Flint Street Project**

City/State Collected: Rochester NY

Phone: 585-248-2413
Fax:

Client Project # 900.001

Lab Project # LEADERPNY-FOODLINK

Collected by (print): Peter von Schondorf

Site/Facility ID #

P.O. #

Collected by (signature): Peter von Schondorf
Immediately Packed on Ice N___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed: STD

Email? ___No X_Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	PAHSIMLVI 40mlAmb-NoPres-WT	SV8270PAHSIM 4ozAmb-NoPres	TS; V8260 4ozClr-NoPres	V8260TCL 40ml/NaHS04/Syr/MeOH	V8260TCL 40mlAmb-HCl	Rem./Contaminant	Sample # (lab only)
B-1 10:00 3-11-16	G	SS	7	3-10-16	8:25	5	X	X	X	PVS			-01
B-2 10:40 3-11-16	G	SS	12	3-10-16	8:55	5	X	X	X	PVS			-02
B-4 11:15 3-11-16	G	SS	3-4.5	3-10-16	10:08	5	X	X	X	PVS			-03
B-5 10-11.5 11:48	G	SS	11'	3-10-16	10:24	5	X	X	X				-04
B-6 12:57	G	SS	9'-10'	3-10-16	10:53	5	X	X	X	PVS			-05
B-7 1:59	G	SS	9-12.2	3-10-16	11:23	5	X	X	X	PVS			-06
B-8	G	~~SS~~ GW	5-6	3-10-16	1:15	5	X	X	X	X			-07
B-9	G	~~SS~~ GW	10-11'	3-10-16	1:45	5	X	X	X	X			-08
B-5	G	GW		3-11-16	12:13	5	X	X		X	X	Yes	-09
B-2	G	GW		3-11-16	2:29	5	X	X		X	X		-10

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

Remarks:
B-9 GW 4:00 3-11-16

pH X PVS Temp _____
Flow _____ Other _____

Chain of Custody Page 1 of 1

ESC LAB SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L823238
A222
Acctnum: LEADERPNY
Template: T110368
Prelogin: P545341
TSR: 064 - Terrie Fudge
PB: 3/7/16 DW
Shipped Via: FedEX 2nd Day

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Peter von Schondorf	3-11-16	5:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____
Temp: 3.2 °C Bottles Received: 50
Date: 3/12/16 Time: 9:00

Hold #
Condition: OK (lab use only) GOLD
COC Seal Intact: ___Y ___N ✓NA
pH Checked: NCF: X

Greg Dearmon

ESC Lab Sciences
Non-Conformance Form

Login #:L823238	Client:LEADERPNY	Date:03/11/16	Evaluated by:Greg D.

Non-Conformance (check applicable items)

	Sample Integrity		Chain of Custody Clarification		
	Parameter(s) past holding time		Login Clarification Needed		**If Broken Container:**
	Improper temperature		Chain of custody is incomplete		Insufficient packing material around container
	Improper container type		Please specify Metals requested.	x	Insufficient packing material inside cooler
	Improper preservation		Please specify TCLP requested.		Improper handling by carrier (FedEx / UPS / Courie
	Insufficient sample volume.		Received additional samples not listed on coc.		Sample was frozen
	Sample is biphasic.		Sample ids on containers do not match ids on coc		Container lid not intact
	Vials received with headspace.		Trip Blank not received.		**If no Chain of Custody:**
	Broken container		Client did not "X" analysis.		Received by:
x	Broken container:		Chain of Custody is missing		Date/Time:
	Sufficient sample remains				Temp./Cont. Rec./pH:
					Carrier:
					Tracking#

Login Comments:Receievd one vial for B-4 3-4.5 broken

Client informed by:		Call		Email		Voice Mail		Date:	Time:
TSR Initials:	Client Contact:								

Login Instructions:

Company Name/Address:
LEADER Prof. SVC.
~~84~~ 271 NARSH RD.
SUITE 2
Pittsford, NY, 14534

Billing Information:
Accounts Payable

Report to:
Peter VON SCHONDORF

Email To:
pvonschondorf@leaderlink

Project Description: Foodlink - FLINT ST.

City/State Collected: Rochester NY

Phone: 249-2413
Fax:

Client Project # 900001

Lab Project #

Collected by (print): PETER VON SCHONDORF

Site/Facility ID #

P.O. #

Collected by (signature): Peter von Schondorf

Immediately Packed on Ice N ____ Y X

Rush? (Lab MUST Be Notified)
____ Same Day 200%
____ Next Day 100%
____ Two Day 50%
____ Three Day 25%

Date Results Needed

Email? ___No __Yes
FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	SV 8270 PAH SIM	8260 TCL	8260 TCL NASO4 /Syr/Meoh							Rem./Contaminant	Sample # (lab only)
B-1	G	SS		3-10-16	10:00	6	✓	✓	✓								-01
B-2	G	SS		3-11-16	10:40	6	✓	✓	✓								-02
B-4	G	SS		3-11-16	11:15	6	✓	✓	✓								-03
B-5	G	SS		3-11-16	11:46	6	✓	✓	✓								-04
B-6	G	SS		3-11-16	12:57	6	✓	✓	✓								-05
B-7	G	SS		3-11-16	1:59	4	✓	✓	✓								-06
B-8	G	SS		3-11-16	1:15	1	✓	✓									-07
B-9	G	SS		3-11-16	1:45	1	✓	✓									-08
~~B-5~~	G	SS		3-11-16	12:13	5	✓	✓	✓		PVS 3-11-16						-09
B-2	G	SS		3-11-16	2:29	5	✓	✓	✓		PVS 3-11-16						___

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

ESC LAB SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # 823238

Table #

Acctnum:

Template:

Prelogin:

TSR:

PB:

Shipped Via:

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Peter von Schondorf	3/11/16	5:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Ryan Jones

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: 3.2 °C Bottles Received: 50

Date: 3/12/16 Time: 0900

Condition: (lab use only)
ok

COC Seal Intact: ____Y ____N ____NA

pH Checked: NCF:

Company Name/Address:
LEADER ENVIRONMENTAL
271 MARSH RD Suite 2
Pittsford, NY. 14534

Billing Information:
Accounts Payable

Report to:
Peter von Schondorf

Email To:
pvonSchondorf@leaderlink

Project Description: Foodlink Flint Street

City/State Collected: Rochester, N.Y.

Phone: 585-248-2413
Fax:

Client Project #
900.001

Lab Project #
LEADERPNY-FOODLINK

Collected by (print):
Pete von Schondorf

Site/Facility ID #

P.O. #

Collected by (signature):
Pete von Schondorf

Immediately Packed on Ice N ____ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No ___Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

ESC LABS
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L #
Table #
Acctnum:
Template:
Prelogin:
TSR:
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	8260 TCL	PAH SIM LVI	Rem./Contaminant	Sample # (lab only)
B-2	G	GW		3-11-16	2:29	5	X	X		-10
B-5	G	GW		3-11-16	12:13	5	X	X		-09
B-9	G	GW		3-11-16	4:00	5	X	X		-11
TB Blank						1	X			12

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Pete von Schondorf	3-11-16	5:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Ryan Fary

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____

Temp: 3.2 °C Bottles Received: 50

Date: 3/12/16 Time: 0900

Condition: JL (lab use only)

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

Torkelson Geochemistry, Inc.

Torkelson Geochemistry, Inc.

2529 S. Columbia Place
Tulsa, OK 74114-3233
Phone: 918-749-8441
Fax: 918-749-6035
e-mail: BTorkelson@torkelsongeochemistry.com

CHAIN-OF-CUSTODY RECORD

Project: FLINT ST. REDEVELOPMENT
Location: 22 FLINT ST. ROCHESTER NY
Proj. No.:
P.O.:
Sampled By: Pete vonSchondorf

Reported To: Knauf-Shaw LLP
Additional Instructions
Address: 1400 CROSSROADS BLDG
2 STATE ST.
ROCHESTER, N.Y. 14614
Phone: 585-546-8430
Fax:
e-mail: pvonschondorf@leadertink.com
Akraut@nixvenlaw.com

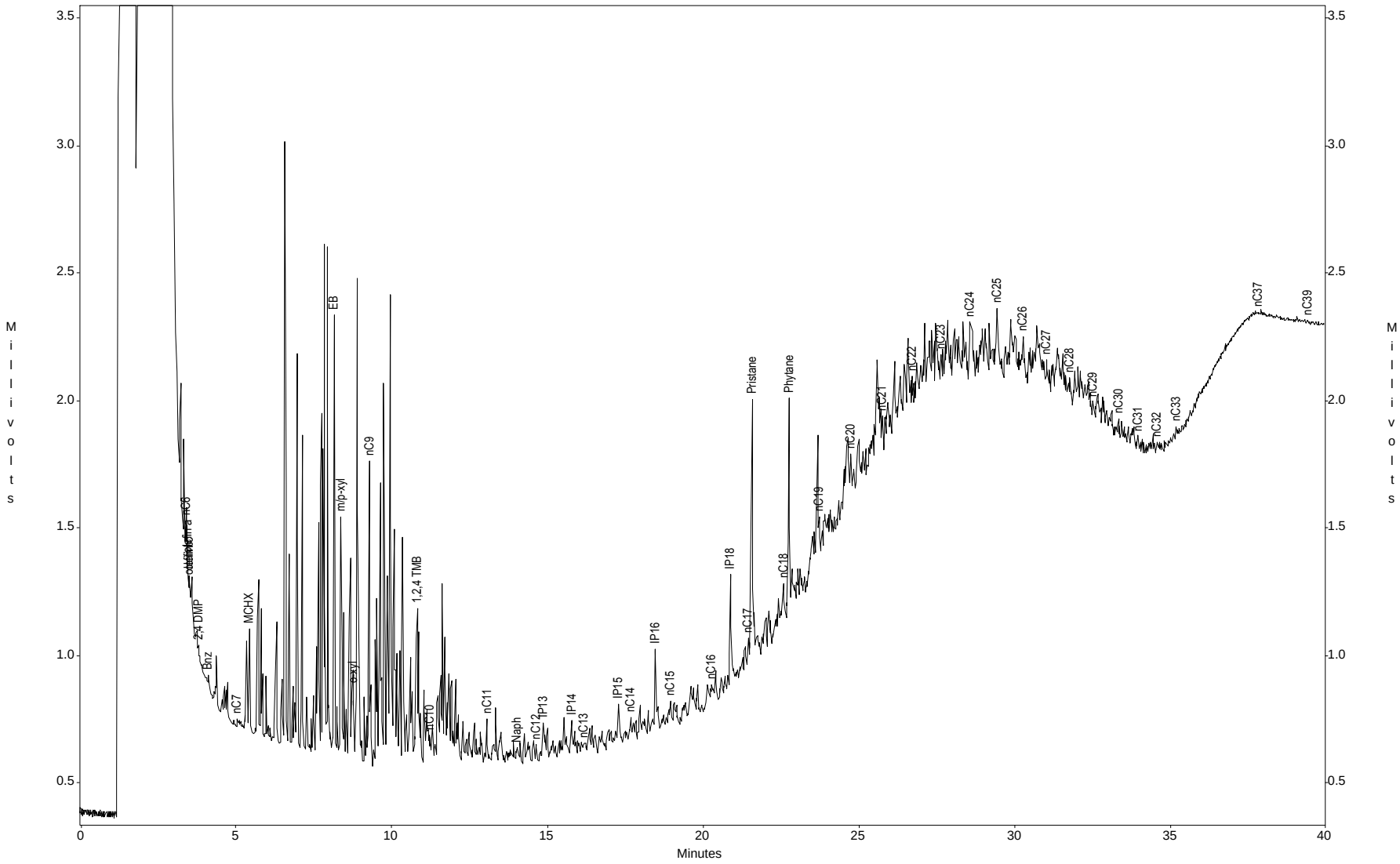
ITEM NO.	SAMPLE DESCRIPTION	DATE	MATRIX	LAB NO.	CONT. # OF JARS	PRESERVATIVES: None	PRESERVATIVES: ICE	ANALYSES REQUESTED: Oil Characterization	ANALYSES REQUESTED: Viscosity	ANALYSES REQUESTED: Viscosity	ANALYSES REQUESTED: Water Surface Tension	ANALYSES REQUESTED: Water Surface Tension	ANALYSES REQUESTED: Water Interfacial Tens.	ANALYSES REQUESTED: Lead	ANALYSES REQUESTED: Sulfur	REMARKS
1	B-1 7'	3/10/16	S		✓			X								Hydrocarbon Fingerprinting
2	B-6 9-10'	3/11/16	S		✓			X								" "
3	B-9 5-6'	3/11/16	S		✓			X								" "
4																
5																
6																
7																
8																
9																
10																

RELINQUISHED BY	DATE	TIME	ACCEPTED BY	DATE	TIME
Pete vonSchondorf	3-14-16	5:00	Brent Torkelson	3-15-16	0721

Torkelson Geochemistry, Inc.

Flint St. Redevelopment, 22 Flint St., Rochester, NY
Sample ID : B-1 7'
Acquired : Mar 29, 2016 10:28:40

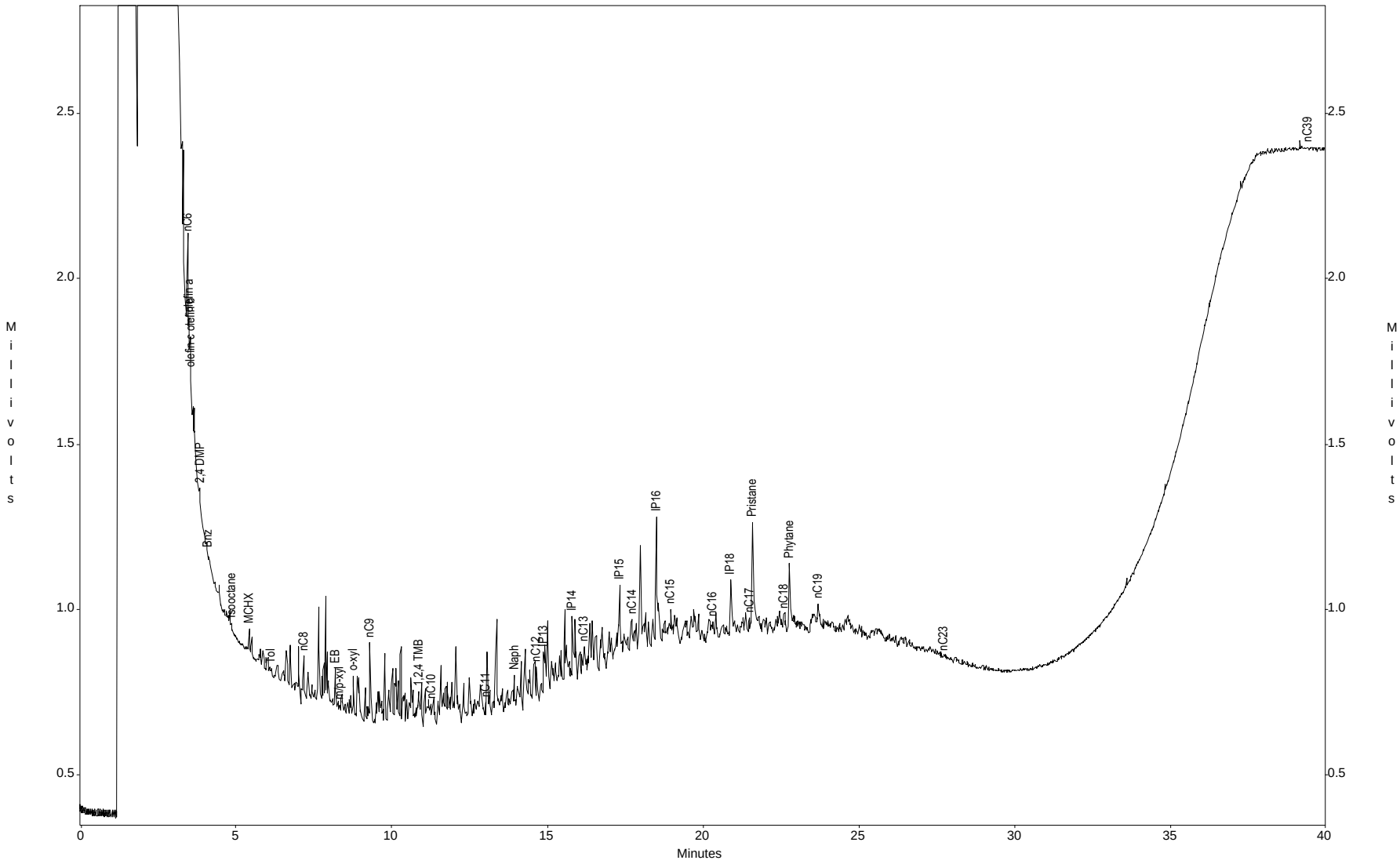
c:\ezchrom\chrom\16033\b-1-7.sl -- Channel A



Torkelson Geochemistry, Inc.

Flint St. Redevelopment, 22 Flint St., Rochester, NY
Sample ID : B-6 9-10'
Acquired : Mar 29, 2016 08:54:13

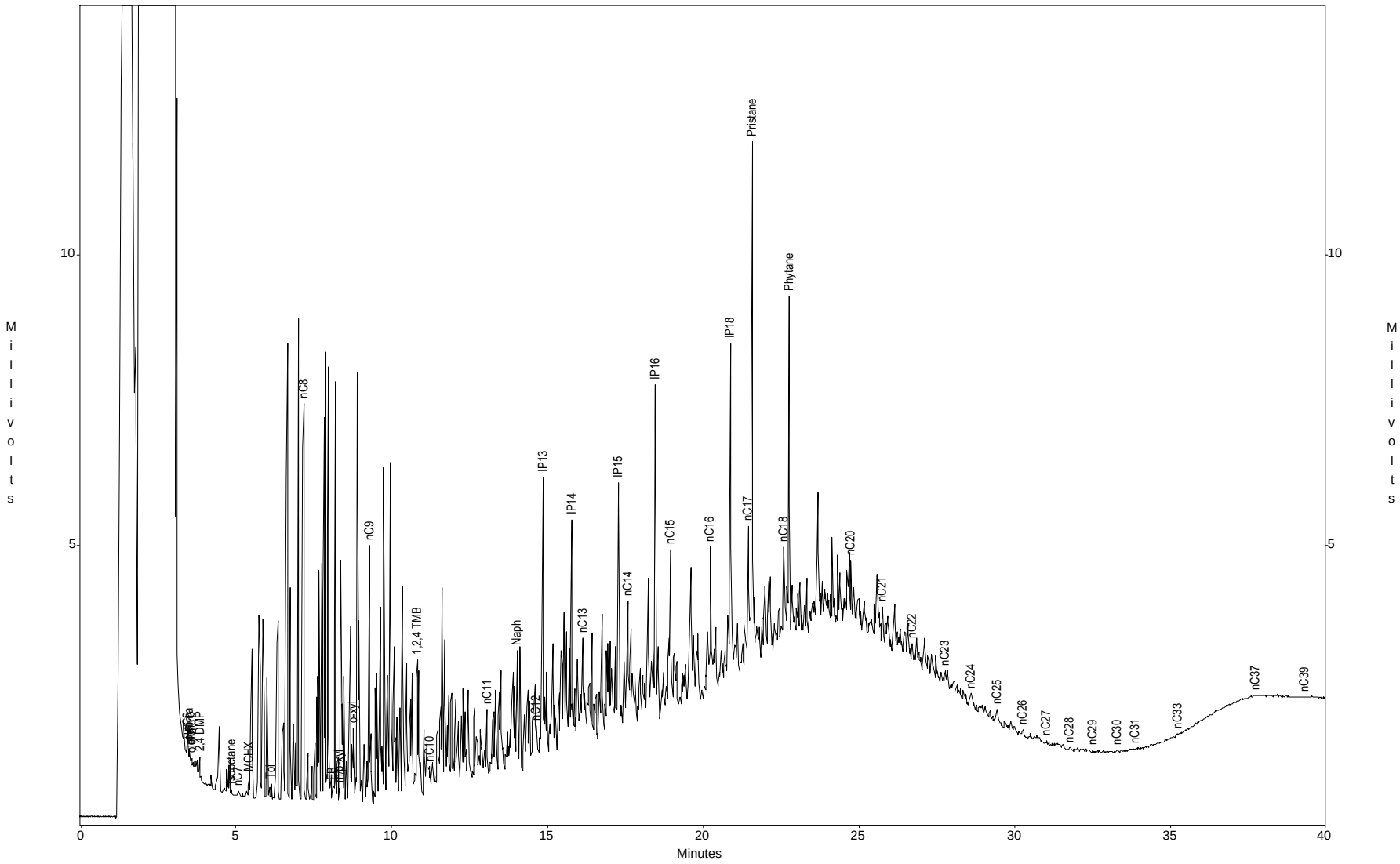
c:\ezchrom\chrom\16033\b-6-9-10.sl -- Channel A



Torkelson Geochemistry, Inc.

Flint St. Redevelopment, 22 Flint St., Rochester, NY
Sample ID : B-8 5-6'
Acquired : Mar 29, 2016 11:16:25

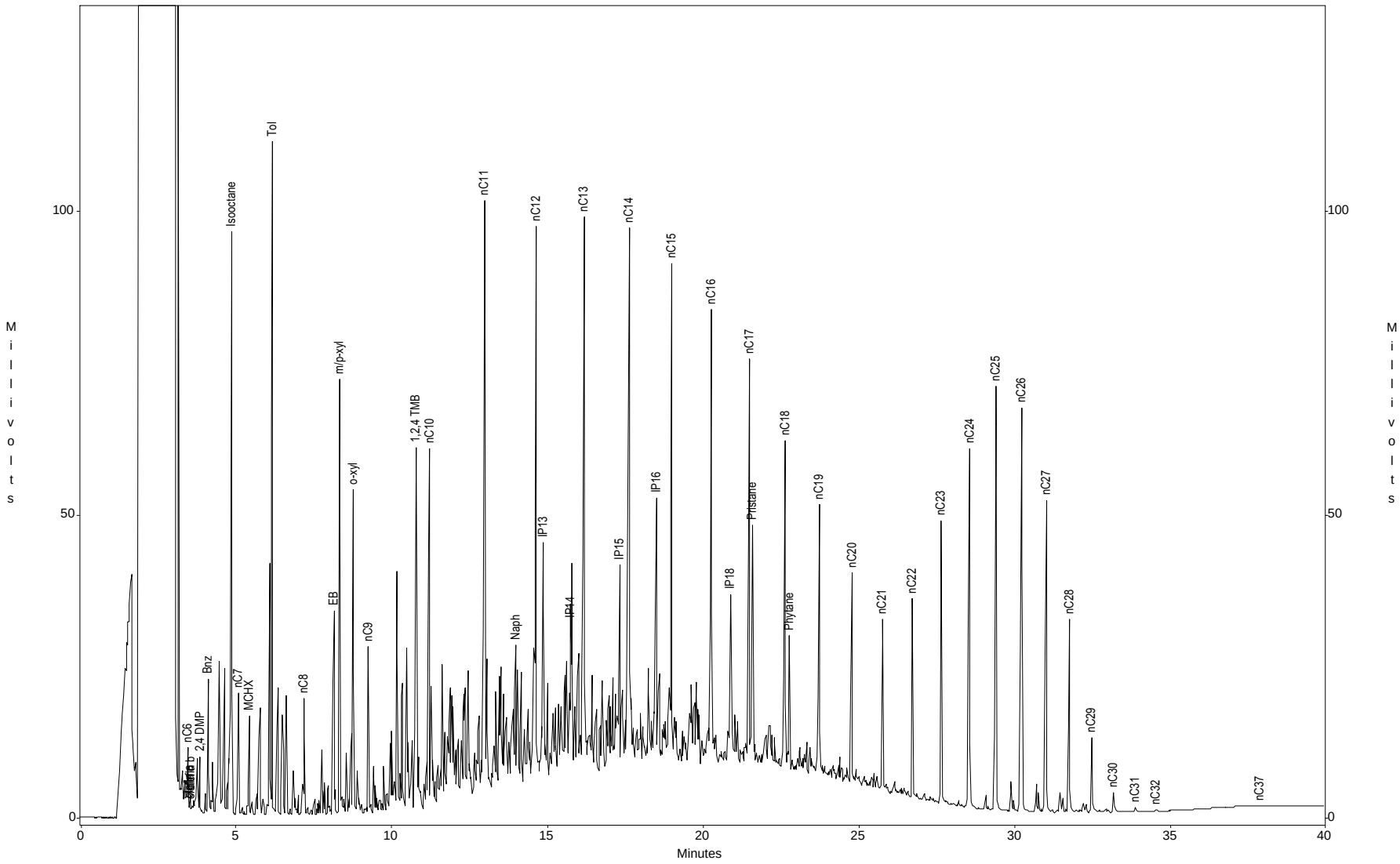
c:\ezchrom\chrom\16033\b-8-5-6.sl -- Channel A



Torkelson Geochemistry, Inc.

Flint St. Redevelopment, 22 Flint St., Rochester, NY
Sample ID : Gas/Diesel/Wax std
Acquired : Mar 29, 2016 12:04:00

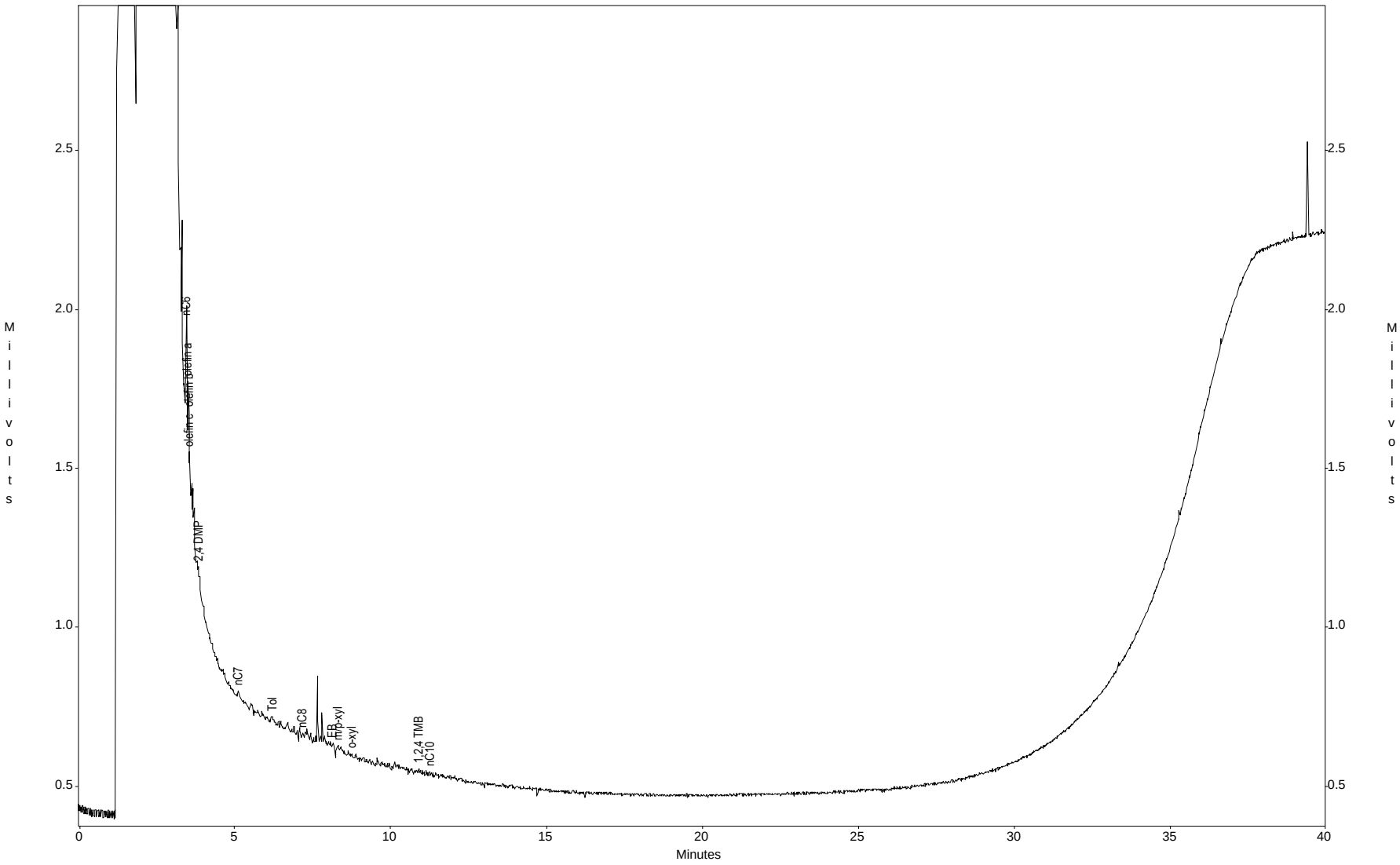
c:\ezchrom\chrom\16033\gadiwax.sl -- Channel A



Torkelson Geochemistry, Inc.

Flint St. Redevelopment, 22 Flint St., Rochester, NY
Sample ID : Blank
Acquired : Mar 29, 2016 09:41:29

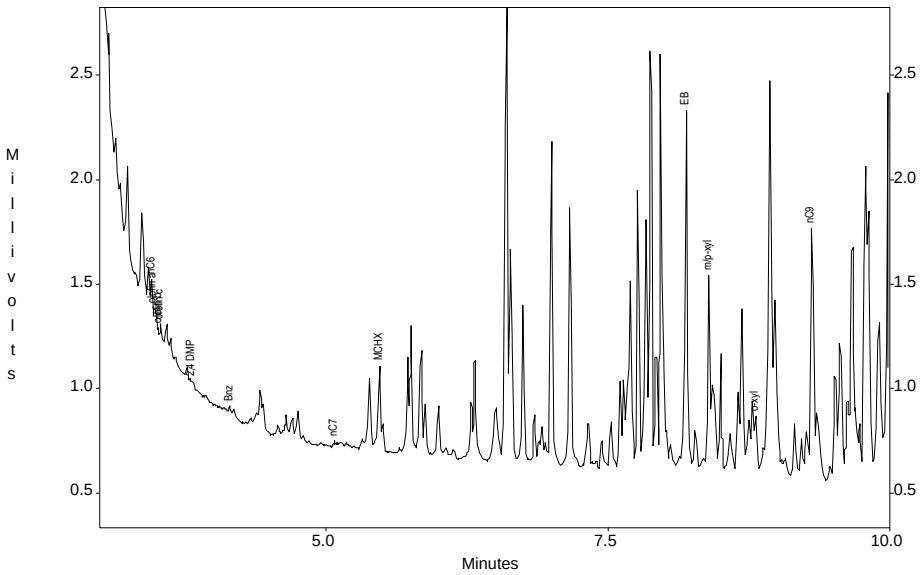
c:\ezchrom\chrom\16033\blanik.sl -- Channel A



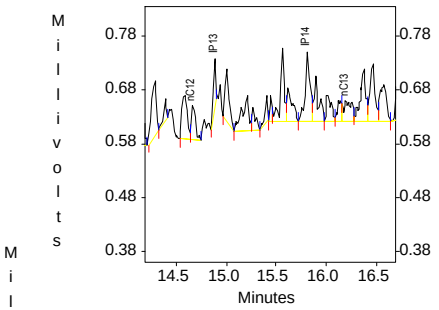
Torkelson Geochemistry, Inc.

Flint St. Redevelopment, 22 Flint St., Rochester, NY
Sample ID : B-1 7'
Acquired : Mar 29, 2016 10:28:40

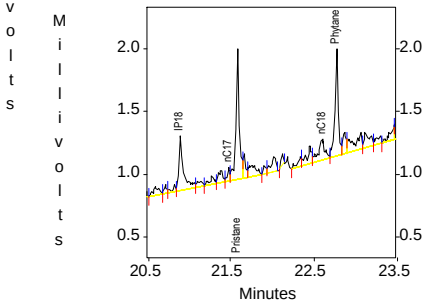
c:\ezchrom\chrom\16033\b-1-7.sl -- Channel A



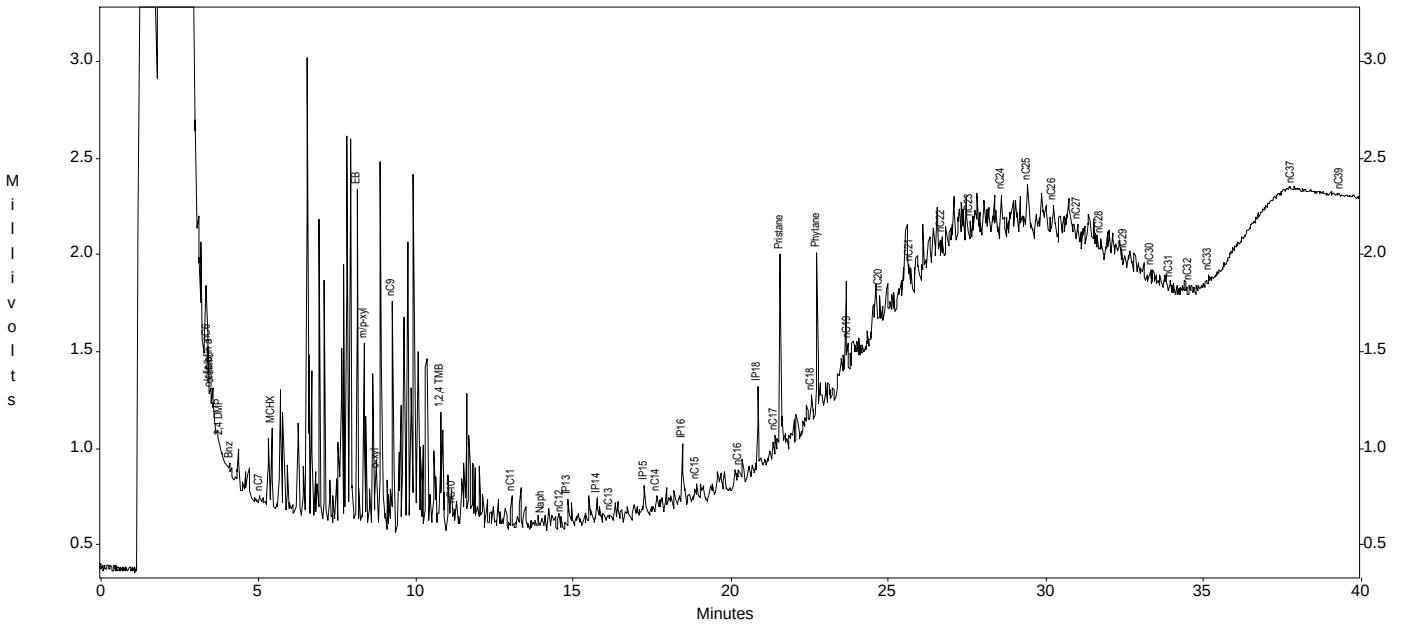
c:\ezchrom\chrom\16033\b-1-7.sl -- Channel A



c:\ezchrom\chrom\16033\b-1-7.sl -- Channel A



c:\ezchrom\chrom\16033\b-1-7.sl -- Channel A



Channel A Results

Peak	Area	Height
nC6	190	179
olefin a	75	67
olefin b	12	20
olefin c	54	60
2,4 DMP	25	14
Bnz	72	46
Isooctane	0	0
nC7	79	31
MCHX	664	407
Tol	0	0
nC8	0	0
EB	2888	1732
m/p-xyl	1402	947
o-xyl	478	288
nC9	1991	1195
1,2,4 TMB	1428	598
nC10	206	107
nC11	529	174
Naph	336	61
nC12	190	62
IP13	166	102
IP14	427	130
nC13	229	38
IP15	539	156
nC14	195	67
IP16	843	329
nC15	444	103
nC16	509	81
IP18	1611	441
nC17	276	119
Pristane	2853	1042
nC18	910	163
Phytane	2420	861
nC19	533	212
nC20	1298	259
nC21	775	215
nC22	688	183
nC23	116	64
nC24	1186	224
nC25	1063	276
nC26	734	162
nC27	431	126
nC28	425	107
nC29	132	61
nC30	237	69
nC31	159	49
nC32	130	36
nC33	80	35
nC34	0	0
nC35	0	0
nC36	0	0
nC37	31	6
nC38	0	0
nC39	31	9
nC40	0	0

Torkelson Geochemistry, Inc.

Flint St. Redevelopment, 22 Flint St., Rochester, NY
Sample ID : B-6 9-10'
Acquired : Mar 29, 2016 08:54:13

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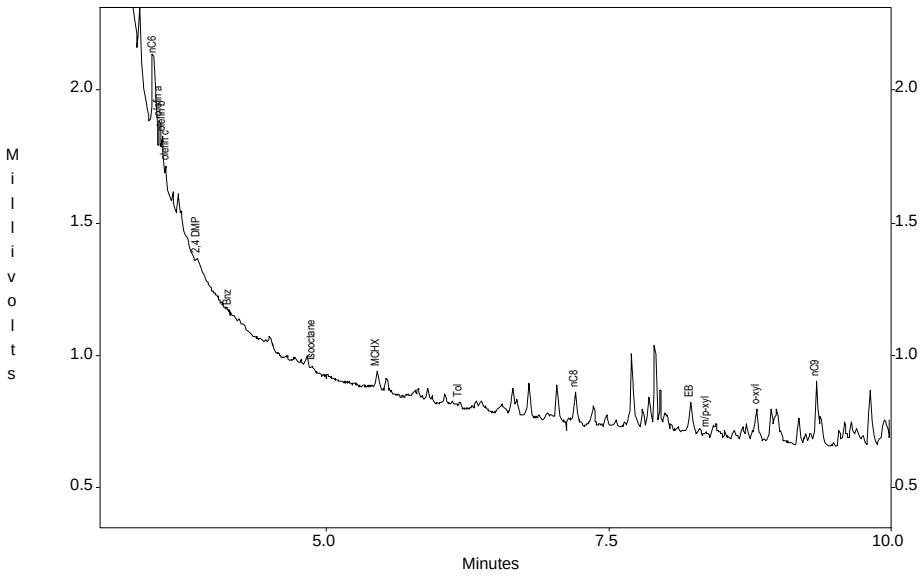

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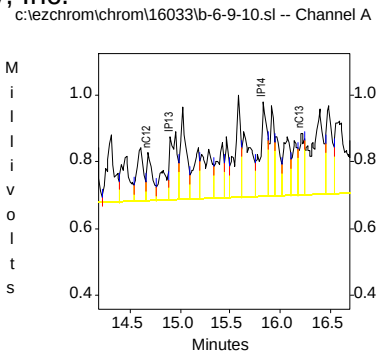

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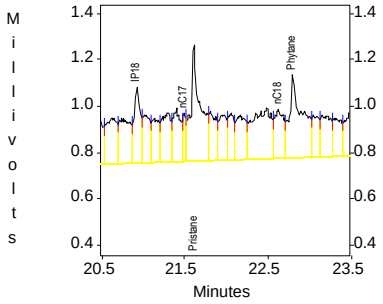

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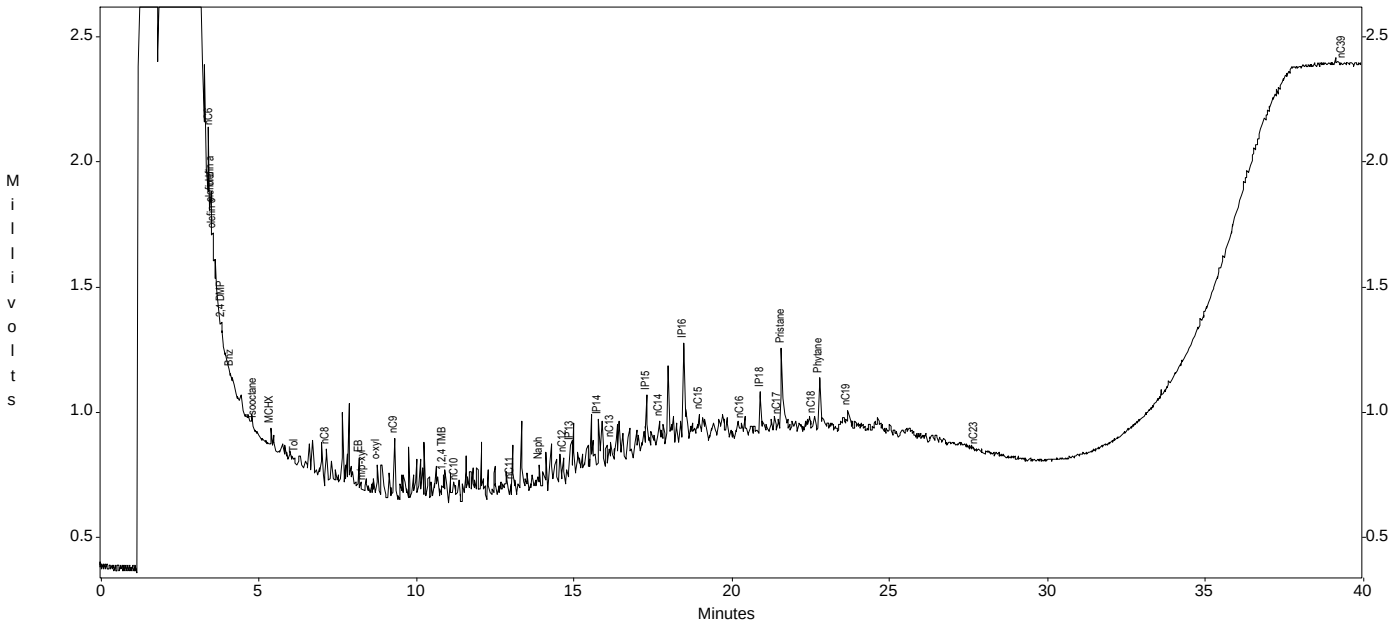

Channel A Results

Peak	Area	Height
nC6	323	307
olefin a	160	143
olefin b	129	121
olefin c	74	62
2,4 DMP	35	12
Bnz	13	4
Isooctane	30	18
nC7	0	0
MCHX	125	67
Tol	52	26
nC8	512	147
EB	421	134
m/p-xyl	72	26
o-xyl	354	127
nC9	410	241
1,2,4 TMB	549	106
nC10	134	66
nC11	101	54
Naph	489	125
nC12	583	143
IP13	1005	187
IP14	1314	281
nC13	621	186
IP15	2503	361
nC14	1702	253
IP16	2082	554
nC15	2895	264
nC16	1527	212
IP18	1745	333
nC17	637	213
Pristane	4271	498
nC18	1807	211
Phytane	3767	362
nC19	2225	225
nC20	0	0
nC21	0	0
nC22	0	0
nC23	308	24
nC24	0	0
nC25	0	0
nC26	0	0
nC27	0	0
nC28	0	0
nC29	0	0
nC30	0	0
nC31	0	0
nC32	0	0
nC33	0	0
nC34	0	0
nC35	0	0
nC36	0	0
nC37	0	0
nC38	0	0
nC39	33	7
nC40	0	0

Torkelson Geochemistry, Inc.

Flint St. Redevelopment, 22 Flint St., Rochester, NY
Sample ID : B-8 5-6'
Acquired : Mar 29, 2016 11:16:25

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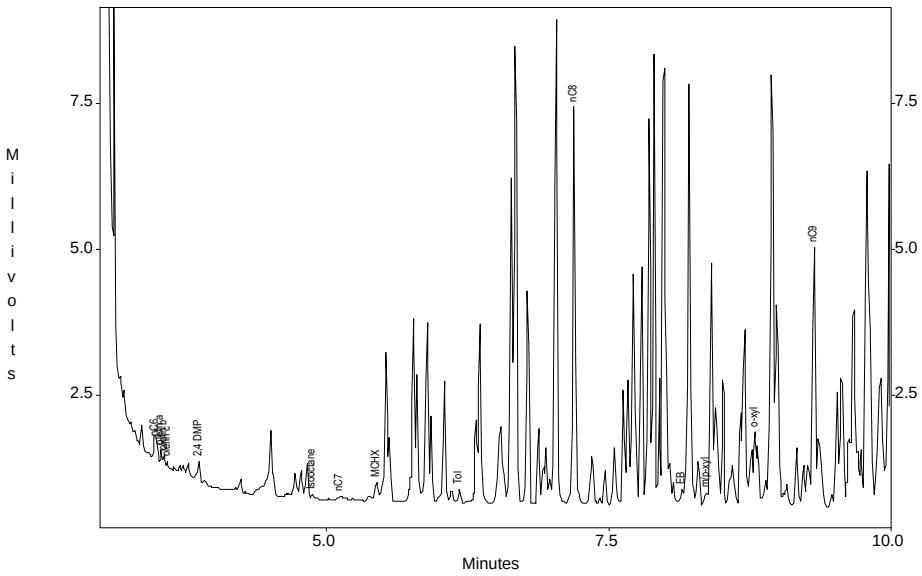

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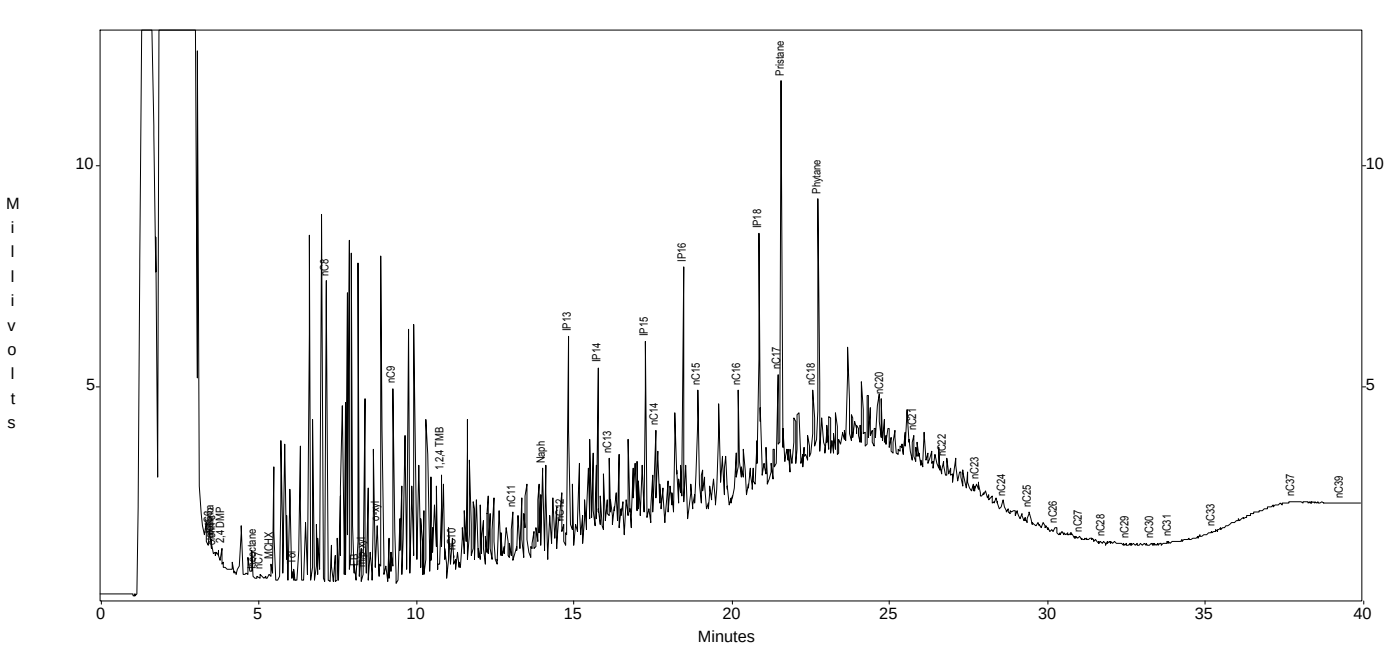

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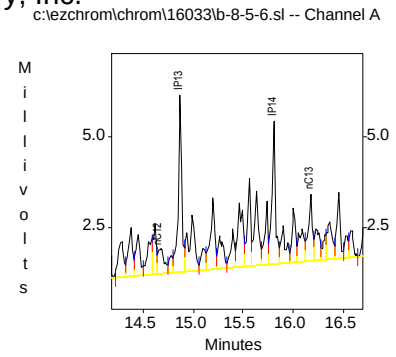

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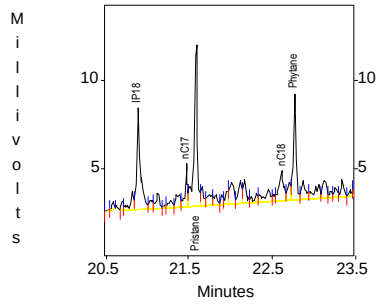

Channel A Results

Peak	Area	Height
nC6	280	319
olefin a	211	217
olefin b	180	173
olefin c	73	78
2,4 DMP	511	330
Bnz	0	0
Isooctane	96	74
nC7	302	79
MCHX	664	336
Tol	352	236
nC8	10240	6812
EB	460	249
m/p-xyl	344	199
o-xyl	971	546
nC9	7267	4414
1,2,4 TMB	5190	2337
nC10	985	448
nC11	1986	1026
Naph	8248	2076
nC12	2876	673
IP13	11123	4906
IP14	9005	3967
nC13	5059	1848
IP15	8948	4232
nC14	6612	2129
IP16	10314	5350
nC15	7647	2822
nC16	8161	2494
IP18	17192	5709
nC17	5405	2405
Pristane	23336	8992
nC18	6789	1698
Phytane	14247	5973
nC19	0	0
nC20	2962	1241
nC21	3393	773
nC22	2741	470
nC23	1559	330
nC24	525	237
nC25	1406	260
nC26	679	119
nC27	149	78
nC28	202	48
nC29	94	49
nC30	102	28
nC31	31	13
nC32	0	0
nC33	69	20
nC34	0	0
nC35	0	0
nC36	0	0
nC37	460	19
nC38	0	0
nC39	89	13
nC40	0	0

Torkelson Geochemistry, Inc.

Flint St. Redevelopment, 22 Flint St., Rochester, NY
Sample ID : Gas/Diesel/Wax std
Acquired : Mar 29, 2016 12:04:00

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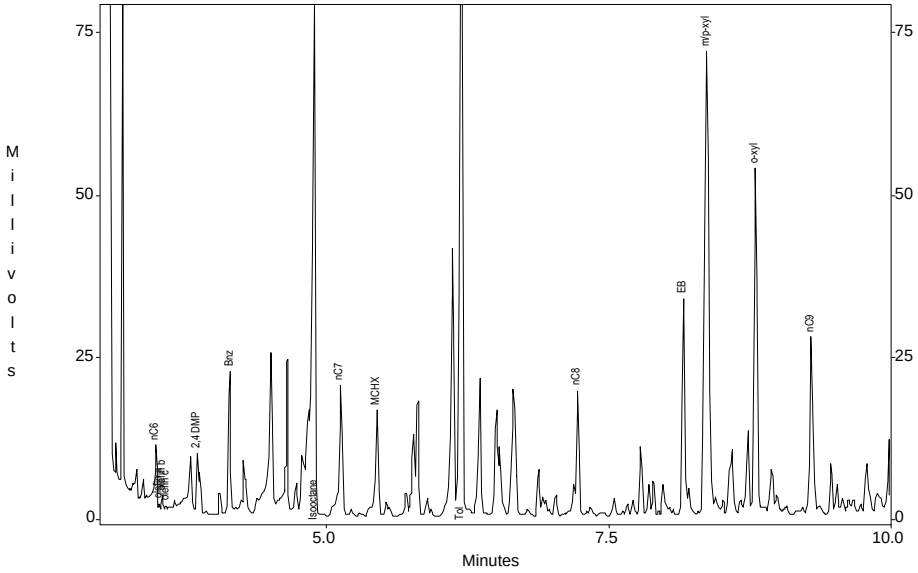

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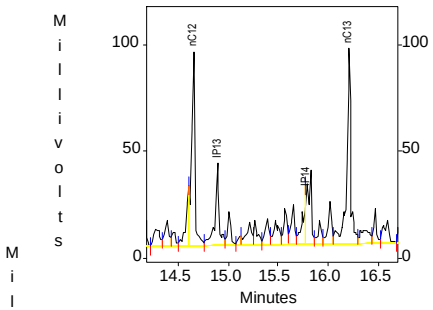

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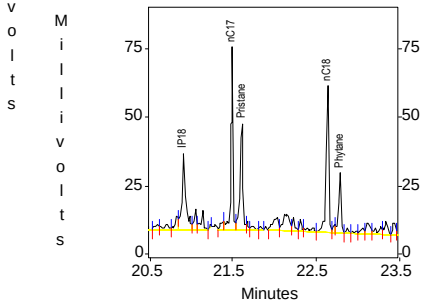

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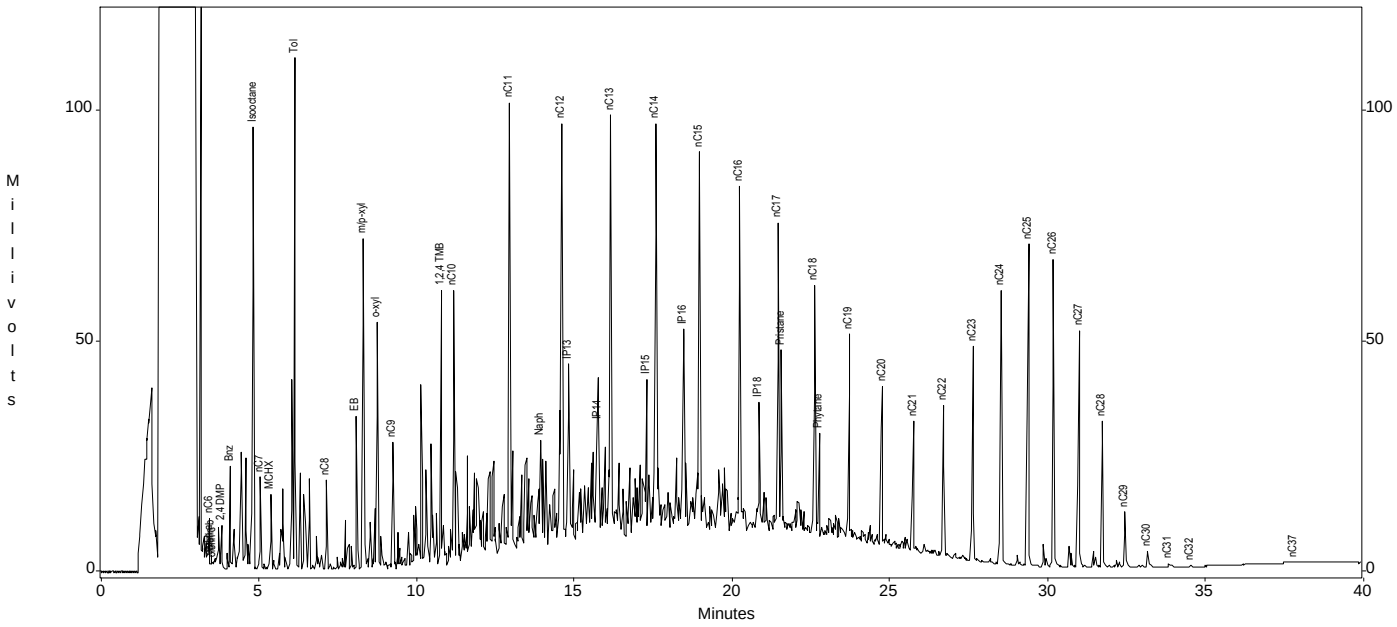


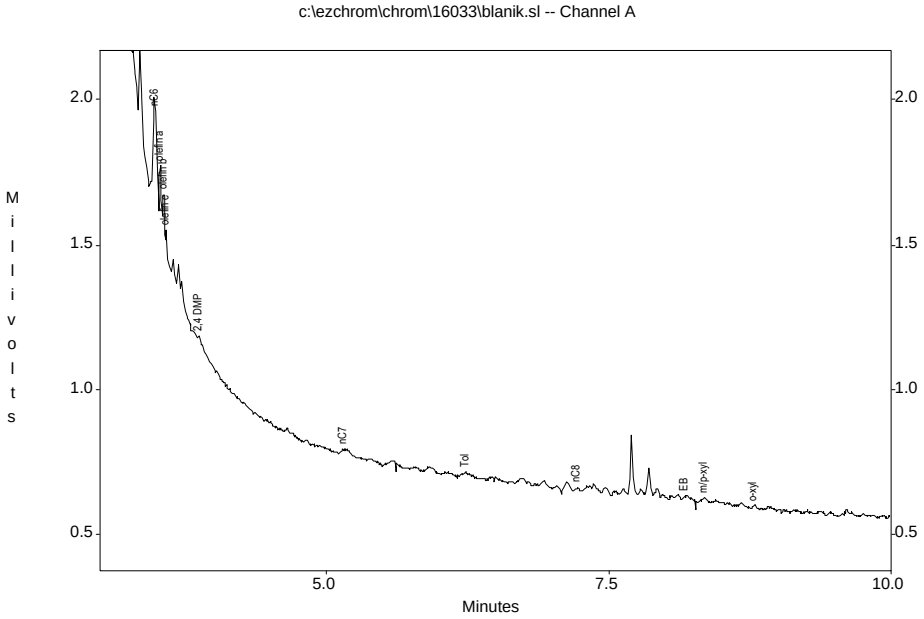
Channel A Results

Peak	Area	Height
nC6	14001	9579
olefin a	474	631
olefin b	1689	2144
olefin c	414	476
2,4 DMP	9101	9061
Bnz	26621	22145
Isooctane	148322	96000
nC7	28785	19917
MCHX	26458	16251
Tol	188046	110885
nC8	27058	19196
EB	49768	33257
m/p-xyl	138991	71305
o-xyl	82931	52445
nC9	51520	27459
1,2,4 TMB	119160	59329
nC10	100320	58991
nC11	228596	95806
Naph	44227	22446
nC12	222745	91130
IP13	107070	38859
IP14	83531	24973
nC13	276591	91651
IP15	68556	33117
nC14	251252	88204
IP16	102611	42730
nC15	184788	80103
nC16	190991	74715
IP18	91867	27811
nC17	140963	66227
Pristane	89182	38906
nC18	114802	53898
Phytane	49263	22091
nC19	105750	44584
nC20	72198	34702
nC21	55429	28361
nC22	64915	32723
nC23	103408	46489
nC24	154277	59172
nC25	179497	69889
nC26	176748	66582
nC27	125602	51378
nC28	69953	31729
nC29	31742	12177
nC30	11565	3344
nC31	1806	645
nC32	383	111
nC33	0	0
nC34	0	0
nC35	0	0
nC36	0	0
nC37	1224	18
nC38	0	0
nC39	0	0
nC40	0	0

Torkelson Geochemistry, Inc.

Flint St. Redevelopment, 22 Flint St., Rochester, NY
Sample ID : Blank
Acquired : Mar 29, 2016 09:41:29

c:\ezchrom\chrom\16033\blanik.sl -- Channel A



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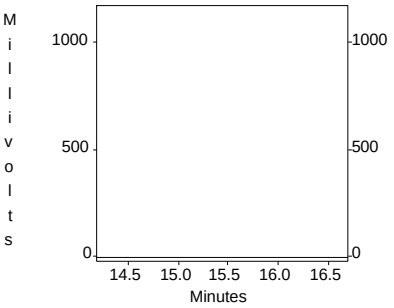

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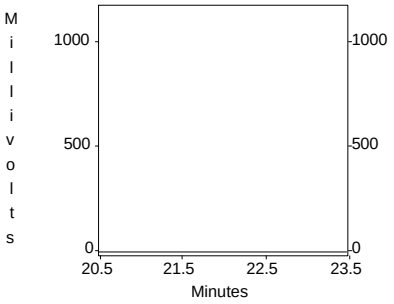

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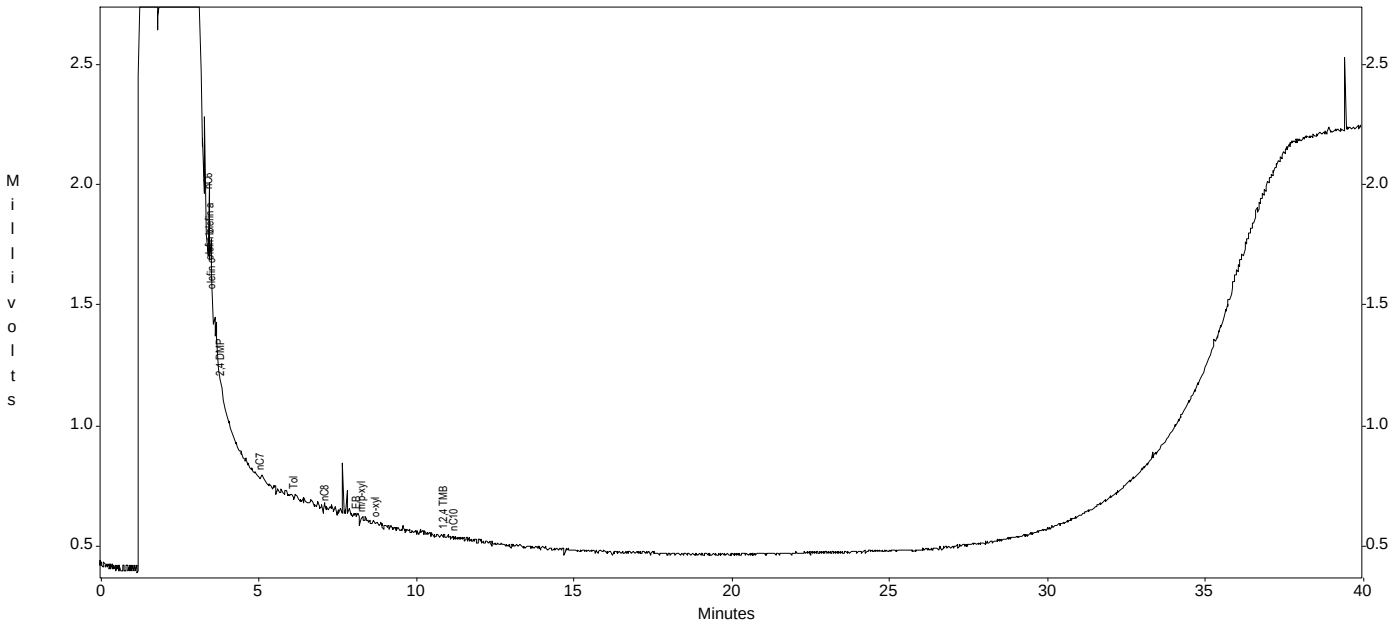


Channel A Results

Peak	Area	Height
nC6	389	336
olefin a	252	228
olefin b	182	167
olefin c	95	89
2,4 DMP	53	31
Bnz	0	0
Isooctane	0	0
nC7	82	18
MCHX	0	0
Tol	132	23
nC8	117	31
EB	249	44
m/p-xyl	212	40
o-xyl	124	25
nC9	0	0
1,2,4 TMB	47	19
nC10	45	19
nC11	0	0
Naph	0	0
nC12	0	0
IP13	0	0
IP14	0	0
nC13	0	0
IP15	0	0
nC14	0	0
IP16	0	0
nC15	0	0
nC16	0	0
IP18	0	0
nC17	0	0
Pristane	0	0
nC18	0	0
Phytane	0	0
nC19	0	0
nC20	0	0
nC21	0	0
nC22	0	0
nC23	0	0
nC24	0	0
nC25	0	0
nC26	0	0
nC27	0	0
nC28	0	0
nC29	0	0
nC30	0	0
nC31	0	0
nC32	0	0
nC33	0	0
nC34	0	0
nC35	0	0
nC36	0	0
nC37	0	0
nC38	0	0
nC39	0	0
nC40	0	0

Boring Logs

LEADER PROFESSIONAL SERVICES

Environmental Engineers & Scientists

BORING #: B-1
Page 1 of 1
Permit #:
Job #:

LOG OF BORING

Project: Flint St. Redevelopment
Location: 22 Flint Street, Rochester, NY
Date Drilled: 3/11/2016
Drilling Co.: J. Agar
Total Depth: 7.4 ft.
Method Used: Geoprobe
Inspector: P. von Schondorf
Organic Vapor Inst: Mini Rae 3000
Water elv:

Depth (feet)	Sample No.	Blows/6" 140 lbs.	Sample Inter.	Adv/Rec (feet)	Org. Vap (ppm)	Sample Description	Unified Class.	Permeability
						Asphalt surface		
2						Brick and possible ash fill, some soil.	Fill	
4	1	Push	0-4 ft.	2.5 ft.	17	Gray, tan Silt, some sand to 3.75 ft. gray clay.	ML CL	
6								
8	2	Push	4-8 ft.	2.5	249	Gray, Clay, little silt, sheen on soil @7.8 ft. Red/brown, gray c. Sand, gravel and clay/silt.	CL SP	
						Refusal at 7.8 ft.		

LEADER PROFESSIONAL SERVICES

Environmental Engineers & Scientists

BORING # B-2
Page 1 of 1
Permit #:
Job #:

LOG OF BORING

Project Flint St. Redevelopment
Location 22 Flint Street
Date Drilled 3/11/2016
Drilling Co.: Jim Agar
Total Depth 11.8 ft.
Method Used: Geoprobe
Inspector
Organic Vapor Inst: Mini Rae 3000
Water elv:

Depth (feet)	Sample No.	Blows/6" 140 lbs.	Sample Inter.	Adv/Rec (feet)	Org. Vap (ppm)	Sample Description	Unified Class.	Permeability
						Asphalt surface.		
4	1	Push	0 - 4 ft	2	1	Fill, Gravel and brown sand, some cinders. Dry.	Fill	
6								
						Fill to 7 ft. Brick, cinder, sand and gravel.	Filll	
8	2	Push	4 - 8 ft	2	<1	Gray Clay, plastic, Petrol. Odor sheen on sample.	CL	
10								
12	3	Push	8 - 12 ft	3	7.5	Layered Gray Clay, silt and fine sand. Wet. Sheen, petrol odor.	CL	
	4	Push	12 - 12.4 ft	0.5		Refusal at 12. 4 possible till soil.	CL	

LEADER PROFESSIONAL SERVICES

Environmental Engineers & Scientists

LOG OF BORING

BORING # B-3
Page 1 of 1
Permit #:
Job #:

Project Flint St. Redevelopment
Location 22 Flint Street, Rochester, NY
Date Drilled 3/10/2016
Drilling Co.: J. Agar
Total Depth 8 ft.
Method Used: Geoprobe
Inspector P. von Schondorf
Organic Vapor Inst: Mini Rae 3000
Water elv:

Depth (feet)	Sample No.	Blows/6" 140 lbs.	Sample Inter.	Adv/Rec (feet)	Org. Vap (ppm)	Sample Description	Unified Class.	Permeability
2						Asphalt surface Brick, concrete rubble, and possible ash, soil. Oil staining. To 3 ft.	Fill	
4	1	Push	0-4 ft.	2.5 ft.	6.5	Gray, Clay and silt.	ML/CL	
6								
8	2	Push	4-8 ft.	2.5	11.6	Gray Silt, little clay and silt. Moist. Petroleum odor. @7.8 Large gravel Refusal at 8 ft.	ML	

LEADER PROFESSIONAL SERVICES

Environmental Engineers & Scientists

LOG OF BORING

BORING #: B-4
Page 1 of 1
Permit #:
Job #:
Water elv:

Project: Flint St. Redevelopment
Location: 22 Flint Street, Rochester, NY
Date Drilled: 3/10/2016
Drilling Co.: J. Agar
Total Depth: 4.5 ft.
Method Used: Geoprobe
Inspector: P. von Schondorf
Organic Vapor Inst: Mini Rae 3000

Depth (feet)	Sample No.	Blows/6" 140 lbs.	Sample Inter.	Adv/Rec (feet)	Org. Vap (ppm)	Sample Description	Unified Class.	Permeability
						Asphalt surface		
2						Misc. Fill, brick, soil, possible ash, to 3 ft., dry.	Fill	
						Orange-gray mottle Sand and silt to 3.5 ft.	SM	
4	1	Push	0-4 ft.	3	5	Gray, Clay, plastic, wet.	CL	
					7.5	Gray Silt and gravel. Wet.	SM	
6						Refusal at 4.5 ft.		
8	2	Push	4-4.5 ft.	.5				

LEADER PROFESSIONAL SERVICES

Environmental Engineers & Scientists

BORING #: B-5
Page 1 of 1
Permit #:
Job #:

LOG OF BORING

Project: Flint Street Redevelopment
Location: 22 Flint Street, Rochester, NY
Date Drilled: 3/11/2016
Drilling Co.: Jim Agar
Total Depth: 11.5 ft.
Method Used: Geoprobe
Inspector: P. von Schondorf
Organic Vapor Inst: Mini Rae 3000
Water elv:

Depth (feet)	Sample No.	Blows/6" 140 lbs.	Sample Inter.	Adv/Rec (feet)	Org. Vap (ppm)	Sample Description	Unified Class.	Permeability
						Asphalt surface		
						Brown Sand and gravel to 2 ft.		
4	1	Push	0-4 ft.	3	0.7	Black-gray cinder ash, and brick Petroleum odor.		
8	2	Push	4-8 ft.	2	92	Gray Clay ti 7.4 ft. plastic, wet. Petroleum odor.		
						Gray Clay and silt to 9 ft. Stained.		
						Gray Sand-silt, stained to 10 ft.		
12	3	Push	8-11.5 ft.	3	7.5	Gray Sand and gravel to 11.5 ft. Refusal. Wet.		

LEADER PROFESSIONAL SERVICES

Environmental Engineers & Scientists

LOG OF BORING

BORING # B-6
Page 1 of 1
Permit #:
Job #:

Project Flint St. Redevelopment
Location 22 Flint Street, Rochester, NY
Date Drilled 3/11/2016
Drilling Co.: J. Agar
Total Depth 11 ft.
Method Used: Geoprobe
Inspector P. von Schondorf
Organic Vapor Inst: Mini Rae 3000
Water elv:

Depth (feet)	Sample No.	Blows/6" 140 lbs.	Sample Inter.	Adv/Rec (feet)	Org. Vap (ppm)	Sample Description	Unified Class.	Permeability
						Asphalt surface		
2						Brick, concrete rubble, and possible ash, soil.		
4	1	Push	0-4 ft.	3	<1	Fill, brick, sand and gravel.	Fill	
					234	Fill to 4.5 ft.		
6						Gray Clay, soft, strong odor	CL	
8	2	Push	4-8 ft.	3	98	Gray Clay with increasing silt and sand.	CL	
					54		CL	
12	3	Push	8 - 11 ft.	2		@11 .4 'well log'!ft. Refusal, Clay and gra	CL/GM	

LEADER PROFESSIONAL SERVICES

Environmental Engineers & Scientists

LOG OF BORING

BORING #: B-7
Page 1 of 1
Permit #:
Job #:

Project: Flint Street Redevelopment
Location: 22 Flint Street, Rochester, NY
Date Drilled: 3/11/2016
Drilling Co.: Jim Agar
Total Depth: 12.2 ft.
Method Used: Geoprobe
Inspector: P. von Schondorf
Organic Vapor Inst: Mini Rae 3000
Water elv:

Depth (feet)	Sample No.	Blows/6" 140 lbs.	Sample Inter.	Adv/Rec (feet)	Org. Vap (ppm)	Sample Description	Unified Class.	Permeability
						Asphalt surface		
4	1	Push	0-4 ft.	2.5	0.7	Fill Brick, sand, ash and cinder to 3 ft. Gray Silt and clay, sheen, poss. free product.		
8	2	Push	4-8 ft.	2	<1	Brown Clay, soft, plastic. Slight odor.		
						Brown - gray Cllay to 10 ft. Wet		
12	3	Push	8-12.2 ft.	3	<5	Gray Sand some clay dense. 12.2 ft. Gray Red till, clay, sand and gravel		

LEADER PROFESSIONAL SERVICES

Environmental Engineers & Scientists

LOG OF BORING

BORING # B-8
Page 1 of 1
Permit #:
Job #:
Water elv:

Project Flint St. Redevelopment
Location 22 Flint Street, Rochester, NY
Date Drilled 3/11/2016
Drilling Co.: J. Agar
Total Depth 8 ft.
Method Used: Geoprobe
Inspector P. von Schondorf
Organic Vapor Inst: Mini Rae 3000

Depth (feet)	Sample No.	Blows/6" 140 lbs.	Sample Inter.	Adv/Rec (feet)	Org. Vap (ppm)	Sample Description	Unified Class.	Permeability
						Grass and fill soil		
2						Gray Clay to 1 ft.	CL	
					39			
4	1	Push	0-4 ft.	3	38	Black Clay and cinder to 4 ft.	CL	
					121	Clay, soft, plastic to 5 ft.		
6					24	Clay and silt, dense.	CL/ML	
8	2	Push	4-8 ft.	3	24	Clay and gravel possible Till Refusal at 8.2 ft.	CL/GM	

LEADER PROFESSIONAL SERVICES

Environmental Engineers & Scientists

LOG OF BORING

BORING # B-9
Page 1 of 1
Permit #:
Job #:

Project Flint Street Redevelopment Location 22 Flint Street, Rochester, NY
Date Drilled 3/10/2016 Drilling Co.: Jim Agar
Total Depth 12 ft. Method Used: Geoprobe
Inspector P. von Schondorf Organic Vapor Inst: Mini Rae 3000 Water elv:

Depth (feet)	Sample No.	Blows/6" 140 lbs.	Sample Inter.	Adv/Rec (feet)	Org. Vap (ppm)	Sample Description	Unified Class.	Permeability
						Grass and fill		
4	1	Push	0-4 ft.	2	0	Fill, brick, soil, coal and cinders.		
8	2	Push	4-8 ft.	1.5	0	Brick and cinders to 7.5 ft. Brown gravel, sand and silt, wet.		
12	3	Push	8-12 ft.	3	10	Brown Silt and gravel, dense. Wet Refusal at 12 ft.		

LEADER PROFESSIONAL SERVICES

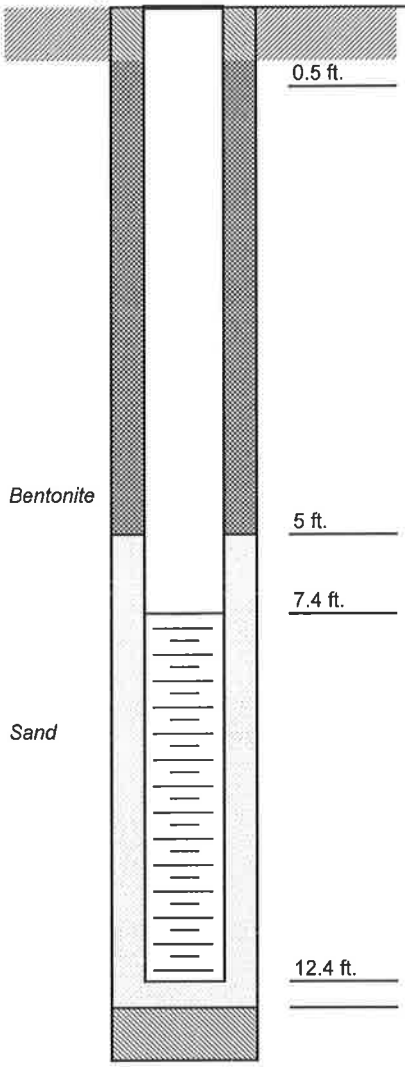
Environmental Engineers & Scientists

WELL CONSTRUCTION SUMMARY

Project: Flint St. Redevelopment Location: 22 Flint St. Well No.: B-2
Permit No.:

TOC elev.: -

TOC elev.:



DRILLING SUMMARY

Drilling Company: J. Agar Drillers:
Drill Rig/Model: Geoprobe
Borehole Diameters: 2-in Drilling Fluid: None
Bits/Depths: 0-12.4 ft
Total Depth: 12.4 ft. Depth To Water: 7 ft.
Supervisor Geologist:

WELL DESIGN

Casing Material:	PVC	Diameter:	1-in.
Screen Size:	5 ft	Diameter:	1-in.
Slot Size:	0.01	Setting:	7.4 - 12.4 ft.
Backfill	Sand	Setting:	5 - 12.4 ft.
Filter Material:		Setting:	
Seals Material:	Bentonite	Setting:	0.5 - 5 ft.
Sand Cap		Setting:	
Grout:		Setting:	
Surface Casing Material:	Roadbox	Setting:	0 - 1 ft.

TIME LOG

	Started	Completed
Drilling:	10-Mar-16	10-Mar-16
Installation:	10-Mar-16	10-Mar-16
Development:	10-Mar-16	10-Mar-16

WELL DEVELOPMENT

Method: Bailing
Static Depth to Water: 7.7 ft.
Pumping Depth To Water: Not recorded
Pumping Rate: N/A Spec. Capacity:
Volume Pumped: 3 gallons

LEADER PROFESSIONAL SERVICES

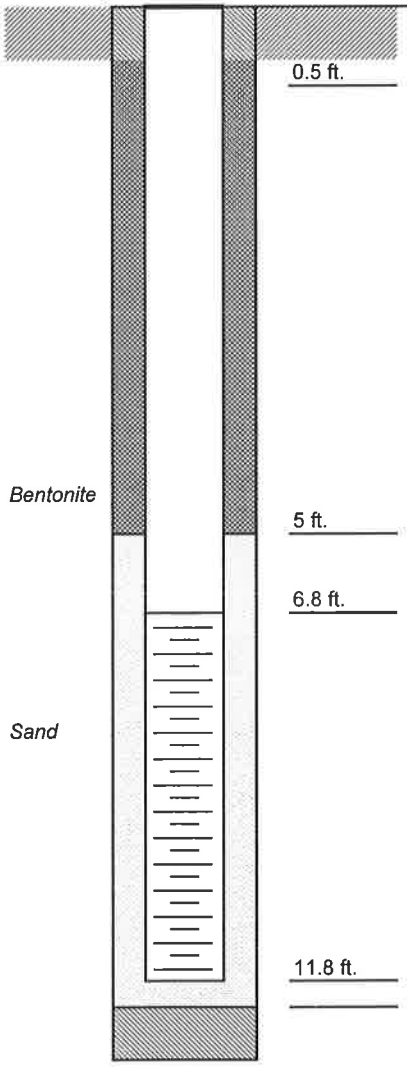
Environmental Engineers & Scientists

WELL CONSTRUCTION SUMMARY

Project: Flint St. Redevelopment Location: 15 Flint Street Well No.: B-5
Permit No.:

TOC elev.: -

TOC elev.:



DRILLING SUMMARY

Drilling Company: J. Agar Drillers:
Drill Rig/Model: Geoprobe
Borehole Diameters: 2-in. Drilling Fluid:
Bits/Depths: 0 - 11.5 ft.
Total Depth: 11.5 ft. Depth To Water: 7 ft.
Supervisor Geologist:

WELL DESIGN

Casing Material:	PVC	Diameter:	2 in.
Screen Size:	PVC	Diameter:	2-in.
Slot Size:	0.01	Setting:	6.8 - ft.11.8
Backfill		Setting:	
Filter Material:	Sand	Setting:	5 to 11.8 ft
Seals Material:	Bentonite chips	Setting:	3 to 5 ft.
Sand Cap		Setting:	
Grout:		Setting:	
Surface Casing Material:	Road box	Setting:	

TIME LOG

	Started	Completed
Drilling:	10-Mar-16	10-Mar-16
Installation:	10-Mar-16	10-Mar-16
Development:	10-Mar-16	10-Mar-16

WELL DEVELOPMENT

Method: Bailing
Static Depth to Water: 7.7 ft.
Pumping Depth To Water:
Pumping Rate: Spec. Capacity:
Volume Pumped: 2 gal.

LEADER PROFESSIONAL SERVICES

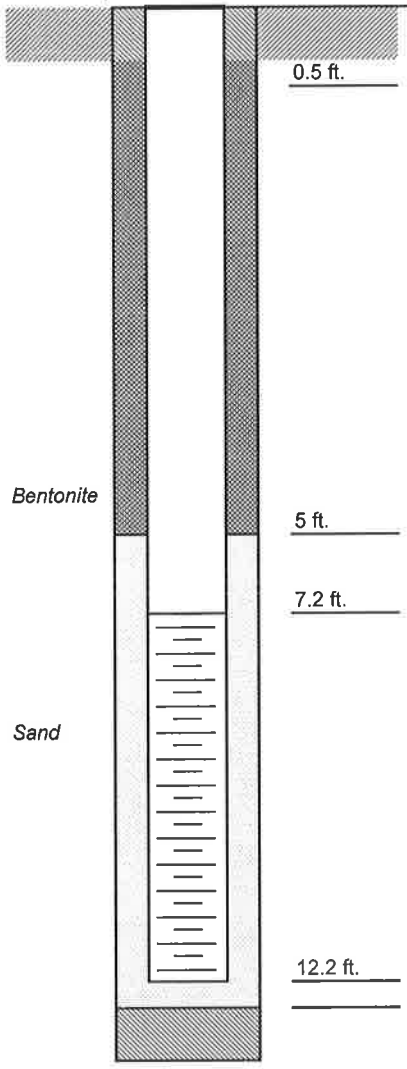
Environmental Engineers & Scientists

WELL CONSTRUCTION SUMMARY

Project: Flint St. Redevelopment Location: 15 Flint Street Well No.: B-7
Permit No.:

TOC elev.: -

TOC elev.:



DRILLING SUMMARY

Drilling Company: J. Agar Drillers:
Drill Rig/Model: Geoprobe
Borehole Diameters: 2-in. Drilling Fluid:
Bits/Depths: 0 - 11.5 ft.
Total Depth: 11.5 ft. Depth To Water: 7 ft.
Supervisor Geologist:

WELL DESIGN

Casing Material:	PVC	Diameter:	2 in.
Screen Size:	PVC	Diameter:	2-in.
Slot Size:	0.01	Setting:	7.2 to 12.2 ft.
Backfill		Setting:	
Filter Material:	Sand	Setting:	5 to 12.2 ft
Seals Material:	Bentonite chips	Setting:	.5 to 5 ft.
Sand Cap		Setting:	
Grout:		Setting:	
Surface Casing Material:	Road box	Setting:	

TIME LOG

	Started	Completed
Drilling:	10-Mar-16	10-Mar-16
Installation:	10-Mar-16	10-Mar-16
Development:	10-Mar-16	10-Mar-16

WELL DEVELOPMENT

Method: Bailing
Static Depth to Water: 7.7 ft.
Pumping Depth To Water:
Pumping Rate: Spec. Capacity:
Volume Pumped: 2 gal.

ATTACHMENT 2
ExxonMobil Phase II Laboratory Reports for Soil and Groundwater Samples

RX:3
(B-5)
4.8' bgs
PID: <1 ppm

RX-2
(B-2)
(MW-1)
11.8' bgs
PID: <1 ppm

RX-4
(B-5)
(MW-2)
11.4' bgs
PID: 10 ppm

B-3
Not Sampled

RX-6
B-7
(MW-3)
12.4' bgs
PID: 8ppm

RX-1
(B-1)
7.4' bgs
PID: 39 ppm

RX-5
(B-6)
10' bgs
PID: 3 ppm

RX-7
(B-8)
8.2' bgs
PID: 121 ppm

RX-8
(B-9)
(MW-4)
11' bgs
PID: <1 ppm

T:\GIS\XOM\Rochester\0172.0180M008\MXDs\Site Plan - Investigation with callouts.mxd

Legend

- Soil Boring
- SB/MW Location
- Property Boundary

Notes

1) All features shown are approximate.
2) All Samples collected by Roux were taken from boring locations previously sampled by Leader Environmental

Sources

1) Aerial Photograph is a 12-inch resolution 4 band digital orthophoto available at NYSGIS Clearinghouse (http://gis.ny.gov).
2) Property Owner information obtained from the City of Rochester's Property Information Application. Accessed 12/3/2015.

0 25 50 100 Feet

N W E S

Title:

Summary of 2016 Soil Sample Results

NYSDEC Spill #1511740
22 Flint St. and 936 Exchange St. Rochester, NY

Prepared For:

ExxonMobil Environmental Services Company

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled By:	MGV	Date:	4/19/2016
Prepared By:	MGV	Scale:	AS SHOWN
Project Mgr.:	IR	Office:	MA
File No.:	ROCHESTER	Project:	

PLATE 1

e-Hardcopy 2.0
Automated Report

Technical Report for

Roux Associates

Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

0172.0180M008

SGS Accutest Job Number: MC44826

Sampling Date: 03/11/16

Report to:

Roux Associates, Inc.
12 Gill Street Suite 4700
Woburn, MA 01801
mcasey@rouxinc.com

ATTN: Matt Casey

Total number of pages in report: **271**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

H. (Brad) Madadian
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Sections: 1 2 3 4 5 6 7 8

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Table of Contents

Sample Summary

Roux Associates

Job No: MC44826

Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY
Project No: 0172.0180M008

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC44826-1	03/11/16	09:50	MC	03/14/16	SO	Soil	RX-1
MC44826-2	03/11/16	10:30	MC	03/14/16	SO	Soil	RX-2
MC44826-3	03/11/16	11:00	MC	03/14/16	SO	Soil	RX-3
MC44826-4	03/11/16	11:20	MC	03/14/16	SO	Soil	RX-4
MC44826-5	03/11/16	12:30	MC	03/14/16	SO	Soil	RX-5
MC44826-6	03/11/16	13:10	MC	03/14/16	SO	Soil	RX-6
MC44826-7	03/11/16	15:00	MC	03/14/16	SO	Soil	RX-7
MC44826-8	03/11/16	15:00	MC	03/14/16	SO	Soil	RX-7A
MC44826-9	03/11/16	15:00	MC	03/14/16	SO	Soil	RX-7B
MC44826-10	03/11/16	15:40	MC	03/14/16	SO	Soil	RX-8
MC44826-11	03/11/16	15:40	MC	03/14/16	SO	Soil	RX-8A
MC44826-12	03/11/16	15:40	MC	03/14/16	SO	Soil	RX-8B
MC44826-13	03/11/16	12:00	MC	03/14/16	SO	Soil	B-8

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Sample Summary
(continued)

Roux Associates

Job No: MC44826

Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY
Project No: 0172.0180M008

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC44826-14	03/11/16	12:30	MC	03/14/16	SO	Soil	B-9
MC44826-15	03/11/16	12:00	MC	03/14/16	AQ	Ground Water	RXGW1
MC44826-16	03/11/16	14:10	MC	03/14/16	AQ	Ground Water	RXGW2
MC44826-17	03/11/16	16:15	MC	03/14/16	AQ	Ground Water	RXGW3
MC44826-18	03/11/16	09:00	MC	03/14/16	AQ	Trip Blank Water	TRIP

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Summary of Hits

Job Number: MC44826
Account: Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY
Collected: 03/11/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC44826-1	**RX-1**					
Benzene		197	49		ug/kg	SW846 8260C
Chlorobenzene		323	190		ug/kg	SW846 8260C
cis-1,2-Dichloroethene		639	190		ug/kg	SW846 8260C
Trichloroethene		9360	190		ug/kg	SW846 8260C
m,p-Xylene		277	190		ug/kg	SW846 8260C
Xylene (total)		277	190		ug/kg	SW846 8260C
Benzo(a)anthracene		348	120		ug/kg	SW846 8270D
Chrysene		626	120		ug/kg	SW846 8270D
Arsenic		7.4	0.90		mg/kg	SW846 6010C
Beryllium		0.65	0.36		mg/kg	SW846 6010C
Cadmium		0.38	0.36		mg/kg	SW846 6010C
Chromium		15.5	0.90		mg/kg	SW846 6010C
Copper		18.9	2.3		mg/kg	SW846 6010C
Lead		15.8	0.90		mg/kg	SW846 6010C
Mercury		0.097	0.031		mg/kg	SW846 7471B
Nickel		20.8	3.6		mg/kg	SW846 6010C
Zinc		231	1.8		mg/kg	SW846 6010C
MC44826-2	**RX-2**					
Chrysene		153	120		ug/kg	SW846 8270D
Arsenic		4.6	0.94		mg/kg	SW846 6010C
Chromium		10.4	0.94		mg/kg	SW846 6010C
Copper		7.4	2.4		mg/kg	SW846 6010C
Lead		6.5	0.94		mg/kg	SW846 6010C
Mercury		0.17	0.033		mg/kg	SW846 7471B
Nickel		8.8	3.8		mg/kg	SW846 6010C
Zinc		43.3	1.9		mg/kg	SW846 6010C
MC44826-3	**RX-3**					
Fluoranthene		143	110		ug/kg	SW846 8270D
Pyrene		120	110		ug/kg	SW846 8270D
Arsenic		2.6	0.84		mg/kg	SW846 6010C
Chromium		8.2	0.84		mg/kg	SW846 6010C
Copper		8.8	2.1		mg/kg	SW846 6010C
Lead		4.4	0.84		mg/kg	SW846 6010C
Nickel		8.8	3.4		mg/kg	SW846 6010C
Zinc		28.7	1.7		mg/kg	SW846 6010C
MC44826-4	**RX-4**					
Chrysene		250	120		ug/kg	SW846 8270D

Summary of Hits

Job Number: MC44826
Account: Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY
Collected: 03/11/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Phenanthrene		380	120		ug/kg	SW846 8270D
Arsenic		6.4	0.91		mg/kg	SW846 6010C
Beryllium		0.42	0.36		mg/kg	SW846 6010C
Chromium		11.2	0.91		mg/kg	SW846 6010C
Copper		15.2	2.3		mg/kg	SW846 6010C
Lead		30.7	0.91		mg/kg	SW846 6010C
Nickel		13.3	3.6		mg/kg	SW846 6010C
Zinc		116	1.8		mg/kg	SW846 6010C
MC44826-5	**RX-5**					
Benzene		325	57		ug/kg	SW846 8260C
n-Butylbenzene		2720	570		ug/kg	SW846 8260C
sec-Butylbenzene		2610	570		ug/kg	SW846 8260C
Isopropylbenzene		1600	570		ug/kg	SW846 8260C
Naphthalene [a]		2360	570		ug/kg	SW846 8260C
n-Propylbenzene		3820	570		ug/kg	SW846 8260C
Vinyl Acetate		1210	570		ug/kg	SW846 8260C
m,p-Xylene		717	230		ug/kg	SW846 8260C
Xylene (total)		776	230		ug/kg	SW846 8260C
Chrysene		225	120		ug/kg	SW846 8270D
1-Methylnaphthalene		670	310		ug/kg	SW846 8270D
2-Methylnaphthalene		1350	120		ug/kg	SW846 8270D
Naphthalene		362	120		ug/kg	SW846 8270D
Arsenic		3.3	0.85		mg/kg	SW846 6010C
Chromium		5.4	0.85		mg/kg	SW846 6010C
Copper		10.2	2.1		mg/kg	SW846 6010C
Lead		21.4	0.85		mg/kg	SW846 6010C
Nickel		6.4	3.4		mg/kg	SW846 6010C
Zinc		142	1.7		mg/kg	SW846 6010C
MC44826-6	**RX-6**					
Arsenic		3.9	0.84		mg/kg	SW846 6010C
Chromium		5.5	0.84		mg/kg	SW846 6010C
Copper		8.0	2.1		mg/kg	SW846 6010C
Lead		28.0	0.84		mg/kg	SW846 6010C
Nickel		6.4	3.3		mg/kg	SW846 6010C
Zinc		70.9	1.7		mg/kg	SW846 6010C
MC44826-7	**RX-7**					
Acenaphthene		696	120		ug/kg	SW846 8270D
Acenaphthylene		168	120		ug/kg	SW846 8270D
Anthracene		1910	120		ug/kg	SW846 8270D

Summary of Hits

Job Number: MC44826
Account: Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY
Collected: 03/11/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Benzo(a)anthracene		1150	120		ug/kg	SW846 8270D
Benzo(a)pyrene		886	120		ug/kg	SW846 8270D
Benzo(b)fluoranthene		887	120		ug/kg	SW846 8270D
Benzo(g,h,i)perylene		657	120		ug/kg	SW846 8270D
Benzo(k)fluoranthene		675	120		ug/kg	SW846 8270D
Carbazole		350	120		ug/kg	SW846 8270D
Chrysene		1210	120		ug/kg	SW846 8270D
Dibenzo(a,h)anthracene		184	120		ug/kg	SW846 8270D
Dibenzofuran		603	120		ug/kg	SW846 8270D
Fluoranthene		3480	120		ug/kg	SW846 8270D
Fluorene		995	120		ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		523	120		ug/kg	SW846 8270D
1-Methylnaphthalene		471	290		ug/kg	SW846 8270D
2-Methylnaphthalene		574	120		ug/kg	SW846 8270D
Naphthalene		831	120		ug/kg	SW846 8270D
Phenanthrene		2520	120		ug/kg	SW846 8270D
Pyrene		2990	120		ug/kg	SW846 8270D
Arsenic		25.4	0.91		mg/kg	SW846 6010C
Beryllium		0.57	0.37		mg/kg	SW846 6010C
Cadmium		0.44	0.37		mg/kg	SW846 6010C
Chromium		10.6	0.91		mg/kg	SW846 6010C
Copper		28.0	2.3		mg/kg	SW846 6010C
Lead		88.9	0.91		mg/kg	SW846 6010C
Mercury		0.24	0.031		mg/kg	SW846 7471B
Nickel		20.4	3.7		mg/kg	SW846 6010C
Selenium		1.4	0.91		mg/kg	SW846 6010C
Zinc		238	1.8		mg/kg	SW846 6010C
MC44826-8	**RX-7A**					
m,p-Xylene		348	250		ug/kg	SW846 8260C
Xylene (total)		424	250		ug/kg	SW846 8260C
Acenaphthene		907	130		ug/kg	SW846 8270D
Acenaphthylene		726	130		ug/kg	SW846 8270D
Anthracene		3370	130		ug/kg	SW846 8270D
Benzo(a)anthracene		2200	130		ug/kg	SW846 8270D
Benzo(a)pyrene		2100	130		ug/kg	SW846 8270D
Benzo(b)fluoranthene		1790	130		ug/kg	SW846 8270D
Benzo(g,h,i)perylene		1560	130		ug/kg	SW846 8270D
Benzo(k)fluoranthene		1460	130		ug/kg	SW846 8270D
Carbazole		464	130		ug/kg	SW846 8270D
Chrysene		2040	130		ug/kg	SW846 8270D
Dibenzo(a,h)anthracene		353	130		ug/kg	SW846 8270D
Dibenzofuran		1170	130		ug/kg	SW846 8270D
Fluoranthene		5790	130		ug/kg	SW846 8270D

Summary of Hits

Job Number: MC44826
Account: Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY
Collected: 03/11/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Fluorene		1540	130		ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		1270	130		ug/kg	SW846 8270D
2-Methylnaphthalene		404	130		ug/kg	SW846 8270D
Naphthalene		1620	130		ug/kg	SW846 8270D
Phenanthrene		3080	130		ug/kg	SW846 8270D
Pyrene		5210	130		ug/kg	SW846 8270D
Arsenic		24.3	0.97		mg/kg	SW846 6010C
Beryllium		0.68	0.39		mg/kg	SW846 6010C
Cadmium		0.75	0.39		mg/kg	SW846 6010C
Chromium		14.3	0.97		mg/kg	SW846 6010C
Copper		34.8	2.4		mg/kg	SW846 6010C
Lead		92.4	0.97		mg/kg	SW846 6010C
Mercury		0.17	0.036		mg/kg	SW846 7471B
Nickel		24.6	3.9		mg/kg	SW846 6010C
Selenium		2.4	0.97		mg/kg	SW846 6010C
Zinc		246	1.9		mg/kg	SW846 6010C
MC44826-9	**RX-7B**					
Fluorene		176	120		ug/kg	SW846 8270D
Phenanthrene		354	120		ug/kg	SW846 8270D
Arsenic		6.3	0.92		mg/kg	SW846 6010C
Beryllium		0.38	0.37		mg/kg	SW846 6010C
Chromium		13.8	0.92		mg/kg	SW846 6010C
Copper		11.4	2.3		mg/kg	SW846 6010C
Lead		10.6	0.92		mg/kg	SW846 6010C
Nickel		17.7	3.7		mg/kg	SW846 6010C
Zinc		725	1.8		mg/kg	SW846 6010C
MC44826-10	**RX-8**					
sec-Butylbenzene		992	530		ug/kg	SW846 8260C
1,1,2,2-Tetrachloroethane		443	210		ug/kg	SW846 8260C
Arsenic		23.7	0.89		mg/kg	SW846 6010C
Beryllium		0.99	0.36		mg/kg	SW846 6010C
Cadmium		1.2	0.36		mg/kg	SW846 6010C
Chromium		16.1	0.89		mg/kg	SW846 6010C
Copper		14.1	2.2		mg/kg	SW846 6010C
Lead		13.6	0.89		mg/kg	SW846 6010C
Nickel		28.0	3.6		mg/kg	SW846 6010C
Zinc		448	1.8		mg/kg	SW846 6010C
MC44826-11	**RX-8A**					
Methylene chloride		60.0	2.3		ug/kg	SW846 8260C

Summary of Hits

Job Number: MC44826
Account: Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY
Collected: 03/11/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Trichloroethene		42.5	2.3		ug/kg	SW846 8260C
Acenaphthene		204	130		ug/kg	SW846 8270D
Acenaphthylene		155	130		ug/kg	SW846 8270D
Anthracene		402	130		ug/kg	SW846 8270D
Benzo(a)anthracene		959	130		ug/kg	SW846 8270D
Benzo(a)pyrene		754	130		ug/kg	SW846 8270D
Benzo(b)fluoranthene		724	130		ug/kg	SW846 8270D
Benzo(g,h,i)perylene		568	130		ug/kg	SW846 8270D
Benzo(k)fluoranthene		681	130		ug/kg	SW846 8270D
Carbazole		202	130		ug/kg	SW846 8270D
Chrysene		1000	130		ug/kg	SW846 8270D
Dibenzo(a,h)anthracene		179	130		ug/kg	SW846 8270D
Dibenzofuran		301	130		ug/kg	SW846 8270D
Fluoranthene		2190	130		ug/kg	SW846 8270D
Fluorene		180	130		ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		449	130		ug/kg	SW846 8270D
1-Methylnaphthalene		738	320		ug/kg	SW846 8270D
2-Methylnaphthalene		707	130		ug/kg	SW846 8270D
Naphthalene		524	130		ug/kg	SW846 8270D
Phenanthrene		2500	130		ug/kg	SW846 8270D
Pyrene		1920	130		ug/kg	SW846 8270D
Arsenic		129	0.98		mg/kg	SW846 6010C
Beryllium		0.79	0.39		mg/kg	SW846 6010C
Cadmium		0.41	0.39		mg/kg	SW846 6010C
Chromium		18.0	0.98		mg/kg	SW846 6010C
Copper		28.9	2.5		mg/kg	SW846 6010C
Lead		243	0.98		mg/kg	SW846 6010C
Mercury		0.79	0.038		mg/kg	SW846 7471B
Nickel		13.3	3.9		mg/kg	SW846 6010C
Selenium		15.9	0.98		mg/kg	SW846 6010C
Thallium		4.0	0.98		mg/kg	SW846 6010C
Zinc		321	2.0		mg/kg	SW846 6010C
MC44826-12	**RX-8B**					
Methylene chloride		7.3	2.1		ug/kg	SW846 8260C
Benzo(a)anthracene		289	110		ug/kg	SW846 8270D
Benzo(a)pyrene		175	110		ug/kg	SW846 8270D
Benzo(b)fluoranthene		204	110		ug/kg	SW846 8270D
Benzo(g,h,i)perylene		121	110		ug/kg	SW846 8270D
Benzo(k)fluoranthene		140	110		ug/kg	SW846 8270D
Chrysene		451	110		ug/kg	SW846 8270D
Dibenzofuran		291	110		ug/kg	SW846 8270D
Fluoranthene		511	110		ug/kg	SW846 8270D
1-Methylnaphthalene		1390	290		ug/kg	SW846 8270D

Summary of Hits

Job Number: MC44826
Account: Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY
Collected: 03/11/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
2-Methylnaphthalene		919	110		ug/kg	SW846 8270D
Naphthalene		360	110		ug/kg	SW846 8270D
Phenanthrene		1430	110		ug/kg	SW846 8270D
Pyrene		465	110		ug/kg	SW846 8270D
Arsenic		327	0.95		mg/kg	SW846 6010C
Beryllium		0.65	0.38		mg/kg	SW846 6010C
Chromium		9.6	0.95		mg/kg	SW846 6010C
Copper		12.5	2.4		mg/kg	SW846 6010C
Lead		58.5	0.95		mg/kg	SW846 6010C
Mercury		0.26	0.037		mg/kg	SW846 7471B
Nickel		8.3	3.8		mg/kg	SW846 6010C
Selenium		8.0	0.95		mg/kg	SW846 6010C
Thallium		1.4	0.95		mg/kg	SW846 6010C
Zinc		61.4	1.9		mg/kg	SW846 6010C
MC44826-13	**B-8**					
sec-Butylbenzene		591	490		ug/kg	SW846 8260C
Acenaphthene		1020	150		ug/kg	SW846 8270D
Anthracene		1600	150		ug/kg	SW846 8270D
Benzo(a)anthracene		385	150		ug/kg	SW846 8270D
Benzo(a)pyrene		265	150		ug/kg	SW846 8270D
Benzo(b)fluoranthene		226	150		ug/kg	SW846 8270D
Benzo(g,h,i)perylene		190	150		ug/kg	SW846 8270D
Benzo(k)fluoranthene		196	150		ug/kg	SW846 8270D
Chrysene		460	150		ug/kg	SW846 8270D
Dibenzofuran		307	150		ug/kg	SW846 8270D
Fluoranthene		1840	150		ug/kg	SW846 8270D
Fluorene		1130	150		ug/kg	SW846 8270D
Indeno(1,2,3-cd)pyrene		154	150		ug/kg	SW846 8270D
Phenanthrene		2990	150		ug/kg	SW846 8270D
Pyrene		1380	150		ug/kg	SW846 8270D
Arsenic		9.8	1.2		mg/kg	SW846 6010C
Beryllium		0.90	0.47		mg/kg	SW846 6010C
Chromium		29.7	1.2		mg/kg	SW846 6010C
Copper		21.5	2.9		mg/kg	SW846 6010C
Lead		27.7	1.2		mg/kg	SW846 6010C
Mercury		0.076	0.043		mg/kg	SW846 7471B
Nickel		26.7	4.7		mg/kg	SW846 6010C
Zinc		335	2.4		mg/kg	SW846 6010C
MC44826-14	**B-9**					
Acetone		35.2	13		ug/kg	SW846 8260C
sec-Butylbenzene		32.8	5.8		ug/kg	SW846 8260C

Summary of Hits

Job Number: MC44826
Account: Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY
Collected: 03/11/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
tert-Butylbenzene		17.7	5.8		ug/kg	SW846 8260C
Methylene chloride		3.5	2.3		ug/kg	SW846 8260C
Naphthalene		8.0	5.8		ug/kg	SW846 8260C
Trichloroethene		32.8	2.3		ug/kg	SW846 8260C
Phenanthrene		134	120		ug/kg	SW846 8270D
Arsenic		64.8	0.95		mg/kg	SW846 6010C
Beryllium		1.2	0.38		mg/kg	SW846 6010C
Cadmium		1.0	0.38		mg/kg	SW846 6010C
Chromium		15.1	0.95		mg/kg	SW846 6010C
Copper		18.0	2.4		mg/kg	SW846 6010C
Lead		22.3	0.95		mg/kg	SW846 6010C
Mercury		0.084	0.033		mg/kg	SW846 7471B
Nickel		56.6	3.8		mg/kg	SW846 6010C
Selenium		4.8	0.95		mg/kg	SW846 6010C
Zinc		630	1.9		mg/kg	SW846 6010C
MC44826-15	**RXGW1**					
Methyl Tert Butyl Ether [b]		5.4	1.0		ug/l	SW846 8260C
Chrysene		125	35		ug/l	SW846 8270D
Phenanthrene		204	35		ug/l	SW846 8270D
Arsenic [c]		289	8.0		ug/l	SW846 6010C
Beryllium [c]		19.3	8.0		ug/l	SW846 6010C
Cadmium [c]		18.1	8.0		ug/l	SW846 6010C
Chromium [c]		404	20		ug/l	SW846 6010C
Copper [c]		715	50		ug/l	SW846 6010C
Lead [c]		2260	10		ug/l	SW846 6010C
Mercury		1.3	0.20		ug/l	SW846 7470A
Nickel [c]		604	80		ug/l	SW846 6010C
Zinc [c]		6710	40		ug/l	SW846 6010C
MC44826-16	**RXGW2**					
Arsenic		21.6	4.0		ug/l	SW846 6010C
Chromium		28.3	10		ug/l	SW846 6010C
Copper		51.2	25		ug/l	SW846 6010C
Lead		38.5	5.0		ug/l	SW846 6010C
Zinc		758	20		ug/l	SW846 6010C
MC44826-17	**RXGW3**					
Antimony [c]		90.3	60		ug/l	SW846 6010C
Arsenic		19000	40		ug/l	SW846 6010C
Chromium		436	100		ug/l	SW846 6010C
Copper		2380	250		ug/l	SW846 6010C

Summary of Hits

Job Number: MC44826
Account: Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY
Collected: 03/11/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Lead		3030	50		ug/l	SW846 6010C
Mercury [c]		11.9	2.0		ug/l	SW846 7470A
Nickel		628	400		ug/l	SW846 6010C
Selenium		1400	100		ug/l	SW846 6010C
Thallium		83.7	50		ug/l	SW846 6010C
Zinc		5520	200		ug/l	SW846 6010C

MC44826-18 TRIP

No hits reported in this sample.

(a) Continuing Calibration outside of acceptance criteria. Result may be biased low.
(b) The pH of the sample aliquot for VOA analysis was > 2 at time of analysis.
(c) Elevated RL due to dilution required for matrix interference.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	RX-1		
Lab Sample ID:	MC44826-1	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	83.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95760.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.87 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	970	ug/kg	
71-43-2	Benzene	197	49	ug/kg	
108-86-1	Bromobenzene	ND	490	ug/kg	
74-97-5	Bromochloromethane	ND	490	ug/kg	
75-27-4	Bromodichloromethane	ND	190	ug/kg	
75-25-2	Bromoform	ND	190	ug/kg	
74-83-9	Bromomethane [a]	ND	190	ug/kg	
78-93-3	2-Butanone (MEK)	ND	970	ug/kg	
104-51-8	n-Butylbenzene	ND	490	ug/kg	
135-98-8	sec-Butylbenzene	ND	490	ug/kg	
98-06-6	tert-Butylbenzene	ND	490	ug/kg	
75-15-0	Carbon disulfide	ND	490	ug/kg	
56-23-5	Carbon tetrachloride	ND	190	ug/kg	
108-90-7	Chlorobenzene	323	190	ug/kg	
75-00-3	Chloroethane	ND	490	ug/kg	
67-66-3	Chloroform	ND	190	ug/kg	
74-87-3	Chloromethane [a]	ND	490	ug/kg	
95-49-8	o-Chlorotoluene	ND	490	ug/kg	
106-43-4	p-Chlorotoluene	ND	490	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan [a]	ND	490	ug/kg	
124-48-1	Dibromochloromethane	ND	190	ug/kg	
106-93-4	1,2-Dibromoethane	ND	190	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	190	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	190	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	190	ug/kg	
75-71-8	Dichlorodifluoromethane [a]	ND	190	ug/kg	
75-34-3	1,1-Dichloroethane	ND	190	ug/kg	
107-06-2	1,2-Dichloroethane	ND	190	ug/kg	
75-35-4	1,1-Dichloroethene	ND	190	ug/kg	
156-59-2	cis-1,2-Dichloroethene	639	190	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	190	ug/kg	
78-87-5	1,2-Dichloropropane	ND	190	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-1		
Lab Sample ID:	MC44826-1	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	83.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	490	ug/kg	
594-20-7	2,2-Dichloropropane	ND	490	ug/kg	
563-58-6	1,1-Dichloropropene	ND	490	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	190	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	190	ug/kg	
100-41-4	Ethylbenzene	ND	190	ug/kg	
87-68-3	Hexachlorobutadiene	ND	490	ug/kg	
591-78-6	2-Hexanone	ND	970	ug/kg	
74-88-4	Iodomethane	ND	490	ug/kg	
98-82-8	Isopropylbenzene	ND	490	ug/kg	
99-87-6	p-Isopropyltoluene	ND	490	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	190	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	490	ug/kg	
74-95-3	Methylene bromide	ND	490	ug/kg	
75-09-2	Methylene chloride	ND	190	ug/kg	
91-20-3	Naphthalene [a]	ND	490	ug/kg	
103-65-1	n-Propylbenzene	ND	490	ug/kg	
100-42-5	Styrene	ND	490	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	490	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	190	ug/kg	
127-18-4	Tetrachloroethene	ND	190	ug/kg	
108-88-3	Toluene	ND	490	ug/kg	
87-61-6	1,2,3-Trichlorobenzene [a]	ND	490	ug/kg	
120-82-1	1,2,4-Trichlorobenzene [a]	ND	490	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	190	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	190	ug/kg	
79-01-6	Trichloroethene	9360	190	ug/kg	
75-69-4	Trichlorofluoromethane	ND	190	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	490	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	490	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	490	ug/kg	
108-05-4	Vinyl Acetate	ND	490	ug/kg	
75-01-4	Vinyl chloride [a]	ND	190	ug/kg	
	m,p-Xylene	277	190	ug/kg	
95-47-6	o-Xylene	ND	190	ug/kg	
1330-20-7	Xylene (total)	277	190	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		65-141%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-1		
Lab Sample ID:	MC44826-1	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	83.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	94%		65-129%
460-00-4	4-Bromofluorobenzene	92%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-1		
Lab Sample ID:	MC44826-1	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	83.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47206.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2 [a]	R47214.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

	Initial Weight	Final Volume
Run #1	20.6 g	1.0 ml
Run #2	20.6 g	1.0 ml

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	580	ug/kg	
95-57-8	2-Chlorophenol	ND	290	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	580	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	580	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	580	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	580	ug/kg	
95-48-7	2-Methylphenol	ND	580	ug/kg	
	3&4-Methylphenol	ND	580	ug/kg	
88-75-5	2-Nitrophenol	ND	580	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	580	ug/kg	
108-95-2	Phenol	ND	290	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	580	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	580	ug/kg	
83-32-9	Acenaphthene	ND	120	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
62-53-3	Aniline	ND	580	ug/kg	
120-12-7	Anthracene	ND	120	ug/kg	
92-87-5	Benzidine [b]	ND	1200	ug/kg	
56-55-3	Benzo(a)anthracene	348	120	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	120	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	290	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	290	ug/kg	
100-51-6	Benzyl Alcohol	ND	580	ug/kg	
91-58-7	2-Chloronaphthalene	ND	290	ug/kg	
106-47-8	4-Chloroaniline	ND	580	ug/kg	
86-74-8	Carbazole	ND	120	ug/kg	
218-01-9	Chrysene	626	120	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-1		
Lab Sample ID:	MC44826-1	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	83.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	290	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	290	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	290	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	290	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	290	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	290	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	290	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	290	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	580	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	580	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	290	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	120	ug/kg	
132-64-9	Dibenzofuran	ND	120	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	290	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	290	ug/kg	
84-66-2	Diethyl phthalate	ND	290	ug/kg	
131-11-3	Dimethyl phthalate	ND	290	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	290	ug/kg	
206-44-0	Fluoranthene	ND	120	ug/kg	
86-73-7	Fluorene	ND	120	ug/kg	
118-74-1	Hexachlorobenzene	ND	290	ug/kg	
87-68-3	Hexachlorobutadiene	ND	290	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	580	ug/kg	
67-72-1	Hexachloroethane	ND	290	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	290	ug/kg	
90-12-0	1-Methylnaphthalene	ND	290	ug/kg	
91-57-6	2-Methylnaphthalene	ND	120	ug/kg	
88-74-4	2-Nitroaniline	ND	580	ug/kg	
99-09-2	3-Nitroaniline	ND	580	ug/kg	
100-01-6	4-Nitroaniline	ND	580	ug/kg	
91-20-3	Naphthalene	ND	120	ug/kg	
98-95-3	Nitrobenzene	ND	290	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	290	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	290	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	290	ug/kg	
85-01-8	Phenanthrene	ND	120	ug/kg	
129-00-0	Pyrene	ND	120	ug/kg	
110-86-1	Pyridine	ND	580	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	290	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-1		
Lab Sample ID:	MC44826-1	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	83.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	76%	75%	24-110%
4165-62-2	Phenol-d5	77%	77%	30-114%
118-79-6	2,4,6-Tribromophenol	97%	95%	20-139%
4165-60-0	Nitrobenzene-d5	87%	88%	27-112%
321-60-8	2-Fluorobiphenyl	85%	85%	35-115%
1718-51-0	Terphenyl-d14	96%	98%	48-136%

(a) Confirmation run for internal standard areas.
(b) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-1		
Lab Sample ID:	MC44826-1	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8081B SW846 3546	**Percent Solids:**	83.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50259.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.6 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	5.8	ug/kg	
319-84-6	alpha-BHC	ND	5.8	ug/kg	
319-85-7	beta-BHC	ND	5.8	ug/kg	
319-86-8	delta-BHC	ND	5.8	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	5.8	ug/kg	
12789-03-6	Chlordane	ND	58	ug/kg	
5103-71-9	alpha-Chlordane	ND	5.8	ug/kg	
5103-74-2	gamma-Chlordane	ND	5.8	ug/kg	
60-57-1	Dieldrin	ND	5.8	ug/kg	
72-54-8	4,4'-DDD	ND	5.8	ug/kg	
72-55-9	4,4'-DDE	ND	5.8	ug/kg	
50-29-3	4,4'-DDT	ND	5.8	ug/kg	
72-20-8	Endrin	ND	5.8	ug/kg	
1031-07-8	Endosulfan sulfate	ND	5.8	ug/kg	
7421-93-4	Endrin aldehyde	ND	5.8	ug/kg	
959-98-8	Endosulfan-I	ND	5.8	ug/kg	
33213-65-9	Endosulfan-II	ND	5.8	ug/kg	
76-44-8	Heptachlor	ND	5.8	ug/kg	
1024-57-3	Heptachlor epoxide	ND	5.8	ug/kg	
118-74-1	Hexachlorobenzene	ND	5.8	ug/kg	
72-43-5	Methoxychlor	ND	5.8	ug/kg	
53494-70-5	Endrin ketone	ND	5.8	ug/kg	
8001-35-2	Toxaphene	ND	58	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	52%		10-143%
877-09-8	Tetrachloro-m-xylene	58%		10-143%
2051-24-3	Decachlorobiphenyl	44%		10-172%
2051-24-3	Decachlorobiphenyl	54%		10-172%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-1		
Lab Sample ID:	MC44826-1	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8082A SW846 3546	**Percent Solids:**	83.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56286.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.6 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	29	ug/kg	
11104-28-2	Aroclor 1221	ND	29	ug/kg	
11141-16-5	Aroclor 1232	ND	29	ug/kg	
53469-21-9	Aroclor 1242	ND	29	ug/kg	
12672-29-6	Aroclor 1248	ND	29	ug/kg	
11097-69-1	Aroclor 1254	ND	29	ug/kg	
11096-82-5	Aroclor 1260	ND	29	ug/kg	
37324-23-5	Aroclor 1262	ND	29	ug/kg	
11100-14-4	Aroclor 1268	ND	29	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	71%		35-136%
877-09-8	Tetrachloro-m-xylene	61%		35-136%
2051-24-3	Decachlorobiphenyl	87%		24-171%
2051-24-3	Decachlorobiphenyl	66%		24-171%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-1		
Lab Sample ID:	MC44826-1	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
		Percent Solids:	83.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 0.90	0.90	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Arsenic	7.4	0.90	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.65	0.36	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Cadmium	0.38	0.36	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Chromium	15.5	0.90	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Copper	18.9	2.3	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Lead	15.8	0.90	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Mercury	0.097	0.031	mg/kg	1	03/16/16	03/16/16	EC	SW846 7471B [1]	SW846 7471B [3]
Nickel	20.8	3.6	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Selenium	< 0.90	0.90	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Silver	< 0.45	0.45	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Thallium	< 0.90	0.90	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Zinc	231	1.8	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA18978
(2) Instrument QC Batch: MA18986
(3) Prep QC Batch: MP25923
(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-2		
Lab Sample ID:	MC44826-2	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	81.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95761.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	8.08 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	880	ug/kg	
71-43-2	Benzene	ND	44	ug/kg	
108-86-1	Bromobenzene	ND	440	ug/kg	
74-97-5	Bromochloromethane	ND	440	ug/kg	
75-27-4	Bromodichloromethane	ND	180	ug/kg	
75-25-2	Bromoform	ND	180	ug/kg	
74-83-9	Bromomethane [a]	ND	180	ug/kg	
78-93-3	2-Butanone (MEK)	ND	880	ug/kg	
104-51-8	n-Butylbenzene	ND	440	ug/kg	
135-98-8	sec-Butylbenzene	ND	440	ug/kg	
98-06-6	tert-Butylbenzene	ND	440	ug/kg	
75-15-0	Carbon disulfide	ND	440	ug/kg	
56-23-5	Carbon tetrachloride	ND	180	ug/kg	
108-90-7	Chlorobenzene	ND	180	ug/kg	
75-00-3	Chloroethane	ND	440	ug/kg	
67-66-3	Chloroform	ND	180	ug/kg	
74-87-3	Chloromethane [a]	ND	440	ug/kg	
95-49-8	o-Chlorotoluene	ND	440	ug/kg	
106-43-4	p-Chlorotoluene	ND	440	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan [a]	ND	440	ug/kg	
124-48-1	Dibromochloromethane	ND	180	ug/kg	
106-93-4	1,2-Dibromoethane	ND	180	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	180	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	180	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	180	ug/kg	
75-71-8	Dichlorodifluoromethane [a]	ND	180	ug/kg	
75-34-3	1,1-Dichloroethane	ND	180	ug/kg	
107-06-2	1,2-Dichloroethane	ND	180	ug/kg	
75-35-4	1,1-Dichloroethene	ND	180	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	180	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	180	ug/kg	
78-87-5	1,2-Dichloropropane	ND	180	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-2		
Lab Sample ID:	MC44826-2	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	81.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	440	ug/kg	
594-20-7	2,2-Dichloropropane	ND	440	ug/kg	
563-58-6	1,1-Dichloropropene	ND	440	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	180	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	180	ug/kg	
100-41-4	Ethylbenzene	ND	180	ug/kg	
87-68-3	Hexachlorobutadiene	ND	440	ug/kg	
591-78-6	2-Hexanone	ND	880	ug/kg	
74-88-4	Iodomethane	ND	440	ug/kg	
98-82-8	Isopropylbenzene	ND	440	ug/kg	
99-87-6	p-Isopropyltoluene	ND	440	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	180	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	440	ug/kg	
74-95-3	Methylene bromide	ND	440	ug/kg	
75-09-2	Methylene chloride	ND	180	ug/kg	
91-20-3	Naphthalene [a]	ND	440	ug/kg	
103-65-1	n-Propylbenzene	ND	440	ug/kg	
100-42-5	Styrene	ND	440	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	440	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	180	ug/kg	
127-18-4	Tetrachloroethene	ND	180	ug/kg	
108-88-3	Toluene	ND	440	ug/kg	
87-61-6	1,2,3-Trichlorobenzene [a]	ND	440	ug/kg	
120-82-1	1,2,4-Trichlorobenzene [a]	ND	440	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	180	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	180	ug/kg	
79-01-6	Trichloroethene	ND	180	ug/kg	
75-69-4	Trichlorofluoromethane	ND	180	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	440	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	440	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	440	ug/kg	
108-05-4	Vinyl Acetate	ND	440	ug/kg	
75-01-4	Vinyl chloride [a]	ND	180	ug/kg	
	m,p-Xylene	ND	180	ug/kg	
95-47-6	o-Xylene	ND	180	ug/kg	
1330-20-7	Xylene (total)	ND	180	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		65-141%

ND = Not detected
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E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-2		
Lab Sample ID:	MC44826-2	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	81.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	99%		65-129%
460-00-4	4-Bromofluorobenzene	100%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
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E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-2		
Lab Sample ID:	MC44826-2	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	81.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47211.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2							

	Initial Weight	Final Volume
Run #1	20.7 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	600	ug/kg	
95-57-8	2-Chlorophenol	ND	300	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	600	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	600	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	600	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	600	ug/kg	
95-48-7	2-Methylphenol	ND	600	ug/kg	
	3&4-Methylphenol	ND	600	ug/kg	
88-75-5	2-Nitrophenol	ND	600	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	600	ug/kg	
108-95-2	Phenol	ND	300	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	600	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	600	ug/kg	
83-32-9	Acenaphthene	ND	120	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
62-53-3	Aniline	ND	600	ug/kg	
120-12-7	Anthracene	ND	120	ug/kg	
92-87-5	Benzidine [a]	ND	1200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	120	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	300	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	300	ug/kg	
100-51-6	Benzyl Alcohol	ND	600	ug/kg	
91-58-7	2-Chloronaphthalene	ND	300	ug/kg	
106-47-8	4-Chloroaniline	ND	600	ug/kg	
86-74-8	Carbazole	ND	120	ug/kg	
218-01-9	Chrysene	153	120	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-2		
Lab Sample ID:	MC44826-2	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	81.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	300	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	300	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	300	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	300	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	300	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	300	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	300	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	300	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	600	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	600	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	300	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	120	ug/kg	
132-64-9	Dibenzofuran	ND	120	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	300	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	300	ug/kg	
84-66-2	Diethyl phthalate	ND	300	ug/kg	
131-11-3	Dimethyl phthalate	ND	300	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	300	ug/kg	
206-44-0	Fluoranthene	ND	120	ug/kg	
86-73-7	Fluorene	ND	120	ug/kg	
118-74-1	Hexachlorobenzene	ND	300	ug/kg	
87-68-3	Hexachlorobutadiene	ND	300	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	600	ug/kg	
67-72-1	Hexachloroethane	ND	300	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	300	ug/kg	
90-12-0	1-Methylnaphthalene	ND	300	ug/kg	
91-57-6	2-Methylnaphthalene	ND	120	ug/kg	
88-74-4	2-Nitroaniline	ND	600	ug/kg	
99-09-2	3-Nitroaniline	ND	600	ug/kg	
100-01-6	4-Nitroaniline	ND	600	ug/kg	
91-20-3	Naphthalene	ND	120	ug/kg	
98-95-3	Nitrobenzene	ND	300	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	300	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	300	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	300	ug/kg	
85-01-8	Phenanthrene	ND	120	ug/kg	
129-00-0	Pyrene	ND	120	ug/kg	
110-86-1	Pyridine	ND	600	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	300	ug/kg	

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J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-2		
Lab Sample ID:	MC44826-2	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	81.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	65%		24-110%
4165-62-2	Phenol-d5	69%		30-114%
118-79-6	2,4,6-Tribromophenol	110%		20-139%
4165-60-0	Nitrobenzene-d5	84%		27-112%
321-60-8	2-Fluorobiphenyl	90%		35-115%
1718-51-0	Terphenyl-d14	83%		48-136%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
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Report of Analysis

Client Sample ID:	RX-2		
Lab Sample ID:	MC44826-2	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8081B SW846 3546	**Percent Solids:**	81.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50260.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.6 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	6.0	ug/kg	
319-84-6	alpha-BHC	ND	6.0	ug/kg	
319-85-7	beta-BHC	ND	6.0	ug/kg	
319-86-8	delta-BHC	ND	6.0	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	6.0	ug/kg	
12789-03-6	Chlordane	ND	60	ug/kg	
5103-71-9	alpha-Chlordane	ND	6.0	ug/kg	
5103-74-2	gamma-Chlordane	ND	6.0	ug/kg	
60-57-1	Dieldrin	ND	6.0	ug/kg	
72-54-8	4,4'-DDD	ND	6.0	ug/kg	
72-55-9	4,4'-DDE	ND	6.0	ug/kg	
50-29-3	4,4'-DDT	ND	6.0	ug/kg	
72-20-8	Endrin	ND	6.0	ug/kg	
1031-07-8	Endosulfan sulfate	ND	6.0	ug/kg	
7421-93-4	Endrin aldehyde	ND	6.0	ug/kg	
959-98-8	Endosulfan-I	ND	6.0	ug/kg	
33213-65-9	Endosulfan-II	ND	6.0	ug/kg	
76-44-8	Heptachlor	ND	6.0	ug/kg	
1024-57-3	Heptachlor epoxide	ND	6.0	ug/kg	
118-74-1	Hexachlorobenzene	ND	6.0	ug/kg	
72-43-5	Methoxychlor	ND	6.0	ug/kg	
53494-70-5	Endrin ketone	ND	6.0	ug/kg	
8001-35-2	Toxaphene	ND	60	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	50%		10-143%
877-09-8	Tetrachloro-m-xylene	66%		10-143%
2051-24-3	Decachlorobiphenyl	56%		10-172%
2051-24-3	Decachlorobiphenyl	64%		10-172%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-2		
Lab Sample ID:	MC44826-2	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8082A SW846 3546	**Percent Solids:**	81.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56287.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.6 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	30	ug/kg	
11104-28-2	Aroclor 1221	ND	30	ug/kg	
11141-16-5	Aroclor 1232	ND	30	ug/kg	
53469-21-9	Aroclor 1242	ND	30	ug/kg	
12672-29-6	Aroclor 1248	ND	30	ug/kg	
11097-69-1	Aroclor 1254	ND	30	ug/kg	
11096-82-5	Aroclor 1260	ND	30	ug/kg	
37324-23-5	Aroclor 1262	ND	30	ug/kg	
11100-14-4	Aroclor 1268	ND	30	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	63%		35-136%
877-09-8	Tetrachloro-m-xylene	51%		35-136%
2051-24-3	Decachlorobiphenyl	85%		24-171%
2051-24-3	Decachlorobiphenyl	66%		24-171%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-2		
Lab Sample ID:	MC44826-2	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
		Percent Solids:	81.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 0.94	0.94	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Arsenic	4.6	0.94	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Beryllium	< 0.38	0.38	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Cadmium	< 0.38	0.38	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Chromium	10.4	0.94	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Copper	7.4	2.4	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Lead	6.5	0.94	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Mercury	0.17	0.033	mg/kg	1	03/16/16	03/16/16	EC	SW846 7471B [1]	SW846 7471B [3]
Nickel	8.8	3.8	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Selenium	< 0.94	0.94	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Silver	< 0.47	0.47	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Thallium	< 0.94	0.94	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Zinc	43.3	1.9	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA18978
(2) Instrument QC Batch: MA18986
(3) Prep QC Batch: MP25923
(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-3		
Lab Sample ID:	MC44826-3	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	88.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95762.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.93 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	870	ug/kg	
71-43-2	Benzene	ND	44	ug/kg	
108-86-1	Bromobenzene	ND	440	ug/kg	
74-97-5	Bromochloromethane	ND	440	ug/kg	
75-27-4	Bromodichloromethane	ND	170	ug/kg	
75-25-2	Bromoform	ND	170	ug/kg	
74-83-9	Bromomethane [a]	ND	170	ug/kg	
78-93-3	2-Butanone (MEK)	ND	870	ug/kg	
104-51-8	n-Butylbenzene	ND	440	ug/kg	
135-98-8	sec-Butylbenzene	ND	440	ug/kg	
98-06-6	tert-Butylbenzene	ND	440	ug/kg	
75-15-0	Carbon disulfide	ND	440	ug/kg	
56-23-5	Carbon tetrachloride	ND	170	ug/kg	
108-90-7	Chlorobenzene	ND	170	ug/kg	
75-00-3	Chloroethane	ND	440	ug/kg	
67-66-3	Chloroform	ND	170	ug/kg	
74-87-3	Chloromethane [a]	ND	440	ug/kg	
95-49-8	o-Chlorotoluene	ND	440	ug/kg	
106-43-4	p-Chlorotoluene	ND	440	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan [a]	ND	440	ug/kg	
124-48-1	Dibromochloromethane	ND	170	ug/kg	
106-93-4	1,2-Dibromoethane	ND	170	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	170	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	170	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	170	ug/kg	
75-71-8	Dichlorodifluoromethane [a]	ND	170	ug/kg	
75-34-3	1,1-Dichloroethane	ND	170	ug/kg	
107-06-2	1,2-Dichloroethane	ND	170	ug/kg	
75-35-4	1,1-Dichloroethene	ND	170	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	170	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	170	ug/kg	
78-87-5	1,2-Dichloropropane	ND	170	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-3		
Lab Sample ID:	MC44826-3	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	88.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	440	ug/kg	
594-20-7	2,2-Dichloropropane	ND	440	ug/kg	
563-58-6	1,1-Dichloropropene	ND	440	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	170	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	170	ug/kg	
100-41-4	Ethylbenzene	ND	170	ug/kg	
87-68-3	Hexachlorobutadiene	ND	440	ug/kg	
591-78-6	2-Hexanone	ND	870	ug/kg	
74-88-4	Iodomethane	ND	440	ug/kg	
98-82-8	Isopropylbenzene	ND	440	ug/kg	
99-87-6	p-Isopropyltoluene	ND	440	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	170	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	440	ug/kg	
74-95-3	Methylene bromide	ND	440	ug/kg	
75-09-2	Methylene chloride	ND	170	ug/kg	
91-20-3	Naphthalene [a]	ND	440	ug/kg	
103-65-1	n-Propylbenzene	ND	440	ug/kg	
100-42-5	Styrene	ND	440	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	440	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	170	ug/kg	
127-18-4	Tetrachloroethene	ND	170	ug/kg	
108-88-3	Toluene	ND	440	ug/kg	
87-61-6	1,2,3-Trichlorobenzene [a]	ND	440	ug/kg	
120-82-1	1,2,4-Trichlorobenzene [a]	ND	440	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	170	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	170	ug/kg	
79-01-6	Trichloroethene	ND	170	ug/kg	
75-69-4	Trichlorofluoromethane	ND	170	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	440	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	440	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	440	ug/kg	
108-05-4	Vinyl Acetate	ND	440	ug/kg	
75-01-4	Vinyl chloride [a]	ND	170	ug/kg	
	m,p-Xylene	ND	170	ug/kg	
95-47-6	o-Xylene	ND	170	ug/kg	
1330-20-7	Xylene (total)	ND	170	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		65-141%

ND = Not detected
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E = Indicates value exceeds calibration range
J = Indicates an estimated value
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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-3		
Lab Sample ID:	MC44826-3	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	88.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		65-129%
460-00-4	4-Bromofluorobenzene	98%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-3		
Lab Sample ID:	MC44826-3	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	88.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47212.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2							

	Initial Weight	Final Volume
Run #1	20.8 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	540	ug/kg	
95-57-8	2-Chlorophenol	ND	270	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	540	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	540	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	540	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	540	ug/kg	
95-48-7	2-Methylphenol	ND	540	ug/kg	
	3&4-Methylphenol	ND	540	ug/kg	
88-75-5	2-Nitrophenol	ND	540	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	540	ug/kg	
108-95-2	Phenol	ND	270	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	540	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	540	ug/kg	
83-32-9	Acenaphthene	ND	110	ug/kg	
208-96-8	Acenaphthylene	ND	110	ug/kg	
62-53-3	Aniline	ND	540	ug/kg	
120-12-7	Anthracene	ND	110	ug/kg	
92-87-5	Benzidine [a]	ND	1100	ug/kg	
56-55-3	Benzo(a)anthracene	ND	110	ug/kg	
50-32-8	Benzo(a)pyrene	ND	110	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	110	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	110	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	110	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	270	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	270	ug/kg	
100-51-6	Benzyl Alcohol	ND	540	ug/kg	
91-58-7	2-Chloronaphthalene	ND	270	ug/kg	
106-47-8	4-Chloroaniline	ND	540	ug/kg	
86-74-8	Carbazole	ND	110	ug/kg	
218-01-9	Chrysene	ND	110	ug/kg	

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RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-3		
Lab Sample ID:	MC44826-3	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	88.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	270	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	270	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	270	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	270	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	270	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	270	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	270	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	270	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	540	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	540	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	270	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	110	ug/kg	
132-64-9	Dibenzofuran	ND	110	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	270	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	270	ug/kg	
84-66-2	Diethyl phthalate	ND	270	ug/kg	
131-11-3	Dimethyl phthalate	ND	270	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	270	ug/kg	
206-44-0	Fluoranthene	143	110	ug/kg	
86-73-7	Fluorene	ND	110	ug/kg	
118-74-1	Hexachlorobenzene	ND	270	ug/kg	
87-68-3	Hexachlorobutadiene	ND	270	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	540	ug/kg	
67-72-1	Hexachloroethane	ND	270	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	110	ug/kg	
78-59-1	Isophorone	ND	270	ug/kg	
90-12-0	1-Methylnaphthalene	ND	270	ug/kg	
91-57-6	2-Methylnaphthalene	ND	110	ug/kg	
88-74-4	2-Nitroaniline	ND	540	ug/kg	
99-09-2	3-Nitroaniline	ND	540	ug/kg	
100-01-6	4-Nitroaniline	ND	540	ug/kg	
91-20-3	Naphthalene	ND	110	ug/kg	
98-95-3	Nitrobenzene	ND	270	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	270	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	270	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	270	ug/kg	
85-01-8	Phenanthrene	ND	110	ug/kg	
129-00-0	Pyrene	120	110	ug/kg	
110-86-1	Pyridine	ND	540	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	270	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-3		
Lab Sample ID:	MC44826-3	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	88.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	69%		24-110%
4165-62-2	Phenol-d5	72%		30-114%
118-79-6	2,4,6-Tribromophenol	75%		20-139%
4165-60-0	Nitrobenzene-d5	87%		27-112%
321-60-8	2-Fluorobiphenyl	85%		35-115%
1718-51-0	Terphenyl-d14	85%		48-136%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-3		
Lab Sample ID:	MC44826-3	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8081B SW846 3546	**Percent Solids:**	88.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50261.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	21.0 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	5.4	ug/kg	
319-84-6	alpha-BHC	ND	5.4	ug/kg	
319-85-7	beta-BHC	ND	5.4	ug/kg	
319-86-8	delta-BHC	ND	5.4	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	5.4	ug/kg	
12789-03-6	Chlordane	ND	54	ug/kg	
5103-71-9	alpha-Chlordane	ND	5.4	ug/kg	
5103-74-2	gamma-Chlordane	ND	5.4	ug/kg	
60-57-1	Dieldrin	ND	5.4	ug/kg	
72-54-8	4,4'-DDD	ND	5.4	ug/kg	
72-55-9	4,4'-DDE	ND	5.4	ug/kg	
50-29-3	4,4'-DDT	ND	5.4	ug/kg	
72-20-8	Endrin	ND	5.4	ug/kg	
1031-07-8	Endosulfan sulfate	ND	5.4	ug/kg	
7421-93-4	Endrin aldehyde	ND	5.4	ug/kg	
959-98-8	Endosulfan-I	ND	5.4	ug/kg	
33213-65-9	Endosulfan-II	ND	5.4	ug/kg	
76-44-8	Heptachlor	ND	5.4	ug/kg	
1024-57-3	Heptachlor epoxide	ND	5.4	ug/kg	
118-74-1	Hexachlorobenzene	ND	5.4	ug/kg	
72-43-5	Methoxychlor	ND	5.4	ug/kg	
53494-70-5	Endrin ketone	ND	5.4	ug/kg	
8001-35-2	Toxaphene	ND	54	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	64%		10-143%
877-09-8	Tetrachloro-m-xylene	72%		10-143%
2051-24-3	Decachlorobiphenyl	61%		10-172%
2051-24-3	Decachlorobiphenyl	68%		10-172%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-3		
Lab Sample ID:	MC44826-3	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8082A SW846 3546	**Percent Solids:**	88.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56288.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	21.0 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	27	ug/kg	
11104-28-2	Aroclor 1221	ND	27	ug/kg	
11141-16-5	Aroclor 1232	ND	27	ug/kg	
53469-21-9	Aroclor 1242	ND	27	ug/kg	
12672-29-6	Aroclor 1248	ND	27	ug/kg	
11097-69-1	Aroclor 1254	ND	27	ug/kg	
11096-82-5	Aroclor 1260	ND	27	ug/kg	
37324-23-5	Aroclor 1262	ND	27	ug/kg	
11100-14-4	Aroclor 1268	ND	27	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	57%		35-136%
877-09-8	Tetrachloro-m-xylene	49%		35-136%
2051-24-3	Decachlorobiphenyl	74%		24-171%
2051-24-3	Decachlorobiphenyl	59%		24-171%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-3		
Lab Sample ID:	MC44826-3	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
		Percent Solids:	88.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 0.84	0.84	mg/kg	1	03/18/16	03/18/16	EAL	SW846 6010C [2]	SW846 3050B [4]
Arsenic	2.6	0.84	mg/kg	1	03/18/16	03/18/16	EAL	SW846 6010C [2]	SW846 3050B [4]
Beryllium	< 0.34	0.34	mg/kg	1	03/18/16	03/18/16	EAL	SW846 6010C [2]	SW846 3050B [4]
Cadmium	< 0.34	0.34	mg/kg	1	03/18/16	03/18/16	EAL	SW846 6010C [2]	SW846 3050B [4]
Chromium	8.2	0.84	mg/kg	1	03/18/16	03/18/16	EAL	SW846 6010C [2]	SW846 3050B [4]
Copper	8.8	2.1	mg/kg	1	03/18/16	03/18/16	EAL	SW846 6010C [2]	SW846 3050B [4]
Lead	4.4	0.84	mg/kg	1	03/18/16	03/18/16	EAL	SW846 6010C [2]	SW846 3050B [4]
Mercury	< 0.030	0.030	mg/kg	1	03/16/16	03/16/16	EC	SW846 7471B [1]	SW846 7471B [3]
Nickel	8.8	3.4	mg/kg	1	03/18/16	03/18/16	EAL	SW846 6010C [2]	SW846 3050B [4]
Selenium	< 0.84	0.84	mg/kg	1	03/18/16	03/18/16	EAL	SW846 6010C [2]	SW846 3050B [4]
Silver	< 0.42	0.42	mg/kg	1	03/18/16	03/18/16	EAL	SW846 6010C [2]	SW846 3050B [4]
Thallium	< 0.84	0.84	mg/kg	1	03/18/16	03/18/16	EAL	SW846 6010C [2]	SW846 3050B [4]
Zinc	28.7	1.7	mg/kg	1	03/18/16	03/18/16	EAL	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA18978
(2) Instrument QC Batch: MA18984
(3) Prep QC Batch: MP25923
(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-4		
Lab Sample ID:	MC44826-4	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	81.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95763.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	7.50 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	940	ug/kg	
71-43-2	Benzene	ND	47	ug/kg	
108-86-1	Bromobenzene	ND	470	ug/kg	
74-97-5	Bromochloromethane	ND	470	ug/kg	
75-27-4	Bromodichloromethane	ND	190	ug/kg	
75-25-2	Bromoform	ND	190	ug/kg	
74-83-9	Bromomethane [a]	ND	190	ug/kg	
78-93-3	2-Butanone (MEK)	ND	940	ug/kg	
104-51-8	n-Butylbenzene	ND	470	ug/kg	
135-98-8	sec-Butylbenzene	ND	470	ug/kg	
98-06-6	tert-Butylbenzene	ND	470	ug/kg	
75-15-0	Carbon disulfide	ND	470	ug/kg	
56-23-5	Carbon tetrachloride	ND	190	ug/kg	
108-90-7	Chlorobenzene	ND	190	ug/kg	
75-00-3	Chloroethane	ND	470	ug/kg	
67-66-3	Chloroform	ND	190	ug/kg	
74-87-3	Chloromethane [a]	ND	470	ug/kg	
95-49-8	o-Chlorotoluene	ND	470	ug/kg	
106-43-4	p-Chlorotoluene	ND	470	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan [a]	ND	470	ug/kg	
124-48-1	Dibromochloromethane	ND	190	ug/kg	
106-93-4	1,2-Dibromoethane	ND	190	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	190	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	190	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	190	ug/kg	
75-71-8	Dichlorodifluoromethane [a]	ND	190	ug/kg	
75-34-3	1,1-Dichloroethane	ND	190	ug/kg	
107-06-2	1,2-Dichloroethane	ND	190	ug/kg	
75-35-4	1,1-Dichloroethene	ND	190	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	190	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	190	ug/kg	
78-87-5	1,2-Dichloropropane	ND	190	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-4		
Lab Sample ID:	MC44826-4	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	81.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	470	ug/kg	
594-20-7	2,2-Dichloropropane	ND	470	ug/kg	
563-58-6	1,1-Dichloropropene	ND	470	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	190	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	190	ug/kg	
100-41-4	Ethylbenzene	ND	190	ug/kg	
87-68-3	Hexachlorobutadiene	ND	470	ug/kg	
591-78-6	2-Hexanone	ND	940	ug/kg	
74-88-4	Iodomethane	ND	470	ug/kg	
98-82-8	Isopropylbenzene	ND	470	ug/kg	
99-87-6	p-Isopropyltoluene	ND	470	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	190	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	470	ug/kg	
74-95-3	Methylene bromide	ND	470	ug/kg	
75-09-2	Methylene chloride	ND	190	ug/kg	
91-20-3	Naphthalene [a]	ND	470	ug/kg	
103-65-1	n-Propylbenzene	ND	470	ug/kg	
100-42-5	Styrene	ND	470	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	470	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	190	ug/kg	
127-18-4	Tetrachloroethene	ND	190	ug/kg	
108-88-3	Toluene	ND	470	ug/kg	
87-61-6	1,2,3-Trichlorobenzene [a]	ND	470	ug/kg	
120-82-1	1,2,4-Trichlorobenzene [a]	ND	470	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	190	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	190	ug/kg	
79-01-6	Trichloroethene	ND	190	ug/kg	
75-69-4	Trichlorofluoromethane	ND	190	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	470	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	470	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	470	ug/kg	
108-05-4	Vinyl Acetate	ND	470	ug/kg	
75-01-4	Vinyl chloride [a]	ND	190	ug/kg	
	m,p-Xylene	ND	190	ug/kg	
95-47-6	o-Xylene	ND	190	ug/kg	
1330-20-7	Xylene (total)	ND	190	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		65-141%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-4		
Lab Sample ID:	MC44826-4	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	81.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	96%		65-129%
460-00-4	4-Bromofluorobenzene	91%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-4		
Lab Sample ID:	MC44826-4	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	81.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47213.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2							

	Initial Weight	Final Volume
Run #1	20.5 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	600	ug/kg	
95-57-8	2-Chlorophenol	ND	300	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	600	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	600	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	600	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	600	ug/kg	
95-48-7	2-Methylphenol	ND	600	ug/kg	
	3&4-Methylphenol	ND	600	ug/kg	
88-75-5	2-Nitrophenol	ND	600	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	600	ug/kg	
108-95-2	Phenol	ND	300	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	600	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	600	ug/kg	
83-32-9	Acenaphthene	ND	120	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
62-53-3	Aniline	ND	600	ug/kg	
120-12-7	Anthracene	ND	120	ug/kg	
92-87-5	Benzidine [a]	ND	1200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	120	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	300	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	300	ug/kg	
100-51-6	Benzyl Alcohol	ND	600	ug/kg	
91-58-7	2-Chloronaphthalene	ND	300	ug/kg	
106-47-8	4-Chloroaniline	ND	600	ug/kg	
86-74-8	Carbazole	ND	120	ug/kg	
218-01-9	Chrysene	250	120	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-4		
Lab Sample ID:	MC44826-4	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	81.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	300	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	300	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	300	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	300	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	300	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	300	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	300	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	300	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	600	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	600	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	300	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	120	ug/kg	
132-64-9	Dibenzofuran	ND	120	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	300	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	300	ug/kg	
84-66-2	Diethyl phthalate	ND	300	ug/kg	
131-11-3	Dimethyl phthalate	ND	300	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	300	ug/kg	
206-44-0	Fluoranthene	ND	120	ug/kg	
86-73-7	Fluorene	ND	120	ug/kg	
118-74-1	Hexachlorobenzene	ND	300	ug/kg	
87-68-3	Hexachlorobutadiene	ND	300	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	600	ug/kg	
67-72-1	Hexachloroethane	ND	300	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	300	ug/kg	
90-12-0	1-Methylnaphthalene	ND	300	ug/kg	
91-57-6	2-Methylnaphthalene	ND	120	ug/kg	
88-74-4	2-Nitroaniline	ND	600	ug/kg	
99-09-2	3-Nitroaniline	ND	600	ug/kg	
100-01-6	4-Nitroaniline	ND	600	ug/kg	
91-20-3	Naphthalene	ND	120	ug/kg	
98-95-3	Nitrobenzene	ND	300	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	300	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	300	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	300	ug/kg	
85-01-8	Phenanthrene	380	120	ug/kg	
129-00-0	Pyrene	ND	120	ug/kg	
110-86-1	Pyridine	ND	600	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	300	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-4		
Lab Sample ID:	MC44826-4	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	81.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	74%		24-110%
4165-62-2	Phenol-d5	75%		30-114%
118-79-6	2,4,6-Tribromophenol	101%		20-139%
4165-60-0	Nitrobenzene-d5	94%		27-112%
321-60-8	2-Fluorobiphenyl	89%		35-115%
1718-51-0	Terphenyl-d14	85%		48-136%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-4		
Lab Sample ID:	MC44826-4	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8081B SW846 3546	**Percent Solids:**	81.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50262.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.3 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	6.1	ug/kg	
319-84-6	alpha-BHC	ND	6.1	ug/kg	
319-85-7	beta-BHC	ND	6.1	ug/kg	
319-86-8	delta-BHC	ND	6.1	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	6.1	ug/kg	
12789-03-6	Chlordane	ND	61	ug/kg	
5103-71-9	alpha-Chlordane	ND	6.1	ug/kg	
5103-74-2	gamma-Chlordane	ND	6.1	ug/kg	
60-57-1	Dieldrin	ND	6.1	ug/kg	
72-54-8	4,4'-DDD	ND	6.1	ug/kg	
72-55-9	4,4'-DDE	ND	6.1	ug/kg	
50-29-3	4,4'-DDT	ND	6.1	ug/kg	
72-20-8	Endrin	ND	6.1	ug/kg	
1031-07-8	Endosulfan sulfate	ND	6.1	ug/kg	
7421-93-4	Endrin aldehyde	ND	6.1	ug/kg	
959-98-8	Endosulfan-I	ND	6.1	ug/kg	
33213-65-9	Endosulfan-II	ND	6.1	ug/kg	
76-44-8	Heptachlor	ND	6.1	ug/kg	
1024-57-3	Heptachlor epoxide	ND	6.1	ug/kg	
118-74-1	Hexachlorobenzene	ND	6.1	ug/kg	
72-43-5	Methoxychlor	ND	6.1	ug/kg	
53494-70-5	Endrin ketone	ND	6.1	ug/kg	
8001-35-2	Toxaphene	ND	61	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	78%		10-143%
877-09-8	Tetrachloro-m-xylene	92%		10-143%
2051-24-3	Decachlorobiphenyl	47%		10-172%
2051-24-3	Decachlorobiphenyl	57%		10-172%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-4		
Lab Sample ID:	MC44826-4	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8082A SW846 3546	**Percent Solids:**	81.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56289.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.3 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	30	ug/kg	
11104-28-2	Aroclor 1221	ND	30	ug/kg	
11141-16-5	Aroclor 1232	ND	30	ug/kg	
53469-21-9	Aroclor 1242	ND	30	ug/kg	
12672-29-6	Aroclor 1248	ND	30	ug/kg	
11097-69-1	Aroclor 1254	ND	30	ug/kg	
11096-82-5	Aroclor 1260	ND	30	ug/kg	
37324-23-5	Aroclor 1262	ND	30	ug/kg	
11100-14-4	Aroclor 1268	ND	30	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	62%		35-136%
877-09-8	Tetrachloro-m-xylene	49%		35-136%
2051-24-3	Decachlorobiphenyl	75%		24-171%
2051-24-3	Decachlorobiphenyl	56%		24-171%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-4		
Lab Sample ID:	MC44826-4	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
		Percent Solids:	81.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 0.91	0.91	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Arsenic	6.4	0.91	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.42	0.36	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Cadmium	< 0.36	0.36	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Chromium	11.2	0.91	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Copper	15.2	2.3	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Lead	30.7	0.91	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Mercury	< 0.032	0.032	mg/kg	1	03/16/16	03/16/16	EC	SW846 7471B [1]	SW846 7471B [3]
Nickel	13.3	3.6	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Selenium	< 0.91	0.91	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Silver	< 0.45	0.45	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Thallium	< 0.91	0.91	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Zinc	116	1.8	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA18978
(2) Instrument QC Batch: MA18986
(3) Prep QC Batch: MP25923
(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-5		
Lab Sample ID:	MC44826-5	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	81.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95764.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.99 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1100	ug/kg	
71-43-2	Benzene	325	57	ug/kg	
108-86-1	Bromobenzene	ND	570	ug/kg	
74-97-5	Bromochloromethane	ND	570	ug/kg	
75-27-4	Bromodichloromethane	ND	230	ug/kg	
75-25-2	Bromoform	ND	230	ug/kg	
74-83-9	Bromomethane [a]	ND	230	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1100	ug/kg	
104-51-8	n-Butylbenzene	2720	570	ug/kg	
135-98-8	sec-Butylbenzene	2610	570	ug/kg	
98-06-6	tert-Butylbenzene	ND	570	ug/kg	
75-15-0	Carbon disulfide	ND	570	ug/kg	
56-23-5	Carbon tetrachloride	ND	230	ug/kg	
108-90-7	Chlorobenzene	ND	230	ug/kg	
75-00-3	Chloroethane	ND	570	ug/kg	
67-66-3	Chloroform	ND	230	ug/kg	
74-87-3	Chloromethane [a]	ND	570	ug/kg	
95-49-8	o-Chlorotoluene	ND	570	ug/kg	
106-43-4	p-Chlorotoluene	ND	570	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan [a]	ND	570	ug/kg	
124-48-1	Dibromochloromethane	ND	230	ug/kg	
106-93-4	1,2-Dibromoethane	ND	230	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	230	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	230	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	230	ug/kg	
75-71-8	Dichlorodifluoromethane [a]	ND	230	ug/kg	
75-34-3	1,1-Dichloroethane	ND	230	ug/kg	
107-06-2	1,2-Dichloroethane	ND	230	ug/kg	
75-35-4	1,1-Dichloroethene	ND	230	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	230	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	230	ug/kg	
78-87-5	1,2-Dichloropropane	ND	230	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-5		
Lab Sample ID:	MC44826-5	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	81.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	570	ug/kg	
594-20-7	2,2-Dichloropropane	ND	570	ug/kg	
563-58-6	1,1-Dichloropropene	ND	570	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	230	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	230	ug/kg	
100-41-4	Ethylbenzene	ND	230	ug/kg	
87-68-3	Hexachlorobutadiene	ND	570	ug/kg	
591-78-6	2-Hexanone	ND	1100	ug/kg	
74-88-4	Iodomethane	ND	570	ug/kg	
98-82-8	Isopropylbenzene	1600	570	ug/kg	
99-87-6	p-Isopropyltoluene	ND	570	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	230	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	570	ug/kg	
74-95-3	Methylene bromide	ND	570	ug/kg	
75-09-2	Methylene chloride	ND	230	ug/kg	
91-20-3	Naphthalene [b]	2360	570	ug/kg	
103-65-1	n-Propylbenzene	3820	570	ug/kg	
100-42-5	Styrene	ND	570	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	570	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	230	ug/kg	
127-18-4	Tetrachloroethene	ND	230	ug/kg	
108-88-3	Toluene	ND	570	ug/kg	
87-61-6	1,2,3-Trichlorobenzene [a]	ND	570	ug/kg	
120-82-1	1,2,4-Trichlorobenzene [a]	ND	570	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	230	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	230	ug/kg	
79-01-6	Trichloroethene	ND	230	ug/kg	
75-69-4	Trichlorofluoromethane	ND	230	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	570	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	570	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	570	ug/kg	
108-05-4	Vinyl Acetate	1210	570	ug/kg	
75-01-4	Vinyl chloride [a]	ND	230	ug/kg	
	m,p-Xylene	717	230	ug/kg	
95-47-6	o-Xylene	ND	230	ug/kg	
1330-20-7	Xylene (total)	776	230	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		65-141%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-5		
Lab Sample ID:	MC44826-5	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	81.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		65-129%
460-00-4	4-Bromofluorobenzene	94%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.
(b) Continuing Calibration outside of acceptance criteria. Result may be biased low.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-5		
Lab Sample ID:	MC44826-5	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	81.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47215.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2							

	Initial Weight	Final Volume
Run #1	20.0 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	610	ug/kg	
95-57-8	2-Chlorophenol	ND	310	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	610	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	610	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	610	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	610	ug/kg	
95-48-7	2-Methylphenol	ND	610	ug/kg	
	3&4-Methylphenol	ND	610	ug/kg	
88-75-5	2-Nitrophenol	ND	610	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	610	ug/kg	
108-95-2	Phenol	ND	310	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	610	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	610	ug/kg	
83-32-9	Acenaphthene	ND	120	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
62-53-3	Aniline	ND	610	ug/kg	
120-12-7	Anthracene	ND	120	ug/kg	
92-87-5	Benzidine [a]	ND	1200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	120	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	310	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	310	ug/kg	
100-51-6	Benzyl Alcohol	ND	610	ug/kg	
91-58-7	2-Chloronaphthalene	ND	310	ug/kg	
106-47-8	4-Chloroaniline	ND	610	ug/kg	
86-74-8	Carbazole	ND	120	ug/kg	
218-01-9	Chrysene	225	120	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-5		
Lab Sample ID:	MC44826-5	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	81.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	310	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	310	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	310	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	310	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	310	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	310	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	310	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	310	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	610	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	610	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	310	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	120	ug/kg	
132-64-9	Dibenzofuran	ND	120	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	310	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	310	ug/kg	
84-66-2	Diethyl phthalate	ND	310	ug/kg	
131-11-3	Dimethyl phthalate	ND	310	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	310	ug/kg	
206-44-0	Fluoranthene	ND	120	ug/kg	
86-73-7	Fluorene	ND	120	ug/kg	
118-74-1	Hexachlorobenzene	ND	310	ug/kg	
87-68-3	Hexachlorobutadiene	ND	310	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	610	ug/kg	
67-72-1	Hexachloroethane	ND	310	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	310	ug/kg	
90-12-0	1-Methylnaphthalene	670	310	ug/kg	
91-57-6	2-Methylnaphthalene	1350	120	ug/kg	
88-74-4	2-Nitroaniline	ND	610	ug/kg	
99-09-2	3-Nitroaniline	ND	610	ug/kg	
100-01-6	4-Nitroaniline	ND	610	ug/kg	
91-20-3	Naphthalene	362	120	ug/kg	
98-95-3	Nitrobenzene	ND	310	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	310	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	310	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	310	ug/kg	
85-01-8	Phenanthrene	ND	120	ug/kg	
129-00-0	Pyrene	ND	120	ug/kg	
110-86-1	Pyridine	ND	610	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	310	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-5		
Lab Sample ID:	MC44826-5	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	81.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	65%		24-110%
4165-62-2	Phenol-d5	66%		30-114%
118-79-6	2,4,6-Tribromophenol	95%		20-139%
4165-60-0	Nitrobenzene-d5	79%		27-112%
321-60-8	2-Fluorobiphenyl	82%		35-115%
1718-51-0	Terphenyl-d14	86%		48-136%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-5		
Lab Sample ID:	MC44826-5	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8081B SW846 3546	**Percent Solids:**	81.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50263.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	6.1	ug/kg	
319-84-6	alpha-BHC	ND	6.1	ug/kg	
319-85-7	beta-BHC	ND	6.1	ug/kg	
319-86-8	delta-BHC	ND	6.1	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	6.1	ug/kg	
12789-03-6	Chlordane	ND	61	ug/kg	
5103-71-9	alpha-Chlordane	ND	6.1	ug/kg	
5103-74-2	gamma-Chlordane	ND	6.1	ug/kg	
60-57-1	Dieldrin	ND	6.1	ug/kg	
72-54-8	4,4'-DDD	ND	6.1	ug/kg	
72-55-9	4,4'-DDE	ND	6.1	ug/kg	
50-29-3	4,4'-DDT	ND	6.1	ug/kg	
72-20-8	Endrin	ND	6.1	ug/kg	
1031-07-8	Endosulfan sulfate	ND	6.1	ug/kg	
7421-93-4	Endrin aldehyde	ND	6.1	ug/kg	
959-98-8	Endosulfan-I	ND	6.1	ug/kg	
33213-65-9	Endosulfan-II	ND	6.1	ug/kg	
76-44-8	Heptachlor	ND	6.1	ug/kg	
1024-57-3	Heptachlor epoxide	ND	6.1	ug/kg	
118-74-1	Hexachlorobenzene	ND	6.1	ug/kg	
72-43-5	Methoxychlor	ND	6.1	ug/kg	
53494-70-5	Endrin ketone	ND	6.1	ug/kg	
8001-35-2	Toxaphene	ND	61	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	56%		10-143%
877-09-8	Tetrachloro-m-xylene	69%		10-143%
2051-24-3	Decachlorobiphenyl	44%		10-172%
2051-24-3	Decachlorobiphenyl	56%		10-172%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-5		
Lab Sample ID:	MC44826-5	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8082A SW846 3546	**Percent Solids:**	81.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56290.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	30	ug/kg	
11104-28-2	Aroclor 1221	ND	30	ug/kg	
11141-16-5	Aroclor 1232	ND	30	ug/kg	
53469-21-9	Aroclor 1242	ND	30	ug/kg	
12672-29-6	Aroclor 1248	ND	30	ug/kg	
11097-69-1	Aroclor 1254	ND	30	ug/kg	
11096-82-5	Aroclor 1260	ND	30	ug/kg	
37324-23-5	Aroclor 1262	ND	30	ug/kg	
11100-14-4	Aroclor 1268	ND	30	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	69%		35-136%
877-09-8	Tetrachloro-m-xylene	57%		35-136%
2051-24-3	Decachlorobiphenyl	91%		24-171%
2051-24-3	Decachlorobiphenyl	69%		24-171%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-5		
Lab Sample ID:	MC44826-5	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
		Percent Solids:	81.4
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 0.85	0.85	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Arsenic	3.3	0.85	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Beryllium	< 0.34	0.34	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Cadmium	< 0.34	0.34	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Chromium	5.4	0.85	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Copper	10.2	2.1	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Lead	21.4	0.85	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Mercury	< 0.028	0.028	mg/kg	1	03/16/16	03/16/16	EC	SW846 7471B [1]	SW846 7471B [3]
Nickel	6.4	3.4	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Selenium	< 0.85	0.85	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Silver	< 0.42	0.42	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Thallium	< 0.85	0.85	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Zinc	142	1.7	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA18978
(2) Instrument QC Batch: MA18986
(3) Prep QC Batch: MP25923
(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-6		
Lab Sample ID:	MC44826-6	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	84.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95765.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	7.89 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	840	ug/kg	
71-43-2	Benzene	ND	42	ug/kg	
108-86-1	Bromobenzene	ND	420	ug/kg	
74-97-5	Bromochloromethane	ND	420	ug/kg	
75-27-4	Bromodichloromethane	ND	170	ug/kg	
75-25-2	Bromoform	ND	170	ug/kg	
74-83-9	Bromomethane [a]	ND	170	ug/kg	
78-93-3	2-Butanone (MEK)	ND	840	ug/kg	
104-51-8	n-Butylbenzene	ND	420	ug/kg	
135-98-8	sec-Butylbenzene	ND	420	ug/kg	
98-06-6	tert-Butylbenzene	ND	420	ug/kg	
75-15-0	Carbon disulfide	ND	420	ug/kg	
56-23-5	Carbon tetrachloride	ND	170	ug/kg	
108-90-7	Chlorobenzene	ND	170	ug/kg	
75-00-3	Chloroethane	ND	420	ug/kg	
67-66-3	Chloroform	ND	170	ug/kg	
74-87-3	Chloromethane [a]	ND	420	ug/kg	
95-49-8	o-Chlorotoluene	ND	420	ug/kg	
106-43-4	p-Chlorotoluene	ND	420	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan [a]	ND	420	ug/kg	
124-48-1	Dibromochloromethane	ND	170	ug/kg	
106-93-4	1,2-Dibromoethane	ND	170	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	170	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	170	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	170	ug/kg	
75-71-8	Dichlorodifluoromethane [a]	ND	170	ug/kg	
75-34-3	1,1-Dichloroethane	ND	170	ug/kg	
107-06-2	1,2-Dichloroethane	ND	170	ug/kg	
75-35-4	1,1-Dichloroethene	ND	170	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	170	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	170	ug/kg	
78-87-5	1,2-Dichloropropane	ND	170	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-6		
Lab Sample ID:	MC44826-6	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	84.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	420	ug/kg	
594-20-7	2,2-Dichloropropane	ND	420	ug/kg	
563-58-6	1,1-Dichloropropene	ND	420	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	170	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	170	ug/kg	
100-41-4	Ethylbenzene	ND	170	ug/kg	
87-68-3	Hexachlorobutadiene	ND	420	ug/kg	
591-78-6	2-Hexanone	ND	840	ug/kg	
74-88-4	Iodomethane	ND	420	ug/kg	
98-82-8	Isopropylbenzene	ND	420	ug/kg	
99-87-6	p-Isopropyltoluene	ND	420	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	170	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	420	ug/kg	
74-95-3	Methylene bromide	ND	420	ug/kg	
75-09-2	Methylene chloride	ND	170	ug/kg	
91-20-3	Naphthalene [a]	ND	420	ug/kg	
103-65-1	n-Propylbenzene	ND	420	ug/kg	
100-42-5	Styrene	ND	420	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	420	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	170	ug/kg	
127-18-4	Tetrachloroethene	ND	170	ug/kg	
108-88-3	Toluene	ND	420	ug/kg	
87-61-6	1,2,3-Trichlorobenzene [a]	ND	420	ug/kg	
120-82-1	1,2,4-Trichlorobenzene [a]	ND	420	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	170	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	170	ug/kg	
79-01-6	Trichloroethene	ND	170	ug/kg	
75-69-4	Trichlorofluoromethane	ND	170	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	420	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	420	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	420	ug/kg	
108-05-4	Vinyl Acetate	ND	420	ug/kg	
75-01-4	Vinyl chloride [a]	ND	170	ug/kg	
	m,p-Xylene	ND	170	ug/kg	
95-47-6	o-Xylene	ND	170	ug/kg	
1330-20-7	Xylene (total)	ND	170	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		65-141%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-6		
Lab Sample ID:	MC44826-6	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	84.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	98%		65-129%
460-00-4	4-Bromofluorobenzene	98%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-6		
Lab Sample ID:	MC44826-6	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	84.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47216.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2 [a]	R47228.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

	Initial Weight	Final Volume
Run #1	20.3 g	1.0 ml
Run #2	20.3 g	1.0 ml

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	580	ug/kg	
95-57-8	2-Chlorophenol	ND	290	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	580	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	580	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	580	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	580	ug/kg	
95-48-7	2-Methylphenol	ND	580	ug/kg	
	3&4-Methylphenol	ND	580	ug/kg	
88-75-5	2-Nitrophenol	ND	580	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	580	ug/kg	
108-95-2	Phenol	ND	290	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	580	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	580	ug/kg	
83-32-9	Acenaphthene	ND	120	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
62-53-3	Aniline	ND	580	ug/kg	
120-12-7	Anthracene	ND	120	ug/kg	
92-87-5	Benzidine [b]	ND	1200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	120	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	290	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	290	ug/kg	
100-51-6	Benzyl Alcohol	ND	580	ug/kg	
91-58-7	2-Chloronaphthalene	ND	290	ug/kg	
106-47-8	4-Chloroaniline	ND	580	ug/kg	
86-74-8	Carbazole	ND	120	ug/kg	
218-01-9	Chrysene	ND	120	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-6		
Lab Sample ID:	MC44826-6	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	84.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	290	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	290	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	290	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	290	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	290	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	290	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	290	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	290	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	580	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	580	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	290	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	120	ug/kg	
132-64-9	Dibenzofuran	ND	120	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	290	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	290	ug/kg	
84-66-2	Diethyl phthalate	ND	290	ug/kg	
131-11-3	Dimethyl phthalate	ND	290	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	290	ug/kg	
206-44-0	Fluoranthene	ND	120	ug/kg	
86-73-7	Fluorene	ND	120	ug/kg	
118-74-1	Hexachlorobenzene	ND	290	ug/kg	
87-68-3	Hexachlorobutadiene	ND	290	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	580	ug/kg	
67-72-1	Hexachloroethane	ND	290	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	290	ug/kg	
90-12-0	1-Methylnaphthalene	ND	290	ug/kg	
91-57-6	2-Methylnaphthalene	ND	120	ug/kg	
88-74-4	2-Nitroaniline	ND	580	ug/kg	
99-09-2	3-Nitroaniline	ND	580	ug/kg	
100-01-6	4-Nitroaniline	ND	580	ug/kg	
91-20-3	Naphthalene	ND	120	ug/kg	
98-95-3	Nitrobenzene	ND	290	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	290	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	290	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	290	ug/kg	
85-01-8	Phenanthrene	ND	120	ug/kg	
129-00-0	Pyrene	ND	120	ug/kg	
110-86-1	Pyridine	ND	580	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	290	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-6		
Lab Sample ID:	MC44826-6	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	84.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	73%	72%	24-110%
4165-62-2	Phenol-d5	59%	53%	30-114%
118-79-6	2,4,6-Tribromophenol	102%	101%	20-139%
4165-60-0	Nitrobenzene-d5	86%	83%	27-112%
321-60-8	2-Fluorobiphenyl	106%	121% c	35-115%
1718-51-0	Terphenyl-d14	93%	98%	48-136%

(a) Confirmation run for internal standard areas.
(b) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.
(c) Outside control limits due to possible matrix interference.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-6		
Lab Sample ID:	MC44826-6	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8081B SW846 3546	**Percent Solids:**	84.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50264.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.7 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	5.7	ug/kg	
319-84-6	alpha-BHC	ND	5.7	ug/kg	
319-85-7	beta-BHC	ND	5.7	ug/kg	
319-86-8	delta-BHC	ND	5.7	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	5.7	ug/kg	
12789-03-6	Chlordane	ND	57	ug/kg	
5103-71-9	alpha-Chlordane	ND	5.7	ug/kg	
5103-74-2	gamma-Chlordane	ND	5.7	ug/kg	
60-57-1	Dieldrin	ND	5.7	ug/kg	
72-54-8	4,4'-DDD	ND	5.7	ug/kg	
72-55-9	4,4'-DDE	ND	5.7	ug/kg	
50-29-3	4,4'-DDT	ND	5.7	ug/kg	
72-20-8	Endrin	ND	5.7	ug/kg	
1031-07-8	Endosulfan sulfate	ND	5.7	ug/kg	
7421-93-4	Endrin aldehyde	ND	5.7	ug/kg	
959-98-8	Endosulfan-I	ND	5.7	ug/kg	
33213-65-9	Endosulfan-II	ND	5.7	ug/kg	
76-44-8	Heptachlor	ND	5.7	ug/kg	
1024-57-3	Heptachlor epoxide	ND	5.7	ug/kg	
118-74-1	Hexachlorobenzene	ND	5.7	ug/kg	
72-43-5	Methoxychlor	ND	5.7	ug/kg	
53494-70-5	Endrin ketone	ND	5.7	ug/kg	
8001-35-2	Toxaphene	ND	57	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	54%		10-143%
877-09-8	Tetrachloro-m-xylene	66%		10-143%
2051-24-3	Decachlorobiphenyl	39%		10-172%
2051-24-3	Decachlorobiphenyl	50%		10-172%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-6		
Lab Sample ID:	MC44826-6	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8082A SW846 3546	**Percent Solids:**	84.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56305.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.7 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	28	ug/kg	
11104-28-2	Aroclor 1221	ND	28	ug/kg	
11141-16-5	Aroclor 1232	ND	28	ug/kg	
53469-21-9	Aroclor 1242	ND	28	ug/kg	
12672-29-6	Aroclor 1248	ND	28	ug/kg	
11097-69-1	Aroclor 1254	ND	28	ug/kg	
11096-82-5	Aroclor 1260	ND	28	ug/kg	
37324-23-5	Aroclor 1262	ND	28	ug/kg	
11100-14-4	Aroclor 1268	ND	28	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	64%		35-136%
877-09-8	Tetrachloro-m-xylene	60%		35-136%
2051-24-3	Decachlorobiphenyl	87%		24-171%
2051-24-3	Decachlorobiphenyl	80%		24-171%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-6		
Lab Sample ID:	MC44826-6	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
		Percent Solids:	84.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 0.84	0.84	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Arsenic	3.9	0.84	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Beryllium	< 0.33	0.33	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Cadmium	< 0.33	0.33	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Chromium	5.5	0.84	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Copper	8.0	2.1	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Lead	28.0	0.84	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Mercury	< 0.032	0.032	mg/kg	1	03/16/16	03/16/16	EC	SW846 7471B [1]	SW846 7471B [3]
Nickel	6.4	3.3	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Selenium	< 0.84	0.84	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Silver	< 0.42	0.42	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Thallium	< 0.84	0.84	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Zinc	70.9	1.7	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA18978
(2) Instrument QC Batch: MA18986
(3) Prep QC Batch: MP25923
(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-7		
Lab Sample ID:	MC44826-7	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	82.3
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95766.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.68 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1200	ug/kg	
71-43-2	Benzene	ND	59	ug/kg	
108-86-1	Bromobenzene	ND	590	ug/kg	
74-97-5	Bromochloromethane	ND	590	ug/kg	
75-27-4	Bromodichloromethane	ND	240	ug/kg	
75-25-2	Bromoform	ND	240	ug/kg	
74-83-9	Bromomethane [a]	ND	240	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1200	ug/kg	
104-51-8	n-Butylbenzene	ND	590	ug/kg	
135-98-8	sec-Butylbenzene	ND	590	ug/kg	
98-06-6	tert-Butylbenzene	ND	590	ug/kg	
75-15-0	Carbon disulfide	ND	590	ug/kg	
56-23-5	Carbon tetrachloride	ND	240	ug/kg	
108-90-7	Chlorobenzene	ND	240	ug/kg	
75-00-3	Chloroethane	ND	590	ug/kg	
67-66-3	Chloroform	ND	240	ug/kg	
74-87-3	Chloromethane [a]	ND	590	ug/kg	
95-49-8	o-Chlorotoluene	ND	590	ug/kg	
106-43-4	p-Chlorotoluene	ND	590	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan [a]	ND	590	ug/kg	
124-48-1	Dibromochloromethane	ND	240	ug/kg	
106-93-4	1,2-Dibromoethane	ND	240	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	240	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	240	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	240	ug/kg	
75-71-8	Dichlorodifluoromethane [a]	ND	240	ug/kg	
75-34-3	1,1-Dichloroethane	ND	240	ug/kg	
107-06-2	1,2-Dichloroethane	ND	240	ug/kg	
75-35-4	1,1-Dichloroethene	ND	240	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	240	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	240	ug/kg	
78-87-5	1,2-Dichloropropane	ND	240	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7		
Lab Sample ID:	MC44826-7	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	82.3
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	590	ug/kg	
594-20-7	2,2-Dichloropropane	ND	590	ug/kg	
563-58-6	1,1-Dichloropropene	ND	590	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	240	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	240	ug/kg	
100-41-4	Ethylbenzene	ND	240	ug/kg	
87-68-3	Hexachlorobutadiene	ND	590	ug/kg	
591-78-6	2-Hexanone	ND	1200	ug/kg	
74-88-4	Iodomethane	ND	590	ug/kg	
98-82-8	Isopropylbenzene	ND	590	ug/kg	
99-87-6	p-Isopropyltoluene	ND	590	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	240	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	590	ug/kg	
74-95-3	Methylene bromide	ND	590	ug/kg	
75-09-2	Methylene chloride	ND	240	ug/kg	
91-20-3	Naphthalene [a]	ND	590	ug/kg	
103-65-1	n-Propylbenzene	ND	590	ug/kg	
100-42-5	Styrene	ND	590	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	590	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	240	ug/kg	
127-18-4	Tetrachloroethene	ND	240	ug/kg	
108-88-3	Toluene	ND	590	ug/kg	
87-61-6	1,2,3-Trichlorobenzene [a]	ND	590	ug/kg	
120-82-1	1,2,4-Trichlorobenzene [a]	ND	590	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	240	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	240	ug/kg	
79-01-6	Trichloroethene	ND	240	ug/kg	
75-69-4	Trichlorofluoromethane	ND	240	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	590	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	590	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	590	ug/kg	
108-05-4	Vinyl Acetate	ND	590	ug/kg	
75-01-4	Vinyl chloride [a]	ND	240	ug/kg	
	m,p-Xylene	ND	240	ug/kg	
95-47-6	o-Xylene	ND	240	ug/kg	
1330-20-7	Xylene (total)	ND	240	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		65-141%

ND = Not detected
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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7		
Lab Sample ID:	MC44826-7	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	82.3
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	91%		65-129%
460-00-4	4-Bromofluorobenzene	89%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7		
Lab Sample ID:	MC44826-7	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	82.3
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47217.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2							

	Initial Weight	Final Volume
Run #1	20.7 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	590	ug/kg	
95-57-8	2-Chlorophenol	ND	290	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	590	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	590	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	590	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	590	ug/kg	
95-48-7	2-Methylphenol	ND	590	ug/kg	
	3&4-Methylphenol	ND	590	ug/kg	
88-75-5	2-Nitrophenol	ND	590	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	590	ug/kg	
108-95-2	Phenol	ND	290	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	590	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	590	ug/kg	
83-32-9	Acenaphthene	696	120	ug/kg	
208-96-8	Acenaphthylene	168	120	ug/kg	
62-53-3	Aniline	ND	590	ug/kg	
120-12-7	Anthracene	1910	120	ug/kg	
92-87-5	Benzidine [a]	ND	1200	ug/kg	
56-55-3	Benzo(a)anthracene	1150	120	ug/kg	
50-32-8	Benzo(a)pyrene	886	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	887	120	ug/kg	
191-24-2	Benzo(g,h,i)perylene	657	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	675	120	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	290	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	290	ug/kg	
100-51-6	Benzyl Alcohol	ND	590	ug/kg	
91-58-7	2-Chloronaphthalene	ND	290	ug/kg	
106-47-8	4-Chloroaniline	ND	590	ug/kg	
86-74-8	Carbazole	350	120	ug/kg	
218-01-9	Chrysene	1210	120	ug/kg	

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Report of Analysis

Client Sample ID:	RX-7		
Lab Sample ID:	MC44826-7	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	82.3
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	290	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	290	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	290	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	290	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	290	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	290	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	290	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	290	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	590	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	590	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	290	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	184	120	ug/kg	
132-64-9	Dibenzofuran	603	120	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	290	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	290	ug/kg	
84-66-2	Diethyl phthalate	ND	290	ug/kg	
131-11-3	Dimethyl phthalate	ND	290	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	290	ug/kg	
206-44-0	Fluoranthene	3480	120	ug/kg	
86-73-7	Fluorene	995	120	ug/kg	
118-74-1	Hexachlorobenzene	ND	290	ug/kg	
87-68-3	Hexachlorobutadiene	ND	290	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	590	ug/kg	
67-72-1	Hexachloroethane	ND	290	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	523	120	ug/kg	
78-59-1	Isophorone	ND	290	ug/kg	
90-12-0	1-Methylnaphthalene	471	290	ug/kg	
91-57-6	2-Methylnaphthalene	574	120	ug/kg	
88-74-4	2-Nitroaniline	ND	590	ug/kg	
99-09-2	3-Nitroaniline	ND	590	ug/kg	
100-01-6	4-Nitroaniline	ND	590	ug/kg	
91-20-3	Naphthalene	831	120	ug/kg	
98-95-3	Nitrobenzene	ND	290	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	290	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	290	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	290	ug/kg	
85-01-8	Phenanthrene	2520	120	ug/kg	
129-00-0	Pyrene	2990	120	ug/kg	
110-86-1	Pyridine	ND	590	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	290	ug/kg	

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7		
Lab Sample ID:	MC44826-7	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	82.3
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	67%		24-110%
4165-62-2	Phenol-d5	67%		30-114%
118-79-6	2,4,6-Tribromophenol	86%		20-139%
4165-60-0	Nitrobenzene-d5	70%		27-112%
321-60-8	2-Fluorobiphenyl	80%		35-115%
1718-51-0	Terphenyl-d14	78%		48-136%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7		
Lab Sample ID:	MC44826-7	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8081B SW846 3546	**Percent Solids:**	82.3
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50265.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.4 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	6.0	ug/kg	
319-84-6	alpha-BHC	ND	6.0	ug/kg	
319-85-7	beta-BHC	ND	6.0	ug/kg	
319-86-8	delta-BHC	ND	6.0	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	6.0	ug/kg	
12789-03-6	Chlordane	ND	60	ug/kg	
5103-71-9	alpha-Chlordane	ND	6.0	ug/kg	
5103-74-2	gamma-Chlordane	ND	6.0	ug/kg	
60-57-1	Dieldrin	ND	6.0	ug/kg	
72-54-8	4,4'-DDD	ND	6.0	ug/kg	
72-55-9	4,4'-DDE	ND	6.0	ug/kg	
50-29-3	4,4'-DDT	ND	6.0	ug/kg	
72-20-8	Endrin	ND	6.0	ug/kg	
1031-07-8	Endosulfan sulfate	ND	6.0	ug/kg	
7421-93-4	Endrin aldehyde	ND	6.0	ug/kg	
959-98-8	Endosulfan-I	ND	6.0	ug/kg	
33213-65-9	Endosulfan-II	ND	6.0	ug/kg	
76-44-8	Heptachlor	ND	6.0	ug/kg	
1024-57-3	Heptachlor epoxide	ND	6.0	ug/kg	
118-74-1	Hexachlorobenzene	ND	6.0	ug/kg	
72-43-5	Methoxychlor	ND	6.0	ug/kg	
53494-70-5	Endrin ketone	ND	6.0	ug/kg	
8001-35-2	Toxaphene	ND	60	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	56%		10-143%
877-09-8	Tetrachloro-m-xylene	65%		10-143%
2051-24-3	Decachlorobiphenyl	48%		10-172%
2051-24-3	Decachlorobiphenyl	57%		10-172%

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7		
Lab Sample ID:	MC44826-7	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8082A SW846 3546	**Percent Solids:**	82.3
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56306.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.4 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	30	ug/kg	
11104-28-2	Aroclor 1221	ND	30	ug/kg	
11141-16-5	Aroclor 1232	ND	30	ug/kg	
53469-21-9	Aroclor 1242	ND	30	ug/kg	
12672-29-6	Aroclor 1248	ND	30	ug/kg	
11097-69-1	Aroclor 1254	ND	30	ug/kg	
11096-82-5	Aroclor 1260	ND	30	ug/kg	
37324-23-5	Aroclor 1262	ND	30	ug/kg	
11100-14-4	Aroclor 1268	ND	30	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	68%		35-136%
877-09-8	Tetrachloro-m-xylene	54%		35-136%
2051-24-3	Decachlorobiphenyl	94%		24-171%
2051-24-3	Decachlorobiphenyl	81%		24-171%

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7		
Lab Sample ID:	MC44826-7	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
		Percent Solids:	82.3
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 0.91	0.91	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Arsenic	25.4	0.91	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.57	0.37	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Cadmium	0.44	0.37	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Chromium	10.6	0.91	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Copper	28.0	2.3	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Lead	88.9	0.91	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Mercury	0.24	0.031	mg/kg	1	03/16/16	03/16/16	EC	SW846 7471B [1]	SW846 7471B [3]
Nickel	20.4	3.7	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Selenium	1.4	0.91	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Silver	< 0.46	0.46	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Thallium	< 0.91	0.91	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Zinc	238	1.8	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA18978
(2) Instrument QC Batch: MA18986
(3) Prep QC Batch: MP25923
(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-7A		
Lab Sample ID:	MC44826-8	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	76.6
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95767.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.97 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1200	ug/kg	
71-43-2	Benzene	ND	62	ug/kg	
108-86-1	Bromobenzene	ND	620	ug/kg	
74-97-5	Bromochloromethane	ND	620	ug/kg	
75-27-4	Bromodichloromethane	ND	250	ug/kg	
75-25-2	Bromoform	ND	250	ug/kg	
74-83-9	Bromomethane [a]	ND	250	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1200	ug/kg	
104-51-8	n-Butylbenzene	ND	620	ug/kg	
135-98-8	sec-Butylbenzene	ND	620	ug/kg	
98-06-6	tert-Butylbenzene	ND	620	ug/kg	
75-15-0	Carbon disulfide	ND	620	ug/kg	
56-23-5	Carbon tetrachloride	ND	250	ug/kg	
108-90-7	Chlorobenzene	ND	250	ug/kg	
75-00-3	Chloroethane	ND	620	ug/kg	
67-66-3	Chloroform	ND	250	ug/kg	
74-87-3	Chloromethane [a]	ND	620	ug/kg	
95-49-8	o-Chlorotoluene	ND	620	ug/kg	
106-43-4	p-Chlorotoluene	ND	620	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan [a]	ND	620	ug/kg	
124-48-1	Dibromochloromethane	ND	250	ug/kg	
106-93-4	1,2-Dibromoethane	ND	250	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	250	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	250	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	250	ug/kg	
75-71-8	Dichlorodifluoromethane [a]	ND	250	ug/kg	
75-34-3	1,1-Dichloroethane	ND	250	ug/kg	
107-06-2	1,2-Dichloroethane	ND	250	ug/kg	
75-35-4	1,1-Dichloroethene	ND	250	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	250	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	250	ug/kg	
78-87-5	1,2-Dichloropropane	ND	250	ug/kg	

ND = Not detected
RL = Reporting Limit
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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7A		
Lab Sample ID:	MC44826-8	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	76.6
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	620	ug/kg	
594-20-7	2,2-Dichloropropane	ND	620	ug/kg	
563-58-6	1,1-Dichloropropene	ND	620	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	250	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	250	ug/kg	
100-41-4	Ethylbenzene	ND	250	ug/kg	
87-68-3	Hexachlorobutadiene	ND	620	ug/kg	
591-78-6	2-Hexanone	ND	1200	ug/kg	
74-88-4	Iodomethane	ND	620	ug/kg	
98-82-8	Isopropylbenzene	ND	620	ug/kg	
99-87-6	p-Isopropyltoluene	ND	620	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	250	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	620	ug/kg	
74-95-3	Methylene bromide	ND	620	ug/kg	
75-09-2	Methylene chloride	ND	250	ug/kg	
91-20-3	Naphthalene [a]	ND	620	ug/kg	
103-65-1	n-Propylbenzene	ND	620	ug/kg	
100-42-5	Styrene	ND	620	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	620	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	250	ug/kg	
127-18-4	Tetrachloroethene	ND	250	ug/kg	
108-88-3	Toluene	ND	620	ug/kg	
87-61-6	1,2,3-Trichlorobenzene [a]	ND	620	ug/kg	
120-82-1	1,2,4-Trichlorobenzene [a]	ND	620	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	250	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	250	ug/kg	
79-01-6	Trichloroethene	ND	250	ug/kg	
75-69-4	Trichlorofluoromethane	ND	250	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	620	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	620	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	620	ug/kg	
108-05-4	Vinyl Acetate	ND	620	ug/kg	
75-01-4	Vinyl chloride [a]	ND	250	ug/kg	
	m,p-Xylene	348	250	ug/kg	
95-47-6	o-Xylene	ND	250	ug/kg	
1330-20-7	Xylene (total)	424	250	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		65-141%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7A		
Lab Sample ID:	MC44826-8	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	76.6
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		65-129%
460-00-4	4-Bromofluorobenzene	100%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7A		
Lab Sample ID:	MC44826-8	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	76.6
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47218.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2							

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	650	ug/kg	
95-57-8	2-Chlorophenol	ND	320	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	650	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	650	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	650	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1300	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	650	ug/kg	
95-48-7	2-Methylphenol	ND	650	ug/kg	
	3&4-Methylphenol	ND	650	ug/kg	
88-75-5	2-Nitrophenol	ND	650	ug/kg	
100-02-7	4-Nitrophenol	ND	1300	ug/kg	
87-86-5	Pentachlorophenol	ND	650	ug/kg	
108-95-2	Phenol	ND	320	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	650	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	650	ug/kg	
83-32-9	Acenaphthene	907	130	ug/kg	
208-96-8	Acenaphthylene	726	130	ug/kg	
62-53-3	Aniline	ND	650	ug/kg	
120-12-7	Anthracene	3370	130	ug/kg	
92-87-5	Benzidine [a]	ND	1300	ug/kg	
56-55-3	Benzo(a)anthracene	2200	130	ug/kg	
50-32-8	Benzo(a)pyrene	2100	130	ug/kg	
205-99-2	Benzo(b)fluoranthene	1790	130	ug/kg	
191-24-2	Benzo(g,h,i)perylene	1560	130	ug/kg	
207-08-9	Benzo(k)fluoranthene	1460	130	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	320	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	320	ug/kg	
100-51-6	Benzyl Alcohol	ND	650	ug/kg	
91-58-7	2-Chloronaphthalene	ND	320	ug/kg	
106-47-8	4-Chloroaniline	ND	650	ug/kg	
86-74-8	Carbazole	464	130	ug/kg	
218-01-9	Chrysene	2040	130	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: RX-7A
Lab Sample ID: MC44826-8 **Date Sampled:** 03/11/16
Matrix: SO - Soil **Date Received:** 03/14/16
Method: SW846 8270D SW846 3546 **Percent Solids:** 76.6
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	320	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	320	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	320	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	320	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	320	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	320	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	320	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	320	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	650	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	650	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	320	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	353	130	ug/kg	
132-64-9	Dibenzofuran	1170	130	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	320	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	320	ug/kg	
84-66-2	Diethyl phthalate	ND	320	ug/kg	
131-11-3	Dimethyl phthalate	ND	320	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	320	ug/kg	
206-44-0	Fluoranthene	5790	130	ug/kg	
86-73-7	Fluorene	1540	130	ug/kg	
118-74-1	Hexachlorobenzene	ND	320	ug/kg	
87-68-3	Hexachlorobutadiene	ND	320	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	650	ug/kg	
67-72-1	Hexachloroethane	ND	320	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	1270	130	ug/kg	
78-59-1	Isophorone	ND	320	ug/kg	
90-12-0	1-Methylnaphthalene	ND	320	ug/kg	
91-57-6	2-Methylnaphthalene	404	130	ug/kg	
88-74-4	2-Nitroaniline	ND	650	ug/kg	
99-09-2	3-Nitroaniline	ND	650	ug/kg	
100-01-6	4-Nitroaniline	ND	650	ug/kg	
91-20-3	Naphthalene	1620	130	ug/kg	
98-95-3	Nitrobenzene	ND	320	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	320	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	320	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	320	ug/kg	
85-01-8	Phenanthrene	3080	130	ug/kg	
129-00-0	Pyrene	5210	130	ug/kg	
110-86-1	Pyridine	ND	650	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	320	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7A		
Lab Sample ID:	MC44826-8	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	76.6
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	47%		24-110%
4165-62-2	Phenol-d5	55%		30-114%
118-79-6	2,4,6-Tribromophenol	78%		20-139%
4165-60-0	Nitrobenzene-d5	62%		27-112%
321-60-8	2-Fluorobiphenyl	71%		35-115%
1718-51-0	Terphenyl-d14	72%		48-136%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7A		
Lab Sample ID:	MC44826-8	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8081B SW846 3546	**Percent Solids:**	76.6
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50266.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	6.5	ug/kg	
319-84-6	alpha-BHC	ND	6.5	ug/kg	
319-85-7	beta-BHC	ND	6.5	ug/kg	
319-86-8	delta-BHC	ND	6.5	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	6.5	ug/kg	
12789-03-6	Chlordane	ND	65	ug/kg	
5103-71-9	alpha-Chlordane	ND	6.5	ug/kg	
5103-74-2	gamma-Chlordane	ND	6.5	ug/kg	
60-57-1	Dieldrin	ND	6.5	ug/kg	
72-54-8	4,4'-DDD	ND	6.5	ug/kg	
72-55-9	4,4'-DDE	ND	6.5	ug/kg	
50-29-3	4,4'-DDT	ND	6.5	ug/kg	
72-20-8	Endrin	ND	6.5	ug/kg	
1031-07-8	Endosulfan sulfate	ND	6.5	ug/kg	
7421-93-4	Endrin aldehyde	ND	6.5	ug/kg	
959-98-8	Endosulfan-I	ND	6.5	ug/kg	
33213-65-9	Endosulfan-II	ND	6.5	ug/kg	
76-44-8	Heptachlor	ND	6.5	ug/kg	
1024-57-3	Heptachlor epoxide	ND	6.5	ug/kg	
118-74-1	Hexachlorobenzene	ND	6.5	ug/kg	
72-43-5	Methoxychlor	ND	6.5	ug/kg	
53494-70-5	Endrin ketone	ND	6.5	ug/kg	
8001-35-2	Toxaphene	ND	65	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	63%		10-143%
877-09-8	Tetrachloro-m-xylene	91%		10-143%
2051-24-3	Decachlorobiphenyl	59%		10-172%
2051-24-3	Decachlorobiphenyl	83%		10-172%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7A		
Lab Sample ID:	MC44826-8	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8082A SW846 3546	**Percent Solids:**	76.6
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56307.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	32	ug/kg	
11104-28-2	Aroclor 1221	ND	32	ug/kg	
11141-16-5	Aroclor 1232	ND	32	ug/kg	
53469-21-9	Aroclor 1242	ND	32	ug/kg	
12672-29-6	Aroclor 1248	ND	32	ug/kg	
11097-69-1	Aroclor 1254	ND	32	ug/kg	
11096-82-5	Aroclor 1260	ND	32	ug/kg	
37324-23-5	Aroclor 1262	ND	32	ug/kg	
11100-14-4	Aroclor 1268	ND	32	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	74%		35-136%
877-09-8	Tetrachloro-m-xylene	56%		35-136%
2051-24-3	Decachlorobiphenyl	93%		24-171%
2051-24-3	Decachlorobiphenyl	77%		24-171%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7A		
Lab Sample ID:	MC44826-8	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
		Percent Solids:	76.6
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 0.97	0.97	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Arsenic	24.3	0.97	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.68	0.39	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Cadmium	0.75	0.39	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Chromium	14.3	0.97	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Copper	34.8	2.4	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Lead	92.4	0.97	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Mercury	0.17	0.036	mg/kg	1	03/16/16	03/16/16	EC	SW846 7471B [1]	SW846 7471B [3]
Nickel	24.6	3.9	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Selenium	2.4	0.97	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Silver	< 0.48	0.48	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Thallium	< 0.97	0.97	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Zinc	246	1.9	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA18978
(2) Instrument QC Batch: MA18986
(3) Prep QC Batch: MP25923
(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-7B		
Lab Sample ID:	MC44826-9	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	85.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95768.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	7.48 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	870	ug/kg	
71-43-2	Benzene	ND	44	ug/kg	
108-86-1	Bromobenzene	ND	440	ug/kg	
74-97-5	Bromochloromethane	ND	440	ug/kg	
75-27-4	Bromodichloromethane	ND	170	ug/kg	
75-25-2	Bromoform	ND	170	ug/kg	
74-83-9	Bromomethane [a]	ND	170	ug/kg	
78-93-3	2-Butanone (MEK)	ND	870	ug/kg	
104-51-8	n-Butylbenzene	ND	440	ug/kg	
135-98-8	sec-Butylbenzene	ND	440	ug/kg	
98-06-6	tert-Butylbenzene	ND	440	ug/kg	
75-15-0	Carbon disulfide	ND	440	ug/kg	
56-23-5	Carbon tetrachloride	ND	170	ug/kg	
108-90-7	Chlorobenzene	ND	170	ug/kg	
75-00-3	Chloroethane	ND	440	ug/kg	
67-66-3	Chloroform	ND	170	ug/kg	
74-87-3	Chloromethane [a]	ND	440	ug/kg	
95-49-8	o-Chlorotoluene	ND	440	ug/kg	
106-43-4	p-Chlorotoluene	ND	440	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan [a]	ND	440	ug/kg	
124-48-1	Dibromochloromethane	ND	170	ug/kg	
106-93-4	1,2-Dibromoethane	ND	170	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	170	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	170	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	170	ug/kg	
75-71-8	Dichlorodifluoromethane [a]	ND	170	ug/kg	
75-34-3	1,1-Dichloroethane	ND	170	ug/kg	
107-06-2	1,2-Dichloroethane	ND	170	ug/kg	
75-35-4	1,1-Dichloroethene	ND	170	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	170	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	170	ug/kg	
78-87-5	1,2-Dichloropropane	ND	170	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7B		
Lab Sample ID:	MC44826-9	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	85.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	440	ug/kg	
594-20-7	2,2-Dichloropropane	ND	440	ug/kg	
563-58-6	1,1-Dichloropropene	ND	440	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	170	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	170	ug/kg	
100-41-4	Ethylbenzene	ND	170	ug/kg	
87-68-3	Hexachlorobutadiene	ND	440	ug/kg	
591-78-6	2-Hexanone	ND	870	ug/kg	
74-88-4	Iodomethane	ND	440	ug/kg	
98-82-8	Isopropylbenzene	ND	440	ug/kg	
99-87-6	p-Isopropyltoluene	ND	440	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	170	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	440	ug/kg	
74-95-3	Methylene bromide	ND	440	ug/kg	
75-09-2	Methylene chloride	ND	170	ug/kg	
91-20-3	Naphthalene [a]	ND	440	ug/kg	
103-65-1	n-Propylbenzene	ND	440	ug/kg	
100-42-5	Styrene	ND	440	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	440	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	170	ug/kg	
127-18-4	Tetrachloroethene	ND	170	ug/kg	
108-88-3	Toluene	ND	440	ug/kg	
87-61-6	1,2,3-Trichlorobenzene [a]	ND	440	ug/kg	
120-82-1	1,2,4-Trichlorobenzene [a]	ND	440	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	170	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	170	ug/kg	
79-01-6	Trichloroethene	ND	170	ug/kg	
75-69-4	Trichlorofluoromethane	ND	170	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	440	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	440	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	440	ug/kg	
108-05-4	Vinyl Acetate	ND	440	ug/kg	
75-01-4	Vinyl chloride [a]	ND	170	ug/kg	
	m,p-Xylene	ND	170	ug/kg	
95-47-6	o-Xylene	ND	170	ug/kg	
1330-20-7	Xylene (total)	ND	170	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		65-141%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7B		
Lab Sample ID:	MC44826-9	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	85.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	91%		65-129%
460-00-4	4-Bromofluorobenzene	90%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7B		
Lab Sample ID:	MC44826-9	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	85.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47219.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	580	ug/kg	
95-57-8	2-Chlorophenol	ND	290	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	580	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	580	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	580	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	580	ug/kg	
95-48-7	2-Methylphenol	ND	580	ug/kg	
	3&4-Methylphenol	ND	580	ug/kg	
88-75-5	2-Nitrophenol	ND	580	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	580	ug/kg	
108-95-2	Phenol	ND	290	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	580	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	580	ug/kg	
83-32-9	Acenaphthene	ND	120	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
62-53-3	Aniline	ND	580	ug/kg	
120-12-7	Anthracene	ND	120	ug/kg	
92-87-5	Benzidine [a]	ND	1200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	120	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	290	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	290	ug/kg	
100-51-6	Benzyl Alcohol	ND	580	ug/kg	
91-58-7	2-Chloronaphthalene	ND	290	ug/kg	
106-47-8	4-Chloroaniline	ND	580	ug/kg	
86-74-8	Carbazole	ND	120	ug/kg	
218-01-9	Chrysene	ND	120	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7B		
Lab Sample ID:	MC44826-9	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	85.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	290	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	290	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	290	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	290	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	290	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	290	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	290	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	290	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	580	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	580	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	290	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	120	ug/kg	
132-64-9	Dibenzofuran	ND	120	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	290	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	290	ug/kg	
84-66-2	Diethyl phthalate	ND	290	ug/kg	
131-11-3	Dimethyl phthalate	ND	290	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	290	ug/kg	
206-44-0	Fluoranthene	ND	120	ug/kg	
86-73-7	Fluorene	176	120	ug/kg	
118-74-1	Hexachlorobenzene	ND	290	ug/kg	
87-68-3	Hexachlorobutadiene	ND	290	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	580	ug/kg	
67-72-1	Hexachloroethane	ND	290	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	290	ug/kg	
90-12-0	1-Methylnaphthalene	ND	290	ug/kg	
91-57-6	2-Methylnaphthalene	ND	120	ug/kg	
88-74-4	2-Nitroaniline	ND	580	ug/kg	
99-09-2	3-Nitroaniline	ND	580	ug/kg	
100-01-6	4-Nitroaniline	ND	580	ug/kg	
91-20-3	Naphthalene	ND	120	ug/kg	
98-95-3	Nitrobenzene	ND	290	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	290	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	290	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	290	ug/kg	
85-01-8	Phenanthrene	354	120	ug/kg	
129-00-0	Pyrene	ND	120	ug/kg	
110-86-1	Pyridine	ND	580	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	290	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7B		
Lab Sample ID:	MC44826-9	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	85.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	68%		24-110%
4165-62-2	Phenol-d5	69%		30-114%
118-79-6	2,4,6-Tribromophenol	76%		20-139%
4165-60-0	Nitrobenzene-d5	90%		27-112%
321-60-8	2-Fluorobiphenyl	87%		35-115%
1718-51-0	Terphenyl-d14	89%		48-136%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7B		
Lab Sample ID:	MC44826-9	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8081B SW846 3546	**Percent Solids:**	85.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50269.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.5 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	5.7	ug/kg	
319-84-6	alpha-BHC	ND	5.7	ug/kg	
319-85-7	beta-BHC	ND	5.7	ug/kg	
319-86-8	delta-BHC	ND	5.7	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	5.7	ug/kg	
12789-03-6	Chlordane	ND	57	ug/kg	
5103-71-9	alpha-Chlordane	ND	5.7	ug/kg	
5103-74-2	gamma-Chlordane	ND	5.7	ug/kg	
60-57-1	Dieldrin	ND	5.7	ug/kg	
72-54-8	4,4'-DDD	ND	5.7	ug/kg	
72-55-9	4,4'-DDE	ND	5.7	ug/kg	
50-29-3	4,4'-DDT	ND	5.7	ug/kg	
72-20-8	Endrin	ND	5.7	ug/kg	
1031-07-8	Endosulfan sulfate	ND	5.7	ug/kg	
7421-93-4	Endrin aldehyde	ND	5.7	ug/kg	
959-98-8	Endosulfan-I	ND	5.7	ug/kg	
33213-65-9	Endosulfan-II	ND	5.7	ug/kg	
76-44-8	Heptachlor	ND	5.7	ug/kg	
1024-57-3	Heptachlor epoxide	ND	5.7	ug/kg	
118-74-1	Hexachlorobenzene	ND	5.7	ug/kg	
72-43-5	Methoxychlor	ND	5.7	ug/kg	
53494-70-5	Endrin ketone	ND	5.7	ug/kg	
8001-35-2	Toxaphene	ND	57	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	61%		10-143%
877-09-8	Tetrachloro-m-xylene	63%		10-143%
2051-24-3	Decachlorobiphenyl	57%		10-172%
2051-24-3	Decachlorobiphenyl	68%		10-172%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7B		
Lab Sample ID:	MC44826-9	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8082A SW846 3546	**Percent Solids:**	85.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56308.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.5 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	29	ug/kg	
11104-28-2	Aroclor 1221	ND	29	ug/kg	
11141-16-5	Aroclor 1232	ND	29	ug/kg	
53469-21-9	Aroclor 1242	ND	29	ug/kg	
12672-29-6	Aroclor 1248	ND	29	ug/kg	
11097-69-1	Aroclor 1254	ND	29	ug/kg	
11096-82-5	Aroclor 1260	ND	29	ug/kg	
37324-23-5	Aroclor 1262	ND	29	ug/kg	
11100-14-4	Aroclor 1268	ND	29	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	72%		35-136%
877-09-8	Tetrachloro-m-xylene	60%		35-136%
2051-24-3	Decachlorobiphenyl	102%		24-171%
2051-24-3	Decachlorobiphenyl	89%		24-171%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-7B		
Lab Sample ID:	MC44826-9	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
		Percent Solids:	85.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 0.92	0.92	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Arsenic	6.3	0.92	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.38	0.37	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Cadmium	< 0.37	0.37	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Chromium	13.8	0.92	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Copper	11.4	2.3	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Lead	10.6	0.92	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Mercury	< 0.030	0.030	mg/kg	1	03/16/16	03/16/16	EC	SW846 7471B [1]	SW846 7471B [3]
Nickel	17.7	3.7	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Selenium	< 0.92	0.92	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Silver	< 0.46	0.46	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Thallium	< 0.92	0.92	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Zinc	725	1.8	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA18978
(2) Instrument QC Batch: MA18986
(3) Prep QC Batch: MP25923
(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-8		
Lab Sample ID:	MC44826-10	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	82.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95769.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.33 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1100	ug/kg	
71-43-2	Benzene	ND	53	ug/kg	
108-86-1	Bromobenzene	ND	530	ug/kg	
74-97-5	Bromochloromethane	ND	530	ug/kg	
75-27-4	Bromodichloromethane	ND	210	ug/kg	
75-25-2	Bromoform	ND	210	ug/kg	
74-83-9	Bromomethane [a]	ND	210	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1100	ug/kg	
104-51-8	n-Butylbenzene	ND	530	ug/kg	
135-98-8	sec-Butylbenzene	992	530	ug/kg	
98-06-6	tert-Butylbenzene	ND	530	ug/kg	
75-15-0	Carbon disulfide	ND	530	ug/kg	
56-23-5	Carbon tetrachloride	ND	210	ug/kg	
108-90-7	Chlorobenzene	ND	210	ug/kg	
75-00-3	Chloroethane	ND	530	ug/kg	
67-66-3	Chloroform	ND	210	ug/kg	
74-87-3	Chloromethane [a]	ND	530	ug/kg	
95-49-8	o-Chlorotoluene	ND	530	ug/kg	
106-43-4	p-Chlorotoluene	ND	530	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan [a]	ND	530	ug/kg	
124-48-1	Dibromochloromethane	ND	210	ug/kg	
106-93-4	1,2-Dibromoethane	ND	210	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	210	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	210	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	210	ug/kg	
75-71-8	Dichlorodifluoromethane [a]	ND	210	ug/kg	
75-34-3	1,1-Dichloroethane	ND	210	ug/kg	
107-06-2	1,2-Dichloroethane	ND	210	ug/kg	
75-35-4	1,1-Dichloroethene	ND	210	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	210	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	210	ug/kg	
78-87-5	1,2-Dichloropropane	ND	210	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8		
Lab Sample ID:	MC44826-10	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	82.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	530	ug/kg	
594-20-7	2,2-Dichloropropane	ND	530	ug/kg	
563-58-6	1,1-Dichloropropene	ND	530	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	210	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	210	ug/kg	
100-41-4	Ethylbenzene	ND	210	ug/kg	
87-68-3	Hexachlorobutadiene	ND	530	ug/kg	
591-78-6	2-Hexanone	ND	1100	ug/kg	
74-88-4	Iodomethane	ND	530	ug/kg	
98-82-8	Isopropylbenzene	ND	530	ug/kg	
99-87-6	p-Isopropyltoluene	ND	530	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	210	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	530	ug/kg	
74-95-3	Methylene bromide	ND	530	ug/kg	
75-09-2	Methylene chloride	ND	210	ug/kg	
91-20-3	Naphthalene [a]	ND	530	ug/kg	
103-65-1	n-Propylbenzene	ND	530	ug/kg	
100-42-5	Styrene	ND	530	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	530	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	443	210	ug/kg	
127-18-4	Tetrachloroethene	ND	210	ug/kg	
108-88-3	Toluene	ND	530	ug/kg	
87-61-6	1,2,3-Trichlorobenzene [a]	ND	530	ug/kg	
120-82-1	1,2,4-Trichlorobenzene [a]	ND	530	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	210	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	210	ug/kg	
79-01-6	Trichloroethene	ND	210	ug/kg	
75-69-4	Trichlorofluoromethane	ND	210	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	530	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	530	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	530	ug/kg	
108-05-4	Vinyl Acetate	ND	530	ug/kg	
75-01-4	Vinyl chloride [a]	ND	210	ug/kg	
	m,p-Xylene	ND	210	ug/kg	
95-47-6	o-Xylene	ND	210	ug/kg	
1330-20-7	Xylene (total)	ND	210	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		65-141%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8		
Lab Sample ID:	MC44826-10	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	82.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		65-129%
460-00-4	4-Bromofluorobenzene	97%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8		
Lab Sample ID:	MC44826-10	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	82.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47220.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2 [a]	F84625.D	5	03/23/16	MR	03/16/16	OP46765	MSF3635

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2	20.1 g	1.0 ml

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	610	ug/kg	
95-57-8	2-Chlorophenol	ND	300	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	610	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	610	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	610	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	610	ug/kg	
95-48-7	2-Methylphenol	ND	610	ug/kg	
	3&4-Methylphenol	ND	610	ug/kg	
88-75-5	2-Nitrophenol	ND	610	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	610	ug/kg	
108-95-2	Phenol	ND	300	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	610	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	610	ug/kg	
83-32-9	Acenaphthene	ND	120	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
62-53-3	Aniline	ND	610	ug/kg	
120-12-7	Anthracene	ND	120	ug/kg	
92-87-5	Benzidine [b]	ND	1200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	120	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	300	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	300	ug/kg	
100-51-6	Benzyl Alcohol	ND	610	ug/kg	
91-58-7	2-Chloronaphthalene	ND	300	ug/kg	
106-47-8	4-Chloroaniline	ND	610	ug/kg	
86-74-8	Carbazole	ND	120	ug/kg	
218-01-9	Chrysene	ND	120	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8		
Lab Sample ID:	MC44826-10	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	82.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	300	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	300	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	300	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	300	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	300	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	300	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	300	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	300	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	610	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	610	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	300	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	120	ug/kg	
132-64-9	Dibenzofuran	ND	120	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	300	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	300	ug/kg	
84-66-2	Diethyl phthalate	ND	300	ug/kg	
131-11-3	Dimethyl phthalate	ND	300	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	300	ug/kg	
206-44-0	Fluoranthene	ND	120	ug/kg	
86-73-7	Fluorene	ND	120	ug/kg	
118-74-1	Hexachlorobenzene	ND	300	ug/kg	
87-68-3	Hexachlorobutadiene	ND	300	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	610	ug/kg	
67-72-1	Hexachloroethane	ND	300	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	300	ug/kg	
90-12-0	1-Methylnaphthalene	ND	300	ug/kg	
91-57-6	2-Methylnaphthalene	ND	120	ug/kg	
88-74-4	2-Nitroaniline	ND	610	ug/kg	
99-09-2	3-Nitroaniline	ND	610	ug/kg	
100-01-6	4-Nitroaniline	ND	610	ug/kg	
91-20-3	Naphthalene	ND	120	ug/kg	
98-95-3	Nitrobenzene	ND	300	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	300	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	300	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	300	ug/kg	
85-01-8	Phenanthrene	ND	120	ug/kg	
129-00-0	Pyrene	ND	120	ug/kg	
110-86-1	Pyridine	ND	610	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	300	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8		
Lab Sample ID:	MC44826-10	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	82.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	55%	57%	24-110%
4165-62-2	Phenol-d5	60%	64%	30-114%
118-79-6	2,4,6-Tribromophenol	75%	72%	20-139%
4165-60-0	Nitrobenzene-d5	72%	70%	27-112%
321-60-8	2-Fluorobiphenyl	82%	74%	35-115%
1718-51-0	Terphenyl-d14	87%	82%	48-136%

(a) Confirmation run for internal standard areas.
(b) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: RX-8
Lab Sample ID: MC44826-10 **Date Sampled:** 03/11/16
Matrix: SO - Soil **Date Received:** 03/14/16
Method: SW846 8081B SW846 3546 **Percent Solids:** 82.2
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50270.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	6.0	ug/kg	
319-84-6	alpha-BHC	ND	6.0	ug/kg	
319-85-7	beta-BHC	ND	6.0	ug/kg	
319-86-8	delta-BHC	ND	6.0	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	6.0	ug/kg	
12789-03-6	Chlordane	ND	60	ug/kg	
5103-71-9	alpha-Chlordane	ND	6.0	ug/kg	
5103-74-2	gamma-Chlordane	ND	6.0	ug/kg	
60-57-1	Dieldrin	ND	6.0	ug/kg	
72-54-8	4,4'-DDD	ND	6.0	ug/kg	
72-55-9	4,4'-DDE	ND	6.0	ug/kg	
50-29-3	4,4'-DDT	ND	6.0	ug/kg	
72-20-8	Endrin	ND	6.0	ug/kg	
1031-07-8	Endosulfan sulfate	ND	6.0	ug/kg	
7421-93-4	Endrin aldehyde	ND	6.0	ug/kg	
959-98-8	Endosulfan-I	ND	6.0	ug/kg	
33213-65-9	Endosulfan-II	ND	6.0	ug/kg	
76-44-8	Heptachlor	ND	6.0	ug/kg	
1024-57-3	Heptachlor epoxide	ND	6.0	ug/kg	
118-74-1	Hexachlorobenzene	ND	6.0	ug/kg	
72-43-5	Methoxychlor	ND	6.0	ug/kg	
53494-70-5	Endrin ketone	ND	6.0	ug/kg	
8001-35-2	Toxaphene	ND	60	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	58%		10-143%
877-09-8	Tetrachloro-m-xylene	66%		10-143%
2051-24-3	Decachlorobiphenyl	49%		10-172%
2051-24-3	Decachlorobiphenyl	60%		10-172%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8		
Lab Sample ID:	MC44826-10	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8082A SW846 3546	**Percent Solids:**	82.2
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56309.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.2 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	30	ug/kg	
11104-28-2	Aroclor 1221	ND	30	ug/kg	
11141-16-5	Aroclor 1232	ND	30	ug/kg	
53469-21-9	Aroclor 1242	ND	30	ug/kg	
12672-29-6	Aroclor 1248	ND	30	ug/kg	
11097-69-1	Aroclor 1254	ND	30	ug/kg	
11096-82-5	Aroclor 1260	ND	30	ug/kg	
37324-23-5	Aroclor 1262	ND	30	ug/kg	
11100-14-4	Aroclor 1268	ND	30	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	69%		35-136%
877-09-8	Tetrachloro-m-xylene	58%		35-136%
2051-24-3	Decachlorobiphenyl	88%		24-171%
2051-24-3	Decachlorobiphenyl	74%		24-171%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: RX-8
Lab Sample ID: MC44826-10
Matrix: SO - Soil
Date Sampled: 03/11/16
Date Received: 03/14/16
Percent Solids: 82.2
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 0.89	0.89	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Arsenic	23.7	0.89	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.99	0.36	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Cadmium	1.2	0.36	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Chromium	16.1	0.89	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Copper	14.1	2.2	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Lead	13.6	0.89	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Mercury	< 0.032	0.032	mg/kg	1	03/16/16	03/16/16	EC	SW846 7471B [1]	SW846 7471B [3]
Nickel	28.0	3.6	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Selenium	< 0.89	0.89	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Silver	< 0.44	0.44	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Thallium	< 0.89	0.89	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Zinc	448	1.8	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA18978
(2) Instrument QC Batch: MA18986
(3) Prep QC Batch: MP25923
(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-8A		
Lab Sample ID:	MC44826-11	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	77.6
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M76927.D	1	03/16/16	KD	n/a	n/a	MSM2748
Run #2							

	Initial Weight	Final Volume
Run #1	5.56 g	5.0 ml
Run #2		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	12	ug/kg	
71-43-2	Benzene	ND	0.58	ug/kg	
108-86-1	Bromobenzene	ND	5.8	ug/kg	
74-97-5	Bromochloromethane	ND	5.8	ug/kg	
75-27-4	Bromodichloromethane	ND	2.3	ug/kg	
75-25-2	Bromoform	ND	2.3	ug/kg	
74-83-9	Bromomethane	ND	2.3	ug/kg	
78-93-3	2-Butanone (MEK)	ND	12	ug/kg	
104-51-8	n-Butylbenzene	ND	5.8	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.8	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.8	ug/kg	
75-15-0	Carbon disulfide	ND	5.8	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.3	ug/kg	
108-90-7	Chlorobenzene	ND	2.3	ug/kg	
75-00-3	Chloroethane	ND	5.8	ug/kg	
67-66-3	Chloroform	ND	2.3	ug/kg	
74-87-3	Chloromethane	ND	5.8	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.8	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.8	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.8	ug/kg	
124-48-1	Dibromochloromethane	ND	2.3	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.3	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	2.3	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	2.3	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	2.3	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.3	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.3	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.3	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.3	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.3	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.3	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.3	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8A		
Lab Sample ID:	MC44826-11	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	77.6
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.8	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.8	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.8	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.3	ug/kg	
100-41-4	Ethylbenzene	ND	2.3	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.8	ug/kg	
591-78-6	2-Hexanone	ND	12	ug/kg	
74-88-4	Iodomethane	ND	5.8	ug/kg	
98-82-8	Isopropylbenzene	ND	5.8	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.8	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.3	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIB [a]	ND	5.8	ug/kg	
74-95-3	Methylene bromide	ND	5.8	ug/kg	
75-09-2	Methylene chloride	60.0	2.3	ug/kg	
91-20-3	Naphthalene	ND	5.8	ug/kg	
103-65-1	n-Propylbenzene	ND	5.8	ug/kg	
100-42-5	Styrene	ND	5.8	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.8	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.3	ug/kg	
127-18-4	Tetrachloroethene	ND	2.3	ug/kg	
108-88-3	Toluene	ND	5.8	ug/kg	JB
87-61-6	1,2,3-Trichlorobenzene	ND	5.8	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.8	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.3	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.3	ug/kg	
79-01-6	Trichloroethene	42.5	2.3	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.3	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.8	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.8	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.8	ug/kg	
108-05-4	Vinyl Acetate	ND	5.8	ug/kg	
75-01-4	Vinyl chloride	ND	2.3	ug/kg	
	m,p-Xylene	ND	2.3	ug/kg	
95-47-6	o-Xylene	ND	2.3	ug/kg	
1330-20-7	Xylene (total)	ND	2.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	116%		65-141%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8A		
Lab Sample ID:	MC44826-11	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	77.6
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	99%		65-129%
460-00-4	4-Bromofluorobenzene	102%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8A		
Lab Sample ID:	MC44826-11	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	77.6
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47221.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2 [a]	F84626.D	5	03/23/16	MR	03/16/16	OP46765	MSF3635

	Initial Weight	Final Volume
Run #1	20.1 g	1.0 ml
Run #2	20.1 g	1.0 ml

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	640	ug/kg	
95-57-8	2-Chlorophenol	ND	320	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	640	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	640	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	640	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1300	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	640	ug/kg	
95-48-7	2-Methylphenol	ND	640	ug/kg	
	3&4-Methylphenol	ND	640	ug/kg	
88-75-5	2-Nitrophenol	ND	640	ug/kg	
100-02-7	4-Nitrophenol	ND	1300	ug/kg	
87-86-5	Pentachlorophenol	ND	640	ug/kg	
108-95-2	Phenol	ND	320	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	640	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	640	ug/kg	
83-32-9	Acenaphthene	204	130	ug/kg	
208-96-8	Acenaphthylene	155	130	ug/kg	
62-53-3	Aniline	ND	640	ug/kg	
120-12-7	Anthracene	402	130	ug/kg	
92-87-5	Benzidine [b]	ND	1300	ug/kg	
56-55-3	Benzo(a)anthracene	959	130	ug/kg	
50-32-8	Benzo(a)pyrene	754	130	ug/kg	
205-99-2	Benzo(b)fluoranthene	724	130	ug/kg	
191-24-2	Benzo(g,h,i)perylene	568	130	ug/kg	
207-08-9	Benzo(k)fluoranthene	681	130	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	320	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	320	ug/kg	
100-51-6	Benzyl Alcohol	ND	640	ug/kg	
91-58-7	2-Chloronaphthalene	ND	320	ug/kg	
106-47-8	4-Chloroaniline	ND	640	ug/kg	
86-74-8	Carbazole	202	130	ug/kg	
218-01-9	Chrysene	1000	130	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: RX-8A
Lab Sample ID: MC44826-11 **Date Sampled:** 03/11/16
Matrix: SO - Soil **Date Received:** 03/14/16
Method: SW846 8270D SW846 3546 **Percent Solids:** 77.6
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	320	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	320	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	320	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	320	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	320	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	320	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	320	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	320	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	640	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	640	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	320	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	179	130	ug/kg	
132-64-9	Dibenzofuran	301	130	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	320	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	320	ug/kg	
84-66-2	Diethyl phthalate	ND	320	ug/kg	
131-11-3	Dimethyl phthalate	ND	320	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	320	ug/kg	
206-44-0	Fluoranthene	2190	130	ug/kg	
86-73-7	Fluorene	180	130	ug/kg	
118-74-1	Hexachlorobenzene	ND	320	ug/kg	
87-68-3	Hexachlorobutadiene	ND	320	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	640	ug/kg	
67-72-1	Hexachloroethane	ND	320	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	449	130	ug/kg	
78-59-1	Isophorone	ND	320	ug/kg	
90-12-0	1-Methylnaphthalene	738	320	ug/kg	
91-57-6	2-Methylnaphthalene	707	130	ug/kg	
88-74-4	2-Nitroaniline	ND	640	ug/kg	
99-09-2	3-Nitroaniline	ND	640	ug/kg	
100-01-6	4-Nitroaniline	ND	640	ug/kg	
91-20-3	Naphthalene	524	130	ug/kg	
98-95-3	Nitrobenzene	ND	320	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	320	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	320	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	320	ug/kg	
85-01-8	Phenanthrene	2500	130	ug/kg	
129-00-0	Pyrene	1920	130	ug/kg	
110-86-1	Pyridine	ND	640	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	320	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8A		
Lab Sample ID:	MC44826-11	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	77.6
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	73%	82%	24-110%
4165-62-2	Phenol-d5	72%	81%	30-114%
118-79-6	2,4,6-Tribromophenol	91%	90%	20-139%
4165-60-0	Nitrobenzene-d5	89%	79%	27-112%
321-60-8	2-Fluorobiphenyl	89%	86%	35-115%
1718-51-0	Terphenyl-d14	94%	104%	48-136%

(a) Confirmation run for internal standard areas.
(b) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: RX-8A
Lab Sample ID: MC44826-11 **Date Sampled:** 03/11/16
Matrix: SO - Soil **Date Received:** 03/14/16
Method: SW846 8081B SW846 3546 **Percent Solids:** 77.6
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50271.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.4 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	6.3	ug/kg	
319-84-6	alpha-BHC	ND	6.3	ug/kg	
319-85-7	beta-BHC	ND	6.3	ug/kg	
319-86-8	delta-BHC	ND	6.3	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	6.3	ug/kg	
12789-03-6	Chlordane	ND	63	ug/kg	
5103-71-9	alpha-Chlordane	ND	6.3	ug/kg	
5103-74-2	gamma-Chlordane	ND	6.3	ug/kg	
60-57-1	Dieldrin	ND	6.3	ug/kg	
72-54-8	4,4'-DDD	ND	6.3	ug/kg	
72-55-9	4,4'-DDE	ND	6.3	ug/kg	
50-29-3	4,4'-DDT	ND	6.3	ug/kg	
72-20-8	Endrin	ND	6.3	ug/kg	
1031-07-8	Endosulfan sulfate	ND	6.3	ug/kg	
7421-93-4	Endrin aldehyde	ND	6.3	ug/kg	
959-98-8	Endosulfan-I	ND	6.3	ug/kg	
33213-65-9	Endosulfan-II	ND	6.3	ug/kg	
76-44-8	Heptachlor	ND	6.3	ug/kg	
1024-57-3	Heptachlor epoxide	ND	6.3	ug/kg	
118-74-1	Hexachlorobenzene	ND	6.3	ug/kg	
72-43-5	Methoxychlor	ND	6.3	ug/kg	
53494-70-5	Endrin ketone	ND	6.3	ug/kg	
8001-35-2	Toxaphene	ND	63	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	58%		10-143%
877-09-8	Tetrachloro-m-xylene	57%		10-143%
2051-24-3	Decachlorobiphenyl	47%		10-172%
2051-24-3	Decachlorobiphenyl	57%		10-172%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8A		
Lab Sample ID:	MC44826-11	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8082A SW846 3546	**Percent Solids:**	77.6
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56310.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.4 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	32	ug/kg	
11104-28-2	Aroclor 1221	ND	32	ug/kg	
11141-16-5	Aroclor 1232	ND	32	ug/kg	
53469-21-9	Aroclor 1242	ND	32	ug/kg	
12672-29-6	Aroclor 1248	ND	32	ug/kg	
11097-69-1	Aroclor 1254	ND	32	ug/kg	
11096-82-5	Aroclor 1260	ND	32	ug/kg	
37324-23-5	Aroclor 1262	ND	32	ug/kg	
11100-14-4	Aroclor 1268	ND	32	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	77%		35-136%
877-09-8	Tetrachloro-m-xylene	72%		35-136%
2051-24-3	Decachlorobiphenyl	105%		24-171%
2051-24-3	Decachlorobiphenyl	94%		24-171%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8A		
Lab Sample ID:	MC44826-11	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
		Percent Solids:	77.6
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 0.98	0.98	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Arsenic	129	0.98	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.79	0.39	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Cadmium	0.41	0.39	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Chromium	18.0	0.98	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Copper	28.9	2.5	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Lead	243	0.98	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Mercury	0.79	0.038	mg/kg	1	03/16/16	03/16/16	EC	SW846 7471B [1]	SW846 7471B [3]
Nickel	13.3	3.9	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Selenium	15.9	0.98	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Silver	< 0.49	0.49	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Thallium	4.0	0.98	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Zinc	321	2.0	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA18978
(2) Instrument QC Batch: MA18986
(3) Prep QC Batch: MP25923
(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RX-8B		
Lab Sample ID:	MC44826-12	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	85.1
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M76928.D	1	03/16/16	KD	n/a	n/a	MSM2748
Run #2							

	Initial Weight	Final Volume
Run #1	5.69 g	5.0 ml
Run #2		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/kg	
71-43-2	Benzene	ND	0.52	ug/kg	
108-86-1	Bromobenzene	ND	5.2	ug/kg	
74-97-5	Bromochloromethane	ND	5.2	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	ug/kg	
75-25-2	Bromoform	ND	2.1	ug/kg	
74-83-9	Bromomethane	ND	2.1	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	ug/kg	
104-51-8	n-Butylbenzene	ND	5.2	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.2	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.2	ug/kg	
75-15-0	Carbon disulfide	ND	5.2	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.1	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	ug/kg	
75-00-3	Chloroethane	ND	5.2	ug/kg	
67-66-3	Chloroform	ND	2.1	ug/kg	
74-87-3	Chloromethane	ND	5.2	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.2	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.2	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.2	ug/kg	
124-48-1	Dibromochloromethane	ND	2.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.1	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	2.1	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	2.1	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	2.1	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.1	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.1	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.1	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.1	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.1	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8B		
Lab Sample ID:	MC44826-12	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	85.1
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.2	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.2	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.2	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	ug/kg	
100-41-4	Ethylbenzene	ND	2.1	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.2	ug/kg	
591-78-6	2-Hexanone	ND	10	ug/kg	
74-88-4	Iodomethane	ND	5.2	ug/kg	
98-82-8	Isopropylbenzene	ND	5.2	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.2	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.1	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIB [a]	ND	5.2	ug/kg	
74-95-3	Methylene bromide	ND	5.2	ug/kg	
75-09-2	Methylene chloride	7.3	2.1	ug/kg	
91-20-3	Naphthalene	ND	5.2	ug/kg	
103-65-1	n-Propylbenzene	ND	5.2	ug/kg	
100-42-5	Styrene	ND	5.2	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.2	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	ug/kg	
127-18-4	Tetrachloroethene	ND	2.1	ug/kg	
108-88-3	Toluene	ND	5.2	ug/kg	B
87-61-6	1,2,3-Trichlorobenzene	ND	5.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.2	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	ug/kg	
79-01-6	Trichloroethene	ND	2.1	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.1	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.2	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.2	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.2	ug/kg	
108-05-4	Vinyl Acetate	ND	5.2	ug/kg	
75-01-4	Vinyl chloride	ND	2.1	ug/kg	
	m,p-Xylene	ND	2.1	ug/kg	
95-47-6	o-Xylene	ND	2.1	ug/kg	
1330-20-7	Xylene (total)	ND	2.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	118%		65-141%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8B		
Lab Sample ID:	MC44826-12	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	85.1
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	100%		65-129%
460-00-4	4-Bromofluorobenzene	104%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: RX-8B
Lab Sample ID: MC44826-12 **Date Sampled:** 03/11/16
Matrix: SO - Soil **Date Received:** 03/14/16
Method: SW846 8270D SW846 3546 **Percent Solids:** 85.1
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47222.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2							

	Initial Weight	Final Volume
Run #1	20.5 g	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	570	ug/kg	
95-57-8	2-Chlorophenol	ND	290	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	570	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	570	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	570	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	570	ug/kg	
95-48-7	2-Methylphenol	ND	570	ug/kg	
	3&4-Methylphenol	ND	570	ug/kg	
88-75-5	2-Nitrophenol	ND	570	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	570	ug/kg	
108-95-2	Phenol	ND	290	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	570	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	570	ug/kg	
83-32-9	Acenaphthene	ND	110	ug/kg	
208-96-8	Acenaphthylene	ND	110	ug/kg	
62-53-3	Aniline	ND	570	ug/kg	
120-12-7	Anthracene	ND	110	ug/kg	
92-87-5	Benzidine [a]	ND	1100	ug/kg	
56-55-3	Benzo(a)anthracene	289	110	ug/kg	
50-32-8	Benzo(a)pyrene	175	110	ug/kg	
205-99-2	Benzo(b)fluoranthene	204	110	ug/kg	
191-24-2	Benzo(g,h,i)perylene	121	110	ug/kg	
207-08-9	Benzo(k)fluoranthene	140	110	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	290	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	290	ug/kg	
100-51-6	Benzyl Alcohol	ND	570	ug/kg	
91-58-7	2-Chloronaphthalene	ND	290	ug/kg	
106-47-8	4-Chloroaniline	ND	570	ug/kg	
86-74-8	Carbazole	ND	110	ug/kg	
218-01-9	Chrysene	451	110	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8B		
Lab Sample ID:	MC44826-12	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	85.1
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	290	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	290	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	290	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	290	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	290	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	290	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	290	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	290	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	570	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	570	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	290	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	110	ug/kg	
132-64-9	Dibenzofuran	291	110	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	290	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	290	ug/kg	
84-66-2	Diethyl phthalate	ND	290	ug/kg	
131-11-3	Dimethyl phthalate	ND	290	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	290	ug/kg	
206-44-0	Fluoranthene	511	110	ug/kg	
86-73-7	Fluorene	ND	110	ug/kg	
118-74-1	Hexachlorobenzene	ND	290	ug/kg	
87-68-3	Hexachlorobutadiene	ND	290	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	570	ug/kg	
67-72-1	Hexachloroethane	ND	290	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	110	ug/kg	
78-59-1	Isophorone	ND	290	ug/kg	
90-12-0	1-Methylnaphthalene	1390	290	ug/kg	
91-57-6	2-Methylnaphthalene	919	110	ug/kg	
88-74-4	2-Nitroaniline	ND	570	ug/kg	
99-09-2	3-Nitroaniline	ND	570	ug/kg	
100-01-6	4-Nitroaniline	ND	570	ug/kg	
91-20-3	Naphthalene	360	110	ug/kg	
98-95-3	Nitrobenzene	ND	290	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	290	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	290	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	290	ug/kg	
85-01-8	Phenanthrene	1430	110	ug/kg	
129-00-0	Pyrene	465	110	ug/kg	
110-86-1	Pyridine	ND	570	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	290	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8B		
Lab Sample ID:	MC44826-12	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	85.1
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	63%		24-110%
4165-62-2	Phenol-d5	62%		30-114%
118-79-6	2,4,6-Tribromophenol	80%		20-139%
4165-60-0	Nitrobenzene-d5	78%		27-112%
321-60-8	2-Fluorobiphenyl	78%		35-115%
1718-51-0	Terphenyl-d14	85%		48-136%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: RX-8B
Lab Sample ID: MC44826-12 **Date Sampled:** 03/11/16
Matrix: SO - Soil **Date Received:** 03/14/16
Method: SW846 8081B SW846 3546 **Percent Solids:** 85.1
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50272.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.7 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	5.7	ug/kg	
319-84-6	alpha-BHC	ND	5.7	ug/kg	
319-85-7	beta-BHC	ND	5.7	ug/kg	
319-86-8	delta-BHC	ND	5.7	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	5.7	ug/kg	
12789-03-6	Chlordane	ND	57	ug/kg	
5103-71-9	alpha-Chlordane	ND	5.7	ug/kg	
5103-74-2	gamma-Chlordane	ND	5.7	ug/kg	
60-57-1	Dieldrin	ND	5.7	ug/kg	
72-54-8	4,4'-DDD	ND	5.7	ug/kg	
72-55-9	4,4'-DDE	ND	5.7	ug/kg	
50-29-3	4,4'-DDT	ND	5.7	ug/kg	
72-20-8	Endrin	ND	5.7	ug/kg	
1031-07-8	Endosulfan sulfate	ND	5.7	ug/kg	
7421-93-4	Endrin aldehyde	ND	5.7	ug/kg	
959-98-8	Endosulfan-I	ND	5.7	ug/kg	
33213-65-9	Endosulfan-II	ND	5.7	ug/kg	
76-44-8	Heptachlor	ND	5.7	ug/kg	
1024-57-3	Heptachlor epoxide	ND	5.7	ug/kg	
118-74-1	Hexachlorobenzene	ND	5.7	ug/kg	
72-43-5	Methoxychlor	ND	5.7	ug/kg	
53494-70-5	Endrin ketone	ND	5.7	ug/kg	
8001-35-2	Toxaphene	ND	57	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	65%		10-143%
877-09-8	Tetrachloro-m-xylene	69%		10-143%
2051-24-3	Decachlorobiphenyl	50%		10-172%
2051-24-3	Decachlorobiphenyl	53%		10-172%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RX-8B		
Lab Sample ID:	MC44826-12	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8082A SW846 3546	**Percent Solids:**	85.1
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56311.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.7 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	28	ug/kg	
11104-28-2	Aroclor 1221	ND	28	ug/kg	
11141-16-5	Aroclor 1232	ND	28	ug/kg	
53469-21-9	Aroclor 1242	ND	28	ug/kg	
12672-29-6	Aroclor 1248	ND	28	ug/kg	
11097-69-1	Aroclor 1254	ND	28	ug/kg	
11096-82-5	Aroclor 1260	ND	28	ug/kg	
37324-23-5	Aroclor 1262	ND	28	ug/kg	
11100-14-4	Aroclor 1268	ND	28	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	73%		35-136%
877-09-8	Tetrachloro-m-xylene	69%		35-136%
2051-24-3	Decachlorobiphenyl	94%		24-171%
2051-24-3	Decachlorobiphenyl	84%		24-171%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: RX-8B
Lab Sample ID: MC44826-12
Matrix: SO - Soil
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Date Sampled: 03/11/16
Date Received: 03/14/16
Percent Solids: 85.1

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 0.95	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Arsenic	327	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.65	0.38	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Cadmium	< 0.38	0.38	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Chromium	9.6	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Copper	12.5	2.4	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Lead	58.5	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Mercury	0.26	0.037	mg/kg	1	03/16/16	03/16/16	EC	SW846 7471B [1]	SW846 7471B [3]
Nickel	8.3	3.8	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Selenium	8.0	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Silver	< 0.47	0.47	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Thallium	1.4	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Zinc	61.4	1.9	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA18978
(2) Instrument QC Batch: MA18986
(3) Prep QC Batch: MP25923
(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	B-8		
Lab Sample ID:	MC44826-13	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	63.5
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95770.D	1	03/17/16	TB	n/a	n/a	MSK2944
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	11.2 g	10.0 ml	100 ul
Run #2			

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	990	ug/kg	
71-43-2	Benzene	ND	49	ug/kg	
108-86-1	Bromobenzene	ND	490	ug/kg	
74-97-5	Bromochloromethane	ND	490	ug/kg	
75-27-4	Bromodichloromethane	ND	200	ug/kg	
75-25-2	Bromoform	ND	200	ug/kg	
74-83-9	Bromomethane [a]	ND	200	ug/kg	
78-93-3	2-Butanone (MEK)	ND	990	ug/kg	
104-51-8	n-Butylbenzene	ND	490	ug/kg	
135-98-8	sec-Butylbenzene	591	490	ug/kg	
98-06-6	tert-Butylbenzene	ND	490	ug/kg	
75-15-0	Carbon disulfide	ND	490	ug/kg	
56-23-5	Carbon tetrachloride	ND	200	ug/kg	
108-90-7	Chlorobenzene	ND	200	ug/kg	
75-00-3	Chloroethane	ND	490	ug/kg	
67-66-3	Chloroform	ND	200	ug/kg	
74-87-3	Chloromethane [a]	ND	490	ug/kg	
95-49-8	o-Chlorotoluene	ND	490	ug/kg	
106-43-4	p-Chlorotoluene	ND	490	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropan [a]	ND	490	ug/kg	
124-48-1	Dibromochloromethane	ND	200	ug/kg	
106-93-4	1,2-Dibromoethane	ND	200	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	200	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	200	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	200	ug/kg	
75-71-8	Dichlorodifluoromethane [a]	ND	200	ug/kg	
75-34-3	1,1-Dichloroethane	ND	200	ug/kg	
107-06-2	1,2-Dichloroethane	ND	200	ug/kg	
75-35-4	1,1-Dichloroethene	ND	200	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	200	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	200	ug/kg	
78-87-5	1,2-Dichloropropane	ND	200	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-8		
Lab Sample ID:	MC44826-13	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	63.5
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	490	ug/kg	
594-20-7	2,2-Dichloropropane	ND	490	ug/kg	
563-58-6	1,1-Dichloropropene	ND	490	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	200	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	200	ug/kg	
100-41-4	Ethylbenzene	ND	200	ug/kg	
87-68-3	Hexachlorobutadiene	ND	490	ug/kg	
591-78-6	2-Hexanone	ND	990	ug/kg	
74-88-4	Iodomethane	ND	490	ug/kg	
98-82-8	Isopropylbenzene	ND	490	ug/kg	
99-87-6	p-Isopropyltoluene	ND	490	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	200	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	490	ug/kg	
74-95-3	Methylene bromide	ND	490	ug/kg	
75-09-2	Methylene chloride	ND	200	ug/kg	
91-20-3	Naphthalene [a]	ND	490	ug/kg	
103-65-1	n-Propylbenzene	ND	490	ug/kg	
100-42-5	Styrene	ND	490	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	490	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	200	ug/kg	
127-18-4	Tetrachloroethene	ND	200	ug/kg	
108-88-3	Toluene	ND	490	ug/kg	
87-61-6	1,2,3-Trichlorobenzene [a]	ND	490	ug/kg	
120-82-1	1,2,4-Trichlorobenzene [a]	ND	490	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	200	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	200	ug/kg	
79-01-6	Trichloroethene	ND	200	ug/kg	
75-69-4	Trichlorofluoromethane	ND	200	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	490	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	490	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	490	ug/kg	
108-05-4	Vinyl Acetate	ND	490	ug/kg	
75-01-4	Vinyl chloride [a]	ND	200	ug/kg	
	m,p-Xylene	ND	200	ug/kg	
95-47-6	o-Xylene	ND	200	ug/kg	
1330-20-7	Xylene (total)	ND	200	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		65-141%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-8		
Lab Sample ID:	MC44826-13	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	63.5
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	91%		65-129%
460-00-4	4-Bromofluorobenzene	90%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: B-8
Lab Sample ID: MC44826-13 **Date Sampled:** 03/11/16
Matrix: SO - Soil **Date Received:** 03/14/16
Method: SW846 8270D SW846 3546 **Percent Solids:** 63.5
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47223.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2 [a]	F84627.D	5	03/23/16	MR	03/16/16	OP46765	MSF3635

	Initial Weight	Final Volume
Run #1	20.6 g	1.0 ml
Run #2	20.6 g	1.0 ml

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	770	ug/kg	
95-57-8	2-Chlorophenol	ND	380	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	770	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	770	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	770	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1500	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	770	ug/kg	
95-48-7	2-Methylphenol	ND	770	ug/kg	
	3&4-Methylphenol	ND	770	ug/kg	
88-75-5	2-Nitrophenol	ND	770	ug/kg	
100-02-7	4-Nitrophenol	ND	1500	ug/kg	
87-86-5	Pentachlorophenol	ND	770	ug/kg	
108-95-2	Phenol	ND	380	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	770	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	770	ug/kg	
83-32-9	Acenaphthene	1020	150	ug/kg	
208-96-8	Acenaphthylene	ND	150	ug/kg	
62-53-3	Aniline	ND	770	ug/kg	
120-12-7	Anthracene	1600	150	ug/kg	
92-87-5	Benzidine [b]	ND	1500	ug/kg	
56-55-3	Benzo(a)anthracene	385	150	ug/kg	
50-32-8	Benzo(a)pyrene	265	150	ug/kg	
205-99-2	Benzo(b)fluoranthene	226	150	ug/kg	
191-24-2	Benzo(g,h,i)perylene	190	150	ug/kg	
207-08-9	Benzo(k)fluoranthene	196	150	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	380	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	380	ug/kg	
100-51-6	Benzyl Alcohol	ND	770	ug/kg	
91-58-7	2-Chloronaphthalene	ND	380	ug/kg	
106-47-8	4-Chloroaniline	ND	770	ug/kg	
86-74-8	Carbazole	ND	150	ug/kg	
218-01-9	Chrysene	460	150	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: B-8
Lab Sample ID: MC44826-13 **Date Sampled:** 03/11/16
Matrix: SO - Soil **Date Received:** 03/14/16
Method: SW846 8270D SW846 3546 **Percent Solids:** 63.5
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	380	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	380	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	380	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	380	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	380	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	380	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	380	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	380	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	770	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	770	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	380	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	150	ug/kg	
132-64-9	Dibenzofuran	307	150	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	380	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	380	ug/kg	
84-66-2	Diethyl phthalate	ND	380	ug/kg	
131-11-3	Dimethyl phthalate	ND	380	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	380	ug/kg	
206-44-0	Fluoranthene	1840	150	ug/kg	
86-73-7	Fluorene	1130	150	ug/kg	
118-74-1	Hexachlorobenzene	ND	380	ug/kg	
87-68-3	Hexachlorobutadiene	ND	380	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	770	ug/kg	
67-72-1	Hexachloroethane	ND	380	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	154	150	ug/kg	
78-59-1	Isophorone	ND	380	ug/kg	
90-12-0	1-Methylnaphthalene	ND	380	ug/kg	
91-57-6	2-Methylnaphthalene	ND	150	ug/kg	
88-74-4	2-Nitroaniline	ND	770	ug/kg	
99-09-2	3-Nitroaniline	ND	770	ug/kg	
100-01-6	4-Nitroaniline	ND	770	ug/kg	
91-20-3	Naphthalene	ND	150	ug/kg	
98-95-3	Nitrobenzene	ND	380	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	380	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	380	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	380	ug/kg	
85-01-8	Phenanthrene	2990	150	ug/kg	
129-00-0	Pyrene	1380	150	ug/kg	
110-86-1	Pyridine	ND	770	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	380	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-8		
Lab Sample ID:	MC44826-13	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	63.5
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	74%	80%	24-110%
4165-62-2	Phenol-d5	74%	83%	30-114%
118-79-6	2,4,6-Tribromophenol	97%	87%	20-139%
4165-60-0	Nitrobenzene-d5	88%	72%	27-112%
321-60-8	2-Fluorobiphenyl	88%	82%	35-115%
1718-51-0	Terphenyl-d14	87%	90%	48-136%

(a) Confirmation run for internal standard areas.
(b) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: B-8
Lab Sample ID: MC44826-13 **Date Sampled:** 03/11/16
Matrix: SO - Soil **Date Received:** 03/14/16
Method: SW846 8081B SW846 3546 **Percent Solids:** 63.5
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50273.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.8 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	7.6	ug/kg	
319-84-6	alpha-BHC	ND	7.6	ug/kg	
319-85-7	beta-BHC	ND	7.6	ug/kg	
319-86-8	delta-BHC	ND	7.6	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	7.6	ug/kg	
12789-03-6	Chlordane	ND	76	ug/kg	
5103-71-9	alpha-Chlordane	ND	7.6	ug/kg	
5103-74-2	gamma-Chlordane	ND	7.6	ug/kg	
60-57-1	Dieldrin	ND	7.6	ug/kg	
72-54-8	4,4'-DDD	ND	7.6	ug/kg	
72-55-9	4,4'-DDE	ND	7.6	ug/kg	
50-29-3	4,4'-DDT	ND	7.6	ug/kg	
72-20-8	Endrin	ND	7.6	ug/kg	
1031-07-8	Endosulfan sulfate	ND	7.6	ug/kg	
7421-93-4	Endrin aldehyde	ND	7.6	ug/kg	
959-98-8	Endosulfan-I	ND	7.6	ug/kg	
33213-65-9	Endosulfan-II	ND	7.6	ug/kg	
76-44-8	Heptachlor	ND	7.6	ug/kg	
1024-57-3	Heptachlor epoxide	ND	7.6	ug/kg	
118-74-1	Hexachlorobenzene	ND	7.6	ug/kg	
72-43-5	Methoxychlor	ND	7.6	ug/kg	
53494-70-5	Endrin ketone	ND	7.6	ug/kg	
8001-35-2	Toxaphene	ND	76	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	61%		10-143%
877-09-8	Tetrachloro-m-xylene	97%		10-143%
2051-24-3	Decachlorobiphenyl	55%		10-172%
2051-24-3	Decachlorobiphenyl	68%		10-172%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: B-8
Lab Sample ID: MC44826-13 **Date Sampled:** 03/11/16
Matrix: SO - Soil **Date Received:** 03/14/16
Method: SW846 8082A SW846 3546 **Percent Solids:** 63.5
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56312.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.8 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	38	ug/kg	
11104-28-2	Aroclor 1221	ND	38	ug/kg	
11141-16-5	Aroclor 1232	ND	38	ug/kg	
53469-21-9	Aroclor 1242	ND	38	ug/kg	
12672-29-6	Aroclor 1248	ND	38	ug/kg	
11097-69-1	Aroclor 1254	ND	38	ug/kg	
11096-82-5	Aroclor 1260	ND	38	ug/kg	
37324-23-5	Aroclor 1262	ND	38	ug/kg	
11100-14-4	Aroclor 1268	ND	38	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	74%		35-136%
877-09-8	Tetrachloro-m-xylene	53%		35-136%
2051-24-3	Decachlorobiphenyl	89%		24-171%
2051-24-3	Decachlorobiphenyl	75%		24-171%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: B-8
Lab Sample ID: MC44826-13
Matrix: SO - Soil
Date Sampled: 03/11/16
Date Received: 03/14/16
Percent Solids: 63.5
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 1.2	1.2	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Arsenic	9.8	1.2	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Beryllium	0.90	0.47	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Cadmium	< 0.47	0.47	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Chromium	29.7	1.2	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Copper	21.5	2.9	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Lead	27.7	1.2	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Mercury	0.076	0.043	mg/kg	1	03/16/16	03/16/16	EC	SW846 7471B [1]	SW846 7471B [3]
Nickel	26.7	4.7	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Selenium	< 1.2	1.2	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Silver	< 0.59	0.59	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Thallium	< 1.2	1.2	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Zinc	335	2.4	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA18978
(2) Instrument QC Batch: MA18986
(3) Prep QC Batch: MP25923
(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	B-9		
Lab Sample ID:	MC44826-14	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	79.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M76942.D	1	03/17/16	KD	n/a	n/a	MSM2749
Run #2	M76929.D	1	03/16/16	KD	n/a	n/a	MSM2748

	Initial Weight	Final Volume
Run #1	5.40 g	5.0 ml
Run #2	5.00 g	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	35.2 [a]	13	ug/kg	
71-43-2	Benzene	ND	0.58	ug/kg	
108-86-1	Bromobenzene	ND	5.8	ug/kg	
74-97-5	Bromochloromethane	ND	5.8	ug/kg	
75-27-4	Bromodichloromethane	ND	2.3	ug/kg	
75-25-2	Bromoform	ND	2.3	ug/kg	
74-83-9	Bromomethane	ND	2.3	ug/kg	
78-93-3	2-Butanone (MEK)	ND	12	ug/kg	
104-51-8	n-Butylbenzene	ND	5.8	ug/kg	
135-98-8	sec-Butylbenzene	32.8	5.8	ug/kg	
98-06-6	tert-Butylbenzene	17.7	5.8	ug/kg	
75-15-0	Carbon disulfide	ND	5.8	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.3	ug/kg	
108-90-7	Chlorobenzene	ND	2.3	ug/kg	
75-00-3	Chloroethane	ND	5.8	ug/kg	
67-66-3	Chloroform	ND	2.3	ug/kg	
74-87-3	Chloromethane	ND	5.8	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.8	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.8	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.8	ug/kg	
124-48-1	Dibromochloromethane	ND	2.3	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.3	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	2.3	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	2.3	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	2.3	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.3	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.3	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.3	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.3	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.3	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.3	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.3	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-9		
Lab Sample ID:	MC44826-14	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	79.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.8	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.8	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.8	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.3	ug/kg	
100-41-4	Ethylbenzene	ND	2.3	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.8	ug/kg	
591-78-6	2-Hexanone	ND	12	ug/kg	
74-88-4	Iodomethane	ND	5.8	ug/kg	
98-82-8	Isopropylbenzene	ND	5.8	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.8	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.3	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.8	ug/kg	
74-95-3	Methylene bromide	ND	5.8	ug/kg	
75-09-2	Methylene chloride	3.5	2.3	ug/kg	
91-20-3	Naphthalene	8.0	5.8	ug/kg	
103-65-1	n-Propylbenzene	ND	5.8	ug/kg	
100-42-5	Styrene	ND	5.8	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.8	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.3	ug/kg	
127-18-4	Tetrachloroethene	ND	2.3	ug/kg	
108-88-3	Toluene	ND	5.8	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.8	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.8	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.3	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.3	ug/kg	
79-01-6	Trichloroethene	32.8	2.3	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.3	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.8	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.8	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.8	ug/kg	
108-05-4	Vinyl Acetate	ND	5.8	ug/kg	
75-01-4	Vinyl chloride	ND	2.3	ug/kg	
	m,p-Xylene	ND	2.3	ug/kg	
95-47-6	o-Xylene	ND	2.3	ug/kg	
1330-20-7	Xylene (total)	ND	2.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%	109%	65-141%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-9		
Lab Sample ID:	MC44826-14	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	79.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	102%	103%	65-129%
460-00-4	4-Bromofluorobenzene	112%	148% [b]	63-137%

(a) Result is from Run# 2
(b) Outside control limits due to possible matrix interference. Associated compounds not reported in sample.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: B-9
Lab Sample ID: MC44826-14 **Date Sampled:** 03/11/16
Matrix: SO - Soil **Date Received:** 03/14/16
Method: SW846 8270D SW846 3546 **Percent Solids:** 79.9
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R47224.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
Run #2 [a]	F84628.D	5	03/23/16	MR	03/16/16	OP46765	MSF3635

	Initial Weight	Final Volume
Run #1	20.5 g	1.0 ml
Run #2	20.5 g	1.0 ml

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	610	ug/kg	
95-57-8	2-Chlorophenol	ND	300	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	610	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	610	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	610	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	610	ug/kg	
95-48-7	2-Methylphenol	ND	610	ug/kg	
	3&4-Methylphenol	ND	610	ug/kg	
88-75-5	2-Nitrophenol	ND	610	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	ug/kg	
87-86-5	Pentachlorophenol	ND	610	ug/kg	
108-95-2	Phenol	ND	300	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	610	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	610	ug/kg	
83-32-9	Acenaphthene	ND	120	ug/kg	
208-96-8	Acenaphthylene	ND	120	ug/kg	
62-53-3	Aniline	ND	610	ug/kg	
120-12-7	Anthracene	ND	120	ug/kg	
92-87-5	Benzidine [b]	ND	1200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	120	ug/kg	
50-32-8	Benzo(a)pyrene	ND	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	120	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	120	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	120	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	300	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	300	ug/kg	
100-51-6	Benzyl Alcohol	ND	610	ug/kg	
91-58-7	2-Chloronaphthalene	ND	300	ug/kg	
106-47-8	4-Chloroaniline	ND	610	ug/kg	
86-74-8	Carbazole	ND	120	ug/kg	
218-01-9	Chrysene	ND	120	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-9		
Lab Sample ID:	MC44826-14	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	79.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	300	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	300	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	300	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	300	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	300	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	300	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	300	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	300	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	610	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	610	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	300	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	120	ug/kg	
132-64-9	Dibenzofuran	ND	120	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	300	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	300	ug/kg	
84-66-2	Diethyl phthalate	ND	300	ug/kg	
131-11-3	Dimethyl phthalate	ND	300	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	300	ug/kg	
206-44-0	Fluoranthene	ND	120	ug/kg	
86-73-7	Fluorene	ND	120	ug/kg	
118-74-1	Hexachlorobenzene	ND	300	ug/kg	
87-68-3	Hexachlorobutadiene	ND	300	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	610	ug/kg	
67-72-1	Hexachloroethane	ND	300	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	120	ug/kg	
78-59-1	Isophorone	ND	300	ug/kg	
90-12-0	1-Methylnaphthalene	ND	300	ug/kg	
91-57-6	2-Methylnaphthalene	ND	120	ug/kg	
88-74-4	2-Nitroaniline	ND	610	ug/kg	
99-09-2	3-Nitroaniline	ND	610	ug/kg	
100-01-6	4-Nitroaniline	ND	610	ug/kg	
91-20-3	Naphthalene	ND	120	ug/kg	
98-95-3	Nitrobenzene	ND	300	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	300	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	300	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	300	ug/kg	
85-01-8	Phenanthrene	134	120	ug/kg	
129-00-0	Pyrene	ND	120	ug/kg	
110-86-1	Pyridine	ND	610	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	300	ug/kg	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-9		
Lab Sample ID:	MC44826-14	**Date Sampled:**	03/11/16
Matrix:	SO - Soil	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	79.9
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	71%	80%	24-110%
4165-62-2	Phenol-d5	71%	78%	30-114%
118-79-6	2,4,6-Tribromophenol	87%	77%	20-139%
4165-60-0	Nitrobenzene-d5	87%	77%	27-112%
321-60-8	2-Fluorobiphenyl	90%	88%	35-115%
1718-51-0	Terphenyl-d14	96%	93%	48-136%

(a) Confirmation run for internal standard areas.
(b) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: B-9
Lab Sample ID: MC44826-14 **Date Sampled:** 03/11/16
Matrix: SO - Soil **Date Received:** 03/14/16
Method: SW846 8081B SW846 3546 **Percent Solids:** 79.9
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BE50274.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
Run #2							

	Initial Weight	Final Volume
Run #1	20.9 g	10.0 ml
Run #2		

Pesticide Special List

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	6.0	ug/kg	
319-84-6	alpha-BHC	ND	6.0	ug/kg	
319-85-7	beta-BHC	ND	6.0	ug/kg	
319-86-8	delta-BHC	ND	6.0	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	6.0	ug/kg	
12789-03-6	Chlordane	ND	60	ug/kg	
5103-71-9	alpha-Chlordane	ND	6.0	ug/kg	
5103-74-2	gamma-Chlordane	ND	6.0	ug/kg	
60-57-1	Dieldrin	ND	6.0	ug/kg	
72-54-8	4,4'-DDD	ND	6.0	ug/kg	
72-55-9	4,4'-DDE	ND	6.0	ug/kg	
50-29-3	4,4'-DDT	ND	6.0	ug/kg	
72-20-8	Endrin	ND	6.0	ug/kg	
1031-07-8	Endosulfan sulfate	ND	6.0	ug/kg	
7421-93-4	Endrin aldehyde	ND	6.0	ug/kg	
959-98-8	Endosulfan-I	ND	6.0	ug/kg	
33213-65-9	Endosulfan-II	ND	6.0	ug/kg	
76-44-8	Heptachlor	ND	6.0	ug/kg	
1024-57-3	Heptachlor epoxide	ND	6.0	ug/kg	
118-74-1	Hexachlorobenzene	ND	6.0	ug/kg	
72-43-5	Methoxychlor	ND	6.0	ug/kg	
53494-70-5	Endrin ketone	ND	6.0	ug/kg	
8001-35-2	Toxaphene	ND	60	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	69%		10-143%
877-09-8	Tetrachloro-m-xylene	82%		10-143%
2051-24-3	Decachlorobiphenyl	67%		10-172%
2051-24-3	Decachlorobiphenyl	82%		10-172%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: B-9
Lab Sample ID: MC44826-14 **Date Sampled:** 03/11/16
Matrix: SO - Soil **Date Received:** 03/14/16
Method: SW846 8082A SW846 3546 **Percent Solids:** 79.9
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BK56313.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
Run #2							

	Initial Weight	Final Volume
Run #1	20.9 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	30	ug/kg	
11104-28-2	Aroclor 1221	ND	30	ug/kg	
11141-16-5	Aroclor 1232	ND	30	ug/kg	
53469-21-9	Aroclor 1242	ND	30	ug/kg	
12672-29-6	Aroclor 1248	ND	30	ug/kg	
11097-69-1	Aroclor 1254	ND	30	ug/kg	
11096-82-5	Aroclor 1260	ND	30	ug/kg	
37324-23-5	Aroclor 1262	ND	30	ug/kg	
11100-14-4	Aroclor 1268	ND	30	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	68%		35-136%
877-09-8	Tetrachloro-m-xylene	58%		35-136%
2051-24-3	Decachlorobiphenyl	91%		24-171%
2051-24-3	Decachlorobiphenyl	74%		24-171%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: B-9
Lab Sample ID: MC44826-14
Matrix: SO - Soil
Date Sampled: 03/11/16
Date Received: 03/14/16
Percent Solids: 79.9
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 0.95	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Arsenic	64.8	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Beryllium	1.2	0.38	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Cadmium	1.0	0.38	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Chromium	15.1	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Copper	18.0	2.4	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Lead	22.3	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Mercury	0.084	0.033	mg/kg	1	03/16/16	03/16/16	EC	SW846 7471B [1]	SW846 7471B [3]
Nickel	56.6	3.8	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Selenium	4.8	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Silver	< 0.47	0.47	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Thallium	< 0.95	0.95	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]
Zinc	630	1.9	mg/kg	1	03/18/16	03/18/16	EC	SW846 6010C [2]	SW846 3050B [4]

(1) Instrument QC Batch: MA18978
(2) Instrument QC Batch: MA18986
(3) Prep QC Batch: MP25923
(4) Prep QC Batch: MP25929

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RXGW1		
Lab Sample ID:	MC44826-15	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	G150525.D	1	03/17/16	CB	n/a	n/a	MSG5625
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
74-97-5	Bromochloromethane	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RXGW1		
Lab Sample ID:	MC44826-15	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
74-88-4	Iodomethane	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	5.4	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		79-127%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RXGW1		
Lab Sample ID:	MC44826-15	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	108%		80-116%
460-00-4	4-Bromofluorobenzene	117%		77-124%

(a) The pH of the sample aliquot for VOA analysis was > 2 at time of analysis.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RXGW1		
Lab Sample ID:	MC44826-15	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F84580.D	5	03/22/16	MR	03/15/16	OP46751	MSF3634
Run #2 [a]	F84596.D	20	03/22/16	MR	03/15/16	OP46751	MSF3634

	Initial Volume	Final Volume
Run #1	850 ml	3.0 ml
Run #2	850 ml	3.0 ml

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic Acid [b]	ND	180	ug/l	
95-57-8	2-Chlorophenol	ND	88	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	180	ug/l	
120-83-2	2,4-Dichlorophenol	ND	180	ug/l	
105-67-9	2,4-Dimethylphenol	ND	180	ug/l	
51-28-5	2,4-Dinitrophenol	ND	350	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	180	ug/l	
95-48-7	2-Methylphenol	ND	180	ug/l	
	3&4-Methylphenol	ND	180	ug/l	
88-75-5	2-Nitrophenol	ND	180	ug/l	
100-02-7	4-Nitrophenol	ND	350	ug/l	
87-86-5	Pentachlorophenol [b]	ND	180	ug/l	
108-95-2	Phenol	ND	88	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	180	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	180	ug/l	
83-32-9	Acenaphthene	ND	35	ug/l	
208-96-8	Acenaphthylene	ND	35	ug/l	
62-53-3	Aniline	ND	180	ug/l	
120-12-7	Anthracene	ND	35	ug/l	
92-87-5	Benzidine [c]	ND	88	ug/l	
56-55-3	Benzo(a)anthracene	ND	35	ug/l	
50-32-8	Benzo(a)pyrene	ND	35	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	35	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	35	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	35	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	88	ug/l	
85-68-7	Butyl benzyl phthalate	ND	88	ug/l	
100-51-6	Benzyl Alcohol	ND	180	ug/l	
91-58-7	2-Chloronaphthalene	ND	88	ug/l	
106-47-8	4-Chloroaniline	ND	180	ug/l	
86-74-8	Carbazole	ND	35	ug/l	
218-01-9	Chrysene	125	35	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RXGW1		
Lab Sample ID:	MC44826-15	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	88	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	88	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	88	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	88	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	88	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	88	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	88	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	88	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	180	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	180	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	88	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	35	ug/l	
132-64-9	Dibenzofuran	ND	35	ug/l	
84-74-2	Di-n-butyl phthalate	ND	88	ug/l	
117-84-0	Di-n-octyl phthalate	ND	88	ug/l	
84-66-2	Diethyl phthalate	ND	88	ug/l	
131-11-3	Dimethyl phthalate	ND	88	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	35	ug/l	
206-44-0	Fluoranthene	ND	35	ug/l	
86-73-7	Fluorene	ND	35	ug/l	
118-74-1	Hexachlorobenzene	ND	88	ug/l	
87-68-3	Hexachlorobutadiene	ND	88	ug/l	
77-47-4	Hexachlorocyclopentadiene [b]	ND	180	ug/l	
67-72-1	Hexachloroethane	ND	88	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	35	ug/l	
78-59-1	Isophorone	ND	88	ug/l	
90-12-0	1-Methylnaphthalene	ND	35	ug/l	
91-57-6	2-Methylnaphthalene	ND	35	ug/l	
88-74-4	2-Nitroaniline	ND	180	ug/l	
99-09-2	3-Nitroaniline	ND	180	ug/l	
100-01-6	4-Nitroaniline	ND	180	ug/l	
91-20-3	Naphthalene	ND	35	ug/l	
98-95-3	Nitrobenzene	ND	88	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	88	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	88	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	88	ug/l	
85-01-8	Phenanthrene	204	35	ug/l	
129-00-0	Pyrene	ND	35	ug/l	
110-86-1	Pyridine	ND	180	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	88	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RXGW1		
Lab Sample ID:	MC44826-15	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	0% e	0% d	10-80%
4165-62-2	Phenol-d5	0% e	0% d	10-72%
118-79-6	2,4,6-Tribromophenol	66%	89%	42-134%
4165-60-0	Nitrobenzene-d5	0% e	0% d	25-117%
321-60-8	2-Fluorobiphenyl	87%	100%	24-112%
1718-51-0	Terphenyl-d14	89%	101%	48-133%

(a) Confirmation run for surrogate recoveries.
(b) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.
(c) Insufficient sample volume for re-extraction/reanalysis. Associated samples may be biased low for this compound.
(d) Outside control limits due to dilution.
(e) Outside control limits due to matrix interference. Confirmed by reanalysis. Insufficient sample volume for re-extraction.

Report of Analysis

Client Sample ID:	RXGW1		
Lab Sample ID:	MC44826-15	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
		Percent Solids:	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony [a]	< 12	12	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]
Arsenic [a]	289	8.0	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]
Beryllium [a]	19.3	8.0	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]
Cadmium [a]	18.1	8.0	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]
Chromium [a]	404	20	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]
Copper [a]	715	50	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]
Lead [a]	2260	10	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]
Mercury	1.3	0.20	ug/l	1	03/18/16	03/21/16	EC	SW846 7470A [3]	SW846 7470A [5]
Nickel [a]	604	80	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]
Selenium [a]	< 20	20	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]
Silver [a]	< 25	25	ug/l	5	03/16/16	03/18/16	EC	SW846 6010C [2]	SW846 3010A [4]
Thallium [a]	< 10	10	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]
Zinc [a]	6710	40	ug/l	2	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]

(1) Instrument QC Batch: MA18982
(2) Instrument QC Batch: MA18987
(3) Instrument QC Batch: MA18988
(4) Prep QC Batch: MP25922
(5) Prep QC Batch: MP25932

(a) Elevated RL due to dilution required for matrix interference.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RXGW2		
Lab Sample ID:	MC44826-16	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	G150526.D	1	03/17/16	CB	n/a	n/a	MSG5625
Run #2 [a]	G150614.D	1	03/22/16	CB	n/a	n/a	MSG5628

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND [b]	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
74-97-5	Bromochloromethane	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RXGW2		
Lab Sample ID:	MC44826-16	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
74-88-4	Iodomethane	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%	97%	79-127%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RXGW2		
Lab Sample ID:	MC44826-16	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	98%	99%	80-116%
460-00-4	4-Bromofluorobenzene	96%	105%	77-124%

(a) The pH of the sample aliquot for VOA analysis was > 2 at time of analysis.
(b) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RXGW2		
Lab Sample ID:	MC44826-16	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F84581.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634
Run #2							

	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic Acid [a]	ND	11	ug/l	
95-57-8	2-Chlorophenol	ND	5.4	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	ug/l	
51-28-5	2,4-Dinitrophenol	ND	22	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	ug/l	
95-48-7	2-Methylphenol	ND	11	ug/l	
	3&4-Methylphenol	ND	11	ug/l	
88-75-5	2-Nitrophenol	ND	11	ug/l	
100-02-7	4-Nitrophenol	ND	22	ug/l	
87-86-5	Pentachlorophenol [a]	ND	11	ug/l	
108-95-2	Phenol	ND	5.4	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	ug/l	
83-32-9	Acenaphthene	ND	2.2	ug/l	
208-96-8	Acenaphthylene	ND	2.2	ug/l	
62-53-3	Aniline	ND	11	ug/l	
120-12-7	Anthracene	ND	2.2	ug/l	
92-87-5	Benzidine [b]	ND	5.4	ug/l	
56-55-3	Benzo(a)anthracene	ND	2.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	2.2	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	2.2	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	2.2	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	2.2	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.4	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.4	ug/l	
100-51-6	Benzyl Alcohol	ND	11	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.4	ug/l	
106-47-8	4-Chloroaniline	ND	11	ug/l	
86-74-8	Carbazole	ND	2.2	ug/l	
218-01-9	Chrysene	ND	2.2	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RXGW2		
Lab Sample ID:	MC44826-16	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	5.4	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.4	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.4	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.4	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.4	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.4	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.4	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.4	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.4	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	2.2	ug/l	
132-64-9	Dibenzofuran	ND	2.2	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.4	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.4	ug/l	
84-66-2	Diethyl phthalate	ND	5.4	ug/l	
131-11-3	Dimethyl phthalate	ND	5.4	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.2	ug/l	
206-44-0	Fluoranthene	ND	2.2	ug/l	
86-73-7	Fluorene	ND	2.2	ug/l	
118-74-1	Hexachlorobenzene	ND	5.4	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.4	ug/l	
77-47-4	Hexachlorocyclopentadiene [a]	ND	11	ug/l	
67-72-1	Hexachloroethane	ND	5.4	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.2	ug/l	
78-59-1	Isophorone	ND	5.4	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.2	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.2	ug/l	
88-74-4	2-Nitroaniline	ND	11	ug/l	
99-09-2	3-Nitroaniline	ND	11	ug/l	
100-01-6	4-Nitroaniline	ND	11	ug/l	
91-20-3	Naphthalene	ND	2.2	ug/l	
98-95-3	Nitrobenzene	ND	5.4	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.4	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.4	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.4	ug/l	
85-01-8	Phenanthrene	ND	2.2	ug/l	
129-00-0	Pyrene	ND	2.2	ug/l	
110-86-1	Pyridine	ND	11	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.4	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RXGW2		
Lab Sample ID:	MC44826-16	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	34%		10-80%
4165-62-2	Phenol-d5	24%		10-72%
118-79-6	2,4,6-Tribromophenol	91%		42-134%
4165-60-0	Nitrobenzene-d5	75%		25-117%
321-60-8	2-Fluorobiphenyl	76%		24-112%
1718-51-0	Terphenyl-d14	86%		48-133%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.
(b) Insufficient sample volume for re-extraction/reanalysis. Associated samples may be biased low for this compound.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RXGW2		
Lab Sample ID:	MC44826-16	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
		Percent Solids:	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 6.0	6.0	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [3]
Arsenic	21.6	4.0	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [3]
Beryllium	< 4.0	4.0	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [3]
Cadmium	< 4.0	4.0	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [3]
Chromium	28.3	10	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [3]
Copper	51.2	25	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [3]
Lead	38.5	5.0	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [3]
Mercury	< 0.20	0.20	ug/l	1	03/18/16	03/21/16	EC	SW846 7470A [2]	SW846 7470A [4]
Nickel	< 40	40	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [3]
Selenium	< 10	10	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [3]
Silver	< 5.0	5.0	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [3]
Thallium	< 5.0	5.0	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [3]
Zinc	758	20	ug/l	1	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA18982
(2) Instrument QC Batch: MA18988
(3) Prep QC Batch: MP25922
(4) Prep QC Batch: MP25932

RL = Reporting Limit

Report of Analysis

Client Sample ID:	RXGW3		
Lab Sample ID:	MC44826-17	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	G150527.D	1	03/17/16	CB	n/a	n/a	MSG5625
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
74-97-5	Bromochloromethane	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RXGW3		
Lab Sample ID:	MC44826-17	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
74-88-4	Iodomethane	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		79-127%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RXGW3		
Lab Sample ID:	MC44826-17	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	99%		80-116%
460-00-4	4-Bromofluorobenzene	105%		77-124%

(a) The pH of the sample aliquot for VOA analysis was > 2 at time of analysis.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RXGW3		
Lab Sample ID:	MC44826-17	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F84582.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634
Run #2							

	Initial Volume	Final Volume
Run #1	880 ml	1.0 ml
Run #2		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic Acid [a]	ND	11	ug/l	
95-57-8	2-Chlorophenol	ND	5.7	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	11	ug/l	
120-83-2	2,4-Dichlorophenol	ND	11	ug/l	
105-67-9	2,4-Dimethylphenol	ND	11	ug/l	
51-28-5	2,4-Dinitrophenol	ND	23	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	11	ug/l	
95-48-7	2-Methylphenol	ND	11	ug/l	
	3&4-Methylphenol	ND	11	ug/l	
88-75-5	2-Nitrophenol	ND	11	ug/l	
100-02-7	4-Nitrophenol	ND	23	ug/l	
87-86-5	Pentachlorophenol [a]	ND	11	ug/l	
108-95-2	Phenol	ND	5.7	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	11	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	11	ug/l	
83-32-9	Acenaphthene	ND	2.3	ug/l	
208-96-8	Acenaphthylene	ND	2.3	ug/l	
62-53-3	Aniline	ND	11	ug/l	
120-12-7	Anthracene	ND	2.3	ug/l	
92-87-5	Benzidine [b]	ND	5.7	ug/l	
56-55-3	Benzo(a)anthracene	ND	2.3	ug/l	
50-32-8	Benzo(a)pyrene	ND	2.3	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	2.3	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	2.3	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	2.3	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.7	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.7	ug/l	
100-51-6	Benzyl Alcohol	ND	11	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.7	ug/l	
106-47-8	4-Chloroaniline	ND	11	ug/l	
86-74-8	Carbazole	ND	2.3	ug/l	
218-01-9	Chrysene	ND	2.3	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RXGW3		
Lab Sample ID:	MC44826-17	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Compound	Result	RL	Units	Q
111-91-1	bis(2-Chloroethoxy)methane	ND	5.7	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.7	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.7	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.7	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.7	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.7	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.7	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.7	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	11	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	11	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.7	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	2.3	ug/l	
132-64-9	Dibenzofuran	ND	2.3	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.7	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.7	ug/l	
84-66-2	Diethyl phthalate	ND	5.7	ug/l	
131-11-3	Dimethyl phthalate	ND	5.7	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.3	ug/l	
206-44-0	Fluoranthene	ND	2.3	ug/l	
86-73-7	Fluorene	ND	2.3	ug/l	
118-74-1	Hexachlorobenzene	ND	5.7	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.7	ug/l	
77-47-4	Hexachlorocyclopentadiene [a]	ND	11	ug/l	
67-72-1	Hexachloroethane	ND	5.7	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.3	ug/l	
78-59-1	Isophorone	ND	5.7	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.3	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.3	ug/l	
88-74-4	2-Nitroaniline	ND	11	ug/l	
99-09-2	3-Nitroaniline	ND	11	ug/l	
100-01-6	4-Nitroaniline	ND	11	ug/l	
91-20-3	Naphthalene	ND	2.3	ug/l	
98-95-3	Nitrobenzene	ND	5.7	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.7	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.7	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.7	ug/l	
85-01-8	Phenanthrene	ND	2.3	ug/l	
129-00-0	Pyrene	ND	2.3	ug/l	
110-86-1	Pyridine	ND	11	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.7	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RXGW3		
Lab Sample ID:	MC44826-17	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

ABN Full List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	33%		10-80%
4165-62-2	Phenol-d5	24%		10-72%
118-79-6	2,4,6-Tribromophenol	80%		42-134%
4165-60-0	Nitrobenzene-d5	58%		25-117%
321-60-8	2-Fluorobiphenyl	56%		24-112%
1718-51-0	Terphenyl-d14	72%		48-133%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit Response verified by low-level standard.
(b) Insufficient sample volume for re-extraction/reanalysis. Associated samples may be biased low for this compound.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RXGW3		
Lab Sample ID:	MC44826-17	**Date Sampled:**	03/11/16
Matrix:	AQ - Ground Water	**Date Received:**	03/14/16
		Percent Solids:	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony [a]	90.3	60	ug/l	10	03/16/16	03/18/16	EC	SW846 6010C [2]	SW846 3010A [4]
Arsenic	19000	40	ug/l	10	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]
Beryllium	< 40	40	ug/l	10	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]
Cadmium	< 40	40	ug/l	10	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]
Chromium	436	100	ug/l	10	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]
Copper	2380	250	ug/l	10	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]
Lead	3030	50	ug/l	10	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]
Mercury [a]	11.9	2.0	ug/l	10	03/18/16	03/21/16	EC	SW846 7470A [3]	SW846 7470A [5]
Nickel	628	400	ug/l	10	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]
Selenium	1400	100	ug/l	10	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]
Silver [a]	< 50	50	ug/l	10	03/16/16	03/18/16	EC	SW846 6010C [2]	SW846 3010A [4]
Thallium	83.7	50	ug/l	10	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]
Zinc	5520	200	ug/l	10	03/16/16	03/17/16	EC	SW846 6010C [1]	SW846 3010A [4]

(1) Instrument QC Batch: MA18982
(2) Instrument QC Batch: MA18987
(3) Instrument QC Batch: MA18988
(4) Prep QC Batch: MP25922
(5) Prep QC Batch: MP25932

(a) Elevated RL due to dilution required for matrix interference.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	TRIP		
Lab Sample ID:	MC44826-18	**Date Sampled:**	03/11/16
Matrix:	AQ - Trip Blank Water	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G150514.D	1	03/17/16	CB	n/a	n/a	MSG5625
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
74-97-5	Bromochloromethane	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP		
Lab Sample ID:	MC44826-18	**Date Sampled:**	03/11/16
Matrix:	AQ - Trip Blank Water	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Compound	Result	RL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
74-88-4	Iodomethane	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		79-127%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP		
Lab Sample ID:	MC44826-18	**Date Sampled:**	03/11/16
Matrix:	AQ - Trip Blank Water	**Date Received:**	03/14/16
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	99%		80-116%
460-00-4	4-Bromofluorobenzene	100%		77-124%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

SGS ACCUTEST

SGS Accutest of New England
50 D'Angelo Drive, Building One Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 2

FED-EX Tracking #:
Bottle Order Control #:
SGS Accutest Quote #:
SGS Accutest Job #: MC44826

Client / Reporting Information

Company Name: Roux Associates
Street Address: 12 Gill st. suite 4700
City: Woburn State: MA Zip: 01801
Project Contact: Matt Casey E-mail: mcasey@rouxinc.com
Phone #: 781-569-4032 Fax #:
Sampler(s) Name(s): M. Casey Phone #: 781-569-4032

Project Information

Project Name: Rochester, NY Vacuum Oil Terminal
Street: 22 Flint St. & 936 Exchange St
City: Rochester
Project#: 0172.0180M008
Client PO#: ExxonMobil
Project Manager: Matt Casey

Billing Information (If different from Report to)

Company Name: Roux Associates
Street Address: 12 Gill St.
City: Woburn State: MA Zip: 01801
PO#:
Attention: Matt Casey

Requested Analysis (see TEST CODE sheet)

SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	VOC is 8260B	SVOC is 8270	Metals 6010B	Pesticides 8081	Acetone + Isopropanol	PCB is 8082	LAB USE ONLY
1	RX-1		3.11.16	0950	MC	SO	4					1		1		2	X	X	X	X	X		
2	RX-2		3.11.16	1030	MC	SO	4					1		1		2	X	X	X	X	X		
3	RX-3		3.11.16	1100	MC	SO	4					1		1		2	X	X	X	X	X		
4	RX-4		3.11.16	1120	MC	SO	4					1		1		2	X	X	X	X	X		18A
5	RX-5		3.11.16	1230	MC	SO	4					1		1		2	X	X	X	X	X		1A
6	RX-6		3.11.16	110	MC	SO	4					1		1		2	X	X	X	X	X		6B
7	RX-7		3.11.16	300	MC	SO	4					1		1		2	X	X	X	X	X		45A
8	RX-7A		3.11.16	300	MC	SO	2					1		1			X	X	X	X	X		10E3
9	RX-7R		3.11.16	300	MC	SO	2					1		1			X	X	X	X	X		
10	RX-8		3.11.16	340	MC	SO	4					1		1		2	X	X	X	X	X		
11	RX-8A		3.11.16	340	MC	SO	2					1		1			X	X	X	X	X		
12	RX-8B		3.11.16	340	MC	SO	2					1		1			X	X	X	X	X		

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB- Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Turnaround Time (Business days)

- [X] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

INITIAL ASESSMENT hA
LABEL VERIFICATION kma

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		3/14/16 1410	1	2		2
3			3	4		4
5			5	Custody Seal #	Intact / Not intact	Preserved where applicable / On Ice / Cooler Temp. 3.0, 5.2

MC44826: Chain of Custody
Page 1 of 4

CHAIN OF CUSTODY

PAGE 2 OF 2

SGS ACCUTEST

SGS Accutest of New England
50 D'Angelo Drive, Building One Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

FED-EX Tracking #: | Bottle Order Control #:
SGS Accutest Quote #: | SGS Accutest Job #: MC44826

Client / Reporting Information

Company Name: Roux Associates
Street Address: 12 Gill St. Suite 4700
City: Woburn State: MA Zip: 01801
Project Contact: Matt Casey E-mail: mcasey@rouxinc.com
Phone #: 781-589-4032 Fax #:
Sampler(s) Name(s): M. Casey Phone #: 781-589-4032

Project Information

Project Name: Rochester, NY Vacuum Oil Terminal
Street: 22 Flint St + 936 Exchange
City: Rochester
Project#: 0172.0170M008
Client PO#: Exxon Mobil
Project Manager: Matt Casey

Billing Information (If different from Report to)

Company Name: Roux Associates
Street Address: 12 Gill St #4700
City: Woburn State: MA Zip: 01801
Attention: Matt Casey PO#:

Requested Analysis (see TEST CODE sheet)

VOCs 8260B; SVOCs 8270; Metals 6010B; Pesticides 8081; PCBs 8082; Arsenic Cadmium Chromium Lead

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB- Equipment Blank
RB- Rinse Blank
TB-Trip Blank

SGS Accutest Sample #	Field ID / Point of Collection	MeOH/DI Vial #	Collection Date	Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MeOH	ENCORE	Bisulfate	LAB USE ONLY
13	B-8		3.11.16	1200	MC	SO	1					X					
14	B-9		3.11.16	1230	MC	SO	1					X					
15	RXG-W1		3.11.16	1200	MC	GW	5Y	1		1		2					
16	RXG-W2		3.11.16	2 10	MC	GW	43	1		1		1					
17	RXG-W3		3.11.16	415	MC	GW	5Y	1		1		2					
18	TRIP		3.11.16	000	MC	trip	3	1				+				+2	

Turnaround Time (Business days)
- [X] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information
- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		3/14/16 1410	1	2		2
3			3	4		4
5			5			

Custody Seal # | Intact | Not Intact | Preserved where applicable | On Ice | Cooler Temp. 3.0, 5.2°

SGS Accutest Sample Receipt Summary

Job Number: MC44826 **Client:** ROUX **Project:** ROCHESTER

Date / Time Received: 3/14/2016 2:10:00 PM **Delivery Method:** DROP OFF **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (3/3); #2: (5.2/5.2);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☐		☑

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IRGUN1		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	2		

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☑	☐	
2. Trip Blank listed on COC:	☑	☐	
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☐		☑

Sample Integrity - Condition	Y	or	N
1. Sample rec'd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume rec'd for analysis:	☐	☑	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

-5 Time on labels is "12:40" , COC is "12:30"

-6 Time on labels is "13:45" , COC is "1:10"

-15 -17 Only 1-950ML (GLASS ,NO PRE) for SVOC, PEST,PCB
1-500ML (POLY-NO PRE) submitted , no analysis req.
1-40ML (HCL) recd. For VOC (other 40ML is Non Pres)

-16 Only 1-950ML (GLASS , NO PRE) for SVOC,PEST,PCB
1-40ML (HCL) recd. For VOC (other 40ML is Non Pres)

-18 Trip Blank is 1-40ML (HCL) , COC indcates Sod Bi
(is aqueous TB)

Sample Receipt Summary - Problem Resolution

Job Number: MC44826

CSR: Frank D'Agostino **Response Date:** 3/15/2016

Response: See the email from the client

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2748-MB	M76916.D	1	03/16/16	KD	n/a	n/a	MSM2748

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-11, MC44826-12, MC44826-14

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/kg	
71-43-2	Benzene	ND	0.50	ug/kg	
108-86-1	Bromobenzene	ND	5.0	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	ug/kg	
75-25-2	Bromoform	ND	2.0	ug/kg	
74-83-9	Bromomethane	ND	2.0	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	ug/kg	
67-66-3	Chloroform	ND	2.0	ug/kg	
74-87-3	Chloromethane	ND	5.0	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	2.0	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	2.0	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	2.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/kg	

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2748-MB	M76916.D	1	03/16/16	KD	n/a	n/a	MSM2748

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-11, MC44826-12, MC44826-14

CAS No.	Compound	Result	RL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/kg	
591-78-6	2-Hexanone	ND	10	ug/kg	
74-88-4	Iodomethane	ND	5.0	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/kg	
74-95-3	Methylene bromide	ND	5.0	ug/kg	
75-09-2	Methylene chloride	ND	2.0	ug/kg	
91-20-3	Naphthalene	ND	5.0	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	ug/kg	
100-42-5	Styrene	ND	5.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	ug/kg	
108-88-3	Toluene	5.2	5.0	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/kg	
79-01-6	Trichloroethene	ND	2.0	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/kg	
108-05-4	Vinyl Acetate	ND	5.0	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	ug/kg	
	m,p-Xylene	ND	2.0	ug/kg	
95-47-6	o-Xylene	ND	2.0	ug/kg	
1330-20-7	Xylene (total)	ND	2.0	ug/kg	

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2748-MB	M76916.D	1	03/16/16	KD	n/a	n/a	MSM2748

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-11, MC44826-12, MC44826-14

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	112%	65-141%
2037-26-5	Toluene-D8	101%	65-129%
460-00-4	4-Bromofluorobenzene	101%	63-137%

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5625-MB	G150511.D	1	03/17/16	CB	n/a	n/a	MSG5625

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-15, MC44826-16, MC44826-17, MC44826-18

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
74-97-5	Bromochloromethane	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5625-MB	G150511.D	1	03/17/16	CB	n/a	n/a	MSG5625

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-15, MC44826-16, MC44826-17, MC44826-18

CAS No.	Compound	Result	RL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
74-88-4	Iodomethane	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5625-MB	G150511.D	1	03/17/16	CB	n/a	n/a	MSG5625

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-15, MC44826-16, MC44826-17, MC44826-18

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	99%	79-127%
2037-26-5	Toluene-D8	100%	80-116%
460-00-4	4-Bromofluorobenzene	103%	77-124%

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2749-MB	M76940.D	1	03/17/16	KD	n/a	n/a	MSM2749

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-14

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/kg	
108-86-1	Bromobenzene	ND	5.0	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	ug/kg	
75-25-2	Bromoform	ND	2.0	ug/kg	
74-83-9	Bromomethane	ND	2.0	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	ug/kg	
67-66-3	Chloroform	ND	2.0	ug/kg	
74-87-3	Chloromethane	ND	5.0	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	2.0	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	2.0	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	2.0	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	2.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/kg	

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2749-MB	M76940.D	1	03/17/16	KD	n/a	n/a	MSM2749

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-14

CAS No.	Compound	Result	RL	Units	Q
100-41-4	Ethylbenzene	ND	2.0	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/kg	
591-78-6	2-Hexanone	ND	10	ug/kg	
74-88-4	Iodomethane	ND	5.0	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/kg	
74-95-3	Methylene bromide	ND	5.0	ug/kg	
75-09-2	Methylene chloride	0.53	2.0	ug/kg	J
91-20-3	Naphthalene	ND	5.0	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	ug/kg	
100-42-5	Styrene	ND	5.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	ug/kg	
108-88-3	Toluene	ND	5.0	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/kg	
79-01-6	Trichloroethene	ND	2.0	ug/kg	
75-69-4	Trichlorofluoromethane	ND	2.0	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/kg	
108-05-4	Vinyl Acetate	ND	5.0	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	ug/kg	
	m,p-Xylene	ND	2.0	ug/kg	
95-47-6	o-Xylene	ND	2.0	ug/kg	
1330-20-7	Xylene (total)	ND	2.0	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	115%	65-141%

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2749-MB	M76940.D	1	03/17/16	KD	n/a	n/a	MSM2749

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-14

CAS No.	Surrogate Recoveries		Limits
2037-26-5	Toluene-D8	98%	65-129%
460-00-4	4-Bromofluorobenzene	100%	63-137%

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2944-MB	K95754.D	1	03/17/16	TB	n/a	n/a	MSK2944

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-13

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	500	ug/kg	
71-43-2	Benzene	ND	25	ug/kg	
108-86-1	Bromobenzene	ND	250	ug/kg	
74-97-5	Bromochloromethane	ND	250	ug/kg	
75-27-4	Bromodichloromethane	ND	100	ug/kg	
75-25-2	Bromoform	ND	100	ug/kg	
74-83-9	Bromomethane	ND	100	ug/kg	
78-93-3	2-Butanone (MEK)	ND	500	ug/kg	
104-51-8	n-Butylbenzene	ND	250	ug/kg	
135-98-8	sec-Butylbenzene	ND	250	ug/kg	
98-06-6	tert-Butylbenzene	ND	250	ug/kg	
75-15-0	Carbon disulfide	ND	250	ug/kg	
56-23-5	Carbon tetrachloride	ND	100	ug/kg	
108-90-7	Chlorobenzene	ND	100	ug/kg	
75-00-3	Chloroethane	ND	250	ug/kg	
67-66-3	Chloroform	ND	100	ug/kg	
74-87-3	Chloromethane	ND	250	ug/kg	
95-49-8	o-Chlorotoluene	ND	250	ug/kg	
106-43-4	p-Chlorotoluene	ND	250	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	250	ug/kg	
124-48-1	Dibromochloromethane	ND	100	ug/kg	
106-93-4	1,2-Dibromoethane	ND	100	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	100	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	100	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	100	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	100	ug/kg	
75-34-3	1,1-Dichloroethane	ND	100	ug/kg	
107-06-2	1,2-Dichloroethane	ND	100	ug/kg	
75-35-4	1,1-Dichloroethene	ND	100	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	100	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	100	ug/kg	
78-87-5	1,2-Dichloropropane	ND	100	ug/kg	
142-28-9	1,3-Dichloropropane	ND	250	ug/kg	
594-20-7	2,2-Dichloropropane	ND	250	ug/kg	
563-58-6	1,1-Dichloropropene	ND	250	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	100	ug/kg	

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2944-MB	K95754.D	1	03/17/16	TB	n/a	n/a	MSK2944

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-13

CAS No.	Compound	Result	RL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	100	ug/kg	
100-41-4	Ethylbenzene	ND	100	ug/kg	
87-68-3	Hexachlorobutadiene	61.3	250	ug/kg	J
591-78-6	2-Hexanone	ND	500	ug/kg	
74-88-4	Iodomethane	ND	250	ug/kg	
98-82-8	Isopropylbenzene	ND	250	ug/kg	
99-87-6	p-Isopropyltoluene	ND	250	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	100	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	ug/kg	
74-95-3	Methylene bromide	ND	250	ug/kg	
75-09-2	Methylene chloride	ND	100	ug/kg	
91-20-3	Naphthalene	ND	250	ug/kg	
103-65-1	n-Propylbenzene	ND	250	ug/kg	
100-42-5	Styrene	ND	250	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	250	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	ug/kg	
127-18-4	Tetrachloroethene	ND	100	ug/kg	
108-88-3	Toluene	ND	250	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	74.7	250	ug/kg	J
120-82-1	1,2,4-Trichlorobenzene	30.9	250	ug/kg	J
71-55-6	1,1,1-Trichloroethane	ND	100	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	100	ug/kg	
79-01-6	Trichloroethene	ND	100	ug/kg	
75-69-4	Trichlorofluoromethane	ND	100	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	250	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	250	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	250	ug/kg	
108-05-4	Vinyl Acetate	ND	250	ug/kg	
75-01-4	Vinyl chloride	ND	100	ug/kg	
	m,p-Xylene	ND	100	ug/kg	
95-47-6	o-Xylene	ND	100	ug/kg	
1330-20-7	Xylene (total)	ND	100	ug/kg	

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2944-MB	K95754.D	1	03/17/16	TB	n/a	n/a	MSK2944

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-13

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	104%	65-141%
2037-26-5	Toluene-D8	94%	65-129%
460-00-4	4-Bromofluorobenzene	97%	63-137%

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5628-MB	G150605.D	1	03/22/16	CB	n/a	n/a	MSG5628

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-16

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	96%	79-127%
2037-26-5	Toluene-D8	99%	80-116%
460-00-4	4-Bromofluorobenzene	104%	77-124%

Blank Spike Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2748-BS	M76914.D	1	03/16/16	KD	n/a	n/a	MSM2748

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-11, MC44826-12, MC44826-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	50	57.8	116	24-179
71-43-2	Benzene	50	49.5	99	73-115
108-86-1	Bromobenzene	50	51.6	103	76-121
74-97-5	Bromochloromethane	50	56.3	113	76-129
75-27-4	Bromodichloromethane	50	55.1	110	76-122
75-25-2	Bromoform	50	46.4	93	67-151
74-83-9	Bromomethane	50	48.6	97	52-139
78-93-3	2-Butanone (MEK)	50	56.1	112	32-151
104-51-8	n-Butylbenzene	50	51.8	104	71-124
135-98-8	sec-Butylbenzene	50	51.9	104	71-124
98-06-6	tert-Butylbenzene	50	54.8	110	66-125
75-15-0	Carbon disulfide	50	54.1	108	57-143
56-23-5	Carbon tetrachloride	50	64.2	128	73-129
108-90-7	Chlorobenzene	50	48.8	98	79-123
75-00-3	Chloroethane	50	55.4	111	51-159
67-66-3	Chloroform	50	56.7	113	72-122
74-87-3	Chloromethane	50	52.7	105	57-143
95-49-8	o-Chlorotoluene	50	52.5	105	68-121
106-43-4	p-Chlorotoluene	50	52.8	106	68-119
96-12-8	1,2-Dibromo-3-chloropropane	50	45.9	92	52-132
124-48-1	Dibromochloromethane	50	49.6	99	74-139
106-93-4	1,2-Dibromoethane	50	46.4	93	76-130
95-50-1	1,2-Dichlorobenzene	50	50.1	100	73-122
541-73-1	1,3-Dichlorobenzene	50	51.4	103	74-119
106-46-7	1,4-Dichlorobenzene	50	51.8	104	75-118
75-71-8	Dichlorodifluoromethane	50	52.3	105	11-183
75-34-3	1,1-Dichloroethane	50	55.0	110	70-128
107-06-2	1,2-Dichloroethane	50	60.9	122	70-126
75-35-4	1,1-Dichloroethene	50	51.3	103	71-136
156-59-2	cis-1,2-Dichloroethene	50	53.2	106	78-128
156-60-5	trans-1,2-Dichloroethene	50	47.0	94	71-131
78-87-5	1,2-Dichloropropane	50	50.6	101	79-124
142-28-9	1,3-Dichloropropane	50	51.1	102	78-128
594-20-7	2,2-Dichloropropane	50	57.1	114	54-145
563-58-6	1,1-Dichloropropene	50	52.6	105	67-125
10061-01-5	cis-1,3-Dichloropropene	50	50.6	101	75-126

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2748-BS	M76914.D	1	03/16/16	KD	n/a	n/a	MSM2748

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-11, MC44826-12, MC44826-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	49.6	99	75-128
100-41-4	Ethylbenzene	50	47.7	95	76-122
87-68-3	Hexachlorobutadiene	50	52.4	105	73-137
591-78-6	2-Hexanone	50	47.7	95	26-169
74-88-4	Iodomethane	50	60.2	120	70-142
98-82-8	Isopropylbenzene	50	52.4	105	69-124
99-87-6	p-Isopropyltoluene	50	53.3	107	73-124
1634-04-4	Methyl Tert Butyl Ether	50	48.5	97	58-133
108-10-1	4-Methyl-2-pentanone (MIBK)	50	40.9	82	43-166
74-95-3	Methylene bromide	50	52.9	106	76-125
75-09-2	Methylene chloride	50	47.5	95	74-125
91-20-3	Naphthalene	50	43.3	87	39-158
103-65-1	n-Propylbenzene	50	50.3	101	69-121
100-42-5	Styrene	50	44.5	89	79-124
630-20-6	1,1,1,2-Tetrachloroethane	50	51.7	103	75-136
79-34-5	1,1,2,2-Tetrachloroethane	50	49.3	99	66-134
127-18-4	Tetrachloroethene	50	46.7	93	76-125
108-88-3	Toluene	50	63.4	127* [a]	76-119
87-61-6	1,2,3-Trichlorobenzene	50	48.6	97	52-146
120-82-1	1,2,4-Trichlorobenzene	50	47.4	95	66-133
71-55-6	1,1,1-Trichloroethane	50	61.8	124	70-130
79-00-5	1,1,2-Trichloroethane	50	49.0	98	75-124
79-01-6	Trichloroethene	50	52.2	104	74-127
75-69-4	Trichlorofluoromethane	50	62.4	125	48-156
96-18-4	1,2,3-Trichloropropane	50	48.6	97	65-130
95-63-6	1,2,4-Trimethylbenzene	50	51.8	104	69-119
108-67-8	1,3,5-Trimethylbenzene	50	55.3	111	69-123
108-05-4	Vinyl Acetate	50	51.0	102	10-200
75-01-4	Vinyl chloride	50	48.3	97	33-166
	m,p-Xylene	100	95.5	96	78-122
95-47-6	o-Xylene	50	46.9	94	77-123
1330-20-7	Xylene (total)	150	142	95	78-122

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2748-BS	M76914.D	1	03/16/16	KD	n/a	n/a	MSM2748

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-11, MC44826-12, MC44826-14

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	110%	65-141%
2037-26-5	Toluene-D8	99%	65-129%
460-00-4	4-Bromofluorobenzene	102%	63-137%

(a) Outside control limits. Associated samples are less than the RL for this compound.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2749-BS	M76938.D	1	03/17/16	KD	n/a	n/a	MSM2749

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	49.1	98	73-115
108-86-1	Bromobenzene	50	53.0	106	76-121
74-97-5	Bromochloromethane	50	55.6	111	76-129
75-27-4	Bromodichloromethane	50	56.1	112	76-122
75-25-2	Bromoform	50	53.0	106	67-151
74-83-9	Bromomethane	50	46.6	93	52-139
78-93-3	2-Butanone (MEK)	50	56.1	112	32-151
104-51-8	n-Butylbenzene	50	50.8	102	71-124
135-98-8	sec-Butylbenzene	50	51.8	104	71-124
98-06-6	tert-Butylbenzene	50	55.5	111	66-125
75-15-0	Carbon disulfide	50	57.7	115	57-143
56-23-5	Carbon tetrachloride	50	60.4	121	73-129
108-90-7	Chlorobenzene	50	50.2	100	79-123
75-00-3	Chloroethane	50	45.7	91	51-159
67-66-3	Chloroform	50	56.7	113	72-122
74-87-3	Chloromethane	50	44.7	89	57-143
95-49-8	o-Chlorotoluene	50	53.2	106	68-121
106-43-4	p-Chlorotoluene	50	53.8	108	68-119
96-12-8	1,2-Dibromo-3-chloropropane	50	54.8	110	52-132
124-48-1	Dibromochloromethane	50	54.6	109	74-139
106-93-4	1,2-Dibromoethane	50	51.7	103	76-130
95-50-1	1,2-Dichlorobenzene	50	51.4	103	73-122
541-73-1	1,3-Dichlorobenzene	50	52.3	105	74-119
106-46-7	1,4-Dichlorobenzene	50	53.2	106	75-118
75-71-8	Dichlorodifluoromethane	50	43.0	86	11-183
75-34-3	1,1-Dichloroethane	50	55.9	112	70-128
107-06-2	1,2-Dichloroethane	50	62.6	125	70-126
75-35-4	1,1-Dichloroethene	50	53.0	106	71-136
156-59-2	cis-1,2-Dichloroethene	50	50.6	101	78-128
156-60-5	trans-1,2-Dichloroethene	50	51.0	102	71-131
78-87-5	1,2-Dichloropropane	50	50.6	101	79-124
142-28-9	1,3-Dichloropropane	50	53.6	107	78-128
594-20-7	2,2-Dichloropropane	50	57.2	114	54-145
563-58-6	1,1-Dichloropropene	50	54.1	108	67-125
10061-01-5	cis-1,3-Dichloropropene	50	52.2	104	75-126
10061-02-6	trans-1,3-Dichloropropene	50	55.5	111	75-128

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2749-BS	M76938.D	1	03/17/16	KD	n/a	n/a	MSM2749

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
100-41-4	Ethylbenzene	50	48.3	97	76-122
87-68-3	Hexachlorobutadiene	50	50.2	100	73-137
591-78-6	2-Hexanone	50	48.4	97	26-169
74-88-4	Iodomethane	50	45.1	90	70-142
98-82-8	Isopropylbenzene	50	52.4	105	69-124
99-87-6	p-Isopropyltoluene	50	52.6	105	73-124
1634-04-4	Methyl Tert Butyl Ether	50	52.9	106	58-133
108-10-1	4-Methyl-2-pentanone (MIBK)	50	46.8	94	43-166
74-95-3	Methylene bromide	50	55.0	110	76-125
75-09-2	Methylene chloride	50	47.8	96	74-125
91-20-3	Naphthalene	50	50.7	101	39-158
103-65-1	n-Propylbenzene	50	51.3	103	69-121
100-42-5	Styrene	50	48.5	97	79-124
630-20-6	1,1,1,2-Tetrachloroethane	50	52.4	105	75-136
79-34-5	1,1,2,2-Tetrachloroethane	50	54.3	109	66-134
127-18-4	Tetrachloroethene	50	48.6	97	76-125
108-88-3	Toluene	50	48.5	97	76-119
87-61-6	1,2,3-Trichlorobenzene	50	49.5	99	52-146
120-82-1	1,2,4-Trichlorobenzene	50	48.0	96	66-133
71-55-6	1,1,1-Trichloroethane	50	58.3	117	70-130
79-00-5	1,1,2-Trichloroethane	50	51.1	102	75-124
79-01-6	Trichloroethene	50	51.1	102	74-127
75-69-4	Trichlorofluoromethane	50	58.1	116	48-156
96-18-4	1,2,3-Trichloropropane	50	56.4	113	65-130
95-63-6	1,2,4-Trimethylbenzene	50	52.7	105	69-119
108-67-8	1,3,5-Trimethylbenzene	50	52.8	106	69-123
108-05-4	Vinyl Acetate	50	54.9	110	10-200
75-01-4	Vinyl chloride	50	37.8	76	33-166
	m,p-Xylene	100	97.2	97	78-122
95-47-6	o-Xylene	50	48.1	96	77-123
1330-20-7	Xylene (total)	150	145	97	78-122

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	109%	65-141%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSM2749-BS	M76938.D	1	03/17/16	KD	n/a	n/a	MSM2749

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-14

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	97%	65-129%
460-00-4	4-Bromofluorobenzene	102%	63-137%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5625-BS	G150507.D	1	03/17/16	CB	n/a	n/a	MSG5625
MSG5625-BSD	G150508.D	1	03/17/16	CB	n/a	n/a	MSG5625

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-15, MC44826-16, MC44826-17, MC44826-18

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	68.2	136	68.0	136	0	10-200/25
71-43-2	Benzene	50	48.7	97	48.1	96	1	74-124/25
108-86-1	Bromobenzene	50	52.9	106	52.1	104	2	80-117/25
74-97-5	Bromochloromethane	50	51.2	102	51.0	102	0	73-130/25
75-27-4	Bromodichloromethane	50	54.2	108	53.3	107	2	76-136/25
75-25-2	Bromoform	50	56.5	113	55.8	112	1	63-139/25
74-83-9	Bromomethane	50	54.7	109	55.1	110	1	49-161/25
78-93-3	2-Butanone (MEK)	50	69.0	138	67.6	135	2	44-191/25
104-51-8	n-Butylbenzene	50	56.6	113	56.6	113	0	84-134/25
135-98-8	sec-Butylbenzene	50	55.5	111	55.9	112	1	76-125/25
98-06-6	tert-Butylbenzene	50	56.2	112	56.2	112	0	74-123/25
75-15-0	Carbon disulfide	50	60.0	120	60.8	122	1	45-138/25
56-23-5	Carbon tetrachloride	50	65.8	132	64.7	129	2	64-149/25
108-90-7	Chlorobenzene	50	52.4	105	52.1	104	1	73-114/25
75-00-3	Chloroethane	50	51.6	103	52.4	105	2	43-165/25
67-66-3	Chloroform	50	52.9	106	51.8	104	2	72-132/25
74-87-3	Chloromethane	50	61.1	122	61.1	122	0	30-173/25
95-49-8	o-Chlorotoluene	50	53.1	106	53.1	106	0	75-116/25
106-43-4	p-Chlorotoluene	50	51.7	103	51.7	103	0	78-116/25
96-12-8	1,2-Dibromo-3-chloropropane	50	58.8	118	57.0	114	3	50-157/25
124-48-1	Dibromochloromethane	50	52.2	104	51.2	102	2	75-133/25
106-93-4	1,2-Dibromoethane	50	52.0	104	51.2	102	2	72-133/25
95-50-1	1,2-Dichlorobenzene	50	53.0	106	53.0	106	0	73-122/25
541-73-1	1,3-Dichlorobenzene	50	53.1	106	52.9	106	0	76-117/25
106-46-7	1,4-Dichlorobenzene	50	52.9	106	52.8	106	0	74-120/25
75-71-8	Dichlorodifluoromethane	50	80.8	162	87.9	176	8	30-180/25
75-34-3	1,1-Dichloroethane	50	50.3	101	50.1	100	0	62-130/25
107-06-2	1,2-Dichloroethane	50	59.1	118	57.6	115	3	65-140/25
75-35-4	1,1-Dichloroethene	50	47.7	95	47.9	96	0	57-132/25
156-59-2	cis-1,2-Dichloroethene	50	53.5	107	52.3	105	2	72-131/25
156-60-5	trans-1,2-Dichloroethene	50	48.3	97	48.1	96	0	69-127/25
78-87-5	1,2-Dichloropropane	50	51.3	103	51.5	103	0	74-130/25
142-28-9	1,3-Dichloropropane	50	53.2	106	51.0	102	4	80-129/25
594-20-7	2,2-Dichloropropane	50	61.0	122	59.9	120	2	54-162/25
563-58-6	1,1-Dichloropropene	50	55.0	110	54.4	109	1	75-116/25
10061-01-5	cis-1,3-Dichloropropene	50	50.2	100	49.0	98	2	86-141/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5625-BS	G150507.D	1	03/17/16	CB	n/a	n/a	MSG5625
MSG5625-BSD	G150508.D	1	03/17/16	CB	n/a	n/a	MSG5625

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-15, MC44826-16, MC44826-17, MC44826-18

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	50	49.9	100	48.7	97	2	80-134/25
100-41-4	Ethylbenzene	50	52.7	105	52.0	104	1	76-125/25
87-68-3	Hexachlorobutadiene	50	76.8	154	77.8	156* [a]	1	64-154/25
591-78-6	2-Hexanone	50	76.8	154	74.4	149	3	35-200/25
74-88-4	Iodomethane	50	51.3	103	50.6	101	1	50-154/25
98-82-8	Isopropylbenzene	50	52.9	106	52.7	105	0	74-121/25
99-87-6	p-Isopropyltoluene	50	55.9	112	56.5	113	1	84-128/25
1634-04-4	Methyl Tert Butyl Ether	50	51.5	103	50.9	102	1	67-145/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	54.9	110	53.3	107	3	61-155/25
74-95-3	Methylene bromide	50	53.5	107	53.2	106	1	75-124/25
75-09-2	Methylene chloride	50	48.7	97	48.8	98	0	62-137/25
91-20-3	Naphthalene	50	65.1	130	65.3	131	0	24-164/25
103-65-1	n-Propylbenzene	50	51.6	103	51.8	104	0	76-120/25
100-42-5	Styrene	50	50.3	101	49.4	99	2	74-132/25
630-20-6	1,1,1,2-Tetrachloroethane	50	56.9	114	55.6	111	2	71-136/25
79-34-5	1,1,2,2-Tetrachloroethane	50	47.2	94	46.7	93	1	65-145/25
127-18-4	Tetrachloroethene	50	56.1	112	55.8	112	1	73-122/25
108-88-3	Toluene	50	52.6	105	52.3	105	1	80-122/25
87-61-6	1,2,3-Trichlorobenzene	50	86.4	173* [a]	89.0	178* [a]	3	33-170/25
120-82-1	1,2,4-Trichlorobenzene	50	70.1	140	69.8	140	0	43-159/25
71-55-6	1,1,1-Trichloroethane	50	66.4	133	65.1	130	2	68-137/25
79-00-5	1,1,2-Trichloroethane	50	51.4	103	50.4	101	2	76-134/25
79-01-6	Trichloroethene	50	54.1	108	52.7	105	3	80-125/25
75-69-4	Trichlorofluoromethane	50	84.1	168* [a]	73.6	147	13	56-166/25
96-18-4	1,2,3-Trichloropropane	50	49.1	98	48.9	98	0	65-147/25
95-63-6	1,2,4-Trimethylbenzene	50	54.5	109	54.8	110	1	79-124/25
108-67-8	1,3,5-Trimethylbenzene	50	57.5	115	57.2	114	1	80-130/25
108-05-4	Vinyl Acetate	50	49.9	100	49.5	99	1	72-200/25
75-01-4	Vinyl chloride	50	62.3	125	58.4	117	6	39-176/25
	m,p-Xylene	100	101	101	101	101	0	75-121/25
95-47-6	o-Xylene	50	50.9	102	50.4	101	1	71-123/25
1330-20-7	Xylene (total)	150	152	101	152	101	0	74-122/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5625-BS	G150507.D	1	03/17/16	CB	n/a	n/a	MSG5625
MSG5625-BSD	G150508.D	1	03/17/16	CB	n/a	n/a	MSG5625

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-15, MC44826-16, MC44826-17, MC44826-18

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	102%	100%	79-127%
2037-26-5	Toluene-D8	99%	100%	80-116%
460-00-4	4-Bromofluorobenzene	100%	101%	77-124%

(a) Outside control limits. Associated samples are non-detect for this compound.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2944-BS	K95751.D	1	03/17/16	TB	n/a	n/a	MSK2944
MSK2944-BSD	K95752.D	1	03/17/16	TB	n/a	n/a	MSK2944

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-13

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	2500	2850	114	2820	113	1	24-179/25
71-43-2	Benzene	2500	2250	90	2150	86	5	73-115/25
108-86-1	Bromobenzene	2500	2460	98	2210	88	11	76-121/25
74-97-5	Bromochloromethane	2500	2510	100	2350	94	7	76-129/25
75-27-4	Bromodichloromethane	2500	2310	92	2180	87	6	76-122/25
75-25-2	Bromoform	2500	2460	98	2260	90	8	67-151/25
74-83-9	Bromomethane	2500	1800	72	1960	78	9	52-139/25
78-93-3	2-Butanone (MEK)	2500	5700	228* [a]	6050	242* [a]	6	32-151/25
104-51-8	n-Butylbenzene	2500	2350	94	2180	87	8	71-124/25
135-98-8	sec-Butylbenzene	2500	2290	92	2120	85	8	71-124/25
98-06-6	tert-Butylbenzene	2500	2250	90	2090	84	7	66-125/25
75-15-0	Carbon disulfide	2500	2480	99	2430	97	2	57-143/25
56-23-5	Carbon tetrachloride	2500	2110	84	2150	86	2	73-129/25
108-90-7	Chlorobenzene	2500	2240	90	2160	86	4	79-123/25
75-00-3	Chloroethane	2500	2120	85	2300	92	8	51-159/25
67-66-3	Chloroform	2500	2230	89	2140	86	4	72-122/25
74-87-3	Chloromethane	2500	1930	77	1890	76	2	57-143/25
95-49-8	o-Chlorotoluene	2500	2330	93	2130	85	9	68-121/25
106-43-4	p-Chlorotoluene	2500	2380	95	2160	86	10	68-119/25
96-12-8	1,2-Dibromo-3-chloropropane	2500	2090	84	1860	74	12	52-132/25
124-48-1	Dibromochloromethane	2500	2380	95	2180	87	9	74-139/25
106-93-4	1,2-Dibromoethane	2500	2410	96	2290	92	5	76-130/25
95-50-1	1,2-Dichlorobenzene	2500	2330	93	2090	84	11	73-122/25
541-73-1	1,3-Dichlorobenzene	2500	2320	93	2110	84	9	74-119/25
106-46-7	1,4-Dichlorobenzene	2500	2320	93	2120	85	9	75-118/25
75-71-8	Dichlorodifluoromethane	2500	1830	73	1720	69	6	11-183/25
75-34-3	1,1-Dichloroethane	2500	2210	88	2130	85	4	70-128/25
107-06-2	1,2-Dichloroethane	2500	2330	93	2170	87	7	70-126/25
75-35-4	1,1-Dichloroethene	2500	2720	109	2170	87	22	71-136/25
156-59-2	cis-1,2-Dichloroethene	2500	2410	96	2340	94	3	78-128/25
156-60-5	trans-1,2-Dichloroethene	2500	2180	87	2130	85	2	71-131/25
78-87-5	1,2-Dichloropropane	2500	2350	94	2220	89	6	79-124/25
142-28-9	1,3-Dichloropropane	2500	2420	97	2290	92	6	78-128/25
594-20-7	2,2-Dichloropropane	2500	2070	83	1980	79	4	54-145/25
563-58-6	1,1-Dichloropropene	2500	2320	93	2210	88	5	67-125/25
10061-01-5	cis-1,3-Dichloropropene	2500	2470	99	2330	93	6	75-126/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2944-BS	K95751.D	1	03/17/16	TB	n/a	n/a	MSK2944
MSK2944-BSD	K95752.D	1	03/17/16	TB	n/a	n/a	MSK2944

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-13

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	2500	2330	93	2170	87	7	75-128/25
100-41-4	Ethylbenzene	2500	2190	88	2110	84	4	76-122/25
87-68-3	Hexachlorobutadiene	2500	2120	85	2020	81	5	73-137/25
591-78-6	2-Hexanone	2500	2070	83	2060	82	0	26-169/25
74-88-4	Iodomethane	2500	2260	90	2700	108	18	70-142/25
98-82-8	Isopropylbenzene	2500	2340	94	2100	84	11	69-124/25
99-87-6	p-Isopropyltoluene	2500	2300	92	2170	87	6	73-124/25
1634-04-4	Methyl Tert Butyl Ether	2500	2250	90	2140	86	5	58-133/25
108-10-1	4-Methyl-2-pentanone (MIBK)	2500	2510	100	2260	90	10	43-166/25
74-95-3	Methylene bromide	2500	2450	98	2330	93	5	76-125/25
75-09-2	Methylene chloride	2500	2260	90	2210	88	2	74-125/25
91-20-3	Naphthalene	2500	1790	72	1650	66	8	39-158/25
103-65-1	n-Propylbenzene	2500	2340	94	2130	85	9	69-121/25
100-42-5	Styrene	2500	2260	90	2210	88	2	79-124/25
630-20-6	1,1,1,2-Tetrachloroethane	2500	2270	91	2200	88	3	75-136/25
79-34-5	1,1,2,2-Tetrachloroethane	2500	2460	98	2250	90	9	66-134/25
127-18-4	Tetrachloroethene	2500	2120	85	2050	82	3	76-125/25
108-88-3	Toluene	2500	2240	90	2180	87	3	76-119/25
87-61-6	1,2,3-Trichlorobenzene	2500	1780	71	1700	68	5	52-146/25
120-82-1	1,2,4-Trichlorobenzene	2500	1880	75	1740	70	8	66-133/25
71-55-6	1,1,1-Trichloroethane	2500	2280	91	2160	86	5	70-130/25
79-00-5	1,1,2-Trichloroethane	2500	2430	97	2290	92	6	75-124/25
79-01-6	Trichloroethene	2500	2180	87	2090	84	4	74-127/25
75-69-4	Trichlorofluoromethane	2500	2160	86	2170	87	0	48-156/25
96-18-4	1,2,3-Trichloropropane	2500	2540	102	2210	88	14	65-130/25
95-63-6	1,2,4-Trimethylbenzene	2500	2290	92	2100	84	9	69-119/25
108-67-8	1,3,5-Trimethylbenzene	2500	2350	94	2190	88	7	69-123/25
108-05-4	Vinyl Acetate	2500	2540	102	2370	95	7	10-200/25
75-01-4	Vinyl chloride	2500	1980	79	1860	74	6	33-166/25
	m,p-Xylene	5000	4360	87	4230	85	3	78-122/25
95-47-6	o-Xylene	2500	2050	82	2030	81	1	77-123/25
1330-20-7	Xylene (total)	7500	6410	85	6260	83	2	78-122/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2944-BS	K95751.D	1	03/17/16	TB	n/a	n/a	MSK2944
MSK2944-BSD	K95752.D	1	03/17/16	TB	n/a	n/a	MSK2944

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-13

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	96%	98%	65-141%
2037-26-5	Toluene-D8	101%	101%	65-129%
460-00-4	4-Bromofluorobenzene	103%	98%	63-137%

(a) Outside control limits. Associated samples are non-detect for this compound.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5628-BS	G150601.D	1	03/22/16	CB	n/a	n/a	MSG5628
MSG5628-BSD	G150602.D	1	03/22/16	CB	n/a	n/a	MSG5628

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-16

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	62.3	125	58.0	116	7	10-200/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	97%	95%	79-127%
2037-26-5	Toluene-D8	99%	99%	80-116%
460-00-4	4-Bromofluorobenzene	101%	102%	77-124%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44826-11MS	M76930.D	1	03/16/16	KD	n/a	n/a	MSM2748
MC44826-11MSD	M76931.D	1	03/16/16	KD	n/a	n/a	MSM2748
MC44826-11	M76927.D	1	03/16/16	KD	n/a	n/a	MSM2748

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-11, MC44826-12, MC44826-14

CAS No.	Compound	MC44826-11 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		57.8	70.8	123	59.6	81.2	136	14	10-200/30
71-43-2	Benzene	ND		57.8	42.1	73	59.6	36.6	61	14	38-135/30
108-86-1	Bromobenzene	ND		57.8	25.2	44	59.6	13.1	22*	63*	26-150/30
74-97-5	Bromochloromethane	ND		57.8	43.3	75	59.6	39.1	66	10	51-140/30
75-27-4	Bromodichloromethane	ND		57.8	43.9	76	59.6	36.1	61	20	45-136/30
75-25-2	Bromoform	ND		57.8	27.2	47	59.6	21.4	36*	24	42-150/30
74-83-9	Bromomethane	ND		57.8	48.5	84	59.6	45.6	76	6	20-159/30
78-93-3	2-Butanone (MEK)	ND		57.8	64.4	111	59.6	61.4	103	5	10-187/30
104-51-8	n-Butylbenzene	ND		57.8	28.1	49	59.6	15.6	26	57*	12-162/30
135-98-8	sec-Butylbenzene	ND		57.8	43.4	75	59.6	24.9	42	54*	24-152/30
98-06-6	tert-Butylbenzene	ND		57.8	52.8	91	59.6	31.4	53	51*	25-151/30
75-15-0	Carbon disulfide	ND		57.8	40.5	70	59.6	35.6	60	13	29-157/30
56-23-5	Carbon tetrachloride	ND		57.8	59.6	103	59.6	51.9	87	14	42-148/30
108-90-7	Chlorobenzene	ND		57.8	26.1	45	59.6	19.2	32*	30	33-148/30
75-00-3	Chloroethane	ND		57.8	53.1	92	59.6	48.4	81	9	32-162/30
67-66-3	Chloroform	0.68		57.8	49.1	84	59.6	43.6	72	12	46-136/30
74-87-3	Chloromethane	ND		57.8	50.7	88	59.6	44.6	75	13	33-152/30
95-49-8	o-Chlorotoluene	ND		57.8	34.8	60	59.6	18.6	31	61*	21-154/30
106-43-4	p-Chlorotoluene	ND		57.8	25.9	45	59.6	13.0	22	66*	21-146/30
96-12-8	1,2-Dibromo-3-chloropropane	ND		57.8	30.7	53	59.6	19.7	33	44*	18-153/30
124-48-1	Dibromochloromethane	ND		57.8	35.6	62	59.6	27.6	46	25	46-147/30
106-93-4	1,2-Dibromoethane	ND		57.8	30.5	53	59.6	23.7	40*	25	42-147/30
95-50-1	1,2-Dichlorobenzene	ND		57.8	17.5	30	59.6	8.3	14*	71*	17-148/30
541-73-1	1,3-Dichlorobenzene	ND		57.8	18.7	32	59.6	8.9	15*	71*	20-146/30
106-46-7	1,4-Dichlorobenzene	ND		57.8	16.3	28	59.6	7.6	13*	73*	16-151/30
75-71-8	Dichlorodifluoromethane	ND		57.8	50.6	88	59.6	44.1	74	14	10-186/30
75-34-3	1,1-Dichloroethane	ND		57.8	50.8	88	59.6	46.1	77	10	49-134/30
107-06-2	1,2-Dichloroethane	ND		57.8	47.7	83	59.6	40.6	68	16	46-135/30
75-35-4	1,1-Dichloroethene	ND		57.8	49.2	85	59.6	45.4	76	8	46-148/30
156-59-2	cis-1,2-Dichloroethene	ND		57.8	41.2	71	59.6	35.9	60	14	46-144/30
156-60-5	trans-1,2-Dichloroethene	ND		57.8	37.3	65	59.6	33.8	57	10	44-145/30
78-87-5	1,2-Dichloropropane	ND		57.8	44.5	77	59.6	37.6	63	17	48-138/30
142-28-9	1,3-Dichloropropane	ND		57.8	37.0	64	59.6	30.6	51	19	42-150/30
594-20-7	2,2-Dichloropropane	ND		57.8	52.8	91	59.6	48.5	81	8	27-154/30
563-58-6	1,1-Dichloropropene	ND		57.8	43.7	76	59.6	37.5	63	15	38-142/30
10061-01-5	cis-1,3-Dichloropropene	ND		57.8	30.6	53	59.6	24.5	41	22	34-149/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44826-11MS	M76930.D	1	03/16/16	KD	n/a	n/a	MSM2748
MC44826-11MSD	M76931.D	1	03/16/16	KD	n/a	n/a	MSM2748
MC44826-11	M76927.D	1	03/16/16	KD	n/a	n/a	MSM2748

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-11, MC44826-12, MC44826-14

CAS No.	Compound	MC44826-11 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		57.8	24.4	42	59.6	18.6	31	27	28-151/30
100-41-4	Ethylbenzene	ND		57.8	34.1	59	59.6	25.9	43	27	32-150/30
87-68-3	Hexachlorobutadiene	ND		57.8	31.3	54	59.6	15.6	26	67*	10-173/30
591-78-6	2-Hexanone	ND		57.8	46.4	80	59.6	42.9	72	8	10-184/30
74-88-4	Iodomethane	ND		57.8	49.4	85	59.6	39.5	66	22	37-159/30
98-82-8	Isopropylbenzene	ND		57.8	50.5	87	59.6	30.2	51	50*	29-152/30
99-87-6	p-Isopropyltoluene	ND		57.8	39.6	69	59.6	22.6	38	55*	23-155/30
1634-04-4	Methyl Tert Butyl Ether	ND		57.8	46.8	81	59.6	44.0	74	6	42-142/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		57.8	39.3	68	59.6	36.1	61	8	35-164/30
74-95-3	Methylene bromide	ND		57.8	37.0	64	59.6	30.9	52	18	48-137/30
75-09-2	Methylene chloride	60.0		57.8	114	93	59.6	104	74	9	48-140/30
91-20-3	Naphthalene	ND		57.8	6.7	12	59.6	3.2	5*	71*	10-168/30
103-65-1	n-Propylbenzene	ND		57.8	38.5	67	59.6	22.2	37	54*	25-149/30
100-42-5	Styrene	ND		57.8	17.2	30	59.6	11.6	19	39*	17-160/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		57.8	41.7	72	59.6	32.9	55	24	42-156/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		57.8	45.8	79	59.6	28.3	47	47*	30-157/30
127-18-4	Tetrachloroethene	ND		57.8	37.8	65	59.6	30.7	51	21	40-146/30
108-88-3	Toluene	4.0	JB	57.8	41.0	64	59.6	31.8	47	25	33-145/30
87-61-6	1,2,3-Trichlorobenzene	ND		57.8	6.9	12	59.6	3.1	5*	76*	10-144/30
120-82-1	1,2,4-Trichlorobenzene	ND		57.8	6.7	12	59.6	2.8	5*	82*	10-154/30
71-55-6	1,1,1-Trichloroethane	ND		57.8	57.0	99	59.6	52.0	87	9	41-147/30
79-00-5	1,1,2-Trichloroethane	ND		57.8	37.9	66	59.6	31.5	53	18	40-148/30
79-01-6	Trichloroethene	42.5		57.8	161	205* [a]	59.6	120	130	29	36-155/30
75-69-4	Trichlorofluoromethane	ND		57.8	60.2	104	59.6	56.3	94	7	26-164/30
96-18-4	1,2,3-Trichloropropane	ND		57.8	38.3	66	59.6	24.4	41	44*	34-148/30
95-63-6	1,2,4-Trimethylbenzene	ND		57.8	35.6	62	59.6	18.9	32	61*	18-154/30
108-67-8	1,3,5-Trimethylbenzene	ND		57.8	45.1	78	59.6	25.1	42	57*	21-156/30
108-05-4	Vinyl Acetate	ND		57.8	ND	0*	59.6	ND	0*	nc	10-200/30
75-01-4	Vinyl chloride	ND		57.8	45.8	79	59.6	39.5	66	15	11-183/30
	m,p-Xylene	ND		116	64.6	56	119	48.8	41	28	34-149/30
95-47-6	o-Xylene	ND		57.8	32.0	55	59.6	23.8	40	29	27-156/30
1330-20-7	Xylene (total)	ND		173	96.6	56	179	72.5	41	29	33-150/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44826-11MS	M76930.D	1	03/16/16	KD	n/a	n/a	MSM2748
MC44826-11MSD	M76931.D	1	03/16/16	KD	n/a	n/a	MSM2748
MC44826-11	M76927.D	1	03/16/16	KD	n/a	n/a	MSM2748

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-11, MC44826-12, MC44826-14

CAS No.	Surrogate Recoveries	MS	MSD	MC44826-11	Limits
1868-53-7	Dibromofluoromethane	107%	108%	116%	65-141%
2037-26-5	Toluene-D8	99%	97%	99%	65-129%
460-00-4	4-Bromofluorobenzene	117%	106%	102%	63-137%

(a) Outside control limits due to possible sample inhomogeneity or matrix interference. Refer to Blank Spike.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44795-3MS	M76943.D	1	03/17/16	KD	n/a	n/a	MSM2749
MC44795-3MSD	M76944.D	1	03/17/16	KD	n/a	n/a	MSM2749
MC44795-3	M76941.D	1	03/17/16	KD	n/a	n/a	MSM2749

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-14

CAS No.	Compound	MC44795-3 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		57.9	47.0	81	58.3	53.7	92	13	38-135/30
108-86-1	Bromobenzene	ND		57.9	47.7	82	58.3	55.3	95	15	26-150/30
74-97-5	Bromochloromethane	ND		57.9	54.1	94	58.3	58.7	101	8	51-140/30
75-27-4	Bromodichloromethane	ND		57.9	51.8	90	58.3	56.2	96	8	45-136/30
75-25-2	Bromoform	ND		57.9	47.2	82	58.3	51.4	88	9	42-150/30
74-83-9	Bromomethane	ND		57.9	48.7	84	58.3	54.0	93	10	20-159/30
78-93-3	2-Butanone (MEK)	ND		57.9	76.9	133	58.3	87.3	150	13	10-187/30
104-51-8	n-Butylbenzene	ND		57.9	42.9	74	58.3	53.0	91	21	12-162/30
135-98-8	sec-Butylbenzene	ND		57.9	45.6	79	58.3	58.4	100	25	24-152/30
98-06-6	tert-Butylbenzene	ND		57.9	48.7	84	58.3	64.0	110	27	25-151/30
75-15-0	Carbon disulfide	ND		57.9	48.8	84	58.3	53.9	92	10	29-157/30
56-23-5	Carbon tetrachloride	ND		57.9	56.3	97	58.3	65.4	112	15	42-148/30
108-90-7	Chlorobenzene	ND		57.9	45.8	79	58.3	52.0	89	13	33-148/30
75-00-3	Chloroethane	ND		57.9	52.1	90	58.3	58.5	100	12	32-162/30
67-66-3	Chloroform	ND		57.9	52.1	90	58.3	58.4	100	11	46-136/30
74-87-3	Chloromethane	ND		57.9	45.4	78	58.3	49.9	86	9	33-152/30
95-49-8	o-Chlorotoluene	ND		57.9	46.8	81	58.3	58.2	100	22	21-154/30
106-43-4	p-Chlorotoluene	ND		57.9	46.8	81	58.3	55.0	94	16	21-146/30
96-12-8	1,2-Dibromo-3-chloropropane	ND		57.9	48.4	84	58.3	55.8	96	14	18-153/30
124-48-1	Dibromochloromethane	ND		57.9	49.4	85	58.3	55.4	95	11	46-147/30
106-93-4	1,2-Dibromoethane	ND		57.9	49.1	85	58.3	53.0	91	8	42-147/30
95-50-1	1,2-Dichlorobenzene	ND		57.9	43.5	75	58.3	49.8	85	14	17-148/30
541-73-1	1,3-Dichlorobenzene	ND		57.9	43.6	75	58.3	50.4	86	14	20-146/30
106-46-7	1,4-Dichlorobenzene	ND		57.9	44.5	77	58.3	49.6	85	11	16-151/30
75-71-8	Dichlorodifluoromethane	ND		57.9	41.9	72	58.3	44.6	76	6	10-186/30
75-34-3	1,1-Dichloroethane	ND		57.9	50.5	87	58.3	57.6	99	13	49-134/30
107-06-2	1,2-Dichloroethane	ND		57.9	56.4	97	58.3	61.2	105	8	46-135/30
75-35-4	1,1-Dichloroethene	ND		57.9	50.3	87	58.3	56.5	97	12	46-148/30
156-59-2	cis-1,2-Dichloroethene	ND		57.9	49.5	86	58.3	55.6	95	12	46-144/30
156-60-5	trans-1,2-Dichloroethene	ND		57.9	44.6	77	58.3	50.1	86	12	44-145/30
78-87-5	1,2-Dichloropropane	ND		57.9	48.4	84	58.3	54.5	93	12	48-138/30
142-28-9	1,3-Dichloropropane	ND		57.9	51.6	89	58.3	58.1	100	12	42-150/30
594-20-7	2,2-Dichloropropane	ND		57.9	51.6	89	58.3	59.0	101	13	27-154/30
563-58-6	1,1-Dichloropropene	ND		57.9	49.3	85	58.3	56.1	96	13	38-142/30
10061-01-5	cis-1,3-Dichloropropene	ND		57.9	46.8	81	58.3	50.1	86	7	34-149/30
10061-02-6	trans-1,3-Dichloropropene	ND		57.9	46.0	80	58.3	47.0	81	2	28-151/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44795-3MS	M76943.D	1	03/17/16	KD	n/a	n/a	MSM2749
MC44795-3MSD	M76944.D	1	03/17/16	KD	n/a	n/a	MSM2749
MC44795-3	M76941.D	1	03/17/16	KD	n/a	n/a	MSM2749

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-14

CAS No.	Compound	MC44795-3 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
100-41-4	Ethylbenzene	ND		57.9	45.2	78	58.3	53.4	92	17	32-150/30
87-68-3	Hexachlorobutadiene	ND		57.9	35.1	61	58.3	47.5	81	30	10-173/30
591-78-6	2-Hexanone	ND		57.9	66.9	116	58.3	72.2	124	8	10-184/30
74-88-4	Iodomethane	ND		57.9	50.5	87	58.3	58.1	100	14	37-159/30
98-82-8	Isopropylbenzene	ND		57.9	49.7	86	58.3	62.8	108	23	29-152/30
99-87-6	p-Isopropyltoluene	ND		57.9	46.4	80	58.3	58.8	101	24	23-155/30
1634-04-4	Methyl Tert Butyl Ether	ND		57.9	48.6	84	58.3	53.8	92	10	42-142/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		57.9	48.6	84	58.3	52.9	91	8	35-164/30
74-95-3	Methylene bromide	ND		57.9	51.6	89	58.3	55.8	96	8	48-137/30
75-09-2	Methylene chloride	1.5	JB	57.9	45.8	77	58.3	52.5	87	14	48-140/30
91-20-3	Naphthalene	ND		57.9	38.2	66	58.3	38.6	66	1	10-168/30
103-65-1	n-Propylbenzene	ND		57.9	46.1	80	58.3	57.4	98	22	25-149/30
100-42-5	Styrene	ND		57.9	41.3	71	58.3	46.1	79	11	17-160/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		57.9	48.7	84	58.3	57.6	99	17	42-156/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		57.9	53.6	93	58.3	63.7	109	17	30-157/30
127-18-4	Tetrachloroethene	ND		57.9	45.4	78	58.3	54.1	93	17	40-146/30
108-88-3	Toluene	2.0	J	57.9	48.4	80	58.3	63.6	106	27	33-145/30
87-61-6	1,2,3-Trichlorobenzene	ND		57.9	34.9	60	58.3	36.0	62	3	10-144/30
120-82-1	1,2,4-Trichlorobenzene	ND		57.9	34.0	59	58.3	35.7	61	5	10-154/30
71-55-6	1,1,1-Trichloroethane	ND		57.9	55.3	96	58.3	62.9	108	13	41-147/30
79-00-5	1,1,2-Trichloroethane	ND		57.9	49.6	86	58.3	53.3	91	7	40-148/30
79-01-6	Trichloroethene	ND		57.9	49.3	85	58.3	54.5	93	10	36-155/30
75-69-4	Trichlorofluoromethane	ND		57.9	56.4	97	58.3	63.4	109	12	26-164/30
96-18-4	1,2,3-Trichloropropane	ND		57.9	53.5	92	58.3	59.9	103	11	34-148/30
95-63-6	1,2,4-Trimethylbenzene	ND		57.9	46.9	81	58.3	59.4	102	24	18-154/30
108-67-8	1,3,5-Trimethylbenzene	ND		57.9	50.3	87	58.3	63.9	110	24	21-156/30
108-05-4	Vinyl Acetate	ND		57.9	37.2	64	58.3	35.8	61	4	10-200/30
75-01-4	Vinyl chloride	ND		57.9	40.2	69	58.3	45.8	79	13	11-183/30
	m,p-Xylene	ND		116	90.5	78	117	109	93	19	34-149/30
95-47-6	o-Xylene	ND		57.9	44.0	76	58.3	52.4	90	17	27-156/30
1330-20-7	Xylene (total)	0.59	J	174	134	77	175	162	92	19	33-150/30

CAS No.	Surrogate Recoveries	MS	MSD	MC44795-3	Limits
1868-53-7	Dibromofluoromethane	103%	104%	113%	65-141%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44795-3MS	M76943.D	1	03/17/16	KD	n/a	n/a	MSM2749
MC44795-3MSD	M76944.D	1	03/17/16	KD	n/a	n/a	MSM2749
MC44795-3	M76941.D	1	03/17/16	KD	n/a	n/a	MSM2749

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-14

CAS No.	Surrogate Recoveries	MS	MSD	MC44795-3	Limits
2037-26-5	Toluene-D8	97%	97%	99%	65-129%
460-00-4	4-Bromofluorobenzene	103%	107%	102%	63-137%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44784-7MS	G150530.D	1	03/17/16	CB	n/a	n/a	MSG5625
MC44784-7MSD	G150531.D	1	03/17/16	CB	n/a	n/a	MSG5625
MC44784-7	G150524.D	1	03/17/16	CB	n/a	n/a	MSG5625

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-15, MC44826-16, MC44826-17, MC44826-18

CAS No.	Compound	MC44784-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		50	33.1	66	50	36.1	72	9	10-156/30
71-43-2	Benzene	ND		50	49.1	98	50	52.0	104	6	63-135/30
108-86-1	Bromobenzene	ND		50	56.4	113	50	54.0	108	4	75-116/30
74-97-5	Bromochloromethane	ND		50	51.0	102	50	54.0	108	6	67-136/30
75-27-4	Bromodichloromethane	ND		50	48.1	96	50	51.0	102	6	69-140/30
75-25-2	Bromoform	ND		50	44.5	89	50	49.7	99	11	57-138/30
74-83-9	Bromomethane	ND		50	50.9	102	50	51.4	103	1	25-169/30
78-93-3	2-Butanone (MEK)	ND		50	46.8	94	50	50.7	101	8	23-159/30
104-51-8	n-Butylbenzene	ND		50	53.5	107	50	58.5	117	9	75-135/30
135-98-8	sec-Butylbenzene	ND		50	59.7	119	50	60.0	120	1	70-125/30
98-06-6	tert-Butylbenzene	ND		50	64.2	128	50	65.6	131* [a]	2	64-128/30
75-15-0	Carbon disulfide	ND		50	51.9	104	50	51.3	103	1	40-139/30
56-23-5	Carbon tetrachloride	ND		50	56.2	112	50	59.9	120	6	60-149/30
108-90-7	Chlorobenzene	ND		50	52.0	104	50	56.0	112	7	70-115/30
75-00-3	Chloroethane	ND		50	51.3	103	50	49.5	99	4	37-175/30
67-66-3	Chloroform	ND		50	49.7	99	50	52.4	105	5	64-141/30
74-87-3	Chloromethane	ND		50	60.8	122	50	64.6	129	6	21-178/30
95-49-8	o-Chlorotoluene	ND		50	52.9	106	50	53.0	106	0	60-130/30
106-43-4	p-Chlorotoluene	ND		50	54.3	109	50	52.4	105	4	70-120/30
96-12-8	1,2-Dibromo-3-chloropropane	ND		50	59.6	119	50	54.8	110	8	51-156/30
124-48-1	Dibromochloromethane	ND		50	47.0	94	50	49.7	99	6	70-131/30
106-93-4	1,2-Dibromoethane	ND		50	51.5	103	50	55.9	112	8	72-131/30
95-50-1	1,2-Dichlorobenzene	ND		50	52.5	105	50	55.6	111	6	68-122/30
541-73-1	1,3-Dichlorobenzene	ND		50	51.3	103	50	55.5	111	8	71-117/30
106-46-7	1,4-Dichlorobenzene	ND		50	50.9	102	50	55.0	110	8	69-120/30
75-71-8	Dichlorodifluoromethane	ND		50	73.6	147	50	77.1	154	5	28-181/30
75-34-3	1,1-Dichloroethane	ND		50	49.2	98	50	44.1	88	11	56-138/30
107-06-2	1,2-Dichloroethane	ND		50	49.9	100	50	52.7	105	5	60-146/30
75-35-4	1,1-Dichloroethene	ND		50	43.0	86	50	45.3	91	5	52-137/30
156-59-2	cis-1,2-Dichloroethene	ND		50	54.6	109	50	57.0	114	4	64-139/30
156-60-5	trans-1,2-Dichloroethene	ND		50	42.8	86	50	44.8	90	5	63-132/30
78-87-5	1,2-Dichloropropane	ND		50	51.9	104	50	54.5	109	5	67-137/30
142-28-9	1,3-Dichloropropane	ND		50	51.9	104	50	56.7	113	9	78-130/30
594-20-7	2,2-Dichloropropane	ND		50	54.3	109	50	55.7	111	3	36-166/30
563-58-6	1,1-Dichloropropene	ND		50	52.6	105	50	56.9	114	8	68-123/30
10061-01-5	cis-1,3-Dichloropropene	ND		50	46.0	92	50	47.8	96	4	77-142/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44784-7MS	G150530.D	1	03/17/16	CB	n/a	n/a	MSG5625
MC44784-7MSD	G150531.D	1	03/17/16	CB	n/a	n/a	MSG5625
MC44784-7	G150524.D	1	03/17/16	CB	n/a	n/a	MSG5625

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-15, MC44826-16, MC44826-17, MC44826-18

CAS No.	Compound	MC44784-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		50	42.3	85	50	44.4	89	5	73-136/30
100-41-4	Ethylbenzene	8.4		50	60.8	105	50	65.6	114	8	60-136/30
87-68-3	Hexachlorobutadiene	ND		50	77.7	155* [a]	50	72.7	145* [a]	7	63-143/30
591-78-6	2-Hexanone	ND		50	49.7	99	50	54.2	108	9	29-151/30
74-88-4	Iodomethane	ND		50	44.9	90	50	46.3	93	3	37-158/30
98-82-8	Isopropylbenzene	3.3		50	61.3	116	50	60.9	115	1	67-123/30
99-87-6	p-Isopropyltoluene	ND		50	53.7	107	50	57.5	115	7	78-126/30
1634-04-4	Methyl Tert Butyl Ether	ND		50	43.7	87	50	45.9	92	5	60-156/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		50	35.1	70	50	36.7	73	4	47-167/30
74-95-3	Methylene bromide	ND		50	50.4	101	50	53.6	107	6	70-130/30
75-09-2	Methylene chloride	ND		50	43.6	87	50	45.5	91	4	55-144/30
91-20-3	Naphthalene	ND		50	74.5	149	50	69.7	139	7	23-167/30
103-65-1	n-Propylbenzene	1.9		50	58.3	113	50	55.6	107	5	66-124/30
100-42-5	Styrene	ND		50	29.1	58* [a]	50	33.2	66	13	61-137/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		50	52.8	106	50	56.7	113	7	71-132/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		50	52.9	106	50	50.9	102	4	62-149/30
127-18-4	Tetrachloroethene	ND		50	55.0	110	50	59.4	119	8	65-124/30
108-88-3	Toluene	ND		50	50.8	102	50	53.7	107	6	69-134/30
87-61-6	1,2,3-Trichlorobenzene	ND		50	93.9	188* [a]	50	91.9	184* [a]	2	41-157/30
120-82-1	1,2,4-Trichlorobenzene	ND		50	72.5	145	50	67.5	135	7	46-147/30
71-55-6	1,1,1-Trichloroethane	ND		50	59.4	119	50	62.4	125	5	61-144/30
79-00-5	1,1,2-Trichloroethane	ND		50	50.1	100	50	52.9	106	5	69-142/30
79-01-6	Trichloroethene	ND		50	51.4	103	50	54.3	109	5	69-133/30
75-69-4	Trichlorofluoromethane	ND		50	56.2	112	50	60.6	121	8	60-163/30
96-18-4	1,2,3-Trichloropropane	ND		50	51.8	104	50	51.5	103	1	57-150/30
95-63-6	1,2,4-Trimethylbenzene	3.7		50	54.2	101	50	53.5	100	1	67-130/30
108-67-8	1,3,5-Trimethylbenzene	ND		50	49.6	99	50	50.7	101	2	66-137/30
108-05-4	Vinyl Acetate	ND		50	44.6	89	50	36.6	73	20	48-200/30
75-01-4	Vinyl chloride	ND		50	63.4	127	50	66.5	133	5	39-176/30
	m,p-Xylene	ND		100	95.3	95	100	103	103	8	64-128/30
95-47-6	o-Xylene	0.64		50	48.1	95	50	51.7	102	7	64-126/30
1330-20-7	Xylene (total)	0.90		150	143	95	150	154	102	7	65-127/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44784-7MS	G150530.D	1	03/17/16	CB	n/a	n/a	MSG5625
MC44784-7MSD	G150531.D	1	03/17/16	CB	n/a	n/a	MSG5625
MC44784-7	G150524.D	1	03/17/16	CB	n/a	n/a	MSG5625

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-15, MC44826-16, MC44826-17, MC44826-18

CAS No.	Surrogate Recoveries	MS	MSD	MC44784-7	Limits
1868-53-7	Dibromofluoromethane	99%	97%	100%	79-127%
2037-26-5	Toluene-D8	98%	98%	98%	80-116%
460-00-4	4-Bromofluorobenzene	107%	98%	101%	77-124%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44841-5MS	K95772.D	1	03/17/16	TB	n/a	n/a	MSK2944
MC44841-5MSD	K95773.D	1	03/17/16	TB	n/a	n/a	MSK2944
MC44841-5	K95755.D	1	03/17/16	TB	n/a	n/a	MSK2944

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-13

CAS No.	Compound	MC44841-5 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		15300	20200	132	15300	19900	130	1	10-200/30
71-43-2	Benzene	201		15300	15200	98	15300	16100	104	6	38-135/30
108-86-1	Bromobenzene	ND		15300	15500	101	15300	16800	110	8	26-150/30
74-97-5	Bromochloromethane	ND		15300	16500	108	15300	17600	115	6	51-140/30
75-27-4	Bromodichloromethane	ND		15300	14600	95	15300	15900	104	9	45-136/30
75-25-2	Bromoform	ND		15300	15500	101	15300	16700	109	7	42-150/30
74-83-9	Bromomethane	ND		15300	15000	98	15300	16200	106	8	20-159/30
78-93-3	2-Butanone (MEK)	ND		15300	17500	114	15300	18400	120	5	10-187/30
104-51-8	n-Butylbenzene	202	J	15300	14600	94	15300	16100	104	10	12-162/30
135-98-8	sec-Butylbenzene	ND		15300	14500	95	15300	15900	104	9	24-152/30
98-06-6	tert-Butylbenzene	ND		15300	14200	93	15300	15500	101	9	25-151/30
75-15-0	Carbon disulfide	ND		15300	17200	112	15300	17800	116	3	29-157/30
56-23-5	Carbon tetrachloride	ND		15300	14300	93	15300	15600	102	9	42-148/30
108-90-7	Chlorobenzene	95.6	J	15300	14900	97	15300	15800	102	6	33-148/30
75-00-3	Chloroethane	ND		15300	15700	102	15300	17100	112	9	32-162/30
67-66-3	Chloroform	ND		15300	14800	97	15300	15600	102	5	46-136/30
74-87-3	Chloromethane	ND		15300	14100	92	15300	15100	99	7	33-152/30
95-49-8	o-Chlorotoluene	ND		15300	14900	97	15300	16100	105	8	21-154/30
106-43-4	p-Chlorotoluene	ND		15300	14900	97	15300	15800	103	6	21-146/30
96-12-8	1,2-Dibromo-3-chloropropane	ND		15300	13600	89	15300	15600	102	14	18-153/30
124-48-1	Dibromochloromethane	ND		15300	15100	99	15300	16100	105	6	46-147/30
106-93-4	1,2-Dibromoethane	ND		15300	15600	102	15300	16500	108	6	42-147/30
95-50-1	1,2-Dichlorobenzene	ND		15300	14200	93	15300	15300	100	7	17-148/30
541-73-1	1,3-Dichlorobenzene	ND		15300	14300	93	15300	15500	101	8	20-146/30
106-46-7	1,4-Dichlorobenzene	ND		15300	14400	94	15300	15600	102	8	16-151/30
75-71-8	Dichlorodifluoromethane	ND		15300	12000	78	15300	12300	80	2	10-186/30
75-34-3	1,1-Dichloroethane	ND		15300	14900	97	15300	15800	103	6	49-134/30
107-06-2	1,2-Dichloroethane	ND		15300	14300	93	15300	15600	102	9	46-135/30
75-35-4	1,1-Dichloroethene	ND		15300	15700	102	15300	17800	116	13	46-148/30
156-59-2	cis-1,2-Dichloroethene	ND		15300	16300	106	15300	17300	113	6	46-144/30
156-60-5	trans-1,2-Dichloroethene	ND		15300	15100	99	15300	16100	105	6	44-145/30
78-87-5	1,2-Dichloropropane	ND		15300	15600	102	15300	16500	108	6	48-138/30
142-28-9	1,3-Dichloropropane	ND		15300	15600	102	15300	16400	107	5	42-150/30
594-20-7	2,2-Dichloropropane	ND		15300	13000	85	15300	13900	91	7	27-154/30
563-58-6	1,1-Dichloropropene	ND		15300	15500	101	15300	16500	108	6	38-142/30
10061-01-5	cis-1,3-Dichloropropene	ND		15300	15300	100	15300	16400	107	7	34-149/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44841-5MS	K95772.D	1	03/17/16	TB	n/a	n/a	MSK2944
MC44841-5MSD	K95773.D	1	03/17/16	TB	n/a	n/a	MSK2944
MC44841-5	K95755.D	1	03/17/16	TB	n/a	n/a	MSK2944

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-13

CAS No.	Compound	MC44841-5 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		15300	14500	95	15300	15500	101	7	28-151/30
100-41-4	Ethylbenzene	588	J	15300	15200	95	15300	16100	101	6	32-150/30
87-68-3	Hexachlorobutadiene	214	JB	15300	12400	80	15300	14300	92	14	10-173/30
591-78-6	2-Hexanone	ND		15300	16200	106	15300	17400	114	7	10-184/30
74-88-4	Iodomethane	ND		15300	15100	99	15300	17700	115	16	37-159/30
98-82-8	Isopropylbenzene	ND		15300	15300	100	15300	16400	107	7	29-152/30
99-87-6	p-Isopropyltoluene	815	J	15300	15500	96	15300	17000	106	9	23-155/30
1634-04-4	Methyl Tert Butyl Ether	ND		15300	14700	96	15300	16000	104	8	42-142/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		15300	16100	105	15300	17600	115	9	35-164/30
74-95-3	Methylene bromide	ND		15300	15500	101	15300	16500	108	6	48-137/30
75-09-2	Methylene chloride	ND		15300	14900	97	15300	15900	104	6	48-140/30
91-20-3	Naphthalene	368	J	15300	11200	71	15300	14200	90	24	10-168/30
103-65-1	n-Propylbenzene	243	J	15300	15200	98	15300	16500	106	8	25-149/30
100-42-5	Styrene	ND		15300	15300	100	15300	16000	104	4	17-160/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		15300	15300	100	15300	16100	105	5	42-156/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		15300	15500	101	15300	17000	111	9	30-157/30
127-18-4	Tetrachloroethene	ND		15300	14200	93	15300	15000	98	5	40-146/30
108-88-3	Toluene	1800		15300	16800	98	15300	18000	106	7	33-145/30
87-61-6	1,2,3-Trichlorobenzene	ND		15300	9500	62	15300	13500	88	35* [a]	10-144/30
120-82-1	1,2,4-Trichlorobenzene	ND		15300	11000	72	15300	13100	85	17	10-154/30
71-55-6	1,1,1-Trichloroethane	ND		15300	15500	101	15300	16100	105	4	41-147/30
79-00-5	1,1,2-Trichloroethane	ND		15300	15700	102	15300	16900	110	7	40-148/30
79-01-6	Trichloroethene	ND		15300	14500	95	15300	15600	102	7	36-155/30
75-69-4	Trichlorofluoromethane	ND		15300	14600	95	15300	15600	102	7	26-164/30
96-18-4	1,2,3-Trichloropropane	ND		15300	15800	103	15300	16900	110	7	34-148/30
95-63-6	1,2,4-Trimethylbenzene	1640		15300	16200	95	15300	17600	104	8	18-154/30
108-67-8	1,3,5-Trimethylbenzene	438	J	15300	15500	98	15300	16800	107	8	21-156/30
108-05-4	Vinyl Acetate	ND		15300	15900	104	15300	17000	111	7	10-200/30
75-01-4	Vinyl chloride	ND		15300	19000	124	15300	20900	136	10	11-183/30
	m,p-Xylene	3060		30700	31900	94	30700	33600	100	5	34-149/30
95-47-6	o-Xylene	1260		15300	15100	90	15300	16100	97	6	27-156/30
1330-20-7	Xylene (total)	4320		46000	47000	93	46000	49700	99	6	33-150/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44841-5MS	K95772.D	1	03/17/16	TB	n/a	n/a	MSK2944
MC44841-5MSD	K95773.D	1	03/17/16	TB	n/a	n/a	MSK2944
MC44841-5	K95755.D	1	03/17/16	TB	n/a	n/a	MSK2944

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-13

CAS No.	Surrogate Recoveries	MS	MSD	MC44841-5	Limits
1868-53-7	Dibromofluoromethane	97%	98%	102%	65-141%
2037-26-5	Toluene-D8	102%	104%	96%	65-129%
460-00-4	4-Bromofluorobenzene	101%	101%	97%	63-137%

(a) Outside control limits. Associated samples are non-detect for this compound.

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC44826-15	G150525.D	101	108	117
MC44826-16	G150614.D	97	99	105
MC44826-16	G150526.D	98	98	96
MC44826-17	G150527.D	98	99	105
MC44826-18	G150514.D	100	99	100
MC44784-7MS	G150530.D	99	98	107
MC44784-7MSD	G150531.D	97	98	98
MSG5625-BS	G150507.D	102	99	100
MSG5625-BSD	G150508.D	100	100	101
MSG5625-MB	G150511.D	99	100	103
MSG5628-BS	G150601.D	97	99	101
MSG5628-BSD	G150602.D	95	99	102
MSG5628-MB	G150605.D	96	99	104

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	79-127%
S2 = Toluene-D8	80-116%
S3 = 4-Bromofluorobenzene	77-124%

Volatile Surrogate Recovery Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Method: SW846 8260C **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC44826-1	K95760.D	102	94	92
MC44826-2	K95761.D	100	99	100
MC44826-3	K95762.D	102	95	98
MC44826-4	K95763.D	101	96	91
MC44826-5	K95764.D	101	95	94
MC44826-6	K95765.D	103	98	98
MC44826-7	K95766.D	103	91	89
MC44826-8	K95767.D	103	95	100
MC44826-9	K95768.D	103	91	90
MC44826-10	K95769.D	103	95	97
MC44826-11	M76927.D	116	99	102
MC44826-12	M76928.D	118	100	104
MC44826-13	K95770.D	103	91	90
MC44826-14	M76942.D	108	102	112
MC44826-14	M76929.D	109	103	148* [a]
MC44795-3MS	M76943.D	103	97	103
MC44795-3MSD	M76944.D	104	97	107
MC44826-11MS	M76930.D	107	99	117
MC44826-11MSD	M76931.D	108	97	106
MC44841-5MS	K95772.D	97	102	101
MC44841-5MSD	K95773.D	98	104	101
MSK2944-BS	K95751.D	96	101	103
MSK2944-BSD	K95752.D	98	101	98
MSK2944-MB	K95754.D	104	94	97
MSM2748-BS	M76914.D	110	99	102
MSM2748-MB	M76916.D	112	101	101
MSM2749-BS	M76938.D	109	97	102
MSM2749-MB	M76940.D	115	98	100

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	65-141%
S2 = Toluene-D8	65-129%
S3 = 4-Bromofluorobenzene	63-137%

(a) Outside control limits due to possible matrix interference. Associated compounds not reported in sample.

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46751-MB	F84577.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634

The QC reported here applies to the following samples: **Method:** SW846 8270D

MC44826-15, MC44826-16, MC44826-17

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic Acid	ND	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	10	ug/l	
120-83-2	2,4-Dichlorophenol	ND	10	ug/l	
105-67-9	2,4-Dimethylphenol	ND	10	ug/l	
51-28-5	2,4-Dinitrophenol	ND	20	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	ug/l	
95-48-7	2-Methylphenol	ND	10	ug/l	
	3&4-Methylphenol	ND	10	ug/l	
88-75-5	2-Nitrophenol	ND	10	ug/l	
100-02-7	4-Nitrophenol	ND	20	ug/l	
87-86-5	Pentachlorophenol	ND	10	ug/l	
108-95-2	Phenol	ND	5.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	10	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	10	ug/l	
83-32-9	Acenaphthene	ND	2.0	ug/l	
208-96-8	Acenaphthylene	ND	2.0	ug/l	
62-53-3	Aniline	ND	10	ug/l	
120-12-7	Anthracene	ND	2.0	ug/l	
92-87-5	Benzidine	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	2.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	2.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	2.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	2.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	2.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	ug/l	
100-51-6	Benzyl Alcohol	ND	10	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	ug/l	
106-47-8	4-Chloroaniline	ND	10	ug/l	
86-74-8	Carbazole	ND	2.0	ug/l	
218-01-9	Chrysene	ND	2.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	ug/l	

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46751-MB	F84577.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634

The QC reported here applies to the following samples: **Method:** SW846 8270D

MC44826-15, MC44826-16, MC44826-17

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	5.0	ug/l	
122-66-7	1,2-Diphenylhydrazine	ND	5.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	10	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	10	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	ug/l	
132-64-9	Dibenzofuran	ND	2.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	ug/l	
206-44-0	Fluoranthene	ND	2.0	ug/l	
86-73-7	Fluorene	ND	2.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	10	ug/l	
67-72-1	Hexachloroethane	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	ug/l	
78-59-1	Isophorone	ND	5.0	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	ug/l	
99-09-2	3-Nitroaniline	ND	10	ug/l	
100-01-6	4-Nitroaniline	ND	10	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	ug/l	
62-75-9	n-Nitrosodimethylamine	ND	5.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	2.0	ug/l	
129-00-0	Pyrene	ND	2.0	ug/l	
110-86-1	Pyridine	ND	10	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46751-MB	F84577.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634

The QC reported here applies to the following samples: **Method:** SW846 8270D

MC44826-15, MC44826-16, MC44826-17

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	46%	10-80%
4165-62-2	Phenol-d5	34%	10-72%
118-79-6	2,4,6-Tribromophenol	96%	42-134%
4165-60-0	Nitrobenzene-d5	72%	25-117%
321-60-8	2-Fluorobiphenyl	70%	24-112%
1718-51-0	Terphenyl-d14	99%	48-133%

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46765-MB	R47202.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

The QC reported here applies to the following samples: **Method:** SW846 8270D

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	Result	RL	Units	Q
65-85-0	Benzoic acid	ND	480	ug/kg	
95-57-8	2-Chlorophenol	ND	240	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	480	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	480	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	480	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	960	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	480	ug/kg	
95-48-7	2-Methylphenol	ND	480	ug/kg	
	3&4-Methylphenol	ND	480	ug/kg	
88-75-5	2-Nitrophenol	ND	480	ug/kg	
100-02-7	4-Nitrophenol	ND	960	ug/kg	
87-86-5	Pentachlorophenol	ND	480	ug/kg	
108-95-2	Phenol	ND	240	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	480	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	480	ug/kg	
83-32-9	Acenaphthene	ND	96	ug/kg	
208-96-8	Acenaphthylene	ND	96	ug/kg	
62-53-3	Aniline	ND	480	ug/kg	
120-12-7	Anthracene	ND	96	ug/kg	
92-87-5	Benzidine	ND	960	ug/kg	
56-55-3	Benzo(a)anthracene	ND	96	ug/kg	
50-32-8	Benzo(a)pyrene	ND	96	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	96	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	96	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	96	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	240	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	240	ug/kg	
100-51-6	Benzyl Alcohol	ND	480	ug/kg	
91-58-7	2-Chloronaphthalene	ND	240	ug/kg	
106-47-8	4-Chloroaniline	ND	480	ug/kg	
86-74-8	Carbazole	ND	96	ug/kg	
218-01-9	Chrysene	ND	96	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	240	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	240	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	240	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	240	ug/kg	

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46765-MB	R47202.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

The QC reported here applies to the following samples: **Method:** SW846 8270D

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	Result	RL	Units	Q
95-50-1	1,2-Dichlorobenzene	ND	240	ug/kg	
122-66-7	1,2-Diphenylhydrazine	ND	240	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	240	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	240	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	480	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	480	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	240	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	96	ug/kg	
132-64-9	Dibenzofuran	ND	96	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	240	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	240	ug/kg	
84-66-2	Diethyl phthalate	ND	240	ug/kg	
131-11-3	Dimethyl phthalate	ND	240	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	240	ug/kg	
206-44-0	Fluoranthene	ND	96	ug/kg	
86-73-7	Fluorene	ND	96	ug/kg	
118-74-1	Hexachlorobenzene	ND	240	ug/kg	
87-68-3	Hexachlorobutadiene	ND	240	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	480	ug/kg	
67-72-1	Hexachloroethane	ND	240	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	96	ug/kg	
78-59-1	Isophorone	ND	240	ug/kg	
90-12-0	1-Methylnaphthalene	ND	240	ug/kg	
91-57-6	2-Methylnaphthalene	ND	96	ug/kg	
88-74-4	2-Nitroaniline	ND	480	ug/kg	
99-09-2	3-Nitroaniline	ND	480	ug/kg	
100-01-6	4-Nitroaniline	ND	480	ug/kg	
91-20-3	Naphthalene	ND	96	ug/kg	
98-95-3	Nitrobenzene	ND	240	ug/kg	
62-75-9	n-Nitrosodimethylamine	ND	240	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	240	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	240	ug/kg	
85-01-8	Phenanthrene	ND	96	ug/kg	
129-00-0	Pyrene	ND	96	ug/kg	
110-86-1	Pyridine	ND	480	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	240	ug/kg	

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46765-MB	R47202.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

The QC reported here applies to the following samples: **Method:** SW846 8270D

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	70%	24-110%
4165-62-2	Phenol-d5	69%	30-114%
118-79-6	2,4,6-Tribromophenol	87%	20-139%
4165-60-0	Nitrobenzene-d5	81%	27-112%
321-60-8	2-Fluorobiphenyl	73%	35-115%
1718-51-0	Terphenyl-d14	86%	48-136%

Blank Spike Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46765-BS	R47203.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

The QC reported here applies to the following samples: **Method:** SW846 8270D

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
65-85-0	Benzoic acid	2440	1610	66	14-116
95-57-8	2-Chlorophenol	2440	1750	72	42-103
59-50-7	4-Chloro-3-methyl phenol	2440	1910	78	51-107
120-83-2	2,4-Dichlorophenol	2440	1960	80	47-109
105-67-9	2,4-Dimethylphenol	2440	1730	71	41-105
51-28-5	2,4-Dinitrophenol	2440	2280	94	10-123
534-52-1	4,6-Dinitro-o-cresol	2440	2610	107	32-130
95-48-7	2-Methylphenol	2440	1660	68	43-103
	3&4-Methylphenol	4870	3430	70	43-109
88-75-5	2-Nitrophenol	2440	2290	94	44-108
100-02-7	4-Nitrophenol	2440	2050	84	30-124
87-86-5	Pentachlorophenol	2440	1930	79	23-120
108-95-2	Phenol	2440	1660	68	42-105
95-95-4	2,4,5-Trichlorophenol	2440	2180	89	56-112
88-06-2	2,4,6-Trichlorophenol	2440	2080	85	52-108
83-32-9	Acenaphthene	2440	1830	75	48-110
208-96-8	Acenaphthylene	2440	1420	58	38-101
62-53-3	Aniline	2440	1190	49	15-88
120-12-7	Anthracene	2440	1860	76	53-111
92-87-5	Benzidine	2440	1440	59	10-159
56-55-3	Benzo(a)anthracene	2440	1990	82	55-119
50-32-8	Benzo(a)pyrene	2440	1960	80	57-114
205-99-2	Benzo(b)fluoranthene	2440	2010	82	53-125
191-24-2	Benzo(g,h,i)perylene	2440	2030	83	56-120
207-08-9	Benzo(k)fluoranthene	2440	1930	79	54-117
101-55-3	4-Bromophenyl phenyl ether	2440	1980	81	54-118
85-68-7	Butyl benzyl phthalate	2440	2090	86	54-122
100-51-6	Benzyl Alcohol	2440	1720	71	32-113
91-58-7	2-Chloronaphthalene	2440	1810	74	48-117
106-47-8	4-Chloroaniline	2440	976	40	15-92
86-74-8	Carbazole	2440	2030	83	56-116
218-01-9	Chrysene	2440	1930	79	56-116
111-91-1	bis(2-Chloroethoxy)methane	2440	1600	66	43-107
111-44-4	bis(2-Chloroethyl)ether	2440	1570	64	28-116
108-60-1	bis(2-Chloroisopropyl)ether	2440	1840	76	34-132
7005-72-3	4-Chlorophenyl phenyl ether	2440	1940	80	55-112

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46765-BS	R47203.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

The QC reported here applies to the following samples: **Method:** SW846 8270D

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
95-50-1	1,2-Dichlorobenzene	2440	1670	69	36-104
122-66-7	1,2-Diphenylhydrazine	2440	1640	67	49-112
541-73-1	1,3-Dichlorobenzene	2440	1660	68	36-104
106-46-7	1,4-Dichlorobenzene	2440	1640	67	36-103
121-14-2	2,4-Dinitrotoluene	2440	2650	109	51-118
606-20-2	2,6-Dinitrotoluene	2440	2370	97	52-114
91-94-1	3,3'-Dichlorobenzidine	2440	1310	54	26-124
53-70-3	Dibenzo(a,h)anthracene	2440	1990	82	56-114
132-64-9	Dibenzofuran	2440	1880	77	53-110
84-74-2	Di-n-butyl phthalate	2440	2010	82	56-114
117-84-0	Di-n-octyl phthalate	2440	2010	82	56-124
84-66-2	Diethyl phthalate	2440	1950	80	55-110
131-11-3	Dimethyl phthalate	2440	1910	78	54-112
117-81-7	bis(2-Ethylhexyl)phthalate	2440	2020	83	57-123
206-44-0	Fluoranthene	2440	2130	87	55-118
86-73-7	Fluorene	2440	1960	80	53-112
118-74-1	Hexachlorobenzene	2440	2020	83	53-119
87-68-3	Hexachlorobutadiene	2440	1830	75	38-110
77-47-4	Hexachlorocyclopentadiene	2440	1160	48	10-81
67-72-1	Hexachloroethane	2440	1610	66	36-102
193-39-5	Indeno(1,2,3-cd)pyrene	2440	1940	80	57-119
78-59-1	Isophorone	2440	1700	70	36-97
90-12-0	1-Methylnaphthalene	2440	1830	75	39-111
91-57-6	2-Methylnaphthalene	2440	1850	76	41-116
88-74-4	2-Nitroaniline	2440	2230	92	56-119
99-09-2	3-Nitroaniline	2440	1440	59	32-103
100-01-6	4-Nitroaniline	2440	2090	86	49-114
91-20-3	Naphthalene	2440	1740	71	28-128
98-95-3	Nitrobenzene	2440	1710	70	31-109
62-75-9	n-Nitrosodimethylamine	2440	1430	59	36-109
621-64-7	N-Nitroso-di-n-propylamine	2440	1750	72	37-113
86-30-6	N-Nitrosodiphenylamine	2440	1810	74	42-115
85-01-8	Phenanthrene	2440	1950	80	53-113
129-00-0	Pyrene	2440	2030	83	53-119
110-86-1	Pyridine	2440	1190	49	23-81
120-82-1	1,2,4-Trichlorobenzene	2440	1780	73	40-108

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46765-BS	R47203.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

The QC reported here applies to the following samples: **Method:** SW846 8270D

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	75%	24-110%
4165-62-2	Phenol-d5	73%	30-114%
118-79-6	2,4,6-Tribromophenol	91%	20-139%
4165-60-0	Nitrobenzene-d5	87%	27-112%
321-60-8	2-Fluorobiphenyl	79%	35-115%
1718-51-0	Terphenyl-d14	87%	48-136%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46751-BS	F84578.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634
OP46751-BSD	F84579.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634

The QC reported here applies to the following samples: **Method:** SW846 8270D

MC44826-15, MC44826-16, MC44826-17

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	50	19.2	38	17.2	34	11	10-70/20
95-57-8	2-Chlorophenol	50	32.0	64	33.8	68	5	39-100/20
59-50-7	4-Chloro-3-methyl phenol	50	40.3	81	39.1	78	3	43-112/20
120-83-2	2,4-Dichlorophenol	50	38.0	76	38.5	77	1	44-113/20
105-67-9	2,4-Dimethylphenol	50	35.1	70	35.8	72	2	21-108/20
51-28-5	2,4-Dinitrophenol	50	50.7	101	51.2	102	1	22-128/20
534-52-1	4,6-Dinitro-o-cresol	50	54.0	108	54.7	109	1	42-132/20
95-48-7	2-Methylphenol	50	30.9	62	32.2	64	4	34-91/20
	3&4-Methylphenol	100	60.9	61	60.1	60	1	31-90/20
88-75-5	2-Nitrophenol	50	41.0	82	40.8	82	0	40-118/20
100-02-7	4-Nitrophenol	50	18.9	38	19.2	38	2	10-71/20
87-86-5	Pentachlorophenol	50	30.1	60	29.0	58	4	33-123/20
108-95-2	Phenol	50	15.2	30	16.0	32	5	11-57/20
95-95-4	2,4,5-Trichlorophenol	50	42.1	84	41.3	83	2	50-122/20
88-06-2	2,4,6-Trichlorophenol	50	40.7	81	41.5	83	2	48-118/20
83-32-9	Acenaphthene	50	38.5	77	42.1	84	9	46-118/20
208-96-8	Acenaphthylene	50	29.2	58	31.4	63	7	37-108/20
62-53-3	Aniline	50	24.7	49	28.2	56	13	18-90/20
120-12-7	Anthracene	50	39.2	78	41.5	83	6	55-117/20
92-87-5	Benzidine	50	ND	0* [a]	ND	0* [a]	nc	10-200/20
56-55-3	Benzo(a)anthracene	50	42.1	84	46.1	92	9	59-123/20
50-32-8	Benzo(a)pyrene	50	40.3	81	44.2	88	9	59-119/20
205-99-2	Benzo(b)fluoranthene	50	41.4	83	44.0	88	6	58-125/20
191-24-2	Benzo(g,h,i)perylene	50	42.2	84	46.2	92	9	61-126/20
207-08-9	Benzo(k)fluoranthene	50	39.2	78	44.1	88	12	59-119/20
101-55-3	4-Bromophenyl phenyl ether	50	39.2	78	41.9	84	7	55-126/20
85-68-7	Butyl benzyl phthalate	50	44.2	88	48.8	98	10	56-124/20
100-51-6	Benzyl Alcohol	50	31.3	63	34.3	69	9	13-106/20
91-58-7	2-Chloronaphthalene	50	35.8	72	39.2	78	9	45-123/20
106-47-8	4-Chloroaniline	50	38.2	76	40.5	81	6	35-111/20
86-74-8	Carbazole	50	42.5	85	45.5	91	7	60-121/20
218-01-9	Chrysene	50	41.1	82	44.6	89	8	60-120/20
111-91-1	bis(2-Chloroethoxy)methane	50	35.3	71	36.9	74	4	41-117/20
111-44-4	bis(2-Chloroethyl)ether	50	31.7	63	35.4	71	11	31-114/20
108-60-1	bis(2-Chloroisopropyl)ether	50	34.2	68	37.6	75	9	33-135/20
7005-72-3	4-Chlorophenyl phenyl ether	50	38.6	77	40.8	82	6	52-124/20

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46751-BS	F84578.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634
OP46751-BSD	F84579.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634

The QC reported here applies to the following samples: **Method:** SW846 8270D

MC44826-15, MC44826-16, MC44826-17

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
95-50-1	1,2-Dichlorobenzene	50	18.7	37	21.8	44	15	20-101/20
122-66-7	1,2-Diphenylhydrazine	50	39.3	79	42.3	85	7	45-119/20
541-73-1	1,3-Dichlorobenzene	50	17.5	35	20.3	41	15	21-98/20
106-46-7	1,4-Dichlorobenzene	50	17.7	35	20.6	41	15	22-97/20
121-14-2	2,4-Dinitrotoluene	50	45.7	91	48.5	97	6	52-128/20
606-20-2	2,6-Dinitrotoluene	50	45.1	90	47.8	96	6	50-126/20
91-94-1	3,3'-Dichlorobenzidine	50	37.8	76	40.9	82	8	46-134/20
53-70-3	Dibenzo(a,h)anthracene	50	41.6	83	45.2	90	8	59-121/20
132-64-9	Dibenzofuran	50	38.7	77	42.6	85	10	51-118/20
84-74-2	Di-n-butyl phthalate	50	42.2	84	44.8	90	6	57-120/20
117-84-0	Di-n-octyl phthalate	50	42.4	85	45.6	91	7	58-125/20
84-66-2	Diethyl phthalate	50	40.7	81	43.5	87	7	40-125/20
131-11-3	Dimethyl phthalate	50	40.4	81	44.1	88	9	10-145/20
117-81-7	bis(2-Ethylhexyl)phthalate	50	43.3	87	47.7	95	10	60-126/20
206-44-0	Fluoranthene	50	42.6	85	45.5	91	7	58-125/20
86-73-7	Fluorene	50	41.2	82	43.5	87	5	52-120/20
118-74-1	Hexachlorobenzene	50	38.9	78	43.5	87	11	53-127/20
87-68-3	Hexachlorobutadiene	50	18.9	38	21.0	42	11	17-110/20
77-47-4	Hexachlorocyclopentadiene	50	11.7	23	13.6	27	15	10-75/20
67-72-1	Hexachloroethane	50	15.7	31	18.6	37	17	15-98/20
193-39-5	Indeno(1,2,3-cd)pyrene	50	40.9	82	44.5	89	8	61-126/20
78-59-1	Isophorone	50	36.6	73	39.8	80	8	36-106/20
90-12-0	1-Methylnaphthalene	50	32.9	66	34.9	70	6	34-115/20
91-57-6	2-Methylnaphthalene	50	33.3	67	35.9	72	8	41-112/20
88-74-4	2-Nitroaniline	50	45.4	91	49.2	98	8	52-130/20
99-09-2	3-Nitroaniline	50	43.8	88	48.0	96	9	47-120/20
100-01-6	4-Nitroaniline	50	42.0	84	46.7	93	11	51-121/20
91-20-3	Naphthalene	50	28.6	57	31.5	63	10	29-119/20
98-95-3	Nitrobenzene	50	29.6	59	32.5	65	9	27-120/20
62-75-9	n-Nitrosodimethylamine	50	20.6	41	22.8	46	10	10-87/20
621-64-7	N-Nitroso-di-n-propylamine	50	39.8	80	43.1	86	8	37-123/20
86-30-6	N-Nitrosodiphenylamine	50	39.6	79	41.8	84	5	50-112/20
85-01-8	Phenanthrene	50	40.8	82	43.5	87	6	57-118/20
129-00-0	Pyrene	50	42.9	86	46.3	93	8	57-120/20
110-86-1	Pyridine	50	6.7	13	8.0	16	18	10-72/20
120-82-1	1,2,4-Trichlorobenzene	50	23.8	48	26.5	53	11	27-107/20

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46751-BS	F84578.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634
OP46751-BSD	F84579.D	1	03/22/16	MR	03/15/16	OP46751	MSF3634

The QC reported here applies to the following samples: **Method:** SW846 8270D

MC44826-15, MC44826-16, MC44826-17

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
367-12-4	2-Fluorophenol	40%	42%	10-80%
4165-62-2	Phenol-d5	29%	30%	10-72%
118-79-6	2,4,6-Tribromophenol	84%	85%	42-134%
4165-60-0	Nitrobenzene-d5	70%	71%	25-117%
321-60-8	2-Fluorobiphenyl	68%	66%	24-112%
1718-51-0	Terphenyl-d14	86%	91%	48-133%

(a) Outside control limits. Associated samples may be biased low for this compound.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46765-MS	R47204.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
OP46765-MSD	R47205.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
MC44826-1	R47206.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
MC44826-1 [a]	R47214.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

The QC reported here applies to the following samples: **Method:** SW846 8270D

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	MC44826-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic acid	ND		2930	1030	35	2900	959	33	7	10-157/30
95-57-8	2-Chlorophenol	ND		2930	2080	71	2900	2030	70	2	30-112/30
59-50-7	4-Chloro-3-methyl phenol	ND		2930	2250	77	2900	2140	74	5	29-133/30
120-83-2	2,4-Dichlorophenol	ND		2930	2380	81	2900	2250	78	6	36-120/30
105-67-9	2,4-Dimethylphenol	ND		2930	2170	74	2900	2090	72	4	31-118/30
51-28-5	2,4-Dinitrophenol	ND		2930	ND	0* [b]	2900	ND	0* [b]	nc	10-111/30
534-52-1	4,6-Dinitro-o-cresol	ND		2930	828	28	2900	650	22	24	10-134/30
95-48-7	2-Methylphenol	ND		2930	2000	68	2900	1950	67	3	31-113/30
	3&4-Methylphenol	ND		5850	4160	71	5800	4070	70	2	31-120/30
88-75-5	2-Nitrophenol	ND		2930	2600	89	2900	2410	83	8	24-122/30
100-02-7	4-Nitrophenol	ND		2930	2420	83	2900	2300	79	5	23-135/30
87-86-5	Pentachlorophenol	ND		2930	2180	74	2900	2040	70	7	10-132/30
108-95-2	Phenol	ND		2930	1960	67	2900	1930	67	2	25-121/30
95-95-4	2,4,5-Trichlorophenol	ND		2930	2590	88	2900	2460	85	5	39-127/30
88-06-2	2,4,6-Trichlorophenol	ND		2930	2540	87	2900	2450	85	4	35-125/30
83-32-9	Acenaphthene	ND		2930	2290	78	2900	2200	76	4	28-134/30
208-96-8	Acenaphthylene	ND		2930	1750	60	2900	1670	58	5	26-112/30
62-53-3	Aniline	ND		2930	997	34	2900	899	31	10	10-84/30
120-12-7	Anthracene	ND		2930	2230	76	2900	2160	75	3	25-143/30
92-87-5	Benzidine	ND		2930	575	20	2900	544	19	6	10-154/30
56-55-3	Benzo(a)anthracene	348		2930	2600	77	2900	2560	76	2	26-148/30
50-32-8	Benzo(a)pyrene	ND		2930	2330	80	2900	2320	80	0	20-151/30
205-99-2	Benzo(b)fluoranthene	ND		2930	2570	88	2900	2780	96	8	27-150/30
191-24-2	Benzo(g,h,i)perylene	ND		2930	2040	70	2900	2510	87	21	24-149/30
207-08-9	Benzo(k)fluoranthene	ND		2930	2230	76	2900	1850	64	19	19-149/30
101-55-3	4-Bromophenyl phenyl ether	ND		2930	2390	82	2900	2320	80	3	45-127/30
85-68-7	Butyl benzyl phthalate	ND		2930	2010	69	2900	1920	66	5	42-132/30
100-51-6	Benzyl Alcohol	ND		2930	2000	68	2900	1930	67	4	25-114/30
91-58-7	2-Chloronaphthalene	ND		2930	2270	78	2900	2170	75	5	42-124/30
106-47-8	4-Chloroaniline	ND		2930	955	33	2900	927	32	3	10-107/30
86-74-8	Carbazole	ND		2930	2310	79	2900	2240	77	3	34-137/30
218-01-9	Chrysene	626		2930	2780	74	2900	2640	69	5	28-144/30
111-91-1	bis(2-Chloroethoxy)methane	ND		2930	1940	66	2900	1850	64	5	36-112/30
111-44-4	bis(2-Chloroethyl)ether	ND		2930	1790	61	2900	1750	60	2	25-115/30
108-60-1	bis(2-Chloroisopropyl)ether	ND		2930	2150	73	2900	2110	73	2	27-134/30
7005-72-3	4-Chlorophenyl phenyl ether	ND		2930	2370	81	2900	2260	78	5	43-125/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46765-MS	R47204.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
OP46765-MSD	R47205.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
MC44826-1	R47206.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
MC44826-1 [a]	R47214.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

The QC reported here applies to the following samples: **Method:** SW846 8270D

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	MC44826-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
95-50-1	1,2-Dichlorobenzene	ND		2930	1960	67	2900	1930	67	2	28-108/30
122-66-7	1,2-Diphenylhydrazine	ND		2930	2000	68	2900	1930	67	4	38-120/30
541-73-1	1,3-Dichlorobenzene	ND		2930	1890	65	2900	1860	64	2	27-108/30
106-46-7	1,4-Dichlorobenzene	ND		2930	1910	65	2900	1880	65	2	28-107/30
121-14-2	2,4-Dinitrotoluene	ND		2930	3150	108	2900	2940	101	7	35-130/30
606-20-2	2,6-Dinitrotoluene	ND		2930	2910	99	2900	2730	94	6	39-124/30
91-94-1	3,3'-Dichlorobenzidine	ND		2930	1630	56	2900	1660	57	2	10-148/30
53-70-3	Dibenzo(a,h)anthracene	ND		2930	1950	67	2900	2250	78	14	39-129/30
132-64-9	Dibenzofuran	ND		2930	2300	79	2900	2190	76	5	28-136/30
84-74-2	Di-n-butyl phthalate	ND		2930	2010	69	2900	1900	66	6	44-124/30
117-84-0	Di-n-octyl phthalate	ND		2930	2000	68	2900	1940	67	3	41-137/30
84-66-2	Diethyl phthalate	ND		2930	2320	79	2900	2200	76	5	43-120/30
131-11-3	Dimethyl phthalate	ND		2930	2330	80	2900	2230	77	4	37-128/30
117-81-7	bis(2-Ethylhexyl)phthalate	ND		2930	1810	62	2900	1740	60	4	34-145/30
206-44-0	Fluoranthene	ND		2930	2230	76	2900	2220	77	0	19-152/30
86-73-7	Fluorene	ND		2930	2420	83	2900	2330	80	4	37-128/30
118-74-1	Hexachlorobenzene	ND		2930	2400	82	2900	2330	80	3	44-127/30
87-68-3	Hexachlorobutadiene	ND		2930	2230	76	2900	2170	75	3	32-117/30
77-47-4	Hexachlorocyclopentadiene	ND		2930	831	28	2900	580	20	36* [b]	10-90/30
67-72-1	Hexachloroethane	ND		2930	1850	63	2900	1790	62	3	13-122/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND		2930	1900	65	2900	2210	76	15	27-148/30
78-59-1	Isophorone	ND		2930	2050	70	2900	1960	68	4	30-104/30
90-12-0	1-Methylnaphthalene	59.2		2930	2230	74	2900	2140	72	4	32-118/30
91-57-6	2-Methylnaphthalene	36.2		2930	2280	77	2900	2190	74	4	35-122/30
88-74-4	2-Nitroaniline	ND		2930	2740	94	2900	2580	89	6	42-130/30
99-09-2	3-Nitroaniline	ND		2930	1770	60	2900	1730	60	2	25-117/30
100-01-6	4-Nitroaniline	ND		2930	2060	70	2900	1950	67	5	22-129/30
91-20-3	Naphthalene	ND		2930	2100	72	2900	2010	69	4	19-133/30
98-95-3	Nitrobenzene	ND		2930	2040	70	2900	1960	68	4	26-114/30
62-75-9	n-Nitrosodimethylamine	ND		2930	1440	49	2900	1340	46	7	22-112/30
621-64-7	N-Nitroso-di-n-propylamine	ND		2930	2160	74	2900	2160	75	0	22-128/30
86-30-6	N-Nitrosodiphenylamine	ND		2930	2410	82	2900	2390	82	1	25-136/30
85-01-8	Phenanthrene	ND		2930	2370	81	2900	2290	79	3	24-142/30
129-00-0	Pyrene	ND		2930	2650	91	2900	2740	95	3	19-153/30
110-86-1	Pyridine	ND		2930	1150	39	2900	1060	37	8	10-85/30
120-82-1	1,2,4-Trichlorobenzene	ND		2930	2150	73	2900	2060	71	4	30-116/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46765-MS	R47204.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
OP46765-MSD	R47205.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
MC44826-1	R47206.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743
MC44826-1 [a]	R47214.D	1	03/22/16	MR	03/16/16	OP46765	MSR1743

The QC reported here applies to the following samples: **Method:** SW846 8270D

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Surrogate Recoveries	MS	MSD	MC44826-1	MC44826-1	Limits
367-12-4	2-Fluorophenol	73%	74%	76%	75%	24-110%
4165-62-2	Phenol-d5	74%	73%	77%	77%	30-114%
118-79-6	2,4,6-Tribromophenol	94%	93%	97%	95%	20-139%
4165-60-0	Nitrobenzene-d5	93%	85%	87%	88%	27-112%
321-60-8	2-Fluorobiphenyl	83%	80%	85%	85%	35-115%
1718-51-0	Terphenyl-d14	85%	87%	96%	98%	48-136%

(a) Confirmation run for internal standard areas.
(b) Outside control limits due to possible matrix interference. Refer to Blank Spike.

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Method: SW846 8270D **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC44826-15	F84596.D	0* [a]	0* [a]	89	0* [a]	100	101
MC44826-15	F84580.D	0* [b]	0* [b]	66	0* [b]	87	89
MC44826-16	F84581.D	34	24	91	75	76	86
MC44826-17	F84582.D	33	24	80	58	56	72
OP46751-BS	F84578.D	40	29	84	70	68	86
OP46751-BSD	F84579.D	42	30	85	71	66	91
OP46751-MB	F84577.D	46	34	96	72	70	99

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	10-80%
S2 = Phenol-d5	10-72%
S3 = 2,4,6-Tribromophenol	42-134%
S4 = Nitrobenzene-d5	25-117%
S5 = 2-Fluorobiphenyl	24-112%
S6 = Terphenyl-d14	48-133%

(a) Outside control limits due to dilution.
(b) Outside control limits due to matrix interference. Confirmed by reanalysis. Insufficient sample volume for re-extraction.

Semivolatile Surrogate Recovery Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Method: SW846 8270D **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
MC44826-1	R47214.D	75	77	95	88	85	98
MC44826-1	R47206.D	76	77	97	87	85	96
MC44826-2	R47211.D	65	69	110	84	90	83
MC44826-3	R47212.D	69	72	75	87	85	85
MC44826-4	R47213.D	74	75	101	94	89	85
MC44826-5	R47215.D	65	66	95	79	82	86
MC44826-6	R47228.D	72	53	101	83	121* [a]	98
MC44826-6	R47216.D	73	59	102	86	106	93
MC44826-7	R47217.D	67	67	86	70	80	78
MC44826-8	R47218.D	47	55	78	62	71	72
MC44826-9	R47219.D	68	69	76	90	87	89
MC44826-10	F84625.D	57	64	72	70	74	82
MC44826-10	R47220.D	55	60	75	72	82	87
MC44826-11	F84626.D	82	81	90	79	86	104
MC44826-11	R47221.D	73	72	91	89	89	94
MC44826-12	R47222.D	63	62	80	78	78	85
MC44826-13	F84627.D	80	83	87	72	82	90
MC44826-13	R47223.D	74	74	97	88	88	87
MC44826-14	F84628.D	80	78	77	77	88	93
MC44826-14	R47224.D	71	71	87	87	90	96
OP46765-BS	R47203.D	75	73	91	87	79	87
OP46765-MB	R47202.D	70	69	87	81	73	86
OP46765-MS	R47204.D	73	74	94	93	83	85
OP46765-MSD	R47205.D	74	73	93	85	80	87

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	24-110%
S2 = Phenol-d5	30-114%
S3 = 2,4,6-Tribromophenol	20-139%
S4 = Nitrobenzene-d5	27-112%
S5 = 2-Fluorobiphenyl	35-115%
S6 = Terphenyl-d14	48-136%

(a) Outside control limits due to possible matrix interference.

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46831-MB	BE50257.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527

The QC reported here applies to the following samples: **Method:** SW846 8081B

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	Result	RL	Units	Q
309-00-2	Aldrin	ND	4.9	ug/kg	
319-84-6	alpha-BHC	ND	4.9	ug/kg	
319-85-7	beta-BHC	ND	4.9	ug/kg	
319-86-8	delta-BHC	ND	4.9	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	4.9	ug/kg	
12789-03-6	Chlordane	ND	49	ug/kg	
5103-71-9	alpha-Chlordane	ND	4.9	ug/kg	
5103-74-2	gamma-Chlordane	ND	4.9	ug/kg	
60-57-1	Dieldrin	ND	4.9	ug/kg	
72-54-8	4,4'-DDD	ND	4.9	ug/kg	
72-55-9	4,4'-DDE	ND	4.9	ug/kg	
50-29-3	4,4'-DDT	ND	4.9	ug/kg	
72-20-8	Endrin	ND	4.9	ug/kg	
1031-07-8	Endosulfan sulfate	ND	4.9	ug/kg	
7421-93-4	Endrin aldehyde	ND	4.9	ug/kg	
959-98-8	Endosulfan-I	ND	4.9	ug/kg	
33213-65-9	Endosulfan-II	ND	4.9	ug/kg	
76-44-8	Heptachlor	ND	4.9	ug/kg	
1024-57-3	Heptachlor epoxide	ND	4.9	ug/kg	
118-74-1	Hexachlorobenzene	ND	4.9	ug/kg	
72-43-5	Methoxychlor	ND	4.9	ug/kg	
53494-70-5	Endrin ketone	ND	4.9	ug/kg	
8001-35-2	Toxaphene	ND	49	ug/kg	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	88%	10-143%
877-09-8	Tetrachloro-m-xylene	89%	10-143%
2051-24-3	Decachlorobiphenyl	98%	10-172%
2051-24-3	Decachlorobiphenyl	91%	10-172%

Method Blank Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46830-MB	BK56284.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776

The QC reported here applies to the following samples: **Method:** SW846 8082A

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	Result	RL	Units	Q
12674-11-2	Aroclor 1016	ND	24	ug/kg	
11104-28-2	Aroclor 1221	ND	24	ug/kg	
11141-16-5	Aroclor 1232	ND	24	ug/kg	
53469-21-9	Aroclor 1242	ND	24	ug/kg	
12672-29-6	Aroclor 1248	ND	24	ug/kg	
11097-69-1	Aroclor 1254	ND	24	ug/kg	
11096-82-5	Aroclor 1260	ND	24	ug/kg	
37324-23-5	Aroclor 1262	ND	24	ug/kg	
11100-14-4	Aroclor 1268	ND	24	ug/kg	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	95%	35-136%
877-09-8	Tetrachloro-m-xylene	95%	35-136%
2051-24-3	Decachlorobiphenyl	97%	24-171%
2051-24-3	Decachlorobiphenyl	98%	24-171%

Blank Spike Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46831-BS	BE50258.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527

The QC reported here applies to the following samples: **Method:** SW846 8081B

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
309-00-2	Aldrin	32.1	31.5	98	37-165
319-84-6	alpha-BHC	32.1	28.9	90	32-157
319-85-7	beta-BHC	32.1	27.9	87	41-159
319-86-8	delta-BHC	32.1	27.3	85	26-157
58-89-9	gamma-BHC (Lindane)	32.1	27.9	87	34-156
5103-71-9	alpha-Chlordane	32.1	30.3	94	42-164
5103-74-2	gamma-Chlordane	32.1	29.2	91	36-165
60-57-1	Dieldrin	32.1	31.0	97	42-171
72-54-8	4,4'-DDD	32.1	29.9	93	41-168
72-55-9	4,4'-DDE	32.1	30.1	94	42-167
50-29-3	4,4'-DDT	32.1	23.6	74	37-172
72-20-8	Endrin	32.1	30.2	94	30-191
1031-07-8	Endosulfan sulfate	32.1	29.3	91	41-162
7421-93-4	Endrin aldehyde	32.1	27.2	85	32-161
959-98-8	Endosulfan-I	32.1	31.9	99	42-168
33213-65-9	Endosulfan-II	32.1	28.7	89	41-166
76-44-8	Heptachlor	32.1	27.5	86	43-159
1024-57-3	Heptachlor epoxide	32.1	30.7	96	42-167
118-74-1	Hexachlorobenzene	32.1	25.1	78	49-143
72-43-5	Methoxychlor	32.1	23.5	73	28-187
53494-70-5	Endrin ketone	32.1	30.2	94	32-170

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	86%	10-143%
877-09-8	Tetrachloro-m-xylene	87%	10-143%
2051-24-3	Decachlorobiphenyl	89%	10-172%
2051-24-3	Decachlorobiphenyl	85%	10-172%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46830-BS	BK56285.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776

The QC reported here applies to the following samples: **Method:** SW846 8082A

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
12674-11-2	Aroclor 1016	255	216	85	47-143
11104-28-2	Aroclor 1221		ND		40-140
11141-16-5	Aroclor 1232		ND		40-140
53469-21-9	Aroclor 1242		ND		40-140
12672-29-6	Aroclor 1248		ND		40-140
11097-69-1	Aroclor 1254		ND		40-140
11096-82-5	Aroclor 1260	255	233	91	44-153
37324-23-5	Aroclor 1262		ND		40-140
11100-14-4	Aroclor 1268		ND		40-140

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	80%	35-136%
877-09-8	Tetrachloro-m-xylene	80%	35-136%
2051-24-3	Decachlorobiphenyl	91%	24-171%
2051-24-3	Decachlorobiphenyl	92%	24-171%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46831-MS1	BE50275.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
OP46831-MSD1	BE50276.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527
MC44826-8	BE50266.D	1	03/28/16	AP	03/22/16	OP46831	GBE2527

The QC reported here applies to the following samples: **Method:** SW846 8081B

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	MC44826-8 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	ND		42.8	23.5	55	42.7	28.2	66	18	26-173/30
319-84-6	alpha-BHC	ND		42.8	29.0	68	42.7	31.0	73	7	17-169/30
319-85-7	beta-BHC	ND		42.8	59.2	138	42.7	53.1	124	11	22-173/30
319-86-8	delta-BHC	ND		42.8	23.8	56	42.7	30.0	70	23	12-165/30
58-89-9	gamma-BHC (Lindane)	ND		42.8	26.2	61	42.7	33.6	79	25	16-172/30
5103-71-9	alpha-Chlordane	ND		42.8	24.7	58	42.7	23.1	54	7	25-171/30
5103-74-2	gamma-Chlordane	ND		42.8	27.6	65	42.7	30.4	71	10	19-188/30
60-57-1	Dieldrin	ND		42.8	26.4	62	42.7	24.9	58	6	28-194/30
72-54-8	4,4'-DDD	ND		42.8	23.9	56	42.7	24.4	57	2	24-189/30
72-55-9	4,4'-DDE	ND		42.8	25.1	59	42.7	24.1	56	4	20-197/30
50-29-3	4,4'-DDT	ND		42.8	20.2	47	42.7	21.4	50	6	26-200/30
72-20-8	Endrin	ND		42.8	30.9	72	42.7	30.9	72	0	27-198/30
1031-07-8	Endosulfan sulfate	ND		42.8	24.0	56	42.7	24.8	58	3	28-171/30
7421-93-4	Endrin aldehyde	ND		42.8	15.9	37	42.7	15.9	37	0	10-173/30
959-98-8	Endosulfan-I	ND		42.8	29.4	69	42.7	26.9	63	9	25-174/30
33213-65-9	Endosulfan-II	ND		42.8	22.9	54	42.7	23.0	54	0	19-185/30
76-44-8	Heptachlor	ND		42.8	42.5	99	42.7	34.8	82	20	20-186/30
1024-57-3	Heptachlor epoxide	ND		42.8	25.6	60	42.7	26.7	63	4	23-186/30
118-74-1	Hexachlorobenzene	ND		42.8	15.5	36	42.7	20.1	47	26	26-164/30
72-43-5	Methoxychlor	ND		42.8	24.8	58	42.7	28.5	67	14	17-200/30
53494-70-5	Endrin ketone	ND		42.8	23.9	56	42.7	24.7	58	3	17-189/30

CAS No.	Surrogate Recoveries	MS	MSD	MC44826-8	Limits
877-09-8	Tetrachloro-m-xylene	63%	61%	63%	10-143%
877-09-8	Tetrachloro-m-xylene	78%	88%	91%	10-143%
2051-24-3	Decachlorobiphenyl	61%	67%	59%	10-172%
2051-24-3	Decachlorobiphenyl	79%	101%	83%	10-172%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP46830-MS	BK56314.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
OP46830-MSD	BK56316.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776
MC44826-9	BK56308.D	1	03/28/16	NK	03/22/16	OP46830	GBK1776

The QC reported here applies to the following samples: **Method:** SW846 8082A

MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

CAS No.	Compound	MC44826-9 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND		294	200	68	299	183	61	9	25-162/50
11104-28-2	Aroclor 1221	ND			ND			ND		nc	40-140/50
11141-16-5	Aroclor 1232	ND			ND			ND		nc	40-140/50
53469-21-9	Aroclor 1242	ND			ND			ND		nc	40-140/50
12672-29-6	Aroclor 1248	ND			ND			ND		nc	40-140/50
11097-69-1	Aroclor 1254	ND			ND			ND		nc	40-140/50
11096-82-5	Aroclor 1260	ND		294	245	83	299	219	73	11	18-177/50
37324-23-5	Aroclor 1262	ND			ND			ND		nc	40-140/50
11100-14-4	Aroclor 1268	ND			ND			ND		nc	40-140/50

CAS No.	Surrogate Recoveries	MS	MSD	MC44826-9	Limits
877-09-8	Tetrachloro-m-xylene	73%	68%	72%	35-136%
877-09-8	Tetrachloro-m-xylene	62%	63%	60%	35-136%
2051-24-3	Decachlorobiphenyl	102%	90%	102%	24-171%
2051-24-3	Decachlorobiphenyl	88%	79%	89%	24-171%

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Method: SW846 8081B **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]	S2 [a]	S2 [b]
MC44826-1	BE50259.D	52	58	44	54
MC44826-2	BE50260.D	50	66	56	64
MC44826-3	BE50261.D	64	72	61	68
MC44826-4	BE50262.D	78	92	47	57
MC44826-5	BE50263.D	56	69	44	56
MC44826-6	BE50264.D	54	66	39	50
MC44826-7	BE50265.D	56	65	48	57
MC44826-8	BE50266.D	63	91	59	83
MC44826-9	BE50269.D	61	63	57	68
MC44826-10	BE50270.D	58	66	49	60
MC44826-11	BE50271.D	58	57	47	57
MC44826-12	BE50272.D	65	69	50	53
MC44826-13	BE50273.D	61	97	55	68
MC44826-14	BE50274.D	69	82	67	82
OP46831-BS	BE50258.D	86	87	89	85
OP46831-MB	BE50257.D	88	89	98	91
OP46831-MS1	BE50275.D	63	78	61	79
OP46831-MSD1	BE50276.D	61	88	67	101

Surrogate Compounds	Recovery Limits
S1 = Tetrachloro-m-xylene	10-143%
S2 = Decachlorobiphenyl	10-172%

(a) Recovery from GC signal #1
(b) Recovery from GC signal #2

Semivolatile Surrogate Recovery Summary

Job Number: MC44826
Account: ROUXMA Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

Method: SW846 8082A **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]	S2 [a]	S2 [b]
MC44826-1	BK56286.D	71	61	87	66
MC44826-2	BK56287.D	63	51	85	66
MC44826-3	BK56288.D	57	49	74	59
MC44826-4	BK56289.D	62	49	75	56
MC44826-5	BK56290.D	69	57	91	69
MC44826-6	BK56305.D	64	60	87	80
MC44826-7	BK56306.D	68	54	94	81
MC44826-8	BK56307.D	74	56	93	77
MC44826-9	BK56308.D	72	60	102	89
MC44826-10	BK56309.D	69	58	88	74
MC44826-11	BK56310.D	77	72	105	94
MC44826-12	BK56311.D	73	69	94	84
MC44826-13	BK56312.D	74	53	89	75
MC44826-14	BK56313.D	68	58	91	74
OP46830-BS	BK56285.D	80	80	91	92
OP46830-MB	BK56284.D	95	95	97	98
OP46830-MS	BK56314.D	73	62	102	88
OP46830-MSD	BK56316.D	68	63	90	79

Surrogate Compounds	Recovery Limits
S1 = Tetrachloro-m-xylene	35-136%
S2 = Decachlorobiphenyl	24-171%

(a) Recovery from GC signal #1
(b) Recovery from GC signal #2

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25922
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/16/16

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	12	25		
Antimony	6.0	.92	1.2	0.30	<6.0
Arsenic	4.0	.85	2	-1.1	<4.0
Barium	50	.3	.57		
Beryllium	4.0	.079	.34	0.0	<4.0
Bismuth	50	1.1	1.8		
Boron	100	.32	2.3		
Cadmium	4.0	.12	.3	0.10	<4.0
Calcium	5000	4	18		
Chromium	10	.25	1.1	0.20	<10
Cobalt	50	.18	.41		
Copper	25	.48	4.2	0.0	<25
Gold	50	1.1	1.3		
Iron	100	58	16		
Lead	5.0	.61	1.1	0.40	<5.0
Lithium	500	1.3	1.8		
Magnesium	5000	19	56		
Manganese	15	.16	.41		
Molybdenum	100	2	16		
Nickel	40	.19	.35	-0.10	<40
Palladium	50	1.2	1.4		
Platinum	50	3.5	4.7		
Potassium	5000	26	78		
Selenium	10	1	3.4	0.0	<10
Silicon	100	1.6	11		
Silver	5.0	.31	1.4	0.20	<5.0
Sodium	5000	7.4	35		
Sulfur	50	1.9	3.3		
Strontium	10	.1	.17		
Thallium	5.0	.57	1.8	-0.30	<5.0
Tin	100	.33	2.2		
Titanium	50	.28	.99		
Tungsten	100	4	23		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25922
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/16/16

Metal	RL	IDL	MDL	MB raw	final
Vanadium	10	.31	.4		
Zinc	20	.24	1	0.30	<20
Zirconium	50	.22	2.6		

Associated samples MP25922: MC44826-15, MC44826-16, MC44826-17

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25922
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/16/16

Metal	MC44830-3 Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony	0.0	539	500	107.8	75-125
Arsenic	0.0	566	500	113.2(a)	75-125
Barium	anr				
Beryllium	0.0	495	500	99.0	75-125
Bismuth					
Boron					
Cadmium	0.0	538	500	107.6	75-125
Calcium					
Chromium	1.2	467	500	93.2	75-125
Cobalt					
Copper	0.80	490	500	97.8	75-125
Gold					
Iron					
Lead	0.0	1050 (b)	1000	105.0	75-125
Lithium					
Magnesium					
Manganese	anr				
Molybdenum					
Nickel	0.80	535 (b)	500	106.8	75-125
Palladium					
Platinum					
Potassium					
Selenium	2.8	548	500	109.0	75-125
Silicon					
Silver	0.0	216	200	108.0	75-125
Sodium					
Sulfur					
Strontium					
Thallium	1.5	489 (b)	500	97.5	75-125
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25922
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/16/16

Metal	MC44830-3 Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium					
Zinc	5.7	503	500	99.5	75-125
Zirconium					

Associated samples MP25922: MC44826-15, MC44826-16, MC44826-17

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) For DOD-QSM5 data: Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
(b) Elevated RL due to dilution required for matrix interference.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25922
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/16/16

Metal	MC44830-3 Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony	0.0	536	500	107.2	0.6	20
Arsenic	0.0	565	500	113.0	0.2	20
Barium	anr					
Beryllium	0.0	491	500	98.2	0.8	20
Bismuth						
Boron						
Cadmium	0.0	534	500	106.8	0.7	20
Calcium						
Chromium	1.2	470	500	93.8	0.6	20
Cobalt						
Copper	0.80	493	500	98.4	0.6	20
Gold						
Iron						
Lead	0.0	1050 (a)	1000	105.0	0.0	20
Lithium						
Magnesium						
Manganese	anr					
Molybdenum						
Nickel	0.80	536 (a)	500	107.0	0.2	20
Palladium						
Platinum						
Potassium						
Selenium	2.8	544	500	108.2	0.7	20
Silicon						
Silver	0.0	217	200	108.5	0.5	20
Sodium						
Sulfur						
Strontium						
Thallium	1.5	490 (a)	500	97.7	0.2	20
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25922 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 03/16/16

Metal	MC44830-3 Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium						
Zinc	5.7	501	500	99.1	0.4	20
Zirconium						

Associated samples MP25922: MC44826-15, MC44826-16, MC44826-17

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Elevated RL due to dilution required for matrix interference.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25922
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:		03/16/16				03/16/16			
Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits	BSD Result	Spikelot MPICP7	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony	512	500	102.4	80-120	508	500	101.6	0.8	20
Arsenic	510	500	102.0	80-120	510	500	102.0	0.0	20
Barium	anr								
Beryllium	498	500	99.6	80-120	495	500	99.0	0.6	20
Bismuth									
Boron									
Cadmium	499	500	99.8	80-120	493	500	98.6	1.2	20
Calcium									
Chromium	479	500	95.8	80-120	474	500	94.8	1.0	20
Cobalt									
Copper	494	500	98.8	80-120	488	500	97.6	1.2	20
Gold									
Iron									
Lead	1020	1000	102.0	80-120	1010	1000	101.0	1.0	20
Lithium									
Magnesium									
Manganese	anr								
Molybdenum									
Nickel	507	500	101.4	80-120	502	500	100.4	1.0	20
Palladium									
Platinum									
Potassium									
Selenium	498	500	99.6	80-120	496	500	99.2	0.4	20
Silicon									
Silver	195	200	97.5	80-120	193	200	96.5	1.0	20
Sodium									
Sulfur									
Strontium									
Thallium	503	500	100.6	80-120	500	500	100.0	0.6	20
Tin									
Titanium									
Tungsten									

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25922
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/16/16 03/16/16

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits	BSD Result	Spikelot MPICP7	% Rec	BSD RPD	QC Limit
Vanadium									
Zinc	496	500	99.2	80-120	489	500	97.8	1.4	20
Zirconium									

Associated samples MP25922: MC44826-15, MC44826-16, MC44826-17

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25922
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/16/16

Metal	MC44830-3 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony	0.00	0.00	NC	0-10
Arsenic	0.00	0.00	NC	0-10
Barium	anr			
Beryllium	0.00	0.00	NC	0-10
Bismuth				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium				
Chromium	1.20	2.30	91.7 (a)	0-10
Cobalt				
Copper	0.800	0.00	100.0(a)	0-10
Gold				
Iron				
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium				
Manganese	anr			
Molybdenum				
Nickel	0.800	1.00	25.0 (a)	0-10
Palladium				
Platinum				
Potassium				
Selenium	2.80	0.00	100.0(a)	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Sulfur				
Strontium				
Thallium	1.50	3.80	153.3(a)	0-10
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25922
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/16/16

Metal	MC44830-3 Original	SDL 1:5	%DIF	QC Limits
Vanadium				
Zinc	5.70	9.70	70.2 (a)	0-10
Zirconium				

Associated samples MP25922: MC44826-15, MC44826-16, MC44826-17

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25923 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/16/16

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.033	.0058	.0057	-0.0065	<0.033

Associated samples MP25923: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25923 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/16/16

Metal	MC44826-3 Original	MS	Spikelot HGRWS1	% Rec	QC Limits
Mercury	0.0090	0.52	0.456	112.1	80-120

Associated samples MP25923: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25923 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/16/16

Metal	MC44826-3 Original	MSD	Spikelot HGRWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0090	0.52	0.45	113.6	0.0	20

Associated samples MP25923: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25923
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 03/16/16 03/16/16

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits	BSD Result	Spikelot HGRWS1	% Rec	BSD RPD	QC Limit
Mercury	0.54	0.5	108.0	80-120	0.53	0.5	106.0	1.9	20

Associated samples MP25923: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25923
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 03/16/16

Metal	LCS Result	Spikelot HGLCS86	% Rec	QC Limits
Mercury	20.3	20.2	100.5	71-129

Associated samples MP25923: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/18/16

Metal	RL	IDL	MDL	MB raw	final
Aluminum	20	.88	1.2		
Antimony	1.0	.11	.17	0.060	<1.0
Arsenic	1.0	.23	.2	-0.070	<1.0
Barium	5.0	.024	.076		
Beryllium	0.40	.015	.015	0.0	<0.40
Bismuth	5.0	.11	.15		
Boron	10	.1	.13		
Cadmium	0.40	.025	.031	0.010	<0.40
Calcium	500	.53	.86		
Chromium	1.0	.033	.047	0.060	<1.0
Cobalt	5.0	.024	.031		
Copper	2.5	.064	.1	0.010	<2.5
Gold	5.0	.13	.11		
Iron	10	.23	.44		
Lead	1.0	.1	.11	0.0	<1.0
Lithium	50	.11	.18		
Magnesium	500	3.4	4		
Manganese	1.5	.0056	.047		
Molybdenum	10	.021	.51		
Nickel	4.0	.021	.057	0.020	<4.0
Palladium	5.0	.11	.14		
Platinum	5.0	.26	.54		
Potassium	500	3.4	3.4		
Selenium	1.0	.26	.3	0.0	<1.0
Silicon	10	.14	.51		
Silver	0.50	.066	.061	0.010	<0.50
Sodium	500	.82	1.2		
Sulfur	5.0	.26	.31		
Strontium	1.0	.015	.022		
Thallium	1.0	.11	.11	0.14	<1.0
Tin	10	.075	.078		
Titanium	5.0	.036	.054		
Tungsten	10	.52	.93		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/18/16

Metal	RL	IDL	MDL	MB raw	final
Vanadium	1.0	.036	.04		
Zinc	2.0	.031	.17	0.35	<2.0
Zirconium	5.0	.034	.17		

Associated samples MP25929: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/18/16

Metal	MC44826-3 Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony	0.0	15.6	41.4	37.7 (a)	75-125
Arsenic	2.6	38.8	41.4	87.5	75-125
Barium	anr				
Beryllium	0.28	35.8	41.4	85.9	75-125
Bismuth					
Boron					
Cadmium	0.042	38.6	41.4	93.2	75-125
Calcium					
Chromium	8.2	39.9	41.4	76.7	75-125
Cobalt					
Copper	8.8	46.7	41.4	91.6	75-125
Gold					
Iron					
Lead	4.4	79.9	82.7	91.3	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel	8.8	45.4	41.4	88.5	75-125
Palladium					
Platinum					
Potassium					
Selenium	0.0	37.8	41.4	91.4	75-125
Silicon					
Silver	0.0	14.9	16.5	90.1	75-125
Sodium					
Sulfur					
Strontium					
Thallium	0.28	37.3	41.4	89.5	75-125
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/18/16

Metal	MC44826-3 Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium					
Zinc	28.7	59.8	41.4	75.2	75-125
Zirconium					

Associated samples MP25929: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.Post spike within acceptable range.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/18/16

Metal	MC44826-3 Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony	0.0	15.6	42	37.2 (a)	0.0	20
Arsenic	2.6	38.3	42	85.1	1.3	20
Barium	anr					
Beryllium	0.28	35.8	42	84.6	0.0	20
Bismuth						
Boron						
Cadmium	0.042	38.0	42	90.4	1.6	20
Calcium						
Chromium	8.2	39.9	42	75.5	0.0	20
Cobalt						
Copper	8.8	45.9	42	88.4	1.7	20
Gold						
Iron						
Lead	4.4	78.3	83.9	88.0	2.0	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel	8.8	45.1	42	86.5	0.7	20
Palladium						
Platinum						
Potassium						
Selenium	0.0	36.1	42	86.0	4.6	20
Silicon						
Silver	0.0	14.9	16.8	88.7	0.0	20
Sodium						
Sulfur						
Strontium						
Thallium	0.28	36.7	42	86.8	1.6	20
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 03/18/16

Metal	MC44826-3 Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium						
Zinc	28.7	60.8	42	76.5	1.7	20
Zirconium						

Associated samples MP25929: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date:			03/18/16					03/18/16	
Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits	BSD Result	Spikelot MPICP7	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony	48.0	50	96.0	80-120	47.8	50	95.6	0.4	20
Arsenic	47.6	50	95.2	80-120	47.4	50	94.8	0.4	20
Barium	anr								
Beryllium	48.2	50	96.4	80-120	47.4	50	94.8	1.7	20
Bismuth									
Boron									
Cadmium	49.4	50	98.8	80-120	49.0	50	98.0	0.8	20
Calcium									
Chromium	44.0	50	88.0	80-120	43.2	50	86.4	1.8	20
Cobalt									
Copper	46.7	50	93.4	80-120	46.0	50	92.0	1.5	20
Gold									
Iron									
Lead	96.1	100	96.1	80-120	95.2	100	95.2	0.9	20
Lithium									
Magnesium									
Manganese									
Molybdenum									
Nickel	48.2	50	96.4	80-120	47.8	50	95.6	0.8	20
Palladium									
Platinum									
Potassium									
Selenium	49.0	50	98.0	80-120	49.4	50	98.8	0.8	20
Silicon									
Silver	19.4	20	97.0	80-120	19.1	20	95.5	1.6	20
Sodium									
Sulfur									
Strontium									
Thallium	48.6	50	97.2	80-120	48.6	50	97.2	0.0	20
Tin									
Titanium									
Tungsten									

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/18/16 03/18/16

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits	BSD Result	Spikelot MPICP7	% Rec	BSD RPD	QC Limit
Vanadium									
Zinc	45.9	50	91.8	80-120	45.5	50	91.0	0.9	20
Zirconium									

Associated samples MP25929: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/18/16

Metal	LCS Result	Spikelot MPLCS86	% Rec	QC Limits
Aluminum				
Antimony	61.2	86.5	70.8	1-199
Arsenic	93.5	97.5	95.9	78-122
Barium	anr			
Beryllium	95.4	100	95.4	83-118
Bismuth				
Boron				
Cadmium	74.7	76.6	97.5	82-118
Calcium				
Chromium	91.4	103	88.7	80-121
Cobalt				
Copper	100	108	92.6	81-119
Gold				
Iron				
Lead	91.4	96.7	94.5	82-118
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	143	153	93.5	82-118
Palladium				
Platinum				
Potassium				
Selenium	164	161	101.9	78-123
Silicon				
Silver	49.4	49.3	100.2	75-125
Sodium				
Sulfur				
Strontium				
Thallium	121	119	101.7	79-121
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 03/18/16

Metal	LCS Result	Spikelot MPLCS86	% Rec	QC Limits
Vanadium				
Zinc	202	229	88.2	82-118
Zirconium				

Associated samples MP25929: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/18/16

Metal	MC44826-3 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony	0.00	0.00	NC	0-10
Arsenic	30.4	30.1	1.0	0-10
Barium	anr			
Beryllium	3.30	3.30	0.0	0-10
Bismuth				
Boron				
Cadmium	0.500	0.00	100.0(a)	0-10
Calcium				
Chromium	97.7	108	10.6 (b)	0-10
Cobalt				
Copper	104	107	2.6	0-10
Gold				
Iron				
Lead	52.0	53.5	2.9	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	105	109	3.4	0-10
Palladium				
Platinum				
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Sulfur				
Strontium				
Thallium	3.30	0.00	100.0(a)	0-10
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929 Methods: SW846 6010C
Matrix Type: SOLID Units: ug/l

Prep Date: 03/18/16

Metal	MC44826-3 Original	SDL 1:5	%DIF	QC Limits
Vanadium				
Zinc	342	380	11.0 (b)	0-10
Zirconium				

Associated samples MP25929: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

POST DIGESTATE SPIKE SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/18/16

Metal	Sample ml	Final ml	MC44826-3 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony	10	10.1			18.3	.1	2	19.80198	92.4	80-120
Arsenic										
Barium										
Beryllium										
Bismuth										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Gold										
Iron										
Lead										
Lithium										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Palladium										
Platinum										
Potassium										
Selenium										
Silicon										
Silver										
Sodium										
Sulfur										
Strontium										
Thallium										
Tin										
Titanium										
Tungsten										

POST DIGESTATE SPIKE SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25929
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 03/18/16

Metal	Sample ml	Final ml	MC44826-3 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Vanadium										
Zinc										
Zirconium										

Associated samples MP25929: MC44826-1, MC44826-2, MC44826-3, MC44826-4, MC44826-5, MC44826-6, MC44826-7, MC44826-8, MC44826-9, MC44826-10, MC44826-11, MC44826-12, MC44826-13, MC44826-14

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25932 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 03/18/16

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.038	.034	-0.040	<0.20

Associated samples MP25932: MC44826-15, MC44826-16, MC44826-17

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25932 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 03/18/16

Metal	MC44850-9 Original	MS	Spikelot HGRWS1	% Rec	QC Limits
Mercury	0.0	3.0	3	100.0	75-125

Associated samples MP25932: MC44826-15, MC44826-16, MC44826-17

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25932 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 03/18/16

Metal	MC44850-9 Original	MSD	Spikelot HGRWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.0	3	100.0	0.0	20

Associated samples MP25932: MC44826-15, MC44826-16, MC44826-17

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC44826
Account: ROUXMA - Roux Associates
Project: Exxon Mobil Rochester, Vacuum Oil Terminal, 22 Flint Stree & 936 Exchange St. NY

QC Batch ID: MP25932 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 03/18/16 03/18/16

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits	BSD Result	Spikelot HGRWS1	% Rec	BSD RPD	QC Limit
Mercury	3.2	3	106.7	80-120	3.1	3	103.3	3.2	20

Associated samples MP25932: MC44826-15, MC44826-16, MC44826-17

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

ANALYTICAL REPORT

Lab Number:	L1607393
Client:	NewFields 300 Ledgewood Place Suite 305 Rockland, MA 02370
ATTN:	Eric Litman
Phone:	(781) 681-5040
Project Name:	FLINT ST
Project Number:	Not Specified
Report Date:	03/31/16

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), ME (MA00030), PA (68-02089), VA (460194), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), USFWS (Permit #LE2069641), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1607393-01	RXGW1	WATER	Not Specified	03/11/16 12:00	03/14/16
L1607393-02	RXGW2	WATER	Not Specified	03/11/16 14:10	03/14/16
L1607393-03	RXGW3	WATER	Not Specified	03/11/16 16:15	03/14/16
L1607393-04	RXGW1-NAPL	OIL	Not Specified	03/11/16 12:00	03/14/16

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: FLINT ST **Lab Number:** L1607393
Project Number: Not Specified **Report Date:** 03/31/16

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

The initial calibration analyzed on 03/01/16, P4030216.M, has the Relative Standard Deviation (RSD) above the 25% limit for Tridecane (31.2%). The RSD was below 35% and the compound represents less than 10% of the analytes, therefore the calibration was accepted.

The Independent Calibration Verification (ICV) I403011603 had the compound Tertiary butanol above the QC limit (20%) at 22.9%. This value represents less than 10% of all compounds, therefore the calibration was accepted.

Method blank WG875264-6 has Decane, Naphthalene, and 2-Methylnaphthalene which are J qualified. Associated field sample results are flagged with "B" qualifiers if the concentrations of the analytes in the samples are less than 10x the concentration in the blank.

WG875264-8 The relative percent difference (RPD) was not reported for 2,3-Dimethylbutane, 3-Methylhexane, 2,3,4-Trimethylpentane, and 1-Methyl-2-propylbenzene due to the compounds not being detected in either the native or duplicate sample. No further corrective action was taken.

Sample Preparation

Samples L1607393-01 through -03 were combine extracted for ALKPAH/TPH/PCB/Pest analyses. A NAPL layer was observed in sample -01 (RXGW1). Per client request, this layer was isolated, logged as sample -04 (RXGW1-NAPL), and analyzed for ALKPAH/Biomarkers/TPH.

Petroleum Hydrocarbon Quantitation

The method blank WG875045-1 contained low-level target compounds detected below the reporting limit. Associated field sample results are flagged with "B" qualifiers if the concentration of the analyte in the sample is less than 10X the concentration in the blank.

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

Case Narrative (continued)

PCBs

Sample L1607393-01 and -03 had the surrogate Decachlorobiphenyl (DCB) recover below the acceptance criteria at 20% and 29% respectively for column B. All other surrogate recoveries were within acceptance criteria; therefore no further action was taken.

The continuing calibration standard (CCV) WG875277-2, which is the closing CCV for the method blank WG875047-1, laboratory control sample and control sample duplicate WG875047-2 and -3 and the opening associated with L1607393-01, -02, and -03, had the response for the surrogate Tetrachloro-m-xylene (TMX) (20.3%D column A) above the acceptance criteria. All associated surrogate recoveries were within acceptance criteria; therefore no further action was taken.

Pesticides

Sample L1607393-01 required dilution due to matrix. Only the dilution analysis is reported.

The closing continuing calibration standard (CCV) WG875275-6, associated with L1607393-01D, -02, -03 and the method blank, laboratory control sample and its duplicate WG875046-1, -2 and -3, had the response for alpha-BHC (27.8% D column B), and gamma-BHC (20.2% D column B) outside the acceptance criteria. The results for these compounds, if detected, were reported from the compliant column. The compounds delta-BHC (21.2% D column A,25.4% D column B) and Aldrin (21.4% D column A; 26.0%D column B) exceeded the acceptance criteria on both columns, but were not detected in the associated samples; therefore no further action was taken.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Susan O' Neil

Title: Technical Director/Representative Date: 03/31/16

ORGANICS

VOLATILES

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-01
Client ID: RXGW1
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8260B(M)
Analytical Date: 03/18/16 19:37
Analyst: MR

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isopentane	1.98	J	ug/l	2.00	0.745	1
1-Pentene	ND		ug/l	2.00	0.619	1
2-Methyl-1-Butene	ND		ug/l	2.00	0.657	1
Pentane	1.29	J	ug/l	2.00	0.623	1
trans-2-Pentene	ND		ug/l	2.00	0.704	1
cis-2-Pentene	ND		ug/l	2.00	0.524	1
Tertiary Butanol	ND		ug/l	20.0	8.10	1
Cyclopentane	ND		ug/l	2.00	0.519	1
2,3-Dimethylbutane	2.28		ug/l	2.00	0.825	1
2-Methylpentane	0.853	J	ug/l	2.00	0.644	1
Methyl tert butyl ether	5.47		ug/l	2.00	0.623	1
3-Methylpentane	11.1		ug/l	2.00	0.601	1
1-Hexene	ND		ug/l	2.00	0.574	1
n-Hexane	0.335	J	ug/l	2.00	0.583	1
Isopropyl Ether	ND		ug/l	2.00	0.549	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	0.521	1
2,2-Dimethylpentane	2.55		ug/l	2.00	0.518	1
Methylcyclopentane	4.64		ug/l	2.00	0.608	1
2,4-Dimethylpentane	4.21		ug/l	2.00	0.525	1
1,2-Dichloroethane	ND		ug/l	2.00	0.606	1
Cyclohexane	8.92		ug/l	2.00	0.577	1
2-Methylhexane	ND		ug/l	2.00	0.466	1
Benzene	ND		ug/l	2.00	0.433	1
2,3-Dimethylpentane	14.5		ug/l	2.00	0.506	1
Thiophene	ND		ug/l	2.00	0.519	1
3-Methylhexane	2.10		ug/l	2.00	0.526	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	0.529	1
1-Heptene/1,2-DMCP (trans)	30.5		ug/l	4.00	1.23	1
Isooctane	ND		ug/l	2.00	0.467	1
Heptane	ND		ug/l	2.00	0.549	1

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-01
Client ID: RXGW1
Sample Location: Not Specified
Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Methylcyclohexane	144		ug/l	2.00	0.426	1
2,5-Dimethylhexane	23.6		ug/l	2.00	0.479	1
2,4-Dimethylhexane	32.3		ug/l	2.00	0.472	1
2,2,3-Trimethylpentane	1.95	J	ug/l	2.00	0.501	1
2,3,4-Trimethylpentane	2.33		ug/l	2.00	0.459	1
2,3,3-Trimethylpentane	3.26		ug/l	2.00	0.438	1
2,3-Dimethylhexane	31.7		ug/l	2.00	0.484	1
2-Methylheptane	ND		ug/l	2.00	0.463	1
3-Methylheptane	3.72		ug/l	2.00	0.388	1
3-Ethylhexane	38.7		ug/l	2.00	0.511	1
Toluene	0.505	J	ug/l	2.00	0.289	1
2-Methylthiophene	ND		ug/l	2.00	0.298	1
3-Methylthiophene	ND		ug/l	2.00	0.308	1
1-Octene	ND		ug/l	2.00	0.305	1
Octane	ND		ug/l	2.00	0.423	1
1,2-Dibromoethane	ND		ug/l	2.00	0.320	1
Ethylbenzene	ND		ug/l	2.00	0.216	1
2-Ethylthiophene	ND		ug/l	2.00	0.219	1
p/m-Xylene	1.27	J	ug/l	4.00	0.563	1
1-Nonene	ND		ug/l	2.00	0.207	1
Nonane (C9)	ND		ug/l	2.00	0.438	1
Styrene	ND		ug/l	2.00	0.278	1
o-Xylene	0.571	J	ug/l	2.00	0.307	1
Isopropylbenzene	ND		ug/l	2.00	0.334	1
n-Propylbenzene	ND		ug/l	2.00	0.377	1
1-Methyl-3-Ethylbenzene	ND		ug/l	2.00	0.320	1
1-Methyl-4-Ethylbenzene	ND		ug/l	2.00	0.364	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	0.380	1
1-Decene	ND		ug/l	2.00	0.278	1
1-Methyl-2-Ethylbenzene	1.31	J	ug/l	2.00	0.409	1
Decane (C10)	ND		ug/l	2.00	0.305	1
1,2,4-Trimethylbenzene	0.346	J	ug/l	2.00	0.437	1
sec-Butylbenzene	1.06	J	ug/l	2.00	0.405	1
1-Methyl-3-Isopropylbenzene	ND		ug/l	2.00	0.376	1
1-Methyl-4-Isopropylbenzene	ND		ug/l	2.00	0.458	1
1-Methyl-2-Isopropylbenzene	10.7		ug/l	2.00	0.549	1
Indane	10.0		ug/l	2.00	0.463	1
1-Methyl-3-N-Propylbenzene	ND		ug/l	2.00	0.441	1
1-Methyl-4-N-Propylbenzene	ND		ug/l	2.00	0.469	1

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-01
Client ID: RXGW1
Sample Location: Not Specified
Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
n-Butylbenzene	ND		ug/l	2.00	0.499	1
1,2-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.486	1
1,2-Diethylbenzene	6.82		ug/l	2.00	0.462	1
1-Methyl-2-N-Propylbenzene	2.06		ug/l	2.00	0.407	1
1,4-Dimethyl-2-Ethylbenzene	ND		ug/l	2.00	0.446	1
Undecane	ND		ug/l	2.00	0.706	1
1,3-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.428	1
1,3-Dimethyl-5-Ethylbenzene	128		ug/l	2.00	0.486	1
1,3-Dimethyl-2-Ethylbenzene	9.83		ug/l	2.00	0.474	1
1,2-Dimethyl-3-Ethylbenzene	12.9		ug/l	2.00	0.436	1
1,2,4,5-Tetramethylbenzene	28.1		ug/l	2.00	0.452	1
N-Pentylbenzene	ND		ug/l	2.00	0.396	1
Dodecane (C12)	ND		ug/l	2.00	0.878	1
Naphthalene	ND		ug/l	2.00	0.834	1
Benzothiophene	ND		ug/l	2.00	1.06	1
MMT	ND		ug/l	5.00	1.28	1
Tridecane	ND		ug/l	5.00	1.30	1
2-Methylnaphthalene	ND		ug/l	5.00	1.32	1
1-Methylnaphthalene	ND		ug/l	5.00	1.47	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	120		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	119		70-130

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-02
Client ID: RXGW2
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8260B(M)
Analytical Date: 03/18/16 22:06
Analyst: MR

Date Collected: 03/11/16 14:10
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isopentane	0.283	J	ug/l	2.00	0.745	1
1-Pentene	ND		ug/l	2.00	0.619	1
2-Methyl-1-Butene	ND		ug/l	2.00	0.657	1
Pentane	ND		ug/l	2.00	0.623	1
trans-2-Pentene	ND		ug/l	2.00	0.704	1
cis-2-Pentene	ND		ug/l	2.00	0.524	1
Tertiary Butanol	ND		ug/l	20.0	8.10	1
Cyclopentane	ND		ug/l	2.00	0.519	1
2,3-Dimethylbutane	0.207	J	ug/l	2.00	0.825	1
2-Methylpentane	ND		ug/l	2.00	0.644	1
Methyl tert butyl ether	ND		ug/l	2.00	0.623	1
3-Methylpentane	ND		ug/l	2.00	0.601	1
1-Hexene	ND		ug/l	2.00	0.574	1
n-Hexane	ND		ug/l	2.00	0.583	1
Isopropyl Ether	ND		ug/l	2.00	0.549	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	0.521	1
2,2-Dimethylpentane	0.793	J	ug/l	2.00	0.518	1
Methylcyclopentane	ND		ug/l	2.00	0.608	1
2,4-Dimethylpentane	1.87	J	ug/l	2.00	0.525	1
1,2-Dichloroethane	ND		ug/l	2.00	0.606	1
Cyclohexane	ND		ug/l	2.00	0.577	1
2-Methylhexane	ND		ug/l	2.00	0.466	1
Benzene	ND		ug/l	2.00	0.433	1
2,3-Dimethylpentane	2.54		ug/l	2.00	0.506	1
Thiophene	ND		ug/l	2.00	0.519	1
3-Methylhexane	ND		ug/l	2.00	0.526	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	0.529	1
1-Heptene/1,2-DMCP (trans)	ND		ug/l	4.00	1.23	1
Isooctane	ND		ug/l	2.00	0.467	1
Heptane	ND		ug/l	2.00	0.549	1

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-02
Client ID: RXGW2
Sample Location: Not Specified
Date Collected: 03/11/16 14:10
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Methylcyclohexane	ND		ug/l	2.00	0.426	1
2,5-Dimethylhexane	2.61		ug/l	2.00	0.479	1
2,4-Dimethylhexane	1.48	J	ug/l	2.00	0.472	1
2,2,3-Trimethylpentane	0.240	J	ug/l	2.00	0.501	1
2,3,4-Trimethylpentane	0.298	J	ug/l	2.00	0.459	1
2,3,3-Trimethylpentane	0.399	J	ug/l	2.00	0.438	1
2,3-Dimethylhexane	0.476	J	ug/l	2.00	0.484	1
2-Methylheptane	ND		ug/l	2.00	0.463	1
3-Methylheptane	0.417	J	ug/l	2.00	0.388	1
3-Ethylhexane	0.739	J	ug/l	2.00	0.511	1
Toluene	0.139	J	ug/l	2.00	0.289	1
2-Methylthiophene	ND		ug/l	2.00	0.298	1
3-Methylthiophene	ND		ug/l	2.00	0.308	1
1-Octene	ND		ug/l	2.00	0.305	1
Octane	ND		ug/l	2.00	0.423	1
1,2-Dibromoethane	ND		ug/l	2.00	0.320	1
Ethylbenzene	ND		ug/l	2.00	0.216	1
2-Ethylthiophene	ND		ug/l	2.00	0.219	1
p/m-Xylene	ND		ug/l	4.00	0.563	1
1-Nonene	ND		ug/l	2.00	0.207	1
Nonane (C9)	ND		ug/l	2.00	0.438	1
Styrene	ND		ug/l	2.00	0.278	1
o-Xylene	ND		ug/l	2.00	0.307	1
Isopropylbenzene	ND		ug/l	2.00	0.334	1
n-Propylbenzene	ND		ug/l	2.00	0.377	1
1-Methyl-3-Ethylbenzene	ND		ug/l	2.00	0.320	1
1-Methyl-4-Ethylbenzene	ND		ug/l	2.00	0.364	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	0.380	1
1-Decene	ND		ug/l	2.00	0.278	1
1-Methyl-2-Ethylbenzene	ND		ug/l	2.00	0.409	1
Decane (C10)	ND		ug/l	2.00	0.305	1
1,2,4-Trimethylbenzene	0.134	J	ug/l	2.00	0.437	1
sec-Butylbenzene	0.816	J	ug/l	2.00	0.405	1
1-Methyl-3-Isopropylbenzene	ND		ug/l	2.00	0.376	1
1-Methyl-4-Isopropylbenzene	ND		ug/l	2.00	0.458	1
1-Methyl-2-Isopropylbenzene	0.863	J	ug/l	2.00	0.549	1
Indane	1.04	J	ug/l	2.00	0.463	1
1-Methyl-3-N-Propylbenzene	ND		ug/l	2.00	0.441	1
1-Methyl-4-N-Propylbenzene	ND		ug/l	2.00	0.469	1

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-02
Client ID: RXGW2
Sample Location: Not Specified
Date Collected: 03/11/16 14:10
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
n-Butylbenzene	0.298	J	ug/l	2.00	0.499	1
1,2-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.486	1
1,2-Diethylbenzene	0.516	J	ug/l	2.00	0.462	1
1-Methyl-2-N-Propylbenzene	0.268	J	ug/l	2.00	0.407	1
1,4-Dimethyl-2-Ethylbenzene	ND		ug/l	2.00	0.446	1
Undecane	ND		ug/l	2.00	0.706	1
1,3-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.428	1
1,3-Dimethyl-5-Ethylbenzene	3.11		ug/l	2.00	0.486	1
1,3-Dimethyl-2-Ethylbenzene	0.352	J	ug/l	2.00	0.474	1
1,2-Dimethyl-3-Ethylbenzene	0.271	J	ug/l	2.00	0.436	1
1,2,4,5-Tetramethylbenzene	3.27		ug/l	2.00	0.452	1
N-Pentylbenzene	ND		ug/l	2.00	0.396	1
Dodecane (C12)	ND		ug/l	2.00	0.878	1
Naphthalene	0.594	JB	ug/l	2.00	0.834	1
Benzothiophene	ND		ug/l	2.00	1.06	1
MMT	ND		ug/l	5.00	1.28	1
Tridecane	ND		ug/l	5.00	1.30	1
2-Methylnaphthalene	0.382	JB	ug/l	5.00	1.32	1
1-Methylnaphthalene	0.571	J	ug/l	5.00	1.47	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	100		70-130

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-03
Client ID: RXGW3
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8260B(M)
Analytical Date: 03/18/16 23:20
Analyst: MR

Date Collected: 03/11/16 16:15
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isopentane	0.834	J	ug/l	2.00	0.745	1
1-Pentene	ND		ug/l	2.00	0.619	1
2-Methyl-1-Butene	ND		ug/l	2.00	0.657	1
Pentane	ND		ug/l	2.00	0.623	1
trans-2-Pentene	ND		ug/l	2.00	0.704	1
cis-2-Pentene	ND		ug/l	2.00	0.524	1
Tertiary Butanol	ND		ug/l	20.0	8.10	1
Cyclopentane	ND		ug/l	2.00	0.519	1
2,3-Dimethylbutane	ND		ug/l	2.00	0.825	1
2-Methylpentane	ND		ug/l	2.00	0.644	1
Methyl tert butyl ether	ND		ug/l	2.00	0.623	1
3-Methylpentane	ND		ug/l	2.00	0.601	1
1-Hexene	ND		ug/l	2.00	0.574	1
n-Hexane	ND		ug/l	2.00	0.583	1
Isopropyl Ether	ND		ug/l	2.00	0.549	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	0.521	1
2,2-Dimethylpentane	ND		ug/l	2.00	0.518	1
Methylcyclopentane	ND		ug/l	2.00	0.608	1
2,4-Dimethylpentane	ND		ug/l	2.00	0.525	1
1,2-Dichloroethane	ND		ug/l	2.00	0.606	1
Cyclohexane	0.332	J	ug/l	2.00	0.577	1
2-Methylhexane	ND		ug/l	2.00	0.466	1
Benzene	ND		ug/l	2.00	0.433	1
2,3-Dimethylpentane	ND		ug/l	2.00	0.506	1
Thiophene	ND		ug/l	2.00	0.519	1
3-Methylhexane	ND		ug/l	2.00	0.526	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	0.529	1
1-Heptene/1,2-DMCP (trans)	ND		ug/l	4.00	1.23	1
Isooctane	ND		ug/l	2.00	0.467	1
Heptane	ND		ug/l	2.00	0.549	1

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-03
Client ID: RXGW3
Sample Location: Not Specified
Date Collected: 03/11/16 16:15
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Methylcyclohexane	0.442	J	ug/l	2.00	0.426	1
2,5-Dimethylhexane	ND		ug/l	2.00	0.479	1
2,4-Dimethylhexane	ND		ug/l	2.00	0.472	1
2,2,3-Trimethylpentane	ND		ug/l	2.00	0.501	1
2,3,4-Trimethylpentane	ND		ug/l	2.00	0.459	1
2,3,3-Trimethylpentane	ND		ug/l	2.00	0.438	1
2,3-Dimethylhexane	ND		ug/l	2.00	0.484	1
2-Methylheptane	ND		ug/l	2.00	0.463	1
3-Methylheptane	ND		ug/l	2.00	0.388	1
3-Ethylhexane	ND		ug/l	2.00	0.511	1
Toluene	0.142	J	ug/l	2.00	0.289	1
2-Methylthiophene	ND		ug/l	2.00	0.298	1
3-Methylthiophene	ND		ug/l	2.00	0.308	1
1-Octene	ND		ug/l	2.00	0.305	1
Octane	ND		ug/l	2.00	0.423	1
1,2-Dibromoethane	ND		ug/l	2.00	0.320	1
Ethylbenzene	ND		ug/l	2.00	0.216	1
2-Ethylthiophene	ND		ug/l	2.00	0.219	1
p/m-Xylene	ND		ug/l	4.00	0.563	1
1-Nonene	ND		ug/l	2.00	0.207	1
Nonane (C9)	ND		ug/l	2.00	0.438	1
Styrene	ND		ug/l	2.00	0.278	1
o-Xylene	ND		ug/l	2.00	0.307	1
Isopropylbenzene	ND		ug/l	2.00	0.334	1
n-Propylbenzene	ND		ug/l	2.00	0.377	1
1-Methyl-3-Ethylbenzene	ND		ug/l	2.00	0.320	1
1-Methyl-4-Ethylbenzene	ND		ug/l	2.00	0.364	1
1,3,5-Trimethylbenzene	ND		ug/l	2.00	0.380	1
1-Decene	ND		ug/l	2.00	0.278	1
1-Methyl-2-Ethylbenzene	ND		ug/l	2.00	0.409	1
Decane (C10)	0.215	JB	ug/l	2.00	0.305	1
1,2,4-Trimethylbenzene	ND		ug/l	2.00	0.437	1
sec-Butylbenzene	ND		ug/l	2.00	0.405	1
1-Methyl-3-Isopropylbenzene	ND		ug/l	2.00	0.376	1
1-Methyl-4-Isopropylbenzene	ND		ug/l	2.00	0.458	1
1-Methyl-2-Isopropylbenzene	ND		ug/l	2.00	0.549	1
Indane	ND		ug/l	2.00	0.463	1
1-Methyl-3-N-Propylbenzene	ND		ug/l	2.00	0.441	1
1-Methyl-4-N-Propylbenzene	ND		ug/l	2.00	0.469	1

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-03
Client ID: RXGW3
Sample Location: Not Specified
Date Collected: 03/11/16 16:15
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
n-Butylbenzene	ND		ug/l	2.00	0.499	1
1,2-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.486	1
1,2-Diethylbenzene	ND		ug/l	2.00	0.462	1
1-Methyl-2-N-Propylbenzene	ND		ug/l	2.00	0.407	1
1,4-Dimethyl-2-Ethylbenzene	ND		ug/l	2.00	0.446	1
Undecane	ND		ug/l	2.00	0.706	1
1,3-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.428	1
1,3-Dimethyl-5-Ethylbenzene	0.240	J	ug/l	2.00	0.486	1
1,3-Dimethyl-2-Ethylbenzene	ND		ug/l	2.00	0.474	1
1,2-Dimethyl-3-Ethylbenzene	ND		ug/l	2.00	0.436	1
1,2,4,5-Tetramethylbenzene	0.110	J	ug/l	2.00	0.452	1
N-Pentylbenzene	ND		ug/l	2.00	0.396	1
Dodecane (C12)	ND		ug/l	2.00	0.878	1
Naphthalene	0.393	JB	ug/l	2.00	0.834	1
Benzothiophene	ND		ug/l	2.00	1.06	1
MMT	ND		ug/l	5.00	1.28	1
Tridecane	ND		ug/l	5.00	1.30	1
2-Methylnaphthalene	0.153	JB	ug/l	5.00	1.32	1
1-Methylnaphthalene	ND		ug/l	5.00	1.47	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	103		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	99		70-130

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260B(M)
Analytical Date: 03/18/16 18:23
Analyst: MR

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01-03 Batch: WG875264-6					
Isopentane	ND		ug/l	2.00	0.745
1-Pentene	ND		ug/l	2.00	0.619
2-Methyl-1-Butene	ND		ug/l	2.00	0.657
Pentane	ND		ug/l	2.00	0.623
trans-2-Pentene	ND		ug/l	2.00	0.704
cis-2-Pentene	ND		ug/l	2.00	0.524
Tertiary Butanol	ND		ug/l	20.0	8.10
Cyclopentane	ND		ug/l	2.00	0.519
2,3-Dimethylbutane	ND		ug/l	2.00	0.825
2-Methylpentane	ND		ug/l	2.00	0.644
Methyl tert butyl ether	ND		ug/l	2.00	0.623
3-Methylpentane	ND		ug/l	2.00	0.601
1-Hexene	ND		ug/l	2.00	0.574
n-Hexane	ND		ug/l	2.00	0.583
Isopropyl Ether	ND		ug/l	2.00	0.549
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.00	0.521
2,2-Dimethylpentane	ND		ug/l	2.00	0.518
Methylcyclopentane	ND		ug/l	2.00	0.608
2,4-Dimethylpentane	ND		ug/l	2.00	0.525
1,2-Dichloroethane	ND		ug/l	2.00	0.606
Cyclohexane	ND		ug/l	2.00	0.577
2-Methylhexane	ND		ug/l	2.00	0.466
Benzene	ND		ug/l	2.00	0.433
2,3-Dimethylpentane	ND		ug/l	2.00	0.506
Thiophene	ND		ug/l	2.00	0.519
3-Methylhexane	ND		ug/l	2.00	0.526
Tertiary-Amyl Methyl Ether	ND		ug/l	2.00	0.529
1-Heptene/1,2-DMCP (trans)	ND		ug/l	4.00	1.23
Isooctane	ND		ug/l	2.00	0.467

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260B(M)
Analytical Date: 03/18/16 18:23
Analyst: MR

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01-03 Batch: WG875264-6					
Heptane	ND		ug/l	2.00	0.549
Methylcyclohexane	ND		ug/l	2.00	0.426
2,5-Dimethylhexane	ND		ug/l	2.00	0.479
2,4-Dimethylhexane	ND		ug/l	2.00	0.472
2,2,3-Trimethylpentane	ND		ug/l	2.00	0.501
2,3,4-Trimethylpentane	ND		ug/l	2.00	0.459
2,3,3-Trimethylpentane	ND		ug/l	2.00	0.438
2,3-Dimethylhexane	ND		ug/l	2.00	0.484
2-Methylheptane	ND		ug/l	2.00	0.463
3-Methylheptane	ND		ug/l	2.00	0.388
3-Ethylhexane	ND		ug/l	2.00	0.511
Toluene	ND		ug/l	2.00	0.289
2-Methylthiophene	ND		ug/l	2.00	0.298
3-Methylthiophene	ND		ug/l	2.00	0.308
1-Octene	ND		ug/l	2.00	0.305
Octane	ND		ug/l	2.00	0.423
1,2-Dibromoethane	ND		ug/l	2.00	0.320
Ethylbenzene	ND		ug/l	2.00	0.216
2-Ethylthiophene	ND		ug/l	2.00	0.219
p/m-Xylene	ND		ug/l	4.00	0.563
1-Nonene	ND		ug/l	2.00	0.207
Nonane (C9)	ND		ug/l	2.00	0.438
Styrene	ND		ug/l	2.00	0.278
o-Xylene	ND		ug/l	2.00	0.307
Isopropylbenzene	ND		ug/l	2.00	0.334
n-Propylbenzene	ND		ug/l	2.00	0.377
1-Methyl-3-Ethylbenzene	ND		ug/l	2.00	0.320
1-Methyl-4-Ethylbenzene	ND		ug/l	2.00	0.364
1,3,5-Trimethylbenzene	ND		ug/l	2.00	0.380

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260B(M)
Analytical Date: 03/18/16 18:23
Analyst: MR

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01-03 Batch: WG875264-6					
1-Decene	ND		ug/l	2.00	0.278
1-Methyl-2-Ethylbenzene	ND		ug/l	2.00	0.409
Decane (C10)	0.286	J	ug/l	2.00	0.305
1,2,4-Trimethylbenzene	ND		ug/l	2.00	0.437
sec-Butylbenzene	ND		ug/l	2.00	0.405
1-Methyl-3-Isopropylbenzene	ND		ug/l	2.00	0.376
1-Methyl-4-Isopropylbenzene	ND		ug/l	2.00	0.458
1-Methyl-2-Isopropylbenzene	ND		ug/l	2.00	0.549
Indane	ND		ug/l	2.00	0.463
1-Methyl-3-N-Propylbenzene	ND		ug/l	2.00	0.441
1-Methyl-4-N-Propylbenzene	ND		ug/l	2.00	0.469
n-Butylbenzene	ND		ug/l	2.00	0.499
1,2-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.486
1,2-Diethylbenzene	ND		ug/l	2.00	0.462
1-Methyl-2-N-Propylbenzene	ND		ug/l	2.00	0.407
1,4-Dimethyl-2-Ethylbenzene	ND		ug/l	2.00	0.446
Undecane	ND		ug/l	2.00	0.706
1,3-Dimethyl-4-Ethylbenzene	ND		ug/l	2.00	0.428
1,3-Dimethyl-5-Ethylbenzene	ND		ug/l	2.00	0.486
1,3-Dimethyl-2-Ethylbenzene	ND		ug/l	2.00	0.474
1,2-Dimethyl-3-Ethylbenzene	ND		ug/l	2.00	0.436
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.00	0.452
N-Pentylbenzene	ND		ug/l	2.00	0.396
Dodecane (C12)	ND		ug/l	2.00	0.878
Naphthalene	0.445	J	ug/l	2.00	0.834
Benzothiophene	ND		ug/l	2.00	1.06
MMT	ND		ug/l	5.00	1.28
Tridecane	ND		ug/l	5.00	1.30
2-Methylnaphthalene	0.099	J	ug/l	5.00	1.32

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260B(M)
Analytical Date: 03/18/16 18:23
Analyst: MR

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01-03 Batch: WG875264-6					
1-Methylnaphthalene	ND		ug/l	5.00	1.47

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	106		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	100		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST

Project Number: Not Specified

Lab Number: L1607393

Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-03 Batch: WG875264-3 WG875264-4								
1-Pentene	88		92		50-130	4		30
Pentane	82		86		50-130	5		30
Tertiary Butanol	102		102		50-130	0		30
Cyclopentane	90		91		50-130	1		30
2-Methylpentane	89		91		50-130	2		30
Methyl tert butyl ether	95		96		50-130	1		30
3-Methylpentane	92		94		50-130	2		30
1-Hexene	90		90		50-130	0		30
n-Hexane	90		92		50-130	2		30
Isopropyl Ether	96		98		50-130	2		30
Ethyl-Tert-Butyl-Ether	95		96		50-130	1		30
Methylcyclopentane	95		95		50-130	0		30
2,4-Dimethylpentane	91		88		50-130	3		30
Cyclohexane	92		94		50-130	2		30
2-Methylhexane	90		92		50-130	2		30
Benzene	97		98		50-130	1		30
2,3-Dimethylpentane	94		94		50-130	0		30
3-Methylhexane	86		87		50-130	1		30
Tertiary-Amyl Methyl Ether	90		92		50-130	2		30
Isooctane	94		95		50-130	1		30
Heptane	89		91		50-130	2		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-03 Batch: WG875264-3 WG875264-4								
Methylcyclohexane	96		96		50-130	0		30
2-Methylheptane	92		95		50-130	3		30
3-Methylheptane	92		94		50-130	2		30
Toluene	97		98		50-130	1		30
Octane	91		92		50-130	1		30
Ethylbenzene	96		96		50-130	0		30
p/m-Xylene	98		98		50-130	0		30
Nonane (C9)	89		88		50-130	1		30
o-Xylene	98		99		50-130	1		30
Isopropylbenzene	98		99		50-130	1		30
n-Propylbenzene	96		98		50-130	2		30
1-Methyl-3-Ethylbenzene	97		98		50-130	1		30
1-Methyl-4-Ethylbenzene	99		98		50-130	1		30
1,3,5-Trimethylbenzene	98		100		50-130	2		30
1-Decene	92		93		50-130	1		30
1-Methyl-2-Ethylbenzene	100		102		50-130	2		30
Decane (C10)	92		92		50-130	0		30
1,2,4-Trimethylbenzene	98		100		50-130	2		30
sec-Butylbenzene	98		100		50-130	2		30
1-Methyl-4-N-Propylbenzene	100		100		50-130	0		30
n-Butylbenzene	98		100		50-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST

Project Number: Not Specified

Lab Number: L1607393

Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-03 Batch: WG875264-3 WG875264-4								
1,2-Diethylbenzene	98		100		50-130	2		30
Undecane	98		100		50-130	2		30
N-Pentylbenzene	98		99		50-130	1		30
Dodecane (C12)	100		100		50-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Dibromofluoromethane	104		102		70-130
Toluene-d8	99		99		70-130
4-Bromofluorobenzene	101		100		70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG875264-8 QC Sample: L1607393-01 Client ID: RXGW1						
Isopentane	1.98J	1.64J	ug/l	NC		30
1-Pentene	ND	ND	ug/l	NC		30
2-Methyl-1-Butene	ND	ND	ug/l	NC		30
Pentane	1.29J	1.06J	ug/l	NC		30
trans-2-Pentene	ND	ND	ug/l	NC		30
cis-2-Pentene	ND	ND	ug/l	NC		30
Tertiary Butanol	ND	ND	ug/l	NC		30
Cyclopentane	ND	ND	ug/l	NC		30
2,3-Dimethylbutane	2.28	1.95J	ug/l	NC		30
2-Methylpentane	0.853J	0.731J	ug/l	NC		30
Methyl tert butyl ether	5.47	4.62	ug/l	17		30
3-Methylpentane	11.1	8.94	ug/l	22		30
1-Hexene	ND	ND	ug/l	NC		30
n-Hexane	0.335J	0.334J	ug/l	NC		30
Isopropyl Ether	ND	ND	ug/l	NC		30
Ethyl-Tert-Butyl-Ether	ND	ND	ug/l	NC		30
2,2-Dimethylpentane	2.55	2.09	ug/l	20		30
Methylcyclopentane	4.64	3.95	ug/l	16		30
2,4-Dimethylpentane	4.21	3.27	ug/l	25		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG875264-8 QC Sample: L1607393-01 Client ID: RXGW1					
1,2-Dichloroethane	ND	ND	ug/l	NC	30
Cyclohexane	8.92	7.54	ug/l	17	30
2-Methylhexane	ND	ND	ug/l	NC	30
Benzene	ND	ND	ug/l	NC	30
2,3-Dimethylpentane	14.5	11.6	ug/l	22	30
Thiophene	ND	ND	ug/l	NC	30
3-Methylhexane	2.10	1.97J	ug/l	NC	30
Tertiary-Amyl Methyl Ether	ND	ND	ug/l	NC	30
1-Heptene/1,2-DMCP (trans)	30.5	25.3	ug/l	19	30
Isooctane	ND	ND	ug/l	NC	30
Heptane	ND	ND	ug/l	NC	30
Methylcyclohexane	144	122	ug/l	17	30
2,5-Dimethylhexane	23.6	19.5	ug/l	19	30
2,4-Dimethylhexane	32.3	26.9	ug/l	18	30
2,2,3-Trimethylpentane	1.95J	1.62J	ug/l	NC	30
2,3,4-Trimethylpentane	2.33	1.88J	ug/l	NC	30
2,3,3-Trimethylpentane	3.26	2.69	ug/l	19	30
2,3-Dimethylhexane	31.7	26.5	ug/l	18	30
2-Methylheptane	ND	ND	ug/l	NC	30

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG875264-8 QC Sample: L1607393-01 Client ID: RXGW1					
3-Methylheptane	3.72	3.38	ug/l	10	30
3-Ethylhexane	38.7	32.4	ug/l	18	30
Toluene	0.505J	0.498J	ug/l	NC	30
2-Methylthiophene	ND	ND	ug/l	NC	30
3-Methylthiophene	ND	ND	ug/l	NC	30
1-Octene	ND	ND	ug/l	NC	30
Octane	ND	ND	ug/l	NC	30
1,2-Dibromoethane	ND	ND	ug/l	NC	30
Ethylbenzene	ND	ND	ug/l	NC	30
2-Ethylthiophene	ND	ND	ug/l	NC	30
p/m-Xylene	1.27J	1.17J	ug/l	NC	30
1-Nonene	ND	ND	ug/l	NC	30
Nonane (C9)	ND	ND	ug/l	NC	30
Styrene	ND	ND	ug/l	NC	30
o-Xylene	0.571J	0.627J	ug/l	NC	30
Isopropylbenzene	ND	ND	ug/l	NC	30
n-Propylbenzene	ND	ND	ug/l	NC	30
1-Methyl-3-Ethylbenzene	ND	ND	ug/l	NC	30
1-Methyl-4-Ethylbenzene	ND	ND	ug/l	NC	30

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG875264-8 QC Sample: L1607393-01 Client ID: RXGW1					
1,3,5-Trimethylbenzene	ND	ND	ug/l	NC	30
1-Decene	ND	ND	ug/l	NC	30
1-Methyl-2-Ethylbenzene	1.31J	1.10J	ug/l	NC	30
Decane (C10)	ND	ND	ug/l	NC	30
1,2,4-Trimethylbenzene	0.346J	0.305J	ug/l	NC	30
sec-Butylbenzene	1.06J	0.954J	ug/l	NC	30
1-Methyl-3-Isopropylbenzene	ND	ND	ug/l	NC	30
1-Methyl-4-Isopropylbenzene	ND	ND	ug/l	NC	30
1-Methyl-2-Isopropylbenzene	10.7	8.58	ug/l	22	30
Indane	10.0	8.50	ug/l	16	30
1-Methyl-3-N-Propylbenzene	ND	ND	ug/l	NC	30
1-Methyl-4-N-Propylbenzene	ND	ND	ug/l	NC	30
n-Butylbenzene	ND	ND	ug/l	NC	30
1,2-Dimethyl-4-Ethylbenzene	ND	ND	ug/l	NC	30
1,2-Diethylbenzene	6.82	5.40	ug/l	23	30
1-Methyl-2-N-Propylbenzene	2.06	1.82J	ug/l	NC	30
1,4-Dimethyl-2-Ethylbenzene	ND	ND	ug/l	NC	30
Undecane	ND	ND	ug/l	NC	30
1,3-Dimethyl-4-Ethylbenzene	ND	ND	ug/l	NC	30

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG875264-8 QC Sample: L1607393-01 Client ID: RXGW1					
1,3-Dimethyl-5-Ethylbenzene	128	98.1	ug/l	26	30
1,3-Dimethyl-2-Ethylbenzene	9.83	7.57	ug/l	26	30
1,2-Dimethyl-3-Ethylbenzene	12.9	9.99	ug/l	25	30
1,2,4,5-Tetramethylbenzene	28.1	21.8	ug/l	25	30
N-Pentylbenzene	ND	ND	ug/l	NC	30
Dodecane (C12)	ND	ND	ug/l	NC	30
Naphthalene	ND	ND	ug/l	NC	30
Benzothiophene	ND	ND	ug/l	NC	30
MMT	ND	ND	ug/l	NC	30
Tridecane	ND	ND	ug/l	NC	30
2-Methylnaphthalene	ND	ND	ug/l	NC	30
1-Methylnaphthalene	ND	ND	ug/l	NC	30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	120		104		70-130
Toluene-d8	108		100		70-130
4-Bromofluorobenzene	119		111		70-130

SEMIVOLATILES

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-01
Client ID: RXGW1
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/19/16 05:06
Analyst: AC

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs by GC/MS - Mansfield Lab						
cis/trans-Decalin	211000		ng/l	122	60.0	1
C1-Decalins	335000		ng/l	244	60.0	1
C2-Decalins	335000		ng/l	244	60.0	1
C3-Decalins	187000		ng/l	244	60.0	1
C4-Decalins	219000		ng/l	244	60.0	1
Naphthalene	1790		ng/l	244	48.0	1
C1-Naphthalenes	2430		ng/l	244	48.0	1
C2-Naphthalenes	86000		ng/l	244	48.0	1
C3-Naphthalenes	231000		ng/l	244	48.0	1
C4-Naphthalenes	177000		ng/l	244	48.0	1
2-Methylnaphthalene	1390		ng/l	244	56.1	1
1-Methylnaphthalene	1630		ng/l	244	47.6	1
Benzothiophene	ND		ng/l	244	37.1	1
C1-Benzo(b)thiophenes	13500		ng/l	244	37.1	1
C2-Benzo(b)thiophenes	4860		ng/l	244	37.1	1
C3-Benzo(b)thiophenes	8930		ng/l	244	37.1	1
C4-Benzo(b)thiophenes	7950		ng/l	244	37.1	1
Biphenyl	ND		ng/l	244	56.8	1
2,6-Dimethylnaphthalene	2980		ng/l	244	56.8	1
Dibenzofuran	1980		ng/l	244	44.4	1
Acenaphthylene	1240		ng/l	244	48.8	1
Acenaphthene	904		ng/l	244	31.2	1
2,3,5-Trimethylnaphthalene	29900		ng/l	244	36.8	1
Fluorene	5340		ng/l	244	43.2	1
C1-Fluorenes	29900		ng/l	244	43.2	1
C2-Fluorenes	107000		ng/l	244	43.2	1
C3-Fluorenes	154000		ng/l	244	43.2	1
Dibenzothiophene	3390		ng/l	244	35.6	1
4-Methyldibenzothiophene(4MDT)	11600		ng/l	244	35.6	1
2/3-Methyldibenzothiophene(2MDT)	5960		ng/l	244	35.6	1

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-01
Client ID: RXGW1
Sample Location: Not Specified
Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs by GC/MS - Mansfield Lab						
1-Methyldibenzothiophene(1MDT)	1180		ng/l	244	35.6	1
C1-Dibenzothiophenes	20700		ng/l	244	35.6	1
C2-Dibenzothiophenes	42900		ng/l	244	35.6	1
C3-Dibenzothiophenes	51000		ng/l	244	35.6	1
C4-Dibenzothiophenes	35200		ng/l	244	35.6	1
Phenanthrene	25200		ng/l	244	29.3	1
3-Methylphenanthrene (3MP)	28600		ng/l	244	29.3	1
2-Methylphenanthrene (2MP)	27500		ng/l	244	29.3	1
2-Methylanthracene (2MA)	1660		ng/l	244	29.3	1
9/4-Methylphenanthrene (9MP)	43000		ng/l	244	29.3	1
1-Methylphenanthrene (1MP)	25100		ng/l	244	29.3	1
C1-Phenanthrenes/Anthracenes	131000		ng/l	244	29.3	1
C2-Phenanthrenes/Anthracen	249000		ng/l	244	29.3	1
C3-Phenanthrenes/Anthracenes	231000		ng/l	244	29.3	1
C4-Phenanthrenes/Anthracenes	147000		ng/l	244	29.3	1
Retene	ND		ng/l	244	68.3	1
Anthracene	2150		ng/l	244	44.1	1
Carbazole	ND		ng/l	244	37.6	1
Fluoranthene	1870		ng/l	244	43.4	1
Benzo(b)fluorene	1100		ng/l	244	64.6	1
Pyrene	7170		ng/l	244	44.4	1
C1-Fluoranthenes/Pyrenes	24500		ng/l	244	44.4	1
C2-Fluoranthenes/Pyrenes	43200		ng/l	244	44.4	1
C3-Fluoranthenes/Pyrenes	61200		ng/l	244	44.4	1
C4-Fluoranthenes/Pyrenes	63200		ng/l	244	44.4	1
Naphthobenzothiophenes	2770		ng/l	244	40.0	1
C1-Naphthobenzothiophenes	11500		ng/l	244	40.0	1
C2-Naphthobenzothiophenes	18800		ng/l	244	40.0	1
C3-Naphthobenzothiophenes	18000		ng/l	244	40.0	1
C4-Naphthobenzothiophenes	22700		ng/l	244	40.0	1
Benz(a)anthracene	2740		ng/l	244	28.3	1
Chrysene/Triphenylene	13700		ng/l	244	30.7	1
C1-Chrysenes	43200		ng/l	244	30.7	1
C2-Chrysenes	65800		ng/l	244	30.7	1
C3-Chrysenes	69200		ng/l	244	30.7	1
C4-Chrysenes	46900		ng/l	244	30.7	1
Benzo(b)fluoranthene	792		ng/l	244	35.8	1
Benzo(j)+(k)fluoranthene	502		ng/l	244	36.3	1
Benzo(a)fluoranthene	ND		ng/l	244	36.3	1

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-01
Client ID: RXGW1
Sample Location: Not Specified
Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs by GC/MS - Mansfield Lab						
Benzo(e)pyrene	3830		ng/l	244	32.0	1
Benzo(a)pyrene	1190		ng/l	244	52.4	1
Perylene	449		ng/l	244	44.6	1
Indeno(1,2,3-cd)pyrene	354		ng/l	244	60.0	1
Dibenz(a,h)+(a,c)anthracene	446		ng/l	244	71.7	1
Benzo(g,h,i)perylene	467		ng/l	244	64.6	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	96		50-130
Phenanthrene-d10	91		50-130
Benzo(a)pyrene-d12	82		50-130

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-02
Client ID: RXGW2
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/19/16 06:35
Analyst: AC

Date Collected: 03/11/16 14:10
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs by GC/MS - Mansfield Lab						
cis/trans-Decalin	1760		ng/l	45.4	22.4	1
C1-Decalins	6380		ng/l	90.9	22.4	1
C2-Decalins	12800		ng/l	90.9	22.4	1
C3-Decalins	11300		ng/l	90.9	22.4	1
C4-Decalins	15300		ng/l	90.9	22.4	1
Naphthalene	94.8		ng/l	90.9	17.9	1
C1-Naphthalenes	113		ng/l	90.9	17.9	1
C2-Naphthalenes	804		ng/l	90.9	17.9	1
C3-Naphthalenes	2790		ng/l	90.9	17.9	1
C4-Naphthalenes	5970		ng/l	90.9	17.9	1
2-Methylnaphthalene	47.3	J	ng/l	90.9	20.9	1
1-Methylnaphthalene	68.8	J	ng/l	90.9	17.7	1
Benzothiophene	16.9	J	ng/l	90.9	13.8	1
C1-Benzo(b)thiophenes	449		ng/l	90.9	13.8	1
C2-Benzo(b)thiophenes	466		ng/l	90.9	13.8	1
C3-Benzo(b)thiophenes	1600		ng/l	90.9	13.8	1
C4-Benzo(b)thiophenes	920		ng/l	90.9	13.8	1
Biphenyl	33.5	J	ng/l	90.9	21.2	1
2,6-Dimethylnaphthalene	93.8		ng/l	90.9	21.2	1
Dibenzofuran	70.4	J	ng/l	90.9	16.5	1
Acenaphthylene	48.8	J	ng/l	90.9	18.2	1
Acenaphthene	ND		ng/l	90.9	11.6	1
2,3,5-Trimethylnaphthalene	164		ng/l	90.9	13.7	1
Fluorene	209		ng/l	90.9	16.1	1
C1-Fluorenes	660		ng/l	90.9	16.1	1
C2-Fluorenes	3180		ng/l	90.9	16.1	1
C3-Fluorenes	5600		ng/l	90.9	16.1	1
Dibenzothiophene	127		ng/l	90.9	13.3	1
4-Methyldibenzothiophene(4MDT)	166		ng/l	90.9	13.3	1
2/3-Methyldibenzothiophene(2MDT)	95.4		ng/l	90.9	13.3	1

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-02
Client ID: RXGW2
Sample Location: Not Specified
Date Collected: 03/11/16 14:10
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs by GC/MS - Mansfield Lab						
1-Methyldibenzothiophene(1MDT)	47.8	J	ng/l	90.9	13.3	1
C1-Dibenzothiophenes	480		ng/l	90.9	13.3	1
C2-Dibenzothiophenes	1030		ng/l	90.9	13.3	1
C3-Dibenzothiophenes	1240		ng/l	90.9	13.3	1
C4-Dibenzothiophenes	983		ng/l	90.9	13.3	1
Phenanthrene	69.8	J	ng/l	90.9	10.9	1
3-Methylphenanthrene (3MP)	102		ng/l	90.9	10.9	1
2-Methylphenanthrene (2MP)	65.6	J	ng/l	90.9	10.9	1
2-Methylanthracene (2MA)	41.4	J	ng/l	90.9	10.9	1
9/4-Methylphenanthrene (9MP)	185		ng/l	90.9	10.9	1
1-Methylphenanthrene (1MP)	143		ng/l	90.9	10.9	1
C1-Phenanthrenes/Anthracenes	690		ng/l	90.9	10.9	1
C2-Phenanthrenes/Anthracen	2660		ng/l	90.9	10.9	1
C3-Phenanthrenes/Anthracenes	3790		ng/l	90.9	10.9	1
C4-Phenanthrenes/Anthracenes	2790		ng/l	90.9	10.9	1
Retene	ND		ng/l	90.9	25.4	1
Anthracene	135	G	ng/l	90.9	16.4	1
Carbazole	33.4	J	ng/l	90.9	14.0	1
Fluoranthene	77.9	J	ng/l	90.9	16.2	1
Benzo(b)fluorene	18.9	J	ng/l	90.9	24.1	1
Pyrene	150		ng/l	90.9	16.5	1
C1-Fluoranthenes/Pyrenes	446		ng/l	90.9	16.5	1
C2-Fluoranthenes/Pyrenes	755		ng/l	90.9	16.5	1
C3-Fluoranthenes/Pyrenes	1150		ng/l	90.9	16.5	1
C4-Fluoranthenes/Pyrenes	1260		ng/l	90.9	16.5	1
Naphthobenzothiophenes	41.2	J	ng/l	90.9	14.9	1
C1-Naphthobenzothiophenes	211		ng/l	90.9	14.9	1
C2-Naphthobenzothiophenes	392		ng/l	90.9	14.9	1
C3-Naphthobenzothiophenes	402		ng/l	90.9	14.9	1
C4-Naphthobenzothiophenes	767		ng/l	90.9	14.9	1
Benz(a)anthracene	69.3	J	ng/l	90.9	10.5	1
Chrysene/Triphenylene	221		ng/l	90.9	11.4	1
C1-Chrysenes	694		ng/l	90.9	11.4	1
C2-Chrysenes	1150		ng/l	90.9	11.4	1
C3-Chrysenes	1490		ng/l	90.9	11.4	1
C4-Chrysenes	1140		ng/l	90.9	11.4	1
Benzo(b)fluoranthene	45.2	J	ng/l	90.9	13.4	1
Benzo(j)+(k)fluoranthene	31.8	J	ng/l	90.9	13.5	1
Benzo(a)fluoranthene	ND		ng/l	90.9	13.5	1

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-02
Client ID: RXGW2
Sample Location: Not Specified
Date Collected: 03/11/16 14:10
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs by GC/MS - Mansfield Lab						
Benzo(e)pyrene	91.1		ng/l	90.9	11.9	1
Benzo(a)pyrene	28.1	J	ng/l	90.9	19.5	1
Perylene	27.4	J	ng/l	90.9	16.6	1
Indeno(1,2,3-cd)pyrene	28.2	J	ng/l	90.9	22.4	1
Dibenz(a,h)+(a,c)anthracene	14.3	J	ng/l	90.9	26.7	1
Benzo(g,h,i)perylene	31.5	J	ng/l	90.9	24.1	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	88		50-130
Phenanthrene-d10	90		50-130
Benzo(a)pyrene-d12	64		50-130

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-03
Client ID: RXGW3
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/19/16 08:02
Analyst: AC

Date Collected: 03/11/16 16:15
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs by GC/MS - Mansfield Lab						
cis/trans-Decalin	860		ng/l	11.8	5.79	1
C1-Decalins	1950		ng/l	23.5	5.79	1
C2-Decalins	2870		ng/l	23.5	5.79	1
C3-Decalins	1770		ng/l	23.5	5.79	1
C4-Decalins	1860		ng/l	23.5	5.79	1
Naphthalene	43.9		ng/l	23.5	4.64	1
C1-Naphthalenes	81.2		ng/l	23.5	4.64	1
C2-Naphthalenes	135		ng/l	23.5	4.64	1
C3-Naphthalenes	241		ng/l	23.5	4.64	1
C4-Naphthalenes	582		ng/l	23.5	4.64	1
2-Methylnaphthalene	48.1		ng/l	23.5	5.41	1
1-Methylnaphthalene	62.8		ng/l	23.5	4.59	1
Benzothiophene	5.01	J	ng/l	23.5	3.58	1
C1-Benzo(b)thiophenes	93.9		ng/l	23.5	3.58	1
C2-Benzo(b)thiophenes	42.4		ng/l	23.5	3.58	1
C3-Benzo(b)thiophenes	99.1		ng/l	23.5	3.58	1
C4-Benzo(b)thiophenes	66.4		ng/l	23.5	3.58	1
Biphenyl	6.75	J	ng/l	23.5	5.48	1
2,6-Dimethylnaphthalene	26.6		ng/l	23.5	5.48	1
Dibenzofuran	15.2	J	ng/l	23.5	4.28	1
Acenaphthylene	6.47	J	ng/l	23.5	4.70	1
Acenaphthene	16.6	J	ng/l	23.5	3.01	1
2,3,5-Trimethylnaphthalene	14.0	J	ng/l	23.5	3.55	1
Fluorene	27.6		ng/l	23.5	4.16	1
C1-Fluorenes	95.6		ng/l	23.5	4.16	1
C2-Fluorenes	312		ng/l	23.5	4.16	1
C3-Fluorenes	438		ng/l	23.5	4.16	1
Dibenzothiophene	18.6	J	ng/l	23.5	3.44	1
4-Methyldibenzothiophene(4MDT)	21.3	J	ng/l	23.5	3.44	1
2/3-Methyldibenzothiophene(2MDT)	13.8	J	ng/l	23.5	3.44	1

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-03
Client ID: RXGW3
Sample Location: Not Specified
Date Collected: 03/11/16 16:15
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs by GC/MS - Mansfield Lab						
1-Methyldibenzothiophene(1MDT)	2.87	J	ng/l	23.5	3.44	1
C1-Dibenzothiophenes	49.7		ng/l	23.5	3.44	1
C2-Dibenzothiophenes	122		ng/l	23.5	3.44	1
C3-Dibenzothiophenes	188		ng/l	23.5	3.44	1
C4-Dibenzothiophenes	165		ng/l	23.5	3.44	1
Phenanthrene	62.6		ng/l	23.5	2.82	1
3-Methylphenanthrene (3MP)	22.7	J	ng/l	23.5	2.82	1
2-Methylphenanthrene (2MP)	25.9		ng/l	23.5	2.82	1
2-Methylanthracene (2MA)	4.69	J	ng/l	23.5	2.82	1
9/4-Methylphenanthrene (9MP)	34.1		ng/l	23.5	2.82	1
1-Methylphenanthrene (1MP)	23.2	J	ng/l	23.5	2.82	1
C1-Phenanthrenes/Anthracenes	127		ng/l	23.5	2.82	1
C2-Phenanthrenes/Anthracen	326		ng/l	23.5	2.82	1
C3-Phenanthrenes/Anthracenes	508		ng/l	23.5	2.82	1
C4-Phenanthrenes/Anthracenes	427		ng/l	23.5	2.82	1
Retene	ND		ng/l	23.5	6.59	1
Anthracene	9.73	J	ng/l	23.5	4.26	1
Carbazole	7.35	J	ng/l	23.5	3.62	1
Fluoranthene	53.6		ng/l	23.5	4.19	1
Benzo(b)fluorene	5.18	J	ng/l	23.5	6.24	1
Pyrene	53.6		ng/l	23.5	4.28	1
C1-Fluoranthenes/Pyrenes	110		ng/l	23.5	4.28	1
C2-Fluoranthenes/Pyrenes	184		ng/l	23.5	4.28	1
C3-Fluoranthenes/Pyrenes	288		ng/l	23.5	4.28	1
C4-Fluoranthenes/Pyrenes	285		ng/l	23.5	4.28	1
Naphthobenzothiophenes	19.8	J	ng/l	23.5	3.86	1
C1-Naphthobenzothiophenes	64.6		ng/l	23.5	3.86	1
C2-Naphthobenzothiophenes	112		ng/l	23.5	3.86	1
C3-Naphthobenzothiophenes	128		ng/l	23.5	3.86	1
C4-Naphthobenzothiophenes	213		ng/l	23.5	3.86	1
Benz(a)anthracene	32.2		ng/l	23.5	2.73	1
Chrysene/Triphenylene	59.6		ng/l	23.5	2.96	1
C1-Chrysenes	179		ng/l	23.5	2.96	1
C2-Chrysenes	325		ng/l	23.5	2.96	1
C3-Chrysenes	515		ng/l	23.5	2.96	1
C4-Chrysenes	390		ng/l	23.5	2.96	1
Benzo(b)fluoranthene	23.2	J	ng/l	23.5	3.46	1
Benzo(j)+(k)fluoranthene	21.4	J	ng/l	23.5	3.50	1
Benzo(a)fluoranthene	7.91	J	ng/l	23.5	3.50	1

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-03
Client ID: RXGW3
Sample Location: Not Specified
Date Collected: 03/11/16 16:15
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs by GC/MS - Mansfield Lab						
Benzo(e)pyrene	42.4		ng/l	23.5	3.08	1
Benzo(a)pyrene	27.7		ng/l	23.5	5.06	1
Perylene	8.20	J	ng/l	23.5	4.30	1
Indeno(1,2,3-cd)pyrene	15.7	J	ng/l	23.5	5.79	1
Dibenz(a,h)+(a,c)anthracene	5.80	J	ng/l	23.5	6.92	1
Benzo(g,h,i)perylene	21.8	J	ng/l	23.5	6.24	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	86		50-130
Phenanthrene-d10	96		50-130
Benzo(a)pyrene-d12	87		50-130

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-04
Client ID: RXGW1-NAPL
Sample Location: Not Specified
Matrix: Oil
Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/24/16 02:25
Analyst: AC
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3580A
Extraction Date: 03/21/16 06:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab						
Cis/Trans-Decalin	586		mg/kg	0.886	0.668	1
C1-Decalins	904		mg/kg	1.77	0.668	1
C2-Decalins	860		mg/kg	1.77	0.668	1
C3-Decalins	492		mg/kg	1.77	0.668	1
C4-Decalins	514		mg/kg	1.77	0.668	1
Naphthalene	4.10		mg/kg	1.77	0.764	1
C1-Naphthalenes	5.98		mg/kg	1.77	0.764	1
C2-Naphthalenes	205		mg/kg	1.77	0.764	1
C3-Naphthalenes	559		mg/kg	1.77	0.764	1
C4-Naphthalenes	426		mg/kg	1.77	0.764	1
2-Methylnaphthalene	3.43		mg/kg	1.77	0.686	1
1-Methylnaphthalene	4.20		mg/kg	1.77	0.838	1
Benzothiophene	ND		mg/kg	1.77	0.833	1
C1-Benzo(b)thiophenes	33.9		mg/kg	1.77	0.833	1
C2-Benzo(b)thiophenes	11.7		mg/kg	1.77	0.833	1
C3-Benzo(b)thiophenes	26.0		mg/kg	1.77	0.833	1
C4-Benzo(b)thiophenes	21.3		mg/kg	1.77	0.833	1
Biphenyl	0.785	J	mg/kg	1.77	0.822	1
2,6-Dimethylnaphthalene	6.75		mg/kg	1.77	0.632	1
Dibenzofuran	4.73		mg/kg	1.77	0.838	1
Acenaphthylene	3.17		mg/kg	1.77	0.507	1
Acenaphthene	2.96		mg/kg	1.77	0.469	1
2,3,5-Trimethylnaphthalene	76.0		mg/kg	1.77	0.435	1
Fluorene	12.8		mg/kg	1.77	0.709	1
C1-Fluorenes	72.7		mg/kg	1.77	0.709	1
C2-Fluorenes	247		mg/kg	1.77	0.709	1
C3-Fluorenes	357		mg/kg	1.77	0.709	1
Dibenzothiophene	7.51		mg/kg	1.77	0.733	1
4-Methyldibenzothiophene(4MDT)	26.7		mg/kg	1.77	0.733	1
2/3-Methyldibenzothiophene(2MDT)	15.8		mg/kg	1.77	0.733	1

Project Name: FLINT ST **Lab Number:** L1607393

Project Number: Not Specified **Report Date:** 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-04 Date Collected: 03/11/16 12:00

Client ID: RXGW1-NAPL Date Received: 03/14/16

Sample Location: Not Specified Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab						
1-Methyldibenzothiophene(1MDT)	2.77		mg/kg	1.77	0.733	1
C1-Dibenzothiophenes	48.7		mg/kg	1.77	0.733	1
C2-Dibenzothiophenes	99.4		mg/kg	1.77	0.733	1
C3-Dibenzothiophenes	121		mg/kg	1.77	0.733	1
C4-Dibenzothiophenes	81.1		mg/kg	1.77	0.733	1
Phenanthrene	56.3		mg/kg	1.77	0.881	1
3-Methylphenanthrene (3MP)	63.9		mg/kg	1.77	0.881	1
2-Methylphenanthrene (2MP)	64.0		mg/kg	1.77	0.881	1
2-Methylanthracene (2MA)	5.19		mg/kg	1.77	0.881	1
9/4-Methylphenanthrene (9MP)	96.4		mg/kg	1.77	0.881	1
1-Methylphenanthrene (1MP)	63.7		mg/kg	1.77	0.881	1
C1-Phenanthrenes/Anthracenes	304		mg/kg	1.77	0.881	1
C2-Phenanthrenes/Anthracenes	574		mg/kg	1.77	0.881	1
C3-Phenanthrenes/Anthracenes	525		mg/kg	1.77	0.881	1
C4-Phenanthrenes/Anthracenes	336		mg/kg	1.77	0.881	1
Retene	ND		mg/kg	1.77	0.652	1
Anthracene	4.41		mg/kg	1.77	0.548	1
Carbazole	ND		mg/kg	1.77	0.870	1
Fluoranthene	4.47		mg/kg	1.77	0.845	1
Benzo(b)fluorene	2.55		mg/kg	1.77	0.770	1
Pyrene	16.1		mg/kg	1.77	0.699	1
C1-Fluoranthenes/Pyrenes	58.6		mg/kg	1.77	0.699	1
C2-Fluoranthenes/Pyrenes	94.9		mg/kg	1.77	0.699	1
C3-Fluoranthenes/Pyrenes	132		mg/kg	1.77	0.699	1
C4-Fluoranthenes/Pyrenes	137		mg/kg	1.77	0.699	1
Naphthobenzothiophene	6.05		mg/kg	1.77	0.744	1
C1-Naphthobenzothiophenes	27.4		mg/kg	1.77	0.744	1
C2-Naphthobenzothiophenes	47.3		mg/kg	1.77	0.744	1
C3-Naphthobenzothiophenes	39.8		mg/kg	1.77	0.744	1
C4-Naphthobenzothiophenes	54.6		mg/kg	1.77	0.744	1
Benz(a)anthracene	5.77		mg/kg	1.77	0.542	1
Chrysene/Triphenylene	31.2		mg/kg	1.77	0.538	1
C1-Chrysenes	101		mg/kg	1.77	0.538	1
C2-Chrysenes	143		mg/kg	1.77	0.538	1
C3-Chrysenes	158		mg/kg	1.77	0.360	1
C4-Chrysenes	108		mg/kg	1.77	0.538	1
Benzo(b)fluoranthene	1.72	J	mg/kg	1.77	0.692	1
Benzo(j)+(k)Fluoranthene	0.848	J	mg/kg	1.77	0.528	1
Benzo(a)fluoranthene	ND		mg/kg	1.77	0.528	1

Project Name: FLINT ST **Lab Number:** L1607393

Project Number: Not Specified **Report Date:** 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-04 Date Collected: 03/11/16 12:00

Client ID: RXGW1-NAPL Date Received: 03/14/16

Sample Location: Not Specified Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab						
Benzo(e)Pyrene	8.93		mg/kg	1.77	0.549	1
Benzo(a)pyrene	2.56		mg/kg	1.77	0.759	1
Perylene	ND		mg/kg	1.77	0.513	1
Indeno(1,2,3-cd)Pyrene	0.752	J	mg/kg	1.77	0.722	1
Dibenz(a,h)+(a,c)anthracene	1.10	J	mg/kg	1.77	0.718	1
Benzo(ghi)perylene	1.17	J	mg/kg	1.77	0.706	1
Hopane (T19)	5.10		mg/kg	1.77	0.757	1
C23 Tricyclic Terpane (T4)	8.19		mg/kg	1.77	0.757	1
C24 Tricyclic Terpane (T5)	ND		mg/kg	1.77	0.757	1
C25 Tricyclic Terpane (T6)	ND		mg/kg	1.77	0.757	1
C24 Tetracyclic Terpane (T6a)	ND		mg/kg	1.77	0.757	1
C26 Tricyclic Terpane-22S (T6b)	7.41		mg/kg	1.77	0.757	1
C26 Tricyclic Terpane-22R (T6c)	3.37		mg/kg	1.77	0.757	1
C28 Tricyclic Terpane-22S (T7)	ND		mg/kg	1.77	0.757	1
C28 Tricyclic Terpane-22R (T8)	ND		mg/kg	1.77	0.757	1
C29 Tricyclic Terpane-22S (T9)	3.59		mg/kg	1.77	0.757	1
C29 Tricyclic Terpane-22R (T10)	3.12		mg/kg	1.77	0.757	1
18a-22,29,30-Trisnorneohopane-TS (T11)	8.65		mg/kg	1.77	0.757	1
C30 Tricyclic Terpane-22S	1.76	J	mg/kg	1.77	0.757	1
C30 Tricyclic Terpane-22R	ND		mg/kg	1.77	0.757	1
17a(H)-22,29,30-Trisnorhopane-TM (T12)	ND		mg/kg	1.77	0.757	1
17a/b,21b/a 28,30-Bisnorhopane (T14a)	ND		mg/kg	1.77	0.757	1
17a(H),21b(H)-25-Norhopane (T14b)	ND		mg/kg	1.77	0.757	1
30-Norhopane (T15)	3.30		mg/kg	1.77	0.757	1
18a(H)-30-Norneohopane-C29Ts (T16)	3.39	G	mg/kg	1.77	0.757	1
17a(H)-Diahopane (X)	5.14	G	mg/kg	1.77	0.757	1
30-Normoretane (T17)	ND		mg/kg	1.77	0.757	1
18a(H)&18b(H)-Oleananes (T18)	ND		mg/kg	1.77	0.757	1
Moretane (T20)	ND		mg/kg	1.77	0.757	1
30-Homohopane-22S (T21)	2.27		mg/kg	1.77	0.757	1
30-Homohopane-22R (T22)	2.56		mg/kg	1.77	0.757	1
Gammacerane/C32-Diahopane	ND		mg/kg	1.77	0.757	1
30,31-Bishomohopane-22S (T26)	ND		mg/kg	1.77	0.757	1
30,31-Bishomohopane-22R (T27)	ND		mg/kg	1.77	0.757	1
30,31-Trishomohopane-22S (T30)	ND		mg/kg	1.77	0.757	1
30,31-Trishomohopane-22R (T31)	ND		mg/kg	1.77	0.757	1
Tetrakishomohopane-22S (T32)	ND		mg/kg	1.77	0.757	1
Tetrakishomohopane-22R (T33)	ND		mg/kg	1.77	0.757	1
Pentakishomohopane-22S (T34)	ND		mg/kg	1.77	0.757	1

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-04
Client ID: RXGW1-NAPL
Sample Location: Not Specified
Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab						
Pentakishomohopane-22R (T35)	ND		mg/kg	1.77	0.757	1
13b(H),17a(H)-20S-Diacholestane (S4)	31.0		mg/kg	1.77	0.591	1
13b(H),17a(H)-20R-Diacholestane (S5)	14.4		mg/kg	1.77	0.591	1
13b,17a-20S-Methyldiacholestane (S8)	11.4		mg/kg	1.77	0.591	1
17a(H)20SC27/C29dia	39.4		mg/kg	1.77	0.591	1
17a(H)20rc27/C29dia	30.4		mg/kg	1.77	0.591	1
Unknown Sterane (S18)	10.3		mg/kg	1.77	0.591	1
13a,17b-20S-Ethyldiacholestane (S19)	ND		mg/kg	1.77	0.591	1
14a,17a-20S-Methylcholestane (S20)	12.4		mg/kg	1.77	0.591	1
14a,17a-20R-Methylcholestane (S24)	5.18		mg/kg	1.77	0.591	1
14a(H),17a(H)-20S-Ethylcholestane (S25)	5.48		mg/kg	1.77	0.591	1
14a(H),17a(H)-20R-Ethylcholestane (S28)	5.66		mg/kg	1.77	0.591	1
14b(H),17b(H)-20R-Cholestane (S14)	5.20		mg/kg	1.77	0.591	1
14b(H),17b(H)-20S-Cholestane (S15)	5.35		mg/kg	1.77	0.591	1
14b,17b-20R-Methylcholestane (S22)	2.58		mg/kg	1.77	0.591	1
14b,17b-20S-Methylcholestane (S23)	6.68	G	mg/kg	1.77	0.591	1
14b(H),17b(H)-20R-Ethylcholestane (S26)	9.33		mg/kg	1.77	0.591	1
14b(H),17b(H)-20S-Ethylcholestane (S27)	6.44		mg/kg	1.77	0.591	1
C26,20R- +C27,20S-Triaromatic Steroid	ND		mg/kg	1.77	0.591	1
C28,20S-Triaromatic Steroid	ND		mg/kg	1.77	0.591	1
C27,20R-Triaromatic Steroid	ND		mg/kg	1.77	0.591	1
C28,20R-Triaromatic Steroid	ND		mg/kg	1.77	0.591	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	95		50-130
Phenanthrene-d10	94		50-130
Benzo(a)pyrene-d12	86		50-130
5B(H)Cholane-Surr	117		50-130

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/19/16 00:41
Analyst: AC

Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL
Alkylated PAHs by GC/MS - Mansfield Lab for sample(s): 01-03 Batch: WG875045-1					
Cis/Trans-Decalin	ND		ng/l	10.0	4.92
C1-Decalins	ND		ng/l	20.0	4.92
C2-Decalins	ND		ng/l	20.0	4.92
C3-Decalins	ND		ng/l	20.0	4.92
C4-Decalins	ND		ng/l	20.0	4.92
Naphthalene	1.72	J	ng/l	20.0	3.94
C1-Naphthalenes	2.98	J	ng/l	20.0	3.94
C2-Naphthalenes	ND		ng/l	20.0	3.94
C3-Naphthalenes	ND		ng/l	20.0	3.94
C4-Naphthalenes	ND		ng/l	20.0	3.94
2-Methylnaphthalene	1.65	J	ng/l	20.0	4.60
1-Methylnaphthalene	1.70	J	ng/l	20.0	3.90
Benzothiophene	ND		ng/l	20.0	3.04
C1-Benzo(b)thiophenes	ND		ng/l	20.0	3.04
C2-Benzo(b)thiophenes	ND		ng/l	20.0	3.04
C3-Benzo(b)thiophenes	ND		ng/l	20.0	3.04
C4-Benzo(b)thiophenes	ND		ng/l	20.0	3.04
Biphenyl	ND		ng/l	20.0	4.66
2,6-Dimethylnaphthalene	ND		ng/l	20.0	4.66
Dibenzofuran	ND		ng/l	20.0	3.64
Acenaphthylene	ND		ng/l	20.0	4.00
Acenaphthene	ND		ng/l	20.0	2.56
2,3,5-Trimethylnaphthalene	ND		ng/l	20.0	3.02
Fluorene	0.996	J	ng/l	20.0	3.54
C1-Fluorenes	ND		ng/l	20.0	3.54
C2-Fluorenes	ND		ng/l	20.0	3.54
C3-Fluorenes	ND		ng/l	20.0	3.54
Dibenzothiophene	0.606	J	ng/l	20.0	2.92
4-Methyldibenzothiophene(4MDT)	ND		ng/l	20.0	2.92

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/19/16 00:41
Analyst: AC

Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL
Alkylated PAHs by GC/MS - Mansfield Lab for sample(s): 01-03 Batch: WG875045-1					
2/3-Methyldibenzothiophene(2MDT)	ND		ng/l	20.0	2.92
1-Methyldibenzothiophene(1MDT)	ND		ng/l	20.0	2.92
C1-Dibenzothiophenes	ND		ng/l	20.0	2.92
C2-Dibenzothiophenes	ND		ng/l	20.0	2.92
C3-Dibenzothiophenes	ND		ng/l	20.0	2.92
C4-Dibenzothiophenes	ND		ng/l	20.0	2.92
Phenanthrene	1.62	J	ng/l	20.0	2.40
3-Methylphenanthrene (3MP)	ND		ng/l	20.0	2.40
2-Methylphenanthrene (2MP)	ND		ng/l	20.0	2.40
2-Methylanthracene (2MA)	ND		ng/l	20.0	2.40
9/4-Methylphenanthrene (9MP)	ND		ng/l	20.0	2.40
1-Methylphenanthrene (1MP)	ND		ng/l	20.0	2.40
C1-Phenanthrenes/Anthracenes	ND		ng/l	20.0	2.40
C2-Phenanthrenes/Anthracenes	ND		ng/l	20.0	2.40
C3-Phenanthrenes/Anthracenes	ND		ng/l	20.0	2.40
C4-Phenanthrenes/Anthracenes	ND		ng/l	20.0	2.40
Retene	ND		ng/l	20.0	5.60
Anthracene	ND		ng/l	20.0	3.62
Carbazole	ND		ng/l	20.0	3.08
Fluoranthene	0.590	J	ng/l	20.0	3.56
Benzo(b)fluorene	ND		ng/l	20.0	5.30
Pyrene	0.594	J	ng/l	20.0	3.64
C1-Fluoranthenes/Pyrenes	ND		ng/l	20.0	3.64
C2-Fluoranthenes/Pyrenes	ND		ng/l	20.0	3.64
C3-Fluoranthenes/Pyrenes	ND		ng/l	20.0	3.64
C4-Fluoranthenes/Pyrenes	ND		ng/l	20.0	3.64
Naphthobenzothiophene	ND		ng/l	20.0	3.28
C1-Naphthobenzothiophenes	ND		ng/l	20.0	3.28
C2-Naphthobenzothiophenes	ND		ng/l	20.0	3.28

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/19/16 00:41
Analyst: AC

Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL
Alkylated PAHs by GC/MS - Mansfield Lab for sample(s): 01-03 Batch: WG875045-1					
C3-Naphthobenzothiophenes	ND		ng/l	20.0	3.28
C4-Naphthobenzothiophenes	ND		ng/l	20.0	3.28
Benz(a)anthracene	0.464	J	ng/l	20.0	2.32
Chrysene/Triphenylene	0.898	J	ng/l	20.0	2.52
C1-Chrysenes	ND		ng/l	20.0	2.52
C2-Chrysenes	ND		ng/l	20.0	2.52
C3-Chrysenes	ND		ng/l	20.0	2.52
C4-Chrysenes	ND		ng/l	20.0	2.52
Benzo(b)fluoranthene	ND		ng/l	20.0	2.94
Benzo(j)+(k)Fluoranthene	ND		ng/l	20.0	2.98
Benzo(a)fluoranthene	ND		ng/l	20.0	2.98
Benzo(e)Pyrene	ND		ng/l	20.0	2.62
Benzo(a)pyrene	ND		ng/l	20.0	4.30
Perylene	ND		ng/l	20.0	3.66
Indeno(1,2,3-cd)Pyrene	ND		ng/l	20.0	4.92
Dibenz(a,h)+(a,c)anthracene	ND		ng/l	20.0	5.88
Benzo(ghi)perylene	ND		ng/l	20.0	5.30

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	85		50-130
Phenanthrene-d10	97		50-130
Benzo(a)pyrene-d12	81		50-130

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/23/16 21:59
Analyst: AC

Extraction Method: EPA 3580A
Extraction Date: 03/21/16 06:34

Parameter	Result	Qualifier	Units	RL	MDL
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab for sample(s): 04 Batch: WG875721-1					
Cis/Trans-Decalin	ND		mg/kg	1.00	0.753
C1-Decalins	ND		mg/kg	2.00	0.753
C2-Decalins	ND		mg/kg	2.00	0.753
C3-Decalins	ND		mg/kg	2.00	0.753
C4-Decalins	ND		mg/kg	2.00	0.753
Naphthalene	0.233	J	mg/kg	2.00	0.862
C1-Naphthalenes	0.220	J	mg/kg	2.00	0.862
C2-Naphthalenes	ND		mg/kg	2.00	0.862
C3-Naphthalenes	ND		mg/kg	2.00	0.862
C4-Naphthalenes	ND		mg/kg	2.00	0.862
2-Methylnaphthalene	0.102	J	mg/kg	2.00	0.774
1-Methylnaphthalene	0.096	J	mg/kg	2.00	0.945
Benzothiophene	ND		mg/kg	2.00	0.940
C1-Benzo(b)thiophenes	ND		mg/kg	2.00	0.940
C2-Benzo(b)thiophenes	ND		mg/kg	2.00	0.940
C3-Benzo(b)thiophenes	ND		mg/kg	2.00	0.940
C4-Benzo(b)thiophenes	ND		mg/kg	2.00	0.940
Biphenyl	ND		mg/kg	2.00	0.927
2,6-Dimethylnaphthalene	ND		mg/kg	2.00	0.713
Dibenzofuran	ND		mg/kg	2.00	0.945
Acenaphthylene	ND		mg/kg	2.00	0.572
Acenaphthene	ND		mg/kg	2.00	0.529
2,3,5-Trimethylnaphthalene	ND		mg/kg	2.00	0.491
Fluorene	0.113	J	mg/kg	2.00	0.800
C1-Fluorenes	ND		mg/kg	2.00	0.800
C2-Fluorenes	ND		mg/kg	2.00	0.800
C3-Fluorenes	ND		mg/kg	2.00	0.800
Dibenzothiophene	ND		mg/kg	2.00	0.827
4-Methyldibenzothiophene(4MDT)	ND		mg/kg	2.00	0.827

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/23/16 21:59
Analyst: AC

Extraction Method: EPA 3580A
Extraction Date: 03/21/16 06:34

Parameter	Result	Qualifier	Units	RL	MDL
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab for sample(s): 04 Batch: WG875721-1					
2/3-Methyldibenzothiophene(2MDT)	ND		mg/kg	2.00	0.827
1-Methyldibenzothiophene(1MDT)	ND		mg/kg	2.00	0.827
C1-Dibenzothiophenes	ND		mg/kg	2.00	0.827
C2-Dibenzothiophenes	ND		mg/kg	2.00	0.827
C3-Dibenzothiophenes	ND		mg/kg	2.00	0.827
C4-Dibenzothiophenes	ND		mg/kg	2.00	0.827
Phenanthrene	0.055	J	mg/kg	2.00	0.994
3-Methylphenanthrene (3MP)	ND		mg/kg	2.00	0.994
2-Methylphenanthrene (2MP)	ND		mg/kg	2.00	0.994
2-Methylanthracene (2MA)	ND		mg/kg	2.00	0.994
9/4-Methylphenanthrene (9MP)	ND		mg/kg	2.00	0.994
1-Methylphenanthrene (1MP)	ND		mg/kg	2.00	0.994
C1-Phenanthrenes/Anthracenes	ND		mg/kg	2.00	0.994
C2-Phenanthrenes/Anthracenes	ND		mg/kg	2.00	0.994
C3-Phenanthrenes/Anthracenes	ND		mg/kg	2.00	0.994
C4-Phenanthrenes/Anthracenes	ND		mg/kg	2.00	0.994
Retene	ND		mg/kg	2.00	0.736
Anthracene	ND		mg/kg	2.00	0.618
Carbazole	ND		mg/kg	2.00	0.981
Fluoranthene	ND		mg/kg	2.00	0.953
Benzo(b)fluorene	ND		mg/kg	2.00	0.869
Pyrene	ND		mg/kg	2.00	0.789
C1-Fluoranthenes/Pyrenes	ND		mg/kg	2.00	0.789
C2-Fluoranthenes/Pyrenes	ND		mg/kg	2.00	0.789
C3-Fluoranthenes/Pyrenes	ND		mg/kg	2.00	0.789
C4-Fluoranthenes/Pyrenes	ND		mg/kg	2.00	0.789
Naphthobenzothiophene	0.033	J	mg/kg	2.00	0.839
C1-Naphthobenzothiophenes	ND		mg/kg	2.00	0.839
C2-Naphthobenzothiophenes	ND		mg/kg	2.00	0.839

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/23/16 21:59
Analyst: AC

Extraction Method: EPA 3580A
Extraction Date: 03/21/16 06:34

Parameter	Result	Qualifier	Units	RL	MDL
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab for sample(s): 04 Batch: WG875721-1					
C3-Naphthobenzothiophenes	ND		mg/kg	2.00	0.839
C4-Naphthobenzothiophenes	ND		mg/kg	2.00	0.839
Benz(a)anthracene	0.046	J	mg/kg	2.00	0.612
Chrysene/Triphenylene	0.064	J	mg/kg	2.00	0.606
C1-Chrysenes	ND		mg/kg	2.00	0.606
C2-Chrysenes	ND		mg/kg	2.00	0.606
C3-Chrysenes	ND		mg/kg	2.00	0.406
C4-Chrysenes	ND		mg/kg	2.00	0.606
Benzo(b)fluoranthene	ND		mg/kg	2.00	0.780
Benzo(j)+(k)Fluoranthene	ND		mg/kg	2.00	0.595
Benzo(a)fluoranthene	ND		mg/kg	2.00	0.595
Benzo(e)Pyrene	ND		mg/kg	2.00	0.619
Benzo(a)pyrene	ND		mg/kg	2.00	0.856
Perylene	ND		mg/kg	2.00	0.579
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	2.00	0.814
Dibenz(a,h)+(a,c)anthracene	ND		mg/kg	2.00	0.810
Benzo(ghi)perylene	ND		mg/kg	2.00	0.797
Hopane (T19)	ND		mg/kg	2.00	0.854
C23 Tricyclic Terpane (T4)	ND		mg/kg	2.00	0.854
C24 Tricyclic Terpane (T5)	ND		mg/kg	2.00	0.854
C25 Tricyclic Terpane (T6)	ND		mg/kg	2.00	0.854
C24 Tetracyclic Terpane (T6a)	ND		mg/kg	2.00	0.854
C26 Tricyclic Terpane-22S (T6b)	ND		mg/kg	2.00	0.854
C26 Tricyclic Terpane-22R (T6c)	ND		mg/kg	2.00	0.854
C28 Tricyclic Terpane-22S (T7)	ND		mg/kg	2.00	0.854
C28 Tricyclic Terpane-22R (T8)	ND		mg/kg	2.00	0.854
C29 Tricyclic Terpane-22S (T9)	ND		mg/kg	2.00	0.854
C29 Tricyclic Terpane-22R (T10)	ND		mg/kg	2.00	0.854
18a-22,29,30-Trisnorneohopane-TS (T11)	ND		mg/kg	2.00	0.854

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/23/16 21:59
Analyst: AC

Extraction Method: EPA 3580A
Extraction Date: 03/21/16 06:34

Parameter	Result	Qualifier	Units	RL	MDL
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab for sample(s): 04 Batch: WG875721-1					
C30 Tricyclic Terpane-22S	ND		mg/kg	2.00	0.854
C30 Tricyclic Terpane-22R	ND		mg/kg	2.00	0.854
17a(H)-22,29,30-Trisnorhopane-TM (T12)	ND		mg/kg	2.00	0.854
17a/b,21b/a 28,30-Bisnorhopane (T14a)	ND		mg/kg	2.00	0.854
17a(H),21b(H)-25-Norhopane (T14b)	ND		mg/kg	2.00	0.854
30-Norhopane (T15)	ND		mg/kg	2.00	0.854
18a(H)-30-Norneohopane-C29Ts (T16)	ND		mg/kg	2.00	0.854
17a(H)-Diahopane (X)	ND		mg/kg	2.00	0.854
30-Normoretane (T17)	ND		mg/kg	2.00	0.854
18a(H)&18b(H)-Oleananes (T18)	ND		mg/kg	2.00	0.854
Moretane (T20)	ND		mg/kg	2.00	0.854
30-Homohopane-22S (T21)	ND		mg/kg	2.00	0.854
30-Homohopane-22R (T22)	ND		mg/kg	2.00	0.854
Gammacerane/C32-Diahopane	ND		mg/kg	2.00	0.854
30,31-Bishomohopane-22S (T26)	ND		mg/kg	2.00	0.854
30,31-Bishomohopane-22R (T27)	ND		mg/kg	2.00	0.854
30,31-Trishomohopane-22S (T30)	ND		mg/kg	2.00	0.854
30,31-Trishomohopane-22R (T31)	ND		mg/kg	2.00	0.854
Tetrakishomohopane-22S (T32)	ND		mg/kg	2.00	0.854
Tetrakishomohopane-22R (T33)	ND		mg/kg	2.00	0.854
Pentakishomohopane-22S (T34)	ND		mg/kg	2.00	0.854
Pentakishomohopane-22R (T35)	ND		mg/kg	2.00	0.854
13b(H),17a(H)-20S-Diacholestane (S4)	ND		mg/kg	2.00	0.666
13b(H),17a(H)-20R-Diacholestane (S5)	ND		mg/kg	2.00	0.666
13b,17a-20S-Methyldiacholestane (S8)	ND		mg/kg	2.00	0.666
17a(H)20SC27/C29dia	ND		mg/kg	2.00	0.666
17a(H)20rc27/C29dia	ND		mg/kg	2.00	0.666
Unknown Sterane (S18)	ND		mg/kg	2.00	0.666
13a,17b-20S-Ethyldiacholestane (S19)	ND		mg/kg	2.00	0.666

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM(M)
Analytical Date: 03/23/16 21:59
Analyst: AC

Extraction Method: EPA 3580A
Extraction Date: 03/21/16 06:34

Parameter	Result	Qualifier	Units	RL	MDL
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab for sample(s): 04 Batch: WG875721-1					
14a,17a-20S-Methylcholestane (S20)	ND		mg/kg	2.00	0.666
14a,17a-20R-Methylcholestane (S24)	ND		mg/kg	2.00	0.666
14a(H),17a(H)-20S-Ethylcholestane (S25)	ND		mg/kg	2.00	0.666
14a(H),17a(H)-20R-Ethylcholestane (S28)	ND		mg/kg	2.00	0.666
14b(H),17b(H)-20R-Cholestane (S14)	ND		mg/kg	2.00	0.666
14b(H),17b(H)-20S-Cholestane (S15)	ND		mg/kg	2.00	0.666
14b,17b-20R-Methylcholestane (S22)	ND		mg/kg	2.00	0.666
14b,17b-20S-Methylcholestane (S23)	ND		mg/kg	2.00	0.666
14b(H),17b(H)-20R-Ethylcholestane (S26)	ND		mg/kg	2.00	0.666
14b(H),17b(H)-20S-Ethylcholestane (S27)	ND		mg/kg	2.00	0.666
C26,20R- +C27,20S-Triaromatic Steroid	ND		mg/kg	2.00	0.666
C28,20S-Triaromatic Steroid	ND		mg/kg	2.00	0.666
C27,20R-Triaromatic Steroid	ND		mg/kg	2.00	0.666
C28,20R-Triaromatic Steroid	ND		mg/kg	2.00	0.666

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	90		50-130
Phenanthrene-d10	102		50-130
Benzo(a)pyrene-d12	89		50-130
5B(H)Cholane-Surr	107		50-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST

Project Number: Not Specified

Lab Number: L1607393

Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Alkylated PAHs by GC/MS - Mansfield Lab Associated sample(s): 01-03 Batch: WG875045-2 WG875045-3								
Naphthalene	86		90		50-130	5		30
2-Methylnaphthalene	89		93		50-130	4		30
Acenaphthylene	85		88		50-130	3		30
Acenaphthene	90		92		50-130	2		30
Fluorene	96		98		50-130	2		30
Phenanthrene	100		102		50-130	2		30
Anthracene	106		108		50-130	2		30
Fluoranthene	102		104		50-130	2		30
Pyrene	96		98		50-130	2		30
Benz(a)anthracene	94		98		50-130	4		30
Chrysene/Triphenylene	96		101		50-130	5		30
Benzo(b)fluoranthene	95		98		50-130	3		30
Benzo(j)+(k)fluoranthene	105		108		50-130	3		30
Benzo(a)pyrene	90		94		50-130	4		30
Indeno(1,2,3-cd)pyrene	81		83		50-130	2		30
Dibenz(a,h)+(a,c)anthracene	90		93		50-130	3		30
Benzo(g,h,i)perylene	88		90		50-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST

Project Number: Not Specified

Lab Number: L1607393

Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Alkylated PAHs by GC/MS - Mansfield Lab Associated sample(s): 01-03 Batch: WG875045-2 WG875045-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Naphthalene-d8	86		87		50-130
Phenanthrene-d10	100		100		50-130
Benzo(a)pyrene-d12	75		79		50-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST

Project Number: Not Specified

Lab Number: L1607393

Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 04 Batch: WG875721-2 WG875721-3								
Naphthalene	81		85		50-130	5		30
2-Methylnaphthalene	88		91		50-130	3		30
Acenaphthylene	85		89		50-130	5		30
Acenaphthene	87		88		50-130	1		30
Fluorene	88		93		50-130	6		30
Phenanthrene	89		92		50-130	3		30
Anthracene	97		100		50-130	3		30
Fluoranthene	90		94		50-130	4		30
Pyrene	87		88		50-130	1		30
Benz(a)anthracene	87		90		50-130	3		30
Chrysene/Triphenylene	86		87		50-130	1		30
Benzo(b)fluoranthene	88		89		50-130	1		30
Benzo(j)+(k)Fluoranthene	88		91		50-130	3		30
Benzo(a)pyrene	88		90		50-130	2		30
Indeno(1,2,3-cd)Pyrene	87		88		50-130	1		30
Dibenz(a,h)+(a,c)anthracene	87		89		50-130	2		30
Benzo(ghi)perylene	80		83		50-130	4		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST

Project Number: Not Specified

Lab Number: L1607393

Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 04 Batch: WG875721-2 WG875721-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Naphthalene-d8	90		90		50-130
Phenanthrene-d10	100		100		50-130
Benzo(a)pyrene-d12	87		87		50-130
5B(H)Cholane-Surr	103		105		50-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 04 QC Batch ID: WG875721-4 QC Sample: L1607393-04 Client ID: RXGW1-NAPL						
Cis/Trans-Decalin	586	601	mg/kg	3		30
C1-Decalins	904	917	mg/kg	1		30
C2-Decalins	860	879	mg/kg	2		30
C3-Decalins	492	490	mg/kg	0		30
C4-Decalins	514	514	mg/kg	0		30
Naphthalene	4.10	3.99	mg/kg	3		30
C1-Naphthalenes	5.98	6.18	mg/kg	3		30
C2-Naphthalenes	205	204	mg/kg	0		30
C3-Naphthalenes	559	553	mg/kg	1		30
C4-Naphthalenes	426	421	mg/kg	1		30
2-Methylnaphthalene	3.43	3.68	mg/kg	7		30
1-Methylnaphthalene	4.20	3.95	mg/kg	6		30
Benzothiophene	ND	ND	mg/kg	NC		30
C1-Benzo(b)thiophenes	33.9	33.8	mg/kg	0		30
C2-Benzo(b)thiophenes	11.7	12.0	mg/kg	3		30
C3-Benzo(b)thiophenes	26.0	24.5	mg/kg	6		30
C4-Benzo(b)thiophenes	21.3	21.6	mg/kg	1		30
Biphenyl	0.785J	0.838J	mg/kg	NC		30
2,6-Dimethylnaphthalene	6.75	6.77	mg/kg	0		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 04 QC Batch ID: WG875721-4 QC Sample: L1607393-04 Client ID: RXGW1-NAPL					
Dibenzofuran	4.73	5.50	mg/kg	15	30
Acenaphthylene	3.17	2.98	mg/kg	6	30
Acenaphthene	2.96	2.73	mg/kg	8	30
2,3,5-Trimethylnaphthalene	76.0	76.3	mg/kg	0	30
Fluorene	12.8	13.0	mg/kg	2	30
C1-Fluorenes	72.7	73.1	mg/kg	1	30
C2-Fluorenes	247	246	mg/kg	0	30
C3-Fluorenes	357	357	mg/kg	0	30
Dibenzothiophene	7.51	7.86	mg/kg	5	30
4-Methyldibenzothiophene(4MDT)	26.7	26.1	mg/kg	2	30
2/3-Methyldibenzothiophene(2MDT)	15.8	14.9	mg/kg	6	30
1-Methyldibenzothiophene(1MDT)	2.77	2.90	mg/kg	5	30
C1-Dibenzothiophenes	48.7	47.7	mg/kg	2	30
C2-Dibenzothiophenes	99.4	97.4	mg/kg	2	30
C3-Dibenzothiophenes	121	116	mg/kg	4	30
C4-Dibenzothiophenes	81.1	83.9	mg/kg	3	30
Phenanthrene	56.3	55.6	mg/kg	1	30
3-Methylphenanthrene (3MP)	63.9	64.2	mg/kg	0	30
2-Methylphenanthrene (2MP)	64.0	62.4	mg/kg	3	30

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 04 QC Batch ID: WG875721-4 QC Sample: L1607393-04 Client ID: RXGW1-NAPL					
2-Methylanthracene (2MA)	5.19	4.71	mg/kg	10	30
9/4-Methylphenanthrene (9MP)	96.4	94.1	mg/kg	2	30
1-Methylphenanthrene (1MP)	63.7	63.5	mg/kg	0	30
C1-Phenanthrenes/Anthracenes	304	298	mg/kg	2	30
C2-Phenanthrenes/Anthracenes	574	563	mg/kg	2	30
C3-Phenanthrenes/Anthracenes	525	513	mg/kg	2	30
C4-Phenanthrenes/Anthracenes	336	326	mg/kg	3	30
Retene	ND	ND	mg/kg	NC	30
Anthracene	4.41	3.69	mg/kg	18	30
Carbazole	ND	ND	mg/kg	NC	30
Fluoranthene	4.47	4.60	mg/kg	3	30
Benzo(b)fluorene	2.55	2.51	mg/kg	2	30
Pyrene	16.1	16.1	mg/kg	0	30
C1-Fluoranthenes/Pyrenes	58.6	57.9	mg/kg	1	30
C2-Fluoranthenes/Pyrenes	94.9	91.4	mg/kg	4	30
C3-Fluoranthenes/Pyrenes	132	129	mg/kg	2	30
C4-Fluoranthenes/Pyrenes	137	134	mg/kg	2	30
Naphthobenzothiophene	6.05	6.06	mg/kg	0	30
C1-Naphthobenzothiophenes	27.4	25.1	mg/kg	9	30

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 04 QC Batch ID: WG875721-4 QC Sample: L1607393-04 Client ID: RXGW1-NAPL					
C2-Naphthobenzothiophenes	47.3	45.4	mg/kg	4	30
C3-Naphthobenzothiophenes	39.8	38.8	mg/kg	3	30
C4-Naphthobenzothiophenes	54.6	51.0	mg/kg	7	30
Benz(a)anthracene	5.77	6.23	mg/kg	8	30
Chrysene/Triphenylene	31.2	33.0	mg/kg	6	30
C1-Chrysenes	101	101	mg/kg	0	30
C2-Chrysenes	143	145	mg/kg	1	30
C3-Chrysenes	158	159	mg/kg	1	30
C4-Chrysenes	108	106	mg/kg	2	30
Benzo(b)fluoranthene	1.72J	1.63J	mg/kg	NC	30
Benzo(j)+(k)Fluoranthene	0.848J	0.950J	mg/kg	NC	30
Benzo(a)fluoranthene	ND	ND	mg/kg	NC	30
Benzo(e)Pyrene	8.93	8.38	mg/kg	6	30
Benzo(a)pyrene	2.56	2.24	mg/kg	13	30
Perylene	ND	ND	mg/kg	NC	30
Indeno(1,2,3-cd)Pyrene	0.752J	0.748J	mg/kg	NC	30
Dibenz(a,h)+(a,c)anthracene	1.10J	0.953J	mg/kg	NC	30
Benzo(ghi)perylene	1.17J	1.15J	mg/kg	NC	30
Hopane (T19)	5.10	5.89	mg/kg	14	30

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 04 QC Batch ID: WG875721-4 QC Sample: L1607393-04 Client ID: RXGW1-NAPL					
C23 Tricyclic Terpane (T4)	8.19	6.72	mg/kg	20	30
C24 Tricyclic Terpane (T5)	ND	ND	mg/kg	NC	30
C25 Tricyclic Terpane (T6)	ND	ND	mg/kg	NC	30
C24 Tetracyclic Terpane (T6a)	ND	ND	mg/kg	NC	30
C26 Tricyclic Terpane-22S (T6b)	7.41	7.47	mg/kg	1	30
C26 Tricyclic Terpane-22R (T6c)	3.37	2.88	mg/kg	16	30
C28 Tricyclic Terpane-22S (T7)	ND	ND	mg/kg	NC	30
C28 Tricyclic Terpane-22R (T8)	ND	ND	mg/kg	NC	30
C29 Tricyclic Terpane-22S (T9)	3.59	2.98	mg/kg	19	30
C29 Tricyclic Terpane-22R (T10)	3.12	3.32	mg/kg	6	30
18a-22,29,30-Trisnorneohopane-TS (T11)	8.65	8.98	mg/kg	4	30
C30 Tricyclic Terpane-22S	1.76J	3.12	mg/kg	NC	30
C30 Tricyclic Terpane-22R	ND	ND	mg/kg	NC	30
17a(H)-22,29,30-Trisnorhopane-TM (T12)	ND	ND	mg/kg	NC	30
17a/b,21b/a 28,30-Bisnorhopane (T14a)	ND	ND	mg/kg	NC	30
17a(H),21b(H)-25-Norhopane (T14b)	ND	ND	mg/kg	NC	30
30-Norhopane (T15)	3.30	3.34	mg/kg	1	30
18a(H)-30-Norneohopane-C29Ts (T16)	3.39G	4.08	mg/kg	18	30
17a(H)-Diahopane (X)	5.14G	5.54	mg/kg	7	30

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 04 QC Batch ID: WG875721-4 QC Sample: L1607393-04 Client ID: RXGW1-NAPL					
30-Normoretane (T17)	ND	ND	mg/kg	NC	30
18a(H)&18b(H)-Oleananes (T18)	ND	ND	mg/kg	NC	30
Moretane (T20)	ND	ND	mg/kg	NC	30
30-Homohopane-22S (T21)	2.27	2.29	mg/kg	1	30
30-Homohopane-22R (T22)	2.56	2.03	mg/kg	23	30
Gammacerane/C32-Diahopane	ND	ND	mg/kg	NC	30
30,31-Bishomohopane-22S (T26)	ND	ND	mg/kg	NC	30
30,31-Bishomohopane-22R (T27)	ND	ND	mg/kg	NC	30
30,31-Trishomohopane-22S (T30)	ND	ND	mg/kg	NC	30
30,31-Trishomohopane-22R (T31)	ND	ND	mg/kg	NC	30
Tetrakishomohopane-22S (T32)	ND	ND	mg/kg	NC	30
Tetrakishomohopane-22R (T33)	ND	ND	mg/kg	NC	30
Pentakishomohopane-22S (T34)	ND	ND	mg/kg	NC	30
Pentakishomohopane-22R (T35)	ND	ND	mg/kg	NC	30
13b(H),17a(H)-20S-Diacholestane (S4)	31.0	28.8	mg/kg	7	30
13b(H),17a(H)-20R-Diacholestane (S5)	14.4	13.2	mg/kg	9	30
13b,17a-20S-Methyldiacholestane (S8)	11.4	10.8	mg/kg	5	30
17a(H)20SC27/C29dia	39.4	41.0	mg/kg	4	30
17a(H)20rc27/C29dia	30.4	35.0	mg/kg	14	30

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 04 QC Batch ID: WG875721-4 QC Sample: L1607393-04 Client ID: RXGW1-NAPL					
Unknown Sterane (S18)	10.3	12.5	mg/kg	19	30
13a,17b-20S-Ethyldiacholestane (S19)	ND	ND	mg/kg	NC	30
14a,17a-20S-Methylcholestane (S20)	12.4	12.1	mg/kg	2	30
14a,17a-20R-Methylcholestane (S24)	5.18	4.15	mg/kg	22	30
14a(H),17a(H)-20S-Ethylcholestane (S25)	5.48	5.96	mg/kg	8	30
14a(H),17a(H)-20R-Ethylcholestane (S28)	5.66	6.17	mg/kg	9	30
14b(H),17b(H)-20R-Cholestane (S14)	5.20	6.27	mg/kg	19	30
14b(H),17b(H)-20S-Cholestane (S15)	5.35	6.01	mg/kg	12	30
14b,17b-20R-Methylcholestane (S22)	2.58	3.07	mg/kg	17	30
14b,17b-20S-Methylcholestane (S23)	6.68G	6.38G	mg/kg	5	30
14b(H),17b(H)-20R-Ethylcholestane (S26)	9.33	9.72	mg/kg	4	30
14b(H),17b(H)-20S-Ethylcholestane (S27)	6.44	6.98	mg/kg	8	30
C26,20R- +C27,20S-Triaromatic Steroid	ND	ND	mg/kg	NC	30
C28,20S-Triaromatic Steroid	ND	ND	mg/kg	NC	30
C27,20R-Triaromatic Steroid	ND	ND	mg/kg	NC	30
C28,20R-Triaromatic Steroid	ND	ND	mg/kg	NC	30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits

Alkylated PAHs/Biomarkers by GC/MS - Mansfield Lab Associated sample(s): 04 QC Batch ID: WG875721-4 QC Sample: L1607393-04 Client ID: RXGW1-NAPL

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Naphthalene-d8	95		95		50-130
Phenanthrene-d10	94		94		50-130
Benzo(a)pyrene-d12	86		85		50-130
5B(H)Cholane-Surr	117		117		50-130

PETROLEUM HYDROCARBONS

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-01
Client ID: RXGW1
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8015D(M)
Analytical Date: 03/22/16 11:07
Analyst: AC

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	266		mg/l	0.805	0.129	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	93		50-130
d50-Tetracosane	92		50-130

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-02
Client ID: RXGW2
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8015D(M)
Analytical Date: 03/22/16 12:36
Analyst: AC

Date Collected: 03/11/16 14:10
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	21.7		mg/l	0.300	0.048	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	93		50-130
d50-Tetracosane	86		50-130

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-03
Client ID: RXGW3
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8015D(M)
Analytical Date: 03/22/16 14:04
Analyst: AC

Date Collected: 03/11/16 16:15
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	2.89	B	mg/l	0.078	0.012	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	91		50-130
d50-Tetracosane	87		50-130

Project Name: FLINT ST
Lab Number: L1607393
Project Number: Not Specified
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-04
Client ID: RXGW1-NAPL
Sample Location: Not Specified
Matrix: Oil
Analytical Method: 1,8015D(M)
Analytical Date: 03/22/16 00:54
Analyst: AC
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3580A
Extraction Date: 03/21/16 06:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	758000		mg/kg	5850	54.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	86		50-130
d50-Tetracosane	83		50-130

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 03/22/16 06:44
Analyst: AC

Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab for sample(s): 01-03 Batch: WG875045-1					
Total Petroleum Hydrocarbons (C9-C44)	0.00869	J	mg/l	0.06600	0.01060

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	89		50-130
d50-Tetracosane	87		50-130

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 03/21/16 19:03
Analyst: AC

Extraction Method: EPA 3580A
Extraction Date: 03/21/16 06:34

Parameter	Result	Qualifier	Units	RL	MDL
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab for sample(s): 04 Batch: WG875721-1					
Total Petroleum Hydrocarbons (C9-C44)	ND		mg/kg	6600	61.0

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	92		50-130
d50-Tetracosane	87		50-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST

Project Number: Not Specified

Lab Number: L1607393

Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab Associated sample(s): 01-03 Batch: WG875045-2 WG875045-3								
Nonane (C9)	70		72		50-130	3		30
Decane (C10)	75		74		50-130	1		30
Dodecane (C12)	80		85		50-130	6		30
Tetradecane (C14)	86		90		50-130	5		30
Hexadecane (C16)	102		105		50-130	3		30
Octadecane (C18)	101		103		50-130	2		30
Nonadecane (C19)	94		95		50-130	1		30
Eicosane (C20)	95		100		50-130	5		30
Docosane (C22)	98		99		50-130	1		30
Tetracosane (C24)	98		99		50-130	1		30
Hexacosane (C26)	97		98		50-130	1		30
Octacosane (C28)	101		102		50-130	1		30
Triacontane (C30)	99		100		50-130	1		30
Hexatriacontane (C36)	96		98		50-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	90		91		50-130
d50-Tetracosane	86		86		50-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST

Project Number: Not Specified

Lab Number: L1607393

Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab Associated sample(s): 04 Batch: WG875721-2 WG875721-3								
Nonane (C9)	88		92		50-130	4		30
Decane (C10)	86		89		50-130	3		30
Dodecane (C12)	88		90		50-130	2		30
Tetradecane (C14)	89		92		50-130	3		30
Hexadecane (C16)	96		98		50-130	2		30
Octadecane (C18)	98		100		50-130	2		30
Nonadecane (C19)	90		92		50-130	2		30
Eicosane (C20)	91		93		50-130	2		30
Docosane (C22)	92		94		50-130	2		30
Tetracosane (C24)	93		94		50-130	1		30
Hexacosane (C26)	92		93		50-130	1		30
Octacosane (C28)	94		95		50-130	1		30
Triacontane (C30)	94		95		50-130	1		30
Hexatriacontane (C36)	90		92		50-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	91		92		50-130
d50-Tetracosane	86		87		50-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab Associated sample(s): 04 QC Batch ID: WG875721-4 QC Sample: L1607393-04 Client ID: RXGW1-NAPL						
Total Petroleum Hydrocarbons (C9-C44)	758000	770000	mg/kg	2		30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	86		86		50-130
d50-Tetracosane	83		84		50-130

PCBS

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-01
Client ID: RXGW1
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8082A
Analytical Date: 03/18/16 23:51
Analyst: DP

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Mansfield Lab							
Aroclor 1016	ND		ug/l	0.048	0.048	1	A
Aroclor 1221	ND		ug/l	0.048	0.048	1	A
Aroclor 1232	ND		ug/l	0.048	0.048	1	A
Aroclor 1242	ND		ug/l	0.048	0.048	1	A
Aroclor 1248	ND		ug/l	0.048	0.048	1	A
Aroclor 1254	ND		ug/l	0.049	0.049	1	A
Aroclor 1260	ND		ug/l	0.049	0.049	1	A
Aroclor 1262	ND		ug/l	0.049	0.049	1	A
Aroclor 1268	ND		ug/l	0.049	0.049	1	A
PCBs, Total	ND		ug/l	0.049	0.049	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	71		30-150	A
Decachlorobiphenyl	32		30-150	A
Tetrachloro-meta-Xylene	47		30-150	B
Decachlorobiphenyl	**20**	Q	30-150	B

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-02
Client ID: RXGW2
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8082A
Analytical Date: 03/19/16 00:22
Analyst: DP

Date Collected: 03/11/16 14:10
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Mansfield Lab							
Aroclor 1016	ND		ug/l	0.182	0.182	1	A
Aroclor 1221	ND		ug/l	0.182	0.182	1	A
Aroclor 1232	ND		ug/l	0.182	0.182	1	A
Aroclor 1242	ND		ug/l	0.182	0.182	1	A
Aroclor 1248	ND		ug/l	0.182	0.182	1	A
Aroclor 1254	ND		ug/l	0.182	0.182	1	A
Aroclor 1260	ND		ug/l	0.182	0.182	1	A
Aroclor 1262	ND		ug/l	0.182	0.182	1	A
Aroclor 1268	ND		ug/l	0.182	0.182	1	A
PCBs, Total	ND		ug/l	0.182	0.182	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	63		30-150	A
Decachlorobiphenyl	56		30-150	A
Tetrachloro-meta-Xylene	48		30-150	B
Decachlorobiphenyl	38		30-150	B

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-03
Client ID: RXGW3
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8082A
Analytical Date: 03/19/16 00:53
Analyst: DP

Date Collected: 03/11/16 16:15
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Mansfield Lab							
Aroclor 1016	ND		ug/l	0.047	0.047	1	A
Aroclor 1221	ND		ug/l	0.047	0.047	1	A
Aroclor 1232	ND		ug/l	0.047	0.047	1	A
Aroclor 1242	ND		ug/l	0.047	0.047	1	A
Aroclor 1248	ND		ug/l	0.047	0.047	1	A
Aroclor 1254	ND		ug/l	0.047	0.047	1	A
Aroclor 1260	ND		ug/l	0.047	0.047	1	A
Aroclor 1262	ND		ug/l	0.047	0.047	1	A
Aroclor 1268	ND		ug/l	0.047	0.047	1	A
PCBs, Total	ND		ug/l	0.047	0.047	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	74		30-150	A
Decachlorobiphenyl	44		30-150	A
Tetrachloro-meta-Xylene	60		30-150	B
Decachlorobiphenyl	**29**	Q	30-150	B

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 03/18/16 16:43
Analyst: DP

Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Mansfield Lab for sample(s): 01-03 Batch: WG875047-1						
Aroclor 1016	ND		ug/l	0.040	0.040	A
Aroclor 1221	ND		ug/l	0.040	0.040	A
Aroclor 1232	ND		ug/l	0.040	0.040	A
Aroclor 1242	ND		ug/l	0.040	0.040	A
Aroclor 1248	ND		ug/l	0.040	0.040	A
Aroclor 1254	ND		ug/l	0.040	0.040	A
Aroclor 1260	ND		ug/l	0.040	0.040	A
Aroclor 1262	ND		ug/l	0.040	0.040	A
Aroclor 1268	ND		ug/l	0.040	0.040	A
PCBs, Total	ND		ug/l	0.040	0.040	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	75		30-150	A
Decachlorobiphenyl	79		30-150	A
Tetrachloro-meta-Xylene	69		30-150	B
Decachlorobiphenyl	70		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST

Project Number: Not Specified

Lab Number: L1607393

Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Mansfield Lab Associated sample(s): 01-03 Batch: WG875047-2 WG875047-3									
Aroclor 1016	96		89		40-140	8		50	A
Aroclor 1260	99		87		40-140	10		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	83		75		30-150	A
Decachlorobiphenyl	74		63		30-150	A
Tetrachloro-meta-Xylene	73		69		30-150	B
Decachlorobiphenyl	62		57		30-150	B

PESTICIDES

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-01 D
Client ID: RXGW1
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8081B
Analytical Date: 03/23/16 15:53
Analyst: DP

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00
Cleanup Method: EPA 3640A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Mansfield Lab							
Alpha-BHC	ND		ug/l	0.0061	0.0061	5	A
Hexachlorobenzene	ND		ug/l	0.0244	0.0244	5	A
Beta-BHC	ND		ug/l	0.0061	0.0061	5	A
gamma-BHC	ND		ug/l	0.0061	0.0061	5	A
Delta-BHC	ND		ug/l	0.0061	0.0061	5	A
Heptachlor	ND		ug/l	0.0061	0.0061	5	A
Aldrin	ND		ug/l	0.0122	0.0122	5	A
Heptachlor epoxide	ND		ug/l	0.0061	0.0061	5	B
Oxychlordane	ND		ug/l	0.0061	0.0061	5	B
trans-Chlordane	ND		ug/l	0.0061	0.0061	5	A
2,4'-DDE	ND		ug/l	0.0061	0.0061	5	A
Endosulfan I	ND		ug/l	0.0061	0.0061	5	A
cis-Chlordane	ND		ug/l	0.0061	0.0061	5	A
trans-Nonachlor	ND		ug/l	0.0061	0.0061	5	A
4,4'-DDE	ND		ug/l	0.0061	0.0061	5	A
Dieldrin	ND		ug/l	0.0061	0.0061	5	A
2,4'-DDD	ND		ug/l	0.0061	0.0061	5	A
Endrin	ND		ug/l	0.0061	0.0061	5	A
Endosulfan II	ND		ug/l	0.0061	0.0061	5	A
4,4'-DDD	ND		ug/l	0.0061	0.0061	5	A
2,4'-DDT	ND		ug/l	0.0061	0.0061	5	A
cis-Nonachlor	ND		ug/l	0.0061	0.0061	5	A
Endrin aldehyde	ND		ug/l	0.0061	0.0061	5	A
Endosulfan sulfate	ND		ug/l	0.0061	0.0061	5	A
4,4'-DDT	ND		ug/l	0.0061	0.0061	5	A
Endrin ketone	ND		ug/l	0.0061	0.0061	5	A
Methoxychlor	ND		ug/l	0.0610	0.0610	5	A
Mirex	ND		ug/l	0.0061	0.0061	5	A
Toxaphene	ND		ug/l	0.305	0.305	5	A
Chlordane	ND		ug/l	0.305	0.305	5	A

Project Name: FLINT ST
Lab Number: L1607393
Project Number: Not Specified
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-01 D
Client ID: RXGW1
Sample Location: Not Specified

Date Collected: 03/11/16 12:00
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Mansfield Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	72		30-150	A
Decachlorobiphenyl	41		30-150	A
Tetrachloro-meta-Xylene	69		30-150	B
Decachlorobiphenyl	44		30-150	B

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-02
Client ID: RXGW2
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8081B
Analytical Date: 03/23/16 16:27
Analyst: DP

Date Collected: 03/11/16 14:10
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00
Cleanup Method: EPA 3640A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Mansfield Lab							
Alpha-BHC	ND		ug/l	0.0045	0.0045	1	A
Hexachlorobenzene	ND		ug/l	0.0182	0.0182	1	A
Beta-BHC	ND		ug/l	0.0045	0.0045	1	A
gamma-BHC	ND		ug/l	0.0045	0.0045	1	A
Delta-BHC	ND		ug/l	0.0045	0.0045	1	A
Heptachlor	ND		ug/l	0.0045	0.0045	1	A
Aldrin	ND		ug/l	0.0090	0.0090	1	A
Heptachlor epoxide	ND		ug/l	0.0045	0.0045	1	B
Oxychlordane	ND		ug/l	0.0045	0.0045	1	B
trans-Chlordane	ND		ug/l	0.0045	0.0045	1	A
2,4'-DDE	ND		ug/l	0.0045	0.0045	1	A
Endosulfan I	ND		ug/l	0.0045	0.0045	1	A
cis-Chlordane	ND		ug/l	0.0045	0.0045	1	A
trans-Nonachlor	ND		ug/l	0.0045	0.0045	1	A
4,4'-DDE	ND		ug/l	0.0045	0.0045	1	A
Dieldrin	ND		ug/l	0.0045	0.0045	1	A
2,4'-DDD	ND		ug/l	0.0045	0.0045	1	A
Endrin	ND		ug/l	0.0045	0.0045	1	A
Endosulfan II	ND		ug/l	0.0045	0.0045	1	A
4,4'-DDD	ND		ug/l	0.0045	0.0045	1	A
2,4'-DDT	ND		ug/l	0.0045	0.0045	1	A
cis-Nonachlor	ND		ug/l	0.0045	0.0045	1	A
Endrin aldehyde	ND		ug/l	0.0045	0.0045	1	A
Endosulfan sulfate	ND		ug/l	0.0045	0.0045	1	A
4,4'-DDT	ND		ug/l	0.0045	0.0045	1	A
Endrin ketone	ND		ug/l	0.0045	0.0045	1	A
Methoxychlor	ND		ug/l	0.0454	0.0454	1	A
Mirex	ND		ug/l	0.0045	0.0045	1	A
Toxaphene	ND		ug/l	0.227	0.227	1	A
Chlordane	ND		ug/l	0.227	0.227	1	A

Project Name: FLINT ST
Lab Number: L1607393
Project Number: Not Specified
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-02
Client ID: RXGW2
Sample Location: Not Specified
Date Collected: 03/11/16 14:10
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Mansfield Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	88		30-150	A
Decachlorobiphenyl	80		30-150	A
Tetrachloro-meta-Xylene	96		30-150	B
Decachlorobiphenyl	81		30-150	B

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-03
Client ID: RXGW3
Sample Location: Not Specified
Matrix: Water
Analytical Method: 1,8081B
Analytical Date: 03/23/16 17:01
Analyst: DP

Date Collected: 03/11/16 16:15
Date Received: 03/14/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00
Cleanup Method: EPA 3640A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Mansfield Lab							
Alpha-BHC	0.0044		ug/l	0.0011	0.0011	1	A
Hexachlorobenzene	ND		ug/l	0.0047	0.0047	1	A
Beta-BHC	0.0133	P	ug/l	0.0011	0.0011	1	B
gamma-BHC	0.0044		ug/l	0.0011	0.0011	1	A
Delta-BHC	ND		ug/l	0.0011	0.0011	1	A
Heptachlor	ND		ug/l	0.0011	0.0011	1	A
Aldrin	ND		ug/l	0.0023	0.0023	1	A
Heptachlor epoxide	ND		ug/l	0.0011	0.0011	1	B
Oxychlordane	ND		ug/l	0.0011	0.0011	1	B
trans-Chlordane	ND		ug/l	0.0011	0.0011	1	A
2,4'-DDE	ND		ug/l	0.0011	0.0011	1	A
Endosulfan I	ND		ug/l	0.0011	0.0011	1	A
cis-Chlordane	ND		ug/l	0.0011	0.0011	1	A
trans-Nonachlor	ND		ug/l	0.0011	0.0011	1	A
4,4'-DDE	0.0012		ug/l	0.0011	0.0011	1	B
Dieldrin	ND		ug/l	0.0011	0.0011	1	A
2,4'-DDD	ND		ug/l	0.0011	0.0011	1	A
Endrin	ND		ug/l	0.0011	0.0011	1	A
Endosulfan II	ND		ug/l	0.0011	0.0011	1	A
4,4'-DDD	ND		ug/l	0.0011	0.0011	1	A
2,4'-DDT	ND		ug/l	0.0011	0.0011	1	A
cis-Nonachlor	ND		ug/l	0.0011	0.0011	1	A
Endrin aldehyde	ND		ug/l	0.0011	0.0011	1	A
Endosulfan sulfate	ND		ug/l	0.0011	0.0011	1	A
4,4'-DDT	ND		ug/l	0.0011	0.0011	1	A
Endrin ketone	ND		ug/l	0.0011	0.0011	1	A
Methoxychlor	ND		ug/l	0.0118	0.0118	1	A
Mirex	ND		ug/l	0.0011	0.0011	1	A
Toxaphene	ND		ug/l	0.0588	0.0588	1	A
Chlordane	ND		ug/l	0.0588	0.0588	1	A

Project Name: FLINT ST
Project Number: Not Specified
Lab Number: L1607393
Report Date: 03/31/16

SAMPLE RESULTS

Lab ID: L1607393-03
Client ID: RXGW3
Sample Location: Not Specified
Date Collected: 03/11/16 16:15
Date Received: 03/14/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Mansfield Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	81		30-150	A
Decachlorobiphenyl	62		30-150	A
Tetrachloro-meta-Xylene	94		30-150	B
Decachlorobiphenyl	66		30-150	B

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8081B
Analytical Date: 03/23/16 14:11
Analyst: DP

Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Cleanup Method: EPA 3640A

Parameter	Result	Qualifier	Units	RL	MDL	Column
Organochlorine Pesticides by GC - Mansfield Lab for sample(s): 01-03 Batch: WG875046-1						
Alpha-BHC	ND		ug/l	0.0010	0.0010	A
Hexachlorobenzene	ND		ug/l	0.0040	0.0040	A
Beta-BHC	ND		ug/l	0.0010	0.0010	A
gamma-BHC	ND		ug/l	0.0010	0.0010	A
Heptachlor	ND		ug/l	0.0010	0.0010	A
trans-Chlordane	ND		ug/l	0.0010	0.0010	A
2,4'-DDE	ND		ug/l	0.0010	0.0010	A
Endosulfan I	ND		ug/l	0.0010	0.0010	A
cis-Chlordane	ND		ug/l	0.0010	0.0010	A
trans-Nonachlor	ND		ug/l	0.0010	0.0010	A
4,4'-DDE	ND		ug/l	0.0010	0.0010	A
Dieldrin	ND		ug/l	0.0010	0.0010	A
2,4'-DDD	ND		ug/l	0.0010	0.0010	A
Endrin	ND		ug/l	0.0010	0.0010	A
Endosulfan II	ND		ug/l	0.0010	0.0010	A
4,4'-DDD	ND		ug/l	0.0010	0.0010	A
2,4'-DDT	ND		ug/l	0.0010	0.0010	A
cis-Nonachlor	ND		ug/l	0.0010	0.0010	A
Endrin aldehyde	ND		ug/l	0.0010	0.0010	A
Endosulfan sulfate	ND		ug/l	0.0010	0.0010	A
4,4'-DDT	ND		ug/l	0.0010	0.0010	A
Endrin ketone	ND		ug/l	0.0010	0.0010	A
Methoxychlor	ND		ug/l	0.0100	0.0100	A
Mirex	ND		ug/l	0.0010	0.0010	A
Toxaphene	ND		ug/l	0.0500	0.0500	A
Chlordane	ND		ug/l	0.0500	0.0500	A
Delta-BHC	ND		ug/l	0.0010	0.0010	B
Aldrin	ND		ug/l	0.0020	0.0020	B
Heptachlor epoxide	ND		ug/l	0.0010	0.0010	B

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8081B
Analytical Date: 03/23/16 14:11
Analyst: DP

Extraction Method: EPA 3510C
Extraction Date: 03/18/16 07:00

Cleanup Method: EPA 3640A

Parameter	Result	Qualifier	Units	RL	MDL	
Organochlorine Pesticides by GC - Mansfield Lab for sample(s): 01-03 Batch: WG875046-1						
Oxychlordane	ND		ug/l	0.0010	0.0010	B

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	69		30-150	A
Decachlorobiphenyl	72		30-150	A
Tetrachloro-meta-Xylene	70		30-150	B
Decachlorobiphenyl	72		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Mansfield Lab Associated sample(s): 01-03 Batch: WG875046-2 WG875046-3									
Alpha-BHC	90		79		40-140	13		50	A
Hexachlorobenzene	75		66		40-140	13		50	A
Beta-BHC	84		79		40-140	6		50	A
gamma-BHC	91		82		40-140	11		50	A
Heptachlor	86		77		40-140	11		50	A
Aldrin	87		77		40-140	12		50	A
trans-Chlordane	92		87		40-140	6		50	A
2,4'-DDE	84		79		40-140	6		50	A
Endosulfan I	88		84		40-140	5		50	A
cis-Chlordane	90		85		40-140	6		50	A
trans-Nonachlor	87		81		40-140	7		50	A
4,4'-DDE	93		88		40-140	5		50	A
Dieldrin	100		96		40-140	4		50	A
2,4'-DDD	86		83		40-140	4		50	A
Endrin	98		95		40-140	4		50	A
Endosulfan II	98		97		40-140	2		50	A
4,4'-DDD	103		99		40-140	4		50	A
2,4'-DDT	89		85		40-140	4		50	A
cis-Nonachlor	84		81		40-140	4		50	A
Endrin aldehyde	103		103		40-140	0		50	A
Endosulfan sulfate	100		99		40-140	1		50	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST

Project Number: Not Specified

Lab Number: L1607393

Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	
Organochlorine Pesticides by GC - Mansfield Lab Associated sample(s): 01-03 Batch: WG875046-2 WG875046-3									
4,4'-DDT	100		97		40-140	3		50	A
Endrin ketone	108		107		40-140	1		50	A
Methoxychlor	99		97		40-140	2		50	A
Mirex	77		74		40-140	4		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	79		68		30-150	A
Decachlorobiphenyl	63		65		30-150	A
Tetrachloro-meta-Xylene	78		69		30-150	B
Decachlorobiphenyl	64		67		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST

Project Number: Not Specified

Lab Number: L1607393

Report Date: 03/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Mansfield Lab Associated sample(s): 01-03 Batch: WG875046-2 WG875046-3									
Delta-BHC	54		52		40-140	5		50	B
Heptachlor epoxide	93		88		40-140	5		50	B
Oxychlordane	87		81		40-140	7		50	B

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
Tetrachloro-meta-Xylene	79		68		30-150	A
Decachlorobiphenyl	63		65		30-150	A
Tetrachloro-meta-Xylene	78		69		30-150	B
Decachlorobiphenyl	64		67		30-150	B

Project Name: FLINT ST
Project Number: Not Specified

Lab Number: L1607393
Report Date: 03/31/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1607393-01A	Amber 1000ml unpreserved	A	N/A	4.6	Y	Absent	A2-NFTPH(7),A2-PCB-8082-LOW(7),A2-PEST-8081-LOW(7),A2-NFALKPAH(7)
L1607393-01B	Vial HCl preserved	A	N/A	4.6	Y	Absent	A2-NFPIANO8260(14)
L1607393-01C	Vial unpreserved	A	N/A	4.6	Y	Absent	A2-NFPIANO8260(14)
L1607393-02A	Plastic 500ml unpreserved	A	N/A	4.6	Y	Absent	A2-NFTPH(7),A2-PCB-8082-LOW(7),A2-PEST-8081-LOW(7),A2-NFALKPAH(7)
L1607393-02B	Vial HCl preserved	A	N/A	4.6	Y	Absent	A2-NFPIANO8260(14)
L1607393-02C	Vial unpreserved	A	N/A	4.6	Y	Absent	A2-NFPIANO8260(14)
L1607393-03A	Amber 1000ml unpreserved	A	N/A	4.6	Y	Absent	A2-NFTPH(7),A2-PCB-8082-LOW(7),A2-PEST-8081-LOW(7),A2-NFALKPAH(7)
L1607393-03B	Vial HCl preserved	A	N/A	4.6	Y	Absent	A2-NFPIANO8260(14)
L1607393-03C	Vial unpreserved	A	N/A	4.6	Y	Absent	A2-NFPIANO8260(14)
L1607393-04X	Glass 60mL/2oz unpreserved	A	N/A	4.6	Y	Absent	A2-NFALKPAHBIOMARKER(365),A2-NFTPH(365)

*Values in parentheses indicate holding time in days

Project Name:	FLINT ST	**Lab Number:**	L1607393
Project Number:	Not Specified	**Report Date:**	03/31/16

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

Report Format: DU Report with 'J' Qualifiers

Project Name:	FLINT ST	**Lab Number:**	L1607393
Project Number:	Not Specified	**Report Date:**	03/31/16

Data Qualifiers

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 524.2: 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene
EPA 624: 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene
EPA 625: Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.
EPA 1010A: NPW: Ignitability
EPA 6010C: NPW: Strontium; SCM: Strontium
EPA 8151A: NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate (soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 9010: NPW: Amenable Cyanide Distillation, Total Cyanide Distillation
EPA 9038: NPW: Sulfate
EPA 9050A: NPW: Specific Conductance
EPA 9056: NPW: Chloride, Nitrate, Sulfate
EPA 9065: NPW: Phenols
EPA 9251: NPW: Chloride
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
EPA 8270D: NPW: Biphenyl; SCM: Biphenyl, Caprolactam
EPA 8270D-SIM Isotope Dilution: SCM: 1,4-Dioxane
SM 2540D: TSS
SM2540G: SCM: Percent Solids
EPA 1631E: SCM: Mercury
EPA 7474: SCM: Mercury
EPA 8081B: NPW and SCM: Mirex, Hexachlorobenzene.
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA 8270-SIM: NPW and SCM: Alkylated PAHs.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene, n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene.
Biological Tissue Matrix: ***8270D-SIM; 3050B; 3051A; 7471B; 8081B; 8082A; 6020A:*** Lead***; 8270D:*** bis(2-ethylhexyl)phthalate, Butylbenzylphthalate, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Di-n-octyl phthalate, Fluoranthene, Pentachlorophenol.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F,**
EPA 353.2: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Date Rec'd in Lab:

ALPHA Job #: L1603006 L1607393

Client Information

Client: Roux Associates
Address: 12 Gill St #4700
Woburn, MA 01801
Phone: 781-569-4032
Email: mcasey@rouxinc.com

Project Information

Project Name: Rochester, Vacuum Oil Terminal
Project Location: Rochester, NY
Project #: 0172.0180M008
Project Manager: Matt Casey
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due:

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Additional Project Information:

Newfields Forensic Analysis

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials
L1603006-11	RX-8A	3.11.16	3:40	SO	MC
12	RX-8B	3.11.16	3:40	SO	MC
L1607393-01	RX GW 1	3.11.16	1200	H_2O	MC
02	RX GW 2	3.11.16	2:10	H_2O	MC
03	RX GW 3	3.11.16	415	H_2O	MC
	TRIP	3.11.16	0900	SO H_2O	MC

ANALYSIS: ☐ VOC: ☐ 8260 ☐ 624 ☐ 524.2 | ☐ SVOC: ☐ ABN ☒ PAH 4 LK | ☐ METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15 | ☐ MEHG-S: ☐ RGRA5 ☐ RGRA0 ☐ PP13 | ☐ EPH: ☐ Ranges & Targets ☐ Ranges Only | ☐ VPH: ☐ Ranges & Targets ☐ Ranges Only | ☒ PCB ☒ PEST | ☐ TPH: ☐ Quant Only ☒ Fingerprint

SAMPLE INFO
Filtration: ☐ Field ☐ Lab to do
Preservation: ☐ Lab to do

TOTAL # BOTTLES

Sample Comments

L1607393
NAPL isolated - DF

Container Type											
Preservative											

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Matthew Casey	3.14.16 1PM		3-14-16 1PM
	3/14/16 1400		3/14/16 1510
	3/14/16 1700		3/14/16 1700
	3/15/16 0325		3.15.16 0325

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ANALYTICAL REPORT

Prepared for:
NewFields
300 Ledgewood Place, Suite 305
Rockland, MA 02370

Project: Flint Street
ETR: 1603006
Report Date: April 04, 2016

Certifications and Accreditations
Massachusetts M-MA030
Connecticut PH-0141
New Hampshire 2206
Rhode Island LAO00289
New Jersey MA015
Maine MA0030
New York 11627
Louisiana 03090
Florida E87814
Pennsylvania 68-02089
Army Corps of Engineers
Department of the Navy

Sample ID Cross Reference

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**
ETR: **1603006**

Lab Sample ID	Client Sample ID	Matrix
1603006-01	RX-1	Soil
1603006-02	RX-2	Soil
1603006-03	RX-3	Soil
1603006-04	RX-4	Soil
1603006-05	RX-5	Soil
1603006-06	RX-6	Soil
1603006-07	RX-7	Soil
1603006-08	RX-7A	Soil
1603006-09	RX-7B	Soil
1603006-10	RX-8	Soil
1603006-11	RX-8A	Soil
1603006-12	RX-8B	Soil

Certificate/Approval Program Summary

Method numbers assume the most recent EPA revisions. For a complete listing of analytes for the referenced methods please contact your Alpha Woods Hole Lab Project Manager or the Quality Assurance Manager.

Connecticut Department of Public Health Certificate/Lab ID : PH-0141 - *Wastewater* (General Chemistry: EPA 120.1, 150.1, 160.1, 160.2, 180.1, 300.0, 310.1, 335.2, 365.2; Metals: 200.8, 245.1; Organics: 608, 624, 625, ETPH) *Solid Waste/Soil* (General Chemistry: 1010, 9010/9014, 9045, 9060; Metals: 6020, 7470, 7471; Organics: 8081, 8082, 8260, 8270, ETPH).

Florida Department of Health Certificate/Lab ID : E87814 - Primary NELAP Accreditation Authority for Air & Emissions. Secondary NELAP Accreditation for Wastwater and Solid & Hazardous Waste. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 335.2, 365.2, SM2320B, SM2340B, SM2540G, SM4500NH3; Metals: 245.1; Organics: 608, 624, 625). *Solid and Hazardous Waste* (General Chemistry: 9010/9014, 9045, 9050, 9056, 9065, Reactivity 7.3; Metals: 6020, 7470, 7471; Organics: 8081, 8082, 8260, 8270). *Air & Emissions* (Organics: EPA TO-15).

Louisiana Department of Environmental Quality Certificate/Lab ID : 03090 - Primary NELAP Accrediting Authority for Wastewater, Solid & Hazardous Waste. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 365.2, 376.2, 9010/9014, 9056, SM2540G; Metals: 200.8, 245.1, 6020; Organics: 608, 624, 625, 8015-DRO/GRO, 8081, 8082, 8260, 8270). *Solid and Hazardous Waste* (General Chemistry: 1010, 1311, 9010/9014, 9040, 9045, 9056, 9060, Reactivity 7.3; Metals: 6020, 7196, 7470, 7471; Organics: 8015-DRO/GRO, 8081, 8082, 8260, 8270).

Maine Department of Human Services Certificate/Lab ID : MA0030 - *Wastewater* (General Chemistry: EPA 120.1/ SM2510B, 160.1/SM2540C, 160.2/SM2540D, 300.0, 310.1/SM2320B, 335.2, 365.2; Metals: EPA 245.1; Organics: 608, 624).

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030 - *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 300.0, 310.1/SM2320B, 335.2, 365.2; Metals: EPA 245.1; Organics: EPA 608, 624).

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206 - Secondary NELAP Accreditation. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 365.2, 376.2, SM2540G; Metals: 200.8, 245.4; Organics: 608, 624, 625).

New Jersey Department of Environmental Protection Certificate/Lab ID : MA015 - Secondary NELAP Accreditation. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 376.2, 9010/9014, 9056, SM2540G; Metals: 200.8, 245.1 6020; Organics: 608, 624, 625, 8081, 8082, 8260, 8270). *Solid & Hazardous Waste* (General Chemistry: EPA 1010, 1311, 9010/9014, 9040, 9045, 9056, 9060; Metals: 6020, 7196, 7470, 7471; Organics: 8015-DRO/GRO, 8081, 8082, 8260, 8270). *Air & Emissions* (Organics: EPA TO-15).

New York Department of Health Certificate/Lab ID : 11627 - Secondary NELAP Accreditation. *Wastewater* (General Chemistry: EPA 120.1/SM2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 300.0, 310.1/SM2320B, 365.2, 376.2; Metals: 245.1; Organics: 608, 624, 625). *Solid and Hazardous Waste* (General Chemistry: EPA 1010, 1311; : 245.1; 6020, 7041; Organics: 8081, 8082, 8260, 8270). *Air & Emissions* (Organics: EPA TO-15).

Rhode Island Department of Health Certificate/Lab ID : LAO00289 - Chemistry: *Organic and Inorganic in Non-Poratable Water, Wastewater/Sewage and Soil* (Refer to LADEQ and MADEP certificates for method numbers.)

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-02089 - Registered laboratory

U.S. Army Corps of Engineers

Department of the Navy

CASE NARRATIVE
Alpha Analytical

ETR: 1603006
Project: Flint Street

All analyses were performed according to the Alpha Analytical quality assurance program and documented Standard Operating Procedures (SOPs). The analytical results contained in this report were performed within holding time, and with appropriate quality control measures, except where noted. A summary of all state and federal accreditations is provided within this report. Blank correction of results is not performed in the laboratory for any parameter. Alpha Analytical certifies that the test results within meet all of the requirements of NELAC, for all NELAC accredited parameters.

Sample Receipt

Samples 1603006-01 through -12 were received on March 15, 2016, in good condition, between 2° and 6°C. PIANO samples were received in methanol preserved VOC vials.

PIANO Volatiles by GC/MS- Soil

Volatile Organic Compounds were analyzed by GC/MS following the procedures in the Alpha Analytical SOP *PIANO Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (SOP 2255, Rev. 4, 7/27/15)* Method 8260B, modified. Soil samples were prepared by removing an approximate 5g sample aliquot and adding it to a vial containing 10 mL of Methanol. 100uL of the methanol extract was removed and added to 5mL of water for analysis. Volatile compounds were introduced into the GC by the purge-and-trap method. Internal standards and surrogates along with an additional aliquot of water were added to the samples, and the samples were heated to 40°C and agitated during the purge. Purged sample components were trapped in a tube containing suitable sorbent materials. The sorbent tube was then heated and back flushed to desorb trapped sample components. The analytes were desorbed directly to a gas chromatograph equipped with a narrow bore capillary column for analysis and detection by mass spectrometry. Qualitative identifications were confirmed by analyzing standards under the same conditions used for samples and comparing mass spectra and GC retention times. Quantification was based on the average response factor derived from a multi-level initial calibration using internal standard techniques. All enclosed data was evaluated below the reporting limits to three times signal to noise. The sample specific reporting limit is the value reported for all compounds which are not detected ("U" qualified).

The initial calibration analyzed on 03/01/16, P4030216.M, has the Relative Standard Deviation (RSD) above the 25% limit for Tridecane (31.2%). The RSD was below 35% and the compound represents less than 10% of the analytes, therefore the calibration was accepted. The Independent Calibration Verification (ICV) I403011603 had the compound Tertiary butanol above the QC limit (20%) at 22.9%. This value represents less than 10% of all compounds, therefore the calibration was accepted.

1. The method blank VS031816B01 contained low-level analytes detected below the reporting limit. Associated field sample results are flagged with "B" qualifiers if the concentration of the analytes in the sample is less than 10x the concentration in the blank.

2. The continuing calibration verification, C403181602, had the percent deviation for 1-Methylnaphthalene above the 25%D QC limit at 25.2%D. This value was below 35%D and represents less than 10% of all compounds, therefore the calibration was accepted.

3. An analytical duplicate sample analysis was performed on sample RX-5 (1603006-05). The surrogate recovery for 2-Bromo-1-chloropropane was above acceptance criteria for the duplicate analysis (1603006-05D) at 137%. All other duplicate criteria were met and no further action was taken.

4. Two of the extraction surrogate recoveries for sample RX-6 (1603006-06) were outside the QC limit (70-130%). The associated batch QC was within QC limits demonstrating the high recoveries are attributed to sample matrix. Refer to individual Form I for recoveries.

5. The extraction surrogate recovery for 1,4-dichlorobutane for sample RX-8 (1603006-10) is below the QC limit (70-130%). Integrations were verified and found to be correct, and the sample results should be considered biased low.

6. Sample RX-7B (1603006-09) was re-analyzed at a 5X dilution due to over-calibration concentrations of target compounds. The diluted analysis is only quantified for the compounds which were detected over the calibration range of the analytical instrument in the un-diluted analysis.

Alkylated Polynuclear Aromatic Hydrocarbons, Triterpanes and Triaromatic Steroids by GC/MS-SIM – Soil

Polynuclear aromatic hydrocarbons and geochemical biomarkers were analyzed following Alpha Analytical SOP *Analysis of Parent and Alkylated Polynuclear Aromatic Hydrocarbons, Selected Heterocyclic Compounds, Steranes, Triterpanes, and Triaromatic Steroids by Gas Chromatography/Mass Spectrometry with Selected Ion Monitoring (SOP 2247, Rev. 8, 09/04/2015).* Soil samples are spiked with surrogate compounds and extracted by *Shaker Table Extraction (SOP 2261, Rev. 6, 09/04/2015).* Solvent extracts are dried over sodium sulfate and concentrated to an appropriate volume by *Gravimetric Determination (SOP 2263, Rev. 5, 08/03/2015).* A pre-determined volume of the extract is alumina cleaned by *Alumina Column Cleanup of Organic Extract (SOP 2260, Rev. 4, 08/03/2015)* and concentrated to 1mL. Qualitative identifications are confirmed by analyzing standards under the same conditions used for samples, comparing mass spectra, GC retention times, and patterns generated from reference oils. Quantification is based on response factors derived from a multi-level initial calibration using internal standard techniques. Alkyl homologues are quantified using the response factor of the parent PAH compound. Target triterpane biomarker concentrations are quantified using the response factor of Hopane and the steranes and steroids are quantified using the response factor of 5β(H)-Cholane. All enclosed data was evaluated below the reporting limits to three times signal to noise. The sample specific reporting limit is the value reported for all compounds which are not detected ("U" qualified).

1. The method blank SS032516B02 contained low-level target compounds detected below the reporting limit. Associated field sample results are flagged with "B" qualifiers if the concentration of the analyte in the sample is less than 10X the concentration in the blank. Please note that no "B" qualifier was utilized.

2. Samples 1603006-10 and -12 required dilutions due to over-calibration concentrations of target compounds. The diluted analyses are only quantified for the compounds that were over the calibration range of the analytical instrument in the un-diluted analyses.

3. Concentrations for compounds flagged with "G" qualifiers may be biased high due to matrix interference included in the quantitation.

4. The relative percent difference (RPD) between the sample 1603006-04 and its duplicate 1603006-04D had some compounds above the 30% QC limit. The integrations and calculations in the native sample and the duplicate were reviewed and found to be appropriate. See Duplicate Summary Report for individual compounds affected.

Total Petroleum Hydrocarbons by GC/FID – Soil

Samples for total petroleum hydrocarbons were analyzed following the procedures in Alpha Analytical SOP *Total Petroleum and Saturated Hydrocarbons by Gas Chromatography/Flame Ionization Detector (SOP 2246, Rev. 7, 09/04/2015)* Method 8100/8015mod. Samples were prepared as stated above for the PAH analysis. A portion of the final extract was analyzed for GC/FID (gas chromatography with flame ionization detection). A multi-level initial calibration over the n-alkane range from C9-C40 was evaluated and quantified using internal standard techniques prior to sample analysis. All enclosed data was evaluated below the reporting limits to three times signal to noise. The sample specific reporting limit is the value reported for all compounds which are not detected ("U" qualified).

1. All quality control parameters met the specified criteria.

The enclosed results of analyses are representative of the samples as received by the laboratory. Alpha Analytical makes no

representations or certifications as to the method of sample collection, sample identification, or transporting/handling procedures used prior to the receipt of samples by Alpha Analytical. To the best of my knowledge, the information contained in this report is accurate and complete. For any questions regarding this report, please contact the signatory below at 508-822-9300.

Approved by: Susan O'Neil Title: **Project Manager** Date: 4/4/16

Susan O'Neil

P-I-A-N-O Volatiles

Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-1**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-01**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	84.4	10	6.22	0.1	5	1	MR

Parameter	Result		Parameter	Result	
Isopentane	**112**	J	3-Methylheptane	**216**	
1-Pentene	209	U	Toluene	**36.7**	J
2-Methyl-1-butene	209	U	2-Methylthiophene	209	U
Pentane	**530**		3-Methylthiophene	209	U
2-Pentene (trans)	209	U	1-Octene	209	U
2-Pentene (cis)	209	U	Octane	**323**	
Tertiary butanol	2610	U	1,2-Dibromoethane	209	U
Cyclopentane	209	U	Ethylbenzene	**86.7**	JB
2,3-Dimethylbutane	209	U	2-Ethylthiophene	209	U
2-Methylpentane	**174**	J	p/m-Xylene	**369**	J
MTBE	209	U	1-Nonene	209	U
3-Methylpentane	**395**		Nonane	**110**	J
1-Hexene	209	U	Styrene	209	U
Hexane	**689**		o-Xylene	**20.0**	J
Diisopropyl Ether (DIPE)	209	U	Isopropylbenzene	**44.0**	J
Ethyl Tertiary Butyl Ether (ETBE)	209	U	n-Propylbenzene	**54.8**	J
2,2-Dimethylpentane	**67.7**	J	1-Methyl-3-ethylbenzene	209	U
Methylcyclopentane	**171**	J	1-Methyl-4-ethylbenzene	209	U
2,4-Dimethylpentane	**185**	J	1,3,5-Trimethylbenzene	**29.7**	J
1,2-Dichloroethane	209	U	1-Decene	209	U
Cyclohexane	**223**		1-Methyl-2-ethylbenzene	209	U
2-Methylhexane	**128**	J	Decane	**59.3**	JB
Benzene	**287**		1,2,4-Trimethylbenzene	**47.7**	J
2,3-Dimethylpentane	**516**		sec-Butylbenzene	**22.2**	J
Thiophene	209	U	1-Methyl-3-isopropylbenzene	209	U
3-Methylhexane	**204**	J	1-Methyl-4-isopropylbenzene	209	U
TAME	209	U	1-Methyl-2-isopropylbenzene	209	U
1-Heptene/1,2-DMCP (trans)[1]	**125**	J	Indan	209	U
Isooctane	**18.4**	J	1-Methyl-3-propylbenzene	209	U
Heptane	**748**		1-Methyl-4-propylbenzene	209	U
Methylcyclohexane	**820**		n-Butylbenzene	209	U
2,5-Dimethylhexane	**1000**		1,2-Dimethyl-4-ethylbenzene	209	U
2,4-Dimethylhexane	**1070**		1,2-Diethylbenzene	209	U
2,2,3-Trimethylpentane	**87.1**	J	1-Methyl-2-propylbenzene	**13.4**	J
2,3,4-Trimethylpentane	**106**	J	1,4-Dimethyl-2-ethylbenzene	209	U
2,3,3-Trimethylpentane	**147**	J	Undecane	**38.7**	J
2,3-Dimethylhexane	**388**		1,3-Dimethyl-4-ethylbenzene	209	U
3-Ethylhexane	**541**		1,3-Dimethyl-5-ethylbenzene	**71.4**	J
2-Methylheptane	**143**	J	1,3-Dimethyl-2-ethylbenzene	209	U

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-1**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-01**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	84.4	10	6.22	0.1	5	1	MR

Parameter	Result		Parameter	Result	
1,2-Dimethyl-3-ethylbenzene	209	U	Benzothiophene	209	U
1,2,4,5-Tetramethylbenzene	**44.9**	J	MMT	523	U
Pentylbenzene	209	U	Tridecane	523	U
Dodecane	209	U	2-Methylnaphthalene	**49.1**	JB
Naphthalene	**73.5**	JB	1-Methylnaphthalene	**46.6**	JB

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	118	70-130
1-Chloro-2-fluorobenzene	116	70-130
1,4-Dichlorobutane	104	70-130
Dibromofluoromethane	102	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
B - Found in associated blank as well as sample.
J - Estimated value, below quantitation limit.
N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009735.D
Acq On : 19 Mar 2016 12:36 am
Operator : VOA4:MR
Sample : 1603006-01
Misc : 1X
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 21 12:04:54 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	630282	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	187297	51.136	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 102.27%			
62) Toluene-d8 (surr)	30.74	98	785286	49.460	ug/L	-0.01
Spiked Amount 50.000	Range 87 - 113		Recovery = 98.92%			
64) 2-Bromo-1-chloropropane (	30.96	77	250251	53.550	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 107.10%			
87) 1-Chloro-2-fluorobenzene	40.14	130	541054	52.905	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 105.81%			
97) 1,4-Dichlorobutane (H/sur	43.38	55	446717	47.480	ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery = 94.96%			
101) 4-Bromofluorobenzene (sur	45.93	95	309093	50.039	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.08%			
Target Compounds						Qvalue
3) Isopentane	8.17	43	5516	1.075	ug/L	95
6) Pentane	9.19	43	42379	5.073	ug/L	98
15) 2-Methylpentane	13.02	43	17652	1.666	ug/L	94
17) 3-Methylpentane	13.99	57	33097	3.777	ug/L #	89
19) Hexane	15.17	57	49779	6.594	ug/L	90
26) 2,2-Dimethylpentane	17.19	57	7032	0.648	ug/L	90
27) Methylcyclopentane	17.45	56	16315M1	1.633	ug/L	
28) 2,4-Dimethylpentane	17.62	43	17286	1.773	ug/L	97
32) Cyclohexane	20.33	56	18294	2.137	ug/L	92
33) 2-Methyhexane	20.76	43	13161	1.229	ug/L	93
34) Benzene	20.90	78	39884	2.747	ug/L	94
35) 2,3-Dimethylpentane	21.07	56	40648	4.939	ug/L	94
38) 3-Methylhexane	21.58	43	18243	1.948	ug/L	98
43) 1-Heptene/1,2-DMCP (trans	22.89	70	3788	1.196	ug/L #	63
44) Isooctane	23.00	57	3750M1	0.176	ug/L	
46) Heptane	23.73	43	63296	7.151	ug/L	99
51) Methycyclohexane	26.12	83	53336	7.845	ug/L	93
52) 2,5-Dimethylhexane	26.80	57	101855	9.617	ug/L	94
53) 2,4-Dimethyhexane	27.06	57	86033	10.244	ug/L	99
55) 2,2,3-Trimethylpentane	27.32	57	13957	0.833	ug/L	93
57) 2,3,4-Trimethylpentane	28.84	43	13351	1.017	ug/L	96
58) 2,3,3-Trimethylpentane	29.39	43	15989M1	1.402	ug/L	
59) 2,3-Dimethylhexane	29.67	43	44640	3.710	ug/L	91

AS 3/29/16 MR 3/23/16

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009735.D
Acq On : 19 Mar 2016 12:36 am
Operator : VOA4:MR
Sample : 1603006-01
Misc : 1X
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 21 12:04:54 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
60) 2-Methylheptane	30.13	57	13165M6	1.369	ug/L		
63) 3-Methylheptane	30.86	43	19521M6	2.068	ug/L		
65) 3-Ethylhexane	30.98	43	75498	5.179	ug/L		98
66) Toluene	31.13	91	5803	0.351	ug/L		89
71) Octane	33.37	43	34739	3.094	ug/L		95
86) Ethylbenzene	40.14	91	15876	0.829	ug/L		88
91) p/m-Xylene	41.41	91	52199	3.533	ug/L		92
95) Nonane	42.90	43	11267	1.047	ug/L		89
98) o-Xylene	43.64	91	2847M1	0.191	ug/L		
102) Isopropylbenzene	45.99	105	8024M1	0.421	ug/L		
104) n-Propylbenzene	48.58	91	12023	0.524	ug/L	#	78
109) 1,3,5-Trimethylbenzene	49.95	105	4587	0.284	ug/L		93
113) Decane	50.53	43	6065M4	0.567	ug/L		
115) 1,2,4-Trimethylbenzene	51.17	105	7439	0.456	ug/L		96
117) sec-Butylbenzene	51.42	105	4540	0.212	ug/L		95
130) 1-Methyl-2-propylbenzene	53.42	105	2823	0.128	ug/L	#	52
132) Undecane	53.79	57	3994	0.370	ug/L		92
134) 1,3-Dimethyl-5-ethylbenze	53.95	119	13305	0.683	ug/L		98
137) 1,2,4,5-Tetramethylbenzen	54.93	119	8759	0.429	ug/L		97
144) Naphthalene	56.83	128	12214	0.703	ug/L		92
150) 2-Methylnaphthalene	59.56	142	4159	0.470	ug/L		89
151) 1-Methylnaphthalene	60.03	142	3328M1	0.446	ug/L		

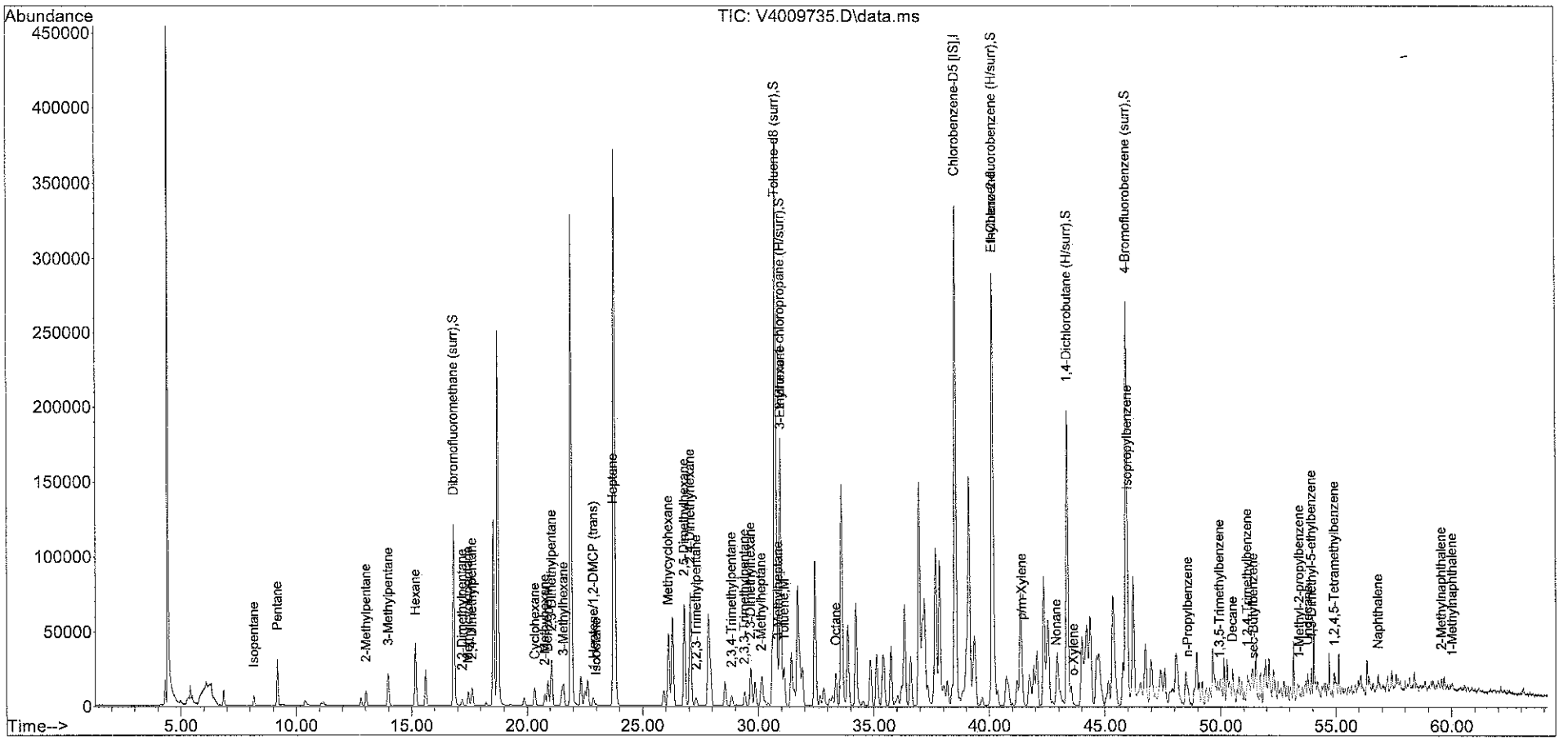
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009735.D
Acq On : 19 Mar 2016 12:36 am
Operator : VOA4:MR
Sample : 1603006-01
Misc : 1X
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 21 12:04:54 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-2**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-02**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	80.0	10	6.97	0.1	5	1	MR

Parameter	Result		Parameter	Result	
Isopentane	204	U	3-Methylheptane	204	U
1-Pentene	204	U	Toluene	204	U
2-Methyl-1-butene	204	U	2-Methylthiophene	204	U
Pentane	204	U	3-Methylthiophene	204	U
2-Pentene (trans)	204	U	1-Octene	204	U
2-Pentene (cis)	204	U	Octane	204	U
Tertiary butanol	2550	U	1,2-Dibromoethane	204	U
Cyclopentane	204	U	Ethylbenzene	**31.1**	JB
2,3-Dimethylbutane	**253**		2-Ethylthiophene	204	U
2-Methylpentane	204	U	p/m-Xylene	408	U
MTBE	204	U	1-Nonene	204	U
3-Methylpentane	204	U	Nonane	**57.7**	J
1-Hexene	204	U	Styrene	204	U
Hexane	204	U	o-Xylene	204	U
Diisopropyl Ether (DIPE)	204	U	Isopropylbenzene	204	U
Ethyl Tertiary Butyl Ether (ETBE)	204	U	n-Propylbenzene	204	U
2,2-Dimethylpentane	**91.4**	J	1-Methyl-3-ethylbenzene	204	U
Methylcyclopentane	204	U	1-Methyl-4-ethylbenzene	204	U
2,4-Dimethylpentane	**955**		1,3,5-Trimethylbenzene	204	U
1,2-Dichloroethane	204	U	1-Decene	204	U
Cyclohexane	204	U	1-Methyl-2-ethylbenzene	204	U
2-Methylhexane	204	U	Decane	204	U
Benzene	204	U	1,2,4-Trimethylbenzene	204	U
2,3-Dimethylpentane	**305**		sec-Butylbenzene	204	U
Thiophene	204	U	1-Methyl-3-isopropylbenzene	204	U
3-Methylhexane	204	U	1-Methyl-4-isopropylbenzene	204	U
TAME	204	U	1-Methyl-2-isopropylbenzene	204	U
1-Heptene/1,2-DMCP (trans)[1]	408	U	Indan	204	U
Isooctane	**79.4**	J	1-Methyl-3-propylbenzene	204	U
Heptane	204	U	1-Methyl-4-propylbenzene	204	U
Methylcyclohexane	204	U	n-Butylbenzene	204	U
2,5-Dimethylhexane	204	U	1,2-Dimethyl-4-ethylbenzene	204	U
2,4-Dimethylhexane	204	U	1,2-Diethylbenzene	204	U
2,2,3-Trimethylpentane	**158**	J	1-Methyl-2-propylbenzene	204	U
2,3,4-Trimethylpentane	**189**	J	1,4-Dimethyl-2-ethylbenzene	204	U
2,3,3-Trimethylpentane	**275**		Undecane	204	U
2,3-Dimethylhexane	204	U	1,3-Dimethyl-4-ethylbenzene	204	U
3-Ethylhexane	204	U	1,3-Dimethyl-5-ethylbenzene	204	U
2-Methylheptane	204	U	1,3-Dimethyl-2-ethylbenzene	204	U

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Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-2**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-02**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	80.0	10	6.97	0.1	5	1	MR

Parameter	Result		Parameter	Result	
1,2-Dimethyl-3-ethylbenzene	204	U	Benzothiophene	204	U
1,2,4,5-Tetramethylbenzene	204	U	MMT	511	U
Pentylbenzene	204	U	Tridecane	511	U
Dodecane	204	U	2-Methylnaphthalene	511	U
Naphthalene	**73.8**	JB	1-Methylnaphthalene	511	U

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	99	70-130
1-Chloro-2-fluorobenzene	98	70-130
1,4-Dichlorobutane	83	70-130
Dibromofluoromethane	113	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	99	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
B - Found in associated blank as well as sample.
J - Estimated value, below quantitation limit.
N/A - Not Applicable

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Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009736.D
Acq On : 19 Mar 2016 1:50 am
Operator : VOA4:MR
Sample : 1603006-02
Misc : 1X
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 21 12:21:35 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	523128	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	172350	56.693	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 113.39%			
62) Toluene-d8 (surr)	30.74	98	706274	53.595	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 107.19%			
64) 2-Bromo-1-chloropropane (	30.96	77	169065	43.588	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 87.18%			
87) 1-Chloro-2-fluorobenzene	40.14	130	366446	43.171	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 86.34%			
97) 1,4-Dichlorobutane (H/sur	43.38	55	285181M4	36.519	ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery = 73.04%			
101) 4-Bromofluorobenzene (sur	45.94	95	254025	49.547	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.09%			
Target Compounds						Qvalue
14) 2,3-Dimethylbutane	12.81	71	4179	2.477	ug/L #	1
26) 2,2-Dimethylpentane	17.20	57	8064	0.895	ug/L	86
28) 2,4-Dimethylpentane	17.62	43	75642	9.350	ug/L	98
35) 2,3-Dimethylpentane	21.08	56	20431	2.991	ug/L #	90
44) Isooctane	23.00	57	13765M1	0.778	ug/L	
55) 2,2,3-Trimethylpentane	27.31	57	21591	1.552	ug/L	98
57) 2,3,4-Trimethylpentane	28.84	43	20166M1	1.851	ug/L	
58) 2,3,3-Trimethylpentane	29.40	43	25532	2.697	ug/L	99
86) Ethylbenzene	40.16	91	4843M1	0.305	ug/L	
95) Nonane	42.91	43	5045M4	0.565	ug/L	
144) Naphthalene	56.84	128	10417	0.723	ug/L #	82

(#) = qualifier out of range (m) = manual integration (+) = signals summed

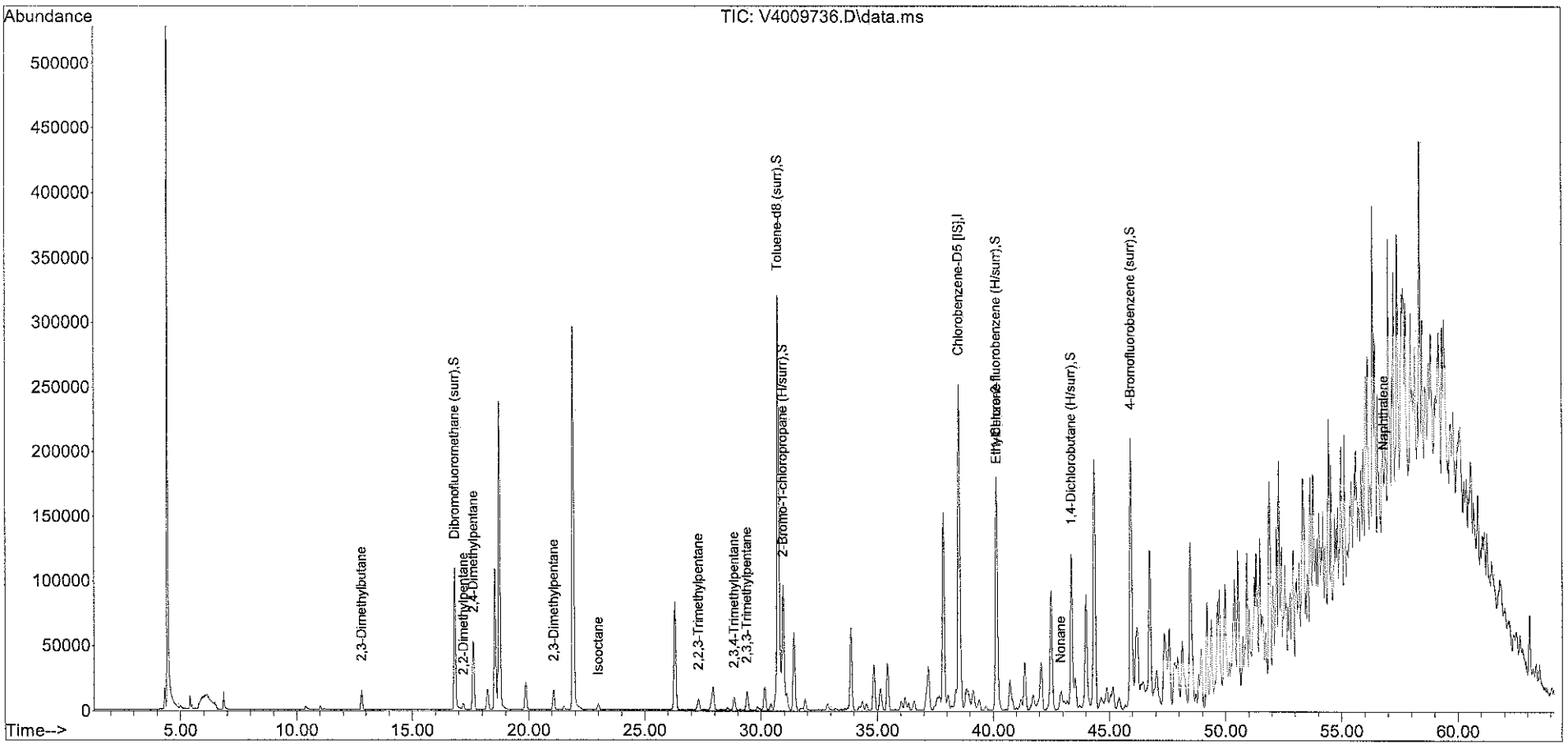
 AJ 3/29/16 MR 3/23/16

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009736.D
Acq On : 19 Mar 2016 1:50 am
Operator : VOA4:MR
Sample : 1603006-02
Misc : 1X
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 21 12:21:35 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-3**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-03**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	89.6	10	7.24	0.1	5	1	MR

Parameter	Result		Parameter	Result	
Isopentane	**31.0**	J	3-Methylheptane	**166**	
1-Pentene	166	U	Toluene	**44.5**	J
2-Methyl-1-butene	166	U	2-Methylthiophene	166	U
Pentane	166	U	3-Methylthiophene	166	U
2-Pentene (trans)	166	U	1-Octene	166	U
2-Pentene (cis)	166	U	Octane	166	U
Tertiary butanol	2070	U	1,2-Dibromoethane	166	U
Cyclopentane	166	U	Ethylbenzene	**32.2**	JB
2,3-Dimethylbutane	**123**	J	2-Ethylthiophene	166	U
2-Methylpentane	166	U	p/m-Xylene	**41.7**	J
MTBE	166	U	1-Nonene	166	U
3-Methylpentane	166	U	Nonane	**134**	J
1-Hexene	166	U	Styrene	166	U
Hexane	**31.2**	J	o-Xylene	166	U
Diisopropyl Ether (DIPE)	166	U	Isopropylbenzene	166	U
Ethyl Tertiary Butyl Ether (ETBE)	166	U	n-Propylbenzene	166	U
2,2-Dimethylpentane	**192**		1-Methyl-3-ethylbenzene	166	U
Methylcyclopentane	166	U	1-Methyl-4-ethylbenzene	166	U
2,4-Dimethylpentane	**715**		1,3,5-Trimethylbenzene	166	U
1,2-Dichloroethane	166	U	1-Decene	166	U
Cyclohexane	166	U	1-Methyl-2-ethylbenzene	166	U
2-Methylhexane	166	U	Decane	166	U
Benzene	**148**	J	1,2,4-Trimethylbenzene	**45.2**	J
2,3-Dimethylpentane	**534**		sec-Butylbenzene	**28.3**	J
Thiophene	166	U	1-Methyl-3-isopropylbenzene	166	U
3-Methylhexane	166	U	1-Methyl-4-isopropylbenzene	166	U
TAME	166	U	1-Methyl-2-isopropylbenzene	**64.2**	J
1-Heptene/1,2-DMCP (trans)[1]	332	U	Indan	166	U
Isooctane	**34.5**	J	1-Methyl-3-propylbenzene	166	U
Heptane	166	U	1-Methyl-4-propylbenzene	166	U
Methylcyclohexane	**37.9**	J	n-Butylbenzene	166	U
2,5-Dimethylhexane	**1710**		1,2-Dimethyl-4-ethylbenzene	166	U
2,4-Dimethylhexane	**380**		1,2-Diethylbenzene	**105**	J
2,2,3-Trimethylpentane	**108**	J	1-Methyl-2-propylbenzene	**59.5**	J
2,3,4-Trimethylpentane	**129**	J	1,4-Dimethyl-2-ethylbenzene	**22.0**	J
2,3,3-Trimethylpentane	**146**	J	Undecane	166	U
2,3-Dimethylhexane	**66.9**	J	1,3-Dimethyl-4-ethylbenzene	166	U
3-Ethylhexane	**136**	J	1,3-Dimethyl-5-ethylbenzene	**241**	
2-Methylheptane	166	U	1,3-Dimethyl-2-ethylbenzene	166	U

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Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-3**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-03**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	89.6	10	7.24	0.1	5	1	MR

Parameter	Result		Parameter	Result	
1,2-Dimethyl-3-ethylbenzene	**19.7**	J	Benzothiophene	166	U
1,2,4,5-Tetramethylbenzene	**738**		MMT	414	U
Pentylbenzene	166	U	Tridecane	414	U
Dodecane	166	U	2-Methylnaphthalene	414	U
Naphthalene	166	U	1-Methylnaphthalene	414	U

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	119	70-130
1-Chloro-2-fluorobenzene	117	70-130
1,4-Dichlorobutane	96	70-130
Dibromofluoromethane	115	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	97	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
B - Found in associated blank as well as sample.
J - Estimated value, below quantitation limit.
N/A - Not Applicable

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Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009737.D
Acq On : 19 Mar 2016 3:05 am
Operator : VOA4:MR
Sample : 1603006-03
Misc : 1X
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 21 12:29:29 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	510511	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	171012	57.643	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 115.29%			
62) Toluene-d8 (surr)	30.75	98	692161	53.822	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 107.64%			
64) 2-Bromo-1-chloropropane (	30.96	77	209998	55.479	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 110.96%			
87) 1-Chloro-2-fluorobenzene	40.15	130	450204	54.349	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 108.70%			
97) 1,4-Dichlorobutane (H/sur	43.38	55	339825	44.592	ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery = 89.18%			
101) 4-Bromofluorobenzene (sur	45.94	95	242000	48.368	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 96.74%			
Target Compounds						Qvalue
3) Isopentane	8.19	43	1553	0.374	ug/L #	65
14) 2,3-Dimethylbutane	12.80	71	2446	1.486	ug/L #	1
19) Hexane	15.17	57	2305	0.377	ug/L #	81
26) 2,2-Dimethylpentane	17.19	57	20354	2.315	ug/L	94
28) 2,4-Dimethylpentane	17.62	43	68085	8.624	ug/L	97
34) Benzene	20.91	78	20955	1.782	ug/L	96
35) 2,3-Dimethylpentane	21.07	56	42911	6.438	ug/L	99
44) Isooctane	23.00	57	7185	0.416	ug/L #	70
51) Methycyclohexane	26.11	83	2516M1	0.457	ug/L	
52) 2,5-Dimethylhexane	26.81	57	177249	20.662	ug/L	97
53) 2,4-Dimethyhexane	27.06	57	31153	4.580	ug/L	100
55) 2,2,3-Trimethylpentane	27.31	57	17697	1.303	ug/L	92
57) 2,3,4-Trimethylpentane	28.85	43	16497	1.552	ug/L	91
58) 2,3,3-Trimethylpentane	29.40	43	16325	1.767	ug/L	95
59) 2,3-Dimethylhexane	29.65	43	7864M3	0.807	ug/L	
63) 3-Methylheptane	30.87	43	15353M6	2.008	ug/L	
65) 3-Ethylhexane	30.98	43	19424M6	1.645	ug/L	
66) Toluene	31.11	91	7206	0.537	ug/L #	74
86) Ethylbenzene	40.15	91	6012M1	0.388	ug/L	
91) p/m-Xylene	41.38	91	6021	0.503	ug/L #	29
95) Nonane	42.94	43	14144M6	1.623	ug/L	
115) 1,2,4-Trimethylbenzene	51.16	105	7194	0.545	ug/L	100
117) sec-Butylbenzene	51.42	105	5922M6	0.342	ug/L	

AT 3/29/16 MR 3/23/16

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009737.D
Acq On : 19 Mar 2016 3:05 am
Operator : VOA4:MR
Sample : 1603006-03
Misc : 1X
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 21 12:29:29 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
121) 1-Methyl-2-isopropylbenze	52.49	119	11653	0.774	ug/L	#	69
129) 1,2-Diethylbenzene	53.22	119	9567	1.265	ug/L		94
130) 1-Methyl-2-propylbenzene	53.42	105	12870M4	0.718	ug/L		
131) 1,4-Dimethyl-2-ethylbenze	53.73	119	3832	0.266	ug/L	#	1
134) 1,3-Dimethyl-5-ethylbenze	53.94	119	45815	2.904	ug/L		98
136) 1,2-Dimethyl-3-ethylbenze	54.53	119	3724	0.238	ug/L	#	1
137) 1,2,4,5-Tetramethylbenzen	54.94	119	147339M4	8.908	ug/L		

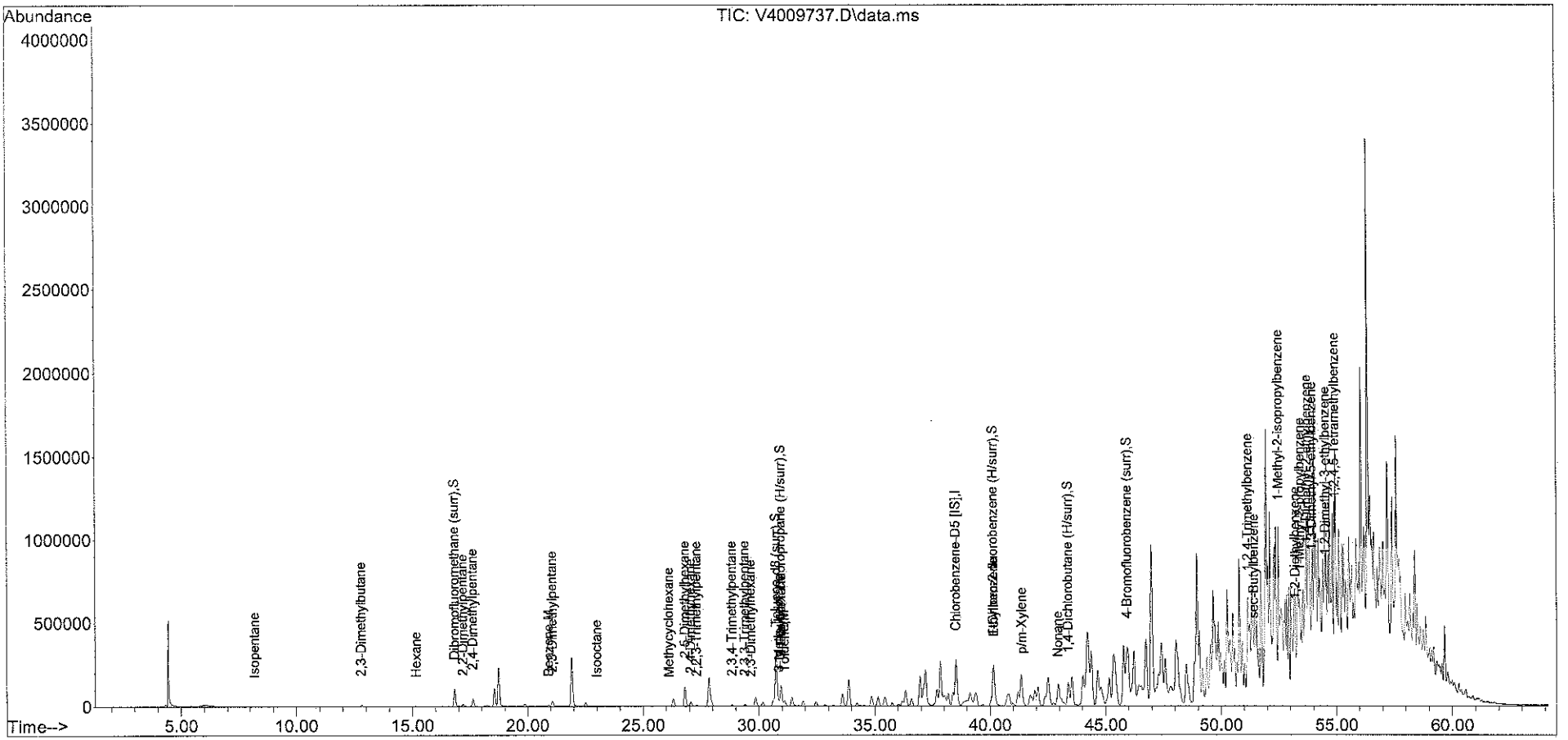
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009737.D
Acq On : 19 Mar 2016 3:05 am
Operator : VOA4:MR
Sample : 1603006-03
Misc : 1X
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Mar 21 12:29:29 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	78.2	10	5.53	0.1	5	1	MR

Parameter	Result		Parameter	Result	
Isopentane	259	U	3-Methylheptane	259	U
1-Pentene	259	U	Toluene	259	U
2-Methyl-1-butene	259	U	2-Methylthiophene	259	U
Pentane	259	U	3-Methylthiophene	259	U
2-Pentene (trans)	259	U	1-Octene	259	U
2-Pentene (cis)	259	U	Octane	259	U
Tertiary butanol	3240	U	1,2-Dibromoethane	259	U
Cyclopentane	259	U	Ethylbenzene	**62.2**	JB
2,3-Dimethylbutane	259	U	2-Ethylthiophene	259	U
2-Methylpentane	259	U	p/m-Xylene	518	U
MTBE	259	U	1-Nonene	259	U
3-Methylpentane	**411**		Nonane	259	U
1-Hexene	259	U	Styrene	259	U
Hexane	259	U	o-Xylene	259	U
Diisopropyl Ether (DIPE)	259	U	Isopropylbenzene	259	U
Ethyl Tertiary Butyl Ether (ETBE)	259	U	n-Propylbenzene	259	U
2,2-Dimethylpentane	**122**	J	1-Methyl-3-ethylbenzene	259	U
Methylcyclopentane	**71.0**	J	1-Methyl-4-ethylbenzene	259	U
2,4-Dimethylpentane	**223**	J	1,3,5-Trimethylbenzene	259	U
1,2-Dichloroethane	259	U	1-Decene	259	U
Cyclohexane	**238**	J	1-Methyl-2-ethylbenzene	**44.8**	J
2-Methylhexane	259	U	Decane	259	U
Benzene	259	U	1,2,4-Trimethylbenzene	259	U
2,3-Dimethylpentane	**813**		sec-Butylbenzene	259	U
Thiophene	259	U	1-Methyl-3-isopropylbenzene	259	U
3-Methylhexane	**86.4**	J	1-Methyl-4-isopropylbenzene	259	U
TAME	259	U	1-Methyl-2-isopropylbenzene	**626**	
1-Heptene/1,2-DMCP (trans)[1]	**1450**		Indan	**221**	J
Isooctane	259	U	1-Methyl-3-propylbenzene	259	U
Heptane	259	U	1-Methyl-4-propylbenzene	259	U
Methylcyclohexane	**4070**		n-Butylbenzene	259	U
2,5-Dimethylhexane	**1610**		1,2-Dimethyl-4-ethylbenzene	259	U
2,4-Dimethylhexane	**2050**		1,2-Diethylbenzene	**485**	
2,2,3-Trimethylpentane	**140**	J	1-Methyl-2-propylbenzene	**133**	J
2,3,4-Trimethylpentane	**153**	J	1,4-Dimethyl-2-ethylbenzene	259	U
2,3,3-Trimethylpentane	**211**	J	Undecane	259	U
2,3-Dimethylhexane	**2010**		1,3-Dimethyl-4-ethylbenzene	259	U
3-Ethylhexane	**2590**		1,3-Dimethyl-5-ethylbenzene	**7900**	
2-Methylheptane	259	U	1,3-Dimethyl-2-ethylbenzene	**334**	

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Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	78.2	10	5.53	0.1	5	1	MR

Parameter	Result		Parameter	Result	
1,2-Dimethyl-3-ethylbenzene	**459**		Benzothiophene	259	U
1,2,4,5-Tetramethylbenzene	**135**	J	MMT	648	U
Pentylbenzene	259	U	Tridecane	648	U
Dodecane	259	U	2-Methylnaphthalene	648	U
Naphthalene	259	U	1-Methylnaphthalene	648	U

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	124	70-130
1-Chloro-2-fluorobenzene	117	70-130
1,4-Dichlorobutane	92	70-130
Dibromofluoromethane	116	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	105	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
B - Found in associated blank as well as sample.
J - Estimated value, below quantitation limit.
N/A - Not Applicable

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Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009738.D
Acq On : 19 Mar 2016 4:19 am
Operator : VOA4:MR
Sample : 1603006-04
Misc : 1X
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Mar 21 12:33:21 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	486574	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	163417	57.793	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 115.59%			
62) Toluene-d8 (surr)	30.75	98	670451	54.699	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 109.40%			
64) 2-Bromo-1-chloropropane (	30.96	77	199354	55.258	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 110.52%			
87) 1-Chloro-2-fluorobenzene	40.13	130	412967	52.307	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 104.61%			
97) 1,4-Dichlorobutane (H/sur	43.37	55	297264M4	40.926	ug/L	0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 81.85%			
101) 4-Bromofluorobenzene (sur	45.92	95	250713	52.575	ug/L	-0.01
Spiked Amount 50.000	Range 76 - 120		Recovery = 105.15%			
Target Compounds						Qvalue
17) 3-Methylpentane	13.99	57	21459	3.172	ug/L #	99
26) 2,2-Dimethylpentane	17.19	57	7885	0.941	ug/L	95
27) Methylcyclopentane	17.47	56	4229	0.548	ug/L #	76
28) 2,4-Dimethylpentane	17.61	43	12933	1.719	ug/L	87
32) Cyclohexane	20.33	56	12140	1.837	ug/L	99
35) 2,3-Dimethylpentane	21.07	56	39865	6.275	ug/L #	92
38) 3-Methylhexane	21.58	43	4820	0.667	ug/L #	61
43) 1-Heptene/1,2-DMCP (trans	22.87	70	27369	11.192	ug/L #	63
51) Methycyclohexane	26.13	83	164759	31.390	ug/L	96
52) 2,5-Dimethylhexane	26.80	57	101846	12.457	ug/L	93
53) 2,4-Dimethyhexane	27.07	57	102651	15.832	ug/L	97
55) 2,2,3-Trimethylpentane	27.30	57	13981	1.080	ug/L	98
57) 2,3,4-Trimethylpentane	28.84	43	12009	1.185	ug/L	95
58) 2,3,3-Trimethylpentane	29.40	43	14318M1	1.626	ug/L	
59) 2,3-Dimethylhexane	29.68	43	143935	15.497	ug/L	95
65) 3-Ethylhexane	30.98	43	224945M4	19.987	ug/L	
86) Ethylbenzene	40.13	91	7089M1	0.480	ug/L	
112) 1-Methyl-2-ethylbenzene	50.30	105	5028	0.346	ug/L #	44
121) 1-Methyl-2-isopropylbenze	52.48	119	69361	4.834	ug/L	95
122) Indan	52.57	117	21620	1.706	ug/L #	90
129) 1,2-Diethylbenzene	53.22	119	27008	3.747	ug/L	94
130) 1-Methyl-2-propylbenzene	53.40	105	17593	1.030	ug/L	94

AS 3/29/16 MR 3/23/16

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009738.D
Acq On : 19 Mar 2016 4:19 am
Operator : VOA4:MR
Sample : 1603006-04
Misc : 1X
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Mar 21 12:33:21 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
134) 1,3-Dimethyl-5-ethylbenze	53.94	119	917644	61.028	ug/L	100
135) 1,3-Dimethyl-2-ethylbenze	54.16	119	42603M6	2.580	ug/L	
136) 1,2-Dimethyl-3-ethylbenze	54.53	119	52958M4	3.548	ug/L	
137) 1,2,4,5-Tetramethylbenzen	54.93	119	16397M6	1.040	ug/L	

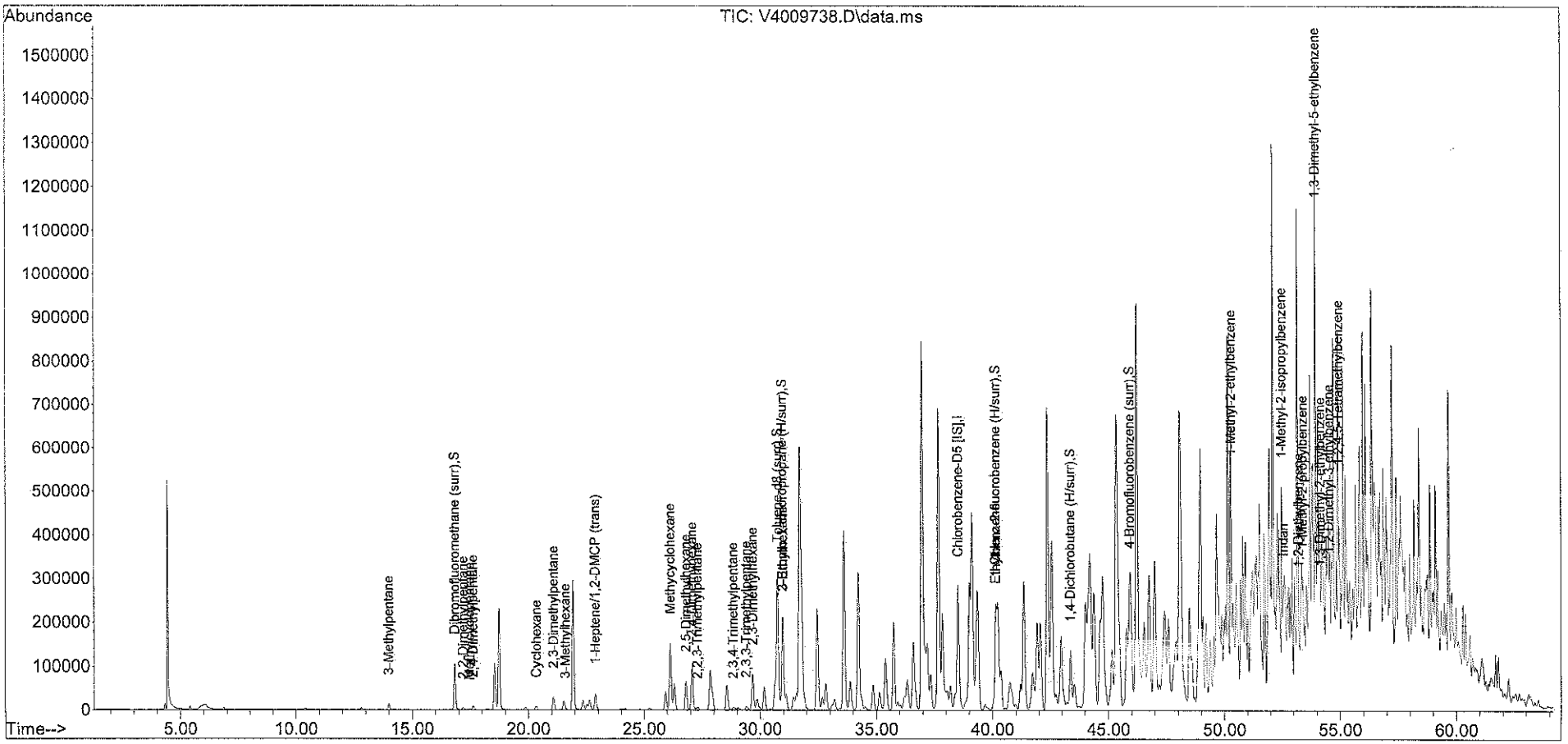
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009738.D
Acq On : 19 Mar 2016 4:19 am
Operator : VOA4:MR
Sample : 1603006-04
Misc : 1X
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Mar 21 12:33:21 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-5**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-05**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	81.0	10	6.77	0.1	5	1	MR

Parameter	Result	
Isopentane	**2690**	
1-Pentene	206	U
2-Methyl-1-butene	206	U
Pentane	**638**	
2-Pentene (trans)	206	U
2-Pentene (cis)	206	U
Tertiary butanol	2580	U
Cyclopentane	**753**	
2,3-Dimethylbutane	**1560**	
2-Methylpentane	**828**	
MTBE	206	U
3-Methylpentane	**4560**	
1-Hexene	206	U
Hexane	**376**	
Diisopropyl Ether (DIPE)	206	U
Ethyl Tertiary Butyl Ether (ETBE)	206	U
2,2-Dimethylpentane	**673**	
Methylcyclopentane	**3320**	
2,4-Dimethylpentane	**1320**	
1,2-Dichloroethane	206	U
Cyclohexane	**1990**	
2-Methylhexane	**234**	
Benzene	177	J
2,3-Dimethylpentane	**3130**	
Thiophene	206	U
3-Methylhexane	**1200**	
TAME	206	U
1-Heptene/1,2-DMCP (trans)[1]	**2240**	
Isooctane	**540**	
Heptane	171	J
Methylcyclohexane	**5460**	
2,5-Dimethylhexane	**1660**	
2,4-Dimethylhexane	**2190**	
2,2,3-Trimethylpentane	**184**	J
2,3,4-Trimethylpentane	**449**	
2,3,3-Trimethylpentane	**474**	
2,3-Dimethylhexane	**1420**	
3-Ethylhexane	**1350**	
2-Methylheptane	**113**	J
3-Methylheptane	**451**	
Toluene	**40.0**	J
2-Methylthiophene	206	U
3-Methylthiophene	206	U
1-Octene	206	U
Octane	**135**	J
1,2-Dibromoethane	206	U
Ethylbenzene	**61.2**	JB
2-Ethylthiophene	206	U
p/m-Xylene	**297**	J
1-Nonene	206	U
Nonane	**140**	J
Styrene	206	U
o-Xylene	**36.6**	J
Isopropylbenzene	**944**	
n-Propylbenzene	**2270**	
1-Methyl-3-ethylbenzene	**37.5**	J
1-Methyl-4-ethylbenzene	**39.2**	J
1,3,5-Trimethylbenzene	**97.7**	J
1-Decene	206	U
1-Methyl-2-ethylbenzene	**65.6**	J
Decane	206	U
1,2,4-Trimethylbenzene	**209**	
sec-Butylbenzene	**1520**	
1-Methyl-3-isopropylbenzene	206	U
1-Methyl-4-isopropylbenzene	206	U
1-Methyl-2-isopropylbenzene	**297**	
Indan	**1580**	
1-Methyl-3-propylbenzene	**23.9**	J
1-Methyl-4-propylbenzene	206	U
n-Butylbenzene	**1440**	
1,2-Dimethyl-4-ethylbenzene	**35.7**	J
1,2-Diethylbenzene	**820**	
1-Methyl-2-propylbenzene	**35.7**	J
1,4-Dimethyl-2-ethylbenzene	**140**	J
Undecane	206	U
1,3-Dimethyl-4-ethylbenzene	206	U
1,3-Dimethyl-5-ethylbenzene	**5550**	
1,3-Dimethyl-2-ethylbenzene	**736**	

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Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-5**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-05**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	81.0	10	6.77	0.1	5	1	MR

Parameter	Result		Parameter	Result	
1,2-Dimethyl-3-ethylbenzene	206	U	Benzothiophene	206	U
1,2,4,5-Tetramethylbenzene	**2790**		MMT	515	U
Pentylbenzene	**555**		Tridecane	515	U
Dodecane	206	U	2-Methylnaphthalene	**7510**	
Naphthalene	**2190**		1-Methylnaphthalene	**4310**	

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	128	70-130
1-Chloro-2-fluorobenzene	112	70-130
1,4-Dichlorobutane	80	70-130
Dibromofluoromethane	123	70-130
Toluene-d8	114	70-130
4-Bromofluorobenzene	93	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
B - Found in associated blank as well as sample.
J - Estimated value, below quantitation limit.
N/A - Not Applicable

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Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009740.D
Acq On : 19 Mar 2016 6:48 am
Operator : VOA4:MR
Sample : 1603006-05
Misc : 1X
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Mar 21 12:38:13 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Chlorobenzene-D5 [IS]	38.52	117	460466	50.000 ug/L	0.00
System Monitoring Compounds					
24) Dibromofluoromethane (sur	16.83	113	164617	61.518 ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 123.04%#		
62) Toluene-d8 (surr)	30.74	98	663949	57.239 ug/L	-0.01
Spiked Amount 50.000	Range 87 - 113		Recovery = 114.48%#		
64) 2-Bromo-1-chloropropane (	30.95	77	193937	56.805 ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 113.61%		
87) 1-Chloro-2-fluorobenzene	40.14	130	370197	49.548 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.10%		
97) 1,4-Dichlorobutane (H/sur	43.38	55	243332M6	35.401 ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery = 70.80%		
101) 4-Bromofluorobenzene (sur	45.93	95	210732	46.696 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 93.39%		
Target Compounds					Qvalue
3) Isopentane	8.19	43	97739	26.081 ug/L	98
6) Pentane	9.21	43	37810	6.195 ug/L	97
13) Cyclopentane	12.82	70	14438	7.313 ug/L #	50
14) 2,3-Dimethylbutane	12.80	71	22525	15.167 ug/L #	29
15) 2-Methylpentane	13.02	43	62234	8.039 ug/L	96
17) 3-Methylpentane	13.99	57	283240	44.240 ug/L	97
19) Hexane	15.18	57	20116	3.647 ug/L	94
26) 2,2-Dimethylpentane	17.20	57	51807	6.532 ug/L	97
27) Methylcyclopentane	17.46	56	235379	32.257 ug/L	97
28) 2,4-Dimethylpentane	17.63	43	91081	12.791 ug/L	98
32) Cyclohexane	20.33	56	121017	19.351 ug/L	95
33) 2-Methyhexane	20.78	43	17747	2.268 ug/L	90
34) Benzene	20.91	78	18262	1.722 ug/L	99
35) 2,3-Dimethylpentane	21.07	56	182938	30.428 ug/L	97
38) 3-Methylhexane	21.58	43	79765	11.660 ug/L	98
43) 1-Heptene/1,2-DMCP (trans	22.87	70	50305	21.738 ug/L #	60
44) Isooctane	23.00	57	81621M6	5.243 ug/L	
46) Heptane	23.74	43	10740	1.661 ug/L	96
51) Methycyclohexane	26.12	83	263581	53.064 ug/L	97
52) 2,5-Dimethylhexane	26.81	57	124894	16.142 ug/L	97
53) 2,4-Dimethyhexane	27.06	57	130758	21.311 ug/L	98
55) 2,2,3-Trimethylpentane	27.31	57	21849	1.784 ug/L	94

AJ 3/29/16

MR 3/23/16

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009740.D
Acq On : 19 Mar 2016 6:48 am
Operator : VOA4:MR
Sample : 1603006-05
Misc : 1X
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Mar 21 12:38:13 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
57)	2,3,4-Trimethylpentane	28.84	43	41771	4.356 ug/L		97
58)	2,3,3-Trimethylpentane	29.40	43	38308	4.598 ug/L		99
59)	2,3-Dimethylhexane	29.67	43	121660	13.842 ug/L		93
60)	2-Methylheptane	30.12	57	7735M6	1.101 ug/L		
63)	3-Methylheptane	30.86	43	30195M6	4.379 ug/L		
65)	3-Ethylhexane	30.98	43	140033	13.148 ug/L		91
66)	Toluene	31.09	91	4695M1	0.388 ug/L		
71)	Octane	33.37	43	10737M1	1.309 ug/L		
86)	Ethylbenzene	40.15	91	8315	0.594 ug/L		98
91)	p/m-Xylene	41.39	91	31126M1	2.883 ug/L		
95)	Nonane	42.89	43	10673M6	1.358 ug/L		
98)	o-Xylene	43.67	91	3871M1	0.355 ug/L		
102)	Isopropylbenzene	45.99	105	127661	9.166 ug/L		99
104)	n-Propylbenzene	48.57	91	369255	22.023 ug/L		98
107)	1-Methyl-3-ethylbenzene	49.21	105	5080	0.364 ug/L		98
108)	1-Methyl-4-ethylbenzene	49.38	105	5180	0.381 ug/L		99
109)	1,3,5-Trimethylbenzene	49.95	105	11186	0.949 ug/L		95
112)	1-Methyl-2-ethylbenzene	50.28	105	8758	0.637 ug/L		96
115)	1,2,4-Trimethylbenzene	51.16	105	24211	2.032 ug/L		92
117)	sec-Butylbenzene	51.42	105	231457	14.813 ug/L		100
121)	1-Methyl-2-isopropylbenze	52.48	119	39119	2.881 ug/L		96
122)	Indan	52.57	117	184637	15.394 ug/L		98
124)	1-Methyl-3-propylbenzene	52.86	105	3567	0.232 ug/L	#	53
127)	n-Butylbenzene	53.00	91	196463	13.952 ug/L	#	88
128)	1,2-Dimethyl-4-ethylbenze	53.12	119	4718	0.347 ug/L	#	59
129)	1,2-Diethylbenzene	53.22	119	54288	7.960 ug/L		94
130)	1-Methyl-2-propylbenzene	53.41	105	5611	0.347 ug/L		98
131)	1,4-Dimethyl-2-ethylbenze	53.72	119	17687M3	1.361 ug/L		
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	766717	53.882 ug/L		99
135)	1,3-Dimethyl-2-ethylbenze	54.17	119	111755M6	7.151 ug/L		
137)	1,2,4,5-Tetramethylbenzen	54.93	119	403973	27.078 ug/L		99
139)	Pentylbenzene	55.51	91	63214M4	5.392 ug/L		
144)	Naphthalene	56.82	128	269496	21.242 ug/L		98
150)	2-Methylnaphthalene	59.56	142	471534	72.963 ug/L		99
151)	1-Methylnaphthalene	60.03	142	228103	41.813 ug/L		99

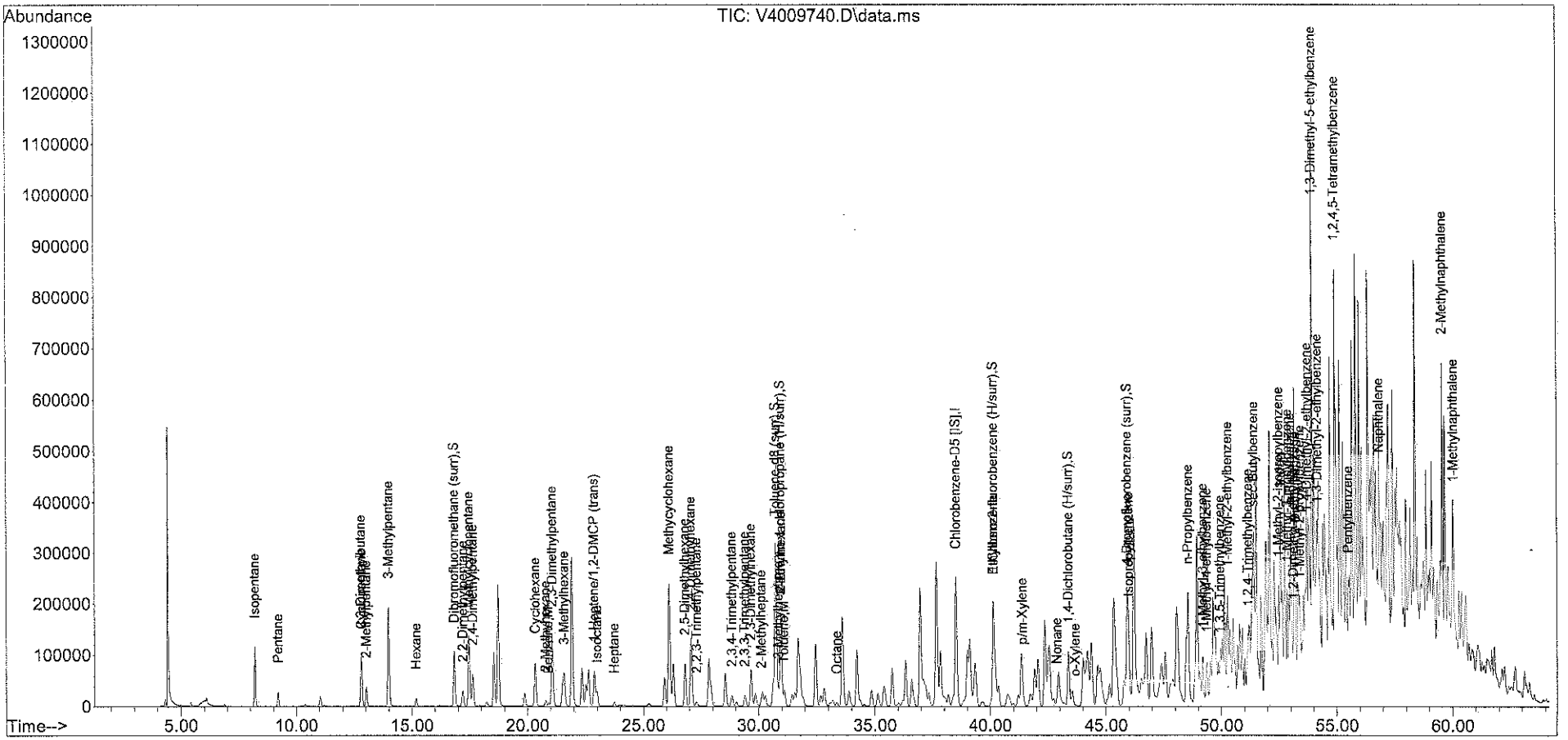
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009740.D
Acq On : 19 Mar 2016 6:48 am
Operator : VOA4:MR
Sample : 1603006-05
Misc : 1X
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Mar 21 12:38:13 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Form I
Duplicate
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-5**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-05 D**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	81.0	10	6.77	0.1	5	1	MR

Parameter	Result		Parameter	Result	
Isopentane	**2480**		3-Methylheptane	**534**	
1-Pentene	206	U	Toluene	**46.2**	J
2-Methyl-1-butene	206	U	2-Methylthiophene	206	U
Pentane	**630**		3-Methylthiophene	206	U
2-Pentene (trans)	206	U	1-Octene	206	U
2-Pentene (cis)	206	U	Octane	**155**	J
Tertiary butanol	2580	U	1,2-Dibromoethane	206	U
Cyclopentane	**758**		Ethylbenzene	**64.9**	JB
2,3-Dimethylbutane	**1550**		2-Ethylthiophene	206	U
2-Methylpentane	**825**		p/m-Xylene	**342**	J
MTBE	206	U	1-Nonene	206	U
3-Methylpentane	**4560**		Nonane	**173**	J
1-Hexene	206	U	Styrene	206	U
Hexane	**380**		o-Xylene	**40.7**	J
Diisopropyl Ether (DIPE)	206	U	Isopropylbenzene	**1020**	
Ethyl Tertiary Butyl Ether (ETBE)	206	U	n-Propylbenzene	**2540**	
2,2-Dimethylpentane	**681**		1-Methyl-3-ethylbenzene	**46.6**	J
Methylcyclopentane	**3470**		1-Methyl-4-ethylbenzene	**45.6**	J
2,4-Dimethylpentane	**1370**		1,3,5-Trimethylbenzene	**108**	J
1,2-Dichloroethane	206	U	1-Decene	206	U
Cyclohexane	**2120**		1-Methyl-2-ethylbenzene	**69.2**	J
2-Methylhexane	**249**		Decane	206	U
Benzene	**201**	J	1,2,4-Trimethylbenzene	**253**	
2,3-Dimethylpentane	**3240**		sec-Butylbenzene	**1690**	
Thiophene	206	U	1-Methyl-3-isopropylbenzene	206	U
3-Methylhexane	**1260**		1-Methyl-4-isopropylbenzene	206	U
TAME	206	U	1-Methyl-2-isopropylbenzene	**325**	
1-Heptene/1,2-DMCP (trans)[1]	**2350**		Indan	**1780**	
Isooctane	**564**		1-Methyl-3-propylbenzene	**27.4**	J
Heptane	**186**	J	1-Methyl-4-propylbenzene	206	U
Methylcyclohexane	**5820**		n-Butylbenzene	**1600**	
2,5-Dimethylhexane	**1720**		1,2-Dimethyl-4-ethylbenzene	**40.1**	J
2,4-Dimethylhexane	**2340**		1,2-Diethylbenzene	**905**	
2,2,3-Trimethylpentane	**188**	J	1-Methyl-2-propylbenzene	**35.9**	J
2,3,4-Trimethylpentane	**472**		1,4-Dimethyl-2-ethylbenzene	**166**	J
2,3,3-Trimethylpentane	**489**		Undecane	206	U
2,3-Dimethylhexane	**1530**		1,3-Dimethyl-4-ethylbenzene	206	U
3-Ethylhexane	**1440**		1,3-Dimethyl-5-ethylbenzene	**6040**	
2-Methylheptane	**137**	J	1,3-Dimethyl-2-ethylbenzene	**771**	

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Form I
Duplicate
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-5**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-05 D**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	81.0	10	6.77	0.1	5	1	MR

Parameter	Result		Parameter	Result	
1,2-Dimethyl-3-ethylbenzene	206	U	Benzothiophene	206	U
1,2,4,5-Tetramethylbenzene	**3020**		MMT	515	U
Pentylbenzene	**555**		Tridecane	515	U
Dodecane	206	U	2-Methylnaphthalene	**8360**	
Naphthalene	**2510**		1-Methylnaphthalene	**4930**	

Surrogate	% Recovery		Acceptance Range (%)
2-Bromo-1-chloropropane	137	§	70-130
1-Chloro-2-fluorobenzene	121		70-130
1,4-Dichlorobutane	88		70-130
Dibromofluoromethane	124		70-130
Toluene-d8	115		70-130
4-Bromofluorobenzene	93		70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
B - Found in associated blank as well as sample.
J - Estimated value, below quantitation limit.
N/A - Not Applicable
§ - Surrogate value outside of acceptable range.

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Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009746.D
Acq On : 19 Mar 2016 1:33 pm
Operator : VOA4:MR
Sample : 1603006-05D
Misc : 1X
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Mar 21 12:44:27 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	405337	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	145981	61.974	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 123.95%#			
62) Toluene-d8 (surr)	30.74	98	587794	57.566	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 115.13%#			
64) 2-Bromo-1-chloropropane (	30.96	77	182134	60.603	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 121.21%			
87) 1-Chloro-2-fluorobenzene	40.14	130	352205	53.551	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 107.10%			
97) 1,4-Dichlorobutane (H/sur	43.38	55	235354	38.897	ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery = 77.79%			
101) 4-Bromofluorobenzene (sur	45.94	95	185669	46.738	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 93.48%			
Target Compounds						Qvalue
3) Isopentane	8.19	43	79526	24.108	ug/L	96
6) Pentane	9.21	43	32849	6.115	ug/L	99
13) Cyclopentane	12.82	70	12787	7.358	ug/L #	42
14) 2,3-Dimethylbutane	12.82	71	19668	15.044	ug/L #	24
15) 2-Methylpentane	13.03	43	54608	8.014	ug/L	98
17) 3-Methylpentane	13.99	57	249777	44.319	ug/L	99
19) Hexane	15.17	57	17918	3.691	ug/L	97
26) 2,2-Dimethylpentane	17.20	57	46175	6.614	ug/L	95
27) Methylcyclopentane	17.46	56	216155	33.652	ug/L	99
28) 2,4-Dimethylpentane	17.63	43	83211	13.275	ug/L	95
32) Cyclohexane	20.33	56	113175	20.559	ug/L	97
33) 2-Methyhexane	20.78	43	16631	2.415	ug/L	91
34) Benzene	20.92	78	18238	1.953	ug/L	95
35) 2,3-Dimethylpentane	21.08	56	166522	31.465	ug/L	97
38) 3-Methylhexane	21.58	43	73680	12.236	ug/L	95
43) 1-Heptene/1,2-DMCP (trans	22.87	70	46560	22.856	ug/L	73
44) Isooctane	23.00	57	75073M6	5.479	ug/L	
46) Heptane	23.75	43	10298	1.809	ug/L	93
51) Methycyclohexane	26.14	83	247237	56.543	ug/L	97
52) 2,5-Dimethylhexane	26.81	57	114114	16.754	ug/L	98
53) 2,4-Dimethyhexane	27.06	57	122710M4	22.719	ug/L	
55) 2,2,3-Trimethylpentane	27.32	57	19639	1.822	ug/L	91
57) 2,3,4-Trimethylpentane	28.84	43	38728	4.588	ug/L	97

MR 3/23/16

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009746.D
Acq On : 19 Mar 2016 1:33 pm
Operator : VOA4:MR
Sample : 1603006-05D
Misc : 1X
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Mar 21 12:44:27 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
58)	2,3,3-Trimethylpentane	29.40	43	34806	4.746	ug/L		95
59)	2,3-Dimethylhexane	29.67	43	114625	14.815	ug/L		94
60)	2-Methylheptane	30.12	57	8219M6	1.329	ug/L		
63)	3-Methylheptane	30.87	43	31487M4	5.188	ug/L		
65)	3-Ethylhexane	30.98	43	131127	13.986	ug/L		96
66)	Toluene	31.12	91	4780M1	0.449	ug/L		
71)	Octane	33.35	43	10876M1	1.506	ug/L		
86)	Ethylbenzene	40.15	91	7753M1	0.630	ug/L		
91)	p/m-Xylene	41.41	91	31572M1	3.322	ug/L		
95)	Nonane	42.89	43	11633	1.682	ug/L	#	82
98)	o-Xylene	43.67	91	3790M1	0.395	ug/L		
102)	Isopropylbenzene	45.99	105	122054	9.955	ug/L		99
104)	n-Propylbenzene	48.57	91	363316	24.616	ug/L		99
107)	1-Methyl-3-ethylbenzene	49.20	105	5563	0.453	ug/L		96
108)	1-Methyl-4-ethylbenzene	49.37	105	5303	0.443	ug/L		86
109)	1,3,5-Trimethylbenzene	49.95	105	10828	1.044	ug/L		87
112)	1-Methyl-2-ethylbenzene	50.29	105	8124	0.672	ug/L		96
115)	1,2,4-Trimethylbenzene	51.16	105	25802	2.460	ug/L		95
117)	sec-Butylbenzene	51.42	105	225992	16.431	ug/L		100
121)	1-Methyl-2-isopropylbenze	52.48	119	37777	3.160	ug/L		96
122)	Indan	52.57	117	182123	17.250	ug/L		97
124)	1-Methyl-3-propylbenzene	52.86	105	3604	0.266	ug/L	#	48
127)	n-Butylbenzene	53.00	91	192710	15.547	ug/L	#	87
128)	1,2-Dimethyl-4-ethylbenze	53.13	119	4655	0.389	ug/L	#	49
129)	1,2-Diethylbenzene	53.22	119	52738	8.784	ug/L		97
130)	1-Methyl-2-propylbenzene	53.41	105	4960	0.349	ug/L		100
131)	1,4-Dimethyl-2-ethylbenze	53.73	119	18434M3	1.611	ug/L		
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	735051	58.682	ug/L		99
135)	1,3-Dimethyl-2-ethylbenze	54.17	119	103018	7.488	ug/L	#	90
137)	1,2,4,5-Tetramethylbenzen	54.93	119	385009M6	29.316	ug/L		
139)	Pentylbenzene	55.51	91	55607M6	5.388	ug/L		
144)	Naphthalene	56.83	128	272396	24.391	ug/L		98
150)	2-Methylnaphthalene	59.56	142	461573	81.136	ug/L		99
151)	1-Methylnaphthalene	60.03	142	229919	47.878	ug/L		99

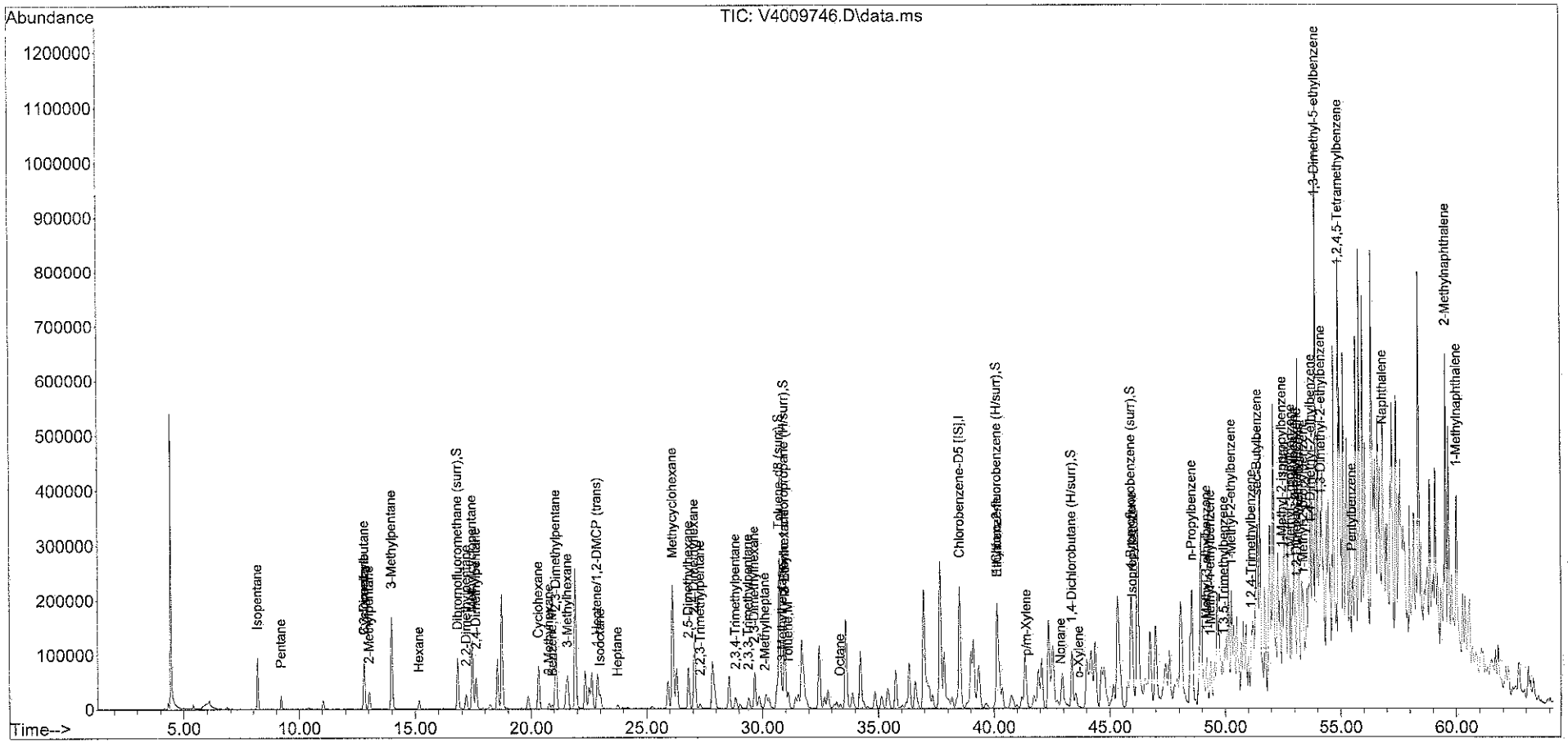
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009746.D
Acq On : 19 Mar 2016 1:33 pm
Operator : VOA4:MR
Sample : 1603006-05D
Misc : 1X
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Mar 21 12:44:27 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Duplicate
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-5**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-05**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Percent Solid	Analyst
03/11/16	03/14/16	81.0	MR

Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
Isopentane	2690	2480	8	30
1-Pentene	206 U	206 U	N/A	30
2-Methyl-1-butene	206 U	206 U	N/A	30
Pentane	638	630	1	30
2-Pentene (trans)	206 U	206 U	N/A	30
2-Pentene (cis)	206 U	206 U	N/A	30
Tertiary butanol	2580 U	2580 U	N/A	30
Cyclopentane	753	758	1	30
2,3-Dimethylbutane	1560	1550	1	30
2-Methylpentane	828	825	0	30
MTBE	206 U	206 U	N/A	30
3-Methylpentane	4560	4560	0	30
1-Hexene	206 U	206 U	N/A	30
Hexane	376	380	1	30
Diisopropyl Ether (DIPE)	206 U	206 U	N/A	30
Ethyl Tertiary Butyl Ether (ETBE)	206 U	206 U	N/A	30
2,2-Dimethylpentane	673	681	1	30
Methylcyclopentane	3320	3470	4	30
2,4-Dimethylpentane	1320	1370	4	30
1,2-Dichloroethane	206 U	206 U	N/A	30
Cyclohexane	1990	2120	6	30
2-Methylhexane	234	249	6	30
Benzene	177 J	201 J	13	30
2,3-Dimethylpentane	3130	3240	3	30
Thiophene	206 U	206 U	N/A	30
3-Methylhexane	1200	1260	5	30
TAME	206 U	206 U	N/A	30
1-Heptene/1,2-DMCP (trans)[1]	2240	2350	5	30
Isooctane	540	564	4	30
Heptane	171 J	186 J	9	30
Methylcyclohexane	5460	5820	6	30
2,5-Dimethylhexane	1660	1720	4	30
2,4-Dimethylhexane	2190	2340	6	30
2,2,3-Trimethylpentane	184 J	188 J	2	30
2,3,4-Trimethylpentane	449	472	5	30

U - The analyte was analyzed for but not detected at the sample specific level reported.
J - Estimated value, below quantitation limit.
N/A - Not Applicable

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Duplicate
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-5**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-05**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Percent Solid	Analyst
03/11/16	03/14/16	81.0	MR

Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
2,3,3-Trimethylpentane	474	489	3	30
2,3-Dimethylhexane	1420	1530	7	30
3-Ethylhexane	1350	1440	6	30
2-Methylheptane	113 J	137 J	19	30
3-Methylheptane	451	534	17	30
Toluene	40.0 J	46.2 J	15	30
2-Methylthiophene	206 U	206 U	N/A	30
3-Methylthiophene	206 U	206 U	N/A	30
1-Octene	206 U	206 U	N/A	30
Octane	135 J	155 J	14	30
1,2-Dibromoethane	206 U	206 U	N/A	30
Ethylbenzene	61.2 JB	64.9 JB	6	30
2-Ethylthiophene	206 U	206 U	N/A	30
p/m-Xylene	297 J	342 J	14	30
1-Nonene	206 U	206 U	N/A	30
Nonane	140 J	173 J	21	30
Styrene	206 U	206 U	N/A	30
o-Xylene	36.6 J	40.7 J	11	30
Isopropylbenzene	944	1020	8	30
n-Propylbenzene	2270	2540	11	30
1-Methyl-3-ethylbenzene	37.5 J	46.6 J	22	30
1-Methyl-4-ethylbenzene	39.2 J	45.6 J	15	30
1,3,5-Trimethylbenzene	97.7 J	108 J	10	30
1-Decene	206 U	206 U	N/A	30
1-Methyl-2-ethylbenzene	65.6 J	69.2 J	5	30
Decane	206 U	206 U	N/A	30
1,2,4-Trimethylbenzene	209	253	19	30
sec-Butylbenzene	1520	1690	10	30
1-Methyl-3-isopropylbenzene	206 U	206 U	N/A	30
1-Methyl-4-isopropylbenzene	206 U	206 U	N/A	30
1-Methyl-2-isopropylbenzene	297	325	9	30
Indan	1580	1780	11	30
1-Methyl-3-propylbenzene	23.9 J	27.4 J	14	30
1-Methyl-4-propylbenzene	206 U	206 U	N/A	30
n-Butylbenzene	1440	1600	11	30

U - The analyte was analyzed for but not detected at the sample specific level reported.
B - Found in associated blank as well as sample.
J - Estimated value, below quantitation limit.
N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Duplicate
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-5**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-05**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Percent Solid	Analyst
03/11/16	03/14/16	81.0	MR

Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
1,2-Dimethyl-4-ethylbenzene	**35.7** J	**40.1** J	11	30
1,2-Diethylbenzene	**820**	**905**	10	30
1-Methyl-2-propylbenzene	**35.7** J	**35.9** J	1	30
1,4-Dimethyl-2-ethylbenzene	**140** J	**166** J	17	30
Undecane	206 U	206 U	N/A	30
1,3-Dimethyl-4-ethylbenzene	206 U	206 U	N/A	30
1,3-Dimethyl-5-ethylbenzene	**5550**	**6040**	9	30
1,3-Dimethyl-2-ethylbenzene	**736**	**771**	5	30
1,2-Dimethyl-3-ethylbenzene	206 U	206 U	N/A	30
1,2,4,5-Tetramethylbenzene	**2790**	**3020**	8	30
Pentylbenzene	**555**	**555**	0	30
Dodecane	206 U	206 U	N/A	30
Naphthalene	**2190**	**2510**	14	30
Benzothiophene	206 U	206 U	N/A	30
MMT	515 U	515 U	N/A	30
Tridecane	515 U	515 U	N/A	30
2-Methylnaphthalene	**7510**	**8360**	11	30
1-Methylnaphthalene	**4310**	**4930**	14	30

Surrogate	% Recovery			Acceptance Range (%)
2-Bromo-1-chloropropane	128	137	§	70-130
1-Chloro-2-fluorobenzene	112	121		70-130
1,4-Dichlorobutane	80	88		70-130
Dibromofluoromethane	123	124		70-130
Toluene-d8	114	115		70-130
4-Bromofluorobenzene	93	93		70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
J - Estimated value, below quantitation limit.
N/A - Not Applicable
§ - Surrogate value outside of acceptable range.

Concentrations reported as calculated values, which includes rounding for significant figures. RPD values are reported based on the unrounded calculated result.

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-6**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-06**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	88.0	10	7.05	0.1	5	1	MR

Parameter	Result		Parameter	Result	
Isopentane	175	U	3-Methylheptane	175	U
1-Pentene	175	U	Toluene	175	U
2-Methyl-1-butene	175	U	2-Methylthiophene	175	U
Pentane	175	U	3-Methylthiophene	175	U
2-Pentene (trans)	175	U	1-Octene	175	U
2-Pentene (cis)	175	U	Octane	175	U
Tertiary butanol	2190	U	1,2-Dibromoethane	175	U
Cyclopentane	175	U	Ethylbenzene	**35.2**	JB
2,3-Dimethylbutane	175	U	2-Ethylthiophene	175	U
2-Methylpentane	175	U	p/m-Xylene	350	U
MTBE	175	U	1-Nonene	175	U
3-Methylpentane	175	U	Nonane	**18.6**	J
1-Hexene	175	U	Styrene	175	U
Hexane	175	U	o-Xylene	175	U
Diisopropyl Ether (DIPE)	175	U	Isopropylbenzene	175	U
Ethyl Tertiary Butyl Ether (ETBE)	175	U	n-Propylbenzene	175	U
2,2-Dimethylpentane	175	U	1-Methyl-3-ethylbenzene	175	U
Methylcyclopentane	175	U	1-Methyl-4-ethylbenzene	175	U
2,4-Dimethylpentane	175	U	1,3,5-Trimethylbenzene	175	U
1,2-Dichloroethane	175	U	1-Decene	175	U
Cyclohexane	175	U	1-Methyl-2-ethylbenzene	175	U
2-Methylhexane	175	U	Decane	175	U
Benzene	175	U	1,2,4-Trimethylbenzene	**11.3**	J
2,3-Dimethylpentane	175	U	sec-Butylbenzene	175	U
Thiophene	175	U	1-Methyl-3-isopropylbenzene	175	U
3-Methylhexane	175	U	1-Methyl-4-isopropylbenzene	175	U
TAME	175	U	1-Methyl-2-isopropylbenzene	175	U
1-Heptene/1,2-DMCP (trans)[1]	350	U	Indan	175	U
Isooctane	175	U	1-Methyl-3-propylbenzene	175	U
Heptane	175	U	1-Methyl-4-propylbenzene	175	U
Methylcyclohexane	175	U	n-Butylbenzene	175	U
2,5-Dimethylhexane	175	U	1,2-Dimethyl-4-ethylbenzene	175	U
2,4-Dimethylhexane	175	U	1,2-Diethylbenzene	175	U
2,2,3-Trimethylpentane	175	U	1-Methyl-2-propylbenzene	175	U
2,3,4-Trimethylpentane	175	U	1,4-Dimethyl-2-ethylbenzene	175	U
2,3,3-Trimethylpentane	175	U	Undecane	175	U
2,3-Dimethylhexane	175	U	1,3-Dimethyl-4-ethylbenzene	175	U
3-Ethylhexane	175	U	1,3-Dimethyl-5-ethylbenzene	**15.6**	J
2-Methylheptane	175	U	1,3-Dimethyl-2-ethylbenzene	175	U

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Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-6**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-06**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	88.0	10	7.05	0.1	5	1	MR

Parameter	Result		Parameter	Result	
1,2-Dimethyl-3-ethylbenzene	175	U	Benzothiophene	175	U
1,2,4,5-Tetramethylbenzene	**9.88**	J	MMT	437	U
Pentylbenzene	175	U	Tridecane	437	U
Dodecane	175	U	2-Methylnaphthalene	**106**	JB
Naphthalene	**52.2**	JB	1-Methylnaphthalene	**65.0**	JB

Surrogate	% Recovery		Acceptance Range (%)
2-Bromo-1-chloropropane	135	§	70-130
1-Chloro-2-fluorobenzene	138	§	70-130
1,4-Dichlorobutane	123		70-130
Dibromofluoromethane	102		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	101		70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
B - Found in associated blank as well as sample.
J - Estimated value, below quantitation limit.
N/A - Not Applicable
§ - Surrogate value outside of acceptable range.

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Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009741.D
Acq On : 19 Mar 2016 8:03 am
Operator : VOA4:MR
Sample : 1603006-06
Misc : 1X
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Mar 21 15:18:03 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANOW - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	620290	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.82	113	183092	50.793	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 101.59%			
62) Toluene-d8 (surr)	30.74	98	768566	49.186	ug/L	-0.01
Spiked Amount 50.000	Range 87 - 113		Recovery = 98.37%			
64) 2-Bromo-1-chloropropane (	30.95	77	285468	62.070	ug/L	-0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 124.14%			
87) 1-Chloro-2-fluorobenzene	40.14	130	638365	63.426	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 126.85%			
97) 1,4-Dichlorobutane (H/sur	43.38	55	524432	56.637	ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery = 113.27%			
101) 4-Bromofluorobenzene (sur	45.93	95	306386	50.399	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.80%			
Target Compounds						Qvalue
86) Ethylbenzene	40.13	91	7596	0.403	ug/L	84
95) Nonane	42.90	43	2253M1	0.213	ug/L	
115) 1,2,4-Trimethylbenzene	51.16	105	2077	0.129	ug/L #	30
134) 1,3-Dimethyl-5-ethylbenze	53.95	119	3405	0.178	ug/L	97
137) 1,2,4,5-Tetramethylbenzen	54.93	119	2280	0.113	ug/L #	64
144) Naphthalene	56.83	128	10206	0.597	ug/L	97
150) 2-Methylnaphthalene	59.57	142	10574	1.215	ug/L	92
151) 1-Methylnaphthalene	60.03	142	5463	0.743	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

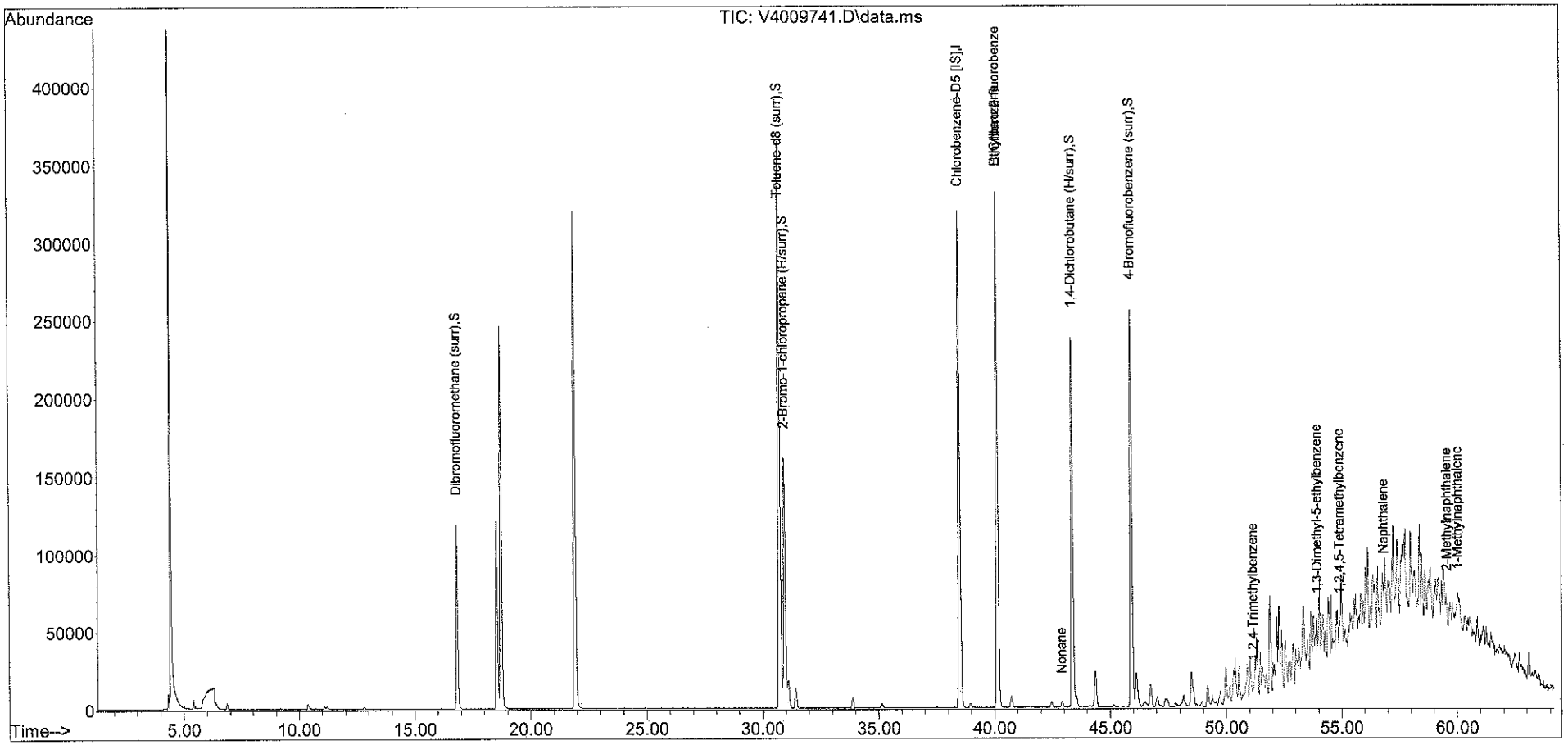
AJ 3/29/16 MR 3/23/16

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009741.D
Acq On : 19 Mar 2016 8:03 am
Operator : VOA4:MR
Sample : 1603006-06
Misc : 1X
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Mar 21 15:18:03 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANOW - .



Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-07**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	79.1	10	5.64	0.1	5	1	MR

Parameter	Result	
Isopentane	**123**	J
1-Pentene	251	U
2-Methyl-1-butene	251	U
Pentane	251	U
2-Pentene (trans)	251	U
2-Pentene (cis)	251	U
Tertiary butanol	3130	U
Cyclopentane	251	U
2,3-Dimethylbutane	**841**	
2-Methylpentane	251	U
MTBE	251	U
3-Methylpentane	**211**	J
1-Hexene	251	U
Hexane	**26.2**	J
Diisopropyl Ether (DIPE)	251	U
Ethyl Tertiary Butyl Ether (ETBE)	251	U
2,2-Dimethylpentane	**1280**	
Methylcyclopentane	251	U
2,4-Dimethylpentane	**2140**	
1,2-Dichloroethane	251	U
Cyclohexane	251	U
2-Methylhexane	251	U
Benzene	251	U
2,3-Dimethylpentane	**5840**	
Thiophene	251	U
3-Methylhexane	**41.7**	J
TAME	251	U
1-Heptene/1,2-DMCP (trans)[1]	501	U
Isooctane	**92.9**	J
Heptane	**66.3**	J
Methylcyclohexane	**107**	J
2,5-Dimethylhexane	**5700**	
2,4-Dimethylhexane	**3660**	
2,2,3-Trimethylpentane	**304**	
2,3,4-Trimethylpentane	**288**	
2,3,3-Trimethylpentane	**360**	
2,3-Dimethylhexane	**4170**	
3-Ethylhexane	**1500**	
2-Methylheptane	251	U

Parameter	Result	
3-Methylheptane	**305**	
Toluene	**48.5**	J
2-Methylthiophene	251	U
3-Methylthiophene	251	U
1-Octene	251	U
Octane	**86.8**	J
1,2-Dibromoethane	251	U
Ethylbenzene	**59.8**	JB
2-Ethylthiophene	251	U
p/m-Xylene	**163**	J
1-Nonene	251	U
Nonane	**128**	J
Styrene	251	U
o-Xylene	**32.0**	J
Isopropylbenzene	251	U
n-Propylbenzene	251	U
1-Methyl-3-ethylbenzene	**18.9**	J
1-Methyl-4-ethylbenzene	251	U
1,3,5-Trimethylbenzene	**20.9**	J
1-Decene	251	U
1-Methyl-2-ethylbenzene	**32.5**	J
Decane	251	U
1,2,4-Trimethylbenzene	**79.1**	J
sec-Butylbenzene	**75.8**	J
1-Methyl-3-isopropylbenzene	251	U
1-Methyl-4-isopropylbenzene	251	U
1-Methyl-2-isopropylbenzene	**135**	J
Indan	**46.0**	J
1-Methyl-3-propylbenzene	251	U
1-Methyl-4-propylbenzene	251	U
n-Butylbenzene	**28.6**	J
1,2-Dimethyl-4-ethylbenzene	251	U
1,2-Diethylbenzene	**71.6**	J
1-Methyl-2-propylbenzene	**42.5**	J
1,4-Dimethyl-2-ethylbenzene	251	U
Undecane	251	U
1,3-Dimethyl-4-ethylbenzene	251	U
1,3-Dimethyl-5-ethylbenzene	**1340**	
1,3-Dimethyl-2-ethylbenzene	**110**	J

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Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-07**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	79.1	10	5.64	0.1	5	1	MR

Parameter	Result		Parameter	Result	
1,2-Dimethyl-3-ethylbenzene	251	U	Benzothiophene	251	U
1,2,4,5-Tetramethylbenzene	**734**		MMT	627	U
Pentylbenzene	**29.1**	J	Tridecane	627	U
Dodecane	251	U	2-Methylnaphthalene	**136**	JB
Naphthalene	**223**	JB	1-Methylnaphthalene	**114**	JB

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	118	70-130
1-Chloro-2-fluorobenzene	122	70-130
1,4-Dichlorobutane	105	70-130
Dibromofluoromethane	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
B - Found in associated blank as well as sample.
J - Estimated value, below quantitation limit.
N/A - Not Applicable

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Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009745.D
Acq On : 19 Mar 2016 12:23 pm
Operator : VOA4:MR
Sample : 1603006-07
Misc : 1X
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Mar 21 15:33:20 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.51	117	589207	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.82	113	172579	50.402	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 100.80%			
62) Toluene-d8 (surr)	30.74	98	738098	49.728	ug/L	-0.01
Spiked Amount 50.000	Range 87 - 113		Recovery = 99.46%			
64) 2-Bromo-1-chloropropane (	30.96	77	229621	52.561	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 105.12%			
87) 1-Chloro-2-fluorobenzene	40.14	130	522828	54.687	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 109.37%			
97) 1,4-Dichlorobutane (H/sur	43.37	55	414779	47.158	ug/L	0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 94.32%			
101) 4-Bromofluorobenzene (sur	45.93	95	296496	51.345	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 102.69%			
Target Compounds						Qvalue
3) Isopentane	8.18	43	4693	0.979	ug/L	95
14) 2,3-Dimethylbutane	12.80	71	12746	6.707	ug/L #	1
17) 3-Methylpentane	14.00	57	13814	1.686	ug/L #	83
19) Hexane	15.19	57	1477	0.209	ug/L #	83
26) 2,2-Dimethylpentane	17.18	57	103959	10.244	ug/L	99
28) 2,4-Dimethylpentane	17.62	43	155324	17.046	ug/L	96
35) 2,3-Dimethylpentane	21.07	56	358155	46.556	ug/L	97
38) 3-Methylhexane	21.56	43	2916M6	0.333	ug/L	
44) Isooctane	23.00	57	14755	0.741	ug/L #	84
46) Heptane	23.75	43	4375	0.529	ug/L #	39
51) Methycyclohexane	26.11	83	5447	0.857	ug/L	90
52) 2,5-Dimethylhexane	26.81	57	450624	45.514	ug/L	95
53) 2,4-Dimethyhexane	27.06	57	228930M4	29.159	ug/L	
55) 2,2,3-Trimethylpentane	27.31	57	38001	2.425	ug/L	93
57) 2,3,4-Trimethylpentane	28.84	43	28231	2.301	ug/L	97
58) 2,3,3-Trimethylpentane	29.40	43	30660	2.876	ug/L	96
59) 2,3-Dimethylhexane	29.67	43	374345	33.284	ug/L	92
63) 3-Methylheptane	30.86	43	21467M4	2.433	ug/L	
65) 3-Ethylhexane	30.98	43	163073M4	11.966	ug/L	
66) Toluene	31.11	91	5997M1	0.387	ug/L	
71) Octane	33.35	43	7260	0.692	ug/L	92
86) Ethylbenzene	40.13	91	8540	0.477	ug/L	96
91) p/m-Xylene	41.36	91	17962M1	1.300	ug/L	

AS 3/29/16 MR 3/23/16

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009745.D
Acq On : 19 Mar 2016 12:23 pm
Operator : VOA4:MR
Sample : 1603006-07
Misc : 1X
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Mar 21 15:33:20 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
95) Nonane	42.91	43	10267M4	1.021	ug/L		
98) o-Xylene	43.63	91	3563M1	0.255	ug/L		
107) 1-Methyl-3-ethylbenzene	49.20	105	2703	0.151	ug/L		92
109) 1,3,5-Trimethylbenzene	49.95	105	2516	0.167	ug/L		93
112) 1-Methyl-2-ethylbenzene	50.28	105	4555	0.259	ug/L		100
115) 1,2,4-Trimethylbenzene	51.16	105	9619	0.631	ug/L		97
117) sec-Butylbenzene	51.42	105	12092	0.605	ug/L		99
121) 1-Methyl-2-isopropylbenze	52.48	119	18751	1.079	ug/L		91
122) Indan	52.58	117	5635	0.367	ug/L	#	92
127) n-Butylbenzene	53.01	91	4115	0.228	ug/L		82
129) 1,2-Diethylbenzene	53.22	119	4984	0.571	ug/L		97
130) 1-Methyl-2-propylbenzene	53.41	105	7020	0.339	ug/L		93
134) 1,3-Dimethyl-5-ethylbenze	53.94	119	195173	10.719	ug/L		99
135) 1,3-Dimethyl-2-ethylbenze	54.17	119	17469M3	0.874	ug/L		
137) 1,2,4,5-Tetramethylbenzen	54.93	119	111788M6	5.856	ug/L		
139) Pentylbenzene	55.50	91	3484M4	0.232	ug/L		
144) Naphthalene	56.83	128	28875	1.779	ug/L		96
150) 2-Methylnaphthalene	59.56	142	8963	1.084	ug/L		84
151) 1-Methylnaphthalene	60.03	142	6342	0.909	ug/L		92

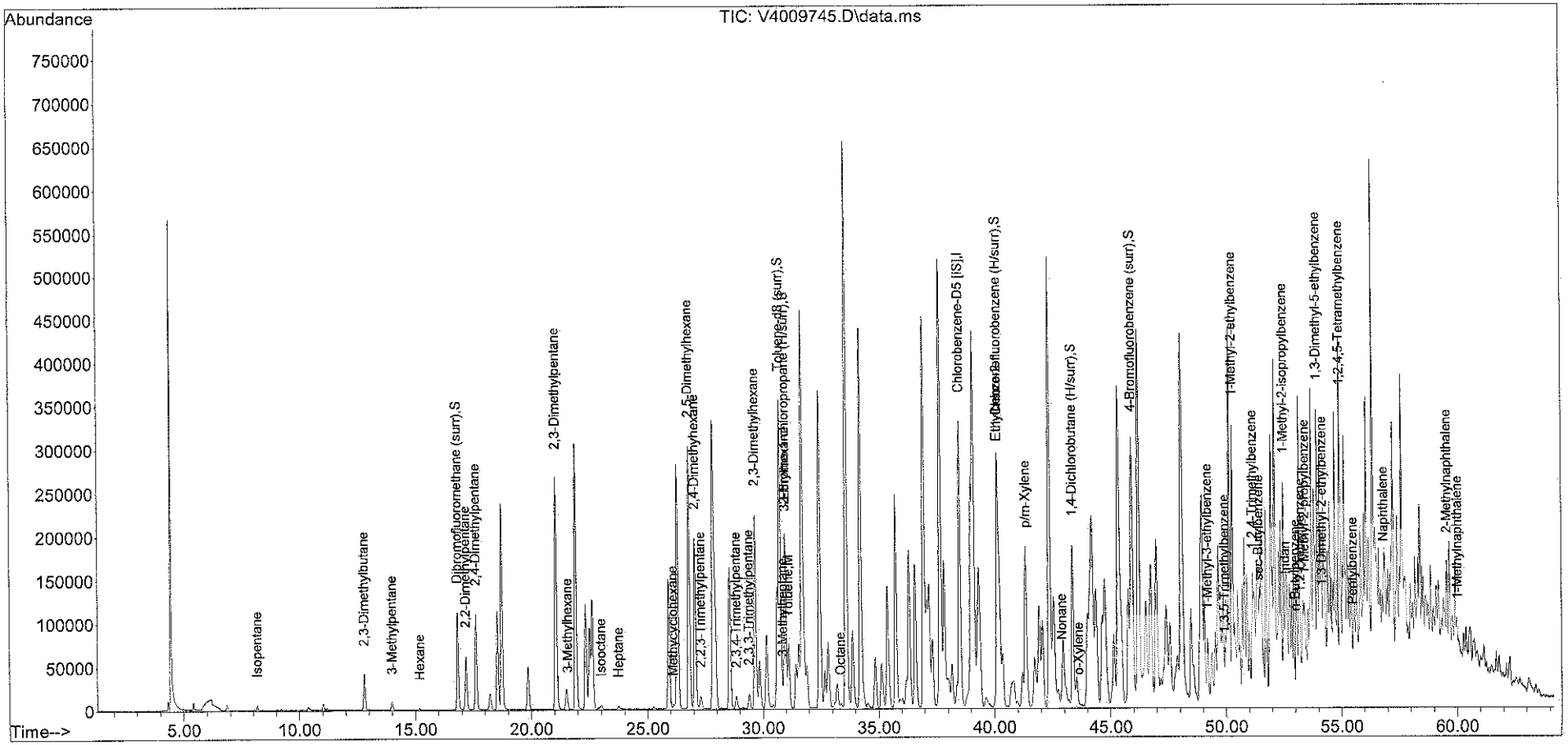
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009745.D
Acq On : 19 Mar 2016 12:23 pm
Operator : VOA4:MR
Sample : 1603006-07
Misc : 1X
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Mar 21 15:33:20 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7A**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-08**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	78.1	10	5.98	0.1	5	1	MR

Parameter	Result		Parameter	Result	
Isopentane	**161**	J	3-Methylheptane	**147**	J
1-Pentene	242	U	Toluene	**159**	J
2-Methyl-1-butene	242	U	2-Methylthiophene	242	U
Pentane	**91.4**	J	3-Methylthiophene	242	U
2-Pentene (trans)	242	U	1-Octene	242	U
2-Pentene (cis)	242	U	Octane	**388**	
Tertiary butanol	3030	U	1,2-Dibromoethane	242	U
Cyclopentane	242	U	Ethylbenzene	**93.8**	JB
2,3-Dimethylbutane	**169**	J	2-Ethylthiophene	242	U
2-Methylpentane	**51.6**	J	p/m-Xylene	**577**	
MTBE	242	U	1-Nonene	242	U
3-Methylpentane	**123**	J	Nonane	**358**	
1-Hexene	242	U	Styrene	242	U
Hexane	**150**	J	o-Xylene	**99.5**	J
Diisopropyl Ether (DIPE)	242	U	Isopropylbenzene	242	U
Ethyl Tertiary Butyl Ether (ETBE)	242	U	n-Propylbenzene	**36.7**	J
2,2-Dimethylpentane	**256**		1-Methyl-3-ethylbenzene	**60.4**	J
Methylcyclopentane	**80.4**	J	1-Methyl-4-ethylbenzene	**37.9**	J
2,4-Dimethylpentane	**521**		1,3,5-Trimethylbenzene	**54.8**	J
1,2-Dichloroethane	242	U	1-Decene	242	U
Cyclohexane	**46.0**	J	1-Methyl-2-ethylbenzene	**23.5**	J
2-Methylhexane	242	U	Decane	**231**	JB
Benzene	**57.0**	J	1,2,4-Trimethylbenzene	**155**	J
2,3-Dimethylpentane	**1210**		sec-Butylbenzene	**17.1**	J
Thiophene	242	U	1-Methyl-3-isopropylbenzene	242	U
3-Methylhexane	**45.6**	J	1-Methyl-4-isopropylbenzene	**29.9**	J
TAME	242	U	1-Methyl-2-isopropylbenzene	242	U
1-Heptene/1,2-DMCP (trans)[1]	**73.2**	J	Indan	**23.4**	J
Isooctane	242	U	1-Methyl-3-propylbenzene	**33.2**	J
Heptane	**321**		1-Methyl-4-propylbenzene	**21.8**	J
Methylcyclohexane	**202**	J	n-Butylbenzene	**20.9**	J
2,5-Dimethylhexane	**1040**		1,2-Dimethyl-4-ethylbenzene	**15.6**	J
2,4-Dimethylhexane	**625**		1,2-Diethylbenzene	242	U
2,2,3-Trimethylpentane	**62.0**	J	1-Methyl-2-propylbenzene	**20.3**	J
2,3,4-Trimethylpentane	**51.3**	J	1,4-Dimethyl-2-ethylbenzene	**14.3**	J
2,3,3-Trimethylpentane	**66.0**	J	Undecane	**219**	J
2,3-Dimethylhexane	**233**	J	1,3-Dimethyl-4-ethylbenzene	**14.6**	J
3-Ethylhexane	**232**	J	1,3-Dimethyl-5-ethylbenzene	**71.1**	J
2-Methylheptane	**71.2**	J	1,3-Dimethyl-2-ethylbenzene	242	U

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Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7A**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-08**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	78.1	10	5.98	0.1	5	1	MR

Parameter	Result		Parameter	Result	
1,2-Dimethyl-3-ethylbenzene	242	U	Benzothiophene	242	U
1,2,4,5-Tetramethylbenzene	**55.8**	J	MMT	605	U
Pentylbenzene	**18.2**	J	Tridecane	**215**	J
Dodecane	**204**	J	2-Methylnaphthalene	**386**	JB
Naphthalene	**419**	B	1-Methylnaphthalene	**213**	JB

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	113	70-130
1-Chloro-2-fluorobenzene	115	70-130
1,4-Dichlorobutane	98	70-130
Dibromofluoromethane	99	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	99	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
B - Found in associated blank as well as sample.
J - Estimated value, below quantitation limit.
N/A - Not Applicable

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Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009747.D
Acq On : 19 Mar 2016 2:42 pm
Operator : VOA4:MR
Sample : 1603006-08
Misc : 1X
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Mar 21 15:38:27 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	552151	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	158249	49.319	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 98.64%			
62) Toluene-d8 (surr)	30.75	98	684892	49.240	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 98.48%			
64) 2-Bromo-1-chloropropane (	30.96	77	204559	49.967	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.93%			
87) 1-Chloro-2-fluorobenzene	40.13	130	456817	50.989	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.98%			
97) 1,4-Dichlorobutane (H/sur	43.38	55	357875	43.419	ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery = 86.84%			
101) 4-Bromofluorobenzene (sur	45.94	95	268317	49.584	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.17%			
Target Compounds						Qvalue
3) Isopentane	8.17	43	5972	1.329	ug/L	96
6) Pentane	9.19	43	5526	0.755	ug/L #	80
14) 2,3-Dimethylbutane	12.82	71	2484	1.395	ug/L #	1
15) 2-Methylpentane	13.02	43	3953	0.426	ug/L #	52
17) 3-Methylpentane	13.99	57	7825	1.019	ug/L #	89
19) Hexane	15.16	57	8210	1.241	ug/L #	85
26) 2,2-Dimethylpentane	17.19	57	20105	2.114	ug/L	98
27) Methylcyclopentane	17.47	56	5813M1	0.664	ug/L	
28) 2,4-Dimethylpentane	17.63	43	36732	4.302	ug/L	95
32) Cyclohexane	20.34	56	2847M1	0.380	ug/L	
34) Benzene	20.90	78	5985M1	0.471	ug/L	
35) 2,3-Dimethylpentane	21.08	56	72254	10.022	ug/L	99
38) 3-Methylhexane	21.59	43	3093M6	0.377	ug/L	
43) 1-Heptene/1,2-DMCP (trans	22.89	70	1678M1	0.605	ug/L	
46) Heptane	23.74	43	20550	2.650	ug/L #	80
51) Methycyclohexane	26.12	83	9941	1.669	ug/L	82
52) 2,5-Dimethylhexane	26.81	57	79591	8.578	ug/L	98
53) 2,4-Dimethyhexane	27.06	57	38001	5.165	ug/L	99
55) 2,2,3-Trimethylpentane	27.31	57	7512	0.512	ug/L	94
57) 2,3,4-Trimethylpentane	28.83	43	4875	0.424	ug/L	89
58) 2,3,3-Trimethylpentane	29.42	43	5449M1	0.545	ug/L	
59) 2,3-Dimethylhexane	29.68	43	20243	1.921	ug/L	99
60) 2-Methylheptane	30.12	57	4956M6	0.588	ug/L	

AJ 3/29/16 MR 3/23/16

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009747.D
Acq On : 19 Mar 2016 2:42 pm
Operator : VOA4:MR
Sample : 1603006-08
Misc : 1X
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Mar 21 15:38:27 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
63)	3-Methylheptane	30.87	43	10063M6	1.217	ug/L		
65)	3-Ethylhexane	30.98	43	24497	1.918	ug/L		97
66)	Toluene	31.12	91	19038	1.313	ug/L		96
71)	Octane	33.36	43	31507	3.203	ug/L		97
86)	Ethylbenzene	40.15	91	12998	0.775	ug/L		96
91)	p/m-Xylene	41.36	91	61745	4.770	ug/L		96
95)	Nonane	42.90	43	27884	2.959	ug/L		94
98)	o-Xylene	43.66	91	10754	0.822	ug/L		87
104)	n-Propylbenzene	48.58	91	6094	0.303	ug/L	#	52
107)	1-Methyl-3-ethylbenzene	49.20	105	8355	0.499	ug/L		92
108)	1-Methyl-4-ethylbenzene	49.38	105	5102M3	0.313	ug/L		
109)	1,3,5-Trimethylbenzene	49.95	105	6402	0.453	ug/L		98
112)	1-Methyl-2-ethylbenzene	50.28	105	3203	0.194	ug/L		88
113)	Decane	50.51	43	17911M4	1.911	ug/L		
115)	1,2,4-Trimethylbenzene	51.16	105	18300	1.281	ug/L		95
117)	sec-Butylbenzene	51.42	105	2651	0.141	ug/L	#	67
119)	1-Methyl-4-isopropylbenze	52.01	119	4028	0.247	ug/L	#	80
122)	Indan	52.58	117	2772	0.193	ug/L	#	83
124)	1-Methyl-3-propylbenzene	52.86	105	5055	0.274	ug/L	#	92
126)	1-Methyl-4-propylbenzene	53.01	105	3860	0.180	ug/L		97
127)	n-Butylbenzene	53.01	91	2927	0.173	ug/L		94
128)	1,2-Dimethyl-4-ethylbenze	53.13	119	2104	0.129	ug/L	#	88
130)	1-Methyl-2-propylbenzene	53.40	105	3262	0.168	ug/L		86
131)	1,4-Dimethyl-2-ethylbenze	53.72	119	1834M3	0.118	ug/L		
132)	Undecane	53.78	57	17163	1.813	ug/L		91
133)	1,3-Dimethyl-4-ethylbenze	53.81	119	2265M3	0.121	ug/L		
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	10017	0.587	ug/L		92
137)	1,2,4,5-Tetramethylbenzen	54.93	119	8249	0.461	ug/L	#	92
139)	Pentylbenzene	55.51	91	2107M6	0.150	ug/L		
142)	Dodecane	56.01	43	11515	1.683	ug/L	#	86
144)	Naphthalene	56.83	128	52610	3.458	ug/L		97
149)	Tridecane	58.09	57	10404M6	1.780	ug/L		
150)	2-Methylnaphthalene	59.56	142	24710	3.189	ug/L		99
151)	1-Methylnaphthalene	60.03	142	11531	1.763	ug/L		96

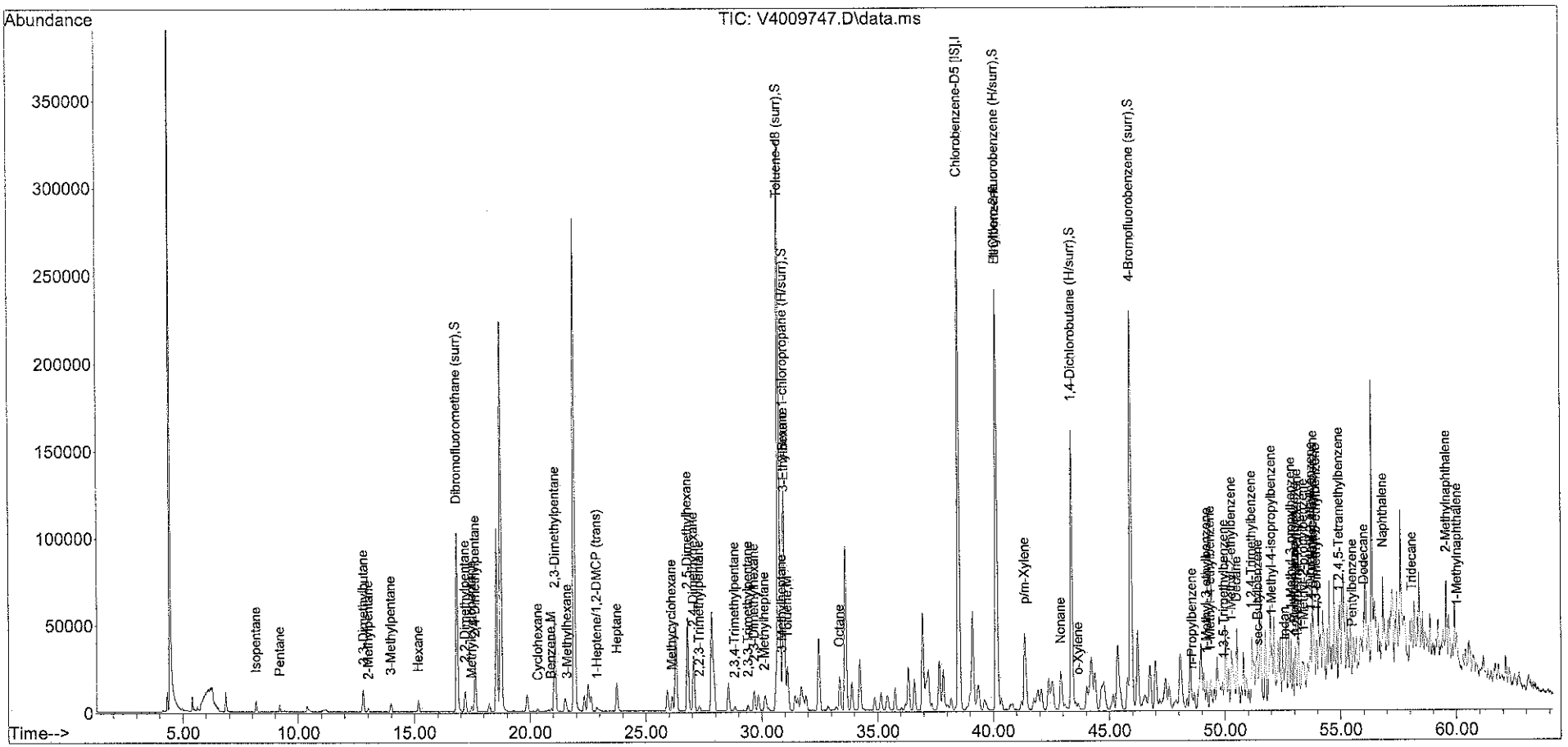
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009747.D
Acq On : 19 Mar 2016 2:42 pm
Operator : VOA4:MR
Sample : 1603006-08
Misc : 1X
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Mar 21 15:38:27 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7B**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-09**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	82.8	10	6.92	0.1	5	1	MR

Parameter	Result	
Isopentane	**224**	
1-Pentene	195	U
2-Methyl-1-butene	195	U
Pentane	195	U
2-Pentene (trans)	195	U
2-Pentene (cis)	195	U
Tertiary butanol	2440	U
Cyclopentane	195	U
2,3-Dimethylbutane	**2830**	
2-Methylpentane	195	U
MTBE	195	U
3-Methylpentane	**834**	
1-Hexene	195	U
Hexane	195	U
Diisopropyl Ether (DIPE)	195	U
Ethyl Tertiary Butyl Ether (ETBE)	195	U
2,2-Dimethylpentane	**4510**	
Methylcyclopentane	195	U
2,4-Dimethylpentane	**7280**	
1,2-Dichloroethane	195	U
Cyclohexane	195	U
2-Methylhexane	195	U
Benzene	195	U
2,3-Dimethylpentane	**20800**	E
Thiophene	195	U
3-Methylhexane	**329**	
TAME	195	U
1-Heptene/1,2-DMCP (trans)[1]	390	U
Isooctane	**321**	
Heptane	195	U
Methylcyclohexane	195	U
2,5-Dimethylhexane	**19800**	E
2,4-Dimethylhexane	**12800**	
2,2,3-Trimethylpentane	**1040**	
2,3,4-Trimethylpentane	**1010**	
2,3,3-Trimethylpentane	**1270**	
2,3-Dimethylhexane	**17300**	
3-Ethylhexane	**12200**	
2-Methylheptane	195	U

Parameter	Result	
3-Methylheptane	195	U
Toluene	195	U
2-Methylthiophene	195	U
3-Methylthiophene	195	U
1-Octene	195	U
Octane	195	U
1,2-Dibromoethane	195	U
Ethylbenzene	**44.5**	JB
2-Ethylthiophene	195	U
p/m-Xylene	390	U
1-Nonene	195	U
Nonane	195	U
Styrene	195	U
o-Xylene	195	U
Isopropylbenzene	195	U
n-Propylbenzene	195	U
1-Methyl-3-ethylbenzene	195	U
1-Methyl-4-ethylbenzene	195	U
1,3,5-Trimethylbenzene	195	U
1-Decene	195	U
1-Methyl-2-ethylbenzene	**90.5**	J
Decane	195	U
1,2,4-Trimethylbenzene	**34.2**	J
sec-Butylbenzene	**452**	
1-Methyl-3-isopropylbenzene	195	U
1-Methyl-4-isopropylbenzene	195	U
1-Methyl-2-isopropylbenzene	**559**	
Indan	**176**	J
1-Methyl-3-propylbenzene	195	U
1-Methyl-4-propylbenzene	195	U
n-Butylbenzene	**64.5**	J
1,2-Dimethyl-4-ethylbenzene	195	U
1,2-Diethylbenzene	**273**	
1-Methyl-2-propylbenzene	**134**	J
1,4-Dimethyl-2-ethylbenzene	195	U
Undecane	195	U
1,3-Dimethyl-4-ethylbenzene	195	U
1,3-Dimethyl-5-ethylbenzene	**5920**	
1,3-Dimethyl-2-ethylbenzene	**519**	

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Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7B**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-09**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	82.8	10	6.92	0.1	5	1	MR

Parameter	Result		Parameter	Result	
1,2-Dimethyl-3-ethylbenzene	195	U	Benzothiophene	195	U
1,2,4,5-Tetramethylbenzene	**3460**		MMT	488	U
Pentylbenzene	195	U	Tridecane	488	U
Dodecane	195	U	2-Methylnaphthalene	**46.2**	JB
Naphthalene	195	U	1-Methylnaphthalene	488	U

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	109	70-130
1-Chloro-2-fluorobenzene	107	70-130
1,4-Dichlorobutane	83	70-130
Dibromofluoromethane	116	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	116	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
B - Found in associated blank as well as sample.
J - Estimated value, below quantitation limit.
E - Estimated value, exceeds the upper limit of calibration.
N/A - Not Applicable

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Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009752.D
Acq On : 19 Mar 2016 8:30 pm
Operator : VOA4:MR
Sample : 1603006-09
Misc : 1X
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Mar 23 13:22:53 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Chlorobenzene-D5 [IS]	38.52	117	426142	50.000 ug/L	0.00
System Monitoring Compounds					
24) Dibromofluoromethane (sur	16.83	113	143566	57.973 ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 115.95%		
62) Toluene-d8 (surr)	30.74	98	575049	53.568 ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 107.14%		
64) 2-Bromo-1-chloropropane (	30.96	77	153908	48.711 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 97.42%		
87) 1-Chloro-2-fluorobenzene	40.14	130	329595	47.667 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 95.33%		
97) 1,4-Dichlorobutane (H/sur	43.38	55	236377M4	37.159 ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery = 74.32%		
101) 4-Bromofluorobenzene (sur	45.93	95	242331M4	58.024 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 116.05%		
Target Compounds					Qvalue
3) Isopentane	8.19	43	7955	2.294 ug/L	86
14) 2,3-Dimethylbutane	12.80	71	39820	28.972 ug/L #	1
17) 3-Methylpentane	14.00	57	50615	8.542 ug/L #	97
26) 2,2-Dimethylpentane	17.19	57	339448	46.246 ug/L	98
28) 2,4-Dimethylpentane	17.63	43	491759	74.621 ug/L	98
35) 2,3-Dimethylpentane	21.07	56	1185552	213.076 ug/L E	98
38) 3-Methylhexane	21.57	43	21312M6	3.366 ug/L	
44) Isooctane	23.00	57	47397	3.290 ug/L	82
52) 2,5-Dimethylhexane	26.81	57	1454747	203.159 ug/L E	96
53) 2,4-Dimethyhexane	27.07	57	743746	130.979 ug/L	92
55) 2,2,3-Trimethylpentane	27.31	57	120403	10.623 ug/L	98
57) 2,3,4-Trimethylpentane	28.84	43	91639	10.326 ug/L	96
58) 2,3,3-Trimethylpentane	29.40	43	100362	13.016 ug/L	93
59) 2,3-Dimethylhexane	29.68	43	1443498	177.458 ug/L	93
65) 3-Ethylhexane	30.99	43	1235694M4	125.364 ug/L	
86) Ethylbenzene	40.14	91	5907M3	0.456 ug/L	
112) 1-Methyl-2-ethylbenzene	50.30	105	11784	0.927 ug/L	89
115) 1,2,4-Trimethylbenzene	51.16	105	3856	0.350 ug/L	97
117) sec-Butylbenzene	51.42	105	66995	4.633 ug/L	98
121) 1-Methyl-2-isopropylbenze	52.48	119	72003	5.729 ug/L	96
122) Indan	52.57	117	19993	1.801 ug/L #	92

AJ 3/29/16 MR 3/23/16

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009752.D
Acq On : 19 Mar 2016 8:30 pm
Operator : VOA4:MR
Sample : 1603006-09
Misc : 1X
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Mar 23 13:22:53 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
127) n-Butylbenzene	53.01	91	8614M4	0.661	ug/L	
129) 1,2-Diethylbenzene	53.22	119	17650	2.796	ug/L	96
130) 1-Methyl-2-propylbenzene	53.41	105	20567	1.375	ug/L	98
134) 1,3-Dimethyl-5-ethylbenze	53.94	119	798066	60.602	ug/L	100
135) 1,3-Dimethyl-2-ethylbenze	54.17	119	76950M3	5.320	ug/L	
137) 1,2,4,5-Tetramethylbenzen	54.93	119	490047M6	35.493	ug/L	
150) 2-Methylnaphthalene	59.56	142	2830	0.473	ug/L	91

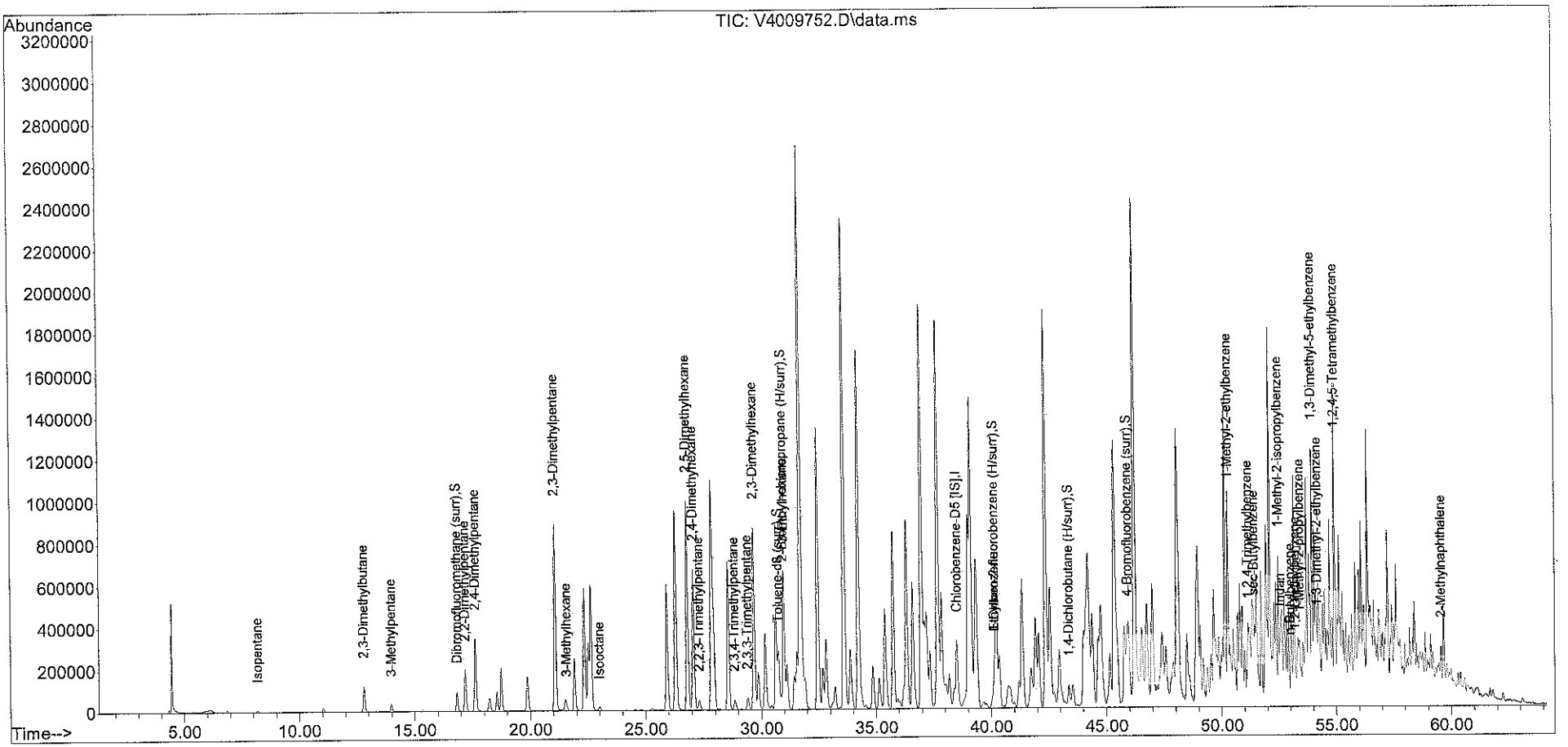
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009752.D
Acq On : 19 Mar 2016 8:30 pm
Operator : VOA4:MR
Sample : 1603006-09
Misc : 1X
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Mar 23 13:22:53 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7B**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-09E**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	82.8	10	6.92	0.1	5	5	MR

Parameter	Result		Parameter	Result	
Isopentane	976	U	3-Methylheptane	976	U
1-Pentene	976	U	Toluene	976	U
2-Methyl-1-butene	976	U	2-Methylthiophene	976	U
Pentane	976	U	3-Methylthiophene	976	U
2-Pentene (trans)	976	U	1-Octene	976	U
2-Pentene (cis)	976	U	Octane	976	U
Tertiary butanol	12200	U	1,2-Dibromoethane	976	U
Cyclopentane	976	U	Ethylbenzene	976	U
2,3-Dimethylbutane	976	U	2-Ethylthiophene	976	U
2-Methylpentane	976	U	p/m-Xylene	1950	U
MTBE	976	U	1-Nonene	976	U
3-Methylpentane	976	U	Nonane	976	U
1-Hexene	976	U	Styrene	976	U
Hexane	976	U	o-Xylene	976	U
Diisopropyl Ether (DIPE)	976	U	Isopropylbenzene	976	U
Ethyl Tertiary Butyl Ether (ETBE)	976	U	n-Propylbenzene	976	U
2,2-Dimethylpentane	976	U	1-Methyl-3-ethylbenzene	976	U
Methylcyclopentane	976	U	1-Methyl-4-ethylbenzene	976	U
2,4-Dimethylpentane	976	U	1,3,5-Trimethylbenzene	976	U
1,2-Dichloroethane	976	U	1-Decene	976	U
Cyclohexane	976	U	1-Methyl-2-ethylbenzene	976	U
2-Methylhexane	976	U	Decane	976	U
Benzene	976	U	1,2,4-Trimethylbenzene	976	U
2,3-Dimethylpentane	**16300**		sec-Butylbenzene	976	U
Thiophene	976	U	1-Methyl-3-isopropylbenzene	976	U
3-Methylhexane	976	U	1-Methyl-4-isopropylbenzene	976	U
TAME	976	U	1-Methyl-2-isopropylbenzene	976	U
1-Heptene/1,2-DMCP (trans)[1]	1950	U	Indan	976	U
Isooctane	976	U	1-Methyl-3-propylbenzene	976	U
Heptane	976	U	1-Methyl-4-propylbenzene	976	U
Methylcyclohexane	976	U	n-Butylbenzene	976	U
2,5-Dimethylhexane	**16000**		1,2-Dimethyl-4-ethylbenzene	976	U
2,4-Dimethylhexane	976	U	1,2-Diethylbenzene	976	U
2,2,3-Trimethylpentane	976	U	1-Methyl-2-propylbenzene	976	U
2,3,4-Trimethylpentane	976	U	1,4-Dimethyl-2-ethylbenzene	976	U
2,3,3-Trimethylpentane	976	U	Undecane	976	U
2,3-Dimethylhexane	976	U	1,3-Dimethyl-4-ethylbenzene	976	U
3-Ethylhexane	976	U	1,3-Dimethyl-5-ethylbenzene	976	U
2-Methylheptane	976	U	1,3-Dimethyl-2-ethylbenzene	976	U

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Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7B**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-09E**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	82.8	10	6.92	0.1	5	5	MR

Parameter	Result		Parameter	Result	
1,2-Dimethyl-3-ethylbenzene	976	U	Benzothiophene	976	U
1,2,4,5-Tetramethylbenzene	976	U	MMT	2440	U
Pentylbenzene	976	U	Tridecane	2440	U
Dodecane	976	U	2-Methylnaphthalene	2440	U
Naphthalene	976	U	1-Methylnaphthalene	2440	U

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	106	70-130
1-Chloro-2-fluorobenzene	111	70-130
1,4-Dichlorobutane	97	70-130
Dibromofluoromethane	101	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

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Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009751.D
Acq On : 19 Mar 2016 7:20 pm
Operator : VOA4:MR
Sample : 1603006-09-RE-D5
Misc : 5X
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Mar 23 13:25:49 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	598826	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	175638	50.471	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 100.94%			
62) Toluene-d8 (surr)	30.74	98	739096	48.996	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 97.99%			
64) 2-Bromo-1-chloropropane (	30.96	77	42146	9.492	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 18.98%#			
87) 1-Chloro-2-fluorobenzene	40.15	130	96356	9.917	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 19.83%#			
97) 1,4-Dichlorobutane (H/sur	43.38	55	77437	8.663	ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery = 17.33%#			
101) 4-Bromofluorobenzene (sur	45.93	95	298103	50.794	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 101.59%			
Target Compounds						Qvalue
35) 2,3-Dimethylpentane	21.07	56	261399	33.433	ug/L	98
52) 2,5-Dimethylhexane	26.80	57	329610	32.757	ug/L	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

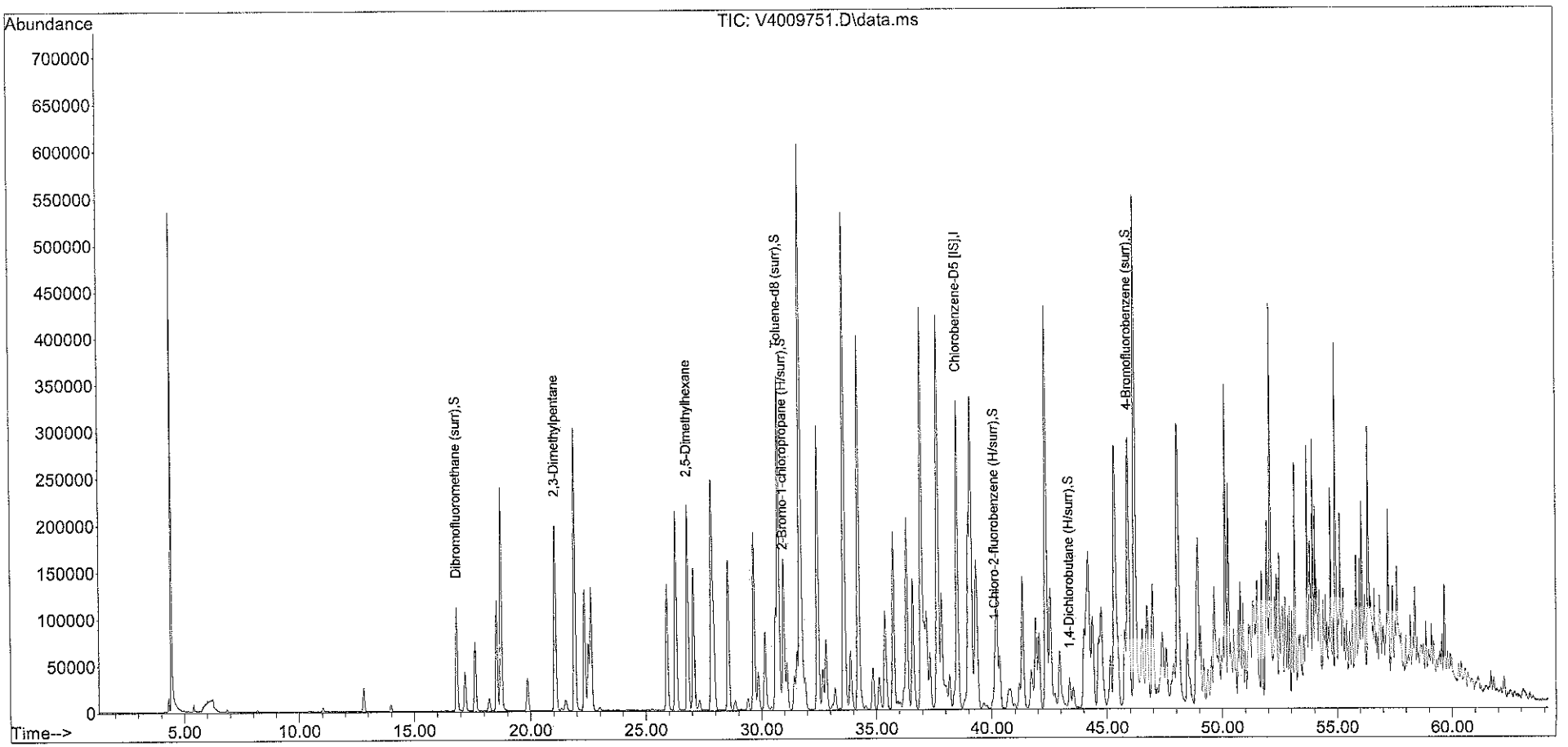
AS 3/29/16 MR 3/23/16

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009751.D
Acq On : 19 Mar 2016 7:20 pm
Operator : VOA4:MR
Sample : 1603006-09-RE-D5
Misc : 5X
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Mar 23 13:25:49 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-10**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	81.4	10	6.12	0.1	5	1	MR

Parameter	Result	
Isopentane	**49.7**	J
1-Pentene	224	U
2-Methyl-1-butene	224	U
Pentane	224	U
2-Pentene (trans)	224	U
2-Pentene (cis)	224	U
Tertiary butanol	2800	U
Cyclopentane	224	U
2,3-Dimethylbutane	**393**	
2-Methylpentane	224	U
MTBE	224	U
3-Methylpentane	**71.8**	J
1-Hexene	224	U
Hexane	224	U
Diisopropyl Ether (DIPE)	224	U
Ethyl Tertiary Butyl Ether (ETBE)	224	U
2,2-Dimethylpentane	**316**	
Methylcyclopentane	224	U
2,4-Dimethylpentane	**490**	
1,2-Dichloroethane	224	U
Cyclohexane	224	U
2-Methylhexane	224	U
Benzene	224	U
2,3-Dimethylpentane	**1190**	
Thiophene	224	U
3-Methylhexane	224	U
TAME	224	U
1-Heptene/1,2-DMCP (trans)[1]	447	U
Isooctane	**87.1**	J
Heptane	224	U
Methylcyclohexane	224	U
2,5-Dimethylhexane	**1040**	
2,4-Dimethylhexane	**1470**	
2,2,3-Trimethylpentane	**376**	
2,3,4-Trimethylpentane	**326**	
2,3,3-Trimethylpentane	**516**	
2,3-Dimethylhexane	**939**	
3-Ethylhexane	**1180**	
2-Methylheptane	224	U

Parameter	Result	
3-Methylheptane	**545**	
Toluene	224	U
2-Methylthiophene	224	U
3-Methylthiophene	224	U
1-Octene	224	U
Octane	224	U
1,2-Dibromoethane	224	U
Ethylbenzene	**29.6**	JB
2-Ethylthiophene	224	U
p/m-Xylene	447	U
1-Nonene	224	U
Nonane	224	U
Styrene	224	U
o-Xylene	224	U
Isopropylbenzene	**55.6**	J
n-Propylbenzene	224	U
1-Methyl-3-ethylbenzene	224	U
1-Methyl-4-ethylbenzene	224	U
1,3,5-Trimethylbenzene	224	U
1-Decene	224	U
1-Methyl-2-ethylbenzene	224	U
Decane	224	U
1,2,4-Trimethylbenzene	**27.3**	J
sec-Butylbenzene	**859**	
1-Methyl-3-isopropylbenzene	224	U
1-Methyl-4-isopropylbenzene	224	U
1-Methyl-2-isopropylbenzene	**307**	
Indan	**28.8**	J
1-Methyl-3-propylbenzene	224	U
1-Methyl-4-propylbenzene	224	U
n-Butylbenzene	**148**	J
1,2-Dimethyl-4-ethylbenzene	224	U
1,2-Diethylbenzene	**136**	J
1-Methyl-2-propylbenzene	**69.8**	J
1,4-Dimethyl-2-ethylbenzene	**78.7**	J
Undecane	224	U
1,3-Dimethyl-4-ethylbenzene	224	U
1,3-Dimethyl-5-ethylbenzene	**2100**	
1,3-Dimethyl-2-ethylbenzene	224	U

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Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-10**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	81.4	10	6.12	0.1	5	1	MR

Parameter	Result		Parameter	Result	
1,2-Dimethyl-3-ethylbenzene	224	U	Benzothiophene	224	U
1,2,4,5-Tetramethylbenzene	**3810**		MMT	559	U
Pentylbenzene	224	U	Tridecane	559	U
Dodecane	224	U	2-Methylnaphthalene	**89.0**	JB
Naphthalene	224	U	1-Methylnaphthalene	559	U

Surrogate	% Recovery		Acceptance Range (%)
2-Bromo-1-chloropropane	108		70-130
1-Chloro-2-fluorobenzene	94		70-130
1,4-Dichlorobutane	60	§	70-130
Dibromofluoromethane	128		70-130
Toluene-d8	119		70-130
4-Bromofluorobenzene	91		70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
B - Found in associated blank as well as sample.
J - Estimated value, below quantitation limit.
N/A - Not Applicable
§ - Surrogate value outside of acceptable range.

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Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009748.D
Acq On : 19 Mar 2016 3:52 pm
Operator : VOA4:MR
Sample : 1603006-10
Misc : 1X
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Mar 23 12:28:57 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	395265	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.82	113	147008	64.000	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 128.00%#			
62) Toluene-d8 (surr)	30.74	98	592576	59.513	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 119.03%#			
64) 2-Bromo-1-chloropropane (	30.96	77	142536	48.636	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 97.27%			
87) 1-Chloro-2-fluorobenzene	40.15	130	271854	42.388	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 84.78%			
97) 1,4-Dichlorobutane (H/sur	43.38	55	158104	26.796	ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery = 53.59%#			
101) 4-Bromofluorobenzene (sur	45.93	95	176312	45.514	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 91.03%			
Target Compounds						Qvalue
3) Isopentane	8.20	43	1430M1	0.445	ug/L	
14) 2,3-Dimethylbutane	12.81	71	4483	3.517	ug/L #	1
17) 3-Methylpentane	13.99	57	3526	0.642	ug/L #	99
26) 2,2-Dimethylpentane	17.19	57	19238	2.826	ug/L	91
28) 2,4-Dimethylpentane	17.63	43	26824	4.388	ug/L	97
35) 2,3-Dimethylpentane	21.08	56	54785	10.616	ug/L	98
44) Isooctane	23.00	57	10405	0.779	ug/L #	81
52) 2,5-Dimethylhexane	26.81	57	61980	9.332	ug/L	93
53) 2,4-Dimethyhexane	27.06	57	69245	13.147	ug/L	98
55) 2,2,3-Trimethylpentane	27.32	57	35392M1	3.366	ug/L	
57) 2,3,4-Trimethylpentane	28.85	43	24038	2.920	ug/L	95
58) 2,3,3-Trimethylpentane	29.41	43	33019	4.617	ug/L	98
59) 2,3-Dimethylhexane	29.68	43	63402	8.403	ug/L	92
63) 3-Methylheptane	30.86	43	28837M6	4.872	ug/L	
65) 3-Ethylhexane	30.99	43	96072M6	10.508	ug/L	
86) Ethylbenzene	40.13	91	3185M1	0.265	ug/L	
102) Isopropylbenzene	45.98	105	5946	0.497	ug/L #	48
115) 1,2,4-Trimethylbenzene	51.16	105	2492	0.244	ug/L	94
117) sec-Butylbenzene	51.42	105	103067	7.684	ug/L	100
121) 1-Methyl-2-isopropylbenze	52.49	119	31969	2.743	ug/L #	91
122) Indan	52.58	117	2652	0.258	ug/L #	68
127) n-Butylbenzene	53.00	91	16018M4	1.325	ug/L	
129) 1,2-Diethylbenzene	53.22	119	7125	1.217	ug/L	90

AS 3/29/16

MR 3/29/16

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009748.D
Acq On : 19 Mar 2016 3:52 pm
Operator : VOA4:MR
Sample : 1603006-10
Misc : 1X
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Mar 23 12:28:57 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
130)	1-Methyl-2-propylbenzene	53.41	105	8654	0.624	ug/L	100
131)	1,4-Dimethyl-2-ethylbenze	53.73	119	7853M3	0.704	ug/L	
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	229141	18.759	ug/L	99
137)	1,2,4,5-Tetramethylbenzen	54.93	119	436183M6	34.059	ug/L	
150)	2-Methylnaphthalene	59.56	142	4414	0.796	ug/L	87

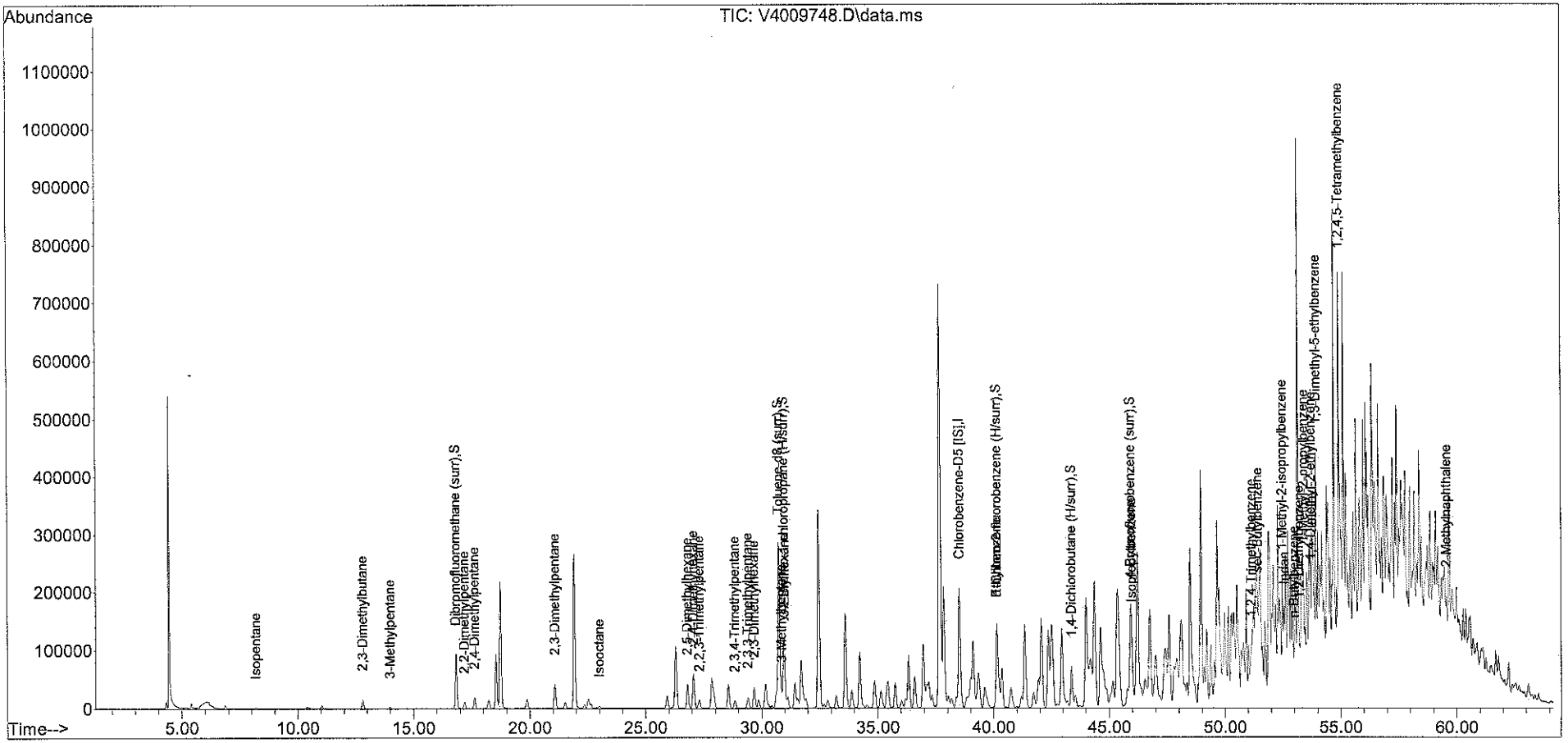
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009748.D
Acq On : 19 Mar 2016 3:52 pm
Operator : VOA4:MR
Sample : 1603006-10
Misc : 1X
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Mar 23 12:28:57 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8A**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-11**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	68.5	10	5.62	0.1	5	1	MR

Parameter	Result	
Isopentane	**191**	J
1-Pentene	306	U
2-Methyl-1-butene	306	U
Pentane	306	U
2-Pentene (trans)	306	U
2-Pentene (cis)	306	U
Tertiary butanol	3820	U
Cyclopentane	306	U
2,3-Dimethylbutane	306	U
2-Methylpentane	**88.4**	J
MTBE	306	U
3-Methylpentane	**42.5**	J
1-Hexene	306	U
Hexane	**23.8**	J
Diisopropyl Ether (DIPE)	306	U
Ethyl Tertiary Butyl Ether (ETBE)	306	U
2,2-Dimethylpentane	306	U
Methylcyclopentane	**102**	J
2,4-Dimethylpentane	306	U
1,2-Dichloroethane	306	U
Cyclohexane	**122**	J
2-Methylhexane	306	U
Benzene	306	U
2,3-Dimethylpentane	306	U
Thiophene	306	U
3-Methylhexane	306	U
TAME	306	U
1-Heptene/1,2-DMCP (trans)[1]	612	U
Isooctane	306	U
Heptane	306	U
Methylcyclohexane	**531**	
2,5-Dimethylhexane	306	U
2,4-Dimethylhexane	306	U
2,2,3-Trimethylpentane	306	U
2,3,4-Trimethylpentane	306	U
2,3,3-Trimethylpentane	306	U
2,3-Dimethylhexane	306	U
3-Ethylhexane	306	U
2-Methylheptane	**28.9**	J

Parameter	Result	
3-Methylheptane	306	U
Toluene	**178**	J
2-Methylthiophene	306	U
3-Methylthiophene	306	U
1-Octene	306	U
Octane	306	U
1,2-Dibromoethane	306	U
Ethylbenzene	**77.0**	JB
2-Ethylthiophene	306	U
p/m-Xylene	**227**	J
1-Nonene	306	U
Nonane	**58.6**	J
Styrene	306	U
o-Xylene	**136**	J
Isopropylbenzene	306	U
n-Propylbenzene	306	U
1-Methyl-3-ethylbenzene	**36.4**	J
1-Methyl-4-ethylbenzene	306	U
1,3,5-Trimethylbenzene	**30.4**	J
1-Decene	306	U
1-Methyl-2-ethylbenzene	**27.2**	J
Decane	**96.8**	JB
1,2,4-Trimethylbenzene	**126**	J
sec-Butylbenzene	306	U
1-Methyl-3-isopropylbenzene	306	U
1-Methyl-4-isopropylbenzene	306	U
1-Methyl-2-isopropylbenzene	306	U
Indan	306	U
1-Methyl-3-propylbenzene	306	U
1-Methyl-4-propylbenzene	306	U
n-Butylbenzene	306	U
1,2-Dimethyl-4-ethylbenzene	306	U
1,2-Diethylbenzene	306	U
1-Methyl-2-propylbenzene	306	U
1,4-Dimethyl-2-ethylbenzene	306	U
Undecane	**157**	J
1,3-Dimethyl-4-ethylbenzene	306	U
1,3-Dimethyl-5-ethylbenzene	**31.2**	J
1,3-Dimethyl-2-ethylbenzene	306	U

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Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8A**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-11**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	68.5	10	5.62	0.1	5	1	MR

Parameter	Result		Parameter	Result	
1,2-Dimethyl-3-ethylbenzene	306	U	Benzothiophene	306	U
1,2,4,5-Tetramethylbenzene	**30.0**	J	MMT	764	U
Pentylbenzene	306	U	Tridecane	**148**	J
Dodecane	**140**	J	2-Methylnaphthalene	**291**	JB
Naphthalene	**279**	JB	1-Methylnaphthalene	**222**	JB

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	107	70-130
1-Chloro-2-fluorobenzene	111	70-130
1,4-Dichlorobutane	94	70-130
Dibromofluoromethane	100	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
B - Found in associated blank as well as sample.
J - Estimated value, below quantitation limit.
N/A - Not Applicable

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Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009749.D
Acq On : 19 Mar 2016 5:01 pm
Operator : VOA4:MR
Sample : 1603006-11
Misc : 1X
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Mar 23 13:13:33 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Chlorobenzene-D5 [IS]	38.52	117	597020	50.000 ug/L	0.00
System Monitoring Compounds					
24) Dibromofluoromethane (sur	16.83	113	174167	50.200 ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 100.40%		
62) Toluene-d8 (surr)	30.74	98	747778	49.721 ug/L	-0.01
Spiked Amount 50.000	Range 87 - 113		Recovery = 99.44%		
64) 2-Bromo-1-chloropropane (	30.96	77	201919	45.615 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 91.23%		
87) 1-Chloro-2-fluorobenzene	40.14	130	455802	47.052 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 94.10%		
97) 1,4-Dichlorobutane (H/sur	43.37	55	356790M1	40.034 ug/L	0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 80.07%		
101) 4-Bromofluorobenzene (sur	45.92	95	291556	49.829 ug/L	-0.01
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.66%		

Target Compounds					Qvalue
3) Isopentane	8.17	43	6062	1.248 ug/L	86
15) 2-Methylpentane	13.02	43	5797	0.578 ug/L #	88
17) 3-Methylpentane	14.00	57	2306	0.278 ug/L #	92
19) Hexane	15.17	57	1113	0.156 ug/L #	94
27) Methylcyclopentane	17.45	56	6338	0.670 ug/L #	94
32) Cyclohexane	20.32	56	6453	0.796 ug/L #	82
51) Methycyclohexane	26.12	83	22380	3.475 ug/L	97
60) 2-Methylheptane	30.12	57	1722M1	0.189 ug/L	
66) Toluene	31.11	91	18234	1.163 ug/L	94
86) Ethylbenzene	40.14	91	9142M1	0.504 ug/L	
91) p/m-Xylene	41.38	91	20793	1.486 ug/L	94
95) Nonane	42.91	43	3907	0.383 ug/L #	70
98) o-Xylene	43.65	91	12590	0.890 ug/L	92
107) 1-Methyl-3-ethylbenzene	49.20	105	4314	0.238 ug/L	99
109) 1,3,5-Trimethylbenzene	49.95	105	3034	0.199 ug/L	96
112) 1-Methyl-2-ethylbenzene	50.29	105	3169	0.178 ug/L	98
113) Decane	50.52	43	6411	0.633 ug/L	97
115) 1,2,4-Trimethylbenzene	51.16	105	12754	0.826 ug/L	99
126) 1-Methyl-4-propylbenzene	53.01	105	1394	0.060 ug/L	78
132) Undecane	53.79	57	10535	1.029 ug/L	98
133) 1,3-Dimethyl-4-ethylbenze	53.82	119	2001	0.099 ug/L #	54
134) 1,3-Dimethyl-5-ethylbenze	53.95	119	3764	0.204 ug/L	94

AJ 3/29/16 MR 3/23/16

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009749.D
Acq On : 19 Mar 2016 5:01 pm
Operator : VOA4:MR
Sample : 1603006-11
Misc : 1X
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Mar 23 13:13:33 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
137) 1,2,4,5-Tetramethylbenzen	54.94	119	3791M6	0.196	ug/L	
142) Dodecane	56.01	43	6778	0.916	ug/L	93
144) Naphthalene	56.83	128	29990	1.823	ug/L	100
149) Tridecane	58.10	57	6105	0.966	ug/L	86
150) 2-Methylnaphthalene	59.56	142	15967	1.906	ug/L	85
151) 1-Methylnaphthalene	60.04	142	10250	1.449	ug/L	89

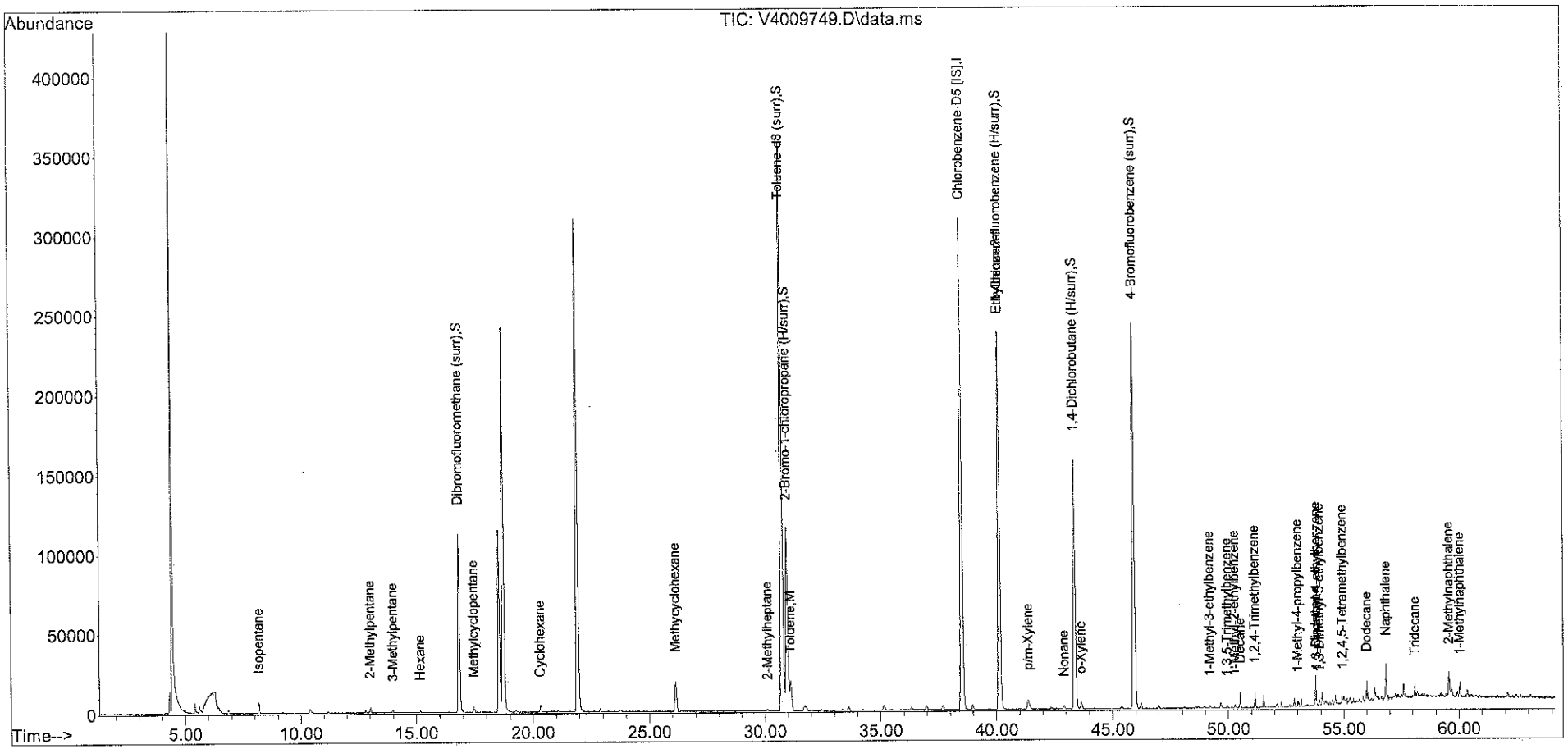
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009749.D
Acq On : 19 Mar 2016 5:01 pm
Operator : VOA4:MR
Sample : 1603006-11
Misc : 1X
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Mar 23 13:13:33 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8B**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-12**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	81.8	10	7.01	0.1	5	1	MR

Parameter	Result		Parameter	Result	
Isopentane	**137**	J	3-Methylheptane	197	U
1-Pentene	197	U	Toluene	**107**	J
2-Methyl-1-butene	197	U	2-Methylthiophene	197	U
Pentane	197	U	3-Methylthiophene	197	U
2-Pentene (trans)	197	U	1-Octene	197	U
2-Pentene (cis)	197	U	Octane	**39.6**	J
Tertiary butanol	2460	U	1,2-Dibromoethane	197	U
Cyclopentane	197	U	Ethylbenzene	**53.0**	JB
2,3-Dimethylbutane	197	U	2-Ethylthiophene	197	U
2-Methylpentane	**62.4**	J	p/m-Xylene	**138**	J
MTBE	197	U	1-Nonene	197	U
3-Methylpentane	**30.5**	J	Nonane	**46.4**	J
1-Hexene	197	U	Styrene	197	U
Hexane	**25.1**	J	o-Xylene	**82.2**	J
Diisopropyl Ether (DIPE)	197	U	Isopropylbenzene	197	U
Ethyl Tertiary Butyl Ether (ETBE)	197	U	n-Propylbenzene	197	U
2,2-Dimethylpentane	197	U	1-Methyl-3-ethylbenzene	**20.9**	J
Methylcyclopentane	**55.6**	J	1-Methyl-4-ethylbenzene	197	U
2,4-Dimethylpentane	197	U	1,3,5-Trimethylbenzene	**25.4**	J
1,2-Dichloroethane	197	U	1-Decene	197	U
Cyclohexane	**104**	J	1-Methyl-2-ethylbenzene	**15.4**	J
2-Methylhexane	197	U	Decane	**62.5**	JB
Benzene	**24.4**	J	1,2,4-Trimethylbenzene	**79.3**	J
2,3-Dimethylpentane	**28.6**	J	sec-Butylbenzene	197	U
Thiophene	197	U	1-Methyl-3-isopropylbenzene	197	U
3-Methylhexane	197	U	1-Methyl-4-isopropylbenzene	197	U
TAME	197	U	1-Methyl-2-isopropylbenzene	197	U
1-Heptene/1,2-DMCP (trans)[1]	394	U	Indan	197	U
Isooctane	197	U	1-Methyl-3-propylbenzene	**10.3**	J
Heptane	**34.0**	J	1-Methyl-4-propylbenzene	197	U
Methylcyclohexane	**438**		n-Butylbenzene	197	U
2,5-Dimethylhexane	197	U	1,2-Dimethyl-4-ethylbenzene	197	U
2,4-Dimethylhexane	197	U	1,2-Diethylbenzene	197	U
2,2,3-Trimethylpentane	197	U	1-Methyl-2-propylbenzene	197	U
2,3,4-Trimethylpentane	197	U	1,4-Dimethyl-2-ethylbenzene	197	U
2,3,3-Trimethylpentane	197	U	Undecane	**88.4**	J
2,3-Dimethylhexane	197	U	1,3-Dimethyl-4-ethylbenzene	197	U
3-Ethylhexane	197	U	1,3-Dimethyl-5-ethylbenzene	**15.2**	J
2-Methylheptane	**38.8**	J	1,3-Dimethyl-2-ethylbenzene	197	U

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Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8B**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-12**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/19/16	81.8	10	7.01	0.1	5	1	MR

Parameter	Result		Parameter	Result	
1,2-Dimethyl-3-ethylbenzene	197	U	Benzothiophene	197	U
1,2,4,5-Tetramethylbenzene	**12.5**	J	MMT	492	U
Pentylbenzene	197	U	Tridecane	**96.7**	J
Dodecane	**94.9**	J	2-Methylnaphthalene	**203**	JB
Naphthalene	**160**	JB	1-Methylnaphthalene	**175**	JB

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	121	70-130
1-Chloro-2-fluorobenzene	123	70-130
1,4-Dichlorobutane	103	70-130
Dibromofluoromethane	102	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
B - Found in associated blank as well as sample.
J - Estimated value, below quantitation limit.
N/A - Not Applicable

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Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009750.D
Acq On : 19 Mar 2016 6:11 pm
Operator : VOA4:MR
Sample : 1603006-12
Misc : 1X
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Mar 23 13:16:14 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	611682	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	181525	51.067	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 102.13%			
62) Toluene-d8 (surr)	30.74	98	765058	49.651	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 99.30%			
64) 2-Bromo-1-chloropropane (	30.96	77	243072	53.596	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 107.19%			
87) 1-Chloro-2-fluorobenzene	40.15	130	539992	54.407	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 108.81%			
97) 1,4-Dichlorobutane (H/sur	43.38	55	416911	45.659	ug/L	0.02
Spiked Amount 50.000	Range 70 - 130		Recovery = 91.32%			
101) 4-Bromofluorobenzene (sur	45.94	95	295158	49.236	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 98.47%			
Target Compounds						Qvalue
3) Isopentane	8.18	43	6921	1.390	ug/L	84
15) 2-Methylpentane	13.03	43	6519	0.634	ug/L #	81
17) 3-Methylpentane	13.99	57	2635	0.310	ug/L #	91
19) Hexane	15.17	57	1865	0.255	ug/L #	92
27) Methylcyclopentane	17.46	56	5477	0.565	ug/L #	93
32) Cyclohexane	20.33	56	8778	1.057	ug/L	97
34) Benzene	20.90	78	3493	0.248	ug/L #	53
35) 2,3-Dimethylpentane	21.09	56	2322M1	0.291	ug/L	
46) Heptane	23.75	43	2962M1	0.345	ug/L	
51) Methycyclohexane	26.13	83	29338	4.446	ug/L	89
60) 2-Methylheptane	30.09	57	3673M1	0.394	ug/L	
66) Toluene	31.11	91	17499	1.089	ug/L	92
71) Octane	33.36	43	4385	0.402	ug/L #	79
86) Ethylbenzene	40.14	91	9988	0.538	ug/L	95
91) p/m-Xylene	41.36	91	20156	1.406	ug/L	97
95) Nonane	42.91	43	4932	0.472	ug/L #	79
98) o-Xylene	43.68	91	12103M1	0.835	ug/L	
107) 1-Methyl-3-ethylbenzene	49.21	105	3938	0.212	ug/L	83
109) 1,3,5-Trimethylbenzene	49.96	105	4042	0.258	ug/L	97
112) 1-Methyl-2-ethylbenzene	50.28	105	2865	0.157	ug/L	97
113) Decane	50.53	43	6596	0.635	ug/L	91
115) 1,2,4-Trimethylbenzene	51.16	105	12756	0.806	ug/L	86
124) 1-Methyl-3-propylbenzene	52.86	105	2147	0.105	ug/L #	84

AS 3/29/16 MR 3/23/16

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009750.D
Acq On : 19 Mar 2016 6:11 pm
Operator : VOA4:MR
Sample : 1603006-12
Misc : 1X
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Mar 23 13:16:14 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
132) Undecane	53.79	57	9422	0.898	ug/L	91
133) 1,3-Dimethyl-4-ethylbenze	53.81	119	1931	0.093	ug/L #	54
134) 1,3-Dimethyl-5-ethylbenze	53.94	119	2903	0.154	ug/L	94
137) 1,2,4,5-Tetramethylbenzen	54.94	119	2514	0.127	ug/L #	88
142) Dodecane	56.01	43	7304	0.964	ug/L	96
144) Naphthalene	56.83	128	27347	1.623	ug/L	96
149) Tridecane	58.09	57	6361	0.983	ug/L	94
150) 2-Methylnaphthalene	59.57	142	17743	2.067	ug/L	93
151) 1-Methylnaphthalene	60.03	142	12855	1.774	ug/L	99

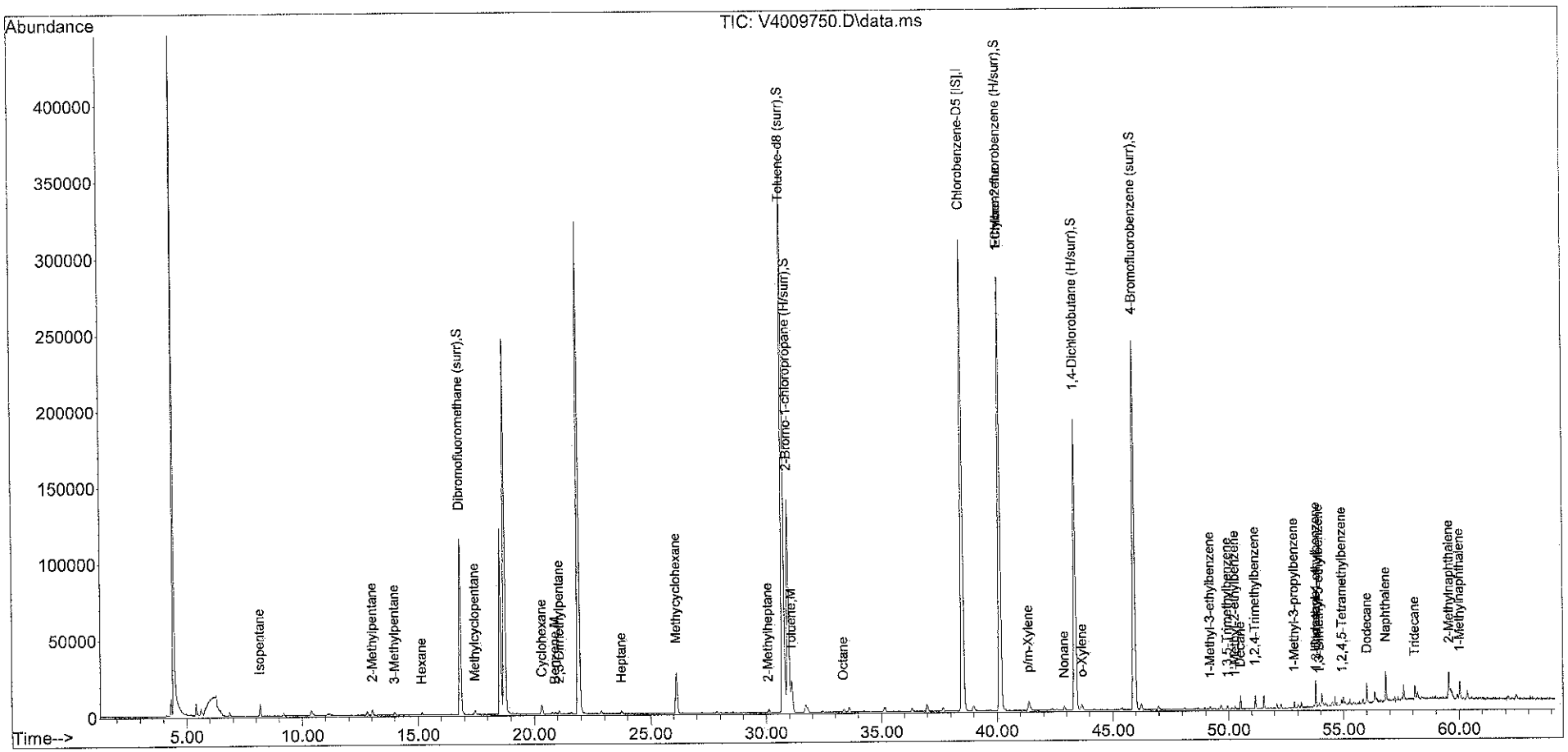
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009750.D
Acq On : 19 Mar 2016 6:11 pm
Operator : VOA4:MR
Sample : 1603006-12
Misc : 1X
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Mar 23 13:16:14 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **Blank**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **VS031816B01**
Associated Blank: **N/A**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/18/16	100	10	5.00	0.1	5	1	MR

Parameter	Result		Parameter	Result	
Isopentane	200	U	3-Methylheptane	200	U
1-Pentene	200	U	Toluene	200	U
2-Methyl-1-butene	200	U	2-Methylthiophene	200	U
Pentane	200	U	3-Methylthiophene	200	U
2-Pentene (trans)	200	U	1-Octene	200	U
2-Pentene (cis)	200	U	Octane	200	U
Tertiary butanol	2500	U	1,2-Dibromoethane	200	U
Cyclopentane	200	U	Ethylbenzene	**34.3**	J
2,3-Dimethylbutane	200	U	2-Ethylthiophene	200	U
2-Methylpentane	200	U	p/m-Xylene	400	U
MTBE	200	U	1-Nonene	200	U
3-Methylpentane	200	U	Nonane	200	U
1-Hexene	200	U	Styrene	200	U
Hexane	200	U	o-Xylene	200	U
Diisopropyl Ether (DIPE)	200	U	Isopropylbenzene	200	U
Ethyl Tertiary Butyl Ether (ETBE)	200	U	n-Propylbenzene	200	U
2,2-Dimethylpentane	200	U	1-Methyl-3-ethylbenzene	200	U
Methylcyclopentane	200	U	1-Methyl-4-ethylbenzene	200	U
2,4-Dimethylpentane	200	U	1,3,5-Trimethylbenzene	200	U
1,2-Dichloroethane	200	U	1-Decene	200	U
Cyclohexane	200	U	1-Methyl-2-ethylbenzene	200	U
2-Methylhexane	200	U	Decane	**31.1**	J
Benzene	200	U	1,2,4-Trimethylbenzene	200	U
2,3-Dimethylpentane	200	U	sec-Butylbenzene	200	U
Thiophene	200	U	1-Methyl-3-isopropylbenzene	200	U
3-Methylhexane	200	U	1-Methyl-4-isopropylbenzene	200	U
TAME	200	U	1-Methyl-2-isopropylbenzene	200	U
1-Heptene/1,2-DMCP (trans)[1]	400	U	Indan	200	U
Isooctane	200	U	1-Methyl-3-propylbenzene	200	U
Heptane	200	U	1-Methyl-4-propylbenzene	200	U
Methylcyclohexane	200	U	n-Butylbenzene	200	U
2,5-Dimethylhexane	200	U	1,2-Dimethyl-4-ethylbenzene	200	U
2,4-Dimethylhexane	200	U	1,2-Diethylbenzene	200	U
2,2,3-Trimethylpentane	200	U	1-Methyl-2-propylbenzene	200	U
2,3,4-Trimethylpentane	200	U	1,4-Dimethyl-2-ethylbenzene	200	U
2,3,3-Trimethylpentane	200	U	Undecane	200	U
2,3-Dimethylhexane	200	U	1,3-Dimethyl-4-ethylbenzene	200	U
3-Ethylhexane	200	U	1,3-Dimethyl-5-ethylbenzene	200	U
2-Methylheptane	200	U	1,3-Dimethyl-2-ethylbenzene	200	U

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Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **Blank**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **VS031816B01**
Associated Blank: **N/A**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/18/16	100	10	5.00	0.1	5	1	MR

Parameter	Result		Parameter	Result	
1,2-Dimethyl-3-ethylbenzene	200	U	Benzothiophene	200	U
1,2,4,5-Tetramethylbenzene	200	U	MMT	500	U
Pentylbenzene	200	U	Tridecane	500	U
Dodecane	200	U	2-Methylnaphthalene	**54.7**	J
Naphthalene	**60.2**	J	1-Methylnaphthalene	**25.1**	J

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	96	70-130
1-Chloro-2-fluorobenzene	100	70-130
1,4-Dichlorobutane	88	70-130
Dibromofluoromethane	103	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
J - Estimated value, below quantitation limit.
N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009729.D
Acq On : 18 Mar 2016 5:09 pm
Operator : VOA4:MR
Sample : VS031816B01
Misc : 1X
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 21 11:59:02 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	607163	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	181984	51.577	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 103.15%			
62) Toluene-d8 (surr)	30.74	98	753013	49.233	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 98.47%			
64) 2-Bromo-1-chloropropane (	30.96	77	215021	47.764	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 95.53%			
87) 1-Chloro-2-fluorobenzene	40.15	130	494103	50.154	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.31%			
97) 1,4-Dichlorobutane (H/sur	43.37	55	400584	44.197	ug/L	0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 88.39%			
101) 4-Bromofluorobenzene (sur	45.93	95	299068	50.259	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.52%			
Target Compounds						Qvalue
86) Ethylbenzene	40.15	91	6332	0.343	ug/L	94
113) Decane	50.51	43	3203	0.311	ug/L #	84
144) Naphthalene	56.83	128	10068	0.602	ug/L #	86
150) 2-Methylnaphthalene	59.58	142	4661	0.547	ug/L	96
151) 1-Methylnaphthalene	60.03	142	1805	0.251	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

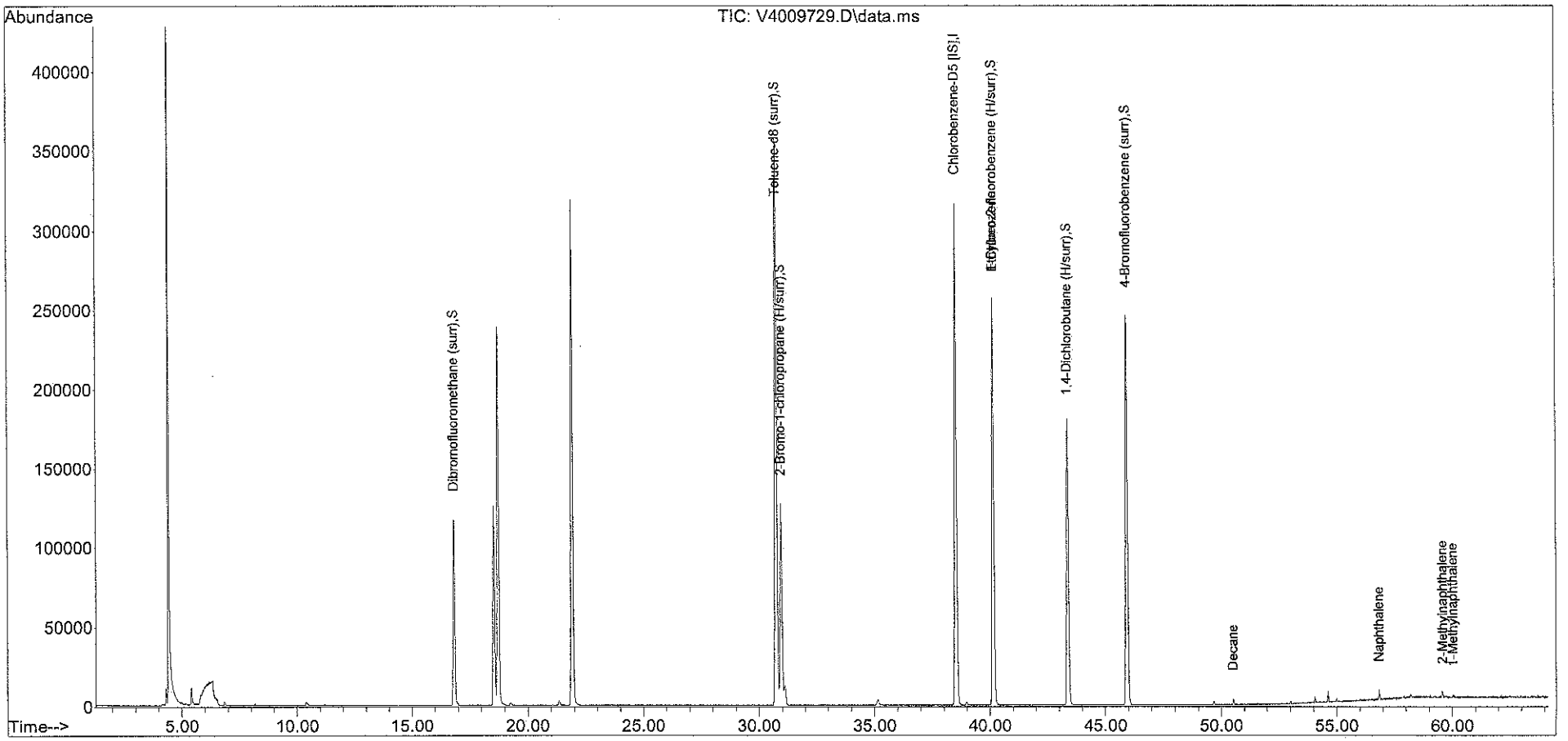
MR 3/21/16

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009729.D
Acq On : 18 Mar 2016 5:09 pm
Operator : VOA4:MR
Sample : VS031816B01
Misc : 1X
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 21 11:59:02 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Form III
Spike Recovery Summary
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **See Below**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/18/16	100	10	5.00	0.1	5	1	MR

Lab ID: VS031816B01 VS031816LCS01 VS031816LCSD01

Parameter	Blank Conc.		LCS Conc.	LCS % Recovery	LCSD Conc.	LCSD % Recovery	% RPD	RPD Limit	% Recovery Limits
1-Pentene	200	U	1760	88	1840	92	5	30	50-130
Pentane	200	U	1640	82	1720	86	5	30	50-130
Tertiary butanol	2500	U	10100	101	9990	100	1	30	50-130
Cyclopentane	200	U	1790	89	1820	91	2	30	50-130
2-Methylpentane	200	U	1780	89	1820	91	2	30	50-130
MTBE	200	U	1900	95	1930	96	1	30	50-130
3-Methylpentane	200	U	1840	92	1880	94	2	30	50-130
1-Hexene	200	U	1790	89	1810	91	1	30	50-130
Hexane	200	U	1810	91	1850	93	2	30	50-130
Diisopropyl Ether (DIPE)	200	U	1910	96	1950	98	2	30	50-130
Ethyl Tertiary Butyl Ether (ETBE)	200	U	1900	95	1920	96	1	30	50-130
Methylcyclopentane	200	U	1910	95	1900	95	0	30	50-130
2,4-Dimethylpentane	200	U	1820	91	1820	91	0	30	50-130
Cyclohexane	200	U	1850	93	1890	95	2	30	50-130
2-Methylhexane	200	U	1800	90	1840	92	2	30	50-130
Benzene	200	U	1940	97	1960	98	1	30	50-130
2,3-Dimethylpentane	200	U	1880	94	1890	94	0	30	50-130
3-Methylhexane	200	U	1710	85	1740	87	2	30	50-130
TAME	200	U	1810	91	1840	92	1	30	50-130
Isooctane	200	U	1870	94	1900	95	2	30	50-130
Heptane	200	U	1790	90	1830	91	2	30	50-130
Methylcyclohexane	200	U	1910	95	1930	96	1	30	50-130
2-Methylheptane	200	U	1850	93	1900	95	2	30	50-130
3-Methylheptane	200	U	1780	89	1820	91	2	30	50-130
Toluene	200	U	1940	97	1960	98	1	30	50-130
Octane	200	U	1820	91	1840	92	1	30	50-130
Ethylbenzene	34.3		1930	96	1920	96	0	30	50-130
p/m-Xylene	400	U	3910	98	3940	99	1	30	50-130
Nonane	200	U	1790	90	1780	89	1	30	50-130
o-Xylene	200	U	1960	98	1980	99	1	30	50-130
Isopropylbenzene	200	U	1950	98	1980	99	2	30	50-130
n-Propylbenzene	200	U	1920	96	1970	99	3	30	50-130
1-Methyl-3-ethylbenzene	200	U	1940	97	1960	98	1	30	50-130

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Form III
Spike Recovery Summary
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **See Below**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/18/16	100	10	5.00	0.1	5	1	MR

Lab ID: VS031816B01 VS031816LCS01 VS031816LCSD01

Parameter	Blank Conc.		LCS Conc.	LCS % Recovery	LCSD Conc.	LCSD % Recovery	% RPD	RPD Limit	% Recovery Limits
1-Methyl-4-ethylbenzene	200	U	1980	99	1970	98	1	30	50-130
1,3,5-Trimethylbenzene	200	U	1970	98	2000	100	2	30	50-130
1-Decene	200	U	1840	92	1860	93	1	30	50-130
1-Methyl-2-ethylbenzene	200	U	2000	100	2030	102	2	30	50-130
Decane	31.1		1830	91	1840	92	1	30	50-130
1,2,4-Trimethylbenzene	200	U	1970	99	1990	99	1	30	50-130
sec-Butylbenzene	200	U	1960	98	1990	100	1	30	50-130
1-Methyl-4-propylbenzene	200	U	1990	99	1990	100	0	30	50-130
n-Butylbenzene	200	U	1970	99	2010	100	2	30	50-130
1,2-Diethylbenzene	200	U	1960	98	2010	100	3	30	50-130
Undecane	200	U	1970	98	1990	99	1	30	50-130
Pentylbenzene	200	U	1960	98	1980	99	1	30	50-130
Dodecane	200	U	2010	101	2000	100	1	30	50-130

Surrogate	% Recovery		Acceptance Range (%)
2-Bromo-1-chloropropane	N/A	N/A	70-130
1-Chloro-2-fluorobenzene	N/A	N/A	70-130
1,4-Dichlorobutane	N/A	N/A	70-130
Dibromofluoromethane	104	102	70-130
Toluene-d8	99	99	70-130
4-Bromofluorobenzene	101	100	70-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

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Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **VS031816LCS01**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/18/16	100	10	5.00	0.1	5	1	MR

Parameter	Result		Parameter	Result	
Isopentane	200	U	3-Methylheptane	**1780**	S
1-Pentene	**1760**	S	Toluene	**1940**	S
2-Methyl-1-butene	200	U	2-Methylthiophene	200	U
Pentane	**1640**	S	3-Methylthiophene	200	U
2-Pentene (trans)	200	U	1-Octene	200	U
2-Pentene (cis)	200	U	Octane	**1820**	S
Tertiary butanol	**10100**	S	1,2-Dibromoethane	200	U
Cyclopentane	**1790**	S	Ethylbenzene	**1930**	S
2,3-Dimethylbutane	200	U	2-Ethylthiophene	200	U
2-Methylpentane	**1780**	S	p/m-Xylene	**3910**	S
MTBE	**1900**	S	1-Nonene	200	U
3-Methylpentane	**1840**	S	Nonane	**1790**	S
1-Hexene	**1790**	S	Styrene	200	U
Hexane	**1810**	S	o-Xylene	**1960**	S
Diisopropyl Ether (DIPE)	**1910**	S	Isopropylbenzene	**1950**	S
Ethyl Tertiary Butyl Ether (ETBE)	**1900**	S	n-Propylbenzene	**1920**	S
2,2-Dimethylpentane	200	U	1-Methyl-3-ethylbenzene	**1940**	S
Methylcyclopentane	**1910**	S	1-Methyl-4-ethylbenzene	**1980**	S
2,4-Dimethylpentane	**1820**	S	1,3,5-Trimethylbenzene	**1970**	S
1,2-Dichloroethane	200	U	1-Decene	**1840**	S
Cyclohexane	**1850**	S	1-Methyl-2-ethylbenzene	**2000**	S
2-Methylhexane	**1800**	S	Decane	**1830**	S
Benzene	**1940**	S	1,2,4-Trimethylbenzene	**1970**	S
2,3-Dimethylpentane	**1880**	S	sec-Butylbenzene	**1960**	S
Thiophene	200	U	1-Methyl-3-isopropylbenzene	200	U
3-Methylhexane	**1710**	S	1-Methyl-4-isopropylbenzene	200	U
TAME	**1810**	S	1-Methyl-2-isopropylbenzene	200	U
1-Heptene/1,2-DMCP (trans)[1]	**1290**		Indan	200	U
Isooctane	**1870**	S	1-Methyl-3-propylbenzene	200	U
Heptane	**1790**	S	1-Methyl-4-propylbenzene	**1990**	S
Methylcyclohexane	**1910**	S	n-Butylbenzene	**1970**	S
2,5-Dimethylhexane	200	U	1,2-Dimethyl-4-ethylbenzene	200	U
2,4-Dimethylhexane	200	U	1,2-Diethylbenzene	**1960**	S
2,2,3-Trimethylpentane	200	U	1-Methyl-2-propylbenzene	200	U
2,3,4-Trimethylpentane	200	U	1,4-Dimethyl-2-ethylbenzene	200	U
2,3,3-Trimethylpentane	200	U	Undecane	**1970**	S
2,3-Dimethylhexane	200	U	1,3-Dimethyl-4-ethylbenzene	200	U
3-Ethylhexane	200	U	1,3-Dimethyl-5-ethylbenzene	**2010**	
2-Methylheptane	**1850**	S	1,3-Dimethyl-2-ethylbenzene	200	U

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Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **VS031816LCS01**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/18/16	100	10	5.00	0.1	5	1	MR

Parameter	Result		Parameter	Result	
1,2-Dimethyl-3-ethylbenzene	200	U	Benzothiophene	200	U
1,2,4,5-Tetramethylbenzene	200	U	MMT	500	U
Pentylbenzene	**1960**	S	Tridecane	500	U
Dodecane	**2010**	S	2-Methylnaphthalene	500	U
Naphthalene	200	U	1-Methylnaphthalene	500	U

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	N/A	70-130
1-Chloro-2-fluorobenzene	N/A	70-130
1,4-Dichlorobutane	N/A	70-130
Dibromofluoromethane	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

S - Spike compound.
U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009726.D
Acq On : 18 Mar 2016 1:25 pm
Operator : VOA4:MR
Sample : VS031816LCS01
Misc : 1X
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 21 11:51:48 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Sat Mar 19 12:25:34 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	643757	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.82	113	195264	52.195	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 104.39%			
62) Toluene-d8 (surr)	30.74	98	800168	49.342	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 98.68%			
64) 2-Bromo-1-chloropropane (	0.00	77	0d	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery = 0.00%#			
87) 1-Chloro-2-fluorobenzene	0.00	130	0d	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery = 0.00%#			
97) 1,4-Dichlorobutane (H/sur	0.00	55	0d	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery = 0.00%#			
101) 4-Bromofluorobenzene (sur	45.93	95	318751	50.522	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 101.04%			
Target Compounds						Qvalue
4) 1-Pentene	8.82	42	107934	17.583	ug/L	100
6) Pentane	9.19	43	139600	16.362	ug/L	99
10) Tertiary butanol	10.58	59	62350M1	100.661	ug/L	
13) Cyclopentane	12.80	70	49298	17.862	ug/L #	27
15) 2-Methylpentane	13.02	43	193003	17.833	ug/L	98
16) MTBE	13.29	73	212383	19.020	ug/L	98
17) 3-Methylpentane	13.99	57	164774	18.409	ug/L	100
18) 1-Hexene	14.56	56	98306	17.864	ug/L	95
19) Hexane	15.16	57	139874	18.140	ug/L	96
20) Diisopropyl ether	15.44	45	298516	19.130	ug/L	97
25) Ethyl tertiary butyl ethe	16.89	59	264256	19.025	ug/L	96
27) Methylcyclopentane	17.45	56	194403	19.056	ug/L	99
28) 2,4-Dimethylpentane	17.62	43	181089	18.190	ug/L	98
32) Cyclohexane	20.33	56	161804	18.507	ug/L	99
33) 2-Methyhexane	20.77	43	196371	17.953	ug/L	98
34) Benzene	20.90	78	288301	19.440	ug/L	100
35) 2,3-Dimethylpentane	21.06	56	158020	18.800	ug/L	97
38) 3-Methylhexane	21.58	43	163252	17.070	ug/L	99
39) TAME	21.91	73	219904	18.107	ug/L	98
43) 1-Heptene/1,2-DMCP (trans	22.95	70	41774	12.912	ug/L #	1
44) Isooctane	23.00	57	407361	18.718	ug/L	92
46) Heptane	23.74	43	162207	17.941	ug/L	98
51) Methycyclohexane	26.12	83	132553	19.088	ug/L	96

MR 3/21/16

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009726.D
Acq On : 18 Mar 2016 1:25 pm
Operator : VOA4:MR
Sample : VS031816LCS01
Misc : 1X
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 21 11:51:48 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Sat Mar 19 12:25:34 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
60) 2-Methylheptane	30.10	57	182051	18.534 ug/L	97
63) 3-Methylheptane	30.85	43	171633M4	17.805 ug/L	
66) Toluene	31.10	91	328488	19.427 ug/L	100
71) Octane	33.36	43	208163	18.152 ug/L	98
86) Ethylbenzene	40.15	91	376707	19.263 ug/L	99
91) p/m-Xylene	41.39	91	589931	39.089 ug/L	99
95) Nonane	42.89	43	196765	17.908 ug/L	98
98) o-Xylene	43.66	91	298823	19.591 ug/L	100
102) Isopropylbenzene	46.00	105	379912	19.511 ug/L	98
104) n-Propylbenzene	48.57	91	450312	19.210 ug/L	99
107) 1-Methyl-3-ethylbenzene	49.20	105	378349	19.394 ug/L	99
108) 1-Methyl-4-ethylbenzene	49.37	105	376749	19.801 ug/L	98
109) 1,3,5-Trimethylbenzene	49.95	105	323874	19.659 ug/L	99
110) 1-Decene	50.13	41	101394	18.399 ug/L	94
112) 1-Methyl-2-ethylbenzene	50.28	105	384626	20.024 ug/L	99
113) Decane	50.51	43	199749	18.284 ug/L	96
115) 1,2,4-Trimethylbenzene	51.16	105	328789	19.736 ug/L	98
117) sec-Butylbenzene	51.42	105	428859	19.632 ug/L	97
126) 1-Methyl-4-propylbenzene	53.00	105	495310	19.861 ug/L	99
127) n-Butylbenzene	53.00	91	388492	19.734 ug/L	99
129) 1,2-Diethylbenzene	53.22	119	186780	19.588 ug/L	99
132) Undecane	53.78	57	217207	19.679 ug/L	98
134) 1,3-Dimethyl-5-ethylbenze	53.94	119	399251	20.069 ug/L	99
139) Pentylbenzene	55.51	91	320635	19.561 ug/L	100
142) Dodecane	56.01	43	160627	20.136 ug/L	97

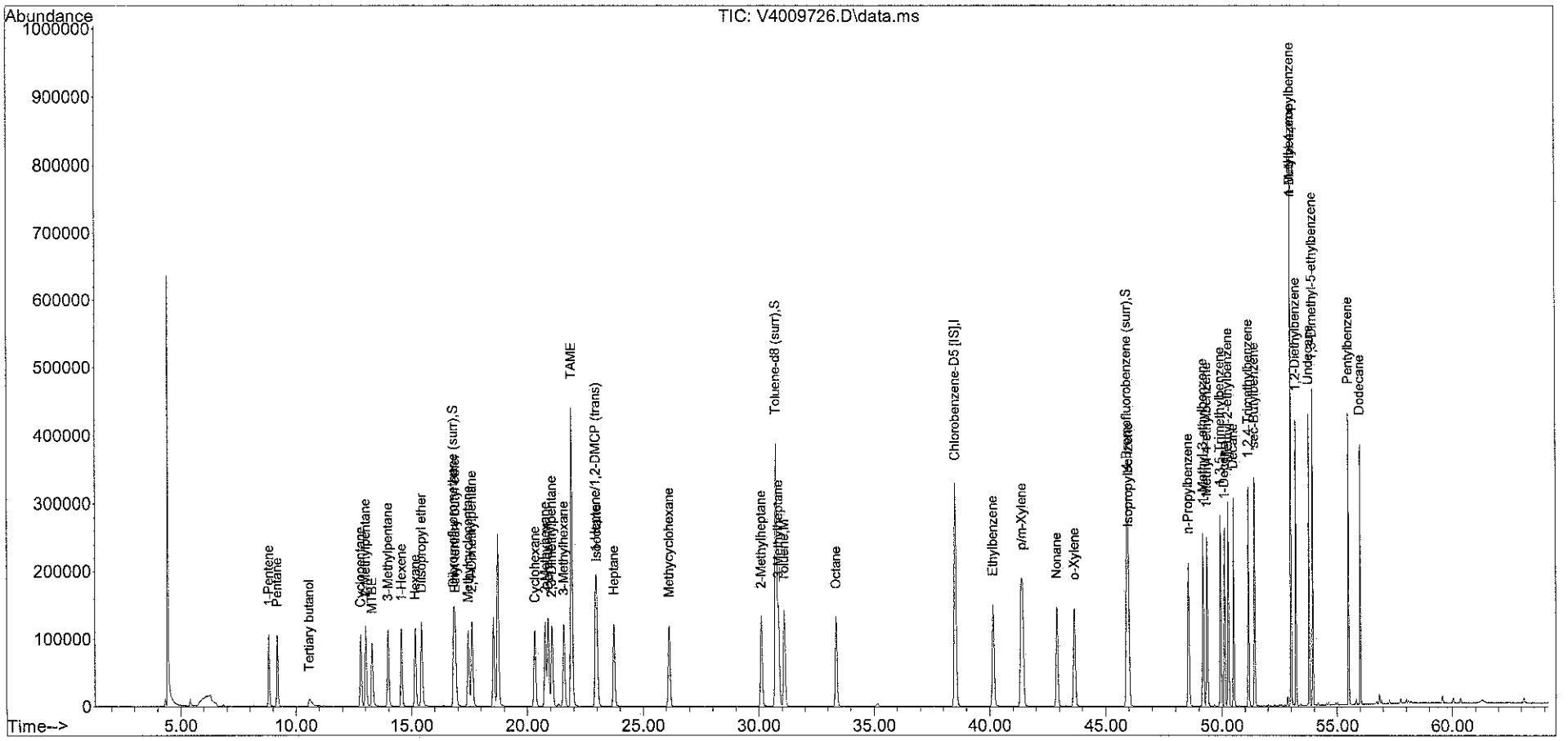
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009726.D
Acq On : 18 Mar 2016 1:25 pm
Operator : VOA4:MR
Sample : VS031816LCS01
Misc : 1X
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 21 11:51:48 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Sat Mar 19 12:25:34 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample Dup**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **VS031816LCSD01**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/18/16	100	10	5.00	0.1	5	1	MR

Parameter	Result		Parameter	Result	
Isopentane	200	U	3-Methylheptane	**1820**	S
1-Pentene	**1840**	S	Toluene	**1960**	S
2-Methyl-1-butene	200	U	2-Methylthiophene	200	U
Pentane	**1720**	S	3-Methylthiophene	200	U
2-Pentene (trans)	200	U	1-Octene	200	U
2-Pentene (cis)	200	U	Octane	**1840**	S
Tertiary butanol	**9990**	S	1,2-Dibromoethane	200	U
Cyclopentane	**1820**	S	Ethylbenzene	**1920**	S
2,3-Dimethylbutane	200	U	2-Ethylthiophene	200	U
2-Methylpentane	**1820**	S	p/m-Xylene	**3940**	S
MTBE	**1930**	S	1-Nonene	200	U
3-Methylpentane	**1880**	S	Nonane	**1780**	S
1-Hexene	**1810**	S	Styrene	200	U
Hexane	**1850**	S	o-Xylene	**1980**	S
Diisopropyl Ether (DIPE)	**1950**	S	Isopropylbenzene	**1980**	S
Ethyl Tertiary Butyl Ether (ETBE)	**1920**	S	n-Propylbenzene	**1970**	S
2,2-Dimethylpentane	200	U	1-Methyl-3-ethylbenzene	**1960**	S
Methylcyclopentane	**1900**	S	1-Methyl-4-ethylbenzene	**1970**	S
2,4-Dimethylpentane	**1820**	S	1,3,5-Trimethylbenzene	**2000**	S
1,2-Dichloroethane	200	U	1-Decene	**1860**	S
Cyclohexane	**1890**	S	1-Methyl-2-ethylbenzene	**2030**	S
2-Methylhexane	**1840**	S	Decane	**1840**	S
Benzene	**1960**	S	1,2,4-Trimethylbenzene	**1990**	S
2,3-Dimethylpentane	**1890**	S	sec-Butylbenzene	**1990**	S
Thiophene	200	U	1-Methyl-3-isopropylbenzene	200	U
3-Methylhexane	**1740**	S	1-Methyl-4-isopropylbenzene	200	U
TAME	**1840**	S	1-Methyl-2-isopropylbenzene	200	U
1-Heptene/1,2-DMCP (trans)[1]	**1310**		Indan	200	U
Isooctane	**1900**	S	1-Methyl-3-propylbenzene	200	U
Heptane	**1830**	S	1-Methyl-4-propylbenzene	**1990**	S
Methylcyclohexane	**1930**	S	n-Butylbenzene	**2010**	S
2,5-Dimethylhexane	200	U	1,2-Dimethyl-4-ethylbenzene	200	U
2,4-Dimethylhexane	200	U	1,2-Diethylbenzene	**2010**	S
2,2,3-Trimethylpentane	200	U	1-Methyl-2-propylbenzene	200	U
2,3,4-Trimethylpentane	200	U	1,4-Dimethyl-2-ethylbenzene	200	U
2,3,3-Trimethylpentane	200	U	Undecane	**1990**	S
2,3-Dimethylhexane	200	U	1,3-Dimethyl-4-ethylbenzene	200	U
3-Ethylhexane	200	U	1,3-Dimethyl-5-ethylbenzene	**2030**	
2-Methylheptane	**1900**	S	1,3-Dimethyl-2-ethylbenzene	200	U

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Form I
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample Dup**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **VS031816LCSD01**
Associated Blank: **VS031816B01**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/18/16	100	10	5.00	0.1	5	1	MR

Parameter	Result		Parameter	Result	
1,2-Dimethyl-3-ethylbenzene	200	U	Benzothiophene	200	U
1,2,4,5-Tetramethylbenzene	200	U	MMT	500	U
Pentylbenzene	**1980**	S	Tridecane	500	U
Dodecane	**2000**	S	2-Methylnaphthalene	500	U
Naphthalene	200	U	1-Methylnaphthalene	500	U

Surrogate	% Recovery	Acceptance Range (%)
2-Bromo-1-chloropropane	N/A	70-130
1-Chloro-2-fluorobenzene	N/A	70-130
1,4-Dichlorobutane	N/A	70-130
Dibromofluoromethane	102	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

S - Spike compound.
U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

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Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009727.D
Acq On : 18 Mar 2016 2:40 pm
Operator : VOA4:MR
Sample : VS031816LCSD01
Misc : 1X
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 21 11:54:16 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	635096	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	189082	51.232	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 102.46%			
62) Toluene-d8 (surr)	30.74	98	790232	49.394	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 98.79%			
64) 2-Bromo-1-chloropropane (	0.00	77	0d	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery = 0.00%#			
87) 1-Chloro-2-fluorobenzene	0.00	130	0	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery = 0.00%#			
97) 1,4-Dichlorobutane (H/sur	0.00	55	0	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery = 0.00%#			
101) 4-Bromofluorobenzene (sur	45.93	95	311336	50.020	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.04%			
Target Compounds						Qvalue
4) 1-Pentene	8.82	42	111432	18.400	ug/L	98
6) Pentane	9.19	43	144396	17.155	ug/L	97
10) Tertiary butanol	10.58	59	61059M1	99.921	ug/L	
13) Cyclopentane	12.81	70	49463M1	18.166	ug/L	
15) 2-Methylpentane	13.02	43	194211	18.190	ug/L	100
16) MTBE	13.29	73	212112	19.255	ug/L	97
17) 3-Methylpentane	13.99	57	165843	18.781	ug/L	97
18) 1-Hexene	14.56	56	98368	18.119	ug/L	98
19) Hexane	15.17	57	140955	18.529	ug/L	98
20) Diisopropyl ether	15.44	45	300411	19.514	ug/L	99
25) Ethyl tertiary butyl ethe	16.89	59	262626	19.165	ug/L	96
27) Methylcyclopentane	17.45	56	190828	18.961	ug/L	97
28) 2,4-Dimethylpentane	17.62	43	178808M1	18.206	ug/L	
32) Cyclohexane	20.32	56	163392	18.943	ug/L	99
33) 2-Methyhexane	20.77	43	198552	18.400	ug/L	97
34) Benzene	20.90	78	286157	19.558	ug/L	98
35) 2,3-Dimethylpentane	21.06	56	156593	18.884	ug/L	97
38) 3-Methylhexane	21.58	43	163861	17.367	ug/L	98
39) TAME	21.91	73	220000	18.362	ug/L	97
43) 1-Heptene/1,2-DMCP (trans	22.94	70	41885	13.123	ug/L #	1
44) Isooctane	23.00	57	408362	19.020	ug/L	94
46) Heptane	23.74	43	163148	18.291	ug/L	98
51) Methycyclohexane	26.13	83	131991	19.266	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009727.D
Acq On : 18 Mar 2016 2:40 pm
Operator : VOA4:MR
Sample : VS031816LCSD01
Misc : 1X
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 21 11:54:16 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
60) 2-Methylheptane	30.11	57	183748	18.962	ug/L	97
63) 3-Methylheptane	30.85	43	172816M4	18.172	ug/L	
66) Toluene	31.10	91	327482	19.631	ug/L	97
71) Octane	33.36	43	208073	18.392	ug/L	99
86) Ethylbenzene	40.15	91	371435	19.252	ug/L	99
91) p/m-Xylene	41.38	91	586882	39.417	ug/L	100
95) Nonane	42.90	43	193049	17.810	ug/L	98
98) o-Xylene	43.65	91	297556	19.774	ug/L	98
102) Isopropylbenzene	46.00	105	380558	19.810	ug/L	99
104) n-Propylbenzene	48.58	91	455852	19.712	ug/L	98
107) 1-Methyl-3-ethylbenzene	49.19	105	376953	19.586	ug/L	100
108) 1-Methyl-4-ethylbenzene	49.37	105	369058	19.661	ug/L	99
109) 1,3,5-Trimethylbenzene	49.95	105	325278	20.013	ug/L	99
110) 1-Decene	50.13	41	101196	18.613	ug/L	99
112) 1-Methyl-2-ethylbenzene	50.28	105	385517	20.344	ug/L	98
113) Decane	50.51	43	198121	18.382	ug/L	98
115) 1,2,4-Trimethylbenzene	51.16	105	326622	19.873	ug/L	99
117) sec-Butylbenzene	51.42	105	429246	19.918	ug/L	100
126) 1-Methyl-4-propylbenzene	53.00	105	490543	19.938	ug/L	99
127) n-Butylbenzene	53.00	91	389585	20.059	ug/L	99
129) 1,2-Diethylbenzene	53.22	119	189013	20.093	ug/L	94
132) Undecane	53.78	57	216637	19.895	ug/L	100
134) 1,3-Dimethyl-5-ethylbenze	53.94	119	399155	20.338	ug/L	98
139) Pentylbenzene	55.51	91	321029	19.852	ug/L	100
142) Dodecane	56.01	43	157460	20.008	ug/L	97

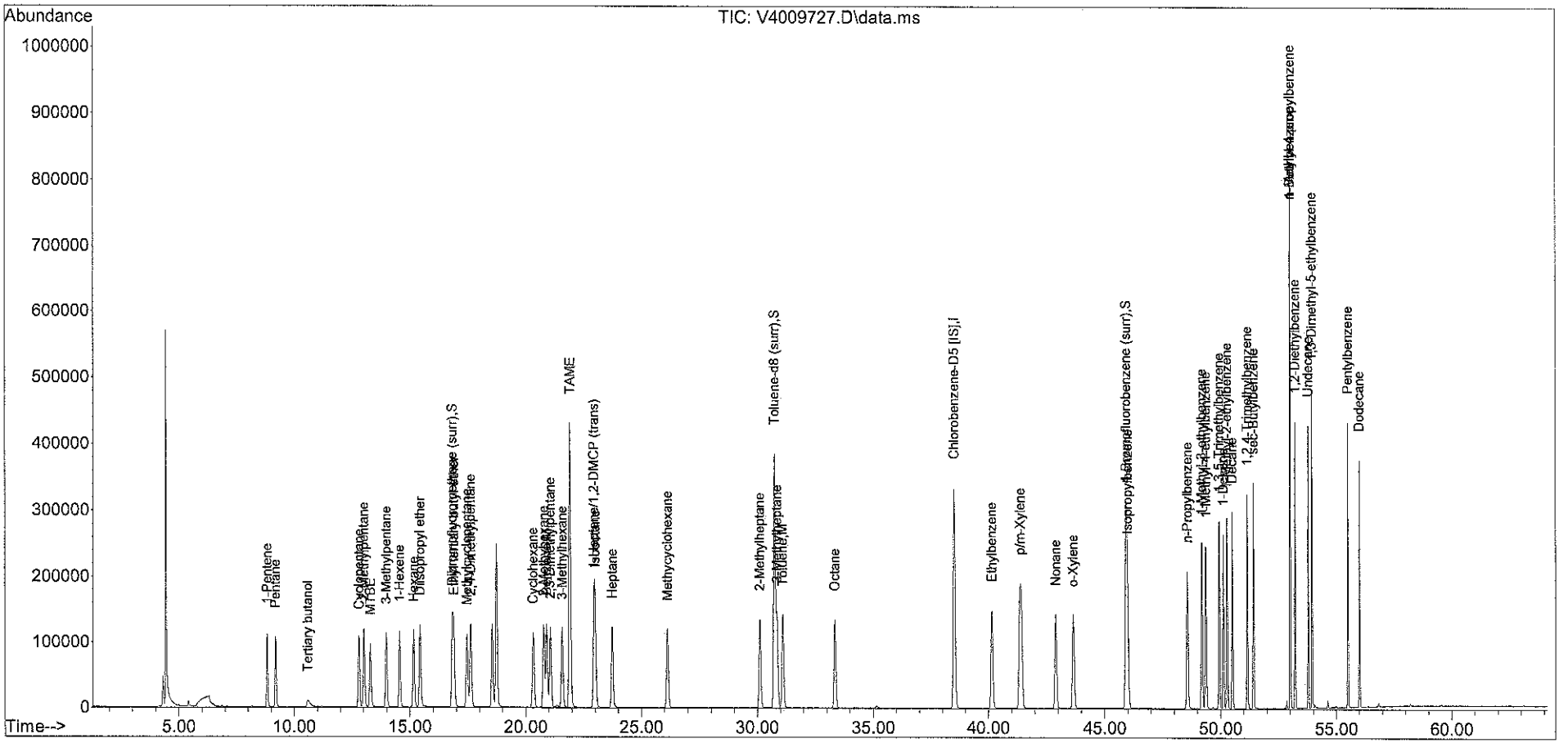
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009727.D
Acq On : 18 Mar 2016 2:40 pm
Operator : VOA4:MR
Sample : VS031816LCSD01
Misc : 1X
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 21 11:54:16 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Form III
Spike Recovery Summary
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **Gasoline Reference Oil - LD-7**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **VS031816LD701**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	N/A	100	10	0.1004	0.1	5	100	MR

Parameter	True Conc.	Conc.	% Recovery	% Recovery Limits
Isopentane	31223	30600	98	65-135
Pentane	26748	25100	94	65-135
Cyclopentane	4090	3880	95	65-135
2,3-Dimethylbutane	8480	7610	90	65-135
2-Methylpentane	33695	28300	84	65-135
3-Methylpentane	20693	18200	88	65-135
Hexane	31248	29300	94	65-135
2,2-Dimethylpentane	3933	3560	91	65-135
Methylcyclopentane	27356	25100	92	65-135
2,4-Dimethylpentane	5652	4820	85	65-135
Cyclohexane	44344	40800	92	65-135
2-Methylhexane	19898	17000	86	65-135
Benzene	3408	3200	94	65-135
2,3-Dimethylpentane	7333	7020	96	65-135
3-Methylhexane	19898	16800	85	65-135
1-Heptene/1,2-DMCP (trans)[1]	13444	12300	92	65-135
Isooctane	12819	11600	91	65-135
Heptane	33718	28500	85	65-135
Methylcyclohexane	99570	87200	88	65-135
2,5-Dimethylhexane	4910	4400	90	65-135
2,4-Dimethylhexane	6202	5590	90	65-135
2,3,4-Trimethylpentane	4894	4070	83	65-135
2,3,3-Trimethylpentane	3110	2610	84	65-135
2,3-Dimethylhexane	4700	4060	86	65-135
3-Ethylhexane	2163	1990	92	65-135
2-Methylheptane	16966	15400	91	65-135
3-Methylheptane	13911	12000	86	65-135
Toluene	2400	2120	88	65-135
Octane	31798	27000	85	65-135
Ethylbenzene	5610	5160	92	65-135
p/m-Xylene	17224	16200	94	65-135
Nonane	23088	23400	101	65-135
o-Xylene	7075	6770	96	65-135

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Form III
Spike Recovery Summary
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **Gasoline Reference Oil - LD-7**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **VS031816LD701**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	N/A	100	10	0.1004	0.1	5	100	MR

Parameter	True Conc.	Conc.	% Recovery	% Recovery Limits
Isopropylbenzene	1184	1100	93	65-135
n-Propylbenzene	1555	1450	93	65-135
1-Methyl-3-ethylbenzene	4712	4330	92	65-135
1-Methyl-4-ethylbenzene	2069	2030	98	65-135
1,3,5-Trimethylbenzene	4982	4740	95	65-135
1-Methyl-2-ethylbenzene	1844	1820	99	65-135
Decane	14859	12800	86	65-135
1,2,4-Trimethylbenzene	9407	9190	98	65-135
1-Methyl-3-propylbenzene	1255	1270	101	65-135
1,2-Dimethyl-4-ethylbenzene	1559	1540	99	65-135
Undecane	3952	4160	105	65-135
1,3-Dimethyl-5-ethylbenzene	1642	1720	105	65-135
1,2,4,5-Tetramethylbenzene	1477	1360	92	65-135
Dodecane	2437	2420	99	65-135
Naphthalene	7917	8720	110	65-135
2-Methylnaphthalene	7963	8950	112	65-135
1-Methylnaphthalene	4383	4620	105	65-135

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	102	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	100	70-130

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

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Form I
Gasoline Reference Oil - LD-7
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**
Client ID: **Gasoline Reference Oil - LD-7**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **VS031816LD701**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	N/A	100	10	0.1004	0.1	5	100	MR

Parameter	Result		Parameter	Result	
Isopentane	**30600**		3-Methylheptane	**12000**	
1-Pentene	996	U	Toluene	**2120**	
2-Methyl-1-butene	996	U	2-Methylthiophene	996	U
Pentane	**25100**		3-Methylthiophene	996	U
2-Pentene (trans)	**290**	J	1-Octene	996	U
2-Pentene (cis)	996	U	Octane	**27000**	
Tertiary butanol	12500	U	1,2-Dibromoethane	996	U
Cyclopentane	**3880**		Ethylbenzene	**5160**	
2,3-Dimethylbutane	**7610**		2-Ethylthiophene	996	U
2-Methylpentane	**28300**		p/m-Xylene	**16200**	
MTBE	996	U	1-Nonene	996	U
3-Methylpentane	**18200**		Nonane	**23400**	
1-Hexene	996	U	Styrene	996	U
Hexane	**29300**		o-Xylene	**6770**	
Diisopropyl Ether (DIPE)	996	U	Isopropylbenzene	**1100**	
Ethyl Tertiary Butyl Ether (ETBE)	996	U	n-Propylbenzene	**1450**	
2,2-Dimethylpentane	**3560**		1-Methyl-3-ethylbenzene	**4330**	
Methylcyclopentane	**25100**		1-Methyl-4-ethylbenzene	**2030**	
2,4-Dimethylpentane	**4820**		1,3,5-Trimethylbenzene	**4740**	
1,2-Dichloroethane	996	U	1-Decene	996	U
Cyclohexane	**40800**		1-Methyl-2-ethylbenzene	**1820**	
2-Methylhexane	**17000**		Decane	**12800**	
Benzene	**3200**		1,2,4-Trimethylbenzene	**9190**	
2,3-Dimethylpentane	**7020**		sec-Butylbenzene	**329**	J
Thiophene	996	U	1-Methyl-3-isopropylbenzene	**578**	J
3-Methylhexane	**16800**		1-Methyl-4-isopropylbenzene	**283**	J
TAME	996	U	1-Methyl-2-isopropylbenzene	**124**	J
1-Heptene/1,2-DMCP (trans)[1]	**12300**		Indan	**798**	J
Isooctane	**11600**		1-Methyl-3-propylbenzene	**1270**	
Heptane	**28500**		1-Methyl-4-propylbenzene	**638**	J
Methylcyclohexane	**87200**		n-Butylbenzene	**470**	J
2,5-Dimethylhexane	**4400**		1,2-Dimethyl-4-ethylbenzene	**1540**	
2,4-Dimethylhexane	**5590**		1,2-Diethylbenzene	**136**	J
2,2,3-Trimethylpentane	**582**	J	1-Methyl-2-propylbenzene	**448**	J
2,3,4-Trimethylpentane	**4070**		1,4-Dimethyl-2-ethylbenzene	**899**	J
2,3,3-Trimethylpentane	**2610**		Undecane	**4160**	
2,3-Dimethylhexane	**4060**		1,3-Dimethyl-4-ethylbenzene	**904**	J
3-Ethylhexane	**1990**		1,3-Dimethyl-5-ethylbenzene	**1720**	
2-Methylheptane	**15400**		1,3-Dimethyl-2-ethylbenzene	**181**	J

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Form I
Gasoline Reference Oil - LD-7
PIANO Volatile Hydrocarbons by GC/MS

ALPHA ANALYTICAL

Client: **NewFields**
Project: **Flint Street**
Client ID: **Gasoline Reference Oil - LD-7**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **VS031816LD701**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Analyzed	Percent Solid	Methanol Volume (ml)	Sample Amount (g)	Extract Volume (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	N/A	100	10	0.1004	0.1	5	100	MR

Parameter	Result		Parameter	Result	
1,2-Dimethyl-3-ethylbenzene	**472**	J	Benzothiophene	996	U
1,2,4,5-Tetramethylbenzene	**1360**		MMT	2490	U
Pentylbenzene	**345**	J	Tridecane	**887**	J
Dodecane	**2420**		2-Methylnaphthalene	**8950**	
Naphthalene	**8720**		1-Methylnaphthalene	**4620**	

U - The analyte was analyzed for but not detected at the sample specific level reported.
J - Estimated value, below quantitation limit.
N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009728.D
Acq On : 18 Mar 2016 3:54 pm
Operator : VOA4:MR
Sample : VS031816LD701
Misc : 100X
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 21 11:56:52 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	625446	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	185852	51.134	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 102.27%			
62) Toluene-d8 (surr)	30.74	98	767907	48.739	ug/L	-0.01
Spiked Amount 50.000	Range 87 - 113		Recovery = 97.48%			
64) 2-Bromo-1-chloropropane (	0.00	77	0	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery = 0.00%#			
87) 1-Chloro-2-fluorobenzene	0.00	130	0	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery = 0.00%#			
97) 1,4-Dichlorobutane (H/sur	0.00	55	0d	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery = 0.00%#			
101) 4-Bromofluorobenzene (sur	45.93	95	307428	50.154	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.31%			
Target Compounds						Qvalue
3) Isopentane	8.16	43	312365	61.367	ug/L	98
6) Pentane	9.19	43	418247	50.456	ug/L	99
7) 2-Pentene (trans)	9.63	55	5022	0.583	ug/L	91
13) Cyclopentane	12.80	70	20862	7.780	ug/L #	34
14) 2,3-Dimethylbutane	12.80	71	30830	15.283	ug/L #	25
15) 2-Methylpentane	13.02	43	598361	56.906	ug/L	98
17) 3-Methylpentane	13.99	57	318693	36.647	ug/L	98
19) Hexane	15.16	57	441042	58.871	ug/L	97
26) 2,2-Dimethylpentane	17.18	57	77124	7.159	ug/L	97
27) Methylcyclopentane	17.46	56	499866	50.434	ug/L	98
28) 2,4-Dimethylpentane	17.62	43	93607	9.678	ug/L	94
32) Cyclohexane	20.33	56	696617	82.010	ug/L	97
33) 2-Methyhexane	20.77	43	363608	34.216	ug/L	97
34) Benzene	20.90	78	92630	6.429	ug/L	100
35) 2,3-Dimethylpentane	21.06	56	115088	14.093	ug/L	99
38) 3-Methylhexane	21.58	43	313967	33.791	ug/L	99
43) 1-Heptene/1,2-DMCP (trans	22.87	70	77674	24.711	ug/L	73
44) Isooctane	22.99	57	493094M6	23.321	ug/L	
46) Heptane	23.74	43	503034	57.267	ug/L	99
51) Methycyclohexane	26.12	83	1181209	175.074	ug/L	99
52) 2,5-Dimethylhexane	26.81	57	92919	8.841	ug/L	93
53) 2,4-Dimethyhexane	27.06	57	93582	11.229	ug/L	100
55) 2,2,3-Trimethylpentane	27.30	57	19454	1.169	ug/L	92

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009728.D
Acq On : 18 Mar 2016 3:54 pm
Operator : VOA4:MR
Sample : VS031816LD701
Misc : 100X
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 21 11:56:52 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
57)	2,3,4-Trimethylpentane	28.83	43	106312	8.162	ug/L	98
58)	2,3,3-Trimethylpentane	29.41	43	59382	5.247	ug/L	96
59)	2,3-Dimethylhexane	29.67	43	97282	8.148	ug/L	92
60)	2-Methylheptane	30.12	57	295698	30.986	ug/L	94
63)	3-Methylheptane	30.86	43	225747M4	24.104	ug/L	
65)	3-Ethylhexane	30.98	43	57730M3	3.991	ug/L	
66)	Toluene	31.12	91	69886	4.254	ug/L	94
71)	Octane	33.35	43	604028	54.215	ug/L	99
86)	Ethylbenzene	40.15	91	196838	10.360	ug/L	97
91)	p/m-Xylene	41.35	91	475742	32.446	ug/L	98
95)	Nonane	42.90	43	501139	46.946	ug/L	99
98)	o-Xylene	43.65	91	201591	13.603	ug/L	97
102)	Isopropylbenzene	45.99	105	41913	2.215	ug/L	87
104)	n-Propylbenzene	48.58	91	66259	2.909	ug/L	98
107)	1-Methyl-3-ethylbenzene	49.19	105	164624	8.686	ug/L	98
108)	1-Methyl-4-ethylbenzene	49.37	105	75278	4.072	ug/L	96
109)	1,3,5-Trimethylbenzene	49.95	105	152335	9.517	ug/L	98
112)	1-Methyl-2-ethylbenzene	50.28	105	68125	3.650	ug/L	100
113)	Decane	50.51	43	271958	25.622	ug/L	98
115)	1,2,4-Trimethylbenzene	51.16	105	298653	18.452	ug/L	99
117)	sec-Butylbenzene	51.42	105	14031	0.661	ug/L	96
118)	1-Methyl-3-isopropylbenze	51.81	119	20820	1.161	ug/L	97
119)	1-Methyl-4-isopropylbenze	52.01	119	10485	0.569	ug/L	93
121)	1-Methyl-2-isopropylbenze	52.49	119	4570	0.248	ug/L	97
122)	Indan	52.58	117	26101	1.602	ug/L	93
124)	1-Methyl-3-propylbenzene	52.86	105	53155	2.545	ug/L	100
126)	1-Methyl-4-propylbenzene	53.00	105	31040	1.281	ug/L	80
127)	n-Butylbenzene	53.01	91	18032	0.943	ug/L	89
128)	1,2-Dimethyl-4-ethylbenze	53.13	119	56997	3.086	ug/L	97
129)	1,2-Diethylbenzene	53.22	119	2533	0.273	ug/L	90
130)	1-Methyl-2-propylbenzene	53.41	105	19764	0.900	ug/L	98
131)	1,4-Dimethyl-2-ethylbenze	53.73	119	31871	1.805	ug/L	97
132)	Undecane	53.79	57	89467M4	8.343	ug/L	
133)	1,3-Dimethyl-4-ethylbenze	53.81	119	38483	1.816	ug/L	95
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	66826	3.457	ug/L	99
135)	1,3-Dimethyl-2-ethylbenze	54.17	119	7727	0.364	ug/L	94
136)	1,2-Dimethyl-3-ethylbenze	54.53	119	18196	0.948	ug/L	97
137)	1,2,4,5-Tetramethylbenzen	54.93	119	55453	2.736	ug/L	99
139)	Pentylbenzene	55.51	91	11034M6	0.693	ug/L	
142)	Dodecane	56.01	43	37620	4.854	ug/L	97
144)	Naphthalene	56.83	128	301822	17.515	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009728.D
Acq On : 18 Mar 2016 3:54 pm
Operator : VOA4:MR
Sample : VS031816LD701
Misc : 100X
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 21 11:56:52 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
149) Tridecane	58.09	57	11792	1.781	ug/L	94
150) 2-Methylnaphthalene	59.56	142	157737	17.969	ug/L	96
151) 1-Methylnaphthalene	60.03	142	68685	9.269	ug/L	98

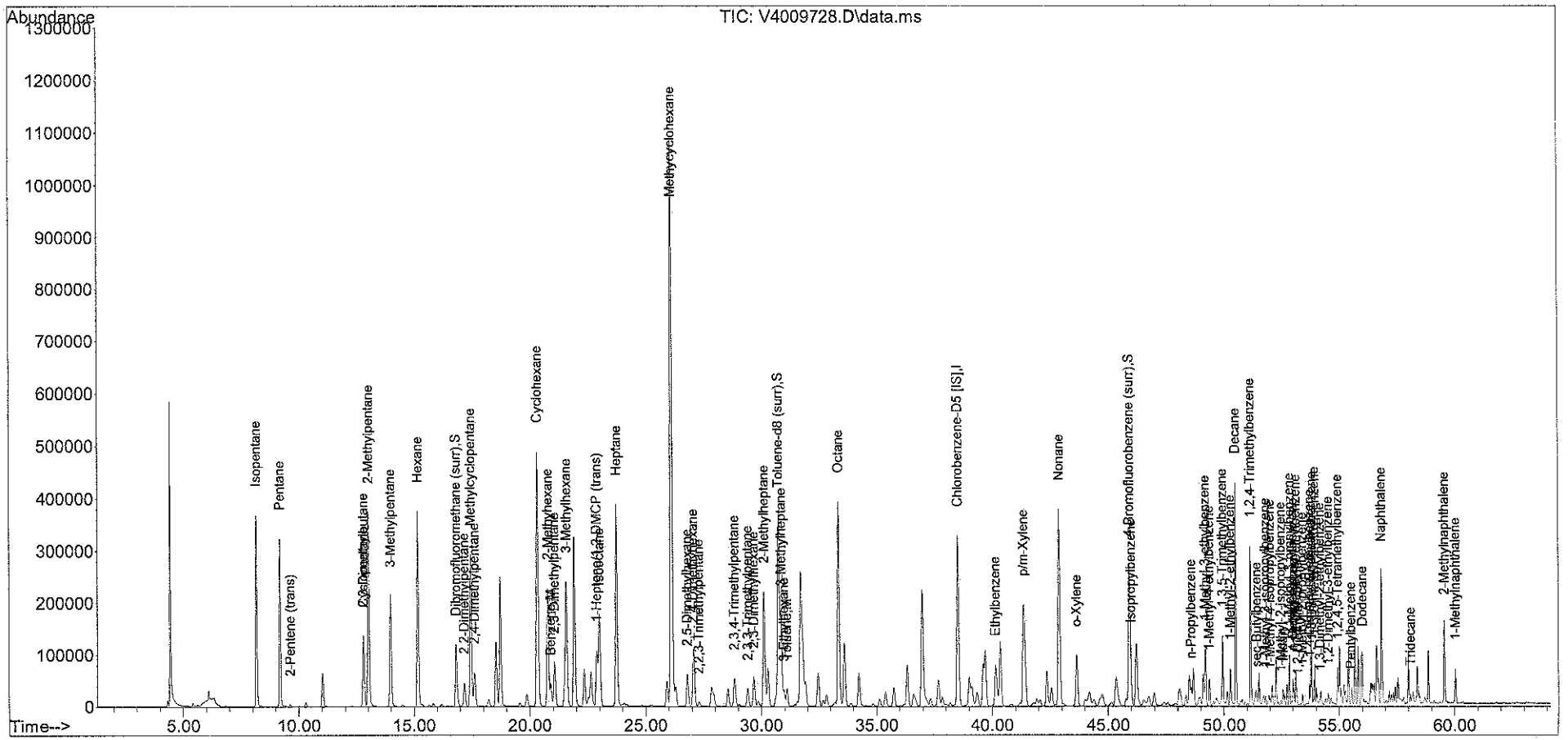
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009728.D
Acq On : 18 Mar 2016 3:54 pm
Operator : VOA4:MR
Sample : VS031816LD701
Misc : 100X
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 21 11:56:52 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Analysis log File

Total Files Reported in Log : 27
Log Generated From Directory: O:\Organics\DATA\VOA4\2016\160318\

No.	DATA FILE	SAMPLE NAME	MISC	DATE INJ'D
1	V4009722.D	BLANK		3/18/2016 9:31 am
2	V4009723.D	T403181601 → C403181601-fails; IS too high		3/18/2016 10:10 am
3	V4009725.D (V4009724)	C403181602		3/18/2016 12:12 pm
4	V4009726.D	VS031816LCS01	1X	3/18/2016 1:25 pm
5	V4009727.D	VS031816LCSD01	1X	3/18/2016 2:40 pm
6	V4009728.D	VS031816LD701	100X	3/18/2016 3:54 pm
7	V4009729.D	VS031816B01	1X	3/18/2016 5:09 pm
8	V4009735.D	1603006-01	1X	3/19/2016 12:36 am
9	V4009736.D	1603006-02	1X	3/19/2016 1:50 am
10	V4009737.D	1603006-03	1X	3/19/2016 3:05 am
11	V4009738.D	1603006-04 high surr.	1X	3/19/2016 4:19 am
12	V4009739.D	1603006-05 Rerun	1X	3/19/2016 5:34 am
13	V4009740.D	1603006-05D MR 3/23	1X	3/19/2016 6:48 am
14	V4009741.D	1603006-06	1X	3/19/2016 8:03 am
15	V4009742.D	T403181602		3/19/2016 9:16 am
16	V4009743.D	C403181603		3/19/2016 9:56 am
17	V4009744.D	BLANK		3/19/2016 11:06 am
18	V4009745.D	1603006-07	1X	3/19/2016 12:23 pm
19	V4009746.D	1603006-05D MR 3/23	1X	3/19/2016 1:33 pm
20	V4009747.D	1603006-08	1X	3/19/2016 2:42 pm
21	V4009748.D	1603006-10	1X	3/19/2016 3:52 pm
22	V4009749.D	1603006-11	1X	3/19/2016 5:01 pm
23	V4009750.D	1603006-12	1X	3/19/2016 6:11 pm
24	V4009751.D	1603006-09-RE-D5	5X	3/19/2016 7:20 pm
25	V4009752.D	1603006-09	1X	3/19/2016 8:30 pm
26	V4009753.D	BLANK		3/19/2016 9:39 pm
27	V4009754.D	C403181604		3/19/2016 10:49 pm

BFB: VW021216F Conc.: 50ug/mL, amount: 1uL
IS/SURR : VW021216E Conc.: 250ug/ml, amount: 1uL
PIANO MIX: VW021216A Conc.: 100-500ug/ml
PIANO IND. CHECK:VW021216B Conc.: 100-500ug/ml

MR 3/23/16

Supporting Quality Control Results

Form II
Surrogate Recovery
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**
ETR: **1603006**
Matrix: **Soil**

Case: **N/A** SDG: **N/A**

Client ID	Lab ID	Dibromofluoromethane	Toluene-d8	4-Bromofluorobenzene
LCS	VS031816LCS01	104	99	101
LCSD	VS031816LCSD01	102	99	100
Blank	VS031816B01	103	98	101
RX-1	1603006-01	102	99	100
RX-2	1603006-02	113	107	99
RX-3	1603006-03	115	108	97
RX-4	1603006-04	116	109	105
RX-5	1603006-05	123	114	93
RX-6	1603006-06	102	98	101
RX-7	1603006-07	101	99	103
RX-5	1603006-05 D	124	115	93
RX-7A	1603006-08	99	98	99
RX-8	1603006-10	128	119	91
RX-8A	1603006-11	100	99	100
RX-8B	1603006-12	102	99	98
RX-7B	1603006-09E	101	98	102
RX-7B	1603006-09	116	107	116

N/A - Not Applicable

Surrogate	QC Limit
2-Bromo-1-chloropropane	70-130
1-Chloro-2-fluorobenzene	70-130
1,4-Dichlorobutane	70-130
Dibromofluoromethane	70-130
Toluene-d8	70-130
4-Bromofluorobenzene	70-130

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Form II
Surrogate Recovery
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**
ETR: **1603006**
Matrix: **Soil**

Case: **N/A** SDG: **N/A**

Client ID	Lab ID	2-Bromo-1-chloropropane	1-Chloro-2-fluorobenzene	1,4-Dichlorobutane
LCS	VS031816LCS01	N/A	N/A	N/A
LCSD	VS031816LCSD01	N/A	N/A	N/A
Blank	VS031816B01	96	100	88
RX-1	1603006-01	118	116	104
RX-2	1603006-02	99	98	83
RX-3	1603006-03	119	117	96
RX-4	1603006-04	124	117	92
RX-5	1603006-05	128	112	80
RX-6	1603006-06	135 §	138 §	123
RX-7	1603006-07	118	122	105
RX-5	1603006-05 D	137 §	121	88
RX-7A	1603006-08	113	115	98
RX-8	1603006-10	108	94	60 §
RX-8A	1603006-11	107	111	94
RX-8B	1603006-12	121	123	103
RX-7B	1603006-09E	106	111	97
RX-7B	1603006-09	109	107	83

Surrogate	QC Limit
2-Bromo-1-chloropropane	70-130
1-Chloro-2-fluorobenzene	70-130
1,4-Dichlorobutane	70-130
Dibromofluoromethane	70-130
Toluene-d8	70-130
4-Bromofluorobenzene	70-130

N/A - Not Applicable
§ - Surrogate value outside of acceptable range.

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Form IV
Method Blank Summary
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Case: **N/A** SDG: **N/A**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **VS031816B01**
Date Analyzed: **03/18/16 17:09**

Client ID	Lab ID	Date/Time Analyzed
LCS	VS031816LCS01	03/18/16 13:25
LCSD	VS031816LCSD01	03/18/16 14:40
RX-1	1603006-01	03/19/16 00:36
RX-2	1603006-02	03/19/16 01:50
RX-3	1603006-03	03/19/16 03:05
RX-4	1603006-04	03/19/16 04:19
RX-5	1603006-05	03/19/16 06:48
RX-6	1603006-06	03/19/16 08:03
RX-7	1603006-07	03/19/16 12:23
RX-5	1603006-05 D	03/19/16 13:33
RX-7A	1603006-08	03/19/16 14:42
RX-8	1603006-10	03/19/16 15:52
RX-8A	1603006-11	03/19/16 17:01
RX-8B	1603006-12	03/19/16 18:11
RX-7B	1603006-09E	03/19/16 19:20
RX-7B	1603006-09	03/19/16 20:30

N/A - Not Applicable

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Form V
Tune Summary
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Case: **N/A** SDG: **N/A**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **T403011601**
Date Analyzed: **03/01/16 17:31**

Target Mass	Relative To Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result
50	95	15	40	22.6	13432	Pass
75	95	30	60	48.1	28619	Pass
95	95	100	100	100	59477	Pass
96	95	5	9	6.7	3971	Pass
173	174	0	2	0.6	283	Pass
174	95	50	100	84.1	50008	Pass
175	174	5	9	7.8	3901	Pass
176	174	95	101	96.2	48104	Pass
177	176	5	9	6.5	3112	Pass

Client ID	Lab ID	Date/Time Analyzed
Initial Calibration	I403011601	03/01/16 18:27
Initial Calibration	I403011602	03/01/16 19:41
Initial Calibration	I403011604	03/01/16 22:10
Initial Calibration	I403011605	03/01/16 23:25
Initial Calibration	I403011606	03/02/16 00:39
Initial Calibration	I403011603	03/02/16 12:56

N/A - Not Applicable

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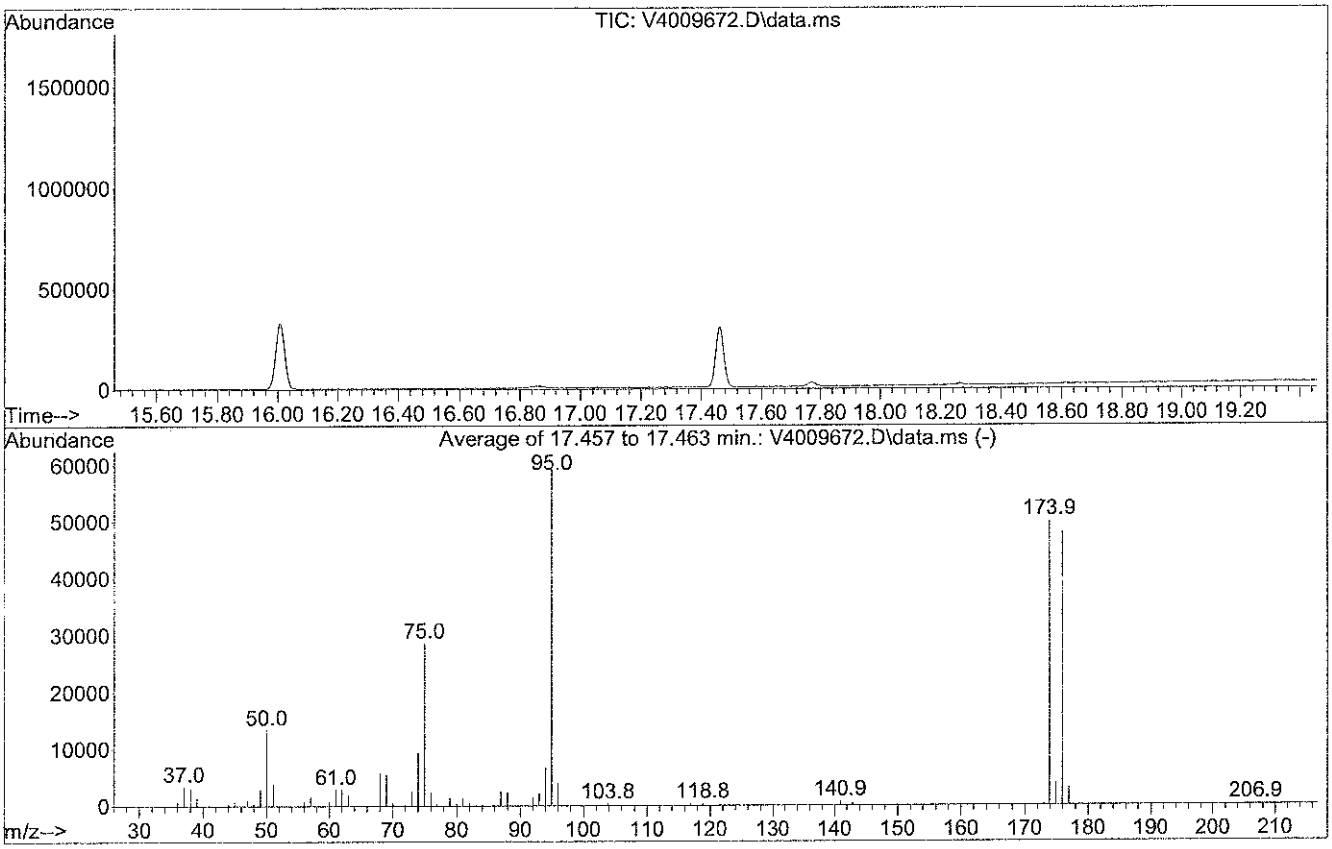
Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009672.D
Acq On : 1 Mar 2016 5:31 pm
Operator : VOA4:MR
Sample : T403011601
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Title : PIANO VOLATILES
Last Update : Mon Mar 07 10:32:20 2016



AutoFind: Scans 5029, 5030, 5031; Background Corrected with Scan 5015

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.6	13432	PASS
75	95	30	60	48.1	28619	PASS
95	95	100	100	100.0	59477	PASS
96	95	5	9	6.7	3971	PASS
173	174	0.00	2	0.6	283	PASS
174	95	50	100	84.1	50008	PASS
175	174	5	9	7.8	3901	PASS
176	174	95	101	96.2	48104	PASS
177	176	5	9	6.5	3112	PASS

MR 3/7/16

AT 3/22/16

Form V
Tune Summary
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Case: **N/A** SDG: **N/A**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **T403181601**
Date Analyzed: **03/18/16 10:10**

Target Mass	Relative To Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result
50	95	15	40	22.3	8928	Pass
75	95	30	60	47.5	18975	Pass
95	95	100	100	100	39975	Pass
96	95	5	9	6.7	2659	Pass
173	174	0	2	0.4	133	Pass
174	95	50	100	83.5	33366	Pass
175	174	5	9	7.9	2635	Pass
176	174	95	101	96.6	32242	Pass
177	176	5	9	6.9	2213	Pass

Client ID	Lab ID	Date/Time Analyzed
CCV	C403181602	03/18/16 12:12
LCS	VS031816LCS01	03/18/16 13:25
LCSD	VS031816LCSD01	03/18/16 14:40
Blank	VS031816B01	03/18/16 17:09
RX-1	1603006-01	03/19/16 00:36
RX-2	1603006-02	03/19/16 01:50
RX-3	1603006-03	03/19/16 03:05
RX-4	1603006-04	03/19/16 04:19
RX-5	1603006-05	03/19/16 06:48
RX-6	1603006-06	03/19/16 08:03

N/A - Not Applicable

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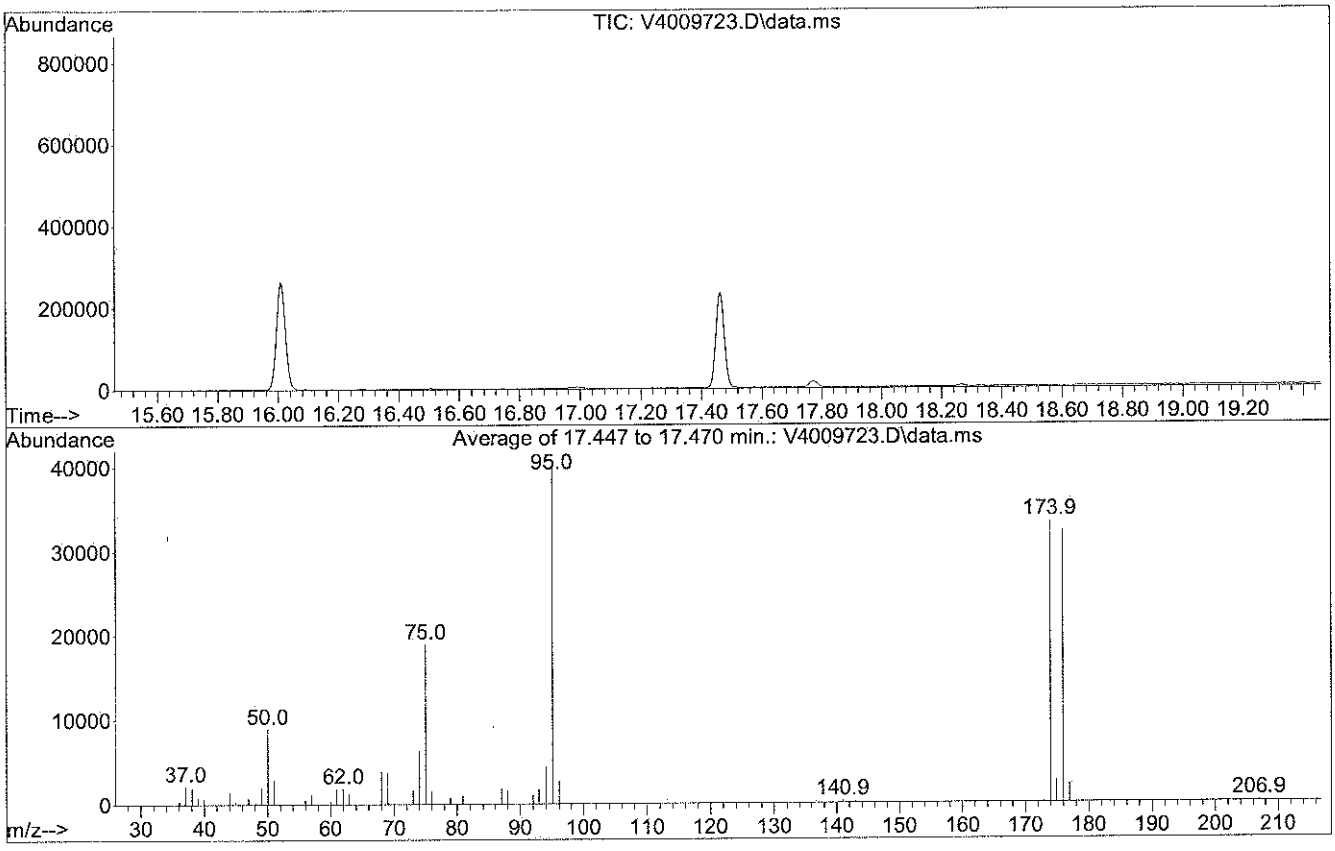
Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009723.D
Acq On : 18 Mar 2016 10:10 am
Operator : VOA4:MR
Sample : T403181601
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Title : PIANO VOLATILES
Last Update : Mon Mar 07 10:32:20 2016



Spectrum Information: Average of 17.447 to 17.470 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.3	8928	PASS
75	95	30	60	47.5	18975	PASS
95	95	100	100	100.0	39975	PASS
96	95	5	9	6.7	2659	PASS
173	174	0.00	2	0.4	133	PASS
174	95	50	100	83.5	33366	PASS
175	174	5	9	7.9	2635	PASS
176	174	95	101	96.6	32242	PASS
177	176	5	9	6.9	2213	PASS

MR 3/18/16

Form V
Tune Summary
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Case: **N/A** SDG: **N/A**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **T403181602**
Date Analyzed: **03/19/16 09:16**

Target Mass	Relative To Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result
50	95	15	40	20.3	8225	Pass
75	95	30	60	46.2	18720	Pass
95	95	100	100	100	40541	Pass
96	95	5	9	7.3	2951	Pass
173	174	0	2	0.6	191	Pass
174	95	50	100	84.6	34283	Pass
175	174	5	9	7.5	2581	Pass
176	174	95	101	95.5	32752	Pass
177	176	5	9	6.5	2137	Pass

Client ID	Lab ID	Date/Time Analyzed
CCV	C403181603	03/19/16 09:56
RX-7	1603006-07	03/19/16 12:23
RX-5	1603006-05 D	03/19/16 13:33
RX-7A	1603006-08	03/19/16 14:42
RX-8	1603006-10	03/19/16 15:52
RX-8A	1603006-11	03/19/16 17:01
RX-8B	1603006-12	03/19/16 18:11
RX-7B	1603006-09E	03/19/16 19:20
RX-7B	1603006-09	03/19/16 20:30
CCV	C403181604	03/19/16 22:49

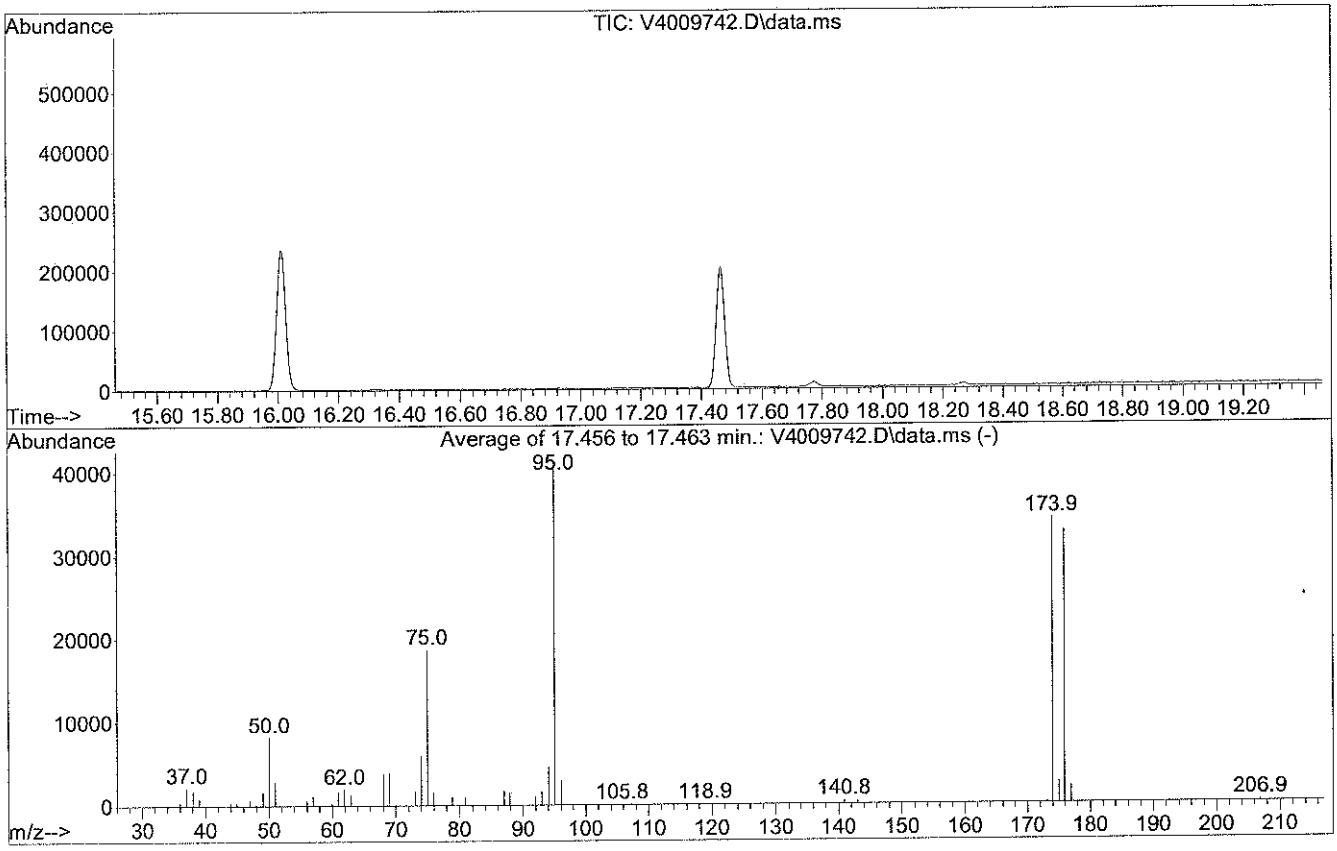
N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009742.D
Acq On : 19 Mar 2016 9:16 am
Operator : VOA4:MR
Sample : T403181602
Misc :
ALS Vial : 21 Sample Multiplier: 1

Integration File: RTEINT.P

Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Title : PIANO VOLATILES
Last Update : Sat Mar 19 12:25:34 2016



Spectrum Information: Average of 17.456 to 17.463 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.3	8225	PASS
75	95	30	60	46.2	18720	PASS
95	95	100	100	100.0	40541	PASS
96	95	5	9	7.3	2951	PASS
173	174	0.00	2	0.6	191	PASS
174	95	50	100	84.6	34283	PASS
175	174	5	9	7.5	2581	PASS
176	174	95	101	95.5	32752	PASS
177	176	5	9	6.5	2137	PASS

pmr 3/29/16

Analysis log File

Total Files Reported in Log : 12
Log Generated From Directory: O:\Organics\DATA\VOA4\2016\160302\

No.	DATA FILE	SAMPLE NAME	MISC	DATE INJ'D
1	V4009672.D	T403011601		3/1/2016 5:31 pm
2	V4009673.D	I403011601	2 PPB ..	3/1/2016 6:27 pm
3	V4009674.D	I403011602	5 PPB ..	3/1/2016 7:41 pm
4	V4009675.D	I403011603 Re-run, Wrong conc. Re-prepared	20 PPB..	3/1/2016 8:56 pm
5	V4009676.D	I403011604	50 PPB..	3/1/2016 10:10 pm
6	V4009677.D	I403011605	100 PP..	3/1/2016 11:25 pm
7	V4009678.D	I403011606	200 PP..	3/2/2016 12:39 am
8	V4009679.D	BLANK		3/2/2016 1:54 am
9	V4009680.D	ICV	20 PPB..	3/2/2016 3:08 am
10	V4009681.D	BLANK		3/2/2016 11:26 am
11	V4009682.D	I403011603	20 PPB..	3/2/2016 12:56 pm
12	V4009683.D	ICV	20 PPB..	3/2/2016 4:27 pm

BFB: VW021216F Conc.: 50ug/mL, amount: 1uL
IS/SURR : VW021216E Conc.: 250ug/ml, amount: 1uL
PIANO MIX: VW021216A Conc.: 100-500ug/ml
PIANO IND. CHECK:VW021216B Conc.: 100-500ug/ml

Printed: 03/07/16 Page: 1

MR 3/7/16

AJ 3/22/16

Form VI
Initial Calibration Summary
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**
ETR: **1603006**

Case: **N/A** SDG: **N/A**

Lab ID	Date/Time Analyzed
I403011601	03/01/16 18:27
I403011602	03/01/16 19:41
I403011604	03/01/16 22:10
I403011605	03/01/16 23:25
I403011606	03/02/16 00:39
I403011603	03/02/16 12:56

	Response Factors							
Parameter	**2**	**5**	**50**	**100**	**200**	**20**	**Mean**	**% RSD**
Isopentane	0.50	0.41	0.38	0.37	0.40	0.39	0.41	11.7
1-Pentene	0.48	0.45	0.48	0.47	0.51	0.47	0.48	3.9
2-Methyl-1-butene	0.77	0.69	0.76	0.73	0.77	0.74	0.74	4.0
Pentane	0.70	0.62	0.66	0.64	0.69	0.66	0.66	4.6
2-Pentene (trans)	0.67	0.65	0.70	0.69	0.74	0.70	0.69	4.4
2-Pentene (cis)	0.71	0.68	0.70	0.69	0.74	0.72	0.71	3.1
Tertiary butanol		0.045	0.055	0.044	0.038	0.059	0.048	18.6
Cyclopentane	0.20	0.20	0.22	0.21	0.23	0.22	0.21	6.3
2,3-Dimethylbutane	0.15	0.15	0.17	0.16	0.18	0.17	0.16	7.0
2-Methylpentane	0.92	0.77	0.84	0.81	0.88	0.83	0.84	6.2
MTBE	0.84	0.82	0.91	0.85	0.90	0.89	0.87	4.0
3-Methylpentane	0.67	0.66	0.70	0.69	0.75	0.70	0.70	4.3
1-Hexene	0.40	0.40	0.44	0.43	0.46	0.43	0.43	5.7
Hexane	0.55	0.57	0.62	0.60	0.65	0.61	0.60	6.1
Diisopropyl Ether (DIPE)	1.15	1.15	1.27	1.20	1.24	1.25	1.21	4.4
Ethyl Tertiary Butyl Ether (ETBE)	1.02	1.03	1.15	1.07	1.10	1.11	1.08	4.6
2,2-Dimethylpentane	0.83	0.81	0.87	0.85	0.93	0.87	0.86	4.9
Methylcyclopentane	0.75	0.75	0.81	0.79	0.85	0.81	0.79	5.1
2,4-Dimethylpentane	0.82	0.75	0.77	0.74	0.80	0.76	0.77	3.8
1,2-Dichloroethane	0.42	0.41	0.45	0.42	0.44	0.44	0.43	3.3
Cyclohexane	0.63	0.64	0.70	0.68	0.74	0.68	0.68	5.7
2-Methylhexane	0.86	0.81	0.86	0.83	0.90	0.84	0.85	3.5
Benzene	1.08	1.07	1.18	1.17	1.23	1.18	1.15	5.5
2,3-Dimethylpentane	0.62	0.61	0.67	0.65	0.70	0.66	0.65	5.2
Thiophene	0.55	0.56	0.62	0.61	0.63	0.62	0.60	5.9
3-Methylhexane	0.79	0.73	0.73	0.72	0.76	0.73	0.74	3.5
TAME	1.16	0.95	0.91	0.89	0.84	0.91	0.94	11.8
1-Heptene/1,2-DMCP (trans)[1]	0.24	0.24	0.26	0.25	0.27	0.26	0.25	5.0
Isooctane	1.58	1.62	1.73	1.70	1.76	1.75	1.69	4.3
Heptane	0.75	0.69	0.70	0.67	0.71	0.70	0.70	3.7
Methylcyclohexane	0.50	0.51	0.56	0.55	0.59	0.54	0.54	6.1
2,5-Dimethylhexane	0.84	0.79	0.85	0.83	0.88	0.84	0.84	3.6

N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form VI
Initial Calibration Summary
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**
ETR: **1603006**

Case: **N/A** SDG: **N/A**

Lab ID	Date/Time Analyzed
I403011601	03/01/16 18:27
I403011602	03/01/16 19:41
I403011604	03/01/16 22:10
I403011605	03/01/16 23:25
I403011606	03/02/16 00:39
I403011603	03/02/16 12:56

	Response Factors							
Parameter	**2**	**5**	**50**	**100**	**200**	**20**	**Mean**	**% RSD**
2,4-Dimethylhexane	0.64	0.62	0.69	0.67	0.70	0.68	0.67	4.7
2,2,3-Trimethylpentane	1.27	1.26	1.35	1.33	1.41	1.35	1.33	4.1
2,3,4-Trimethylpentane	1.06	0.99	1.06	1.02	1.08	1.03	1.04	3.1
2,3,3-Trimethylpentane	0.93	0.86	0.92	0.89	0.93	0.89	0.90	3.0
2,3-Dimethylhexane	0.97	0.91	0.96	0.95	0.99	0.95	0.95	2.9
3-Ethylhexane	1.17	1.10	1.19	1.15	1.20	1.14	1.16	3.3
2-Methylheptane	0.72	0.72	0.79	0.77	0.81	0.77	0.76	5.1
3-Methylheptane	0.85	0.74	0.72	0.71	0.73	0.74	0.75	7.0
Toluene	1.26	1.20	1.35	1.33	1.39	1.35	1.31	5.4
2-Methylthiophene	0.97	0.97	1.08	1.07	1.10	1.07	1.04	5.8
3-Methylthiophene	0.99	0.99	1.10	1.08	1.11	1.09	1.06	4.9
1-Octene	0.38	0.39	0.41	0.40	0.42	0.39	0.40	3.8
Octane	0.90	0.86	0.91	0.88	0.91	0.88	0.89	2.5
1,2-Dibromoethane	0.23	0.25	0.29	0.29	0.29	0.29	0.27	9.3
Ethylbenzene	1.41	1.42	1.58	1.56	1.58	1.57	1.52	5.4
2-Ethylthiophene	1.03	1.03	1.16	1.14	1.14	1.16	1.11	5.8
p/m-Xylene	1.10	1.09	1.22	1.19	1.22	1.21	1.17	5.2
1-Nonene	0.40	0.41	0.47	0.45	0.47	0.45	0.44	7.2
Nonane	0.87	0.85	0.88	0.81	0.83	0.88	0.85	3.2
Styrene	0.87	0.88	1.00	0.96	0.97	1.00	0.95	6.0
o-Xylene	1.12	1.12	1.24	1.19	1.21	1.23	1.18	4.4
Isopropylbenzene	1.46	1.40	1.58	1.53	1.55	1.56	1.51	4.7
n-Propylbenzene	1.69	1.70	1.91	1.83	1.90	1.89	1.82	5.4
1-Methyl-3-ethylbenzene	1.43	1.41	1.58	1.51	1.57	1.59	1.52	5.2
1-Methyl-4-ethylbenzene	1.39	1.39	1.55	1.48	1.52	1.54	1.48	4.8
1,3,5-Trimethylbenzene	1.21	1.19	1.34	1.27	1.33	1.34	1.28	5.3
1-Decene	0.44	0.41	0.45	0.42	0.43	0.43	0.43	3.0
1-Methyl-2-ethylbenzene	1.40	1.44	1.55	1.47	1.52	1.58	1.49	4.6
Decane	1.02	0.87	0.84	0.76	0.76	0.84	0.85	11.2
1,2,4-Trimethylbenzene	1.21	1.25	1.34	1.27	1.34	1.35	1.29	4.3
sec-Butylbenzene	1.61	1.63	1.77	1.66	1.75	1.77	1.70	4.4
1-Methyl-3-isopropylbenzene	1.34	1.36	1.49	1.41	1.50	1.51	1.43	5.4

N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form VI
Initial Calibration Summary
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**
ETR: **1603006**

Case: **N/A** SDG: **N/A**

Lab ID	Date/Time Analyzed
I403011601	03/01/16 18:27
I403011602	03/01/16 19:41
I403011604	03/01/16 22:10
I403011605	03/01/16 23:25
I403011606	03/02/16 00:39
I403011603	03/02/16 12:56

	Response Factors							
Parameter	**2**	**5**	**50**	**100**	**200**	**20**	**Mean**	**% RSD**
1-Methyl-4-isopropylbenzene	1.37	1.39	1.55	1.44	1.54	1.55	1.47	5.6
1-Methyl-2-isopropylbenzene	1.41	1.42	1.51	1.43	1.53	1.55	1.47	4.3
Indan	1.24	1.25	1.34	1.26	1.33	1.40	1.30	4.8
1-Methyl-3-propylbenzene	1.60	1.61	1.72	1.60	1.73	1.76	1.67	4.5
1-Methyl-4-propylbenzene	1.87	1.87	1.99	1.85	2.01	2.04	1.94	4.3
n-Butylbenzene	1.49	1.47	1.58	1.45	1.58	1.60	1.53	4.2
1,2-Dimethyl-4-ethylbenzene	1.42	1.41	1.52	1.41	1.56	1.54	1.48	4.7
1,2-Diethylbenzene	0.73	0.72	0.76	0.70	0.76	0.78	0.74	3.8
1-Methyl-2-propylbenzene	1.65	1.71	1.81	1.67	1.84	1.85	1.76	5.0
1,4-Dimethyl-2-ethylbenzene	1.32	1.36	1.46	1.35	1.49	1.49	1.41	5.4
Undecane	0.91	0.90	0.89	0.74	0.77	0.93	0.86	9.5
1,3-Dimethyl-4-ethylbenzene	1.61	1.64	1.73	1.61	1.77	1.79	1.69	4.7
1,3-Dimethyl-5-ethylbenzene	1.48	1.50	1.58	1.46	1.63	1.62	1.55	4.7
1,3-Dimethyl-2-ethylbenzene	1.62	1.65	1.74	1.60	1.78	1.79	1.70	5.0
1,2-Dimethyl-3-ethylbenzene	1.45	1.48	1.58	1.46	1.62	1.61	1.53	5.1
1,2,4,5-Tetramethylbenzene	1.52	1.57	1.66	1.53	1.73	1.69	1.62	5.5
Pentylbenzene	1.21	1.25	1.31	1.19	1.35	1.33	1.27	5.2
Dodecane	0.71	0.70	0.61	0.43		0.66	0.62	18.5
Naphthalene	1.30	1.34	1.44	1.26	1.39	1.53	1.38	7.1
Benzothiophene	0.71	0.73	0.80	0.70	0.76	0.88	0.76	9.0
MMT	0.44	0.48	0.54	0.42	0.49	0.56	0.49	11.5
Tridecane	0.69	0.68	0.45	0.30		0.53	0.53	31.2[a]
2-Methylnaphthalene	0.57	0.67	0.78	0.67	0.79	0.74	0.70	12.0
1-Methylnaphthalene	0.47	0.55	0.66	0.56	0.66	0.65	0.59	13.3
2-Bromo-1-chloropropane	0.34	0.36	0.39	0.38	0.37	0.38	0.37	5.2
1-Chloro-2-fluorobenzene	0.74	0.76	0.85	0.83	0.83	0.85	0.81	5.8
1,4-Dichlorobutane	0.76	0.62	0.77	0.76	0.80	0.76	0.75	8.7
Dibromofluoromethane	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.8
Toluene-d8	1.25	1.24	1.26	1.26	1.31	1.23	1.26	2.2
4-Bromofluorobenzene	0.50	0.50	0.49	0.48	0.47	0.50	0.49	2.6
Average RSD								5.9

[a] - Value outside of QC advisory limits.
N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Response Factor Report voa#4

Method Path : O:\Organics\DATA\VOA4\2016\160302\
Method File : P4030216.M
Title : PIANO VOLATILES
Last Update : Sat Mar 19 12:25:34 2016
Response Via : Initial Calibration

Calibration Files
2 =V4009673.D 5 =V4009674.D 50 =V4009676.D 100 =V4009677.D 200 =V4009678.D 20 =

		Compound	2	5	50	100	200	20	Avg	%RSD
1)	I	Chlorobenzene-D5 [IS]	ISTD							
3)		Isopentane	0.499	0.409	0.376	0.373	0.399	0.385	0.407	11.67
4)		1-Pentene	0.484	0.449	0.477	0.469	0.507	0.475	0.477	3.94
5)		2-Methyl-1-butene	0.769	0.694	0.755	0.727	0.775	0.736	0.743	4.05
6)		Pentane	0.704	0.622	0.663	0.640	0.690	0.658	0.663	4.57
7)		2-Pentene (trans)	0.669	0.646	0.699	0.686	0.736	0.697	0.689	4.41
9)		2-Pentene (cis)	0.710	0.678	0.704	0.688	0.739	0.721	0.707	3.11
10)		Tertiary butanol		0.045	0.055	0.044	0.038	0.059	0.048#	18.56
13)		Cyclopentane	0.196	0.203	0.221	0.214	0.233	0.220	0.214	6.34
14)		2,3-Dimethylbu...	0.149	0.148	0.167	0.162	0.177	0.165	0.161	6.96
15)		2-Methylpentane	0.918	0.769	0.835	0.811	0.879	0.830	0.841	6.21
16)		MTBE	0.840	0.821	0.905	0.851	0.897	0.889	0.867	4.00
17)		3-Methylpentane	0.672	0.660	0.704	0.693	0.745	0.697	0.695	4.27
18)		1-Hexene	0.400	0.398	0.440	0.432	0.461	0.434	0.427	5.69
19)		Hexane	0.546	0.571	0.615	0.601	0.651	0.608	0.599	6.07
20)		Diisopropyl ether	1.147	1.154	1.274	1.203	1.242	1.252	1.212	4.38
24)	S	Dibromofluorom...	0.292	0.292	0.293	0.286	0.290	0.291	0.291	0.84
25)		Ethyl tertiary...	1.024	1.026	1.147	1.066	1.100	1.110	1.079	4.55
26)		2,2-Dimethylpe...	0.834	0.809	0.867	0.852	0.934	0.871	0.861	4.92
27)		Methylcyclopen...	0.749	0.746	0.809	0.787	0.851	0.812	0.792	5.07
28)		2,4-Dimethylpe...	0.820	0.751	0.766	0.742	0.797	0.763	0.773	3.82
30)		1,2-Dichloroet...	0.415	0.415	0.446	0.423	0.441	0.441	0.430	3.31
32)		Cyclohexane	0.632	0.642	0.698	0.685	0.740	0.678	0.679	5.74
33)		2-Methyhexane	0.857	0.811	0.855	0.832	0.901	0.841	0.850	3.54
34)	M	Benzene	1.078	1.073	1.181	1.167	1.231	1.181	1.152	5.47
35)		2,3-Dimethylpe...	0.620	0.613	0.674	0.645	0.703	0.662	0.653	5.18
36)		Thiophene	0.550	0.556	0.622	0.609	0.629	0.620	0.598	5.89
38)		3-Methylhexane	0.785	0.730	0.729	0.716	0.765	0.732	0.743	3.53
39)		TAME	1.160	0.946	0.912	0.886	0.843	0.913	0.943	11.82
43)		1-Heptene/1,2-...	0.235	0.238	0.258	0.250	0.266	0.261	0.251	5.05
44)		Isooctane	1.584	1.620	1.727	1.699	1.764	1.747	1.690	4.28
46)		Heptane	0.746	0.686	0.701	0.671	0.713	0.696	0.702	3.69
51)		Methycyclohexane	0.497	0.509	0.556	0.546	0.588	0.540	0.539	6.07
52)		2,5-Dimethylhe...	0.840	0.791	0.854	0.833	0.883	0.839	0.840	3.58
53)		2,4-Dimethyhexane	0.638	0.622	0.688	0.671	0.705	0.675	0.666	4.68
55)		2,2,3-Trimethy...	1.272	1.262	1.354	1.333	1.408	1.351	1.330	4.14
57)		2,3,4-Trimethy...	1.057	0.992	1.060	1.025	1.084	1.029	1.041	3.11
58)		2,3,3-Trimethy...	0.928	0.864	0.923	0.889	0.934	0.892	0.905	3.04
59)		2,3-Dimethylhe...	0.971	0.907	0.965	0.946	0.988	0.950	0.954	2.89
60)		2-Methylheptane	0.719	0.717	0.795	0.770	0.811	0.766	0.763	5.06
62)	S	Toluene-d8 (surr)	1.250	1.245	1.262	1.264	1.309	1.228	1.260	2.16
63)		3-Methylheptane	0.852	0.736	0.717	0.710	0.734	0.743	0.749	6.97
64)	S	2-Bromo-1-chlo...	0.337	0.362	0.388	0.385	0.373	0.380	0.371	5.16
65)		3-Ethylhexane	1.167	1.096	1.193	1.148	1.198	1.137	1.157	3.29
66)	M	Toluene	1.261	1.197	1.348	1.335	1.393	1.346	1.313	5.42
67)		2-Methylthiophene	0.965	0.966	1.081	1.070	1.102	1.067	1.042	5.81
69)		3-Methylthiophene	0.995	0.990	1.096	1.079	1.107	1.086	1.059	4.94
70)		1-Octene	0.379	0.387	0.413	0.402	0.418	0.393	0.399	3.84
71)		Octane	0.897	0.856	0.915	0.880	0.914	0.883	0.891	2.53
73)		1,2-Dibromoethane	0.234	0.251	0.290	0.291	0.294	0.286	0.274	9.25
86)		Ethylbenzene	1.405	1.423	1.581	1.556	1.582	1.566	1.519	5.39
87)	S	1-Chloro-2-flu...	0.743	0.760	0.851	0.829	0.834	0.850	0.811	5.83
88)		2-Ethylthiophene	1.028	1.026	1.160	1.142	1.139	1.156	1.108	5.75
91)		p/m-Xylene	1.097	1.092	1.223	1.191	1.218	1.212	1.172	5.20

MB 3/30/16 AT 3/22/16

92)		1-Nonene	0.396	0.408	0.472	0.454	0.466	0.453	0.441	7.18
95)		Nonane	0.865	0.852	0.883	0.810	0.834	0.876	0.853	3.21
96)		Styrene	0.873	0.883	0.998	0.964	0.974	1.004	0.949	6.01
97)	S	1,4-Dichlorobu...	0.763	0.618	0.771	0.764	0.804	0.758	0.746	8.73
98)		o-Xylene	1.117	1.124	1.235	1.192	1.208	1.232	1.185	4.41
101)	S	4-Bromofluorob...	0.499	0.499	0.494	0.477	0.471	0.500	0.490	2.60
102)		Isopropylbenzene	1.457	1.397	1.582	1.525	1.549	1.564	1.512	4.72
104)		n-Propylbenzene	1.693	1.702	1.909	1.833	1.901	1.886	1.821	5.44
107)		1-Methyl-3-eth...	1.427	1.413	1.583	1.514	1.565	1.589	1.515	5.16
108)		1-Methyl-4-eth...	1.394	1.389	1.548	1.479	1.520	1.538	1.478	4.82
109)		1,3,5-Trimethy...	1.209	1.190	1.338	1.270	1.328	1.342	1.280	5.28
110)		1-Decene	0.436	0.409	0.445	0.418	0.426	0.433	0.428	3.02
112)		1-Methyl-2-eth...	1.404	1.435	1.549	1.466	1.516	1.582	1.492	4.60
113)		Decane	1.020	0.872	0.836	0.763	0.760	0.841	0.849	11.24
115)		1,2,4-Trimethy...	1.214	1.252	1.339	1.272	1.337	1.351	1.294	4.34
117)		sec-Butylbenzene	1.610	1.626	1.768	1.656	1.748	1.772	1.697	4.38
118)		1-Methyl-3-iso...	1.338	1.356	1.491	1.406	1.502	1.511	1.434	5.41
119)		1-Methyl-4-iso...	1.375	1.394	1.545	1.437	1.542	1.552	1.474	5.56
121)		1-Methyl-2-iso...	1.408	1.418	1.514	1.429	1.530	1.548	1.475	4.28
122)		Indan	1.238	1.251	1.343	1.261	1.326	1.396	1.302	4.78
124)		1-Methyl-3-pro...	1.603	1.605	1.725	1.596	1.731	1.759	1.670	4.54
126)		1-Methyl-4-pro...	1.870	1.867	1.991	1.850	2.007	2.038	1.937	4.31
127)		n-Butylbenzene	1.493	1.470	1.580	1.452	1.578	1.601	1.529	4.22
128)		1,2-Dimethyl-4...	1.423	1.410	1.523	1.409	1.556	1.538	1.476	4.71
129)		1,2-Diethylben...	0.727	0.721	0.757	0.703	0.759	0.777	0.741	3.77
130)		1-Methyl-2-pro...	1.650	1.711	1.810	1.674	1.840	1.846	1.755	4.96
131)		1,4-Dimethyl-2...	1.320	1.358	1.459	1.351	1.488	1.490	1.411	5.40
132)		Undecane	0.910	0.904	0.892	0.735	0.773	0.928	0.857	9.49
133)		1,3-Dimethyl-4...	1.614	1.643	1.732	1.614	1.773	1.789	1.694	4.73
134)		1,3-Dimethyl-5...	1.477	1.501	1.583	1.463	1.626	1.620	1.545	4.74
135)		1,3-Dimethyl-2...	1.617	1.653	1.742	1.599	1.780	1.792	1.697	5.01
136)		1,2-Dimethyl-3...	1.453	1.479	1.578	1.462	1.621	1.611	1.534	5.06
137)		1,2,4,5-Tetram...	1.520	1.575	1.664	1.534	1.734	1.692	1.620	5.49
139)		Pentylbenzene	1.215	1.251	1.309	1.185	1.353	1.326	1.273	5.22
142)		Dodecane	0.713	0.695	0.605	0.428		0.656	0.620	18.51
144)		Naphthalene	1.300	1.339	1.441	1.265	1.392	1.530	1.378	7.08
145)		Benzothiophene	0.708	0.731	0.802	0.700	0.756	0.880	0.763	8.95
148)		MMT	0.439	0.482	0.537	0.416	0.488	0.563	0.487	11.47
149)		Tridecane	0.691	0.681	0.448	0.298		0.528	0.529	31.22
150)		2-Methylnaphth...	0.569	0.666	0.778	0.667	0.792	0.739	0.702	11.99
151)		1-Methylnaphth...	0.473	0.548	0.663	0.556	0.661	0.653	0.592	13.27

(#) = Out of Range

P4030216.M Mon Mar 21 10:43:28 2016

Compound List Report voa#4

Method Path : O:\Organics\DATA\VOA4\2016\160302\
Method File : P4030216.M
Title : PIANO VOLATILES
Last Update : Sat Mar 19 12:25:34 2016
Response Via : Initial Calibration

Total Cpnds : 153

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Chlorobenzene-D5 [IS]	117	38.52	1.000	A	0	A	L
3		Isopentane	43	8.17	0.212	A	3	A	B
4		1-Pentene	42	8.82	0.229	A	2	A	B
5		2-Methyl-1-butene	55	9.12	0.237	A	2	A	B
6		Pentane	43	9.18	0.238	A	2	A	B
7		2-Pentene (trans)	55	9.63	0.250	A	2	A	B
9		2-Pentene (cis)	55	10.00	0.260	A	2	A	B
10		Tertiary butanol	59	10.58	0.275	A	2	A	B
13		Cyclopentane	70	12.80	0.332	A	2	A	B
14		2,3-Dimethylbutane	71	12.80	0.332	A	1	A	B
15		2-Methylpentane	43	13.02	0.338	A	2	A	B
16		MTBE	73	13.29	0.345	A	2	A	B
17		3-Methylpentane	57	13.98	0.363	A	3	A	B
18		1-Hexene	56	14.56	0.378	A	3	A	B
19		Hexane	57	15.16	0.394	A	2	A	B
20		Diisopropyl ether	45	15.44	0.401	A	2	A	B
24	S	Dibromofluoromethane (surr)	113	16.83	0.437	A	0	A	B
25		Ethyl tertiary butyl ether	59	16.89	0.438	A	2	A	B
26		2,2-Dimethylpentane	57	17.18	0.446	A	2	A	B
27		Methylcyclopentane	56	17.46	0.453	A	3	A	B
28		2,4-Dimethylpentane	43	17.61	0.457	A	2	A	B
30		1,2-Dichloroethane	62	18.84	0.489	A	1	A	B
32		Cyclohexane	56	20.33	0.528	A	2	A	B
33		2-Methyhexane	43	20.78	0.539	A	2	A	B
34	M	Benzene	78	20.90	0.543	A	1	A	B
35		2,3-Dimethylpentane	56	21.06	0.547	A	2	A	B
36		Thiophene	84	21.34	0.554	A	2	A	B
38		3-Methylhexane	43	21.58	0.560	A	2	A	B
39		TAME	73	21.91	0.569	A	2	A	B
43		1-Heptene/1,2-DMCP (trans)	70	22.89	0.594	A	1	A	B
44		Isooctane	57	22.99	0.597	A	2	A	B
46		Heptane	43	23.74	0.616	A	2	A	B
51		Methycyclohexane	83	26.13	0.678	A	2	A	B
52		2,5-Dimethylhexane	57	26.81	0.696	A	2	A	B
53		2,4-Dimethyhexane	57	27.06	0.703	A	1	A	B
55		2,2,3-Trimethylpentane	57	27.32	0.709	A	2	A	B
57		2,3,4-Trimethylpentane	43	28.84	0.749	A	2	A	B
58		2,3,3-Trimethylpentane	43	29.41	0.764	A	3	A	B
59		2,3-Dimethylhexane	43	29.68	0.771	A	2	A	B
60		2-Methylheptane	57	30.11	0.782	A	2	A	B
62	S	Toluene-d8 (surr)	98	30.75	0.798	A	0	A	B
63		3-Methylheptane	43	30.85	0.801	A	2	A	B
64	S	2-Bromo-1-chloropropane (H/...	77	30.96	0.804	A	1	A	B
65		3-Ethylhexane	43	30.98	0.804	A	1	A	B
66	M	Toluene	91	31.10	0.808	A	1	A	B
67		2-Methylthiophene	97	31.27	0.812	A	1	A	B
69		3-Methylthiophene	97	32.03	0.832	A	1	A	B
70		1-Octene	55	32.52	0.844	A	2	A	B
71		Octane	43	33.36	0.866	A	3	A	B
73		1,2-Dibromoethane	107	33.77	0.877	A	1	A	B
86		Ethylbenzene	91	40.15	1.042	A	1	A	B
87	S	1-Chloro-2-fluorobenzene (H...	130	40.14	1.042	A	2	A	B
88		2-Ethylthiophene	97	40.29	1.046	A	1	A	B
91		p/m-Xylene	91	41.41	1.075	A	1	A	B
92		1-Nonene	56	42.11	1.093	A	2	A	B
95		Nonane	43	42.90	1.114	A	3	A	B

MR 3/21/16

96		Styrene	104	43.24	1.123	A	2	A	B
97	S	1,4-Dichlorobutane (H/surr)	55	43.36	1.126	A	1	A	B
98		o-Xylene	91	43.66	1.133	A	1	A	B
101	S	4-Bromofluorobenzene (surr)	95	45.94	1.193	A	2	A	B
102		Isopropylbenzene	105	46.00	1.194	A	1	A	B
104		n-Propylbenzene	91	48.57	1.261	A	1	A	B
107		1-Methyl-3-ethylbenzene	105	49.20	1.277	A	1	A	B
108		1-Methyl-4-ethylbenzene	105	49.37	1.282	A	1	A	B
109		1,3,5-Trimethylbenzene	105	49.95	1.297	A	1	A	B
110		1-Decene	41	50.13	1.302	A	2	A	B
112		1-Methyl-2-ethylbenzene	105	50.29	1.306	A	1	A	B
113		Decane	43	50.51	1.311	A	2	A	B
115		1,2,4-Trimethylbenzene	105	51.16	1.328	A	1	A	B
117		sec-Butylbenzene	105	51.42	1.335	A	1	A	B
118		1-Methyl-3-isopropylbenzene	119	51.81	1.345	A	2	A	B
119		1-Methyl-4-isopropylbenzene	119	52.01	1.350	A	2	A	B
121		1-Methyl-2-isopropylbenzene	119	52.49	1.363	A	2	A	B
122		Indan	117	52.58	1.365	A	2	A	B
124		1-Methyl-3-propylbenzene	105	52.86	1.372	A	2	A	B
126		1-Methyl-4-propylbenzene	105	53.00	1.376	A	2	A	B
127		n-Butylbenzene	91	53.00	1.376	A	2	A	B
128		1,2-Dimethyl-4-ethylbenzene	119	53.13	1.379	A	2	A	B
129		1,2-Diethylbenzene	119	53.22	1.382	A	2	A	B
130		1-Methyl-2-propylbenzene	105	53.41	1.387	A	1	A	B
131		1,4-Dimethyl-2-ethylbenzene	119	53.72	1.395	A	2	A	B
132		Undecane	57	53.79	1.396	A	3	A	B
133		1,3-Dimethyl-4-ethylbenzene	119	53.81	1.397	A	2	A	B
134		1,3-Dimethyl-5-ethylbenzene	119	53.94	1.400	A	1	A	B
135		1,3-Dimethyl-2-ethylbenzene	119	54.17	1.406	A	2	A	B
136		1,2-Dimethyl-3-ethylbenzene	119	54.53	1.416	A	2	A	B
137		1,2,4,5-Tetramethylbenzene	119	54.93	1.426	A	2	A	B
139		Pentylbenzene	91	55.51	1.441	A	3	A	B
142		Dodecane	43	56.01	1.454	A	3	A	B
144		Naphthalene	128	56.83	1.475	A	1	A	B
145		Benzothiophene	134	56.92	1.478	A	1	A	B
148		MMT	134	58.00	1.506	A	1	A	B
149		Tridecane	57	58.09	1.508	A	3	A	B
150		2-Methylnaphthalene	142	59.56	1.546	A	1	A	B
151		1-Methylnaphthalene	142	60.03	1.559	A	1	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

P4030216.M Mon Mar 21 10:43:41 2016

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009673.D
Acq On : 1 Mar 2016 6:27 pm
Operator : VOA4:MR
Sample : I403011601
Misc : 2 PPB PIANO
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 19 12:21:05 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:29 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Chlorobenzene-D5 [IS]	38.51	117	603582	50.000 ug/L	-0.01
System Monitoring Compounds					
24) Dibromofluoromethane (sur	16.82	113	176046	49.765 ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 99.53%		
62) Toluene-d8 (surr)	30.73	98	754764	49.554 ug/L	-0.02
Spiked Amount 50.000	Range 87 - 113		Recovery = 99.11%		
64) 2-Bromo-1-chloropropane (	30.96	77	8127	1.734 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 3.47%#		
87) 1-Chloro-2-fluorobenzene	40.15	130	17946M1	1.748 ug/L	0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 3.50%#		
97) 1,4-Dichlorobutane (H/sur	43.37	55	18425M4	1.130 ug/L	0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 2.26%#		
101) 4-Bromofluorobenzene (sur	45.92	95	301252	50.516 ug/L	-0.01
Spiked Amount 50.000	Range 76 - 120		Recovery = 101.03%		
Target Compounds					Qvalue
3) Isopentane	8.16	43	12059	2.660 ug/L	94
4) 1-Pentene	8.82	42	11690	2.032 ug/L	91
5) 2-Methyl-1-butene	9.12	55	18559	2.035 ug/L	92
6) Pentane	9.18	43	16991M4	2.124 ug/L	
7) 2-Pentene (trans)	9.63	55	16150	1.914 ug/L	97
9) 2-Pentene (cis)	10.00	55	17141	2.016 ug/L	98
13) Cyclopentane	12.80	70	4726	1.770 ug/L	78
14) 2,3-Dimethylbutane	12.80	71	3590	1.780 ug/L	59
15) 2-Methylpentane	13.00	43	22175	2.199 ug/L	89
16) MTBE	13.29	73	20273	1.855 ug/L	96
17) 3-Methylpentane	13.97	57	16216	1.907 ug/L #	98
18) 1-Hexene	14.56	56	9648	1.817 ug/L	94
19) Hexane	15.16	57	13193	1.777 ug/L	93
20) Diisopropyl ether	15.44	45	27689	1.801 ug/L	90
25) Ethyl tertiary butyl ethe	16.89	59	24714	1.785 ug/L	98
26) 2,2-Dimethylpentane	17.17	57	20137	1.924 ug/L	94
27) Methylcyclopentane	17.45	56	18091	1.853 ug/L #	94
28) 2,4-Dimethylpentane	17.61	43	19797	2.141 ug/L	91
30) 1,2-Dichloroethane	18.86	62	10022	1.860 ug/L	97
32) Cyclohexane	20.32	56	15263	1.812 ug/L	94
33) 2-Methyhexane	20.76	43	20692	2.005 ug/L	86

 AJ 3/22/16 MR 3/21/16

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009673.D
Acq On : 1 Mar 2016 6:27 pm
Operator : VOA4:MR
Sample : I403011601
Misc : 2 PPB PIANO
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 19 12:21:05 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:29 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
34) Benzene	20.89	78	26021	1.825 ug/L	92
35) 2,3-Dimethylpentane	21.06	56	14963	1.840 ug/L #	96
36) Thiophene	21.35	84	13270M1	1.768 ug/L	
38) 3-Methylhexane	21.56	43	18952	2.154 ug/L	98
39) TAME	21.90	73	28007	2.544 ug/L	95
43) 1-Heptene/1,2-DMCP (trans	22.88	70	11356M1	3.645 ug/L	
44) Isooctane	22.99	57	38251	1.834 ug/L	90
46) Heptane	23.74	43	18017M1	2.129 ug/L	
51) Methycyclohexane	26.12	83	12009	1.789 ug/L	96
52) 2,5-Dimethylhexane	26.79	57	20287	1.968 ug/L	84
53) 2,4-Dimethyhexane	27.05	57	15394	1.855 ug/L	88
55) 2,2,3-Trimethylpentane	27.31	57	30700	1.878 ug/L	100
57) 2,3,4-Trimethylpentane	28.82	43	25518	1.993 ug/L	84
58) 2,3,3-Trimethylpentane	29.39	43	22395	2.011 ug/L	91
59) 2,3-Dimethylhexane	29.67	43	23440	2.013 ug/L	98
60) 2-Methylheptane	30.10	57	17359	1.809 ug/L	98
63) 3-Methylheptane	30.84	43	20575M4	2.378 ug/L	
65) 3-Ethylhexane	30.96	43	28187	1.957 ug/L	98
66) Toluene	31.09	91	30447	1.872 ug/L	95
67) 2-Methylthiophene	31.27	97	23310	1.786 ug/L	95
69) 3-Methylthiophene	32.02	97	24015	1.815 ug/L	97
70) 1-Octene	32.50	55	9155M1	1.834 ug/L	
71) Octane	33.35	43	21646	1.960 ug/L	90
73) 1,2-Dibromoethane	33.76	107	5643M1	1.613 ug/L	
86) Ethylbenzene	40.15	91	33930	1.778 ug/L	99
88) 2-Ethylthiophene	40.29	97	24813	1.772 ug/L	97
91) p/m-Xylene	41.41	91	52994M1	3.589 ug/L	
92) 1-Nonene	42.10	56	9559	1.678 ug/L	97
95) Nonane	42.90	43	20887M6	1.959 ug/L	
96) Styrene	43.24	104	21087	1.751 ug/L	98
98) o-Xylene	43.65	91	26962	1.808 ug/L	95
102) Isopropylbenzene	46.00	105	35177	1.842 ug/L	97
104) n-Propylbenzene	48.58	91	40878	1.774 ug/L	93
107) 1-Methyl-3-ethylbenzene	49.20	105	34464	1.803 ug/L	99
108) 1-Methyl-4-ethylbenzene	49.37	105	33648	1.801 ug/L	98
109) 1,3,5-Trimethylbenzene	49.95	105	29199	1.808 ug/L	98
110) 1-Decene	50.13	41	10528	1.959 ug/L	94
112) 1-Methyl-2-ethylbenzene	50.29	105	33889	1.813 ug/L	98
113) Decane	50.52	43	24632M4	2.440 ug/L	
115) 1,2,4-Trimethylbenzene	51.16	105	29300	1.813 ug/L	98
117) sec-Butylbenzene	51.42	105	38862	1.821 ug/L	98

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009673.D
Acq On : 1 Mar 2016 6:27 pm
Operator : VOA4:MR
Sample : I403011601
Misc : 2 PPB PIANO
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 19 12:21:05 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:29 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
118)	1-Methyl-3-isopropylbenze	51.81	119	32300	1.794	ug/L	96
119)	1-Methyl-4-isopropylbenze	52.01	119	33188	1.779	ug/L	98
121)	1-Methyl-2-isopropylbenze	52.48	119	33987	1.859	ug/L	98
122)	Indan	52.57	117	29881	1.844	ug/L	97
124)	1-Methyl-3-propylbenzene	52.86	105	38706	1.859	ug/L	98
126)	1-Methyl-4-propylbenzene	53.00	105	45136	1.878	ug/L	98
127)	n-Butylbenzene	53.00	91	36048	1.891	ug/L	98
128)	1,2-Dimethyl-4-ethylbenze	53.12	119	34344	1.868	ug/L	100
129)	1,2-Diethylbenzene	53.22	119	17549	1.921	ug/L	95
130)	1-Methyl-2-propylbenzene	53.41	105	39846	1.824	ug/L	96
131)	1,4-Dimethyl-2-ethylbenze	53.72	119	31880	1.810	ug/L	96
132)	Undecane	53.79	57	21979M4	2.041	ug/L	
133)	1,3-Dimethyl-4-ethylbenze	53.81	119	38965	1.864	ug/L	98
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	35654	1.866	ug/L	99
135)	1,3-Dimethyl-2-ethylbenze	54.17	119	39028	1.856	ug/L	96
136)	1,2-Dimethyl-3-ethylbenze	54.53	119	35079	1.842	ug/L	97
137)	1,2,4,5-Tetramethylbenzen	54.93	119	36708	1.828	ug/L	99
139)	Pentylbenzene	55.51	91	29324	1.856	ug/L	96
142)	Dodecane	56.01	43	17223	2.358	ug/L	88
144)	Naphthalene	56.83	128	31381	1.805	ug/L	97
145)	Benzothiophene	56.92	134	17092	1.765	ug/L	99
148)	MMT	58.00	134	10600	1.637	ug/L	99
149)	Tridecane	58.09	57	16685	3.088	ug/L	87
150)	2-Methylnaphthalene	59.56	142	13740	1.463	ug/L	96
151)	1-Methylnaphthalene	60.03	142	11427	1.428	ug/L	94

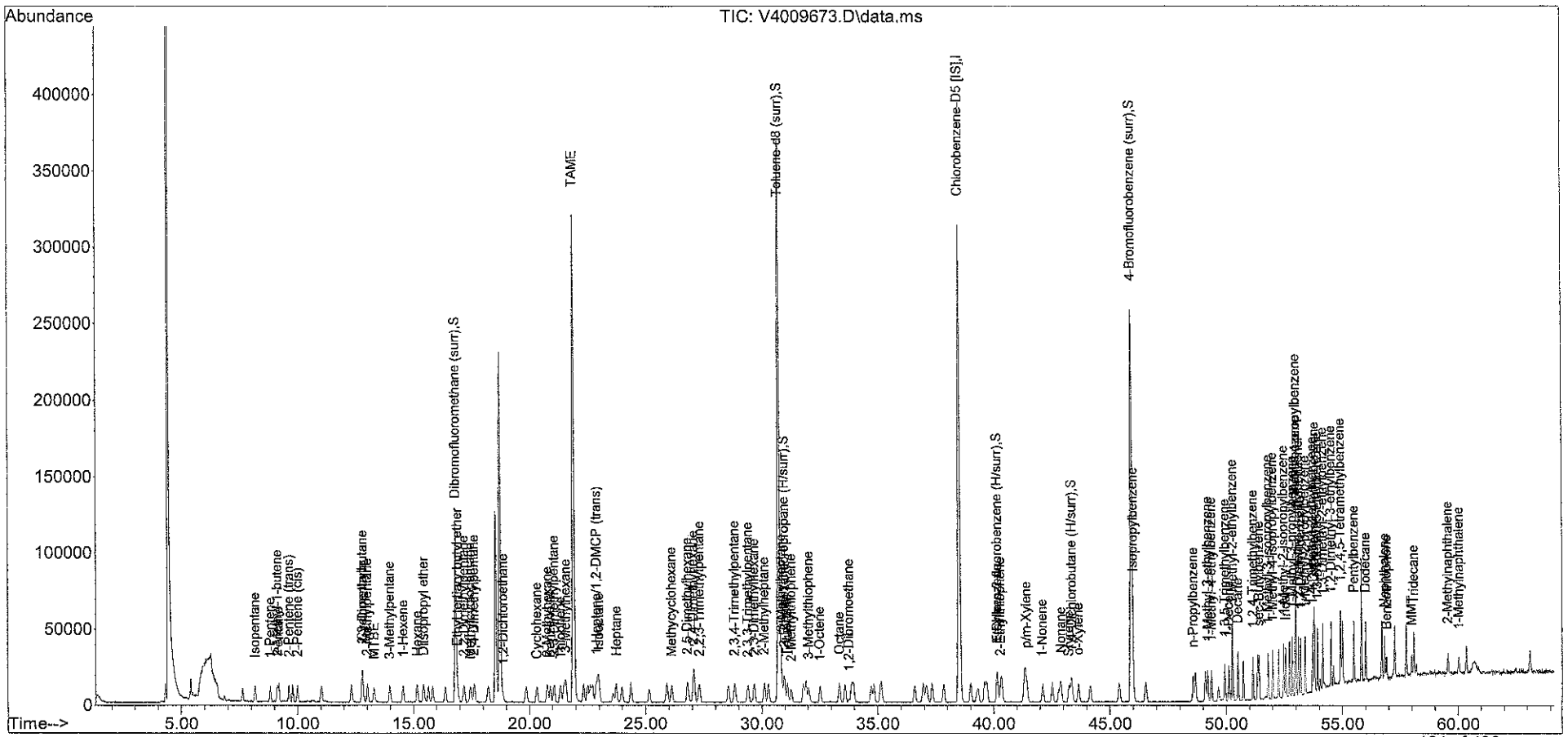
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009673.D
Acq On : 1 Mar 2016 6:27 pm
Operator : VOA4:MR
Sample : I403011601
Misc : 2 PPB PIANO
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 19 12:21:05 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:29 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009674.D
Acq On : 1 Mar 2016 7:41 pm
Operator : VOA4:MR
Sample : I403011602
Misc : 5 PPB PIANO
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 19 12:21:35 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:30 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Chlorobenzene-D5 [IS]	38.52	117	597999	50.000 ug/L	0.00
System Monitoring Compounds					
24) Dibromofluoromethane (sur	16.82	113	174477	49.782 ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 99.56%		
62) Toluene-d8 (surr)	30.74	98	744332	49.325 ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 98.65%		
64) 2-Bromo-1-chloropropane (	30.96	77	21651M1	4.663 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 9.33%#		
87) 1-Chloro-2-fluorobenzene	40.14	130	45434	4.466 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 8.93%#		
97) 1,4-Dichlorobutane (H/sur	43.37	55	36944M6	2.287 ug/L	0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 4.57%#		
101) 4-Bromofluorobenzene (sur	45.94	95	298128	50.459 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.92%		
Target Compounds					Qvalue
3) Isopentane	8.16	43	24482	5.450 ug/L	97
4) 1-Pentene	8.82	42	26869	4.713 ug/L	98
5) 2-Methyl-1-butene	9.13	55	41503M4	4.594 ug/L	
6) Pentane	9.19	43	37209	4.695 ug/L	97
7) 2-Pentene (trans)	9.62	55	38634	4.620 ug/L	98
9) 2-Pentene (cis)	10.00	55	40559	4.814 ug/L	97
10) Tertiary butanol	10.66	59	13326M1	20.148 ug/L	
13) Cyclopentane	12.80	70	12118M1	4.582 ug/L	
14) 2,3-Dimethylbutane	12.80	71	8838	4.422 ug/L	66
15) 2-Methylpentane	13.02	43	46010	4.606 ug/L	94
16) MTBE	13.30	73	49090	4.533 ug/L	99
17) 3-Methylpentane	13.99	57	39467	4.685 ug/L #	91
18) 1-Hexene	14.56	56	23826	4.530 ug/L	95
19) Hexane	15.16	57	34165	4.644 ug/L	98
20) Diisopropyl ether	15.44	45	68997	4.529 ug/L	99
25) Ethyl tertiary butyl ethe	16.89	59	61362	4.472 ug/L	97
26) 2,2-Dimethylpentane	17.18	57	48391	4.666 ug/L	98
27) Methylcyclopentane	17.45	56	44611	4.611 ug/L	91
28) 2,4-Dimethylpentane	17.62	43	44912	4.901 ug/L	96
30) 1,2-Dichloroethane	18.85	62	24808	4.648 ug/L	93
32) Cyclohexane	20.32	56	38402	4.602 ug/L	98

 AJ 3/22/16 MR 3/21/16

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009674.D
Acq On : 1 Mar 2016 7:41 pm
Operator : VOA4:MR
Sample : I403011602
Misc : 5 PPB PIANO
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 19 12:21:35 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:30 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
33)	2-Methyhexane	20.77	43	48524	4.745 ug/L	99
34)	Benzene	20.90	78	64190	4.544 ug/L	91
35)	2,3-Dimethylpentane	21.07	56	36686	4.553 ug/L #	89
36)	Thiophene	21.34	84	33273	4.474 ug/L	95
38)	3-Methylhexane	21.58	43	43679	5.011 ug/L	99
39)	TAME	21.91	73	56544	5.185 ug/L	90
43)	1-Heptene/1,2-DMCP (trans	22.90	70	28438	9.214 ug/L	95
44)	Isooctane	22.99	57	96895M6	4.690 ug/L	
46)	Heptane	23.73	43	41040M4	4.894 ug/L	
51)	Methycyclohexane	26.13	83	30426	4.576 ug/L	97
52)	2,5-Dimethylhexane	26.80	57	47301	4.631 ug/L	93
53)	2,4-Dimethyhexane	27.07	57	37173	4.521 ug/L	99
55)	2,2,3-Trimethylpentane	27.31	57	75463	4.659 ug/L	99
57)	2,3,4-Trimethylpentane	28.84	43	59334	4.678 ug/L	96
58)	2,3,3-Trimethylpentane	29.40	43	51639	4.680 ug/L	96
59)	2,3-Dimethylhexane	29.67	43	54252	4.703 ug/L	99
60)	2-Methylheptane	30.10	57	42880	4.511 ug/L	98
63)	3-Methylheptane	30.86	43	44006M6	5.133 ug/L	
65)	3-Ethylhexane	30.98	43	65547	4.594 ug/L	98
66)	Toluene	31.10	91	71600	4.443 ug/L	95
67)	2-Methylthiophene	31.26	97	57738	4.464 ug/L	100
69)	3-Methylthiophene	32.04	97	59204	4.516 ug/L	96
70)	1-Octene	32.52	55	23123	4.676 ug/L	95
71)	Octane	33.35	43	51180	4.677 ug/L	97
73)	1,2-Dibromoethane	33.77	107	15006	4.329 ug/L	95
86)	Ethylbenzene	40.15	91	85102	4.500 ug/L	96
88)	2-Ethylthiophene	40.28	97	61331M1	4.421 ug/L	
91)	p/m-Xylene	41.41	91	130604M1	8.928 ug/L	
92)	1-Nonene	42.11	56	24395	4.322 ug/L	97
95)	Nonane	42.89	43	50920M6	4.821 ug/L	
96)	Styrene	43.25	104	52811	4.426 ug/L	97
98)	o-Xylene	43.66	91	67239	4.551 ug/L	98
102)	Isopropylbenzene	45.99	105	83524	4.414 ug/L	100
104)	n-Propylbenzene	48.58	91	101759	4.457 ug/L	99
107)	1-Methyl-3-ethylbenzene	49.20	105	84526	4.464 ug/L	100
108)	1-Methyl-4-ethylbenzene	49.37	105	83034	4.486 ug/L	100
109)	1,3,5-Trimethylbenzene	49.95	105	71155	4.447 ug/L	97
110)	1-Decene	50.12	41	24472	4.595 ug/L	95
112)	1-Methyl-2-ethylbenzene	50.29	105	85823	4.634 ug/L	97
113)	Decane	50.52	43	52129	5.212 ug/L	96
115)	1,2,4-Trimethylbenzene	51.16	105	74866	4.676 ug/L	96

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009674.D
Acq On : 1 Mar 2016 7:41 pm
Operator : VOA4:MR
Sample : I403011602
Misc : 5 PPB PIANO
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 19 12:21:35 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:30 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
117)	sec-Butylbenzene	51.42	105	97240	4.599	ug/L	97
118)	1-Methyl-3-isopropylbenze	51.81	119	81060	4.544	ug/L	99
119)	1-Methyl-4-isopropylbenze	52.01	119	83379	4.511	ug/L	98
121)	1-Methyl-2-isopropylbenze	52.48	119	84779	4.681	ug/L	99
122)	Indan	52.57	117	74812	4.659	ug/L	97
124)	1-Methyl-3-propylbenzene	52.86	105	95995	4.654	ug/L	98
126)	1-Methyl-4-propylbenzene	53.01	105	111647	4.689	ug/L	96
127)	n-Butylbenzene	53.00	91	87934	4.655	ug/L	98
128)	1,2-Dimethyl-4-ethylbenze	53.12	119	84290	4.628	ug/L	98
129)	1,2-Diethylbenzene	53.22	119	43120	4.763	ug/L	99
130)	1-Methyl-2-propylbenzene	53.41	105	102347	4.729	ug/L	99
131)	1,4-Dimethyl-2-ethylbenze	53.72	119	81225	4.655	ug/L	97
132)	Undecane	53.79	57	54045M4	5.065	ug/L	
133)	1,3-Dimethyl-4-ethylbenze	53.81	119	98246	4.743	ug/L	99
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	89788	4.743	ug/L	100
135)	1,3-Dimethyl-2-ethylbenze	54.17	119	98830	4.744	ug/L	98
136)	1,2-Dimethyl-3-ethylbenze	54.53	119	88447	4.688	ug/L	98
137)	1,2,4,5-Tetramethylbenzen	54.93	119	94168	4.733	ug/L	98
139)	Pentylbenzene	55.51	91	74834	4.782	ug/L	97
142)	Dodecane	56.01	43	41576M4	5.745	ug/L	
144)	Naphthalene	56.83	128	80074	4.648	ug/L	96
145)	Benzothiophene	56.92	134	43722	4.557	ug/L	100
148)	MMT	58.00	134	28851	4.496	ug/L	100
149)	Tridecane	58.09	57	40729	7.609	ug/L	95
150)	2-Methylnaphthalene	59.56	142	39818	4.280	ug/L	96
151)	1-Methylnaphthalene	60.03	142	32747	4.129	ug/L	95

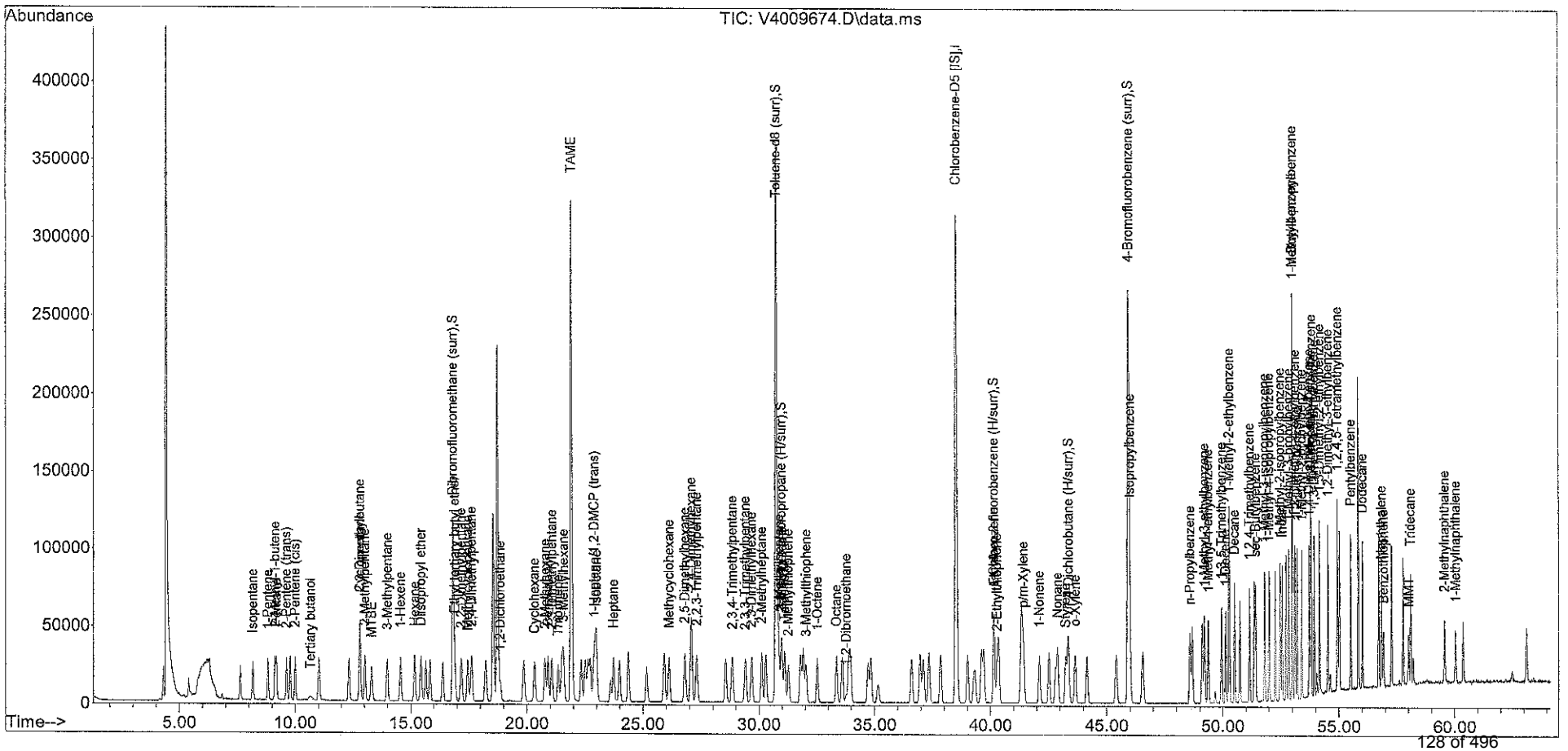
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009674.D
Acq On : 1 Mar 2016 7:41 pm
Operator : VOA4:MR
Sample : I403011602
Misc : 5 PPB PIANO
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 19 12:21:35 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:30 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009682.D
Acq On : 2 Mar 2016 12:56 pm
Operator : VOA4:MR
Sample : I403011603
Misc : 20 PPB PIANO
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 19 12:24:28 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:30 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	621553	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	180883	49.654	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 99.31%			
62) Toluene-d8 (surr)	30.74	98	763433	48.674	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 97.35%			
64) 2-Bromo-1-chloropropane (	30.96	77	94492	19.580	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 39.16%#			
87) 1-Chloro-2-fluorobenzene	40.15	130	211391	19.993	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 39.99%#			
97) 1,4-Dichlorobutane (H/sur	43.36	55	188361M6	11.221	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 22.44%#			
101) 4-Bromofluorobenzene (sur	45.93	95	311070	50.654	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 101.31%			
Target Compounds						Qvalue
3) Isopentane	8.16	43	95750	20.509	ug/L	99
4) 1-Pentene	8.82	42	118076	19.927	ug/L	99
5) 2-Methyl-1-butene	9.13	55	182878M6	19.475	ug/L	
6) Pentane	9.19	43	163469	19.847	ug/L	99
7) 2-Pentene (trans)	9.63	55	173259	19.935	ug/L	98
9) 2-Pentene (cis)	10.00	55	179173	20.462	ug/L	98
10) Tertiary butanol	10.60	59	73742M1	107.269	ug/L	
13) Cyclopentane	12.80	70	54605	19.864	ug/L	90
14) 2,3-Dimethylbutane	12.80	71	41084	19.779	ug/L	100
15) 2-Methylpentane	13.01	43	206452	19.885	ug/L	98
16) MTBE	13.28	73	221131	19.646	ug/L	98
17) 3-Methylpentane	13.98	57	173360	19.800	ug/L	99
18) 1-Hexene	14.55	56	107889	19.736	ug/L	96
19) Hexane	15.16	57	151264	19.784	ug/L	96
20) Diisopropyl ether	15.43	45	311388	19.666	ug/L	100
25) Ethyl tertiary butyl ethe	16.89	59	276008	19.355	ug/L	99
26) 2,2-Dimethylpentane	17.19	57	216536	20.090	ug/L	98
27) Methylcyclopentane	17.46	56	201876	20.075	ug/L	100
28) 2,4-Dimethylpentane	17.62	43	189795M4	19.928	ug/L	
30) 1,2-Dichloroethane	18.86	62	109682	19.772	ug/L	98
32) Cyclohexane	20.32	56	168560	19.436	ug/L	98
33) 2-Methyhexane	20.76	43	209004	19.664	ug/L	99

AS 3/22/16 MR 3/21/16

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009682.D
Acq On : 2 Mar 2016 12:56 pm
Operator : VOA4:MR
Sample : I403011603
Misc : 20 PPB PIANO
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 19 12:24:28 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:30 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
34) Benzene	20.89	78	293525	19.989 ug/L	99
35) 2,3-Dimethylpentane	21.06	56	164550	19.647 ug/L	98
36) Thiophene	21.34	84	154164	19.943 ug/L	96
38) 3-Methylhexane	21.58	43	181995	20.086 ug/L	97
39) TAME	21.90	73	227007	20.027 ug/L	98
43) 1-Heptene/1,2-DMCP (trans	22.89	70	129727	40.441 ug/L	90
44) Isooctane	22.98	57	434334M6	20.227 ug/L	
46) Heptane	23.73	43	172977M4	19.847 ug/L	
51) Methycyclohexane	26.12	83	134224	19.422 ug/L	97
52) 2,5-Dimethylhexane	26.80	57	208644	19.655 ug/L	97
53) 2,4-Dimethyhexane	27.06	57	167927M4	19.649 ug/L	
55) 2,2,3-Trimethylpentane	27.31	57	335764	19.943 ug/L	99
57) 2,3,4-Trimethylpentane	28.83	43	255892	19.411 ug/L	98
58) 2,3,3-Trimethylpentane	29.40	43	221684	19.330 ug/L	98
59) 2,3-Dimethylhexane	29.67	43	236099	19.691 ug/L	100
60) 2-Methylheptane	30.11	57	190321	19.261 ug/L	97
63) 3-Methylheptane	30.85	43	184741M6	20.731 ug/L	
65) 3-Ethylhexane	30.98	43	282562M4	19.055 ug/L	
66) Toluene	31.10	91	334642	19.977 ug/L	98
67) 2-Methylthiophene	31.27	97	265206	19.727 ug/L	98
69) 3-Methylthiophene	32.03	97	270087	19.821 ug/L	98
70) 1-Octene	32.52	55	97751	19.018 ug/L	96
71) Octane	33.35	43	219458	19.296 ug/L	98
73) 1,2-Dibromoethane	33.77	107	70994	19.706 ug/L	100
86) Ethylbenzene	40.15	91	389337	19.808 ug/L	99
88) 2-Ethylthiophene	40.29	97	287318	19.927 ug/L	100
91) p/m-Xylene	41.38	91	602439M1	39.621 ug/L	
92) 1-Nonene	42.11	56	112732	19.218 ug/L	98
95) Nonane	42.90	43	217736M6	19.832 ug/L	
96) Styrene	43.24	104	249532	20.120 ug/L	100
98) o-Xylene	43.65	91	306286	19.944 ug/L	99
102) Isopropylbenzene	45.99	105	388847	19.769 ug/L	99
104) n-Propylbenzene	48.57	91	469015	19.766 ug/L	98
107) 1-Methyl-3-ethylbenzene	49.19	105	394971	20.069 ug/L	97
108) 1-Methyl-4-ethylbenzene	49.36	105	382400	19.878 ug/L	98
109) 1,3,5-Trimethylbenzene	49.95	105	333744	20.067 ug/L	99
110) 1-Decene	50.13	41	107647	19.447 ug/L	98
112) 1-Methyl-2-ethylbenzene	50.29	105	393280	20.428 ug/L	98
113) Decane	50.52	43	209006	20.104 ug/L	98
115) 1,2,4-Trimethylbenzene	51.16	105	335780	20.178 ug/L	98
117) sec-Butylbenzene	51.42	105	440626	20.049 ug/L	98

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009682.D
Acq On : 2 Mar 2016 12:56 pm
Operator : VOA4:MR
Sample : I403011603
Misc : 20 PPB PIANO
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 19 12:24:28 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:30 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
118)	1-Methyl-3-isopropylbenze	51.81	119	375709	20.264	ug/L	99
119)	1-Methyl-4-isopropylbenze	52.01	119	385922	20.088	ug/L	100
121)	1-Methyl-2-isopropylbenze	52.48	119	384966	20.449	ug/L	98
122)	Indan	52.57	117	347010	20.791	ug/L	100
124)	1-Methyl-3-propylbenzene	52.86	105	437371	20.401	ug/L	99
126)	1-Methyl-4-propylbenzene	53.01	105	506632	20.472	ug/L	97
127)	n-Butylbenzene	53.00	91	398047	20.272	ug/L	98
128)	1,2-Dimethyl-4-ethylbenze	53.12	119	382408	20.203	ug/L	99
129)	1,2-Diethylbenzene	53.22	119	193105	20.522	ug/L	100
130)	1-Methyl-2-propylbenzene	53.41	105	458881	20.397	ug/L	99
131)	1,4-Dimethyl-2-ethylbenze	53.72	119	370433	20.427	ug/L	99
132)	Undecane	53.79	57	230793M4	20.808	ug/L	
133)	1,3-Dimethyl-4-ethylbenze	53.81	119	444683	20.655	ug/L	99
134)	1,3-Dimethyl-5-ethylbenze	53.95	119	402782	20.470	ug/L	100
135)	1,3-Dimethyl-2-ethylbenze	54.17	119	445652	20.583	ug/L	99
136)	1,2-Dimethyl-3-ethylbenze	54.53	119	400523	20.423	ug/L	99
137)	1,2,4,5-Tetramethylbenzen	54.93	119	420758	20.346	ug/L	99
139)	Pentylbenzene	55.51	91	329784	20.273	ug/L	99
142)	Dodecane	56.01	43	163034	21.673	ug/L	97
144)	Naphthalene	56.83	128	380287	21.236	ug/L	100
145)	Benzothiophene	56.92	134	218815	21.940	ug/L	99
148)	MMT	58.00	134	139918	20.979	ug/L	97
149)	Tridecane	58.09	57	131246	23.589	ug/L	97
150)	2-Methylnaphthalene	59.56	142	183667	18.993	ug/L	95
151)	1-Methylnaphthalene	60.03	142	162241	19.682	ug/L	99

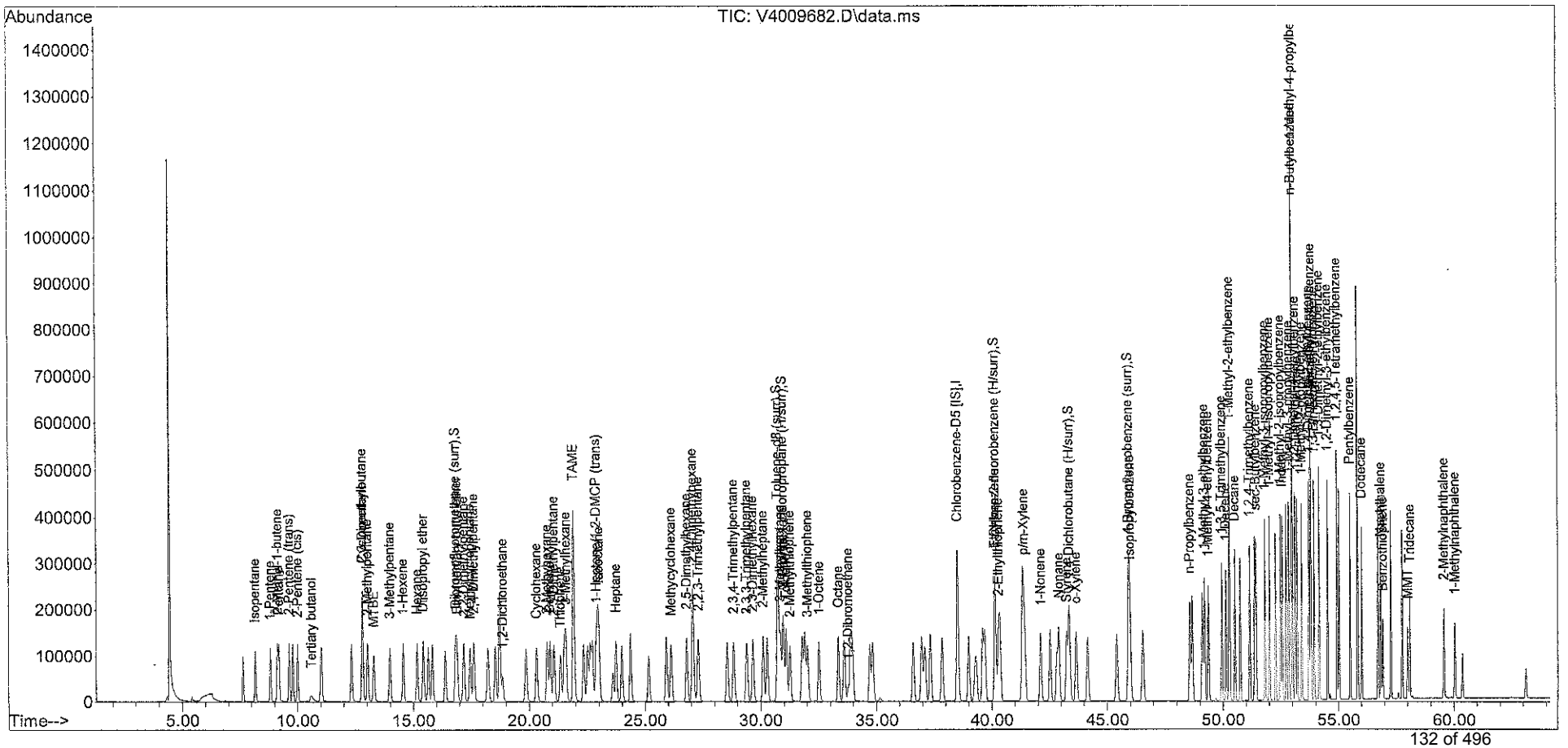
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009682.D
Acq On : 2 Mar 2016 12:56 pm
Operator : VOA4:MR
Sample : I403011603
Misc : 20 PPB PIANO
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 19 12:24:28 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:30 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009676.D
Acq On : 1 Mar 2016 10:10 pm
Operator : VOA4:MR
Sample : I403011604
Misc : 50 PPB PIANO
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 19 12:22:29 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:17:09 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.52	117	635019	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	186090	50.000	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 100.00%			
62) Toluene-d8 (surr)	30.75	98	801222	50.000	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 100.00%			
64) 2-Bromo-1-chloropropane (	30.96	77	246531	50.000	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.00%			
87) 1-Chloro-2-fluorobenzene	40.14	130	540120	50.000	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.00%			
97) 1,4-Dichlorobutane (H/sur	43.36	55	489845M6	28.562	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 57.12%#			
101) 4-Bromofluorobenzene (sur	45.94	95	313705	50.000	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.00%			
Target Compounds						Qvalue
3) Isopentane	8.17	43	238495	50.000	ug/L	100
4) 1-Pentene	8.82	42	302690	50.000	ug/L	100
5) 2-Methyl-1-butene	9.12	55	479698	50.000	ug/L	100
6) Pentane	9.18	43	420754	50.000	ug/L	100
7) 2-Pentene (trans)	9.63	55	443965	50.000	ug/L	100
9) 2-Pentene (cis)	10.00	55	447299	50.000	ug/L	100
10) Tertiary butanol	10.58	59	175586M1	250.000	ug/L	
13) Cyclopentane	12.80	70	140428	50.000	ug/L	100
14) 2,3-Dimethylbutane	12.80	71	106110	50.000	ug/L	100
15) 2-Methylpentane	13.02	43	530352	50.000	ug/L	100
16) MTBE	13.29	73	574985	50.000	ug/L	100
17) 3-Methylpentane	13.98	57	447251	50.000	ug/L	100
18) 1-Hexene	14.56	56	279253	50.000	ug/L	100
19) Hexane	15.16	57	390578	50.000	ug/L	100
20) Diisopropyl ether	15.44	45	808839	50.000	ug/L	100
25) Ethyl tertiary butyl ethe	16.89	59	728468	50.000	ug/L	100
26) 2,2-Dimethylpentane	17.18	57	550602	50.000	ug/L	100
27) Methylcyclopentane	17.46	56	513687	50.000	ug/L	100
28) 2,4-Dimethylpentane	17.61	43	486519	50.000	ug/L	100
30) 1,2-Dichloroethane	18.84	62	283379	50.000	ug/L	100
32) Cyclohexane	20.33	56	443020	50.000	ug/L	100
33) 2-Methyhexane	20.78	43	542952	50.000	ug/L	100

 AJ 3/22/16 MR 3/21/16

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009676.D
Acq On : 1 Mar 2016 10:10 pm
Operator : VOA4:MR
Sample : I403011604
Misc : 50 PPB PIANO
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 19 12:22:29 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:17:09 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
34) Benzene	20.90	78	750109	50.000	ug/L	100
35) 2,3-Dimethylpentane	21.06	56	427831	50.000	ug/L	100
36) Thiophene	21.34	84	394889	50.000	ug/L	100
38) 3-Methylhexane	21.58	43	462846	50.000	ug/L	100
39) TAME	21.91	73	579023	50.000	ug/L	100
43) 1-Heptene/1,2-DMCP (trans	22.89	70	327734	100.000	ug/L	100
44) Isooctane	22.99	57	1096895M6	49.064	ug/L	
46) Heptane	23.74	43	445208	50.000	ug/L	100
51) Methycyclohexane	26.13	83	353034	50.000	ug/L	100
52) 2,5-Dimethylhexane	26.81	57	542272	50.000	ug/L	100
53) 2,4-Dimethyhexane	27.06	57	436581M4	52.165	ug/L	
55) 2,2,3-Trimethylpentane	27.32	57	860045	50.000	ug/L	100
57) 2,3,4-Trimethylpentane	28.84	43	673407	50.000	ug/L	100
58) 2,3,3-Trimethylpentane	29.41	43	585837	50.000	ug/L	100
59) 2,3-Dimethylhexane	29.68	43	612487	50.000	ug/L	100
60) 2-Methylheptane	30.11	57	504749	50.000	ug/L	100
63) 3-Methylheptane	30.85	43	455227	50.000	ug/L	100
65) 3-Ethylhexane	30.98	43	757505M6	53.140	ug/L	
66) Toluene	31.10	91	855708	50.000	ug/L	100
67) 2-Methylthiophene	31.27	97	686750	50.000	ug/L	100
69) 3-Methylthiophene	32.03	97	696066	50.000	ug/L	100
70) 1-Octene	32.52	55	262569	50.000	ug/L	100
71) Octane	33.36	43	580973	50.000	ug/L	100
73) 1,2-Dibromoethane	33.77	107	184037	50.000	ug/L	100
86) Ethylbenzene	40.15	91	1004072	50.000	ug/L	100
88) 2-Ethylthiophene	40.29	97	736536	50.000	ug/L	100
91) p/m-Xylene	41.41	91	1553454M1	186.325	ug/L	
92) 1-Nonene	42.11	56	299660	50.000	ug/L	100
95) Nonane	42.90	43	560841M6	45.753	ug/L	
96) Styrene	43.24	104	633556	50.000	ug/L	100
98) o-Xylene	43.66	91	784509	50.000	ug/L	100
102) Isopropylbenzene	46.00	105	1004800	50.000	ug/L	100
104) n-Propylbenzene	48.57	91	1212111	50.000	ug/L	100
107) 1-Methyl-3-ethylbenzene	49.20	105	1005337	50.000	ug/L	100
108) 1-Methyl-4-ethylbenzene	49.37	105	982705	50.000	ug/L	100
109) 1,3,5-Trimethylbenzene	49.95	105	849602	50.000	ug/L	100
110) 1-Decene	50.13	41	282768	50.000	ug/L	100
112) 1-Methyl-2-ethylbenzene	50.29	105	983443	50.000	ug/L	100
113) Decane	50.51	43	531086	50.000	ug/L	100
115) 1,2,4-Trimethylbenzene	51.16	105	850077	50.000	ug/L	100
117) sec-Butylbenzene	51.42	105	1122667	50.000	ug/L	100

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009676.D
Acq On : 1 Mar 2016 10:10 pm
Operator : VOA4:MR
Sample : I403011604
Misc : 50 PPB PIANO
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 19 12:22:29 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:17:09 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
118)	1-Methyl-3-isopropylbenze	51.81	119	947101	50.000	ug/L	100
119)	1-Methyl-4-isopropylbenze	52.01	119	981392	50.000	ug/L	100
121)	1-Methyl-2-isopropylbenze	52.49	119	961695	50.000	ug/L	100
122)	Indan	52.58	117	852582	50.000	ug/L	100
124)	1-Methyl-3-propylbenzene	52.86	105	1095141	50.000	ug/L	100
126)	1-Methyl-4-propylbenzene	53.00	105	1264212	50.000	ug/L	100
127)	n-Butylbenzene	53.00	91	1003019	50.000	ug/L	100
128)	1,2-Dimethyl-4-ethylbenze	53.13	119	966928	50.000	ug/L	100
129)	1,2-Diethylbenzene	53.22	119	480669	50.000	ug/L	100
130)	1-Methyl-2-propylbenzene	53.41	105	1149219	50.000	ug/L	100
131)	1,4-Dimethyl-2-ethylbenze	53.72	119	926374	50.000	ug/L	100
132)	Undecane	53.79	57	566593M4	49.514	ug/L	
133)	1,3-Dimethyl-4-ethylbenze	53.81	119	1099756	50.000	ug/L	100
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	1005156	50.000	ug/L	100
135)	1,3-Dimethyl-2-ethylbenze	54.17	119	1106030	50.000	ug/L	100
136)	1,2-Dimethyl-3-ethylbenze	54.53	119	1001801	50.000	ug/L	100
137)	1,2,4,5-Tetramethylbenzen	54.93	119	1056432	50.000	ug/L	100
139)	Pentylbenzene	55.51	91	830973	50.000	ug/L	100
142)	Dodecane	56.01	43	384267	50.000	ug/L	100
144)	Naphthalene	56.83	128	914794	50.000	ug/L	100
145)	Benzothiophene	56.92	134	509476	50.000	ug/L	100
148)	MMT	58.00	134	340698	50.000	ug/L	100
149)	Tridecane	58.09	57	284219	50.000	ug/L	100
150)	2-Methylnaphthalene	59.56	142	493986	50.000	ug/L	100
151)	1-Methylnaphthalene	60.03	142	421088	50.000	ug/L	100

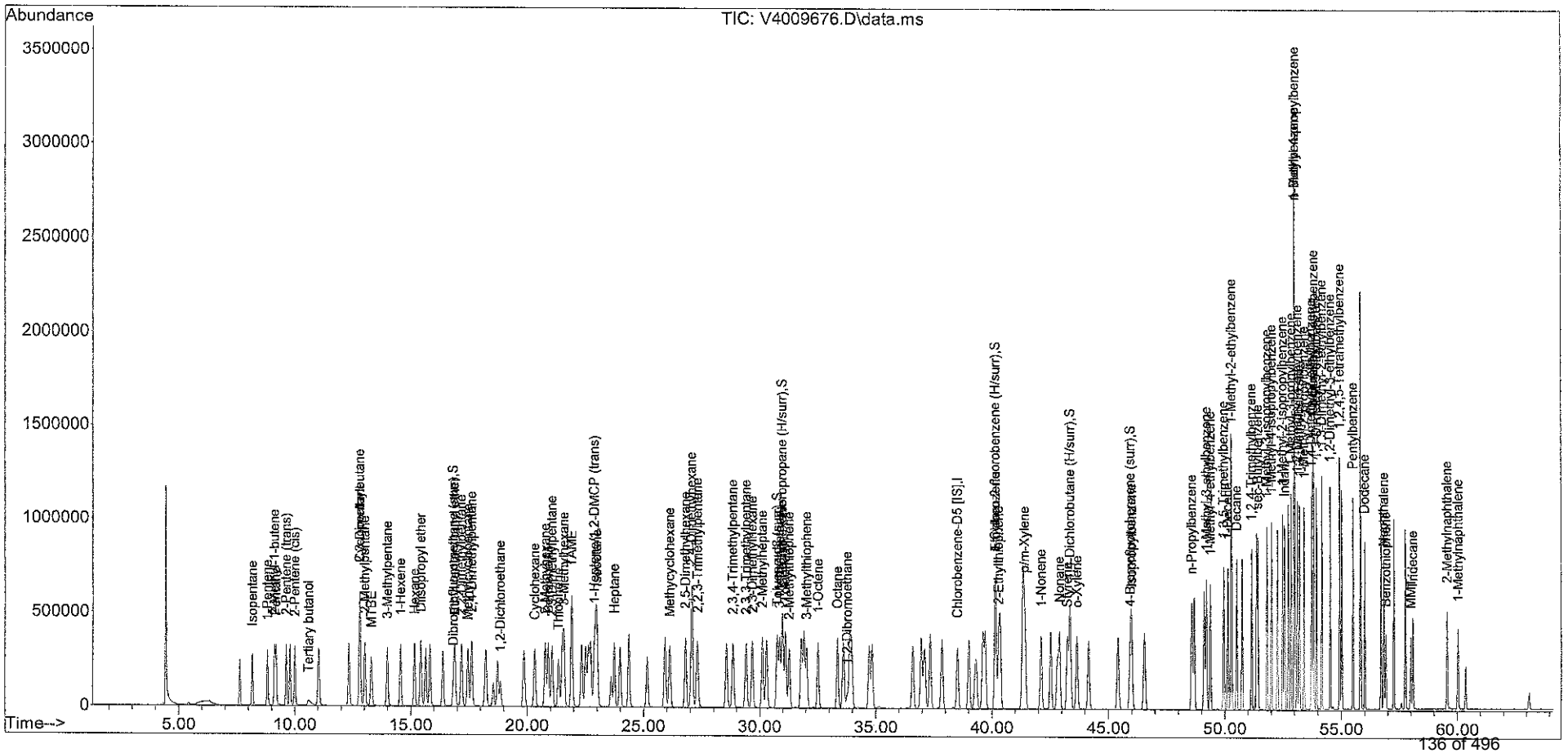
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009676.D
Acq On : 1 Mar 2016 10:10 pm
Operator : VOA4:MR
Sample : I403011604
Misc : 50 PPB PIANO
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 19 12:22:29 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:17:09 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009677.D
Acq On : 1 Mar 2016 11:25 pm
Operator : VOA4:MR
Sample : I403011605
Misc : 100 PPB PIANO
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 19 12:23:04 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:30 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Chlorobenzene-D5 [IS]	38.52	117	627034	50.000 ug/L	0.00
System Monitoring Compounds					
24) Dibromofluoromethane (sur	16.82	113	179352	48.803 ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 97.61%		
62) Toluene-d8 (surr)	30.74	98	792299	50.073 ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 100.15%		
64) 2-Bromo-1-chloropropane (	30.97	77	482298	99.063 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 198.13%#		
87) 1-Chloro-2-fluorobenzene	40.15	130	1040226	97.522 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 195.04%#		
97) 1,4-Dichlorobutane (H/sur	43.36	55	958571M6	56.604 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 113.21%		
101) 4-Bromofluorobenzene (sur	45.94	95	299032	48.268 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 96.54%		
Target Compounds					Qvalue
3) Isopentane	8.18	43	467203	99.196 ug/L	98
4) 1-Pentene	8.82	42	588106	98.384 ug/L	100
5) 2-Methyl-1-butene	9.13	55	912028M6	96.273 ug/L	
6) Pentane	9.19	43	803029	96.643 ug/L	98
7) 2-Pentene (trans)	9.63	55	860101	98.099 ug/L	98
9) 2-Pentene (cis)	10.00	55	863335	97.734 ug/L	99
10) Tertiary butanol	10.54	59	274106M6	395.243 ug/L	
13) Cyclopentane	12.80	70	267842	96.581 ug/L	97
14) 2,3-Dimethylbutane	12.80	71	203157	96.949 ug/L	96
15) 2-Methylpentane	13.02	43	1017002	97.101 ug/L	99
16) MTBE	13.28	73	1067416	94.003 ug/L	100
17) 3-Methylpentane	13.99	57	868642	98.346 ug/L	99
18) 1-Hexene	14.56	56	541259	98.146 ug/L	100
19) Hexane	15.16	57	753529	97.692 ug/L	99
20) Diisopropyl ether	15.44	45	1508256	94.423 ug/L	99
25) Ethyl tertiary butyl ethe	16.89	59	1337296	92.957 ug/L	99
26) 2,2-Dimethylpentane	17.19	57	1068174	98.236 ug/L	99
27) Methylcyclopentane	17.46	56	987248	97.318 ug/L	99
28) 2,4-Dimethylpentane	17.63	43	930573	96.854 ug/L	99
30) 1,2-Dichloroethane	18.86	62	530533	94.800 ug/L	98
32) Cyclohexane	20.33	56	858801	98.160 ug/L	98
33) 2-Methyhexane	20.78	43	1043816	97.348 ug/L	99

 AS 3/22/16 MR 3/21/16

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009677.D
Acq On : 1 Mar 2016 11:25 pm
Operator : VOA4:MR
Sample : I403011605
Misc : 100 PPB PIANO
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 19 12:23:04 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:30 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
34) Benzene	20.90	78	1463787	98.814 ug/L	100
35) 2,3-Dimethylpentane	21.07	56	809382	95.796 ug/L	98
36) Thiophene	21.35	84	763529	97.908 ug/L	98
38) 3-Methylhexane	21.58	43	897875	98.230 ug/L	98
39) TAME	21.91	73	1110865	97.147 ug/L	99
43) 1-Heptene/1,2-DMCP (trans	22.90	70	626086	193.468 ug/L	99
44) Isooctane	23.00	57	2130836M6	98.367 ug/L	
46) Heptane	23.74	43	841052	95.659 ug/L	99
51) Methycyclohexane	26.13	83	685219	98.283 ug/L	99
52) 2,5-Dimethylhexane	26.81	57	1044888	97.570 ug/L	98
53) 2,4-Dimethyhexane	27.07	57	840938M4	97.536 ug/L	
55) 2,2,3-Trimethylpentane	27.32	57	1671660	98.422 ug/L	99
57) 2,3,4-Trimethylpentane	28.84	43	1285464	96.660 ug/L	99
58) 2,3,3-Trimethylpentane	29.41	43	1115303	96.401 ug/L	99
59) 2,3-Dimethylhexane	29.68	43	1186879	98.124 ug/L	96
60) 2-Methylheptane	30.12	57	965310	96.840 ug/L	98
63) 3-Methylheptane	30.85	43	890456	99.049 ug/L	98
65) 3-Ethylhexane	30.99	43	1440140M6	96.269 ug/L	
66) Toluene	31.11	91	1673555	99.033 ug/L	99
67) 2-Methylthiophene	31.27	97	1342326	98.975 ug/L	100
69) 3-Methylthiophene	32.03	97	1353089	98.433 ug/L	100
70) 1-Octene	32.52	55	504659	97.324 ug/L	99
71) Octane	33.36	43	1103731	96.200 ug/L	99
73) 1,2-Dibromoethane	33.79	107	364775	100.366 ug/L	99
86) Ethylbenzene	40.15	91	1951620	98.423 ug/L	99
88) 2-Ethylthiophene	40.29	97	1432051	98.453 ug/L	99
91) p/m-Xylene	41.40	91	2987563	194.767 ug/L	98
92) 1-Nonene	42.12	56	568915	96.136 ug/L	98
95) Nonane	42.91	43	1016050M6	91.736 ug/L	
96) Styrene	43.25	104	1208822	96.615 ug/L	100
98) o-Xylene	43.66	91	1494880	96.488 ug/L	98
102) Isopropylbenzene	46.00	105	1912835	96.397 ug/L	98
104) n-Propylbenzene	48.58	91	2298885	96.037 ug/L	99
107) 1-Methyl-3-ethylbenzene	49.20	105	1898035	95.600 ug/L	99
108) 1-Methyl-4-ethylbenzene	49.37	105	1854455	95.556 ug/L	99
109) 1,3,5-Trimethylbenzene	49.95	105	1592063	94.888 ug/L	100
110) 1-Decene	50.13	41	524810	93.980 ug/L	100
112) 1-Methyl-2-ethylbenzene	50.29	105	1838247	94.650 ug/L	98
113) Decane	50.52	43	956410	91.190 ug/L	99
115) 1,2,4-Trimethylbenzene	51.16	105	1594830	95.000 ug/L	98
117) sec-Butylbenzene	51.42	105	2076779	93.671 ug/L	98

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009677.D
Acq On : 1 Mar 2016 11:25 pm
Operator : VOA4:MR
Sample : I403011605
Misc : 100 PPB PIANO
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 19 12:23:04 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:30 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
118) 1-Methyl-3-isopropylbenze	51.81	119	1762929	94.255 ug/L	100
119) 1-Methyl-4-isopropylbenze	52.01	119	1801553	92.954 ug/L	100
121) 1-Methyl-2-isopropylbenze	52.49	119	1791971	94.354 ug/L	99
122) Indan	52.58	117	1581542	93.931 ug/L	99
124) 1-Methyl-3-propylbenzene	52.86	105	2001243	92.533 ug/L	99
126) 1-Methyl-4-propylbenzene	53.01	105	2320408	92.942 ug/L	97
127) n-Butylbenzene	53.01	91	1820684	91.916 ug/L	98
128) 1,2-Dimethyl-4-ethylbenze	53.12	119	1767490	92.561 ug/L	99
129) 1,2-Diethylbenzene	53.22	119	881495	92.862 ug/L	99
130) 1-Methyl-2-propylbenzene	53.41	105	2099164	92.493 ug/L	100
131) 1,4-Dimethyl-2-ethylbenze	53.72	119	1694621	92.630 ug/L	99
132) Undecane	53.79	57	922351M4	82.431 ug/L	
133) 1,3-Dimethyl-4-ethylbenze	53.81	119	2023449	93.167 ug/L	99
134) 1,3-Dimethyl-5-ethylbenze	53.94	119	1835243	92.454 ug/L	99
135) 1,3-Dimethyl-2-ethylbenze	54.17	119	2004966	91.792 ug/L	99
136) 1,2-Dimethyl-3-ethylbenze	54.53	119	1833730	92.687 ug/L	99
137) 1,2,4,5-Tetramethylbenzen	54.93	119	1924356	92.238 ug/L	100
139) Pentylbenzene	55.51	91	1486232	90.566 ug/L	100
142) Dodecane	56.01	43	537220	70.792 ug/L	97
144) Naphthalene	56.83	128	1586012	87.791 ug/L	100
145) Benzothiophene	56.92	134	877925	87.257 ug/L	100
148) MMT	58.00	134	521129	77.454 ug/L	100
149) Tridecane	58.09	57	374288	66.684 ug/L	98
150) 2-Methylnaphthalene	59.56	142	836422	85.739 ug/L	99
151) 1-Methylnaphthalene	60.03	142	697486	83.874 ug/L	100

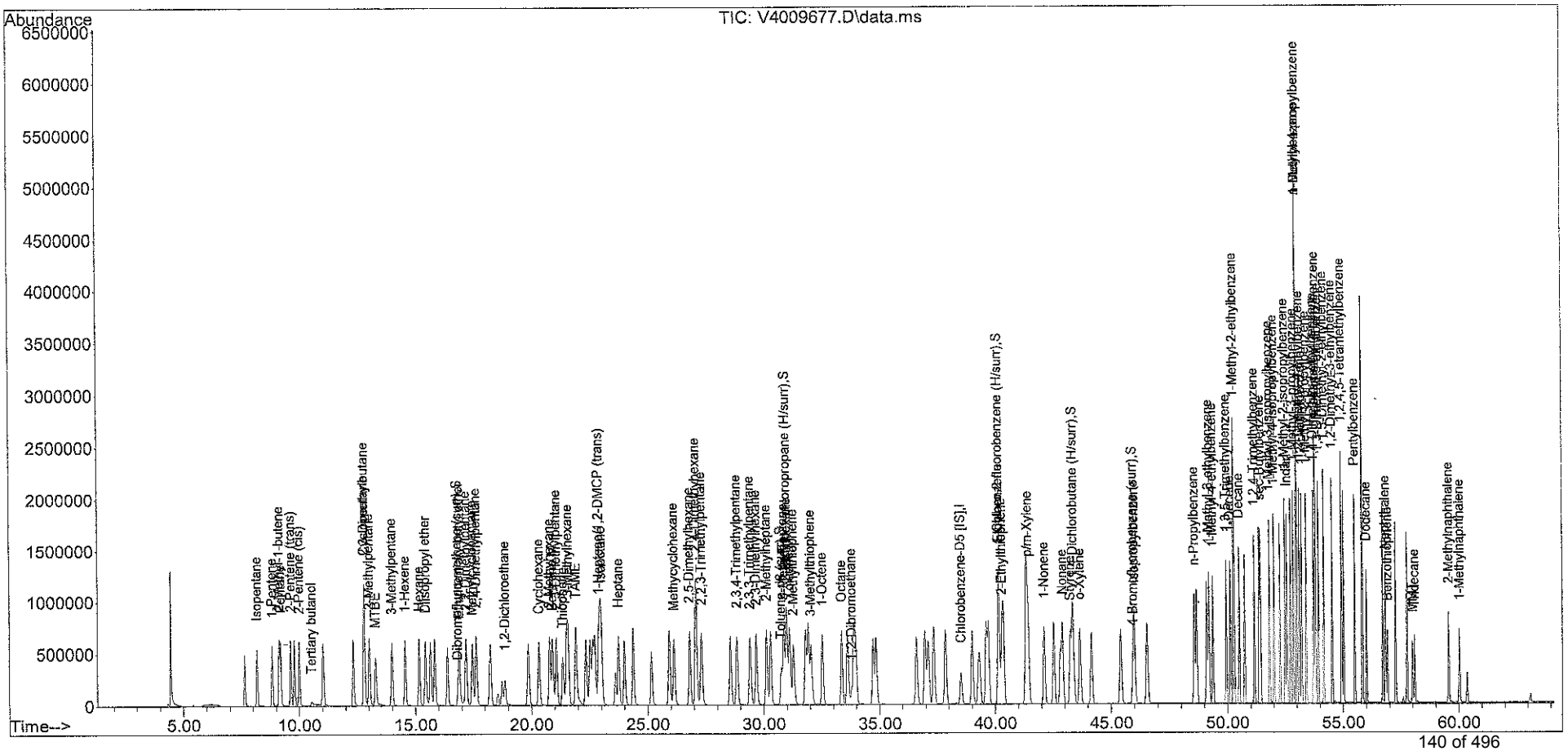
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009677.D
Acq On : 1 Mar 2016 11:25 pm
Operator : VOA4:MR
Sample : I403011605
Misc : 100 PPB PIANO
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 19 12:23:04 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:30 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009678.D
Acq On : 2 Mar 2016 12:39 am
Operator : VOA4:MR
Sample : I403011606
Misc : 200 PPB PIANO
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 19 12:23:54 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:30 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.53	117	580781	50.000	ug/L	0.01
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	168340	49.455	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 98.91%			
62) Toluene-d8 (surr)	30.76	98	759955	51.854	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 103.71%			
64) 2-Bromo-1-chloropropane (	30.98	77	866014	192.043	ug/L	0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 384.09%#			
87) 1-Chloro-2-fluorobenzene	40.15	130	1938415	196.201	ug/L	0.01
Spiked Amount 50.000	Range 70 - 130		Recovery = 392.40%#			
97) 1,4-Dichlorobutane (H/sur	43.36	55	1867715M6	119.073	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 238.15%#			
101) 4-Bromofluorobenzene (sur	45.94	95	273624	47.684	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 95.37%			
Target Compounds						Qvalue
3) Isopentane	8.19	43	927871	212.693	ug/L	96
4) 1-Pentene	8.83	42	1177006	212.581	ug/L	100
5) 2-Methyl-1-butene	9.14	55	1799521M6	205.085	ug/L	
6) Pentane	9.20	43	1602203	208.177	ug/L	99
7) 2-Pentene (trans)	9.64	55	1709441	210.499	ug/L	99
9) 2-Pentene (cis)	10.01	55	1717536	209.919	ug/L	99
10) Tertiary butanol	10.50	59	437185M1	680.596	ug/L	
13) Cyclopentane	12.81	70	542341	211.136	ug/L	98
14) 2,3-Dimethylbutane	12.81	71	410615	211.555	ug/L	95
15) 2-Methylpentane	13.02	43	2042318	210.525	ug/L	99
16) MTBE	13.28	73	2084004	198.146	ug/L	99
17) 3-Methylpentane	13.99	57	1731536	211.653	ug/L	99
18) 1-Hexene	14.56	56	1071210	209.711	ug/L	98
19) Hexane	15.17	57	1513067	211.785	ug/L	99
20) Diisopropyl ether	15.43	45	2886340	195.088	ug/L	98
25) Ethyl tertiary butyl ethe	16.89	59	2554374	191.698	ug/L	100
26) 2,2-Dimethylpentane	17.19	57	2170378	215.497	ug/L	99
27) Methylcyclopentane	17.47	56	1976041	210.301	ug/L	99
28) 2,4-Dimethylpentane	17.63	43	1851018	207.996	ug/L	99
30) 1,2-Dichloroethane	18.86	62	1024814	197.707	ug/L	99
32) Cyclohexane	20.33	56	1718097	212.016	ug/L	98
33) 2-Methyhexane	20.78	43	2092403	210.682	ug/L	98

 AJ 3/22/16 MR 3/21/16

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009678.D
Acq On : 2 Mar 2016 12:39 am
Operator : VOA4:MR
Sample : I403011606
Misc : 200 PPB PIANO
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 19 12:23:54 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:30 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
34) Benzene	20.90	78	2859818	208.429 ug/L	99
35) 2,3-Dimethylpentane	21.08	56	1632627	208.621 ug/L	100
36) Thiophene	21.36	84	1460711	202.224 ug/L	96
38) 3-Methylhexane	21.59	43	1776059	209.781 ug/L	98
39) TAME	21.91	73	1958961	184.959 ug/L	99
43) 1-Heptene/1,2-DMCP (trans	22.91	70	1236817	412.628 ug/L	97
44) Isooctane	23.01	57	4097058M6	204.198 ug/L	
46) Heptane	23.75	43	1656981	203.469 ug/L	99
51) Methycyclohexane	26.14	83	1365525	211.460 ug/L	98
52) 2,5-Dimethylhexane	26.81	57	2052267	206.900 ug/L	98
53) 2,4-Dimethyhexane	27.07	57	1637278M4	205.023 ug/L	
55) 2,2,3-Trimethylpentane	27.32	57	3271066	207.928 ug/L	99
57) 2,3,4-Trimethylpentane	28.85	43	2518152	204.432 ug/L	99
58) 2,3,3-Trimethylpentane	29.42	43	2168892	202.398 ug/L	99
59) 2,3-Dimethylhexane	29.68	43	2294814	204.831 ug/L	96
60) 2-Methylheptane	30.12	57	1884553	204.116 ug/L	98
63) 3-Methylheptane	30.87	43	1705688	204.841 ug/L	98
65) 3-Ethylhexane	30.99	43	2782520M6	200.815 ug/L	
66) Toluene	31.12	91	3237139	206.814 ug/L	99
67) 2-Methylthiophene	31.28	97	2560788	203.854 ug/L	99
69) 3-Methylthiophene	32.04	97	2571175	201.941 ug/L	98
70) 1-Octene	32.52	55	971686	202.314 ug/L	100
71) Octane	33.37	43	2123084	199.782 ug/L	99
73) 1,2-Dibromoethane	33.78	107	682481	202.735 ug/L	98
86) Ethylbenzene	40.16	91	3674352	200.060 ug/L	98
88) 2-Ethylthiophene	40.30	97	2646700	196.451 ug/L	99
91) p/m-Xylene	41.41	91	5657851	398.224 ug/L	98
92) 1-Nonene	42.12	56	1082833	197.550 ug/L	99
95) Nonane	42.91	43	1938468M6	188.957 ug/L	
96) Styrene	43.25	104	2262818	195.258 ug/L	100
98) o-Xylene	43.67	91	2805700	195.518 ug/L	100
102) Isopropylbenzene	46.00	105	3598336	195.779 ug/L	99
104) n-Propylbenzene	48.58	91	4415703	199.160 ug/L	100
107) 1-Methyl-3-ethylbenzene	49.20	105	3635680	197.705 ug/L	99
108) 1-Methyl-4-ethylbenzene	49.38	105	3531981	196.490 ug/L	99
109) 1,3,5-Trimethylbenzene	49.95	105	3085901	198.569 ug/L	99
110) 1-Decene	50.14	41	989992	191.402 ug/L	99
112) 1-Methyl-2-ethylbenzene	50.29	105	3522502	195.815 ug/L	99
113) Decane	50.52	43	1764597	181.646 ug/L	99
115) 1,2,4-Trimethylbenzene	51.16	105	3106175	199.762 ug/L	99
117) sec-Butylbenzene	51.43	105	4060458	197.728 ug/L	99

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009678.D
Acq On : 2 Mar 2016 12:39 am
Operator : VOA4:MR
Sample : I403011606
Misc : 200 PPB PIANO
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 19 12:23:54 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:30 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
118)	1-Methyl-3-isopropylbenze	51.82	119	3490349	201.473 ug/L	99
119)	1-Methyl-4-isopropylbenze	52.01	119	3583214	199.606 ug/L	99
121)	1-Methyl-2-isopropylbenze	52.49	119	3554561	202.066 ug/L	99
122)	Indan	52.58	117	3080343M4	197.518 ug/L	
124)	1-Methyl-3-propylbenzene	52.86	105	4020714	200.714 ug/L	100
126)	1-Methyl-4-propylbenzene	53.01	105	4661812	201.595 ug/L	98
127)	n-Butylbenzene	53.01	91	3666929	199.865 ug/L	99
128)	1,2-Dimethyl-4-ethylbenze	53.13	119	3614945	204.386 ug/L	99
129)	1,2-Diethylbenzene	53.22	119	1763438	200.567 ug/L	99
130)	1-Methyl-2-propylbenzene	53.41	105	4274875	203.360 ug/L	99
131)	1,4-Dimethyl-2-ethylbenze	53.73	119	3457503	204.042 ug/L	99
132)	Undecane	53.79	57	1796915M4	173.381 ug/L	
133)	1,3-Dimethyl-4-ethylbenze	53.81	119	4119224	204.769 ug/L	99
134)	1,3-Dimethyl-5-ethylbenze	53.95	119	3777913	205.477 ug/L	98
135)	1,3-Dimethyl-2-ethylbenze	54.17	119	4134807	204.377 ug/L	100
136)	1,2-Dimethyl-3-ethylbenze	54.53	119	3765595	205.493 ug/L	99
137)	1,2,4,5-Tetramethylbenzen	54.93	119	4029239	208.509 ug/L	100
139)	Pentylbenzene	55.51	91	3142264	206.728 ug/L	99
142)	Dodecane	56.01	43	1206842	171.697 ug/L	96
144)	Naphthalene	56.83	128	3233690	193.250 ug/L	100
145)	Benzothiophene	56.92	134	1755205	188.343 ug/L	100
148)	MMT	58.00	134	1133092	181.819 ug/L	99
149)	Tridecane	58.09	57	1045090	201.023 ug/L	98
150)	2-Methylnaphthalene	59.56	142	1839724	203.602 ug/L	98
151)	1-Methylnaphthalene	60.03	142	1536685	199.506 ug/L	99

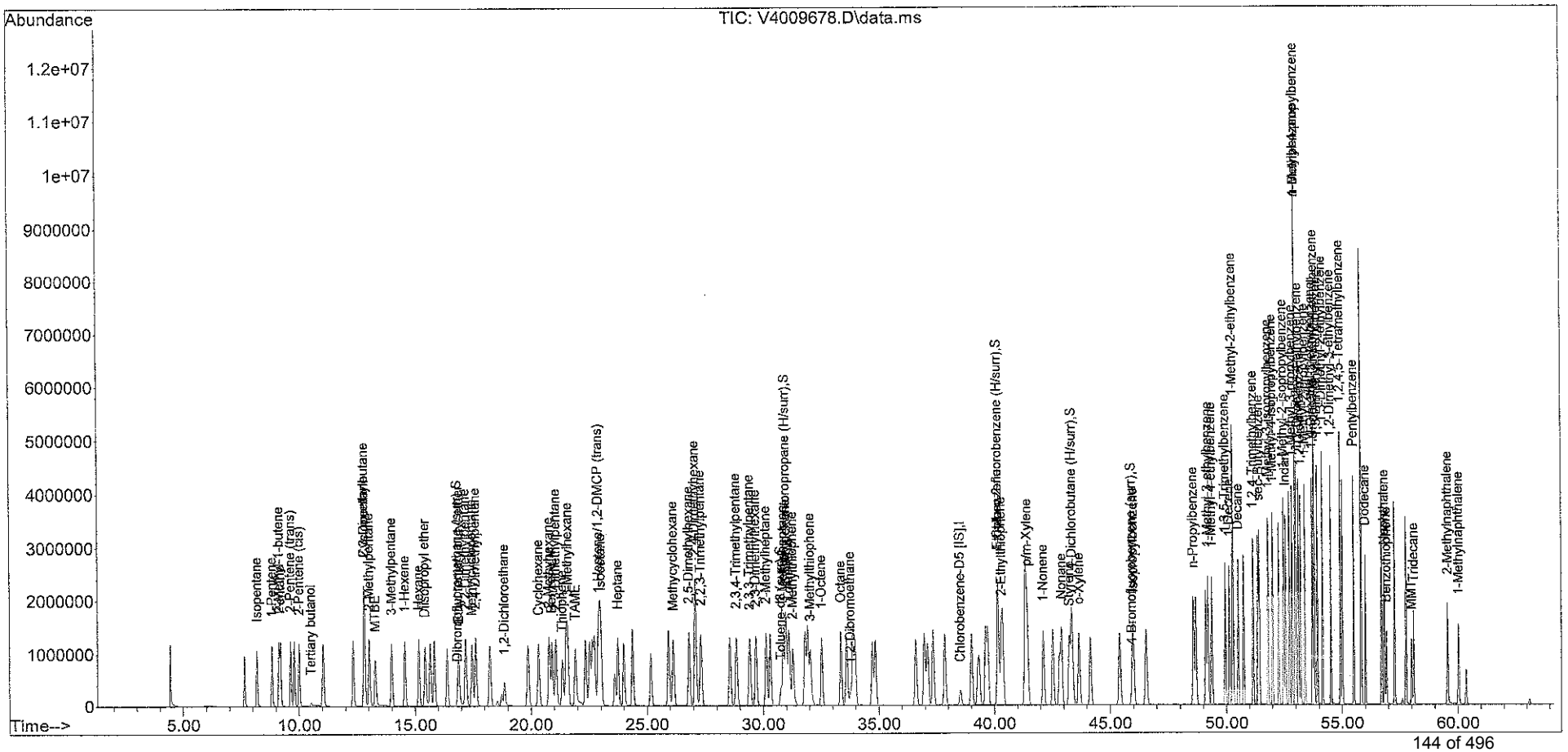
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009678.D
Acq On : 2 Mar 2016 12:39 am
Operator : VOA4:MR
Sample : I403011606
Misc : 200 PPB PIANO
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 19 12:23:54 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:19:30 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



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Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009683.D
Acq On : 2 Mar 2016 4:27 pm
Operator : VOA4:MR
Sample : ICV
Misc : 20 PPB PIANO ICV
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 11:39:37 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:32:20 2016
Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Chlorobenzene-D5 [IS]	1.000	1.000	0.0	101	0.00
3		Isopentane	0.407	0.000#	100.0#	0#	-8.17#
4		1-Pentene	0.477	0.505	-5.9	107	0.00
5		2-Methyl-1-butene	0.743	0.000#	100.0#	0#	-9.12#
6		Pentane	0.663	0.678	-2.3	104	0.00
7		2-Pentene (trans)	0.689	0.000#	100.0#	0#	-9.63#
9		2-Pentene (cis)	0.707	0.000#	100.0#	0#	-10.00#
10		Tertiary butanol	0.048	0.059#	-22.9	100	0.00
13		Cyclopentane	0.214	0.219	-2.3	101	0.00
14		2,3-Dimethylbutane	0.161	0.000#	100.0#	0#	-12.80#
15		2-Methylpentane	0.841	0.860	-2.3	104	0.00
16		MTBE	0.867	0.901	-3.9	102	-0.01
17		3-Methylpentane	0.695	0.709	-2.0	102	0.00
18		1-Hexene	0.427	0.424	0.7	98	0.00
19		Hexane	0.599	0.607	-1.3	101	0.00
20		Diisopropyl ether	1.212	1.269	-4.7	102	-0.01
24	S	Dibromofluoromethane (surr)	0.291	0.296	-1.7	103	0.00
25		Ethyl tertiary butyl ether	1.079	1.112	-3.1	101	0.00
26		2,2-Dimethylpentane	0.861	0.000#	100.0#	0#	-17.18#
27		Methylcyclopentane	0.792	0.822	-3.8	102	0.00
28		2,4-Dimethylpentane	0.773	0.788	-1.9	104	0.00
30		1,2-Dichloroethane	0.430	0.000#	100.0#	0#	-18.84#
32		Cyclohexane	0.679	0.691	-1.8	103	0.00
33		2-Methyhexane	0.850	0.851	-0.1	102	-0.02
34	M	Benzene	1.152	1.202	-4.3	103	-0.01
35		2,3-Dimethylpentane	0.653	0.660	-1.1	100	0.00
36		Thiophene	0.598	0.000#	100.0#	0#	-21.34#
38		3-Methylhexane	0.743	0.701	5.7	96	-0.02
39		TAME	0.943	0.932	1.2	103	0.00
43		1-Heptene/1,2-DMCP (trans)	0.251	0.000#	100.0#	0#	-22.89#
44		Isooctane	1.690	1.717	-1.6	99	0.00
46		Heptane	0.702	0.707	-0.7	102	-0.02
51		Methycyclohexane	0.539	0.552	-2.4	103	-0.02
52		2,5-Dimethylhexane	0.840	0.000#	100.0#	0#	-26.81#
53		2,4-Dimethyhexane	0.666	0.000#	100.0#	0#	-27.06#
55		2,2,3-Trimethylpentane	1.330	0.000#	100.0#	0#	-27.32#
57		2,3,4-Trimethylpentane	1.041	0.000#	100.0#	0#	-28.84#
58		2,3,3-Trimethylpentane	0.905	0.000#	100.0#	0#	-29.41#
59		2,3-Dimethylhexane	0.954	0.000#	100.0#	0#	-29.68#

AJ 3/22/16 MR 3/21/16

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009683.D
Acq On : 2 Mar 2016 4:27 pm
Operator : VOA4:MR
Sample : ICV
Misc : 20 PPB PIANO ICV
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 11:39:37 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:32:20 2016
Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
60		2-Methylheptane	0.763	0.776	-1.7	102	-0.01
62	S	Toluene-d8 (surr)	1.260	1.229	2.5	101	-0.01
63		3-Methylheptane	0.749	0.708	5.5	96	0.00
64	S	2-Bromo-1-chloropropane (H/	0.371	0.000#	100.0#	0#	-30.96#
65		3-Ethylhexane	1.157	0.000#	100.0#	0#	-30.98#
66	M	Toluene	1.313	1.350	-2.8	101	0.00
67		2-Methylthiophene	1.042	0.000#	100.0#	0#	-31.27#
69		3-Methylthiophene	1.059	0.000#	100.0#	0#	-32.03#
70		1-Octene	0.399	0.000#	100.0#	0#	-32.52#
71		Octane	0.891	0.891	0.0	102	-0.01
73		1,2-Dibromoethane	0.274	0.000#	100.0#	0#	-33.77#
86		Ethylbenzene	1.519	1.536	-1.1	99	-0.01
87	S	1-Chloro-2-fluorobenzene (H	0.811	0.000#	100.0#	0#	-40.14#
88		2-Ethylthiophene	1.108	0.000#	100.0#	0#	-40.29#
91		p/m-Xylene	1.172	1.212	-3.4	101	-0.02
92		1-Nonene	0.441	0.000#	100.0#	0#	-42.11#
95		Nonane	0.853	0.832	2.5	96	0.00
96		Styrene	0.949	0.000#	100.0#	0#	-43.24#
97	S	1,4-Dichlorobutane (H/surr)	0.746	0.000#	100.0#	0#	-43.36#
98		o-Xylene	1.185	1.226	-3.5	100	-0.01
101	S	4-Bromofluorobenzene (surr)	0.490	0.498	-1.6	100	0.00
102		Isopropylbenzene	1.512	1.563	-3.4	101	-0.01
104		n-Propylbenzene	1.821	1.873	-2.9	100	0.00
107		1-Methyl-3-ethylbenzene	1.515	1.551	-2.4	98	0.00
108		1-Methyl-4-ethylbenzene	1.478	1.544	-4.5	101	0.00
109		1,3,5-Trimethylbenzene	1.280	1.341	-4.8	101	0.00
110		1-Decene	0.428	0.430	-0.5	100	0.00
112		1-Methyl-2-ethylbenzene	1.492	1.564	-4.8	100	0.00
113		Decane	0.849	0.848	0.1	102	0.00
115		1,2,4-Trimethylbenzene	1.294	1.343	-3.8	100	0.00
117		sec-Butylbenzene	1.697	1.762	-3.8	100	0.00
118		1-Methyl-3-isopropylbenzene	1.434	0.000#	100.0#	0#	-51.81#
119		1-Methyl-4-isopropylbenzene	1.474	0.000#	100.0#	0#	-52.01#
121		1-Methyl-2-isopropylbenzene	1.475	0.000#	100.0#	0#	-52.49#
122		Indan	1.302	0.000#	100.0#	0#	-52.58#
124		1-Methyl-3-propylbenzene	1.670	0.000#	100.0#	0#	-52.86#
126		1-Methyl-4-propylbenzene	1.937	2.015	-4.0	100	0.00
127		n-Butylbenzene	1.529	1.597	-4.4	101	0.00
128		1,2-Dimethyl-4-ethylbenzene	1.476	0.000#	100.0#	0#	-53.13#

Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009683.D
Acq On : 2 Mar 2016 4:27 pm
Operator : VOA4:MR
Sample : ICV
Misc : 20 PPB PIANO ICV
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 11:39:37 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:32:20 2016
Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
129	1,2-Diethylbenzene	0.741	0.771	-4.0	100	0.00
130	1-Methyl-2-propylbenzene	1.755	0.000#	100.0#	0#	-53.41#
131	1,4-Dimethyl-2-ethylbenzene	1.411	0.000#	100.0#	0#	-53.72#
132	Undecane	0.857	0.919	-7.2	100	0.00
133	1,3-Dimethyl-4-ethylbenzene	1.694	0.000#	100.0#	0#	-53.81#
134	1,3-Dimethyl-5-ethylbenzene	1.545	1.641	-6.2	102	0.00
135	1,3-Dimethyl-2-ethylbenzene	1.697	0.000#	100.0#	0#	-54.17#
136	1,2-Dimethyl-3-ethylbenzene	1.534	0.000#	100.0#	0#	-54.53#
137	1,2,4,5-Tetramethylbenzene	1.620	0.000#	100.0#	0#	-54.93#
139	Pentylbenzene	1.273	1.331	-4.6	101	0.00
142	Dodecane	0.620	0.704	-13.5	108	0.00
144	Naphthalene	1.378	0.000#	100.0#	0#	-56.83#
145	Benzothiophene	0.763	0.000#	100.0#	0#	-56.92#
148	MMT	0.487	0.000#	100.0#	0#	-58.00#
149	Tridecane	0.529	0.000#	100.0#	0#	-58.09#
150	2-Methylnaphthalene	0.702	0.000#	100.0#	0#	-59.56#
151	1-Methylnaphthalene	0.592	0.000#	100.0#	0#	-60.03#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009683.D
Acq On : 2 Mar 2016 4:27 pm
Operator : VOA4:MR
Sample : ICV
Misc : 20 PPB PIANO ICV
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 11:39:37 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:32:20 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.51	117	626354	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.82	113	185652	51.004	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 102.01%			
62) Toluene-d8 (surr)	30.74	98	770067	48.805	ug/L	-0.01
Spiked Amount 50.000	Range 87 - 113		Recovery = 97.61%			
64) 2-Bromo-1-chloropropane (	0.00	77	0d	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery = 0.00%#			
87) 1-Chloro-2-fluorobenzene	0.00	130	0	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery = 0.00%#			
97) 1,4-Dichlorobutane (H/sur	0.00	55	0	0.000	ug/L	
Spiked Amount 50.000	Range 70 - 130		Recovery = 0.00%#			
101) 4-Bromofluorobenzene (sur	45.93	95	311708	50.778	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 101.56%			
Target Compounds						Qvalue
4) 1-Pentene	8.82	42	126411	21.165	ug/L	99
6) Pentane	9.19	43	169800	20.454	ug/L	98
10) Tertiary butanol	10.59	59	73981M1	122.757	ug/L	
13) Cyclopentane	12.80	70	54962	20.467	ug/L #	29
15) 2-Methylpentane	13.01	43	215380	20.454	ug/L	100
16) MTBE	13.28	73	225697	20.774	ug/L	99
17) 3-Methylpentane	13.98	57	177546	20.387	ug/L	99
18) 1-Hexene	14.55	56	106105	19.817	ug/L	98
19) Hexane	15.16	57	152022	20.263	ug/L	96
20) Diisopropyl ether	15.42	45	317885	20.937	ug/L	97
25) Ethyl tertiary butyl ethe	16.88	59	278545	20.611	ug/L	97
27) Methylcyclopentane	17.45	56	206067	20.761	ug/L	98
28) 2,4-Dimethylpentane	17.61	43	197515	20.391	ug/L	99
32) Cyclohexane	20.32	56	173044	20.342	ug/L	99
33) 2-Methyhexane	20.76	43	213288	20.042	ug/L	100
34) Benzene	20.89	78	301134	20.869	ug/L	98
35) 2,3-Dimethylpentane	21.06	56	165321	20.215	ug/L	98
38) 3-Methylhexane	21.56	43	175568	18.868	ug/L	98
39) TAME	21.90	73	233514	19.762	ug/L	97
44) Isooctane	22.98	57	430105	20.313	ug/L	95
46) Heptane	23.72	43	177018	20.123	ug/L	98
51) Methycyclohexane	26.11	83	138191	20.452	ug/L	98
60) 2-Methylheptane	30.10	57	194315	20.333	ug/L	97

AT 3/22/16 MR 3/21/16

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009683.D
Acq On : 2 Mar 2016 4:27 pm
Operator : VOA4:MR
Sample : ICV
Misc : 20 PPB PIANO ICV
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 11:39:37 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:32:20 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
63) 3-Methylheptane	30.84	43	177448	18.919	ug/L	98
66) Toluene	31.10	91	338199	20.557	ug/L	96
71) Octane	33.35	43	223141	19.999	ug/L	99
86) Ethylbenzene	40.14	91	384724	20.219	ug/L	99
91) p/m-Xylene	41.39	91	607545M1	41.375	ug/L	
95) Nonane	42.89	43	208357	19.490	ug/L	98
98) o-Xylene	43.64	91	307194	20.699	ug/L	99
102) Isopropylbenzene	45.99	105	391512	20.665	ug/L	98
104) n-Propylbenzene	48.57	91	469294	20.576	ug/L	99
107) 1-Methyl-3-ethylbenzene	49.19	105	388498	20.468	ug/L	100
108) 1-Methyl-4-ethylbenzene	49.36	105	386791	20.893	ug/L	99
109) 1,3,5-Trimethylbenzene	49.95	105	336091	20.967	ug/L	99
110) 1-Decene	50.13	41	107704	20.087	ug/L	99
112) 1-Methyl-2-ethylbenzene	50.28	105	391746	20.961	ug/L	99
113) Decane	50.52	43	212384	19.980	ug/L	98
115) 1,2,4-Trimethylbenzene	51.16	105	336595	20.766	ug/L	97
117) sec-Butylbenzene	51.42	105	441398	20.768	ug/L	99
126) 1-Methyl-4-propylbenzene	53.00	105	504724	20.800	ug/L	100
127) n-Butylbenzene	53.00	91	400134	20.890	ug/L	99
129) 1,2-Diethylbenzene	53.22	119	193127	20.817	ug/L	99
132) Undecane	53.78	57	230354	21.450	ug/L	99
134) 1,3-Dimethyl-5-ethylbenze	53.94	119	411246	21.246	ug/L	98
139) Pentylbenzene	55.51	91	333569	20.915	ug/L	99
142) Dodecane	56.01	43	176321	22.717	ug/L	97

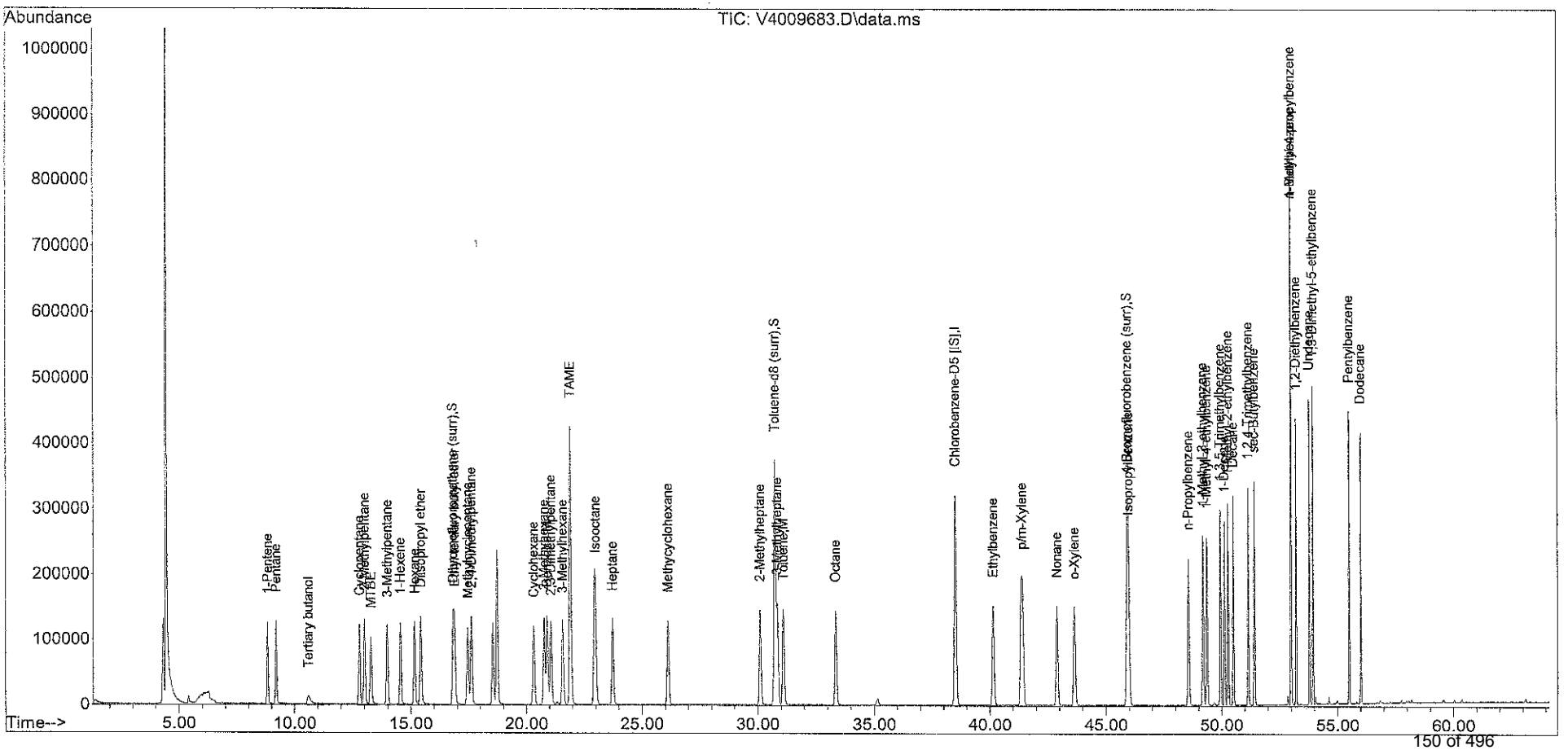
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160302\
Data File : V4009683.D
Acq On : 2 Mar 2016 4:27 pm
Operator : VOA4:MR
Sample : ICV
Misc : 20 PPB PIANO ICV
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 07 11:39:37 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160302\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:32:20 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



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Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009725.D
Acq On : 18 Mar 2016 12:12 pm
Operator : VOA4:MR
Sample : C403181602
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 11:36:15 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Sat Mar 19 12:25:34 2016
Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Chlorobenzene-D5 [IS]	1.000	1.000	0.0	85	0.00
3		Isopentane	0.407	0.402	1.2	91	0.00
4		1-Pentene	0.477	0.514	-7.8	92	0.01
5		2-Methyl-1-butene	0.743	0.826	-11.2	93	0.00
6		Pentane	0.663	0.704	-6.2	90	0.01
7		2-Pentene (trans)	0.689	0.765	-11.0	93	0.00
9		2-Pentene (cis)	0.707	0.783	-10.7	94	0.00
10		Tertiary butanol	0.048	0.046#	4.2	71	-0.07
13		Cyclopentane	0.214	0.241	-12.6	93	0.00
14		2,3-Dimethylbutane	0.161	0.183	-13.7	93	0.00
15		2-Methylpentane	0.841	0.902	-7.3	92	0.00
16		MTBE	0.867	0.961	-10.8	90	0.00
17		3-Methylpentane	0.695	0.769	-10.6	93	0.00
18		1-Hexene	0.427	0.479	-12.2	93	0.00
19		Hexane	0.599	0.670	-11.9	93	0.00
20		Diisopropyl ether	1.212	1.322	-9.1	88	0.00
24	S	Dibromofluoromethane (surr)	0.291	0.352	-21.0	102	0.00
25		Ethyl tertiary butyl ether	1.079	1.190	-10.3	88	0.00
26		2,2-Dimethylpentane	0.861	0.952	-10.6	93	0.00
27		Methylcyclopentane	0.792	0.895	-13.0	94	0.00
28		2,4-Dimethylpentane	0.773	0.813	-5.2	90	0.00
30		1,2-Dichloroethane	0.430	0.468	-8.8	89	0.00
32		Cyclohexane	0.679	0.758	-11.6	92	0.00
33		2-Methyhexane	0.850	0.919	-8.1	91	0.00
34	M	Benzene	1.152	1.276	-10.8	92	0.00
35		2,3-Dimethylpentane	0.653	0.730	-11.8	92	0.00
36		Thiophene	0.598	0.666	-11.4	91	0.00
38		3-Methylhexane	0.743	0.789	-6.2	92	-0.01
39		TAME	0.943	0.902	4.3	84	0.00
43		1-Heptene/1,2-DMCP (trans)	0.251	0.279	-11.2	92	0.00
44		Isooctane	1.690	1.904	-12.7	94	0.00
46		Heptane	0.702	0.764	-8.8	93	0.00
51		Methycyclohexane	0.539	0.606	-12.4	93	0.00
52		2,5-Dimethylhexane	0.840	0.917	-9.2	91	0.00
53		2,4-Dimethyhexane	0.666	0.736	-10.5	91	0.00
55		2,2,3-Trimethylpentane	1.330	1.468	-10.4	92	-0.01
57		2,3,4-Trimethylpentane	1.041	1.110	-6.6	89	0.00
58		2,3,3-Trimethylpentane	0.905	0.963	-6.4	89	-0.01
59		2,3-Dimethylhexane	0.954	1.028	-7.8	91	0.00

Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009725.D
Acq On : 18 Mar 2016 12:12 pm
Operator : VOA4:MR
Sample : C403181602
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 11:36:15 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Sat Mar 19 12:25:34 2016
Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
60		2-Methylheptane	0.763	0.846	-10.9	90	0.00
62	S	Toluene-d8 (surr)	1.260	1.369	-8.7	92	0.00
63		3-Methylheptane	0.749	0.743	0.8	88	0.00
64	S	2-Bromo-1-chloropropane (H/	0.371	0.370	0.3	81	0.00
65		3-Ethylhexane	1.157	1.249	-8.0	89	0.00
66	M	Toluene	1.313	1.382	-5.3	87	0.00
67		2-Methylthiophene	1.042	1.088	-4.4	86	0.00
69		3-Methylthiophene	1.059	1.081	-2.1	84	0.00
70		1-Octene	0.399	0.432	-8.3	89	0.00
71		Octane	0.891	0.947	-6.3	88	0.00
73		1,2-Dibromoethane	0.274	0.266	2.9	78	0.00
86		Ethylbenzene	1.519	1.526	-0.5	82	-0.01
87	S	1-Chloro-2-fluorobenzene (H	0.811	0.765	5.7	76	0.00
88		2-Ethylthiophene	1.108	1.102	0.5	81	0.00
91		p/m-Xylene	1.172	1.161	0.9	81	-0.02
92		1-Nonene	0.441	0.466	-5.7	84	0.00
95		Nonane	0.853	0.878	-2.9	85	0.00
96		Styrene	0.949	0.880	7.3	75	0.00
97	S	1,4-Dichlorobutane (H/surr)	0.746	0.748	-0.3	82	0.00
98		o-Xylene	1.185	1.131	4.6	78	-0.01
101	S	4-Bromofluorobenzene (surr)	0.490	0.459	6.3	79	0.00
102		Isopropylbenzene	1.512	1.489	1.5	80	0.00
104		n-Propylbenzene	1.821	1.784	2.0	79	0.00
107		1-Methyl-3-ethylbenzene	1.515	1.487	1.8	80	0.00
108		1-Methyl-4-ethylbenzene	1.478	1.453	1.7	80	0.00
109		1,3,5-Trimethylbenzene	1.280	1.255	2.0	80	0.00
110		1-Decene	0.428	0.441	-3.0	84	0.00
112		1-Methyl-2-ethylbenzene	1.492	1.442	3.4	79	0.00
113		Decane	0.849	0.837	1.4	85	0.00
115		1,2,4-Trimethylbenzene	1.294	1.254	3.1	80	0.00
117		sec-Butylbenzene	1.697	1.708	-0.6	82	0.00
118		1-Methyl-3-isopropylbenzene	1.434	1.451	-1.2	83	0.00
119		1-Methyl-4-isopropylbenzene	1.474	1.483	-0.6	82	0.00
121		1-Methyl-2-isopropylbenzene	1.475	1.469	0.4	82	0.00
122		Indan	1.302	1.209	7.1	77	0.00
124		1-Methyl-3-propylbenzene	1.670	1.699	-1.7	84	0.00
126		1-Methyl-4-propylbenzene	1.937	1.985	-2.5	85	0.00
127		n-Butylbenzene	1.529	1.555	-1.7	84	0.00
128		1,2-Dimethyl-4-ethylbenzene	1.476	1.542	-4.5	86	0.00

Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009725.D
Acq On : 18 Mar 2016 12:12 pm
Operator : VOA4:MR
Sample : C403181602
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 11:36:15 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Sat Mar 19 12:25:34 2016
Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
129	1,2-Diethylbenzene	0.741	0.742	-0.1	83	0.00
130	1-Methyl-2-propylbenzene	1.755	1.800	-2.6	85	0.00
131	1,4-Dimethyl-2-ethylbenzene	1.411	1.459	-3.4	85	0.00
132	Undecane	0.857	0.971	-13.3	93	0.00
133	1,3-Dimethyl-4-ethylbenzene	1.694	1.748	-3.2	86	0.00
134	1,3-Dimethyl-5-ethylbenzene	1.545	1.607	-4.0	86	0.00
135	1,3-Dimethyl-2-ethylbenzene	1.697	1.718	-1.2	84	0.00
136	1,2-Dimethyl-3-ethylbenzene	1.534	1.587	-3.5	86	0.00
137	1,2,4,5-Tetramethylbenzene	1.620	1.747	-7.8	89	0.00
139	Pentylbenzene	1.273	1.406	-10.4	91	0.00
142	Dodecane	0.620	0.648	-4.5	91	0.00
144	Naphthalene	1.378	1.537	-11.5	91	0.00
145	Benzothiophene	0.763	0.817	-7.1	87	0.00
148	MMT	0.487	0.527	-8.2	83	0.00
149	Tridecane	0.529	0.507	4.2	96	0.00
150	2-Methylnaphthalene	0.702	0.839	-19.5	92	0.00
151	1-Methylnaphthalene	0.592	0.741	-25.2#	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009725.D
Acq On : 18 Mar 2016 12:12 pm
Operator : VOA4:MR
Sample : C403181602
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 11:36:15 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Sat Mar 19 12:25:34 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Chlorobenzene-D5 [IS]	38.51	117	539950	50.000 ug/L	0.00
System Monitoring Compounds					
24) Dibromofluoromethane (sur	16.82	113	189912	60.524 ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 121.05%#		
62) Toluene-d8 (surr)	30.74	98	739292	54.353 ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 108.71%		
64) 2-Bromo-1-chloropropane (	30.96	77	199826M1	49.914 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.83%		
87) 1-Chloro-2-fluorobenzene	40.13	130	412832	47.121 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 94.24%		
97) 1,4-Dichlorobutane (H/sur	43.35	55	404015M6	50.125 ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.25%		
101) 4-Bromofluorobenzene (sur	45.93	95	247738	46.815 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 93.63%		
Target Compounds					Qvalue
3) Isopentane	8.18	43	217206	49.429 ug/L	99
4) 1-Pentene	8.83	42	277484	53.893 ug/L	99
5) 2-Methyl-1-butene	9.13	55	446104	55.629 ug/L	98
6) Pentane	9.19	43	380039	53.106 ug/L	98
7) 2-Pentene (trans)	9.63	55	412836	55.503 ug/L	99
9) 2-Pentene (cis)	10.00	55	422674	55.374 ug/L	99
10) Tertiary butanol	10.52	59	124336	239.327 ug/L	99
13) Cyclopentane	12.80	70	130029	56.170 ug/L	93
14) 2,3-Dimethylbutane	12.80	71	98696	56.673 ug/L	91
15) 2-Methylpentane	13.02	43	486779	53.625 ug/L	99
16) MTBE	13.28	73	518916	55.405 ug/L	99
17) 3-Methylpentane	13.99	57	415376	55.328 ug/L	100
18) 1-Hexene	14.56	56	258450	55.995 ug/L	97
19) Hexane	15.17	57	361794	55.940 ug/L	96
20) Diisopropyl ether	15.43	45	713907	54.545 ug/L	98
25) Ethyl tertiary butyl ethe	16.88	59	642415	55.142 ug/L	99
26) 2,2-Dimethylpentane	17.18	57	513858	55.252 ug/L	99
27) Methylcyclopentane	17.45	56	483085	56.458 ug/L	100
28) 2,4-Dimethylpentane	17.62	43	438887	52.561 ug/L	99
30) 1,2-Dichloroethane	18.84	62	252906M4	54.431 ug/L	
32) Cyclohexane	20.32	56	409044	55.780 ug/L	98

MR 3/21/16

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009725.D
Acq On : 18 Mar 2016 12:12 pm
Operator : VOA4:MR
Sample : C403181602
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 11:36:15 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Sat Mar 19 12:25:34 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
33) 2-Methyhexane	20.77	43	496247	54.092 ug/L	97
34) Benzene	20.90	78	688716	55.367 ug/L	99
35) 2,3-Dimethylpentane	21.06	56	394005	55.888 ug/L	98
36) Thiophene	21.34	84	359571	55.718 ug/L	97
38) 3-Methylhexane	21.57	43	426125	53.123 ug/L	99
39) TAME	21.90	73	487261	47.835 ug/L	99
43) 1-Heptene/1,2-DMCP (trans	22.89	70	300810	110.851 ug/L	98
44) Isooctane	22.99	57	1028303M6	56.335 ug/L	
46) Heptane	23.73	43	412279M4	54.367 ug/L	
51) Methycyclohexane	26.12	83	327158	56.168 ug/L	100
52) 2,5-Dimethylhexane	26.80	57	495023	54.560 ug/L	97
53) 2,4-Dimethyhexane	27.06	57	397525M4	55.251 ug/L	
55) 2,2,3-Trimethylpentane	27.31	57	792503	55.182 ug/L	99
57) 2,3,4-Trimethylpentane	28.84	43	599079	53.275 ug/L	98
58) 2,3,3-Trimethylpentane	29.40	43	520060	53.230 ug/L	99
59) 2,3-Dimethylhexane	29.67	43	555274	53.875 ug/L	94
60) 2-Methylheptane	30.11	57	456690	55.434 ug/L	97
63) 3-Methylheptane	30.85	43	401291	49.632 ug/L	98
65) 3-Ethylhexane	30.98	43	674577M6	54.013 ug/L	
66) Toluene	31.10	91	745995	52.600 ug/L	97
67) 2-Methylthiophene	31.27	97	587649	52.225 ug/L	99
69) 3-Methylthiophene	32.03	97	583619	51.041 ug/L	97
70) 1-Octene	32.52	55	233236	54.148 ug/L	99
71) Octane	33.35	43	511307	53.160 ug/L	99
73) 1,2-Dibromoethane	33.77	107	143484	48.472 ug/L	100
86) Ethylbenzene	40.14	91	824188	50.247 ug/L	98
88) 2-Ethylthiophene	40.28	97	594979	49.710 ug/L	100
91) p/m-Xylene	41.39	91	1253673	99.039 ug/L	97
92) 1-Nonene	42.11	56	251364	52.722 ug/L	98
95) Nonane	42.89	43	474100M6	51.446 ug/L	
96) Styrene	43.24	104	474907	46.325 ug/L	98
98) o-Xylene	43.64	91	610432	47.714 ug/L	100
102) Isopropylbenzene	46.00	105	803910	49.222 ug/L	98
104) n-Propylbenzene	48.57	91	963336	48.997 ug/L	99
107) 1-Methyl-3-ethylbenzene	49.19	105	802904	49.069 ug/L	100
108) 1-Methyl-4-ethylbenzene	49.37	105	784451	49.154 ug/L	99
109) 1,3,5-Trimethylbenzene	49.95	105	677806	49.052 ug/L	99
110) 1-Decene	50.12	41	237992	51.488 ug/L	99
112) 1-Methyl-2-ethylbenzene	50.28	105	778649	48.330 ug/L	99
113) Decane	50.51	43	452031	49.331 ug/L	98
115) 1,2,4-Trimethylbenzene	51.16	105	676936	48.446 ug/L	98

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009725.D
Acq On : 18 Mar 2016 12:12 pm
Operator : VOA4:MR
Sample : C403181602
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 11:36:15 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Sat Mar 19 12:25:34 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
117)	sec-Butylbenzene	51.42	105	922464	50.347	ug/L	99
118)	1-Methyl-3-isopropylbenze	51.81	119	783215	50.575	ug/L	99
119)	1-Methyl-4-isopropylbenze	52.01	119	800833	50.302	ug/L	99
121)	1-Methyl-2-isopropylbenze	52.48	119	793088	49.806	ug/L	99
122)	Indan	52.57	117	653010	46.431	ug/L	100
124)	1-Methyl-3-propylbenzene	52.85	105	917526	50.883	ug/L	99
126)	1-Methyl-4-propylbenzene	53.00	105	1071923	51.244	ug/L	99
127)	n-Butylbenzene	53.00	91	839619	50.848	ug/L	98
128)	1,2-Dimethyl-4-ethylbenze	53.12	119	832467	52.214	ug/L	98
129)	1,2-Diethylbenzene	53.22	119	400827	50.118	ug/L	100
130)	1-Methyl-2-propylbenzene	53.41	105	972164	51.289	ug/L	99
131)	1,4-Dimethyl-2-ethylbenze	53.72	119	787969	51.706	ug/L	100
132)	Undecane	53.79	57	524153M4	56.618	ug/L	
133)	1,3-Dimethyl-4-ethylbenze	53.81	119	943751	51.590	ug/L	99
134)	1,3-Dimethyl-5-ethylbenze	53.94	119	867627	51.997	ug/L	99
135)	1,3-Dimethyl-2-ethylbenze	54.17	119	927792	50.627	ug/L	99
136)	1,2-Dimethyl-3-ethylbenze	54.53	119	857112	51.742	ug/L	99
137)	1,2,4,5-Tetramethylbenzen	54.93	119	943498	53.931	ug/L	100
139)	Pentylbenzene	55.51	91	759086	55.212	ug/L	99
142)	Dodecane	56.01	43	349759	52.275	ug/L	96
144)	Naphthalene	56.83	128	829938	55.788	ug/L	100
145)	Benzothiophene	56.92	134	441036	53.537	ug/L	99
148)	MMT	58.00	134	284315	54.023	ug/L	99
149)	Tridecane	58.09	57	273696	47.890	ug/L	99
150)	2-Methylnaphthalene	59.56	142	453286	59.815	ug/L	98
151)	1-Methylnaphthalene	60.03	142	400002	62.529	ug/L	100

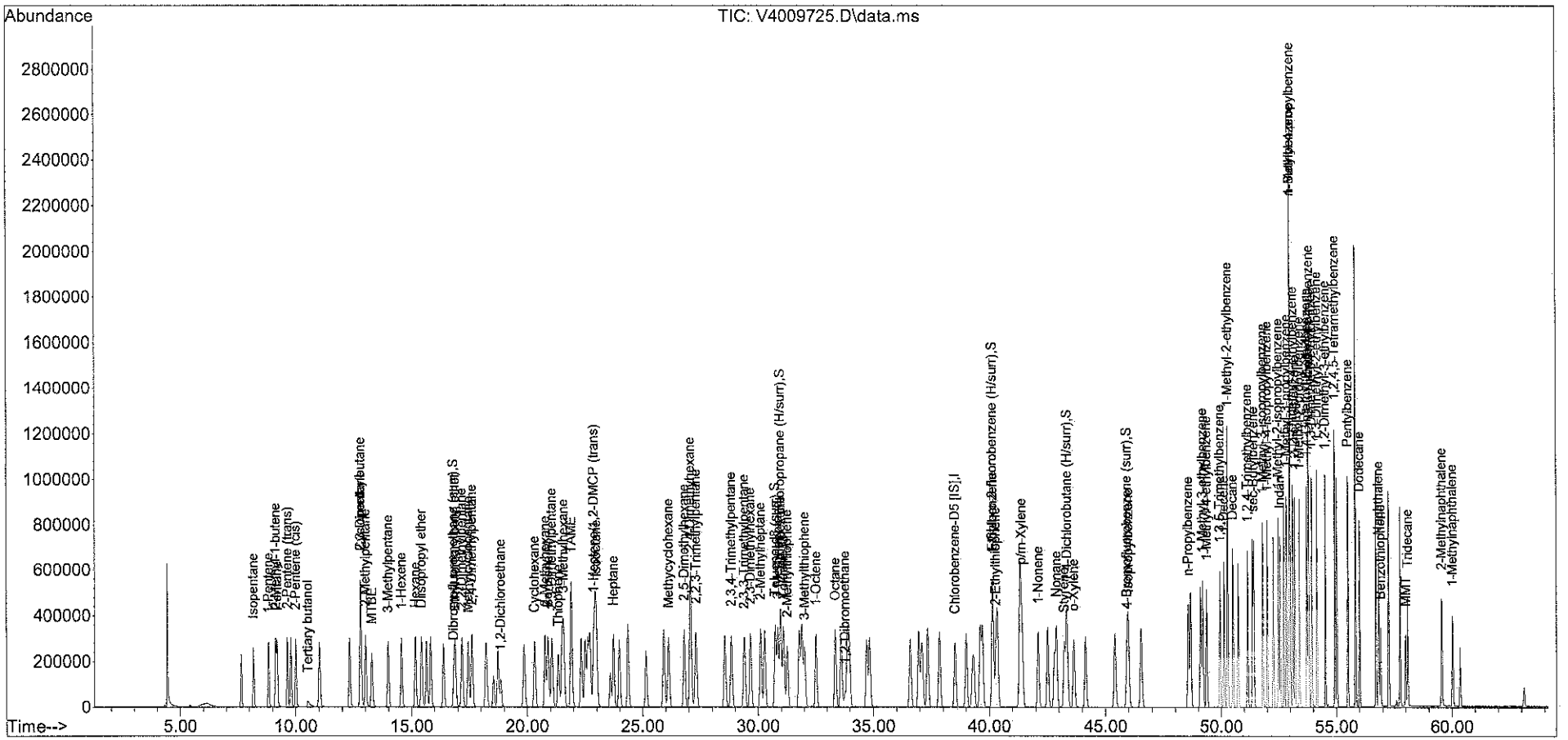
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009725.D
Acq On : 18 Mar 2016 12:12 pm
Operator : VOA4:MR
Sample : C403181602
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 11:36:15 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Sat Mar 19 12:25:34 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009743.D
Acq On : 19 Mar 2016 9:56 am
Operator : VOA4:MR
Sample : C403181603
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Mar 21 15:20:33 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Chlorobenzene-D5 [IS]	1.000	1.000	0.0	98	0.00
3		Isopentane	0.407	0.349	14.3	91	0.00
4		1-Pentene	0.477	0.447	6.3	92	0.00
5		2-Methyl-1-butene	0.743	0.727	2.2	95	0.00
6		Pentane	0.663	0.616	7.1	91	0.00
7		2-Pentene (trans)	0.689	0.670	2.8	94	0.00
9		2-Pentene (cis)	0.707	0.679	4.0	95	0.00
10		Tertiary butanol	0.048	0.054#	-12.5	96	-0.01
13		Cyclopentane	0.214	0.216	-0.9	96	0.00
14		2,3-Dimethylbutane	0.161	0.163	-1.2	96	0.00
15		2-Methylpentane	0.841	0.784	6.8	92	0.00
16		MTBE	0.867	0.884	-2.0	96	0.00
17		3-Methylpentane	0.695	0.670	3.6	93	0.00
18		1-Hexene	0.427	0.421	1.4	94	0.00
19		Hexane	0.599	0.593	1.0	95	0.00
20		Diisopropyl ether	1.212	1.201	0.9	93	0.00
24	S	Dibromofluoromethane (surr)	0.291	0.294	-1.0	99	-0.01
25		Ethyl tertiary butyl ether	1.079	1.095	-1.5	94	0.00
26		2,2-Dimethylpentane	0.861	0.832	3.4	94	0.00
27		Methylcyclopentane	0.792	0.774	2.3	94	-0.01
28		2,4-Dimethylpentane	0.773	0.710	8.2	91	0.00
30		1,2-Dichloroethane	0.430	0.430	0.0	95	0.00
32		Cyclohexane	0.679	0.671	1.2	95	-0.01
33		2-Methyhexane	0.850	0.799	6.0	92	-0.01
34	M	Benzene	1.152	1.162	-0.9	97	0.00
35		2,3-Dimethylpentane	0.653	0.643	1.5	94	0.00
36		Thiophene	0.598	0.619	-3.5	98	0.00
38		3-Methylhexane	0.743	0.682	8.2	92	-0.02
39		TAME	0.943	0.882	6.5	95	-0.01
43		1-Heptene/1,2-DMCP (trans)	0.251	0.255	-1.6	97	0.00
44		Isooctane	1.690	1.689	0.1	96	0.00
46		Heptane	0.702	0.655	6.7	92	-0.01
51		Methycyclohexane	0.539	0.548	-1.7	97	-0.01
52		2,5-Dimethylhexane	0.840	0.815	3.0	94	-0.01
53		2,4-Dimethyhexane	0.666	0.653	2.0	93	0.00
55		2,2,3-Trimethylpentane	1.330	1.315	1.1	95	-0.02
57		2,3,4-Trimethylpentane	1.041	0.986	5.3	91	0.00
58		2,3,3-Trimethylpentane	0.905	0.853	5.7	91	0.00
59		2,3-Dimethylhexane	0.954	0.899	5.8	92	-0.01

MR 3/29/16

Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009743.D
Acq On : 19 Mar 2016 9:56 am
Operator : VOA4:MR
Sample : C403181603
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Mar 21 15:20:33 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
60		2-Methylheptane	0.763	0.752	1.4	93	0.00
62	S	Toluene-d8 (surr)	1.260	1.250	0.8	97	-0.01
63		3-Methylheptane	0.749	0.695	7.2	95	0.00
64	S	2-Bromo-1-chloropropane (H/	0.371	0.383	-3.2	97	0.00
65		3-Ethylhexane	1.157	1.075	7.1	89	0.00
66	M	Toluene	1.313	1.328	-1.1	97	0.00
67		2-Methylthiophene	1.042	1.074	-3.1	98	0.00
69		3-Methylthiophene	1.059	1.090	-2.9	98	0.00
70		1-Octene	0.399	0.388	2.8	92	0.00
71		Octane	0.891	0.841	5.6	90	0.00
73		1,2-Dibromoethane	0.274	0.286	-4.4	97	0.00
86		Ethylbenzene	1.519	1.557	-2.5	97	0.00
87	S	1-Chloro-2-fluorobenzene (H	0.811	0.843	-3.9	97	0.00
88		2-Ethylthiophene	1.108	1.144	-3.2	97	0.00
91		p/m-Xylene	1.172	1.199	-2.3	96	0.00
92		1-Nonene	0.441	0.441	0.0	92	0.00
95		Nonane	0.853	0.781	8.4	87	0.00
96		Styrene	0.949	0.973	-2.5	96	-0.01
97	S	1,4-Dichlorobutane (H/surr)	0.746	0.748	-0.3	95	0.00
98		o-Xylene	1.185	1.208	-1.9	96	-0.01
101	S	4-Bromofluorobenzene (surr)	0.490	0.486	0.8	97	0.00
102		Isopropylbenzene	1.512	1.546	-2.2	96	-0.01
104		n-Propylbenzene	1.821	1.868	-2.6	96	0.00
107		1-Methyl-3-ethylbenzene	1.515	1.570	-3.6	97	0.00
108		1-Methyl-4-ethylbenzene	1.478	1.506	-1.9	96	0.00
109		1,3,5-Trimethylbenzene	1.280	1.314	-2.7	97	0.00
110		1-Decene	0.428	0.409	4.4	90	0.00
112		1-Methyl-2-ethylbenzene	1.492	1.554	-4.2	99	0.00
113		Decane	0.849	0.771	9.2	91	0.00
115		1,2,4-Trimethylbenzene	1.294	1.335	-3.2	98	0.00
117		sec-Butylbenzene	1.697	1.766	-4.1	98	0.00
118		1-Methyl-3-isopropylbenzene	1.434	1.504	-4.9	99	0.00
119		1-Methyl-4-isopropylbenzene	1.474	1.545	-4.8	98	0.00
121		1-Methyl-2-isopropylbenzene	1.475	1.526	-3.5	99	0.00
122		Indan	1.302	1.346	-3.4	99	0.00
124		1-Methyl-3-propylbenzene	1.670	1.718	-2.9	98	0.00
126		1-Methyl-4-propylbenzene	1.937	2.006	-3.6	99	0.00
127		n-Butylbenzene	1.529	1.567	-2.5	98	0.00
128		1,2-Dimethyl-4-ethylbenzene	1.476	1.533	-3.9	99	0.00

Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009743.D
Acq On : 19 Mar 2016 9:56 am
Operator : VOA4:MR
Sample : C403181603
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Mar 21 15:20:33 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
129	1,2-Diethylbenzene	0.741	0.760	-2.6	99	0.00
130	1-Methyl-2-propylbenzene	1.755	1.811	-3.2	98	0.00
131	1,4-Dimethyl-2-ethylbenzene	1.411	1.464	-3.8	99	0.00
132	Undecane	0.857	0.817	4.7	90	0.00
133	1,3-Dimethyl-4-ethylbenzene	1.694	1.757	-3.7	100	0.00
134	1,3-Dimethyl-5-ethylbenzene	1.545	1.584	-2.5	98	0.00
135	1,3-Dimethyl-2-ethylbenzene	1.697	1.747	-2.9	99	0.00
136	1,2-Dimethyl-3-ethylbenzene	1.534	1.589	-3.6	99	0.00
137	1,2,4,5-Tetramethylbenzene	1.620	1.668	-3.0	99	0.00
139	Pentylbenzene	1.273	1.312	-3.1	99	0.00
142	Dodecane	0.620	0.526	15.2	86	0.00
144	Naphthalene	1.378	1.485	-7.8	101	0.00
145	Benzothiophene	0.763	0.843	-10.5	103	0.00
148	MMT	0.487	0.551	-13.1	101	0.00
149	Tridecane	0.529	0.449	15.1	99	0.00
150	2-Methylnaphthalene	0.702	0.791	-12.7	100	0.00
151	1-Methylnaphthalene	0.592	0.694	-17.2	103	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009743.D
Acq On : 19 Mar 2016 9:56 am
Operator : VOA4:MR
Sample : C403181603
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Mar 21 15:20:33 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.51	117	624391	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.81	113	183599	50.599	ug/L	-0.01
Spiked Amount 50.000	Range 78 - 118		Recovery = 101.20%			
62) Toluene-d8 (surr)	30.74	98	780436	49.618	ug/L	-0.01
Spiked Amount 50.000	Range 87 - 113		Recovery = 99.24%			
64) 2-Bromo-1-chloropropane (	30.96	77	239161	51.660	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 103.32%			
87) 1-Chloro-2-fluorobenzene	40.14	130	526404	51.958	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 103.92%			
97) 1,4-Dichlorobutane (H/sur	43.36	55	466975M6	50.101	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.20%			
101) 4-Bromofluorobenzene (sur	45.93	95	303480	49.593	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.19%			
Target Compounds						Qvalue
3) Isopentane	8.16	43	218115	42.923	ug/L	97
4) 1-Pentene	8.82	42	278920	46.846	ug/L	97
5) 2-Methyl-1-butene	9.11	55	453846	48.941	ug/L	99
6) Pentane	9.18	43	384636	46.479	ug/L	99
7) 2-Pentene (trans)	9.62	55	418226	48.623	ug/L	98
9) 2-Pentene (cis)	9.99	55	423755	48.008	ug/L	98
10) Tertiary butanol	10.57	59	168631	280.691	ug/L	96
13) Cyclopentane	12.80	70	135044	50.447	ug/L	92
14) 2,3-Dimethylbutane	12.80	71	102057	50.678	ug/L	93
15) 2-Methylpentane	13.01	43	489453	46.627	ug/L	97
16) MTBE	13.28	73	552060	50.973	ug/L	99
17) 3-Methylpentane	13.97	57	418149	48.165	ug/L	97
18) 1-Hexene	14.55	56	262744	49.227	ug/L	98
19) Hexane	15.16	57	370165	49.494	ug/L	95
20) Diisopropyl ether	15.43	45	749944	49.550	ug/L	98
25) Ethyl tertiary butyl ethe	16.88	59	684007	50.772	ug/L	97
26) 2,2-Dimethylpentane	17.18	57	519622	48.316	ug/L	97
27) Methylcyclopentane	17.45	56	483052	48.819	ug/L	99
28) 2,4-Dimethylpentane	17.61	43	443407	45.921	ug/L	98
30) 1,2-Dichloroethane	18.84	62	268765	50.021	ug/L	99
32) Cyclohexane	20.31	56	418981	49.408	ug/L	97
33) 2-Methyhexane	20.76	43	498703	47.008	ug/L	95

MR 3/29/16

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009743.D
Acq On : 19 Mar 2016 9:56 am
Operator : VOA4:MR
Sample : C403181603
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Mar 21 15:20:33 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
34) Benzene	20.89	78	725577	50.442 ug/L	98
35) 2,3-Dimethylpentane	21.06	56	401330	49.228 ug/L	97
36) Thiophene	21.34	84	386403	51.778 ug/L	95
38) 3-Methylhexane	21.56	43	425912	45.916 ug/L	97
39) TAME	21.90	73	550979	46.776 ug/L	98
43) 1-Heptene/1,2-DMCP (trans	22.89	70	318979	101.650 ug/L	90
44) Isooctane	22.99	57	1054694M6	49.967 ug/L	
46) Heptane	23.73	43	409268M4	46.671 ug/L	
51) Methycyclohexane	26.12	83	342064	50.785 ug/L	98
52) 2,5-Dimethylhexane	26.79	57	509014	48.515 ug/L	97
53) 2,4-Dimethyhexane	27.06	57	407744M4	49.007 ug/L	
55) 2,2,3-Trimethylpentane	27.30	57	820886	49.428 ug/L	100
57) 2,3,4-Trimethylpentane	28.83	43	615933	47.366 ug/L	99
58) 2,3,3-Trimethylpentane	29.40	43	532395	47.123 ug/L	99
59) 2,3-Dimethylhexane	29.67	43	561602	47.120 ug/L	94
60) 2-Methylheptane	30.11	57	469479	49.279 ug/L	94
63) 3-Methylheptane	30.85	43	433779	46.394 ug/L	96
65) 3-Ethylhexane	30.98	43	671211	46.475 ug/L	96
66) Toluene	31.10	91	828987	50.547 ug/L	98
67) 2-Methylthiophene	31.27	97	670842	51.556 ug/L	99
69) 3-Methylthiophene	32.02	97	680687	51.480 ug/L	97
70) 1-Octene	32.51	55	242385	48.662 ug/L	99
71) Octane	33.35	43	525120	47.212 ug/L	99
73) 1,2-Dibromoethane	33.77	107	178731	52.213 ug/L	100
86) Ethylbenzene	40.15	91	971959	51.242 ug/L	98
88) 2-Ethylthiophene	40.28	97	714037	51.589 ug/L	99
91) p/m-Xylene	41.40	91	1497509M1	102.303 ug/L	
92) 1-Nonene	42.11	56	275314	49.936 ug/L	97
95) Nonane	42.90	43	487385M6	45.735 ug/L	
96) Styrene	43.23	104	607587	51.252 ug/L	100
98) o-Xylene	43.64	91	754391	50.992 ug/L	100
102) Isopropylbenzene	45.99	105	965597	51.127 ug/L	99
104) n-Propylbenzene	48.57	91	1166061	51.287 ug/L	99
107) 1-Methyl-3-ethylbenzene	49.20	105	980017	51.793 ug/L	99
108) 1-Methyl-4-ethylbenzene	49.37	105	940373	50.956 ug/L	99
109) 1,3,5-Trimethylbenzene	49.95	105	820624	51.356 ug/L	100
110) 1-Decene	50.12	41	255321	47.766 ug/L	99
112) 1-Methyl-2-ethylbenzene	50.28	105	970197	52.075 ug/L	99
113) Decane	50.51	43	481692	45.459 ug/L	98
115) 1,2,4-Trimethylbenzene	51.16	105	833847	51.605 ug/L	99
117) sec-Butylbenzene	51.42	105	1102909	52.055 ug/L	99

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009743.D
Acq On : 19 Mar 2016 9:56 am
Operator : VOA4:MR
Sample : C403181603
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Mar 21 15:20:33 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
118) 1-Methyl-3-isopropylbenze	51.81	119	939339	52.454	ug/L	99
119) 1-Methyl-4-isopropylbenze	52.01	119	964705	52.400	ug/L	100
121) 1-Methyl-2-isopropylbenze	52.48	119	952530	51.729	ug/L	99
122) Indan	52.57	117	840654	51.689	ug/L	99
124) 1-Methyl-3-propylbenzene	52.85	105	1072932	51.454	ug/L	100
126) 1-Methyl-4-propylbenzene	53.00	105	1252525	51.780	ug/L	98
127) n-Butylbenzene	53.00	91	978200	51.229	ug/L	99
128) 1,2-Dimethyl-4-ethylbenze	53.12	119	957150	51.915	ug/L	99
129) 1,2-Diethylbenzene	53.22	119	474372	51.292	ug/L	99
130) 1-Methyl-2-propylbenzene	53.40	105	1130796	51.590	ug/L	100
131) 1,4-Dimethyl-2-ethylbenze	53.72	119	914264	51.880	ug/L	99
132) Undecane	53.78	57	509946M4	47.634	ug/L	
133) 1,3-Dimethyl-4-ethylbenze	53.81	119	1097046	51.860	ug/L	99
134) 1,3-Dimethyl-5-ethylbenze	53.94	119	989286	51.271	ug/L	99
135) 1,3-Dimethyl-2-ethylbenze	54.17	119	1091092	51.486	ug/L	99
136) 1,2-Dimethyl-3-ethylbenze	54.53	119	992350	51.804	ug/L	99
137) 1,2,4,5-Tetramethylbenzen	54.93	119	1041293	51.472	ug/L	99
139) Pentylbenzene	55.51	91	819330	51.535	ug/L	99
142) Dodecane	56.01	43	328587	42.469	ug/L	95
144) Naphthalene	56.83	128	927435	53.910	ug/L	100
145) Benzothiophene	56.92	134	526477	55.266	ug/L	99
148) MMT	58.00	134	343775	56.487	ug/L	97
149) Tridecane	58.09	57	280306	42.414	ug/L	97
150) 2-Methylnaphthalene	59.56	142	494103	56.383	ug/L	97
151) 1-Methylnaphthalene	60.03	142	433068	58.543	ug/L	97

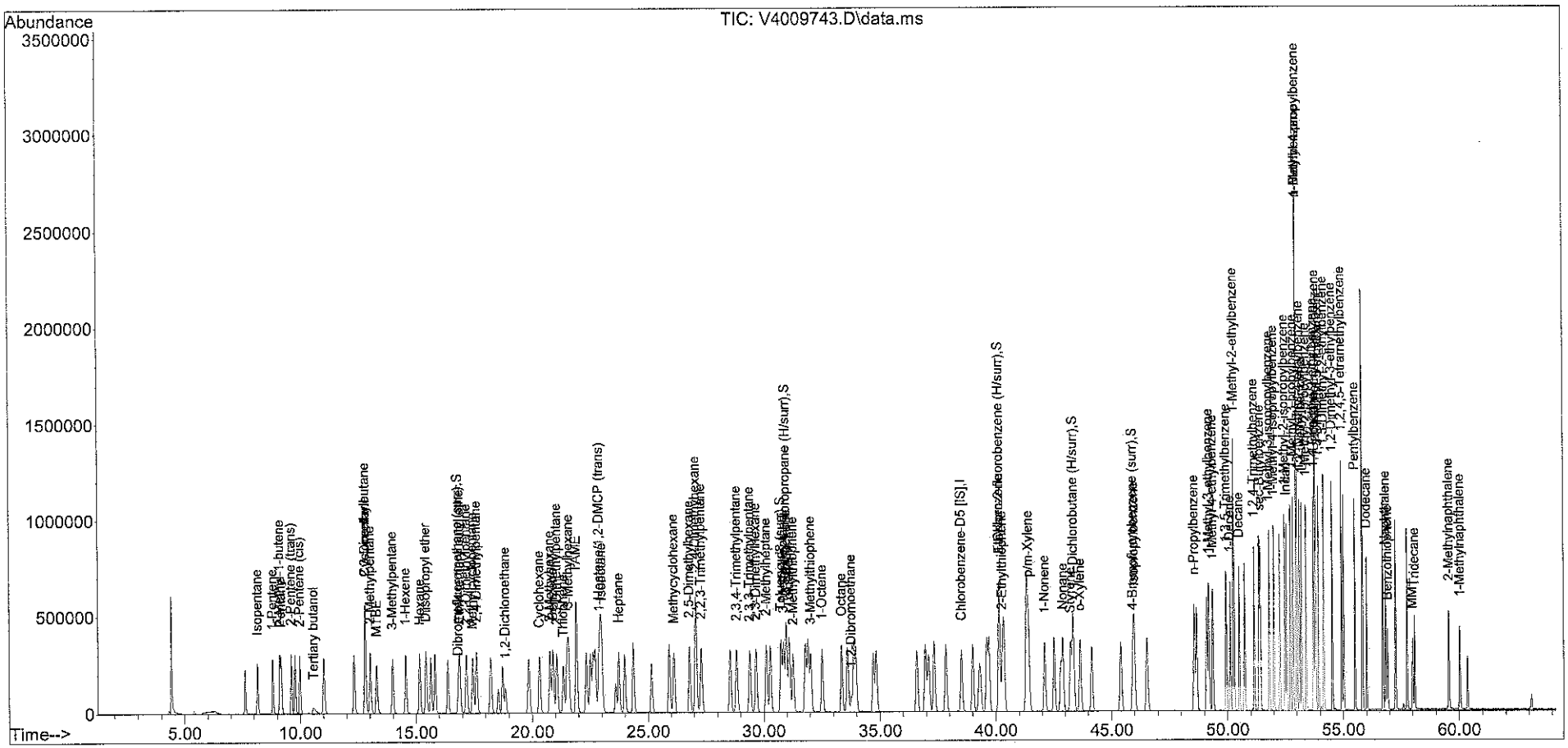
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009743.D
Acq On : 19 Mar 2016 9:56 am
Operator : VOA4:MR
Sample : C403181603
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Mar 21 15:20:33 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009754.D
Acq On : 19 Mar 2016 10:49 pm
Operator : VOA4:MR
Sample : C403181604
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Mar 21 15:23:11 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Chlorobenzene-D5 [IS]	1.000	1.000	0.0	90	0.00
3		Isopentane	0.407	0.380	6.6	91	0.00
4		1-Pentene	0.477	0.484	-1.5	91	0.00
5		2-Methyl-1-butene	0.743	0.789	-6.2	94	0.00
6		Pentane	0.663	0.662	0.2	90	0.00
7		2-Pentene (trans)	0.689	0.730	-6.0	94	0.00
9		2-Pentene (cis)	0.707	0.745	-5.4	95	0.00
10		Tertiary butanol	0.048	0.053#	-10.4	86	-0.04
13		Cyclopentane	0.214	0.238	-11.2	97	0.00
14		2,3-Dimethylbutane	0.161	0.179	-11.2	96	0.00
15		2-Methylpentane	0.841	0.847	-0.7	91	0.00
16		MTBE	0.867	0.948	-9.3	94	0.00
17		3-Methylpentane	0.695	0.739	-6.3	94	0.00
18		1-Hexene	0.427	0.458	-7.3	93	0.00
19		Hexane	0.599	0.641	-7.0	93	0.00
20		Diisopropyl ether	1.212	1.301	-7.3	92	0.00
24	S	Dibromofluoromethane (surr)	0.291	0.313	-7.6	96	0.00
25		Ethyl tertiary butyl ether	1.079	1.188	-10.1	93	0.00
26		2,2-Dimethylpentane	0.861	0.914	-6.2	95	0.00
27		Methylcyclopentane	0.792	0.849	-7.2	94	0.00
28		2,4-Dimethylpentane	0.773	0.762	1.4	89	0.00
30		1,2-Dichloroethane	0.430	0.470	-9.3	95	0.00
32		Cyclohexane	0.679	0.728	-7.2	94	0.00
33		2-Methyhexane	0.850	0.866	-1.9	91	0.00
34	M	Benzene	1.152	1.279	-11.0	97	0.00
35		2,3-Dimethylpentane	0.653	0.699	-7.0	93	0.00
36		Thiophene	0.598	0.674	-12.7	97	0.00
38		3-Methylhexane	0.743	0.738	0.7	91	0.00
39		TAME	0.943	0.945	-0.2	93	0.00
43		1-Heptene/1,2-DMCP (trans)	0.251	0.281	-12.0	97	0.00
44		Isooctane	1.690	1.849	-9.4	96	0.00
46		Heptane	0.702	0.709	-1.0	91	0.00
51		Methycyclohexane	0.539	0.609	-13.0	98	0.00
52		2,5-Dimethylhexane	0.840	0.896	-6.7	94	0.00
53		2,4-Dimethyhexane	0.666	0.717	-7.7	94	0.00
55		2,2,3-Trimethylpentane	1.330	1.448	-8.9	96	0.00
57		2,3,4-Trimethylpentane	1.041	1.072	-3.0	91	0.00
58		2,3,3-Trimethylpentane	0.905	0.923	-2.0	90	0.00
59		2,3-Dimethylhexane	0.954	0.983	-3.0	91	0.00

MR 3/29/16

Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009754.D
Acq On : 19 Mar 2016 10:49 pm
Operator : VOA4:MR
Sample : C403181604
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Mar 21 15:23:11 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
60		2-Methylheptane	0.763	0.838	-9.8	94	0.00
62	S	Toluene-d8 (surr)	1.260	1.245	1.2	88	0.00
63		3-Methylheptane	0.749	0.720	3.9	90	0.01
64	S	2-Bromo-1-chloropropane (H/	0.371	0.413	-11.3	95	0.00
65		3-Ethylhexane	1.157	1.235	-6.7	93	0.00
66	M	Toluene	1.313	1.481	-12.8	98	0.00
67		2-Methylthiophene	1.042	1.180	-13.2	98	0.00
69		3-Methylthiophene	1.059	1.196	-12.9	98	0.00
70		1-Octene	0.399	0.427	-7.0	92	0.00
71		Octane	0.891	0.924	-3.7	91	0.00
73		1,2-Dibromoethane	0.274	0.309	-12.8	96	0.00
86		Ethylbenzene	1.519	1.726	-13.6	98	0.00
87	S	1-Chloro-2-fluorobenzene (H	0.811	0.928	-14.4	98	0.00
88		2-Ethylthiophene	1.108	1.261	-13.8	97	0.00
91		p/m-Xylene	1.172	1.331	-13.6	98	-0.02
92		1-Nonene	0.441	0.485	-10.0	92	0.00
95		Nonane	0.853	0.869	-1.9	88	0.00
96		Styrene	0.949	1.074	-13.2	97	0.00
97	S	1,4-Dichlorobutane (H/surr)	0.746	0.818	-9.7	95	0.00
98		o-Xylene	1.185	1.330	-12.2	96	0.00
101	S	4-Bromofluorobenzene (surr)	0.490	0.476	2.9	86	-0.01
102		Isopropylbenzene	1.512	1.718	-13.6	97	-0.01
104		n-Propylbenzene	1.821	2.059	-13.1	97	0.00
107		1-Methyl-3-ethylbenzene	1.515	1.724	-13.8	98	0.00
108		1-Methyl-4-ethylbenzene	1.478	1.679	-13.6	97	0.00
109		1,3,5-Trimethylbenzene	1.280	1.450	-13.3	97	0.00
110		1-Decene	0.428	0.446	-4.2	90	0.00
112		1-Methyl-2-ethylbenzene	1.492	1.693	-13.5	98	0.00
113		Decane	0.849	0.846	0.4	91	0.00
115		1,2,4-Trimethylbenzene	1.294	1.462	-13.0	98	0.00
117		sec-Butylbenzene	1.697	1.940	-14.3	98	0.00
118		1-Methyl-3-isopropylbenzene	1.434	1.644	-14.6	99	0.00
119		1-Methyl-4-isopropylbenzene	1.474	1.684	-14.2	98	0.00
121		1-Methyl-2-isopropylbenzene	1.475	1.672	-13.4	99	0.00
122		Indan	1.302	1.472	-13.1	98	0.00
124		1-Methyl-3-propylbenzene	1.670	1.881	-12.6	98	0.00
126		1-Methyl-4-propylbenzene	1.937	2.169	-12.0	98	0.00
127		n-Butylbenzene	1.529	1.703	-11.4	97	0.00
128		1,2-Dimethyl-4-ethylbenzene	1.476	1.681	-13.9	99	0.00

Evaluate Continuing Calibration Report

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009754.D
Acq On : 19 Mar 2016 10:49 pm
Operator : VOA4:MR
Sample : C403181604
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Mar 21 15:23:11 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
129	1,2-Diethylbenzene	0.741	0.833	-12.4	99	0.00
130	1-Methyl-2-propylbenzene	1.755	1.986	-13.2	98	0.00
131	1,4-Dimethyl-2-ethylbenzene	1.411	1.598	-13.3	98	0.00
132	Undecane	0.857	0.918	-7.1	92	0.00
133	1,3-Dimethyl-4-ethylbenzene	1.694	1.916	-13.1	99	0.00
134	1,3-Dimethyl-5-ethylbenzene	1.545	1.729	-11.9	98	0.00
135	1,3-Dimethyl-2-ethylbenzene	1.697	1.902	-12.1	98	0.00
136	1,2-Dimethyl-3-ethylbenzene	1.534	1.735	-13.1	99	0.00
137	1,2,4,5-Tetramethylbenzene	1.620	1.844	-13.8	99	0.00
139	Pentylbenzene	1.273	1.443	-13.4	99	0.00
142	Dodecane	0.620	0.577	6.9	85	0.00
144	Naphthalene	1.378	1.570	-13.9	98	0.00
145	Benzothiophene	0.763	0.871	-14.2	97	0.00
148	MMT	0.487	0.568	-16.6	95	0.00
149	Tridecane	0.529	0.478	9.6	96	0.00
150	2-Methylnaphthalene	0.702	0.824	-17.4	95	0.00
151	1-Methylnaphthalene	0.592	0.717	-21.1	97	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009754.D
Acq On : 19 Mar 2016 10:49 pm
Operator : VOA4:MR
Sample : C403181604
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Mar 21 15:23:11 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Chlorobenzene-D5 [IS]	38.51	117	569262	50.000	ug/L	0.00
System Monitoring Compounds						
24) Dibromofluoromethane (sur	16.83	113	178192	53.865	ug/L	0.00
Spiked Amount 50.000	Range 78 - 118		Recovery = 107.73%			
62) Toluene-d8 (surr)	30.75	98	708527	49.409	ug/L	0.00
Spiked Amount 50.000	Range 87 - 113		Recovery = 98.82%			
64) 2-Bromo-1-chloropropane (	30.96	77	235232	55.732	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 111.46%			
87) 1-Chloro-2-fluorobenzene	40.13	130	528190	57.183	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 114.37%			
97) 1,4-Dichlorobutane (H/sur	43.35	55	465814M6	54.816	ug/L	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 109.63%			
101) 4-Bromofluorobenzene (sur	45.92	95	271044	48.582	ug/L	-0.01
Spiked Amount 50.000	Range 76 - 120		Recovery = 97.16%			
Target Compounds						Qvalue
3) Isopentane	8.17	43	216266	46.681	ug/L	98
4) 1-Pentene	8.82	42	275380	50.730	ug/L	98
5) 2-Methyl-1-butene	9.13	55	449214	53.132	ug/L	97
6) Pentane	9.19	43	376827	49.945	ug/L	98
7) 2-Pentene (trans)	9.63	55	415446	52.978	ug/L	98
9) 2-Pentene (cis)	10.00	55	423987	52.686	ug/L	98
10) Tertiary butanol	10.55	59	151200	276.050	ug/L	100
13) Cyclopentane	12.80	70	135733	55.615	ug/L	88
14) 2,3-Dimethylbutane	12.80	71	101730	55.408	ug/L	87
15) 2-Methylpentane	13.02	43	482423	50.408	ug/L	99
16) MTBE	13.28	73	539461	54.633	ug/L	97
17) 3-Methylpentane	13.99	57	420852	53.171	ug/L	97
18) 1-Hexene	14.56	56	260653	53.564	ug/L	95
19) Hexane	15.17	57	365057	53.538	ug/L	95
20) Diisopropyl ether	15.44	45	740497	53.664	ug/L	97
25) Ethyl tertiary butyl ethe	16.89	59	676174	55.051	ug/L	98
26) 2,2-Dimethylpentane	17.19	57	520456	53.080	ug/L	97
27) Methylcyclopentane	17.46	56	483205	53.564	ug/L	98
28) 2,4-Dimethylpentane	17.62	43	433624	49.256	ug/L	98
30) 1,2-Dichloroethane	18.85	62	267808	54.670	ug/L	97
32) Cyclohexane	20.33	56	414287	53.586	ug/L	96
33) 2-Methyhexane	20.78	43	492710	50.941	ug/L	96

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009754.D
Acq On : 19 Mar 2016 10:49 pm
Operator : VOA4:MR
Sample : C403181604
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Mar 21 15:23:11 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
34) Benzene	20.90	78	727934	55.506 ug/L	99
35) 2,3-Dimethylpentane	21.07	56	397735	53.512 ug/L	100
36) Thiophene	21.34	84	383735	56.400 ug/L	94
38) 3-Methylhexane	21.58	43	420321	49.702 ug/L	97
39) TAME	21.90	73	537721	50.071 ug/L	97
43) 1-Heptene/1,2-DMCP (trans	22.89	70	319378	111.633 ug/L	90
44) Isooctane	22.99	57	1052801M6	54.707 ug/L	
46) Heptane	23.74	43	403698	50.494 ug/L	97
51) Methycyclohexane	26.12	83	346491	56.424 ug/L	98
52) 2,5-Dimethylhexane	26.81	57	510048	53.321 ug/L	94
53) 2,4-Dimethyhexane	27.07	57	408338M4	53.832 ug/L	
55) 2,2,3-Trimethylpentane	27.31	57	824318	54.442 ug/L	99
57) 2,3,4-Trimethylpentane	28.84	43	610078	51.459 ug/L	98
58) 2,3,3-Trimethylpentane	29.40	43	525336	51.002 ug/L	98
59) 2,3-Dimethylhexane	29.68	43	559367	51.478 ug/L	93
60) 2-Methylheptane	30.10	57	476832	54.898 ug/L	92
63) 3-Methylheptane	30.86	43	409773M6	48.071 ug/L	
65) 3-Ethylhexane	30.98	43	703196M6	53.405 ug/L	
66) Toluene	31.11	91	842844	56.368 ug/L	98
67) 2-Methylthiophene	31.27	97	671452	56.600 ug/L	99
69) 3-Methylthiophene	32.03	97	680944	56.487 ug/L	100
70) 1-Octene	32.52	55	242803	53.467 ug/L	98
71) Octane	33.36	43	525956	51.867 ug/L	98
73) 1,2-Dibromoethane	33.78	107	176173	56.450 ug/L	98
86) Ethylbenzene	40.14	91	982605	56.820 ug/L	98
88) 2-Ethylthiophene	40.29	97	718023	56.901 ug/L	97
91) p/m-Xylene	41.39	91	1515714	113.574 ug/L	100
92) 1-Nonene	42.11	56	276085	54.926 ug/L	98
95) Nonane	42.89	43	494694M6	50.916 ug/L	
96) Styrene	43.24	104	611587	56.586 ug/L	99
98) o-Xylene	43.65	91	757018	56.125 ug/L	98
102) Isopropylbenzene	45.99	105	977819	56.788 ug/L	99
104) n-Propylbenzene	48.57	91	1172345	56.557 ug/L	99
107) 1-Methyl-3-ethylbenzene	49.20	105	981663	56.905 ug/L	100
108) 1-Methyl-4-ethylbenzene	49.36	105	955959	56.817 ug/L	99
109) 1,3,5-Trimethylbenzene	49.95	105	825532	56.666 ug/L	99
110) 1-Decene	50.12	41	254096	52.141 ug/L	97
112) 1-Methyl-2-ethylbenzene	50.28	105	963499	56.724 ug/L	99
113) Decane	50.51	43	481540	49.845 ug/L	97
115) 1,2,4-Trimethylbenzene	51.15	105	832419	56.505 ug/L	99
117) sec-Butylbenzene	51.42	105	1104566	57.182 ug/L	98

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009754.D
Acq On : 19 Mar 2016 10:49 pm
Operator : VOA4:MR
Sample : C403181604
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Mar 21 15:23:11 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
118) 1-Methyl-3-isopropylbenze	51.81	119	935928	57.325	ug/L	99
119) 1-Methyl-4-isopropylbenze	52.01	119	958760	57.120	ug/L	99
121) 1-Methyl-2-isopropylbenze	52.48	119	951668	56.687	ug/L	99
122) Indan	52.57	117	838001	56.516	ug/L	99
124) 1-Methyl-3-propylbenzene	52.85	105	1070941	56.333	ug/L	99
126) 1-Methyl-4-propylbenzene	53.00	105	1234961	55.999	ug/L	97
127) n-Butylbenzene	53.00	91	969532	55.692	ug/L	99
128) 1,2-Dimethyl-4-ethylbenze	53.12	119	957045	56.936	ug/L	99
129) 1,2-Diethylbenzene	53.22	119	474366	56.259	ug/L	98
130) 1-Methyl-2-propylbenzene	53.40	105	1130690	56.581	ug/L	99
131) 1,4-Dimethyl-2-ethylbenze	53.72	119	909799	56.627	ug/L	99
132) Undecane	53.78	57	522356M4	53.519	ug/L	
133) 1,3-Dimethyl-4-ethylbenze	53.81	119	1090820	56.559	ug/L	99
134) 1,3-Dimethyl-5-ethylbenze	53.94	119	984359	55.956	ug/L	100
135) 1,3-Dimethyl-2-ethylbenze	54.17	119	1082576	56.032	ug/L	99
136) 1,2-Dimethyl-3-ethylbenze	54.53	119	987530	56.545	ug/L	100
137) 1,2,4,5-Tetramethylbenzen	54.93	119	1049542	56.904	ug/L	99
139) Pentylbenzene	55.50	91	821536	56.678	ug/L	99
142) Dodecane	56.01	43	328450	46.562	ug/L	94
144) Naphthalene	56.82	128	893941	56.996	ug/L	99
145) Benzothiophene	56.92	134	495878	57.095	ug/L	99
148) MMT	58.00	134	323495	58.302	ug/L	100
149) Tridecane	58.09	57	272099	45.159	ug/L	96
150) 2-Methylnaphthalene	59.56	142	469204	58.727	ug/L	99
151) 1-Methylnaphthalene	60.03	142	408365	60.550	ug/L	96

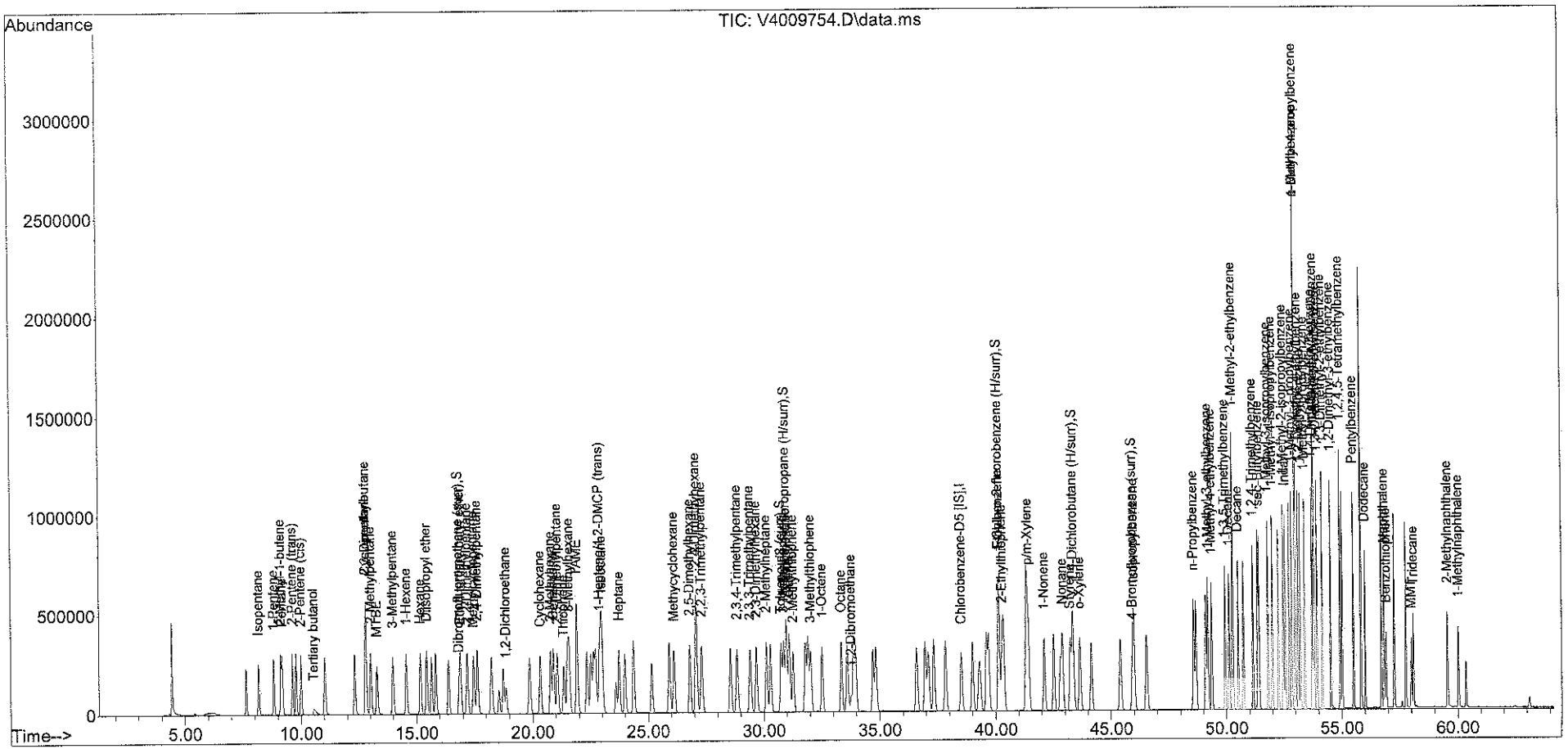
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Organics\DATA\VOA4\2016\160318\
Data File : V4009754.D
Acq On : 19 Mar 2016 10:49 pm
Operator : VOA4:MR
Sample : C403181604
Misc :
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Mar 21 15:23:11 2016
Quant Method : O:\Organics\DATA\VOA4\2016\160318\P4030216.M
Quant Title : PIANO VOLATILES
QLast Update : Mon Mar 07 10:40:38 2016
Response via : Initial Calibration

Sub List : NFPIANO - .



Form VIII
Internal Standard Summary
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **C403181602**

Case: **N/A** SDG: **N/A**

		Chlorobenzene-D5	
		Area	**RT**
Standard:		539950	38.51
Upper Limit:		1079900	39.01
Lower Limit:		269975	38.01
Client ID	**Lab ID**		
LCS	VS031816LCS01	643757	38.52
LCSD	VS031816LCSD01	635096	38.52
Blank	VS031816B01	607163	38.52
RX-1	1603006-01	630282	38.52
RX-2	1603006-02	523128	38.52
RX-3	1603006-03	510511	38.52
RX-4	1603006-04	486574	38.52
RX-5	1603006-05	460466	38.52
RX-6	1603006-06	620290	38.52
CCV	C403181603	624391	38.51

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.
Area Lower Limit = -50% of internal standard.
RT = Retention Time.
RT Upper Limit = +0.5 minutes of internal standard RT.
RT Lower Limit = -0.5 minutes of internal standard RT.

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form VIII
Internal Standard Summary
PIANO Volatile Hydrocarbons by GC/MS

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **C403181603**

Case: **N/A** SDG: **N/A**

		Chlorobenzene-D5	
		Area	**RT**
Standard:		624391	38.51
Upper Limit:		1248782	39.01
Lower Limit:		312196	38.01
Client ID	**Lab ID**		
RX-7	1603006-07	589207	38.51
RX-5	1603006-05 D	405337	38.52
RX-7A	1603006-08	552151	38.52
RX-8	1603006-10	395265	38.52
RX-8A	1603006-11	597020	38.52
RX-8B	1603006-12	611682	38.52
RX-7B	1603006-09E	598826	38.52
RX-7B	1603006-09	426142	38.52
CCV	C403181604	569262	38.51

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.
Area Lower Limit = -50% of internal standard.
RT = Retention Time.
RT Upper Limit = +0.5 minutes of internal standard RT.
RT Lower Limit = -0.5 minutes of internal standard RT.

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Alpha Woods Hole Lab
Batch Prep Report

03/18/2016 V4031816 - PIANO 5

Lab ID	Prep Method	Analyst	Prep Start Date	Prep Completed	TCLP Date	Initial Amount Split (g or ml)	PIV (ml)	Final Volume (ml)	Preservative Volume (ml)	Extract Volume (ml)
1603006-01 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			6.22		5	10	0.1
1603006-02 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			6.97		5	10	0.1
1603006-03 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			7.24		5	10	0.1
1603006-04 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			5.53		5	10	0.1
1603006-05D (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			6.77		5	10	0.1
1603006-05 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			6.77		5	10	0.1
1603006-06 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			7.05		5	10	0.1
1603006-07 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			5.64		5	10	0.1
1603006-08 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			5.98		5	10	0.1
1603006-09 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			6.92		5	10	0.1
1603006-10 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			6.12		5	10	0.1
1603006-11 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			5.62		5	10	0.1
1603006-12 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			7.01		5	10	0.1
VS031816B01 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			5		5	10	0.1
VS031816LCS01 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			5		5	10	0.1
VS031816LCSD01 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			5		5	10	0.1
VS031816LD701 (Soil - 1603006)		MLR	3/16/2016 10:00:00 AM			0.1004		5	10	0.1

Alpha Woods Hole Lab
Batch Prep Report

03/18/2016 V4031816 - PIANO 5

Lab ID	Notes
1603006-01 (Soil - 1603006)	1st Prep
1603006-02 (Soil - 1603006)	1st Prep
1603006-03 (Soil - 1603006)	1st Prep
1603006-04 (Soil - 1603006)	1st Prep
1603006-05D (Soil - 1603006)	1st Prep
1603006-05 (Soil - 1603006)	1st Prep
1603006-06 (Soil - 1603006)	1st Prep
1603006-07 (Soil - 1603006)	1st Prep
1603006-08 (Soil - 1603006)	1st Prep
1603006-09 (Soil - 1603006)	1st Prep
1603006-10 (Soil - 1603006)	1st Prep
1603006-11 (Soil - 1603006)	1st Prep
1603006-12 (Soil - 1603006)	1st Prep
VS031816B01 (Soil - 1603006)	1st Prep
VS031816LCS01 (Soil - 1603006)	1st Prep
VS031816LCSD01 (Soil - 1603006)	1st Prep
VS031816LD701 (Soil - 1603006)	1st Prep

VOA Weights for High Level Soils

Date	Analyst	Sample ID	Initial Vial Weight	Final Weight Vial + Sample	Sample Weight
3/16/2016	MLR	1603006-01	32.37	38.59	6.22
3/16/2016	MLR	1603006-02	37.51	44.48	6.97
3/16/2016	MLR	1603006-03	32.36	39.60	7.24
3/16/2016	MLR	1603006-04	37.07	42.60	5.53
3/16/2016	MLR	1603006-05	37.08	43.85	6.77
3/16/2016	MLR	1603006-06	31.84	38.89	7.05
3/16/2016	MLR	1603006-07	32.29	37.93	5.64
3/16/2016	MLR	1603006-08	37.02	43.00	5.98
3/16/2016	MLR	1603006-09	36.96	43.88	6.92
3/16/2016	MLR	1603006-10	37.48	43.60	6.12
3/16/2016	MLR	1603006-11	36.83	42.45	5.62
3/16/2016	MLR	1603006-12	32.16	39.17	7.01

Sample Preparation

Alpha Woods Hole Lab
Batch Prep Report
03/25/2016 1603006 - OP NEWFIE

Lab ID	Prep Method	Analyst	Prep Start Date	Prep Completed	TCLP Date	Initial Amount (g or ml)	Split	PIV (ml)	Final Volume (ml)	Solvent Ex	Conc. Analyst	Conc. Date	Conc. Method	Transfer Volume (ml)	Vialed By	Vialed Date
1603006-01 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		15.83	10	1	10	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-02 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		10.51	10	1	10	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-03 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		10.3	4	1	4	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-04D (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		5.88	6.66667	1	6.67	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-04 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		5.28	6.66667	1	6.67	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-05 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		10.85	8	1	8	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-06 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		30.7	2	1	2	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-07 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		10.87	4	1	4	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-08 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		15	8	1	8	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-09 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		29.95	5.71429	1	5.71	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-10 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		30.72	8	1	8	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-11 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		29.88	2	1	2	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-12 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		29.34	2	1	2	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
SS032516B02 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		19	2	1	2	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
SS032516LCS02 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		19	2	1	2	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
SS032516LCSD02 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		19	2	1	2	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016

Alpha Woods Hole Lab
Batch Prep Report
03/25/2016 1603006 - OP SHC

Lab ID	Prep Method	Analyst	Prep Start Date	Prep Completed	TCLP Date	Initial Amount (g or ml)	Split	PIV (ml)	Final Volume (ml)	Solvent Ex	Conc. Analyst	Conc. Date	Conc. Method	Transfer Volume (ml)	Vialed By	Vialed Date
1603006-01 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		15.83	10	1	10	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-02 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		10.51	10	1	10	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-03 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		10.3	4	1	4	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-04D (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		5.88	6.66667	1	6.67	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-04 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		5.28	6.66667	1	6.67	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-05 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		10.85	8	1	8	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-06 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		30.7	2	1	2	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-07 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		10.87	4	1	4	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-08 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		15	8	1	8	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-09 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		29.95	5.71429	1	5.71	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-10 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		30.72	8	1	8	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-11 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		29.88	2	1	2	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
1603006-12 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		29.34	2	1	2	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
SS032516B02 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		19	2	1	2	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
SS032516LCS02 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		19	2	1	2	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016
SS032516LCSD02 (Soil - 1603006)	Shaker	BA	3/25/2016 8:45:00 AM	3/29/2016		19	2	1	2	False	EP	3/28/2016	KD Flask	0.1	JP	3/29/2016

Alpha Woods Hole Lab
Batch Prep Spike Report

03/25/2016 1603006 - OP NEWFIE Analyst: BA Witness: BA

Lab ID	QC Type	OP NEWFIE - surr	Vol OP NEWFIE - surr	Units OP NEWFIE - surr	OP NEWFIE - spk 1	Vol OP NEWFIE - spk 1	Units OP NEWFIE - spk 1	OP NEWFIE - spk 2	Vol OP NEWFIE - spk 2	Units OP NEWFIE - spk 2
1603006-01	SAM	FRAX03	500	µl	FRAW70	500	µl			
1603006-02	SAM	FRAX03	500	µl	FRAW70	500	µl			
1603006-03	SAM	FRAX03	500	µl	FRAW70	500	µl			
1603006-04	D	FRAX03	500	µl	FRAW70	500	µl			
1603006-04	SAM	FRAX03	500	µl	FRAW70	500	µl			
1603006-05	SAM	FRAX03	500	µl	FRAW70	500	µl			
1603006-06	SAM	FRAX03	100	µl	FRAW70	100	µl			
1603006-07	SAM	FRAX03	500	µl	FRAW70	500	µl			
1603006-08	SAM	FRAX03	500	µl	FRAW70	500	µl			
1603006-09	SAM	FRAX03	100	µl	FRAW70	100	µl			
1603006-10	SAM	FRAX03	100	µl	FRAW70	100	µl			
1603006-11	SAM	FRAX03	100	µl	FRAW70	100	µl			
1603006-12	SAM	FRAX03	100	µl	FRAW70	100	µl			
SS032516B02	B	FRAX03	100	µl	FRAW70	100	µl			
SS032516LCS02	LCS	FRAX03	100	µl	FRAW70	100	µl	FRAW73	100	µl
SS032516LCSD02	LCSD	FRAX03	100	µl	FRAW70	100	µl	FRAW73	100	µl

STD ID	TITLE	CONTENTS	SOLVENT	LOT
FRAW70	Biomarker Surrogate	5b(H)Cholane = 10 ug/mL		DM254
FRAW73	LCS Solution PAH /SHC	Aromatic Hydrocarbon STD = 10 ug/mL MA EPH Aliphatic Std = 200 ug/mL	DCM	DN 254
FRAX03	Surrogate PAH/SHC	Deuterated PAH Surrogate = 10 ug/mL n-Tetracosane = 500 ug/mL Ortho Ter Phenyl = 500 ug/mL	DCM	DN770

Alpha Woods Hole Lab
Batch Prep Spike Report

03/25/2016 1603006 - OP SHC Analyst: BA Witness: BA

Lab ID	QC Type	OP SHC - surr	Vol OP SHC - surr	Units OP SHC - surr	OP SHC - spk 1	Vol OP SHC - spk 1	Units OP SHC - spk 1	OP SHC - spk 2	Vol OP SHC - spk 2	Units OP SHC - spk 2
1603006-01	SAM	FRAX03	500	µl				FRAX05	100	µl
1603006-02	SAM	FRAX03	500	µl				FRAX05	100	µl
1603006-03	SAM	FRAX03	500	µl				FRAX05	100	µl
1603006-04	D	FRAX03	500	µl				FRAX05	100	µl
1603006-04	SAM	FRAX03	500	µl				FRAX05	100	µl
1603006-05	SAM	FRAX03	500	µl				FRAX05	100	µl
1603006-06	SAM	FRAX03	100	µl				FRAX05	100	µl
1603006-07	SAM	FRAX03	500	µl				FRAX05	100	µl
1603006-08	SAM	FRAX03	500	µl				FRAX05	100	µl
1603006-09	SAM	FRAX03	100	µl				FRAX05	100	µl
1603006-10	SAM	FRAX03	100	µl				FRAX05	100	µl
1603006-11	SAM	FRAX03	100	µl				FRAX05	100	µl
1603006-12	SAM	FRAX03	100	µl				FRAX05	100	µl
SS032516B02	B	FRAX03	100	µl				FRAX05	100	µl
SS032516LCS02	LCS	FRAX03	100	µl	FRAW73	100	µl	FRAX05	100	µl
SS032516LCSD02	LCSD	FRAX03	100	µl	FRAW73	100	µl	FRAX05	100	µl

STD ID	TITLE	CONTENTS	SOLVENT	LOT
FRAW73	LCS Solution PAH /SHC	Aromatic Hydrocarbon STD = 10 ug/mL MA EPH Aliphatic Std = 200 ug/mL	DCM	DN 254
FRAX03	Surrogate PAH/SHC	Deuterated PAH Surrogate = 10 ug/mL n-Tetracosane = 500 ug/mL Ortho Ter Phenyl = 500 ug/mL	DCM	DN770
FRAX05	PAH/SHC RIS Spiking Solution	5 Alpha Androstane = 500 ug/mL Acenaphthene D10, Chrysene D12 = 5 ug/mL	DCM	DN770

Alpha Woods Hole Lab
Batch Clean Up Report
03/25/2016 1603006 - OP NEWFIE

Lab ID	QC Type	Clean Up Method	Analyst	Clean Up Date	Flow Rate	Coll. Start	Coll. End	Concentration Analyst	Conc. Date	Solvent Ex.	Pre Vol (ml)	Frac Amt (ml)	Frac Split	Frac Fact	Tran Vol (ml)	Active
1603006-01	SAM	3660B	EP	3/28/2016												True
1603006-02	SAM	3660B	EP	3/28/2016												True
1603006-03	SAM	3660B	EP	3/28/2016												True
1603006-04	D	3660B	EP	3/28/2016												True
1603006-04	SAM	3660B	EP	3/28/2016												True
1603006-05	SAM	3660B	EP	3/28/2016												True
1603006-06	SAM	3660B	EP	3/28/2016												True
1603006-07	SAM	3660B	EP	3/28/2016												True
1603006-08	SAM	3660B	EP	3/28/2016												True
1603006-09	SAM	3660B	EP	3/28/2016												True
1603006-10	SAM	3660B	EP	3/28/2016												True
1603006-11	SAM	3660B	EP	3/28/2016												True
1603006-12	SAM	3660B	EP	3/28/2016												True
SS032516B02	B	3660B	EP	3/28/2016												True
SS032516LCS02	LCS	3660B	EP	3/28/2016												True
SS032516LCSD02	LCSD	3660B	EP	3/28/2016												True

ETR 1603006

Analyst EP

Date 03/28/2016

Alpha Analytical

- [x] Pre-Alumina
- [ ] Post-Alumina
- [ ] Pre-Silica
- [ ] Oily Material Prep.
- [ ] Other

ETR	Lab ID	QC	Extract Volume (µL)	Aliquot Removed (µL)	Aliquot Weight (mg)	Total Extract Weight (mg)	Volume Removed for Column (µl)	Extract Weight to Column (mg)	Split Factor	QC (%R)
	FRAW57	Gravimetric Standard	10000	50	0.247	49.40	N/A	N/A	N/A	99%
1603006	1		4000	50	1.129	90.32	400	9.03	10.00	
1603006	2		4000	50	1.049	83.92	400	8.39	10.00	
1603006	3		4000	50	0.492	39.36	1000	9.84	4.00	
1603006	4	D	4000	50	0.688	55.04	600	8.25	6.67	15%RPD
1603006	4		4000	50	0.800	64.00	600	9.60	6.67	
1603006	5		4000	50	0.802	64.16	500	8.02	8.00	
1603006	6		4000	50	0.187	14.96	2000	7.48	2.00	
1603006	7		4000	50	0.473	37.84	1000	9.46	4.00	
1603006	8		4000	50	0.933	74.64	500	9.33	8.00	
1603006	9		4000	50	0.649	51.92	700	9.09	5.71	
1603006	10		4000	50	0.867	69.36	500	8.67	8.00	
1603006	11		4000	50	0.063	5.04	2000	2.52	2.00	
1603006	12		4000	50	0.129	10.32	2000	5.16	2.00	

Note:

Total Extract Weight (mg) = (Extract Volume ÷ Aliquot Removed) (Aliquot Weight)

Gravimetric Standard = 5 mg/mL

LCS Acceptance Criteria: 95% - 105%

Verified by: MMB

Date: 4/4/16

ETR 1603006

Analyst EP

Date 03/28/2016

Alpha Analytical

- [x] Pre-Alumina
- [ ] Post-Alumina
- [ ] Pre-Silica
- [ ] Oily Material Prep.
- [ ] Other

ETR	Lab ID	QC	Extract Volume (µL)	Aliquot Removed (µL)	Aliquot Weight (mg)	Total Extract Weight (mg)	Volume Removed for Column (µl)	Extract Weight to Column (mg)	Split Factor	QC (%R)
	FRAW57	Gravimetric Standard	10000	50	0.247		N/A	N/A	N/A	0%
1603006	1		4000	50	1.129					
1603006	2		4000	50	1.049					
1603006	3		4000	50	0.492					
1603006	4	D	4000	50	0.688					#VALUE!
1603006	4		4000	50	0.800					
1603006	5		4000	50	0.802					
1603006	6		4000	50	0.187					
1603006	7		4000	50	0.473					
1603006	8		4000	50	0.933					
1603006	9		4000	50	0.649					
1603006	10		4000	50	0.867					
1603006	11		4000	50	0.063					
1603006	12		4000	50	0.129					

Note:

Total Extract Weight (mg) = (Extract Volume ÷ Aliquot Removed) (Aliquot Weight)

Gravimetric Standard = 5 mg/mL

LCS Acceptance Criteria: 95% - 105%

Verified by: _____

Date: _____

Alpha Woods Hole Lab
Batch Clean Up Report
03/25/2016 1603006 - OP NEWFIE

Lab ID	QC Type	Clean Up Method	Analyst	Clean Up Date	Flow Rate	Coll. Start	Coll. End	Concentration Analyst	Conc. Date	Solvent Ex.	Pre Vol (ml)	Frac Amt (ml)	Frac Split	Frac Fact	Tran Vol (ml)	Active
1603006-01	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.4	10		0.1	True
1603006-02	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.4	10		0.1	True
1603006-03	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	1	4		0.1	True
1603006-04	D	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.6	6.66667		0.1	True
1603006-04	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.6	6.66667		0.1	True
1603006-05	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.5	8		0.1	True
1603006-06	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2		0.1	True
1603006-07	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	1	4		0.1	True
1603006-08	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.5	8		0.1	True
1603006-09	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.7	5.71429		0.1	True
1603006-10	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.5	8		0.1	True
1603006-11	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2		0.1	True
1603006-12	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2		0.1	True
SS032516B02	B	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2		0.1	True
SS032516LCS02	LCS	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2		0.1	True
SS032516LCSD02	LCSD	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2		0.1	True

Alpha Woods Hole Lab
Batch Clean Up Report
03/25/2016 1603006 - OP SHC

Lab ID	QC Type	Clean Up Method	Analyst	Clean Up Date	Flow Rate	Coll. Start	Coll. End	Concentration Analyst	Conc. Date	Solvent Ex.	Pre Vol (ml)	Frac Amt (ml)	Frac Split	Frac Fact	Tran Vol (ml)	Active
1603006-01	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.4	10			True
1603006-02	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.4	10			True
1603006-03	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	1	4			True
1603006-04	D	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.6	6.66667			True
1603006-04	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.6	6.66667			True
1603006-05	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.5	8			True
1603006-06	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2			True
1603006-07	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	1	4			True
1603006-08	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.5	8			True
1603006-09	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.7	5.71429			True
1603006-10	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	0.5	8			True
1603006-11	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2			True
1603006-12	SAM	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2			True
SS032516B02	B	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2			True
SS032516LCS02	LCS	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2			True
SS032516LCSD02	LCSD	3610	EMP	3/29/2016				EMP	3/29/2016	False	4	2	2			True

Batch ID: 1603006 **Client:** Maulfoulds **Project:** Flint St.

Anomalies are noted in the Prep Process Notes section below.

Test(s) Spiked for:
Choose from the following:
F1B, POIB, POIH, POIHX, POITAS, TPH+A

Identify Matrix:
Filter • Filter (L) • NAPL • Net • Oil Product • PUF • Sediment • Sheen • Soil • Solid • SPMD • Tissue • Pom Pom • 1L Water • 4L Water • Floc Water

	Date:	Initials:
COC/ETR Check:	3/25/16	BT
1st Extraction:	↓	↓
2nd Extraction:	3/26/16	BT
3rd Extraction:	↓	↓

Extraction HT:
3/25/16

Cleanup Methods:		Date/ Initials:
No Cleanup Required		
Alumina Column (3610)	Y	3/29/16 EP
Silica Column (3630)		
Fractionation Column (3630F1)		
GPC (3640)		
Copper (3660B)	Y	3/28/16 EP
Water pH<2 verified		
	Date/Initials:	ID & Amount:
RIS Spike Analyst:	3/29/16 JP	FRAX05 100ml
RIS Spike Witness:	3/29/16 EP	

Prep Process Notes

REAGENT	LOT #
DCM	DO 032
SODIUM SULFATE	0000125635
SILICA GEL	NA
ALUMINA	184

REAGENT	LOT #
COPPER	CWR0328161A
GLASS WOOL	11414001

BATCH COMPLETE Analyst:	EP	Date:	3/29/16

BATCH REVIEWED Analyst:	MM	Date:	4/4/16

Batch ID: 160306 Client: Newfields Project: Flint St

Sample ID	Low Volume	High H2O	Plant Material	Other	Difficult to homogenize	Potential High Level		Spiked High
						Visual	Odor	
1						✓		✓
2							✓	✓
3							✓	✓
4						✓	✓	✓
5						✓	✓	
6								
7						✓	✓	✓
8							✓	✓
9								
10								
11								
12								

Present

Alpha Woods Hole Lab
Batch Weight Report
03/25/2016

Lab ID	QC Type	PS1603006 - Pan Weight	PS1603006 - Wet Weight	PS1603006 - Dry Weight	PS1603006 - Dry Weight #2	PS1603006 - Dry Weight #3	Percent Solid	RPD
1603006-01	D	1.15	4.88	4.31	4.31		84.72	0.41%
1603006-01	SAM	1.13	5.16	4.53	4.53		84.37	
1603006-02	SAM	1.16	6.97	5.81	5.81		80.03	
1603006-03	SAM	1.15	6.63	6.06	6.06		89.60	
1603006-04	SAM	1.15	6.34	5.21	5.21		78.23	
1603006-05	SAM	1.14	5.92	5.01	5.01		80.96	
1603006-06	SAM	1.16	5.57	5.04	5.04		87.98	
1603006-07	SAM	1.15	6.31	5.23	5.23		79.07	
1603006-08	SAM	1.15	7.91	6.43	6.43		78.11	
1603006-09	SAM	1.16	8.96	7.62	7.62		82.82	
1603006-10	SAM	1.16	5.03	4.31	4.31		81.40	
1603006-11	SAM	1.13	4.94	3.74	3.74		68.50	
1603006-12	SAM	1.13	6.28	5.34	5.34		81.75	
PSS032516B03	B	1.15	1.15	1.15	1.15		100.00	

Initial: 3/25/2016 7:38:55 AM BA
Weight #1: 3/29/2016 6:40:58 AM BA
Weight #2: 3/29/2016 9:44:51 AM BA

Alkylated Polynuclear Aromatic Hydrocarbons, Steranes, Triterpanes, and Triaromatic Steroids by GC/MS-SIM

Form I
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-1**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-01**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	84.4	15.83	10	1	GY

Parameter	Result		Parameter	Result
cis/trans-Decalin	**206**		C1-Dibenzothiophenes	**89.1**
C1-Decalins	**268**		C2-Dibenzothiophenes	**171**
C2-Decalins	**287**		C3-Dibenzothiophenes	**218**
C3-Decalins	**239**		C4-Dibenzothiophenes	**174**
C4-Decalins	**383**		Benzo(b)fluorene	**41.9**
Benzothiophene	**2.38**	J	Fluoranthene	**224**
C1-Benzo(b)thiophenes	**12.9**		Pyrene	**288**
C2-Benzo(b)thiophenes	**14.3**		C1-Fluoranthenes/Pyrenes	**422**
C3-Benzo(b)thiophenes	**48.7**		C2-Fluoranthenes/Pyrenes	**637**
C4-Benzo(b)thiophenes	**50.7**		C3-Fluoranthenes/Pyrenes	**892**
Naphthalene	**36.3**		C4-Fluoranthenes/Pyrenes	**1030**
C1-Naphthalenes	**104**		Naphthobenzothiophenes	**91.3**
C2-Naphthalenes	**261**		C1-Naphthobenzothiophenes	**255**
C3-Naphthalenes	**392**		C2-Naphthobenzothiophenes	**528**
C4-Naphthalenes	**415**		C3-Naphthobenzothiophenes	**581**
Biphenyl	**26.3**		C4-Naphthobenzothiophenes	**490**
Dibenzofuran	**25.5**		Benz[a]anthracene	**206**
Acenaphthylene	**13.7**		Chrysene/Triphenylene	**529**
Acenaphthene	**17.7**		C1-Chrysenes	**1090**
Fluorene	**37.9**		C2-Chrysenes	**1680**
C1-Fluorenes	**114**		C3-Chrysenes	**1920**
C2-Fluorenes	**387**		C4-Chrysenes	**1200**
C3-Fluorenes	**601**		Benzo[b]fluoranthene	**246**
Anthracene	**52.0**		Benzo[j]fluoranthene/Benzo[k]fluoranthene	**140**
Phenanthrene	**273**		Benzo[a]fluoranthene	**36.2**
C1-Phenanthrenes/Anthracenes	**594**		Benzo[e]pyrene	**412**
C2-Phenanthrenes/Anthracenes	**954**		Benzo[a]pyrene	**171**
C3-Phenanthrenes/Anthracenes	**882**		Perylene	**56.9**
C4-Phenanthrenes/Anthracenes	**595**		Indeno[1,2,3-cd]pyrene	**143**
Retene	7.49	U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	**83.0**
Dibenzothiophene	**27.5**		Benzo[g,h,i]perylene	**209**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	75	50-130
Phenanthrene-d10	88	50-130
Benzo[a]pyrene-d12	72	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
J - Estimated value, below quantitation limit.
N/A - Not Applicable

04/04/16 15:44

Form I
Carbazole

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-1**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-01**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	84.4	15.83	10	1	GY

Parameter	Result
Carbazole	**10.1**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	75	50-130
Phenanthrene-d10	88	50-130
Benzo[a]pyrene-d12	72	50-130

N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Polynuclear Aromatic Hydrocarbons Isomers

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-1**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-01**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	84.4	15.83	10	1	GY

Parameter	Result	
4-Methyldibenzothiophene	**43.4**	
2/3-Methyldibenzothiophene	**33.0**	
1-Methyldibenzothiophene	**6.94**	J
3-Methylphenanthrene	**121**	
2-Methylphenanthrene	**158**	
2-Methylanthracene	**26.7**	
9/4-Methylphenanthrene	**167**	
1-Methylphenanthrene	**100**	

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	75	50-130
Phenanthrene-d10	88	50-130
Benzo[a]pyrene-d12	72	50-130

J - Estimated value, below quantitation limit.
N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-1**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-01**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	84.4	15.83	10	1	GY

Parameter	Result	
C23 Tricyclic Terpane	**45.7**	
C24 Tricyclic Terpane	**45.7**	
C25 Tricyclic Terpane	**39.4**	
C24 Tetracyclic Terpane	**21.7**	
C26 Tricyclic Terpane-22S	**27.0**	
C26 Tricyclic Terpane-22R	**27.2**	
C28 Tricyclic Terpane-22S	**26.6**	
C28 Tricyclic Terpane-22R	**24.7**	
C29 Tricyclic Terpane-22S	**34.9**	
C29 Tricyclic Terpane-22R	**32.6**	
18a-22,29,30-Trisnorneohopane-TS	**101**	
C30 Tricyclic Terpane-22S	**29.1**	
C30 Tricyclic Terpane-22R	**45.6**	
17a(H)-22,29,30-Trisnorhopane-TM	**97.9**	
17a/b,21b/a 28,30-Bisnorhopane	**48.9**	
17a(H),21b(H)-25-Norhopane	**20.5**	
30-Norhopane	**288**	
18a(H)-30-Norneohopane-C29Ts	**66.8**	
17a(H)-Diahopane	**57.8**	
30-Normoretane	**32.1**	
18a(H)&18b(H)-Oleananes	7.49	U
Hopane	**438**	
Moretane	**38.1**	
30-Homohopane-22S	**231**	
30-Homohopane-22R	**185**	
T22a-Gammacerane/C32-diahopane	**83.5**	
30,31-Bishomohopane-22S	**198**	
30,31-Bishomohopane-22R	**125**	

Parameter	Result	
30,31-Trishomohopane-22S	**147**	
30,31-Trishomohopane-22R	**106**	
Tetrakishomohopane-22S	**165**	
Tetrakishomohopane-22R	**84.3**	
Pentakishomohopane-22S	**156**	
Pentakishomohopane-22R	**107**	
13b(H),17a(H)-20S-Diacholestane	**103**	
13b(H),17a(H)-20R-Diacholestane	**48.5**	
13b,17a-20S-Methyldiacholestane	**65.5**	
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	**242**	
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	**203**	
Unknown Sterane (S18)	**75.9**	
13a,17b-20S-Ethyldiacholestane	**5.50**	J
14a,17a-20S-Methylcholestane	**92.4**	
14a,17a-20R-Methylcholestane	**43.2**	
14a(H),17a(H)-20S-Ethylcholestane	**80.4**	
14a(H),17a(H)-20R-Ethylcholestane	**84.2**	
14b(H),17b(H)-20R-Cholestane	**53.7**	
14b(H),17b(H)-20S-Cholestane	**61.4**	
14b,17b-20R-Methylcholestane	**58.8**	
14b,17b-20S-Methylcholestane	**94.6**	
14b(H),17b(H)-20R-Ethylcholestane	**151**	
14b(H),17b(H)-20S-Ethylcholestane	**94.0**	
C26,20R- +C27,20S- triaromatic steroid	**350**	
C28,20S-triaromatic steroid	**370**	
C27,20R-triaromatic steroid	**278**	
C28,20R-triaromatic steroid	**370**	

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	115	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
J - Estimated value, below quantitation limit.
N/A - Not Applicable

04/04/16 15:44

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291609.D
Acq On : 29 Mar 2016 8:30 pm
Operator : PAH2:gy
Sample : 1603006-01
Misc : 1x,SS032516,etr:1603006
ALS Vial : 9 Sample Multiplier: 1

NAL 4/4/16

Quant Time: Apr 04 13:33:09 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.452	164	102913	500.000	ng/mL	-0.01
71) Chrysene-d12	42.937	240	174276	500.000	ng/mL	0.02
System Monitoring Compounds						
8) Naphthalene-d8	19.482	136	149555	377.105	ng/mL	-0.01
Spiked Amount 1000.000	Range 50 - 130		Recovery = 37.71%#			
40) Phenanthrene-d10	32.323	188	143179	438.106	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 43.81%#			
80) Benzo[b]fluoranthene-d12	46.852	264	160544	410.081	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery = 41.01%#			
85) Benzo[a]pyrene-d12	48.012	264	122803	358.592	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery = 35.86%#			
126) 5B(H)Cholane - Surr	43.570	217	32953	575.407	ng/ml	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 57.54%			
Target Compounds						Qvalue
2) trans-Decalin	16.155	138	22351	260.689	ng/mL	100
3) cis-Decalin	17.359	138	998M3	14.883	ng/mL	
4) C1-Decalins	17.630	152	30677M5	357.799	ng/mL	
5) C2-Decalins	19.406	166	32873M5	383.412	ng/mL	
6) C3-Decalins	21.875	180	27392M5	319.485	ng/mL	
7) C4-Decalins	25.248	194	43906M5	512.095	ng/mL	
9) Naphthalene	19.557	128	19897	48.437	ng/mL	100
10) C1-Naphthalenes	22.252	142	56854M5	138.405	ng/mL	
11) C2-Naphthalenes	25.097	156	143426M5	349.154	ng/mL	
12) C3-Naphthalenes	27.777	170	214780M5	522.857	ng/mL	
13) C4-Naphthalenes	30.200	184	227917M5	554.838	ng/mL	
14) 2-Methylnaphthalene	22.252	142	30923	112.398	ng/mL	100
15) 1-Methylnaphthalene	22.673	142	26429	98.547	ng/mL	100
16) Benzothiophene	19.783	134	1050M4	3.172	ng/mL	
17) C1-Benzo(b)thiophenes	21.830	148	5717M5	17.273	ng/mL	
18) C2-Benzo(b)thiophenes	25.293	162	6306M5	19.052	ng/mL	
19) C3-Benzo(b)thiophenes	27.265	176	21520M5	65.018	ng/mL	
20) C4-Benzo(b)thiophenes	29.372	190	22431M5	67.770	ng/mL	
21) Biphenyl	24.149	154	11903M4	35.068	ng/mL	
22) 2,6-Dimethylnaphthalene	24.751	156	33035	134.893	ng/mL	100
23) Dibenzofuran	27.220	168	12128M4	34.069	ng/mL	
24) Acenaphthylene	25.835	152	7492M3	18.283	ng/mL	
25) Acenaphthene	26.572	153	6019M4	23.680	ng/mL	
26) 2,3,5-Trimethylnaphthalen	28.138	170	17398M3	80.466	ng/mL	
27) Fluorene	28.590	166	15009M4	50.592	ng/mL	
28) C1-Fluorenes	30.968	180	45152M5	152.197	ng/mL	
29) C2-Fluorenes	33.166	194	153483M5	517.356	ng/mL	
30) C3-Fluorenes	35.003	208	238224M5	802.999	ng/mL	
31) Dibenzothiophene	31.916	184	13593M3	36.776	ng/mL	
32) 4-Methyldibenzothiophene(	33.693	198	21420	57.952	ng/mL	100
33) 2/3-Methyldibenzothiophen	34.054	198	16295M3	44.086	ng/mL	
34) 1-Methyldibenzothiophene(	34.461	198	3425	9.266	ng/mL	100
35) OTP	34.115	198	16815M3	45.493	ng/mL	
36) C1-Dibenzothiophenes	33.693	198	60797M5	164.488	ng/mL	
36) C1-Dibenzothiophenes BS	33.693	198	43982M5	118.994	ng/mL	
37) C2-Dibenzothiophenes	35.379	212	84239M5	227.911	ng/mL	
38) C3-Dibenzothiophenes	37.201	226	107421M5	290.630	ng/mL	
39) C4-Dibenzothiophenes	38.887	240	85770M5	232.053	ng/mL	
41) Phenanthrene	32.413	178	152888	364.524	ng/mL	99
42) 3-Methylphenanthrene(3MP)	34.370	192	67747	161.526	ng/mL	96
43) 2-Methylphenanthrene(2MP)	34.491	192	88695M4	211.472	ng/mL	
44) 2-Methylanthracene(2MA)	34.641	192	14973M4	35.699	ng/mL	
45) 9/4-Methylphenanthrene(9M	34.822	192	93505	222.940	ng/mL	98
46) 1-Methylphenanthrene(1MP)	34.928	192	56065M4	133.673	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291609.D
Acq On : 29 Mar 2016 8:30 pm
Operator : PAH2:gy
Sample : 1603006-01
Misc : 1x,SS032516,etr:1603006
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 04 13:33:09 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
47)	C1-Phenanthrenes/Anthrace	34.491	192	332501M5	792.768	ng/mL	
48)	C2-Phenanthrenes/Anthrace	36.659	206	534324M5	1273.965	ng/mL	
48)	C2-Phenanthrenes/Anthr BS	36.659	206	534324M5	1273.965	ng/mL	
50)	C3-Phenanthrenes/Anthrace	38.496	220	494300M5	1178.538	ng/mL	
51)	C4-Phenanthrenes/Anthrace	40.709	234	333421M5	794.961	ng/mL	
53)	Anthracene	32.594	178	26446M4	69.476	ng/mL	
54)	Carbazole	33.271	167	5201M3	13.544	ng/mL	
55)	1-Methylphenanthrene	34.928	192	57415M4	193.026	ng/mL	
56)	Fluoranthene	37.186	202	127811M4	298.512	ng/mL	
57)	Benzo(b)fluorene	39.730	216	15587M3	55.925	ng/mL	
58)	Pyrene	38.074	202	181470	384.389	ng/mL	93
59)	C1-Fluoranthenes/Pyrenes	39.475	216	266395M5	564.277	ng/mL	
60)	C2-Fluoranthenes/Pyrenes	41.944	230	401542M5	850.544	ng/mL	
61)	C3-Fluoranthenes/Pyrenes	43.419	244	562472M5	1191.426	ng/mL	
62)	C4-Fluoranthenes/Pyrenes	44.895	258	651740M5	1380.513	ng/mL	
63)	Naphthobenzothiophene	41.944	234	38601M4	91.501	ng/ml	
64)	Naphthobenzothiophene-2,1	41.944	234	38422M4	91.077	ng/mL	
65)	Naphthobenzothiophene-1,2	42.275	234	6126M4	14.521	ng/mL	
66)	Naphthobenzothiophene-2,3	42.591	234	6906M3	16.370	ng/mL	
67)	C1-Naphthobenzothiophenes	43.344	248	143739M5	340.724	ng/ml	
68)	C2-Naphthobenzothiophenes	45.362	262	297430M5	705.039	ng/ml	
69)	C3-Naphthobenzothiophenes	46.973	276	327365M5	775.998	ng/ml	
70)	C4-Naphthobenzothiophenes	48.042	290	276314M5	654.985	ng/mL	
72)	Benz[a]anthracene	42.877	228	115354	275.544	ng/mL	91
74)	Chrysene/Triphenylene	43.013	228	296949M4	706.883	ng/mL	
75)	C1-Chrysenes	44.518	242	611181M5	1454.908	ng/mL	
76)	C2-Chrysenes	45.964	256	948604M5	2258.139	ng/mL	
76)	C2-Chrysenes BS	45.964	256	941119M5	2240.321	ng/mL	
77)	BBF-D12 Surr BKGD	46.852	256	7485	17.818	ng/mL	100
78)	C3-Chrysenes	47.816	270	1074650M5	2558.190	ng/mL	
79)	C4-Chrysenes	49.383	284	672308M5	1600.420	ng/mL	
81)	Benzo[b]fluoranthene	46.928	252	153118	328.380	ng/mL	99
82)	Benzo[j]+[k]fluoranthene	47.003	252	87581M3	186.581	ng/mL	
83)	Benzo[a]fluoranthene	47.304	252	22689M3	48.336	ng/mL	
84)	Benzo[e]pyrene	47.922	252	250283M4	549.778	ng/mL	
86)	Benzo[a]pyrene	48.102	252	104552M4	228.373	ng/mL	
87)	Perylene	48.404	252	34578M3	75.943	ng/mL	
88)	Indeno[1,2,3-cd]pyrene	52.831	276	97671M4	190.399	ng/mL	
89)	Dibenz[ah]+[ac]anthracene	52.892	278	56718M3	110.860	ng/mL	
90)	Benzo[g,h,i]perylene	54.096	276	152289	278.660	ng/mL	100
91)	Hopane (T19)	51.988	191	65004M4	585.401	ng/mL	
93)	C23 Tricyclic Terpane (T4	40.589	191	6782	61.076	ng/ml	100
94)	C24 Tricyclic Terpane (T5	41.326	191	6771M4	60.977	ng/ml	
95)	C25 Tricyclic Terpane (T6	42.862	191	5837M4	52.566	ng/ml	
96)	C24 Tetracyclic Terpane (	44.127	191	3216M4	28.962	ng/ml	
97)	C26 Tricyclic Terpane-22S	43.871	191	4008M4	36.095	ng/ml	
98)	C26 Tricyclic Terpane-22R	43.976	191	4038M4	36.365	ng/ml	
99)	C28 Tricyclic Terpane-22S	46.280	191	3942M4	35.500	ng/ml	
100)	C28 Tricyclic Terpane-22R	46.431	191	3666M4	33.015	ng/ml	
101)	C29 Tricyclic Terpane-22S	46.958	191	5177M4	46.622	ng/ml	
102)	C29 Tricyclic Terpane-22R	47.154	191	4833M4	43.524	ng/ml	
103)	18a-22,29,30-Trisnorneoho	48.253	191	14949	134.625	ng/ml	100
104)	C30 Tricyclic Terpane-22S	48.358	191	4316M4	38.868	ng/mL	
105)	C30 Tricyclic Terpane-22R	48.599	191	6768M4	60.950	ng/mL	
106)	17a(H)-22,29,30-Trisnorho	48.780	191	14513M4	130.699	ng/ml	
107)	17a/b,21b/a 28,30-Bisnorh	49.970	191	7258M4	65.363	ng/ml	
108)	17a(H),21b(H)-25-Norhopan	49.789	191	3035M4	27.332	ng/ml	
109)	30-Norhopane (T15)	50.633	191	42732	384.828	ng/ml	100
110)	18a(H)-30-Norneohopane-C2	50.738	191	9914M4	89.282	ng/ml	
111)	17a(H)-Diahopane (X)	50.859	191	8577	77.241	ng/ml	100
112)	30-Normoretane (T17)	51.401	191	4761M4	42.876	ng/ml	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291609.D
Acq On : 29 Mar 2016 8:30 pm
Operator : PAH2:gy
Sample : 1603006-01
Misc : 1x,SS032516,etr:1603006
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 04 13:33:09 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
114) Moretane (T20)	52.651	191	5650M4	50.882	ng/ml	
115) 30-Homohopane-22S (T21)	53.750	191	34234	308.298	ng/ml	100
116) 30-Homohopane-22R (T22)	53.976	191	27462	247.312	ng/ml	100
117) Gammacerane/C32-diahopane	54.503	191	12387	111.553	ng/mL	100
118) 30,31-Bishomohopane-22S (	55.286	191	29315	264.000	ng/ml	100
119) 30,31-Bishomohopane-22R (	55.662	191	18577	167.297	ng/ml	100
120) 30,31-Trishomohopane-22S	57.394	191	21843M4	196.710	ng/ml	
121) 30,31-Trishomohopane-22R	57.996	191	15705	141.433	ng/ml	100
122) Tetrakishomohopane-22S (T	59.984	191	24433	220.034	ng/ml	100
123) Tetrakishomohopane-22R (T	60.857	191	12503M4	112.597	ng/ml	
124) Pentakishomohopane-22S (T	63.071	191	23198	208.912	ng/ml	100
125) Pentakishomohopane-22R (T	64.351	191	15853M4	142.766	ng/ml	
127) 13b(H),17a(H)-20S-Diachol	45.090	217	7849	137.055	ng/ml	100
128) 13b(H),17a(H)-20R-Diachol	45.527	217	3707M4	64.730	ng/ml	
129) 13b,17a-20S-Methyldiachol	46.235	217	5012M3	87.517	ng/ml	
130) 14a,17a-20S-Chol/13b,17a-	47.093	217	18532	323.595	ng/ml	100
131) 14a,17a-20R-Chol/13b,17a-	47.605	217	15545M4	271.438	ng/ml	
132) Unknown Sterane (S18)	47.877	217	5805	101.364	ng/ml	100
133) 13a,17b-20S-Ethyldiachole	48.118	217	421	7.351	ng/ml	100
134) 14a,17a-20S-Methylcholest	48.298	217	7069M4	123.435	ng/ml	
135) 14a,17a-20R-Methylcholest	49.006	217	3307M4	57.745	ng/ml	
136) 14a(H),17a(H)-20S-Ethylch	49.352	217	6151M4	107.405	ng/ml	
137) 14a(H),17a(H)-20R-Ethylch	50.256	217	6438M4	112.417	ng/ml	
138) 14b(H),17b(H)-20R-Cholest	47.184	218	4110M4	71.766	ng/ml	
139) 14b(H),17b(H)-20S-Cholest	47.259	218	4693M4	81.947	ng/ml	
140) 14b,17b-20R-Methylcholest	48.464	218	4498M4	78.542	ng/ml	
141) 14b,17b-20S-Methylcholest	48.539	218	7236M4	126.351	ng/ml	
142) 14b(H),17b(H)-20R-Ethylch	49.608	218	11557M3	201.802	ng/ml	
143) 14b(H),17b(H)-20S-Ethylch	49.639	218	7188M3	125.513	ng/ml	
144) C26,20R- +C27,20S- triaro	49.307	231	26769M4	467.425	ng/mL	
145) C28,20S-triaromatic stero	50.166	231	28331M4	494.700	ng/mL	
146) C27,20R-triaromatic stero	50.602	231	21230	370.706	ng/mL	100
147) C28,20R-triaromatic stero	51.792	231	28284M3	493.879	ng/mL	

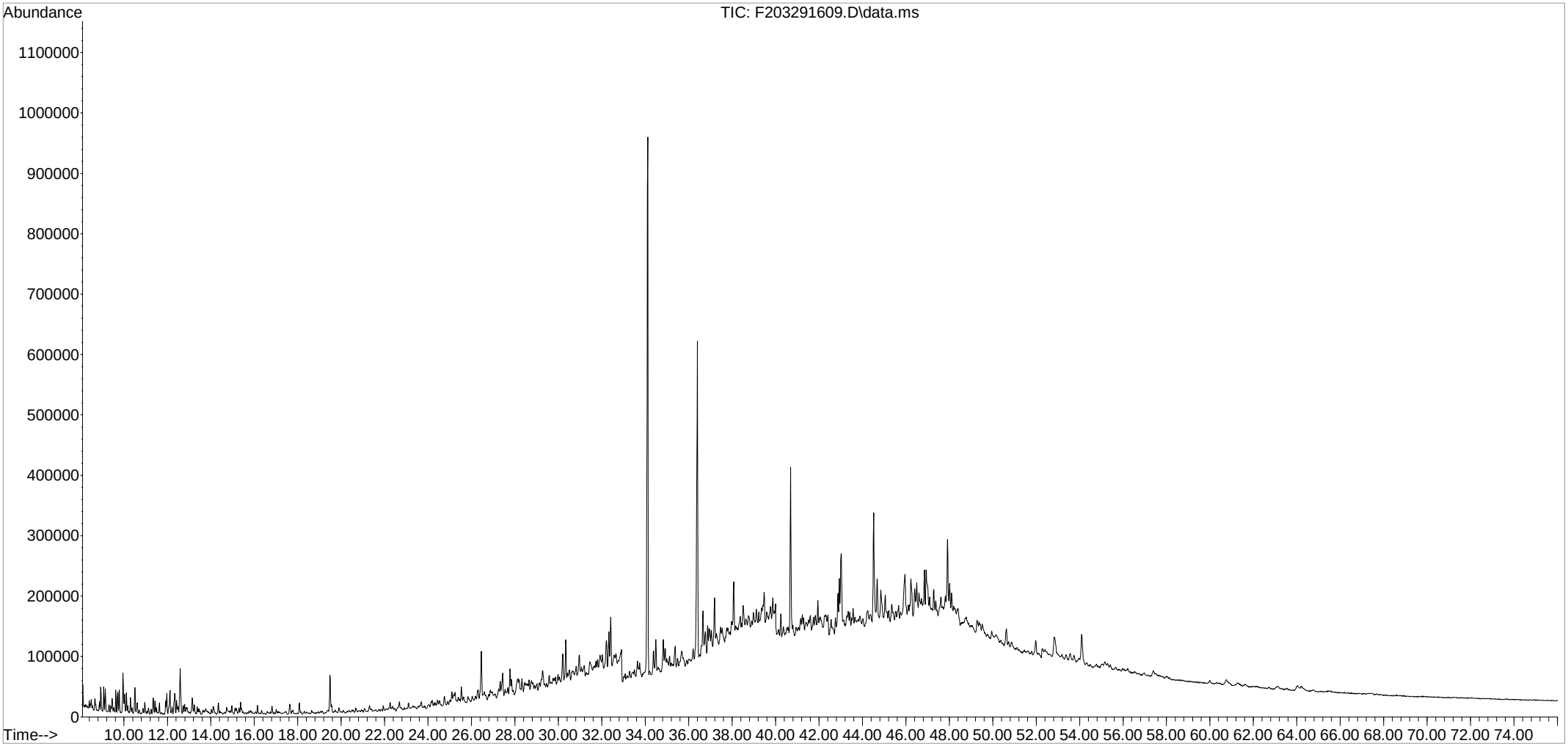
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291609.D
Acq On : 29 Mar 2016 8:30 pm
Operator : PAH2:gy
Sample : 1603006-01
Misc : 1x,SS032516,etr:1603006
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 04 13:33:09 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-2**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-02**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	80.0	10.51	10	1	GY

Parameter	Result		Parameter	Result	
cis/trans-Decalin	**38.2**		C1-Dibenzothiophenes	**147**	
C1-Decalins	**1050**		C2-Dibenzothiophenes	**395**	
C2-Decalins	**5660**		C3-Dibenzothiophenes	**487**	
C3-Decalins	**5220**		C4-Dibenzothiophenes	**343**	
C4-Decalins	**7340**		Benzo(b)fluorene	**18.1**	
Benzothiophene	11.9	U	Fluoranthene	**43.6**	
C1-Benzo(b)thiophenes	**70.4**		Pyrene	**135**	
C2-Benzo(b)thiophenes	**143**		C1-Fluoranthenes/Pyrenes	**300**	
C3-Benzo(b)thiophenes	**374**		C2-Fluoranthenes/Pyrenes	**342**	
C4-Benzo(b)thiophenes	**349**		C3-Fluoranthenes/Pyrenes	**448**	
Naphthalene	**2.92**	J	C4-Fluoranthenes/Pyrenes	**503**	
C1-Naphthalenes	**18.1**	G	Naphthobenzothiophenes	**23.2**	
C2-Naphthalenes	**74.4**		C1-Naphthobenzothiophenes	**87.8**	
C3-Naphthalenes	**285**		C2-Naphthobenzothiophenes	**153**	
C4-Naphthalenes	**1900**		C3-Naphthobenzothiophenes	**132**	
Biphenyl	11.9	U	C4-Naphthobenzothiophenes	**168**	
Dibenzofuran	11.9	U	Benz[a]anthracene	**56.0**	
Acenaphthylene	**21.3**		Chrysene/Triphenylene	**138**	
Acenaphthene	11.9	U	C1-Chrysenes	**365**	
Fluorene	11.9	U	C2-Chrysenes	**500**	
C1-Fluorenes	**355**		C3-Chrysenes	**679**	
C2-Fluorenes	**1470**		C4-Chrysenes	**451**	
C3-Fluorenes	**1800**		Benzo[b]fluoranthene	**17.8**	
Anthracene	**95.3**	G	Benzo[j]fluoranthene/Benzo[k]fluoranthene	**9.05**	J
Phenanthrene	11.9	U	Benzo[a]fluoranthene	**6.32**	J
C1-Phenanthrenes/Anthracenes	**137**	G	Benzo[e]pyrene	**46.4**	
C2-Phenanthrenes/Anthracenes	**430**		Benzo[a]pyrene	**18.9**	
C3-Phenanthrenes/Anthracenes	**1120**		Perylene	**13.7**	
C4-Phenanthrenes/Anthracenes	**1180**		Indeno[1,2,3-cd]pyrene	**7.04**	J
Retene	11.9	U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	**5.89**	J
Dibenzothiophene	**20.0**		Benzo[g,h,i]perylene	**10.8**	J

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	85	50-130
Phenanthrene-d10	91	50-130
Benzo[a]pyrene-d12	87	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
J - Estimated value, below quantitation limit.
N/A - Not Applicable
G - Matrix Interference

04/04/16 15:44

Form I
Carbazole

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-2**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-02**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	80.0	10.51	10	1	GY

Parameter	Result
Carbazole	11.9 U

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	85	50-130
Phenanthrene-d10	91	50-130
Benzo[a]pyrene-d12	87	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Polynuclear Aromatic Hydrocarbons Isomers

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-2**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-02**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	80.0	10.51	10	1	GY

Parameter	Result	
4-Methyldibenzothiophene	**49.3**	
2/3-Methyldibenzothiophene	**37.2**	
1-Methyldibenzothiophene	**10.1**	J
3-Methylphenanthrene	11.9	U
2-Methylphenanthrene	**2.93**	J
2-Methylanthracene	**23.0**	
9/4-Methylphenanthrene	**40.4**	G
1-Methylphenanthrene	**16.2**	

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	85	50-130
Phenanthrene-d10	91	50-130
Benzo[a]pyrene-d12	87	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
J - Estimated value, below quantitation limit.
N/A - Not Applicable
G - Matrix Interference

04/04/16 15:44

Form I
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-2**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-02**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	80.0	10.51	10	1	GY

Parameter	Result	
C23 Tricyclic Terpane	**46.5**	
C24 Tricyclic Terpane	**38.5**	
C25 Tricyclic Terpane	**36.0**	
C24 Tetracyclic Terpane	**8.41**	J
C26 Tricyclic Terpane-22S	**27.6**	
C26 Tricyclic Terpane-22R	**16.6**	
C28 Tricyclic Terpane-22S	**33.7**	
C28 Tricyclic Terpane-22R	**31.4**	
C29 Tricyclic Terpane-22S	**27.6**	
C29 Tricyclic Terpane-22R	**29.2**	
18a-22,29,30-Trisnorneohopane-TS	**65.2**	
C30 Tricyclic Terpane-22S	**27.5**	
C30 Tricyclic Terpane-22R	**30.5**	
17a(H)-22,29,30-Trisnorhopane-TM	**34.1**	
17a/b,21b/a 28,30-Bisnorhopane	11.9	U
17a(H),21b(H)-25-Norhopane	**30.0**	
30-Norhopane	**75.2**	
18a(H)-30-Norneohopane-C29Ts	**38.9**	
17a(H)-Diahopane	**43.2**	
30-Normoretane	**18.7**	
18a(H)&18b(H)-Oleananes	**19.1**	
Hopane	**154**	
Moretane	11.9	U
30-Homohopane-22S	**50.6**	
30-Homohopane-22R	**64.5**	
T22a-Gammacerane/C32-diahopane	**15.6**	
30,31-Bishomohopane-22S	**49.2**	G
30,31-Bishomohopane-22R	**26.8**	

Parameter	Result	
30,31-Trishomohopane-22S	**17.8**	
30,31-Trishomohopane-22R	**16.0**	
Tetrakishomohopane-22S	**38.0**	
Tetrakishomohopane-22R	11.9	U
Pentakishomohopane-22S	11.9	U
Pentakishomohopane-22R	11.9	U
13b(H),17a(H)-20S-Diacholestane	**122**	
13b(H),17a(H)-20R-Diacholestane	**52.4**	
13b,17a-20S-Methyldiacholestane	**54.7**	
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	**175**	
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	**147**	
Unknown Sterane (S18)	**62.1**	
13a,17b-20S-Ethyldiacholestane	11.9	U
14a,17a-20S-Methylcholestane	**76.0**	
14a,17a-20R-Methylcholestane	**34.8**	
14a(H),17a(H)-20S-Ethylcholestane	**50.0**	
14a(H),17a(H)-20R-Ethylcholestane	**52.8**	
14b(H),17b(H)-20R-Cholestane	**39.5**	
14b(H),17b(H)-20S-Cholestane	**43.4**	
14b,17b-20R-Methylcholestane	**31.5**	
14b,17b-20S-Methylcholestane	**44.9**	
14b(H),17b(H)-20R-Ethylcholestane	**131**	
14b(H),17b(H)-20S-Ethylcholestane	**60.7**	
C26,20R- +C27,20S- triaromatic steroid	**75.6**	
C28,20S-triaromatic steroid	**134**	
C27,20R-triaromatic steroid	**45.0**	
C28,20R-triaromatic steroid	**101**	

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	122	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
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N/A - Not Applicable
G - Matrix Interference

04/04/16 15:44

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291610.D
Acq On : 29 Mar 2016 9:57 pm
Operator : PAH2:gy
Sample : 1603006-02
Misc : 1x,SS032516,etr:1603006
ALS Vial : 10 Sample Multiplier: 1

NAL
4/4/16

Quant Time: Apr 04 13:43:35 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.467	164	101033	500.000	ng/mL	0.00
71) Chrysene-d12	42.937	240	177809	500.000	ng/mL	0.02
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	166126	426.683	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 42.67%#			
40) Phenanthrene-d10	32.353	188	145900	454.739	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 45.47%#			
80) Benzo[b]fluoranthene-d12	46.852	264	184842	462.765	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery = 46.28%#			
85) Benzo[a]pyrene-d12	48.012	264	152320	435.945	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery = 43.59%#			
126) 5B(H)Cholane - Surr	43.570	217	35727	611.449	ng/ml	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 61.14%			
Target Compounds						Qvalue
3) cis-Decalin	17.359	138	2115M3	32.128	ng/mL	
4) C1-Decalins	18.081	152	74321M5	882.968	ng/mL	
5) C2-Decalins	19.406	166	400367M5	4756.544	ng/mL	
6) C3-Decalins	21.890	180	369932M5	4394.962	ng/mL	
7) C4-Decalins	25.278	194	519867M5	6176.259	ng/mL	
9) Naphthalene	19.587	128	992	2.460	ng/mL	100
10) C1-Naphthalenes	22.237	142G	6128M5	15.196	ng/mL	
11) C2-Naphthalenes	25.654	156	25235M5	62.575	ng/mL	
12) C3-Naphthalenes	27.445	170	96803M5	240.041	ng/mL	
13) C4-Naphthalenes	29.779	184	646314M5	1602.655	ng/mL	
14) 2-Methylnaphthalene	22.237	142	1526	5.650	ng/mL	100
15) 1-Methylnaphthalene	22.703	142	457M3	1.736	ng/mL	
17) C1-Benzo(b)thiophenes	22.673	148	19235M5	59.196	ng/mL	
18) C2-Benzo(b)thiophenes	25.263	162	39157M5	120.505	ng/mL	
19) C3-Benzo(b)thiophenes	27.626	176	102319M5	314.886	ng/mL	
20) C4-Benzo(b)thiophenes	29.508	190	95264M5	293.174	ng/mL	
22) 2,6-Dimethylnaphthalene	24.766	156	981	4.080	ng/mL	100
24) Acenaphthylene	25.865	152	7196M3	17.888	ng/mL	
28) C1-Fluorenes	30.983	180	86900M5	298.371	ng/mL	
29) C2-Fluorenes	33.181	194	360016M5	1236.113	ng/mL	
30) C3-Fluorenes	35.018	208	439797M5	1510.041	ng/mL	
31) Dibenzothiophene	31.962	184	6091M3	16.786	ng/mL	
32) 4-Methyldibenzothiophene(	33.708	198	15059M4	41.501	ng/mL	
33) 2/3-Methyldibenzothiophen	34.099	198	11352M3	31.285	ng/mL	
34) 1-Methyldibenzothiophene(	34.476	198	3089M4	8.513	ng/mL	
35) OTP	34.130	198	15470M3	42.633	ng/mL	
36) C1-Dibenzothiophenes	34.130	198	60287M5	166.143	ng/mL	
36) C1-Dibenzothiophenes BS	34.130	198	44817M5	123.510	ng/mL	
37) C2-Dibenzothiophenes	35.409	212	120612M5	332.391	ng/mL	
38) C3-Dibenzothiophenes	37.216	226	148541M5	409.359	ng/mL	
39) C4-Dibenzothiophenes	38.902	240	104811M5	288.845	ng/mL	
43) 2-Methylphenanthrene(2MP)	34.506	192	1015	2.465	ng/mL#	38
44) 2-Methylanthracene(2MA)	34.672	192	7975M3	19.368	ng/mL	
45) 9/4-Methylphenanthrene(9M	34.867	192G	13982M3	33.957	ng/mL	
46) 1-Methylphenanthrene(1MP)	34.897	192	5592M3	13.581	ng/mL	
47) C1-Phenanthrenes/Anthrace	34.867	192G	47303M5	114.881	ng/mL	
48) C2-Phenanthrenes/Anthrace	36.222	206	165375M5	401.633	ng/mL	
48) C2-Phenanthrenes/Anthr BS	36.222	206	148890M5	361.598	ng/mL	
49) 5AA IS BKGD	36.418	206	16485M4	40.036	ng/mL	
50) C3-Phenanthrenes/Anthrace	38.345	220	387137M5	940.209	ng/mL	
51) C4-Phenanthrenes/Anthrace	40.724	234	409907M5	995.509	ng/mL	
53) Anthracene	32.594	178G	29953M4	80.154	ng/mL	
55) 1-Methylphenanthrene	34.897	192	5360M3	18.355	ng/mL	
56) Fluoranthene	37.216	202	15402M4	36.642	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291610.D
Acq On : 29 Mar 2016 9:57 pm
Operator : PAH2:gy
Sample : 1603006-02
Misc : 1x,SS032516,etr:1603006
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 04 13:43:35 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
57)	Benzo(b)fluorene	39.730	216	4161M3	15.207	ng/mL	
58)	Pyrene	38.089	202	52658M4	113.615	ng/mL	
59)	C1-Fluoranthenes/Pyrenes	39.896	216	117008M5	252.458	ng/mL	
60)	C2-Fluoranthenes/Pyrenes	41.959	230	133513M5	288.069	ng/mL	
61)	C3-Fluoranthenes/Pyrenes	43.434	244	174698M5	376.930	ng/mL	
62)	C4-Fluoranthenes/Pyrenes	44.684	258	196245M5	423.420	ng/mL	
63)	Naphthobenzothiophene	41.944	234	6506M4	15.709	ng/ml	
64)	Naphthobenzothiophene-2,1	41.944	234	6513M4	15.726	ng/mL	
66)	Naphthobenzothiophene-2,3	42.591	234	1560M4	3.767	ng/mL	
67)	C1-Naphthobenzothiophenes	43.344	248	30585M5	73.849	ng/ml	
68)	C2-Naphthobenzothiophenes	44.865	262	53191M5	128.432	ng/ml	
69)	C3-Naphthobenzothiophenes	46.657	276	45929M5	110.898	ng/ml	
70)	C4-Naphthobenzothiophenes	48.027	290	58610M5	141.517	ng/mL	
72)	Benz[a]anthracene	42.877	228	20113M4	47.089	ng/mL	
74)	Chrysene/Triphenylene	43.013	228	49841M4	116.288	ng/mL	
75)	C1-Chrysenes	44.518	242	131724M5	307.337	ng/mL	
76)	C2-Chrysenes	45.964	256	185960M5	433.880	ng/mL	
76)	C2-Chrysenes BS	45.964	256	180129M5	420.275	ng/mL	
77)	BBF-D12 Surr BKGD	46.852	256	5831	13.605	ng/mL	100
78)	C3-Chrysenes	47.274	270	244755M5	571.059	ng/mL	
79)	C4-Chrysenes	49.368	284	162499M5	379.141	ng/mL	
81)	Benzo[b]fluoranthene	46.928	252	7124M4	14.975	ng/mL	
82)	Benzo[j]+[k]fluoranthene	47.003	252	3644M3	7.609	ng/mL	
83)	Benzo[a]fluoranthene	47.274	252	2548M4	5.320	ng/mL	
84)	Benzo[e]pyrene	47.907	252	18122M4	39.016	ng/mL	
86)	Benzo[a]pyrene	48.102	252	7416M4	15.877	ng/mL	
87)	Perylene	48.404	252	5345M4	11.506	ng/mL	
88)	Indeno[1,2,3-cd]pyrene	52.831	276	3101M3	5.925	ng/mL	
89)	Dibenz[ah]+[ac]anthracene	52.892	278	2586M4	4.954	ng/mL	
90)	Benzo[g,h,i]perylene	54.096	276	5075	9.102	ng/mL#	71
91)	Hopane (T19)	51.973	191	14717	129.902	ng/mL#	79
93)	C23 Tricyclic Terpane (T4	40.604	191	4430	39.102	ng/ml	100
94)	C24 Tricyclic Terpane (T5	41.326	191	3667M4	32.367	ng/ml	
95)	C25 Tricyclic Terpane (T6	42.817	191	3435M4	30.320	ng/ml	
96)	C24 Tetracyclic Terpane (	44.127	191	801M4	7.070	ng/ml	
97)	C26 Tricyclic Terpane-22S	43.886	191	2635M4	23.258	ng/ml	
98)	C26 Tricyclic Terpane-22R	43.976	191	1585M4	13.990	ng/ml	
99)	C28 Tricyclic Terpane-22S	46.280	191	3212	28.351	ng/ml	100
100)	C28 Tricyclic Terpane-22R	46.431	191	2992M4	26.409	ng/ml	
101)	C29 Tricyclic Terpane-22S	46.943	191	2628	23.197	ng/ml	100
102)	C29 Tricyclic Terpane-22R	47.139	191	2782	24.556	ng/ml	100
103)	18a-22,29,30-Trisnorneoho	48.238	191	6214	54.849	ng/ml	100
104)	C30 Tricyclic Terpane-22S	48.358	191	2622M4	23.144	ng/mL	
105)	C30 Tricyclic Terpane-22R	48.615	191	2909M4	25.677	ng/mL	
106)	17a(H)-22,29,30-Trisnorho	48.780	191	3250	28.687	ng/ml	100
108)	17a(H),21b(H)-25-Norhopan	49.789	191	2863M4	25.271	ng/ml	
109)	30-Norhopane (T15)	50.618	191	7161M4	63.208	ng/ml	
110)	18a(H)-30-Norneohopane-C2	50.738	191	3707	32.721	ng/ml	100
111)	17a(H)-Diahopane (X)	50.858	191	4116M4	36.331	ng/ml	
112)	30-Normoretane (T17)	51.401	191	1784	15.747	ng/ml	100
113)	18a(H)&18b(H)-Oleananes (	51.822	191	1823M3	16.091	ng/ml	
115)	30-Homohopane-22S (T21)	53.735	191	4822M4	42.562	ng/ml	
116)	30-Homohopane-22R (T22)	53.976	191	6145M4	54.240	ng/ml	
117)	Gammacerane/C32-diahopane	54.488	191	1490	13.152	ng/mL	100
118)	30,31-Bishomohopane-22S (	55.286	191G	4692M4	41.415	ng/ml	
119)	30,31-Bishomohopane-22R (	55.662	191	2551M4	22.517	ng/ml	
120)	30,31-Trishomohopane-22S	57.364	191	1696M4	14.970	ng/ml	
121)	30,31-Trishomohopane-22R	57.996	191	1520M4	13.417	ng/ml	
122)	Tetrakishomohopane-22S (T	59.999	191	3620M4	31.953	ng/ml	
127)	13b(H),17a(H)-20S-Diachol	45.090	217	5975	102.259	ng/ml	100
128)	13b(H),17a(H)-20R-Diachol	45.527	217	2573M4	44.036	ng/ml	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291610.D
Acq On : 29 Mar 2016 9:57 pm
Operator : PAH2:gy
Sample : 1603006-02
Misc : 1x,SS032516,etr:1603006
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 04 13:43:35 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
129)	13b,17a-20S-Methyldiachol	46.220	217	2688M4	46.004	ng/ml	
130)	14a,17a-20S-Chol/13b,17a-	47.093	217	8608	147.321	ng/ml	100
131)	14a,17a-20R-Chol/13b,17a-	47.605	217	7216	123.498	ng/ml	100
132)	Unknown Sterane (S18)	47.877	217	3054	52.268	ng/ml	100
134)	14a,17a-20S-Methylcholest	48.283	217	3734M4	63.905	ng/ml	
135)	14a,17a-20R-Methylcholest	49.006	217	1709M4	29.249	ng/ml	
136)	14a(H),17a(H)-20S-Ethylch	49.337	217	2459M4	42.085	ng/ml	
137)	14a(H),17a(H)-20R-Ethylch	50.256	217	2594M4	44.395	ng/ml	
138)	14b(H),17b(H)-20R-Cholest	47.169	218	1941M4	33.219	ng/ml	
139)	14b(H),17b(H)-20S-Cholest	47.259	218	2131M4	36.471	ng/ml	
140)	14b,17b-20R-Methylcholest	48.464	218	1547M4	26.476	ng/ml	
141)	14b,17b-20S-Methylcholest	48.539	218	2206M3	37.755	ng/ml	
142)	14b(H),17b(H)-20R-Ethylch	49.593	218	6417M3	109.824	ng/ml	
143)	14b(H),17b(H)-20S-Ethylch	49.639	218	2983M3	51.053	ng/ml	
144)	C26,20R- +C27,20S- triaro	49.292	231	3715M4	63.580	ng/mL	
145)	C28,20S-triaromatic stero	50.151	231	6577M4	112.562	ng/mL	
146)	C27,20R-triaromatic stero	50.602	231	2213M4	37.874	ng/mL	
147)	C28,20R-triaromatic stero	51.792	231	4990	85.401	ng/mL	100

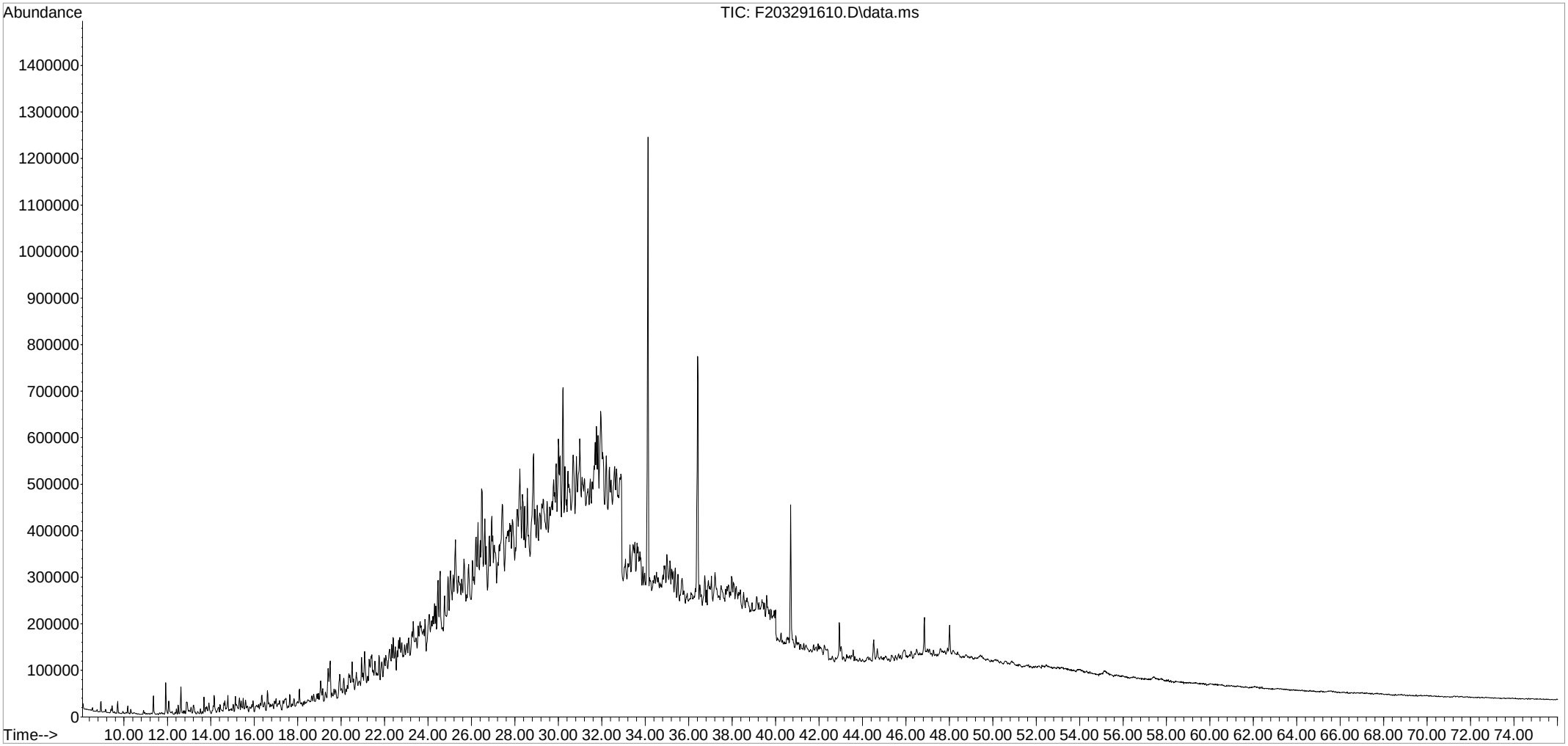
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291610.D
Acq On : 29 Mar 2016 9:57 pm
Operator : PAH2:gy
Sample : 1603006-02
Misc : 1x,SS032516,etr:1603006
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 04 13:43:35 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-3**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-03**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	89.6	10.30	4	1	GY

Parameter	Result		Parameter	Result	
cis/trans-Decalin	**463**		C1-Dibenzothiophenes	**186**	
C1-Decalins	**3390**		C2-Dibenzothiophenes	**291**	
C2-Decalins	**8380**		C3-Dibenzothiophenes	**251**	
C3-Decalins	**4600**		C4-Dibenzothiophenes	**152**	
C4-Decalins	**4480**		Benzo(b)fluorene	**12.0**	
Benzothiophene	4.33	U	Fluoranthene	**80.7**	
C1-Benzo(b)thiophenes	**228**		Pyrene	**86.5**	
C2-Benzo(b)thiophenes	**95.7**		C1-Fluoranthenes/Pyrenes	**117**	
C3-Benzo(b)thiophenes	**182**		C2-Fluoranthenes/Pyrenes	**146**	
C4-Benzo(b)thiophenes	**112**		C3-Fluoranthenes/Pyrenes	**166**	
Naphthalene	**22.2**		C4-Fluoranthenes/Pyrenes	**180**	
C1-Naphthalenes	**53.8**	G	Naphthobenzothiophenes	**45.6**	
C2-Naphthalenes	**361**		C1-Naphthobenzothiophenes	**127**	
C3-Naphthalenes	**1430**		C2-Naphthobenzothiophenes	**216**	
C4-Naphthalenes	**2140**		C3-Naphthobenzothiophenes	**222**	
Biphenyl	**11.3**		C4-Naphthobenzothiophenes	**207**	
Dibenzofuran	**42.0**		Benz[a]anthracene	**47.7**	
Acenaphthylene	**8.56**		Chrysene/Triphenylene	**79.3**	
Acenaphthene	**16.9**		C1-Chrysenes	**146**	
Fluorene	**89.7**		C2-Chrysenes	**189**	
C1-Fluorenes	**355**		C3-Chrysenes	**263**	
C2-Fluorenes	**767**		C4-Chrysenes	**190**	
C3-Fluorenes	**721**		Benzo[b]fluoranthene	**29.4**	
Anthracene	**39.9**	G	Benzo[j]fluoranthene/Benzo[k]fluoranthene	**21.6**	
Phenanthrene	**55.6**		Benzo[a]fluoranthene	**4.32**	J
C1-Phenanthrenes/Anthracenes	**178**		Benzo[e]pyrene	**36.7**	
C2-Phenanthrenes/Anthracenes	**569**		Benzo[a]pyrene	**23.0**	
C3-Phenanthrenes/Anthracenes	**555**		Perylene	**13.1**	
C4-Phenanthrenes/Anthracenes	**295**		Indeno[1,2,3-cd]pyrene	**19.1**	
Retene	4.33	U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	**7.02**	
Dibenzothiophene	**54.3**		Benzo[g,h,i]perylene	**45.3**	

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	90	50-130
Phenanthrene-d10	98	50-130
Benzo[a]pyrene-d12	81	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
J - Estimated value, below quantitation limit.
N/A - Not Applicable
G - Matrix Interference

04/04/16 15:44

Form I
Carbazole

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-3**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-03**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	89.6	10.30	4	1	GY

Parameter	Result
Carbazole	**9.54**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	90	50-130
Phenanthrene-d10	98	50-130
Benzo[a]pyrene-d12	81	50-130

N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Polynuclear Aromatic Hydrocarbons Isomers

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-3**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-03**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	89.6	10.30	4	1	GY

Parameter	Result
4-Methyldibenzothiophene	**102**
2/3-Methyldibenzothiophene	**57.0**
1-Methyldibenzothiophene	**15.8**
3-Methylphenanthrene	**34.8**
2-Methylphenanthrene	**21.0**
2-Methylanthracene	**20.0**
9/4-Methylphenanthrene	**51.2**
1-Methylphenanthrene	**31.7**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	90	50-130
Phenanthrene-d10	98	50-130
Benzo[a]pyrene-d12	81	50-130

N/A - Not Applicable

Form I
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-3**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-03**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	89.6	10.30	4	1	GY

Parameter	Result	
C23 Tricyclic Terpane	**33.3**	
C24 Tricyclic Terpane	**22.8**	
C25 Tricyclic Terpane	**22.9**	
C24 Tetracyclic Terpane	**13.7**	
C26 Tricyclic Terpane-22S	**12.2**	
C26 Tricyclic Terpane-22R	**13.1**	
C28 Tricyclic Terpane-22S	**18.9**	
C28 Tricyclic Terpane-22R	**18.4**	
C29 Tricyclic Terpane-22S	**18.3**	
C29 Tricyclic Terpane-22R	**21.9**	
18a-22,29,30-Trisnorneohopane-TS	**39.8**	
C30 Tricyclic Terpane-22S	**21.6**	
C30 Tricyclic Terpane-22R	**26.0**	
17a(H)-22,29,30-Trisnorhopane-TM	**90.5**	
17a/b,21b/a 28,30-Bisnorhopane	**49.1**	
17a(H),21b(H)-25-Norhopane	**13.9**	
30-Norhopane	**276**	
18a(H)-30-Norneohopane-C29Ts	**51.4**	
17a(H)-Diahopane	**20.3**	
30-Normoretane	**30.7**	
18a(H)&18b(H)-Oleananes	4.33	U
Hopane	**435**	
Moretane	**37.5**	
30-Homohopane-22S	**225**	
30-Homohopane-22R	**180**	
T22a-Gammacerane/C32-diahopane	**90.9**	
30,31-Bishomohopane-22S	**172**	
30,31-Bishomohopane-22R	**128**	

Parameter	Result	
30,31-Trishomohopane-22S	**148**	
30,31-Trishomohopane-22R	**104**	
Tetrakishomohopane-22S	**126**	
Tetrakishomohopane-22R	**91.9**	
Pentakishomohopane-22S	**179**	
Pentakishomohopane-22R	**138**	
13b(H),17a(H)-20S-Diacholestane	**34.3**	
13b(H),17a(H)-20R-Diacholestane	**15.7**	
13b,17a-20S-Methyldiacholestane	**15.7**	
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	**55.1**	
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	**69.2**	
Unknown Sterane (S18)	**20.1**	
13a,17b-20S-Ethyldiacholestane	**3.24**	J
14a,17a-20S-Methylcholestane	**34.0**	
14a,17a-20R-Methylcholestane	**26.1**	
14a(H),17a(H)-20S-Ethylcholestane	**61.0**	
14a(H),17a(H)-20R-Ethylcholestane	**64.8**	
14b(H),17b(H)-20R-Cholestane	**43.3**	
14b(H),17b(H)-20S-Cholestane	**42.1**	
14b,17b-20R-Methylcholestane	**42.6**	
14b,17b-20S-Methylcholestane	**56.2**	
14b(H),17b(H)-20R-Ethylcholestane	**109**	
14b(H),17b(H)-20S-Ethylcholestane	**50.9**	
C26,20R- +C27,20S- triaromatic steroid	**322**	
C28,20S-triaromatic steroid	**322**	
C27,20R-triaromatic steroid	**257**	
C28,20R-triaromatic steroid	**327**	

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	103	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
J - Estimated value, below quantitation limit.
N/A - Not Applicable

04/04/16 15:44

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291611.D
Acq On : 29 Mar 2016 11:24 pm
Operator : PAH2:gy
Sample : 1603006-03
Misc : 1x,SS032516,etr:1603006
ALS Vial : 11 Sample Multiplier: 1

NAL
4/4/16

Quant Time: Apr 04 13:45:53 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.482	164	100582	500.000	ng/mL	0.02
71) Chrysene-d12	42.938	240	182744	500.000	ng/mL	0.02
System Monitoring Compounds						
8) Naphthalene-d8	19.512	136	437637	1129.080	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery = 112.91%			
40) Phenanthrene-d10	32.353	188	393032	1230.489	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 123.05%			
80) Benzo[b]fluoranthene-d12	46.853	264	485641	1183.002	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery = 118.30%			
85) Benzo[a]pyrene-d12	48.012	264	361859	1007.685	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery = 100.77%			
126) 5B(H)Cholane - Surr	43.570	217	77510	1290.720	ng/ml	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 129.07%			
Target Compounds						Qvalue
2) trans-Decalin	16.170	138	44207M3	527.554	ng/mL	
3) cis-Decalin	17.374	138	35481	541.386	ng/mL	100
4) C1-Decalins	17.645	152	654754M5	7813.658	ng/mL	
5) C2-Decalins	19.422	166	1620105M5	19333.897	ng/mL	
6) C3-Decalins	21.906	180	889141M5	10610.770	ng/mL	
7) C4-Decalins	25.293	194	865805M5	10332.284	ng/mL	
9) Naphthalene	19.602	128	20543M3	51.169	ng/mL	
10) C1-Naphthalenes	22.387	142G	49799M5	124.039	ng/mL	
11) C2-Naphthalenes	25.654	156	334126M5	832.242	ng/mL	
12) C3-Naphthalenes	27.807	170	1323178M5	3295.776	ng/mL	
13) C4-Naphthalenes	30.231	184	1981570M5	4935.700	ng/mL	
14) 2-Methylnaphthalene	22.282	142	8249M4	30.678	ng/mL	
15) 1-Methylnaphthalene	22.703	142	16045	61.214	ng/mL	100
17) C1-Benzo(b)thiophenes	21.860	148	169870M5	525.118	ng/mL	
18) C2-Benzo(b)thiophenes	25.323	162	71422M5	220.786	ng/mL	
19) C3-Benzo(b)thiophenes	27.295	176	135728M5	419.575	ng/mL	
20) C4-Benzo(b)thiophenes	29.403	190	83755M5	258.911	ng/mL	
21) Biphenyl	24.164	154	8664M4	26.117	ng/mL	
22) 2,6-Dimethylnaphthalene	24.781	156	24732	103.329	ng/mL	100
23) Dibenzofuran	27.250	168	33732M4	96.954	ng/mL	
24) Acenaphthylene	25.880	152	7905M3	19.738	ng/mL	
25) Acenaphthene	26.603	153	9706M3	39.070	ng/mL	
27) Fluorene	28.620	166	59977	206.854	ng/mL	90
28) C1-Fluorenes	30.983	180	237514M5	819.160	ng/mL	
29) C2-Fluorenes	33.181	194	513073M5	1769.532	ng/mL	
30) C3-Fluorenes	35.018	208	482207M5	1663.079	ng/mL	
31) Dibenzothiophene	31.932	184	45282	125.351	ng/mL#	1
32) 4-Methyldibenzothiophene(	33.708	198	85091	235.551	ng/mL	100
33) 2/3-Methyldibenzothiophen	34.069	198	47552M3	131.635	ng/mL	
34) 1-Methyldibenzothiophene(	34.491	198	13162	36.435	ng/mL	100
35) OTP	34.145	198	40800M3	112.944	ng/mL	
36) C1-Dibenzothiophenes	33.708	198	196075M5	542.779	ng/mL	
36) C1-Dibenzothiophenes BS	33.708	198	155275M5	429.836	ng/mL	
37) C2-Dibenzothiophenes	35.409	212	242690M5	671.820	ng/mL	
38) C3-Dibenzothiophenes	37.216	226	208902M5	578.287	ng/mL	
39) C4-Dibenzothiophenes	38.902	240	126993M5	351.545	ng/mL	
41) Phenanthrene	32.428	178	52611	128.345	ng/mL	91
42) 3-Methylphenanthrene(3MP)	34.401	192	32883	80.218	ng/mL	94
43) 2-Methylphenanthrene(2MP)	34.506	192	19879M4	48.495	ng/mL	
44) 2-Methylanthracene(2MA)	34.672	192	18956M3	46.243	ng/mL	
45) 9/4-Methylphenanthrene(9M	34.852	192	48381	118.026	ng/mL	83
46) 1-Methylphenanthrene(1MP)	34.943	192	30001M3	73.188	ng/mL	
47) C1-Phenanthrenes/Anthrace	34.852	192	168759M5	411.690	ng/mL	
48) C2-Phenanthrenes/Anthrace	36.674	206	537717M5	1311.767	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291611.D
Acq On : 29 Mar 2016 11:24 pm
Operator : PAH2:gy
Sample : 1603006-03
Misc : 1x,SS032516,etr:1603006
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 04 13:45:53 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
48)	C2-Phenanthrenes/Anthr BS	36.674	206	537717M5	1311.767	ng/mL	
50)	C3-Phenanthrenes/Anthrace	38.511	220	525025M5	1280.805	ng/mL	
51)	C4-Phenanthrenes/Anthrace	40.709	234	279015M5	680.660	ng/mL	
53)	Anthracene	32.609	178G	34279M3	92.141	ng/mL	
54)	Carbazole	33.287	167	8262M3	22.014	ng/mL	
55)	1-Methylphenanthrene	34.943	192	30152M3	103.718	ng/mL	
56)	Fluoranthene	37.201	202	77901	186.160	ng/mL#	88
57)	Benzo(b)fluorene	39.731	216	7576M3	27.812	ng/mL	
58)	Pyrene	38.089	202	92070M4	199.542	ng/mL	
59)	C1-Fluoranthenes/Pyrenes	40.258	216	124978M5	270.863	ng/mL	
60)	C2-Fluoranthenes/Pyrenes	41.959	230	154860M5	335.626	ng/mL	
61)	C3-Fluoranthenes/Pyrenes	43.434	244	177149M5	383.932	ng/mL	
62)	C4-Fluoranthenes/Pyrenes	44.895	258	191356M5	414.723	ng/mL	
63)	Naphthobenzothiophene	41.944	234	32079	77.804	ng/ml#	84
64)	Naphthobenzothiophene-2,1	41.944	234	32079	77.804	ng/mL#	84
65)	Naphthobenzothiophene-1,2	42.290	234	6132M4	14.872	ng/mL	
66)	Naphthobenzothiophene-2,3	42.591	234	5181M3	12.566	ng/mL	
67)	C1-Naphthobenzothiophenes	43.344	248	121013M5	293.502	ng/ml	
68)	C2-Naphthobenzothiophenes	45.362	262	205203M5	497.694	ng/ml	
69)	C3-Naphthobenzothiophenes	46.973	276	210738M5	511.118	ng/ml	
70)	C4-Naphthobenzothiophenes	48.027	290	197317M5	478.567	ng/mL	
72)	Benz[a]anthracene	42.877	228	48340	110.118	ng/mL	100
74)	Chrysene/Triphenylene	43.028	228	80625	183.033	ng/mL	98
75)	C1-Chrysenes	44.518	242	148747M5	337.682	ng/mL	
76)	C2-Chrysenes	46.235	256	207327M5	470.670	ng/mL	
76)	C2-Chrysenes BS	46.235	256	191902M5	435.652	ng/mL	
77)	BBF-D12 Surr BKGD	46.853	256	15425	35.018	ng/mL	100
78)	C3-Chrysenes	49.262	270	267287M5	606.790	ng/mL	
79)	C4-Chrysenes	49.368	284	193405M5	439.064	ng/mL	
81)	Benzo[b]fluoranthene	46.928	252	33136M4	67.771	ng/mL	
82)	Benzo[j]+[k]fluoranthene	47.003	252	24491M3	49.758	ng/mL	
83)	Benzo[a]fluoranthene	47.304	252	4909M4	9.973	ng/mL	
84)	Benzo[e]pyrene	47.922	252	40446	84.728	ng/mL	89
86)	Benzo[a]pyrene	48.103	252	25512M4	53.144	ng/mL	
87)	Perylene	48.404	252	14474M3	30.316	ng/mL	
88)	Indeno[1,2,3-cd]pyrene	52.816	276	23693M3	44.047	ng/mL	
89)	Dibenz[ah]+[ac]anthracene	52.877	278	8685M3	16.189	ng/mL	
90)	Benzo[g,h,i]perylene	54.096	276	59898	104.523	ng/mL	98
91)	Hopane (T19)	51.973	191	116945	1004.361	ng/mL	94
93)	C23 Tricyclic Terpane (T4	40.589	191	8951	76.874	ng/ml	100
94)	C24 Tricyclic Terpane (T5	41.327	191	6139M4	52.724	ng/ml	
95)	C25 Tricyclic Terpane (T6	42.817	191	6150M4	52.818	ng/ml	
96)	C24 Tetracyclic Terpane (	44.127	191	3687	31.665	ng/ml	100
97)	C26 Tricyclic Terpane-22S	43.871	191	3273M4	28.110	ng/ml	
98)	C26 Tricyclic Terpane-22R	43.976	191	3517	30.205	ng/ml	100
99)	C28 Tricyclic Terpane-22S	46.265	191	5083M4	43.654	ng/ml	
100)	C28 Tricyclic Terpane-22R	46.431	191	4942	42.443	ng/ml	100
101)	C29 Tricyclic Terpane-22S	46.958	191	4912	42.186	ng/ml	100
102)	C29 Tricyclic Terpane-22R	47.154	191	5897M4	50.645	ng/ml	
103)	18a-22,29,30-Trisnorneoho	48.238	191	10700	91.895	ng/ml	100
104)	C30 Tricyclic Terpane-22S	48.359	191	5814M4	49.932	ng/mL	
105)	C30 Tricyclic Terpane-22R	48.600	191	6974M4	59.895	ng/mL	
106)	17a(H)-22,29,30-Trisnorho	48.780	191	24316	208.833	ng/ml	100
107)	17a/b,21b/a 28,30-Bisnorh	49.955	191	13193	113.306	ng/ml	100
108)	17a(H),21b(H)-25-Norhopan	49.789	191	3742	32.137	ng/ml	100
109)	30-Norhopane (T15)	50.618	191	74254	637.717	ng/ml	100
110)	18a(H)-30-Norneohopane-C2	50.723	191	13810M6	118.605	ng/ml	
111)	17a(H)-Diahopane (X)	50.844	191	5451M4	46.815	ng/ml	
112)	30-Normoretane (T17)	51.401	191	8244M4	70.802	ng/ml	
114)	Moretane (T20)	52.651	191	10072M4	86.502	ng/ml	
115)	30-Homohopane-22S (T21)	53.735	191	60449	519.155	ng/ml	100

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291611.D
Acq On : 29 Mar 2016 11:24 pm
Operator : PAH2:gy
Sample : 1603006-03
Misc : 1x,SS032516,etr:1603006
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 04 13:45:53 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
116)	30-Homohopane-22R (T22)	53.976	191	48314	414.936	ng/ml	100
117)	Gammacerane/C32-diahopane	54.503	191	24405	209.598	ng/mL	100
118)	30,31-Bishomohopane-22S (	55.271	191	46301	397.648	ng/ml	100
119)	30,31-Bishomohopane-22R (	55.647	191	34361	295.103	ng/ml	100
120)	30,31-Trishomohopane-22S	57.379	191	39703M4	340.982	ng/ml	
121)	30,31-Trishomohopane-22R	57.981	191	28069	241.065	ng/ml	100
122)	Tetrakishomohopane-22S (T	59.984	191	33977	291.805	ng/ml	100
123)	Tetrakishomohopane-22R (T	60.873	191	24682	211.977	ng/ml	100
124)	Pentakishomohopane-22S (T	63.071	191	48035	412.540	ng/ml	100
125)	Pentakishomohopane-22R (T	64.351	191	37130	318.884	ng/ml	100
127)	13b(H),17a(H)-20S-Diachol	45.106	217	4755M4	79.182	ng/ml	
128)	13b(H),17a(H)-20R-Diachol	45.512	217	2171	36.152	ng/ml	100
129)	13b,17a-20S-Methyldiachol	46.220	217	2179M4	36.285	ng/ml	
130)	14a,17a-20S-Chol/13b,17a-	47.078	217	7636	127.157	ng/ml	100
131)	14a,17a-20R-Chol/13b,17a-	47.591	217	9591	159.712	ng/ml	100
132)	Unknown Sterane (S18)	47.877	217	2784	46.360	ng/ml	100
133)	13a,17b-20S-Ethyldiachole	48.133	217	449	7.477	ng/ml	100
134)	14a,17a-20S-Methylcholest	48.298	217	4715M4	78.516	ng/ml	
135)	14a,17a-20R-Methylcholest	49.006	217	3617M4	60.231	ng/ml	
136)	14a(H),17a(H)-20S-Ethylch	49.353	217	8454M3	140.779	ng/ml	
137)	14a(H),17a(H)-20R-Ethylch	50.256	217	8982M3	149.571	ng/ml	
138)	14b(H),17b(H)-20R-Cholest	47.169	218	6000M4	99.914	ng/ml	
139)	14b(H),17b(H)-20S-Cholest	47.259	218	5838M4	97.216	ng/ml	
140)	14b,17b-20R-Methylcholest	48.464	218	5901M6	98.265	ng/ml	
141)	14b,17b-20S-Methylcholest	48.539	218	7786M4	129.655	ng/ml	
142)	14b(H),17b(H)-20R-Ethylch	49.594	218	15050M3	250.617	ng/ml	
143)	14b(H),17b(H)-20S-Ethylch	49.639	218	7057M3	117.515	ng/ml	
144)	C26,20R- +C27,20S- triaro	49.307	231	44657	743.642	ng/mL	100
145)	C28,20S-triaromatic stero	50.151	231	44604	742.759	ng/mL	100
146)	C27,20R-triaromatic stero	50.603	231	35557	592.106	ng/mL	100
147)	C28,20R-triaromatic stero	51.792	231	45306M4	754.449	ng/mL	

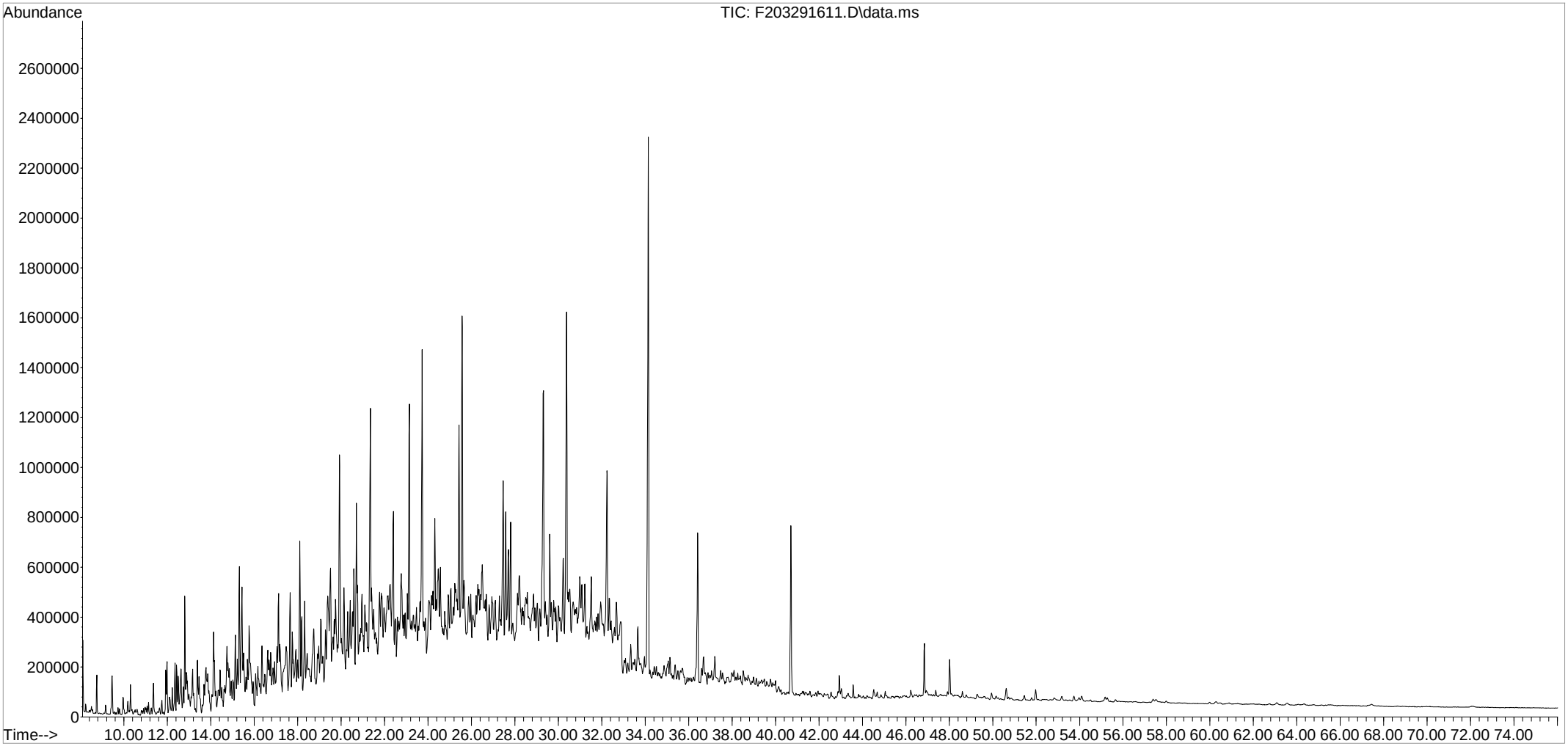
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291611.D
Acq On : 29 Mar 2016 11:24 pm
Operator : PAH2:gy
Sample : 1603006-03
Misc : 1x,SS032516,etr:1603006
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 04 13:45:53 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.2	5.28	6.67	1	GY

Parameter	Result		Parameter	Result	
cis/trans-Decalin	**8820**		C1-Dibenzothiophenes	**897**	
C1-Decalins	**13700**		C2-Dibenzothiophenes	**1840**	
C2-Decalins	**14000**		C3-Dibenzothiophenes	**2160**	
C3-Decalins	**8000**		C4-Dibenzothiophenes	**1540**	
C4-Decalins	**8930**		Benzo(b)fluorene	**55.8**	
Benzothiophene	16.2	U	Fluoranthene	**85.3**	
C1-Benzo(b)thiophenes	**522**		Pyrene	**322**	
C2-Benzo(b)thiophenes	**190**		C1-Fluoranthenes/Pyrenes	**1100**	
C3-Benzo(b)thiophenes	**396**		C2-Fluoranthenes/Pyrenes	**1770**	
C4-Benzo(b)thiophenes	**371**		C3-Fluoranthenes/Pyrenes	**2460**	
Naphthalene	**58.8**		C4-Fluoranthenes/Pyrenes	**2450**	
C1-Naphthalenes	**96.8**		Naphthobenzothiophenes	**122**	
C2-Naphthalenes	**2280**		C1-Naphthobenzothiophenes	**468**	
C3-Naphthalenes	**8000**		C2-Naphthobenzothiophenes	**778**	
C4-Naphthalenes	**7390**		C3-Naphthobenzothiophenes	**675**	
Biphenyl	**20.9**		C4-Naphthobenzothiophenes	**877**	
Dibenzofuran	16.2	U	Benz[a]anthracene	**173**	
Acenaphthylene	**51.5**		Chrysene/Triphenylene	**643**	
Acenaphthene	**42.8**		C1-Chrysenes	**1930**	
Fluorene	**49.3**	G	C2-Chrysenes	**2670**	
C1-Fluorenes	**1290**		C3-Chrysenes	**2870**	
C2-Fluorenes	**4660**		C4-Chrysenes	**1960**	
C3-Fluorenes	**6770**		Benzo[b]fluoranthene	**36.7**	
Anthracene	**92.5**	G	Benzo[j]fluoranthene/Benzo[k]fluoranthene	**22.2**	
Phenanthrene	**692**		Benzo[a]fluoranthene	**14.8**	J
C1-Phenanthrenes/Anthracenes	**4950**		Benzo[e]pyrene	**164**	
C2-Phenanthrenes/Anthracenes	**10500**		Benzo[a]pyrene	**46.4**	
C3-Phenanthrenes/Anthracenes	**9880**		Perylene	**19.4**	
C4-Phenanthrenes/Anthracenes	**6380**		Indeno[1,2,3-cd]pyrene	**15.7**	J
Retene	16.2	U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	**21.6**	
Dibenzothiophene	**82.3**		Benzo[g,h,i]perylene	**22.3**	

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	89	50-130
Phenanthrene-d10	92	50-130
Benzo[a]pyrene-d12	88	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
J - Estimated value, below quantitation limit.
N/A - Not Applicable
G - Matrix Interference

04/04/16 15:44

Form I
Carbazole

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.2	5.28	6.67	1	GY

Parameter	Result
Carbazole	**29.4**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	89	50-130
Phenanthrene-d10	92	50-130
Benzo[a]pyrene-d12	88	50-130

N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Polynuclear Aromatic Hydrocarbons Isomers

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.2	5.28	6.67	1	GY

Parameter	Result
4-Methyldibenzothiophene	**486**
2/3-Methyldibenzothiophene	**276**
1-Methyldibenzothiophene	**51.0**
3-Methylphenanthrene	**1050**
2-Methylphenanthrene	**983**
2-Methylanthracene	**85.6**
9/4-Methylphenanthrene	**1610**
1-Methylphenanthrene	**1040**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	89	50-130
Phenanthrene-d10	92	50-130
Benzo[a]pyrene-d12	88	50-130

N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.2	5.28	6.67	1	GY

Parameter	Result	
C23 Tricyclic Terpane	**138**	
C24 Tricyclic Terpane	**98.2**	
C25 Tricyclic Terpane	16.2	U
C24 Tetracyclic Terpane	16.2	U
C26 Tricyclic Terpane-22S	**142**	
C26 Tricyclic Terpane-22R	16.2	U
C28 Tricyclic Terpane-22S	16.2	U
C28 Tricyclic Terpane-22R	**73.2**	
C29 Tricyclic Terpane-22S	16.2	U
C29 Tricyclic Terpane-22R	16.2	U
18a-22,29,30-Trisnorneohopane-TS	**155**	
C30 Tricyclic Terpane-22S	16.2	U
C30 Tricyclic Terpane-22R	16.2	U
17a(H)-22,29,30-Trisnorhopane-TM	16.2	U
17a/b,21b/a 28,30-Bisnorhopane	16.2	U
17a(H),21b(H)-25-Norhopane	16.2	U
30-Norhopane	**59.0**	
18a(H)-30-Norneohopane-C29Ts	**56.7**	G
17a(H)-Diahopane	**94.6**	G
30-Normoretane	16.2	U
18a(H)&18b(H)-Oleananes	16.2	U
Hopane	**94.7**	
Moretane	16.2	U
30-Homohopane-22S	**35.1**	
30-Homohopane-22R	**41.5**	
T22a-Gammacerane/C32-diahopane	16.2	U
30,31-Bishomohopane-22S	16.2	U
30,31-Bishomohopane-22R	16.2	U

Parameter	Result	
30,31-Trishomohopane-22S	16.2	U
30,31-Trishomohopane-22R	16.2	U
Tetrakishomohopane-22S	16.2	U
Tetrakishomohopane-22R	16.2	U
Pentakishomohopane-22S	16.2	U
Pentakishomohopane-22R	16.2	U
13b(H),17a(H)-20S-Diacholestane	**486**	
13b(H),17a(H)-20R-Diacholestane	**237**	
13b,17a-20S-Methyldiacholestane	**212**	
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	**659**	
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	**559**	
Unknown Sterane (S18)	**190**	
13a,17b-20S-Ethyldiacholestane	16.2	U
14a,17a-20S-Methylcholestane	**234**	
14a,17a-20R-Methylcholestane	**110**	
14a(H),17a(H)-20S-Ethylcholestane	**108**	
14a(H),17a(H)-20R-Ethylcholestane	**85.0**	
14b(H),17b(H)-20R-Cholestane	**86.3**	
14b(H),17b(H)-20S-Cholestane	**83.1**	
14b,17b-20R-Methylcholestane	**53.5**	
14b,17b-20S-Methylcholestane	**101**	
14b(H),17b(H)-20R-Ethylcholestane	**165**	
14b(H),17b(H)-20S-Ethylcholestane	**115**	
C26,20R- +C27,20S- triaromatic steroid	**73.2**	
C28,20S-triaromatic steroid	16.2	U
C27,20R-triaromatic steroid	16.2	U
C28,20R-triaromatic steroid	16.2	U

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	115	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable
G - Matrix Interference

04/04/16 15:45

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291612.D
Acq On : 30 Mar 2016 12:50 am
Operator : PAH2:gy
Sample : 1603006-04
Misc : 1x,SS032516,etr:1603006
ALS Vial : 12 Sample Multiplier: 1

MAL
4/4/16

Quant Time: Apr 04 13:48:16 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.467	164	98988	500.000	ng/mL	0.00
71) Chrysene-d12	42.983	240	185433	500.000	ng/mL	0.06
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	255608	670.074	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 67.01%			
40) Phenanthrene-d10	32.353	188	217950	693.337	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 69.33%			
80) Benzo[b]fluoranthene-d12	46.883	264	290429	697.214	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery = 69.72%			
85) Benzo[a]pyrene-d12	48.057	264	239725	657.893	ng/mL	0.09
Spiked Amount 1000.000	Range 50 - 130		Recovery = 65.79%			
126) 5B(H)Cholane - Surr	43.615	217	52601	863.226	ng/ml	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery = 86.32%			
Target Compounds						Qvalue
2) trans-Decalin	16.170	138	419557	5087.506	ng/mL	100
3) cis-Decalin	17.374	138	24237	375.775	ng/mL	100
4) C1-Decalins	17.645	152	697876M5	8462.374	ng/mL	
5) C2-Decalins	19.421	166	712465M5	8639.279	ng/mL	
6) C3-Decalins	21.905	180	408496M5	4953.381	ng/mL	
7) C4-Decalins	25.293	194	456096M5	5530.574	ng/mL	
9) Naphthalene	19.602	128	14379M3	36.392	ng/mL	
10) C1-Naphthalenes	22.763	142	23687M5	59.950	ng/mL	
11) C2-Naphthalenes	25.112	156	558972M5	1414.709	ng/mL	
12) C3-Naphthalenes	27.461	170	1957515M5	4954.299	ng/mL	
13) C4-Naphthalenes	30.230	184	1807483M5	4574.581	ng/mL	
14) 2-Methylnaphthalene	22.372	142	9064	34.252	ng/mL	100
15) 1-Methylnaphthalene	22.763	142	11312M4	43.852	ng/mL	
17) C1-Benzo(b)thiophenes	21.845	148	102873M5	323.131	ng/mL	
18) C2-Benzo(b)thiophenes	25.278	162	37424M5	117.551	ng/mL	
19) C3-Benzo(b)thiophenes	25.428	176	78027M5	245.088	ng/mL	
20) C4-Benzo(b)thiophenes	29.402	190	73107M5	229.634	ng/mL	
21) Biphenyl	24.164	154	4226M4	12.944	ng/mL	
22) 2,6-Dimethylnaphthalene	24.781	156	9301	39.485	ng/mL	100
24) Acenaphthylene	25.865	152	12573M4	31.900	ng/mL	
25) Acenaphthene	26.587	153	6487M4	26.533	ng/mL	
26) 2,3,5-Trimethylnaphthalen	28.153	170	132286M3	636.083	ng/mL	
27) Fluorene	28.620	166G	8713M4	30.534	ng/mL	
28) C1-Fluorenes	30.998	180	227417M5	796.966	ng/mL	
29) C2-Fluorenes	33.196	194	823618M5	2886.310	ng/mL	
30) C3-Fluorenes	35.033	208	1196339M5	4192.483	ng/mL	
31) Dibenzothiophene	31.947	184	18123	50.976	ng/mL#	1
32) 4-Methyldibenzothiophene(	33.723	198	106933	300.781	ng/mL	100
33) 2/3-Methyldibenzothiophen	34.084	198	60655	170.610	ng/mL	100
34) 1-Methyldibenzothiophene(	34.491	198	11226	31.576	ng/mL	100
35) OTP	34.145	198	21208M3	59.654	ng/mL	
36) C1-Dibenzothiophenes	33.723	198	218652M5	615.024	ng/mL	
36) C1-Dibenzothiophenes BS	33.723	198	197444M5	555.371	ng/mL	
37) C2-Dibenzothiophenes	35.424	212	405342M5	1140.146	ng/mL	
38) C3-Dibenzothiophenes	37.231	226	475514M5	1337.526	ng/mL	
39) C4-Dibenzothiophenes	38.932	240	338078M5	950.946	ng/mL	
41) Phenanthrene	32.443	178	172873	428.517	ng/mL	97
42) 3-Methylphenanthrene(3MP)	34.416	192	263048	652.042	ng/mL	97
43) 2-Methylphenanthrene(2MP)	34.521	192	245642M4	608.896	ng/mL	
44) 2-Methylanthracene(2MA)	34.672	192	21392M3	53.026	ng/mL	
45) 9/4-Methylphenanthrene(9M	34.867	192	403231	999.527	ng/mL	98
46) 1-Methylphenanthrene(1MP)	34.958	192	259928M4	644.308	ng/mL	
47) C1-Phenanthrenes/Anthrace	34.867	192	1237443M5	3067.368	ng/mL	
48) C2-Phenanthrenes/Anthrace	36.704	206	2620913M5	6496.707	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291612.D
Acq On : 30 Mar 2016 12:50 am
Operator : PAH2:gy
Sample : 1603006-04
Misc : 1x,SS032516,etr:1603006
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 04 13:48:16 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
48)	C2-Phenanthrenes/Anthr BS	36.704	206	2620913M5	6496.707	ng/mL	
50)	C3-Phenanthrenes/Anthrace	38.541	220	2467600M5	6116.675	ng/mL	
51)	C4-Phenanthrenes/Anthrace	40.739	234	1593180M5	3949.167	ng/mL	
53)	Anthracene	32.624	178G	20971M3	57.277	ng/mL	
54)	Carbazole	33.301	167	6734M3	18.231	ng/mL	
55)	1-Methylphenanthrene	34.958	192	262080M3	916.033	ng/mL	
56)	Fluoranthene	37.231	202	21749M4	52.811	ng/mL	
57)	Benzo(b)fluorene	39.761	216	9261M3	34.546	ng/mL	
58)	Pyrene	38.119	202	90423M4	199.128	ng/mL	
59)	C1-Fluoranthenes/Pyrenes	40.288	216	309350M5	681.246	ng/mL	
60)	C2-Fluoranthenes/Pyrenes	41.989	230	496952M5	1094.380	ng/mL	
61)	C3-Fluoranthenes/Pyrenes	43.464	244	692404M5	1524.801	ng/mL	
62)	C4-Fluoranthenes/Pyrenes	44.729	258	688269M5	1515.695	ng/mL	
63)	Naphthobenzothiophene	41.989	234	26417M4	65.103	ng/ml	
64)	Naphthobenzothiophene-2,1	41.989	234	26051M4	64.201	ng/mL	
66)	Naphthobenzothiophene-2,3	42.636	234	4593M4	11.319	ng/mL	
67)	C1-Naphthobenzothiophenes	43.389	248	117665M5	289.977	ng/ml	
68)	C2-Naphthobenzothiophenes	44.910	262	195581M5	481.995	ng/ml	
69)	C3-Naphthobenzothiophenes	46.687	276	169641M5	418.068	ng/ml	
70)	C4-Naphthobenzothiophenes	48.072	290	220265M5	542.827	ng/mL	
72)	Benz[a]anthracene	42.922	228	47699M3	107.083	ng/mL	
74)	Chrysene/Triphenylene	43.058	228	177972M4	398.170	ng/mL	
75)	C1-Chrysenes	44.563	242	534996M5	1196.925	ng/mL	
76)	C2-Chrysenes	45.994	256	748908M5	1675.502	ng/mL	
76)	C2-Chrysenes BS	45.994	256	738595M5	1652.429	ng/mL	
77)	BBF-D12 Surr BKGD	46.883	256	10313	23.073	ng/mL	100
78)	C3-Chrysenes	47.846	270	794892M5	1778.380	ng/mL	
79)	C4-Chrysenes	49.413	284	542042M5	1212.689	ng/mL	
81)	Benzo[b]fluoranthene	46.973	252	11267M3	22.710	ng/mL	
82)	Benzo[j]+[k]fluoranthene	47.033	252	6850M3	13.715	ng/mL	
83)	Benzo[a]fluoranthene	47.319	252	4565M4	9.140	ng/mL	
84)	Benzo[e]pyrene	47.952	252	49156M4	101.481	ng/mL	
86)	Benzo[a]pyrene	48.148	252	13989M4	28.718	ng/mL	
87)	Perylene	48.449	252	5820M3	12.013	ng/mL	
88)	Indeno[1,2,3-cd]pyrene	52.892	276	5295M4	9.701	ng/mL	
89)	Dibenz[ah]+[ac]anthracene	52.922	278	7268M4	13.351	ng/mL	
90)	Benzo[g,h,i]perylene	54.141	276	8045	13.835	ng/mL#	77
91)	Hopane (T19)	52.018	191	6928M4	58.637	ng/mL	
93)	C23 Tricyclic Terpane (T4	40.634	191	10060	85.146	ng/ml	100
94)	C24 Tricyclic Terpane (T5	41.372	191	7185M3	60.812	ng/ml	
97)	C26 Tricyclic Terpane-22S	43.916	191	10372M4	87.786	ng/ml	
100)	C28 Tricyclic Terpane-22R	46.476	191	5357M4	45.340	ng/ml	
103)	18a-22,29,30-Trisnorneoho	48.283	191	11310	95.725	ng/ml	100
109)	30-Norhopane (T15)	50.663	191	4317M4	36.538	ng/ml	
110)	18a(H)-30-Norneohopane-C2	50.768	191G	4146	35.091	ng/ml	100
111)	17a(H)-Diahopane (X)	50.904	191G	6920M4	58.569	ng/ml	
115)	30-Homohopane-22S (T21)	53.780	191	2570M4	21.752	ng/ml	
116)	30-Homohopane-22R (T22)	54.021	191	3034M4	25.679	ng/ml	
127)	13b(H),17a(H)-20S-Diachol	45.136	217	18325M4	300.728	ng/ml	
128)	13b(H),17a(H)-20R-Diachol	45.557	217	8953M4	146.926	ng/ml	
129)	13b,17a-20S-Methyldiachol	46.265	217	7990M3	131.123	ng/ml	
130)	14a,17a-20S-Chol/13b,17a-	47.139	217	24857M4	407.924	ng/ml	
131)	14a,17a-20R-Chol/13b,17a-	47.636	217	21110M4	346.433	ng/ml	
132)	Unknown Sterane (S18)	47.922	217	7168	117.633	ng/ml	100
134)	14a,17a-20S-Methylcholest	48.328	217	8816	144.678	ng/ml	100
135)	14a,17a-20R-Methylcholest	49.051	217	4138M4	67.908	ng/ml	
136)	14a(H),17a(H)-20S-Ethylch	49.383	217	4075M4	66.874	ng/ml	
137)	14a(H),17a(H)-20R-Ethylch	50.271	217	3209M4	52.662	ng/ml	
138)	14b(H),17b(H)-20R-Cholest	47.214	218	3257	53.450	ng/ml	100
139)	14b(H),17b(H)-20S-Cholest	47.304	218	3136M4	51.464	ng/ml	
140)	14b,17b-20R-Methylcholest	48.509	218	2020	33.150	ng/ml	100

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291612.D
Acq On : 30 Mar 2016 12:50 am
Operator : PAH2:gy
Sample : 1603006-04
Misc : 1x,SS032516,etr:1603006
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 04 13:48:16 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
141)	14b,17b-20S-Methylcholest	48.584	218	3819	62.673	ng/ml	100
142)	14b(H),17b(H)-20R-Ethylch	49.639	218	6239M4	102.387	ng/ml	
143)	14b(H),17b(H)-20S-Ethylch	49.684	218	4351M4	71.404	ng/ml	
144)	C26,20R- +C27,20S- triaro	49.352	231	2761M4	45.310	ng/mL	

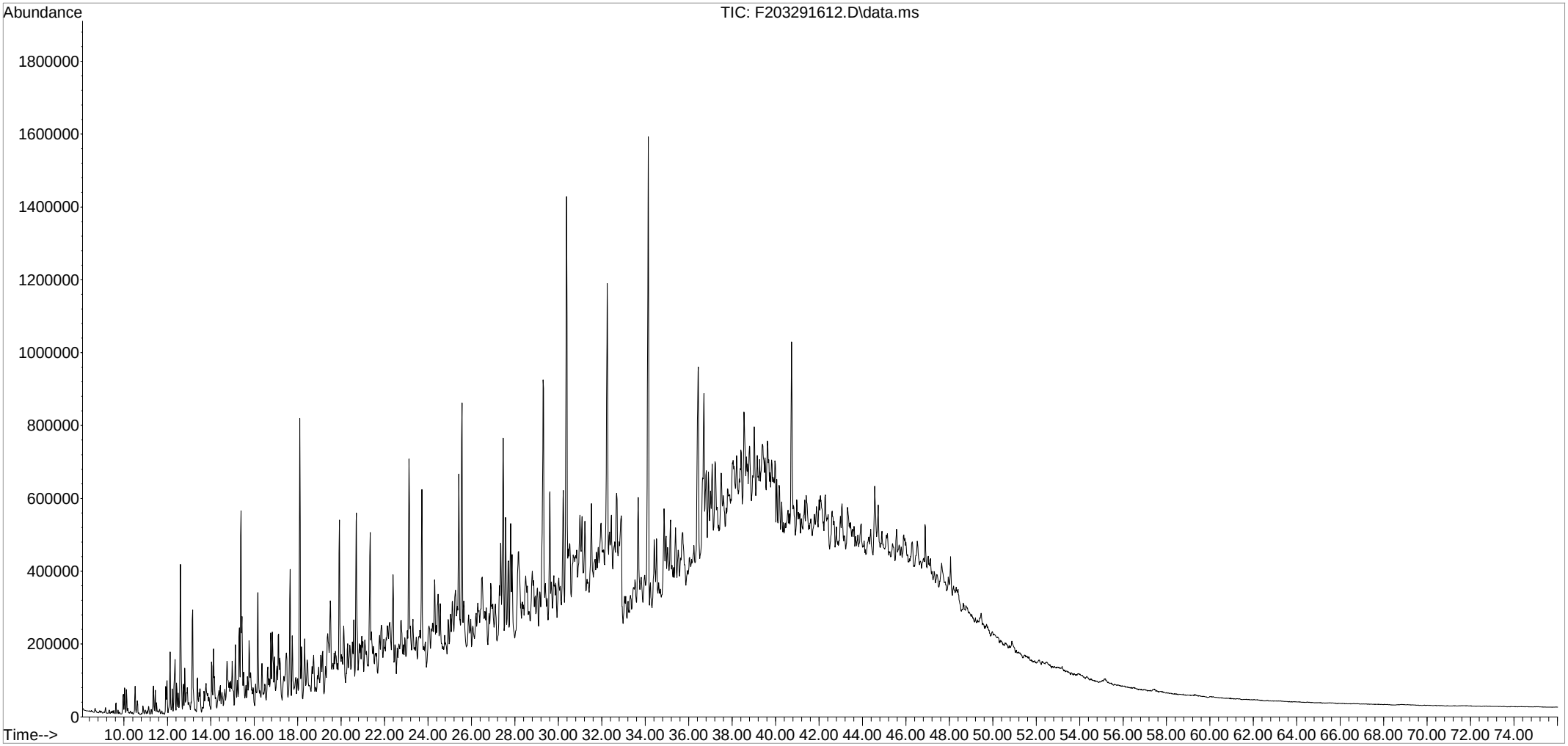
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291612.D
Acq On : 30 Mar 2016 12:50 am
Operator : PAH2:gy
Sample : 1603006-04
Misc : 1x,SS032516,etr:1603006
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 04 13:48:16 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES



Form I
Duplicate
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04 D**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.2	5.88	6.67	1	GY

Parameter	Result		Parameter	Result	
cis/trans-Decalin	**7440**		C1-Dibenzothiophenes	**678**	
C1-Decalins	**12400**		C2-Dibenzothiophenes	**1400**	
C2-Decalins	**11400**		C3-Dibenzothiophenes	**1680**	
C3-Decalins	**6310**		C4-Dibenzothiophenes	**1140**	
C4-Decalins	**7020**		Benzo(b)fluorene	**46.1**	
Benzothiophene	14.5	U	Fluoranthene	**64.5**	
C1-Benzo(b)thiophenes	**393**		Pyrene	**247**	
C2-Benzo(b)thiophenes	**152**		C1-Fluoranthenes/Pyrenes	**850**	
C3-Benzo(b)thiophenes	**303**		C2-Fluoranthenes/Pyrenes	**1340**	
C4-Benzo(b)thiophenes	**282**		C3-Fluoranthenes/Pyrenes	**1870**	
Naphthalene	**44.4**		C4-Fluoranthenes/Pyrenes	**1860**	
C1-Naphthalenes	**75.2**		Naphthobenzothiophenes	**93.2**	
C2-Naphthalenes	**1690**		C1-Naphthobenzothiophenes	**360**	
C3-Naphthalenes	**6060**		C2-Naphthobenzothiophenes	**592**	
C4-Naphthalenes	**5620**		C3-Naphthobenzothiophenes	**501**	
Biphenyl	**13.2**	J	C4-Naphthobenzothiophenes	**668**	
Dibenzofuran	14.5	U	Benz[a]anthracene	**129**	
Acenaphthylene	**38.2**		Chrysene/Triphenylene	**511**	
Acenaphthene	**34.4**		C1-Chrysenes	**1500**	
Fluorene	**36.8**	G	C2-Chrysenes	**2090**	
C1-Fluorenes	**997**		C3-Chrysenes	**2300**	
C2-Fluorenes	**3530**		C4-Chrysenes	**1530**	
C3-Fluorenes	**5150**		Benzo[b]fluoranthene	**30.8**	
Anthracene	**71.1**	G	Benzo[j]fluoranthene/Benzo[k]fluoranthene	**14.5**	J
Phenanthrene	**525**		Benzo[a]fluoranthene	**10.9**	J
C1-Phenanthrenes/Anthracenes	**3680**		Benzo[e]pyrene	**134**	
C2-Phenanthrenes/Anthracenes	**7950**		Benzo[a]pyrene	**37.0**	
C3-Phenanthrenes/Anthracenes	**7360**		Perylene	**14.0**	J
C4-Phenanthrenes/Anthracenes	**4800**		Indeno[1,2,3-cd]pyrene	**13.3**	J
Retene	14.5	U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	**16.1**	
Dibenzothiophene	**64.3**		Benzo[g,h,i]perylene	**17.7**	

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	85	50-130
Phenanthrene-d10	88	50-130
Benzo[a]pyrene-d12	84	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
J - Estimated value, below quantitation limit.
N/A - Not Applicable
G - Matrix Interference

04/04/16 15:45

Form I
Duplicate
Carbazole

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04 D**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.2	5.88	6.67	1	GY

Parameter	Result
Carbazole	**23.0**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	85	50-130
Phenanthrene-d10	88	50-130
Benzo[a]pyrene-d12	84	50-130

N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Duplicate
Polynuclear Aromatic Hydrocarbons Isomers

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04 D**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.2	5.88	6.67	1	GY

Parameter	Result
4-Methyldibenzothiophene	**368**
2/3-Methyldibenzothiophene	**211**
1-Methyldibenzothiophene	**39.4**
3-Methylphenanthrene	**774**
2-Methylphenanthrene	**713**
2-Methylanthracene	**75.7**
9/4-Methylphenanthrene	**1140**
1-Methylphenanthrene	**845**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	85	50-130
Phenanthrene-d10	88	50-130
Benzo[a]pyrene-d12	84	50-130

N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Duplicate
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04 D**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.2	5.88	6.67	1	GY

Parameter	Result	
C23 Tricyclic Terpane	**120**	
C24 Tricyclic Terpane	**98.5**	
C25 Tricyclic Terpane	14.5	U
C24 Tetracyclic Terpane	14.5	U
C26 Tricyclic Terpane-22S	**109**	
C26 Tricyclic Terpane-22R	14.5	U
C28 Tricyclic Terpane-22S	14.5	U
C28 Tricyclic Terpane-22R	**47.3**	
C29 Tricyclic Terpane-22S	14.5	U
C29 Tricyclic Terpane-22R	14.5	U
18a-22,29,30-Trisnorneohopane-TS	**141**	
C30 Tricyclic Terpane-22S	14.5	U
C30 Tricyclic Terpane-22R	14.5	U
17a(H)-22,29,30-Trisnorhopane-TM	14.5	U
17a/b,21b/a 28,30-Bisnorhopane	14.5	U
17a(H),21b(H)-25-Norhopane	14.5	U
30-Norhopane	**55.3**	
18a(H)-30-Norneohopane-C29Ts	**55.2**	G
17a(H)-Diahopane	**90.0**	G
30-Normoretane	14.5	U
18a(H)&18b(H)-Oleananes	14.5	U
Hopane	**76.8**	
Moretane	14.5	U
30-Homohopane-22S	**32.7**	
30-Homohopane-22R	**30.5**	
T22a-Gammacerane/C32-diahopane	14.5	U
30,31-Bishomohopane-22S	14.5	U
30,31-Bishomohopane-22R	14.5	U

Parameter	Result	
30,31-Trishomohopane-22S	14.5	U
30,31-Trishomohopane-22R	14.5	U
Tetrakishomohopane-22S	14.5	U
Tetrakishomohopane-22R	14.5	U
Pentakishomohopane-22S	14.5	U
Pentakishomohopane-22R	14.5	U
13b(H),17a(H)-20S-Diacholestane	**366**	
13b(H),17a(H)-20R-Diacholestane	**187**	
13b,17a-20S-Methyldiacholestane	**166**	
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	**568**	
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	**452**	
Unknown Sterane (S18)	**172**	
13a,17b-20S-Ethyldiacholestane	14.5	U
14a,17a-20S-Methylcholestane	**174**	
14a,17a-20R-Methylcholestane	**81.2**	
14a(H),17a(H)-20S-Ethylcholestane	**80.5**	
14a(H),17a(H)-20R-Ethylcholestane	**65.2**	
14b(H),17b(H)-20R-Cholestane	**83.6**	
14b(H),17b(H)-20S-Cholestane	**64.4**	
14b,17b-20R-Methylcholestane	**41.3**	
14b,17b-20S-Methylcholestane	**82.4**	
14b(H),17b(H)-20R-Ethylcholestane	**146**	
14b(H),17b(H)-20S-Ethylcholestane	**84.0**	
C26,20R- +C27,20S- triaromatic steroid	**88.8**	
C28,20S-triaromatic steroid	14.5	U
C27,20R-triaromatic steroid	14.5	U
C28,20R-triaromatic steroid	14.5	U

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	101	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable
G - Matrix Interference

04/04/16 15:45

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291613.D
Acq On : 30 Mar 2016 2:17 am
Operator : PAH2:gy
Sample : 1603006-04D
Misc : 1x,SS032516,etr:1603006
ALS Vial : 13 Sample Multiplier: 1

NAL 4/4/16

Quant Time: Apr 04 13:49:20 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.467	164	98501	500.000	ng/mL	0.00
71) Chrysene-d12	42.968	240	178681	500.000	ng/mL	0.05
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	242574	639.050	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 63.91%			
40) Phenanthrene-d10	32.353	188	207230	662.494	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 66.25%			
80) Benzo[b]fluoranthene-d12	46.883	264	266578	664.140	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery = 66.41%			
85) Benzo[a]pyrene-d12	48.057	264	219880	626.233	ng/mL	0.09
Spiked Amount 1000.000	Range 50 - 130		Recovery = 62.62%			
126) 5B(H)Cholane - Surr	43.615	217	44624M4	759.990	ng/ml	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery = 76.00%			
Target Compounds						Qvalue
2) trans-Decalin	16.170	138	388709	4736.750	ng/mL	100
3) cis-Decalin	17.374	138	25129	391.531	ng/mL	100
4) C1-Decalins	17.645	152	700016M5	8530.291	ng/mL	
5) C2-Decalins	19.421	166	645018M5	7860.093	ng/mL	
6) C3-Decalins	21.905	180	357164M5	4352.347	ng/mL	
7) C4-Decalins	25.278	194	397328M5	4841.780	ng/mL	
9) Naphthalene	19.602	128	12051M3	30.651	ng/mL	
10) C1-Naphthalenes	22.764	142	20382M5	51.840	ng/mL	
11) C2-Naphthalenes	25.112	156	459115M5	1167.725	ng/mL	
12) C3-Naphthalenes	27.461	170	1642651M5	4177.960	ng/mL	
13) C4-Naphthalenes	30.230	184	1523265M5	3874.311	ng/mL	
14) 2-Methylnaphthalene	22.372	142	7725M4	29.336	ng/mL	
15) 1-Methylnaphthalene	22.764	142	9348M4	36.417	ng/mL	
17) C1-Benzo(b)thiophenes	21.845	148	85955M5	271.326	ng/mL	
18) C2-Benzo(b)thiophenes	25.278	162	33215M5	104.846	ng/mL	
19) C3-Benzo(b)thiophenes	25.428	176	66171M5	208.875	ng/mL	
20) C4-Benzo(b)thiophenes	29.403	190	61498M5	194.125	ng/mL	
21) Biphenyl	24.164	154	2964M4	9.123	ng/mL	
22) 2,6-Dimethylnaphthalene	24.766	156	7710M4	32.893	ng/mL	
24) Acenaphthylene	25.865	152	10341M4	26.367	ng/mL	
25) Acenaphthene	26.587	153	5780M3	23.758	ng/mL	
26) 2,3,5-Trimethylnaphthalen	28.153	170	109069M3	527.040	ng/mL	
27) Fluorene	28.620	166G	7217	25.416	ng/mL#	4
28) C1-Fluorenes	30.983	180	195182M5	687.383	ng/mL	
29) C2-Fluorenes	33.196	194	690821M5	2432.902	ng/mL	
30) C3-Fluorenes	35.033	208	1008343M5	3551.136	ng/mL	
31) Dibenzothiophene	31.947	184	15696M4	44.368	ng/mL	
32) 4-Methyldibenzothiophene(	33.723	198	89900	254.121	ng/mL	100
33) 2/3-Methyldibenzothiophen	34.069	198	51513	145.612	ng/mL	100
34) 1-Methyldibenzothiophene(	34.491	198	9606M4	27.153	ng/mL	
35) OTP	34.130	198	18481M3	52.240	ng/mL	
36) C1-Dibenzothiophenes	33.723	198	183886M5	519.792	ng/mL	
36) C1-Dibenzothiophenes BS	33.723	198	165405M5	467.551	ng/mL	
37) C2-Dibenzothiophenes	35.409	212	341660M5	965.773	ng/mL	
38) C3-Dibenzothiophenes	37.231	226	409428M5	1157.333	ng/mL	
39) C4-Dibenzothiophenes	38.932	240	278349M5	786.811	ng/mL	
41) Phenanthrene	32.443	178	145416M4	362.239	ng/mL	
42) 3-Methylphenanthrene(3MP)	34.416	192	214203M4	533.591	ng/mL	
43) 2-Methylphenanthrene(2MP)	34.521	192	197486M4	491.948	ng/mL	
44) 2-Methylanthracene(2MA)	34.672	192	20964M3	52.222	ng/mL	
45) 9/4-Methylphenanthrene(9M	34.867	192	315639M4	786.273	ng/mL	
46) 1-Methylphenanthrene(1MP)	34.958	192	233871M4	582.585	ng/mL	
47) C1-Phenanthrenes/Anthrace	34.867	192	1018168M5	2536.308	ng/mL	
48) C2-Phenanthrenes/Anthrace	36.689	206	2199928M5	5480.132	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291613.D
Acq On : 30 Mar 2016 2:17 am
Operator : PAH2:gy
Sample : 1603006-04D
Misc : 1x,SS032516,etr:1603006
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 04 13:49:20 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
48)	C2-Phenanthrenes/Anthr BS	36.689	206	2199928M5	5480.132	ng/mL	
50)	C3-Phenanthrenes/Anthrace	38.541	220	2037880M5	5076.462	ng/mL	
51)	C4-Phenanthrenes/Anthrace	40.724	234	1328933M5	3310.439	ng/mL	
53)	Anthracene	32.624	178G	17859M3	49.019	ng/mL	
54)	Carbazole	33.301	167	5818M3	15.829	ng/mL	
55)	1-Methylphenanthrene	34.958	192	228565M4	802.840	ng/mL	
56)	Fluoranthene	37.216	202	18238M4	44.504	ng/mL	
57)	Benzo(b)fluorene	39.761	216	8487M3	31.815	ng/mL	
58)	Pyrene	38.104	202	76892M3	170.168	ng/mL	
59)	C1-Fluoranthenes/Pyrenes	40.288	216	264994M5	586.451	ng/mL	
60)	C2-Fluoranthenes/Pyrenes	41.989	230	416771M5	922.344	ng/mL	
61)	C3-Fluoranthenes/Pyrenes	43.464	244	582061M5	1288.143	ng/mL	
62)	C4-Fluoranthenes/Pyrenes	44.714	258	579330M5	1282.099	ng/mL	
63)	Naphthobenzothiophene	41.974	234	21739M3	53.839	ng/ml	
64)	Naphthobenzothiophene-2,1	41.974	234	22035M3	54.572	ng/mL	
66)	Naphthobenzothiophene-2,3	42.636	234	3920M4	9.708	ng/mL	
67)	C1-Naphthobenzothiophenes	43.389	248	100369M5	248.575	ng/ml	
68)	C2-Naphthobenzothiophenes	44.895	262	164951M5	408.520	ng/ml	
69)	C3-Naphthobenzothiophenes	46.687	276	139478M5	345.433	ng/ml	
70)	C4-Naphthobenzothiophenes	48.087	290	185967M5	460.568	ng/mL	
72)	Benz[a]anthracene	42.907	228	38171M3	88.931	ng/mL	
74)	Chrysene/Triphenylene	43.043	228	151780M4	352.403	ng/mL	
75)	C1-Chrysenes	44.563	242	446222M5	1036.039	ng/mL	
76)	C2-Chrysenes	45.994	256	631009M5	1465.077	ng/mL	
76)	C2-Chrysenes BS	45.994	256	621551M5	1443.118	ng/mL	
77)	BBF-D12 Surr BKGD	46.883	256	9458	21.960	ng/mL	100
78)	C3-Chrysenes	47.846	270	682234M5	1584.012	ng/mL	
79)	C4-Chrysenes	49.398	284	453828M5	1053.698	ng/mL	
81)	Benzo[b]fluoranthene	46.973	252	10167M3	21.267	ng/mL	
82)	Benzo[j]+[k]fluoranthene	47.018	252	4807M3	9.988	ng/mL	
83)	Benzo[a]fluoranthene	47.304	252	3623M4	7.528	ng/mL	
84)	Benzo[e]pyrene	47.952	252	43085	92.308	ng/mL#	79
86)	Benzo[a]pyrene	48.148	252	11963	25.487	ng/mL#	1
87)	Perylene	48.434	252	4492M3	9.622	ng/mL	
88)	Indeno[1,2,3-cd]pyrene	52.877	276	4835M4	9.193	ng/mL	
89)	Dibenz[ah]+[ac]anthracene	52.907	278	5824M4	11.103	ng/mL	
90)	Benzo[g,h,i]perylene	54.141	276	6846	12.218	ng/mL#	83
91)	Hopane (T19)	52.003	191	6029M4	52.956	ng/mL	
93)	C23 Tricyclic Terpane (T4	40.634	191	9445	82.961	ng/ml	100
94)	C24 Tricyclic Terpane (T5	41.357	191	7732M4	67.915	ng/ml	
97)	C26 Tricyclic Terpane-22S	43.916	191	8553M4	75.126	ng/ml	
100)	C28 Tricyclic Terpane-22R	46.461	191	3711M4	32.596	ng/ml	
103)	18a-22,29,30-Trisnorneoho	48.268	191	11051M4	97.068	ng/ml	
109)	30-Norhopane (T15)	50.663	191	4345M4	38.165	ng/ml	
110)	18a(H)-30-Norneohopane-C2	50.753	191G	4335	38.077	ng/ml	100
111)	17a(H)-Diahopane (X)	50.904	191G	7068M4	62.083	ng/ml	
115)	30-Homohopane-22S (T21)	53.780	191	2567M4	22.548	ng/ml	
116)	30-Homohopane-22R (T22)	54.021	191	2394M4	21.028	ng/ml	
127)	13b(H),17a(H)-20S-Diachol	45.136	217	14821	252.416	ng/ml	100
128)	13b(H),17a(H)-20R-Diachol	45.557	217	7562M4	128.788	ng/ml	
129)	13b,17a-20S-Methyldiachol	46.250	217	6720M3	114.448	ng/ml	
130)	14a,17a-20S-Chol/13b,17a-	47.124	217	22982M4	391.406	ng/ml	
131)	14a,17a-20R-Chol/13b,17a-	47.636	217	18320M4	312.007	ng/ml	
132)	Unknown Sterane (S18)	47.907	217	6956	118.467	ng/ml	100
134)	14a,17a-20S-Methylcholest	48.328	217	7042M4	119.932	ng/ml	
135)	14a,17a-20R-Methylcholest	49.051	217	3288M4	55.998	ng/ml	
136)	14a(H),17a(H)-20S-Ethylch	49.368	217	3259M4	55.504	ng/ml	
137)	14a(H),17a(H)-20R-Ethylch	50.256	217	2642	44.996	ng/ml	100
138)	14b(H),17b(H)-20R-Cholest	47.199	218	3385M4	57.650	ng/ml	
139)	14b(H),17b(H)-20S-Cholest	47.289	218	2607M4	44.400	ng/ml	
140)	14b,17b-20R-Methylcholest	48.494	218	1673	28.493	ng/ml	100

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291613.D
Acq On : 30 Mar 2016 2:17 am
Operator : PAH2:gy
Sample : 1603006-04D
Misc : 1x,SS032516,etr:1603006
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 04 13:49:20 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
141) 14b,17b-20S-Methylcholest	48.584	218	3337M4	56.832	ng/ml	
142) 14b(H),17b(H)-20R-Ethylch	49.624	218	5891M3	100.329	ng/ml	
143) 14b(H),17b(H)-20S-Ethylch	49.669	218	3400M4	57.905	ng/ml	
144) C26,20R- +C27,20S- triaro	49.337	231	3596M4	61.243	ng/mL	

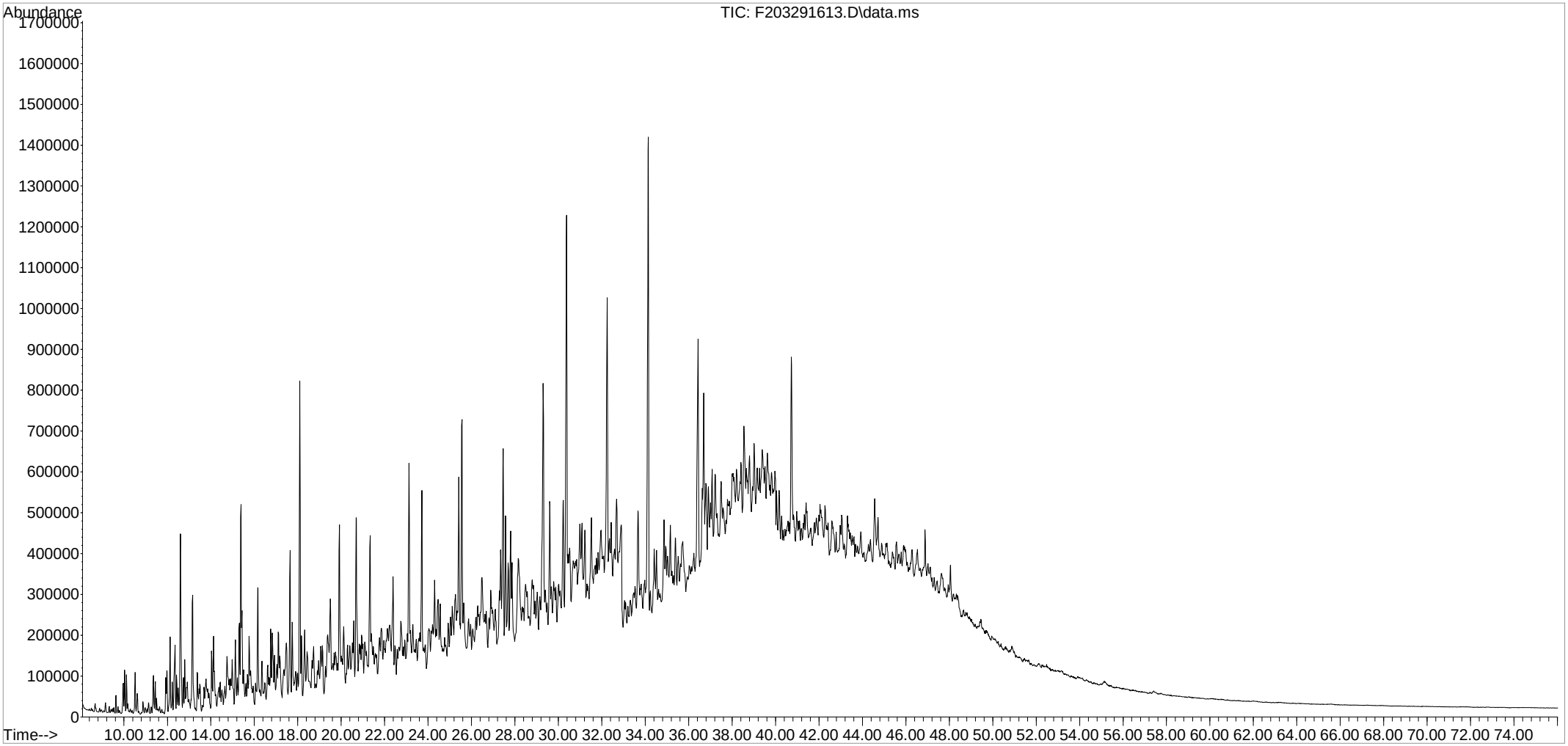
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291613.D
Acq On : 30 Mar 2016 2:17 am
Operator : PAH2:gy
Sample : 1603006-04D
Misc : 1x,SS032516,etr:1603006
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 04 13:49:20 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES



Duplicate
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
03/11/16	03/14/16	03/25/16	78.2	GY

Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
cis/trans-Decalin	**8820**	**7440**	17	30
C1-Decalins	**13700**	**12400**	10	30
C2-Decalins	**14000**	**11400**	20	30
C3-Decalins	**8000**	**6310**	24	30
C4-Decalins	**8930**	**7020**	24	30
Benzothiophene	16.2 U	14.5 U	N/A	30
C1-Benzo(b)thiophenes	**522**	**393**	28	30
C2-Benzo(b)thiophenes	**190**	**152**	22	30
C3-Benzo(b)thiophenes	**396**	**303**	27	30
C4-Benzo(b)thiophenes	**371**	**282**	27	30
Naphthalene	**58.8**	**44.4**	28	30
C1-Naphthalenes	**96.8**	**75.2**	25	30
C2-Naphthalenes	**2280**	**1690**	30	30
C3-Naphthalenes	**8000**	**6060**	28	30
C4-Naphthalenes	**7390**	**5620**	27	30
Biphenyl	**20.9**	**13.2** J	45[a]	30
Dibenzofuran	16.2 U	14.5 U	N/A	30
Acenaphthylene	**51.5**	**38.2**	30	30
Acenaphthene	**42.8**	**34.4**	22	30
Fluorene	**49.3** G	**36.8** G	29	30
C1-Fluorenes	**1290**	**997**	25	30
C2-Fluorenes	**4660**	**3530**	28	30
C3-Fluorenes	**6770**	**5150**	27	30
Anthracene	**92.5** G	**71.1** G	26	30
Phenanthrene	**692**	**525**	27	30
C1-Phenanthrenes/Anthracenes	**4950**	**3680**	30	30
C2-Phenanthrenes/Anthracenes	**10500**	**7950**	28	30
C3-Phenanthrenes/Anthracenes	**9880**	**7360**	29	30
C4-Phenanthrenes/Anthracenes	**6380**	**4800**	28	30
Retene	16.2 U	14.5 U	N/A	30
Dibenzothiophene	**82.3**	**64.3**	25	30
C1-Dibenzothiophenes	**897**	**678**	28	30
C2-Dibenzothiophenes	**1840**	**1400**	27	30
C3-Dibenzothiophenes	**2160**	**1680**	25	30
C4-Dibenzothiophenes	**1540**	**1140**	29	30

[a] - Value outside of QC Limits.
U - The analyte was analyzed for but not detected at the sample specific level reported.
J - Estimated value, below quantitation limit.
N/A - Not Applicable
G - Matrix Interference

Duplicate
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
03/11/16	03/14/16	03/25/16	78.2	GY

Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
Benzo(b)fluorene	**55.8**	**46.1**	19	30
Fluoranthene	**85.3**	**64.5**	28	30
Pyrene	**322**	**247**	26	30
C1-Fluoranthenes/Pyrenes	**1100**	**850**	26	30
C2-Fluoranthenes/Pyrenes	**1770**	**1340**	28	30
C3-Fluoranthenes/Pyrenes	**2460**	**1870**	27	30
C4-Fluoranthenes/Pyrenes	**2450**	**1860**	27	30
Naphthobenzothiophenes	**122**	**93.2**	27	30
C1-Naphthobenzothiophenes	**468**	**360**	26	30
C2-Naphthobenzothiophenes	**778**	**592**	27	30
C3-Naphthobenzothiophenes	**675**	**501**	30	30
C4-Naphthobenzothiophenes	**877**	**668**	27	30
Benz[a]anthracene	**173**	**129**	29	30
Chrysene/Triphenylene	**643**	**511**	23	30
C1-Chrysenes	**1930**	**1500**	25	30
C2-Chrysenes	**2670**	**2090**	24	30
C3-Chrysenes	**2870**	**2300**	22	30
C4-Chrysenes	**1960**	**1530**	25	30
Benzo[b]fluoranthene	**36.7**	**30.8**	17	30
Benzo[j]fluoranthene/Benzo[k]fluoranthene	**22.2**	**14.5** J	42[a]	30
Benzo[a]fluoranthene	**14.8** J	**10.9** J	30	30
Benzo[e]pyrene	**164**	**134**	20	30
Benzo[a]pyrene	**46.4**	**37.0**	23	30
Perylene	**19.4**	**14.0** J	33[a]	30
Indeno[1,2,3-cd]pyrene	**15.7** J	**13.3** J	16	30
Dibenz[ah]anthracene/Dibenz[ac]anthracene	**21.6**	**16.1**	29	30
Benzo[g,h,i]perylene	**22.3**	**17.7**	23	30

Surrogate	% Recovery		Acceptance Range (%)
Naphthalene-d8	89	85	50-130
Phenanthrene-d10	92	88	50-130
Benzo[a]pyrene-d12	88	84	50-130

[a] - Value outside of QC Limits.
J - Estimated value, below quantitation limit.
N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. RPD values are reported based on the unrounded calculated result.

04/04/16 15:47

Duplicate
Carbazole

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
03/11/16	03/14/16	03/25/16	78.2	GY

Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
Carbazole	**29.4**	**23.0**	25	30

N/A - Not Applicable

Surrogate	% Recovery		Acceptance Range (%)
Naphthalene-d8	89	85	50-130
Phenanthrene-d10	92	88	50-130
Benzo[a]pyrene-d12	88	84	50-130

Concentrations reported as calculated values, which includes rounding for significant figures. RPD values are reported based on the unrounded calculated result.

04/04/16 15:47

Duplicate
Polynuclear Aromatic Hydrocarbons Isomers

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
03/11/16	03/14/16	03/25/16	78.2	GY

Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
4-Methyldibenzothiophene	**486**	**368**	27	30
2/3-Methyldibenzothiophene	**276**	**211**	26	30
1-Methyldibenzothiophene	**51.0**	**39.4**	26	30
3-Methylphenanthrene	**1050**	**774**	31[a]	30
2-Methylphenanthrene	**983**	**713**	32[a]	30
2-Methylanthracene	**85.6**	**75.7**	12	30
9/4-Methylphenanthrene	**1610**	**1140**	34[a]	30
1-Methylphenanthrene	**1040**	**845**	21	30

Surrogate	% Recovery		Acceptance Range (%)
Naphthalene-d8	89	85	50-130
Phenanthrene-d10	92	88	50-130
Benzo[a]pyrene-d12	88	84	50-130

[a] - Value outside of QC Limits.
N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. RPD values are reported based on the unrounded calculated result.

04/04/16 15:47

Duplicate
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
03/11/16	03/14/16	03/25/16	78.2	GY

Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
C23 Tricyclic Terpane	**138**	**120**	13	30
C24 Tricyclic Terpane	**98.2**	**98.5**	0	30
C25 Tricyclic Terpane	16.2 U	14.5 U	N/A	30
C24 Tetracyclic Terpane	16.2 U	14.5 U	N/A	30
C26 Tricyclic Terpane-22S	**142**	**109**	26	30
C26 Tricyclic Terpane-22R	16.2 U	14.5 U	N/A	30
C28 Tricyclic Terpane-22S	16.2 U	14.5 U	N/A	30
C28 Tricyclic Terpane-22R	**73.2**	**47.3**	43[a]	30
C29 Tricyclic Terpane-22S	16.2 U	14.5 U	N/A	30
C29 Tricyclic Terpane-22R	16.2 U	14.5 U	N/A	30
18a-22,29,30-Trisnorneohopane-TS	**155**	**141**	9	30
C30 Tricyclic Terpane-22S	16.2 U	14.5 U	N/A	30
C30 Tricyclic Terpane-22R	16.2 U	14.5 U	N/A	30
17a(H)-22,29,30-Trisnorhopane-TM	16.2 U	14.5 U	N/A	30
17a/b,21b/a 28,30-Bisnorhopane	16.2 U	14.5 U	N/A	30
17a(H),21b(H)-25-Norhopane	16.2 U	14.5 U	N/A	30
30-Norhopane	**59.0**	**55.3**	6	30
18a(H)-30-Norneohopane-C29Ts	**56.7** G	**55.2** G	3	30
17a(H)-Diahopane	**94.6** G	**90.0** G	5	30
30-Normoretane	16.2 U	14.5 U	N/A	30
18a(H)&18b(H)-Oleananes	16.2 U	14.5 U	N/A	30
Hopane	**94.7**	**76.8**	21	30
Moretane	16.2 U	14.5 U	N/A	30
30-Homohopane-22S	**35.1**	**32.7**	7	30
30-Homohopane-22R	**41.5**	**30.5**	31[a]	30
T22a-Gammacerane/C32-diahopane	16.2 U	14.5 U	N/A	30
30,31-Bishomohopane-22S	16.2 U	14.5 U	N/A	30
30,31-Bishomohopane-22R	16.2 U	14.5 U	N/A	30
30,31-Trishomohopane-22S	16.2 U	14.5 U	N/A	30
30,31-Trishomohopane-22R	16.2 U	14.5 U	N/A	30
Tetrakishomohopane-22S	16.2 U	14.5 U	N/A	30
Tetrakishomohopane-22R	16.2 U	14.5 U	N/A	30
Pentakishomohopane-22S	16.2 U	14.5 U	N/A	30
Pentakishomohopane-22R	16.2 U	14.5 U	N/A	30
13b(H),17a(H)-20S-Diacholestane	**486**	**366**	28	30

[a] - Value outside of QC Limits.
U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable
G - Matrix Interference

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Duplicate
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
03/11/16	03/14/16	03/25/16	78.2	GY

Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
13b(H),17a(H)-20R-Diacholestane	**237**	**187**	24	30
13b,17a-20S-Methyldiacholestane	**212**	**166**	24	30
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	**659**	**568**	15	30
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	**559**	**452**	21	30
Unknown Sterane (S18)	**190**	**172**	10	30
13a,17b-20S-Ethyldiacholestane	16.2 U	14.5 U	N/A	30
14a,17a-20S-Methylcholestane	**234**	**174**	29	30
14a,17a-20R-Methylcholestane	**110**	**81.2**	30	30
14a(H),17a(H)-20S-Ethylcholestane	**108**	**80.5**	29	30
14a(H),17a(H)-20R-Ethylcholestane	**85.0**	**65.2**	26	30
14b(H),17b(H)-20R-Cholestane	**86.3**	**83.6**	3	30
14b(H),17b(H)-20S-Cholestane	**83.1**	**64.4**	25	30
14b,17b-20R-Methylcholestane	**53.5**	**41.3**	26	30
14b,17b-20S-Methylcholestane	**101**	**82.4**	20	30
14b(H),17b(H)-20R-Ethylcholestane	**165**	**146**	13	30
14b(H),17b(H)-20S-Ethylcholestane	**115**	**84.0**	31[a]	30
C26,20R- +C27,20S- triaromatic steroid	**73.2**	**88.8**	19	30
C28,20S-triaromatic steroid	16.2 U	14.5 U	N/A	30
C27,20R-triaromatic steroid	16.2 U	14.5 U	N/A	30
C28,20R-triaromatic steroid	16.2 U	14.5 U	N/A	30

Surrogate	% Recovery		Acceptance Range (%)
5B(H)Cholane	115	101	50-130

[a] - Value outside of QC Limits.
U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. RPD values are reported based on the unrounded calculated result.

04/04/16 15:47

Form I
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-5**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-05**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.0	10.85	8	1	GY

Parameter	Result	Parameter	Result
cis/trans-Decalin	**3120**	C1-Dibenzothiophenes	**878**
C1-Decalins	**6300**	C2-Dibenzothiophenes	**1370**
C2-Decalins	**5930**	C3-Dibenzothiophenes	**1250**
C3-Decalins	**3390**	C4-Dibenzothiophenes	**719**
C4-Decalins	**3700**	Benzo(b)fluorene	**85.3**
Benzothiophene	**12.7**	Fluoranthene	**639**
C1-Benzo(b)thiophenes	**304**	Pyrene	**603**
C2-Benzo(b)thiophenes	**193**	C1-Fluoranthenes/Pyrenes	**700**
C3-Benzo(b)thiophenes	**406**	C2-Fluoranthenes/Pyrenes	**901**
C4-Benzo(b)thiophenes	**292**	C3-Fluoranthenes/Pyrenes	**1120**
Naphthalene	**925**	C4-Fluoranthenes/Pyrenes	**1080**
C1-Naphthalenes	**2720**	Naphthobenzothiophenes	**148**
C2-Naphthalenes	**4860**	C1-Naphthobenzothiophenes	**276**
C3-Naphthalenes	**4970**	C2-Naphthobenzothiophenes	**418**
C4-Naphthalenes	**3520**	C3-Naphthobenzothiophenes	**346**
Biphenyl	**17.2**	C4-Naphthobenzothiophenes	**409**
Dibenzofuran	**126**	Benz[a]anthracene	**386**
Acenaphthylene	**36.2**	Chrysene/Triphenylene	**540**
Acenaphthene	**134**	C1-Chrysenes	**890**
Fluorene	**238**	C2-Chrysenes	**1210**
C1-Fluorenes	**703**	C3-Chrysenes	**1300**
C2-Fluorenes	**1720**	C4-Chrysenes	**896**
C3-Fluorenes	**2190**	Benzo[b]fluoranthene	**295**
Anthracene	**133**	Benzo[j]fluoranthene/Benzo[k]fluoranthene	**263**
Phenanthrene	**788**	Benzo[a]fluoranthene	**55.6**
C1-Phenanthrenes/Anthracenes	**1780**	Benzo[e]pyrene	**263**
C2-Phenanthrenes/Anthracenes	**3250**	Benzo[a]pyrene	**275**
C3-Phenanthrenes/Anthracenes	**2970**	Perylene	**82.7**
C4-Phenanthrenes/Anthracenes	**1890**	Indeno[1,2,3-cd]pyrene	**189**
Retene	9.11 U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	**65.1**
Dibenzothiophene	**239**	Benzo[g,h,i]perylene	**194**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	88	50-130
Phenanthrene-d10	90	50-130
Benzo[a]pyrene-d12	79	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

04/04/16 15:45

Form I
Carbazole

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-5**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-05**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.0	10.85	8	1	GY

Parameter	Result
Carbazole	**57.9**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	88	50-130
Phenanthrene-d10	90	50-130
Benzo[a]pyrene-d12	79	50-130

N/A - Not Applicable

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Form I
Polynuclear Aromatic Hydrocarbons Isomers

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-5**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-05**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.0	10.85	8	1	GY

Parameter	Result
4-Methyldibenzothiophene	**468**
2/3-Methyldibenzothiophene	**279**
1-Methyldibenzothiophene	**96.8**
3-Methylphenanthrene	**384**
2-Methylphenanthrene	**388**
2-Methylanthracene	**44.6**
9/4-Methylphenanthrene	**536**
1-Methylphenanthrene	**355**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	88	50-130
Phenanthrene-d10	90	50-130
Benzo[a]pyrene-d12	79	50-130

N/A - Not Applicable

Form I
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-5**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-05**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.0	10.85	8	1	GY

Parameter	Result
C23 Tricyclic Terpane	**139**
C24 Tricyclic Terpane	**123**
C25 Tricyclic Terpane	**104**
C24 Tetracyclic Terpane	**28.8**
C26 Tricyclic Terpane-22S	**73.4**
C26 Tricyclic Terpane-22R	**59.5**
C28 Tricyclic Terpane-22S	**34.5**
C28 Tricyclic Terpane-22R	**44.1**
C29 Tricyclic Terpane-22S	**48.0**
C29 Tricyclic Terpane-22R	**37.6**
18a-22,29,30-Trisnorneohopane-TS	**80.5**
C30 Tricyclic Terpane-22S	**23.3**
C30 Tricyclic Terpane-22R	**45.7**
17a(H)-22,29,30-Trisnorhopane-TM	**59.0**
17a/b,21b/a 28,30-Bisnorhopane	**23.9**
17a(H),21b(H)-25-Norhopane	**25.8**
30-Norhopane	**111**
18a(H)-30-Norneohopane-C29Ts	**35.4**
17a(H)-Diahopane	**37.3**
30-Normoretane	**21.3**
18a(H)&18b(H)-Oleananes	**20.7**
Hopane	**193**
Moretane	**17.7**
30-Homohopane-22S	**79.4**
30-Homohopane-22R	**65.9**
T22a-Gammacerane/C32-diahopane	**19.6**
30,31-Bishomohopane-22S	**57.3**
30,31-Bishomohopane-22R	**33.4**

Parameter	Result
30,31-Trishomohopane-22S	**29.5**
30,31-Trishomohopane-22R	**19.3**
Tetrakishomohopane-22S	**60.9**
Tetrakishomohopane-22R	**15.2**
Pentakishomohopane-22S	**23.7**
Pentakishomohopane-22R	**12.2**
13b(H),17a(H)-20S-Diacholestane	**198**
13b(H),17a(H)-20R-Diacholestane	**86.8**
13b,17a-20S-Methyldiacholestane	**100**
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	**319**
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	**275**
Unknown Sterane (S18)	**117**
13a,17b-20S-Ethyldiacholestane	9.11 U
14a,17a-20S-Methylcholestane	**123**
14a,17a-20R-Methylcholestane	**59.9**
14a(H),17a(H)-20S-Ethylcholestane	**77.6**
14a(H),17a(H)-20R-Ethylcholestane	**71.1**
14b(H),17b(H)-20R-Cholestane	**67.3**
14b(H),17b(H)-20S-Cholestane	**70.1**
14b,17b-20R-Methylcholestane	**51.1**
14b,17b-20S-Methylcholestane	**98.1**
14b(H),17b(H)-20R-Ethylcholestane	**151**
14b(H),17b(H)-20S-Ethylcholestane	**103**
C26,20R- +C27,20S- triaromatic steroid	**138**
C28,20S-triaromatic steroid	**172**
C27,20R-triaromatic steroid	**83.1**
C28,20R-triaromatic steroid	**103**

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	105	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

04/04/16 15:45

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291614.D
Acq On : 30 Mar 2016 3:43 am
Operator : PAH2:gy
Sample : 1603006-05
Misc : 1x,SS032516,etr:1603006
ALS Vial : 14 Sample Multiplier: 1

MAL 4/4/16

Quant Time: Apr 04 13:37:44 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.467	164	105273	500.000	ng/mL	0.00
71) Chrysene-d12	42.968	240	183818	500.000	ng/mL	0.05
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	223996	552.147	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 55.21%			
40) Phenanthrene-d10	32.338	188	189023	565.415	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery = 56.54%			
80) Benzo[b]fluoranthene-d12	46.883	264	233311	565.016	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery = 56.50%			
85) Benzo[a]pyrene-d12	48.042	264	177600	491.681	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery = 49.17%#			
126) 5B(H)Cholane - Surr	43.600	217	39531M4	654.436	ng/ml	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery = 65.44%			
Target Compounds						Qvalue
2) trans-Decalin	16.155	138	273818	3122.062	ng/mL	100
3) cis-Decalin	17.374	138	21234	309.561	ng/mL	100
4) C1-Decalins	17.645	152	606893M5	6919.770	ng/mL	
5) C2-Decalins	19.421	166	571197M5	6512.765	ng/mL	
6) C3-Decalins	21.890	180	326432M5	3721.965	ng/mL	
7) C4-Decalins	25.278	194	356774M5	4067.923	ng/mL	
9) Naphthalene	19.572	128	426989	1016.153	ng/mL	100
10) C1-Naphthalenes	22.267	142	1255133M5	2986.980	ng/mL	
11) C2-Naphthalenes	25.112	156	2244354M5	5341.140	ng/mL	
12) C3-Naphthalenes	27.461	170	2293662M5	5458.484	ng/mL	
13) C4-Naphthalenes	30.230	184	1622922M5	3862.249	ng/mL	
14) 2-Methylnaphthalene	22.267	142	821674	2919.641	ng/mL	100
15) 1-Methylnaphthalene	22.688	142	440927	1607.244	ng/mL	100
16) Benzothiophene	19.798	134	4720M3	13.941	ng/mL	
17) C1-Benzo(b)thiophenes	21.845	148	112997M5	333.741	ng/mL	
18) C2-Benzo(b)thiophenes	25.308	162	71727M5	211.849	ng/mL	
19) C3-Benzo(b)thiophenes	27.295	176	150781M5	445.338	ng/mL	
20) C4-Benzo(b)thiophenes	29.026	190	108358M5	320.040	ng/mL	
21) Biphenyl	24.149	154	6551M4	18.867	ng/mL	
22) 2,6-Dimethylnaphthalene	24.781	156	557835	2226.759	ng/mL	100
23) Dibenzofuran	27.235	168	50442	138.522	ng/mL#	71
24) Acenaphthylene	25.865	152	16660	39.746	ng/mL	100
25) Acenaphthene	26.587	153	38201M4	146.919	ng/mL	
26) 2,3,5-Trimethylnaphthalen	28.153	170	121450M3	549.115	ng/mL	
27) Fluorene	28.605	166	79338M4	261.435	ng/mL	
28) C1-Fluorenes	30.983	180	234336M5	772.186	ng/mL	
29) C2-Fluorenes	33.181	194	573728M5	1890.552	ng/mL	
30) C3-Fluorenes	35.033	208	730339M5	2406.618	ng/mL	
31) Dibenzothiophene	31.932	184	99059	261.998	ng/mL#	6
32) 4-Methyldibenzothiophene(	33.708	198	194250	513.766	ng/mL	100
33) 2/3-Methyldibenzothiophen	34.069	198	115760M3	306.170	ng/mL	
34) 1-Methyldibenzothiophene(	34.476	198	40175	106.258	ng/mL	100
35) OTP	34.130	198	14431M3	38.168	ng/mL	
36) C1-Dibenzothiophenes	33.708	198	379140M5	1002.776	ng/mL	
36) C1-Dibenzothiophenes BS	33.708	198	364709M5	964.608	ng/mL	
37) C2-Dibenzothiophenes	35.409	212	567410M5	1500.726	ng/mL	
38) C3-Dibenzothiophenes	37.231	226	517880M5	1369.726	ng/mL	
39) C4-Dibenzothiophenes	38.917	240	298369M5	789.147	ng/mL	
41) Phenanthrene	32.428	178	371011	864.755	ng/mL	98
42) 3-Methylphenanthrene(3MP)	34.401	192	181039	421.967	ng/mL	99
43) 2-Methylphenanthrene(2MP)	34.506	192	182914M4	426.337	ng/mL	
44) 2-Methylanthracene(2MA)	34.672	192	21010M3	48.970	ng/mL	
45) 9/4-Methylphenanthrene(9M	34.852	192	252290	588.039	ng/mL	97
46) 1-Methylphenanthrene(1MP)	34.943	192	167100M4	389.478	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291614.D
Acq On : 30 Mar 2016 3:43 am
Operator : PAH2:gy
Sample : 1603006-05
Misc : 1x,SS032516,etr:1603006
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 04 13:37:44 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
47)	C1-Phenanthrenes/Anthrace	34.852	192	837417M5	1951.857	ng/mL	
48)	C2-Phenanthrenes/Anthrace	36.689	206	1531008M5	3568.483	ng/mL	
48)	C2-Phenanthrenes/Anthr BS	36.689	206	1531008M5	3568.483	ng/mL	
50)	C3-Phenanthrenes/Anthrace	38.526	220	1397697M5	3257.761	ng/mL	
51)	C4-Phenanthrenes/Anthrace	40.724	234	889940M5	2074.278	ng/mL	
53)	Anthracene	32.609	178	56957M3	146.277	ng/mL	
54)	Carbazole	33.286	167	24958M3	63.536	ng/mL	
55)	1-Methylphenanthrene	34.943	192	167663M4	551.036	ng/mL	
56)	Fluoranthene	37.216	202	307324	701.687	ng/mL	98
57)	Benzo(b)fluorene	39.746	216	26695M3	93.633	ng/mL	
58)	Pyrene	38.104	202	319940M4	662.503	ng/mL	
59)	C1-Fluoranthenes/Pyrenes	39.505	216	371256M5	768.763	ng/mL	
60)	C2-Fluoranthenes/Pyrenes	41.989	230	477956M5	989.708	ng/mL	
61)	C3-Fluoranthenes/Pyrenes	43.449	244	593120M5	1228.179	ng/mL	
62)	C4-Fluoranthenes/Pyrenes	44.714	258	571587M5	1183.591	ng/mL	
63)	Naphthobenzothiophene	41.974	234	48242M4	111.791	ng/ml	
64)	Naphthobenzothiophene-2,1	41.974	234	48038M4	111.318	ng/mL	
65)	Naphthobenzothiophene-1,2	42.320	234	10183M4	23.597	ng/mL	
66)	Naphthobenzothiophene-2,3	42.606	234	11944M3	27.678	ng/mL	
67)	C1-Naphthobenzothiophenes	43.374	248	130972M5	303.501	ng/ml	
68)	C2-Naphthobenzothiophenes	44.895	262	198067M5	458.980	ng/ml	
69)	C3-Naphthobenzothiophenes	46.672	276	163950M5	379.921	ng/ml	
70)	C4-Naphthobenzothiophenes	48.057	290	193987M5	449.525	ng/mL	
72)	Benz[a]anthracene	42.907	228	187328M4	424.240	ng/mL	
74)	Chrysene/Triphenylene	43.058	228	262583M4	592.628	ng/mL	
75)	C1-Chrysenes	44.548	242	432807M5	976.809	ng/mL	
76)	C2-Chrysenes	45.979	256	596981M5	1347.336	ng/mL	
76)	C2-Chrysenes BS	45.979	256	587494M5	1325.924	ng/mL	
77)	BBF-D12 Surr BKGD	46.868	256	9487	21.411	ng/mL	100
78)	C3-Chrysenes	47.304	270	631746M5	1425.798	ng/mL	
79)	C4-Chrysenes	49.398	284	435938M5	983.875	ng/mL	
81)	Benzo[b]fluoranthene	46.958	252	159314	323.932	ng/mL	100
82)	Benzo[j]+[k]fluoranthene	47.033	252	142980M6	288.791	ng/mL	
83)	Benzo[a]fluoranthene	47.334	252	30240M4	61.079	ng/mL	
84)	Benzo[e]pyrene	47.952	252	138594	288.636	ng/mL	93
86)	Benzo[a]pyrene	48.133	252	145790	301.918	ng/mL	91
87)	Perylene	48.434	252	43617M3	90.822	ng/mL	
88)	Indeno[1,2,3-cd]pyrene	52.861	276	112549M3	208.013	ng/mL	
89)	Dibenz[ah]+[ac]anthracene	52.907	278	38588M3	71.508	ng/mL	
90)	Benzo[g,h,i]perylene	54.126	276	123132	213.612	ng/mL	99
91)	Hopane (T19)	52.003	191	24784M4	211.609	ng/mL	
93)	C23 Tricyclic Terpane (T4	40.619	191	17827	152.209	ng/ml	100
94)	C24 Tricyclic Terpane (T5	41.357	191	15874	135.534	ng/ml	100
95)	C25 Tricyclic Terpane (T6	42.847	191	13347M4	113.959	ng/ml	
96)	C24 Tetracyclic Terpane (	44.157	191	3705M4	31.634	ng/ml	
97)	C26 Tricyclic Terpane-22S	43.901	191	9445M4	80.643	ng/ml	
98)	C26 Tricyclic Terpane-22R	43.991	191	7648	65.300	ng/ml	100
99)	C28 Tricyclic Terpane-22S	46.295	191	4437M4	37.884	ng/ml	
100)	C28 Tricyclic Terpane-22R	46.461	191	5676M4	48.462	ng/ml	
101)	C29 Tricyclic Terpane-22S	46.973	191	6174	52.714	ng/ml	100
102)	C29 Tricyclic Terpane-22R	47.169	191	4836M3	41.290	ng/ml	
103)	18a-22,29,30-Trisnorneoho	48.268	191	10349	88.361	ng/ml	100
104)	C30 Tricyclic Terpane-22S	48.389	191	2992	25.546	ng/mL	100
105)	C30 Tricyclic Terpane-22R	48.630	191	5871M3	50.127	ng/mL	
106)	17a(H)-22,29,30-Trisnorho	48.810	191	7581M4	64.728	ng/ml	
107)	17a/b,21b/a 28,30-Bisnorh	50.015	191	3069M4	26.204	ng/ml	
108)	17a(H),21b(H)-25-Norhopan	49.819	191	3318	28.330	ng/ml	100
109)	30-Norhopane (T15)	50.648	191	14256M4	121.720	ng/ml	
110)	18a(H)-30-Norneohopane-C2	50.753	191	4554M4	38.883	ng/ml	
111)	17a(H)-Diahopane (X)	50.889	191	4797M4	40.957	ng/ml	
112)	30-Normoretane (T17)	51.416	191	2745	23.437	ng/ml	100

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291614.D
Acq On : 30 Mar 2016 3:43 am
Operator : PAH2:gy
Sample : 1603006-05
Misc : 1x,SS032516,etr:1603006
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 04 13:37:44 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
113)	18a(H)&18b(H)-Oleananes (	51.822	191	2664M4	22.746	ng/ml	
114)	Moretane (T20)	52.681	191	2279M4	19.458	ng/ml	
115)	30-Homohopane-22S (T21)	53.765	191	10210	87.174	ng/ml	100
116)	30-Homohopane-22R (T22)	54.006	191	8477M4	72.378	ng/ml	
117)	Gammacerane/C32-diahopane	54.518	191	2522	21.533	ng/mL	100
118)	30,31-Bishomohopane-22S (	55.301	191	7368M4	62.909	ng/ml	
119)	30,31-Bishomohopane-22R (	55.692	191	4296	36.680	ng/ml	100
120)	30,31-Trishomohopane-22S	57.409	191	3795M4	32.402	ng/ml	
121)	30,31-Trishomohopane-22R	58.026	191	2484M4	21.209	ng/ml	
122)	Tetrakishomohopane-22S (T	60.014	191	7830M4	66.854	ng/ml	
123)	Tetrakishomohopane-22R (T	60.888	191	1961	16.743	ng/ml	100
124)	Pentakishomohopane-22S (T	63.131	191	3050M4	26.041	ng/ml	
125)	Pentakishomohopane-22R (T	64.366	191	1566M4	13.371	ng/ml	
127)	13b(H),17a(H)-20S-Diachol	45.121	217	13111M4	217.053	ng/ml	
128)	13b(H),17a(H)-20R-Diachol	45.542	217	5759M4	95.340	ng/ml	
129)	13b,17a-20S-Methyldiachol	46.250	217	6648M3	110.058	ng/ml	
130)	14a,17a-20S-Chol/13b,17a-	47.124	217	21157M4	350.254	ng/ml	
131)	14a,17a-20R-Chol/13b,17a-	47.621	217	18234	301.864	ng/ml	100
132)	Unknown Sterane (S18)	47.907	217	7781	128.815	ng/ml	100
134)	14a,17a-20S-Methylcholest	48.313	217	8175	135.337	ng/ml	100
135)	14a,17a-20R-Methylcholest	49.021	217	3971M4	65.740	ng/ml	
136)	14a(H),17a(H)-20S-Ethylch	49.368	217	5148	85.225	ng/ml	100
137)	14a(H),17a(H)-20R-Ethylch	50.271	217	4716M4	78.073	ng/ml	
138)	14b(H),17b(H)-20R-Cholest	47.199	218	4466M4	73.935	ng/ml	
139)	14b(H),17b(H)-20S-Cholest	47.289	218	4651M4	76.997	ng/ml	
140)	14b,17b-20R-Methylcholest	48.479	218	3389	56.105	ng/ml	100
141)	14b,17b-20S-Methylcholest	48.569	218	6508M4	107.740	ng/ml	
142)	14b(H),17b(H)-20R-Ethylch	49.624	218	10041M3	166.229	ng/ml	
143)	14b(H),17b(H)-20S-Ethylch	49.669	218	6843M3	113.286	ng/ml	
144)	C26,20R- +C27,20S- triaro	49.322	231	9122M4	151.015	ng/mL	
145)	C28,20S-triaromatic stero	50.181	231	11426M4	189.158	ng/mL	
146)	C27,20R-triaromatic stero	50.633	231	5510	91.218	ng/mL	100
147)	C28,20R-triaromatic stero	51.822	231	6815	112.822	ng/mL	100

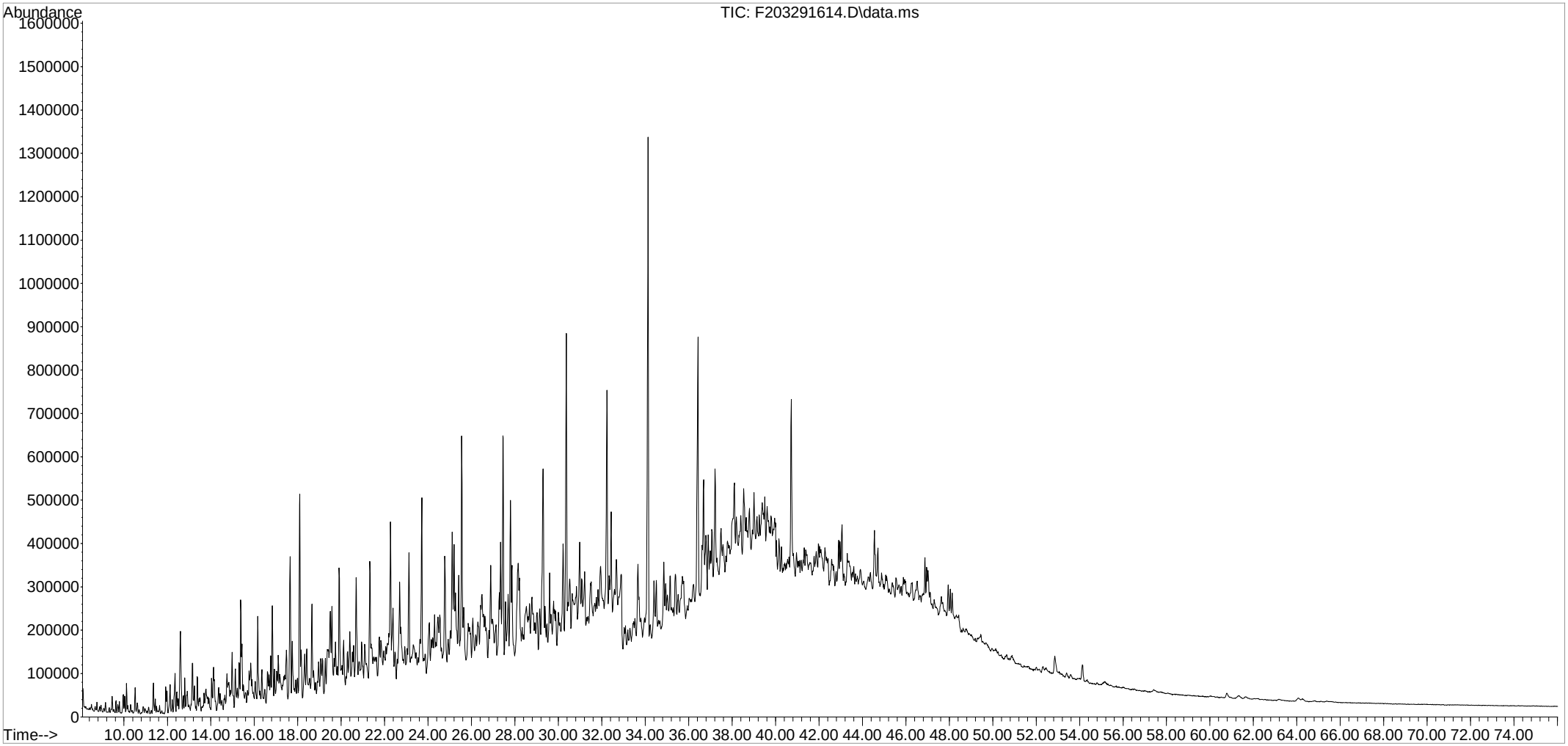
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291614.D
Acq On : 30 Mar 2016 3:43 am
Operator : PAH2:gy
Sample : 1603006-05
Misc : 1x,SS032516,etr:1603006
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 04 13:37:44 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-6**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-06**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	88.0	30.70	2	1	GY

Parameter	Result		Parameter	Result	
cis/trans-Decalin	**1.74**		C1-Dibenzothiophenes	**3.62**	
C1-Decalins	**22.8**	G	C2-Dibenzothiophenes	**14.2**	
C2-Decalins	**230**		C3-Dibenzothiophenes	**33.0**	
C3-Decalins	**292**		C4-Dibenzothiophenes	**23.2**	
C4-Decalins	**323**		Benzo(b)fluorene	**0.292**	J
Benzothiophene	0.740	U	Fluoranthene	**3.64**	
C1-Benzo(b)thiophenes	**3.49**		Pyrene	**4.19**	
C2-Benzo(b)thiophenes	**6.71**		C1-Fluoranthenes/Pyrenes	**6.82**	
C3-Benzo(b)thiophenes	**13.1**		C2-Fluoranthenes/Pyrenes	**10.1**	
C4-Benzo(b)thiophenes	**10.0**		C3-Fluoranthenes/Pyrenes	**16.3**	
Naphthalene	**0.775**		C4-Fluoranthenes/Pyrenes	**22.2**	
C1-Naphthalenes	**2.87**		Naphthobenzothiophenes	**2.02**	
C2-Naphthalenes	**9.24**		C1-Naphthobenzothiophenes	**6.31**	
C3-Naphthalenes	**12.7**		C2-Naphthobenzothiophenes	**13.2**	
C4-Naphthalenes	**24.6**		C3-Naphthobenzothiophenes	**11.2**	
Biphenyl	**0.279**	J	C4-Naphthobenzothiophenes	**16.2**	
Dibenzofuran	0.740	U	Benz[a]anthracene	**1.60**	
Acenaphthylene	**0.782**		Chrysene/Triphenylene	**8.71**	
Acenaphthene	0.740	U	C1-Chrysenes	**16.1**	
Fluorene	**0.877**	G	C2-Chrysenes	**22.0**	
C1-Fluorenes	**4.29**		C3-Chrysenes	**26.2**	
C2-Fluorenes	**25.1**		C4-Chrysenes	**17.4**	
C3-Fluorenes	**85.1**		Benzo[b]fluoranthene	**1.66**	
Anthracene	**0.828**		Benzo[j]fluoranthene/Benzo[k]fluoranthene	**0.789**	
Phenanthrene	**3.15**		Benzo[a]fluoranthene	**0.417**	J
C1-Phenanthrenes/Anthracenes	**12.4**		Benzo[e]pyrene	**2.34**	
C2-Phenanthrenes/Anthracenes	**28.7**		Benzo[a]pyrene	**0.929**	
C3-Phenanthrenes/Anthracenes	**39.9**		Perylene	**5.49**	
C4-Phenanthrenes/Anthracenes	**53.3**		Indeno[1,2,3-cd]pyrene	**0.742**	
Retene	0.740	U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	**0.264**	J
Dibenzothiophene	**0.926**		Benzo[g,h,i]perylene	**1.30**	

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	80	50-130
Phenanthrene-d10	83	50-130
Benzo[a]pyrene-d12	75	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
J - Estimated value, below quantitation limit.
N/A - Not Applicable
G - Matrix Interference

04/04/16 15:45

Form I
Carbazole

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-6**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-06**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	88.0	30.70	2	1	GY

Parameter	Result
Carbazole	**0.477** J

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	80	50-130
Phenanthrene-d10	83	50-130
Benzo[a]pyrene-d12	75	50-130

J - Estimated value, below quantitation limit.
N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Polynuclear Aromatic Hydrocarbons Isomers

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-6**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-06**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	88.0	30.70	2	1	GY

Parameter	Result	
4-Methyldibenzothiophene	**0.966**	
2/3-Methyldibenzothiophene	**0.629**	J
1-Methyldibenzothiophene	**0.273**	J
3-Methylphenanthrene	**1.75**	
2-Methylphenanthrene	**2.11**	
2-Methylanthracene	**0.245**	J
9/4-Methylphenanthrene	**2.07**	
1-Methylphenanthrene	**0.739**	J

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	80	50-130
Phenanthrene-d10	83	50-130
Benzo[a]pyrene-d12	75	50-130

J - Estimated value, below quantitation limit.
N/A - Not Applicable

04/04/16 15:45

Form I
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-6**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-06**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	88.0	30.70	2	1	GY

Parameter	Result	
C23 Tricyclic Terpane	**5.05**	
C24 Tricyclic Terpane	**4.42**	
C25 Tricyclic Terpane	**5.51**	
C24 Tetracyclic Terpane	**2.08**	
C26 Tricyclic Terpane-22S	**2.97**	
C26 Tricyclic Terpane-22R	**2.97**	
C28 Tricyclic Terpane-22S	**3.11**	
C28 Tricyclic Terpane-22R	**3.61**	
C29 Tricyclic Terpane-22S	**4.02**	
C29 Tricyclic Terpane-22R	**3.40**	
18a-22,29,30-Trisnorneohopane-TS	**7.02**	
C30 Tricyclic Terpane-22S	**2.95**	
C30 Tricyclic Terpane-22R	**3.06**	
17a(H)-22,29,30-Trisnorhopane-TM	**4.64**	
17a/b,21b/a 28,30-Bisnorhopane	**5.57**	
17a(H),21b(H)-25-Norhopane	**2.42**	
30-Norhopane	**14.0**	
18a(H)-30-Norneohopane-C29Ts	**6.55**	
17a(H)-Diahopane	**4.42**	
30-Normoretane	**2.52**	
18a(H)&18b(H)-Oleananes	**3.64**	
Hopane	**24.9**	
Moretane	**3.05**	
30-Homohopane-22S	**9.03**	
30-Homohopane-22R	**9.08**	
T22a-Gammacerane/C32-diahopane	**3.48**	
30,31-Bishomohopane-22S	**8.64**	G
30,31-Bishomohopane-22R	**4.71**	

Parameter	Result
30,31-Trishomohopane-22S	**5.64**
30,31-Trishomohopane-22R	**4.02**
Tetrakishomohopane-22S	**6.37**
Tetrakishomohopane-22R	**3.01**
Pentakishomohopane-22S	**3.83**
Pentakishomohopane-22R	**3.91**
13b(H),17a(H)-20S-Diacholestane	**14.3**
13b(H),17a(H)-20R-Diacholestane	**8.77**
13b,17a-20S-Methyldiacholestane	**9.17**
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	**26.6**
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	**25.1**
Unknown Sterane (S18)	**6.11**
13a,17b-20S-Ethyldiacholestane	**0.916**
14a,17a-20S-Methylcholestane	**12.6**
14a,17a-20R-Methylcholestane	**9.06**
14a(H),17a(H)-20S-Ethylcholestane	**8.15**
14a(H),17a(H)-20R-Ethylcholestane	**9.05**
14b(H),17b(H)-20R-Cholestane	**6.42**
14b(H),17b(H)-20S-Cholestane	**6.76**
14b,17b-20R-Methylcholestane	**9.27**
14b,17b-20S-Methylcholestane	**11.1**
14b(H),17b(H)-20R-Ethylcholestane	**15.4**
14b(H),17b(H)-20S-Ethylcholestane	**7.96**
C26,20R- +C27,20S- triaromatic steroid	**14.1**
C28,20S-triaromatic steroid	**10.4**
C27,20R-triaromatic steroid	**9.59**
C28,20R-triaromatic steroid	**9.92**

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	95	50-130

N/A - Not Applicable
G - Matrix Interference

04/04/16 15:45

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291616.D
Acq On : 30 Mar 2016 6:35 am
Operator : PAH2:gy
Sample : 1603006-06
Misc : 1x,SS032516,etr:1603006
ALS Vial : 16 Sample Multiplier: 1

NAL 4/4/16

Quant Time: Apr 04 13:37:58 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.467	164	102004	500.000	ng/mL	0.00
71) Chrysene-d12	42.952	240	174227	500.000	ng/mL	0.03
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	157346	400.285	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 40.03%#			
40) Phenanthrene-d10	32.338	188	134499	415.214	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery = 41.52%#			
80) Benzo[b]fluoranthene-d12	46.868	264	169154	432.195	ng/mL	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery = 43.22%#			
85) Benzo[a]pyrene-d12	48.027	264	128759	376.089	ng/mL	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery = 37.61%#			
126) 5B(H)Cholane - Surr	43.585	217	27288M4	476.622	ng/ml	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery = 47.66%#			
Target Compounds						Qvalue
2) trans-Decalin	16.155	138	1991M3	23.429	ng/mL	
4) C1-Decalins	17.946	152G	26172M5	307.976	ng/mL	
5) C2-Decalins	19.948	166	263992M5	3106.491	ng/mL	
6) C3-Decalins	21.890	180	335152M5	3943.857	ng/mL	
7) C4-Decalins	25.278	194	371169M5	4367.682	ng/mL	
9) Naphthalene	19.587	128	4260	10.463	ng/mL	100
10) C1-Naphthalenes	22.267	142	15791M5	38.784	ng/mL	
11) C2-Naphthalenes	25.112	156	50831M5	124.845	ng/mL	
12) C3-Naphthalenes	27.461	170	69607M5	170.960	ng/mL	
13) C4-Naphthalenes	30.230	184	135433M5	332.634	ng/mL	
14) 2-Methylnaphthalene	22.267	142	8088M4	29.660	ng/mL	
15) 1-Methylnaphthalene	22.688	142	6161	23.177	ng/mL	100
17) C1-Benzo(b)thiophenes	22.688	148	15450M5	47.095	ng/mL	
18) C2-Benzo(b)thiophenes	25.263	162	29739M5	90.650	ng/mL	
19) C3-Benzo(b)thiophenes	25.835	176	58048M5	176.942	ng/mL	
20) C4-Benzo(b)thiophenes	30.516	190	44371M5	135.252	ng/mL	
21) Biphenyl	24.164	154	1268M4	3.769	ng/mL	
22) 2,6-Dimethylnaphthalene	24.781	156	10187	41.968	ng/mL	100
24) Acenaphthylene	25.865	152	4291M3	10.565	ng/mL	
26) 2,3,5-Trimethylnaphthalen	28.153	170	2150M3	10.032	ng/mL	
27) Fluorene	28.605	166G	3483M3	11.845	ng/mL	
28) C1-Fluorenes	30.983	180	17037M5	57.940	ng/mL	
29) C2-Fluorenes	33.181	194	99741M5	339.200	ng/mL	
30) C3-Fluorenes	35.018	208	337961M5	1149.341	ng/mL	
31) Dibenzothiophene	31.932	184	4580M4	12.502	ng/mL	
32) 4-Methyldibenzothiophene(	33.708	198	4778M4	13.042	ng/mL	
33) 2/3-Methyldibenzothiophen	34.054	198	3114M3	8.500	ng/mL	
34) 1-Methyldibenzothiophene(	34.476	198	1353	3.693	ng/mL	100
35) OTP	34.130	198	19625M3	53.569	ng/mL	
36) C1-Dibenzothiophenes	34.130	198	37531M5	102.446	ng/mL	
36) C1-Dibenzothiophenes BS	34.130	198	17906M5	48.877	ng/mL	
37) C2-Dibenzothiophenes	35.409	212	70349M5	192.027	ng/mL	
38) C3-Dibenzothiophenes	37.216	226	163118M5	445.252	ng/mL	
39) C4-Dibenzothiophenes	38.902	240	114631M5	312.901	ng/mL	
41) Phenanthrene	32.428	178	17677	42.522	ng/mL#	74
42) 3-Methylphenanthrene(3MP)	34.401	192	9803M3	23.581	ng/mL	
43) 2-Methylphenanthrene(2MP)	34.506	192	11862M4	28.534	ng/mL	
44) 2-Methylanthracene(2MA)	34.672	192	1373M3	3.303	ng/mL	
45) 9/4-Methylphenanthrene(9M	34.852	192	11644M3	28.010	ng/mL	
46) 1-Methylphenanthrene(1MP)	34.943	192	4151M3	9.985	ng/mL	
47) C1-Phenanthrenes/Anthrace	34.852	192	69631M5	167.498	ng/mL	
48) C2-Phenanthrenes/Anthrace	36.674	206	169461M5	407.639	ng/mL	
48) C2-Phenanthrenes/Anthr BS	36.674	206	160916M5	387.084	ng/mL	
49) 5AA IS BKGD	36.418	206	8545M3	20.555	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291616.D
Acq On : 30 Mar 2016 6:35 am
Operator : PAH2:gy
Sample : 1603006-06
Misc : 1x,SS032516,etr:1603006
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 04 13:37:58 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
50)	C3-Phenanthrenes/Anthrace	39.128	220	223996M5	538.823	ng/mL	
51)	C4-Phenanthrenes/Anthrace	40.739	234	299003M5	719.253	ng/mL	
53)	Anthracene	32.609	178	4220M3	11.185	ng/mL	
54)	Carbazole	33.286	167	2453M3	6.445	ng/mL	
55)	1-Methylphenanthrene	34.943	192	4167M3	14.134	ng/mL	
56)	Fluoranthene	37.216	202	20853	49.138	ng/mL#	52
57)	Benzo(b)fluorene	39.746	216	1089M3	3.942	ng/mL	
58)	Pyrene	38.089	202	26451M4	56.528	ng/mL	
59)	C1-Fluoranthenes/Pyrenes	39.490	216	43128M5	92.168	ng/mL	
60)	C2-Fluoranthenes/Pyrenes	41.974	230	63682M5	136.093	ng/mL	
61)	C3-Fluoranthenes/Pyrenes	43.118	244	102991M5	220.099	ng/mL	
62)	C4-Fluoranthenes/Pyrenes	44.684	258	140634M5	300.545	ng/mL	
63)	Naphthobenzothiophene	41.959	234	8566M4	20.486	ng/ml	
64)	Naphthobenzothiophene-2,1	41.959	234	8602M4	20.572	ng/mL	
65)	Naphthobenzothiophene-1,2	42.305	234	1593M4	3.810	ng/mL	
66)	Naphthobenzothiophene-2,3	42.606	234	1242M4	2.970	ng/mL	
67)	C1-Naphthobenzothiophenes	43.359	248	35628M5	85.207	ng/ml	
68)	C2-Naphthobenzothiophenes	45.377	262	74439M5	178.025	ng/ml	
69)	C3-Naphthobenzothiophenes	46.672	276	62966M5	150.587	ng/ml	
70)	C4-Naphthobenzothiophenes	48.057	290	91544M5	218.933	ng/mL	
72)	Benz[a]anthracene	42.892	228	9023M3	21.559	ng/mL	
74)	Chrysene/Triphenylene	43.013	228	49385M4	117.593	ng/mL	
75)	C1-Chrysenes	44.533	242	91451M5	217.759	ng/mL	
76)	C2-Chrysenes	45.979	256	129519M5	308.405	ng/mL	
76)	C2-Chrysenes BS	45.979	256	124582M5	296.649	ng/mL	
77)	BBF-D12 Surr BKGD	46.868	256	4937	11.756	ng/mL	100
78)	C3-Chrysenes	47.289	270	148754M5	354.207	ng/mL	
79)	C4-Chrysenes	49.383	284	98412M5	234.334	ng/mL	
81)	Benzo[b]fluoranthene	46.943	252	10477M4	22.475	ng/mL	
82)	Benzo[j]+[k]fluoranthene	47.018	252	4998M3	10.651	ng/mL	
83)	Benzo[a]fluoranthene	47.319	252	2644M3	5.634	ng/mL	
84)	Benzo[e]pyrene	47.937	252	14353M4	31.537	ng/mL	
86)	Benzo[a]pyrene	48.118	252	5744M3	12.550	ng/mL	
87)	Perylene	48.434	252	33767	74.183	ng/mL	94
88)	Indeno[1,2,3-cd]pyrene	52.846	276	5141M4	10.025	ng/mL	
89)	Dibenz[ah]+[ac]anthracene	52.907	278	1821M4	3.560	ng/mL	
90)	Benzo[g,h,i]perylene	54.126	276	9598	17.567	ng/mL	85
91)	Hopane (T19)	52.003	191	37301	336.013	ng/mL	100
93)	C23 Tricyclic Terpane (T4	40.604	191	7575	68.237	ng/ml	100
94)	C24 Tricyclic Terpane (T5	41.341	191	6625M4	59.679	ng/ml	
95)	C25 Tricyclic Terpane (T6	42.817	191	8265M4	74.452	ng/ml	
96)	C24 Tetracyclic Terpane (	44.127	191	3115	28.060	ng/ml	100
97)	C26 Tricyclic Terpane-22S	43.886	191	4446M4	40.050	ng/ml	
98)	C26 Tricyclic Terpane-22R	43.991	191	4449M4	40.077	ng/ml	
99)	C28 Tricyclic Terpane-22S	46.280	191	4661M4	41.987	ng/ml	
100)	C28 Tricyclic Terpane-22R	46.446	191	5406M4	48.698	ng/ml	
101)	C29 Tricyclic Terpane-22S	46.973	191	6026M4	54.283	ng/ml	
102)	C29 Tricyclic Terpane-22R	47.169	191	5097M4	45.915	ng/ml	
103)	18a-22,29,30-Trisnorneoho	48.253	191	10532	94.874	ng/ml	100
104)	C30 Tricyclic Terpane-22S	48.374	191	4426M4	39.870	ng/mL	
105)	C30 Tricyclic Terpane-22R	48.615	191	4594M4	41.383	ng/mL	
106)	17a(H)-22,29,30-Trisnorho	48.795	191	6962	62.715	ng/ml	100
107)	17a/b,21b/a 28,30-Bisnorh	49.985	191	8354	75.254	ng/ml	100
108)	17a(H),21b(H)-25-Norhopan	49.804	191	3624M4	32.646	ng/ml	
109)	30-Norhopane (T15)	50.648	191	21034M4	189.477	ng/ml	
110)	18a(H)-30-Norneohopane-C2	50.738	191	9823M4	88.487	ng/ml	
111)	17a(H)-Diahopane (X)	50.874	191	6625M4	59.679	ng/ml	
112)	30-Normoretane (T17)	51.416	191	3783M4	34.078	ng/ml	
113)	18a(H)&18b(H)-Oleananes (	51.807	191	5451	49.103	ng/ml	100
114)	Moretane (T20)	52.681	191	4575M4	41.212	ng/ml	
115)	30-Homohopane-22S (T21)	53.765	191	13544M4	122.006	ng/ml	

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291616.D
Acq On : 30 Mar 2016 6:35 am
Operator : PAH2:gy
Sample : 1603006-06
Misc : 1x,SS032516,etr:1603006
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 04 13:37:58 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
116)	30-Homohopane-22R (T22)	54.006	191	13618	122.673	ng/ml	100
117)	Gammacerane/C32-diahopane	54.533	191	5220	47.023	ng/mL	100
118)	30,31-Bishomohopane-22S (	55.316	191G	12959M4	116.737	ng/ml	
119)	30,31-Bishomohopane-22R (	55.692	191	7058M4	63.580	ng/ml	
120)	30,31-Trishomohopane-22S	57.409	191	8463M4	76.236	ng/ml	
121)	30,31-Trishomohopane-22R	58.026	191	6029M4	54.310	ng/ml	
122)	Tetrakishomohopane-22S (T	60.014	191	9544M4	85.974	ng/ml	
123)	Tetrakishomohopane-22R (T	60.903	191	4519M3	40.708	ng/ml	
124)	Pentakishomohopane-22S (T	63.101	191	5748M3	51.779	ng/ml	
125)	Pentakishomohopane-22R (T	64.381	191	5863M4	52.815	ng/ml	
127)	13b(H),17a(H)-20S-Diachol	45.105	217	11046M4	192.933	ng/ml	
128)	13b(H),17a(H)-20R-Diachol	45.542	217	6781M4	118.439	ng/ml	
129)	13b,17a-20S-Methyldiachol	46.235	217	7090M3	123.836	ng/ml	
130)	14a,17a-20S-Chol/13b,17a-	47.108	217	20551M4	358.951	ng/ml	
131)	14a,17a-20R-Chol/13b,17a-	47.621	217	19442	339.581	ng/ml	100
132)	Unknown Sterane (S18)	47.907	217	4725	82.528	ng/ml	100
133)	13a,17b-20S-Ethyldiachole	48.148	217	708	12.366	ng/ml	100
134)	14a,17a-20S-Methylcholest	48.313	217	9736M3	170.052	ng/ml	
135)	14a,17a-20R-Methylcholest	49.021	217	7009M4	122.422	ng/ml	
136)	14a(H),17a(H)-20S-Ethylch	49.352	217	6301M4	110.055	ng/ml	
137)	14a(H),17a(H)-20R-Ethylch	50.271	217	6999M4	122.247	ng/ml	
138)	14b(H),17b(H)-20R-Cholest	47.184	218	4968M4	86.773	ng/ml	
139)	14b(H),17b(H)-20S-Cholest	47.274	218	5226M4	91.279	ng/ml	
140)	14b,17b-20R-Methylcholest	48.479	218	7166	125.164	ng/ml	100
141)	14b,17b-20S-Methylcholest	48.569	218	8610M4	150.385	ng/ml	
142)	14b(H),17b(H)-20R-Ethylch	49.608	218	11904M3	207.919	ng/ml	
143)	14b(H),17b(H)-20S-Ethylch	49.654	218	6152M3	107.453	ng/ml	
144)	C26,20R- +C27,20S- triaro	49.322	231	10923	190.785	ng/mL	100
145)	C28,20S-triaromatic stero	50.166	231	8054M4	140.674	ng/mL	
146)	C27,20R-triaromatic stero	50.633	231	7413	129.478	ng/mL	100
147)	C28,20R-triaromatic stero	51.807	231	7671M4	133.984	ng/mL	

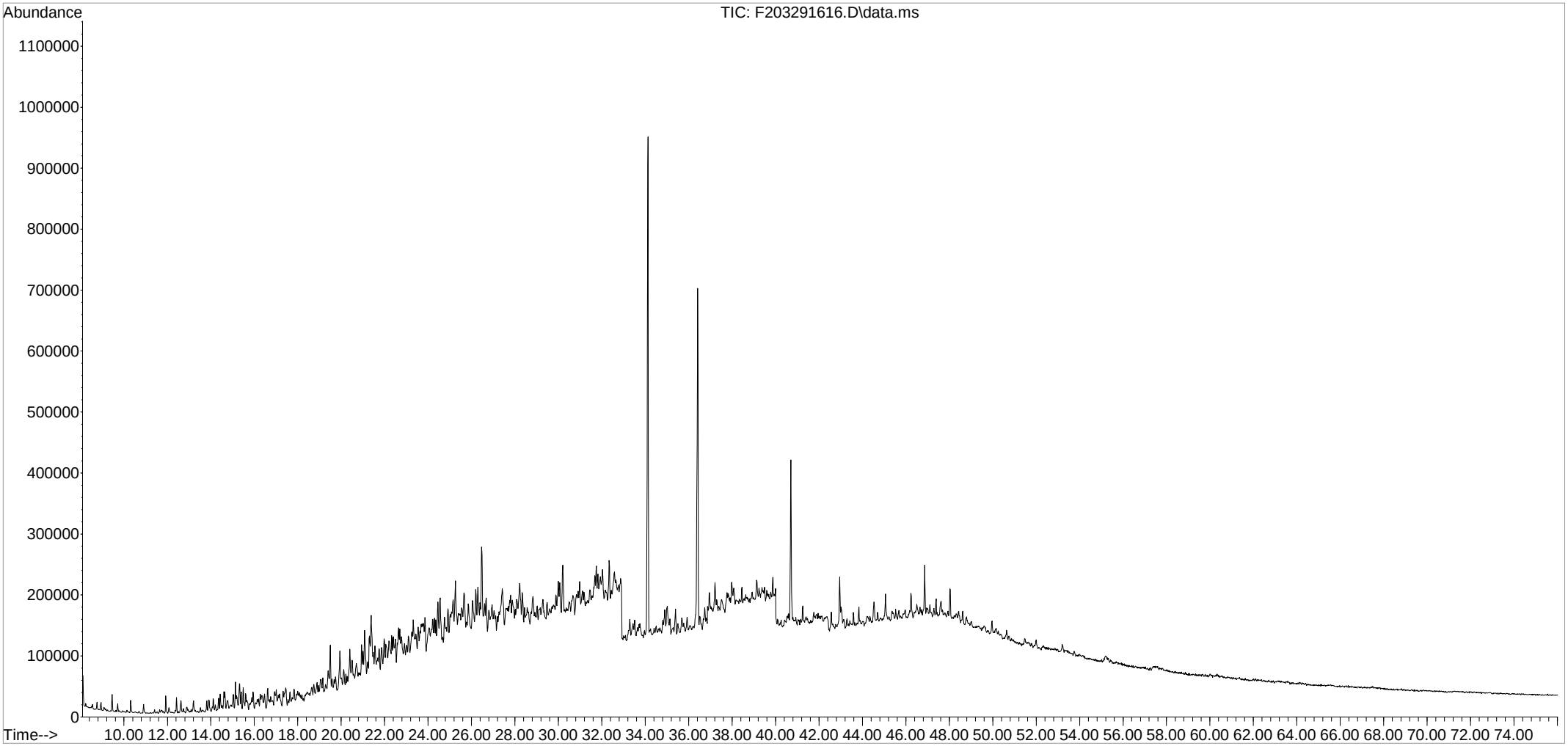
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291616.D
Acq On : 30 Mar 2016 6:35 am
Operator : PAH2:gy
Sample : 1603006-06
Misc : 1x,SS032516,etr:1603006
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Apr 04 13:37:58 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-07**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	79.1	10.87	4	1	GY

Parameter	Result
cis/trans-Decalin	**1340**
C1-Decalins	**2020**
C2-Decalins	**1910**
C3-Decalins	**1110**
C4-Decalins	**1090**
Benzothiophene	**56.9**
C1-Benzo(b)thiophenes	**93.7**
C2-Benzo(b)thiophenes	**41.6**
C3-Benzo(b)thiophenes	**84.7**
C4-Benzo(b)thiophenes	**87.5**
Naphthalene	**727**
C1-Naphthalenes	**298**
C2-Naphthalenes	**599**
C3-Naphthalenes	**1350**
C4-Naphthalenes	**1290**
Biphenyl	**85.3**
Dibenzofuran	**677**
Acenaphthylene	**174**
Acenaphthene	**469**
Fluorene	**1130**
C1-Fluorenes	**387**
C2-Fluorenes	**873**
C3-Fluorenes	**1150**
Anthracene	**3860**
Phenanthrene	**2260**
C1-Phenanthrenes/Anthracenes	**1440**
C2-Phenanthrenes/Anthracenes	**1720**
C3-Phenanthrenes/Anthracenes	**1500**
C4-Phenanthrenes/Anthracenes	**1500**
Retene	**3010**
Dibenzothiophene	**268**

Parameter	Result
C1-Dibenzothiophenes	**270**
C2-Dibenzothiophenes	**408**
C3-Dibenzothiophenes	**402**
C4-Dibenzothiophenes	**245**
Benzo(b)fluorene	**285**
Fluoranthene	**3060**
Pyrene	**2300**
C1-Fluoranthenes/Pyrenes	**1100**
C2-Fluoranthenes/Pyrenes	**556**
C3-Fluoranthenes/Pyrenes	**485**
C4-Fluoranthenes/Pyrenes	**412**
Naphthobenzothiophenes	**219**
C1-Naphthobenzothiophenes	**178**
C2-Naphthobenzothiophenes	**235**
C3-Naphthobenzothiophenes	**255**
C4-Naphthobenzothiophenes	**243**
Benz[a]anthracene	**847**
Chrysene/Triphenylene	**941**
C1-Chrysenes	**528**
C2-Chrysenes	**446**
C3-Chrysenes	**479**
C4-Chrysenes	**292**
Benzo[b]fluoranthene	**682**
Benzo[j]fluoranthene/Benzo[k]fluoranthene	**564**
Benzo[a]fluoranthene	**161**
Benzo[e]pyrene	**498**
Benzo[a]pyrene	**698**
Perylene	**224**
Indeno[1,2,3-cd]pyrene	**491**
Dibenz[ah]anthracene/Dibenz[ac]anthracene	**116**
Benzo[g,h,i]perylene	**478**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	91	50-130
Phenanthrene-d10	93	50-130
Benzo[a]pyrene-d12	84	50-130

N/A - Not Applicable

04/04/16 15:45

Form I
Carbazole

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-07**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	79.1	10.87	4	1	GY

Parameter	Result
Carbazole	**342**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	91	50-130
Phenanthrene-d10	93	50-130
Benzo[a]pyrene-d12	84	50-130

N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Polynuclear Aromatic Hydrocarbons Isomers

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-07**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	79.1	10.87	4	1	GY

Parameter	Result
4-Methyldibenzothiophene	**116**
2/3-Methyldibenzothiophene	**102**
1-Methyldibenzothiophene	**24.4**
3-Methylphenanthrene	**279**
2-Methylphenanthrene	**304**
2-Methylanthracene	**195**
9/4-Methylphenanthrene	**369**
1-Methylphenanthrene	**262**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	91	50-130
Phenanthrene-d10	93	50-130
Benzo[a]pyrene-d12	84	50-130

N/A - Not Applicable

Form I
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-07**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	79.1	10.87	4	1	GY

Parameter	Result	
C23 Tricyclic Terpane	**88.4**	
C24 Tricyclic Terpane	**63.3**	
C25 Tricyclic Terpane	**63.9**	
C24 Tetracyclic Terpane	**13.4**	
C26 Tricyclic Terpane-22S	**29.0**	
C26 Tricyclic Terpane-22R	**28.0**	
C28 Tricyclic Terpane-22S	**22.7**	
C28 Tricyclic Terpane-22R	**27.1**	
C29 Tricyclic Terpane-22S	**24.8**	
C29 Tricyclic Terpane-22R	**25.7**	
18a-22,29,30-Trisnorneohopane-TS	**40.0**	
C30 Tricyclic Terpane-22S	**19.3**	
C30 Tricyclic Terpane-22R	**27.5**	
17a(H)-22,29,30-Trisnorhopane-TM	**40.2**	
17a/b,21b/a 28,30-Bisnorhopane	**22.2**	
17a(H),21b(H)-25-Norhopane	**11.3**	
30-Norhopane	**85.0**	
18a(H)-30-Norneohopane-C29Ts	**24.5**	
17a(H)-Diahopane	**15.5**	
30-Normoretane	**15.0**	
18a(H)&18b(H)-Oleananes	**15.8**	
Hopane	**137**	
Moretane	**15.8**	
30-Homohopane-22S	**60.8**	
30-Homohopane-22R	**48.2**	
T22a-Gammacerane/C32-diahopane	**13.6**	
30,31-Bishomohopane-22S	**71.1**	G
30,31-Bishomohopane-22R	**28.2**	

Parameter	Result	
30,31-Trishomohopane-22S	**29.3**	
30,31-Trishomohopane-22R	**16.4**	
Tetrakishomohopane-22S	**84.1**	
Tetrakishomohopane-22R	**35.7**	G
Pentakishomohopane-22S	**17.5**	
Pentakishomohopane-22R	**19.7**	
13b(H),17a(H)-20S-Diacholestane	**74.7**	
13b(H),17a(H)-20R-Diacholestane	**34.1**	
13b,17a-20S-Methyldiacholestane	**38.7**	
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	**131**	
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	**126**	
Unknown Sterane (S18)	**36.9**	
13a,17b-20S-Ethyldiacholestane	**7.42**	
14a,17a-20S-Methylcholestane	**68.7**	
14a,17a-20R-Methylcholestane	**50.0**	
14a(H),17a(H)-20S-Ethylcholestane	**77.3**	
14a(H),17a(H)-20R-Ethylcholestane	**75.6**	
14b(H),17b(H)-20R-Cholestane	**43.7**	
14b(H),17b(H)-20S-Cholestane	**48.0**	
14b,17b-20R-Methylcholestane	**63.9**	
14b,17b-20S-Methylcholestane	**99.9**	
14b(H),17b(H)-20R-Ethylcholestane	**137**	
14b(H),17b(H)-20S-Ethylcholestane	**83.9**	
C26,20R- +C27,20S- triaromatic steroid	**412**	
C28,20S-triaromatic steroid	**316**	
C27,20R-triaromatic steroid	**174**	
C28,20R-triaromatic steroid	**237**	

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	104	50-130

N/A - Not Applicable
G - Matrix Interference

04/04/16 15:45

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291617.D
Acq On : 30 Mar 2016 8:01 am
Operator : PAH2:gy
Sample : 1603006-07
Misc : 1x,SS032516,etr:1603006
ALS Vial : 17 Sample Multiplier: 1

MAL 4/4/16

Quant Time: Apr 04 13:38:03 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.467	164	101584	500.000	ng/mL	0.00
71) Chrysene-d12	42.968	240	177284	500.000	ng/mL	0.05
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	447352	1142.760	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 114.28%			
40) Phenanthrene-d10	32.353	188	376271	1166.394	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 116.64%			
80) Benzo[b]fluoranthene-d12	46.868	264	467026	1172.695	ng/mL	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery = 117.27%			
85) Benzo[a]pyrene-d12	48.042	264	364134	1045.250	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery = 104.53%			
126) 5B(H)Cholane - Surr	43.600	217	75583	1297.395	ng/ml	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery = 129.74%			
Target Compounds						Qvalue
2) trans-Decalin	16.170	138	227413	2687.116	ng/mL	100
3) cis-Decalin	17.374	138	13446	203.142	ng/mL	100
4) C1-Decalins	17.645	152	367562M5	4343.120	ng/mL	
5) C2-Decalins	19.421	166	347054M5	4100.797	ng/mL	
6) C3-Decalins	21.890	180	201718M5	2383.504	ng/mL	
7) C4-Decalins	25.278	194	197909M5	2338.497	ng/mL	
9) Naphthalene	19.572	128	633202	1561.624	ng/mL	100
10) C1-Naphthalenes	22.267	142	259763M5	640.636	ng/mL	
11) C2-Naphthalenes	25.112	156	521871M5	1287.056	ng/mL	
12) C3-Naphthalenes	27.461	170	1177983M5	2905.182	ng/mL	
13) C4-Naphthalenes	30.231	184	1123123M5	2769.884	ng/mL	
14) 2-Methylnaphthalene	22.267	142	156153	575.005	ng/mL	100
15) 1-Methylnaphthalene	22.688	142	93245	352.235	ng/mL	100
16) Benzothiophene	19.798	134	39952M3	122.285	ng/mL	
17) C1-Benzo(b)thiophenes	21.845	148	65781M5	201.342	ng/mL	
18) C2-Benzo(b)thiophenes	24.826	162	29179M5	89.311	ng/mL	
19) C3-Benzo(b)thiophenes	27.641	176	59434M5	181.916	ng/mL	
20) C4-Benzo(b)thiophenes	29.403	190	61407M5	187.954	ng/mL	
21) Biphenyl	24.164	154	61409	183.286	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.781	156	95401	394.650	ng/mL	100
23) Dibenzofuran	27.235	168	510998	1454.243	ng/mL	95
24) Acenaphthylene	25.865	152	150964M4	373.233	ng/mL	
25) Acenaphthene	26.587	153	252833	1007.695	ng/mL	96
26) 2,3,5-Trimethylnaphthalen	28.153	170	65900M3	308.775	ng/mL	
27) Fluorene	28.620	166	708643M4	2419.925	ng/mL	
28) C1-Fluorenes	30.983	180	243459M5	831.381	ng/mL	
29) C2-Fluorenes	33.196	194	549426M5	1876.219	ng/mL	
30) C3-Fluorenes	35.033	208	722418M5	2466.964	ng/mL	
31) Dibenzothiophene	31.947	184	210443	576.807	ng/mL#	48
32) 4-Methyldibenzothiophene(	33.723	198	91188	249.939	ng/mL	100
33) 2/3-Methyldibenzothiophen	34.069	198	79917	219.046	ng/mL	100
34) 1-Methyldibenzothiophene(	34.491	198	19104	52.363	ng/mL	100
35) OTP	34.145	198	33569M4	92.010	ng/mL	
36) C1-Dibenzothiophenes	33.723	198	245497M5	672.887	ng/mL	
36) C1-Dibenzothiophenes BS	33.723	198	211928M5	580.877	ng/mL	
37) C2-Dibenzothiophenes	35.409	212	319619M5	876.050	ng/mL	
38) C3-Dibenzothiophenes	37.231	226	315075M5	863.595	ng/mL	
39) C4-Dibenzothiophenes	38.917	240	191751M5	525.574	ng/mL	
41) Phenanthrene	32.443	178	2008604	4851.681	ng/mL	100
42) 3-Methylphenanthrene(3MP)	34.416	192	248381	599.952	ng/mL	99
43) 2-Methylphenanthrene(2MP)	34.521	192	270353M4	653.024	ng/mL	
44) 2-Methylanthracene(2MA)	34.672	192	173597	419.315	ng/mL#	35
45) 9/4-Methylphenanthrene(9M	34.867	192	328294	792.977	ng/mL	85
46) 1-Methylphenanthrene(1MP)	34.958	192	232851M3	562.440	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291617.D
Acq On : 30 Mar 2016 8:01 am
Operator : PAH2:gy
Sample : 1603006-07
Misc : 1x,SS032516,etr:1603006
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 04 13:38:03 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
47)	C1-Phenanthrenes/Anthrace	34.867	192	1282565M5	3097.970	ng/mL	
48)	C2-Phenanthrenes/Anthrace	36.689	206	1530312M5	3696.391	ng/mL	
48)	C2-Phenanthrenes/Anthr BS	36.689	206	1530312M5	3696.391	ng/mL	
50)	C3-Phenanthrenes/Anthrace	39.460	220	1333439M5	3220.854	ng/mL	
51)	C4-Phenanthrenes/Anthrace	39.460	234	1337926M5	3231.692	ng/mL	
52)	Retene	39.460	234	782145	6466.796	ng/mL	98
53)	Anthracene	32.624	178	3113011M4	8285.191	ng/mL	
54)	Carbazole	33.287	167	278292	734.183	ng/mL	97
55)	1-Methylphenanthrene	34.958	192	228272M3	777.476	ng/mL	
56)	Fluoranthene	37.231	202	2777838	6572.724	ng/mL	99
57)	Benzo(b)fluorene	39.746	216	168665M3	613.080	ng/mL	
58)	Pyrene	38.104	202	2301084	4937.913	ng/mL	95
59)	C1-Fluoranthenes/Pyrenes	39.505	216	1101568M5	2363.863	ng/mL	
60)	C2-Fluoranthenes/Pyrenes	41.251	230	556194M5	1193.541	ng/mL	
61)	C3-Fluoranthenes/Pyrenes	43.449	244	485819M5	1042.523	ng/mL	
62)	C4-Fluoranthenes/Pyrenes	44.699	258	412633M5	885.472	ng/mL	
63)	Naphthobenzothiophene	41.974	234	127001	304.986	ng/ml#	89
64)	Naphthobenzothiophene-2,1	41.974	234	127001	304.986	ng/mL#	89
65)	Naphthobenzothiophene-1,2	42.305	234	27831M4	66.835	ng/mL	
66)	Naphthobenzothiophene-2,3	42.606	234	40854M3	98.109	ng/mL	
67)	C1-Naphthobenzothiophenes	43.374	248	159345M5	382.659	ng/ml	
68)	C2-Naphthobenzothiophenes	44.880	262	209883M5	504.023	ng/ml	
69)	C3-Naphthobenzothiophenes	46.988	276	227772M5	546.983	ng/ml	
70)	C4-Naphthobenzothiophenes	48.057	290	217182M5	521.551	ng/mL	
72)	Benz[a]anthracene	42.892	228	774997M3	1819.814	ng/mL	
74)	Chrysene/Triphenylene	43.058	228	863809	2021.397	ng/mL	99
75)	C1-Chrysenes	44.548	242	484417M5	1133.583	ng/mL	
76)	C2-Chrysenes	46.250	256	425427M5	995.540	ng/mL	
76)	C2-Chrysenes BS	46.250	256	409062M5	957.245	ng/mL	
77)	BBF-D12 Surr BKGD	46.868	256	16365	38.296	ng/mL	100
78)	C3-Chrysenes	47.304	270	440054M5	1029.769	ng/mL	
79)	C4-Chrysenes	49.398	284	267958M5	627.048	ng/mL	
81)	Benzo[b]fluoranthene	46.958	252	695168	1465.574	ng/mL	100
82)	Benzo[j]+[k]fluoranthene	47.033	252	578181	1210.849	ng/mL	100
83)	Benzo[a]fluoranthene	47.334	252	165521M3	346.640	ng/mL	
84)	Benzo[e]pyrene	47.937	252	495247	1069.414	ng/mL	99
86)	Benzo[a]pyrene	48.133	252	697967	1498.701	ng/mL	100
87)	Perylene	48.434	252	222969	481.393	ng/mL	99
88)	Indeno[1,2,3-cd]pyrene	52.862	276	550359M4	1054.663	ng/mL	
89)	Dibenz[ah]+[ac]anthracene	52.922	278	129471M3	248.767	ng/mL	
90)	Benzo[g,h,i]perylene	54.142	276	570878	1026.874	ng/mL	99
91)	Hopane (T19)	52.003	191	33301M4	294.808	ng/mL	
93)	C23 Tricyclic Terpane (T4	40.619	191	21463M4	190.008	ng/ml	
94)	C24 Tricyclic Terpane (T5	41.342	191	15370	136.068	ng/ml	100
95)	C25 Tricyclic Terpane (T6	42.832	191	15512M4	137.325	ng/ml	
96)	C24 Tetracyclic Terpane (	44.142	191	3261M4	28.869	ng/ml	
97)	C26 Tricyclic Terpane-22S	43.901	191	7042M4	62.342	ng/ml	
98)	C26 Tricyclic Terpane-22R	43.991	191	6791M4	60.119	ng/ml	
99)	C28 Tricyclic Terpane-22S	46.295	191	5500M4	48.691	ng/ml	
100)	C28 Tricyclic Terpane-22R	46.446	191	6569	58.154	ng/ml	100
101)	C29 Tricyclic Terpane-22S	46.973	191	6008	53.188	ng/ml	100
102)	C29 Tricyclic Terpane-22R	47.169	191	6240M4	55.242	ng/ml	
103)	18a-22,29,30-Trisnorneoho	48.253	191	9699M4	85.863	ng/ml	
104)	C30 Tricyclic Terpane-22S	48.374	191	4682M4	41.449	ng/mL	
105)	C30 Tricyclic Terpane-22R	48.630	191	6672M4	59.066	ng/mL	
106)	17a(H)-22,29,30-Trisnorho	48.810	191	9750M4	86.315	ng/ml	
107)	17a/b,21b/a 28,30-Bisnorh	49.970	191	5396M4	47.770	ng/ml	
108)	17a(H),21b(H)-25-Norhopan	49.819	191	2745M4	24.301	ng/ml	
109)	30-Norhopane (T15)	50.648	191	20632M4	182.651	ng/ml	
110)	18a(H)-30-Norneohopane-C2	50.753	191	5947M4	52.648	ng/ml	
111)	17a(H)-Diahopane (X)	50.874	191	3757M4	33.260	ng/ml	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291617.D
Acq On : 30 Mar 2016 8:01 am
Operator : PAH2:gy
Sample : 1603006-07
Misc : 1x,SS032516,etr:1603006
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 04 13:38:03 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
112)	30-Normoretane (T17)	51.416	191	3648M4	32.295	ng/ml	
113)	18a(H)&18b(H)-Oleananes (	51.822	191	3840M4	33.995	ng/ml	
114)	Moretane (T20)	52.696	191	3839M3	33.986	ng/ml	
115)	30-Homohopane-22S (T21)	53.765	191	14751	130.588	ng/ml	100
116)	30-Homohopane-22R (T22)	54.006	191	11701M4	103.587	ng/ml	
117)	Gammacerane/C32-diahopane	54.533	191	3307M4	29.276	ng/mL	
118)	30,31-Bishomohopane-22S (	55.301	191G	17264	152.835	ng/ml	100
119)	30,31-Bishomohopane-22R (	55.677	191	6855M4	60.686	ng/ml	
120)	30,31-Trishomohopane-22S	57.424	191	7111M4	62.952	ng/ml	
121)	30,31-Trishomohopane-22R	58.027	191	3986M4	35.287	ng/ml	
122)	Tetrakishomohopane-22S (T	60.014	191	20420	180.775	ng/ml	100
123)	Tetrakishomohopane-22R (T	60.797	191G	8661M4	76.674	ng/ml	
124)	Pentakishomohopane-22S (T	63.101	191	4237M3	37.509	ng/ml	
125)	Pentakishomohopane-22R (T	64.411	191	4775M4	42.272	ng/ml	
127)	13b(H),17a(H)-20S-Diachol	45.121	217	9356M4	160.597	ng/ml	
128)	13b(H),17a(H)-20R-Diachol	45.542	217	4267M4	73.244	ng/ml	
129)	13b,17a-20S-Methyldiachol	46.235	217	4845M3	83.165	ng/ml	
130)	14a,17a-20S-Chol/13b,17a-	47.109	217	16435	282.109	ng/ml	100
131)	14a,17a-20R-Chol/13b,17a-	47.621	217	15758	270.489	ng/ml	100
132)	Unknown Sterane (S18)	47.892	217	4617	79.252	ng/ml	100
133)	13a,17b-20S-Ethyldiachole	48.193	217	929M3	15.946	ng/ml	
134)	14a,17a-20S-Methylcholest	48.313	217	8598M4	147.586	ng/ml	
135)	14a,17a-20R-Methylcholest	49.021	217	6259M4	107.437	ng/ml	
136)	14a(H),17a(H)-20S-Ethylch	49.368	217	9673M3	166.039	ng/ml	
137)	14a(H),17a(H)-20R-Ethylch	50.271	217	9461M4	162.400	ng/ml	
138)	14b(H),17b(H)-20R-Cholest	47.199	218	5470M4	93.893	ng/ml	
139)	14b(H),17b(H)-20S-Cholest	47.274	218	6013M4	103.214	ng/ml	
140)	14b,17b-20R-Methylcholest	48.479	218	7999	137.304	ng/ml	100
141)	14b,17b-20S-Methylcholest	48.569	218	12505M4	214.650	ng/ml	
142)	14b(H),17b(H)-20R-Ethylch	49.609	218	17162M3	294.589	ng/ml	
143)	14b(H),17b(H)-20S-Ethylch	49.654	218	10503M3	180.286	ng/ml	
144)	C26,20R- +C27,20S- triaro	49.322	231	51596	885.654	ng/mL	100
145)	C28,20S-triaromatic stero	50.181	231	39588	679.535	ng/mL	100
146)	C27,20R-triaromatic stero	50.633	231	21750	373.342	ng/mL	100
147)	C28,20R-triaromatic stero	51.807	231	29681	509.479	ng/mL	100

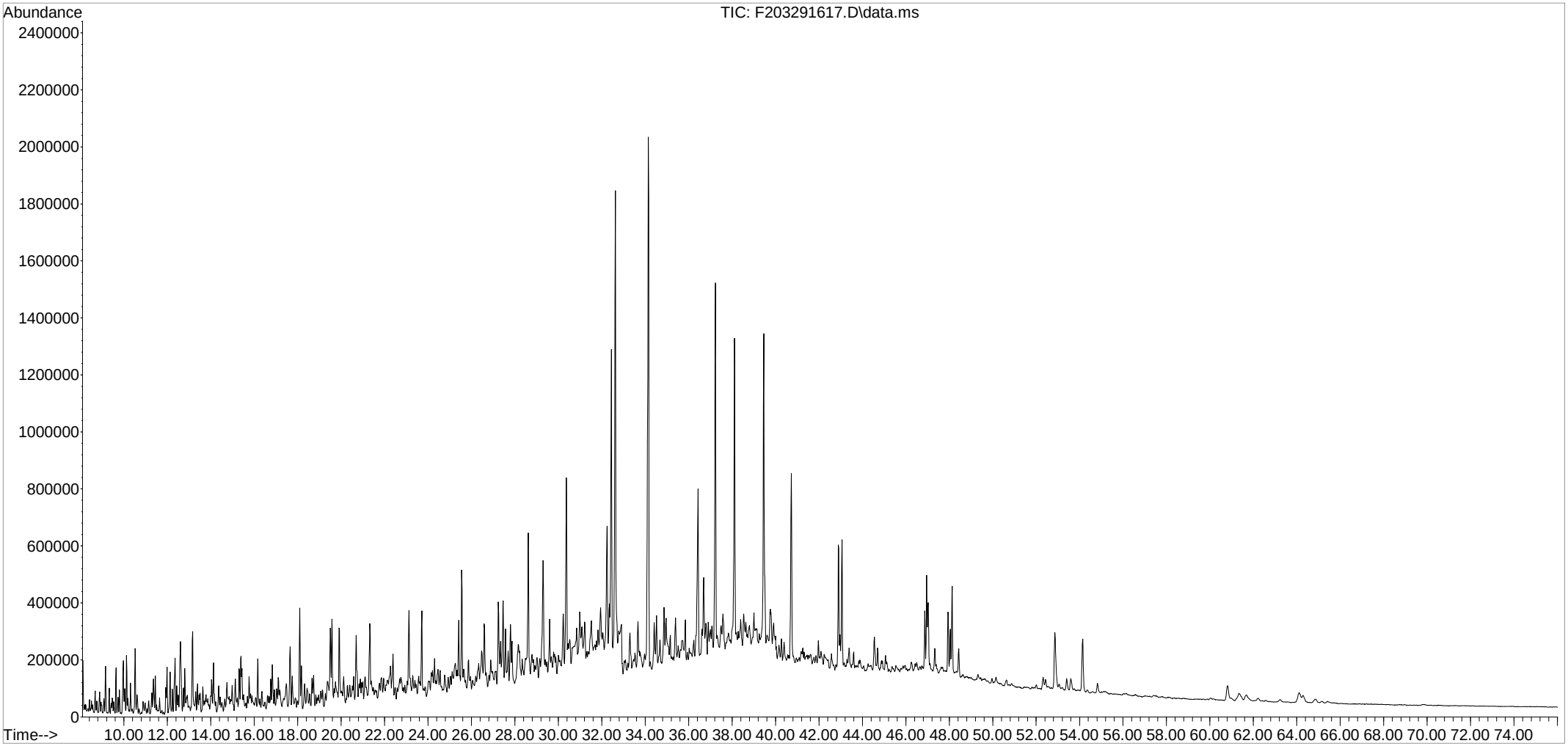
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291617.D
Acq On : 30 Mar 2016 8:01 am
Operator : PAH2:gy
Sample : 1603006-07
Misc : 1x,SS032516,etr:1603006
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Apr 04 13:38:03 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7A**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-08**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.1	15.00	8	1	GY

Parameter	Result		Parameter	Result
cis/trans-Decalin	**1260**		C1-Dibenzothiophenes	**660**
C1-Decalins	**2550**		C2-Dibenzothiophenes	**1220**
C2-Decalins	**2920**		C3-Dibenzothiophenes	**1340**
C3-Decalins	**2050**		C4-Dibenzothiophenes	**858**
C4-Decalins	**2250**		Benzo(b)fluorene	**1360**
Benzothiophene	**216**		Fluoranthene	**10700**
C1-Benzo(b)thiophenes	**162**		Pyrene	**8750**
C2-Benzo(b)thiophenes	**94.5**		C1-Fluoranthenes/Pyrenes	**4380**
C3-Benzo(b)thiophenes	**212**		C2-Fluoranthenes/Pyrenes	**2020**
C4-Benzo(b)thiophenes	**257**		C3-Fluoranthenes/Pyrenes	**1740**
Naphthalene	**3080**		C4-Fluoranthenes/Pyrenes	**1390**
C1-Naphthalenes	**720**		Naphthobenzothiophenes	**800**
C2-Naphthalenes	**1020**		C1-Naphthobenzothiophenes	**754**
C3-Naphthalenes	**1860**		C2-Naphthobenzothiophenes	**852**
C4-Naphthalenes	**2850**		C3-Naphthobenzothiophenes	**571**
Biphenyl	**244**		C4-Naphthobenzothiophenes	**516**
Dibenzofuran	**1390**		Benz[a]anthracene	**4000**
Acenaphthylene	**919**		Chrysene/Triphenylene	**3920**
Acenaphthene	**1560**		C1-Chrysenes	**2290**
Fluorene	**2560**		C2-Chrysenes	**1770**
C1-Fluorenes	**824**		C3-Chrysenes	**1610**
C2-Fluorenes	**2180**		C4-Chrysenes	**932**
C3-Fluorenes	**3130**		Benzo[b]fluoranthene	**3630**
Anthracene	**4150**		Benzo[j]fluoranthene/Benzo[k]fluoranthene	**2770**
Phenanthrene	**5000**		Benzo[a]fluoranthene	**901**
C1-Phenanthrenes/Anthracenes	**3590**		Benzo[e]pyrene	**2530**
C2-Phenanthrenes/Anthracenes	**5010**		Benzo[a]pyrene	**3880**
C3-Phenanthrenes/Anthracenes	**4190**		Perylene	**1130**
C4-Phenanthrenes/Anthracenes	**2340**		Indeno[1,2,3-cd]pyrene	**2730**
Retene	6.83 U		Dibenz[ah]anthracene/Dibenz[ac]anthracene	**605**
Dibenzothiophene	**637**		Benzo[g,h,i]perylene	**2470**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	87	50-130
Phenanthrene-d10	90	50-130
Benzo[a]pyrene-d12	77	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

04/04/16 15:45

Form I
Carbazole

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7A**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-08**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.1	15.00	8	1	GY

Parameter	Result
Carbazole	**519**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	87	50-130
Phenanthrene-d10	90	50-130
Benzo[a]pyrene-d12	77	50-130

N/A - Not Applicable

04/04/16 15:45

Form I
Polynuclear Aromatic Hydrocarbons Isomers

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7A**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-08**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.1	15.00	8	1	GY

Parameter	Result
4-Methyldibenzothiophene	**258**
2/3-Methyldibenzothiophene	**241**
1-Methyldibenzothiophene	**70.2**
3-Methylphenanthrene	**798**
2-Methylphenanthrene	**756**
2-Methylanthracene	**505**
9/4-Methylphenanthrene	**943**
1-Methylphenanthrene	**513**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	87	50-130
Phenanthrene-d10	90	50-130
Benzo[a]pyrene-d12	77	50-130

N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7A**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-08**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.1	15.00	8	1	GY

Parameter	Result	
C23 Tricyclic Terpane	**350**	
C24 Tricyclic Terpane	**257**	
C25 Tricyclic Terpane	**237**	
C24 Tetracyclic Terpane	**64.9**	
C26 Tricyclic Terpane-22S	**137**	
C26 Tricyclic Terpane-22R	**106**	
C28 Tricyclic Terpane-22S	**102**	
C28 Tricyclic Terpane-22R	**112**	
C29 Tricyclic Terpane-22S	**88.3**	
C29 Tricyclic Terpane-22R	**98.2**	
18a-22,29,30-Trisnorneohopane-TS	**109**	
C30 Tricyclic Terpane-22S	**71.5**	
C30 Tricyclic Terpane-22R	**73.8**	
17a(H)-22,29,30-Trisnorhopane-TM	**120**	
17a/b,21b/a 28,30-Bisnorhopane	**40.3**	
17a(H),21b(H)-25-Norhopane	**51.5**	
30-Norhopane	**176**	
18a(H)-30-Norneohopane-C29Ts	**58.0**	
17a(H)-Diahopane	**49.4**	
30-Normoretane	**30.8**	
18a(H)&18b(H)-Oleananes	**19.1**	
Hopane	**306**	
Moretane	**35.5**	
30-Homohopane-22S	**83.6**	
30-Homohopane-22R	**87.6**	
T22a-Gammacerane/C32-diahopane	**21.5**	
30,31-Bishomohopane-22S	**101**	G
30,31-Bishomohopane-22R	**41.6**	

Parameter	Result	
30,31-Trishomohopane-22S	**35.5**	
30,31-Trishomohopane-22R	**18.5**	
Tetrakishomohopane-22S	**124**	
Tetrakishomohopane-22R	**85.1**	G
Pentakishomohopane-22S	6.83	U
Pentakishomohopane-22R	6.83	U
13b(H),17a(H)-20S-Diacholestane	**300**	
13b(H),17a(H)-20R-Diacholestane	**144**	
13b,17a-20S-Methyldiacholestane	**134**	
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	**457**	
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	**366**	
Unknown Sterane (S18)	**108**	
13a,17b-20S-Ethyldiacholestane	6.83	U
14a,17a-20S-Methylcholestane	**150**	
14a,17a-20R-Methylcholestane	**107**	
14a(H),17a(H)-20S-Ethylcholestane	**150**	
14a(H),17a(H)-20R-Ethylcholestane	**130**	
14b(H),17b(H)-20R-Cholestane	**183**	
14b(H),17b(H)-20S-Cholestane	**167**	
14b,17b-20R-Methylcholestane	**135**	
14b,17b-20S-Methylcholestane	**222**	
14b(H),17b(H)-20R-Ethylcholestane	**330**	
14b(H),17b(H)-20S-Ethylcholestane	**172**	
C26,20R- +C27,20S- triaromatic steroid	**348**	
C28,20S-triaromatic steroid	**261**	
C27,20R-triaromatic steroid	**163**	
C28,20R-triaromatic steroid	**153**	

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	116	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable
G - Matrix Interference

04/04/16 15:45

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291618.D
Acq On : 30 Mar 2016 9:30 am
Operator : PAH2:gy
Sample : 1603006-08
Misc : 1x,SS032516,etr:1603006
ALS Vial : 18 Sample Multiplier: 1

MAL 4/4/16

Quant Time: Apr 04 14:55:35 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Mar 01 07:09:44 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.482	164	100608	500.000	ng/mL	0.02
71) Chrysene-d12	42.983	240	185291	500.000	ng/mL	0.06
System Monitoring Compounds						
8) Naphthalene-d8	19.512	136	210581	543.147	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery = 54.31%			
40) Phenanthrene-d10	32.368	188	179114	560.618	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery = 56.06%			
80) Benzo[b]fluoranthene-d12	46.898	264	231570	556.341	ng/mL	0.09
Spiked Amount 1000.000	Range 50 - 130		Recovery = 55.63%			
85) Benzo[a]pyrene-d12	48.072	264	176006	483.395	ng/mL	0.11
Spiked Amount 1000.000	Range 50 - 130		Recovery = 48.34%#			
126) 5B(H)Cholane - Surr	43.615	217	44054	723.517	ng/ml	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery = 72.35%			
Target Compounds						Qvalue
2) trans-Decalin	16.170	138	144051	1718.622	ng/mL	100
3) cis-Decalin	17.374	138	8319M4	126.903	ng/mL	
4) C1-Decalins	17.645	152	312933M5	3733.493	ng/mL	
5) C2-Decalins	19.421	166	358072M5	4272.031	ng/mL	
6) C3-Decalins	21.905	180	251521M5	3000.808	ng/mL	
7) C4-Decalins	25.293	194	275684M5	3289.088	ng/mL	
9) Naphthalene	19.587	128	1808747	4504.068	ng/mL	100
10) C1-Naphthalenes	22.282	142	423528M5	1054.652	ng/mL	
11) C2-Naphthalenes	25.127	156	597445M5	1487.733	ng/mL	
12) C3-Naphthalenes	27.807	170	1092883M5	2721.453	ng/mL	
13) C4-Naphthalenes	30.246	184	1674921M5	4170.820	ng/mL	
14) 2-Methylnaphthalene	22.282	142	258509	961.148	ng/mL	100
15) 1-Methylnaphthalene	22.703	142	156907	598.469	ng/mL	100
16) Benzothiophene	19.798	134	102430M4	316.559	ng/mL	
17) C1-Benzo(b)thiophenes	21.845	148	76596M5	236.719	ng/mL	
18) C2-Benzo(b)thiophenes	24.841	162	44781M5	138.395	ng/mL	
19) C3-Benzo(b)thiophenes	27.641	176	100685M5	311.166	ng/mL	
20) C4-Benzo(b)thiophenes	30.170	190	121648M5	375.952	ng/mL	
21) Biphenyl	24.164	154	118659	357.595	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.781	156	122477	511.572	ng/mL	100
23) Dibenzofuran	27.250	168	706350	2029.693	ng/mL	95
24) Acenaphthylene	25.865	152	539320M4	1346.312	ng/mL	
25) Acenaphthene	26.602	153	567143	2282.342	ng/mL	98
26) 2,3,5-Trimethylnaphthalen	28.153	170	51545M3	243.858	ng/mL	
27) Fluorene	28.620	166	1087724	3750.471	ng/mL	95
28) C1-Fluorenes	30.998	180	349945M5	1206.610	ng/mL	
29) C2-Fluorenes	33.211	194	926474M5	3194.481	ng/mL	
30) C3-Fluorenes	35.048	208	1330634M5	4588.025	ng/mL	
31) Dibenzothiophene	31.962	184	337200	933.204	ng/mL#	41
32) 4-Methyldibenzothiophene(	33.738	198	136578	377.981	ng/mL	100
33) 2/3-Methyldibenzothiophen	34.054	198	127624M3	353.200	ng/mL	
34) 1-Methyldibenzothiophene(	34.506	198	37158	102.835	ng/mL	100
35) OTP	34.130	198	17753M3	49.132	ng/mL	
36) C1-Dibenzothiophenes	33.738	198	367138M5	1016.057	ng/mL	
36) C1-Dibenzothiophenes BS	33.738	198	349385M5	966.926	ng/mL	
37) C2-Dibenzothiophenes	35.439	212	647636M5	1792.338	ng/mL	
38) C3-Dibenzothiophenes	37.246	226	709533M5	1963.638	ng/mL	
39) C4-Dibenzothiophenes	38.948	240	453958M5	1256.332	ng/mL	
41) Phenanthrene	32.459	178	3001350	7319.937	ng/mL	100
42) 3-Methylphenanthrene(3MP)	34.431	192	479129	1168.539	ng/mL	98
43) 2-Methylphenanthrene(2MP)	34.536	192	454118M4	1107.540	ng/mL	
44) 2-Methylanthracene(2MA)	34.687	192	303052	739.108	ng/mL#	36
45) 9/4-Methylphenanthrene(9M	34.882	192	566523	1381.682	ng/mL	79
46) 1-Methylphenanthrene(1MP)	34.973	192	308042M4	751.278	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291618.D
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Misc : 1x,SS032516,etr:1603006
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 04 14:55:35 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Mar 01 07:09:44 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
47) C1-Phenanthrenes/Anthrace	34.882	192	2156694M5	5259.921	ng/mL	
48) C2-Phenanthrenes/Anthrace	36.704	206	3007419M5	7334.738	ng/mL	
48) C2-Phenanthrenes/Anthr BS	36.704	206	3007419M5	7334.738	ng/mL	
50) C3-Phenanthrenes/Anthrace	38.556	220	2517356M5	6139.533	ng/mL	
51) C4-Phenanthrenes/Anthrace	40.739	234	1403609M5	3423.236	ng/mL	
53) Anthracene	32.639	178	2259509M4	6071.958	ng/mL	
54) Carbazole	33.302	167	285530M4	760.585	ng/mL	
55) 1-Methylphenanthrene	34.973	192	308888M4	1062.254	ng/mL	
56) Fluoranthene	37.261	202	6557879M4	15667.317	ng/mL	
57) Benzo(b)fluorene	39.776	216	544858M3	1999.714	ng/mL	
58) Pyrene	38.150	202	5912574	12810.920	ng/mL	95
59) C1-Fluoranthenes/Pyrenes	39.535	216	2960711M5	6415.046	ng/mL	
60) C2-Fluoranthenes/Pyrenes	41.266	230	1365584M5	2958.845	ng/mL	
61) C3-Fluoranthenes/Pyrenes	43.479	244	1175555M5	2547.104	ng/mL	
62) C4-Fluoranthenes/Pyrenes	44.729	258	938864M5	2034.260	ng/mL	
63) Naphthobenzothiophene	41.989	234	317274	769.309	ng/mL#	88
64) Naphthobenzothiophene-2,1	41.989	234	317274	769.309	ng/mL#	88
65) Naphthobenzothiophene-1,2	42.335	234	74270M4	180.086	ng/mL	
66) Naphthobenzothiophene-2,3	42.621	234	91553M3	221.993	ng/mL	
67) C1-Naphthobenzothiophenes	43.389	248	455723M5	1105.012	ng/ml	
68) C2-Naphthobenzothiophenes	44.910	262	514489M5	1247.505	ng/ml	
69) C3-Naphthobenzothiophenes	47.018	276	345060M5	836.683	ng/ml	
70) C4-Naphthobenzothiophenes	48.087	290	311833M5	756.116	ng/mL	
72) Benz[a]anthracene	42.922	228	2606884M3	5856.848	ng/mL	
74) Chrysene/Triphenylene	43.088	228	2562721	5737.866	ng/mL	99
75) C1-Chrysenes	44.564	242	1496627M5	3350.909	ng/mL	
76) C2-Chrysenes	46.280	256	1167111M5	2613.131	ng/mL	
76) C2-Chrysenes BS	46.280	256	1155826M5	2587.864	ng/mL	
77) BBF-D12 Surr BKGD	46.883	256	11285	25.267	ng/mL	100
78) C3-Chrysenes	47.319	270	1050990M5	2353.139	ng/mL	
79) C4-Chrysenes	48.389	284	609408M5	1364.449	ng/mL	
81) Benzo[b]fluoranthene	46.988	252	2638502	5322.194	ng/mL	100
82) Benzo[j]+[k]fluoranthene	47.048	252	2024626	4056.824	ng/mL	99
83) Benzo[a]fluoranthene	47.349	252	658575M4	1319.613	ng/mL	
84) Benzo[e]pyrene	47.967	252	1796098	3710.814	ng/mL	100
86) Benzo[a]pyrene	48.163	252	2768693	5688.136	ng/mL	99
87) Perylene	48.449	252	800831	1654.288	ng/mL	98
88) Indeno[1,2,3-cd]pyrene	52.892	276	2182095M4	4000.888	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.937	278	482013M3	886.123	ng/mL	
90) Benzo[g,h,i]perylene	54.172	276	2100227	3614.560	ng/mL	99
91) Hopane (T19)	52.018	191	52992M4	448.856	ng/mL	
93) C23 Tricyclic Terpane (T4	40.634	191	60517M4	512.595	ng/ml	
94) C24 Tricyclic Terpane (T5	41.372	191	44432	376.351	ng/ml	100
95) C25 Tricyclic Terpane (T6	42.862	191	40971M4	347.035	ng/ml	
96) C24 Tetracyclic Terpane (	44.157	191	11219	95.028	ng/ml	100
97) C26 Tricyclic Terpane-22S	43.916	191	23709M4	200.821	ng/ml	
98) C26 Tricyclic Terpane-22R	44.006	191	18345	155.387	ng/ml	100
99) C28 Tricyclic Terpane-22S	46.310	191	17679M4	149.746	ng/ml	
100) C28 Tricyclic Terpane-22R	46.476	191	19412M3	164.425	ng/ml	
101) C29 Tricyclic Terpane-22S	46.988	191	15269	129.332	ng/ml	100
102) C29 Tricyclic Terpane-22R	47.184	191	16978M4	143.808	ng/ml	
103) 18a-22,29,30-Trisnorneoho	48.283	191	18798	159.224	ng/ml	100
104) C30 Tricyclic Terpane-22S	48.389	191	12360M4	104.692	ng/mL	
105) C30 Tricyclic Terpane-22R	48.630	191	12752M4	108.013	ng/mL	
106) 17a(H)-22,29,30-Trisnorho	48.825	191	20689M4	175.241	ng/ml	
107) 17a/b,21b/a 28,30-Bisnorh	50.000	191	6973M4	59.063	ng/ml	
108) 17a(H),21b(H)-25-Norhopan	49.819	191	8905	75.428	ng/ml	100
109) 30-Norhopane (T15)	50.663	191	30458M4	257.987	ng/ml	
110) 18a(H)-30-Norneohopane-C2	50.768	191	10024M4	84.906	ng/ml	
111) 17a(H)-Diahopane (X)	50.904	191	8538	72.319	ng/ml	100
112) 30-Normoretane (T17)	51.431	191	5330M4	45.146	ng/ml	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291618.D
Acq On : 30 Mar 2016 9:30 am
Operator : PAH2:gy
Sample : 1603006-08
Misc : 1x,SS032516,etr:1603006
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Apr 04 14:55:35 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Mar 01 07:09:44 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
113) 18a(H)&18b(H)-Oleananes (	51.838	191	3297M4	27.926	ng/ml	
114) Moretane (T20)	52.681	191	6135M3	51.965	ng/ml	
115) 30-Homohopane-22S (T21)	53.780	191	14452	122.412	ng/ml	100
116) 30-Homohopane-22R (T22)	54.021	191	15153	128.350	ng/ml	100
117) Gammacerane/C32-diahopane	54.548	191	3722M4	31.526	ng/mL	
118) 30,31-Bishomohopane-22S (	55.316	191G	17496	148.196	ng/ml	100
119) 30,31-Bishomohopane-22R (	55.708	191	7198	60.969	ng/ml	100
120) 30,31-Trishomohopane-22S	57.439	191	6135	51.965	ng/ml	100
121) 30,31-Trishomohopane-22R	58.042	191	3191M4	27.029	ng/ml	
122) Tetrakishomohopane-22S (T	60.044	191	21372	181.026	ng/ml	100
123) Tetrakishomohopane-22R (T	60.812	191G	14719M4	124.674	ng/ml	
127) 13b(H),17a(H)-20S-Diachol	45.136	217	26727M4	438.948	ng/ml	
128) 13b(H),17a(H)-20R-Diachol	45.557	217	12869M4	211.353	ng/ml	
129) 13b,17a-20S-Methyldiachol	46.265	217	11953M3	196.309	ng/ml	
130) 14a,17a-20S-Chol/13b,17a-	47.124	217	40781	669.763	ng/ml	100
131) 14a,17a-20R-Chol/13b,17a-	47.636	217	32620	535.731	ng/ml	100
132) Unknown Sterane (S18)	47.922	217	9633	158.207	ng/ml	100
134) 14a,17a-20S-Methylcholest	48.328	217	13375M4	219.663	ng/ml	
135) 14a,17a-20R-Methylcholest	49.036	217	9519M4	156.334	ng/ml	
136) 14a(H),17a(H)-20S-Ethylch	49.368	217	13364M4	219.482	ng/ml	
137) 14a(H),17a(H)-20R-Ethylch	50.286	217	11633M4	191.053	ng/ml	
138) 14b(H),17b(H)-20R-Cholest	47.214	218	16296M4	267.636	ng/ml	
139) 14b(H),17b(H)-20S-Cholest	47.289	218	14863M4	244.101	ng/ml	
140) 14b,17b-20R-Methylcholest	48.494	218	12044	197.803	ng/ml	100
141) 14b,17b-20S-Methylcholest	48.569	218	19814M4	325.413	ng/ml	
142) 14b(H),17b(H)-20R-Ethylch	49.624	218	29475M3	484.080	ng/ml	
143) 14b(H),17b(H)-20S-Ethylch	49.669	218	15343M3	251.984	ng/ml	
144) C26,20R- +C27,20S- triaro	49.337	231	31030	509.618	ng/mL	100
145) C28,20S-triaromatic stero	50.196	231	23257M4	381.959	ng/mL	
146) C27,20R-triaromatic stero	50.633	231	14543M4	238.846	ng/mL	
147) C28,20R-triaromatic stero	51.822	231	13663M4	224.393	ng/mL	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
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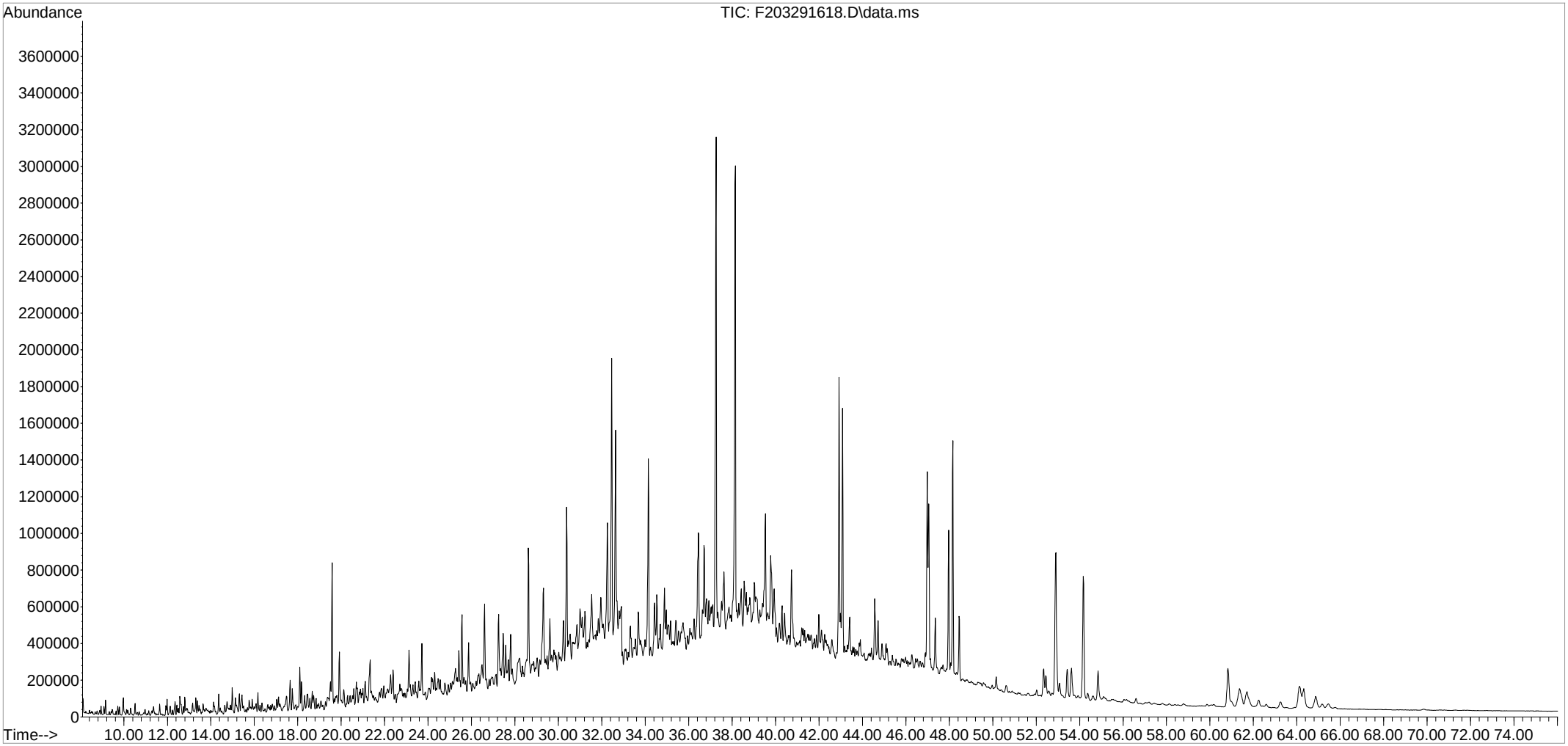


Form I
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7B**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-09**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	82.8	29.95	5.71	1	GY

Parameter	Result		Parameter	Result	
cis/trans-Decalin	**2180**		C1-Dibenzothiophenes	**107**	
C1-Decalins	**3110**		C2-Dibenzothiophenes	**192**	
C2-Decalins	**2710**		C3-Dibenzothiophenes	**204**	
C3-Decalins	**1340**		C4-Dibenzothiophenes	**129**	
C4-Decalins	**1390**		Benzo(b)fluorene	**5.62**	
Benzothiophene	2.30	U	Fluoranthene	**28.6**	
C1-Benzo(b)thiophenes	**91.1**		Pyrene	**32.4**	
C2-Benzo(b)thiophenes	**30.2**		C1-Fluoranthenes/Pyrenes	**59.4**	
C3-Benzo(b)thiophenes	**61.8**		C2-Fluoranthenes/Pyrenes	**82.0**	
C4-Benzo(b)thiophenes	**57.2**		C3-Fluoranthenes/Pyrenes	**107**	
Naphthalene	**17.6**		C4-Fluoranthenes/Pyrenes	**119**	
C1-Naphthalenes	**19.5**		Naphthobenzothiophenes	**10.3**	
C2-Naphthalenes	**320**		C1-Naphthobenzothiophenes	**30.3**	
C3-Naphthalenes	**1420**		C2-Naphthobenzothiophenes	**49.1**	
C4-Naphthalenes	**1030**		C3-Naphthobenzothiophenes	**38.4**	
Biphenyl	**2.86**		C4-Naphthobenzothiophenes	**48.9**	
Dibenzofuran	**25.3**		Benz[a]anthracene	**14.3**	
Acenaphthylene	**10.7**		Chrysene/Triphenylene	**31.3**	
Acenaphthene	**14.6**		C1-Chrysenes	**71.5**	
Fluorene	**60.8**		C2-Chrysenes	**98.4**	
C1-Fluorenes	**199**		C3-Chrysenes	**108**	
C2-Fluorenes	**606**		C4-Chrysenes	**73.6**	
C3-Fluorenes	**710**		Benzo[b]fluoranthene	**8.06**	
Anthracene	**25.3**	G	Benzo[j]fluoranthene/Benzo[k]fluoranthene	**6.82**	
Phenanthrene	**157**		Benzo[a]fluoranthene	**2.31**	
C1-Phenanthrenes/Anthracenes	**564**		Benzo[e]pyrene	**8.71**	
C2-Phenanthrenes/Anthracenes	**866**		Benzo[a]pyrene	**8.33**	
C3-Phenanthrenes/Anthracenes	**669**		Perylene	**4.27**	
C4-Phenanthrenes/Anthracenes	**393**		Indeno[1,2,3-cd]pyrene	**5.59**	
Retene	2.30	U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	**1.48**	J
Dibenzothiophene	**28.5**		Benzo[g,h,i]perylene	**5.54**	

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	88	50-130
Phenanthrene-d10	91	50-130
Benzo[a]pyrene-d12	76	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
J - Estimated value, below quantitation limit.
N/A - Not Applicable
G - Matrix Interference

04/04/16 15:45

Form I
Carbazole

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7B**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-09**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	82.8	29.95	5.71	1	GY

Parameter	Result
Carbazole	**6.96**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	88	50-130
Phenanthrene-d10	91	50-130
Benzo[a]pyrene-d12	76	50-130

N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Polynuclear Aromatic Hydrocarbons Isomers

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7B**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-09**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	82.8	29.95	5.71	1	GY

Parameter	Result
4-Methyldibenzothiophene	**58.5**
2/3-Methyldibenzothiophene	**33.8**
1-Methyldibenzothiophene	**7.41**
3-Methylphenanthrene	**114**
2-Methylphenanthrene	**128**
2-Methylanthracene	**7.12**
9/4-Methylphenanthrene	**192**
1-Methylphenanthrene	**101**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	88	50-130
Phenanthrene-d10	91	50-130
Benzo[a]pyrene-d12	76	50-130

N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7B**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-09**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	82.8	29.95	5.71	1	GY

Parameter	Result	
C23 Tricyclic Terpane	**28.4**	
C24 Tricyclic Terpane	**20.4**	
C25 Tricyclic Terpane	**18.4**	
C24 Tetracyclic Terpane	**4.02**	
C26 Tricyclic Terpane-22S	**10.6**	
C26 Tricyclic Terpane-22R	**8.46**	
C28 Tricyclic Terpane-22S	**6.41**	
C28 Tricyclic Terpane-22R	**6.63**	
C29 Tricyclic Terpane-22S	**6.52**	
C29 Tricyclic Terpane-22R	**5.97**	
18a-22,29,30-Trisnorneohopane-TS	**11.7**	
C30 Tricyclic Terpane-22S	**4.16**	
C30 Tricyclic Terpane-22R	**5.03**	
17a(H)-22,29,30-Trisnorhopane-TM	**5.63**	
17a/b,21b/a 28,30-Bisnorhopane	2.30	U
17a(H),21b(H)-25-Norhopane	2.30	U
30-Norhopane	**8.69**	
18a(H)-30-Norneohopane-C29Ts	**7.74**	
17a(H)-Diahopane	**9.20**	G
30-Normoretane	2.30	U
18a(H)&18b(H)-Oleananes	2.30	U
Hopane	**14.6**	
Moretane	2.30	U
30-Homohopane-22S	**6.45**	
30-Homohopane-22R	**7.07**	
T22a-Gammacerane/C32-diahopane	2.30	U
30,31-Bishomohopane-22S	2.30	U
30,31-Bishomohopane-22R	2.30	U

Parameter	Result	
30,31-Trishomohopane-22S	2.30	U
30,31-Trishomohopane-22R	2.30	U
Tetrakishomohopane-22S	**6.26**	
Tetrakishomohopane-22R	**15.9**	G
Pentakishomohopane-22S	2.30	U
Pentakishomohopane-22R	2.30	U
13b(H),17a(H)-20S-Diacholestane	**35.5**	
13b(H),17a(H)-20R-Diacholestane	**15.0**	
13b,17a-20S-Methyldiacholestane	**14.6**	
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	**50.7**	
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	**39.0**	
Unknown Sterane (S18)	**16.4**	
13a,17b-20S-Ethyldiacholestane	2.30	U
14a,17a-20S-Methylcholestane	**17.2**	
14a,17a-20R-Methylcholestane	**6.82**	
14a(H),17a(H)-20S-Ethylcholestane	**7.54**	
14a(H),17a(H)-20R-Ethylcholestane	**6.34**	
14b(H),17b(H)-20R-Cholestane	**7.69**	
14b(H),17b(H)-20S-Cholestane	**9.32**	
14b,17b-20R-Methylcholestane	**5.94**	
14b,17b-20S-Methylcholestane	**8.02**	
14b(H),17b(H)-20R-Ethylcholestane	**16.3**	
14b(H),17b(H)-20S-Ethylcholestane	**12.0**	
C26,20R- +C27,20S- triaromatic steroid	**34.3**	
C28,20S-triaromatic steroid	**16.0**	
C27,20R-triaromatic steroid	**16.3**	
C28,20R-triaromatic steroid	**9.64**	

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	104	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable
G - Matrix Interference

04/04/16 15:46

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291619.D
Acq On : 30 Mar 2016 10:58 am
Operator : PAH2:gy
Sample : 1603006-09
Misc : 1x,SS032516,etr:1603006
ALS Vial : 19 Sample Multiplier: 1

MAL 4/4/16

Quant Time: Apr 04 14:56:56 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.482	164	97765	500.000	ng/mL	0.02
71) Chrysene-d12	42.968	240	183575	500.000	ng/mL	0.05
System Monitoring Compounds						
8) Naphthalene-d8	19.512	136	58316M4	154.787	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery = 15.48%#			
40) Phenanthrene-d10	32.353	188	49304	158.807	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 15.88%#			
80) Benzo[b]fluoranthene-d12	46.883	264	64530	156.481	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery = 15.65%#			
85) Benzo[a]pyrene-d12	48.042	264	48291	133.869	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery = 13.39%#			
126) 5B(H)Cholane - Surr	43.600	217	10994M3	182.247	ng/ml	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery = 18.22%#			
Target Compounds						Qvalue
2) trans-Decalin	16.170	138	719416	8832.694	ng/mL	100
3) cis-Decalin	17.389	138	39626	622.055	ng/mL	100
4) C1-Decalins	17.660	152	1101559M5	13524.489	ng/mL	
5) C2-Decalins	19.437	166	958264M5	11765.172	ng/mL	
6) C3-Decalins	21.906	180	475020M5	5832.101	ng/mL	
7) C4-Decalins	25.293	194	491771M5	6037.762	ng/mL	
9) Naphthalene	19.602	128	29747M3	76.229	ng/mL	
10) C1-Naphthalenes	22.764	142	32988M5	84.534	ng/mL	
11) C2-Naphthalenes	25.112	156	541696M5	1388.135	ng/mL	
12) C3-Naphthalenes	27.476	170	2402212M5	6155.843	ng/mL	
13) C4-Naphthalenes	30.246	184	1750358M5	4485.420	ng/mL	
14) 2-Methylnaphthalene	22.387	142	10852M3	41.522	ng/mL	
15) 1-Methylnaphthalene	22.764	142	12230M3	48.004	ng/mL	
17) C1-Benzo(b)thiophenes	21.860	148	124489M5	395.920	ng/mL	
18) C2-Benzo(b)thiophenes	25.278	162	41211M5	131.066	ng/mL	
19) C3-Benzo(b)thiophenes	27.641	176	84411M5	268.458	ng/mL	
20) C4-Benzo(b)thiophenes	30.170	190	78182M5	248.647	ng/mL	
21) Biphenyl	24.164	154	4000M4	12.405	ng/mL	
22) 2,6-Dimethylnaphthalene	24.781	156	8907	38.285	ng/mL	100
23) Dibenzofuran	27.250	168	37105	109.722	ng/mL#	42
24) Acenaphthylene	25.880	152	18043M3	46.351	ng/mL	
25) Acenaphthene	26.603	153	15261M4	63.200	ng/mL	
26) 2,3,5-Trimethylnaphthalen	28.168	170	185780M3	904.478	ng/mL	
27) Fluorene	28.620	166	74502M4	264.353	ng/mL	
28) C1-Fluorenes	30.998	180	243814M5	865.117	ng/mL	
29) C2-Fluorenes	33.196	194	742038M5	2632.949	ng/mL	
30) C3-Fluorenes	35.048	208	869687M5	3085.881	ng/mL	
31) Dibenzothiophene	31.947	184	43494	123.870	ng/mL#	1
32) 4-Methyldibenzothiophene(	33.723	198	89203	254.049	ng/mL	100
33) 2/3-Methyldibenzothiophen	34.085	198	51571M3	146.874	ng/mL	
34) 1-Methyldibenzothiophene(	34.491	198	11297	32.174	ng/mL	100
35) OTP	34.115	198	7229M3	20.588	ng/mL	
36) C1-Dibenzothiophenes	33.723	198	171024M5	487.074	ng/mL	
36) C1-Dibenzothiophenes BS	33.723	198	163795M5	466.486	ng/mL	
37) C2-Dibenzothiophenes	35.424	212	292522M5	833.099	ng/mL	
38) C3-Dibenzothiophenes	37.231	226	311488M5	887.114	ng/mL	
39) C4-Dibenzothiophenes	38.933	240	197264M5	561.805	ng/mL	
41) Phenanthrene	32.444	178	272343	683.528	ng/mL	96
42) 3-Methylphenanthrene(3MP)	34.416	192	196890	494.155	ng/mL	99
43) 2-Methylphenanthrene(2MP)	34.521	192	221488M4	555.891	ng/mL	
44) 2-Methylanthracene(2MA)	34.687	192	12329M3	30.943	ng/mL	
45) 9/4-Methylphenanthrene(9M	34.867	192	332744	835.122	ng/mL	99
46) 1-Methylphenanthrene(1MP)	34.958	192	175600M4	440.722	ng/mL	
47) C1-Phenanthrenes/Anthrace	34.867	192	976500M5	2450.824	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291619.D
Acq On : 30 Mar 2016 10:58 am
Operator : PAH2:gy
Sample : 1603006-09
Misc : 1x,SS032516,etr:1603006
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 04 14:56:56 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
48)	C2-Phenanthrenes/Anthrace	36.689	206	1499083M5	3762.404	ng/mL	
48)	C2-Phenanthrenes/Anthr BS	36.689	206	1499083M5	3762.404	ng/mL	
50)	C3-Phenanthrenes/Anthrace	38.541	220	1158440M5	2907.457	ng/mL	
51)	C4-Phenanthrenes/Anthrace	40.724	234	680796M5	1708.664	ng/mL	
53)	Anthracene	32.624	178G	39790M3	110.037	ng/mL	
54)	Carbazole	33.302	167	11022M3	30.214	ng/mL	
55)	1-Methylphenanthrene	34.958	192	182038M4	644.226	ng/mL	
56)	Fluoranthene	37.231	202	50617M4	124.445	ng/mL	
57)	Benzo(b)fluorene	39.761	216	6467M3	24.425	ng/mL	
58)	Pyrene	38.120	202	63097M4	140.689	ng/mL	
59)	C1-Fluoranthenes/Pyrenes	40.288	216	115751M5	258.094	ng/mL	
60)	C2-Fluoranthenes/Pyrenes	41.989	230	159732M5	356.160	ng/mL	
61)	C3-Fluoranthenes/Pyrenes	43.465	244	207687M5	463.087	ng/mL	
62)	C4-Fluoranthenes/Pyrenes	44.699	258	231494M5	516.170	ng/mL	
63)	Naphthobenzothiophene	41.974	234	12213M4	30.475	ng/ml	
64)	Naphthobenzothiophene-2,1	41.974	234	12603M4	31.448	ng/mL	
65)	Naphthobenzothiophene-1,2	42.320	234	2062M4	5.145	ng/mL	
66)	Naphthobenzothiophene-2,3	42.621	234	3313M4	8.267	ng/mL	
67)	C1-Naphthobenzothiophenes	43.374	248	52724M5	131.560	ng/ml	
68)	C2-Naphthobenzothiophenes	45.392	262	85554M5	213.479	ng/ml	
69)	C3-Naphthobenzothiophenes	46.672	276	66817M5	166.726	ng/ml	
70)	C4-Naphthobenzothiophenes	48.072	290	85206M5	212.611	ng/mL	
72)	Benz[a]anthracene	42.907	228	27469M3	62.291	ng/mL	
74)	Chrysene/Triphenylene	43.043	228	60133M4	135.895	ng/mL	
75)	C1-Chrysenes	44.549	242	137456M5	310.637	ng/mL	
76)	C2-Chrysenes	45.994	256	191594M5	432.984	ng/mL	
76)	C2-Chrysenes BS	45.994	256	189146M5	427.452	ng/mL	
77)	BBF-D12 Surr BKGD	46.883	256	2448	5.532	ng/mL	100
78)	C3-Chrysenes	47.304	270	206623M5	466.948	ng/mL	
79)	C4-Chrysenes	49.413	284	141423M5	319.602	ng/mL	
81)	Benzo[b]fluoranthene	46.958	252	17200M3	35.019	ng/mL	
82)	Benzo[j]+[k]fluoranthene	47.018	252	14639M6	29.607	ng/mL	
83)	Benzo[a]fluoranthene	47.334	252	4950M3	10.011	ng/mL	
84)	Benzo[e]pyrene	47.952	252	18151	37.851	ng/mL#	67
86)	Benzo[a]pyrene	48.133	252	17443	36.171	ng/mL#	64
87)	Perylene	48.434	252	8904M4	18.565	ng/mL	
88)	Indeno[1,2,3-cd]pyrene	52.877	276	13131M4	24.301	ng/mL	
89)	Dibenz[ah]+[ac]anthracene	52.922	278	3468M4	6.435	ng/mL	
90)	Benzo[g,h,i]perylene	54.142	276	13867	24.089	ng/mL	93
91)	Hopane (T19)	52.018	191	7402M4	63.283	ng/mL	
93)	C23 Tricyclic Terpane (T4	40.619	191	14452M4	123.556	ng/ml	
94)	C24 Tricyclic Terpane (T5	41.357	191	10359M4	88.564	ng/ml	
95)	C25 Tricyclic Terpane (T6	42.847	191	9328M4	79.749	ng/ml	
96)	C24 Tetracyclic Terpane (	44.157	191	2043M4	17.467	ng/ml	
97)	C26 Tricyclic Terpane-22S	43.901	191	5406M4	46.218	ng/ml	
98)	C26 Tricyclic Terpane-22R	43.991	191	4300	36.763	ng/ml	100
99)	C28 Tricyclic Terpane-22S	46.295	191	3257M3	27.846	ng/ml	
100)	C28 Tricyclic Terpane-22R	46.461	191	3367	28.786	ng/ml	100
101)	C29 Tricyclic Terpane-22S	46.973	191	3311	28.307	ng/ml	100
102)	C29 Tricyclic Terpane-22R	47.169	191	3035M4	25.948	ng/ml	
103)	18a-22,29,30-Trisnorneoho	48.268	191	5941	50.792	ng/ml	100
104)	C30 Tricyclic Terpane-22S	48.389	191	2113	18.065	ng/mL	100
105)	C30 Tricyclic Terpane-22R	48.630	191	2556M3	21.852	ng/mL	
106)	17a(H)-22,29,30-Trisnorho	48.810	191	2861	24.460	ng/ml	100
109)	30-Norhopane (T15)	50.663	191	4414M4	37.737	ng/ml	
110)	18a(H)-30-Norneohopane-C2	50.753	191	3934M4	33.633	ng/ml	
111)	17a(H)-Diahopane (X)	50.904	191G	4677	39.986	ng/ml	100
115)	30-Homohopane-22S (T21)	53.765	191	3278M4	28.025	ng/ml	
116)	30-Homohopane-22R (T22)	54.006	191	3594M4	30.727	ng/ml	
122)	Tetrakishomohopane-22S (T	60.029	191	3180M4	27.187	ng/ml	
123)	Tetrakishomohopane-22R (T	60.812	191G	8094	69.199	ng/ml	100

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291619.D
Acq On : 30 Mar 2016 10:58 am
Operator : PAH2:gy
Sample : 1603006-09
Misc : 1x,SS032516,etr:1603006
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 04 14:56:56 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
127)	13b(H),17a(H)-20S-Diachol	45.121	217	9294	154.066	ng/ml	100
128)	13b(H),17a(H)-20R-Diachol	45.542	217	3918M4	64.948	ng/ml	
129)	13b,17a-20S-Methyldiachol	46.235	217	3817M3	63.274	ng/ml	
130)	14a,17a-20S-Chol/13b,17a-	47.109	217	13288	220.274	ng/ml	100
131)	14a,17a-20R-Chol/13b,17a-	47.621	217	10207	169.201	ng/ml	100
132)	Unknown Sterane (S18)	47.907	217	4304	71.347	ng/ml	100
134)	14a,17a-20S-Methylcholest	48.313	217	4507M4	74.712	ng/ml	
135)	14a,17a-20R-Methylcholest	49.021	217	1786	29.606	ng/ml	100
136)	14a(H),17a(H)-20S-Ethylch	49.368	217	1977M4	32.773	ng/ml	
137)	14a(H),17a(H)-20R-Ethylch	50.271	217	1662M4	27.551	ng/ml	
138)	14b(H),17b(H)-20R-Cholest	47.199	218	2016M4	33.419	ng/ml	
139)	14b(H),17b(H)-20S-Cholest	47.289	218	2443M4	40.497	ng/ml	
140)	14b,17b-20R-Methylcholest	48.494	218	1557	25.810	ng/ml	100
141)	14b,17b-20S-Methylcholest	48.569	218	2103M4	34.861	ng/ml	
142)	14b(H),17b(H)-20R-Ethylch	49.624	218	4279M3	70.933	ng/ml	
143)	14b(H),17b(H)-20S-Ethylch	49.654	218	3134M3	51.952	ng/ml	
144)	C26,20R- +C27,20S- triaro	49.322	231	8996M4	149.126	ng/mL	
145)	C28,20S-triaromatic stero	50.181	231	4186M4	69.391	ng/mL	
146)	C27,20R-triaromatic stero	50.633	231	4272M4	70.817	ng/mL	
147)	C28,20R-triaromatic stero	51.823	231	2525	41.857	ng/mL	100

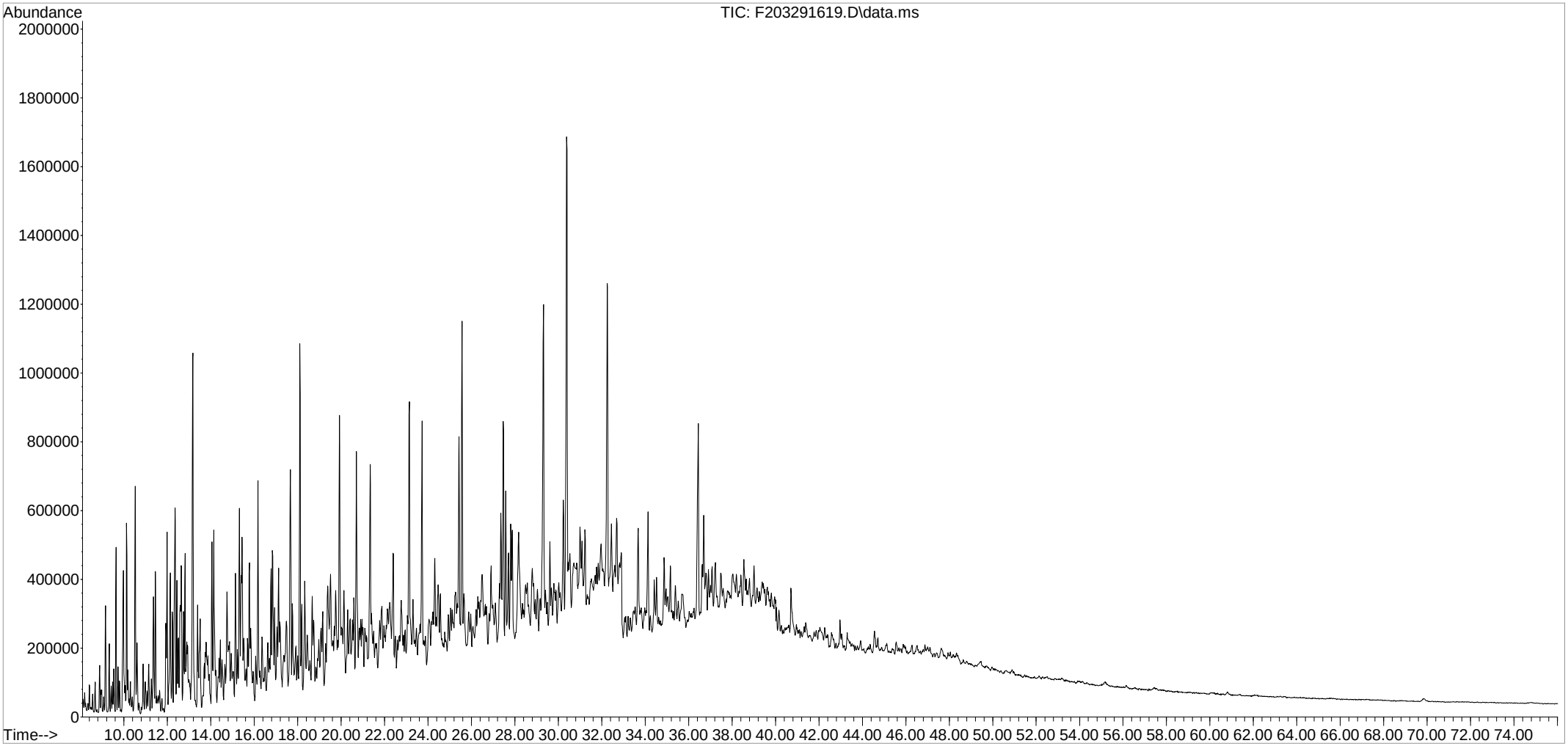
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291619.D
Acq On : 30 Mar 2016 10:58 am
Operator : PAH2:gy
Sample : 1603006-09
Misc : 1x,SS032516,etr:1603006
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Apr 04 14:56:56 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-10**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.4	30.72	8	1	GY

Parameter	Result		Parameter	Result
cis/trans-Decalin	**3850**	E	C1-Dibenzothiophenes	**78.1**
C1-Decalins	**5620**		C2-Dibenzothiophenes	**165**
C2-Decalins	**5060**		C3-Dibenzothiophenes	**159**
C3-Decalins	**2500**		C4-Dibenzothiophenes	**96.8**
C4-Decalins	**2460**		Benzo(b)fluorene	**6.14**
Benzothiophene	**15.0**		Fluoranthene	**45.7**
C1-Benzo(b)thiophenes	**160**		Pyrene	**52.3**
C2-Benzo(b)thiophenes	**51.8**		C1-Fluoranthenes/Pyrenes	**65.5**
C3-Benzo(b)thiophenes	**89.1**		C2-Fluoranthenes/Pyrenes	**84.8**
C4-Benzo(b)thiophenes	**53.4**		C3-Fluoranthenes/Pyrenes	**112**
Naphthalene	**35.2**		C4-Fluoranthenes/Pyrenes	**118**
C1-Naphthalenes	**62.2**		Naphthobenzothiophenes	**12.5**
C2-Naphthalenes	**387**		C1-Naphthobenzothiophenes	**26.3**
C3-Naphthalenes	**1230**		C2-Naphthobenzothiophenes	**38.6**
C4-Naphthalenes	**1440**		C3-Naphthobenzothiophenes	**36.6**
Biphenyl	**17.3**		C4-Naphthobenzothiophenes	**47.1**
Dibenzofuran	**55.6**		Benz[a]anthracene	**21.8**
Acenaphthylene	**6.50**		Chrysene/Triphenylene	**42.7**
Acenaphthene	**44.5**	G	C1-Chrysenes	**74.5**
Fluorene	**101**		C2-Chrysenes	**101**
C1-Fluorenes	**225**		C3-Chrysenes	**130**
C2-Fluorenes	**602**		C4-Chrysenes	**87.5**
C3-Fluorenes	**662**		Benzo[b]fluoranthene	**15.9**
Anthracene	**15.2**	G	Benzo[j]fluoranthene/Benzo[k]fluoranthene	**15.8**
Phenanthrene	**73.4**		Benzo[a]fluoranthene	**3.76**
C1-Phenanthrenes/Anthracenes	**249**		Benzo[e]pyrene	**19.2**
C2-Phenanthrenes/Anthracenes	**554**		Benzo[a]pyrene	**19.4**
C3-Phenanthrenes/Anthracenes	**563**		Perylene	**5.08**
C4-Phenanthrenes/Anthracenes	**329**		Indeno[1,2,3-cd]pyrene	**11.7**
Retene	3.20	U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	**3.39**
Dibenzothiophene	**61.2**		Benzo[g,h,i]perylene	**14.1**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	77	50-130
Phenanthrene-d10	77	50-130
Benzo[a]pyrene-d12	67	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
E - Estimated value, exceeds the upper limit of calibration.
N/A - Not Applicable
G - Matrix Interference

04/04/16 15:46

Form I
Carbazole

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-10**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.4	30.72	8	1	GY

Parameter	Result
Carbazole	**5.54**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	77	50-130
Phenanthrene-d10	77	50-130
Benzo[a]pyrene-d12	67	50-130

N/A - Not Applicable

04/04/16 15:46

Form I
Polynuclear Aromatic Hydrocarbons Isomers

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-10**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.4	30.72	8	1	GY

Parameter	Result
4-Methyldibenzothiophene	**43.3**
2/3-Methyldibenzothiophene	**22.2**
1-Methyldibenzothiophene	**5.00**
3-Methylphenanthrene	**49.9**
2-Methylphenanthrene	**51.8**
2-Methylanthracene	**4.36**
9/4-Methylphenanthrene	**80.0**
1-Methylphenanthrene	**49.4**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	77	50-130
Phenanthrene-d10	77	50-130
Benzo[a]pyrene-d12	67	50-130

N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-10**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.4	30.72	8	1	GY

Parameter	Result	
C23 Tricyclic Terpane	**9.00**	
C24 Tricyclic Terpane	**4.59**	
C25 Tricyclic Terpane	3.20	U
C24 Tetracyclic Terpane	3.20	U
C26 Tricyclic Terpane-22S	3.20	U
C26 Tricyclic Terpane-22R	3.20	U
C28 Tricyclic Terpane-22S	3.20	U
C28 Tricyclic Terpane-22R	3.20	U
C29 Tricyclic Terpane-22S	3.20	U
C29 Tricyclic Terpane-22R	3.20	U
18a-22,29,30-Trisnorneohopane-TS	**11.7**	
C30 Tricyclic Terpane-22S	**4.14**	
C30 Tricyclic Terpane-22R	3.20	U
17a(H)-22,29,30-Trisnorhopane-TM	3.20	U
17a/b,21b/a 28,30-Bisnorhopane	3.20	U
17a(H),21b(H)-25-Norhopane	3.20	U
30-Norhopane	3.20	U
18a(H)-30-Norneohopane-C29Ts	3.20	U
17a(H)-Diahopane	**10.8**	G
30-Normoretane	3.20	U
18a(H)&18b(H)-Oleananes	3.20	U
Hopane	**9.54**	
Moretane	3.20	U
30-Homohopane-22S	3.20	U
30-Homohopane-22R	3.20	U
T22a-Gammacerane/C32-diahopane	3.20	U
30,31-Bishomohopane-22S	**35.4**	G
30,31-Bishomohopane-22R	3.20	U

Parameter	Result	
30,31-Trishomohopane-22S	3.20	U
30,31-Trishomohopane-22R	3.20	U
Tetrakishomohopane-22S	3.20	U
Tetrakishomohopane-22R	**23.7**	G
Pentakishomohopane-22S	3.20	U
Pentakishomohopane-22R	3.20	U
13b(H),17a(H)-20S-Diacholestane	**30.1**	
13b(H),17a(H)-20R-Diacholestane	**14.0**	
13b,17a-20S-Methyldiacholestane	**12.6**	
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	**42.0**	
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	**32.0**	
Unknown Sterane (S18)	**16.1**	
13a,17b-20S-Ethyldiacholestane	3.20	U
14a,17a-20S-Methylcholestane	**12.7**	
14a,17a-20R-Methylcholestane	3.20	U
14a(H),17a(H)-20S-Ethylcholestane	3.20	U
14a(H),17a(H)-20R-Ethylcholestane	3.20	U
14b(H),17b(H)-20R-Cholestane	**5.88**	
14b(H),17b(H)-20S-Cholestane	**7.06**	
14b,17b-20R-Methylcholestane	**3.79**	
14b,17b-20S-Methylcholestane	**7.70**	G
14b(H),17b(H)-20R-Ethylcholestane	**12.7**	
14b(H),17b(H)-20S-Ethylcholestane	**7.85**	
C26,20R- +C27,20S- triaromatic steroid	3.20	U
C28,20S-triaromatic steroid	**7.73**	
C27,20R-triaromatic steroid	3.20	U
C28,20R-triaromatic steroid	3.20	U

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	91	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable
G - Matrix Interference

04/04/16 15:46

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291620.D
Acq On : 30 Mar 2016 12:25 pm
Operator : PAH2:gy
Sample : 1603006-10
Misc : 1x,SS032516,etr:1603006
ALS Vial : 20 Sample Multiplier: 1

NAL
4/4/16

Quant Time: Apr 04 14:59:01 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.482	164	98585	500.000	ng/mL	0.02
71) Chrysene-d12	42.967	240	178737	500.000	ng/mL	0.05
System Monitoring Compounds						
8) Naphthalene-d8	19.512	136	36659M3	96.494	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery =	9.65%#		
40) Phenanthrene-d10	32.353	188	30259	96.653	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	9.67%#		
80) Benzo[b]fluoranthene-d12	46.883	264	39176	97.571	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery =	9.76%#		
85) Benzo[a]pyrene-d12	48.057	264	29468	83.901	ng/mL	0.09
Spiked Amount 1000.000	Range 50 - 130		Recovery =	8.39%#		
126) 5B(H)Cholane - Surr	43.600	217	6675M4	113.646	ng/ml	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery =	11.36%#		
Target Compounds						Qvalue
2) trans-Decalin	16.170	138	928366	11303.291	ng/mL	100
3) cis-Decalin	17.374	138	46417M4	722.600	ng/mL	
4) C1-Decalins	17.645	152	1443982M5	17581.157	ng/mL	
5) C2-Decalins	19.436	166	1298961M5	15815.458	ng/mL	
6) C3-Decalins	21.905	180	641733M5	7813.400	ng/mL	
7) C4-Decalins	25.293	194	631435M5	7688.017	ng/mL	
9) Naphthalene	19.602	128	43302M3	110.042	ng/mL	
10) C1-Naphthalenes	22.282	142	76522M5	194.462	ng/mL	
11) C2-Naphthalenes	25.669	156	475696M5	1208.866	ng/mL	
12) C3-Naphthalenes	27.807	170	1514032M5	3847.546	ng/mL	
13) C4-Naphthalenes	30.246	184	1768192M5	4493.432	ng/mL	
14) 2-Methylnaphthalene	22.282	142	29224	110.886	ng/mL	100
15) 1-Methylnaphthalene	22.703	142	32022M3	124.644	ng/mL	
16) Benzothiophene	19.813	134	14859M3	46.864	ng/mL	
17) C1-Benzo(b)thiophenes	21.860	148	158455M5	499.753	ng/mL	
18) C2-Benzo(b)thiophenes	25.278	162	51348M5	161.947	ng/mL	
19) C3-Benzo(b)thiophenes	25.850	176	88292M5	278.465	ng/mL	
20) C4-Benzo(b)thiophenes	30.246	190	52924M5	166.918	ng/mL	
21) Biphenyl	24.164	154	17592M4	54.104	ng/mL	
22) 2,6-Dimethylnaphthalene	24.781	156	37061	157.976	ng/mL	100
23) Dibenzofuran	27.250	168	59242M4	173.725	ng/mL	
24) Acenaphthylene	25.880	152	7971M3	20.306	ng/mL	
25) Acenaphthene	26.633	153G	33875M3	139.120	ng/mL	
26) 2,3,5-Trimethylnaphthalen	28.153	170	63172M3	304.998	ng/mL	
27) Fluorene	28.620	166	90136M4	317.166	ng/mL	
28) C1-Fluorenes	30.998	180	199917M5	703.459	ng/mL	
29) C2-Fluorenes	33.196	194	534331M5	1880.179	ng/mL	
30) C3-Fluorenes	35.033	208	588513M5	2070.832	ng/mL	
31) Dibenzothiophene	31.947	184	67672	191.126	ng/mL#	55
32) 4-Methyldibenzothiophene(	33.723	198	47916	135.329	ng/mL	100
33) 2/3-Methyldibenzothiophen	34.084	198	24607M3	69.498	ng/mL	
34) 1-Methyldibenzothiophene(	34.491	198	5536M4	15.635	ng/mL	
35) OTP	34.114	198	4013M3	11.334	ng/mL	
36) C1-Dibenzothiophenes	33.723	198	90495M5	255.585	ng/mL	
36) C1-Dibenzothiophenes BS	33.723	198	86482M5	244.251	ng/mL	
37) C2-Dibenzothiophenes	35.424	212	182114M5	514.344	ng/mL	
38) C3-Dibenzothiophenes	37.231	226	175771M5	496.430	ng/mL	
39) C4-Dibenzothiophenes	38.917	240	107094M5	302.465	ng/mL	
41) Phenanthrene	32.443	178	92228	229.549	ng/mL	97
42) 3-Methylphenanthrene(3MP)	34.416	192	62675	155.994	ng/mL	100
43) 2-Methylphenanthrene(2MP)	34.521	192	64994M4	161.765	ng/mL	
44) 2-Methylanthracene(2MA)	34.687	192	5474M3	13.624	ng/mL	
45) 9/4-Methylphenanthrene(9M	34.867	192	100469	250.060	ng/mL	98
46) 1-Methylphenanthrene(1MP)	34.958	192	62012M4	154.343	ng/mL	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291620.D
Acq On : 30 Mar 2016 12:25 pm
Operator : PAH2:gy
Sample : 1603006-10
Misc : 1x,SS032516,etr:1603006
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 04 14:59:01 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
47)	C1-Phenanthrenes/Anthrace	34.867	192	313135M5	779.371	ng/mL	
48)	C2-Phenanthrenes/Anthrace	36.689	206	695217M5	1730.345	ng/mL	
48)	C2-Phenanthrenes/Anthr BS	36.689	206	695217M5	1730.345	ng/mL	
50)	C3-Phenanthrenes/Anthrace	38.526	220	706986M5	1759.637	ng/mL	
51)	C4-Phenanthrenes/Anthrace	40.739	234	413637M5	1029.513	ng/mL	
53)	Anthracene	32.639	178G	17360M3	47.609	ng/mL	
54)	Carbazole	33.301	167	6371M3	17.319	ng/mL	
55)	1-Methylphenanthrene	34.958	192	60158M3	211.126	ng/mL	
56)	Fluoranthene	37.231	202	58593M4	142.856	ng/mL	
57)	Benzo(b)fluorene	39.761	216	5123M3	19.188	ng/mL	
58)	Pyrene	38.104	202	73978M4	163.579	ng/mL	
59)	C1-Fluoranthenes/Pyrenes	39.505	216	92573M5	204.696	ng/mL	
60)	C2-Fluoranthenes/Pyrenes	41.251	230	119925M5	265.177	ng/mL	
61)	C3-Fluoranthenes/Pyrenes	43.464	244	157599M5	348.481	ng/mL	
62)	C4-Fluoranthenes/Pyrenes	44.699	258	167254M5	369.830	ng/mL	
63)	Naphthobenzothiophene	41.974	234	10917M4	27.014	ng/ml	
64)	Naphthobenzothiophene-2,1	41.974	234	10917M4	27.014	ng/mL	
65)	Naphthobenzothiophene-1,2	42.320	234	1763M3	4.363	ng/mL	
66)	Naphthobenzothiophene-2,3	42.621	234	3045M4	7.535	ng/mL	
67)	C1-Naphthobenzothiophenes	43.374	248	33168M5	82.074	ng/ml	
68)	C2-Naphthobenzothiophenes	45.392	262	48809M5	120.778	ng/ml	
69)	C3-Naphthobenzothiophenes	46.672	276	46265M5	114.483	ng/ml	
70)	C4-Naphthobenzothiophenes	48.072	290	59487M5	147.201	ng/mL	
72)	Benz[a]anthracene	42.907	228	29310	68.265	ng/mL	96
74)	Chrysene/Triphenylene	43.058	228	57484M4	133.425	ng/mL	
75)	C1-Chrysenes	44.548	242	100301M5	232.806	ng/mL	
76)	C2-Chrysenes	45.994	256	137794M5	319.830	ng/mL	
76)	C2-Chrysenes BS	45.994	256	136287M5	316.332	ng/mL	
77)	BBF-D12 Surr BKGD	46.883	256	1507	3.498	ng/mL	100
78)	C3-Chrysenes	47.304	270	175348M5	406.996	ng/mL	
79)	C4-Chrysenes	49.413	284	117888M5	273.627	ng/mL	
81)	Benzo[b]fluoranthene	46.958	252	23798M6	49.764	ng/mL	
82)	Benzo[j]+[k]fluoranthene	47.033	252	23716M3	49.263	ng/mL	
83)	Benzo[a]fluoranthene	47.334	252	5653M3	11.742	ng/mL	
84)	Benzo[e]pyrene	47.952	252	27949	59.861	ng/mL	87
86)	Benzo[a]pyrene	48.133	252	28471	60.637	ng/mL#	80
87)	Perylene	48.449	252	7419M3	15.887	ng/mL	
88)	Indeno[1,2,3-cd]pyrene	52.877	276	19184M4	36.464	ng/mL	
89)	Dibenz[ah]+[ac]anthracene	52.937	278	5563M4	10.602	ng/mL	
90)	Benzo[g,h,i]perylene	54.156	276	24760	44.175	ng/mL	96
91)	Hopane (T19)	52.003	191	3396	29.820	ng/mL#	67
93)	C23 Tricyclic Terpane (T4	40.619	191	3203M4	28.125	ng/ml	
94)	C24 Tricyclic Terpane (T5	41.341	191	1633M3	14.339	ng/ml	
103)	18a-22,29,30-Trisnorneoho	48.268	191	4176	36.669	ng/ml	100
104)	C30 Tricyclic Terpane-22S	48.389	191	1472M4	12.925	ng/mL	
111)	17a(H)-Diahopane (X)	50.889	191G	3837M4	33.692	ng/ml	
118)	30,31-Bishomohopane-22S (	55.271	191G	12606	110.691	ng/ml	100
123)	Tetrakishomohopane-22R (T	60.812	191G	8434M4	74.058	ng/ml	
127)	13b(H),17a(H)-20S-Diachol	45.121	217	5518M4	93.947	ng/ml	
128)	13b(H),17a(H)-20R-Diachol	45.542	217	2572	43.790	ng/ml	100
129)	13b,17a-20S-Methyldiachol	46.250	217	2312M3	39.363	ng/ml	
130)	14a,17a-20S-Chol/13b,17a-	47.124	217	7716M4	131.370	ng/ml	
131)	14a,17a-20R-Chol/13b,17a-	47.620	217	5868	99.906	ng/ml	100
132)	Unknown Sterane (S18)	47.907	217	2948	50.192	ng/ml	100
134)	14a,17a-20S-Methylcholest	48.328	217	2331M4	39.687	ng/ml	
138)	14b(H),17b(H)-20R-Cholest	47.199	218	1079M4	18.371	ng/ml	
139)	14b(H),17b(H)-20S-Cholest	47.289	218	1297M4	22.082	ng/ml	
140)	14b,17b-20R-Methylcholest	48.494	218	695M4	11.833	ng/ml	
141)	14b,17b-20S-Methylcholest	48.599	218G	1413M4	24.057	ng/ml	
142)	14b(H),17b(H)-20R-Ethylch	49.624	218	2326M3	39.602	ng/ml	
143)	14b(H),17b(H)-20S-Ethylch	49.669	218	1442M3	24.551	ng/ml	

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291620.D
Acq On : 30 Mar 2016 12:25 pm
Operator : PAH2:gy
Sample : 1603006-10
Misc : 1x,SS032516,etr:1603006
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 04 14:59:01 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
145) C28,20S-triaromatic stero	50.196	231	1420M4	24.176	ng/mL	

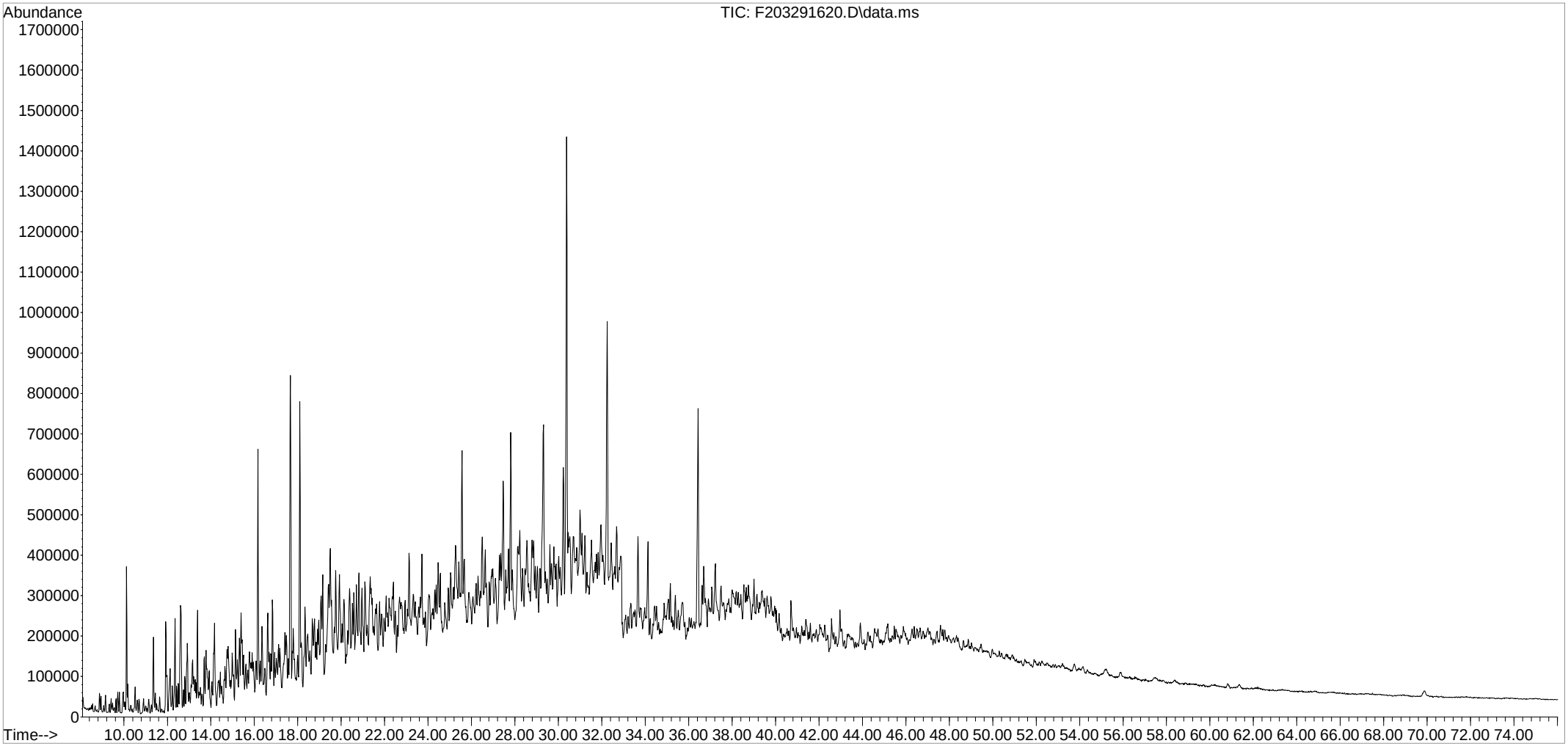
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291620.D
Acq On : 30 Mar 2016 12:25 pm
Operator : PAH2:gy
Sample : 1603006-10
Misc : 1x,SS032516,etr:1603006
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Apr 04 14:59:01 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-10E**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	04/01/16	81.4	30.72	8	2	GY

Parameter	Result		Parameter	Result	
cis/trans-Decalin	**3200**		C1-Dibenzothiophenes	6.40	U
C1-Decalins	6.40	U	C2-Dibenzothiophenes	6.40	U
C2-Decalins	6.40	U	C3-Dibenzothiophenes	6.40	U
C3-Decalins	6.40	U	C4-Dibenzothiophenes	6.40	U
C4-Decalins	6.40	U	Benzo(b)fluorene	6.40	U
Benzothiophene	6.40	U	Fluoranthene	6.40	U
C1-Benzo(b)thiophenes	6.40	U	Pyrene	6.40	U
C2-Benzo(b)thiophenes	6.40	U	C1-Fluoranthenes/Pyrenes	6.40	U
C3-Benzo(b)thiophenes	6.40	U	C2-Fluoranthenes/Pyrenes	6.40	U
C4-Benzo(b)thiophenes	6.40	U	C3-Fluoranthenes/Pyrenes	6.40	U
Naphthalene	6.40	U	C4-Fluoranthenes/Pyrenes	6.40	U
C1-Naphthalenes	6.40	U	Naphthobenzothiophenes	6.40	U
C2-Naphthalenes	6.40	U	C1-Naphthobenzothiophenes	6.40	U
C3-Naphthalenes	6.40	U	C2-Naphthobenzothiophenes	6.40	U
C4-Naphthalenes	6.40	U	C3-Naphthobenzothiophenes	6.40	U
Biphenyl	6.40	U	C4-Naphthobenzothiophenes	6.40	U
Dibenzofuran	6.40	U	Benz[a]anthracene	6.40	U
Acenaphthylene	6.40	U	Chrysene/Triphenylene	6.40	U
Acenaphthene	6.40	U	C1-Chrysenes	6.40	U
Fluorene	6.40	U	C2-Chrysenes	6.40	U
C1-Fluorenes	6.40	U	C3-Chrysenes	6.40	U
C2-Fluorenes	6.40	U	C4-Chrysenes	6.40	U
C3-Fluorenes	6.40	U	Benzo[b]fluoranthene	6.40	U
Anthracene	6.40	U	Benzo[j]fluoranthene/Benzo[k]fluoranthene	6.40	U
Phenanthrene	6.40	U	Benzo[a]fluoranthene	6.40	U
C1-Phenanthrenes/Anthracenes	6.40	U	Benzo[e]pyrene	6.40	U
C2-Phenanthrenes/Anthracenes	6.40	U	Benzo[a]pyrene	6.40	U
C3-Phenanthrenes/Anthracenes	6.40	U	Perylene	6.40	U
C4-Phenanthrenes/Anthracenes	6.40	U	Indeno[1,2,3-cd]pyrene	6.40	U
Retene	6.40	U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	6.40	U
Dibenzothiophene	6.40	U	Benzo[g,h,i]perylene	6.40	U

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	55	50-130
Phenanthrene-d10	74	50-130
Benzo[a]pyrene-d12	71	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

04/04/16 15:46

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291636.D
Acq On : 1 Apr 2016 12:14 am
Operator : PAH2:gy
Sample : 1603006-10-RE
Misc : 2X
ALS Vial : 36 Sample Multiplier: 1

MAL 4/4/16

Quant Time: Apr 04 13:39:09 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.467	164	87943	500.000	ng/mL	0.00
71) Chrysene-d12	42.952	240	154715	500.000	ng/mL	0.03
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	11628M4	34.311	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	3.43%#		
40) Phenanthrene-d10	32.338	188	12965	46.424	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery =	4.64%#		
80) Benzo[b]fluoranthene-d12	46.867	264	15814	45.501	ng/mL	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery =	4.55%#		
85) Benzo[a]pyrene-d12	48.042	264	13402	44.082	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery =	4.41%#		
126) 5B(H)Cholane - Surr	43.570	217	2372M3	46.655	ng/ml	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery =	4.67%#		
Target Compounds						Qvalue
2) trans-Decalin	16.154	138	340977	4653.935	ng/mL	100
3) cis-Decalin	17.374	138	20200	352.518	ng/mL	100

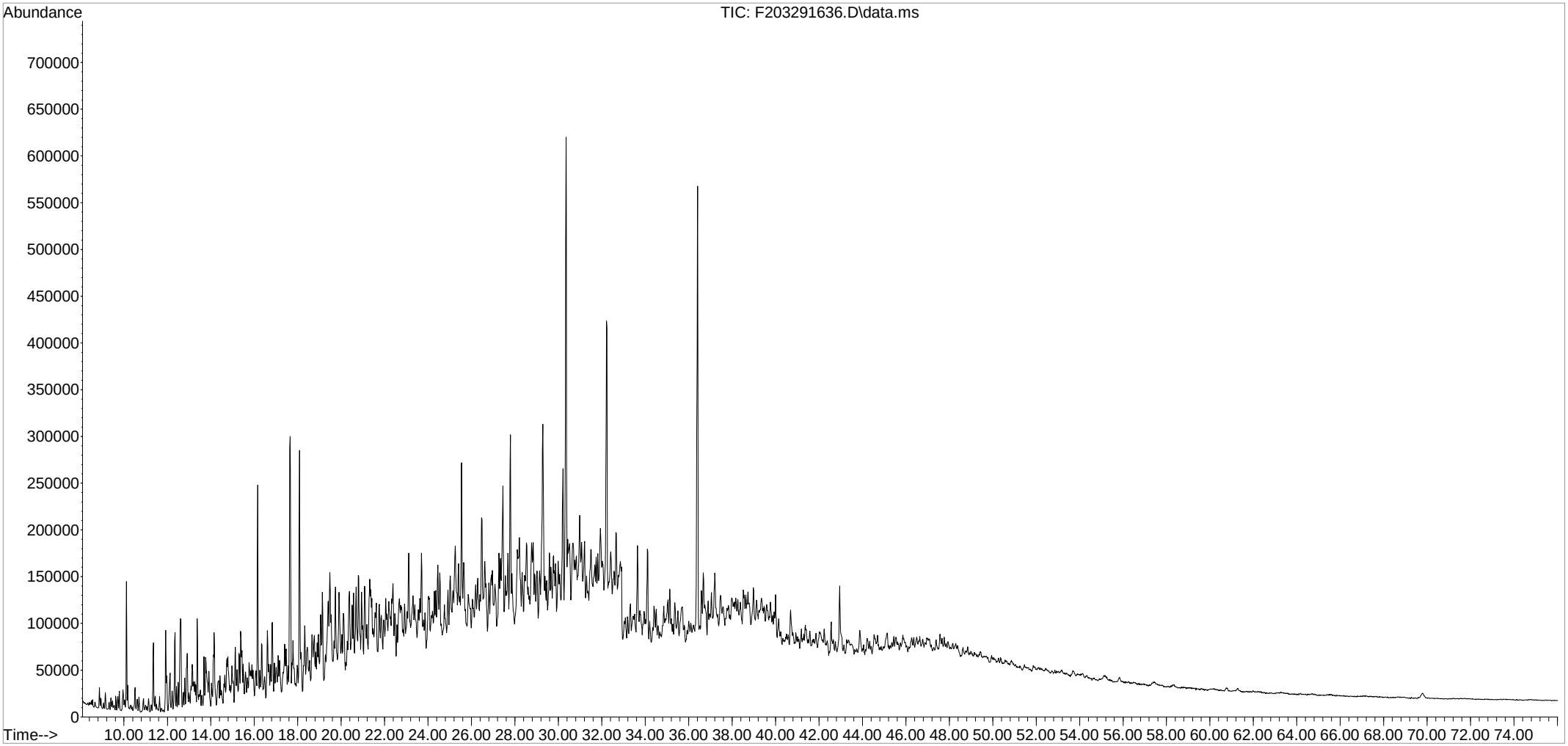
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291636.D
Acq On : 1 Apr 2016 12:14 am
Operator : PAH2:gy
Sample : 1603006-10-RE
Misc : 2X
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Apr 04 13:39:09 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8A**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-11**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	68.5	29.88	2	1	GY

Parameter	Result	Parameter	Result
cis/trans-Decalin	**106**	C1-Dibenzothiophenes	**98.8**
C1-Decalins	**126**	C2-Dibenzothiophenes	**90.8**
C2-Decalins	**136**	C3-Dibenzothiophenes	**48.3**
C3-Decalins	**70.1**	C4-Dibenzothiophenes	**21.5**
C4-Decalins	**101**	Benzo(b)fluorene	**29.0**
Benzothiophene	**3.12**	Fluoranthene	**263**
C1-Benzo(b)thiophenes	**19.7**	Pyrene	**245**
C2-Benzo(b)thiophenes	**16.6**	C1-Fluoranthenes/Pyrenes	**325**
C3-Benzo(b)thiophenes	**23.0**	C2-Fluoranthenes/Pyrenes	**502**
C4-Benzo(b)thiophenes	**12.8**	C3-Fluoranthenes/Pyrenes	**476**
Naphthalene	**329**	C4-Fluoranthenes/Pyrenes	**294**
C1-Naphthalenes	**713**	Naphthobenzothiophenes	**119**
C2-Naphthalenes	**981**	C1-Naphthobenzothiophenes	**153**
C3-Naphthalenes	**824**	C2-Naphthobenzothiophenes	**99.9**
C4-Naphthalenes	**518**	C3-Naphthobenzothiophenes	**42.0**
Biphenyl	**58.3**	C4-Naphthobenzothiophenes	**23.8**
Dibenzofuran	**159**	Benz[a]anthracene	**163**
Acenaphthylene	**7.98**	Chrysene/Triphenylene	**276**
Acenaphthene	**23.5**	C1-Chrysenes	**347**
Fluorene	**21.9**	C2-Chrysenes	**320**
C1-Fluorenes	**51.4**	C3-Chrysenes	**313**
C2-Fluorenes	**275**	C4-Chrysenes	**187**
C3-Fluorenes	**325**	Benzo[b]fluoranthene	**128**
Anthracene	**38.9**	Benzo[j]fluoranthene/Benzo[k]fluoranthene	**102**
Phenanthrene	**659**	Benzo[a]fluoranthene	**17.1**
C1-Phenanthrenes/Anthracenes	**924**	Benzo[e]pyrene	**119**
C2-Phenanthrenes/Anthracenes	**828**	Benzo[a]pyrene	**116**
C3-Phenanthrenes/Anthracenes	**445**	Perylene	**24.2**
C4-Phenanthrenes/Anthracenes	**204**	Indeno[1,2,3-cd]pyrene	**67.8**
Retene	0.977 U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	**27.0**
Dibenzothiophene	**37.9**	Benzo[g,h,i]perylene	**73.2**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	68	50-130
Phenanthrene-d10	75	50-130
Benzo[a]pyrene-d12	75	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

04/04/16 15:46

Form I
Carbazole

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8A**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-11**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	68.5	29.88	2	1	GY

Parameter	Result
Carbazole	**24.4**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	68	50-130
Phenanthrene-d10	75	50-130
Benzo[a]pyrene-d12	75	50-130

N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Polynuclear Aromatic Hydrocarbons Isomers

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8A**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-11**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	68.5	29.88	2	1	GY

Parameter	Result
4-Methyldibenzothiophene	**30.2**
2/3-Methyldibenzothiophene	**35.6**
1-Methyldibenzothiophene	**12.4**
3-Methylphenanthrene	**176**
2-Methylphenanthrene	**295**
2-Methylanthracene	**22.8**
9/4-Methylphenanthrene	**240**
1-Methylphenanthrene	**185**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	68	50-130
Phenanthrene-d10	75	50-130
Benzo[a]pyrene-d12	75	50-130

N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8A**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-11**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	68.5	29.88	2	1	GY

Parameter	Result	
C23 Tricyclic Terpane	**2.63**	
C24 Tricyclic Terpane	**1.42**	
C25 Tricyclic Terpane	**5.62**	
C24 Tetracyclic Terpane	**6.62**	
C26 Tricyclic Terpane-22S	**3.84**	
C26 Tricyclic Terpane-22R	**1.87**	
C28 Tricyclic Terpane-22S	**0.437**	J
C28 Tricyclic Terpane-22R	**1.56**	
C29 Tricyclic Terpane-22S	**1.50**	
C29 Tricyclic Terpane-22R	**0.835**	J
18a-22,29,30-Trisnorneohopane-TS	**3.69**	
C30 Tricyclic Terpane-22S	**0.596**	J
C30 Tricyclic Terpane-22R	0.977	U
17a(H)-22,29,30-Trisnorhopane-TM	**24.5**	
17a/b,21b/a 28,30-Bisnorhopane	0.977	U
17a(H),21b(H)-25-Norhopane	0.977	U
30-Norhopane	**46.9**	
18a(H)-30-Norneohopane-C29Ts	**4.23**	
17a(H)-Diahopane	**9.11**	G
30-Normoretane	**6.13**	
18a(H)&18b(H)-Oleananes	**1.52**	
Hopane	**83.2**	
Moretane	**13.1**	
30-Homohopane-22S	**31.6**	
30-Homohopane-22R	**21.9**	
T22a-Gammacerane/C32-diahopane	**3.68**	
30,31-Bishomohopane-22S	**25.0**	
30,31-Bishomohopane-22R	**15.6**	

Parameter	Result	
30,31-Trishomohopane-22S	**8.87**	
30,31-Trishomohopane-22R	**6.98**	
Tetrakishomohopane-22S	**7.80**	
Tetrakishomohopane-22R	**4.68**	
Pentakishomohopane-22S	**2.18**	
Pentakishomohopane-22R	**1.58**	
13b(H),17a(H)-20S-Diacholestane	**3.88**	
13b(H),17a(H)-20R-Diacholestane	**1.64**	
13b,17a-20S-Methyldiacholestane	**4.00**	
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	**8.75**	
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	**8.48**	
Unknown Sterane (S18)	**2.74**	
13a,17b-20S-Ethyldiacholestane	0.977	U
14a,17a-20S-Methylcholestane	**5.38**	
14a,17a-20R-Methylcholestane	**5.61**	
14a(H),17a(H)-20S-Ethylcholestane	**7.26**	
14a(H),17a(H)-20R-Ethylcholestane	**4.78**	
14b(H),17b(H)-20R-Cholestane	**1.45**	
14b(H),17b(H)-20S-Cholestane	**1.60**	
14b,17b-20R-Methylcholestane	**4.71**	
14b,17b-20S-Methylcholestane	**5.87**	
14b(H),17b(H)-20R-Ethylcholestane	**8.83**	
14b(H),17b(H)-20S-Ethylcholestane	**5.59**	
C26,20R- +C27,20S- triaromatic steroid	**7.36**	
C28,20S-triaromatic steroid	**9.38**	
C27,20R-triaromatic steroid	**7.23**	
C28,20R-triaromatic steroid	**6.32**	

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	95	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
J - Estimated value, below quantitation limit.
N/A - Not Applicable
G - Matrix Interference

04/04/16 15:46

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291621.D
Acq On : 30 Mar 2016 1:52 pm
Operator : PAH2:gy
Sample : 1603006-11
Misc : 1x,SS032516,etr:1603006
ALS Vial : 21 Sample Multiplier: 1

MAL 4/4/16

Quant Time: Apr 04 14:59:36 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.467	164	120401M4	500.000	ng/mL	0.00
71) Chrysene-d12	42.968	240	185159	500.000	ng/mL	0.05
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	157112	338.618	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 33.86%#			
40) Phenanthrene-d10	32.353	188	142914	373.779	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 37.38%#			
80) Benzo[b]fluoranthene-d12	46.883	264	167432	402.538	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery = 40.25%#			
85) Benzo[a]pyrene-d12	48.042	264	135668	372.873	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery = 37.29%#			
126) 5B(H)Cholane - Surr	43.600	217	29030	477.111	ng/ml	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery = 47.71%#			
Target Compounds						Qvalue
2) trans-Decalin	16.170	138	102675	1023.602	ng/mL	100
3) cis-Decalin	17.374	138	4491M3	57.246	ng/mL	
4) C1-Decalins	17.645	152	129190M5	1287.939	ng/mL	
5) C2-Decalins	19.963	166	139478M5	1390.504	ng/mL	
6) C3-Decalins	21.123	180	71933M5	717.125	ng/mL	
7) C4-Decalins	25.278	194	104095M5	1037.758	ng/mL	
9) Naphthalene	19.587	128	1617172	3365.005	ng/mL	100
10) C1-Naphthalenes	22.703	142	3505805M5	7294.865	ng/mL	
11) C2-Naphthalenes	25.127	156	4824805M5	10039.435	ng/mL	
12) C3-Naphthalenes	28.680	170	4050097M5	8427.426	ng/mL	
13) C4-Naphthalenes	31.480	184	2549167M5	5304.297	ng/mL	
14) 2-Methylnaphthalene	22.282	142	1770058	5499.261	ng/mL	100
15) 1-Methylnaphthalene	22.703	142	1762562	5617.542	ng/mL	100
16) Benzothiophene	19.798	134	12363M4	31.927	ng/mL	
17) C1-Benzo(b)thiophenes	22.673	148	78142M5	201.797	ng/mL	
18) C2-Benzo(b)thiophenes	24.435	162	65574M5	169.341	ng/mL	
19) C3-Benzo(b)thiophenes	27.295	176	91192M5	235.498	ng/mL	
20) C4-Benzo(b)thiophenes	29.403	190	50772M5	131.116	ng/mL	
21) Biphenyl	24.164	154	237007	596.834	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.781	156	874048	3050.631	ng/mL	100
23) Dibenzofuran	27.235	168	675820	1622.721	ng/mL	95
24) Acenaphthylene	25.865	152	39151M4	81.667	ng/mL	
25) Acenaphthene	26.602	153	71511M4	240.471	ng/mL	
26) 2,3,5-Trimethylnaphthalen	28.153	170	329704M3	1303.397	ng/mL	
27) Fluorene	28.620	166	77655M4	223.738	ng/mL	
28) C1-Fluorenes	30.983	180	182711M5	526.422	ng/mL	
29) C2-Fluorenes	33.151	194	976910M5	2814.648	ng/mL	
30) C3-Fluorenes	35.695	208	1153254M5	3322.726	ng/mL	
31) Dibenzothiophene	31.947	184	167587M4	387.554	ng/mL	
32) 4-Methyldibenzothiophene(	33.723	198	133467M3	308.649	ng/mL	
33) 2/3-Methyldibenzothiophen	34.069	198	157694M3	364.675	ng/mL	
34) 1-Methyldibenzothiophene(	34.491	198	54773	126.665	ng/mL	100
35) OTP	34.130	198	16603M3	38.395	ng/mL	
36) C1-Dibenzothiophenes	33.723	198	453949M5	1049.780	ng/mL	
36) C1-Dibenzothiophenes BS	33.723	198	437346M5	1011.385	ng/mL	
37) C2-Dibenzothiophenes	35.409	212	401633M5	928.797	ng/mL	
38) C3-Dibenzothiophenes	37.231	226	213681M5	494.148	ng/mL	
39) C4-Dibenzothiophenes	38.917	240	95076M5	219.868	ng/mL	
41) Phenanthrene	32.443	178	3311206	6748.066	ng/mL	100
42) 3-Methylphenanthrene(3MP)	34.401	192	881692	1796.842	ng/mL	97
43) 2-Methylphenanthrene(2MP)	34.521	192	1480021	3016.206	ng/mL	96
44) 2-Methylanthracene(2MA)	34.672	192	114267	232.870	ng/mL#	36
45) 9/4-Methylphenanthrene(9M	34.867	192	1205880	2457.521	ng/mL	97
46) 1-Methylphenanthrene(1MP)	34.943	192	930470	1896.249	ng/mL	97

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291621.D
Acq On : 30 Mar 2016 1:52 pm
Operator : PAH2:gy
Sample : 1603006-11
Misc : 1x,SS032516,etr:1603006
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 04 14:59:36 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
47)	C1-Phenanthrenes/Anthrace	34.521	192	4639537M5	9455.135	ng/mL	
48)	C2-Phenanthrenes/Anthrace	36.689	206	4156529M5	8470.790	ng/mL	
48)	C2-Phenanthrenes/Anthr BS	36.689	206	4156529M5	8470.790	ng/mL	
50)	C3-Phenanthrenes/Anthrace	38.526	220	2234897M5	4554.604	ng/mL	
51)	C4-Phenanthrenes/Anthrace	40.348	234	1022700M5	2084.209	ng/mL	
53)	Anthracene	32.609	178	177437M4	398.438	ng/mL	
54)	Carbazole	33.287	167	112021	249.343	ng/mL#	86
55)	1-Methylphenanthrene	34.943	192	930519	2673.960	ng/mL	98
56)	Fluoranthene	37.216	202	1347436	2689.935	ng/mL	100
57)	Benzo(b)fluorene	39.746	216	96663M3	296.447	ng/mL	
58)	Pyrene	38.104	202	1387181	2511.535	ng/mL	92
59)	C1-Fluoranthenes/Pyrenes	39.505	216	1837134M5	3326.190	ng/mL	
60)	C2-Fluoranthenes/Pyrenes	41.552	230	2839205M5	5140.471	ng/mL	
61)	C3-Fluoranthenes/Pyrenes	43.449	244	2689918M5	4870.182	ng/mL	
62)	C4-Fluoranthenes/Pyrenes	44.925	258	1661011M5	3007.313	ng/mL	
63)	Naphthobenzothiophene	41.974	234	440337M4	892.183	ng/ml	
64)	Naphthobenzothiophene-2,1	41.974	234	440337M4	892.183	ng/mL	
65)	Naphthobenzothiophene-1,2	42.305	234	76847M3	155.702	ng/mL	
66)	Naphthobenzothiophene-2,3	42.606	234	85241M4	172.710	ng/mL	
67)	C1-Naphthobenzothiophenes	43.645	248	774590M5	1569.425	ng/ml	
68)	C2-Naphthobenzothiophenes	45.241	262	504741M5	1022.674	ng/ml	
69)	C3-Naphthobenzothiophenes	47.003	276	211876M5	429.290	ng/ml	
70)	C4-Naphthobenzothiophenes	48.087	290	120408M5	243.963	ng/mL	
72)	Benz[a]anthracene	42.907	228	743568M4	1671.754	ng/mL	
74)	Chrysene/Triphenylene	43.058	228	1261075	2825.527	ng/mL	99
75)	C1-Chrysenes	44.548	242	1586975M5	3555.729	ng/mL	
76)	C2-Chrysenes	46.265	256	1479160M5	3314.162	ng/mL	
76)	C2-Chrysenes BS	46.265	256	1463153M5	3278.297	ng/mL	
77)	BBF-D12 Surr BKGD	46.868	256	16007	35.865	ng/mL	100
78)	C3-Chrysenes	49.307	270	1430605M5	3205.371	ng/mL	
79)	C4-Chrysenes	49.307	284	853656M5	1912.676	ng/mL	
81)	Benzo[b]fluoranthene	46.958	252	648198M6	1308.430	ng/mL	
82)	Benzo[j]+[k]fluoranthene	47.033	252	521714M6	1046.124	ng/mL	
83)	Benzo[a]fluoranthene	47.334	252	87310M3	175.071	ng/mL	
84)	Benzo[e]pyrene	47.952	252	587016	1213.664	ng/mL	99
86)	Benzo[a]pyrene	48.133	252	578037	1188.394	ng/mL	100
87)	Perylene	48.434	252	119881	247.816	ng/mL	91
88)	Indeno[1,2,3-cd]pyrene	52.877	276	378008M4	693.575	ng/mL	
89)	Dibenz[ah]+[ac]anthracene	52.922	278	150292M3	276.491	ng/mL	
90)	Benzo[g,h,i]perylene	54.157	276	435049	749.268	ng/mL	98
91)	Hopane (T19)	52.003	191	100493	851.809	ng/mL	96
93)	C23 Tricyclic Terpane (T4	40.604	191	3178	26.938	ng/ml	100
94)	C24 Tricyclic Terpane (T5	41.342	191	1712M4	14.511	ng/ml	
95)	C25 Tricyclic Terpane (T6	42.817	191	6788M4	57.537	ng/ml	
96)	C24 Tetracyclic Terpane (	44.142	191	7988	67.709	ng/ml	100
97)	C26 Tricyclic Terpane-22S	43.901	191	4634M4	39.279	ng/ml	
98)	C26 Tricyclic Terpane-22R	43.961	191	2261	19.165	ng/ml	100
99)	C28 Tricyclic Terpane-22S	46.295	191	528M3	4.475	ng/ml	
100)	C28 Tricyclic Terpane-22R	46.446	191	1882M4	15.952	ng/ml	
101)	C29 Tricyclic Terpane-22S	46.973	191	1810	15.342	ng/ml	100
102)	C29 Tricyclic Terpane-22R	47.169	191	1008M3	8.544	ng/ml	
103)	18a-22,29,30-Trisnorneoho	48.253	191	4455M4	37.762	ng/ml	
104)	C30 Tricyclic Terpane-22S	48.374	191	720	6.103	ng/mL	100
106)	17a(H)-22,29,30-Trisnorho	48.810	191	29580M4	250.729	ng/ml	
109)	30-Norhopane (T15)	50.648	191	56594	479.708	ng/ml	100
110)	18a(H)-30-Norneohopane-C2	50.753	191	5108M4	43.297	ng/ml	
111)	17a(H)-Diahopane (X)	50.889	191G	11002	93.256	ng/ml	100
112)	30-Normoretane (T17)	51.431	191	7401	62.733	ng/ml	100
113)	18a(H)&18b(H)-Oleananes (	51.822	191	1837M4	15.571	ng/ml	
114)	Moretane (T20)	52.696	191	15803M3	133.951	ng/ml	
115)	30-Homohopane-22S (T21)	53.765	191	38148	323.354	ng/ml	100

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291621.D
Acq On : 30 Mar 2016 1:52 pm
Operator : PAH2:gy
Sample : 1603006-11
Misc : 1x,SS032516,etr:1603006
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 04 14:59:36 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
116)	30-Homohopane-22R (T22)	54.006	191	26420	223.944	ng/ml	100
117)	Gammacerane/C32-diahopane	54.533	191	4446	37.686	ng/mL	100
118)	30,31-Bishomohopane-22S (	55.316	191	30193	255.925	ng/ml	100
119)	30,31-Bishomohopane-22R (	55.677	191	18820	159.524	ng/ml	100
120)	30,31-Trishomohopane-22S	57.409	191	10706M4	90.747	ng/ml	
121)	30,31-Trishomohopane-22R	58.027	191	8425M4	71.413	ng/ml	
122)	Tetrakishomohopane-22S (T	60.029	191	9417M4	79.821	ng/ml	
123)	Tetrakishomohopane-22R (T	60.903	191	5646M4	47.857	ng/ml	
124)	Pentakishomohopane-22S (T	63.131	191	2633M3	22.318	ng/ml	
125)	Pentakishomohopane-22R (T	64.396	191	1914M3	16.224	ng/ml	
127)	13b(H),17a(H)-20S-Diachol	45.106	217	2414M4	39.674	ng/ml	
128)	13b(H),17a(H)-20R-Diachol	45.542	217	1024	16.830	ng/ml	100
129)	13b,17a-20S-Methyldiachol	46.235	217	2491M4	40.940	ng/ml	
130)	14a,17a-20S-Chol/13b,17a-	47.109	217	5447	89.522	ng/ml	100
131)	14a,17a-20R-Chol/13b,17a-	47.621	217	5278	86.745	ng/ml	100
132)	Unknown Sterane (S18)	47.892	217	1708	28.071	ng/ml	100
134)	14a,17a-20S-Methylcholest	48.328	217	3347M4	55.008	ng/ml	
135)	14a,17a-20R-Methylcholest	49.021	217	3493	57.408	ng/ml	100
136)	14a(H),17a(H)-20S-Ethylch	49.368	217	4522M4	74.320	ng/ml	
137)	14a(H),17a(H)-20R-Ethylch	50.271	217	2976M3	48.911	ng/ml	
138)	14b(H),17b(H)-20R-Cholest	47.184	218	901	14.808	ng/ml	100
139)	14b(H),17b(H)-20S-Cholest	47.274	218	998M4	16.402	ng/ml	
140)	14b,17b-20R-Methylcholest	48.479	218	2932M4	48.188	ng/ml	
141)	14b,17b-20S-Methylcholest	48.569	218	3657M4	60.103	ng/ml	
142)	14b(H),17b(H)-20R-Ethylch	49.624	218	5500M3	90.393	ng/ml	
143)	14b(H),17b(H)-20S-Ethylch	49.654	218	3480M3	57.194	ng/ml	
144)	C26,20R- +C27,20S- triaro	49.322	231	4584M4	75.339	ng/mL	
145)	C28,20S-triaromatic stero	50.181	231	5842M4	96.014	ng/mL	
146)	C27,20R-triaromatic stero	50.633	231	4502	73.991	ng/mL	100
147)	C28,20R-triaromatic stero	51.807	231	3935	64.672	ng/mL	100

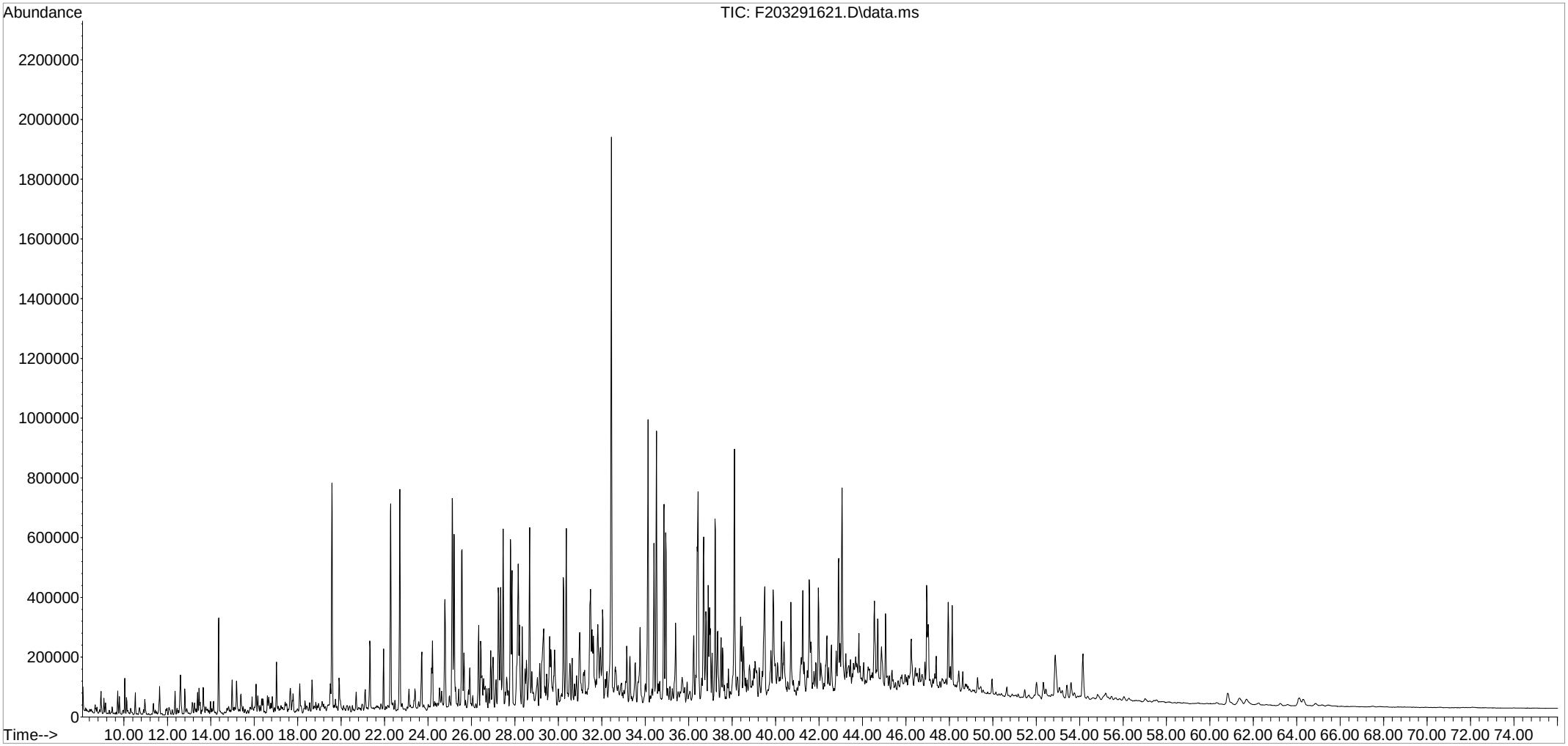
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291621.D
Acq On : 30 Mar 2016 1:52 pm
Operator : PAH2:gy
Sample : 1603006-11
Misc : 1x,SS032516,etr:1603006
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 04 14:59:36 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8B**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-12**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.8	29.34	2	1	GY

Parameter	Result		Parameter	Result	
cis/trans-Decalin	**74.3**		C1-Dibenzothiophenes	**206**	
C1-Decalins	**72.8**		C2-Dibenzothiophenes	**154**	
C2-Decalins	**81.0**		C3-Dibenzothiophenes	**85.8**	
C3-Decalins	**49.2**		C4-Dibenzothiophenes	**30.9**	
C4-Decalins	**70.6**		Benzo(b)fluorene	**89.4**	
Benzothiophene	**16.8**		Fluoranthene	**3160**	E
C1-Benzo(b)thiophenes	**24.2**		Pyrene	**2510**	E
C2-Benzo(b)thiophenes	**24.9**		C1-Fluoranthenes/Pyrenes	**1180**	
C3-Benzo(b)thiophenes	**24.6**		C2-Fluoranthenes/Pyrenes	**1270**	
C4-Benzo(b)thiophenes	**13.8**		C3-Fluoranthenes/Pyrenes	**765**	
Naphthalene	**920**		C4-Fluoranthenes/Pyrenes	**458**	
C1-Naphthalenes	**1100**		Naphthobenzothiophenes	**343**	
C2-Naphthalenes	**1340**		C1-Naphthobenzothiophenes	**252**	
C3-Naphthalenes	**1010**		C2-Naphthobenzothiophenes	**144**	
C4-Naphthalenes	**546**		C3-Naphthobenzothiophenes	**71.5**	
Biphenyl	**150**		C4-Naphthobenzothiophenes	**30.4**	
Dibenzofuran	**542**		Benz[a]anthracene	**1510**	
Acenaphthylene	**130**		Chrysene/Triphenylene	**1600**	
Acenaphthene	**416**		C1-Chrysenes	**961**	
Fluorene	**448**		C2-Chrysenes	**632**	
C1-Fluorenes	**166**		C3-Chrysenes	**519**	
C2-Fluorenes	**342**		C4-Chrysenes	**294**	
C3-Fluorenes	**604**	G	Benzo[b]fluoranthene	**1320**	
Anthracene	**693**		Benzo[j]fluoranthene/Benzo[k]fluoranthene	**962**	
Phenanthrene	**4090**	E	Benzo[a]fluoranthene	**208**	
C1-Phenanthrenes/Anthracenes	**1960**		Benzo[e]pyrene	**885**	
C2-Phenanthrenes/Anthracenes	**1230**		Benzo[a]pyrene	**1200**	
C3-Phenanthrenes/Anthracenes	**596**		Perylene	**298**	
C4-Phenanthrenes/Anthracenes	**238**		Indeno[1,2,3-cd]pyrene	**784**	
Retene	0.834	U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	**255**	
Dibenzothiophene	**287**		Benzo[g,h,i]perylene	**690**	

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	73	50-130
Phenanthrene-d10	76	50-130
Benzo[a]pyrene-d12	81	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
E - Estimated value, exceeds the upper limit of calibration.
N/A - Not Applicable
G - Matrix Interference

04/04/16 15:46

Form I
Carbazole

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8B**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-12**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.8	29.34	2	1	GY

Parameter	Result
Carbazole	**502**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	73	50-130
Phenanthrene-d10	76	50-130
Benzo[a]pyrene-d12	81	50-130

N/A - Not Applicable

04/04/16 15:46

Form I
Polynuclear Aromatic Hydrocarbons Isomers

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8B**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-12**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.8	29.34	2	1	GY

Parameter	Result
4-Methyldibenzothiophene	**72.3**
2/3-Methyldibenzothiophene	**78.2**
1-Methyldibenzothiophene	**22.8**
3-Methylphenanthrene	**469**
2-Methylphenanthrene	**596**
2-Methylanthracene	**116**
9/4-Methylphenanthrene	**434**
1-Methylphenanthrene	**331**

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	73	50-130
Phenanthrene-d10	76	50-130
Benzo[a]pyrene-d12	81	50-130

N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8B**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-12**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.8	29.34	2	1	GY

Parameter	Result	
C23 Tricyclic Terpane	**4.83**	
C24 Tricyclic Terpane	**2.76**	
C25 Tricyclic Terpane	**7.16**	
C24 Tetracyclic Terpane	**7.25**	
C26 Tricyclic Terpane-22S	**9.83**	
C26 Tricyclic Terpane-22R	**3.12**	
C28 Tricyclic Terpane-22S	**1.04**	
C28 Tricyclic Terpane-22R	**2.73**	
C29 Tricyclic Terpane-22S	**3.02**	
C29 Tricyclic Terpane-22R	**1.92**	
18a-22,29,30-Trisnorneohopane-TS	**6.48**	
C30 Tricyclic Terpane-22S	**1.64**	
C30 Tricyclic Terpane-22R	**3.74**	
17a(H)-22,29,30-Trisnorhopane-TM	**19.2**	
17a/b,21b/a 28,30-Bisnorhopane	**1.99**	
17a(H),21b(H)-25-Norhopane	0.834	U
30-Norhopane	**38.1**	
18a(H)-30-Norneohopane-C29Ts	**5.18**	
17a(H)-Diahopane	**8.96**	G
30-Normoretane	**5.36**	
18a(H)&18b(H)-Oleananes	**2.11**	
Hopane	**63.6**	
Moretane	**8.74**	
30-Homohopane-22S	**25.2**	
30-Homohopane-22R	**18.2**	
T22a-Gammacerane/C32-diahopane	**3.05**	
30,31-Bishomohopane-22S	**19.1**	
30,31-Bishomohopane-22R	**11.6**	

Parameter	Result
30,31-Trishomohopane-22S	**7.99**
30,31-Trishomohopane-22R	**5.68**
Tetrakishomohopane-22S	**7.35**
Tetrakishomohopane-22R	**3.64**
Pentakishomohopane-22S	**2.34**
Pentakishomohopane-22R	**1.74**
13b(H),17a(H)-20S-Diacholestane	**10.7**
13b(H),17a(H)-20R-Diacholestane	**2.57**
13b,17a-20S-Methyldiacholestane	**5.30**
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	**13.6**
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	**12.8**
Unknown Sterane (S18)	**3.94**
13a,17b-20S-Ethyldiacholestane	**1.02**
14a,17a-20S-Methylcholestane	**7.62**
14a,17a-20R-Methylcholestane	**5.77**
14a(H),17a(H)-20S-Ethylcholestane	**8.28**
14a(H),17a(H)-20R-Ethylcholestane	**7.45**
14b(H),17b(H)-20R-Cholestane	**4.11**
14b(H),17b(H)-20S-Cholestane	**3.42**
14b,17b-20R-Methylcholestane	**6.72**
14b,17b-20S-Methylcholestane	**10.0**
14b(H),17b(H)-20R-Ethylcholestane	**14.6**
14b(H),17b(H)-20S-Ethylcholestane	**9.24**
C26,20R- +C27,20S- triaromatic steroid	**6.77**
C28,20S-triaromatic steroid	**8.63**
C27,20R-triaromatic steroid	**4.84**
C28,20R-triaromatic steroid	**5.58**

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	110	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable
G - Matrix Interference

04/04/16 15:46

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291622.D
Acq On : 30 Mar 2016 3:19 pm
Operator : PAH2:gy
Sample : 1603006-12
Misc : 1x,SS032516,etr:1603006
ALS Vial : 22 Sample Multiplier: 1

NAL
4/4/16

Quant Time: Apr 04 15:00:53 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.467	164	119477	500.000	ng/mL	0.00
71) Chrysene-d12	42.983	240	179631	500.000	ng/mL	0.06
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	167728	364.294	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 36.43%#			
40) Phenanthrene-d10	32.353	188	144377	380.525	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 38.05%#			
80) Benzo[b]fluoranthene-d12	46.898	264	174819	433.232	ng/mL	0.09
Spiked Amount 1000.000	Range 50 - 130		Recovery = 43.32%#			
85) Benzo[a]pyrene-d12	48.072	264	142102	402.576	ng/mL	0.11
Spiked Amount 1000.000	Range 50 - 130		Recovery = 40.26%#			
126) 5B(H)Cholane - Surr	43.600	217	32383	548.597	ng/ml	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery = 54.86%			
Target Compounds						Qvalue
2) trans-Decalin	16.155	138	83801	841.902	ng/mL	100
3) cis-Decalin	17.374	138	3839M3	49.313	ng/mL	
4) C1-Decalins	17.645	152	86963M5	873.669	ng/mL	
5) C2-Decalins	19.963	166	96729M5	971.782	ng/mL	
6) C3-Decalins	21.123	180	58757M5	590.299	ng/mL	
7) C4-Decalins	25.278	194	84265M5	846.563	ng/mL	
9) Naphthalene	19.587	128	5264056	11038.138	ng/mL	100
10) C1-Naphthalenes	22.282	142	6310707M5	13232.848	ng/mL	
11) C2-Naphthalenes	25.127	156	7682660M5	16109.680	ng/mL	
12) C3-Naphthalenes	27.461	170	5774997M5	12109.524	ng/mL	
13) C4-Naphthalenes	31.480	184	3125752M5	6554.353	ng/mL	
14) 2-Methylnaphthalene	22.282	142	3229408	10110.800	ng/mL	100
15) 1-Methylnaphthalene	22.703	142	3097849	9949.654	ng/mL	100
16) Benzothiophene	19.798	134	77240M3	201.010	ng/mL	
17) C1-Benzo(b)thiophenes	22.673	148	111594M5	290.413	ng/mL	
18) C2-Benzo(b)thiophenes	24.826	162	114755M5	298.640	ng/mL	
19) C3-Benzo(b)thiophenes	27.295	176	113202M5	294.598	ng/mL	
20) C4-Benzo(b)thiophenes	29.403	190	63605M5	165.526	ng/mL	
21) Biphenyl	24.164	154	708077	1796.879	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.781	156	1568947	5518.340	ng/mL	100
23) Dibenzofuran	27.250	168	2688723	6505.861	ng/mL	96
24) Acenaphthylene	25.865	152	742406M4	1560.590	ng/mL	
25) Acenaphthene	26.602	153	1472449	4989.726	ng/mL	99
26) 2,3,5-Trimethylnaphthalen	28.153	170	465760M3	1855.498	ng/mL	
27) Fluorene	28.620	166	1850403M4	5372.565	ng/mL	
28) C1-Fluorenes	30.983	180	686552M5	1993.374	ng/mL	
29) C2-Fluorenes	33.151	194	1411993M5	4099.660	ng/mL	
30) C3-Fluorenes	35.710	208G	2494861M5	7243.721	ng/mL	
31) Dibenzothiophene	31.947	184	1478173	3444.787	ng/mL#	81
32) 4-Methyldibenzothiophene(	33.723	198	371968	866.848	ng/mL	100
33) 2/3-Methyldibenzothiophen	34.039	198	402375M4	937.709	ng/mL	
34) 1-Methyldibenzothiophene(	34.491	198	117311	273.386	ng/mL	100
35) OTP	34.115	198	16599M3	38.683	ng/mL	
36) C1-Dibenzothiophenes	33.723	198	1077526M5	2511.105	ng/mL	
36) C1-Dibenzothiophenes BS	33.723	198	1060927M5	2472.422	ng/mL	
37) C2-Dibenzothiophenes	35.409	212	791132M5	1843.682	ng/mL	
38) C3-Dibenzothiophenes	37.231	226	441723M5	1029.407	ng/mL	
39) C4-Dibenzothiophenes	38.933	240	158938M5	370.395	ng/mL	
41) Phenanthrene	32.489	178	23885274	49053.400	ng/mL	95
42) 3-Methylphenanthrene(3MP)	34.416	192	2740674	5628.547	ng/mL	96
43) 2-Methylphenanthrene(2MP)	34.521	192	3479819	7146.535	ng/mL	97
44) 2-Methylanthracene(2MA)	34.672	192	675287	1386.843	ng/mL#	34
45) 9/4-Methylphenanthrene(9M	34.867	192	2534347	5204.811	ng/mL	93
46) 1-Methylphenanthrene(1MP)	34.958	192	1931991	3967.747	ng/mL	97

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291622.D
Acq On : 30 Mar 2016 3:19 pm
Operator : PAH2:gy
Sample : 1603006-12
Misc : 1x,SS032516,etr:1603006
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 04 15:00:53 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
47) C1-Phenanthrenes/Anthrace	34.521	192	11442835M5	23500.252	ng/mL	
48) C2-Phenanthrenes/Anthrace	36.689	206	7198299M5	14783.211	ng/mL	
48) C2-Phenanthrenes/Anthr BS	36.689	206	7198299M5	14783.211	ng/mL	
50) C3-Phenanthrenes/Anthrace	38.541	220	3478830M5	7144.504	ng/mL	
51) C4-Phenanthrenes/Anthrace	40.348	234	1391206M5	2857.132	ng/mL	
53) Anthracene	32.624	178	3671878M4	8309.045	ng/mL	
54) Carbazole	33.302	167	2685954	6024.804	ng/mL	99
55) 1-Methylphenanthrene	34.958	192	1931991	5594.747	ng/mL	98
56) Fluoranthene	37.276	202	18868623M4	37959.428	ng/mL	
57) Benzo(b)fluorene	39.761	216	346810M3	1071.826	ng/mL	
58) Pyrene	38.150	202	16492622	30091.348	ng/mL	92
59) C1-Fluoranthenes/Pyrenes	39.520	216	7774517M5	14184.870	ng/mL	
60) C2-Fluoranthenes/Pyrenes	41.567	230	8367731M5	15267.209	ng/mL	
61) C3-Fluoranthenes/Pyrenes	43.103	244	5026787M5	9171.543	ng/mL	
62) C4-Fluoranthenes/Pyrenes	44.744	258	3009937M5	5491.732	ng/mL	
63) Naphthobenzothiophene	41.974	234	1373425M3	2804.267	ng/ml	
64) Naphthobenzothiophene-2,1	41.974	234	1365262M3	2787.599	ng/mL	
65) Naphthobenzothiophene-1,2	42.320	234	314361	641.864	ng/mL#	56
66) Naphthobenzothiophene-2,3	42.606	234	335496M3	685.018	ng/mL	
67) C1-Naphthobenzothiophenes	43.645	248	1483052M5	3028.104	ng/ml	
68) C2-Naphthobenzothiophenes	45.241	262	844983M5	1725.291	ng/ml	
69) C3-Naphthobenzothiophenes	47.018	276	420187M5	857.940	ng/ml	
70) C4-Naphthobenzothiophenes	48.087	290	178494M5	364.450	ng/mL	
72) Benz[a]anthracene	42.937	228	7813292	18107.118	ng/mL	94
74) Chrysene/Triphenylene	43.103	228	8302303	19174.351	ng/mL	98
75) C1-Chrysenes	44.563	242	4991402M5	11527.753	ng/mL	
76) C2-Chrysenes	46.265	256	3299664M5	7620.647	ng/mL	
76) C2-Chrysenes BS	46.265	256	3283560M5	7583.454	ng/mL	
77) BBF-D12 Surr BKGD	46.898	256	16104	37.193	ng/mL	100
78) C3-Chrysenes	47.078	270	2692989M5	6219.517	ng/mL	
79) C4-Chrysenes	47.771	284	1528172M5	3529.347	ng/mL	
81) Benzo[b]fluoranthene	47.003	252	7603457	15820.398	ng/mL	97
82) Benzo[j]+[k]fluoranthene	47.078	252	5581139M3	11535.522	ng/mL	
83) Benzo[a]fluoranthene	47.349	252	1207175M3	2495.081	ng/mL	
84) Benzo[e]pyrene	47.982	252	4982380	10618.155	ng/mL	97
86) Benzo[a]pyrene	48.178	252	6784095	14376.731	ng/mL	97
87) Perylene	48.464	252	1677248	3573.885	ng/mL	98
88) Indeno[1,2,3-cd]pyrene	52.937	276	4971524M3	9402.543	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.952	278	1613054M3	3058.844	ng/mL	
90) Benzo[g,h,i]perylene	54.232	276	4662290	8276.783	ng/mL	97
91) Hopane (T19)	52.003	191	87327M4	762.989	ng/mL	
93) C23 Tricyclic Terpane (T4	40.604	191	6625	57.884	ng/ml	100
94) C24 Tricyclic Terpane (T5	41.342	191	3787	33.088	ng/ml	100
95) C25 Tricyclic Terpane (T6	42.832	191	9821	85.808	ng/ml	100
96) C24 Tetracyclic Terpane (	44.142	191	9950	86.935	ng/ml	100
97) C26 Tricyclic Terpane-22S	43.901	191	13491M4	117.873	ng/ml	
98) C26 Tricyclic Terpane-22R	43.976	191	4290M4	37.482	ng/ml	
99) C28 Tricyclic Terpane-22S	46.295	191	1424M3	12.442	ng/ml	
100) C28 Tricyclic Terpane-22R	46.461	191	3745M4	32.721	ng/ml	
101) C29 Tricyclic Terpane-22S	46.973	191	4149M4	36.250	ng/ml	
102) C29 Tricyclic Terpane-22R	47.184	191	2636M4	23.031	ng/ml	
103) 18a-22,29,30-Trisnorneoho	48.268	191	8898	77.743	ng/ml	100
104) C30 Tricyclic Terpane-22S	48.374	191	2251M4	19.667	ng/mL	
105) C30 Tricyclic Terpane-22R	48.615	191	5141M4	44.918	ng/mL	
106) 17a(H)-22,29,30-Trisnorho	48.810	191	26377M4	230.460	ng/ml	
107) 17a/b,21b/a 28,30-Bisnorh	50.000	191	2732M4	23.870	ng/ml	
109) 30-Norhopane (T15)	50.648	191	52283	456.804	ng/ml	100
110) 18a(H)-30-Norneohopane-C2	50.753	191	7116	62.174	ng/ml	100
111) 17a(H)-Diahopane (X)	50.889	191G	12302M4	107.484	ng/ml	
112) 30-Normoretane (T17)	51.431	191	7354	64.253	ng/ml	100
113) 18a(H)&18b(H)-Oleananes (	51.822	191	2892M4	25.268	ng/ml	

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291622.D
Acq On : 30 Mar 2016 3:19 pm
Operator : PAH2:gy
Sample : 1603006-12
Misc : 1x,SS032516,etr:1603006
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 04 15:00:53 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
114)	Moretane (T20)	52.711	191	11998M3	104.828	ng/ml	
115)	30-Homohopane-22S (T21)	53.795	191	34591	302.227	ng/ml	100
116)	30-Homohopane-22R (T22)	54.006	191	25040	218.778	ng/ml	100
117)	Gammacerane/C32-diahopane	54.548	191	4184	36.556	ng/mL	100
118)	30,31-Bishomohopane-22S (	55.331	191	26237	229.237	ng/ml	100
119)	30,31-Bishomohopane-22R (	55.693	191	15888	138.816	ng/ml	100
120)	30,31-Trishomohopane-22S	57.439	191	10961M4	95.768	ng/ml	
121)	30,31-Trishomohopane-22R	58.011	191	7794	68.097	ng/ml	100
122)	Tetrakishomohopane-22S (T	60.029	191	10088M4	88.140	ng/ml	
123)	Tetrakishomohopane-22R (T	60.918	191	4993M4	43.625	ng/ml	
124)	Pentakishomohopane-22S (T	63.131	191	3215M4	28.090	ng/ml	
125)	Pentakishomohopane-22R (T	64.441	191	2390M4	20.882	ng/ml	
127)	13b(H),17a(H)-20S-Diachol	45.106	217	7566M4	128.175	ng/ml	
128)	13b(H),17a(H)-20R-Diachol	45.542	217	1822M4	30.866	ng/ml	
129)	13b,17a-20S-Methyldiachol	46.250	217	3753	63.579	ng/ml	100
130)	14a,17a-20S-Chol/13b,17a-	47.109	217	9629	163.124	ng/ml	100
131)	14a,17a-20R-Chol/13b,17a-	47.636	217	9087M4	153.942	ng/ml	
132)	Unknown Sterane (S18)	47.907	217	2792	47.299	ng/ml	100
133)	13a,17b-20S-Ethyldiachole	48.163	217	721	12.214	ng/ml	100
134)	14a,17a-20S-Methylcholest	48.313	217	5395M4	91.396	ng/ml	
135)	14a,17a-20R-Methylcholest	49.021	217	4083M4	69.170	ng/ml	
136)	14a(H),17a(H)-20S-Ethylch	49.368	217	5862M4	99.307	ng/ml	
137)	14a(H),17a(H)-20R-Ethylch	50.271	217	5276M3	89.380	ng/ml	
138)	14b(H),17b(H)-20R-Cholest	47.199	218	2909M4	49.281	ng/ml	
139)	14b(H),17b(H)-20S-Cholest	47.289	218	2422	41.031	ng/ml	100
140)	14b,17b-20R-Methylcholest	48.479	218	4756	80.571	ng/ml	100
141)	14b,17b-20S-Methylcholest	48.569	218	7108M4	120.416	ng/ml	
142)	14b(H),17b(H)-20R-Ethylch	49.624	218	10363M3	175.558	ng/ml	
143)	14b(H),17b(H)-20S-Ethylch	49.654	218	6544M3	110.861	ng/ml	
144)	C26,20R- +C27,20S- triaro	49.337	231	4791M4	81.164	ng/mL	
145)	C28,20S-triaromatic stero	50.181	231	6111M4	103.526	ng/mL	
146)	C27,20R-triaromatic stero	50.633	231	3427M4	58.056	ng/mL	
147)	C28,20R-triaromatic stero	51.838	231	3947	66.866	ng/mL	100

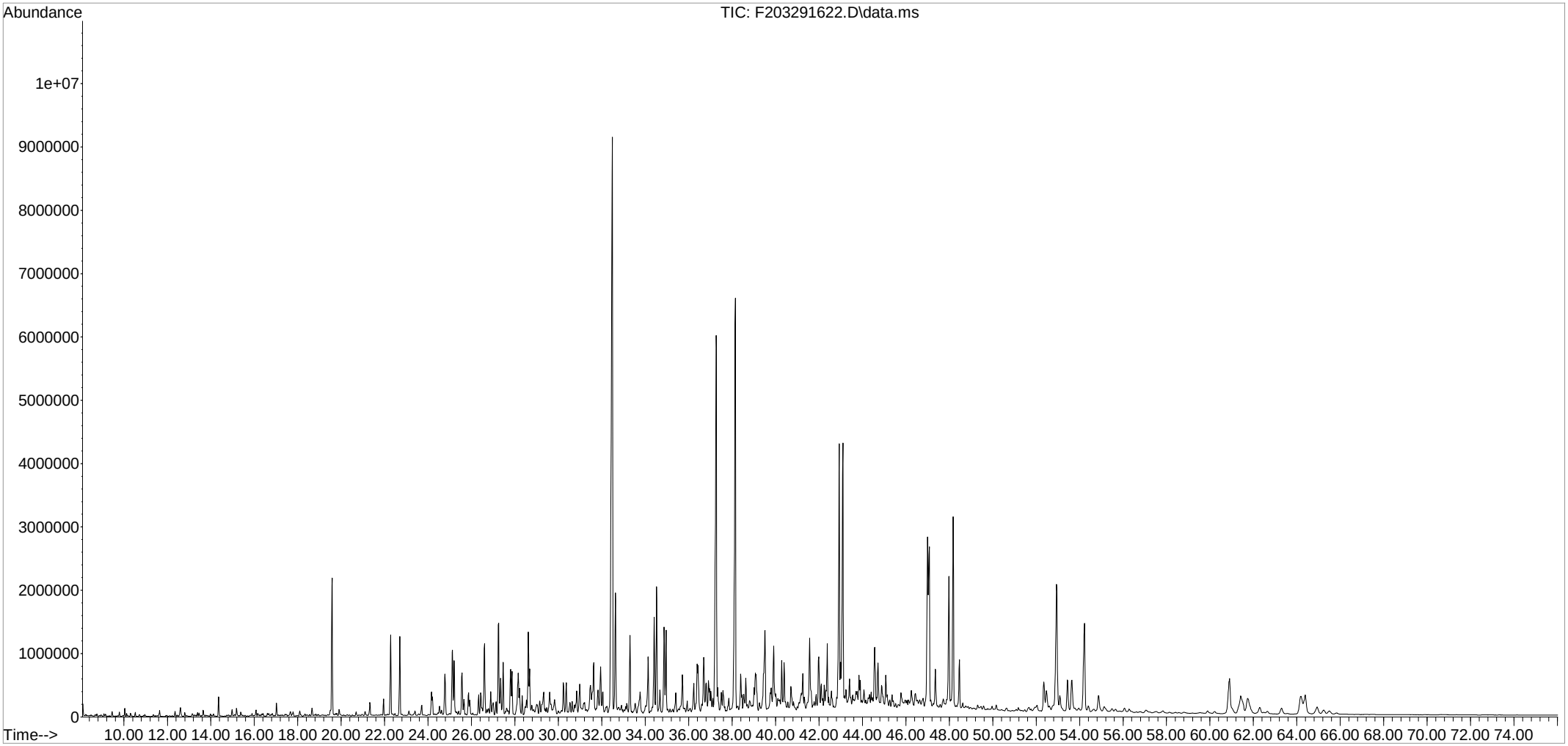
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291622.D
Acq On : 30 Mar 2016 3:19 pm
Operator : PAH2:gy
Sample : 1603006-12
Misc : 1x,SS032516,etr:1603006
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Apr 04 15:00:53 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8B**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-12E**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/31/16	81.8	29.34	2	10	GY

Parameter	Result		Parameter	Result	
cis/trans-Decalin	8.34	U	C1-Dibenzothiophenes	8.34	U
C1-Decalins	8.34	U	C2-Dibenzothiophenes	8.34	U
C2-Decalins	8.34	U	C3-Dibenzothiophenes	8.34	U
C3-Decalins	8.34	U	C4-Dibenzothiophenes	8.34	U
C4-Decalins	8.34	U	Benzo(b)fluorene	8.34	U
Benzothiophene	8.34	U	Fluoranthene	**4090**	
C1-Benzo(b)thiophenes	8.34	U	Pyrene	**3250**	
C2-Benzo(b)thiophenes	8.34	U	C1-Fluoranthenes/Pyrenes	8.34	U
C3-Benzo(b)thiophenes	8.34	U	C2-Fluoranthenes/Pyrenes	8.34	U
C4-Benzo(b)thiophenes	8.34	U	C3-Fluoranthenes/Pyrenes	8.34	U
Naphthalene	8.34	U	C4-Fluoranthenes/Pyrenes	8.34	U
C1-Naphthalenes	8.34	U	Naphthobenzothiophenes	8.34	U
C2-Naphthalenes	8.34	U	C1-Naphthobenzothiophenes	8.34	U
C3-Naphthalenes	8.34	U	C2-Naphthobenzothiophenes	8.34	U
C4-Naphthalenes	8.34	U	C3-Naphthobenzothiophenes	8.34	U
Biphenyl	8.34	U	C4-Naphthobenzothiophenes	8.34	U
Dibenzofuran	8.34	U	Benz[a]anthracene	8.34	U
Acenaphthylene	8.34	U	Chrysene/Triphenylene	8.34	U
Acenaphthene	8.34	U	C1-Chrysenes	8.34	U
Fluorene	8.34	U	C2-Chrysenes	8.34	U
C1-Fluorenes	8.34	U	C3-Chrysenes	8.34	U
C2-Fluorenes	8.34	U	C4-Chrysenes	8.34	U
C3-Fluorenes	8.34	U	Benzo[b]fluoranthene	8.34	U
Anthracene	8.34	U	Benzo[j]fluoranthene/Benzo[k]fluoranthene	8.34	U
Phenanthrene	**5360**		Benzo[a]fluoranthene	8.34	U
C1-Phenanthrenes/Anthracenes	8.34	U	Benzo[e]pyrene	8.34	U
C2-Phenanthrenes/Anthracenes	8.34	U	Benzo[a]pyrene	8.34	U
C3-Phenanthrenes/Anthracenes	8.34	U	Perylene	8.34	U
C4-Phenanthrenes/Anthracenes	8.34	U	Indeno[1,2,3-cd]pyrene	8.34	U
Retene	8.34	U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	8.34	U
Dibenzothiophene	8.34	U	Benzo[g,h,i]perylene	8.34	U

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	65	50-130
Phenanthrene-d10	100	50-130
Benzo[a]pyrene-d12	87	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

04/04/16 15:46

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291627.D
Acq On : 31 Mar 2016 11:10 am
Operator : PAH2:gy
Sample : 1603006-12-RE
Misc : 10x
ALS Vial : 27 Sample Multiplier: 1

NMAL 4/4/16

Quant Time: Apr 04 13:38:54 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.467	164	111407	500.000	ng/mL	0.00
71) Chrysene-d12	42.953	240	179886	500.000	ng/mL	0.03
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	13972	32.544	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	3.25%#		
40) Phenanthrene-d10	32.338	188	17668	49.940	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery =	4.99%#		
80) Benzo[b]fluoranthene-d12	46.868	264	18211	45.066	ng/mL	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery =	4.51%#		
85) Benzo[a]pyrene-d12	48.027	264	15367	43.473	ng/mL	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery =	4.35%#		
126) 5B(H)Cholane - Surr	43.585	217	2644	44.728	ng/ml	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery =	4.47%#		
Target Compounds						Qvalue
41) Phenanthrene	32.428	178	2918308	6427.496	ng/mL	99
56) Fluoranthene	37.216	202	2275440	4909.267	ng/mL	99
58) Pyrene	38.104	202	1993329	3900.343	ng/mL	96

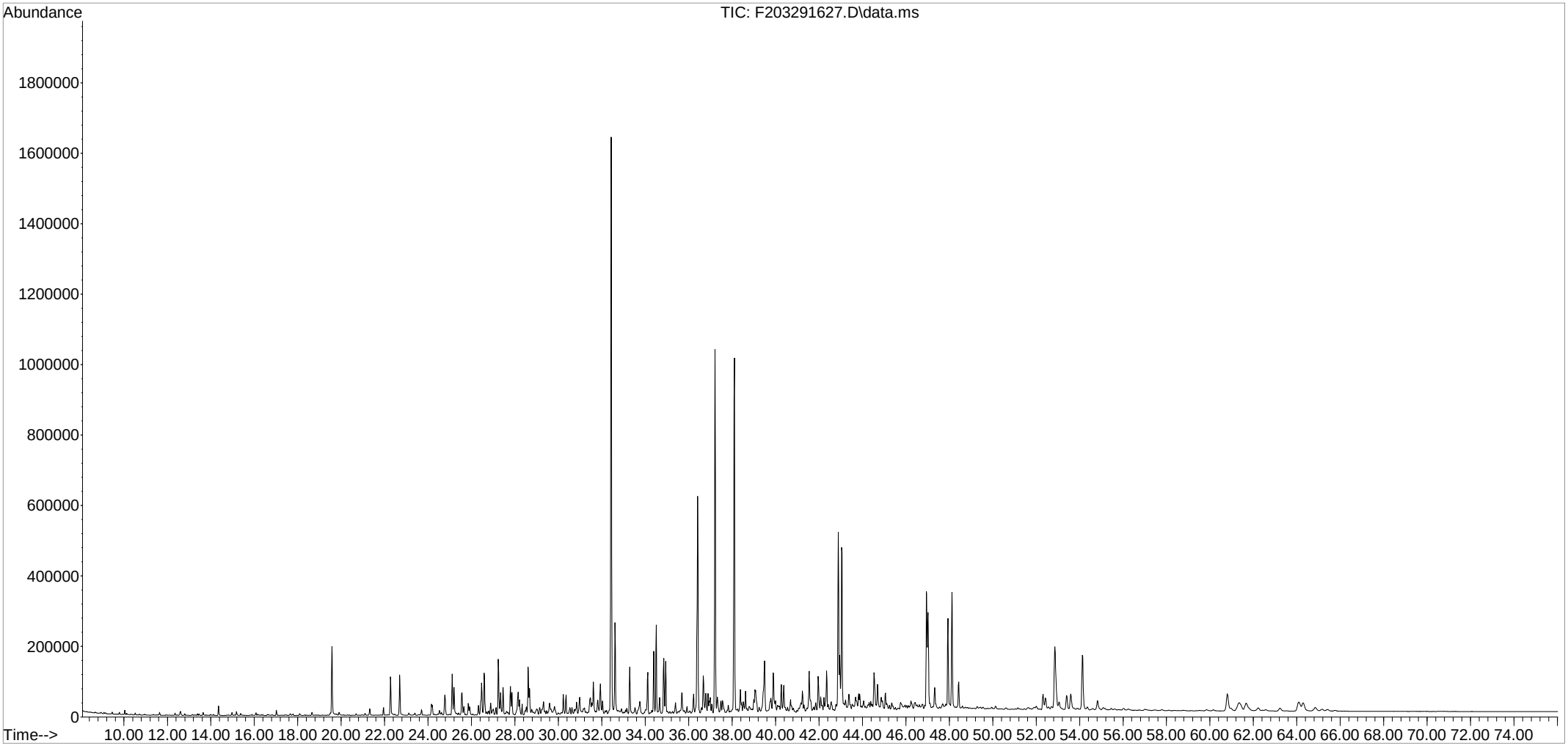
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291627.D
Acq On : 31 Mar 2016 11:10 am
Operator : PAH2:gy
Sample : 1603006-12-RE
Misc : 10x
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Apr 04 13:38:54 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **Blank**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SS032516B02**
Associated Blank: **N/A**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result		Parameter	Result	
cis/trans-Decalin	1.05	U	C1-Dibenzothiophenes	1.05	U
C1-Decalins	1.05	U	C2-Dibenzothiophenes	1.05	U
C2-Decalins	1.05	U	C3-Dibenzothiophenes	1.05	U
C3-Decalins	1.05	U	C4-Dibenzothiophenes	1.05	U
C4-Decalins	1.05	U	Benzo(b)fluorene	1.05	U
Benzothiophene	1.05	U	Fluoranthene	**0.117**	J
C1-Benzo(b)thiophenes	1.05	U	Pyrene	**0.0681**	J
C2-Benzo(b)thiophenes	1.05	U	C1-Fluoranthenes/Pyrenes	1.05	U
C3-Benzo(b)thiophenes	1.05	U	C2-Fluoranthenes/Pyrenes	1.05	U
C4-Benzo(b)thiophenes	1.05	U	C3-Fluoranthenes/Pyrenes	1.05	U
Naphthalene	**0.0542**	J	C4-Fluoranthenes/Pyrenes	1.05	U
C1-Naphthalenes	1.05	U	Naphthobenzothiophenes	**0.0372**	J
C2-Naphthalenes	1.05	U	C1-Naphthobenzothiophenes	1.05	U
C3-Naphthalenes	1.05	U	C2-Naphthobenzothiophenes	1.05	U
C4-Naphthalenes	1.05	U	C3-Naphthobenzothiophenes	1.05	U
Biphenyl	1.05	U	C4-Naphthobenzothiophenes	1.05	U
Dibenzofuran	1.05	U	Benz[a]anthracene	**0.0461**	J
Acenaphthylene	1.05	U	Chrysene/Triphenylene	**0.0866**	J
Acenaphthene	1.05	U	C1-Chrysenes	1.05	U
Fluorene	**0.0828**	J	C2-Chrysenes	1.05	U
C1-Fluorenes	1.05	U	C3-Chrysenes	1.05	U
C2-Fluorenes	1.05	U	C4-Chrysenes	1.05	U
C3-Fluorenes	1.05	U	Benzo[b]fluoranthene	1.05	U
Anthracene	**0.0401**	J	Benzo[j]fluoranthene/Benzo[k]fluoranthene	1.05	U
Phenanthrene	**0.154**	J	Benzo[a]fluoranthene	1.05	U
C1-Phenanthrenes/Anthracenes	1.05	U	Benzo[e]pyrene	1.05	U
C2-Phenanthrenes/Anthracenes	1.05	U	Benzo[a]pyrene	1.05	U
C3-Phenanthrenes/Anthracenes	1.05	U	Perylene	1.05	U
C4-Phenanthrenes/Anthracenes	1.05	U	Indeno[1,2,3-cd]pyrene	1.05	U
Retene	1.05	U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	1.05	U
Dibenzothiophene	**0.0401**	J	Benzo[g,h,i]perylene	1.05	U

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	76	50-130
Phenanthrene-d10	100	50-130
Benzo[a]pyrene-d12	84	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
J - Estimated value, below quantitation limit.
N/A - Not Applicable

04/04/16 15:43

Form I
Carbazole

Client: **NewFields**
Project: **Flint Street**
Client ID: **Blank**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SS032516B02**
Associated Blank: **N/A**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result
Carbazole	1.05 U

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	76	50-130
Phenanthrene-d10	100	50-130
Benzo[a]pyrene-d12	84	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Polynuclear Aromatic Hydrocarbons Isomers

Client: **NewFields**
Project: **Flint Street**
Client ID: **Blank**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SS032516B02**
Associated Blank: **N/A**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result
4-Methyldibenzothiophene	1.05 U
2/3-Methyldibenzothiophene	1.05 U
1-Methyldibenzothiophene	1.05 U
3-Methylphenanthrene	1.05 U
2-Methylphenanthrene	1.05 U
2-Methylanthracene	1.05 U
9/4-Methylphenanthrene	1.05 U
1-Methylphenanthrene	1.05 U

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	76	50-130
Phenanthrene-d10	100	50-130
Benzo[a]pyrene-d12	84	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **Blank**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SS032516B02**
Associated Blank: **N/A**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result		Parameter	Result	
C23 Tricyclic Terpane	1.05	U	30,31-Trishomohopane-22S	1.05	U
C24 Tricyclic Terpane	1.05	U	30,31-Trishomohopane-22R	1.05	U
C25 Tricyclic Terpane	1.05	U	Tetrakishomohopane-22S	1.05	U
C24 Tetracyclic Terpane	1.05	U	Tetrakishomohopane-22R	1.05	U
C26 Tricyclic Terpane-22S	1.05	U	Pentakishomohopane-22S	1.05	U
C26 Tricyclic Terpane-22R	1.05	U	Pentakishomohopane-22R	1.05	U
C28 Tricyclic Terpane-22S	1.05	U	13b(H),17a(H)-20S-Diacholestane	1.05	U
C28 Tricyclic Terpane-22R	1.05	U	13b(H),17a(H)-20R-Diacholestane	1.05	U
C29 Tricyclic Terpane-22S	1.05	U	13b,17a-20S-Methyldiacholestane	1.05	U
C29 Tricyclic Terpane-22R	1.05	U	14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	1.05	U
18a-22,29,30-Trisnorneohopane-TS	1.05	U	14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	1.05	U
C30 Tricyclic Terpane-22S	1.05	U	Unknown Sterane (S18)	1.05	U
C30 Tricyclic Terpane-22R	1.05	U	13a,17b-20S-Ethyldiacholestane	1.05	U
17a(H)-22,29,30-Trisnorhopane-TM	1.05	U	14a,17a-20S-Methylcholestane	1.05	U
17a/b,21b/a 28,30-Bisnorhopane	1.05	U	14a,17a-20R-Methylcholestane	1.05	U
17a(H),21b(H)-25-Norhopane	1.05	U	14a(H),17a(H)-20S-Ethylcholestane	1.05	U
30-Norhopane	1.05	U	14a(H),17a(H)-20R-Ethylcholestane	1.05	U
18a(H)-30-Norneohopane-C29Ts	1.05	U	14b(H),17b(H)-20R-Cholestane	1.05	U
17a(H)-Diahopane	1.05	U	14b(H),17b(H)-20S-Cholestane	1.05	U
30-Normoretane	1.05	U	14b,17b-20R-Methylcholestane	1.05	U
18a(H)&18b(H)-Oleananes	1.05	U	14b,17b-20S-Methylcholestane	1.05	U
Hopane	1.05	U	14b(H),17b(H)-20R-Ethylcholestane	1.05	U
Moretane	1.05	U	14b(H),17b(H)-20S-Ethylcholestane	1.05	U
30-Homohopane-22S	1.05	U	C26,20R- +C27,20S- triaromatic steroid	1.05	U
30-Homohopane-22R	1.05	U	C28,20S-triaromatic steroid	1.05	U
T22a-Gammacerane/C32-diahopane	1.05	U	C27,20R-triaromatic steroid	1.05	U
30,31-Bishomohopane-22S	1.05	U	C28,20R-triaromatic steroid	1.05	U
30,31-Bishomohopane-22R	1.05	U			

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	115	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291606.D
Acq On : 29 Mar 2016 4:07 pm
Operator : PAH2:gy
Sample : SS032516B02
Misc : 1x,SS032516,etr:1603006
ALS Vial : 6 Sample Multiplier: 1

MAL 4/4/16

Quant Time: Apr 04 13:40:03 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.452	164	98716	500.000	ng/mL	-0.01
71) Chrysene-d12	42.937	240	167268	500.000	ng/mL	0.02
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	144020	378.588	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 37.86%#			
40) Phenanthrene-d10	32.323	188	157513	502.457	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 50.25%			
80) Benzo[b]fluoranthene-d12	46.837	264	183630	488.702	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 48.87%#			
85) Benzo[a]pyrene-d12	48.012	264	137986	419.808	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery = 41.98%#			
126) 5B(H)Cholane - Surr	43.570	217	31617	575.209	ng/ml	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 57.52%			
Target Compounds						Qvalue
9) Naphthalene	19.572	128	203M4	0.515	ng/mL	
27) Fluorene	28.605	166	224	0.787	ng/mL	75
31) Dibenzothiophene	31.917	184	135M4	0.381	ng/mL	
41) Phenanthrene	32.413	178	587M4	1.459	ng/mL	
53) Anthracene	32.594	178	139	0.381	ng/mL#	60
56) Fluoranthene	37.216	202	458M4	1.115	ng/mL	
58) Pyrene	38.089	202	293	0.647	ng/mL#	69
63) Naphthobenzothiophene	41.944	234	143M4	0.353	ng/ml	
64) Naphthobenzothiophene-2,1	41.944	234	143M4	0.353	ng/mL	
72) Benz[a]anthracene	42.862	228	176M3	0.438	ng/mL	
74) Chrysene/Triphenylene	43.028	228	332M3	0.823	ng/mL	

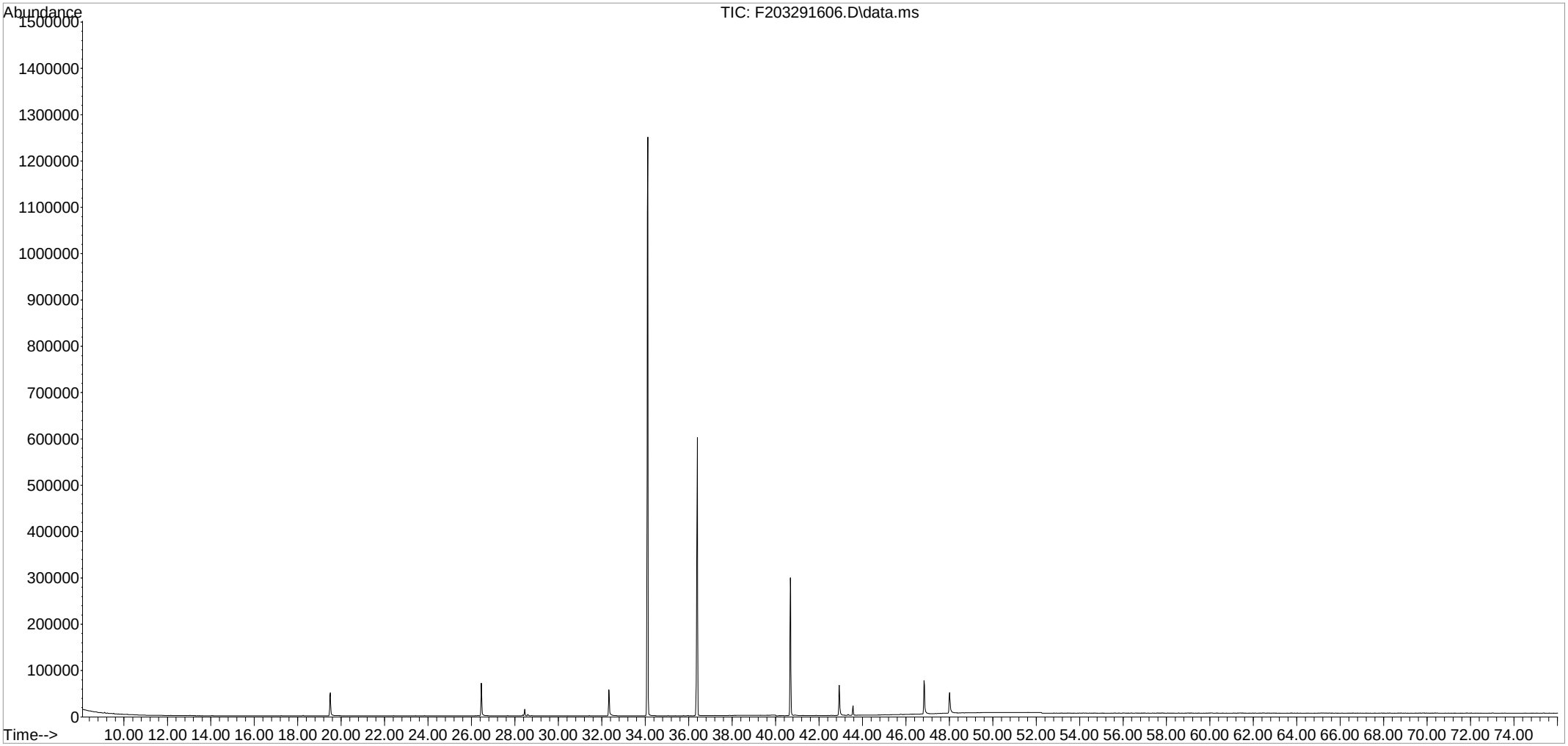
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291606.D
Acq On : 29 Mar 2016 4:07 pm
Operator : PAH2:gy
Sample : SS032516B02
Misc : 1x,SS032516,etr:1603006
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 04 13:40:03 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES



Form III
Spike Recovery Summary
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **See Below**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	03/25/16	100	GY

Lab ID: SS032516B02 SS032516LCS02 SS032516LCSD02

Parameter	Blank Conc.		LCS Conc.	LCS % Recovery	LCSD Conc.	LCSD % Recovery	% RPD	RPD Limit	% Recovery Limits
Naphthalene	0.0542		43.8	83	46.2	88	5	30	50-130
Acenaphthylene	1.05	U	44.2	84	46.8	89	6	30	50-130
Acenaphthene	1.05	U	46.8	89	48.6	92	4	30	50-130
Fluorene	0.0828		48.8	93	50.3	96	3	30	50-130
Anthracene	0.0401		52.7	100	54.5	104	3	30	50-130
Phenanthrene	0.154		49.9	95	52.1	99	4	30	50-130
Fluoranthene	0.117		53.0	101	53.7	102	1	30	50-130
Pyrene	0.0681		49.5	94	51.4	98	4	30	50-130
Benz[a]anthracene	0.0461		50.9	97	51.8	98	2	30	50-130
Chrysene/Triphenylene	0.0866		51.5	98	53.5	102	4	30	50-130
Benzo[b]fluoranthene	1.05	U	51.5	98	51.8	98	0	30	50-130
Benzo[j]fluoranthene/ Benzo[k]fluoranthene	1.05	U	55.9	106	58.0	110	4	30	50-130
Benzo[a]pyrene	1.05	U	48.6	92	50.8	96	4	30	50-130
Indeno[1,2,3-cd]pyrene	1.05	U	46.2	88	48.4	92	5	30	50-130
Dibenz[ah]anthracene/ Dibenz[ac]anthracene	1.05	U	47.3	90	48.2	92	2	30	50-130
Benzo[g,h,i]perylene	1.05	U	46.4	88	47.2	90	2	30	50-130

Surrogate	% Recovery		Acceptance Range (%)
Naphthalene-d8	86	90	50-130
Phenanthrene-d10	102	106	50-130
Benzo[a]pyrene-d12	83	86	50-130
5B(H)Cholane	114	112	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

04/04/16 15:47

Form I
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SS032516LCS02**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result		Parameter	Result	
cis/trans-Decalin	1.05	U	C1-Dibenzothiophenes	1.05	U
C1-Decalins	1.05	U	C2-Dibenzothiophenes	1.05	U
C2-Decalins	1.05	U	C3-Dibenzothiophenes	1.05	U
C3-Decalins	1.05	U	C4-Dibenzothiophenes	1.05	U
C4-Decalins	1.05	U	Benzo(b)fluorene	1.05	U
Benzothiophene	1.05	U	Fluoranthene	**53.0**	S
C1-Benzo(b)thiophenes	1.05	U	Pyrene	**49.5**	S
C2-Benzo(b)thiophenes	1.05	U	C1-Fluoranthenes/Pyrenes	1.05	U
C3-Benzo(b)thiophenes	1.05	U	C2-Fluoranthenes/Pyrenes	1.05	U
C4-Benzo(b)thiophenes	1.05	U	C3-Fluoranthenes/Pyrenes	1.05	U
Naphthalene	**43.8**	S	C4-Fluoranthenes/Pyrenes	1.05	U
C1-Naphthalenes	1.05	U	Naphthobenzothiophenes	1.05	U
C2-Naphthalenes	1.05	U	C1-Naphthobenzothiophenes	1.05	U
C3-Naphthalenes	1.05	U	C2-Naphthobenzothiophenes	1.05	U
C4-Naphthalenes	1.05	U	C3-Naphthobenzothiophenes	1.05	U
Biphenyl	1.05	U	C4-Naphthobenzothiophenes	1.05	U
Dibenzofuran	1.05	U	Benz[a]anthracene	**50.9**	S
Acenaphthylene	**44.2**	S	Chrysene/Triphenylene	**51.5**	S
Acenaphthene	**46.8**	S	C1-Chrysenes	1.05	U
Fluorene	**48.8**	S	C2-Chrysenes	1.05	U
C1-Fluorenes	1.05	U	C3-Chrysenes	1.05	U
C2-Fluorenes	1.05	U	C4-Chrysenes	1.05	U
C3-Fluorenes	1.05	U	Benzo[b]fluoranthene	**51.5**	S
Anthracene	**52.7**	S	Benzo[j]fluoranthene/Benzo[k]fluoranthene	**55.9**	S
Phenanthrene	**49.9**	S	Benzo[a]fluoranthene	1.05	U
C1-Phenanthrenes/Anthracenes	1.05	U	Benzo[e]pyrene	1.05	U
C2-Phenanthrenes/Anthracenes	1.05	U	Benzo[a]pyrene	**48.6**	S
C3-Phenanthrenes/Anthracenes	1.05	U	Perylene	1.05	U
C4-Phenanthrenes/Anthracenes	1.05	U	Indeno[1,2,3-cd]pyrene	**46.2**	S
Retene	1.05	U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	**47.3**	S
Dibenzothiophene	1.05	U	Benzo[g,h,i]perylene	**46.4**	S

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	86	50-130
Phenanthrene-d10	102	50-130
Benzo[a]pyrene-d12	83	50-130

S - Spike compound.
U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

04/04/16 15:44

Form I
Carbazole

Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SS032516LCS02**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result
Carbazole	1.05 U

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	86	50-130
Phenanthrene-d10	102	50-130
Benzo[a]pyrene-d12	83	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

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Form I
Polynuclear Aromatic Hydrocarbons Isomers

Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SS032516LCS02**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result	
4-Methyldibenzothiophene	1.05	U
2/3-Methyldibenzothiophene	1.05	U
1-Methyldibenzothiophene	1.05	U
3-Methylphenanthrene	1.05	U
2-Methylphenanthrene	1.05	U
2-Methylanthracene	1.05	U
9/4-Methylphenanthrene	1.05	U
1-Methylphenanthrene	1.05	U

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	86	50-130
Phenanthrene-d10	102	50-130
Benzo[a]pyrene-d12	83	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

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Form I
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SS032516LCS02**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result		Parameter	Result	
C23 Tricyclic Terpane	1.05	U	30,31-Trishomohopane-22S	1.05	U
C24 Tricyclic Terpane	1.05	U	30,31-Trishomohopane-22R	1.05	U
C25 Tricyclic Terpane	1.05	U	Tetrakishomohopane-22S	1.05	U
C24 Tetracyclic Terpane	1.05	U	Tetrakishomohopane-22R	1.05	U
C26 Tricyclic Terpane-22S	1.05	U	Pentakishomohopane-22S	1.05	U
C26 Tricyclic Terpane-22R	1.05	U	Pentakishomohopane-22R	1.05	U
C28 Tricyclic Terpane-22S	1.05	U	13b(H),17a(H)-20S-Diacholestane	1.05	U
C28 Tricyclic Terpane-22R	1.05	U	13b(H),17a(H)-20R-Diacholestane	1.05	U
C29 Tricyclic Terpane-22S	1.05	U	13b,17a-20S-Methyldiacholestane	1.05	U
C29 Tricyclic Terpane-22R	1.05	U	14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	1.05	U
18a-22,29,30-Trisnorneohopane-TS	1.05	U	14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	1.05	U
C30 Tricyclic Terpane-22S	1.05	U	Unknown Sterane (S18)	1.05	U
C30 Tricyclic Terpane-22R	1.05	U	13a,17b-20S-Ethyldiacholestane	1.05	U
17a(H)-22,29,30-Trisnorhopane-TM	1.05	U	14a,17a-20S-Methylcholestane	1.05	U
17a/b,21b/a 28,30-Bisnorhopane	1.05	U	14a,17a-20R-Methylcholestane	1.05	U
17a(H),21b(H)-25-Norhopane	1.05	U	14a(H),17a(H)-20S-Ethylcholestane	1.05	U
30-Norhopane	1.05	U	14a(H),17a(H)-20R-Ethylcholestane	1.05	U
18a(H)-30-Norneohopane-C29Ts	1.05	U	14b(H),17b(H)-20R-Cholestane	1.05	U
17a(H)-Diahopane	1.05	U	14b(H),17b(H)-20S-Cholestane	1.05	U
30-Normoretane	1.05	U	14b,17b-20R-Methylcholestane	1.05	U
18a(H)&18b(H)-Oleananes	1.05	U	14b,17b-20S-Methylcholestane	1.05	U
Hopane	1.05	U	14b(H),17b(H)-20R-Ethylcholestane	1.05	U
Moretane	1.05	U	14b(H),17b(H)-20S-Ethylcholestane	1.05	U
30-Homohopane-22S	1.05	U	C26,20R- +C27,20S- triaromatic steroid	1.05	U
30-Homohopane-22R	1.05	U	C28,20S-triaromatic steroid	1.05	U
T22a-Gammacerane/C32-diahopane	1.05	U	C27,20R-triaromatic steroid	1.05	U
30,31-Bishomohopane-22S	1.05	U	C28,20R-triaromatic steroid	1.05	U
30,31-Bishomohopane-22R	1.05	U			

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	114	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

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Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291607.D
Acq On : 29 Mar 2016 5:35 pm
Operator : PAH2:gy
Sample : SS032516LCS02
Misc : 1x,SS032516,etr:1603006
ALS Vial : 7 Sample Multiplier: 1

MAL 4/4/16

Quant Time: Apr 04 13:32:57 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.452	164	101271	500.000	ng/mL	-0.02
71) Chrysene-d12	42.922	240	178679	500.000	ng/mL	0.00
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	168771	432.458	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 43.25%#			
40) Phenanthrene-d10	32.323	188	164566	511.711	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 51.17%			
80) Benzo[b]fluoranthene-d12	46.837	264	191748	477.717	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 47.77%#			
85) Benzo[a]pyrene-d12	48.012	264	145278	413.766	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery = 41.38%#			
126) 5B(H)Cholane - Surr	43.555	217	33346	567.921	ng/ml	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery = 56.79%			
Target Compounds						Qvalue
9) Naphthalene	19.557	128	168205	416.115	ng/mL	100
14) 2-Methylnaphthalene	22.267	142	117984	435.798	ng/mL	100
24) Acenaphthylene	25.835	152	169526M4	420.420	ng/mL	
25) Acenaphthene	26.572	153	111176	444.474	ng/mL	99
27) Fluorene	28.590	166	135443	463.950	ng/mL	99
41) Phenanthrene	32.413	178	195541	473.779	ng/mL	99
53) Anthracene	32.594	178	187663M4	501.003	ng/mL	
56) Fluoranthene	37.186	202	212330M4	503.953	ng/mL	
58) Pyrene	38.074	202	218393	470.100	ng/mL	98
72) Benz[a]anthracene	42.862	228	207491	483.417	ng/mL	100
74) Chrysene/Triphenylene	43.028	228	210686	489.176	ng/mL	99
81) Benzo[b]fluoranthene	46.913	252	233955	489.380	ng/mL	98
82) Benzo[j]+[k]fluoranthene	47.003	252	255662	531.237	ng/mL	97
86) Benzo[a]pyrene	48.087	252	216935	462.174	ng/mL	99
88) Indeno[1,2,3-cd]pyrene	52.801	276	230844M3	438.917	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.876	278	235822	449.573	ng/mL	99
90) Benzo[g,h,i]perylene	54.081	276	246865	440.585	ng/mL	100

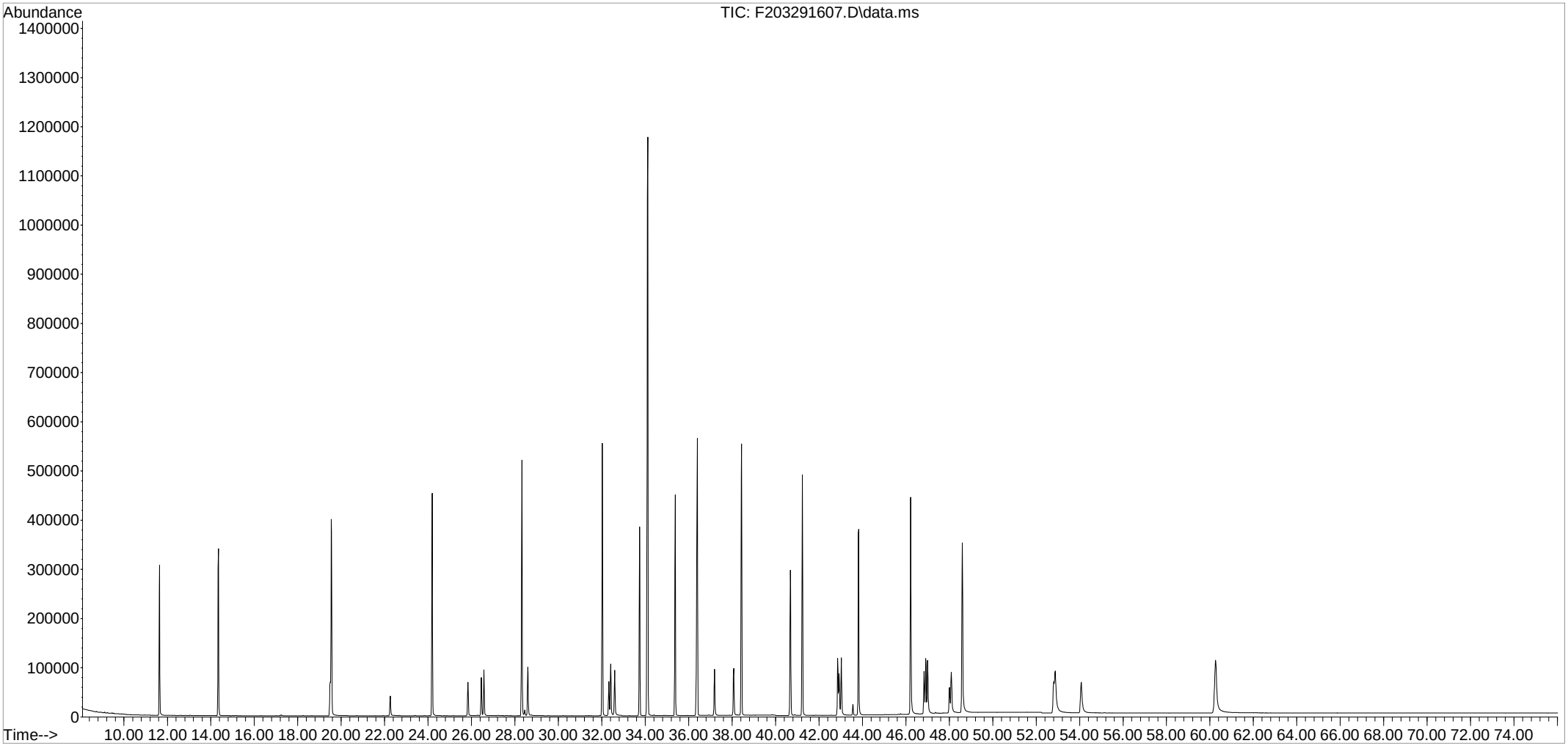
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291607.D
Acq On : 29 Mar 2016 5:35 pm
Operator : PAH2:gy
Sample : SS032516LCS02
Misc : 1x,SS032516,etr:1603006
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 04 13:32:57 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample Dup**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SS032516LCSD02**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result		Parameter	Result	
cis/trans-Decalin	1.05	U	C1-Dibenzothiophenes	1.05	U
C1-Decalins	1.05	U	C2-Dibenzothiophenes	1.05	U
C2-Decalins	1.05	U	C3-Dibenzothiophenes	1.05	U
C3-Decalins	1.05	U	C4-Dibenzothiophenes	1.05	U
C4-Decalins	1.05	U	Benzo(b)fluorene	1.05	U
Benzothiophene	1.05	U	Fluoranthene	**53.7**	S
C1-Benzo(b)thiophenes	1.05	U	Pyrene	**51.4**	S
C2-Benzo(b)thiophenes	1.05	U	C1-Fluoranthenes/Pyrenes	1.05	U
C3-Benzo(b)thiophenes	1.05	U	C2-Fluoranthenes/Pyrenes	1.05	U
C4-Benzo(b)thiophenes	1.05	U	C3-Fluoranthenes/Pyrenes	1.05	U
Naphthalene	**46.2**	S	C4-Fluoranthenes/Pyrenes	1.05	U
C1-Naphthalenes	1.05	U	Naphthobenzothiophenes	1.05	U
C2-Naphthalenes	1.05	U	C1-Naphthobenzothiophenes	1.05	U
C3-Naphthalenes	1.05	U	C2-Naphthobenzothiophenes	1.05	U
C4-Naphthalenes	1.05	U	C3-Naphthobenzothiophenes	1.05	U
Biphenyl	1.05	U	C4-Naphthobenzothiophenes	1.05	U
Dibenzofuran	1.05	U	Benz[a]anthracene	**51.8**	S
Acenaphthylene	**46.8**	S	Chrysene/Triphenylene	**53.5**	S
Acenaphthene	**48.6**	S	C1-Chrysenes	1.05	U
Fluorene	**50.3**	S	C2-Chrysenes	1.05	U
C1-Fluorenes	1.05	U	C3-Chrysenes	1.05	U
C2-Fluorenes	1.05	U	C4-Chrysenes	1.05	U
C3-Fluorenes	1.05	U	Benzo[b]fluoranthene	**51.8**	S
Anthracene	**54.5**	S	Benzo[j]fluoranthene/Benzo[k]fluoranthene	**58.0**	S
Phenanthrene	**52.1**	S	Benzo[a]fluoranthene	1.05	U
C1-Phenanthrenes/Anthracenes	1.05	U	Benzo[e]pyrene	1.05	U
C2-Phenanthrenes/Anthracenes	1.05	U	Benzo[a]pyrene	**50.8**	S
C3-Phenanthrenes/Anthracenes	1.05	U	Perylene	1.05	U
C4-Phenanthrenes/Anthracenes	1.05	U	Indeno[1,2,3-cd]pyrene	**48.4**	S
Retene	1.05	U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	**48.2**	S
Dibenzothiophene	1.05	U	Benzo[g,h,i]perylene	**47.2**	S

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	90	50-130
Phenanthrene-d10	106	50-130
Benzo[a]pyrene-d12	86	50-130

S - Spike compound.
U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

04/04/16 15:44

Form I
Carbazole

Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample Dup**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SS032516LCSD02**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result
Carbazole	1.05 U

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	90	50-130
Phenanthrene-d10	106	50-130
Benzo[a]pyrene-d12	86	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

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Form I
Polynuclear Aromatic Hydrocarbons Isomers

Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample Dup**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SS032516LCSD02**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result
4-Methyldibenzothiophene	1.05 U
2/3-Methyldibenzothiophene	1.05 U
1-Methyldibenzothiophene	1.05 U
3-Methylphenanthrene	1.05 U
2-Methylphenanthrene	1.05 U
2-Methylanthracene	1.05 U
9/4-Methylphenanthrene	1.05 U
1-Methylphenanthrene	1.05 U

Surrogate	% Recovery	Acceptance Range (%)
Naphthalene-d8	90	50-130
Phenanthrene-d10	106	50-130
Benzo[a]pyrene-d12	86	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

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Form I
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample Dup**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SS032516LCSD02**
Associated Blank: **SS032516B02**
Concentration Units: **µg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	GY

Parameter	Result		Parameter	Result	
C23 Tricyclic Terpane	1.05	U	30,31-Trishomohopane-22S	1.05	U
C24 Tricyclic Terpane	1.05	U	30,31-Trishomohopane-22R	1.05	U
C25 Tricyclic Terpane	1.05	U	Tetrakishomohopane-22S	1.05	U
C24 Tetracyclic Terpane	1.05	U	Tetrakishomohopane-22R	1.05	U
C26 Tricyclic Terpane-22S	1.05	U	Pentakishomohopane-22S	1.05	U
C26 Tricyclic Terpane-22R	1.05	U	Pentakishomohopane-22R	1.05	U
C28 Tricyclic Terpane-22S	1.05	U	13b(H),17a(H)-20S-Diacholestane	1.05	U
C28 Tricyclic Terpane-22R	1.05	U	13b(H),17a(H)-20R-Diacholestane	1.05	U
C29 Tricyclic Terpane-22S	1.05	U	13b,17a-20S-Methyldiacholestane	1.05	U
C29 Tricyclic Terpane-22R	1.05	U	14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	1.05	U
18a-22,29,30-Trisnorneohopane-TS	1.05	U	14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	1.05	U
C30 Tricyclic Terpane-22S	1.05	U	Unknown Sterane (S18)	1.05	U
C30 Tricyclic Terpane-22R	1.05	U	13a,17b-20S-Ethyldiacholestane	1.05	U
17a(H)-22,29,30-Trisnorhopane-TM	1.05	U	14a,17a-20S-Methylcholestane	1.05	U
17a/b,21b/a 28,30-Bisnorhopane	1.05	U	14a,17a-20R-Methylcholestane	1.05	U
17a(H),21b(H)-25-Norhopane	1.05	U	14a(H),17a(H)-20S-Ethylcholestane	1.05	U
30-Norhopane	1.05	U	14a(H),17a(H)-20R-Ethylcholestane	1.05	U
18a(H)-30-Norneohopane-C29Ts	1.05	U	14b(H),17b(H)-20R-Cholestane	1.05	U
17a(H)-Diahopane	1.05	U	14b(H),17b(H)-20S-Cholestane	1.05	U
30-Normoretane	1.05	U	14b,17b-20R-Methylcholestane	1.05	U
18a(H)&18b(H)-Oleananes	1.05	U	14b,17b-20S-Methylcholestane	1.05	U
Hopane	1.05	U	14b(H),17b(H)-20R-Ethylcholestane	1.05	U
Moretane	1.05	U	14b(H),17b(H)-20S-Ethylcholestane	1.05	U
30-Homohopane-22S	1.05	U	C26,20R- +C27,20S- triaromatic steroid	1.05	U
30-Homohopane-22R	1.05	U	C28,20S-triaromatic steroid	1.05	U
T22a-Gammacerane/C32-diahopane	1.05	U	C27,20R-triaromatic steroid	1.05	U
30,31-Bishomohopane-22S	1.05	U	C28,20R-triaromatic steroid	1.05	U
30,31-Bishomohopane-22R	1.05	U			

Surrogate	% Recovery	Acceptance Range (%)
5B(H)Cholane	112	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

04/04/16 15:44

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291608.D
Acq On : 29 Mar 2016 7:03 pm
Operator : PAH2:gy
Sample : SS032516LCSD02
Misc : 1x,SS032516,etr:1603006
ALS Vial : 8 Sample Multiplier: 1

MAL 4/4/16

Quant Time: Apr 04 13:33:05 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.452	164	101556	500.000	ng/mL	-0.02
71) Chrysene-d12	42.922	240	178635	500.000	ng/mL	0.00
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	177017	452.314	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 45.23%#			
40) Phenanthrene-d10	32.323	188	170934	530.021	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 53.00%			
80) Benzo[b]fluoranthene-d12	46.837	264	196387	489.395	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 48.94%#			
85) Benzo[a]pyrene-d12	48.012	264	151548	431.730	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery = 43.17%#			
126) 5B(H)Cholane - Surr	43.570	217	32996	562.098	ng/ml	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 56.21%			
Target Compounds						Qvalue
9) Naphthalene	19.572	128	178058	439.254	ng/mL	100
14) 2-Methylnaphthalene	22.267	142	124773	459.581	ng/mL	100
24) Acenaphthylene	25.835	152	179701M4	444.403	ng/mL	
25) Acenaphthene	26.572	153	115780	461.582	ng/mL	100
27) Fluorene	28.590	166	139867	477.759	ng/mL	99
41) Phenanthrene	32.413	178	205027	495.369	ng/mL	98
53) Anthracene	32.594	178	194597M4	518.057	ng/mL	
56) Fluoranthene	37.186	202	215493	510.025	ng/mL	99
58) Pyrene	38.074	202	227419	488.155	ng/mL	97
72) Benz[a]anthracene	42.862	228	211102	491.952	ng/mL	99
74) Chrysene/Triphenylene	43.028	228	218685	507.874	ng/mL	99
81) Benzo[b]fluoranthene	46.928	252	235015	491.719	ng/mL	99
82) Benzo[j]+[k]fluoranthene	47.003	252	265109	551.003	ng/mL	97
86) Benzo[a]pyrene	48.087	252	226419	482.498	ng/mL	99
88) Indeno[1,2,3-cd]pyrene	52.801	276	241892M3	460.036	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.876	278	240068	457.781	ng/mL	99
90) Benzo[g,h,i]perylene	54.066	276	251127	448.302	ng/mL	100

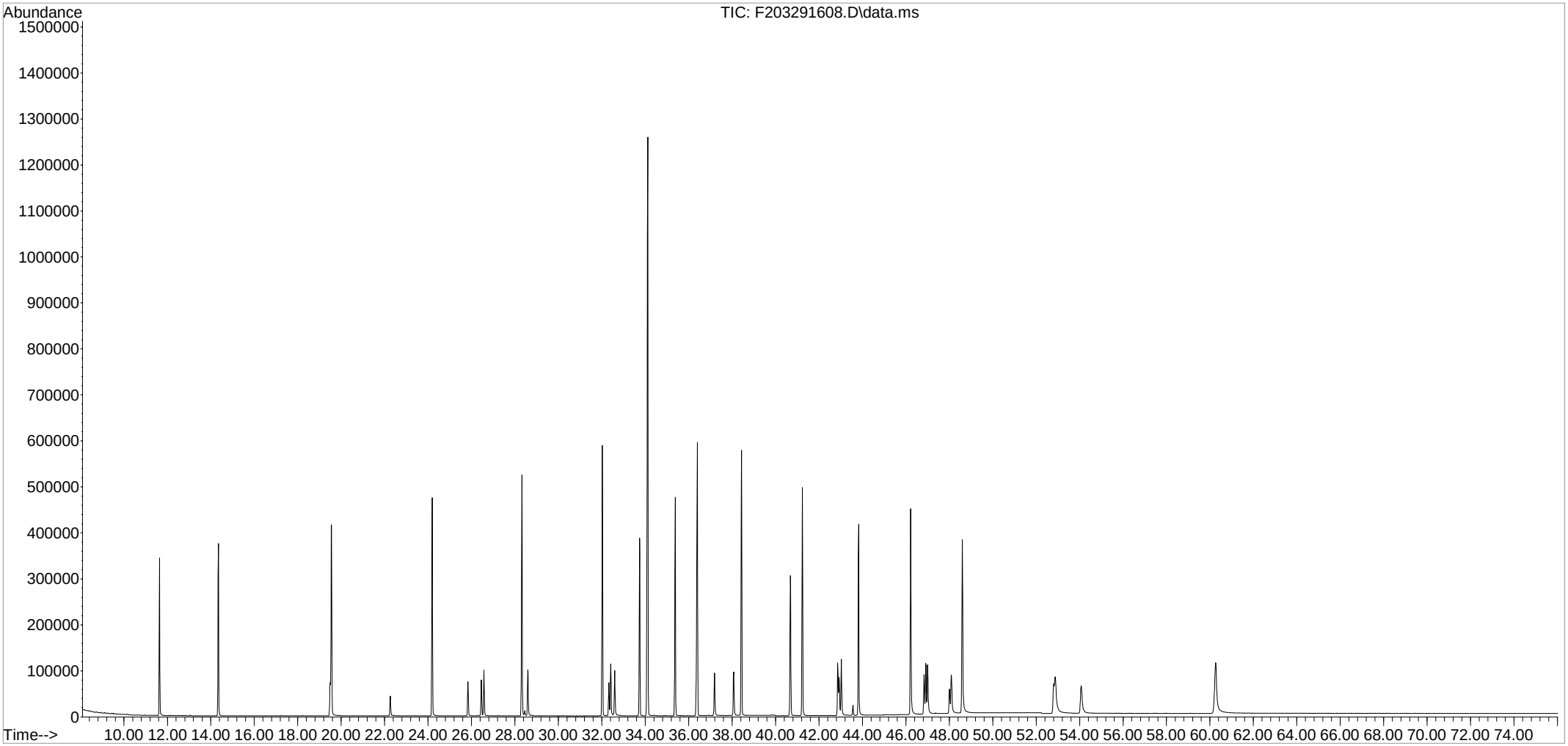
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291608.D
Acq On : 29 Mar 2016 7:03 pm
Operator : PAH2:gy
Sample : SS032516LCSD02
Misc : 1x,SS032516,etr:1603006
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 04 13:33:05 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : PIOB_ALTNEW_REV2 - PIOB+5 SURROGATES



Form III
Spike Recovery Summary
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **Alaska North Slope Crude**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SO022116ANC01**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	N/A	100	AC

Parameter	True Conc.	Conc.	% Recovery	% Recovery Limits
cis/trans-Decalin	479.2	526	110	65-135
C1-Decalins	728.9	818	112	65-135
C2-Decalins	635.5	740	117	65-135
C3-Decalins	329.8	387	117	65-135
C4-Decalins	326.5	340	104	65-135
Benzothiophene	5.4	6.18	115	65-135
C1-Benzo(b)thiophenes	28.9	36.1	125	65-135
C2-Benzo(b)thiophenes	49.6	53.2	107	65-135
C3-Benzo(b)thiophenes	99.0	110	111	65-135
C4-Benzo(b)thiophenes	87.1	94.8	109	65-135
Naphthalene	555.8	602	108	65-135
C1-Naphthalenes	1167.3	1310	112	65-135
C2-Naphthalenes	1409.7	1580	112	65-135
C3-Naphthalenes	1035.9	1140	110	65-135
C4-Naphthalenes	561.1	619	110	65-135
Biphenyl	145.7	146	101	65-135
Dibenzofuran	51.2	50.5	99	65-135
Acenaphthylene	6.5	6.56	101	65-135
Acenaphthene	18.7	16.1	86	65-135
Fluorene	74.6	74.2	99	65-135
C1-Fluorenes	170.2	168	98	65-135
C2-Fluorenes	255.4	254	100	65-135
C3-Fluorenes	238.5	234	98	65-135
Phenanthrene	212.2	196	92	65-135
C1-Phenanthrenes/Anthracenes	432.7	410	95	65-135
C2-Phenanthrenes/Anthracenes	465.9	454	98	65-135
C3-Phenanthrenes/Anthracenes	317.4	319	100	65-135
C4-Phenanthrenes/Anthracenes	129	135	104	65-135
Dibenzothiophene	138.9	134	97	65-135
C1-Dibenzothiophenes	278.6	292	105	65-135
C2-Dibenzothiophenes	377.5	399	106	65-135
C3-Dibenzothiophenes	341.4	365	107	65-135
C4-Dibenzothiophenes	183.4	194	106	65-135

Form III
Spike Recovery Summary
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **Alaska North Slope Crude**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SO022116ANC01**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	N/A	100	AC

Parameter	True Conc.	Conc.	% Recovery	% Recovery Limits
Fluoranthene	4.00	4.00	100	65-135
Pyrene	13.0	11.7	90	65-135
C1-Fluoranthenes/Pyrenes	63.1	54.6	87	65-135
C2-Fluoranthenes/Pyrenes	102.2	91.6	90	65-135
C3-Fluoranthenes/Pyrenes	119.6	114	95	65-135
C4-Fluoranthenes/Pyrenes	104	99.3	95	65-135
Naphthobenzothiophenes	43.8	38.1	87	65-135
C1-Naphthobenzothiophenes	117.2	104	89	65-135
C2-Naphthobenzothiophenes	163.3	153	94	65-135
C3-Naphthobenzothiophenes	128.7	125	97	65-135
C4-Naphthobenzothiophenes	89.0	89.6	101	65-135
Benz[a]anthracene	2.1	2.27	108	65-135
Chrysene/Triphenylene	35.2	38.9	110	65-135
C1-Chrysenes	62.8	71.7	114	65-135
C2-Chrysenes	86.0	95.1	111	65-135
C3-Chrysenes	97.6	115	118	65-135
C4-Chrysenes	59.4	66.8	113	65-135
Benzo[b]fluoranthene	5.2	5.22	100	65-135
Benzo[e]pyrene	9.8	10.3	105	65-135
Benzo[a]pyrene	1.9	1.57	82	65-135
Perylene	2.8	2.82	101	65-135
Benzo[g,h,i]perylene	3.1	3.21	103	65-135

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

04/04/16 16:13

Form III
Spike Recovery Summary
Carbazole

Client: **NewFields**
Project: **Flint Street**
Client ID: **Alaska North Slope Crude**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SO022116ANC01**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	N/A	100	AC

Parameter	True Conc.	Conc.	% Recovery	% Recovery Limits
Carbazole	6.00	5.64	94	65-135

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

04/04/16 16:13

Form III
Spike Recovery Summary
Polynuclear Aromatic Hydrocarbons Isomers

Client: **NewFields**
Project: **Flint Street**
Client ID: **Alaska North Slope Crude**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SO022116ANC01**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	N/A	100	AC

Parameter	True Conc.	Conc.	% Recovery	% Recovery Limits
4-Methyldibenzothiophene	131.8	141	107	65-135
2/3-Methyldibenzothiophene	97.5	101	104	65-135
1-Methyldibenzothiophene	44.2	43.5	98	65-135
3-Methylphenanthrene	89.4	84.0	94	65-135
2-Methylphenanthrene	97.7	92.6	95	65-135
2-Methylanthracene	3.2	2.83	89	65-135
9/4-Methylphenanthrene	141.2	134	95	65-135
1-Methylphenanthrene	97.4	94.7	97	65-135

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

04/04/16 16:13

Form III
Spike Recovery Summary
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **Alaska North Slope Crude**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SO022116ANC01**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	N/A	100	AC

Parameter	True Conc.	Conc.	% Recovery	% Recovery Limits
C23 Tricyclic Terpane	67.3	72.2	107	65-135
C24 Tricyclic Terpane	43.0	49.6	115	65-135
C25 Tricyclic Terpane	42.0	44.3	106	65-135
C24 Tetracyclic Terpane	14.8	15.7	106	65-135
C26 Tricyclic Terpane-22S	17.7	18.1	102	65-135
C26 Tricyclic Terpane-22R	15.4	16.1	104	65-135
C28 Tricyclic Terpane-22S	16.8	17.2	102	65-135
C28 Tricyclic Terpane-22R	18.1	18.6	103	65-135
C29 Tricyclic Terpane-22S	20.8	21.1	101	65-135
C29 Tricyclic Terpane-22R	22.6	21.8	97	65-135
18a-22,29,30-Trisnorneohopane-TS	31.3	30.7	98	65-135
C30 Tricyclic Terpane-22S	16.2	18.4	113	65-135
C30 Tricyclic Terpane-22R	16.4	17.7	108	65-135
17a(H)-22,29,30-Trisnorhopane-TM	37.8	36.4	96	65-135
17a/b,21b/a 28,30-Bisnorhopane	7.00	7.98	114	65-135
17a(H),21b(H)-25-Norhopane	8.7	8.91	102	65-135
30-Norhopane	99.7	106	106	65-135
18a(H)-30-Norneohopane-C29Ts	25.2	26.0	103	65-135
17a(H)-Diahopane	14.2	15.1	107	65-135
30-Normoretane	11.6	12.0	103	65-135
Hopane	173.6	184	106	65-135
Moretane	17.5	16.6	95	65-135
30-Homohopane-22S	75.1	74.5	99	65-135
30-Homohopane-22R	64.1	63.9	100	65-135
30,31-Bishomohopane-22S	53.6	53.5	100	65-135
30,31-Bishomohopane-22R	39.6	39.0	98	65-135
30,31-Trishomohopane-22S	41.8	42.5	102	65-135
30,31-Trishomohopane-22R	27.2	29.2	107	65-135
Tetrakishomohopane-22S	29.8	29.9	100	65-135
Tetrakishomohopane-22R	21.2	20.6	97	65-135
Pentakishomohopane-22S	30.2	30.9	102	65-135
Pentakishomohopane-22R	23.5	24.6	105	65-135
13b(H),17a(H)-20S-Diacholestane	50.0	55.8	112	65-135

Form III
Spike Recovery Summary
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **Alaska North Slope Crude**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SO022116ANC01**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	N/A	100	AC

Parameter	True Conc.	Conc.	% Recovery	% Recovery Limits
13b(H),17a(H)-20R-Diacholestane	26.3	26.8	102	65-135
13b,17a-20S-Methyldiacholestane	25.7	23.9	93	65-135
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	65.0	69.2	107	65-135
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	75.8	76.1	100	65-135
Unknown Sterane (S18)	21.3	21.5	101	65-135
13a,17b-20S-Ethyldiacholestane	3.9	5.07	130	65-135
14a,17a-20S-Methylcholestane	37.3	38.6	103	65-135
14a,17a-20R-Methylcholestane	34.5	33.4	97	65-135
14a(H),17a(H)-20S-Ethylcholestane	51.0	43.3	85	65-135
14a(H),17a(H)-20R-Ethylcholestane	39.5	40.7	103	65-135
14b(H),17b(H)-20R-Cholestane	41.5	45.6	110	65-135
14b(H),17b(H)-20S-Cholestane	42.5	46.7	110	65-135
14b,17b-20R-Methylcholestane	44.8	47.1	105	65-135
14b,17b-20S-Methylcholestane	55.4	58.9	106	65-135
14b(H),17b(H)-20R-Ethylcholestane	60.9	67.1	110	65-135
14b(H),17b(H)-20S-Ethylcholestane	40.3	42.5	105	65-135
C26,20R- +C27,20S- triaromatic steroid	293.9	326	111	65-135
C28,20S-triaromatic steroid	187.6	207	110	65-135
C27,20R-triaromatic steroid	180.2	200	111	65-135
C28,20R-triaromatic steroid	150.5	171	113	65-135

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

04/04/16 16:13

Form I
Alaska North Slope Crude
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**
Client ID: **Alaska North Slope Crude**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SO022116ANC01**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	N/A	01/17/16	100	0.05436	10	1	AC

Parameter	Result		Parameter	Result	
cis/trans-Decalin	**526**		C1-Dibenzothiophenes	**292**	
C1-Decalins	**818**		C2-Dibenzothiophenes	**399**	
C2-Decalins	**740**		C3-Dibenzothiophenes	**365**	
C3-Decalins	**387**		C4-Dibenzothiophenes	**194**	
C4-Decalins	**340**		Benzo(b)fluorene	**5.67**	
Benzothiophene	**6.18**		Fluoranthene	**4.00**	
C1-Benzo(b)thiophenes	**36.1**		Pyrene	**11.7**	
C2-Benzo(b)thiophenes	**53.2**		C1-Fluoranthenes/Pyrenes	**54.6**	
C3-Benzo(b)thiophenes	**110**		C2-Fluoranthenes/Pyrenes	**91.6**	
C4-Benzo(b)thiophenes	**94.8**		C3-Fluoranthenes/Pyrenes	**114**	
Naphthalene	**602**		C4-Fluoranthenes/Pyrenes	**99.3**	
C1-Naphthalenes	**1310**		Naphthobenzothiophenes	**38.1**	
C2-Naphthalenes	**1580**		C1-Naphthobenzothiophenes	**104**	
C3-Naphthalenes	**1140**		C2-Naphthobenzothiophenes	**153**	
C4-Naphthalenes	**619**		C3-Naphthobenzothiophenes	**125**	
Biphenyl	**146**		C4-Naphthobenzothiophenes	**89.6**	
Dibenzofuran	**50.5**		Benz[a]anthracene	**2.27**	
Acenaphthylene	**6.56**		Chrysene/Triphenylene	**38.9**	
Acenaphthene	**16.1**		C1-Chrysenes	**71.7**	
Fluorene	**74.2**		C2-Chrysenes	**95.1**	
C1-Fluorenes	**168**		C3-Chrysenes	**115**	
C2-Fluorenes	**254**		C4-Chrysenes	**66.8**	
C3-Fluorenes	**234**		Benzo[b]fluoranthene	**5.22**	
Anthracene	1.84	U	Benzo[j]fluoranthene/Benzo[k]fluoranthene	1.84	U
Phenanthrene	**196**		Benzo[a]fluoranthene	1.84	U
C1-Phenanthrenes/Anthracenes	**410**		Benzo[e]pyrene	**10.3**	
C2-Phenanthrenes/Anthracenes	**454**		Benzo[a]pyrene	**1.57**	J
C3-Phenanthrenes/Anthracenes	**319**		Perylene	**2.82**	
C4-Phenanthrenes/Anthracenes	**135**		Indeno[1,2,3-cd]pyrene	**0.780**	J
Retene	1.84	U	Dibenz[ah]anthracene/Dibenz[ac]anthracene	**0.749**	J
Dibenzothiophene	**134**		Benzo[g,h,i]perylene	**3.21**	

U - The analyte was analyzed for but not detected at the sample specific level reported.
J - Estimated value, below quantitation limit.
N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Alaska North Slope Crude
Carbazole

Client: **NewFields**
Project: **Flint Street**
Client ID: **Alaska North Slope Crude**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SO022116ANC01**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	N/A	01/17/16	100	0.05436	10	1	AC

Parameter	Result
Carbazole	**5.64**

N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Alaska North Slope Crude
Polynuclear Aromatic Hydrocarbons Isomers

Client: **NewFields**
Project: **Flint Street**
Client ID: **Alaska North Slope Crude**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SO022116ANC01**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	N/A	01/17/16	100	0.05436	10	1	AC

Parameter	Result
4-Methyldibenzothiophene	**141**
2/3-Methyldibenzothiophene	**101**
1-Methyldibenzothiophene	**43.5**
3-Methylphenanthrene	**84.0**
2-Methylphenanthrene	**92.6**
2-Methylanthracene	**2.83**
9/4-Methylphenanthrene	**134**
1-Methylphenanthrene	**94.7**

N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form I
Alaska North Slope Crude
Steranes and Triterpanes

Client: **NewFields**
Project: **Flint Street**
Client ID: **Alaska North Slope Crude**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SO022116ANC01**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	N/A	01/17/16	100	0.05436	10	1	AC

Parameter	Result
C23 Tricyclic Terpane	**72.2**
C24 Tricyclic Terpane	**49.6**
C25 Tricyclic Terpane	**44.3**
C24 Tetracyclic Terpane	**15.7**
C26 Tricyclic Terpane-22S	**18.1**
C26 Tricyclic Terpane-22R	**16.1**
C28 Tricyclic Terpane-22S	**17.2**
C28 Tricyclic Terpane-22R	**18.6**
C29 Tricyclic Terpane-22S	**21.1**
C29 Tricyclic Terpane-22R	**21.8**
18a-22,29,30-Trisnorneohopane-TS	**30.7**
C30 Tricyclic Terpane-22S	**18.4**
C30 Tricyclic Terpane-22R	**17.7**
17a(H)-22,29,30-Trisnorhopane-TM	**36.4**
17a/b,21b/a 28,30-Bisnorhopane	**7.98**
17a(H),21b(H)-25-Norhopane	**8.91**
30-Norhopane	**106**
18a(H)-30-Norneohopane-C29Ts	**26.0**
17a(H)-Diahopane	**15.1**
30-Normoretane	**12.0**
18a(H)&18b(H)-Oleananes	**2.87**
Hopane	**184**
Moretane	**16.6**
30-Homohopane-22S	**74.5**
30-Homohopane-22R	**63.9**
T22a-Gammacerane/C32-diahopane	**12.9**
30,31-Bishomohopane-22S	**53.5**
30,31-Bishomohopane-22R	**39.0**

Parameter	Result
30,31-Trishomohopane-22S	**42.5**
30,31-Trishomohopane-22R	**29.2**
Tetrakishomohopane-22S	**29.9**
Tetrakishomohopane-22R	**20.6**
Pentakishomohopane-22S	**30.9**
Pentakishomohopane-22R	**24.6**
13b(H),17a(H)-20S-Diacholestane	**55.8**
13b(H),17a(H)-20R-Diacholestane	**26.8**
13b,17a-20S-Methyldiacholestane	**23.9**
14a(H),17a(H)-20S-Cholestane/ 13b(H),17a(H)-20S-Ethyldiacholestane (S12)	**69.2**
14a(H),17a(H)-20R-Cholestane/ 13b(H),17a(H)-20R-Ethyldiacholestane (S17)	**76.1**
Unknown Sterane (S18)	**21.5**
13a,17b-20S-Ethyldiacholestane	**5.07**
14a,17a-20S-Methylcholestane	**38.6**
14a,17a-20R-Methylcholestane	**33.4**
14a(H),17a(H)-20S-Ethylcholestane	**43.3**
14a(H),17a(H)-20R-Ethylcholestane	**40.7**
14b(H),17b(H)-20R-Cholestane	**45.6**
14b(H),17b(H)-20S-Cholestane	**46.7**
14b,17b-20R-Methylcholestane	**47.1**
14b,17b-20S-Methylcholestane	**58.9**
14b(H),17b(H)-20R-Ethylcholestane	**67.1**
14b(H),17b(H)-20S-Ethylcholestane	**42.5**
C26,20R- +C27,20S- triaromatic steroid	**326**
C28,20S-triaromatic steroid	**207**
C27,20R-triaromatic steroid	**200**
C28,20R-triaromatic steroid	**171**

N/A - Not Applicable

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071640.D
Acq On : 17 Jan 2016 2:08 am
Operator : PAH2:ac
Sample : SO022116ANC01
Misc : fraw54 5.436
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jan 20 17:45:26 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 18:15:49 2016
Response via : Initial Calibration

MJS
2-21-2016

Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.527	164	105723M4	500.000	ng/mL	0.00
71) Chrysene-d12	42.952	240	158684	500.000	ng/mL	0.00
System Monitoring Compounds						
8) Naphthalene-d8	19.572	136	387712	951.636	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 95.16%			
40) Phenanthrene-d10	32.383	188	301728	898.703	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 89.87%			
80) Benzo[b]fluoranthene-d12	46.852	264	326477	915.868	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery = 91.59%			
85) Benzo[a]pyrene-d12	48.012	264	306192	981.950	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery = 98.20%			
126) 5B(H)Cholane - Surr	43.585	217	60821	1166.374	ng/ml	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 116.64%			
Target Compounds						Qvalue
2) trans-Decalin	16.245	138	237657	2698.222	ng/mL	100
3) cis-Decalin	17.449	138	11149	161.845	ng/mL	100
4) C1-Decalins	18.172	152	391588M5	4445.866	ng/mL	
5) C2-Decalins	19.497	166	354512M5	4024.927	ng/mL	
6) C3-Decalins	21.966	180	185273M5	2103.484	ng/mL	
7) C4-Decalins	25.338	194	162879M5	1849.235	ng/mL	
9) Naphthalene	19.647	128	1381575	3273.894	ng/mL	100
10) C1-Naphthalenes	22.342	142	3009444M5	7131.426	ng/mL	
11) C2-Naphthalenes	25.172	156	3624765M5	8589.542	ng/mL	
12) C3-Naphthalenes	27.506	170	2609688M5	6184.132	ng/mL	
13) C4-Naphthalenes	30.276	184	1419114M5	3362.849	ng/mL	
14) 2-Methylnaphthalene	22.342	142	1771669	6268.448	ng/mL	100
15) 1-Methylnaphthalene	22.764	142	1242005	4508.021	ng/mL	100
16) Benzothiophene	19.873	134	11430M4	33.615	ng/mL	
17) C1-Benzo(b)thiophenes	21.905	148	66729M5	196.248	ng/mL	
18) C2-Benzo(b)thiophenes	25.368	162	98333M5	289.194	ng/mL	
19) C3-Benzo(b)thiophenes	27.340	176	202961M5	596.902	ng/mL	
20) C4-Benzo(b)thiophenes	29.086	190	175317M5	515.602	ng/mL	
21) Biphenyl	24.224	154	277742M4	796.517	ng/mL	
22) 2,6-Dimethylnaphthalene	24.841	156	898208	3570.195	ng/mL	100
23) Dibenzofuran	27.295	168	100347	274.396	ng/mL#	76
24) Acenaphthylene	25.925	152	15000M3	35.633	ng/mL	
25) Acenaphthene	26.663	153	22809M4	87.349	ng/mL	
26) 2,3,5-Trimethylnaphthalen	28.213	170	198130M3	891.997	ng/mL	
27) Fluorene	28.665	166	122949M4	403.418	ng/mL	
28) C1-Fluorenes	31.028	180	277701M5	911.187	ng/mL	
29) C2-Fluorenes	33.226	194	421149M5	1381.866	ng/mL	
30) C3-Fluorenes	35.048	208	388360M5	1274.279	ng/mL	
31) Dibenzothiophene	31.977	184	277243	730.151	ng/mL#	67
32) 4-Methyldibenzothiophene(	33.753	198	291527	767.769	ng/mL	100
33) 2/3-Methyldibenzothiophen	34.099	198	209337	551.313	ng/mL	100
34) 1-Methyldibenzothiophene(	34.521	198	89704	236.246	ng/mL	100
35) OTP	34.175	198	34074	89.738	ng/mL	100
36) C1-Dibenzothiophenes	33.753	198	636924M5	1677.411	ng/mL	
36) C1-Dibenzothiophenes BS	33.753	198	602850M5	1587.674	ng/mL	
37) C2-Dibenzothiophenes	35.439	212	823248M5	2168.117	ng/mL	
38) C3-Dibenzothiophenes	37.246	226	753663M5	1984.857	ng/mL	
39) C4-Dibenzothiophenes	38.932	240	399550M5	1052.260	ng/mL	
41) Phenanthrene	32.474	178	459061	1065.428	ng/mL	95

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071640.D
Acq On : 17 Jan 2016 2:08 am
Operator : PAH2:ac
Sample : SO022116ANC01
Misc : fraw54 5.436
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jan 20 17:45:26 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 18:15:49 2016
Response via : Initial Calibration

Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) 3-Methylphenanthrene(3MP)	34.431	192	196719	456.562	ng/mL	98
43) 2-Methylphenanthrene(2MP)	34.551	192	216957	503.532	ng/mL	98
44) 2-Methylanthracene(2MA)	34.702	192	6634M3	15.397	ng/mL	
45) 9/4-Methylphenanthrene(9M	34.882	192	314149	729.104	ng/mL	99
46) 1-Methylphenanthrene(1MP)	34.973	192	221863M4	514.919	ng/mL	
47) C1-Phenanthrenes/Anthrace	34.882	192	960747M5	2229.784	ng/mL	
48) C2-Phenanthrenes/Anthrace	36.704	206	1064441M5	2470.446	ng/mL	
48) C2-Phenanthrenes/Anthr BS	36.704	206	1064441M5	2470.446	ng/mL	
50) C3-Phenanthrenes/Anthrace	38.541	220	746677M5	1732.952	ng/mL	
51) C4-Phenanthrenes/Anthrace	40.709	234	315469M5	732.167	ng/mL	
54) Carbazole	33.317	167	12099M3	30.670	ng/mL	
55) 1-Methylphenanthrene	34.973	192	221711M4	725.567	ng/mL	
56) Fluoranthene	37.231	202	9560M4	21.735	ng/mL	
57) Benzo(b)fluorene	39.761	216	8821M3	30.808	ng/mL	
58) Pyrene	38.119	202	30759M4	63.422	ng/mL	
59) C1-Fluoranthenes/Pyrenes	39.505	216	144039M5	296.993	ng/mL	
60) C2-Fluoranthenes/Pyrenes	41.311	230	241495M5	497.938	ng/mL	
61) C3-Fluoranthenes/Pyrenes	43.329	244	299106M5	616.725	ng/mL	
62) C4-Fluoranthenes/Pyrenes	44.684	258	261838M5	539.883	ng/mL	
63) Naphthobenzothiophene	41.959	234	66937	154.453	ng/ml#	74
64) Naphthobenzothiophene-2,1	41.959	234	66937	154.453	ng/mL#	74
65) Naphthobenzothiophene-1,2	42.305	234	15809M4	36.478	ng/mL	
66) Naphthobenzothiophene-2,3	42.606	234	7115M4	16.417	ng/mL	
67) C1-Naphthobenzothiophenes	43.359	248	245973M5	567.566	ng/ml	
68) C2-Naphthobenzothiophenes	45.362	262	360871M5	832.686	ng/ml	
69) C3-Naphthobenzothiophenes	46.958	276	293466M5	677.153	ng/ml	
70) C4-Naphthobenzothiophenes	48.027	290	210984M5	486.832	ng/mL	
72) Benz[a]anthracene	42.892	228	4707M3	12.348	ng/mL	
73) Chrysene	43.028	228	80809	211.266	ng/mL	96
74) Chrysene/Triphenylene	43.028	228	80809	211.266	ng/mL	96
75) C1-Chrysenes	44.518	242	149162M5	389.968	ng/mL	
76) C2-Chrysenes	45.964	256	209911M5	548.789	ng/mL	
76) C2-Chrysenes BS	45.964	256	197668M5	516.781	ng/mL	
77) BBF-D12 Surr BKGD	46.852	256	12243	32.008	ng/mL	100
78) C3-Chrysenes	49.262	270	238553M5	623.670	ng/mL	
79) C4-Chrysenes	48.871	284	139003M5	363.408	ng/mL	
81) Benzo[b]fluoranthene	46.928	252	12052M4	28.387	ng/mL	
84) Benzo[e]pyrene	47.907	252	23133	55.807	ng/mL	87
86) Benzo[a]pyrene	48.102	252	3549M3	8.514	ng/mL	
87) Perylene	48.404	252	6354M4	15.326	ng/mL	
88) Indeno[1,2,3-cd]pyrene	52.801	276	1981M3	4.241	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.846	278	1896M4	4.070	ng/mL	
90) Benzo[g,h,i]perylene	54.066	276	8676	17.435	ng/mL#	85
91) Hopane (T19)	51.958	191	100865	997.605	ng/mL	96
92) 17a(H),21B(H)-hopane - C3	51.958	191	100865	997.605	ng/mL	96
93) C23 Tricyclic Terpane (T4	40.619	191	39685M4	392.504	ng/ml	
94) C24 Tricyclic Terpane (T5	41.342	191	27278	269.793	ng/ml	100
95) C25 Tricyclic Terpane (T6	42.832	191	24362M4	240.952	ng/ml	
96) C24 Tetracyclic Terpane (	44.142	191	8631M4	85.365	ng/ml	
97) C26 Tricyclic Terpane-22S	43.886	191	9961M4	98.519	ng/ml	
98) C26 Tricyclic Terpane-22R	43.976	191	8829	87.323	ng/ml	100
99) C28 Tricyclic Terpane-22S	46.280	191	9428M4	93.248	ng/ml	
100) C28 Tricyclic Terpane-22R	46.431	191	10252M4	101.397	ng/ml	
101) C29 Tricyclic Terpane-22S	46.958	191	11595	114.680	ng/ml	100
102) C29 Tricyclic Terpane-22R	47.154	191	12006M4	118.745	ng/ml	
103) 18a-22,29,30-Trisnorneoho	48.238	191	16859	166.744	ng/ml	100

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071640.D
Acq On : 17 Jan 2016 2:08 am
Operator : PAH2:ac
Sample : SO022116ANC01
Misc : fraw54 5.436
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jan 20 17:45:26 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 18:15:49 2016
Response via : Initial Calibration

Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
104) C30 Tricyclic Terpane-22S	48.343	191	10088	99.775	ng/mL	100
105) C30 Tricyclic Terpane-22R	48.584	191	9747M4	96.403	ng/mL	
106) 17a(H)-22,29,30-Trisnorho	48.780	191	20032	198.126	ng/ml	100
107) 17a/b,21b/a 28,30-Bisnorh	49.955	191	4386M4	43.380	ng/ml	
108) 17a(H),21b(H)-25-Norhopan	49.774	191	4898	48.444	ng/ml	100
109) 30-Norhopane (T15)	50.618	191	58353	577.140	ng/ml	100
110) 18a(H)-30-Norneohopane-C2	50.723	191	14286M4	141.296	ng/ml	
111) 17a(H)-Diahopane (X)	50.843	191	8321M4	82.299	ng/ml	
112) 30-Normoretane (T17)	51.386	191	6574	65.020	ng/ml	100
113) 18a(H)&18b(H)-Oleananes (	51.777	191	1575	15.578	ng/ml	100
114) Moretane (T20)	52.636	191	9147M4	90.468	ng/ml	
115) 30-Homohopane-22S (T21)	53.720	191	40942	404.937	ng/ml	100
116) 30-Homohopane-22R (T22)	53.946	191	35143	347.582	ng/ml	100
117) Gammacerane/C32-diahopane	54.488	191	7098	70.203	ng/mL	100
118) 30,31-Bishomohopane-22S (	55.256	191	29420	290.978	ng/ml	100
119) 30,31-Bishomohopane-22R (	55.632	191	21409	211.746	ng/ml	100
120) 30,31-Trishomohopane-22S	57.349	191	23363	231.072	ng/ml	100
121) 30,31-Trishomohopane-22R	57.936	191	16033M4	158.574	ng/ml	
122) Tetrakishomohopane-22S (T	59.924	191	16457	162.768	ng/ml	100
123) Tetrakishomohopane-22R (T	60.812	191	11304	111.802	ng/ml	100
124) Pentakishomohopane-22S (T	62.996	191	16970	167.842	ng/ml	100
125) Pentakishomohopane-22R (T	64.276	191	13524M4	133.759	ng/ml	
127) 13b(H),17a(H)-20S-Diachol	45.105	217	15816	303.306	ng/ml	100
128) 13b(H),17a(H)-20R-Diachol	45.527	217	7585	145.459	ng/ml	100
129) 13b,17a-20S-Methyldiachol	46.220	217	6779M4	130.002	ng/ml	
130) 14a,17a-20S-Chol/13b,17a-	47.093	217	19626	376.371	ng/ml	100
131) 14a,17a-20R-Chol/13b,17a-	47.590	217	21562M4	413.498	ng/ml	
132) Unknown Sterane (S18)	47.877	217	6103	117.038	ng/ml	100
133) 13a,17b-20S-Ethyldiachole	48.148	217	1437	27.558	ng/ml	100
134) 14a,17a-20S-Methylcholest	48.298	217	10938M4	209.760	ng/ml	
135) 14a,17a-20R-Methylcholest	48.991	217	9478M4	181.761	ng/ml	
136) 14a(H),17a(H)-20S-Ethylch	49.337	217	12277M4	235.438	ng/ml	
137) 14a(H),17a(H)-20R-Ethylch	50.241	217	11535M4	221.209	ng/ml	
138) 14b(H),17b(H)-20R-Cholest	47.169	218	12926M4	247.884	ng/ml	
139) 14b(H),17b(H)-20S-Cholest	47.259	218	13229M4	253.695	ng/ml	
140) 14b,17b-20R-Methylcholest	48.464	218	13350	256.015	ng/ml	100
141) 14b,17b-20S-Methylcholest	48.539	218	16684M4	319.952	ng/ml	
142) 14b(H),17b(H)-20R-Ethylch	49.578	218	19025M3	364.846	ng/ml	
143) 14b(H),17b(H)-20S-Ethylch	49.624	218	12051M3	231.104	ng/ml	
144) C26,20R- +C27,20S- triaro	49.292	231	92467M4	1773.255	ng/mL	
145) C28,20S-triaromatic stero	50.151	231	58694	1125.584	ng/mL	100
146) C27,20R-triaromatic stero	50.587	231	56773	1088.745	ng/mL	100
147) C28,20R-triaromatic stero	51.777	231	48380M3	927.791	ng/mL	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071640.D
Acq On : 17 Jan 2016 2:08 am
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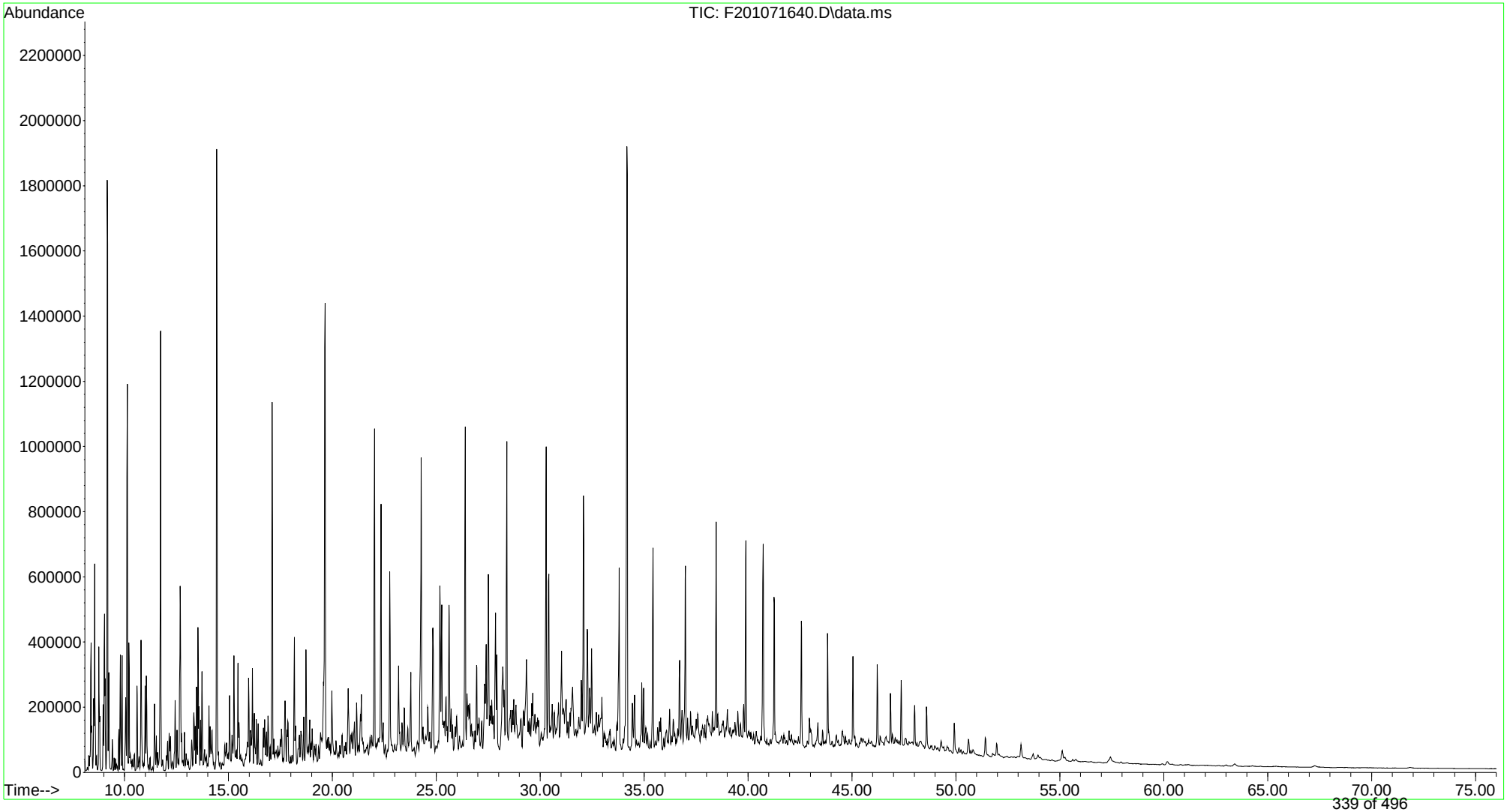
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 18:15:49 2016
Response via : Initial Calibration

Sub List : Default - All compounds listed



Analysis log File

Total Files Reported in Log : 37
Log Generated From Directory: O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\

No.	DATA FILE	INJ METH	SAMPLE NAME	MISC	DATE INJ'D
1	F203291601.D	FRNC2A.M	prime	FRAW88 500NG/ML	3/29/2016 8:45 am
2	F203291602.D	FRNC2A.M	✓c203291601 pass	FRAW88 500NG/ML	3/29/2016 10:13 am
3	F203291603.D	FRNC2A.M	ans203291601	ans fraw54	3/29/2016 11:42 am
4	F203291604.D	FRNC2A.M	dcm	dcm	3/29/2016 1:11 pm
5	F203291605.D	FRNC2A.M	dcm	dcm	3/29/2016 2:39 pm
6	F203291606.D	FRNC2A.M	✓SS032516B02	1x,SS032516,etr:1603..	3/29/2016 4:07 pm
7	F203291607.D	FRNC2A.M	✓SS032516LCS02	1x,SS032516,etr:1603..	3/29/2016 5:35 pm
8	F203291608.D	FRNC2A.M	✓SS032516LCSD02	1x,SS032516,etr:1603..	3/29/2016 7:03 pm
9	F203291609.D	FRNC2A.M	✓1603006-01	1x,SS032516,etr:1603..	3/29/2016 8:30 pm
10	F203291610.D	FRNC2A.M	✓1603006-02	1x,SS032516,etr:1603..	3/29/2016 9:57 pm
11	F203291611.D	FRNC2A.M	✓1603006-03	1x,SS032516,etr:1603..	3/29/2016 11:24 pm
12	F203291612.D	FRNC2A.M	✓1603006-04	1x,SS032516,etr:1603..	3/30/2016 12:50 am
13	F203291613.D	FRNC2A.M	✓1603006-04D	1x,SS032516,etr:1603..	3/30/2016 2:17 am
14	F203291614.D	FRNC2A.M	✓1603006-05	1x,SS032516,etr:1603..	3/30/2016 3:43 am
15	F203291615.D	FRNC2A.M	✓c203291602 pass	FRAW88 500NG/ML	3/30/2016 5:09 am
16	F203291616.D	FRNC2A.M	✓1603006-06	1x,SS032516,etr:1603..	3/30/2016 6:35 am
17	F203291617.D	FRNC2A.M	✓1603006-07	1x,SS032516,etr:1603..	3/30/2016 8:01 am
18	F203291618.D	FRNC2A.M	✓1603006-08	1x,SS032516,etr:1603..	3/30/2016 9:30 am
19	F203291619.D	FRNC2A.M	✓1603006-09	1x,SS032516,etr:1603..	3/30/2016 10:58 am
20	F203291620.D	FRNC2A.M	✓1603006-10	1x,SS032516,etr:1603..	3/30/2016 12:25 pm
21	F203291621.D	FRNC2A.M	✓1603006-11	1x,SS032516,etr:1603..	3/30/2016 1:52 pm
22	F203291622.D	FRNC2A.M	✓1603006-12	1x,SS032516,etr:1603..	3/30/2016 3:19 pm
23	F203291623.D	FRNC2A.M	ans203291602	ans fraw54	3/30/2016 4:46 pm
24	F203291624.D	FRNC2A.M	✓c203291603 pass	FRAW88 500NG/ML	3/30/2016 6:14 pm
25	F203291625.D	FRNC2A.M	prime	FRAW88 500NG/ML	3/31/2016 8:16 am
26	F203291626.D	FRNC2A.M	surrogate frax16	FRAW88 500NG/ML	3/31/2016 9:43 am
27	F203291627.D	FRNC2A.M	✓1603006-12-RE	10x	3/31/2016 11:10 am
28	F203291628.D	FRNC2A.M	✓c203291604 pass	fraw88 500ng/ml	3/31/2016 12:38 pm
29	F203291629.D	FRNC2A.M	dcm	dcm	3/31/2016 2:05 pm
30	F203291630.D	FRNC2A.M	surroagte st frax16	1x	3/31/2016 3:32 pm
31	F203291631.D	FRNC2A.M	SO033016B03	1x	3/31/2016 4:59 pm
32	F203291632.D	FRNC2A.M	SO033016LCS02	1x	3/31/2016 6:26 pm
33	F203291633.D	FRNC2A.M	SO033016LCSD02	1x	3/31/2016 7:53 pm
34	F203291634.D	FRNC2A.M	1603008-01	1x	3/31/2016 9:20 pm
35	F203291635.D	FRNC2A.M	1603008-01D	1x	3/31/2016 10:47 pm
36	F203291636.D	FRNC2A.M	✓1603006-10-RE	2X	4/1/2016 12:14 am
37	F203291637.D	FRNC2A.M	✓C203291605 pass	FRAW88 500NG/ML	4/1/2016 1:40 am

PAH2011516

NAL
4/4/16

Supporting Quality Control Results

Form IV
Method Blank Summary
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**

Case: **N/A** SDG: **N/A**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SS032516B02**
Date Analyzed: **03/29/16 16:07**

Client ID	Lab ID	Date/Time Analyzed
LCS	SS032516LCS02	03/29/16 17:35
LCSD	SS032516LCSD02	03/29/16 19:03
RX-1	1603006-01	03/29/16 20:30
RX-2	1603006-02	03/29/16 21:57
RX-3	1603006-03	03/29/16 23:24
RX-4	1603006-04	03/30/16 00:50
RX-4	1603006-04 D	03/30/16 02:17
RX-5	1603006-05	03/30/16 03:43
RX-6	1603006-06	03/30/16 06:35
RX-7	1603006-07	03/30/16 08:01
RX-7A	1603006-08	03/30/16 09:30
RX-7B	1603006-09	03/30/16 10:58
RX-8	1603006-10	03/30/16 12:25
RX-8A	1603006-11	03/30/16 13:52
RX-8B	1603006-12	03/30/16 15:19
RX-8B	1603006-12E	03/31/16 11:10
RX-8	1603006-10E	04/01/16 00:14

N/A - Not Applicable

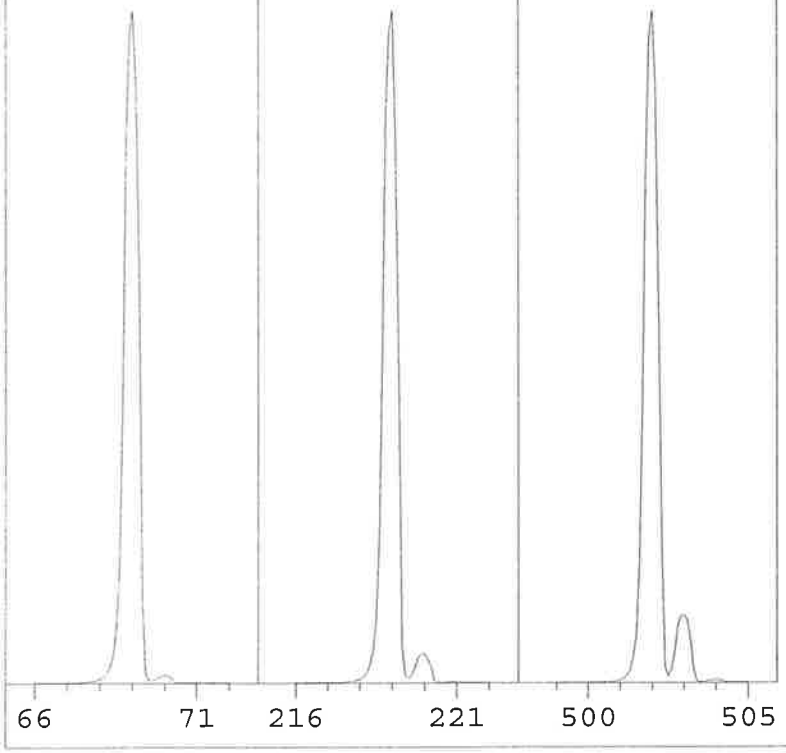
320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

5973 Tune

Fri Jan 15 09:07:38 2016 Instrument: PAH2

C:\MSDCHEM\1\5973N\PFTBA.U

Mass	69.00	Mass	219.00	Mass	502.00
Ab	636237	Ab	350482	Ab	61174
Pw50	0.50	Pw50	0.50	Pw50	0.50



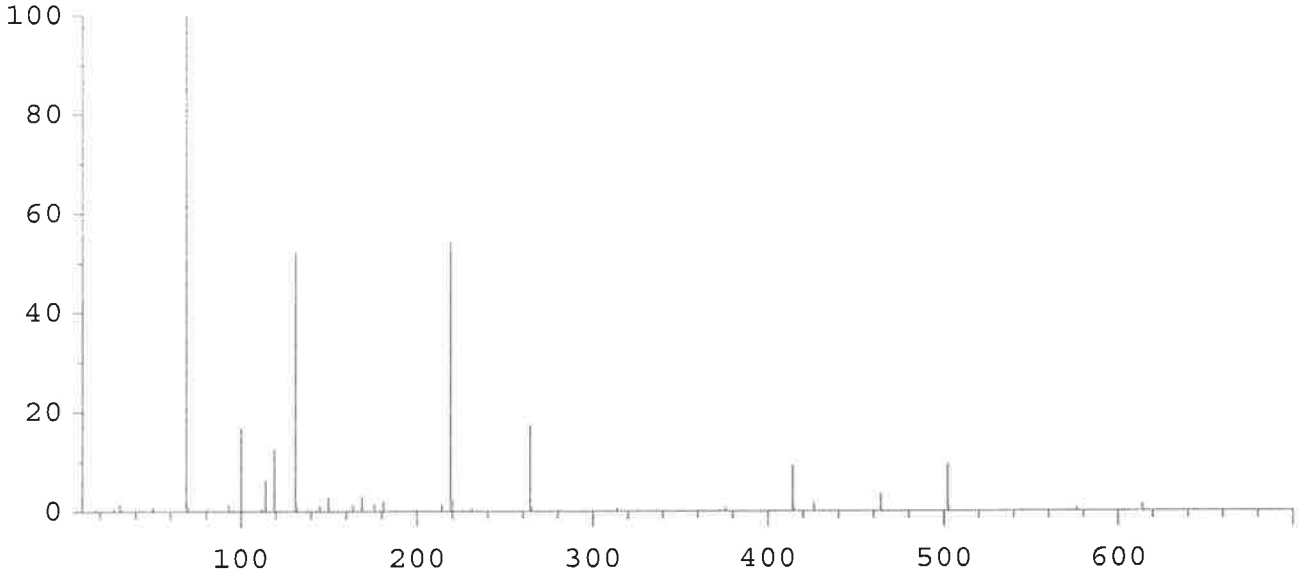
Ion Pol	POS	MassGain	125
		MassOffs	-12
Emission	34.6	AmuGain	2584
ElEnrgy	69.9	AmuOffs	138
Filament	1	Wid219	-0.036
		DC Pol	POS
Repeller	32.47		
IonFcus	90.2	HEDEnab	ON
EntLens	0.0	EMVolts	1812
EntOffs	VAR		
		Samples	8
PFTBA	OPEN	Averages	3
		Stepsize	0.10

Zones:

MS Source	230	Foreline	44
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10

180 peaks Base: 69.00 Abundance: 560576



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	560576	100.00	70.00	6506	1.16
218.90	303680	54.17	220.00	13880	4.57
502.00	53704	9.58	503.00	5602	10.43

TARGET MASS:	50	69	131	219	414	502
DYNAMIC ENT OFFSET:	17.1	16.8	17.8	16.6	20.8	20.6
TARGET ABUND(%):	1.0	100.0	50.0	53.0	9.0	9.0
ACTUAL TUNE ABUND(%):	0.9	100.0	52.3	54.2	9.3	9.6

Analysis log File

Total Files Reported in Log : 41
Log Generated From Directory: O:\Forensics\Data\PAH2\2016\JAN16\jan14\

No.	DATA FILE	INJ METH		SAMPLE NAME		MISC	DATE INJ'D
1	F201071601.D	FRNC2A.M		prime		1x	1/14/2016 8:21 am
2	F201071602.D	FRNC2A.M		prime		1x	1/14/2016 9:48 am
3	F201071603.D	FRNC2A.M		prime		1x	1/14/2016 11:15 am
4	F201071604.D	FRNC2A.M		prime		1x	1/14/2016 12:42 pm
5	F201071605.D	FRNC2A.M		prime		1x	1/14/2016 2:09 pm
6	F201071606.D	FRNC2A.M		prime		1x	1/14/2016 3:37 pm
7	F201071607.D	FRNC2A.M		prime		1x	1/14/2016 5:04 pm
8	F201071608.D	FRNC2A.M		prime		1x	1/14/2016 6:32 pm
9	F201071609.D	FRNC2A.M		prime		1x	1/14/2016 7:59 pm
10	F201071610.D	FRNC2A.M		prime		1x	1/14/2016 9:27 pm
11	F201071611.D	FRNC2F.M		cc		1x	1/14/2016 10:54 pm
12	F201071612.D	FRNC2A.M		ll		1x	1/15/2016 12:21 am
13	F201071613.D	FRNC2A.M		dcm		1x	1/15/2016 1:48 am
14	F201071614.D	FRNC2A.M		dcm		1x	1/15/2016 3:16 am
15	F201071615.D	FRNC2A.M		ll		1x	1/15/2016 1:25 pm
16	F201071616.D	FRNC2A.M		dcm		1x	1/15/2016 2:53 pm
17	F201071617.D	FRNC2A.M		dcm		1x	1/15/2016 4:21 pm
18	F201071618.D	FRNC2A.M		i201141601		l1 fraw20	1/15/2016 5:48 pm
19	F201071619.D	FRNC2A.M		i201141602		l2 fraw21	1/15/2016 7:16 pm
20	F201071620.D	FRNC2A.M		i201141603		l3 fraw22	1/15/2016 8:44 pm
21	F201071621.D	FRNC2A.M		i201141604		l4 fraw88	1/15/2016 10:12 pm
22	F201071622.D	FRNC2A.M		i201141605		l5 fraw24	1/15/2016 11:41 pm
23	F201071623.D	FRNC2A.M		i201141606		l6 fraw25	1/16/2016 1:09 am
24	F201071624.D	FRNC2A.M		i201141607		l7 fraw25	1/16/2016 2:37 am
25	F201071625.D	FRNC2A.M		dcm		dcm	1/16/2016 4:05 am
26	F201071626.D	FRNC2A.M		q201141601		fraw33	1/16/2016 5:33 am
27	F201071627.D	FRNC2A.M		dcm		dcm	1/16/2016 7:01 am
28	F201071628.D	FRNC2A.M		ans201141601		fraw54 5.436	1/16/2016 8:30 am
29	F201071629.D	FRNC2A.M		dcm		dcm	1/16/2016 9:59 am
30	F201071630.D	FRNC2A.M	√	i201151601		l1 fraw20	1/16/2016 11:27 am
31	F201071631.D	FRNC2A.M	√	i201151602		l2 fraw21	1/16/2016 12:55 pm
32	F201071632.D	FRNC2A.M	√	i201151603		l3 fraw22	1/16/2016 2:24 pm
33	F201071633.D	FRNC2A.M	√	i201151604	PAH2011516	l4 fraw88	1/16/2016 3:53 pm
34	F201071634.D	FRNC2A.M	√	i201151605		l5 fraw24	1/16/2016 5:21 pm
35	F201071635.D	FRNC2A.M	√	i201151606		l6 fraw25	1/16/2016 6:49 pm
36	F201071636.D	FRNC2A.M	√	i201151607		l7 fraw25	1/16/2016 8:17 pm
37	F201071637.D	FRNC2A.M		dcm		dcm	1/16/2016 9:45 pm
38	F201071638.D	FRNC2A.M	√	q201151601		fraw33	1/16/2016 11:13 pm
39	F201071639.D	FRNC2A.M		dcm		dcm	1/17/2016 12:41 am
40	F201071640.D	FRNC2A.M	√	SO022116ANC01		fraw54 5.436	1/17/2016 2:08 am
41	F201071641.D	FRNC2A.M		dcm		dcm	1/17/2016 3:36 am

MJS
2-21-2016

Response Factor Report PAH2

Method Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Method File : PAH2011516.M
Title : Decalins & Alkylated PAH's
Last Update : Tue Jan 19 18:04:12 2016
Response Via : Initial Calibration

Calibration Files
10 =F201071630.D 25 =F201071631.D 100 =F201071632.D 500 =F201071633.D 5000=F201071634.D 1e4 =F201071635.D
2e4 =F201071636.D

MJS
2-21-2016

		Compound	10	25	100	500	5000	1e4	2e4	Avg	%RSD
1)	i	Acenaphthene-d10	----------ISTD----------								
2)	A1	trans-Decalin	0.450	0.432	0.404	0.404	0.409	0.421	0.396	0.417	4.59
3)	t	cis-Decalin	0.365	0.322	0.317	0.316	0.321	0.328	0.311	0.326	5.57
4)	A2	C1-Decalins	0.450	0.432	0.404	0.404	0.409	0.421	0.396	0.417	4.59
5)	A2	C2-Decalins	0.450	0.432	0.404	0.404	0.409	0.421	0.396	0.417	4.59
6)	A2	C3-Decalins	0.450	0.432	0.404	0.404	0.409	0.421	0.396	0.417	4.59
7)	A2	C4-Decalins	0.450	0.432	0.404	0.404	0.409	0.421	0.396	0.417	4.59
8)	s	Naphthalene-d8	2.030	2.017	1.951	1.901	1.932	1.911	1.746	1.927	4.87
9)	A1	Naphthalene	2.094	2.087	2.048	1.988	1.994	1.975	1.785	1.996	5.23
10)	A2	C1-Naphthalenes	2.094	2.087	2.048	1.988	1.994	1.975	1.785	1.996	5.23
11)	A2	C2-Naphthalenes	2.094	2.087	2.048	1.988	1.994	1.975	1.785	1.996	5.23
12)	A2	C3-Naphthalenes	2.094	2.087	2.048	1.988	1.994	1.975	1.785	1.996	5.23
13)	A2	C4-Naphthalenes	2.094	2.087	2.048	1.988	1.994	1.975	1.785	1.996	5.23
14)	t	2-Methylnaphth...	1.375	1.367	1.330	1.358	1.345	1.347	1.234	1.337	3.56
15)	t	1-Methylnaphth...	1.359	1.336	1.303	1.309	1.315	1.295	1.204	1.303	3.75
16)	A1	Benzothiophene	1.657	1.692	1.622	1.609	1.618	1.593	1.465	1.608	4.44
17)	A2	C1-Benzo(b)thi...	1.657	1.692	1.622	1.609	1.618	1.593	1.465	1.608	4.44
18)	A2	C2-Benzo(b)thi...	1.657	1.692	1.622	1.609	1.618	1.593	1.465	1.608	4.44
19)	A2	C3-Benzo(b)thi...	1.657	1.692	1.622	1.609	1.618	1.593	1.465	1.608	4.44
20)	A2	C4-Benzo(b)thi...	1.657	1.692	1.622	1.609	1.618	1.593	1.465	1.608	4.44
21)	t	Biphenyl	1.715	1.721	1.657	1.681	1.670	1.619	1.480	1.649	4.99
22)	t	2,6-Dimethylna...	1.224	1.184	1.176	1.205	1.240	1.208	1.092	1.190	4.05
23)	t	Dibenzofuran	1.837	1.811	1.799	1.772	1.735	1.654	1.499	1.730	6.84
24)	t	Acenaphthylene	2.027	2.057	1.989	2.031	2.043	2.001	1.788	1.991	4.65
25)	t	Acenaphthene	1.299	1.278	1.252	1.254	1.248	1.209	1.104	1.235	5.18
26)	t	2,3,5-Trimethy...	1.091	1.063	1.050	1.070	1.083	1.040	0.957	1.050	4.28
27)	A1	Fluorene	1.506	1.457	1.452	1.489	1.468	1.423	1.295	1.441	4.86
28)	A2	C1-Fluorenes	1.506	1.457	1.452	1.489	1.468	1.423	1.295	1.441	4.86
29)	A2	C2-Fluorenes	1.506	1.457	1.452	1.489	1.468	1.423	1.295	1.441	4.86
30)	A2	C3-Fluorenes	1.506	1.457	1.452	1.489	1.468	1.423	1.295	1.441	4.86
31)	A1	Dibenzothiophene	1.836	1.876	1.843	1.859	1.831	1.748	1.577	1.796	5.82
32)	A2	4-Methyldibenz...	1.836	1.876	1.843	1.859	1.831	1.748	1.577	1.796	5.82
33)	A2	2/3-Methyldibe...	1.836	1.876	1.843	1.859	1.831	1.748	1.577	1.796	5.82
34)	A2	1-Methyldibenz...	1.836	1.876	1.843	1.859	1.831	1.748	1.577	1.796	5.82
35)	A2	OTP	1.836	1.876	1.843	1.859	1.831	1.748	1.577	1.796	5.82
36)	A2	C1-Dibenzothio...	1.836	1.876	1.843	1.859	1.831	1.748	1.577	1.796	5.82
37)	A2	C2-Dibenzothio...	1.836	1.876	1.843	1.859	1.831	1.748	1.577	1.796	5.82
38)	A2	C3-Dibenzothio...	1.836	1.876	1.843	1.859	1.831	1.748	1.577	1.796	5.82
39)	A2	C4-Dibenzothio...	1.836	1.876	1.843	1.859	1.831	1.748	1.577	1.796	5.82
40)	s	Phenanthrene-d10	1.665	1.609	1.587	1.642	1.612	1.555	1.444	1.588	4.57
41)	A1	Phenanthrene	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95
42)	A2	3-Methylphenan...	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95
43)	A2	2-Methylphenan...	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95

Method Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Method File : PAH2011516.M
Title : Decalins & Alkylated PAH's
Last Update : Tue Jan 19 18:04:12 2016
Response Via : Initial Calibration

Calibration Files
10 =F201071630.D 25 =F201071631.D 100 =F201071632.D 500 =F201071633.D 5000=F201071634.D 1e4 =F201071635.D
2e4 =F201071636.D

		Compound	10	25	100	500	5000	1e4	2e4	Avg	%RSD
44)	A2	2-Methylanthra...	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95
45)	A2	9/4-Methylphen...	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95
46)	A2	1-Methylphenan...	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95
47)	A2	C1-Phenanthren...	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95
48)	A2	C2-Phenanthren...	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95
49)	A2	5AA IS BKGD	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95
50)	A2	C3-Phenanthren...	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95
51)	A2	C4-Phenanthren...	2.114	2.114	2.099	2.166	2.059	1.960	1.751	2.038	6.95
52)	t	Retene	0.583	0.569	0.553	0.600	0.630	0.627	0.605	0.595	4.76
53)	t	Anthracene	2.052	2.020	1.994	2.020	1.840	1.628	1.392	1.849	13.59
54)	t	Carbazole	1.944	1.890	1.898	1.955	1.896	1.814	1.663	1.866	5.38
55)	t	1-Methylphenan...	1.493	1.461	1.421	1.485	1.505	1.417	1.335	1.445	4.10
56)	A1	Fluoranthene	2.133	2.110	2.091	2.180	2.144	2.026	1.877	2.080	4.89
57)	t	Benzo(b)fluorene	1.354	1.335	1.308	1.410	1.419	1.390	1.263	1.354	4.22
58)	A1	Pyrene	2.381	2.294	2.297	2.447	2.367	2.237	2.033	2.294	5.83
59)	A2	C1-Fluoranthen...	2.381	2.294	2.297	2.447	2.367	2.237	2.033	2.294	5.83
60)	A2	C2-Fluoranthen...	2.381	2.294	2.297	2.447	2.367	2.237	2.033	2.294	5.83
61)	A2	C3-Fluoranthen...	2.381	2.294	2.297	2.447	2.367	2.237	2.033	2.294	5.83
62)	A2	C4-Fluoranthen...	2.381	2.294	2.297	2.447	2.367	2.237	2.033	2.294	5.83
63)	A1	Naphthobenzoth...	2.201	2.070	2.076	2.117	2.065	1.978	1.841	2.050	5.54
64)	A2	Naphthobenzoth...	2.201	2.070	2.076	2.117	2.065	1.978	1.841	2.050	5.54
65)	A2	Naphthobenzoth...	2.201	2.070	2.076	2.117	2.065	1.978	1.841	2.050	5.54
66)	A2	Naphthobenzoth...	2.201	2.070	2.076	2.117	2.065	1.978	1.841	2.050	5.54
67)	A2	C1-Naphthobenz...	2.201	2.070	2.076	2.117	2.065	1.978	1.841	2.050	5.54
68)	A2	C2-Naphthobenz...	2.201	2.070	2.076	2.117	2.065	1.978	1.841	2.050	5.54
69)	A2	C3-Naphthobenz...	2.201	2.070	2.076	2.117	2.065	1.978	1.841	2.050	5.54
70)	A2	C4-Naphthobenz...	2.201	2.070	2.076	2.117	2.065	1.978	1.841	2.050	5.54
71)	i	Chrysene-d12	----------ISTD----------								
72)	t	Benz[a]anthracene	1.299	1.193	1.235	1.237	1.247	1.147	1.051	1.201	6.76
73)	A1	Chrysene	1.310	1.245	1.277	1.254	1.231	1.117	1.003	1.205	8.92
74)	A2	Chrysene/Triph...	1.310	1.245	1.277	1.254	1.231	1.117	1.003	1.205	8.92
75)	A2	C1-Chrysenes	1.310	1.245	1.277	1.254	1.231	1.117	1.003	1.205	8.92
76)	A2	C2-Chrysenes	1.310	1.245	1.277	1.254	1.231	1.117	1.003	1.205	8.92
77)	A2	BBF-D12 Surr BKGD	1.310	1.245	1.277	1.254	1.231	1.117	1.003	1.205	8.92
78)	A2	C3-Chrysenes	1.310	1.245	1.277	1.254	1.231	1.117	1.003	1.205	8.92
79)	A2	C4-Chrysenes	1.310	1.245	1.277	1.254	1.231	1.117	1.003	1.205	8.92
80)	s	Benzo[b]fluora...	1.211	1.131	1.103	1.112	1.171	1.107	1.028	1.123	5.11
81)	t	Benzo[b]fluora...	1.420	1.367	1.349	1.359	1.406	1.291	1.172	1.338	6.30
82)	A1	Benzo[j]+[k]fl...	1.461	1.430	1.432	1.415	1.368	1.223	1.097	1.347	10.07
83)	A2	Benzo[a]fluora...	1.461	1.430	1.432	1.415	1.368	1.223	1.097	1.347	10.07
84)	t	Benzo[e]pyrene	1.511	1.383	1.342	1.321	1.307	1.194	1.085	1.306	10.41
85)	s	Benzo[a]pyrene...	1.065	0.997	0.977	0.965	1.027	0.961	0.884	0.983	5.80
86)	t	Benzo[a]pyrene	1.517	1.384	1.356	1.365	1.335	1.180	1.058	1.313	11.41

Method Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Method File : PAH2011516.M
Title : Decalins & Alkylated PAH's
Last Update : Tue Jan 19 18:04:12 2016
Response Via : Initial Calibration

Calibration Files
10 =F201071630.D 25 =F201071631.D 100 =F201071632.D 500 =F201071633.D 5000=F201071634.D 1e4 =F201071635.D
2e4 =F201071636.D

		Compound	10	25	100	500	5000	1e4	2e4	Avg	%RSD
87)	t	Perylene	1.473	1.366	1.386	1.346	1.304	1.179	1.089	1.306	10.01
88)	t	Indeno[1,2,3-c...	1.515	1.454	1.393	1.416	1.538	1.531	1.456	1.472	3.90
89)	t	Dibenz[ah]+[ac...	1.566	1.448	1.438	1.469	1.530	1.459	1.365	1.468	4.43
90)	t	Benzo[g,h,i]pe...	1.792	1.631	1.581	1.547	1.558	1.484	1.383	1.568	8.08
91)	A1	Hopane (T19)	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
92)	A2	17a(H),21B(H)-...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
93)	A2	C23 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
94)	A2	C24 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
95)	A2	C25 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
96)	A2	C24 Tetracycli...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
97)	A2	C26 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
98)	A2	C26 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
99)	A2	C28 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
100)	A2	C28 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
101)	A2	C29 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
102)	A2	C29 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
103)	A2	18a-22,29,30-T...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
104)	A2	C30 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
105)	A2	C30 Tricyclic ...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
106)	A2	17a(H)-22,29,3...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
107)	A2	17a/b,21b/a 28...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
108)	A2	17a(H),21b(H)-...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
109)	A2	30-Norhopane (...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
110)	A2	18a(H)-30-Norn...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
111)	A2	17a(H)-Diahopa...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
112)	A2	30-Normoretane...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
113)	A2	18a(H)&18b(H)-...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
114)	A2	Moretane (T20)	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
115)	A2	30-Homohopane-...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
116)	A2	30-Homohopane-...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
117)	A2	Gammacerane/C3...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
118)	A2	30,31-Bishomoh...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
119)	A2	30,31-Bishomoh...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
120)	A2	30,31-Trishomo...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
121)	A2	30,31-Trishomo...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
122)	A2	Tetrakishomoho...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
123)	A2	Tetrakishomoho...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
124)	A2	Pentakishomoho...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
125)	A2	Pentakishomoho...	0.272	0.341	0.326	0.306	0.338	0.328		0.319	8.06
126)	SA1	5B(H)Cholane -...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
127)	A2	13b(H),17a(H)-...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
128)	A2	13b(H),17a(H)-...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
129)	A2	13b,17a-20S-Me...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
130)	A2	14a,17a-20S-Ch...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70

Method Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Method File : PAH2011516.M
Title : Decalins & Alkylated PAH's
Last Update : Tue Jan 19 18:04:12 2016
Response Via : Initial Calibration

Calibration Files
10 =F201071630.D 25 =F201071631.D 100 =F201071632.D 500 =F201071633.D 5000=F201071634.D 1e4 =F201071635.D
2e4 =F201071636.D

	Compound	10	25	100	500	5000	1e4	2e4	Avg	%RSD
131) A2	14a,17a-20R-Ch...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
132) A2	Unknown Steran...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
133) A2	13a,17b-20S-Et...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
134) A2	14a,17a-20S-Me...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
135) A2	14a,17a-20R-Me...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
136) A2	14a(H),17a(H)-...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
137) A2	14a(H),17a(H)-...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
138) A2	14b(H),17b(H)-...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
139) A2	14b(H),17b(H)-...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
140) A2	14b,17b-20R-Me...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
141) A2	14b,17b-20S-Me...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
142) A2	14b(H),17b(H)-...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
143) A2	14b(H),17b(H)-...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
144) A2	C26,20R- +C27,...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
145) A2	C28,20S-triaro...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
146) A2	C27,20R-triaro...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70
147) A2	C28,20R-triaro...	0.181	0.156	0.155	0.156	0.171	0.166	0.165	0.164	5.70

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071630.D
Acq On : 16 Jan 2016 11:27 am
Operator : PAH2:ac
Sample : i201151601
Misc : l1 fraw20
ALS Vial : 5 Sample Multiplier: 1

MJS
2-21-2016

Quant Time: Jan 20 17:44:40 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Mon Nov 23 10:36:31 2015
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.527	164	125979M4	500.000	ng/mL	0.00
71) Chrysene-d12	42.952	240	207011	500.000	ng/mL	0.00
System Monitoring Compounds						
8) Naphthalene-d8	19.572	136	5115	12.323	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	1.23%#		
40) Phenanthrene-d10	32.383	188	4195	9.727	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	0.97%#		
80) Benzo[b]fluoranthene-d12	46.837	264	5012	11.872	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	1.19%#		
85) Benzo[a]pyrene-d12	47.997	264	4411	12.272	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	1.23%#		
126) 5B(H)Cholane - Surr	43.585	217	748M4	11.046	ng/ml	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	1.10%#		
Target Compounds						Qvalue
2) trans-Decalin	16.245	138	567	5.402	ng/mL	100
3) cis-Decalin	17.449	138	460	5.626	ng/mL	100
9) Naphthalene	19.647	128	5276	12.277	ng/mL	100
14) 2-Methylnaphthalene	22.342	142	3464	11.618	ng/mL	100
15) 1-Methylnaphthalene	22.764	142	3425	11.909	ng/mL	100
16) Benzothiophene	19.873	134	4176	11.809	ng/mL	100
21) Biphenyl	24.224	154	4321	11.308	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.826	156	3084	11.200	ng/mL	100
23) Dibenzofuran	27.295	168	4628	11.228	ng/mL	91
24) Acenaphthylene	25.910	152	5108	11.558	ng/mL	100
25) Acenaphthene	26.648	153	3273	11.141	ng/mL	97
26) 2,3,5-Trimethylnaphthalen	28.198	170	2750	10.577	ng/mL	93
27) Fluorene	28.665	166	3794	11.499	ng/mL	99
31) Dibenzothiophene	31.977	184	4627	10.358	ng/mL#	91
41) Phenanthrene	32.474	178	5326	11.819	ng/mL	98
52) Retene	39.444	234	1470	8.341	ng/mL	96
53) Anthracene	32.639	178	5170M4	12.324	ng/mL	
54) Carbazole	33.317	167	4898	12.771	ng/mL	97
55) 1-Methylphenanthrene	34.973	192	3762	10.458	ng/mL	96
56) Fluoranthene	37.231	202	5375	10.194	ng/mL	99
57) Benzo(b)fluorene	39.746	216	3412	9.761	ng/mL	99
58) Pyrene	38.104	202	5998	10.418	ng/mL	98
63) Naphthobenzothiophene	41.959	234	5545	11.034	ng/ml	95
64) Naphthobenzothiophene-2,1	41.959	234	5545	11.034	ng/mL	95
72) Benz[a]anthracene	42.877	228	5377M3	13.671	ng/mL	
73) Chrysene	43.043	228	5422	11.882	ng/mL	99
74) Chrysene/Triphenylene	43.043	228	5422	11.882	ng/mL	99
81) Benzo[b]fluoranthene	46.913	252	5879	14.183	ng/mL	99
82) Benzo[j]+[k]fluoranthene	47.003	252	6050	12.608	ng/mL	99
84) Benzo[e]pyrene	47.907	252	6257	13.837	ng/mL	94
86) Benzo[a]pyrene	48.087	252	6280	14.486	ng/mL	98
87) Perylene	48.389	252	6099	13.622	ng/mL	96
88) Indeno[1,2,3-cd]pyrene	52.786	276	6271M3	13.589	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.861	278	6482	14.745	ng/mL	93
90) Benzo[g,h,i]perylene	54.051	276	7420	14.449	ng/mL	97
91) Hopane (T19)	51.958	191	1128M4	10.738	ng/mL	
92) 17a(H),21B(H)-hopane - C3	51.958	191	1113M4	10.595	ng/mL	

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071630.D
Acq On : 16 Jan 2016 11:27 am
Operator : PAH2:ac
Sample : i201151601
Misc : l1 fraw20
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 20 17:44:40 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Mon Nov 23 10:36:31 2015
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

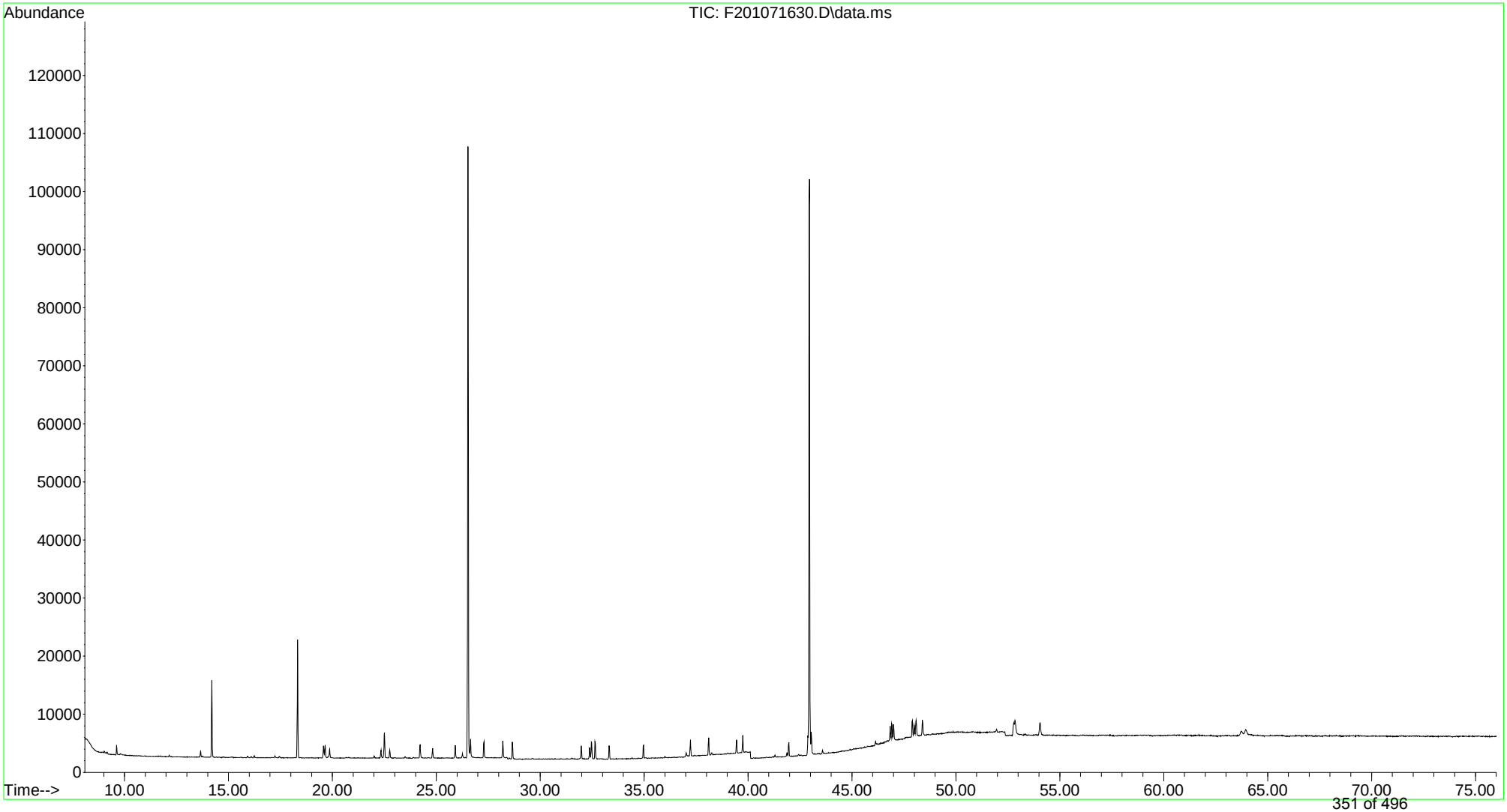
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071630.D
Acq On : 16 Jan 2016 11:27 am
Operator : PAH2:ac
Sample : i201151601
Misc : l1 fraw20
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 20 17:44:40 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Mon Nov 23 10:36:31 2015
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071631.D
Acq On : 16 Jan 2016 12:55 pm
Operator : PAH2:ac
Sample : i201151602
Misc : l2 fraw21
ALS Vial : 6 Sample Multiplier: 1

MJS
2-21-2016

Quant Time: Jan 20 17:44:46 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.527	164	110644M4	500.000	ng/mL	0.00
71) Chrysene-d12	42.953	240	181793	500.000	ng/mL	0.00
System Monitoring Compounds						
8) Naphthalene-d8	19.572	136	11157	30.604	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	3.06%#		
40) Phenanthrene-d10	32.383	188	8902	23.502	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	2.35%#		
80) Benzo[b]fluoranthene-d12	46.837	264	10281	27.732	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	2.77%#		
85) Benzo[a]pyrene-d12	47.997	264	9060	28.702	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	2.87%#		
126) 5B(H)Cholane - Surr	43.585	217	1420	23.879	ng/ml	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery =	2.39%#		
Target Compounds						Qvalue
2) trans-Decalin	16.245	138	1196	12.974	ng/mL	100
3) cis-Decalin	17.449	138	890	12.394	ng/mL	100
9) Naphthalene	19.647	128	11545	30.588	ng/mL	100
14) 2-Methylnaphthalene	22.342	142	7565	28.890	ng/mL	100
15) 1-Methylnaphthalene	22.764	142	7389	29.252	ng/mL	100
16) Benzothiophene	19.873	134	9363	30.146	ng/mL	100
21) Biphenyl	24.224	154	9521	28.368	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.826	156	6549	27.080	ng/mL	100
23) Dibenzofuran	27.295	168	10018	27.674	ng/mL	94
24) Acenaphthylene	25.910	152	11380	29.320	ng/mL	100
25) Acenaphthene	26.648	153	7071	27.405	ng/mL	99
26) 2,3,5-Trimethylnaphthalen	28.198	170	5880	25.749	ng/mL	96
27) Fluorene	28.665	166	8062M4	27.822	ng/mL	
31) Dibenzothiophene	31.977	184	10377	26.450	ng/mL#	93
41) Phenanthrene	32.459	178	11696	29.553	ng/mL	99
52) Retene	39.444	234	3150	20.351	ng/mL	95
53) Anthracene	32.639	178	11176	30.332	ng/mL	100
54) Carbazole	33.317	167	10457	31.045	ng/mL	100
55) 1-Methylphenanthrene	34.958	192	8081M4	25.579	ng/mL	
56) Fluoranthene	37.231	202	11671M4	25.203	ng/mL	
57) Benzo(b)fluorene	39.746	216	7384	24.052	ng/mL	100
58) Pyrene	38.104	202	12693	25.103	ng/mL	100
63) Naphthobenzothiophene	41.959	234	11452	25.946	ng/ml	95
64) Naphthobenzothiophene-2,1	41.959	234	11452	25.946	ng/mL	95
72) Benz[a]anthracene	42.877	228	10841M3	31.387	ng/mL	
73) Chrysene	43.043	228	11321	28.250	ng/mL	99
74) Chrysene/Triphenylene	43.043	228	11321	28.250	ng/mL	99
81) Benzo[b]fluoranthene	46.913	252	12424	34.130	ng/mL	96
82) Benzo[j]+[k]fluoranthene	47.003	252	13002	30.854	ng/mL	95
84) Benzo[e]pyrene	47.907	252	12568	31.649	ng/mL	93
86) Benzo[a]pyrene	48.087	252	12581	33.047	ng/mL	100
87) Perylene	48.389	252	12415	31.576	ng/mL	99
88) Indeno[1,2,3-cd]pyrene	52.786	276	13214M3	32.607	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.846	278	13166	34.105	ng/mL	97
90) Benzo[g,h,i]perylene	54.051	276	14827	32.877	ng/mL	100
91) Hopane (T19)	51.943	191	3102M4	33.626	ng/mL	
92) 17a(H),21B(H)-hopane - C3	51.943	191	3102M4	33.626	ng/mL	

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071631.D
Acq On : 16 Jan 2016 12:55 pm
Operator : PAH2:ac
Sample : i201151602
Misc : l2 fraw21
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 20 17:44:46 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

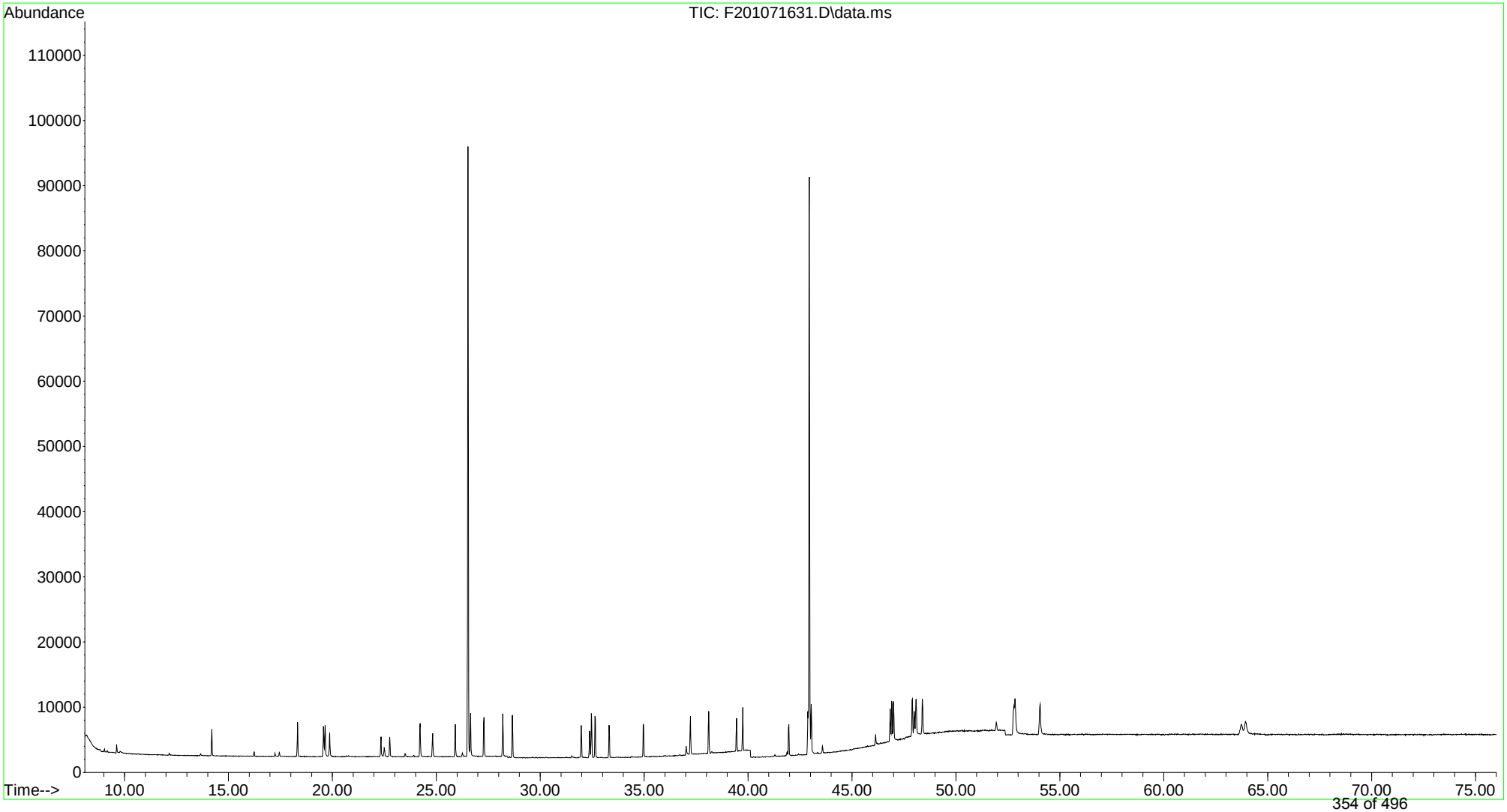
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071631.D
Acq On : 16 Jan 2016 12:55 pm
Operator : PAH2:ac
Sample : i201151602
Misc : l2 fraw21
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 20 17:44:46 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071632.D
Acq On : 16 Jan 2016 2:24 pm
Operator : PAH2:ac
Sample : i201151603
Misc : l3 fraw22
ALS Vial : 7 Sample Multiplier: 1

MJS
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Quant Time: Jan 20 17:44:51 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.527	164	109229	500.000	ng/mL	0.00
71) Chrysene-d12	42.937	240	176331	500.000	ng/mL	-0.02
System Monitoring Compounds						
8) Naphthalene-d8	19.572	136	42623	118.432	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 11.84%#			
40) Phenanthrene-d10	32.383	188	34660	92.691	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 9.27%#			
80) Benzo[b]fluoranthene-d12	46.837	264	38903	108.186	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 10.82%#			
85) Benzo[a]pyrene-d12	47.997	264	34468	112.578	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 11.26%#			
126) 5B(H)Cholane - Surr	43.585	217	5467	94.783	ng/ml	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 9.48%#			
Target Compounds						Qvalue
2) trans-Decalin	16.245	138	4412	48.481	ng/mL	100
3) cis-Decalin	17.449	138	3459	48.794	ng/mL	100
9) Naphthalene	19.647	128	44738	120.066	ng/mL	100
14) 2-Methylnaphthalene	22.342	142	29045	112.356	ng/mL	100
15) 1-Methylnaphthalene	22.763	142	28468	114.160	ng/mL	100
16) Benzothiophene	19.873	134	35429	115.549	ng/mL	100
21) Biphenyl	24.224	154	36207	109.279	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.826	156	25686	107.588	ng/mL	100
23) Dibenzofuran	27.295	168	39296	109.957	ng/mL	95
24) Acenaphthylene	25.910	152	43461	113.425	ng/mL	100
25) Acenaphthene	26.648	153	27347	107.363	ng/mL	99
26) 2,3,5-Trimethylnaphthalen	28.198	170	22938	101.750	ng/mL	93
27) Fluorene	28.665	166	31721M4	110.886	ng/mL	
31) Dibenzothiophene	31.977	184	40269	103.970	ng/mL	94
41) Phenanthrene	32.458	178	45861	117.382	ng/mL	99
52) Retene	39.444	234	12090	79.123	ng/mL	94
53) Anthracene	32.639	178	43562M4	119.762	ng/mL	
54) Carbazole	33.316	167	41465M4	124.695	ng/mL	
55) 1-Methylphenanthrene	34.973	192	31036M4	99.512	ng/mL	
56) Fluoranthene	37.231	202	45671	99.900	ng/mL	99
57) Benzo(b)fluorene	39.745	216	28567	94.256	ng/mL	100
58) Pyrene	38.104	202	50186	100.538	ng/mL	99
63) Naphthobenzothiophene	41.959	234	45350	104.076	ng/ml	96
64) Naphthobenzothiophene-2,1	41.959	234	45350	104.076	ng/mL	96
72) Benz[a]anthracene	42.877	228	43549	129.989	ng/mL	100
73) Chrysene	43.043	228	45029	115.843	ng/mL	100
74) Chrysene/Triphenylene	43.043	228	45029	115.843	ng/mL	100
81) Benzo[b]fluoranthene	46.913	252	47578	134.749	ng/mL	100
82) Benzo[j]+[k]fluoranthene	47.003	252	50502	123.555	ng/mL	98
84) Benzo[e]pyrene	47.907	252	47324	122.865	ng/mL	98
86) Benzo[a]pyrene	48.087	252	47822	129.508	ng/mL	99
87) Perylene	48.389	252	48884	128.181	ng/mL	100
88) Indeno[1,2,3-cd]pyrene	52.786	276	49128M3	124.984	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.846	278	50723	135.460	ng/mL	99
90) Benzo[g,h,i]perylene	54.051	276	55739	127.423	ng/mL	100
91) Hopane (T19)	51.943	191	11504	128.568	ng/mL	100
92) 17a(H),21B(H)-hopane - C3	51.943	191	11504	128.568	ng/mL	100

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071632.D
Acq On : 16 Jan 2016 2:24 pm
Operator : PAH2:ac
Sample : i201151603
Misc : l3 fraw22
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jan 20 17:44:51 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

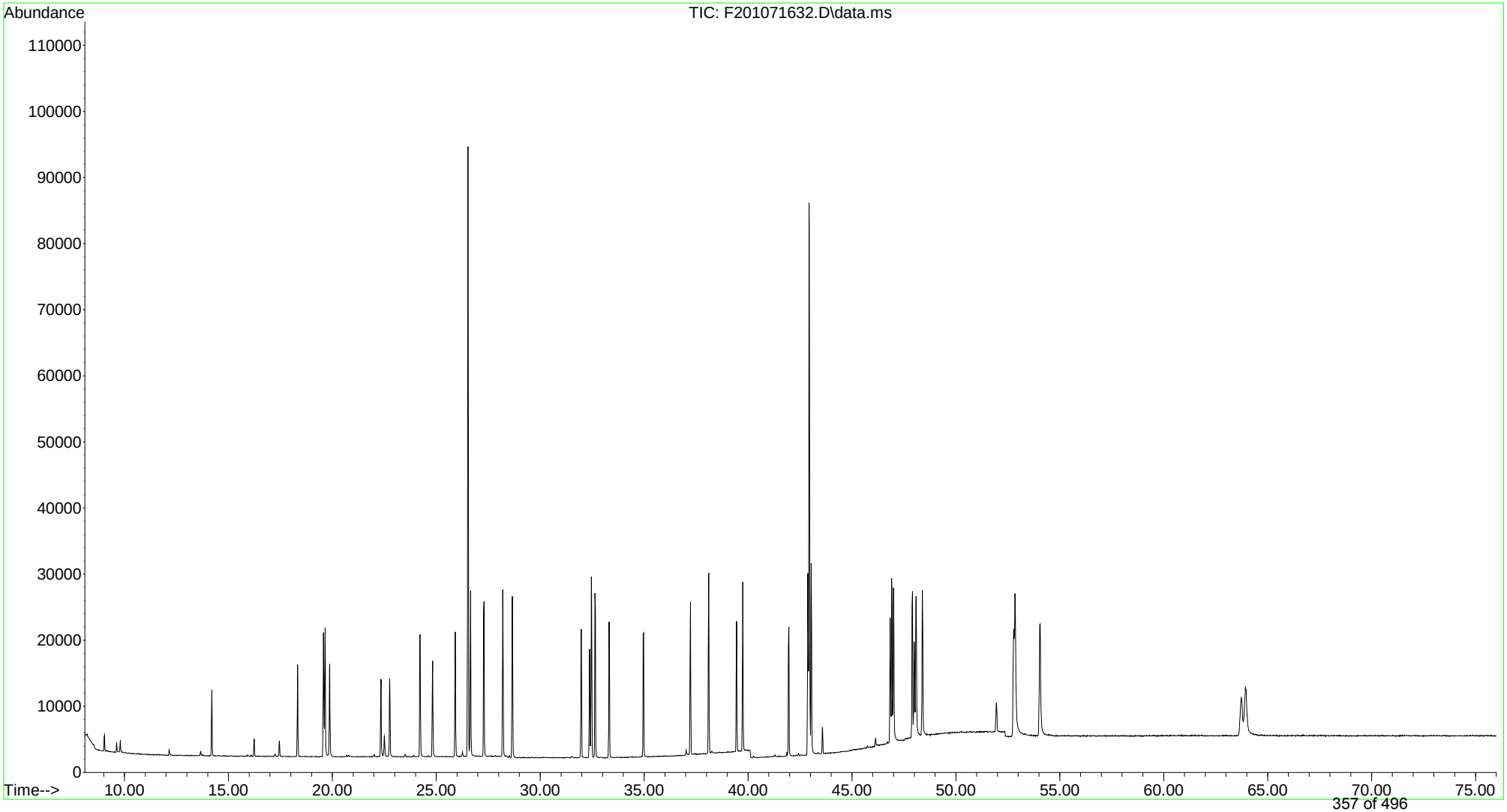
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071632.D
Acq On : 16 Jan 2016 2:24 pm
Operator : PAH2:ac
Sample : i201151603
Misc : l3 fraw22
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jan 20 17:44:51 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071633.D
Acq On : 16 Jan 2016 3:53 pm
Operator : PAH2:ac
Sample : i201151604
Misc : l4 fraw88
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 20 17:44:56 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

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Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.527	164	137615	500.000	ng/mL	0.00
71) Chrysene-d12	42.952	240	230400	500.000	ng/mL	0.00
System Monitoring Compounds						
8) Naphthalene-d8	19.572	136	261586	576.917	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 57.69%			
40) Phenanthrene-d10	32.383	188	225994	479.711	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 47.97%#			
80) Benzo[b]fluoranthene-d12	46.837	264	256092	545.042	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 54.50%			
85) Benzo[a]pyrene-d12	47.997	264	222416	555.970	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 55.60%			
126) 5B(H)Cholane - Surr	43.585	217	36047	478.297	ng/ml	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 47.83%#			
Target Compounds						Qvalue
2) trans-Decalin	16.245	138	27799	242.459	ng/mL	100
3) cis-Decalin	17.449	138	21765	243.696	ng/mL	100
9) Naphthalene	19.647	128	273542	582.693	ng/mL	100
14) 2-Methylnaphthalene	22.342	142	186905	573.876	ng/mL	100
15) 1-Methylnaphthalene	22.763	142	180184	573.517	ng/mL	100
16) Benzothiophene	19.873	134	221469	573.312	ng/mL	100
21) Biphenyl	24.224	154	231324	554.161	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.826	156	165893	551.530	ng/mL	100
23) Dibenzofuran	27.295	168	243899	541.699	ng/mL	95
24) Acenaphthylene	25.910	152	279445M4	578.866	ng/mL	
25) Acenaphthene	26.648	153	172598	537.837	ng/mL	99
26) 2,3,5-Trimethylnaphthalen	28.198	170	147195	518.258	ng/mL	94
27) Fluorene	28.665	166	204882	568.468	ng/mL	99
31) Dibenzothiophene	31.977	184	255840	524.296	ng/mL	94
41) Phenanthrene	32.458	178	298094	605.595	ng/mL	99
52) Retene	39.444	234	82560	428.861	ng/mL	95
53) Anthracene	32.639	178	277949M4	606.523	ng/mL	
54) Carbazole	33.316	167	268985	642.050	ng/mL	100
55) 1-Methylphenanthrene	34.973	192	204302M4	519.943	ng/mL	
56) Fluoranthene	37.231	202	300056M4	520.955	ng/mL	
57) Benzo(b)fluorene	39.745	216	194071	508.248	ng/mL	100
58) Pyrene	38.104	202	336705	535.386	ng/mL	99
63) Naphthobenzothiophene	41.959	234	291312	530.646	ng/ml	96
64) Naphthobenzothiophene-2,1	41.959	234	291312	530.646	ng/mL	96
72) Benz[a]anthracene	42.877	228	284922	650.879	ng/mL	100
73) Chrysene	43.043	228	288923	568.862	ng/mL	100
74) Chrysene/Triphenylene	43.043	228	288923	568.862	ng/mL	100
81) Benzo[b]fluoranthene	46.928	252	313113	678.684	ng/mL	99
82) Benzo[j]+[k]fluoranthene	47.003	252	326080	610.549	ng/mL	99
84) Benzo[e]pyrene	47.907	252	304461	604.959	ng/mL	99
86) Benzo[a]pyrene	48.087	252	314476	651.782	ng/mL	99
87) Perylene	48.388	252	310167	622.440	ng/mL	98
88) Indeno[1,2,3-cd]pyrene	52.786	276	326132M3	634.989	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.846	278	338382	691.609	ng/mL	99
90) Benzo[g,h,i]perylene	54.051	276	356327	623.424	ng/mL	100
91) Hopane (T19)	51.958	191	70569	603.594	ng/mL	95
92) 17a(H),21B(H)-hopane - C3	51.958	191	70569	603.594	ng/mL	95

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071633.D
Acq On : 16 Jan 2016 3:53 pm
Operator : PAH2:ac
Sample : i201151604
Misc : l4 fraw88
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 20 17:44:56 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

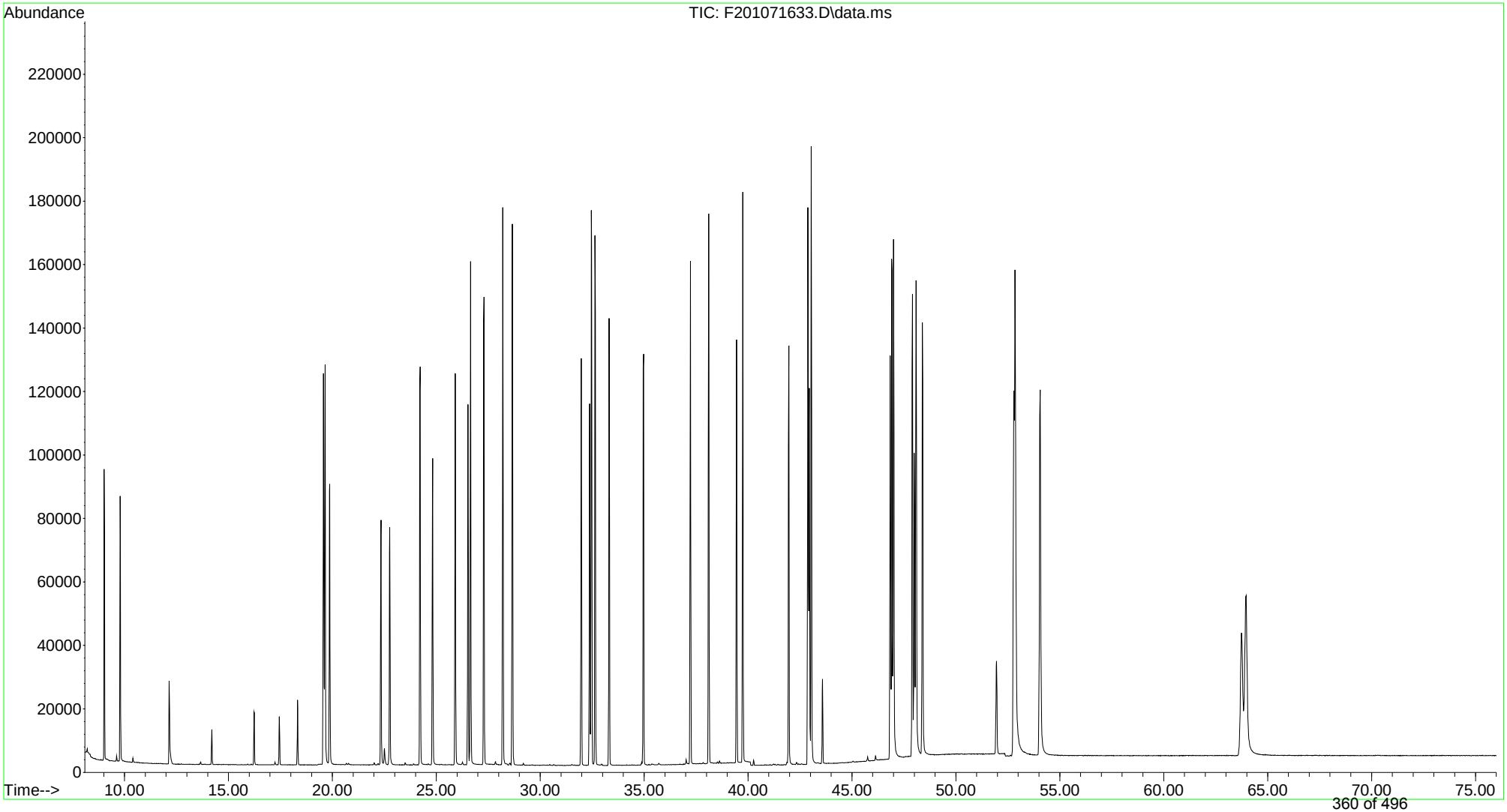
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071633.D
Acq On : 16 Jan 2016 3:53 pm
Operator : PAH2:ac
Sample : i201151604
Misc : l4 fraw88
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 20 17:44:56 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071634.D
Acq On : 16 Jan 2016 5:21 pm
Operator : PAH2:ac
Sample : i201151605
Misc : l5 fraw24
ALS Vial : 9 Sample Multiplier: 1

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Quant Time: Jan 20 17:45:02 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.527	164	113328M4	500.000	ng/mL	0.00
71) Chrysene-d12	42.952	240	185720	500.000	ng/mL	0.00
System Monitoring Compounds						
8) Naphthalene-d8	19.572	136	2189117	5862.679	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 586.27%#			
40) Phenanthrene-d10	32.383	188	1827038	4709.327	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 470.93%#			
80) Benzo[b]fluoranthene-d12	46.852	264	2174755	5742.068	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery = 574.21%#			
85) Benzo[a]pyrene-d12	48.012	264	1907531	5915.351	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery = 591.54%#			
126) 5B(H)Cholane - Surr	43.585	217	317177	5221.002	ng/ml	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 522.10%#			
Target Compounds						Qvalue
2) trans-Decalin	16.245	138	231775	2454.731	ng/mL	100
3) cis-Decalin	17.449	138	181794	2471.717	ng/mL	100
9) Naphthalene	19.647	128	2259689	5845.119	ng/mL	100
14) 2-Methylnaphthalene	22.342	142	1524359	5683.465	ng/mL	100
15) 1-Methylnaphthalene	22.763	142	1489977	5758.885	ng/mL	100
16) Benzothiophene	19.873	134	1833168	5762.478	ng/mL	100
21) Biphenyl	24.224	154	1893082	5506.982	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.826	156	1405017	5672.191	ng/mL	100
23) Dibenzofuran	27.295	168	1966703	5304.147	ng/mL	94
24) Acenaphthylene	25.910	152	2315367M4	5824.115	ng/mL	
25) Acenaphthene	26.648	153	1414327	5351.722	ng/mL	100
26) 2,3,5-Trimethylnaphthalen	28.198	170	1226966	5245.826	ng/mL	93
27) Fluorene	28.665	166	1664050	5606.569	ng/mL	99
31) Dibenzothiophene	31.977	184	2074488	5162.355	ng/mL	94
41) Phenanthrene	32.473	178	2333587	5756.805	ng/mL	100
52) Retene	39.459	234	713460	4500.341	ng/mL	92
53) Anthracene	32.654	178	2085154M4	5525.207	ng/mL	
54) Carbazole	33.316	167	2148882	6228.477	ng/mL	99
55) 1-Methylphenanthrene	34.973	192	1705152M4	5269.563	ng/mL	
56) Fluoranthene	37.231	202	2430066M4	5123.242	ng/mL	
57) Benzo(b)fluorene	39.761	216	1608474	5115.146	ng/mL	100
58) Pyrene	38.119	202	2682078	5178.664	ng/mL	100
63) Naphthobenzothiophene	41.959	234	2339886	5175.712	ng/ml	96
64) Naphthobenzothiophene-2,1	41.959	234	2339886	5175.712	ng/mL	96
72) Benz[a]anthracene	42.892	228	2315482	6562.047	ng/mL	99
73) Chrysene	43.058	228	2285523	5582.574	ng/mL	99
74) Chrysene/Triphenylene	43.058	228	2285523	5582.574	ng/mL	99
81) Benzo[b]fluoranthene	46.928	252	2611981	7023.612	ng/mL	100
82) Benzo[j]+[k]fluoranthene	47.018	252	2541307	5903.060	ng/mL	100
84) Benzo[e]pyrene	47.922	252	2426738	5981.926	ng/mL	100
86) Benzo[a]pyrene	48.102	252	2479890	6376.331	ng/mL	100
87) Perylene	48.404	252	2422331	6030.586	ng/mL	100
88) Indeno[1,2,3-cd]pyrene	52.816	276	2856408M3	6899.487	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.876	278	2841092	7203.817	ng/mL	99
90) Benzo[g,h,i]perylene	54.081	276	2894126	6281.685	ng/mL	99
91) Hopane (T19)	51.958	191	626891	6651.917	ng/mL	95
92) 17a(H),21B(H)-hopane - C3	51.958	191	626891	6651.917	ng/mL	95

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071634.D
Acq On : 16 Jan 2016 5:21 pm
Operator : PAH2:ac
Sample : i201151605
Misc : l5 fraw24
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jan 20 17:45:02 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

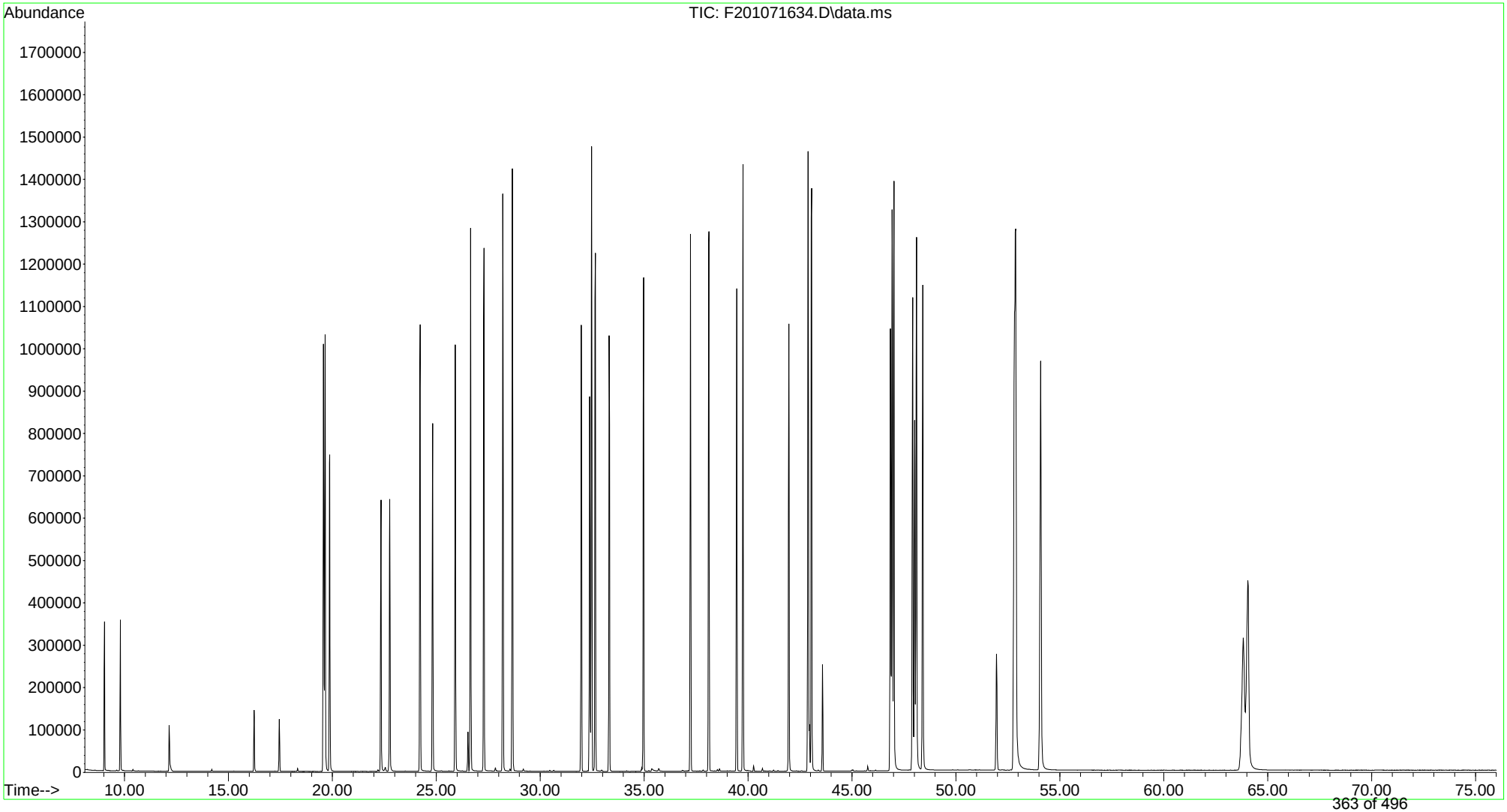
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071634.D
Acq On : 16 Jan 2016 5:21 pm
Operator : PAH2:ac
Sample : i201151605
Misc : l5 fraw24
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jan 20 17:45:02 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071635.D
Acq On : 16 Jan 2016 6:49 pm
Operator : PAH2:ac
Sample : i201151606
Misc : l6 fraw25
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 20 17:45:09 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

MJS
2-21-2016

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.527	164	113374	500.000	ng/mL	0.00
71) Chrysene-d12	42.953	240	193837	500.000	ng/mL	0.00
System Monitoring Compounds						
8) Naphthalene-d8	19.572	136	4332707	11598.724	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery	= 1159.87%#		
40) Phenanthrene-d10	32.383	188	3526517	9086.173	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery	= 908.62%#		
80) Benzo[b]fluoranthene-d12	46.868	264	4290995	10855.203	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery	= 1085.52%#		
85) Benzo[a]pyrene-d12	48.027	264	3727274	11074.451	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery	= 1107.45%#		
126) 5B(H)Cholane - Surr	43.585	217	642397	10131.592	ng/ml	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery	= 1013.16%#		
Target Compounds						Qvalue
2) trans-Decalin	16.245	138	476904	5048.846	ng/mL	100
3) cis-Decalin	17.449	138	372338	5060.347	ng/mL	100
9) Naphthalene	19.647	128	4477156	11576.323	ng/mL	100
14) 2-Methylnaphthalene	22.342	142	3054978	11385.649	ng/mL	100
15) 1-Methylnaphthalene	22.764	142	2936238	11344.199	ng/mL	100
16) Benzothiophene	19.873	134	3612583	11351.378	ng/mL	100
21) Biphenyl	24.224	154	3671816	10676.991	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.826	156	2738011	11049.134	ng/mL	100
23) Dibenzofuran	27.295	168	3750331	10110.442	ng/mL	93
24) Acenaphthylene	25.925	152	4536199M4	11405.805	ng/mL	
25) Acenaphthene	26.648	153	2741489	10369.408	ng/mL	100
26) 2,3,5-Trimethylnaphthalen	28.213	170	2358412	10079.170	ng/mL	94
27) Fluorene	28.665	166	3225684	10863.665	ng/mL	99
31) Dibenzothiophene	31.977	184	3963950	9860.272	ng/mL#	93
41) Phenanthrene	32.474	178	4444985	10961.035	ng/mL	99
52) Retene	39.459	234	1420625	8957.338	ng/mL	91
53) Anthracene	32.654	178	3691880M4	9778.715	ng/mL	
54) Carbazole	33.332	167	4113555M4	11918.192	ng/mL	
55) 1-Methylphenanthrene	34.973	192	3213019M4	9925.412	ng/mL	
56) Fluoranthene	37.246	202	4594211M4	9681.920	ng/mL	
57) Benzo(b)fluorene	39.761	216	3151903	10019.374	ng/mL	99
58) Pyrene	38.119	202	5072366	9789.955	ng/mL	99
63) Naphthobenzothiophene	41.974	234	4485894	9918.550	ng/ml	95
64) Naphthobenzothiophene-2,1	41.974	234	4485894	9918.550	ng/mL	95
72) Benz[a]anthracene	42.892	228	4445955	12072.160	ng/mL	99
73) Chrysene	43.058	228	4331094	10136.045	ng/mL	99
74) Chrysene/Triphenylene	43.058	228	4331094	10136.045	ng/mL	99
81) Benzo[b]fluoranthene	46.943	252	5006218	12897.996	ng/mL	98
82) Benzo[j]+[k]fluoranthene	47.033	252	4741125	10551.725	ng/mL	98
84) Benzo[e]pyrene	47.937	252	4627446	10929.028	ng/mL	99
86) Benzo[a]pyrene	48.133	252	4573137	11266.127	ng/mL	99
87) Perylene	48.434	252	4571585	10904.727	ng/mL	99
88) Indeno[1,2,3-cd]pyrene	52.846	276	5937142M3	13740.292	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.892	278	5656893	13742.868	ng/mL	99
90) Benzo[g,h,i]perylene	54.111	276	5753613	11965.239	ng/mL	98
91) Hopane (T19)	51.973	191	1270505	12916.748	ng/mL	95
92) 17a(H),21B(H)-hopane - C3	51.973	191	1270505	12916.748	ng/mL	95

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071635.D
Acq On : 16 Jan 2016 6:49 pm
Operator : PAH2:ac
Sample : i201151606
Misc : l6 fraw25
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 20 17:45:09 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

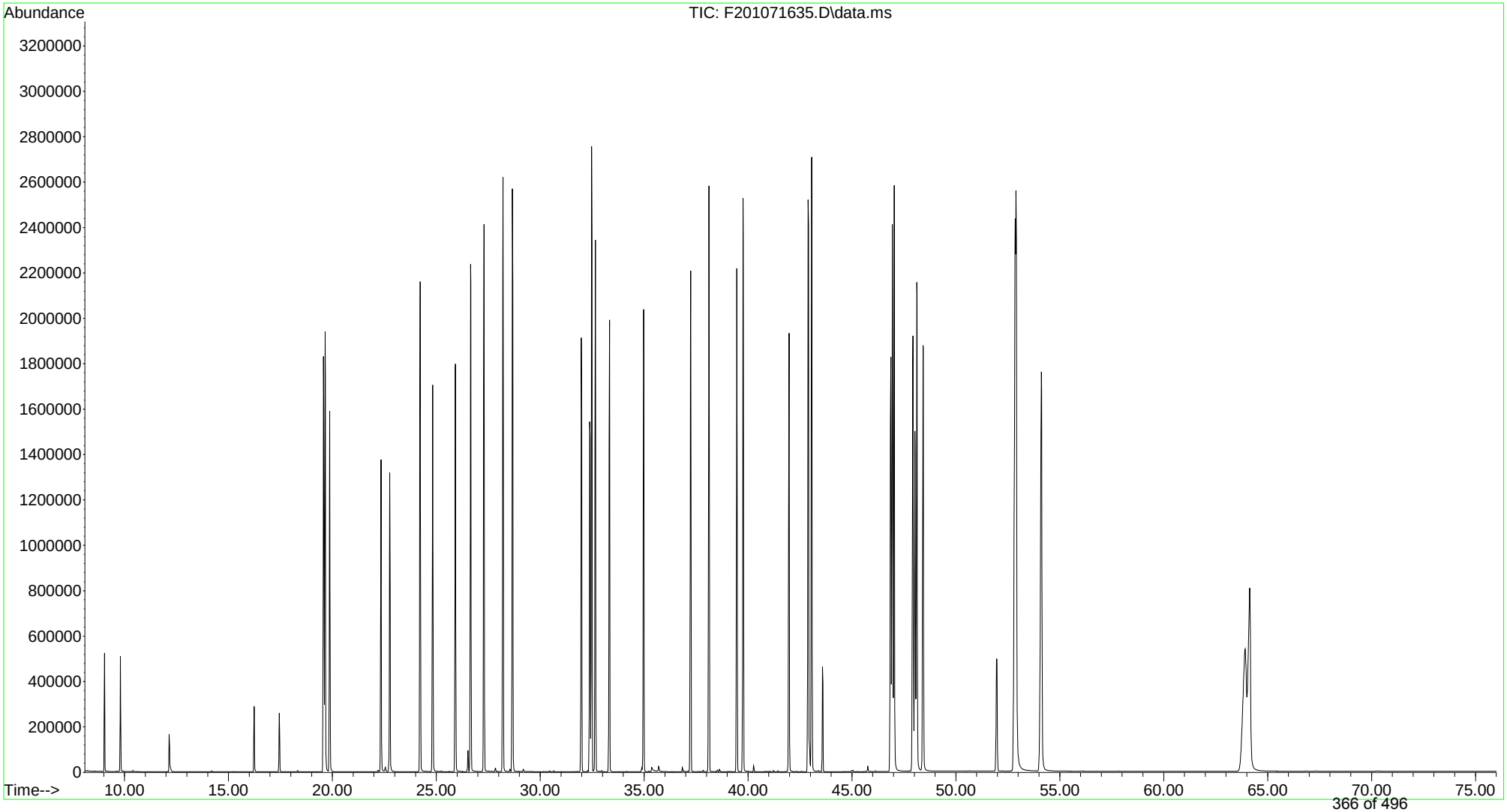
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071635.D
Acq On : 16 Jan 2016 6:49 pm
Operator : PAH2:ac
Sample : i201151606
Misc : l6 fraw25
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 20 17:45:09 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071636.D
Acq On : 16 Jan 2016 8:17 pm
Operator : PAH2:ac
Sample : i201151607
Misc : l7 fraw25
ALS Vial : 11 Sample Multiplier: 1

MJS
2-21-2016

Quant Time: Jan 20 17:45:14 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Acenaphthene-d10	26.527	164	110147	500.000 ng/mL	0.00
71) Chrysene-d12	42.967	240	190991	500.000 ng/mL	0.02
System Monitoring Compounds					
8) Naphthalene-d8	19.587	136	7694543	21201.887 ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery	= 2120.19%#	
40) Phenanthrene-d10	32.398	188	6363866	16877.062 ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery	= 1687.71%#	
80) Benzo[b]fluoranthene-d12	46.882	264	7855718	20169.244 ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery	= 2016.92%#	
85) Benzo[a]pyrene-d12	48.057	264	6755271	20370.300 ng/mL	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery	= 2037.03%#	
126) 5B(H)Cholane - Surr	43.600	217	1262744	20212.186 ng/ml	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery	= 2021.22%#	
Target Compounds					Qvalue
2) trans-Decalin	16.245	138	871981	9501.868 ng/mL	100
3) cis-Decalin	17.449	138	686005	9596.458 ng/mL	100
9) Naphthalene	19.662	128	7866416	20935.634 ng/mL	100
14) 2-Methylnaphthalene	22.342	142	5438084	20861.062 ng/mL	100
15) 1-Methylnaphthalene	22.778	142	5303473	21090.348 ng/mL	100
16) Benzothiophene	19.873	134	6453900	20873.429 ng/mL	100
21) Biphenyl	24.224	154	6518940	19511.279 ng/mL	100
22) 2,6-Dimethylnaphthalene	24.841	156	4813190	19992.488 ng/mL	100
23) Dibenzofuran	27.310	168	6602307	18320.489 ng/mL	91
24) Acenaphthylene	25.925	152	7877216M4	20386.721 ng/mL	
25) Acenaphthene	26.663	153	4865850	18943.794 ng/mL	100
26) 2,3,5-Trimethylnaphthalen	28.213	170	4214893	18540.970 ng/mL	95
27) Fluorene	28.680	166	5703841	19772.552 ng/mL	99
31) Dibenzothiophene	31.992	184	6948273	17790.100 ng/mL#	92
41) Phenanthrene	32.488	178	7715532	19583.394 ng/mL	98
52) Retene	39.474	234	2665153	17296.668 ng/mL	86
53) Anthracene	32.669	178	6130864M4	16714.627 ng/mL	
54) Carbazole	33.347	167	7325628M4	21846.342 ng/mL	
55) 1-Methylphenanthrene	34.988	192	5883039M4	18705.865 ng/mL	
56) Fluoranthene	37.261	202	8270191M4	17939.358 ng/mL	
57) Benzo(b)fluorene	39.791	216	5562660	18200.823 ng/mL	99
58) Pyrene	38.134	202	8958015	17796.012 ng/mL	97
63) Naphthobenzothiophene	41.989	234	8109498	18455.846 ng/ml	94
64) Naphthobenzothiophene-2,1	41.989	234	8109498	18455.846 ng/mL	94
72) Benz[a]anthracene	42.907	228	8030003	22128.879 ng/mL	98
73) Chrysene	43.073	228	7661067	18196.336 ng/mL	98
74) Chrysene/Triphenylene	43.073	228	7661067	18196.336 ng/mL	98
81) Benzo[b]fluoranthene	46.973	252	8951710	23406.811 ng/mL	97
82) Benzo[j]+[k]fluoranthene	47.048	252	8378092	18923.913 ng/mL	96
84) Benzo[e]pyrene	47.952	252	8289738	19870.315 ng/mL	98
86) Benzo[a]pyrene	48.147	252	8078965	20199.468 ng/mL	98
87) Perylene	48.449	252	8322027	20146.560 ng/mL	98
88) Indeno[1,2,3-cd]pyrene	52.876	276	11121529M3	26122.023 ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.937	278	10427483	25710.035 ng/mL	98
90) Benzo[g,h,i]perylene	54.171	276	10562477	22293.091 ng/mL	97

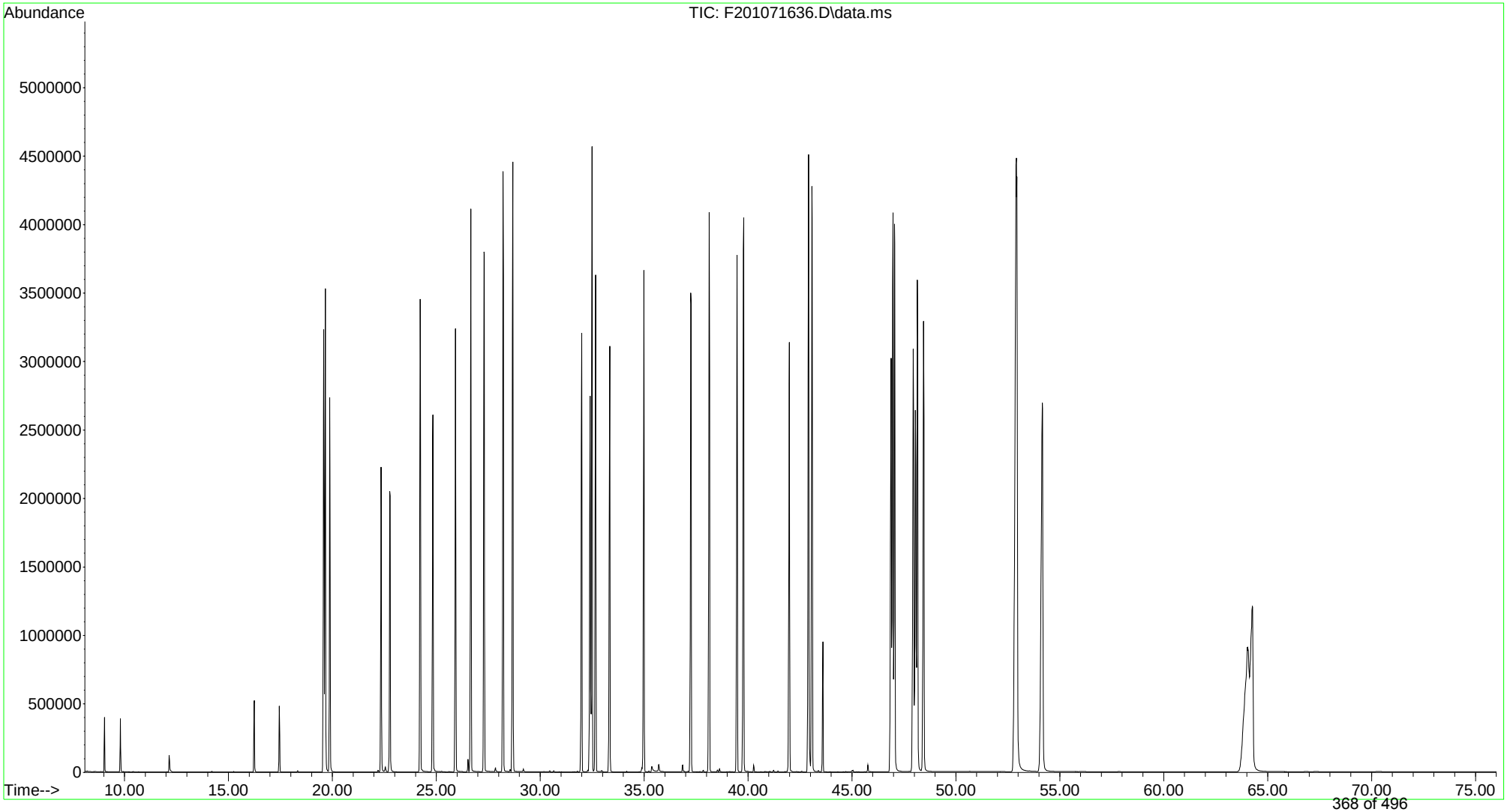
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071636.D
Acq On : 16 Jan 2016 8:17 pm
Operator : PAH2:ac
Sample : i201151607
Misc : l7 fraw25
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 20 17:45:14 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 17:41:31 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071638.D
Acq On : 16 Jan 2016 11:13 pm
Operator : PAH2:ac
Sample : q201151601
Misc : fraw33
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 20 17:45:19 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 18:04:12 2016
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	i	Acenaphthene-d10	1.000	1.000	0.0	75	0.00
2	A1	trans-Decalin	0.417	0.402	3.6	75	0.00
3	t	cis-Decalin	0.326	0.315	3.4	75	0.00
8	s	Naphthalene-d8	1.927	0.000#	100.0#	0#	-19.57#
9	A1	Naphthalene	1.996	2.040	-2.2	77	0.00
14	t	2-Methylnaphthalene	1.337	1.379	-3.1	77	0.00
15	t	1-Methylnaphthalene	1.303	1.300	0.2	75	0.00
16	A1	Benzothiophene	1.608	1.627	-1.2	76	0.00
21	t	Biphenyl	1.649	1.712	-3.8	77	0.00
22	t	2,6-Dimethylnaphthalene	1.190	1.200	-0.8	75	0.00
23	t	Dibenzofuran	1.730	1.808	-4.5	77	0.00
24	t	Acenaphthylene	1.991	2.033	-2.1	76	0.00
25	t	Acenaphthene	1.235	1.281	-3.7	77	0.00
26	t	2,3,5-Trimethylnaphthalene	1.050	1.057	-0.7	75	0.00
27	A1	Fluorene	1.441	1.512	-4.9	77	0.00
31	A1	Dibenzothiophene	1.796	1.915	-6.6	78	0.00
40	s	Phenanthrene-d10	1.588	0.000#	100.0#	0#	-32.38#
41	A1	Phenanthrene	2.038	2.155	-5.7	75	0.00
52	t	Retene	0.595	0.568	4.5	71	0.00
53	t	Anthracene	1.849	2.044	-10.5	76	0.00
54	t	Carbazole	1.866	1.969	-5.5	76	0.00
55	t	1-Methylphenanthrene	1.445	1.472	-1.9	75	-0.01
56	A1	Fluoranthene	2.080	2.159	-3.8	75	0.00
57	t	Benzo(b)fluorene	1.354	1.386	-2.4	74	0.00
58	A1	Pyrene	2.294	2.387	-4.1	74	0.00
63	A1	Naphthobenzothiophene	2.050	2.154	-5.1	77	0.00
64	A2	Naphthobenzothiophene-2,1-D	2.050	2.154	-5.1	77	0.00
71	i	Chrysene-d12	1.000	1.000	0.0	73	-0.01
72	t	Benz[a]anthracene	1.201	1.262	-5.1	74	0.00
73	A1	Chrysene	1.205	1.310	-8.7	76	0.00
74	A2	Chrysene/Triphenylene	1.205	1.310	-8.7	76	0.00
80	s	Benzo[b]fluoranthene-d12	1.123	0.000#	100.0#	0#	-46.84#
81	t	Benzo[b]fluoranthene	1.338	1.349	-0.8	72	-0.01
82	A1	Benzo[j]+[k]fluoranthene	1.347	1.485	-10.2	76	0.00
84	t	Benzo[e]pyrene	1.306	1.347	-3.1	74	0.00
85	s	Benzo[a]pyrene-d12	0.983	0.000#	100.0#	0#	-48.00#
86	t	Benzo[a]pyrene	1.313	1.367	-4.1	73	0.00
87	t	Perylene	1.306	1.390	-6.4	75	0.00
88	t	Indeno[1,2,3-cd]pyrene	1.472	1.433	2.6	74	0.00
89	t	Dibenz[ah]+[ac]anthracene	1.468	1.507	-2.7	75	0.00
90	t	Benzo[g,h,i]perylene	1.568	1.540	1.8	72	0.00
91	A1	Hopane (T19)	0.319	0.000#	100.0#	0#	-51.96#
92	A2	17a(H),21B(H)-hopane - C30H	0.319	0.000#	100.0#	0#	-51.96#
126	SA1	5B(H)Cholane - Surr	0.164	0.000#	100.0#	0#	-43.58#

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 0

Mass Discrimination (Concentration)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	0.93	0.70 - 1.30

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071638.D
Acq On : 16 Jan 2016 11:13 pm
Operator : PAH2:ac
Sample : q201151601
Misc : fraw33
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 20 17:45:19 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 18:04:12 2016
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area% Dev(min)
Mass Discrimination (Response)			Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene			1.15	0.70 - 2.00

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071638.D
Acq On : 16 Jan 2016 11:13 pm
Operator : PAH2:ac
Sample : q201151601
Misc : fraw33
ALS Vial : 13 Sample Multiplier: 1

MJS
2-21-2016

Quant Time: Jan 20 17:45:19 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 18:04:12 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.527	164	103822	500.000	ng/mL	0.00
71) Chrysene-d12	42.938	240	167289	500.000	ng/mL	-0.01
System Monitoring Compounds						
8) Naphthalene-d8	0.000	136	0d	0.000	ng/mL	
Spiked Amount 1000.000	Range 50 - 130		Recovery =	0.00%#		
40) Phenanthrene-d10	0.000	188	0d	0.000	ng/mL	
Spiked Amount 1000.000	Range 50 - 130		Recovery =	0.00%#		
80) Benzo[b]fluoranthene-d12	0.000	264	0d	0.000	ng/mL	
Spiked Amount 1000.000	Range 50 - 130		Recovery =	0.00%#		
85) Benzo[a]pyrene-d12	0.000	264	0d	0.000	ng/mL	
Spiked Amount 1000.000	Range 50 - 130		Recovery =	0.00%#		
126) 5B(H)Cholane - Surr	0.000	217	0	0.000	ng/ml	
Spiked Amount 1000.000	Range 50 - 130		Recovery =	0.00%#		
Target Compounds						Qvalue
2) trans-Decalin	16.245	138	20861	241.181	ng/mL	100
3) cis-Decalin	17.449	138	16352	241.720	ng/mL	100
9) Naphthalene	19.647	128	211745	510.956	ng/mL	100
14) 2-Methylnaphthalene	22.342	142	143207	515.967	ng/mL	100
15) 1-Methylnaphthalene	22.764	142	134926	498.699	ng/mL	100
16) Benzothiophene	19.873	134	168937	505.936	ng/mL	100
21) Biphenyl	24.224	154	177730	519.032	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.826	156	124593	504.300	ng/mL	100
23) Dibenzofuran	27.295	168	187700	522.658	ng/mL	95
24) Acenaphthylene	25.910	152	211114M4	510.692	ng/mL	
25) Acenaphthene	26.648	153	133025	518.758	ng/mL	99
26) 2,3,5-Trimethylnaphthalen	28.198	170	109731	503.063	ng/mL	95
27) Fluorene	28.665	166	156979M4	524.508	ng/mL	
31) Dibenzothiophene	31.977	184	198821	533.205	ng/mL	94
41) Phenanthrene	32.459	178	223752	528.811	ng/mL	99
52) Retene	39.444	234	58975	477.096	ng/mL	96
53) Anthracene	32.639	178	212242M4	552.700	ng/mL	
54) Carbazole	33.317	167	204475	527.812	ng/mL	100
55) 1-Methylphenanthrene	34.958	192	152785M4	509.156	ng/mL	
56) Fluoranthene	37.231	202	224181M4	519.007	ng/mL	
57) Benzo(b)fluorene	39.746	216	143944	511.943	ng/mL	100
58) Pyrene	38.104	202	247811	520.316	ng/mL	99
63) Naphthobenzothiophene	41.959	234	223645	525.495	ng/ml	97
64) Naphthobenzothiophene-2,1	41.959	234	223645	525.495	ng/mL	97
72) Benz[a]anthracene	42.877	228	211053	525.195	ng/mL	100
73) Chrysene	43.043	228	219131	543.425	ng/mL	100
74) Chrysene/Triphenylene	43.043	228	219131	543.425	ng/mL	100
81) Benzo[b]fluoranthene	46.913	252	225723	504.308	ng/mL	99
82) Benzo[j]+[k]fluoranthene	47.003	252	248471	551.447	ng/mL	98
84) Benzo[e]pyrene	47.907	252	225354	515.693	ng/mL	99
86) Benzo[a]pyrene	48.087	252	228706	520.427	ng/mL	98
87) Perylene	48.389	252	232517	532.000	ng/mL	98
88) Indeno[1,2,3-cd]pyrene	52.786	276	239768M3	486.924	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.846	278	252096	513.320	ng/mL	99
90) Benzo[g,h,i]perylene	54.051	276	257651	491.143	ng/mL	100

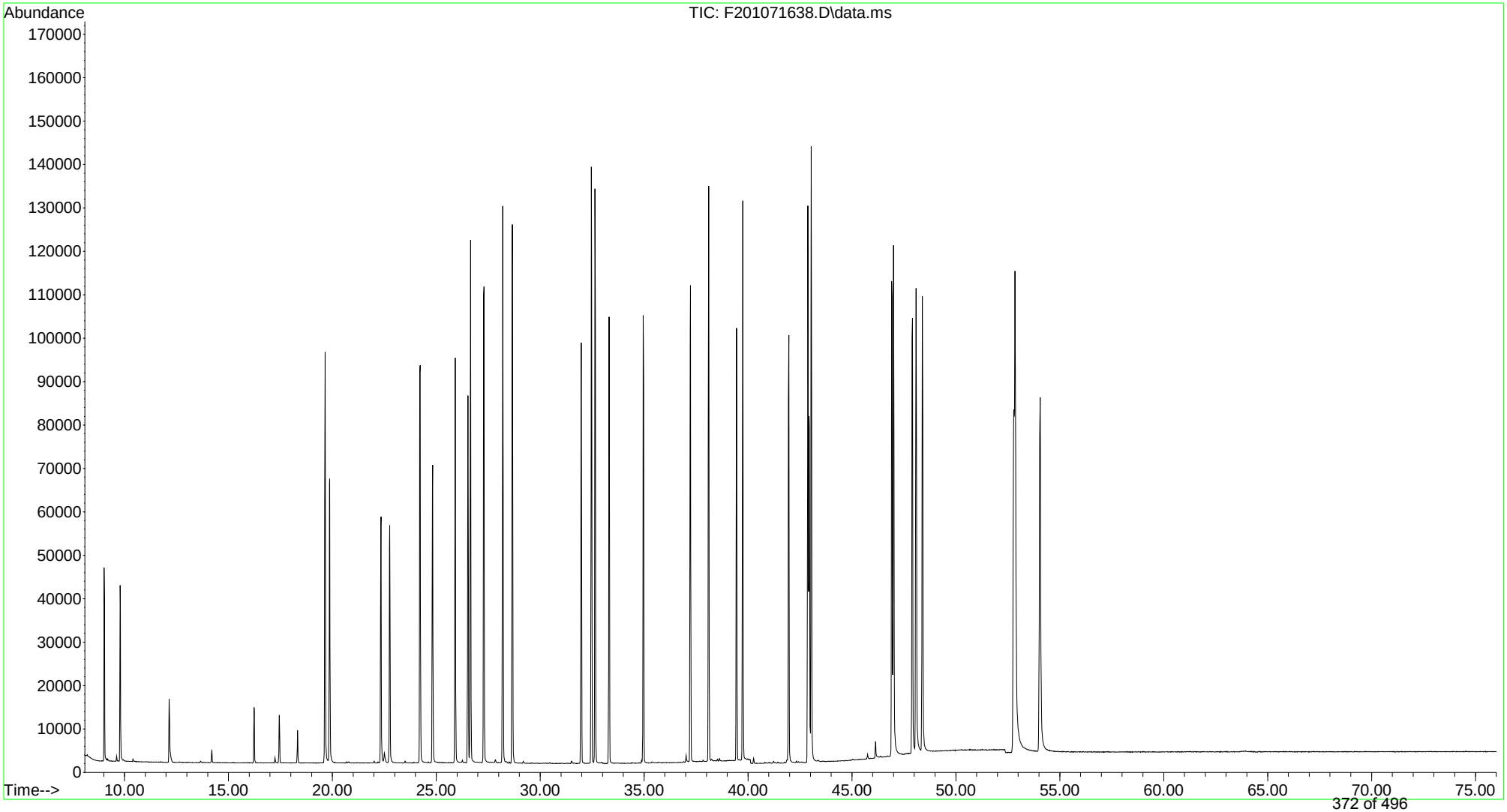
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\JAN16\jan14\
Data File : F201071638.D
Acq On : 16 Jan 2016 11:13 pm
Operator : PAH2:ac
Sample : q201151601
Misc : fraw33
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 20 17:45:19 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Jan 19 18:04:12 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291602.D
Acq On : 29 Mar 2016 10:13 am
Operator : PAH2:gy
Sample : c203291601
Misc : FRAW88 500NG/ML
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 04 13:32:44 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	i	Acenaphthene-d10	1.000	1.000	0.0	77	-0.02
2	A1	trans-Decalin	0.417	0.412	1.2	79	0.00
3	t	cis-Decalin	0.326	0.319	2.1	78	-0.02
8	s	Naphthalene-d8	1.927	1.808	6.2	74	0.00
9	A1	Naphthalene	1.996	1.933	3.2	75	0.00
14	t	2-Methylnaphthalene	1.337	1.271	4.9	72	0.00
15	t	1-Methylnaphthalene	1.303	1.252	3.9	74	0.00
16	A1	Benzothiophene	1.608	1.569	2.4	75	0.00
21	t	Biphenyl	1.649	1.608	2.5	74	0.00
22	t	2,6-Dimethylnaphthalene	1.190	1.174	1.3	75	0.00
23	t	Dibenzofuran	1.730	1.729	0.1	75	0.02
24	t	Acenaphthylene	1.991	1.925	3.3	73	0.02
25	t	Acenaphthene	1.235	1.202	2.7	74	0.00
26	t	2,3,5-Trimethylnaphthalene	1.050	1.061	-1.0	77	0.00
27	A1	Fluorene	1.441	1.428	0.9	74	0.02
31	A1	Dibenzothiophene	1.796	1.867	-4.0	78	0.00
40	s	Phenanthrene-d10	1.588	1.635	-3.0	77	0.00
41	A1	Phenanthrene	2.038	2.036	0.1	73	0.02
52	t	Retene	0.595	0.625	-5.0	81	0.02
53	t	Anthracene	1.849	1.996	-8.0	76	0.03
54	t	Carbazole	1.866	1.605	14.0	64	0.03
55	t	1-Methylphenanthrene	1.445	1.495	-3.5	78	0.02
56	A1	Fluoranthene	2.080	2.189	-5.2	78	0.03
57	t	Benzo(b)fluorene	1.354	1.371	-1.3	75	0.03
58	A1	Pyrene	2.294	2.415	-5.3	76	0.02
63	A1	Naphthobenzothiophene	2.050	2.155	-5.1	79	0.03
64	A2	Naphthobenzothiophene-2,1-D	2.050	2.155	-5.1	79	0.03
71	i	Chrysene-d12	1.000	1.000	0.0	80	0.02
72	t	Benz[a]anthracene	1.201	1.175	2.2	76	0.03
73	A1	Chrysene	1.205	1.270	-5.4	81	0.03
74	A2	Chrysene/Triphenylene	1.205	1.270	-5.4	81	0.03
80	s	Benzo[b]fluoranthene-d12	1.123	1.095	2.5	79	0.03
81	t	Benzo[b]fluoranthene	1.338	1.266	5.4	74	0.05
82	A1	Benzo[j]+[k]fluoranthene	1.347	1.433	-6.4	81	0.03
84	t	Benzo[e]pyrene	1.306	1.287	1.5	78	0.03
85	s	Benzo[a]pyrene-d12	0.983	0.943	4.1	78	0.03
86	t	Benzo[a]pyrene	1.313	1.269	3.4	74	0.03
87	t	Perylene	1.306	1.305	0.1	77	0.05
88	t	Indeno[1,2,3-cd]pyrene	1.472	1.249	15.1	70	0.06
89	t	Dibenz[ah]+[ac]anthracene	1.468	1.306	11.0	71	0.08
90	t	Benzo[g,h,i]perylene	1.568	1.490	5.0	77	0.08
91	A1	Hopane (T19)	0.319	0.320	-0.3	83	0.05
92	A2	17a(H),21B(H)-hopane - C30H	0.319	0.320	-0.3	83	0.05
126	SA1	5B(H)Cholane - Surr	0.164	0.162	1.2	83	0.03

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 0

Mass Discrimination (Concentration)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	0.95	0.70 - 1.30

Mass Discrimination (Response)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	1.26	0.70 - 2.00

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291602.D
Acq On : 29 Mar 2016 10:13 am
Operator : PAH2:gy
Sample : c203291601
Misc : FRAW88 500NG/ML
ALS Vial : 2 Sample Multiplier: 1

NAL
4/4/16

Quant Time: Apr 04 13:32:44 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.452	164	106471M4	500.000	ng/mL	-0.02
71) Chrysene-d12	42.937	240	183918	500.000	ng/mL	0.02
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	192473	469.104	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 46.91%#			
40) Phenanthrene-d10	32.323	188	174067	514.820	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 51.48%			
80) Benzo[b]fluoranthene-d12	46.837	264	201376	487.413	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 48.74%#			
85) Benzo[a]pyrene-d12	47.997	264	173369	479.707	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 47.97%#			
126) 5B(H)Cholane - Surr	43.570	217	29790	492.906	ng/ml	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 49.29%#			
Target Compounds						Qvalue
2) trans-Decalin	16.154	138	21933	247.265	ng/mL	100
3) cis-Decalin	17.359	138	16960	244.470	ng/mL	100
9) Naphthalene	19.572	128	205814	484.287	ng/mL	100
14) 2-Methylnaphthalene	22.267	142	135278	475.273	ng/mL	100
15) 1-Methylnaphthalene	22.688	142	133324	480.517	ng/mL	100
16) Benzothiophene	19.783	134	167023	487.759	ng/mL	100
21) Biphenyl	24.148	154	171168	487.432	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.751	156	125003	493.371	ng/mL	100
23) Dibenzofuran	27.235	168	184045	499.730	ng/mL	98
24) Acenaphthylene	25.850	152	204998M4	483.560	ng/mL	
25) Acenaphthene	26.572	153	127940	486.514	ng/mL	100
26) 2,3,5-Trimethylnaphthalen	28.138	170	112958	504.973	ng/mL	96
27) Fluorene	28.605	166	152035	495.350	ng/mL	98
31) Dibenzothiophene	31.916	184	198744	519.738	ng/mL	95
41) Phenanthrene	32.413	178	216758	499.536	ng/mL	99
52) Retene	39.429	234	66499	524.579	ng/mL	88
53) Anthracene	32.609	178	212489M4	539.576	ng/mL	
54) Carbazole	33.286	167	170848	430.038	ng/mL	99
55) 1-Methylphenanthrene	34.927	192	159200	517.334	ng/mL	100
56) Fluoranthene	37.201	202	233035	526.082	ng/mL	99
57) Benzo(b)fluorene	39.730	216	146008	506.364	ng/mL	99
58) Pyrene	38.074	202	257097	526.383	ng/mL	98
63) Naphthobenzothiophene	41.944	234	229458	525.739	ng/ml	99
64) Naphthobenzothiophene-2,1	41.944	234	229458	525.739	ng/mL	99
72) Benz[a]anthracene	42.877	228	216105	489.144	ng/mL	99
73) Chrysene	43.028	228	233526	526.762	ng/mL	98
74) Chrysene/Triphenylene	43.028	228	233526	526.762	ng/mL	98
81) Benzo[b]fluoranthene	46.928	252	232788	473.068	ng/mL	98
82) Benzo[j]+[k]fluoranthene	47.003	252	263478	531.883	ng/mL	97
84) Benzo[e]pyrene	47.907	252	236746	492.779	ng/mL	98
86) Benzo[a]pyrene	48.087	252	233371	483.028	ng/mL	97
87) Perylene	48.404	252	239940	499.348	ng/mL	96
88) Indeno[1,2,3-cd]pyrene	52.816	276	229732M3	424.360	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.892	278	240180	444.838	ng/mL	99
90) Benzo[g,h,i]perylene	54.081	276	273951	474.998	ng/mL	99
91) Hopane (T19)	51.973	191	58773	501.539	ng/mL	93
92) 17a(H),21B(H)-hopane - C3	51.973	191	58773	501.539	ng/mL	93

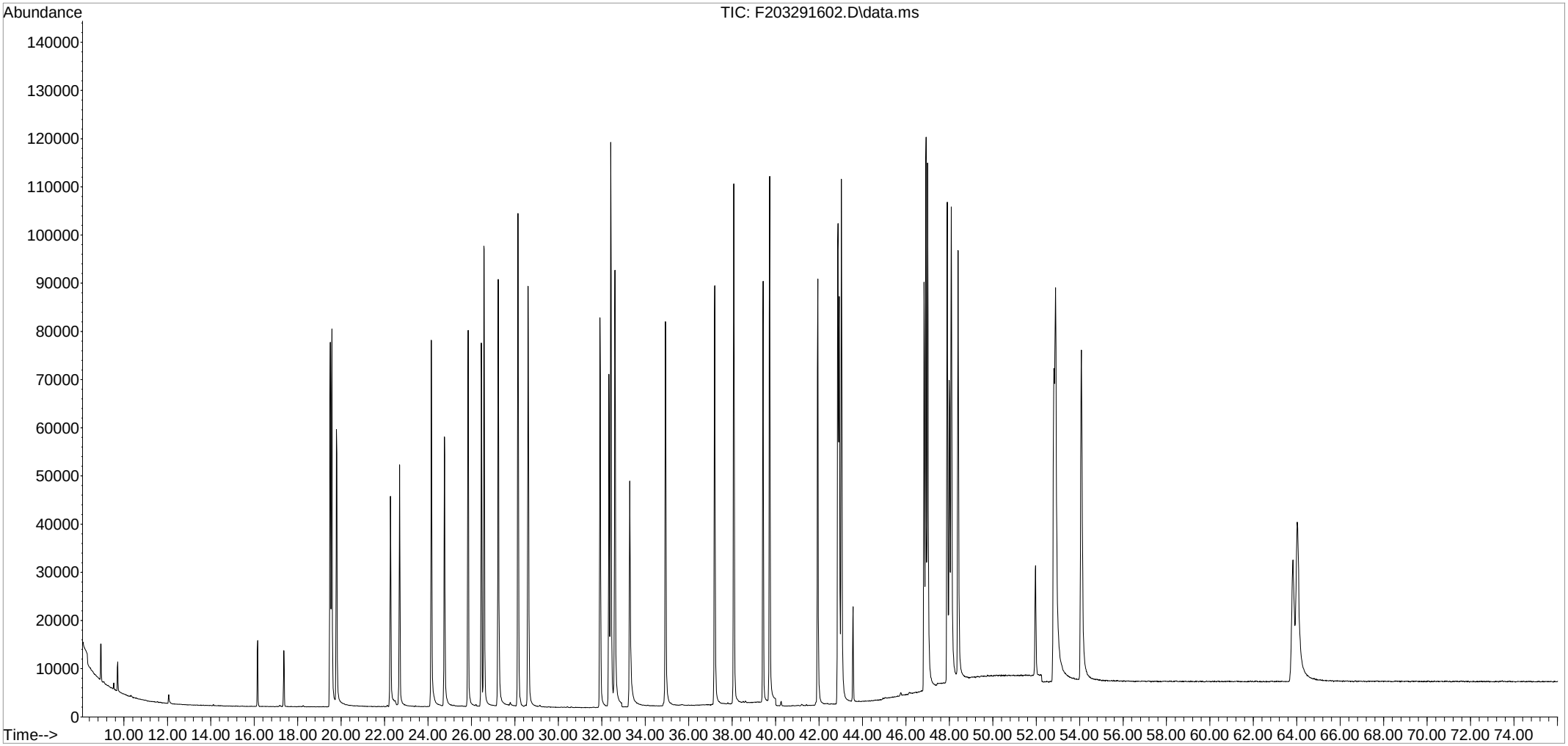
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291602.D
Acq On : 29 Mar 2016 10:13 am
Operator : PAH2:gy
Sample : c203291601
Misc : FRAW88 500NG/ML
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 04 13:32:44 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291615.D
Acq On : 30 Mar 2016 5:09 am
Operator : PAH2:gy
Sample : c203291602
Misc : FRAW88 500NG/ML
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 04 13:37:53 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	i	Acenaphthene-d10	1.000	1.000	0.0	92	0.00
2	A1	trans-Decalin	0.417	0.454	-8.9	103	0.00
3	t	cis-Decalin	0.326	0.323	0.9	94	0.00
8	s	Naphthalene-d8	1.927	1.701	11.7	82	0.00
9	A1	Naphthalene	1.996	1.772	11.2	82	0.00
14	t	2-Methylnaphthalene	1.337	1.169	12.6	79	0.00
15	t	1-Methylnaphthalene	1.303	1.170	10.2	82	0.00
16	A1	Benzothiophene	1.608	1.425	11.4	81	0.02
21	t	Biphenyl	1.649	1.467	11.0	80	0.02
22	t	2,6-Dimethylnaphthalene	1.190	1.101	7.5	84	0.02
23	t	Dibenzofuran	1.730	1.600	7.5	83	0.02
24	t	Acenaphthylene	1.991	1.866	6.3	84	0.02
25	t	Acenaphthene	1.235	1.140	7.7	83	0.02
26	t	2,3,5-Trimethylnaphthalene	1.050	1.038	1.1	89	0.02
27	A1	Fluorene	1.441	1.365	5.3	84	0.03
31	A1	Dibenzothiophene	1.796	1.719	4.3	85	0.02
40	s	Phenanthrene-d10	1.588	1.630	-2.6	91	0.02
41	A1	Phenanthrene	2.038	1.913	6.1	81	0.03
52	t	Retene	0.595	0.656	-10.3	100	0.02
53	t	Anthracene	1.849	1.864	-0.8	85	0.03
54	t	Carbazole	1.866	1.593	14.6	75	0.03
55	t	1-Methylphenanthrene	1.445	1.435	0.7	89	0.03
56	A1	Fluoranthene	2.080	2.131	-2.5	90	0.03
57	t	Benzo(b)fluorene	1.354	1.374	-1.5	89	0.03
58	A1	Pyrene	2.294	2.335	-1.8	88	0.03
63	A1	Naphthobenzothiophene	2.050	1.971	3.9	85	0.03
64	A2	Naphthobenzothiophene-2,1-D	2.050	1.971	3.9	85	0.03
71	i	Chrysene-d12	1.000	1.000	0.0	93	0.02
72	t	Benz[a]anthracene	1.201	1.152	4.1	86	0.03
73	A1	Chrysene	1.205	1.155	4.1	85	0.05
74	A2	Chrysene/Triphenylene	1.205	1.155	4.1	85	0.05
80	s	Benzo[b]fluoranthene-d12	1.123	1.040	7.4	87	0.05
81	t	Benzo[b]fluoranthene	1.338	1.159	13.4	79	0.05
82	A1	Benzo[j]+[k]fluoranthene	1.347	1.211	10.1	79	0.05
84	t	Benzo[e]pyrene	1.306	1.121	14.2	79	0.05
85	s	Benzo[a]pyrene-d12	0.983	0.919	6.5	88	0.05
86	t	Benzo[a]pyrene	1.313	1.127	14.2	76	0.05
87	t	Perylene	1.306	1.165	10.8	80	0.06
88	t	Indeno[1,2,3-cd]pyrene	1.472	1.276	13.3	83	0.08
89	t	Dibenz[ah]+[ac]anthracene	1.468	1.272	13.4	80	0.08
90	t	Benzo[g,h,i]perylene	1.568	1.322	15.7	79	0.09
91	A1	Hopane (T19)	0.319	0.285	10.7	86	0.05
92	A2	17a(H),21B(H)-hopane - C30H	0.319	0.285	10.7	86	0.05
126	SA1	5B(H)Cholane - Surr	0.164	0.167	-1.8	99	0.03

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 0

Mass Discrimination (Concentration)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	0.90	0.70 - 1.30

Mass Discrimination (Response)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	1.17	0.70 - 2.00

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291615.D
Acq On : 30 Mar 2016 5:09 am
Operator : PAH2:gy
Sample : c203291602
Misc : FRAW88 500NG/ML
ALS Vial : 15 Sample Multiplier: 1

NAL
4/4/16

Quant Time: Apr 04 13:37:53 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.467	164	126230	500.000	ng/mL	0.00
71) Chrysene-d12	42.937	240	213292	500.000	ng/mL	0.02
System Monitoring Compounds						
8) Naphthalene-d8	19.497	136	214758	441.487	ng/mL	0.00
Spiked Amount 1000.000	Range 50 - 130		Recovery = 44.15%#			
40) Phenanthrene-d10	32.338	188	205759	513.294	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery = 51.33%			
80) Benzo[b]fluoranthene-d12	46.852	264	221741	462.791	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery = 46.28%#			
85) Benzo[a]pyrene-d12	48.012	264	195994	467.624	ng/mL	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery = 46.76%#			
126) 5B(H)Cholane - Surr	43.570	217	35702	509.372	ng/ml	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 50.94%			
Target Compounds						Qvalue
2) trans-Decalin	16.154	138	28630	272.242	ng/mL	100
3) cis-Decalin	17.374	138	20359	247.529	ng/mL	100
9) Naphthalene	19.572	128	223687	443.954	ng/mL	100
14) 2-Methylnaphthalene	22.267	142	147580	437.333	ng/mL	100
15) 1-Methylnaphthalene	22.688	142	147653	448.861	ng/mL	100
16) Benzothiophene	19.798	134	179926	443.192	ng/mL	100
21) Biphenyl	24.164	154	185219	444.883	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.766	156	138959	462.603	ng/mL	100
23) Dibenzofuran	27.235	168	201931	462.470	ng/mL	98
24) Acenaphthylene	25.850	152	235530M4	468.614	ng/mL	
25) Acenaphthene	26.587	153	143885	461.502	ng/mL	99
26) 2,3,5-Trimethylnaphthalen	28.153	170	131068	494.216	ng/mL	98
27) Fluorene	28.620	166	172283	473.456	ng/mL	100
31) Dibenzothiophene	31.932	184	217046	478.752	ng/mL	95
41) Phenanthrene	32.428	178	241431	469.303	ng/mL	99
52) Retene	39.429	234	82768	550.715	ng/mL	91
53) Anthracene	32.609	178	235233M4	503.829	ng/mL	
54) Carbazole	33.286	167	201090	426.930	ng/mL	99
55) 1-Methylphenanthrene	34.943	192	181163	496.554	ng/mL	100
56) Fluoranthene	37.201	202	269035	512.283	ng/mL	98
57) Benzo(b)fluorene	39.730	216	173477	507.454	ng/mL	99
58) Pyrene	38.089	202	294711	508.944	ng/mL	98
63) Naphthobenzothiophene	41.944	234	248766	480.759	ng/ml	99
64) Naphthobenzothiophene-2,1	41.944	234	248766	480.759	ng/mL	99
72) Benz[a]anthracene	42.877	228	245791	479.720	ng/mL	99
73) Chrysene	43.043	228	246377	479.213	ng/mL	99
74) Chrysene/Triphenylene	43.043	228	246377	479.213	ng/mL	99
81) Benzo[b]fluoranthene	46.928	252	247217	433.203	ng/mL	99
82) Benzo[j]+[k]fluoranthene	47.018	252	258271	449.569	ng/mL	97
84) Benzo[e]pyrene	47.922	252	239127	429.188	ng/mL	98
86) Benzo[a]pyrene	48.102	252	240318	428.905	ng/mL	97
87) Perylene	48.419	252	248584	446.091	ng/mL	97
88) Indeno[1,2,3-cd]pyrene	52.831	276	272177M3	433.525	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.892	278	271263	433.217	ng/mL	99
90) Benzo[g,h,i]perylene	54.096	276	281929	421.511	ng/mL	100
91) Hopane (T19)	51.973	191	60720	446.795	ng/mL	91
92) 17a(H),21B(H)-hopane - C3	51.973	191	60720	446.795	ng/mL	91

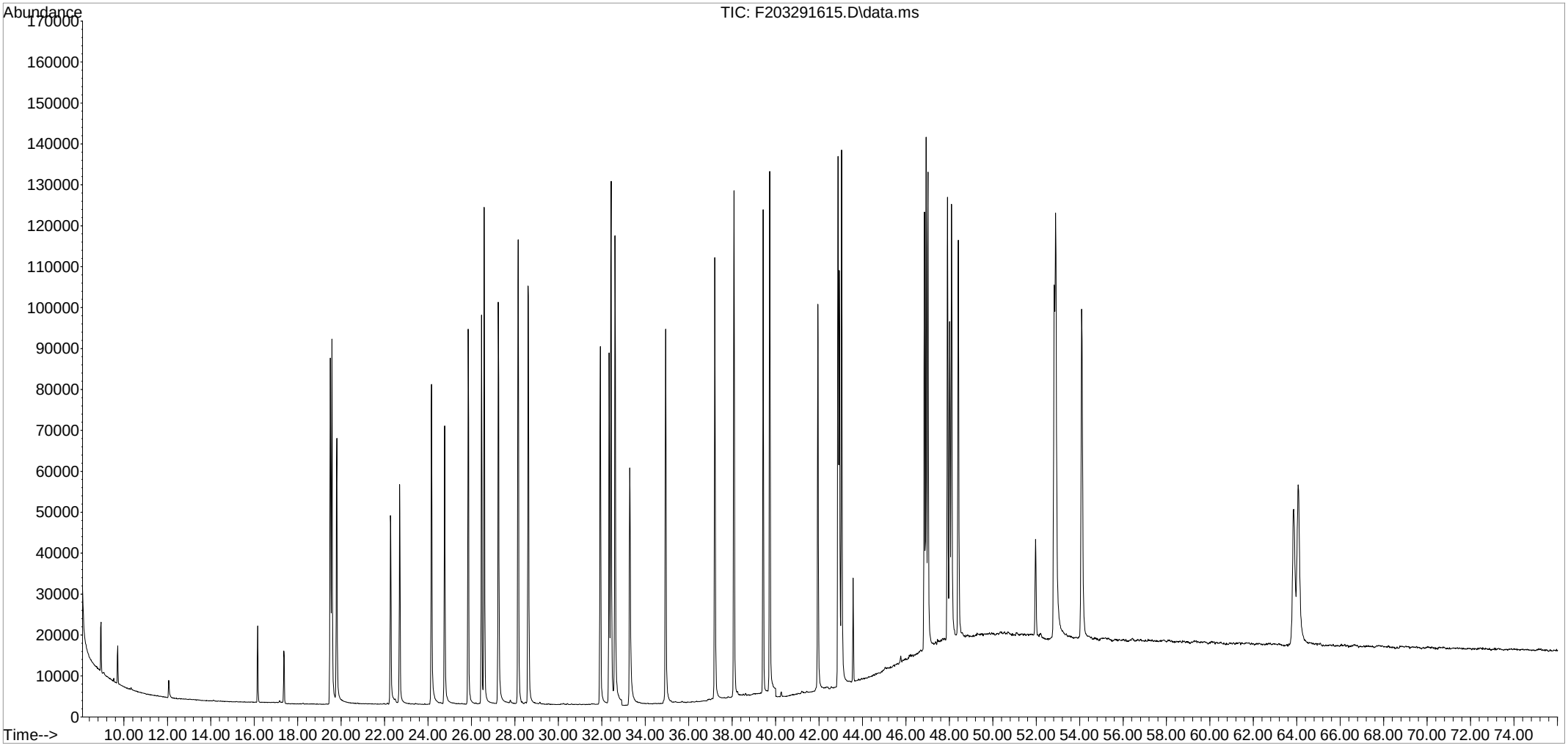
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291615.D
Acq On : 30 Mar 2016 5:09 am
Operator : PAH2:gy
Sample : c203291602
Misc : FRAW88 500NG/ML
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 04 13:37:53 2016
Quant Method : C:\msdchem\1\METHODS\PAH2\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291624.D
Acq On : 30 Mar 2016 6:14 pm
Operator : PAH2:gy
Sample : c203291603
Misc : FRAW88 500NG/ML
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 04 13:38:47 2016
Quant Method : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	i	Acenaphthene-d10	1.000	1.000	0.0	92	0.02
2	A1	trans-Decalin	0.417	0.435	-4.3	99	0.02
3	t	cis-Decalin	0.326	0.338	-3.7	98	0.00
8	s	Naphthalene-d8	1.927	1.689	12.4	82	0.02
9	A1	Naphthalene	1.996	1.766	11.5	82	0.02
14	t	2-Methylnaphthalene	1.337	1.222	8.6	83	0.02
15	t	1-Methylnaphthalene	1.303	1.183	9.2	83	0.02
16	A1	Benzothiophene	1.608	1.419	11.8	81	0.02
21	t	Biphenyl	1.649	1.488	9.8	82	0.02
22	t	2,6-Dimethylnaphthalene	1.190	1.136	4.5	87	0.03
23	t	Dibenzofuran	1.730	1.611	6.9	84	0.03
24	t	Acenaphthylene	1.991	1.851	7.0	84	0.03
25	t	Acenaphthene	1.235	1.129	8.6	83	0.03
26	t	2,3,5-Trimethylnaphthalene	1.050	1.053	-0.3	91	0.03
27	A1	Fluorene	1.441	1.369	5.0	85	0.03
31	A1	Dibenzothiophene	1.796	1.743	3.0	86	0.03
40	s	Phenanthrene-d10	1.588	1.653	-4.1	93	0.03
41	A1	Phenanthrene	2.038	1.941	4.8	83	0.05
52	t	Retene	0.595	0.674	-13.3	103	0.03
53	t	Anthracene	1.849	1.887	-2.1	86	0.05
54	t	Carbazole	1.866	1.693	9.3	80	0.05
55	t	1-Methylphenanthrene	1.445	1.486	-2.8	92	0.05
56	A1	Fluoranthene	2.080	2.062	0.9	87	0.05
57	t	Benzo(b)fluorene	1.354	1.423	-5.1	93	0.05
58	A1	Pyrene	2.294	2.332	-1.7	88	0.05
63	A1	Naphthobenzothiophene	2.050	1.983	3.3	86	0.05
64	A2	Naphthobenzothiophene-2,1-D	2.050	1.983	3.3	86	0.05
71	i	Chrysene-d12	1.000	1.000	0.0	94	0.05
72	t	Benz[a]anthracene	1.201	1.180	1.7	90	0.05
73	A1	Chrysene	1.205	1.121	7.0	84	0.06
74	A2	Chrysene/Triphenylene	1.205	1.121	7.0	84	0.06
80	s	Benzo[b]fluoranthene-d12	1.123	1.032	8.1	87	0.06
81	t	Benzo[b]fluoranthene	1.338	1.133	15.3	78	0.08
82	A1	Benzo[j]+[k]fluoranthene	1.347	1.174	12.8	78	0.06
84	t	Benzo[e]pyrene	1.306	1.094	16.2	78	0.06
85	s	Benzo[a]pyrene-d12	0.983	0.939	4.5	91	0.08
86	t	Benzo[a]pyrene	1.313	1.114	15.2	77	0.08
87	t	Perylene	1.306	1.120	14.2	78	0.08
88	t	Indeno[1,2,3-cd]pyrene	1.472	1.290	12.4	86	0.11
89	t	Dibenz[ah]+[ac]anthracene	1.468	1.294	11.9	83	0.12
90	t	Benzo[g,h,i]perylene	1.568	1.299	17.2	79	0.14
91	A1	Hopane (T19)	0.319	0.294	7.8	90	0.08
92	A2	17a(H),21B(H)-hopane - C30H	0.319	0.294	7.8	90	0.08
126	SA1	5B(H)Cholane - Surr	0.164	0.176	-7.3	106	0.05

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 0

Mass Discrimination (Concentration)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	0.87	0.70 - 1.30

Mass Discrimination (Response)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	1.14	0.70 - 2.00

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291624.D
Acq On : 30 Mar 2016 6:14 pm
Operator : PAH2:gy
Sample : c203291603
Misc : FRAW88 500NG/ML
ALS Vial : 24 Sample Multiplier: 1

NAL 4/4/16

Quant Time: Apr 04 13:38:47 2016
Quant Method : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.482	164	126693	500.000	ng/mL	0.02
71) Chrysene-d12	42.967	240	216498	500.000	ng/mL	0.05
System Monitoring Compounds						
8) Naphthalene-d8	19.512	136	213985	438.290	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery = 43.83%#			
40) Phenanthrene-d10	32.353	188	209428	520.538	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 52.05%			
80) Benzo[b]fluoranthene-d12	46.867	264	223489	459.532	ng/mL	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery = 45.95%#			
85) Benzo[a]pyrene-d12	48.042	264	203284	477.835	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery = 47.78%#			
126) 5B(H)Cholane - Surr	43.585	217	38031	534.566	ng/ml	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery = 53.46%			
Target Compounds						Qvalue
2) trans-Decalin	16.170	138	27529	260.816	ng/mL	100
3) cis-Decalin	17.374	138	21390	259.113	ng/mL	100
9) Naphthalene	19.587	128	223717	442.391	ng/mL	100
14) 2-Methylnaphthalene	22.282	142	154876	457.276	ng/mL	100
15) 1-Methylnaphthalene	22.703	142	149877	453.957	ng/mL	100
16) Benzothiophene	19.798	134	179836	441.351	ng/mL	100
21) Biphenyl	24.164	154	188575	451.289	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.781	156	143886	477.255	ng/mL	100
23) Dibenzofuran	27.250	168	204160	465.866	ng/mL	99
24) Acenaphthylene	25.865	152	234539M4	464.937	ng/mL	
25) Acenaphthene	26.602	153	142993	456.965	ng/mL	100
26) 2,3,5-Trimethylnaphthalen	28.168	170	133442	501.329	ng/mL	99
27) Fluorene	28.620	166	173475	474.989	ng/mL	98
31) Dibenzothiophene	31.947	184	220889	485.448	ng/mL	95
41) Phenanthrene	32.443	178	245932	476.306	ng/mL	99
52) Retene	39.444	234	85416	566.257	ng/mL	94
53) Anthracene	32.624	178	239105M4	510.250	ng/mL	
54) Carbazole	33.301	167	214455	453.641	ng/mL	99
55) 1-Methylphenanthrene	34.958	192	188285	514.189	ng/mL	100
56) Fluoranthene	37.216	202	261251	495.643	ng/mL	98
57) Benzo(b)fluorene	39.745	216	180265	525.383	ng/mL	100
58) Pyrene	38.104	202	295423	508.309	ng/mL	99
63) Naphthobenzothiophene	41.959	234	251262	483.808	ng/ml	99
64) Naphthobenzothiophene-2,1	41.959	234	251262	483.808	ng/mL	99
72) Benz[a]anthracene	42.892	228	255365	491.026	ng/mL	100
73) Chrysene	43.058	228	242720	465.109	ng/mL	98
74) Chrysene/Triphenylene	43.058	228	242720	465.109	ng/mL	98
81) Benzo[b]fluoranthene	46.958	252	245214	423.330	ng/mL	99
82) Benzo[j]+[k]fluoranthene	47.033	252	254214	435.955	ng/mL	98
84) Benzo[e]pyrene	47.937	252	236790	418.700	ng/mL	98
86) Benzo[a]pyrene	48.133	252	241115	423.955	ng/mL	98
87) Perylene	48.434	252	242577	428.865	ng/mL	97
88) Indeno[1,2,3-cd]pyrene	52.861	276	279251M4	438.206	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.937	278	280090	440.690	ng/mL	99
90) Benzo[g,h,i]perylene	54.141	276	281178	414.163	ng/mL	100
91) Hopane (T19)	52.003	191	63577	460.890	ng/mL	94
92) 17a(H),21B(H)-hopane - C3	52.003	191	63577	460.890	ng/mL	94

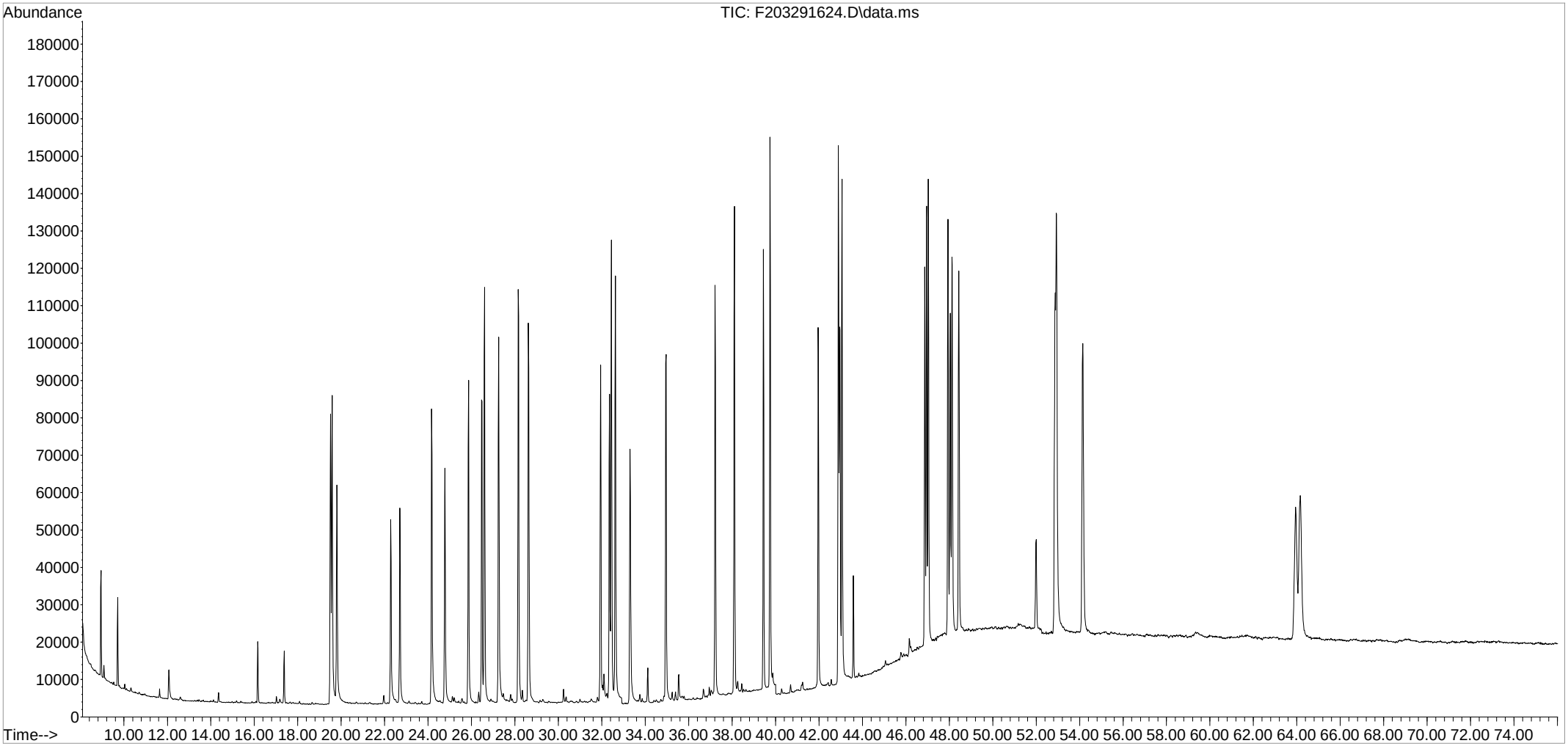
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291624.D
Acq On : 30 Mar 2016 6:14 pm
Operator : PAH2:gy
Sample : c203291603
Misc : FRAW88 500NG/ML
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Apr 04 13:38:47 2016
Quant Method : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291628.D
Acq On : 31 Mar 2016 12:38 pm
Operator : PAH2:gy
Sample : c203291604
Misc : fraw88 500ng/ml
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Apr 04 13:39:02 2016
Quant Method : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	i	Acenaphthene-d10	1.000	1.000	0.0	96	0.02
2	A1	trans-Decalin	0.417	0.402	3.6	96	0.00
3	t	cis-Decalin	0.326	0.307	5.8	93	0.00
8	s	Naphthalene-d8	1.927	1.727	10.4	87	0.02
9	A1	Naphthalene	1.996	1.836	8.0	89	0.02
14	t	2-Methylnaphthalene	1.337	1.218	8.9	86	0.03
15	t	1-Methylnaphthalene	1.303	1.219	6.4	89	0.02
16	A1	Benzothiophene	1.608	1.508	6.2	90	0.02
21	t	Biphenyl	1.649	1.540	6.6	88	0.02
22	t	2,6-Dimethylnaphthalene	1.190	1.158	2.7	92	0.03
23	t	Dibenzofuran	1.730	1.646	4.9	89	0.03
24	t	Acenaphthylene	1.991	1.875	5.8	89	0.03
25	t	Acenaphthene	1.235	1.153	6.6	88	0.03
26	t	2,3,5-Trimethylnaphthalene	1.050	1.051	-0.1	94	0.03
27	A1	Fluorene	1.441	1.396	3.1	90	0.05
31	A1	Dibenzothiophene	1.796	1.822	-1.4	94	0.03
40	s	Phenanthrene-d10	1.588	1.649	-3.8	96	0.03
41	A1	Phenanthrene	2.038	1.998	2.0	89	0.05
52	t	Retene	0.595	0.660	-10.9	106	0.03
53	t	Anthracene	1.849	1.897	-2.6	90	0.05
54	t	Carbazole	1.866	1.694	9.2	83	0.05
55	t	1-Methylphenanthrene	1.445	1.494	-3.4	97	0.05
56	A1	Fluoranthene	2.080	2.203	-5.9	97	0.05
57	t	Benzo(b)fluorene	1.354	1.438	-6.2	98	0.05
58	A1	Pyrene	2.294	2.417	-5.4	95	0.05
63	A1	Naphthobenzothiophene	2.050	2.131	-4.0	97	0.05
64	A2	Naphthobenzothiophene-2,1-D	2.050	2.131	-4.0	97	0.05
71	i	Chrysene-d12	1.000	1.000	0.0	101	0.03
72	t	Benz[a]anthracene	1.201	1.195	0.5	97	0.05
73	A1	Chrysene	1.205	1.175	2.5	94	0.06
74	A2	Chrysene/Triphenylene	1.205	1.175	2.5	94	0.06
80	s	Benzo[b]fluoranthene-d12	1.123	1.114	0.8	101	0.06
81	t	Benzo[b]fluoranthene	1.338	1.280	4.3	95	0.06
82	A1	Benzo[j]+[k]fluoranthene	1.347	1.323	1.8	94	0.06
84	t	Benzo[e]pyrene	1.306	1.221	6.5	93	0.06
85	s	Benzo[a]pyrene-d12	0.983	0.968	1.5	101	0.08
86	t	Benzo[a]pyrene	1.313	1.239	5.6	91	0.08
87	t	Perylene	1.306	1.259	3.6	94	0.08
88	t	Indeno[1,2,3-cd]pyrene	1.472	1.430	2.9	102	0.11
89	t	Dibenz[ah]+[ac]anthracene	1.468	1.366	6.9	94	0.12
90	t	Benzo[g,h,i]perylene	1.568	1.398	10.8	91	0.14
91	A1	Hopane (T19)	0.319	0.302	5.3	99	0.06
92	A2	17a(H),21B(H)-hopane - C30H	0.319	0.302	5.3	99	0.06
126	SA1	5B(H)Cholane - Surr	0.164	0.168	-2.4	108	0.05

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 0

Mass Discrimination (Concentration)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	0.91	0.70 - 1.30

Mass Discrimination (Response)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	1.23	0.70 - 2.00

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291628.D
Acq On : 31 Mar 2016 12:38 pm
Operator : PAH2:gy
Sample : c203291604
Misc : fraw88 500ng/ml
ALS Vial : 28 Sample Multiplier: 1

MAL 4/4/16

Quant Time: Apr 04 13:39:02 2016
Quant Method : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.482	164	132216	500.000	ng/mL	0.02
71) Chrysene-d12	42.953	240	232113	500.000	ng/mL	0.03
System Monitoring Compounds						
8) Naphthalene-d8	19.512	136	228358	448.191	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery = 44.82%#			
40) Phenanthrene-d10	32.353	188	218040	519.305	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 51.93%			
80) Benzo[b]fluoranthene-d12	46.868	264	258653	496.057	ng/mL	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery = 49.61%#			
85) Benzo[a]pyrene-d12	48.042	264	224584	492.389	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery = 49.24%#			
126) 5B(H)Cholane - Surr	43.585	217	38915	510.194	ng/ml	0.05
Spiked Amount 1000.000	Range 50 - 130		Recovery = 51.02%			
Target Compounds						Qvalue
2) trans-Decalin	16.155	138	26570	241.215	ng/mL	100
3) cis-Decalin	17.374	138	20304	235.684	ng/mL	100
9) Naphthalene	19.587	128	242767	460.008	ng/mL	100
14) 2-Methylnaphthalene	22.297	142	161054	455.653	ng/mL	100
15) 1-Methylnaphthalene	22.703	142	161173	467.779	ng/mL	100
16) Benzothiophene	19.798	134	199327	468.751	ng/mL	100
21) Biphenyl	24.164	154	203661	467.032	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.781	156	153132	486.706	ng/mL	100
23) Dibenzofuran	27.250	168	217579	475.747	ng/mL	99
24) Acenaphthylene	25.865	152	247901M4	470.897	ng/mL	
25) Acenaphthene	26.603	153	152425	466.759	ng/mL	100
26) 2,3,5-Trimethylnaphthalen	28.168	170	138966	500.273	ng/mL	99
27) Fluorene	28.635	166	184610	484.363	ng/mL	98
31) Dibenzothiophene	31.947	184	240928	507.370	ng/mL	96
41) Phenanthrene	32.444	178	264109	490.143	ng/mL	99
52) Retene	39.445	234	87286	554.482	ng/mL	90
53) Anthracene	32.624	178	250798M4	512.846	ng/mL	
54) Carbazole	33.302	167	224012	454.063	ng/mL	99
55) 1-Methylphenanthrene	34.958	192	197494	516.808	ng/mL	99
56) Fluoranthene	37.216	202	291285	529.539	ng/mL	98
57) Benzo(b)fluorene	39.746	216	190081	530.850	ng/mL	99
58) Pyrene	38.104	202	319608	526.951	ng/mL	100
63) Naphthobenzothiophene	41.959	234	281794	519.932	ng/ml	100
64) Naphthobenzothiophene-2,1	41.959	234	281794	519.932	ng/mL	100
72) Benz[a]anthracene	42.892	228	277276	497.290	ng/mL	100
73) Chrysene	43.058	228	272695	487.395	ng/mL	99
74) Chrysene/Triphenylene	43.058	228	272695	487.395	ng/mL	99
81) Benzo[b]fluoranthene	46.943	252	297190	478.545	ng/mL	99
82) Benzo[j]+[k]fluoranthene	47.033	252	307020	491.092	ng/mL	97
84) Benzo[e]pyrene	47.937	252	283357	467.335	ng/mL	98
86) Benzo[a]pyrene	48.133	252	287631	471.722	ng/mL	97
87) Perylene	48.434	252	292120	481.711	ng/mL	96
88) Indeno[1,2,3-cd]pyrene	52.862	276	331972M4	485.891	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.937	278	317044	465.275	ng/mL	99
90) Benzo[g,h,i]perylene	54.142	276	324420	445.709	ng/mL	100
91) Hopane (T19)	51.988	191	70189	474.592	ng/mL	91
92) 17a(H),21B(H)-hopane - C3	51.988	191	70189	474.592	ng/mL	91

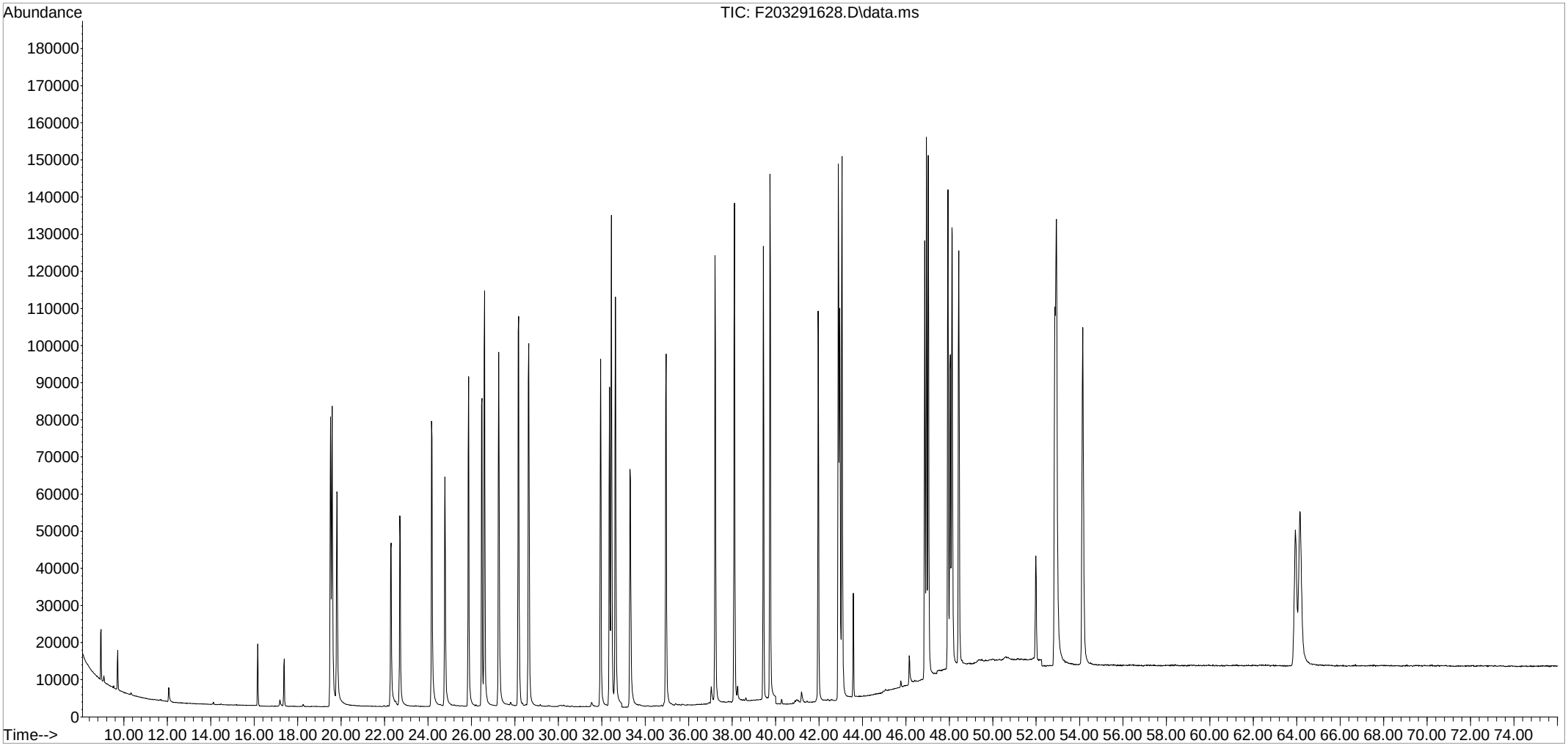
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291628.D
Acq On : 31 Mar 2016 12:38 pm
Operator : PAH2:gy
Sample : c203291604
Misc : fraw88 500ng/ml
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Apr 04 13:39:02 2016
Quant Method : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291637.D
Acq On : 1 Apr 2016 1:40 am
Operator : PAH2:gy
Sample : C203291605
Misc : FRAW88 500NG/ML
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Apr 04 13:39:16 2016
Quant Method : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	i	Acenaphthene-d10	1.000	1.000	0.0	84	0.00
2	A1	trans-Decalin	0.417	0.396	5.0	82	0.00
3	t	cis-Decalin	0.326	0.302	7.4	80	0.00
8	s	Naphthalene-d8	1.927	1.662	13.8	74	0.02
9	A1	Naphthalene	1.996	1.765	11.6	75	0.02
14	t	2-Methylnaphthalene	1.337	1.171	12.4	73	0.03
15	t	1-Methylnaphthalene	1.303	1.170	10.2	75	0.03
16	A1	Benzothiophene	1.608	1.456	9.5	76	0.03
21	t	Biphenyl	1.649	1.494	9.4	75	0.03
22	t	2,6-Dimethylnaphthalene	1.190	1.121	5.8	78	0.03
23	t	Dibenzofuran	1.730	1.638	5.3	78	0.03
24	t	Acenaphthylene	1.991	1.873	5.9	78	0.03
25	t	Acenaphthene	1.235	1.157	6.3	78	0.02
26	t	2,3,5-Trimethylnaphthalene	1.050	1.065	-1.4	84	0.03
27	A1	Fluorene	1.441	1.383	4.0	78	0.05
31	A1	Dibenzothiophene	1.796	1.782	0.8	81	0.03
40	s	Phenanthrene-d10	1.588	1.654	-4.2	85	0.03
41	A1	Phenanthrene	2.038	1.946	4.5	76	0.05
52	t	Retene	0.595	0.684	-15.0	96	0.03
53	t	Anthracene	1.849	1.924	-4.1	80	0.06
54	t	Carbazole	1.866	1.610	13.7	69	0.06
55	t	1-Methylphenanthrene	1.445	1.481	-2.5	84	0.05
56	A1	Fluoranthene	2.080	2.176	-4.6	84	0.05
57	t	Benzo(b)fluorene	1.354	1.409	-4.1	84	0.06
58	A1	Pyrene	2.294	2.407	-4.9	83	0.05
63	A1	Naphthobenzothiophene	2.050	2.114	-3.1	84	0.05
64	A2	Naphthobenzothiophene-2,1-D	2.050	2.114	-3.1	84	0.05
71	i	Chrysene-d12	1.000	1.000	0.0	90	0.03
72	t	Benz[a]anthracene	1.201	1.145	4.7	83	0.06
73	A1	Chrysene	1.205	1.168	3.1	84	0.06
74	A2	Chrysene/Triphenylene	1.205	1.168	3.1	84	0.06
80	s	Benzo[b]fluoranthene-d12	1.123	1.089	3.0	88	0.06
81	t	Benzo[b]fluoranthene	1.338	1.207	9.8	80	0.06
82	A1	Benzo[j]+[k]fluoranthene	1.347	1.287	4.5	82	0.06
84	t	Benzo[e]pyrene	1.306	1.179	9.7	80	0.06
85	s	Benzo[a]pyrene-d12	0.983	0.938	4.6	87	0.08
86	t	Benzo[a]pyrene	1.313	1.156	12.0	76	0.08
87	t	Perylene	1.306	1.215	7.0	81	0.08
88	t	Indeno[1,2,3-cd]pyrene	1.472	1.273	13.5	81	0.11
89	t	Dibenz[ah]+[ac]anthracene	1.468	1.293	11.9	79	0.12
90	t	Benzo[g,h,i]perylene	1.568	1.378	12.1	80	0.14
91	A1	Hopane (T19)	0.319	0.298	6.6	87	0.05
92	A2	17a(H),21B(H)-hopane - C30H	0.319	0.298	6.6	87	0.05
126	SA1	5B(H)Cholane - Surr	0.164	0.171	-4.3	98	0.03

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 0

Mass Discrimination (Concentration)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	0.92	0.70 - 1.30

Mass Discrimination (Response)	Ratio	Range Limits
Benzo[g,h,i]perylene to Phenanthrene	1.26	0.70 - 2.00

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291637.D
Acq On : 1 Apr 2016 1:40 am
Operator : PAH2:gy
Sample : C203291605
Misc : FRAW88 500NG/ML
ALS Vial : 37 Sample Multiplier: 1

MAL 4/4/16

Quant Time: Apr 04 13:39:16 2016
Quant Method : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	26.467	164	115794	500.000	ng/mL	0.00
71) Chrysene-d12	42.953	240	206893	500.000	ng/mL	0.03
System Monitoring Compounds						
8) Naphthalene-d8	19.512	136	192449	431.281	ng/mL	0.02
Spiked Amount 1000.000	Range 50 - 130		Recovery = 43.13%#			
40) Phenanthrene-d10	32.353	188	191576	520.985	ng/mL	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 52.10%			
80) Benzo[b]fluoranthene-d12	46.868	264	225378	484.930	ng/mL	0.06
Spiked Amount 1000.000	Range 50 - 130		Recovery = 48.49%#			
85) Benzo[a]pyrene-d12	48.042	264	193974	477.119	ng/mL	0.08
Spiked Amount 1000.000	Range 50 - 130		Recovery = 47.71%#			
126) 5B(H)Cholane - Surr	43.570	217	35349	519.935	ng/ml	0.03
Spiked Amount 1000.000	Range 50 - 130		Recovery = 51.99%			
Target Compounds						Qvalue
2) trans-Decalin	16.155	138	22916	237.547	ng/mL	100
3) cis-Decalin	17.374	138	17506	232.024	ng/mL	100
9) Naphthalene	19.587	128	204398	442.232	ng/mL	100
14) 2-Methylnaphthalene	22.297	142	135606	438.066	ng/mL	100
15) 1-Methylnaphthalene	22.718	142	135428	448.802	ng/mL	100
16) Benzothiophene	19.813	134	168572	452.647	ng/mL	100
21) Biphenyl	24.179	154	173038	453.083	ng/mL	100
22) 2,6-Dimethylnaphthalene	24.781	156	129767	470.937	ng/mL	100
23) Dibenzofuran	27.250	168	189711	473.641	ng/mL	98
24) Acenaphthylene	25.865	152	216892M4	470.424	ng/mL	
25) Acenaphthene	26.587	153	133932	468.294	ng/mL	100
26) 2,3,5-Trimethylnaphthalen	28.168	170	123264	506.679	ng/mL	98
27) Fluorene	28.635	166	160175	479.853	ng/mL	99
31) Dibenzothiophene	31.947	184	206372	496.234	ng/mL	95
41) Phenanthrene	32.443	178	225354	477.532	ng/mL	98
52) Retene	39.444	234	79257	574.882	ng/mL	94
53) Anthracene	32.639	178	222802M4	520.212	ng/mL	
54) Carbazole	33.317	167	186398	431.404	ng/mL	99
55) 1-Methylphenanthrene	34.958	192	171517	512.485	ng/mL	100
56) Fluoranthene	37.216	202	251965	523.020	ng/mL	98
57) Benzo(b)fluorene	39.761	216	163120	520.162	ng/mL	99
58) Pyrene	38.104	202	278722	524.713	ng/mL	99
63) Naphthobenzothiophene	41.959	234	244760	515.648	ng/ml	99
64) Naphthobenzothiophene-2,1	41.959	234	244760	515.648	ng/mL	99
72) Benz[a]anthracene	42.907	228	236962	476.793	ng/mL	100
73) Chrysene	43.058	228	241753	484.763	ng/mL	98
74) Chrysene/Triphenylene	43.058	228	241753	484.763	ng/mL	98
81) Benzo[b]fluoranthene	46.943	252	249823	451.309	ng/mL	98
82) Benzo[j]+[k]fluoranthene	47.033	252	266319	477.917	ng/mL	97
84) Benzo[e]pyrene	47.937	252	243861	451.222	ng/mL	98
86) Benzo[a]pyrene	48.133	252	239112	439.952	ng/mL	97
87) Perylene	48.434	252	251455	465.199	ng/mL	96
88) Indeno[1,2,3-cd]pyrene	52.862	276	263276M4	432.317	ng/mL	
89) Dibenz[ah]+[ac]anthracene	52.937	278	267465	440.363	ng/mL	98
90) Benzo[g,h,i]perylene	54.141	276	285012	439.300	ng/mL	100
91) Hopane (T19)	51.973	191	61663	467.767	ng/mL	92
92) 17a(H),21B(H)-hopane - C3	51.973	191	61663	467.767	ng/mL	92

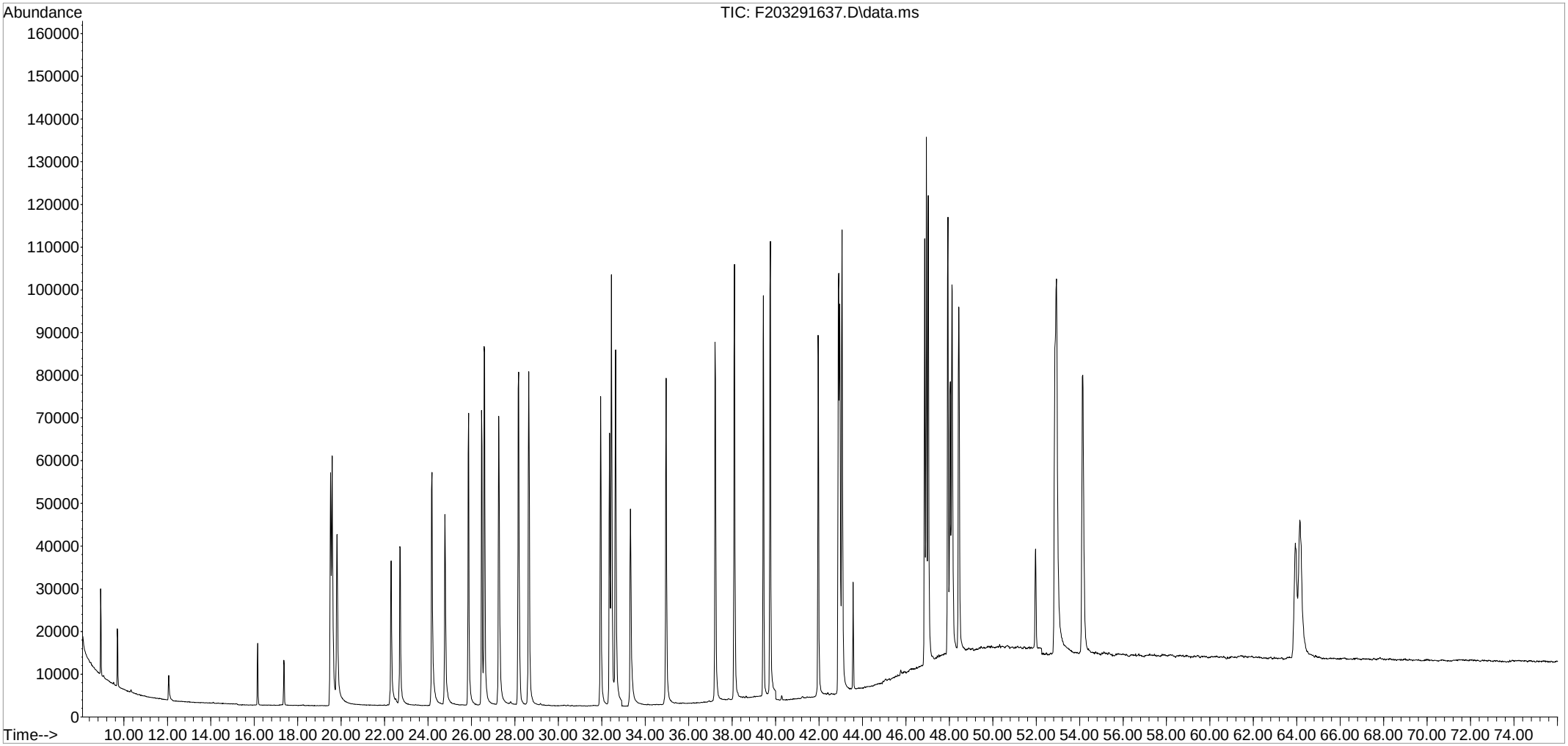
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\
Data File : F203291637.D
Acq On : 1 Apr 2016 1:40 am
Operator : PAH2:gy
Sample : C203291605
Misc : FRAW88 500NG/ML
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Apr 04 13:39:16 2016
Quant Method : O:\Forensics\Data\PAH2\2016\MARCH16\MARCH29\PAH2011516.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Thu Mar 24 06:59:53 2016
Response via : Initial Calibration

Sub List : ICAL_CCALT_REV2 - CC with five surrogates



Form VIII
Internal Standard Summary
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **C203291601**

Case: **N/A** SDG: **N/A**

		Chrysene-d12		Acenaphthene-d10	
		Area	**RT**	**Area**	**RT**
Standard:		183918	42.94	106471	26.45
Upper Limit:		367836	43.44	212942	26.95
Lower Limit:		91959	42.44	53236	25.95
Client ID	**Lab ID**				
Blank	SS032516B02	167268	42.94	98716	26.45
LCS	SS032516LCS02	178679	42.92	101271	26.45
LCSD	SS032516LCSD02	178635	42.92	101556	26.45
RX-1	1603006-01	174276	42.94	102913	26.45
RX-2	1603006-02	177809	42.94	101033	26.47
RX-3	1603006-03	182744	42.94	100582	26.48
RX-4	1603006-04	185433	42.98	98988	26.47
RX-4	1603006-04 D	178681	42.97	98501	26.47
RX-5	1603006-05	183818	42.97	105273	26.47
CCV	C203291602	213292	42.94	126230	26.47

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.
Area Lower Limit = -50% of internal standard.
RT = Retention Time.
RT Upper Limit = +0.5 minutes of internal standard RT.
RT Lower Limit = -0.5 minutes of internal standard RT.

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form VIII
Internal Standard Summary
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **C203291602**

Case: **N/A** SDG: **N/A**

		Chrysene-d12		Acenaphthene-d10	
		Area	**RT**	**Area**	**RT**
Standard:		213292	42.94	126230	26.47
Upper Limit:		426584	43.44	252460	26.97
Lower Limit:		106646	42.44	63115	25.97
Client ID	**Lab ID**				
RX-6	1603006-06	174227	42.95	102004	26.47
RX-7	1603006-07	177284	42.97	101584	26.47
RX-7A	1603006-08	185291	42.98	100608	26.48
RX-7B	1603006-09	183575	42.97	97765	26.48
RX-8	1603006-10	178737	42.97	98585	26.48
RX-8A	1603006-11	185159	42.97	120401	26.47
RX-8B	1603006-12	179631	42.98	119477	26.47
CCV	C203291603	216498	42.97	126693	26.48

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.
Area Lower Limit = -50% of internal standard.
RT = Retention Time.
RT Upper Limit = +0.5 minutes of internal standard RT.
RT Lower Limit = -0.5 minutes of internal standard RT.

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form VIII
Internal Standard Summary
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **C203291603**

Case: **N/A** SDG: **N/A**

		Chrysene-d12		Acenaphthene-d10	
		Area	**RT**	**Area**	**RT**
Standard:		216498	42.97	126693	26.48
Upper Limit:		432996	43.47	253386	26.98
Lower Limit:		108249	42.47	63346	25.98
Client ID	**Lab ID**				
RX-8B	1603006-12E	179886	42.95	111407	26.47
CCV	C203291604	232113	42.95	132216	26.48

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.
Area Lower Limit = -50% of internal standard.
RT = Retention Time.
RT Upper Limit = +0.5 minutes of internal standard RT.
RT Lower Limit = -0.5 minutes of internal standard RT.

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Form VIII
Internal Standard Summary
Alkylated Polynuclear Aromatic Hydrocarbons

Client: **NewFields**
Project: **Flint Street**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **C203291604**

Case: **N/A** SDG: **N/A**

		Chrysene-d12		Acenaphthene-d10	
		Area	**RT**	**Area**	**RT**
Standard:		232113	42.95	132216	26.48
Upper Limit:		464226	43.45	264432	26.98
Lower Limit:		116056	42.45	66108	25.98
Client ID	**Lab ID**				
RX-8	1603006-10E	154715	42.95	87943	26.47
CCV	C203291605	206893	42.95	115794	26.47

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.
Area Lower Limit = -50% of internal standard.
RT = Retention Time.
RT Upper Limit = +0.5 minutes of internal standard RT.
RT Lower Limit = -0.5 minutes of internal standard RT.

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Total Petroleum Hydrocarbons By GC/FID

Form I
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-1**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-01**
Associated Blank: **SS032516B02**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/29/16	84.4	15.83	10	1	NLJr

Parameter	Result
Total Petroleum Hydrocarbons (C9-C44)	2610

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	85	50-130
d50-Tetracosane	82	50-130

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916017.D
Signal(s) : FID2B.CH
Acq On : 29 Mar 2016 11:35 pm
Operator : FID9:DP
Sample : 1603006-01
Misc : 1X
ALS Vial : 59 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 16:31:27 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:31:20 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB903291601R
Blank File : F9032916009.D

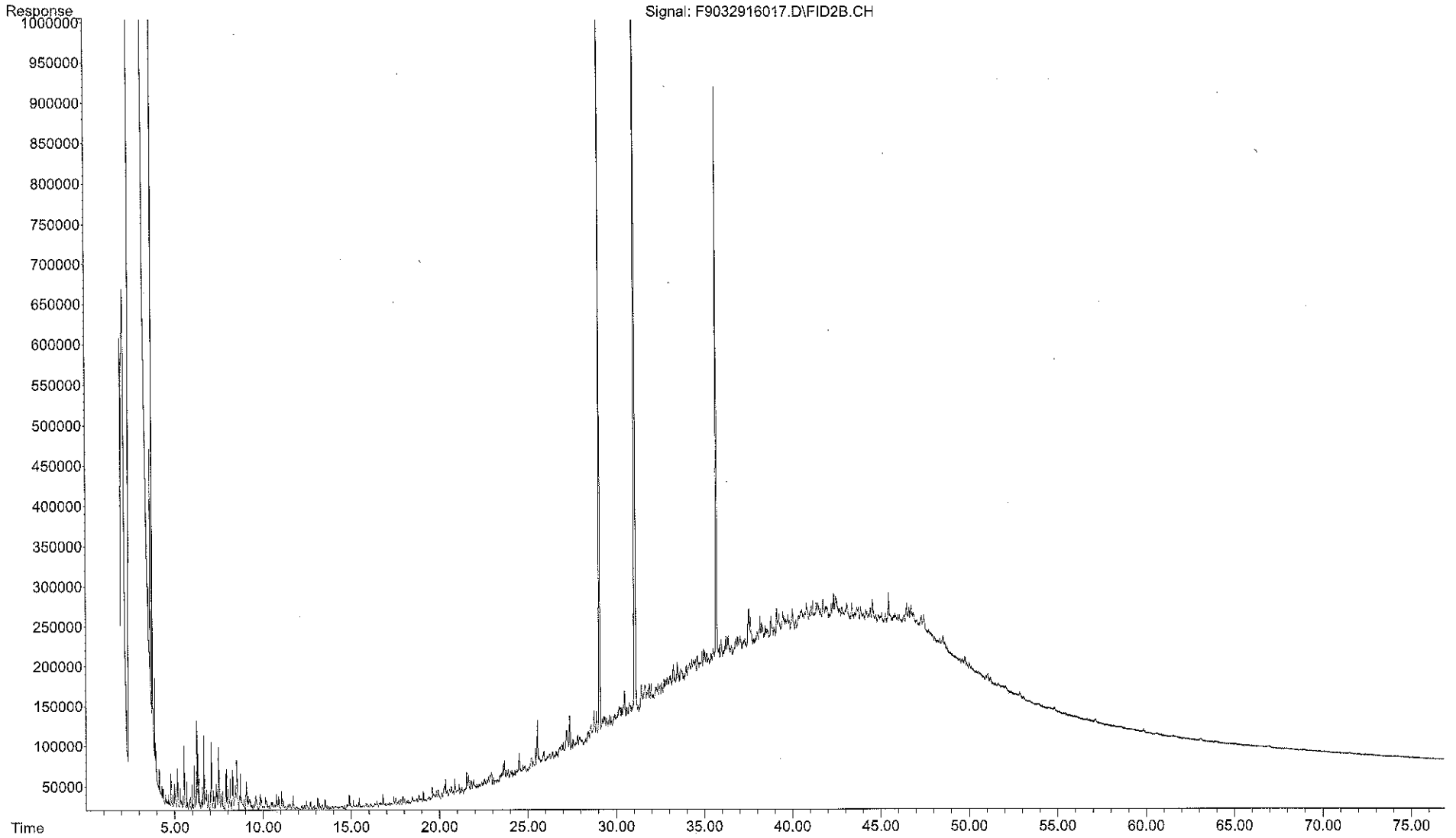
Sub List : TPH - TPH

Compound		R.T.	Response	Conc Units
Internal Standards				
1) I	5-alpha-androstane	31.105	55090153	50.000 ug/mL M4
System Monitoring Compounds				
19) s	ortho-terphenyl	29.081	24994942	21.240 ug/mL M4
Spiked Amount	50.000	Range 50 - 130	Recovery =	42.48%#
24) s	d50-Tetracosane	35.723	20023510	20.430 ug/mL M4
Spiked Amount	50.000	Range 50 - 130	Recovery =	40.86%#
Target Compounds				
42) h	C9-C44 Total Petroleu...	39.662	4364719580	4236.968 ug/mL m
42) h	C9-C44 Total Petroleu BS	39.662	3593060372	3487.894 ug/mLm
46) h	Total Resolved Hydroc...	39.662	188714577	183.191 ug/mL m
SemiQuant Compounds - Not Calibrated on this Instrument				

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916017.D
Operator : FID9:DP
Acquired : 29 Mar 2016 11:35 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-01
Misc Info : 1X
ALS Vial : 59



Form I
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-2**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-02**
Associated Blank: **SS032516B02**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	80.0	10.51	10	1	NLJr

Parameter	Result
Total Petroleum Hydrocarbons (C9-C44)	**7290**

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	94	50-130
d50-Tetracosane	85	50-130

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916019.D
Signal(s) : FID2B.CH
Acq On : 30 Mar 2016 1:02 am
Operator : FID9:DP
Sample : 1603006-02
Misc : 1X
ALS Vial : 60 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 16:31:37 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:31:30 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB903291601R
Blank File : F9032916009.D

Sub List : TPH - TPH

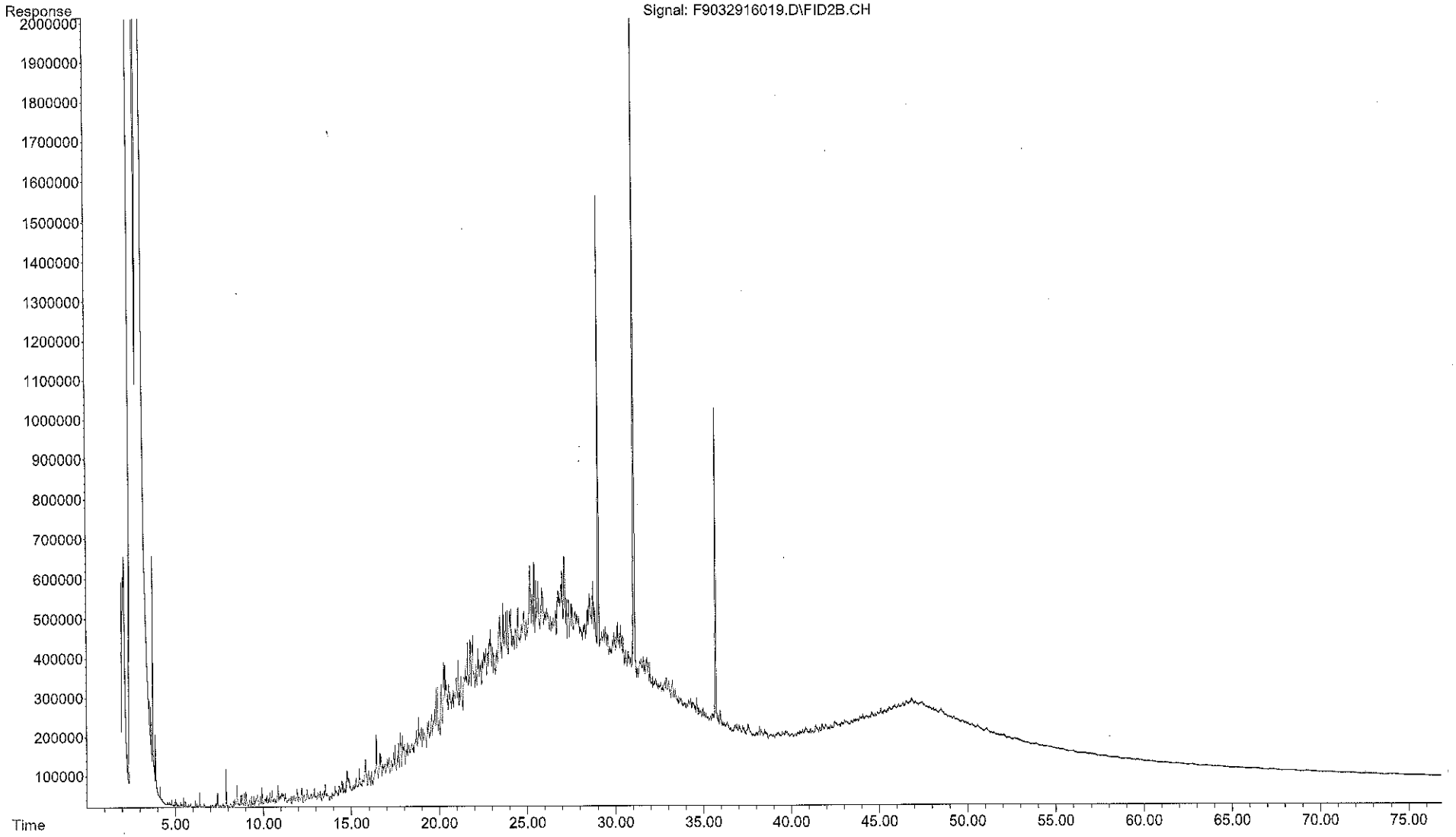
	Compound			R.T.	Response	Conc	Units	
Internal Standards								
1) I	5-alpha-androstane			31.122	59228057	50.000	ug/mL	M4
System Monitoring Compounds								
19) s	ortho-terphenyl			29.093	29661136	23.444	ug/mL	M4
Spiked Amount	50.000	Range	50 - 130		Recovery =	46.89%#		
24) s	d50-Tetracosane			35.729	22458494	21.314	ug/mL	M4
Spiked Amount	50.000	Range	50 - 130		Recovery =	42.63%#		
Target Compounds								
42) h	C9-C44 Total Petroleu...			39.662	7566755505	6832.113	ug/mL	m
42) h	C9-C44 Total Petroleu BS			39.662	6795096297	6135.372	ug/mLm	
46) h	Total Resolved Hydroc...			39.662	624141644	563.545	ug/mL	m

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916019.D
Operator : FID9:DP
Acquired : 30 Mar 2016 1:02 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-02
Misc Info : 1X
ALS Vial : 60



Form I
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-3**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-03**
Associated Blank: **SS032516B02**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	89.6	10.30	4	1	NLJr

Parameter	Result
Total Petroleum Hydrocarbons (C9-C44)	**2690**

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	93	50-130
d50-Tetracosane	85	50-130

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Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916021.D
Signal(s) : FID2B.CH
Acq On : 30 Mar 2016 2:30 am
Operator : FID9:DP
Sample : 1603006-03
Misc : 1X
ALS Vial : 61 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 16:31:47 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:31:40 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB903291601R
Blank File : F9032916009.D

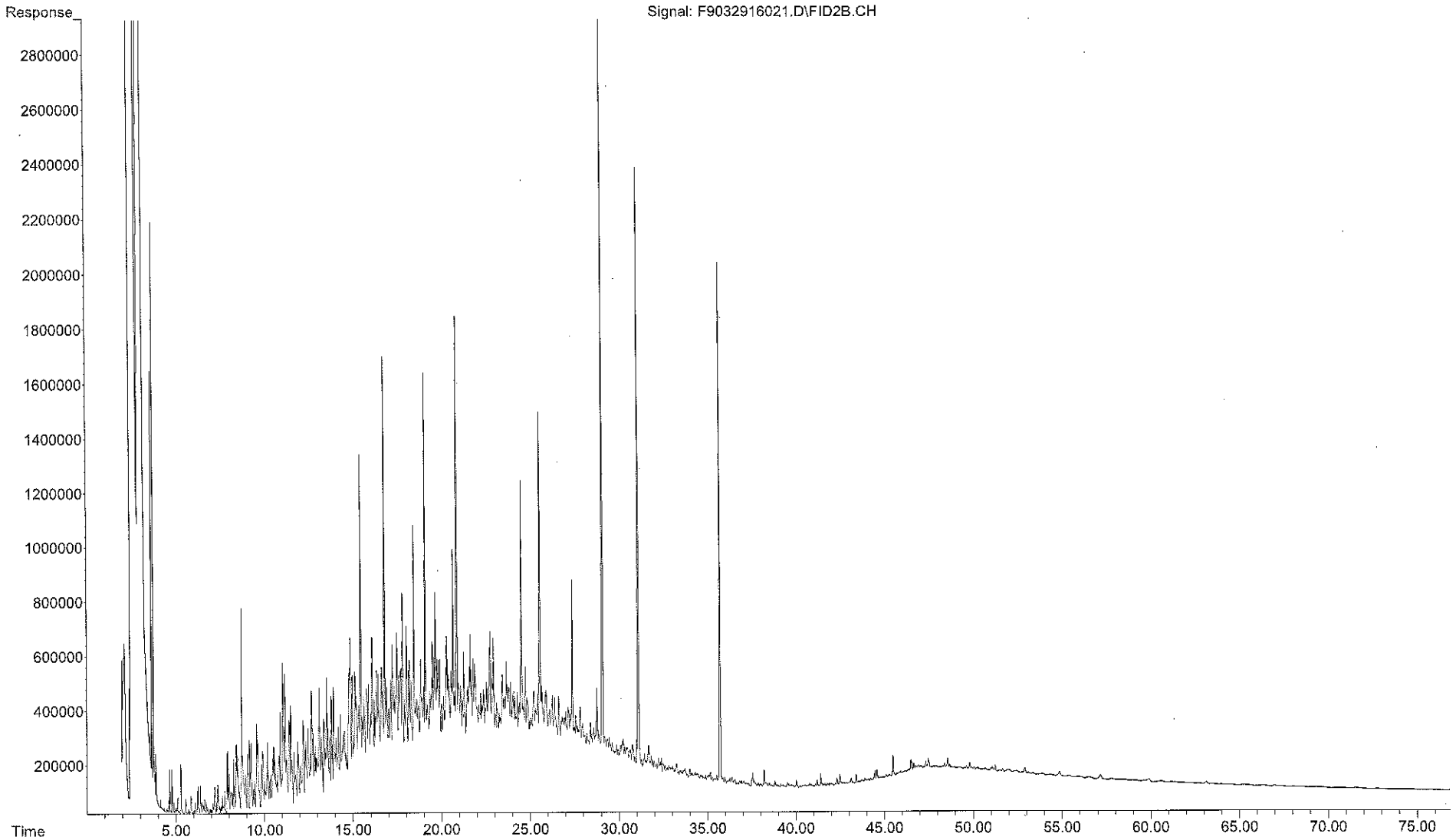
Sub List : TPH - TPH

Compound		R.T.	Response	Conc Units
Internal Standards				
1) I 5-alpha-androstane		31.119	59371371	50.000 ug/mL M4
System Monitoring Compounds				
19) s ortho-terphenyl		29.106	73473635	57.934 ug/mL M4
Spiked Amount 50.000	Range	50 - 130	Recovery =	115.87%
24) s d50-Tetracosane		35.740	56392071	53.389 ug/mL M4
Spiked Amount 50.000	Range	50 - 130	Recovery =	106.78%
Target Compounds				
42) h C9-C44 Total Petroleu...		39.662	7654276342	6894.454 ug/mL m
42) h C9-C44 Total Petroleu BS		39.662	6882617134	6199.395 ug/mLm
46) h Total Resolved Hydroc...		39.662	1895325081	1707.180 ug/mL m
SemiQuant Compounds - Not Calibrated on this Instrument				

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916021.D
Operator : FID9:DP
Acquired : 30 Mar 2016 2:30 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-03
Misc Info : 1X
ALS Vial : 61



Form I
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04**
Associated Blank: **SS032516B02**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.2	5.28	6.67	1	NLJr

Parameter	Result
Total Petroleum Hydrocarbons (C9-C44)	13800

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	92	50-130
d50-Tetracosane	92	50-130

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Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916023.D
Signal(s) : FID2B.CH
Acq On : 30 Mar 2016 3:57 am
Operator : FID9:DP
Sample : 1603006-04
Misc : 1X
ALS Vial : 62 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 16:31:57 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:31:50 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB903291601R
Blank File : F9032916009.D

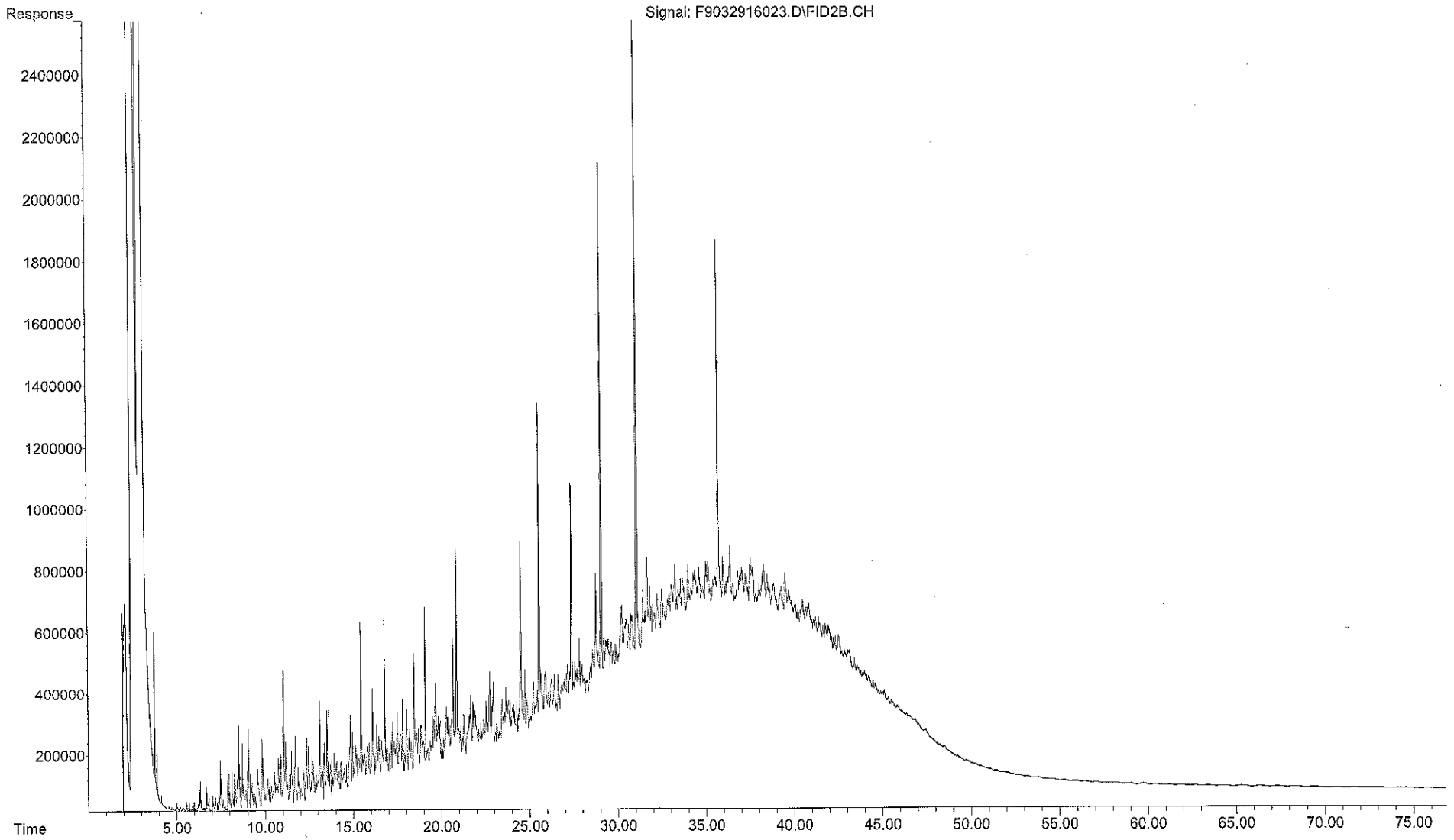
Sub List : TPH - TPH

	Compound		R.T.	Response	Conc	Units	
Internal Standards							
1) I	5-alpha-androstane		31.132	62822468	50.000	ug/mL	M4
System Monitoring Compounds							
19) s	ortho-terphenyl		29.102	46213479	34.437	ug/mL	M4
Spiked Amount	50.000	Range	50 - 130	Recovery =	68.87%		
24) s	d50-Tetracosane		35.755	38435899	34.390	ug/mL	M4
Spiked Amount	50.000	Range	50 - 130	Recovery =	68.78%		
Target Compounds							
42) h	C9-C44 Total Petroleu...		39.662	10794123188	9188.512	ug/mL	m
42) h	C9-C44 Total Petroleu BS		39.662	10022463980	8531.636	ug/mL	m
46) h	Total Resolved Hydroc...		39.662	1390038421	1183.272	ug/mL	m
SemiQuant Compounds - Not Calibrated on this Instrument							

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916023.D
Operator : FID9:DP
Acquired : 30 Mar 2016 3:57 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-04
Misc Info : 1X
ALS Vial : 62



Form I
Duplicate
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04 D**
Associated Blank: **SS032516B02**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.2	5.88	6.67	1	NLJr

Parameter	Result
Total Petroleum Hydrocarbons (C9-C44)	10800

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	87	50-130
d50-Tetracosane	85	50-130

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Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916025.D
Signal(s) : FID2B.CH
Acq On : 30 Mar 2016 5:24 am
Operator : FID9:DP
Sample : 1603006-04D
Misc : 1X
ALS Vial : 63 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 16:32:07 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:32:00 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB903291601R
Blank File : F9032916009.D

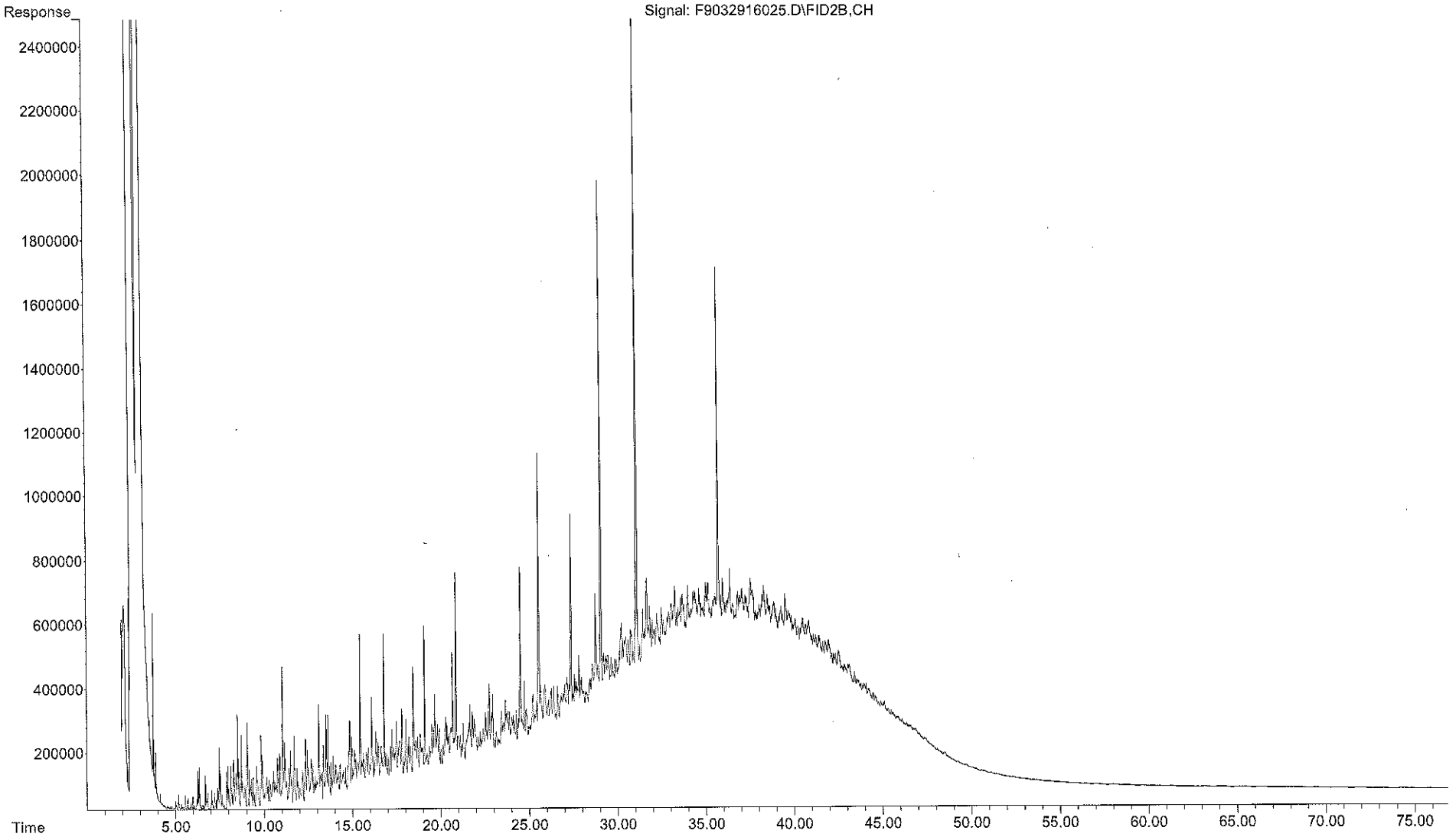
Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.127	62049245	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.096	43217470	32.606 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery = 65.21%	
24) s d50-Tetracosane	35.749	35041730	31.744 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery = 63.49%	
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	9418507756	8117.427 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	8646848548	7452.366 ug/mLm
46) h Total Resolved Hydroc...	39.662	1221311515	1052.598 ug/mL m
SemiQuant Compounds - Not Calibrated on this Instrument			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916025.D
Operator : FID9:DP
Acquired : 30 Mar 2016 5:24 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-04D
Misc Info : 1X
ALS Vial : 63



Duplicate
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-4**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-04**
Associated Blank: **SS032516B02**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
03/11/16	03/14/16	03/25/16	78.2	NLJr

Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
Total Petroleum Hydrocarbons (C9-C44)	**13800**	**10800**	24	30

N/A - Not Applicable

Surrogate	% Recovery		Acceptance Range (%)
ortho-Terphenyl	92	87	50-130
d50-Tetracosane	92	85	50-130

Concentrations reported as calculated values, which includes rounding for significant figures. RPD values are reported based on the unrounded calculated result.

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Form I
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-5**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-05**
Associated Blank: **SS032516B02**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.0	10.85	8	1	NLJr

Parameter	Result
Total Petroleum Hydrocarbons (C9-C44)	5240

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	90	50-130
d50-Tetracosane	89	50-130

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Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916033.D
Signal(s) : FID2B.CH
Acq On : 30 Mar 2016 11:15 am
Operator : FID9:DP
Sample : 1603006-05
Misc : 1X
ALS Vial : 67 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 16:32:40 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:32:32 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB903291602R
Blank File : F9032916031.D

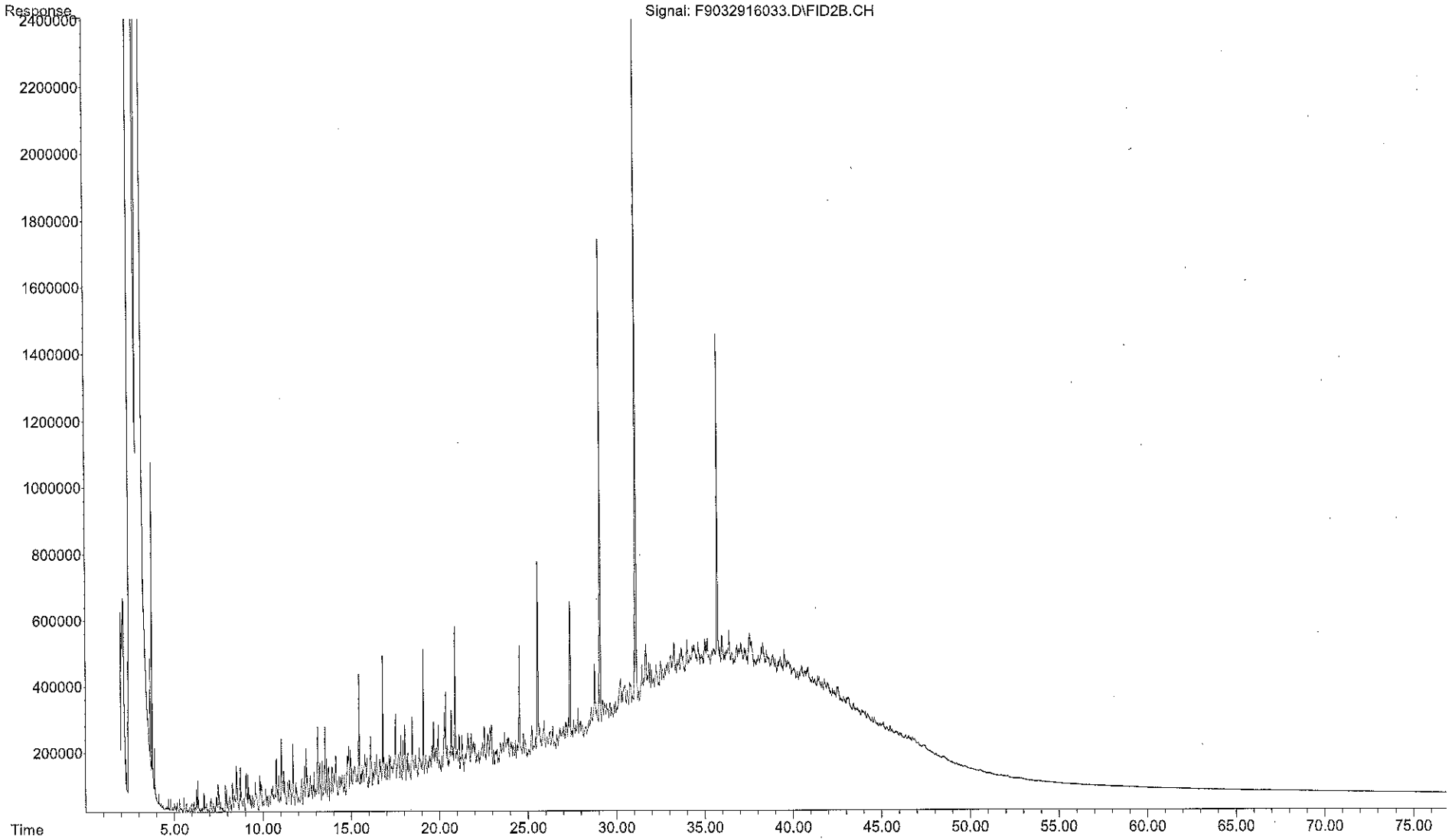
Sub List : TPH - TPH

Compound		R.T.	Response	Conc Units
Internal Standards				
1) I 5-alpha-androstane		31.123	60637267	50.000 ug/mL M4
System Monitoring Compounds				
19) s ortho-terphenyl		29.094	36607070	28.262 ug/mL M4
Spiked Amount 50.000	Range	50 - 130	Recovery =	56.52%
24) s d50-Tetracosane		35.743	30046049	27.852 ug/mL M4
Spiked Amount 50.000	Range	50 - 130	Recovery =	55.70%
Target Compounds				
42) h C9-C44 Total Petroleu...		39.662	7359465564	6490.520 ug/mL m
42) h C9-C44 Total Petroleu BS		39.662	6518580096	5748.919 ug/mLm
46) h Total Resolved Hydroc...		39.662	859538901	758.052 ug/mL m
SemiQuant Compounds - Not Calibrated on this Instrument				

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916033.D
Operator : FID9:DP
Acquired : 30 Mar 2016 11:15 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-05
Misc Info : 1X
ALS Vial : 67



Form I
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-6**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-06**
Associated Blank: **SS032516B02**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	88.0	30.70	2	1	NLJr

Parameter	Result
Total Petroleum Hydrocarbons (C9-C44)	**362**

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	81	50-130
d50-Tetracosane	79	50-130

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Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916035.D
Signal(s) : FID2B.CH
Acq On : 30 Mar 2016 12:43 pm
Operator : FID9:DP
Sample : 1603006-06
Misc : 1X
ALS Vial : 68 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 16:32:50 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:32:42 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB903291602R
Blank File : F9032916031.D

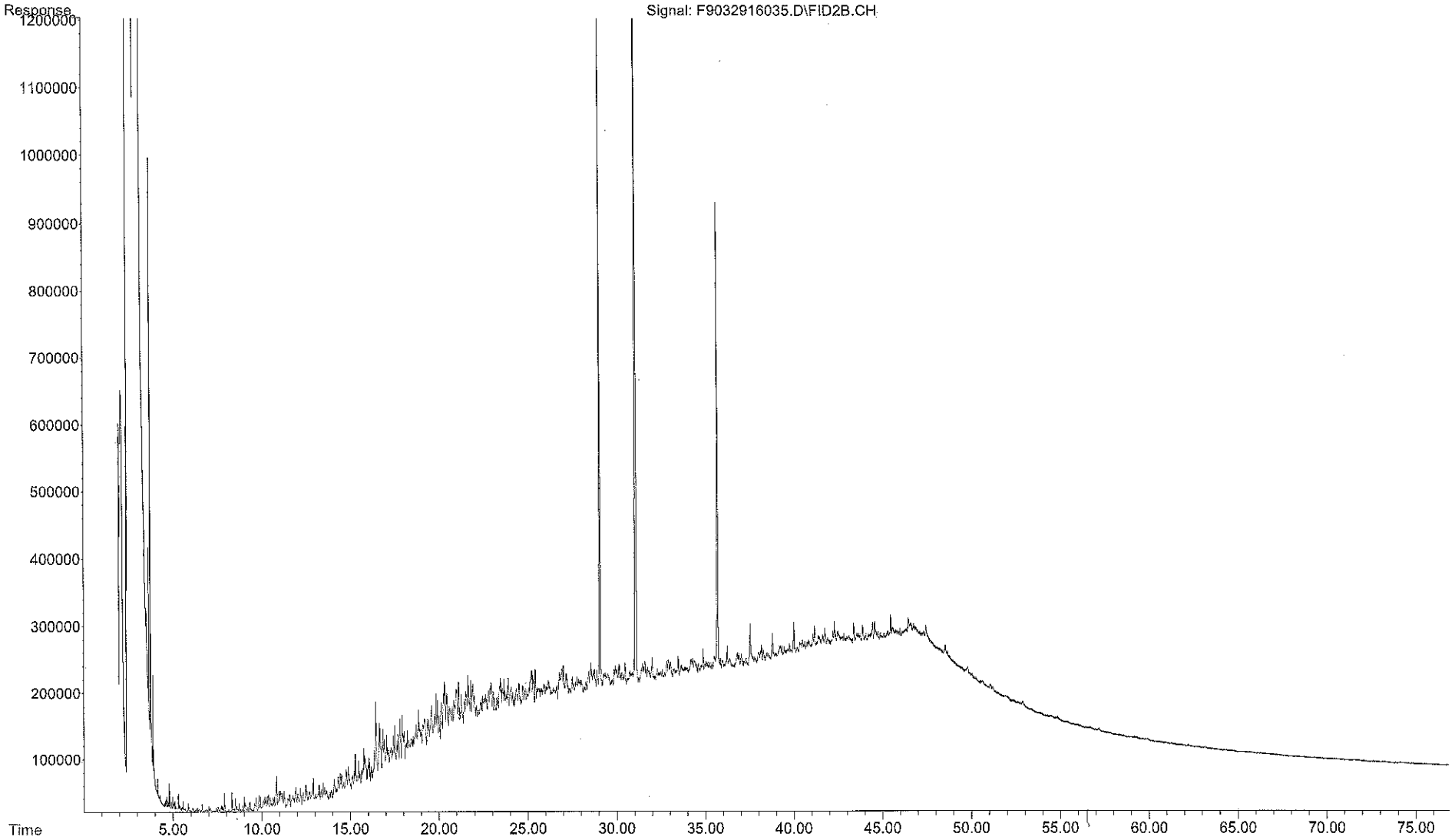
Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.118	55656980	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.088	24058592	20.236 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	40.47%#
24) s d50-Tetracosane	35.730	19667700	19.863 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	39.73%#
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	5928781595	5696.638 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	5087896127	4888.678 ug/mLm
46) h Total Resolved Hydroc...	39.662	360945630	346.813 ug/mL m
SemiQuant Compounds - Not Calibrated on this Instrument			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916035.D
Operator : FID9:DP
Acquired : 30 Mar 2016 12:43 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-06
Misc Info : 1X
ALS Vial : 68



HC9102015R.M Mon Apr 04 10:09:26 2016 Page: 2

Form I
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-07**
Associated Blank: **SS032516B02**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	79.1	10.87	4	1	NLJr

Parameter	Result
Total Petroleum Hydrocarbons (C9-C44)	**2310**

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	89	50-130
d50-Tetracosane	84	50-130

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Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916037.D
Signal(s) : FID2B.CH
Acq On : 30 Mar 2016 2:11 pm
Operator : FID9:DP
Sample : 1603006-07
Misc : 1X
ALS Vial : 69 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 16:33:01 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:32:53 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB903291602R
Blank File : F9032916031.D

Sub List : TPH - TPH

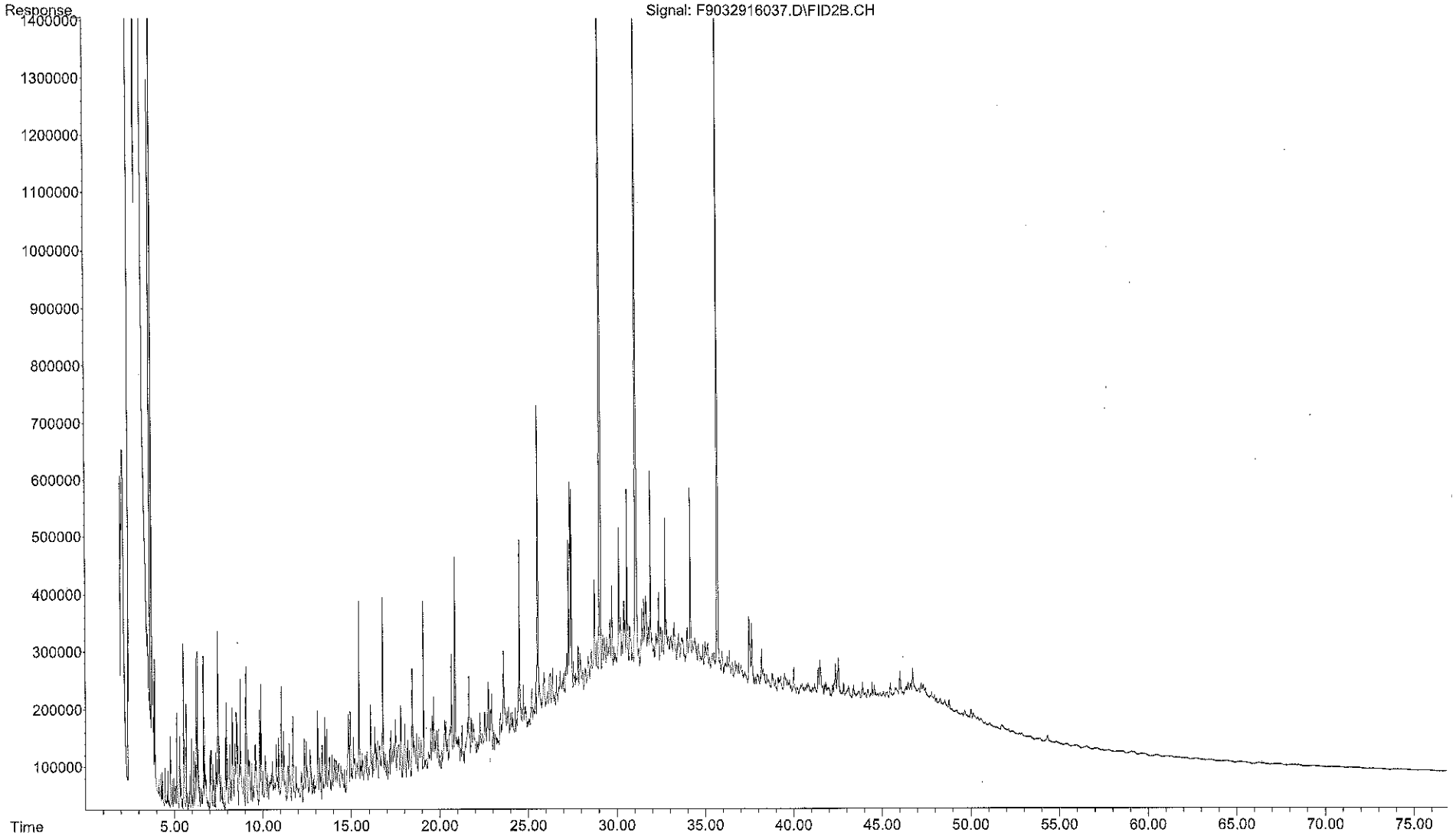
Compound		R.T.	Response	Conc Units
Internal Standards				
1) I 5-alpha-androstane		31.122	56746679	50.000 ug/mL M4
System Monitoring Compounds				
19) s ortho-terphenyl		29.106	67376097	55.583 ug/mL M4
Spiked Amount 50.000	Range	50 - 130	Recovery =	111.17%
24) s d50-Tetracosane		35.745	52880167	52.379 ug/mL M4
Spiked Amount 50.000	Range	50 - 130	Recovery =	104.76%
Target Compounds				
42) h C9-C44 Total Petroleu...		39.662	6104681355	5753.013 ug/mL m
42) h C9-C44 Total Petroleu BS		39.662	5263795887	4960.568 ug/mLm
46) h Total Resolved Hydroc...		39.662	824180439	776.702 ug/mL m
SemiQuant Compounds - Not Calibrated on this Instrument				

(f)=RT Delta > 1/2 Window (m)=manual int.

HC9102015R.M Mon Apr 04 10:09:31 2016

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916037.D
Operator : FID9:DP
Acquired : 30 Mar 2016 2:11 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-07
Misc Info : 1X
ALS Vial : 69



Form I
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7A**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-08**
Associated Blank: **SS032516B02**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	78.1	15.00	8	1	NLJr

Parameter	Result
Total Petroleum Hydrocarbons (C9-C44)	**4650**

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	85	50-130
d50-Tetracosane	80	50-130

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Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916039.D
Signal(s) : FID2B.CH
Acq On : 30 Mar 2016 3:39 pm
Operator : FID9:DP
Sample : 1603006-08
Misc : 1X
ALS Vial : 70 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 17:24:44 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:33:03 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB903291602R
Blank File : F9032916031.D

Sub List : TPH - TPH

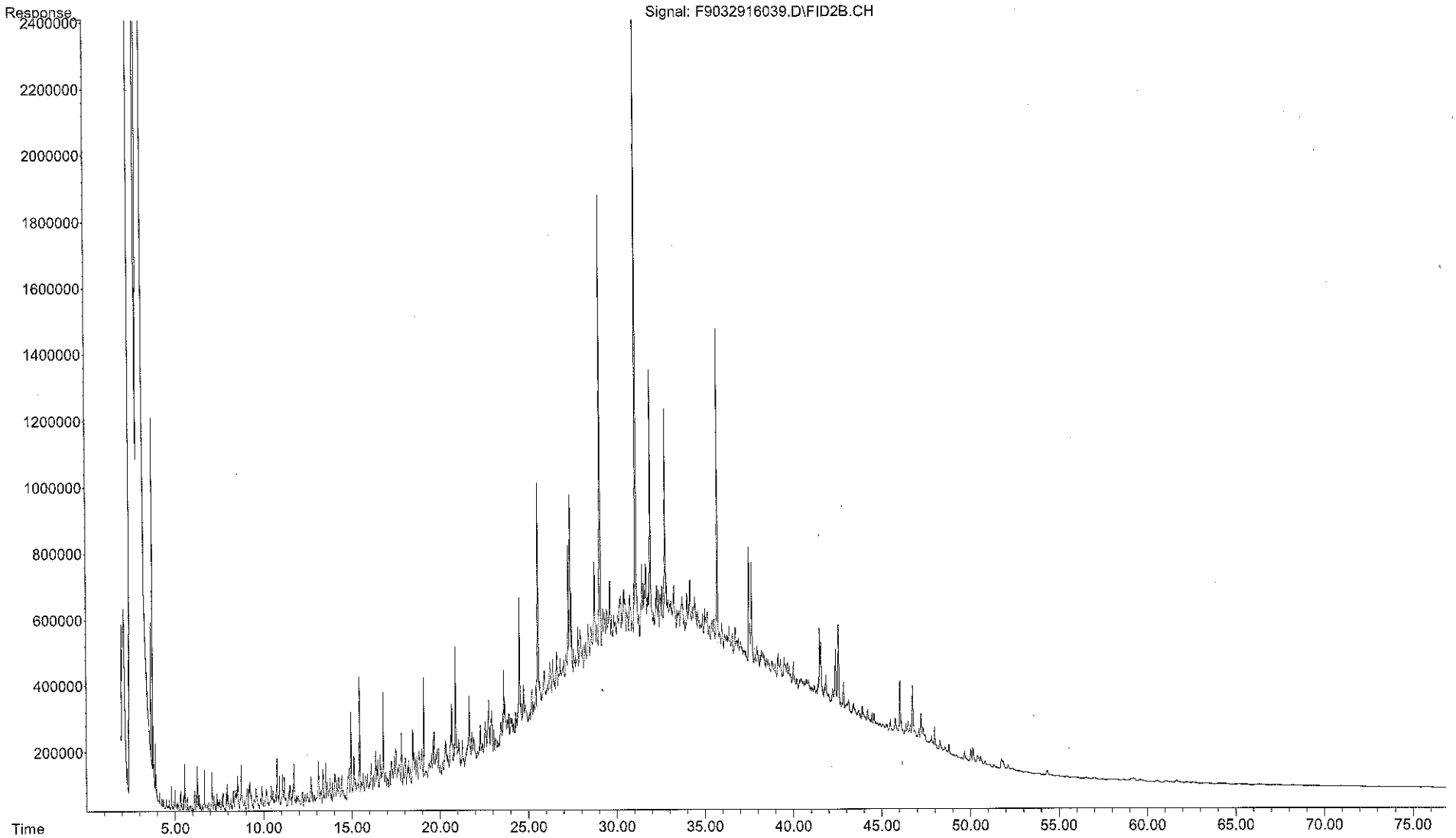
Compound		R.T.	Response	Conc Units
Internal Standards				
1) I 5-alpha-androstane		31.137	63540635	50.000 ug/mL M4
System Monitoring Compounds				
19) s ortho-terphenyl		29.103	36173507	26.651 ug/mL M4
Spiked Amount 50.000	Range 50 - 130		Recovery = 53.30%	
24) s d50-Tetracosane		35.749	28143115	24.896 ug/mL M4
Spiked Amount 50.000	Range 50 - 130		Recovery = 49.79%#	
Target Compounds				
42) h C9-C44 Total Petroleu...		39.662	8931459231	7516.985 ug/mL m
42) h C9-C44 Total Petroleu BS		39.662	8090573763	6809.270 ug/mLm
46) h Total Resolved Hydroc...		39.662	1025689355	863.251 ug/mL m

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916039.D
Operator : FID9:DP
Acquired : 30 Mar 2016 3:39 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-08
Misc Info : 1X
ALS Vial : 70



HC9102015R.M Mon Apr 04 10:09:37 2016 Page: 2

Form I
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-7B**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-09**
Associated Blank: **SS032516B02**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	82.8	29.95	5.71	1	NLJr

Parameter	Result
Total Petroleum Hydrocarbons (C9-C44)	**1660**

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	113	50-130
d50-Tetracosane	106	50-130

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Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916041.D
Signal(s) : FID2B.CH
Acq On : 30 Mar 2016 5:06 pm
Operator : FID9:DP
Sample : 1603006-09
Misc : 1X
ALS Vial : 71 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 17:25:35 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:33:13 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB903291602R
Blank File : F9032916031.D

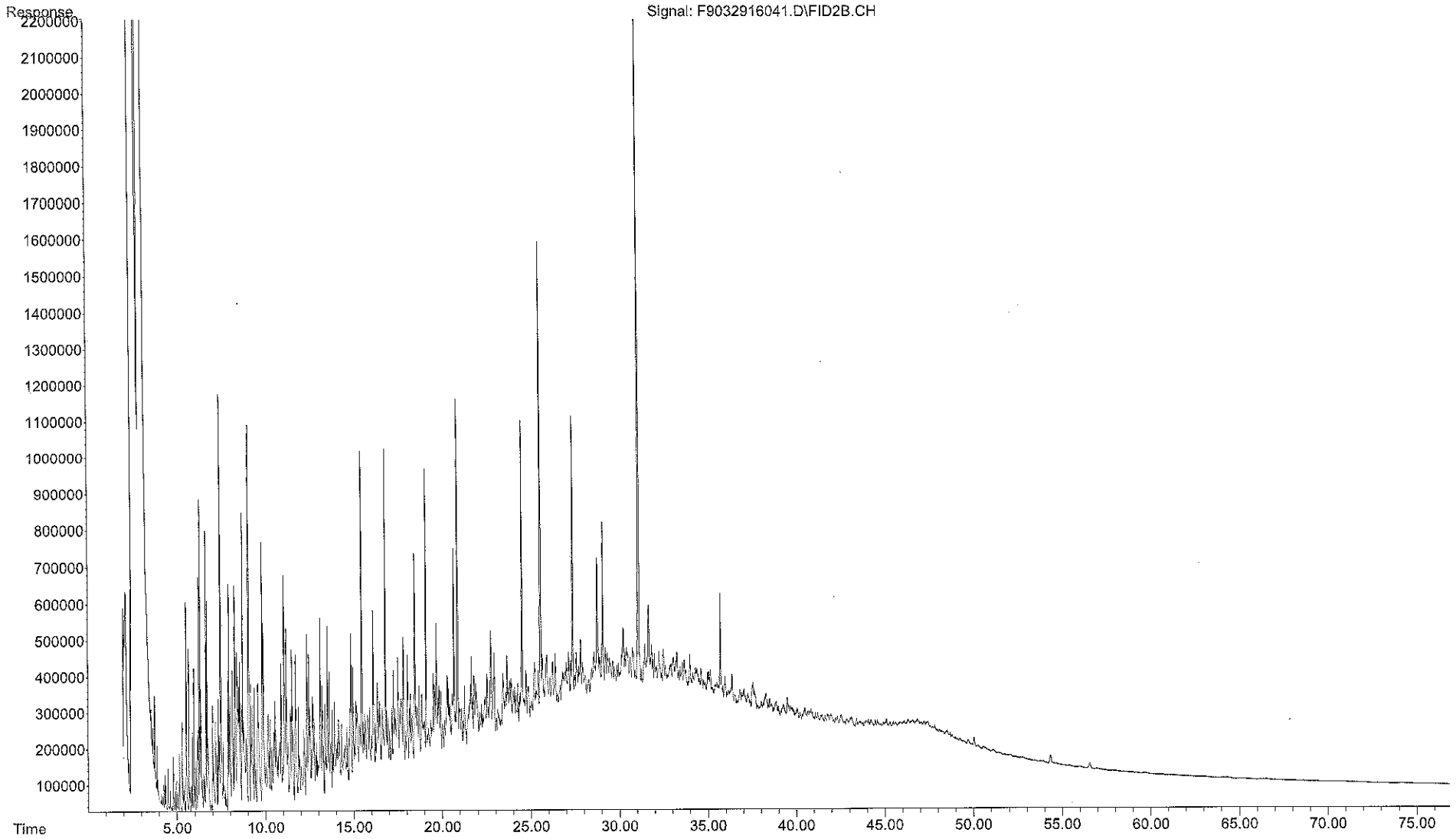
Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.131	59948104	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.090	12720375	9.933 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery = 19.87%#	
24) s d50-Tetracosane	35.732	9918724	9.300 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery = 18.60%#	
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	8901961684	7941.144 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	8061076216	7191.018 ug/mLm
46) h Total Resolved Hydroc...	39.662	1761592231	1571.458 ug/mL m
SemiQuant Compounds - Not Calibrated on this Instrument			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916041.D
Operator : FID9:DP
Acquired : 30 Mar 2016 5:06 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-09
Misc Info : 1X
ALS Vial : 71



Form I
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-10**
Associated Blank: **SS032516B02**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.4	30.72	8	1	NLJr

Parameter	Result
Total Petroleum Hydrocarbons (C9-C44)	**2070**

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	88	50-130
d50-Tetracosane	101	50-130

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Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916043.D
Signal(s) : FID2B.CH
Acq On : 30 Mar 2016 6:34 pm
Operator : FID9:DP
Sample : 1603006-10
Misc : 1X
ALS Vial : 72 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 17:26:24 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:33:23 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB903291602R
Blank File : F9032916031.D

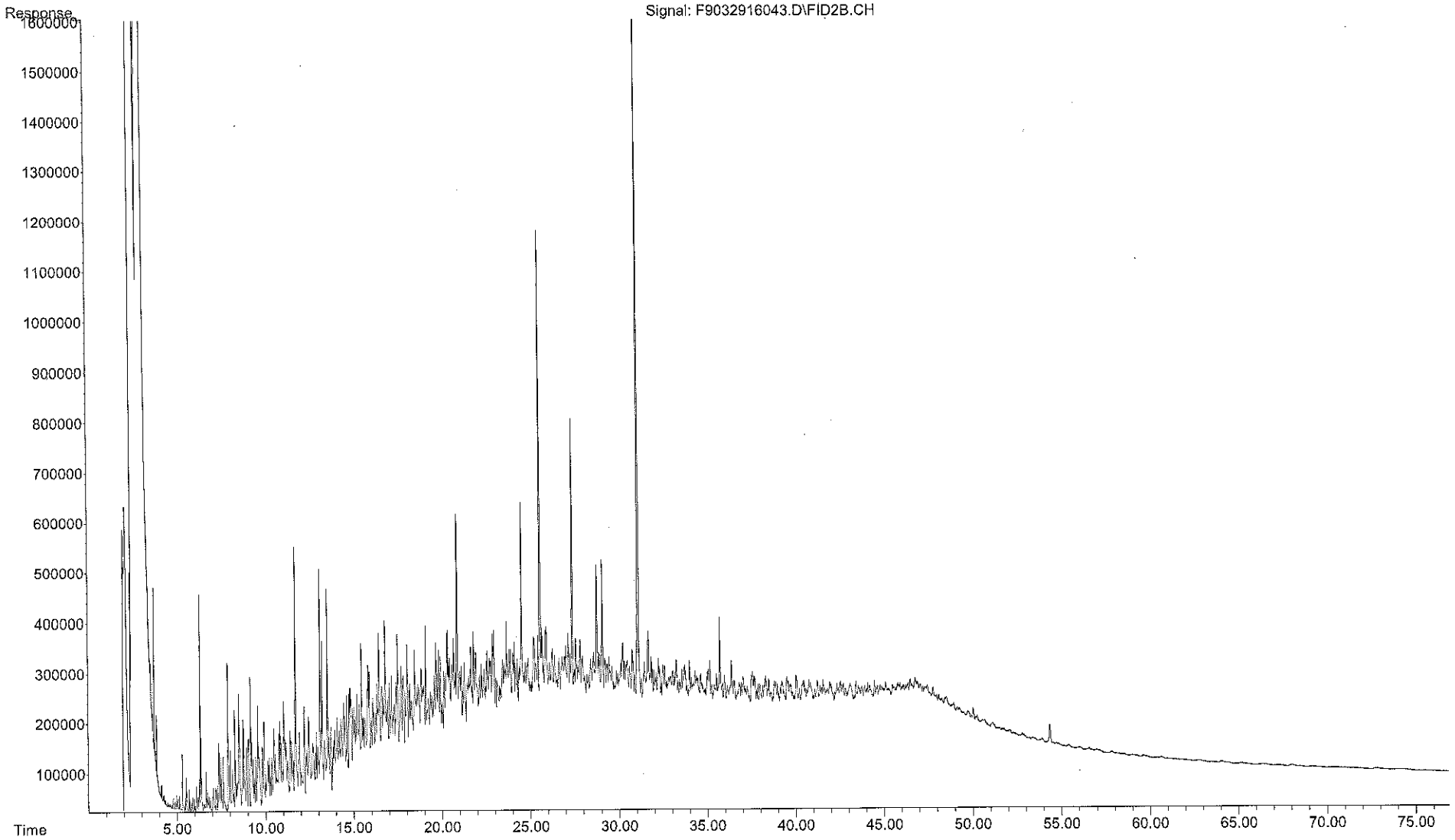
Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.124	53201739	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.086	6269489	5.517 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	11.03%#
24) s d50-Tetracosane	35.728	5992440	6.331 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	12.66%#
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	7279300565	7317.060 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	6438415097	6471.813 ug/mLm
46) h Total Resolved Hydroc...	39.662	1181696284	1187.826 ug/mL m
SemiQuant Compounds - Not Calibrated on this Instrument			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916043.D
Operator : FID9:DP
Acquired : 30 Mar 2016 6:34 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-10
Misc Info : 1X
ALS Vial : 72



Form I
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8A**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-11**
Associated Blank: **SS032516B02**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	68.5	29.88	2	1	NLJr

Parameter	Result
Total Petroleum Hydrocarbons (C9-C44)	**185**

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	81	50-130
d50-Tetracosane	81	50-130

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Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916045.D
Signal(s) : FID2B.CH
Acq On : 30 Mar 2016 8:02 pm
Operator : FID9:DP
Sample : 1603006-11
Misc : 1X
ALS Vial : 73 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 16:33:40 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:33:33 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB903291602R
Blank File : F9032916031.D

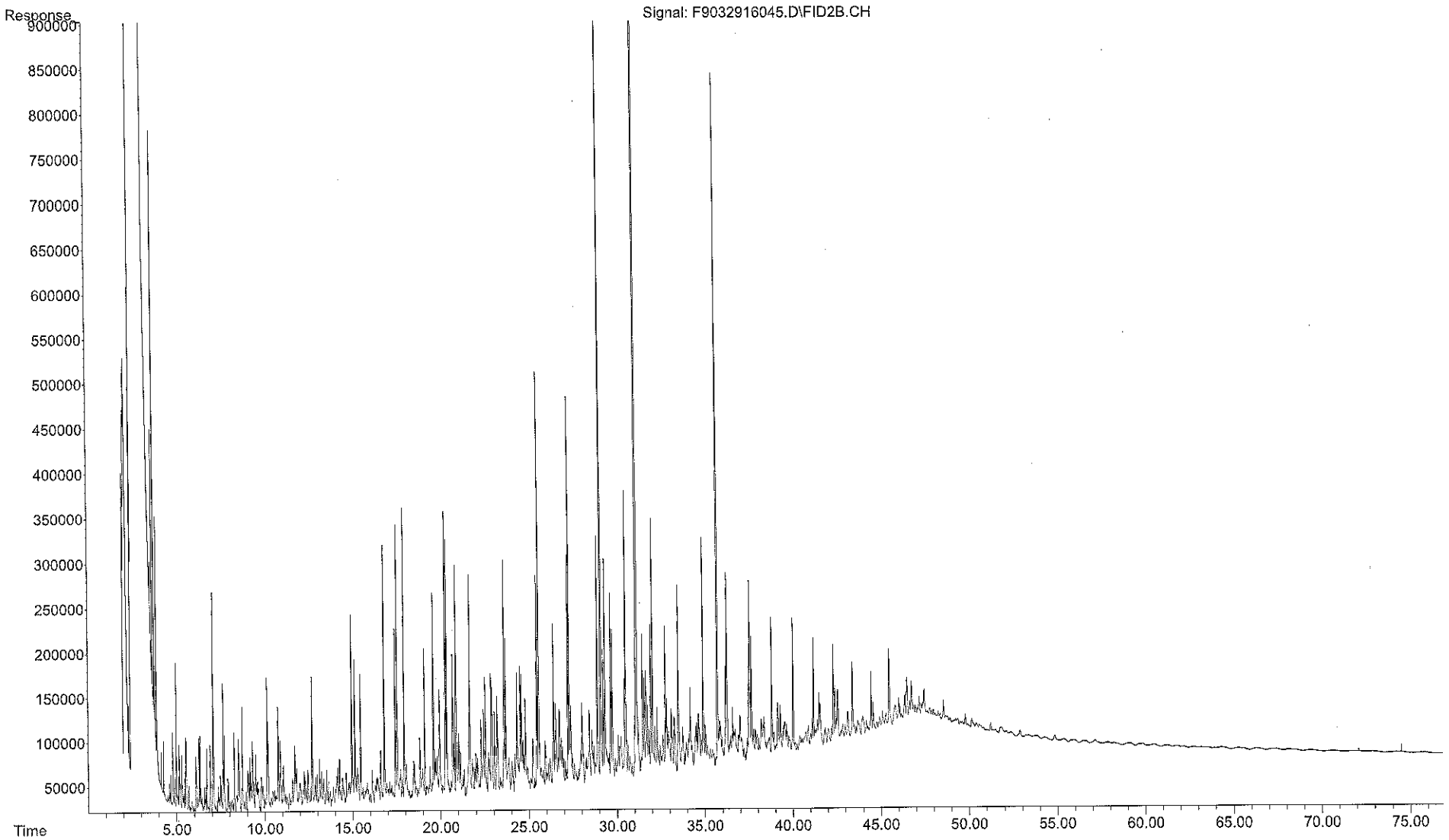
Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.122	54932545	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.092	23619458	20.129 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	40.26%#
24) s d50-Tetracosane	35.731	19786731	20.247 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	40.49%#
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	2784712251	2710.962 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	1943826783	1892.346 ug/mLm
46) h Total Resolved Hydroc...	39.662	621784641	605.317 ug/mL m
SemiQuant Compounds - Not Calibrated on this Instrument			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916045.D
Operator : FID9:DP
Acquired : 30 Mar 2016 8:02 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-11
Misc Info : 1X
ALS Vial : 73



Form I
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**
Client ID: **RX-8B**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **1603006-12**
Associated Blank: **SS032516B02**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
03/11/16	03/14/16	03/25/16	03/30/16	81.8	29.34	2	1	NLJr

Parameter	Result
Total Petroleum Hydrocarbons (C9-C44)	**258**

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	82	50-130
d50-Tetracosane	82	50-130

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Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916047.D
Signal(s) : FID2B.CH
Acq On : 30 Mar 2016 9:30 pm
Operator : FID9:DP
Sample : 1603006-12
Misc : 1X
ALS Vial : 74 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 16:33:50 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:33:43 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB903291602R
Blank File : F9032916031.D

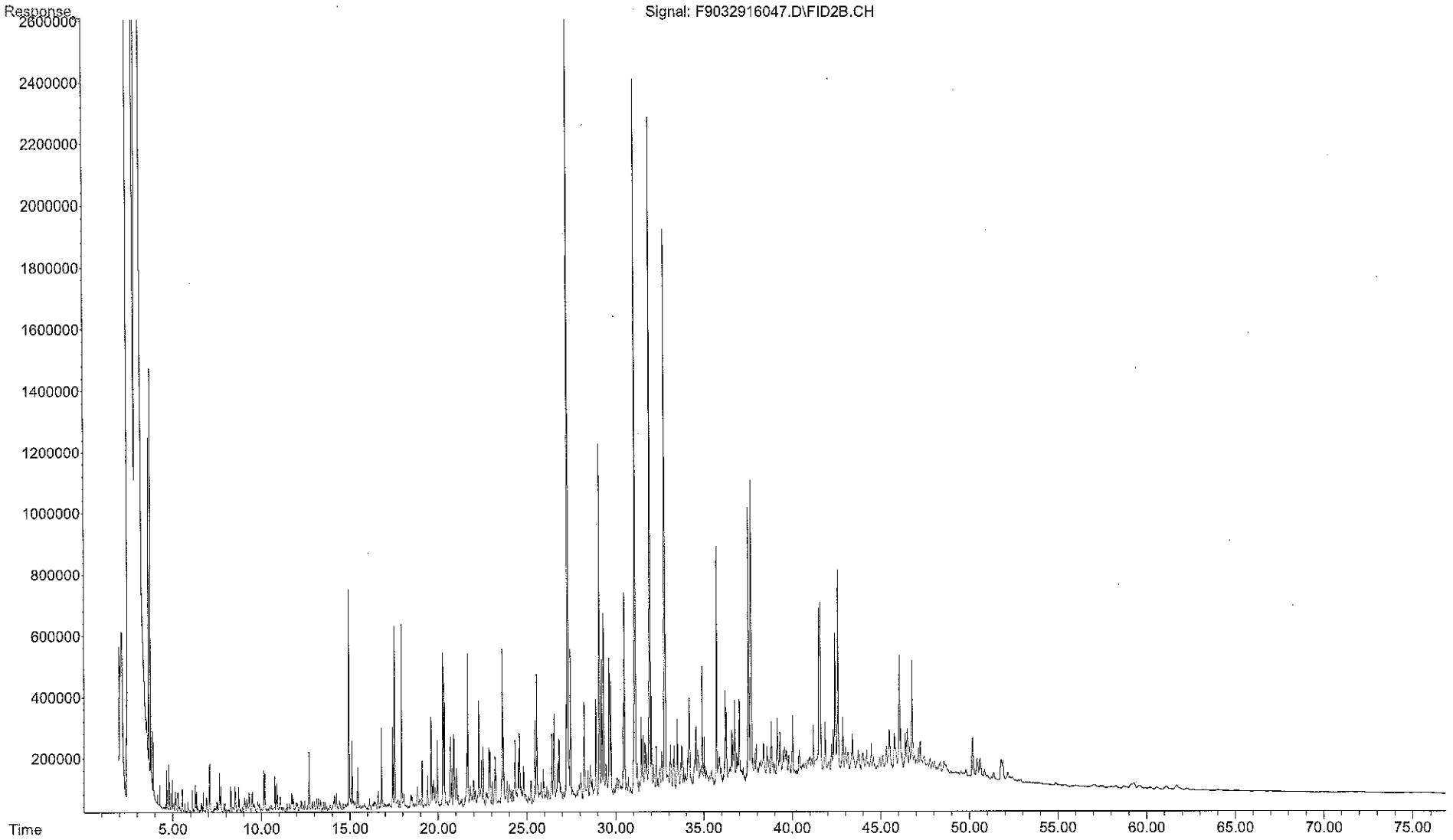
Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.123	58619080	50.000 ug/mL M3
System Monitoring Compounds			
19) s ortho-terphenyl	29.095	25544516	20.400 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery = 40.80%#	
24) s d50-Tetracosane	35.735	21484977	20.602 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery = 41.20%#	
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	4228739074	3857.844 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	3387853606	3090.711 ug/mLm
46) h Total Resolved Hydroc...	39.662	1297531395	1183.727 ug/mL m
SemiQuant Compounds - Not Calibrated on this Instrument			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916047.D
Operator : FID9:DP
Acquired : 30 Mar 2016 9:30 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : 1603006-12
Misc Info : 1X
ALS Vial : 74



Form I
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**
Client ID: **Blank**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SS032516B02**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	NLJr

Parameter	Result
Total Petroleum Hydrocarbons (C9-C44)	3.47 U

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	96	50-130
d50-Tetracosane	91	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

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Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916011.D
Signal(s) : FID2B.CH
Acq On : 29 Mar 2016 7:13 pm
Operator : FID9:DP
Sample : SS032516B02
Misc : 1X ETR 1603006
ALS Vial : 56 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 17:16:25 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:30:42 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB903291601R
Blank File : F9032916009.D

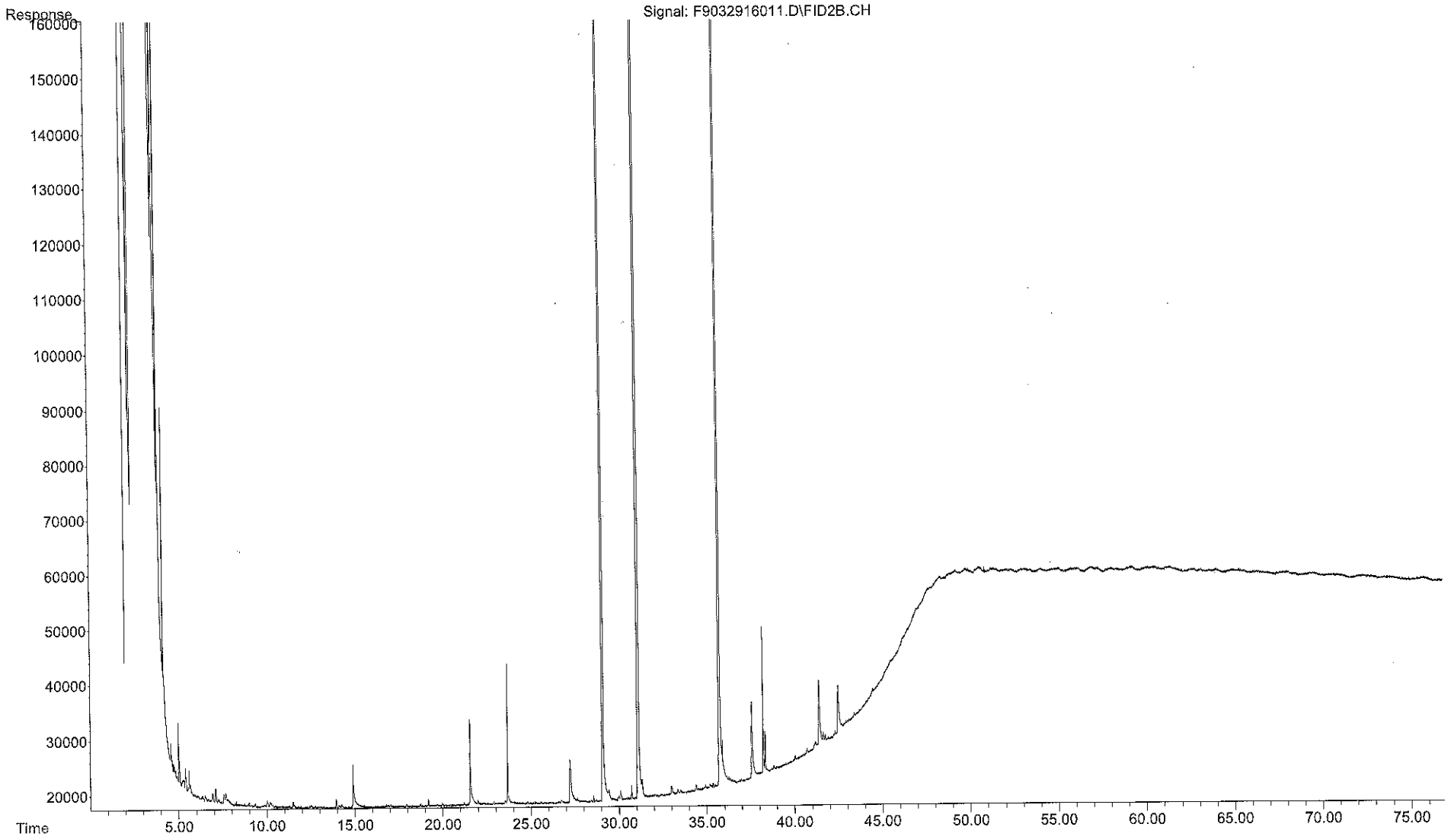
Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.115	56213689	50,000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.090	28672836	23.878 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	47.76%#
24) s d50-Tetracosane	35.727	22751112	22.749 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	45.50%#
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	757856607	720.971 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	-13802601	N.D. ug/mLm
46) h Total Resolved Hydroc...	39.662	11727140	11.156 ug/mL m
SemiQuant Compounds - Not Calibrated on this Instrument			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916011.D
Operator : FID9:DP
Acquired : 29 Mar 2016 7:13 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : SS032516B02
Misc Info : 1X ETR 1603006
ALS Vial : 56



Form III
Spike Recovery Summary
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **See Below**
Associated Blank: **SS032516B02**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	03/25/16	100	NLJr

Lab ID: SS032516B02 SS032516LCS02 SS032516LCSD02

Parameter	Blank Conc.		LCS Conc.	LCS % Recovery	LCSD Conc.	LCSD % Recovery	% RPD	RPD Limit	% Recovery Limits
n-Nonane (C9)	0.105	U	0.732	70	0.755	72	3	30	50-130
n-Decane (C10)	0.105	U	0.819	78	0.856	81	4	30	50-130
n-Dodecane (C12)	0.105	U	0.880	84	0.930	88	6	30	50-130
n-Tetradecane (C14)	0.105	U	0.934	89	0.971	92	4	30	50-130
n-Hexadecane (C16)	0.105	U	1.08	103	1.12	106	3	30	50-130
n-Octadecane (C18)	0.105	U	1.10	104	1.13	108	3	30	50-130
n-Nonadecane (C19)	0.105	U	1.02	97	1.04	99	3	30	50-130
n-Eicosane (C20)	0.105	U	1.03	98	1.06	101	3	30	50-130
n-Docosane (C22)	0.105	U	1.06	100	1.08	103	2	30	50-130
n-Tetracosane (C24)	0.105	U	1.06	100	1.09	103	3	30	50-130
n-Hexacosane (C26)	0.105	U	1.04	99	1.08	103	4	30	50-130
n-Octacosane (C28)	0.105	U	1.07	101	1.10	105	3	30	50-130
n-Triacontane (C30)	0.105	U	1.07	102	1.10	105	3	30	50-130
n-Hexatriacontane (C36)	0.105	U	1.05	100	1.10	105	5	30	50-130

Surrogate	% Recovery		Acceptance Range (%)
ortho-Terphenyl	95	97	50-130
d50-Tetracosane	93	95	50-130

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

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Form I
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SS032516LCS02**
Associated Blank: **SS032516B02**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	NLJr

Parameter	Result
Total Petroleum Hydrocarbons (C9-C44)	**12.8**

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	95	50-130
d50-Tetracosane	93	50-130

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Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916013.D
Signal(s) : FID2B.CH
Acq On : 29 Mar 2016 8:40 pm
Operator : FID9:DP
Sample : SS032516LCS02
Misc : 1X ETR 1603006
ALS Vial : 57 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 17:17:25 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:30:53 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB903291601R
Blank File : F9032916009.D

Sub List : TPH_QC_Samples - TPH_QC_Samples

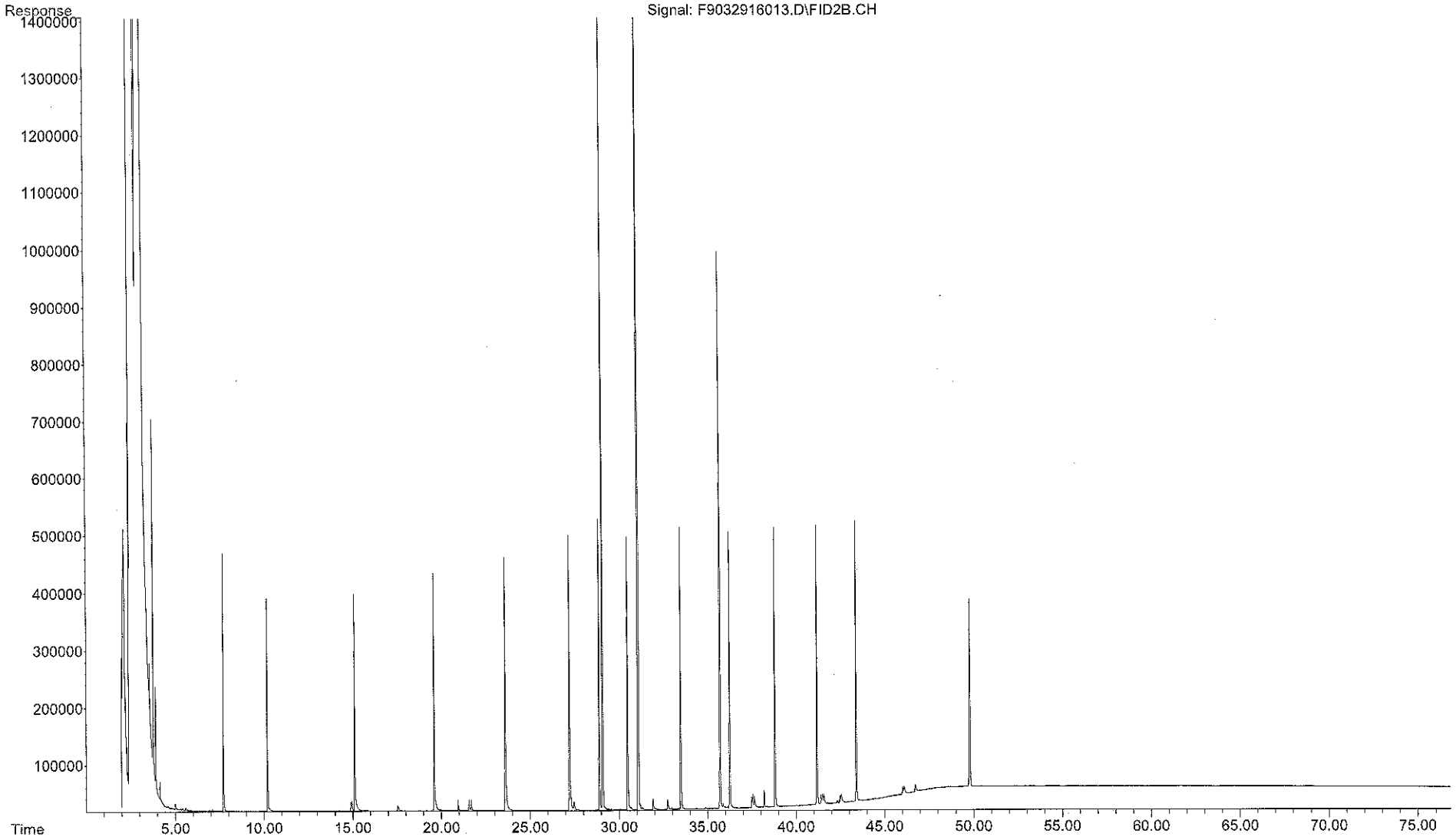
Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.113	59180546	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.087	30124328	23.830 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	47.66%#
24) s d50-Tetracosane	35.725	24508104	23.278 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	46.56%#
Target Compounds			
3) t n-Nonane (C9)	7.722	7058585	6.957 ug/mL M4
4) t n-Decane (C10)	10.192	8233719	7.782 ug/mL M4
6) t n-Dodecane (C12)	15.117	9016402	8.358 ug/mL M4
9) t n-Tetradecane (C14)	19.593	9703347	8.875 ug/mL M4
12) t n-Hexadecane (C16)	23.603	11332499	10.264 ug/mL M4
16) t n-Octadecane (C18)	27.218	11710888	10.409 ug/mL M4
18) t n-Nonadecane (C19)	28.897	10775153	9.662 ug/mL M4
20) t n-Eicosane (C20)	30.500	10906085	9.814 ug/mL M4
22) t n-Docosane (C22)	33.500	11324504	10.048 ug/mL M4
25) t n-Tetracosane (C24)	36.263	11385267	10.030 ug/mL M4
27) t n-Hexacosane (C26)	38.816	11366095	9.909 ug/mL M4
29) t n-Octacosane (C28)	41.192	11471963	10.135 ug/mL M4
31) t n-Triacontane (C30)	43.410	11490370	10.165 ug/mL M4
37) t n-Hexatriacontane (C36)	49.797	11377922	9.971 ug/mL M4
42) h C9-C44 Total Petroleu...	39.662	906067253	818.756 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	134408045	121.456 ug/mLm
46) h Total Resolved Hydroc...	39.662	164768170	148.891 ug/mL m

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916013.D
Operator : FID9:DP
Acquired : 29 Mar 2016 8:40 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : SS032516LCS02
Misc Info : 1X ETR 1603006
ALS Vial : 57



Form I
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**
Client ID: **Laboratory Control Sample Dup**
Case: **N/A** SDG: **N/A**
Matrix: **Soil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SS032516LCSD02**
Associated Blank: **SS032516B02**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	03/25/16	03/29/16	100	19.00	2	1	NLJr

Parameter	Result
Total Petroleum Hydrocarbons (C9-C44)	**12.3**

N/A - Not Applicable

Surrogate	% Recovery	Acceptance Range (%)
ortho-Terphenyl	97	50-130
d50-Tetracosane	95	50-130

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Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916015.D
Signal(s) : FID2B.CH
Acq On : 29 Mar 2016 10:08 pm
Operator : FID9:DP
Sample : SS032516LCSD02
Misc : 1X ETR 1603006
ALS Vial : 58 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 17:18:25 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:31:06 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB903291601R
Blank File : F9032916009.D

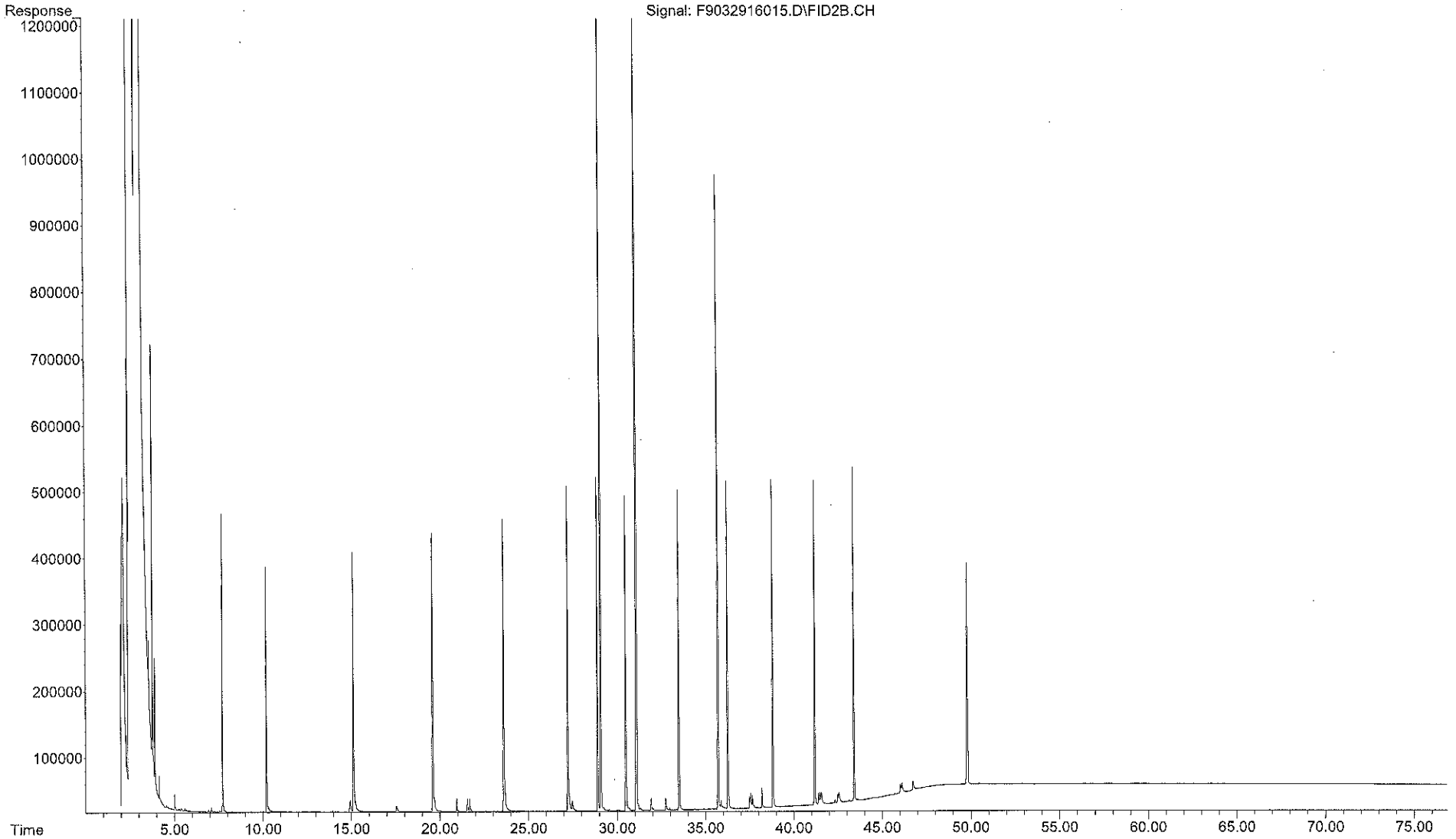
Sub List : TPH_QC_Samples - TPH_QC_Samples

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.110	57909107	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.084	30045997	24.289 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	48.58%#
24) s d50-Tetracosane	35.720	24348758	23.634 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	47.27%#
Target Compounds			
3) t n-Nonane (C9)	7.720	7116952	7.169 ug/mL M4
4) t n-Decane (C10)	10.192	8419404	8.132 ug/mL M4
6) t n-Dodecane (C12)	15.115	9328152	8.837 ug/mL M4
9) t n-Tetradecane (C14)	19.591	9873105	9.229 ug/mL M4
12) t n-Hexadecane (C16)	23.601	11467085	10.614 ug/mL M4
16) t n-Octadecane (C18)	27.214	11838890	10.753 ug/mL M4
18) t n-Nonadecane (C19)	28.895	10812734	9.908 ug/mL M4
20) t n-Eicosane (C20)	30.496	10968686	10.087 ug/mL M4
22) t n-Docosane (C22)	33.496	11342983	10.286 ug/mL M4
25) t n-Tetracosane (C24)	36.257	11474465	10.330 ug/mL M4
27) t n-Hexacosane (C26)	38.814	11527160	10.270 ug/mL M4
29) t n-Octacosane (C28)	41.187	11624006	10.495 ug/mL M4
31) t n-Triacontane (C30)	43.405	11603736	10.491 ug/mL M4
37) t n-Hexatriacontane (C36)	49.794	11704297	10.482 ug/mL M4
42) h C9-C44 Total Petroleu...	39.662	898048605	829.327 ug/mL m
42) h C9-C44 Total Petroleu BS	39.662	126389397	116.718 ug/mLm
46) h Total Resolved Hydroc...	39.662	168076252	155.214 ug/mL m
SemiQuant Compounds - Not Calibrated on this Instrument			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916015.D
Operator : FID9:DP
Acquired : 29 Mar 2016 10:08 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : SS032516LCSD02
Misc Info : 1X ETR 1603006
ALS Vial : 58



Form III
Spike Recovery Summary
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**
Client ID: **Alaska North Slope Crude**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **TO102815ANC01**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	N/A	100	NLJr

Parameter	True Conc.	Conc.	% Recovery	% Recovery Limits
Total Petroleum Hydrocarbons (C9-C44)	554993	597000	108	65-135

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

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Form I
Alaska North Slope Crude
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**
Client ID: **Alaska North Slope Crude**
Case: **N/A** SDG: **N/A**
Matrix: **Oil**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **TO102815ANC01**
Associated Blank: **N/A**
Concentration Units: **mg/Kg**

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	N/A	10/21/15	100	0.10382	10	1	NLJr

Parameter	Result
Total Petroleum Hydrocarbons (C9-C44)	**597000**

N/A - Not Applicable

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Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015035.D
Signal(s) : FID2B.CH
Acq On : 21 Oct 2015 2:27 pm
Operator : FID9:NL
Sample : TO102815ANC01
Misc : 1X FRAW36 10.382 mg/mL
ALS Vial : 68 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Oct 28 10:06:15 2015
Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Wed Oct 28 09:52:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB910201502R
Blank File : F9102015031.D

Sub List : Default - All compounds listed

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.243	63931472	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.231	67607048	49.506 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery = 99.01%	
24) s d50-Tetracosane	35.850	57431253	50.494 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery = 100.99%	
Target Compounds			
2) t n-Octane (C8)	5.628	100822103	97.657 ug/mL M3
3) t n-Nonane (C9)	7.840	76994888	70.248 ug/mL M4
4) t n-Decane (C10)	10.322	64854232	56.743 ug/mL M4
5) t n-Undecane (C11)	12.828	58677352	50.983 ug/mL M4
6) t n-Dodecane (C12)	15.247	53744136	46.119 ug/mL M4
7) t n-Tridecane (C13)	17.547	49403602	42.202 ug/mL M4
8) t 1380	19.215	11788323	9.981 ug/mL M4
9) t n-Tetradecane (C14)	19.723	47225125	39.984 ug/mL M4
10) t 1470	21.000	16906271	14.103 ug/mL M4
11) t n-Pentadecane (C15)	21.781	54410857	45.388 ug/mL M4
12) t n-Hexadecane (C16)	23.730	43899994	36.806 ug/mL M4
13) t 1650	24.630	14957075	12.458 ug/mL M4
14) t n-Heptadecane (C17)	25.582	37183545	30.971 ug/mL M4
15) t Pristane	25.675	28688108	23.859 ug/mL M4
16) t n-Octadecane (C18)	27.342	32736926	26.934 ug/mL M4
17) t Phytane	27.498	16330415	15.332 ug/mL M4
18) t n-Nonadecane (C19)	29.022	31910850	26.486 ug/mL M4
20) t n-Eicosane (C20)	30.622	31006273	25.829 ug/mL M4
21) t n-Heneicosane (C21)	32.153	28205966	23.337 ug/mL M4
22) t n-Docosane (C22)	33.620	26647270	21.887 ug/mL M4
23) t n-Tricosane (C23)	35.027	23780808	19.437 ug/mL M4
25) t n-Tetracosane (C24)	36.379	22480503	18.332 ug/mL M4
26) t n-Pentacosane (C25)	37.680	22674680	18.631 ug/mL M4
27) t n-Hexacosane (C26)	38.931	18634876	15.038 ug/mL M4
28) t n-Heptacosane (C27)	40.137	14772575	12.080 ug/mL M4
29) t n-Octacosane (C28)	41.303	10549746	8.628 ug/mL M4
30) t n-Nonacosane (C29)	42.430	10522393	8.604 ug/mL M4
31) t n-Triacontane (C30)	43.519	8076798	6.614 ug/mL M4
32) t n-Hentriacontane (C31)	44.574	6862804	5.631 ug/mL M4
33) t n-Dotriacontane (C32)	45.598	7529122	6.144 ug/mL M4
34) t n-Tritriacontane (C33)	46.586	4022470	3.484 ug/mL M4
35) t n-tetratriacontane (C34)	47.580	4064597	3.376 ug/mL M4
36) t n-Pentatriacontane (C35)	48.686	3583212	2.964 ug/mL M4
37) t n-Hexatriacontane (C36)	49.942	2221602	1.802 ug/mL M4
38) t n-Heptatriacontane (C37)	51.401	2086360	1.734 ug/mL M4
39) t n-Octatriacontane (C38)	53.090	1883017	1.588 ug/mL M4
40) t n-Nonatriacontane (C39)	55.088	1194977	0.989 ug/mL M4
41) t n-Tetracontane (C40)	57.426	1083788	0.897 ug/mL M4
42) h C9-C44 Total Petroleu...	39.957	7713051877	6451.851 ug/mL m
42) h C9-C44 Total Petroleu BS	39.957	7411423536	6199.544 ug/mLm
44) h C10-C28 DRO	25.826	5126179322	4287.971 ug/mL m

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015035.D
Signal(s) : FID2B.CH
Acq On : 21 Oct 2015 2:27 pm
Operator : FID9:NL
Sample : TO102815ANC01
Misc : 1X FRAW36 10.382 mg/mL
ALS Vial : 68 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Oct 28 10:06:15 2015
Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Wed Oct 28 09:52:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB910201502R
Blank File : F9102015031.D

Sub List : Default - All compounds listed

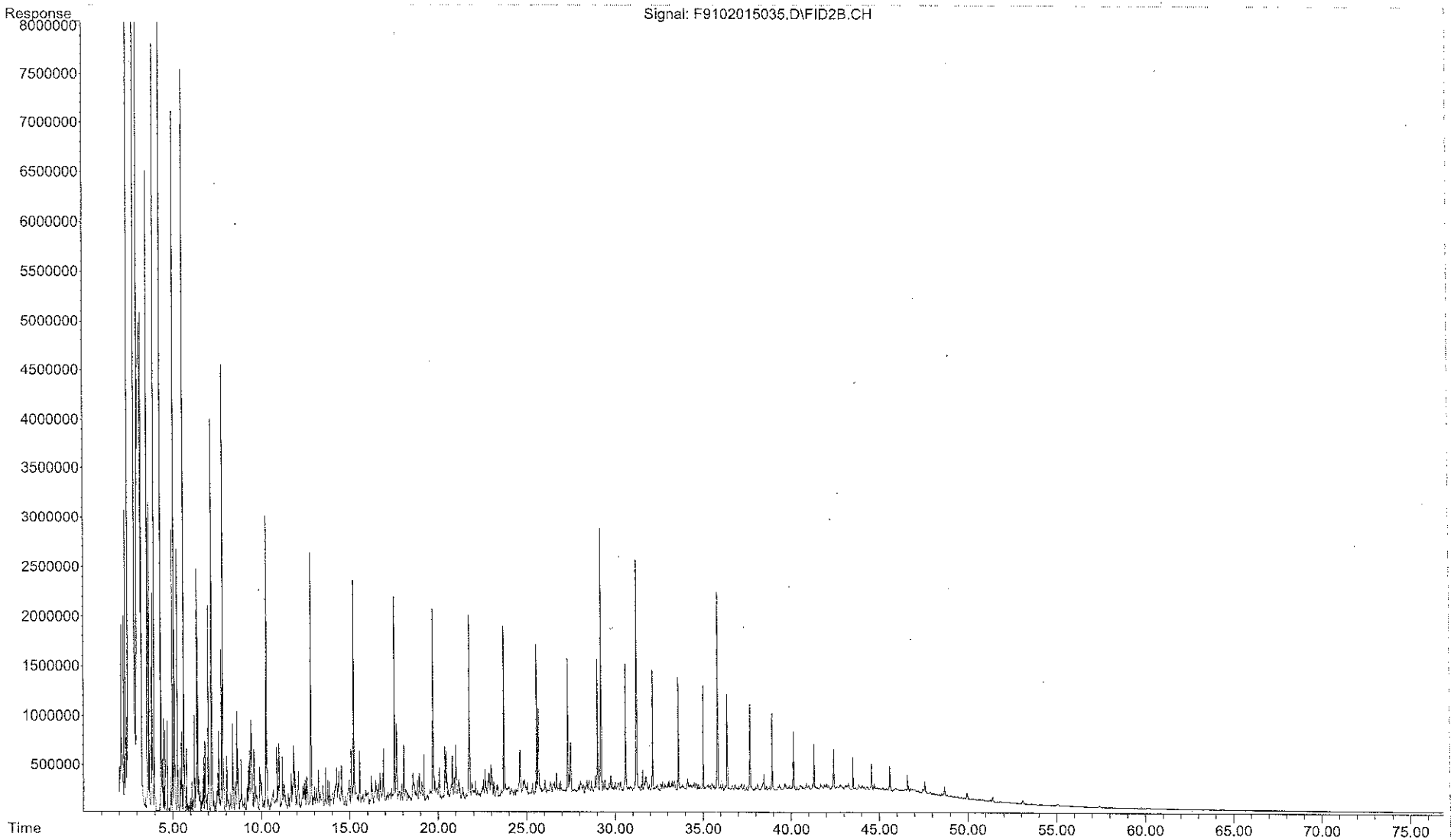
	Compound	R.T.	Response	Conc	Units
44) h	C10-C28 DRO BS	25.826	5093672206	4260.780	ug/mLm
45) h	Total Resolved Hydroc...	39.957	2368625132	1981.319	ug/mL m

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015035.D
Operator : FID9:NL
Acquired : 21 Oct 2015 2:27 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : TO102815ANC01
Misc Info : 1X FRAW36 10.382 mg/mL
ALS Vial : 68



Instrument Blank
Raw Data

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015031.D
Signal(s) : FID2B.CH
Acq On : 21 Oct 2015 11:31 am
Operator : FID9:NL
Sample : IB910201502R
Misc : DCM
ALS Vial : 66 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Oct 28 09:54:15 2015
Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Wed Oct 28 09:52:13 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Sub List : Default - All compounds listed

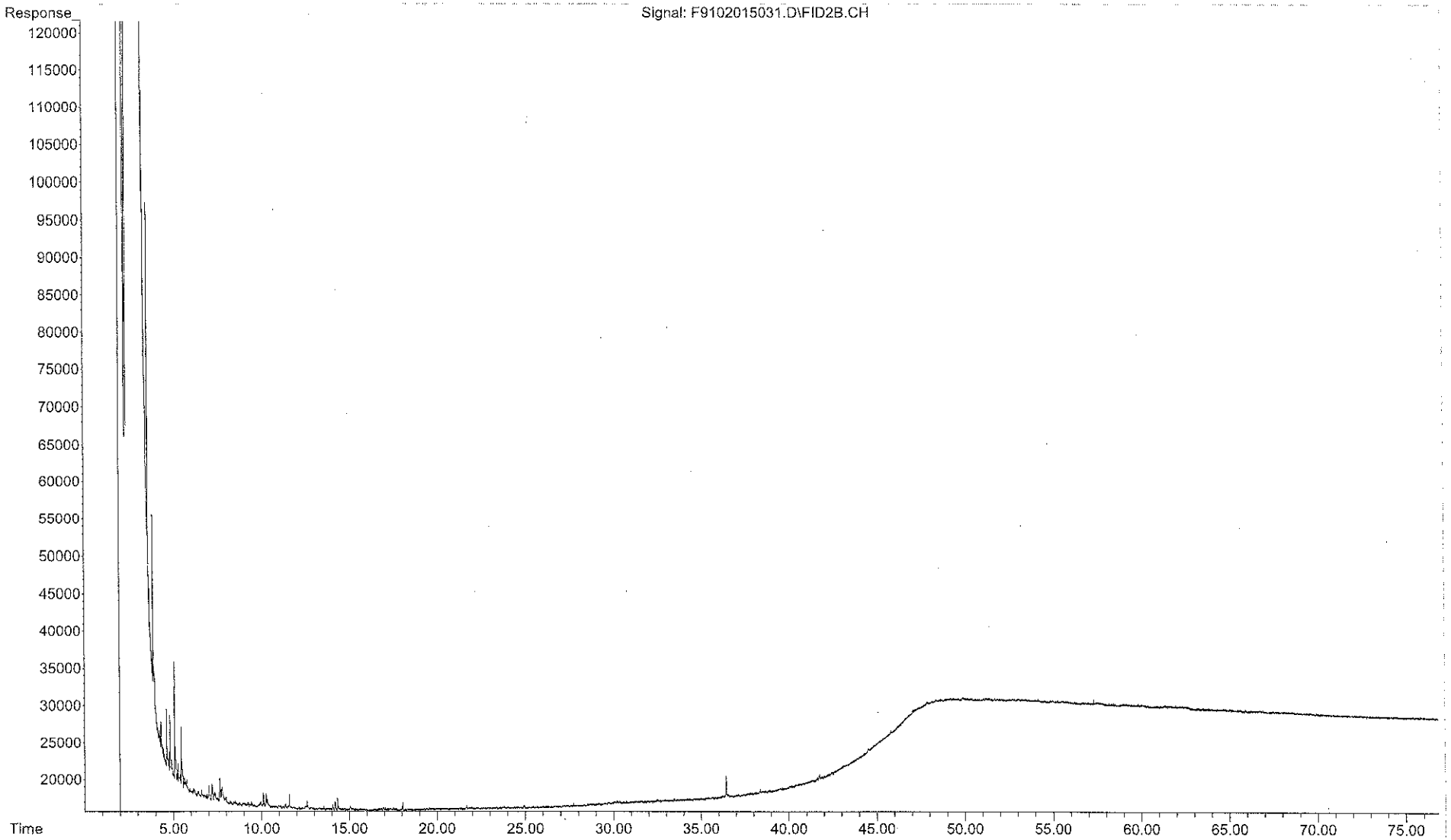
Compound		R.T.	Response	Conc Units
Internal Standards				
1) I	5-alpha-androstane	31.418f	149	50.000 ug/mL M4
System Monitoring Compounds				
19) s	ortho-terphenyl	0.000	0	N.D. ug/mL d
Spiked Amount	50.000	Range 50 - 130	Recovery =	0.00%#
24) s	d50-Tetracosane	0.000	0	N.D. ug/mL d
Spiked Amount	50.000	Range 50 - 130	Recovery =	0.00%#
Target Compounds				
42) h	C9-C44 Total Petroleu...	39.957	301628341	108178755.697 ug/mL M5
44) h	C10-C28 DRO	25.826	32507116	11658650.378 ug/mL M5

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015031.D
Operator : FID9:NL
Acquired : 21 Oct 2015 11:31 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : IB910201502R
Misc Info : DCM
ALS Vial : 66



Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916009.D
Signal(s) : FID2B.CH
Acq On : 29 Mar 2016 5:44 pm
Operator : FID9:DP
Sample : IB903291601R
Misc : DCM
ALS Vial : 55 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 17:13:04 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:30:31 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Sub List : TPH - TPH

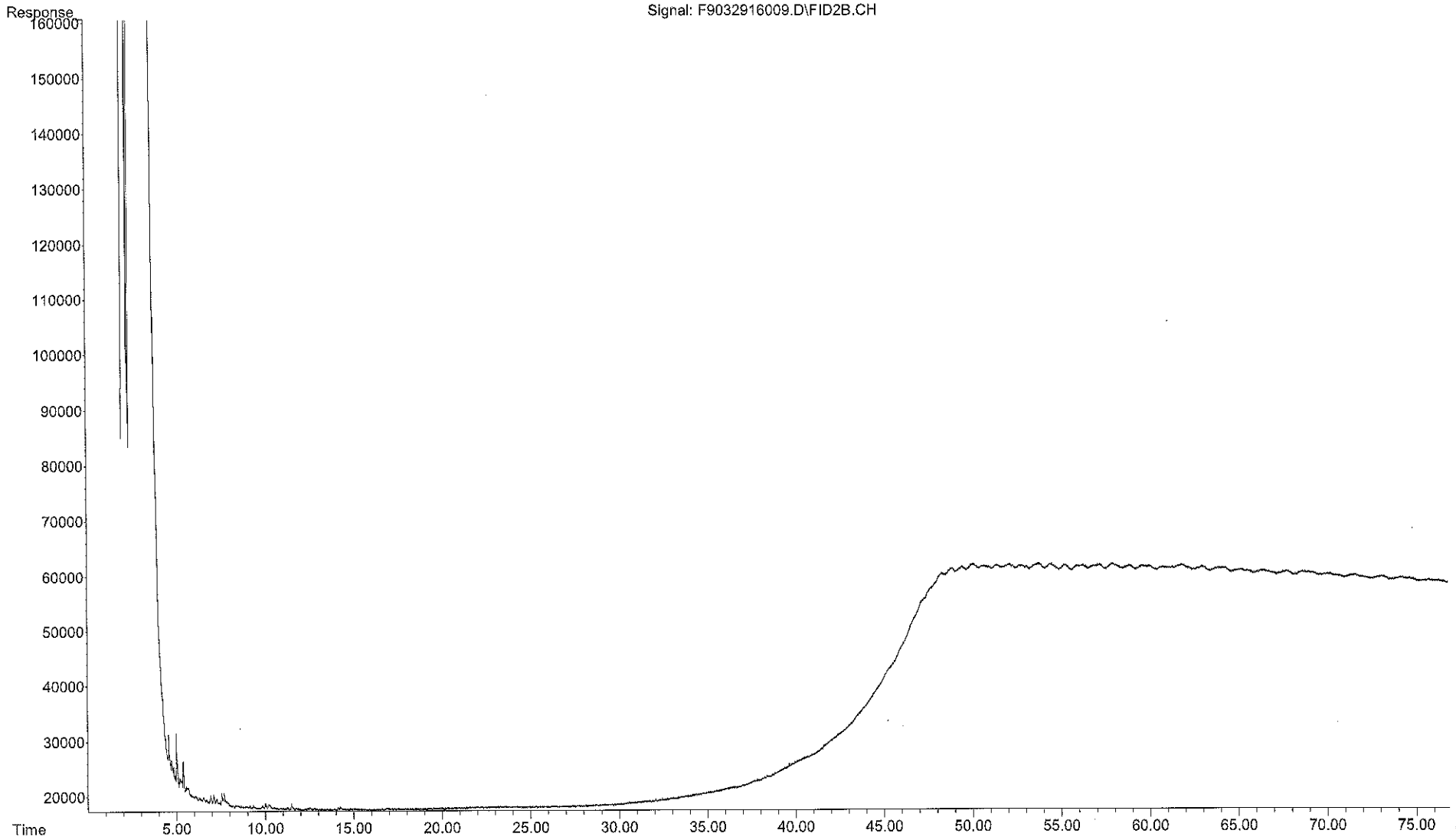
Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.096	850	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	0.000	0	N.D. ug/mL
Spiked Amount 50.000	Range 50 - 130	Recovery =	0.00%#
24) s d50-Tetracosane	0.000	0	N.D. ug/mL
Spiked Amount 50.000	Range 50 - 130	Recovery =	0.00%#
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	771659208	48559071.299 ug/mL M5
SemiQuant Compounds - Not Calibrated on this Instrument			

4/4/16

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916009.D
Operator : FID9:DP
Acquired : 29 Mar 2016 5:44 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : IB903291601R
Misc Info : DCM
ALS Vial : 55



Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916031.D
Signal(s) : FID2B.CH
Acq On : 30 Mar 2016 9:47 am
Operator : FID9:DP
Sample : IB903291602R
Misc : DCM
ALS Vial : 66 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 17:14:37 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:32:23 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

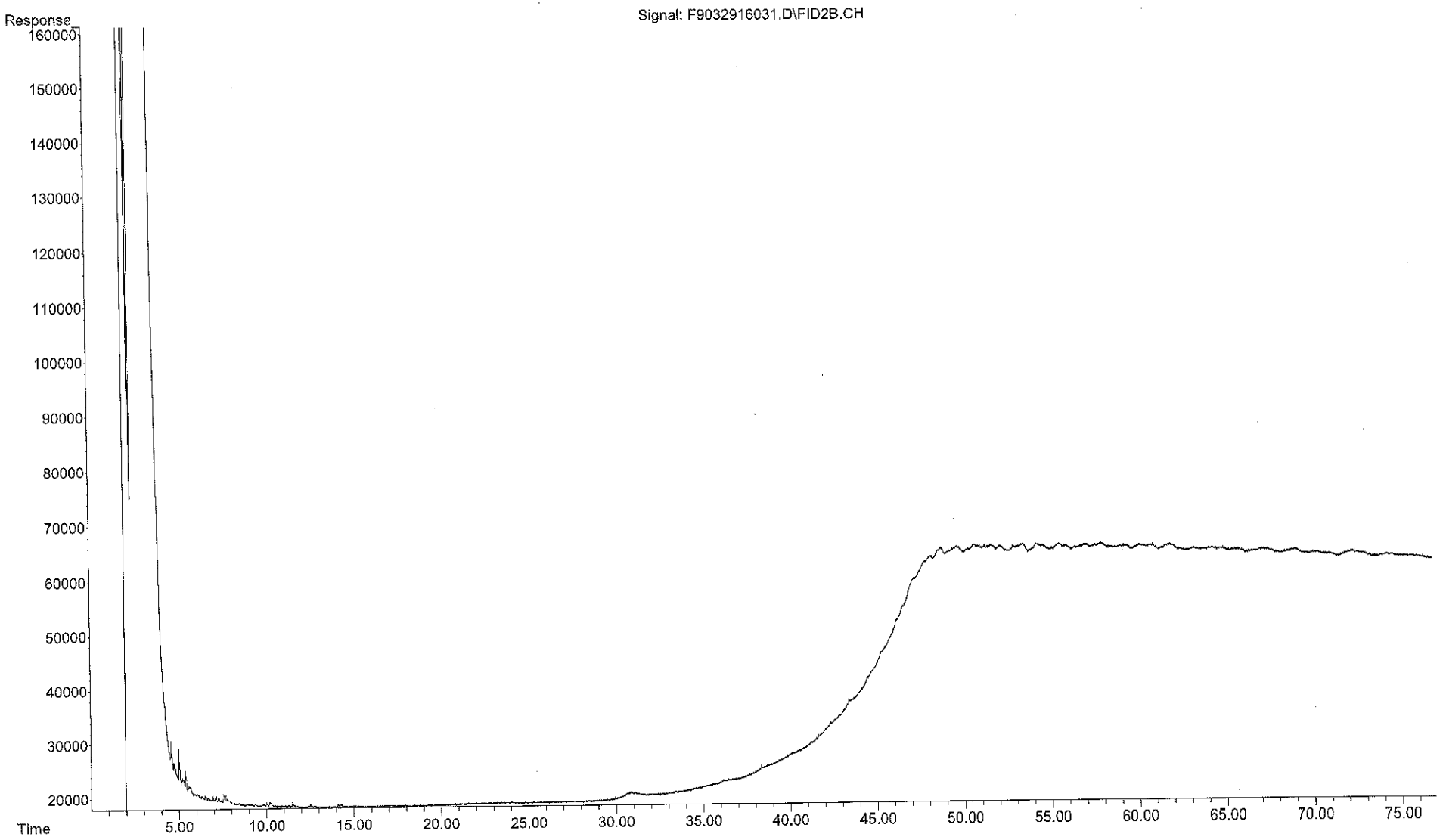
Sub List : TPH - TPH

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.129	708	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	0.000	0	N.D. ug/mL
Spiked Amount 50.000	Range 50 - 130	Recovery =	0.00%#
24) s d50-Tetracosane	0.000	0	N.D. ug/mL
Spiked Amount 50.000	Range 50 - 130	Recovery =	0.00%#
Target Compounds			
42) h C9-C44 Total Petroleu...	39.662	840885468	63535293.665 ug/mL M5
SemiQuant Compounds - Not Calibrated on this Instrument			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916031.D
Operator : FID9:DP
Acquired : 30 Mar 2016 9:47 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : IB903291602R
Misc Info : DCM
ALS Vial : 66



Analysis log File

Total Files Reported in Log : 20
Log Generated From Directory: O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\

No.	DATA FILE	INJ METH	SAMPLE NAME	MISC	DATE INJ'D
1	F9102015001.D	FID9A.M	Primer	Primer	10/20/2015 12:11 pm
2	F9102015003.D	FID9A.M	Primer	Primer	10/20/2015 3:04 pm
3	F9102015005.D	FID9A.M	Primer	Primer	10/20/2015 4:31 pm
4	F9102015007.D	FID9A.M	ANS	1X FRAW36 10.382 mg/..	10/20/2015 5:59 pm
5	F9102015009.D	FID9A.M	Alkane Standard	Alkane Standard	10/20/2015 7:27 pm
6	F9102015011.D	FID9A.M	DCM	DCM	10/20/2015 8:55 pm
7	F9102015013.D	FID9A.M	IB910201501R	DCM	10/20/2015 10:23 pm
8	F9102015015.D	FID9A.M	L1 Primer	,FRAW60 1ug/mL	10/20/2015 11:51 pm
9	F9102015017.D	FID9A.M	I910201501R	,FRAW60 1ug/mL	10/21/2015 1:19 am
10	F9102015019.D	FID9A.M	I910201502R	,FRAW61 10ug/mL	10/21/2015 2:46 am
11	F9102015021.D	FID9A.M	I910201503R	,FRAW35 50ug/mL	10/21/2015 4:13 am
12	F9102015023.D	FID9A.M	I910201504R	,FRAW62 100ug/mL	10/21/2015 5:41 am
13	F9102015025.D	FID9A.M	I910201505R	,FRAW63 200ug/mL	10/21/2015 7:08 am
14	F9102015027.D	FID9A.M	I910201506R	,FRAW64 500ug/mL	10/21/2015 8:36 am
15	F9102015029.D	FID9A.M	DCM	DCM	10/21/2015 10:03 am
16	F9102015031.D	FID9A.M	IB910201502R	DCM	10/21/2015 11:31 am
17	F9102015033.D	FID9A.M	CQ910201501R ✓ PASS	,FRAW65 50ug/mL	10/21/2015 12:59 pm
18	F9102015035.D	FID9A.M	TO102815ANC01 ✓ PASS	1X FRAW36 10.382 mg/..	10/21/2015 2:27 pm
19	F9102015037.D	FID9A.M	DCM	DCM	10/21/2015 3:55 pm
20	F9102015039.D	FID9A.M	IB910201503R	DCM	10/21/2015 5:22 pm

ICAL Files

Processing Method: HC9102015R.M

Printed: 10/28/15

Analysis log File

Total Files Reported in Log : 27
Log Generated From Directory: O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\

No.	DATA FILE	INJ METH	SAMPLE NAME	MISC	DATE INJ'D
1	F9032916001.D	FID9A.M	Primer	Primer	3/29/2016 11:52 am
2	F9032916003.D	FID9A.M	ANS903291601R	FRAW36 10.382	3/29/2016 1:20 pm
3	F9032916005.D	FID9A.M	C903291601R - ✓Pass	FRAW85 50ug/mL	3/29/2016 2:49 pm
4	F9032916007.D	FID9A.M	DCM	DCM	3/29/2016 4:17 pm
5	F9032916009.D	FID9A.M	IB903291601R	DCM	3/29/2016 5:44 pm
6	F9032916011.D	FID9A.M	SS032516B02	1X ETR 1603006	3/29/2016 7:13 pm
7	F9032916013.D	FID9A.M	SS032516LCS02	1X ETR 1603006	3/29/2016 8:40 pm
8	F9032916015.D	FID9A.M	SS032516LCSD02	1X ETR 1603006	3/29/2016 10:08 pm
9	F9032916017.D	FID9A.M	1603006-01	1X	3/29/2016 11:35 pm
10	F9032916019.D	FID9A.M	1603006-02	1X	3/30/2016 1:02 am
11	F9032916021.D	FID9A.M	1603006-03	1X	3/30/2016 2:30 am
12	F9032916023.D	FID9A.M	1603006-04	1X	3/30/2016 3:57 am
13	F9032916025.D	FID9A.M	1603006-04D	1X	3/30/2016 5:24 am
14	F9032916027.D	FID9A.M	C903291602R - ✓Pass	FRAW85 50ug/mL	3/30/2016 6:52 am
15	F9032916029.D	FID9A.M	DCM	DCM	3/30/2016 8:19 am
16	F9032916031.D	FID9A.M	IB903291602R	DCM	3/30/2016 9:47 am
17	F9032916033.D	FID9A.M	1603006-05	1X	3/30/2016 11:15 am
18	F9032916035.D	FID9A.M	1603006-06	1X	3/30/2016 12:43 pm
19	F9032916037.D	FID9A.M	1603006-07	1X	3/30/2016 2:11 pm
20	F9032916039.D	FID9A.M	1603006-08	1X	3/30/2016 3:39 pm
21	F9032916041.D	FID9A.M	1603006-09	1X	3/30/2016 5:06 pm
22	F9032916043.D	FID9A.M	1603006-10	1X	3/30/2016 6:34 pm
23	F9032916045.D	FID9A.M	1603006-11	1X	3/30/2016 8:02 pm
24	F9032916047.D	FID9A.M	1603006-12	1X	3/30/2016 9:30 pm
25	F9032916049.D	FID9A.M	C903291603R - ✓Pass	FRAW85 50ug/mL	3/30/2016 10:57 pm
26	F9032916051.D	FID9A.M	DCM	DCM	3/31/2016 12:25 am
27	F9032916053.D	FID9A.M	IB903291603R	DCM	3/31/2016 1:53 am

Processing Method: HC91020158R.M CCV - FRAW85 - 50ug/mL

Printed: 04/04/16

Supporting Quality Control Results

Form IV
Method Blank Summary
Total Saturated Hydrocarbons by GC/FID

Client: **NewFields**
Project: **Flint Street**

Case: **N/A** SDG: **N/A**

Lab Code: **MA00030**
ETR: **1603006**
Lab ID: **SS032516B02**
Date Analyzed: **03/29/16 19:13**

Client ID	Lab ID	Date/Time Analyzed
LCS	SS032516LCS02	03/29/16 20:40
LCSD	SS032516LCSD02	03/29/16 22:08
RX-1	1603006-01	03/29/16 23:35
RX-2	1603006-02	03/30/16 01:02
RX-3	1603006-03	03/30/16 02:30
RX-4	1603006-04	03/30/16 03:57
RX-4	1603006-04 D	03/30/16 05:24
RX-5	1603006-05	03/30/16 11:15
RX-6	1603006-06	03/30/16 12:43
RX-7	1603006-07	03/30/16 14:11
RX-7A	1603006-08	03/30/16 15:39
RX-7B	1603006-09	03/30/16 17:06
RX-8	1603006-10	03/30/16 18:34
RX-8A	1603006-11	03/30/16 20:02
RX-8B	1603006-12	03/30/16 21:30

N/A - Not Applicable

320 Forbes Blvd, Mansfield, MA 02048, (508) 822-9300, Fax (508) 822-3288

Analysis log File

11/2/15

Total Files Reported in Log : 20
Log Generated From Directory: O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\

No.	DATA FILE	INJ METH	SAMPLE NAME	MISC	DATE INJ'D
1	F9102015001.D	FID9A.M	Primer	Primer	10/20/2015 12:11 pm
2	F9102015003.D	FID9A.M	Primer	Primer	10/20/2015 3:04 pm
3	F9102015005.D	FID9A.M	Primer	Primer	10/20/2015 4:31 pm
4	F9102015007.D	FID9A.M	ANS	1X FRAW36 10.382 mg/..	10/20/2015 5:59 pm
5	F9102015009.D	FID9A.M	Alkane Standard	Alkane Standard	10/20/2015 7:27 pm
6	F9102015011.D	FID9A.M	DCM	DCM	10/20/2015 8:55 pm
7	F9102015013.D	FID9A.M	IB910201501R	DCM	10/20/2015 10:23 pm
8	F9102015015.D	FID9A.M	L1 Primer	,FRAW60 1ug/mL	10/20/2015 11:51 pm
9	F9102015017.D	FID9A.M	I910201501R	,FRAW60 1ug/mL	10/21/2015 1:19 am
10	F9102015019.D	FID9A.M	I910201502R	,FRAW61 10ug/mL	10/21/2015 2:46 am
11	F9102015021.D	FID9A.M	I910201503R	,FRAW35 50ug/mL	10/21/2015 4:13 am
12	F9102015023.D	FID9A.M	I910201504R	,FRAW62 100ug/mL	10/21/2015 5:41 am
13	F9102015025.D	FID9A.M	I910201505R	,FRAW63 200ug/mL	10/21/2015 7:08 am
14	F9102015027.D	FID9A.M	I910201506R	,FRAW64 500ug/mL	10/21/2015 8:36 am
15	F9102015029.D	FID9A.M	DCM	DCM	10/21/2015 10:03 am
16	F9102015031.D	FID9A.M	IB910201502R	DCM	10/21/2015 11:31 am
17	F9102015033.D	FID9A.M	CQ910201501R	,FRAW65 50ug/mL	10/21/2015 12:59 pm
18	F9102015035.D	FID9A.M	TO102815ANC01	1X FRAW36 10.382 mg/..	10/21/2015 2:27 pm
19	F9102015037.D	FID9A.M	DCM	DCM	10/21/2015 3:55 pm
20	F9102015039.D	FID9A.M	IB910201503R	DCM	10/21/2015 5:22 pm

ICAL f:lo

✓ PASS
✓ PASS

Processing Method: HC9102015R.M

Printed: 10/28/15

Response Factor Report FID 9

Method Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Method File : HC9102015R.M
Title : FID Forensics
Last Update : Wed Oct 28 09:51:42 2015
Response Via : Initial Calibration

Calibration Files
1 =F9102015017.D 10 =F9102015019.D 50 =F9102015021.D 100 =F9102015023.D 200 =F9102015025.D 500 =F9102015027.D

		Compound	1	10	50	100	200	500	Avg	%RSD
1)	I	5-alpha-androstane	ISTD							
2)	t	n-Octane (C8)	0.776	0.808	0.816	0.821	0.816		0.807	2.25
3)	t	n-Nonane (C9)	0.847	0.849	0.869	0.871	0.851		0.857	1.34
4)	t	n-Decane (C10)	0.876	0.879	0.908	0.913	0.893		0.894	1.87
5)	t	n-Undecane (C11)	0.852	0.892	0.921	0.928	0.908		0.900	3.37
6)	t	n-Dodecane (C12)	0.858	0.903	0.934	0.941	0.921		0.911	3.65
7)	t	n-Tridecane (...	0.868	0.907	0.936	0.943	0.924		0.916	3.25
8)	t	1380	0.874	0.917	0.946	0.950	0.931		0.924	3.31
9)	t	n-Tetradecane...	0.874	0.917	0.946	0.950	0.931		0.924	3.31
10)	t	1470	0.890	0.931	0.959	0.963	0.945		0.938	3.14
11)	t	n-Pentadecane...	0.890	0.931	0.959	0.963	0.945		0.938	3.14
12)	t	n-Hexadecane ...	0.885	0.927	0.955	0.958	0.940		0.933	3.19
13)	t	1650	0.882	0.930	0.960	0.966	0.957		0.939	3.68
14)	t	n-Heptadecane...	0.882	0.930	0.960	0.966	0.957		0.939	3.68
15)	t	Pristane	0.901	0.944	0.967	0.962	0.929		0.940	2.85
16)	t	n-Octadecane ...	0.901	0.948	0.974	0.974	0.955		0.951	3.12
17)	t	Phytane	0.797	0.830	0.851	0.852	0.835		0.833	2.70
18)	t	n-Nonadecane ...	0.896	0.941	0.965	0.964	0.945		0.942	2.99
19)	s	ortho-terphenyl	1.046	1.106	1.076	1.051	1.049	1.081	1.068	2.20
20)	t	n-Eicosane (C20)	0.895	0.938	0.961	0.959	0.941		0.939	2.86
21)	t	n-Heneicosane...	0.896	0.951	0.968	0.965	0.946		0.945	3.07
22)	t	n-Docosane (C22)	0.915	0.951	0.973	0.969	0.952		0.952	2.44
23)	t	n-Tricosane (...	0.918	0.958	0.980	0.974	0.955		0.957	2.50
24)	s	d50-Tetracosane	0.876	0.925	0.897	0.869	0.870	0.900	0.890	2.47
25)	t	n-Tetracosane...	0.924	0.959	0.982	0.975	0.956		0.959	2.34
26)	t	n-Pentacosane...	0.924	0.951	0.974	0.965	0.945		0.952	2.00
27)	t	n-Hexacosane ...	0.934	0.973	0.993	0.983	0.963		0.969	2.35
28)	t	n-Heptacosane...	0.919	0.962	0.982	0.970	0.950		0.956	2.53
29)	t	n-Octacosane ...	0.936	0.959	0.977	0.967	0.943		0.956	1.75
30)	t	n-Nonacosane ...	0.923	0.964	0.982	0.968	0.945		0.956	2.38
31)	t	n-Triacontane...	0.923	0.963	0.981	0.965	0.943		0.955	2.34
32)	t	n-Hentriacont...	0.919	0.963	0.981	0.962	0.941		0.953	2.49
33)	t	n-Dotriaconta...	0.925	0.968	0.985	0.966	0.947		0.958	2.39
34)	t	n-Tritriacont...	0.869	0.916	0.928	0.910	0.892		0.903	2.54
35)	t	n-tetratriaco...	0.912	0.949	0.966	0.949	0.933		0.942	2.19
36)	t	n-Pentatriaco...	0.913	0.951	0.970	0.954	0.940		0.945	2.24
37)	t	n-Hexatriacon...	0.918	0.971	0.993	0.978	0.960		0.964	2.95
38)	t	n-Heptatriaco...	0.900	0.948	0.968	0.955	0.935		0.941	2.75
39)	t	n-Octatriacon...	0.918	0.923	0.947	0.936	0.914		0.927	1.45
40)	t	n-Nonatriacon...	0.890	0.947	0.976	0.968	0.942		0.945	3.56
41)	t	n-Tetracontan...	0.890	0.947	0.976	0.968	0.942		0.945	3.56
42)	h	C9-C44 Total ...	0.897	0.935	0.958	0.952	0.933		0.935	2.55

Response Factor Report FID 9

Method Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Method File : HC9102015R.M
Title : FID Forensics
Last Update : Wed Oct 28 09:51:42 2015
Response Via : Initial Calibration

Calibration Files
1 =F9102015017.D 10 =F9102015019.D 50 =F9102015021.D 100 =F9102015023.D 200 =F9102015025.D 500 =F9102015027.D

	Compound	1	10	50	100	200	500	Avg	%RSD
43) h	C9-C40 Total ...	0.897	0.935	0.958	0.952	0.933		0.935	2.55
44) h	C10-C28 DRO	0.897	0.935	0.958	0.952	0.933		0.935	2.55
45) h	Total Resolve...	0.897	0.935	0.958	0.952	0.933		0.935	2.55

(#) = Out of Range

rfupdate

RSF Update Summary Report

Method Path.....: O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Method File.....: HC9102015R.M
Method Title.....: FID Forensics
Last Update.....: Wed Oct 28 09:44:29 2015

Generating Average Response Factor For: C9-C44 Total Petroleum Hydrocarbons

No	Compound	Level	Conc	Response
1	n-Nonane (C9)	1	1.00000	1053303.537 ✓
2	n-Decane (C10)	1	1.00000	1088786.719
3	n-Undecane (C11)	1	1.00000	1059423.211
4	n-Dodecane (C12)	1	1.00000	1066648.004
5	n-Tridecane (C13)	1	1.00000	1079552.628
6	n-Tetradecane (C14)	1	1.00000	1087087.542
7	n-Pentadecane (C15)	1	1.00000	1106599.704
8	n-Hexadecane (C16)	1	1.00000	1100149.964
9	n-Heptadecane (C17)	1	1.00000	1097084.076
10	Pristane	1	1.00000	1120160.417
11	n-Octadecane (C18)	1	1.00000	1120894.813
12	Phytane	1	1.00000	990857.288
13	n-Nonadecane (C19)	1	1.00000	1113777.866
14	n-Eicosane (C20)	1	1.00000	1112549.776
15	n-Heneicosane (C21)	1	1.00000	1114154.099
16	n-Docosane (C22)	1	1.00000	1137343.817
17	n-Tricosane (C23)	1	1.00000	1141967.658
18	n-Tetracosane (C24)	1	1.00000	1148692.298
19	n-Pentacosane (C25)	1	1.00000	1149414.027
20	n-Hexacosane (C26)	1	1.00000	1160917.364
21	n-Heptacosane (C27)	1	1.00000	1142149.314
22	n-Octacosane (C28)	1	1.00000	1164151.749 ✓
23	n-Nonacosane (C29)	1	1.00000	1148200.075
24	n-Triacontane (C30)	1	1.00000	1148041.621
25	n-Hentriacontane (C31)	1	1.00000	1142920.237
26	n-Dotriacontane (C32)	1	1.00000	1150546.350
27	n-Tritriacontane (C33)	1	1.00000	1080931.315
28	n-tetratriacontane (C34)	1	1.00000	1133463.213
29	n-Pentatriacontane (C35)	1	1.00000	1135127.035
30	n-Hexatriacontane (C36)	1	1.00000	1141706.327
31	n-Heptatriacontane (C37)	1	1.00000	1119103.422
32	n-Octatriacontane (C38)	1	1.00000	1141124.716
33	n-Tetracontane (C40)	1	1.00000	1106538.382 ✓
Avg RSF For: C9-C44 Total Petroleum			1.00000	1115253.593
1	n-Nonane (C9)	2	10.00000	10219986.120
2	n-Decane (C10)	2	10.00000	10587602.536
3	n-Undecane (C11)	2	10.00000	10734901.000
4	n-Dodecane (C12)	2	10.00000	10871942.378 ✓
5	n-Tridecane (C13)	2	10.00000	10921223.688
6	n-Tetradecane (C14)	2	10.00000	11039964.331
7	n-Pentadecane (C15)	2	10.00000	11211333.442
8	n-Hexadecane (C16)	2	10.00000	11156127.071
9	n-Heptadecane (C17)	2	10.00000	11200159.704
10	Pristane	2	10.00000	11360628.344
11	n-Octadecane (C18)	2	10.00000	11420096.106
12	Phytane	2	10.00000	9995409.121 ✓
13	n-Nonadecane (C19)	2	10.00000	11331017.856
14	n-Eicosane (C20)	2	10.00000	11297466.524

		rfupdate		
15	n-Heneicosane (C21)	2	10.00000	11452740.367
16	n-Docosane (C22)	2	10.00000	11454588.864
17	n-Tricosane (C23)	2	10.00000	11531092.930
18	n-Tetracosane (C24)	2	10.00000	11552394.829
19	n-Pentacosane (C25)	2	10.00000	11454277.800
20	n-Hexacosane (C26)	2	10.00000	11711654.226 ✓
21	n-Heptacosane (C27)	2	10.00000	11582542.366
22	n-Octacosane (C28)	2	10.00000	11545116.094
23	n-Nonacosane (C29)	2	10.00000	11601935.188
24	n-Triacontane (C30)	2	10.00000	11595725.320
25	n-Hentriacontane (C31)	2	10.00000	11592706.867
26	n-Dotriacontane (C32)	2	10.00000	11655276.920
27	n-Tritriacontane (C33)	2	10.00000	11024557.257
28	n-tetratriacontane (C34)	2	10.00000	11424133.141
29	n-Pentatriacontane (C35)	2	10.00000	11447364.418 ✓
30	n-Hexatriacontane (C36)	2	10.00000	11694302.001
31	n-Heptatriacontane (C37)	2	10.00000	11411328.521
32	n-Octatriacontane (C38)	2	10.00000	11108706.122
33	n-Tetracontane (C40)	2	10.00000	11406545.377
Avg RSF For: C9-C44 Total Petroleum			10.00000	11260449.904

1	n-Nonane (C9)	3	50.00000	53605155.752
2	n-Decane (C10)	3	50.00000	56058924.788
3	n-Undecane (C11)	3	50.00000	56832411.808
4	n-Dodecane (C12)	3	50.00000	57614132.234
5	n-Tridecane (C13)	3	50.00000	57779806.698
6	n-Tetradecane (C14)	3	50.00000	58365305.693
7	n-Pentadecane (C15)	3	50.00000	59174894.614 ✓
8	n-Hexadecane (C16)	3	50.00000	58959076.379
9	n-Heptadecane (C17)	3	50.00000	59253580.514
10	Pristane	3	50.00000	59662638.464
11	n-Octadecane (C18)	3	50.00000	60087606.982
12	Phytane	3	50.00000	52543295.507
13	n-Nonadecane (C19)	3	50.00000	59554358.901
14	n-Eicosane (C20)	3	50.00000	59336969.418
15	n-Heneicosane (C21)	3	50.00000	59762886.196
16	n-Docosane (C22)	3	50.00000	60066220.651
17	n-Tricosane (C23)	3	50.00000	60468136.477
18	n-Tetracosane (C24)	3	50.00000	60585208.987 ✓
19	n-Pentacosane (C25)	3	50.00000	60104507.988
20	n-Hexacosane (C26)	3	50.00000	61283424.120
21	n-Heptacosane (C27)	3	50.00000	60575429.812
22	n-Octacosane (C28)	3	50.00000	60295719.960
23	n-Nonacosane (C29)	3	50.00000	60632934.338
24	n-Triacontane (C30)	3	50.00000	60552577.430
25	n-Hentriacontane (C31)	3	50.00000	60522712.082
26	n-Dotriacontane (C32)	3	50.00000	60798279.267
27	n-Tritriacontane (C33)	3	50.00000	57289758.414
28	n-tetratriacontane (C34)	3	50.00000	59638278.607
29	n-Pentatriacontane (C35)	3	50.00000	59857975.897
30	n-Hexatriacontane (C36)	3	50.00000	61308721.376 ✓
31	n-Heptatriacontane (C37)	3	50.00000	59745488.496
32	n-Octatriacontane (C38)	3	50.00000	58420391.827
33	n-Tetracontane (C40)	3	50.00000	60225273.062
Avg RSF For: C9-C44 Total Petroleum			50.00000	59120063.113

1	n-Nonane (C9)	4	100.00000	110313063.502
2	n-Decane (C10)	4	100.00000	115671895.150
3	n-Undecane (C11)	4	100.00000	117614824.736
4	n-Dodecane (C12)	4	100.00000	119243603.968
5	n-Tridecane (C13)	4	100.00000	119429483.617
6	n-Tetradecane (C14)	4	100.00000	120390617.602
7	n-Pentadecane (C15)	4	100.00000	122034106.422 ✓
8	n-Hexadecane (C16)	4	100.00000	121360511.344

		rfupdate		
9	n-Heptadecane (C17)	4	100.00000	122338026.644
10	Pristane	4	100.00000	121866911.124
11	n-Octadecane (C18)	4	100.00000	123386789.570
12	Phytane	4	100.00000	107981210.047 ✓
13	n-Nonadecane (C19)	4	100.00000	122147392.990
14	n-Eicosane (C20)	4	100.00000	121526778.989
15	n-Heneicosane (C21)	4	100.00000	122227388.820
16	n-Docosane (C22)	4	100.00000	122809713.728
17	n-Tricosane (C23)	4	100.00000	123342192.238
18	n-Tetracosane (C24)	4	100.00000	123500012.452
19	n-Pentacosane (C25)	4	100.00000	122197938.144
20	n-Hexacosane (C26)	4	100.00000	124548605.803
21	n-Heptacosane (C27)	4	100.00000	122912406.419
22	n-Octacosane (C28)	4	100.00000	122449219.163
23	n-Nonacosane (C29)	4	100.00000	122592796.914
24	n-Triacontane (C30)	4	100.00000	122222858.864
25	n-Hentriacontane (C31)	4	100.00000	121903483.017
26	n-Dotriacontane (C32)	4	100.00000	122440623.802 ✓
27	n-Tritriacontane (C33)	4	100.00000	115272588.194
28	n-tetratriacontane (C34)	4	100.00000	120231113.002
29	n-Pentatriacontane (C35)	4	100.00000	120866302.891
30	n-Hexatriacontane (C36)	4	100.00000	123884853.863
31	n-Heptatriacontane (C37)	4	100.00000	120931096.054
32	n-Octatriacontane (C38)	4	100.00000	118529524.858
33	n-Tetracontane (C40)	4	100.00000	122618018.394
Avg RSF For: C9-C44 Total Petroleum			100.00000	120629877.343

1	n-Nonane (C9)	5	200.00000	212545740.230
2	n-Decane (C10)	5	200.00000	223117739.222
3	n-Undecane (C11)	5	200.00000	226780807.218
4	n-Dodecane (C12)	5	200.00000	230190425.217
5	n-Tridecane (C13)	5	200.00000	230742116.998 ✓
6	n-Tetradecane (C14)	5	200.00000	232691826.180
7	n-Pentadecane (C15)	5	200.00000	235981123.897
8	n-Hexadecane (C16)	5	200.00000	234731788.178
9	n-Heptadecane (C17)	5	200.00000	238972310.286
10	Pristane	5	200.00000	232068356.240
11	n-Octadecane (C18)	5	200.00000	238677289.310
12	Phytane	5	200.00000	208472194.136
13	n-Nonadecane (C19)	5	200.00000	236170686.253
14	n-Eicosane (C20)	5	200.00000	234976096.747
15	n-Heneicosane (C21)	5	200.00000	236308513.024
16	n-Docosane (C22)	5	200.00000	237898692.786 ✓
17	n-Tricosane (C23)	5	200.00000	238577751.133
18	n-Tetracosane (C24)	5	200.00000	238714759.296
19	n-Pentacosane (C25)	5	200.00000	236090589.627
20	n-Hexacosane (C26)	5	200.00000	240645922.840
21	n-Heptacosane (C27)	5	200.00000	237248482.312
22	n-Octacosane (C28)	5	200.00000	235579669.024
23	n-Nonacosane (C29)	5	200.00000	236111387.562
24	n-Triacontane (C30)	5	200.00000	235560084.606
25	n-Hentriacontane (C31)	5	200.00000	235014299.176 ✓
26	n-Dotriacontane (C32)	5	200.00000	236597874.865
27	n-Tritriacontane (C33)	5	200.00000	222919387.683
28	n-tetratriacontane (C34)	5	200.00000	232983431.814
29	n-Pentatriacontane (C35)	5	200.00000	234799739.603
30	n-Hexatriacontane (C36)	5	200.00000	239786982.840
31	n-Heptatriacontane (C37)	5	200.00000	233688111.294
32	n-Octatriacontane (C38)	5	200.00000	228449192.914 ✓
33	n-Tetracontane (C40)	5	200.00000	235412453.433
Avg RSF For: C9-C44 Total Petroleum			200.00000	232985025.029

Generating Reference Response Factors

rfupdate

No	Compound	No	Refrence Compound
8	1380	9	n-Tetradecane (C14)
10	1470	11	n-Pentadecane (C15)
13	1650	14	n-Heptadecane (C17)
40	n-Nonatriacontane (C39)	41	n-Tetracontane (C40)
43	C9-C40 Total Petroleum Hydrocarbons	42	C9-C44 Total Petroleum Hydrocarbons
44	C10-C28 DRO	42	C9-C44 Total Petroleum Hydrocarbons
45	Total Resolved Hydrocarbons	42	C9-C44 Total Petroleum Hydrocarbons

Abacus Response Factor Update Macro Ver. 1.0

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015017.D
Signal(s) : FID2B.CH
Acq On : 21 Oct 2015 1:19 am
Operator : FID9:NL
Sample : I910201501R
Misc : ,FRAW60 1ug/mL
ALS Vial : 59 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Oct 28 09:27:57 2015
Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Wed Oct 28 09:27:49 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Sub List : CCAL - CCAL

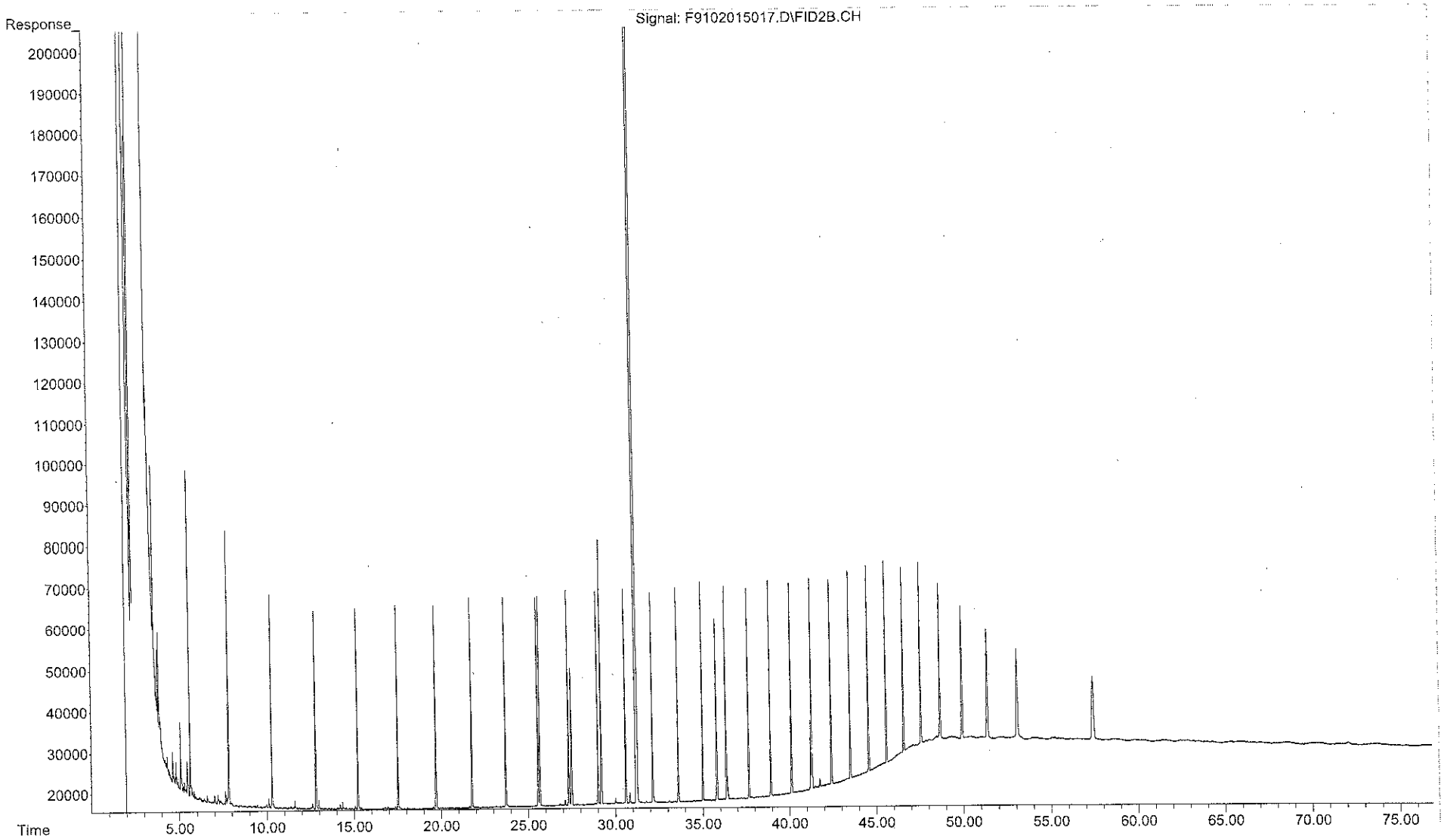
Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.240	62174354	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.202	1301278	0.980 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	1.96%#
24) s d50-Tetracosane	35.822	1089771	0.985 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	1.97%#
Target Compounds			
2) t n-Octane (C8)	5.622	965091	0.961 ug/mL M4
3) t n-Nonane (C9)	7.827	1053304	0.988 ug/mL M4
4) t n-Decane (C10)	10.307	1088787	0.978 ug/mL M4
5) t n-Undecane (C11)	12.813	1059423	0.947 ug/mL M4
6) t n-Dodecane (C12)	15.233	1066648	0.941 ug/mL M4
7) t n-Tridecane (C13)	17.532	1079553	0.948 ug/mL M4
9) t n-Tetradecane (C14)	19.706	1087088	0.946 ug/mL M4
11) t n-Pentadecane (C15)	21.764	1106600	0.949 ug/mL M4
12) t n-Hexadecane (C16)	23.713	1100150	0.948 ug/mL M4
14) t n-Heptadecane (C17)	25.564	1097084	0.940 ug/mL M4
15) t Pristane	25.672	1120160	0.958 ug/mL M4
16) t n-Octadecane (C18)	27.325	1120895	0.948 ug/mL M4
17) t Phytane	27.487	990857	0.957 ug/mL M4
18) t n-Nonadecane (C19)	29.005	1113778	0.951 ug/mL M4
20) t n-Eicosane (C20)	30.605	1112550	0.953 ug/mL M4
21) t n-Heneicosane (C21)	32.137	1114154	0.948 ug/mL M4
22) t n-Docosane (C22)	33.605	1137344	0.960 ug/mL M4
23) t n-Tricosane (C23)	35.012	1141968	0.960 ug/mL M4
25) t n-Tetracosane (C24)	36.365	1148692	0.963 ug/mL M4
26) t n-Pentacosane (C25)	37.665	1149414	0.971 ug/mL M4
27) t n-Hexacosane (C26)	38.918	1160917	0.963 ug/mL M4
28) t n-Heptacosane (C27)	40.126	1142149	0.960 ug/mL M4
29) t n-Octacosane (C28)	41.293	1164152	0.979 ug/mL M4
30) t n-Nonacosane (C29)	42.419	1148200	0.965 ug/mL M4
31) t n-Triacontane (C30)	43.511	1148042	0.966 ug/mL M4
32) t n-Hentriacontane (C31)	44.566	1142920	0.963 ug/mL M4
33) t n-Dotriacontane (C32)	45.590	1150546	0.965 ug/mL M4
34) t n-Tritriacontane (C33)	46.582	1080931	0.963 ug/mL M4
35) t n-tetratriacontane (C34)	47.575	1133463	0.967 ug/mL M4
36) t n-Pentatriacontane (C35)	48.682	1135127	0.965 ug/mL M4
37) t n-Hexatriacontane (C36)	49.942	1141706	0.952 ug/mL M4
38) t n-Heptatriacontane (C37)	51.394	1119103	0.955 ug/mL M4
39) t n-Octatriacontane (C38)	53.091	1141125	0.989 ug/mL M4
41) t n-Tetracontane (C40)	57.425	1106538	0.941 ug/mL M4

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015017.D
Operator : FID9:NL
Acquired : 21 Oct 2015 1:19 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : I910201501R
Misc Info : ,FRAW60 1ug/mL
ALS Vial : 59



Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015019.D
Signal(s) : FID2B.CH
Acq On : 21 Oct 2015 2:46 am
Operator : FID9:NL
Sample : I910201502R
Misc : ,FRAW61 10ug/mL
ALS Vial : 60 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Oct 28 09:32:58 2015
Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Wed Oct 28 09:28:03 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Sub List : CCAL - CCAL

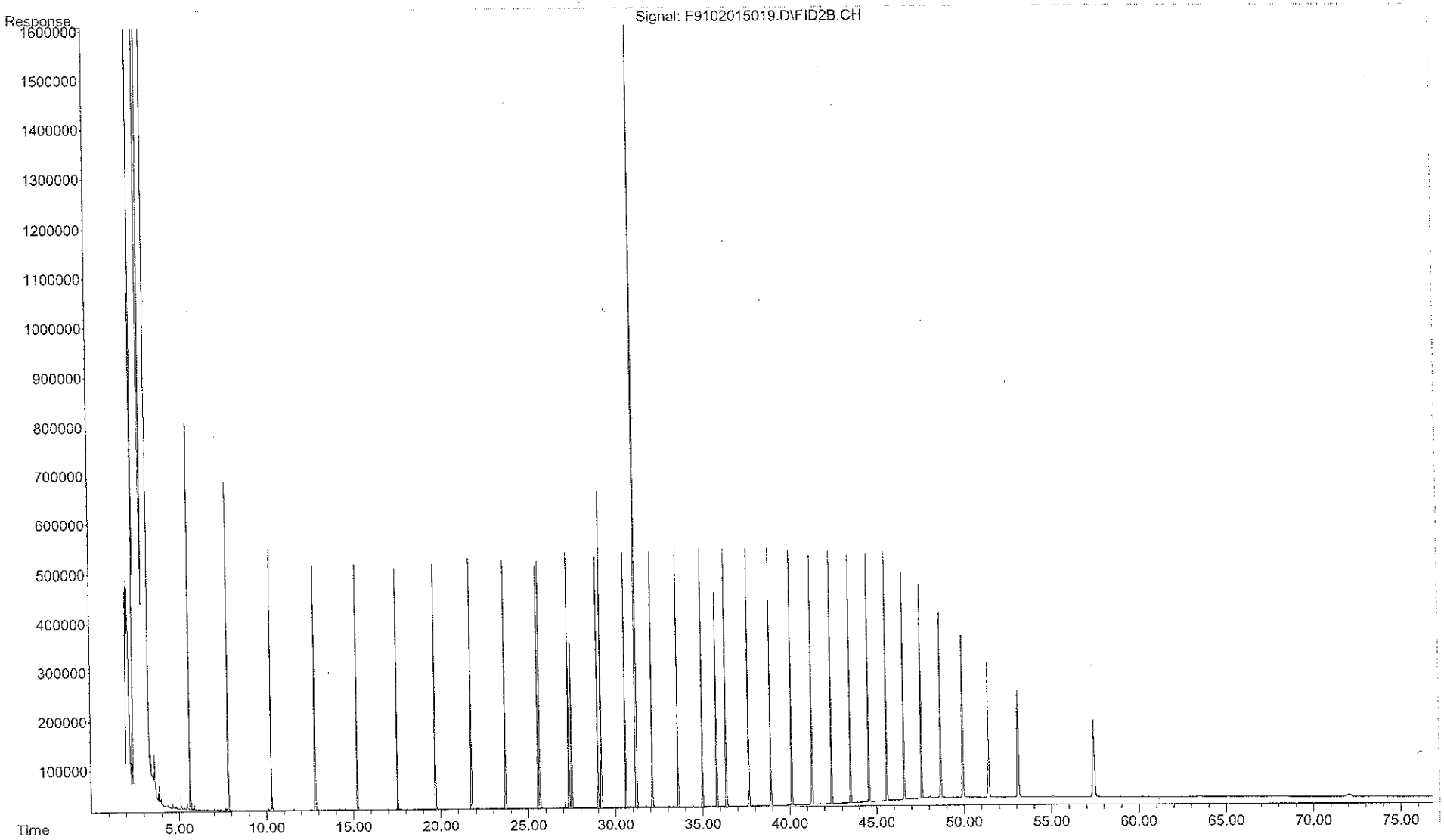
Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.238	60203653	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.206	13311493	10.351 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	20.70%#
24) s d50-Tetracosane	35.824	11136608	10.398 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	20.80%#
Target Compounds			
2) t n-Octane (C8)	5.628	9724978	10.002 ug/mL M4
3) t n-Nonane (C9)	7.829	10219986	9.902 ug/mL M4
4) t n-Decane (C10)	10.308	10587603	9.826 ug/mL M4
5) t n-Undecane (C11)	12.813	10734901	9.905 ug/mL M4
6) t n-Dodecane (C12)	15.233	10871942	9.906 ug/mL M4
7) t n-Tridecane (C13)	17.532	10921224	9.907 ug/mL M4
9) t n-Tetradecane (C14)	19.707	11039964	9.926 ug/mL M4
11) t n-Pentadecane (C15)	21.766	11211333	9.929 ug/mL M4
12) t n-Hexadecane (C16)	23.715	11156127	9.932 ug/mL M4
14) t n-Heptadecane (C17)	25.568	11200160	9.907 ug/mL M4
15) t Pristane	25.675	11360628	10.033 ug/mL M4
16) t n-Octadecane (C18)	27.328	11420096	9.978 ug/mL M4
17) t Phytane	27.489	9995409	9.965 ug/mL M4
18) t n-Nonadecane (C19)	29.008	11331018	9.987 ug/mL M4
20) t n-Eicosane (C20)	30.608	11297467	9.991 ug/mL M4
21) t n-Heneicosane (C21)	32.138	11452740	10.060 ug/mL M4
22) t n-Docosane (C22)	33.605	11454589	9.988 ug/mL M4
23) t n-Tricosane (C23)	35.015	11531093	10.006 ug/mL M4
25) t n-Tetracosane (C24)	36.367	11552395	9.997 ug/mL M4
26) t n-Pentacosane (C25)	37.667	11454278	9.991 ug/mL M4
27) t n-Hexacosane (C26)	38.921	11711654	10.030 ug/mL M4
28) t n-Heptacosane (C27)	40.129	11582542	10.052 ug/mL M4
29) t n-Octacosane (C28)	41.296	11545116	10.024 ug/mL M4
30) t n-Nonacosane (C29)	42.425	11601935	10.066 ug/mL M4
31) t n-Triacontane (C30)	43.515	11595725	10.076 ug/mL M4
32) t n-Hentriacontane (C31)	44.571	11592707	10.089 ug/mL M4
33) t n-Dotriacontane (C32)	45.594	11655277	10.095 ug/mL M4
34) t n-Tritriacontane (C33)	46.588	11024557	10.139 ug/mL M4
35) t n-tetratriacontane (C34)	47.581	11424133	10.067 ug/mL M4
36) t n-Pentatriacontane (C35)	48.688	11447364	10.049 ug/mL M4
37) t n-Hexatriacontane (C36)	49.951	11694302	10.067 ug/mL M4
38) t n-Heptatriacontane (C37)	51.409	11411329	10.053 ug/mL M4
39) t n-Octatriacontane (C38)	53.105	11108706	9.947 ug/mL M4
41) t n-Tetracontane (C40)	57.444	11406545	10.014 ug/mL M4

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015019.D
Operator : FID9:NL
Acquired : 21 Oct 2015 2:46 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : I910201502R
Misc Info : ,FRAW61 10ug/mL
ALS Vial : 60



Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015021.D
Signal(s) : FID2B.CH
Acq On : 21 Oct 2015 4:13 am
Operator : FID9:NL
Sample : I910201503R
Misc : ,FRAW35 50ug/mL
ALS Vial : 61 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Oct 28 09:36:46 2015
Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Wed Oct 28 09:28:16 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Sub List : CCAL - CCAL

11/7/15

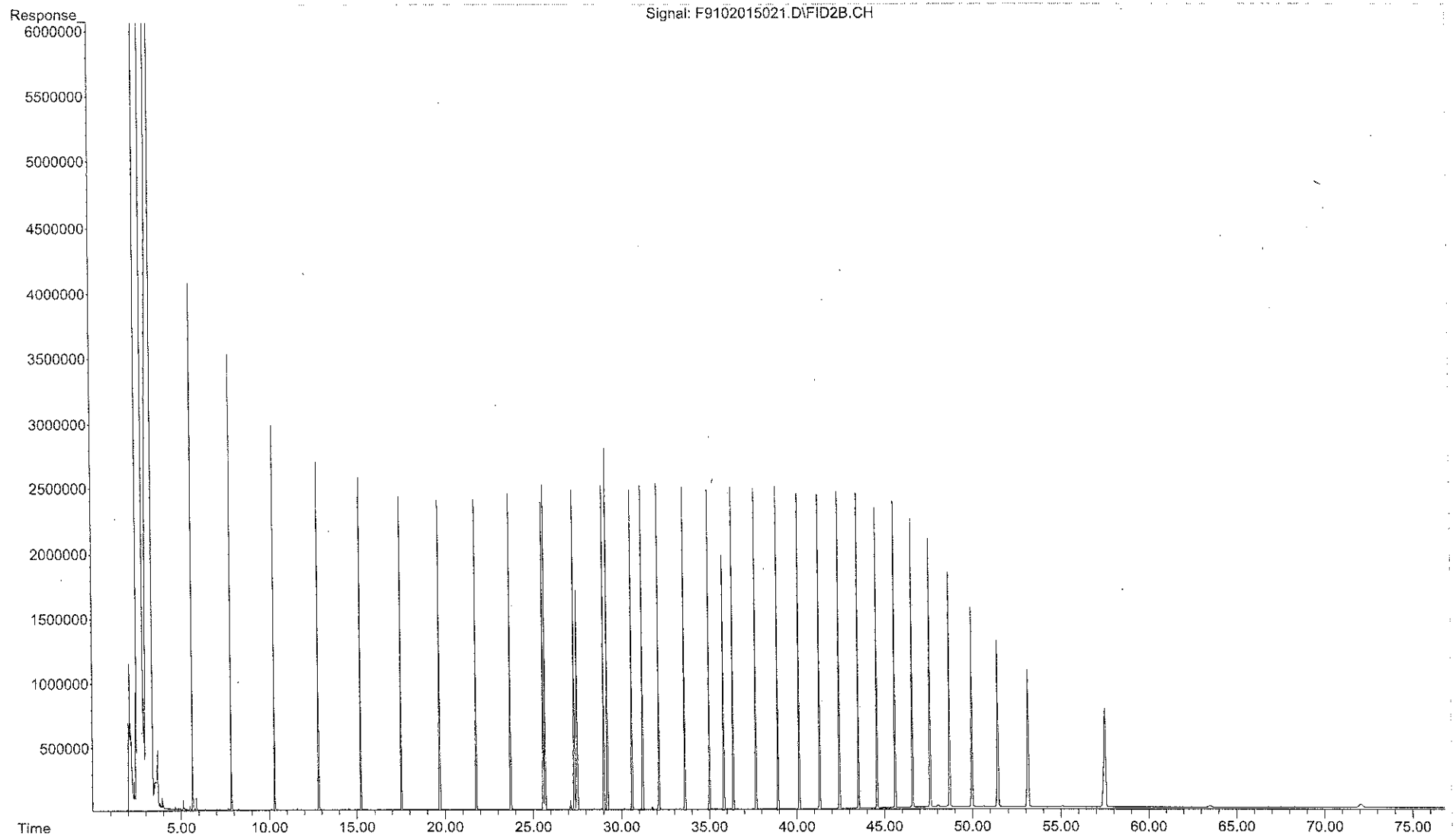
Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.244	61714287	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.232	66377897	50.352 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery = 100.70%	
24) s d50-Tetracosane	35.848	55375908	50.437 ug/mL M4
Spiked Amount 50.000 Range 50 - 130		Recovery = 100.87%	
Target Compounds			
2) t n-Octane (C8)	5.655	50378737	50.544 ug/mL M4
3) t n-Nonane (C9)	7.852	53605156	50.665 ug/mL M4
4) t n-Decane (C10)	10.326	56058925	50.751 ug/mL M4
5) t n-Undecane (C11)	12.828	56832412	51.154 ug/mL M4
6) t n-Dodecane (C12)	15.247	57614132	51.211 ug/mL M4
7) t n-Tridecane (C13)	17.548	57779807	51.130 ug/mL M4
9) t n-Tetradecane (C14)	19.724	58365306	51.192 ug/mL M4
11) t n-Pentadecane (C15)	21.783	59174895	51.122 ug/mL M4
12) t n-Hexadecane (C16)	23.735	58959076	51.207 ug/mL M4
14) t n-Heptadecane (C17)	25.588	59253581	51.127 ug/mL M4
15) t Pristane	25.698	59662638	51.401 ug/mL M4
16) t n-Octadecane (C18)	27.350	60087607	51.213 ug/mL M4
17) t Phytane	27.512	52543296	51.102 ug/mL M4
18) t n-Nonadecane (C19)	29.031	59554359	51.207 ug/mL M4
20) t n-Eicosane (C20)	30.631	59336969	51.189 ug/mL M4
21) t n-Heneicosane (C21)	32.164	59762886	51.212 ug/mL M4
22) t n-Docosane (C22)	33.633	60066221	51.095 ug/mL M4
23) t n-Tricosane (C23)	35.041	60468136	51.188 ug/mL M4
25) t n-Tetracosane (C24)	36.396	60585209	51.147 ug/mL M4
26) t n-Pentacosane (C25)	37.696	60104508	51.145 ug/mL M4
27) t n-Hexacosane (C26)	38.949	61283424	51.200 ug/mL M4
28) t n-Heptacosane (C27)	40.159	60575430	51.285 ug/mL M4
29) t n-Octacosane (C28)	41.326	60295720	51.068 ug/mL M4
30) t n-Nonacosane (C29)	42.454	60632934	51.318 ug/mL M4
31) t n-Triacontane (C30)	43.545	60552577	51.331 ug/mL M4
32) t n-Hentriacontane (C31)	44.600	60522712	51.382 ug/mL M4
33) t n-Dotriacontane (C32)	45.625	60798279	51.370 ug/mL M4
34) t n-Tritriacontane (C33)	46.614	57289758	51.397 ug/mL M4
35) t n-tetratriacontane (C34)	47.615	59638279	51.266 ug/mL M4
36) t n-Pentatriacontane (C35)	48.726	59857976	51.258 ug/mL M4
37) t n-Hexatriacontane (C36)	49.995	61308721	51.485 ug/mL M4
38) t n-Heptatriacontane (C37)	51.456	59745488	51.344 ug/mL M4
39) t n-Octatriacontane (C38)	53.164	58420392	51.029 ug/mL M4
41) t n-Tetracontane (C40)	57.530	60225273	51.580 ug/mL M4

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015021.D
Operator : FID9:NL
Acquired : 21 Oct 2015 4:13 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : I910201503R
Misc Info : ,FRAW35 50ug/mL
ALS Vial : 61



Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015023.D
Signal(s) : FID2B.CH
Acq On : 21 Oct 2015 5:41 am
Operator : FID9:NL
Sample : I910201504R
Misc : ,FRAW62 100ug/mL
ALS Vial : 62 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Oct 28 09:40:09 2015
Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Wed Oct 28 09:28:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Sub List : CCAL - CCAL

11/2/15

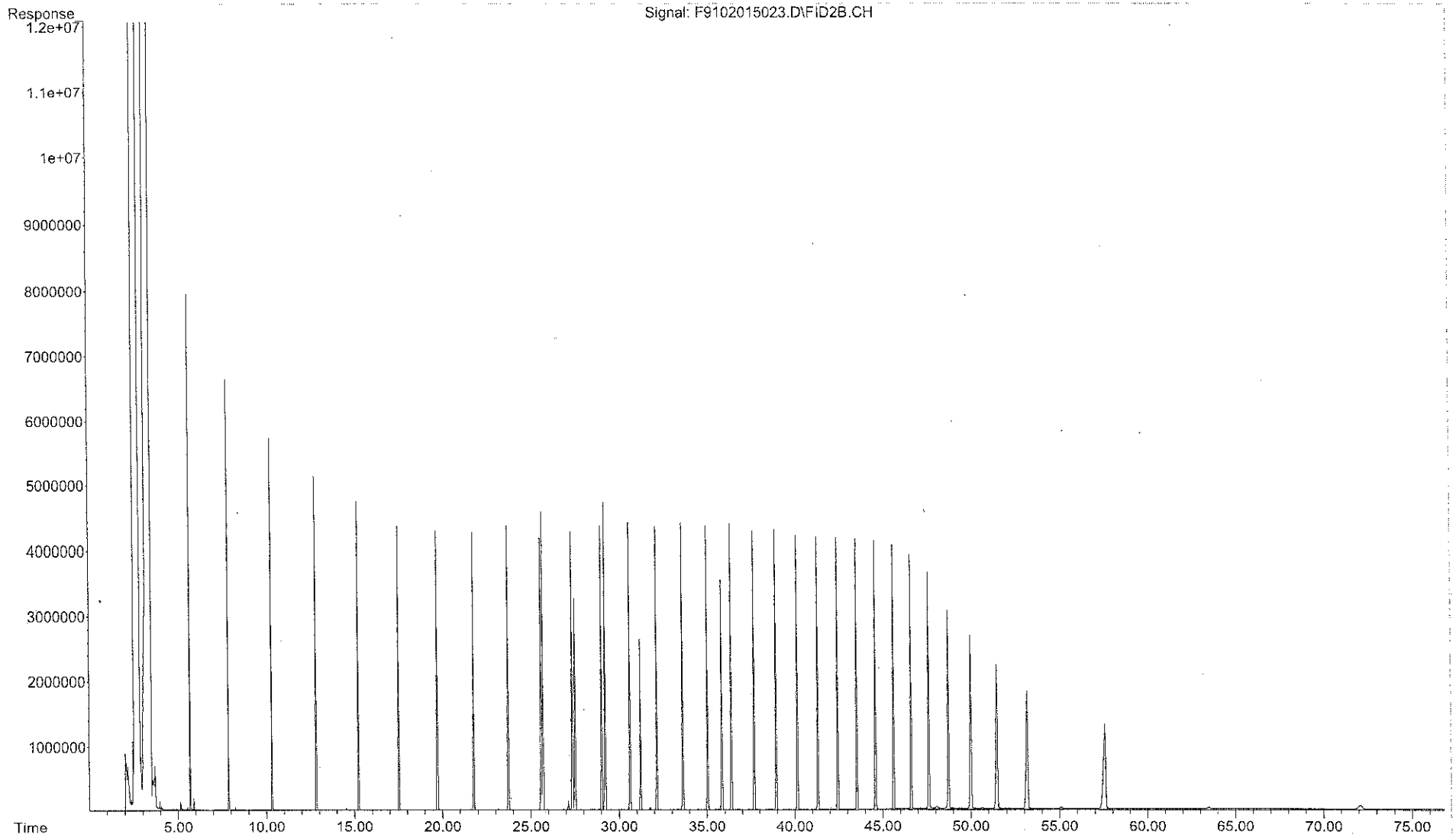
Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.247	63345455	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.255	133088985	98.357 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery = 196.71%#	
24) s d50-Tetracosane	35.870	110047849	97.651 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery = 195.30%#	
Target Compounds			
2) t n-Octane (C8)	5.697	104050313	101.704 ug/mL M4
3) t n-Nonane (C9)	7.881	110313064	101.578 ug/mL M4
4) t n-Decane (C10)	10.347	115671895	102.024 ug/mL M4
5) t n-Undecane (C11)	12.846	117614825	103.137 ug/mL M4
6) t n-Dodecane (C12)	15.263	119243604	103.262 ug/mL M4
7) t n-Tridecane (C13)	17.562	119429484	102.963 ug/mL M4
9) t n-Tetradecane (C14)	19.740	120390618	102.875 ug/mL M4
11) t n-Pentadecane (C15)	21.802	122034106	102.712 ug/mL M4
12) t n-Hexadecane (C16)	23.753	121360511	102.690 ug/mL M4
14) t n-Heptadecane (C17)	25.609	122338027	102.841 ug/mL M6
15) t Pristane	25.720	121866911	102.289 ug/mL M6
16) t n-Octadecane (C18)	27.372	123386790	102.456 ug/mL M4
17) t Phytane	27.533	107981210	102.314 ug/mL M4
18) t n-Nonadecane (C19)	29.053	122147393	102.322 ug/mL M4
20) t n-Eicosane (C20)	30.653	121526779	102.139 ug/mL M4
21) t n-Heneicosane (C21)	32.186	122227389	102.042 ug/mL M4
22) t n-Docosane (C22)	33.654	122809714	101.778 ug/mL M4
23) t n-Tricosane (C23)	35.064	123342192	101.724 ug/mL M4
25) t n-Tetracosane (C24)	36.419	123500012	101.576 ug/mL M4
26) t n-Pentacosane (C25)	37.719	122197938	101.304 ug/mL M4
27) t n-Hexacosane (C26)	38.973	124548606	101.377 ug/mL M3
28) t n-Heptacosane (C27)	40.181	122912406	101.382 ug/mL M4
29) t n-Octacosane (C28)	41.348	122449219	101.038 ug/mL M4
30) t n-Nonacosane (C29)	42.477	122592797	101.087 ug/mL M4
31) t n-Triacontane (C30)	43.569	122222859	100.941 ug/mL M4
32) t n-Hentriacontane (C31)	44.625	121903483	100.827 ug/mL M4
33) t n-Dotriacontane (C32)	45.648	122440624	100.790 ug/mL M4
34) t n-Tritriacontane (C33)	46.639	115272588	100.752 ug/mL M4
35) t n-tetratriacontane (C34)	47.638	120231113	100.691 ug/mL M4
36) t n-Pentatriacontane (C35)	48.755	120866303	100.836 ug/mL M4
37) t n-Hexatriacontane (C36)	50.032	123884854	101.355 ug/mL M4
38) t n-Heptatriacontane (C37)	51.502	120931096	101.250 ug/mL M4
39) t n-Octatriacontane (C38)	53.219	118529525	100.868 ug/mL M4
41) t n-Tetracontane (C40)	57.602	122618018	102.313 ug/mL M4

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015023.D
Operator : FID9:NL
Acquired : 21 Oct 2015 5:41 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : I910201504R
Misc Info : ,FRAW62 100ug/mL
ALS Vial : 62



Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015025.D
Signal(s) : FID2B.CH
Acq On : 21 Oct 2015 7:08 am
Operator : FID9:NL
Sample : I910201505R
Misc : ,FRAW63 200ug/mL
ALS Vial : 63 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Oct 28 09:43:32 2015
Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Wed Oct 28 09:28:39 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Sub List : CCAL - CCAL

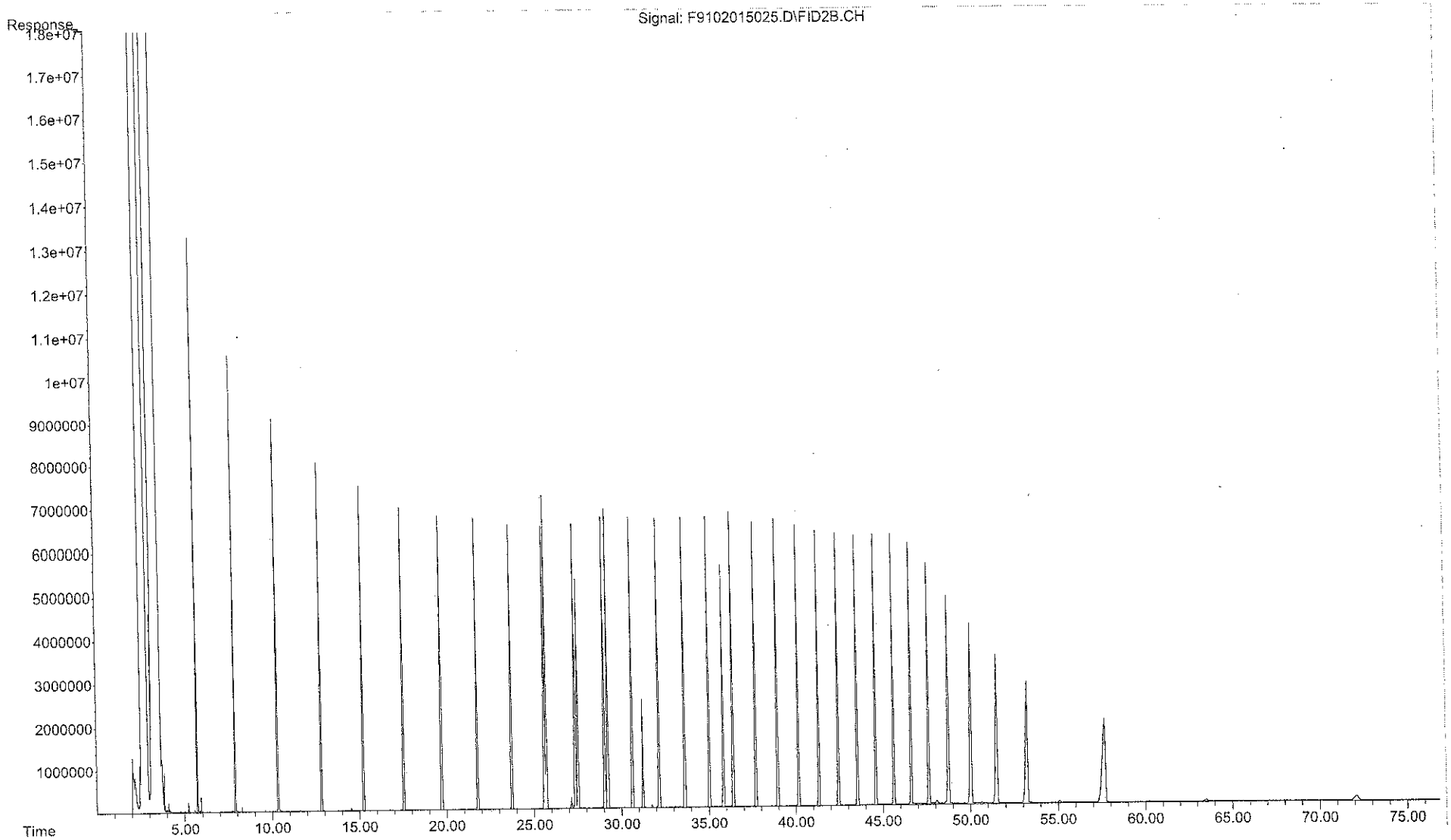
Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.251	62452454	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.284	262093146	196.464 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery = 392.93%#	
24) s d50-Tetracosane	35.896	217343518	195.618 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery = 391.24%#	
Target Compounds			
2) t n-Octane (C8)	5.759f	203789927	202.043 ug/mL M3
3) t n-Nonane (C9)	7.926	212545740	198.514 ug/mL M3
4) t n-Decane (C10)	10.376	223117739	199.606 ug/mL M3
5) t n-Undecane (C11)	12.869	226780807	201.710 ug/mL M4
6) t n-Dodecane (C12)	15.284	230190425	202.189 ug/mL M4
7) t n-Tridecane (C13)	17.584	230742117	201.772 ug/mL M4
9) t n-Tetradecane (C14)	19.760	232691826	201.680 ug/mL M4
11) t n-Pentadecane (C15)	21.821	235981124	201.458 ug/mL M4
12) t n-Hexadecane (C16)	23.774	234731788	201.459 ug/mL M4
14) t n-Heptadecane (C17)	25.635	238972310	203.759 ug/mL M6
15) t Pristane	25.747	232068356	197.571 ug/mL M6
16) t n-Octadecane (C18)	27.398	238677289	201.023 ug/mL M4
17) t Phytane	27.560	208472194	200.356 ug/mL M4
18) t n-Nonadecane (C19)	29.079	236170686	200.667 ug/mL M4
20) t n-Eicosane (C20)	30.679	234976097	200.313 ug/mL M4
21) t n-Heneicosane (C21)	32.211	236308513	200.103 ug/mL M4
22) t n-Docosane (C22)	33.682	237898693	199.976 ug/mL M4
23) t n-Tricosane (C23)	35.090	238577751	199.575 ug/mL M4
25) t n-Tetracosane (C24)	36.449	238714759	199.146 ug/mL M4
26) t n-Pentacosane (C25)	37.749	236090590	198.522 ug/mL M4
27) t n-Hexacosane (C26)	39.003	240645923	198.675 ug/mL M4
28) t n-Heptacosane (C27)	40.211	237248482	198.488 ug/mL M4
29) t n-Octacosane (C28)	41.378	235579669	197.167 ug/mL M4
30) t n-Nonacosane (C29)	42.507	236111388	197.475 ug/mL M4
31) t n-Triacontane (C30)	43.598	235560085	197.325 ug/mL M4
32) t n-Hentriacontane (C31)	44.655	235014299	197.162 ug/mL M4
33) t n-Dotriacontane (C32)	45.680	236597875	197.546 ug/mL M4
34) t n-Tritriacontane (C33)	46.670	222919388	197.624 ug/mL M4
35) t n-tetratriacontane (C34)	47.677	232983432	197.909 ug/mL M4
36) t n-Pentatriacontane (C35)	48.800	234799740	198.689 ug/mL M4
37) t n-Hexatriacontane (C36)	50.083	239786983	198.983 ug/mL M4
38) t n-Heptatriacontane (C37)	51.563	233688111	198.453 ug/mL M4
39) t n-Octatriacontane (C38)	53.291	228449193	197.188 ug/mL M4
41) t n-Tetracontane (C40)	57.704	235412453	199.238 ug/mL M4

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015025.D
Operator : FID9:NL
Acquired : 21 Oct 2015 7:08 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : I910201505R
Misc Info : ,FRAW63 200ug/mL
ALS Vial : 63



HC9102015R.M Wed Oct 28 09:46:04 2015

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015027.D
Signal(s) : FID2B.CH
Acq On : 21 Oct 2015 8:36 am
Operator : FID9:NL
Sample : I910201506R
Misc : ,FRAW64 500ug/mL
ALS Vial : 64 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Oct 28 09:28:55 2015
Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Wed Oct 28 09:28:49 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

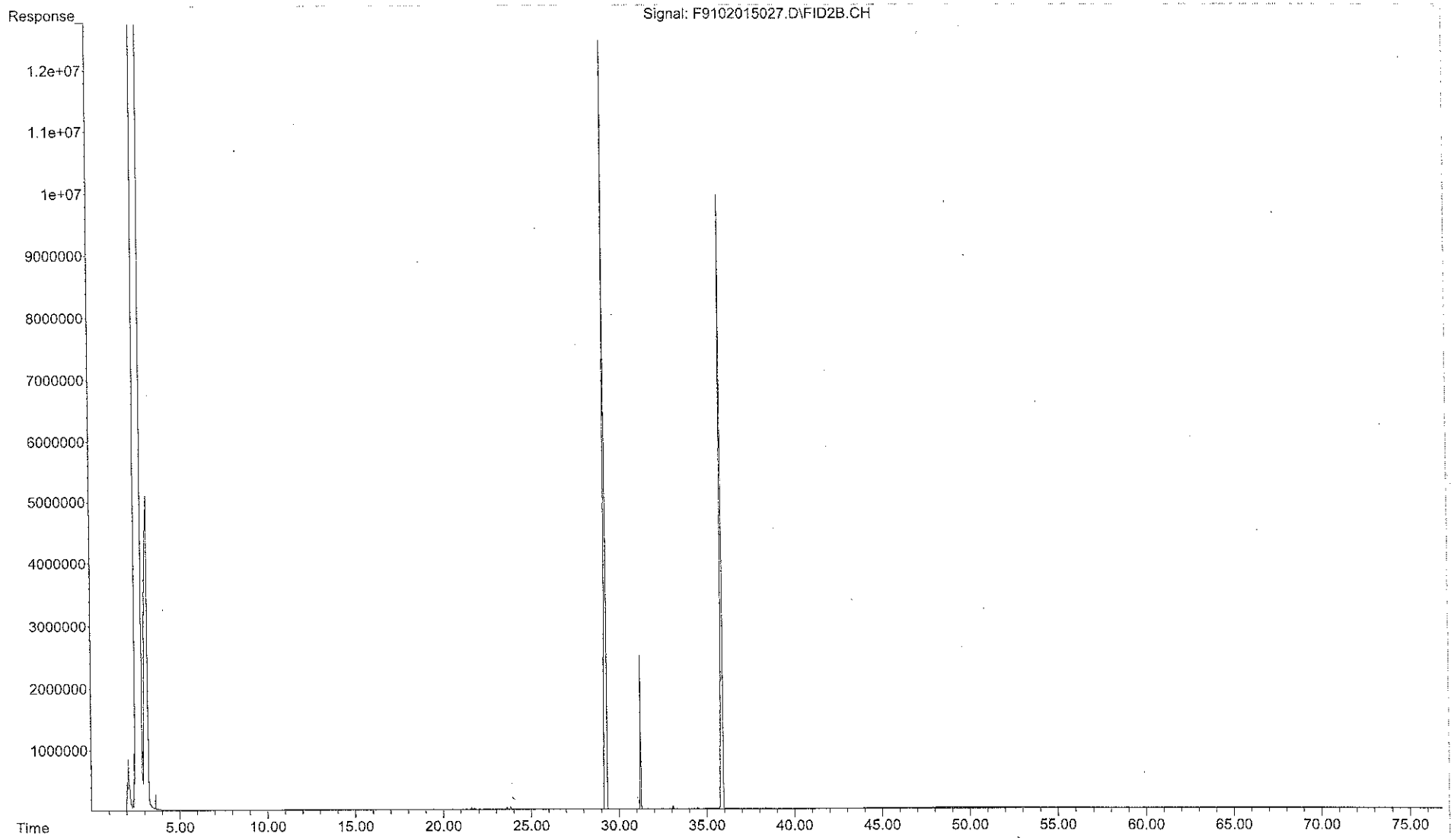
Sub List : CCAL - CCAL

Compound			R.T.	Response	Conc Units
Internal Standards					
1) I 5-alpha-androstane			31.243	59399003	50.000 ug/mL M4
System Monitoring Compounds					
19) s ortho-terphenyl			29.331	642139048	506.090 ug/mL M4
Spiked Amount	50.000	Range	50 - 130	Recovery	= 1012.18%#
24) s d50-Tetracosane			35.944	534554665	505.853 ug/mL M4
Spiked Amount	50.000	Range	50 - 130	Recovery	= 1011.71%#
Target Compounds					
SemiQuant Compounds - Not Calibrated on this Instrument					

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015027.D
Operator : FID9:NL
Acquired : 21 Oct 2015 8:36 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : I910201506R
Misc Info : ,FRAW64 500ug/mL
ALS Vial : 64



Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015033.D
Signal(s) : FID2B.CH
Acq On : 21 Oct 2015 12:59 pm
Operator : FID9:NL
Sample : CQ910201501R
Misc : WG835119,FRAW65 50ug/mL
ALS Vial : 67 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Nov 07 12:04:50 2015
Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Sat Nov 07 12:04:42 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1	I	5-alpha-androstane	50.000	50.000	0.0	117	0.00
2	t	n-Octane (C8)	50.000	43.894	12.2	101	0.00
3	t	n-Nonane (C9)	50.000	44.510	11.0	103	0.00
4	t	n-Decane (C10)	50.000	46.081	7.8	106	0.00
5	t	n-Undecane (C11)	50.000	45.094	9.8	103	0.00
6	t	n-Dodecane (C12)	50.000	44.984	10.0	103	0.00
7	t	n-Tridecane (C13)	50.000	44.748	10.5	102	0.00
9	t	n-Tetradecane (C14)	50.000	46.065	7.9	105	0.00
11	t	n-Pentadecane (C15)	50.000	44.773	10.5	102	0.00
12	t	n-Hexadecane (C16)	50.000	45.234	9.5	103	0.00
14	t	n-Heptadecane (C17)	50.000	45.178	9.6	103	0.00
15	t	Pristane	50.000	45.206	9.6	103	0.00
16	t	n-Octadecane (C18)	50.000	44.386	11.2	101	0.00
17	t	Phytane	50.000	51.362	-2.7	117	0.00
18	t	n-Nonadecane (C19)	50.000	44.407	11.2	101	0.00
19	s	ortho-terphenyl	50.000	45.218	9.6	105	0.00
20	t	n-Eicosane (C20)	50.000	44.669	10.7	102	0.00
21	t	n-Heneicosane (C21)	50.000	44.788	10.4	102	0.00
22	t	n-Docosane (C22)	50.000	44.645	10.7	102	0.00
23	t	n-Tricosane (C23)	50.000	44.551	10.9	102	0.00
24	s	d50-Tetracosane	50.000	45.132	9.7	104	0.00
25	t	n-Tetracosane (C24)	50.000	44.406	11.2	101	0.00
26	t	n-Pentacosane (C25)	50.000	44.732	10.5	102	0.00
27	t	n-Hexacosane (C26)	50.000	44.656	10.7	102	0.00
28	t	n-Heptacosane (C27)	50.000	44.655	10.7	102	0.00
29	t	n-Octacosane (C28)	50.000	44.677	10.6	102	0.00
30	t	n-Nonacosane (C29)	50.000	44.807	10.4	102	0.00
31	t	n-Triacontane (C30)	50.000	44.707	10.6	102	0.00
32	t	n-Hentriacontane (C31)	50.000	44.765	10.5	102	0.00
33	t	n-Dotriacontane (C32)	50.000	43.978	12.0	100	0.00
34	t	n-Tritriacontane (C33)	50.000	44.919	10.2	102	0.00
35	t	n-tetratriacontane (C34)	50.000	45.272	9.5	103	0.00
36	t	n-Pentatriacontane (C35)	50.000	44.934	10.1	102	0.00
37	t	n-Hexatriacontane (C36)	50.000	47.068	5.9	107	0.00
38	t	n-Heptatriacontane (C37)	50.000	44.923	10.2	102	0.00
39	t	n-Octatriacontane (C38)	50.000	45.314	9.4	104	-0.01
41	t	n-Tetracontane (C40)	50.000	42.211	15.6	95	-0.02

Evaluate Continuing Calibration Report - Not Founds

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Mass Discrimination (Response)	Ratio	Range Limits
n-Hexatriacontane (C36) to n-Eicosane (C20)	1.08	0.85 - 1.15

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015033.D
Signal(s) : FID2B.CH
Acq On : 21 Oct 2015 12:59 pm
Operator : FID9:NL
Sample : CQ9102015O1R
Misc : ,FRAW65 50ug/mL
ALS Vial : 67 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Oct 28 09:58:00 2015
Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Wed Oct 28 09:52:22 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Sub List : CCAL - CCAL

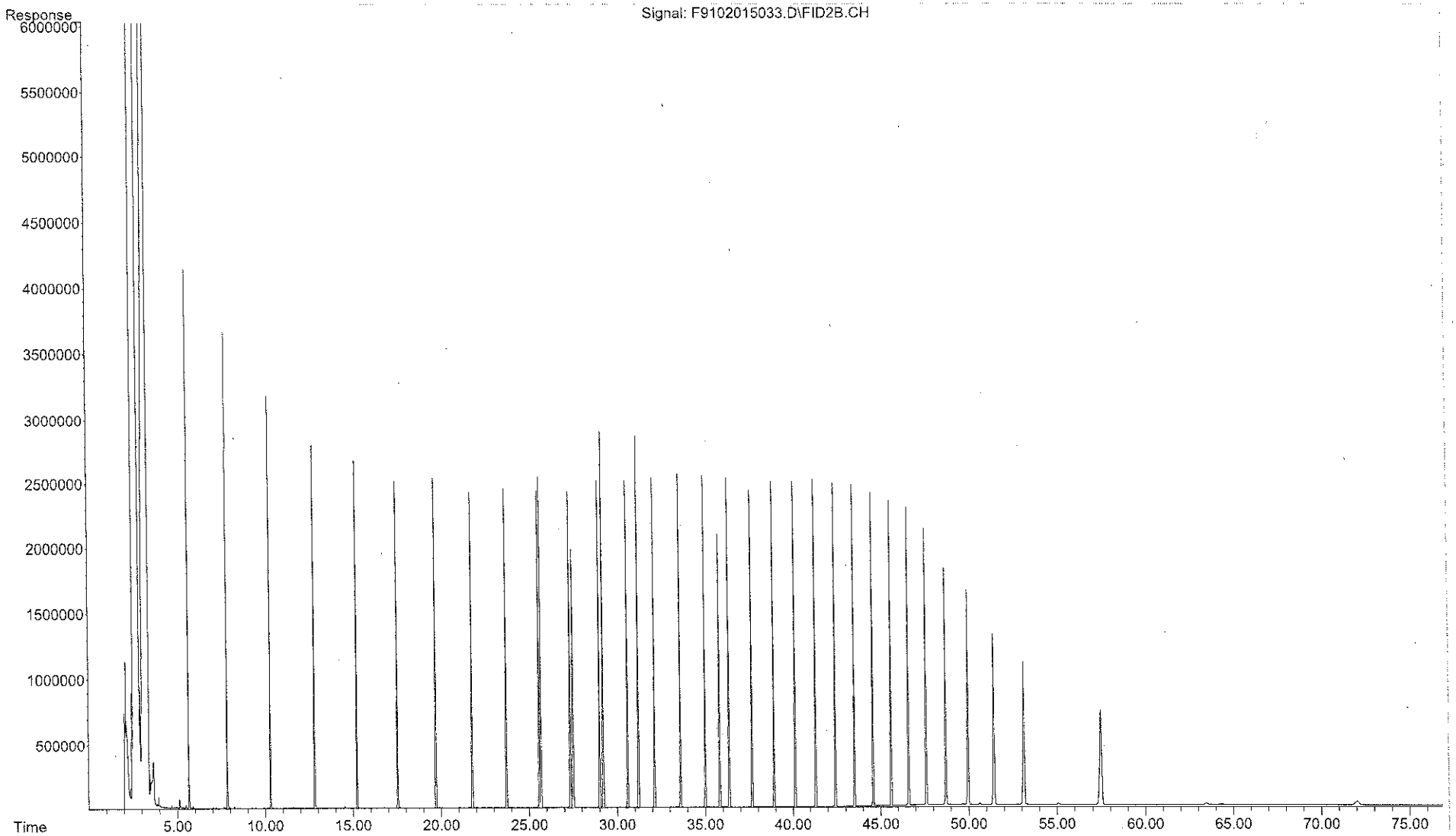
	Compound	R.T.	Response	Conc Units
	Internal Standards			
1) I	5-alpha-androstane	31.241	72058294	50.000 ug/mL M4
	System Monitoring Compounds			
19) s	ortho-terphenyl	29.227	69601435	45.218 ug/mL M4
Spiked Amount	50.000 Range	50 - 130	Recovery =	90.44%
24) s	d50-Tetracosane	35.844	57857096	45.132 ug/mL M4
Spiked Amount	50.000 Range	50 - 130	Recovery =	90.26%
	Target Compounds			
2) t	n-Octane (C8)	5.658	51077279	43.894 ug/mL M4
3) t	n-Nonane (C9)	7.853	54985928	44.510 ug/mL M4
4) t	n-Decane (C10)	10.325	59363840	46.081 ug/mL M4
5) t	n-Undecane (C11)	12.827	58496763	45.094 ug/mL M4
6) t	n-Dodecane (C12)	15.245	59085341	44.984 ug/mL M4
7) t	n-Tridecane (C13)	17.543	59043883	44.748 ug/mL M4
9) t	n-Tetradecane (C14)	19.720	61323293	46.065 ug/mL M4
11) t	n-Pentadecane (C15)	21.779	60495784	44.773 ug/mL M4
12) t	n-Hexadecane (C16)	23.730	60811583	45.234 ug/mL M4
14) t	n-Heptadecane (C17)	25.583	61134602	45.178 ug/mL M6
15) t	Pristane	25.692	61266454	45.206 ug/mL M4
16) t	n-Octadecane (C18)	27.346	60805886	44.386 ug/mL M4
17) t	Phytane	27.510	61662827	51.362 ug/mL M4
18) t	n-Nonadecane (C19)	29.026	60302728	44.407 ug/mL M4
20) t	n-Eicosane (C20)	30.628	60439853	44.669 ug/mL M4
21) t	n-Heneicosane (C21)	32.159	61013616	44.788 ug/mL M4
22) t	n-Docosane (C22)	33.627	61264394	44.645 ug/mL M4
23) t	n-Tricosane (C23)	35.036	61437513	44.551 ug/mL M4
25) t	n-Tetracosane (C24)	36.390	61376787	44.406 ug/mL M4
26) t	n-Pentacosane (C25)	37.691	61361703	44.732 ug/mL M4
27) t	n-Hexacosane (C26)	38.944	62370101	44.656 ug/mL M4
28) t	n-Heptacosane (C27)	40.152	61547548	44.655 ug/mL M4
29) t	n-Octacosane (C28)	41.318	61574366	44.677 ug/mL M4
30) t	n-Nonacosane (C29)	42.447	61762158	44.807 ug/mL M4
31) t	n-Triacontane (C30)	43.537	61533290	44.707 ug/mL M4
32) t	n-Hentriacontane (C31)	44.594	61489853	44.765 ug/mL M4
33) t	n-Dotriacontane (C32)	45.617	60743139	43.978 ug/mL M4
34) t	n-Tritriacontane (C33)	46.608	58462136	44.919 ug/mL M4
35) t	n-tetratriacontane (C34)	47.606	61439086	45.272 ug/mL M4
36) t	n-Pentatriacontane (C35)	48.717	61226865	44.934 ug/mL M4
37) t	n-Hexatriacontane (C36)	49.986	65398286	47.068 ug/mL M4
38) t	n-Heptatriacontane (C37)	51.448	60932417	44.923 ug/mL M4
39) t	n-Octatriacontane (C38)	53.153	60564016	45.314 ug/mL M4
41) t	n-Tetracontane (C40)	57.509	57466083	42.211 ug/mL M4

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015033.D
Operator : FID9:NL
Acquired : 21 Oct 2015 12:59 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : CQ910201501R
Misc Info : ,FRAW65 50ug/mL
ALS Vial : 67



Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015035.D
Signal(s) : FID2B.CH
Acq On : 21 Oct 2015 2:27 pm
Operator : FID9:NL
Sample : TO102815ANC01
Misc : 1X FRAW36 10.382 mg/mL
ALS Vial : 68 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Oct 28 10:06:15 2015
Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Wed Oct 28 09:52:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB910201502R
Blank File : F9102015031.D

Sub List : Default - All compounds listed

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.243	63931472	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.231	67607048	49.506 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery = 99.01%	
24) s d50-Tetracosane	35.850	57431253	50.494 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery = 100.99%	
Target Compounds			
2) t n-Octane (C8)	5.628	100822103	97.657 ug/mL M3
3) t n-Nonane (C9)	7.840	76994888	70.248 ug/mL M4
4) t n-Decane (C10)	10.322	64854232	56.743 ug/mL M4
5) t n-Undecane (C11)	12.828	58677352	50.983 ug/mL M4
6) t n-Dodecane (C12)	15.247	53744136	46.119 ug/mL M4
7) t n-Tridecane (C13)	17.547	49403602	42.202 ug/mL M4
8) t 1380	19.215	11788323	9.981 ug/mL M4
9) t n-Tetradecane (C14)	19.723	47225125	39.984 ug/mL M4
10) t 1470	21.000	16906271	14.103 ug/mL M4
11) t n-Pentadecane (C15)	21.781	54410857	45.388 ug/mL M4
12) t n-Hexadecane (C16)	23.730	43899994	36.806 ug/mL M4
13) t 1650	24.630	14957075	12.458 ug/mL M4
14) t n-Heptadecane (C17)	25.582	37183545	30.971 ug/mL M4
15) t Pristane	25.675	28688108	23.859 ug/mL M4
16) t n-Octadecane (C18)	27.342	32736926	26.934 ug/mL M4
17) t Phytane	27.498	16330415	15.332 ug/mL M4
18) t n-Nonadecane (C19)	29.022	31910850	26.486 ug/mL M4
20) t n-Eicosane (C20)	30.622	31006273	25.829 ug/mL M4
21) t n-Heneicosane (C21)	32.153	28205966	23.337 ug/mL M4
22) t n-Docosane (C22)	33.620	26647270	21.887 ug/mL M4
23) t n-Tricosane (C23)	35.027	23780808	19.437 ug/mL M4
25) t n-Tetracosane (C24)	36.379	22480503	18.332 ug/mL M4
26) t n-Pentacosane (C25)	37.680	22674680	18.631 ug/mL M4
27) t n-Hexacosane (C26)	38.931	18634876	15.038 ug/mL M4
28) t n-Heptacosane (C27)	40.137	14772575	12.080 ug/mL M4
29) t n-Octacosane (C28)	41.303	10549746	8.628 ug/mL M4
30) t n-Nonacosane (C29)	42.430	10522393	8.604 ug/mL M4
31) t n-Triacontane (C30)	43.519	8076798	6.614 ug/mL M4
32) t n-Hentriacontane (C31)	44.574	6862804	5.631 ug/mL M4
33) t n-Dotriacontane (C32)	45.598	7529122	6.144 ug/mL M4
34) t n-Tritriacontane (C33)	46.586	4022470	3.484 ug/mL M4
35) t n-tetratriacontane (C34)	47.580	4064597	3.376 ug/mL M4
36) t n-Pentatriacontane (C35)	48.686	3583212	2.964 ug/mL M4
37) t n-Hexatriacontane (C36)	49.942	2221602	1.802 ug/mL M4
38) t n-Heptatriacontane (C37)	51.401	2086360	1.734 ug/mL M4
39) t n-Octatriacontane (C38)	53.090	1883017	1.588 ug/mL M4
40) t n-Nonatriacontane (C39)	55.088	1194977	0.989 ug/mL M4
41) t n-Tetracontane (C40)	57.426	1083788	0.897 ug/mL M4
42) h C9-C44 Total Petroleu...	39.957	7713051877	6451.851 ug/mL m
42) h C9-C44 Total Petroleu BS	39.957	7411423536	6199.544 ug/mLm
44) h C10-C28 DRO	25.826	5126179322	4287.971 ug/mL m

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015035.D
Signal(s) : FID2B.CH
Acq On : 21 Oct 2015 2:27 pm
Operator : FID9:NL
Sample : TO102815ANC01
Misc : 1X FRAW36 10.382 mg/mL
ALS Vial : 68 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Oct 28 10:06:15 2015
Quant Method : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Wed Oct 28 09:52:33 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Blank Name : IB910201502R
Blank File : F9102015031.D

Sub List : Default - All compounds listed

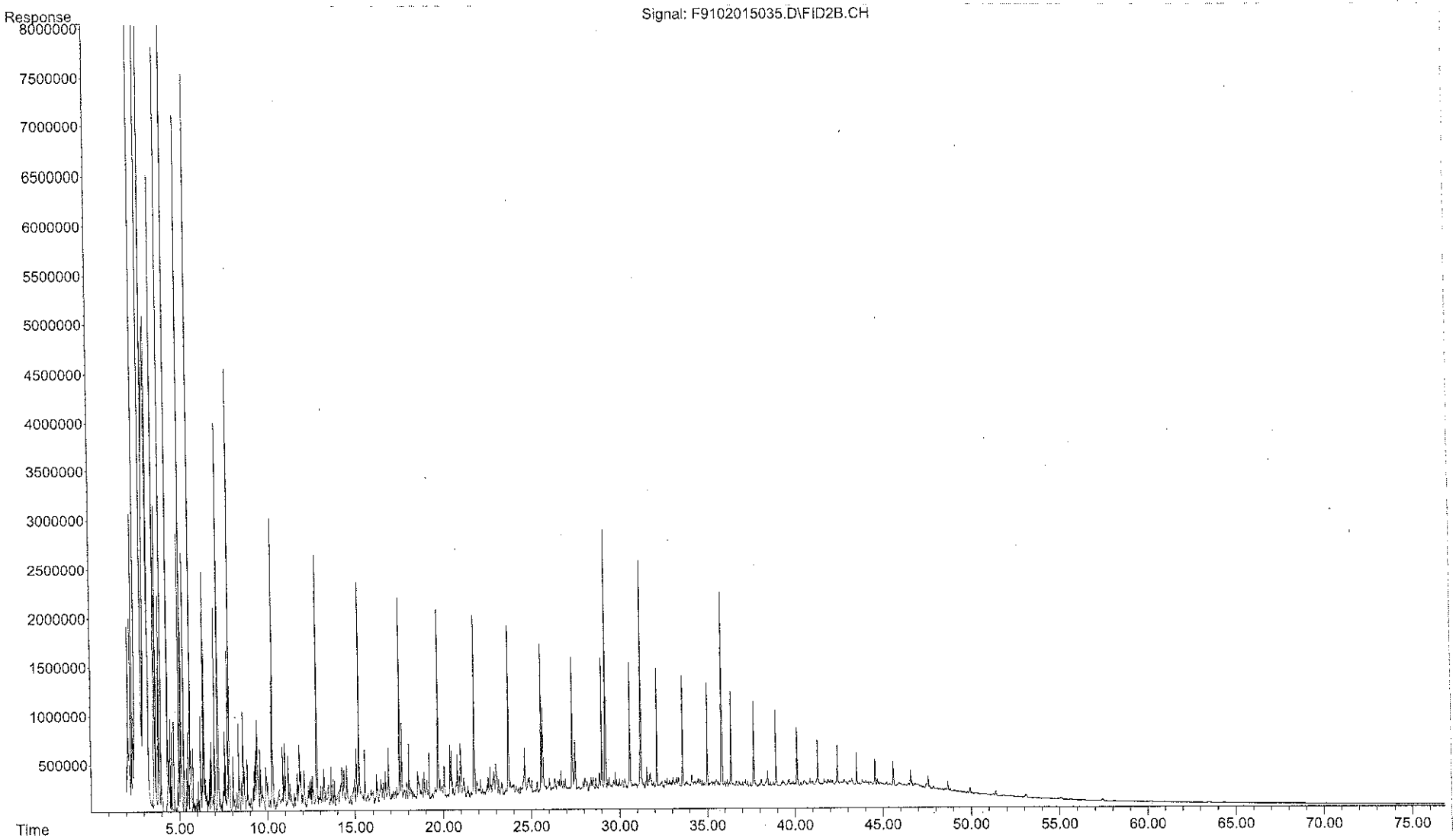
	Compound	R.T.	Response	Conc	Units
44) h	C10-C28 DRO BS	25.826	5093672206	4260.780	ug/mLm
45) h	Total Resolved Hydroc...	39.957	2368625132	1981.319	ug/mL m

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2015\Oct\OCT20.SEC\
Data File : F9102015035.D
Operator : FID9:NL
Acquired : 21 Oct 2015 2:27 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : TO102815ANC01
Misc Info : 1X FRAW36 10.382 mg/mL
ALS Vial : 68



Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916005.D
Signal(s) : FID2B.CH
Acq On : 29 Mar 2016 2:49 pm
Operator : FID9:DP
Sample : C903291601R
Misc : FRAW85 50ug/mL
ALS Vial : 53 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 16:57:11 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:30:17 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1	I	5-alpha-androstane	50.000	50.000	0.0	95	0.00
2	t	n-Octane (C8)	50.000	50.424	-0.8	94	0.00
3	t	n-Nonane (C9)	50.000	48.604	2.8	91	0.00
4	t	n-Decane (C10)	50.000	48.561	2.9	90	0.00
5	t	n-Undecane (C11)	50.000	49.064	1.9	91	0.00
6	t	n-Dodecane (C12)	50.000	49.319	1.4	91	0.00
7	t	n-Tridecane (C13)	50.000	49.340	1.3	91	0.00
9	t	n-Tetradecane (C14)	50.000	49.426	1.1	91	0.00
11	t	n-Pentadecane (C15)	50.000	49.886	0.2	92	0.00
12	t	n-Hexadecane (C16)	50.000	49.954	0.1	92	0.00
14	t	n-Heptadecane (C17)	50.000	49.096	1.8	91	0.00
15	t	Pristane	50.000	50.526	-1.1	93	0.00
16	t	n-Octadecane (C18)	50.000	49.887	0.2	92	0.00
17	t	Phytane	50.000	50.010	-0.0	93	0.00
18	t	n-Nonadecane (C19)	50.000	49.960	0.1	92	0.00
19	s	ortho-terphenyl	50.000	49.041	1.9	92	0.00
20	t	n-Eicosane (C20)	50.000	50.164	-0.3	93	0.00
21	t	n-Heneicosane (C21)	50.000	50.232	-0.5	93	0.00
22	t	n-Docosane (C22)	50.000	50.080	-0.2	93	0.00
23	t	n-Tricosane (C23)	50.000	50.180	-0.4	93	0.00
24	s	d50-Tetracosane	50.000	49.676	0.6	93	0.00
25	t	n-Tetracosane (C24)	50.000	50.109	-0.2	93	0.00
26	t	n-Pentacosane (C25)	50.000	50.122	-0.2	93	0.00
27	t	n-Hexacosane (C26)	50.000	50.208	-0.4	93	0.00
28	t	n-Heptacosane (C27)	50.000	50.248	-0.5	93	0.00
29	t	n-Octacosane (C28)	50.000	50.185	-0.4	93	0.00
30	t	n-Nonacosane (C29)	50.000	50.313	-0.6	93	0.00
31	t	n-Triacontane (C30)	50.000	50.532	-1.1	93	0.00
32	t	n-Hentriacontane (C31)	50.000	50.656	-1.3	93	0.00
33	t	n-Dotriacontane (C32)	50.000	50.827	-1.7	94	0.00
34	t	n-Tritriacontane (C33)	50.000	50.977	-2.0	94	0.00
35	t	n-tetratriacontane (C34)	50.000	51.208	-2.4	94	0.00
36	t	n-Pentatriacontane (C35)	50.000	51.393	-2.8	95	0.00
37	t	n-Hexatriacontane (C36)	50.000	51.958	-3.9	95	0.00
38	t	n-Heptatriacontane (C37)	50.000	52.023	-4.0	96	0.00
39	t	n-Octatriacontane (C38)	50.000	51.760	-3.5	96	0.00
41	t	n-Tetracontane (C40)	50.000	52.969	-5.9	97	0.00

Evaluate Continuing Calibration Report - Not Founds

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Mass Discrimination (Response)	Ratio	Range Limits
n-Hexatriacontane (C36) to n-Eicosane (C20)	1.06	0.85 - 1.15

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916005.D
Signal(s) : FID2B.CH
Acq On : 29 Mar 2016 2:49 pm
Operator : FID9:DP
Sample : C903291601R
Misc : FRAW85 50ug/mL
ALS Vial : 53 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 16:57:11 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:30:17 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Sub List : CCAL - CCAL

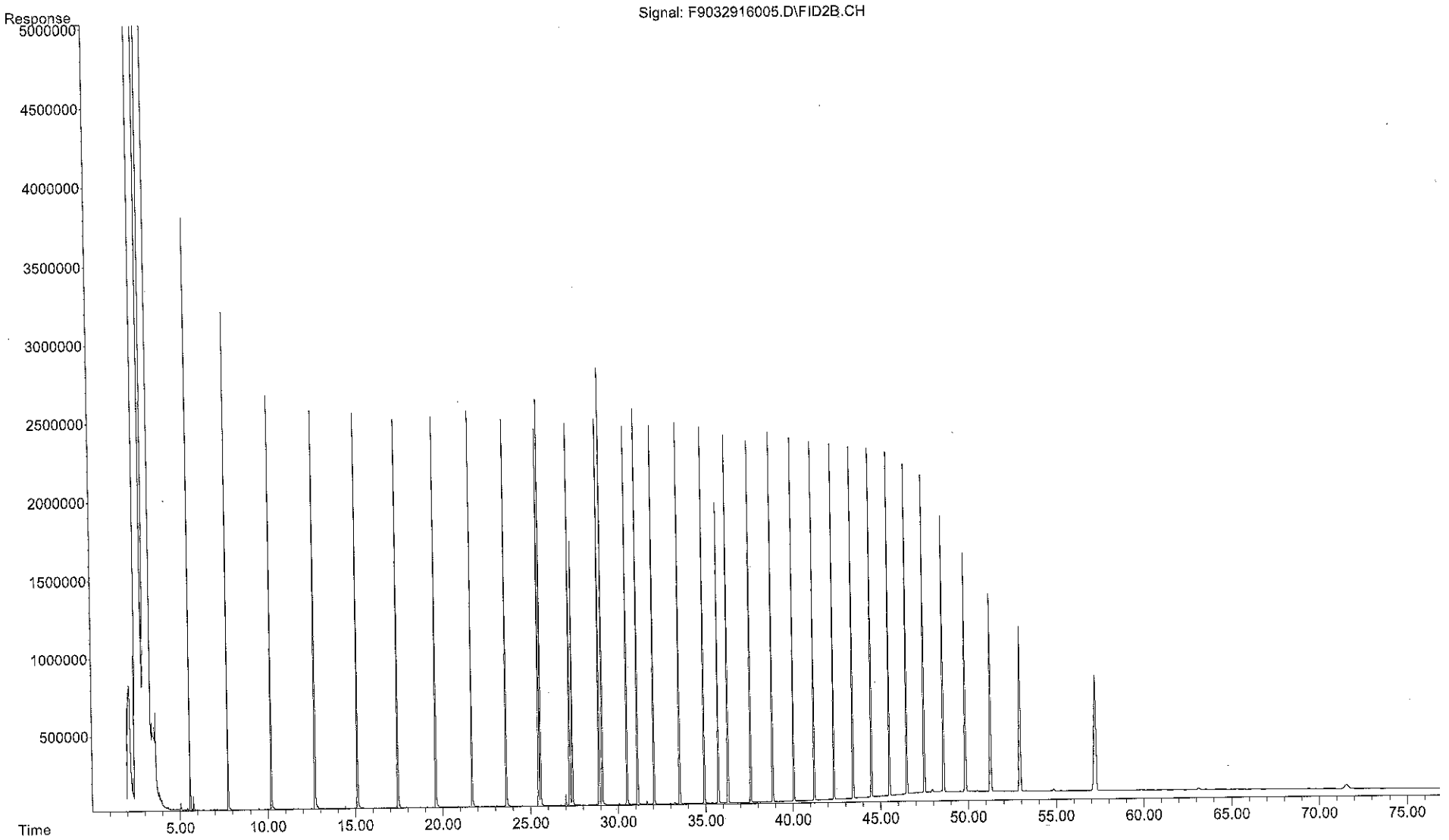
	Compound	R.T.	Response	Conc Units
	Internal Standards			
1) I	5-alpha-androstane	31.123	58432269	50.000 ug/mL M4
	System Monitoring Compounds			
19) s	ortho-terphenyl	29.108	61211714	49.041 ug/mL M4
Spiked Amount	50.000 Range 50 - 130		Recovery =	98.08%
24) s	d50-Tetracosane	35.746	51640934	49.676 ug/mL M4
Spiked Amount	50.000 Range 50 - 130		Recovery =	99.35%
	Target Compounds			
2) t	n-Octane (C8)	5.567	47580344	50.424 ug/mL M4
3) t	n-Nonane (C9)	7.748	48689285	48.604 ug/mL M4
4) t	n-Decane (C10)	10.212	50728999	48.561 ug/mL M4
5) t	n-Undecane (C11)	12.715	51611644	49.064 ug/mL M4
6) t	n-Dodecane (C12)	15.136	52529751	49.319 ug/mL M4
7) t	n-Tridecane (C13)	17.436	52792342	49.340 ug/mL M4
9) t	n-Tetradecane (C14)	19.613	53354932	49.426 ug/mL M4
11) t	n-Pentadecane (C15)	21.674	54658196	49.886 ug/mL M4
12) t	n-Hexadecane (C16)	23.626	54457771	49.954 ug/mL M4
14) t	n-Heptadecane (C17)	25.480	53873539	49.096 ug/mL M4
15) t	Pristane	25.589	55527617	50.526 ug/mL M4
16) t	n-Octadecane (C18)	27.243	55418191	49.887 ug/mL M4
17) t	Phytane	27.403	48686686	50.010 ug/mL M4
18) t	n-Nonadecane (C19)	28.924	55013831	49.960 ug/mL M4
20) t	n-Eicosane (C20)	30.526	55039998	50.164 ug/mL M4
21) t	n-Heneicosane (C21)	32.058	55489001	50.232 ug/mL M4
22) t	n-Docosane (C22)	33.528	55728045	50.080 ug/mL M4
23) t	n-Tricosane (C23)	34.937	56114722	50.180 ug/mL M4
25) t	n-Tetracosane (C24)	36.293	56162529	50.109 ug/mL M4
26) t	n-Pentacosane (C25)	37.594	55753814	50.122 ug/mL M4
27) t	n-Hexacosane (C26)	38.848	56864150	50.208 ug/mL M4
28) t	n-Heptacosane (C27)	40.057	56160631	50.248 ug/mL M4
29) t	n-Octacosane (C28)	41.225	56086714	50.185 ug/mL M4
30) t	n-Nonacosane (C29)	42.352	56237394	50.313 ug/mL M4
31) t	n-Triacontane (C30)	43.443	56398055	50.532 ug/mL M4
32) t	n-Hentriacontane (C31)	44.501	56423358	50.656 ug/mL M4
33) t	n-Dotriacontane (C32)	45.526	56927743	50.827 ug/mL M4
34) t	n-Tritriacontane (C33)	46.518	53800761	50.977 ug/mL M4
35) t	n-tetratriacontane (C34)	47.507	56353360	51.208 ug/mL M4
36) t	n-Pentatriacontane (C35)	48.605	56785877	51.393 ug/mL M4
37) t	n-Hexatriacontane (C36)	49.854	58540698	51.958 ug/mL M4
38) t	n-Heptatriacontane (C37)	51.294	57218948	52.023 ug/mL M4
39) t	n-Octatriacontane (C38)	52.972	56096747	51.760 ug/mL M4
41) t	n-Tetracontane (C40)	57.264	58476055	52.969 ug/mL M4

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916005.D
Operator : FID9:DP
Acquired : 29 Mar 2016 2:49 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : C903291601R
Misc Info : FRAW85 50ug/mL
ALS Vial : 53



Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916027.D
Signal(s) : FID2B.CH
Acq On : 30 Mar 2016 6:52 am
Operator : FID9:DP
Sample : C903291602R
Misc : FRAW85 50ug/mL
ALS Vial : 64 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 16:32:21 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:32:10 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1	I	5-alpha-androstane	50.000	50.000	0.0	92	-0.01
2	t	n-Octane (C8)	50.000	49.545	0.9	90	0.00
3	t	n-Nonane (C9)	50.000	47.998	4.0	87	0.00
4	t	n-Decane (C10)	50.000	48.036	3.9	87	0.00
5	t	n-Undecane (C11)	50.000	48.633	2.7	88	0.00
6	t	n-Dodecane (C12)	50.000	48.821	2.4	88	0.00
7	t	n-Tridecane (C13)	50.000	48.779	2.4	88	0.00
9	t	n-Tetradecane (C14)	50.000	48.834	2.3	88	0.00
11	t	n-Pentadecane (C15)	50.000	49.160	1.7	89	0.00
12	t	n-Hexadecane (C16)	50.000	49.365	1.3	89	0.00
14	t	n-Heptadecane (C17)	50.000	48.386	3.2	87	0.00
15	t	Pristane	50.000	50.186	-0.4	90	0.00
16	t	n-Octadecane (C18)	50.000	49.314	1.4	89	0.00
17	t	Phytane	50.000	49.824	0.4	90	0.00
18	t	n-Nonadecane (C19)	50.000	49.379	1.2	89	0.00
19	s	ortho-terphenyl	50.000	48.555	2.9	89	0.00
20	t	n-Eicosane (C20)	50.000	49.849	0.3	90	0.00
21	t	n-Heneicosane (C21)	50.000	49.888	0.2	90	0.00
22	t	n-Docosane (C22)	50.000	49.812	0.4	90	-0.01
23	t	n-Tricosane (C23)	50.000	49.995	0.0	90	-0.01
24	s	d50-Tetracosane	50.000	49.479	1.0	90	-0.01
25	t	n-Tetracosane (C24)	50.000	49.993	0.0	90	-0.01
26	t	n-Pentacosane (C25)	50.000	49.979	0.0	90	-0.01
27	t	n-Hexacosane (C26)	50.000	50.121	-0.2	90	-0.01
28	t	n-Heptacosane (C27)	50.000	50.250	-0.5	90	-0.01
29	t	n-Octacosane (C28)	50.000	50.031	-0.1	90	-0.01
30	t	n-Nonacosane (C29)	50.000	50.363	-0.7	90	-0.01
31	t	n-Triacontane (C30)	50.000	50.639	-1.3	91	-0.01
32	t	n-Hentriacontane (C31)	50.000	50.818	-1.6	91	-0.01
33	t	n-Dotriacontane (C32)	50.000	51.077	-2.2	92	-0.01
34	t	n-Tritriacontane (C33)	50.000	51.330	-2.7	92	-0.01
35	t	n-tetratriacontane (C34)	50.000	51.369	-2.7	92	-0.02
36	t	n-Pentatriacontane (C35)	50.000	51.666	-3.3	93	-0.02
37	t	n-Hexatriacontane (C36)	50.000	52.165	-4.3	93	-0.02
38	t	n-Heptatriacontane (C37)	50.000	52.260	-4.5	94	-0.02
39	t	n-Octatriacontane (C38)	50.000	51.998	-4.0	94	-0.03
41	t	n-Tetracontane (C40)	50.000	53.217	-6.4	95	-0.03

Evaluate Continuing Calibration Report - Not Founds

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Mass Discrimination (Response)	Ratio	Range Limits
n-Hexatriacontane (C36) to n-Eicosane (C20)	1.07	0.85 - 1.15

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916027.D
Signal(s) : FID2B.CH
Acq On : 30 Mar 2016 6:52 am
Operator : FID9:DP
Sample : C903291602R
Misc : FRAW85 50ug/mL
ALS Vial : 64 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 16:32:21 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:32:10 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Sub List : CCAL - CCAL

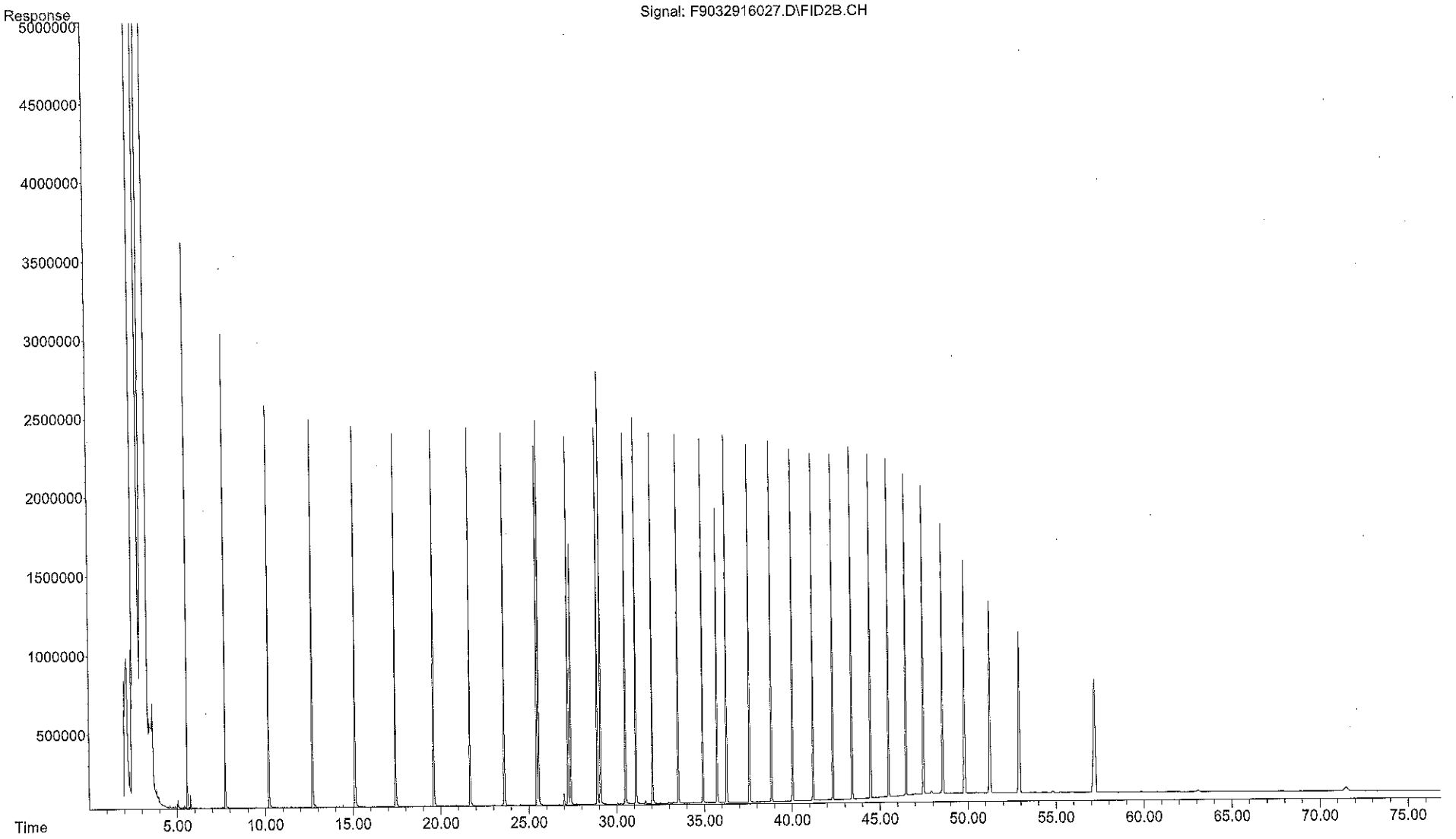
Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	31.113	56881055	50.000 ug/mL M4
System Monitoring Compounds			
19) s ortho-terphenyl	29.098	58996202	48.555 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	97.11%
24) s d50-Tetracosane	35.736	50070450	49.479 ug/mL M4
Spiked Amount 50.000	Range 50 - 130	Recovery =	98.96%
Target Compounds			
2) t n-Octane (C8)	5.562	45510386	49.545 ug/mL M4
3) t n-Nonane (C9)	7.743	46806409	47.998 ug/mL M4
4) t n-Decane (C10)	10.208	48848220	48.036 ug/mL M4
5) t n-Undecane (C11)	12.709	49800127	48.633 ug/mL M4
6) t n-Dodecane (C12)	15.130	50618345	48.821 ug/mL M4
7) t n-Tridecane (C13)	17.429	50806184	48.779 ug/mL M4
9) t n-Tetradecane (C14)	19.607	51316299	48.834 ug/mL M4
11) t n-Pentadecane (C15)	21.667	52433158	49.160 ug/mL M4
12) t n-Hexadecane (C16)	23.617	52386427	49.365 ug/mL M4
14) t n-Heptadecane (C17)	25.472	51685310	48.386 ug/mL M4
15) t Pristane	25.580	53689542	50.186 ug/mL M4
16) t n-Octadecane (C18)	27.234	53327483	49.314 ug/mL M4
17) t Phytane	27.394	47217714	49.824 ug/mL M4
18) t n-Nonadecane (C19)	28.915	52931320	49.379 ug/mL M4
20) t n-Eicosane (C20)	30.516	53242543	49.849 ug/mL M4
21) t n-Heneicosane (C21)	32.049	53646911	49.888 ug/mL M4
22) t n-Docosane (C22)	33.517	53958251	49.812 ug/mL M4
23) t n-Tricosane (C23)	34.927	54423731	49.995 ug/mL M4
25) t n-Tetracosane (C24)	36.281	54544870	49.993 ug/mL M4
26) t n-Pentacosane (C25)	37.582	54118563	49.979 ug/mL M4
27) t n-Hexacosane (C26)	38.837	55259027	50.121 ug/mL M4
28) t n-Heptacosane (C27)	40.045	54672129	50.250 ug/mL M4
29) t n-Octacosane (C28)	41.213	54430537	50.031 ug/mL M4
30) t n-Nonacosane (C29)	42.340	54799081	50.363 ug/mL M4
31) t n-Triacontane (C30)	43.430	55017147	50.639 ug/mL M4
32) t n-Hentriacontane (C31)	44.488	55101188	50.818 ug/mL M4
33) t n-Dotriacontane (C32)	45.512	55688883	51.077 ug/mL M4
34) t n-Tritriacontane (C33)	46.504	52735144	51.330 ug/mL M4
35) t n-tetratriacontane (C34)	47.492	55029209	51.369 ug/mL M4
36) t n-Pentatriacontane (C35)	48.585	55572624	51.666 ug/mL M4
37) t n-Hexatriacontane (C36)	49.834	57213744	52.165 ug/mL M4
38) t n-Heptatriacontane (C37)	51.269	55954332	52.260 ug/mL M4
39) t n-Octatriacontane (C38)	52.944	54859304	51.998 ug/mL M4
41) t n-Tetracontane (C40)	57.232	57190394	53.217 ug/mL M4

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916027.D
Operator : FID9:DP
Acquired : 30 Mar 2016 6:52 am using AcqMethod FID9A.M
Instrument: FID 9
Sample : C903291602R
Misc Info : FRAW85 50ug/mL
ALS Vial : 64



Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916049.D
Signal(s) : FID2B.CH
Acq On : 30 Mar 2016 10:57 pm
Operator : FID9:DP
Sample : C903291603R
Misc : FRAW85 50ug/mL
ALS Vial : 75 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 16:34:03 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:33:53 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1	I	5-alpha-androstane	50.000	50.000	0.0	91	0.00
2	t	n-Octane (C8)	50.000	47.644	4.7	86	0.00
3	t	n-Nonane (C9)	50.000	46.694	6.6	84	0.00
4	t	n-Decane (C10)	50.000	47.184	5.6	84	0.00
5	t	n-Undecane (C11)	50.000	48.004	4.0	85	0.00
6	t	n-Dodecane (C12)	50.000	48.477	3.0	86	0.00
7	t	n-Tridecane (C13)	50.000	48.869	2.3	87	0.00
9	t	n-Tetradecane (C14)	50.000	49.128	1.7	87	0.00
11	t	n-Pentadecane (C15)	50.000	49.294	1.4	87	0.00
12	t	n-Hexadecane (C16)	50.000	49.590	0.8	88	0.00
14	t	n-Heptadecane (C17)	50.000	48.935	2.1	87	0.00
15	t	Pristane	50.000	50.482	-1.0	89	0.00
16	t	n-Octadecane (C18)	50.000	50.003	-0.0	89	0.00
17	t	Phytane	50.000	50.222	-0.4	89	0.00
18	t	n-Nonadecane (C19)	50.000	49.859	0.3	88	0.00
19	s	ortho-terphenyl	50.000	48.954	2.1	88	0.00
20	t	n-Eicosane (C20)	50.000	49.942	0.1	89	0.00
21	t	n-Heneicosane (C21)	50.000	50.184	-0.4	89	0.00
22	t	n-Docosane (C22)	50.000	50.051	-0.1	89	0.00
23	t	n-Tricosane (C23)	50.000	50.224	-0.4	89	0.00
24	s	d50-Tetracosane	50.000	49.431	1.1	89	0.00
25	t	n-Tetracosane (C24)	50.000	50.100	-0.2	89	0.00
26	t	n-Pentacosane (C25)	50.000	50.101	-0.2	89	0.00
27	t	n-Hexacosane (C26)	50.000	50.200	-0.4	89	0.00
28	t	n-Heptacosane (C27)	50.000	50.286	-0.6	89	0.00
29	t	n-Octacosane (C28)	50.000	50.076	-0.2	89	0.00
30	t	n-Nonacosane (C29)	50.000	50.163	-0.3	89	0.00
31	t	n-Triacontane (C30)	50.000	50.354	-0.7	89	0.00
32	t	n-Hentriacontane (C31)	50.000	50.448	-0.9	89	0.00
33	t	n-Dotriacontane (C32)	50.000	50.548	-1.1	89	0.00
34	t	n-Tritriacontane (C33)	50.000	50.703	-1.4	90	0.00
35	t	n-tetratriacontane (C34)	50.000	50.911	-1.8	90	0.00
36	t	n-Pentatriacontane (C35)	50.000	51.195	-2.4	91	0.00
37	t	n-Hexatriacontane (C36)	50.000	51.629	-3.3	91	0.01
38	t	n-Heptatriacontane (C37)	50.000	51.651	-3.3	91	0.01
39	t	n-Octatriacontane (C38)	50.000	51.526	-3.1	92	0.02
41	t	n-Tetracontane (C40)	50.000	52.519	-5.0	92	0.02

Evaluate Continuing Calibration Report - Not Founds

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Mass Discrimination (Response)	Ratio	Range Limits
n-Hexatriacontane (C36) to n-Eicosane (C20)	1.06	0.85 - 1.15

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916049.D
Signal(s) : FID2B.CH
Acq On : 30 Mar 2016 10:57 pm
Operator : FID9:DP
Sample : C903291603R
Misc : FRAW85 50ug/mL
ALS Vial : 75 Sample Multiplier: 1

Integration File: SHCINT2.E
Quant Time: Mar 31 16:34:03 2016
Quant Method : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\HC9102015R.M
Quant Title : FID Forensics
QLast Update : Thu Mar 31 16:33:53 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1.0
Signal Phase : Rtx-5MS
Signal Info : 0.25mm

Sub List : CCAL - CCAL

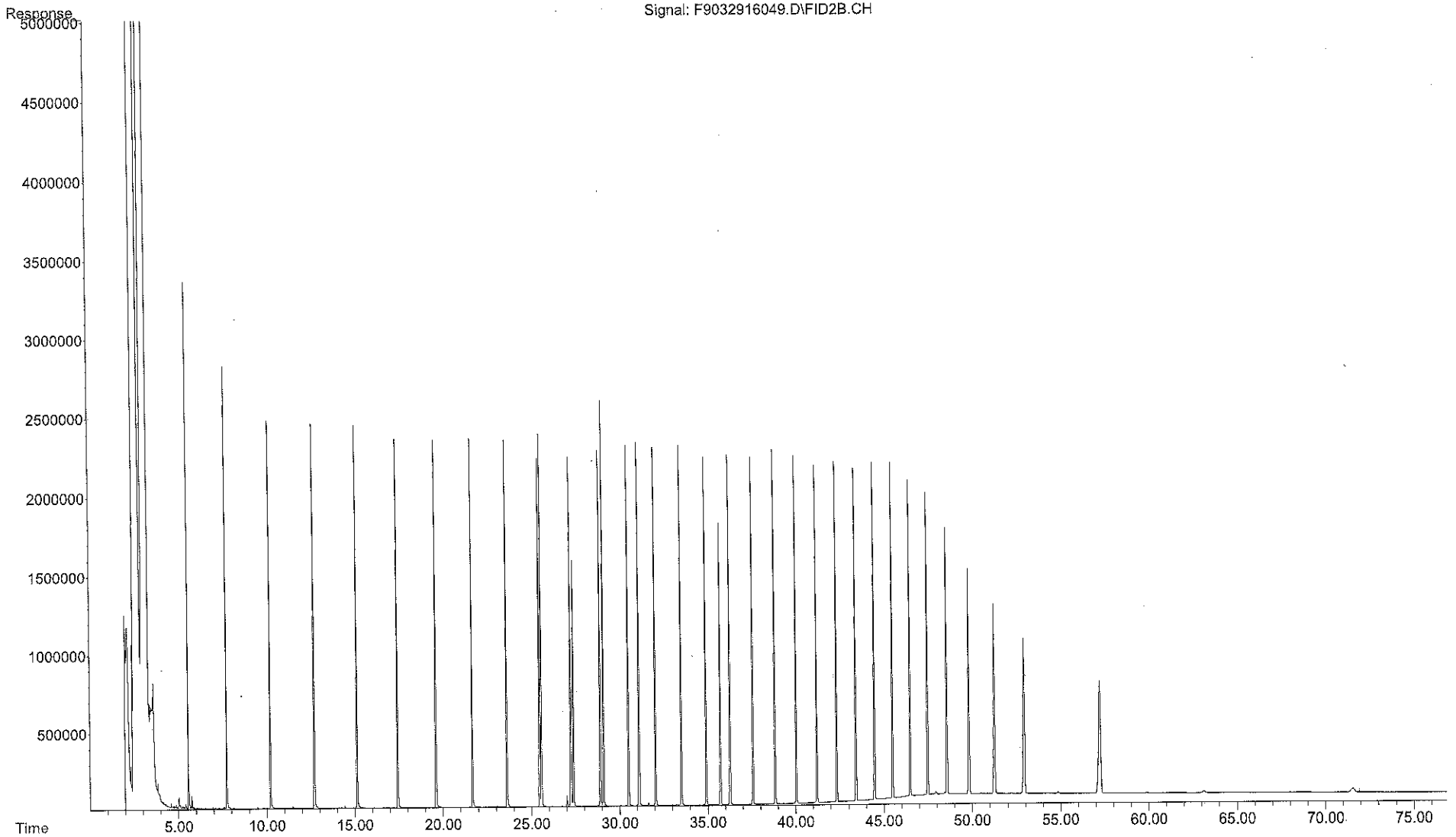
	Compound	R.T.	Response	Conc Units
	Internal Standards			
1) I	5-alpha-androstane	31.120	56014623	50.000 ug/mL M4
	System Monitoring Compounds			
19) s	ortho-terphenyl	29.103	58574849	48.954 ug/mL M4
Spiked Amount	50.000 Range	50 - 130	Recovery =	97.91%
24) s	d50-Tetracosane	35.740	49260138	49.431 ug/mL M4
Spiked Amount	50.000 Range	50 - 130	Recovery =	98.86%
	Target Compounds			
2) t	n-Octane (C8)	5.556	43096788	47.644 ug/mL M4
3) t	n-Nonane (C9)	7.741	44840920	46.694 ug/mL M4
4) t	n-Decane (C10)	10.210	47250398	47.184 ug/mL M4
5) t	n-Undecane (C11)	12.712	48407423	48.004 ug/mL M4
6) t	n-Dodecane (C12)	15.133	49496480	48.477 ug/mL M4
7) t	n-Tridecane (C13)	17.433	50124474	48.869 ug/mL M4
9) t	n-Tetradecane (C14)	19.611	50839586	49.128 ug/mL M4
11) t	n-Pentadecane (C15)	21.670	51775150	49.294 ug/mL M4
12) t	n-Hexadecane (C16)	23.622	51824398	49.590 ug/mL M4
14) t	n-Heptadecane (C17)	25.476	51476058	48.935 ug/mL M4
15) t	Pristane	25.584	53184101	50.482 ug/mL M4
16) t	n-Octadecane (C18)	27.238	53249121	50.003 ug/mL M4
17) t	Phytane	27.400	46870156	50.222 ug/mL M4
18) t	n-Nonadecane (C19)	28.919	52631020	49.859 ug/mL M4
20) t	n-Eicosane (C20)	30.521	52529252	49.942 ug/mL M4
21) t	n-Heneicosane (C21)	32.055	53142513	50.184 ug/mL M4
22) t	n-Docosane (C22)	33.523	53390492	50.051 ug/mL M4
23) t	n-Tricosane (C23)	34.932	53839771	50.224 ug/mL M4
25) t	n-Tetracosane (C24)	36.287	53829261	50.100 ug/mL M4
26) t	n-Pentacosane (C25)	37.589	53424136	50.101 ug/mL M4
27) t	n-Hexacosane (C26)	38.842	54503537	50.200 ug/mL M4
28) t	n-Heptacosane (C27)	40.052	53878055	50.286 ug/mL M4
29) t	n-Octacosane (C28)	41.219	53649314	50.076 ug/mL M4
30) t	n-Nonacosane (C29)	42.345	53749958	50.163 ug/mL M4
31) t	n-Triacontane (C30)	43.440	53874383	50.354 ug/mL M4
32) t	n-Hentriacontane (C31)	44.494	53867347	50.448 ug/mL M4
33) t	n-Dotriacontane (C32)	45.520	54272471	50.548 ug/mL M4
34) t	n-Tritriacontane (C33)	46.511	51296841	50.703 ug/mL M4
35) t	n-tetratriacontane (C34)	47.501	53708437	50.911 ug/mL M4
36) t	n-Pentatriacontane (C35)	48.594	54226699	51.195 ug/mL M3
37) t	n-Hexatriacontane (C36)	49.845	55763881	51.629 ug/mL M4
38) t	n-Heptatriacontane (C37)	51.282	54459257	51.651 ug/mL M4
39) t	n-Octatriacontane (C38)	52.962	53533268	51.526 ug/mL M4
41) t	n-Tetracontane (C40)	57.253	55580397	52.519 ug/mL M4

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\FID9\2016\MAR\MAR29.SEC\
Data File : F9032916049.D
Operator : FID9:DP
Acquired : 30 Mar 2016 10:57 pm using AcqMethod FID9A.M
Instrument: FID 9
Sample : C903291603R
Misc Info : FRAW85 50ug/mL
ALS Vial : 75



Chain of Custody Records

CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab:

ALPHA Job #: 16030006

ALPHA ANALYTICAL

8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Client Information

Client: Roux Associates
Address: 12 Gill St #4700
Wobum, MA 01801
Phone: 781-569-4032
Email: mcasey@rouxinc.com

Project Information

Project Name: Rochester Vacuum Oil Terminal
Project Location: Rochester, NY
Project #: 0172.0180M008
Project Manager: Matt Casey
ALPHA Quote #:

Turn-Around Time

☐ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due:

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Additional Project Information:

Newfields Forensic Analysis

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials
16030006-01	RX-1	3.11.16	0950	SO	MC
02	RX-2	3.11.16	1030		MC
03	RX-3	3.11.16	1100		MC
04	RX-4	3.11.16	11:20		MC
05	RX-5	3.11.16	1230		MC
06	RX-6	3.11.16	110		MC
07	RX-7	3.11.16	300		MC
08	RX-7A	3.11.16	300		MC
09	RX-7B	3.11.16	300		MC
10	RX-8	3.11.16	340		MC

ANALYSIS

VOC: ☐ 8260 ☐ 624 ☐ 524.2
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST
TPH: ☐ Quant Only ☐ Fingerprint

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

Sample Comments

TOTAL # BOTTLES

01	✓	✓	✓	✓	✓	✓	✓	✓									
02	✓	✓	✓	✓	✓	✓	✓	✓									
03	-	✓	✓	✓	✓	✓	✓	✓									
04	✓	✓	✓	✓	✓	✓	✓	✓									
05	✓	✓	✓	✓	✓	✓	✓	✓									
06	✓	✓	✓	✓	✓	✓	✓	✓									10
07	✓	✓	✓	✓	✓	✓	✓	✓									10
08	✓	✓	✓	✓	✓	✓	✓	✓									
09	✓	✓	✓	✓	✓	✓	✓	✓									
10	✓	✓	✓	✓	✓	✓	✓	✓									
Container Type																	
Preservative																	

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Matthew Casey MC	3.14.16 1pm	[illegible] Casey	3.14.16 1pm
Casey	3/14/16 1400	[illegible]	3/14/16 1600
[illegible] AAC	3/14/16 1750	[illegible] AAC	3/14/16 1700
[illegible]	3/15/16 0325	[illegible]	3.15.16 0325

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Date Rec'd in Lab:

ALPHA Job #: L1603006 / L1607393

Client Information

Client: Roux Associates
Address: 12 Gill St #4700
Woburn, MA 01801
Phone: 781-569-4032
Email: mcasey@rouxinc.com

Project Information

Project Name: Rochester, Vacuum Oil Terminal
Project Location: Rochester, NY
Project #: 0172.0180.0008
Project Manager: Matt Casey
ALPHA Quote #:

Turn-Around Time

X Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due:

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Additional Project Information:

Newfields Forensic Analysis

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC: ☐ 8260 ☐ 624 ☐ 524.2	SVOC: ☐ ABN ☐ PAH	METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	☐ PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	Sample Comments	TOTAL # BOTTLES
1603006-11	RX-8A	3.11.16	3:40	SO	MC	✓	✓	✓	✓	✓	✓	✓	✓		
12	RX-8B	3.11.16	3:40	SO	MC	✓	✓	✓	✓	—	✓	—	✓		
L1607393-01	RX GW 1	3.11.16	1200	H_2O	MC	✓	✓	✓	✓	—	✓	—	—		
02	RX GW 2	3.11.16	2:10	H_2O	MC	✓	✓	✓	✓	—	✓	—	✓		
03	RX GW 3	3.11.16	415	H_2O	MC	✓	✓	✓	✓	—	✓	—	—		
	Trip	3.11.16	0900	SO / H_2O	MC	✓	✓								

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

Container Type															
Preservative															

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Matthew Casey	3.14.16 1PM		3-14-16 1PM
	3/14/16 1400	ADL	3-14-16 1610
	3/14/16 1700		3/14/16 1700
	3/15/16 0325		3.15.16 03:25

All samples submitted are subject to Alpha's Terms and Conditions.
See reverse side.

ALPHA ANALYTICAL

Sample Delivery Group Form

Laboratory Job No: 1603006 Client: Newfield

Receipt Date/Time: 3-14-16 2:00pm SDG Reviewer: kd

Samples Delivered By:

[X] Alpha Courier [ ] Client [ ] UPS [ ] FedEx [ ] Other _____

Bill of Laden: [ ]Yes [ ] Unavailable Tracking #: NA

Chain of Custody: [X] Present [ ] Absent: _____

Custody Seals: [X] Absent [ ] Present/Intact [ ] Present/Broken

Cooler/Sample Temperature:

Is Ice/Blue Ice present? [X] Yes [ ] No [ ] N/A _____

Temp taken from: Temp Blank:(a)_____ (b)_____ (c)_____ (d)_____ (e)_____

IR Gun: (a) 4.6°C (b)_____ (c)_____ (d)_____ (e)_____

IR Gun SN (circle one): ~~090512810~~ ~~100311463~~ 140609849

Was Temp: [X] 2-6 Celsius

[ ] <2 Celsius ... were samples frozen upon receipt? [ ] Yes [ ] No

[ ] >6 Celsius ... were samples delivered direct from site? [ ] Yes [ ] No

Containers Received: [X] Intact

[ ] Broken/Leaking Sample IDs: _____

Sample IDs: _____

All Containers Accounted For? [X] Yes

[ ] No: _____

Extra Samples Received? [X] No

[ ] Yes: _____

Do Sample Labels and COC agree? [X] Yes

[ ] No: _____

Are Samples in Appropriate Containers? [ ] Yes

[X] No: RX GW 2 → 500mL plastic

Are samples rec'd within holding time? [X] Yes

[ ] No: _____

* Please note: the analysis of pH will always be performed beyond the regulatory-required holding time of 15 min. from the time of collection.

pH of samples upon receipt: [X] N/A [ ] <2 [ ] >12 and/or [ ] _____

Are samples properly preserved? [ ] Yes [ ] No If No then.....

Initial pH= _____ preserved In-House with [ ] HCL [ ] H_2SO_4 [ ] HNO_3 [ ] NAOH <<Final pH = _____>>

Other Issues: _____

Chlorine Check: [ ] N/A [ ] Present [ ] Absent

VOA/VPH vials: [X] Yes [ ] No Preserved? [ ] Yes [ ] No If yes: [X] HCL, [ ] _____

Aqueous: vials contain head space? [X] No [ ] Yes: _____

Soils: MeOH covering soil? [X] Yes [ ] No: _____

Reagent H_2O Preserved vials Frozen @ date/time: _____

Frozen by Client? [ ] No [ ] Yes @ date/time: _____

Was Client notified of any discrepancies listed above? [X] Yes [ ] No [ ] N/A

If Yes: Call Tracker # _____

ATTACHMENT 3
Leader's Phase II Sub-slab Investigation Report

Leader Professional Services, Inc.
271 Marsh Road, Suite 2
Pittsford, New York 14534

(585) 248-2413
(585) 248-2834 (Fax)
www.leaderlink.com

900.002

June 22, 2016

Alan J. Knauf, Esq.
Flint Redevelopment LLC
c/o Knauf Shaw LLP
1400 Crossroads Building
2 State Street
Rochester, New York 14614

Re: Supplemental Phase II Environmental Site Investigation
Sub-slab Vapor Sampling
936 Exchange Street and 22 Flint Street
Rochester, New York

Dear Mr. Knauf:

Leader Professional Services, Inc. ("Leader") has received the sample results from our Supplemental Phase II Environmental Site Investigation ("Phase II") conducted on June 2, 2016 to evaluate the sub-slab vapor impacts beneath the buildings located at the referenced property.

SCOPE OF WORK

The goal of the Phase II was to sample the sub-slab soil vapor and evaluate the potential for impacts to the indoor environment. As a result of our Phase II soil and groundwater sampling project conducted on March 10 and 11, 2016, volatile organic compounds were found and organic compounds were tentatively found and strong evidence (stains, odors and free product) of more significant contamination was present.

Also, we recognized the potential for many interferences to be present within the buildings that could cause false positives with the sample results. These interferences included the storage of bicycles and bicycle parts, vehicles, unused equipment and maintenance and cleaning products. To minimize this effect on the resulting data, no indoor air samples were collected and each sampling location was tested with Helium to ensure the sample boring was sealed from the ambient air.

Each sample was split with Roux Associates, Inc. ("Roux"), ExxonMobil's consultant. After discussing the mechanics of splitting the samples with Roux and the New York State Department of Environmental Conservation ("NYSDEC"), Roux and Leader agreed to use the same size sample Summa canisters and the same flow rate during sampling. The flow rate was set by the laboratories providing the sample flow valves and Summa canisters. The sampling train consisted of the following:

- The sampling point was selected and constructed by Leader, which included using a food and beverage grade Polyethylene tubing sealed into a 3/8 to 1/2 inch diameter hole drilled through the floor slab and into the subsurface.

- The tubing was connected to a stainless steel flow splitter provided by Roux with two legs; one leg going to Leader's and one to Roux's Summa canister. The length of food and beverage grade tubing from the splitter to the Summa canisters was approximately the same.

- The samples were collected over approximately one hour; however, the conditions of the subsurface below the floor slab and the differences between flow valves varied causing in some cases for sampling to exceed one hour. During the sampling, the regulator on the Summa canister was monitored so the vacuum remaining in the canister did not drop to zero. If one canister filled faster than the other, the canister that filled faster was closed to allow the other canister to fill.

- Each sample collected by Leader was analyzed for volatile organic compounds following USEPA Method TO-15.

Discussion

Sample locations were selected by Leader to provide information on the sub-slab vapor conditions below the buildings 936 Exchange Street and 22 Flint Street. The interior of each building was inspected prior to sampling to evaluate building conditions which might impact sampling. These conditions included holes in the floor, tenant traffic within the building area, presence of basements or crawl spaces and the sample locations relative to soil and groundwater samples collected during the previous Phase II. During the assessment, certain areas of both buildings were avoided because of the presence of a concrete floor heating system located in the southeast corner of the 936 Exchange Street building and crawl space beneath the north side of 22 Flint Street. The sampling locations are shown on Figure 1.

Prior to the collection of samples, each hole was tested to determine if the seal formed around the sample tube the day before was competent. This was determined by placing and sealing a sheet of plastic over the sample location, connecting the sample tube to an instrument with a Helium detector, and then introducing Helium beneath the plastic sheet and monitoring the Helium detector. The monitoring was performed for several minutes. If Helium was detected then the seal was repaired and retested. Following seal testing the soil vapor was measured using a Mini Rae 3000 volatile organic analyzer using a photoionization detector ("PID") with a 10.6 electron volt lamp.

The results of the TO-15 analysis and the PID measurements are shown on Table 1. In general, the PID measurements did not show any elevated concentrations. The laboratory report for the testing is provided in Attachment 1. In general, the most significant of the results is the presence of chlorinated solvents: Tetrachloroethene ranging in concentration from 1.73 $\mu g/m^3$ to 652.0

micrograms per cubic meter ("µg/m^3"); Trichloroethene ranging in concentration from 1.26 µg/m^3 to 1,230.0 µg/m^3; cis-1,2-Dichloroethene found at 9.13 µg/m^3 and 247.0 µg/m^3; Trans 1,2-Dichlorothene was found at 4.77 µg/m^{3}and 9.78 µg/m^3. Figure 2 provides the distribution of the chlorinated solvents on the site.

Petroleum related products were also found widespread across the site. These included: Benzene was found at concentrations ranging from 0.684 µg/m^3 to 7.43 µg/m^3; Toluene was found at concentrations ranging from 1.5 µg/m^3 to 37.8 µg/m^3; M&P Xylene was found at concentrations ranging from 2.67 µg/m^3 to 18.2 µg/m^3; O-Xylene was found at concentrations ranging from 1.2 µg/m^3 to 6.96 µg/m^3; Trimethylbenzenes were found at concentrations ranging from 1.08 µg/m^3 to 7.64 µg/m^3; and Ethylbenzene was found at two locations at 2.72 µg/m^3 and 4.82 µg/m^3.

Other compounds were also found at relatively low concentrations. The following are of interest because of their detected concentration, but also because they were all found at location SV-7 located at 22 Flint Street at the southernmost end of the building: Acetone was found at a concentration of 22.4 µg/m^3; Ethanol was found at a concentration of 109.0 µg/m^3; Heptane was found at a concentration of 5.79 µg/m^3; N-Hexane was found at a concentration of 20.2 µg/m^3; Methylene Chloride was found at a concentration of 40.8 µg/m^3 (also found at lower concentrations in sample blanks); 2-Butanone was found at a concentration of 16.0 µg/m^3; 2-Propanol was found at a concentration of 9.81 µg/m^3; and 2,2,4-Trimethylpentane was found at a concentration of 10.3 µg/m^3.

Findings

NYSDEC and the New York State Department of Health ("NYSDOH") has not developed guidelines or standards for sub-slab soil vapor samples to compare to the sample results. The United States Environmental Protection Agency ("USEPA") has screening levels for shallow soil gas concentrations which are used in their vapor intrusion attenuation models to meet risk based indoor air quality values.[1] The risk-based shallow soil gas values use a risk of 10^{-5} which would be suitable for a commercial building setting. Comparing the results to the risk-based shallow soil gas values, three compounds appear potentially problematic: Chloroform, Trichloroethene and Tetrachloroethene.

Aside from the potential health risks, the sampling results show that the Site has widespread contamination, potentially from various sources.

[1] USEPA Office of Solid Waste and Emergency Response, "Draft Guidance for Evaluating the Vapor to Indoor Air Pathway from Groundwater and Soils,"
November 2002.

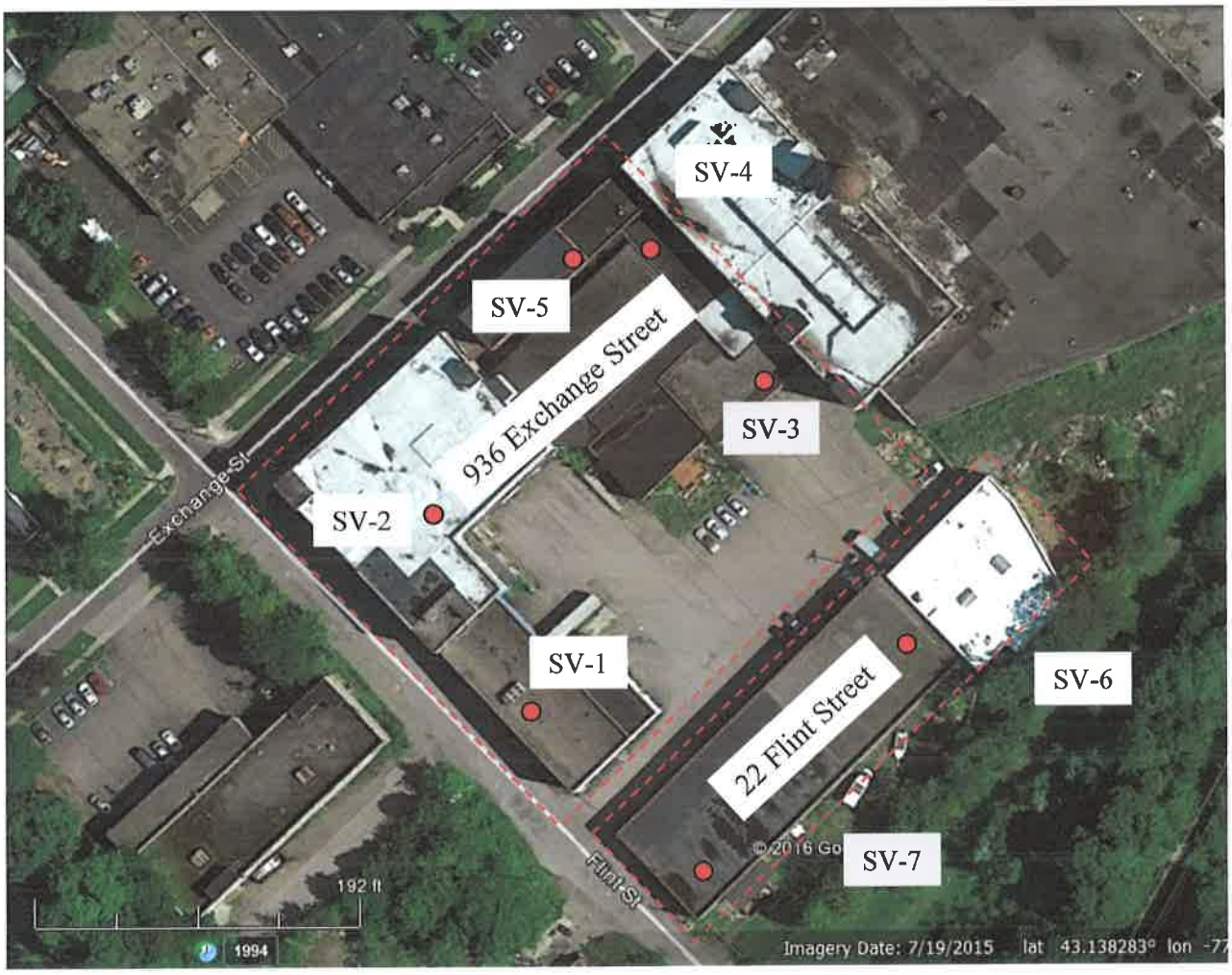
We appreciate the opportunity to conduct the investigation and provide you with this report. Please call us at (585) 248-2413 if you have any questions or comments.

Very truly yours,
LEADER PROFESSIONAL SERVICES, INC.

Peter von Schondorf
Senior Project Manager

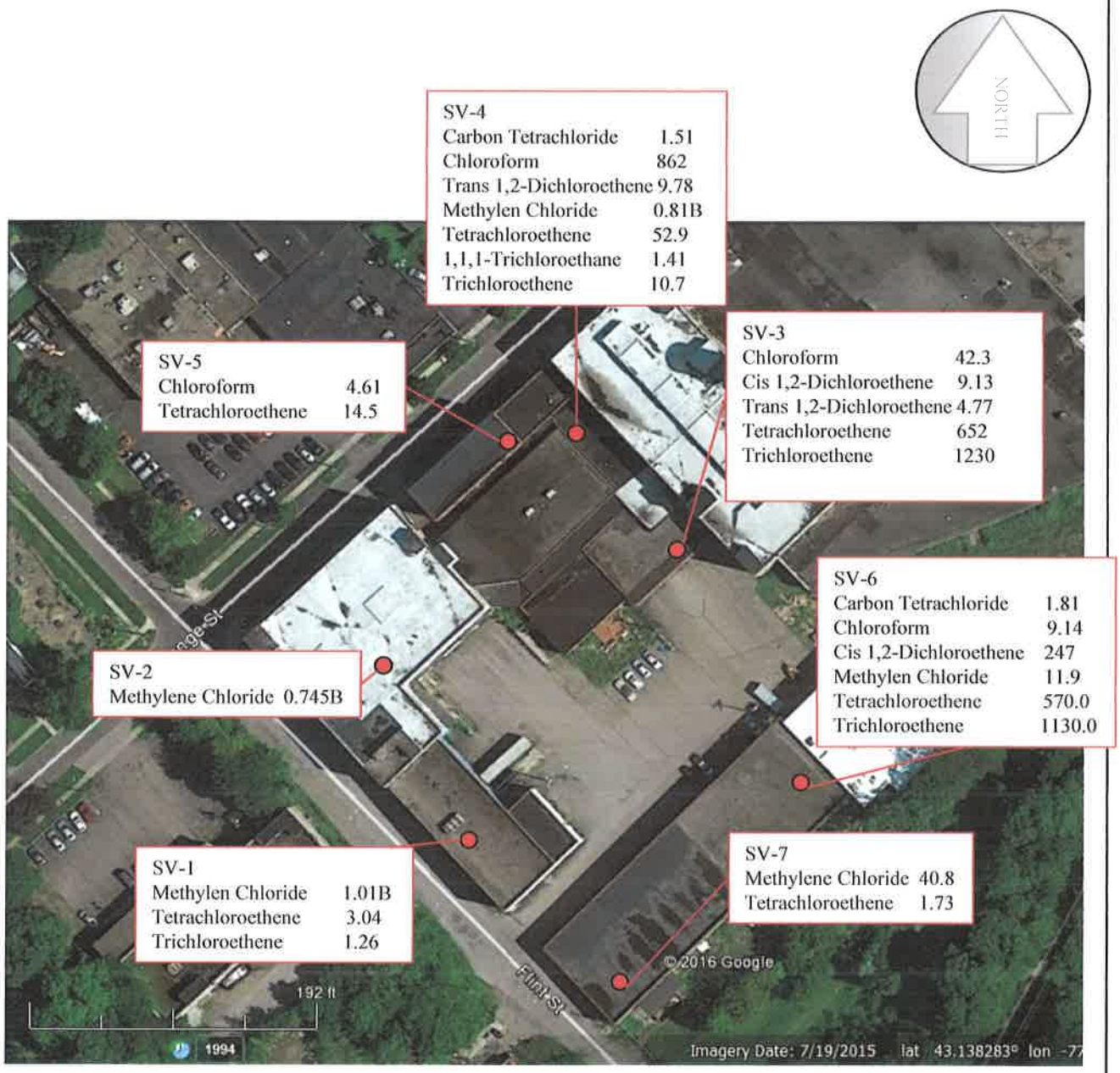
Michael P. Rumrill
President

Enclosures as noted



● SV-1 = Sub-slab Vapor Sampling Location

Title: Soil Vapor Sample Location Map 22 Flint Street and 936 Exchange Street Rochester, New York	LEADER Leader Professional Services 271 Marsh Road, Suite 2 Pittsford, NY 14534 (585) 248-2413 FAX (585) 248-2834	Project: 900.002 Date: 6/16/16 Scale: NTS	Drawn: PVS Checked: MPR File Name: Site Map	Figure: 1
Prepared For: Flint Redevelopment, LLC 1400 Crossroads Building Rochester, New York				

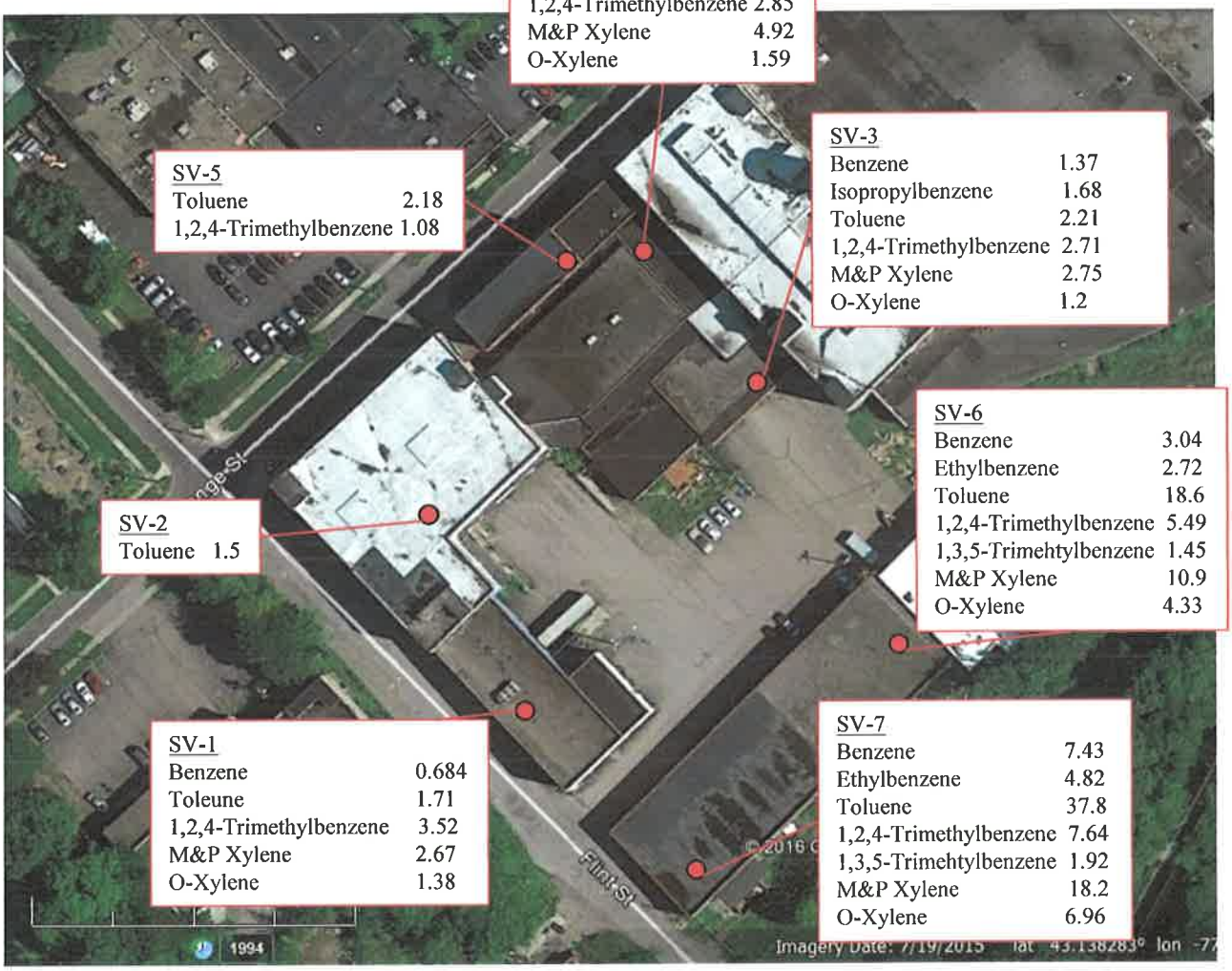


● SV-1 = Sub-slab Vapor Sampling Location

All concentrations shown in units of micrograms per cubic meter.

B = Compound was found with the laboratory blank analyzed with the sample and is a possible laboratory contaminant.

Title: Chlorinated Solvent Contaminants Concentrations and their Locations 22 Flint Street and 936 Exchange Street	LEADER Leader Professional Services 271 Marsh Road, Suite 2 Pittsford, NY 14534 (585) 248-2413 FAX (585) 248-2834	Project 900.002	Drawn PVS	Figure 2
Prepared For: Flint Redevelopment, LLC 1400 Crossroads Building Rochester, New York		Date 6/16/16	Checked MPR	
		Scale NTS	File Name Site Map	



● SV-1 = Sub-slab Vapor Sampling Location

All concentrations shown in units of micrograms per cubic meter.

Title: Petroleum Related Contaminants Concentrations and Locations 22 Flint Street and 936 Exchange Street	LEADER Leader Professional Services 271 Marsh Road, Suite 2 Pittsford, NY 14534 (585) 248-2413 FAX (585) 248-2834	Project 900.002 Date 6/16/16 Scale NTS	Drawn PVS Checked MPR File Name Site Map	Figure 3
Prepared For: Flint Redevelopment, LLC 1400 Crossroads Building Rochester, New York				

TABLE 1
Summary of Sample Results
Sub-slab Vapor Sampling 936 Exchange and 15 Flint Street
Rochester, New York

Lab Sample ID		L839577-01		L839577-02		L839577-03		L839577-04		L839577-05		L839577-06		L839577-07	
Client Sample ID		SV-1		SV-2		SV-3		SV-4		SV-5		SV-6		SV-7	
Date Collected		06/02/2016		06/02/2016		06/02/2016		06/02/2016		06/02/2016		06/02/2016		06/02/2016	
Analyte	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
ACETONE	ug/m3	**6.38**		**7.04**		**10.1**		ND		ND		**6.32**		**22.4**	
ALLYL CHLORIDE	ug/m3	ND		**0.93**		ND		ND		ND		ND		ND	
BENZENE	ug/m3	**0.684**		ND		**1.37**		**1.35**		ND		**3.04**		**7.43**	
CARBON DISULFIDE	ug/m3	ND		ND		ND		**1.1**		ND		ND		ND	
CARBON TETRACHLORIDE	ug/m3	ND		ND		ND		**1.51**		ND		**1.81**		ND	
CHLOROFORM	ug/m3	ND		ND		**42.3**		**862**		**4.61**		**9.14**		ND	
CHLOROMETHANE	ug/m3	ND		**1.12**		**0.83**		ND		ND		ND		**0.887**	
CYCLOHEXANE	ug/m3	ND		ND		**0.745**		ND		ND		**1.79**		**3.34**	
CIS-1,2-DICHLOROETHENE	ug/m3	ND		ND		**9.13**		ND		ND		**247**		ND	
TRANS-1,2-DICHLOROETHENE	ug/m3	ND		ND		**4.77**		**9.78**		ND		ND		ND	
ETHANOL	ug/m3	**15.3**		**10.7**		**9.85**		**17.2**		**23.3**		**41.5**		**109**	
ETHYLBENZENE	ug/m3	ND		ND		ND		ND		ND		**2.72**		**4.82**	
4-ETHYLTOLUENE	ug/m3	ND		ND		ND		ND		ND		**3.25**		**4.62**	
TRICHLOROFLUOROMETHANE	ug/m3	**2**		**1.35**		**1.94**		**3.42**		**1.56**		**2.28**		**2.02**	
DICHLORODIFLUOROMETHANE	ug/m3	**1.71**		**3.31**		**1.79**		**1.8**		**1.58**		**2.24**		**2.08**	
HEPTANE	ug/m3	ND		ND		ND		**0.846**		ND		**3.58**		**5.79**	
N-HEXANE	ug/m3	**0.958**		ND		ND		**0.866**		ND		**9.35**		**20.2**	
ISOPROPYLBENZENE	ug/m3	ND		ND		**1.68**		ND		ND		ND		ND	
METHYLENE CHLORIDE	ug/m3	**1.01**	B	**0.745**	B	ND		**0.81**	B	ND		**11.9**		**40.8**	
2-BUTANONE (MEK)	ug/m3	ND		ND		ND		ND		ND		ND		**16**	
2-PROPANOL	ug/m3	ND		**5.39**		ND		ND		ND		**3.79**		**9.81**	
PROPENE	ug/m3	**0.836**	B	ND		ND		ND		ND	J3	ND	J3	ND	J3
STYRENE	ug/m3	**1.45**		ND		**0.895**		ND		ND		**1**		ND	
TETRACHLOROETHENE	ug/m3	**3.04**		ND		**652**		**52.9**		**14.5**		**570**		**1.73**	
TETRAHYDROFURAN	ug/m3	ND		ND		ND		**2.09**		ND		ND		ND	
TOLUENE	ug/m3	**1.71**		**1.5**		**2.21**		**3.9**		**2.18**		**18.6**		**37.8**	
1,1,1-TRICHLOROETHANE	ug/m3	ND		ND		ND		**1.41**		ND		ND		ND	
TRICHLOROETHENE	ug/m3	**1.26**		ND		**1230**		**10.7**		ND		**1130**		ND	
1,2,4-TRIMETHYLBENZENE	ug/m3	**3.52**		ND		**2.71**		**2.85**		**1.08**		**5.49**		**7.64**	
1,3,5-TRIMETHYLBENZENE	ug/m3	ND		ND		ND		ND		ND		**1.45**		**1.92**	
2,2,4-TRIMETHYLPENTANE	ug/m3	**3.18**		**1.31**		**1.58**		**0.966**		ND		**5.44**		**10.3**	
M&P-XYLENE	ug/m3	**2.67**		ND		**2.75**		**4.92**		ND		**10.9**		**18.2**	
O-XYLENE	ug/m3	**1.38**		ND		**1.2**		**1.59**		ND		**4.33**		**6.96**	
PID Results	PPM	4.6		0		1.5		1.6		1.8		0.3		1.7	

Notes:
ug/M^3 = micrograms per cubic liter.
ND = Not detected above reporting limits.
B= Contaminant was also found in laboratory blank.
J3 = The associated batch QA/QC was outside the established quality control range for precision.
PID = Total volatile organic vapors measured using a photoionization detector.
PPM = parts per million.

TABLE 2

Summary of Sample Results Compared to USEPA Shallow Soil Gas Concentrations for 10^{-5} Cancer Risk Within Indoor Air
Sub-slab Vapor Sampling 936 Exchange and 15 Flint Street
Rochester, New York

Lab Sample ID			L839577-01		L839577-02		L839577-03		L839577-04		L839577-05		L839577-06		L839577-07	
Client Sample ID			SV-1		SV-2		SV-3		SV-4		SV-5		SV-6		SV-7	
Date Collected			06/02/2016		06/02/2016		06/02/2016		06/02/2016		06/02/2016		06/02/2016		06/02/2016	
Analyte	Units	USEPA Guidance	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
ACETONE	ug/m3	2,100	6.38		7.04		10.1		ND		ND		6.32		22.4	
ALLYL CHLORIDE	ug/m3	NS	ND		0.93		ND		ND		ND		ND		ND	
BENZENE	ug/m3	31	0.684		ND		1.37		1.35		ND		3.04		7.43	
CARBON DISULFIDE	ug/m3	7,000	ND		ND		ND		1.1		ND		ND		ND	
CARBON TETRACHLORIDE	ug/m3	16	ND		ND		ND		1.51		ND		1.81		ND	
CHLOROFORM	ug/m3	11	ND		ND		**42.3**		**862**		4.61		**9.14**		ND	
CHLOROMETHANE	ug/m3	NS	ND		1.12		0.83		ND		ND		ND		0.887	
CYCLOHEXANE	ug/m3	NS	ND		ND		0.745		ND		ND		1.79		3.34	
CIS-1,2-DICHLOROETHENE	ug/m3	350	ND		ND		9.13		ND		ND		247		ND	
TRANS-1,2-DICHLOROETHENE	ug/m3	700	ND		ND		4.77		9.78		ND		ND		ND	
ETHANOL	ug/m3	NS	15.3		10.7		9.85		17.2		23.3		41.5		109	
ETHYLBENZENE	ug/m3	220	ND		ND		ND		ND		ND		2.72		4.82	
4-ETHYLTOLUENE	ug/m3	NS	ND		ND		ND		ND		ND		3.25		4.62	
TRICHLOROFLUOROMETHANE	ug/m3	NS	2		1.35		1.94		3.42		1.56		2.28		2.02	
DICHLORODIFLUOROMETHANE	ug/m3	NS	1.71		3.31		1.79		1.8		1.58		2.24		2.08	
HEPTANE	ug/m3	NS	ND		ND		ND		0.846		ND		3.58		5.79	
N-HEXANE	ug/m3	2,000	0.958		ND		ND		0.866		ND		9.35		20.2	
ISOPROPYLBENZENE	ug/m3	4,000	ND		ND		1.68		ND		ND		ND		ND	
METHYLENE CHLORIDE	ug/m3	240	1.01	B	0.745	B	ND		0.81	B	ND		11.9		40.8	
2-BUTANONE (MEK)	ug/m3	10,000	ND		ND		ND		ND		ND		ND		16	
2-PROPANOL	ug/m3	NS	ND		5.39		ND		ND		ND		3.79		9.81	
PROPENE	ug/m3	NS	0.836	B	ND		ND		ND		ND	J3	ND	J3	ND	J3
STYRENE	ug/m3	10,000	1.45		ND		0.895		ND		ND		1		ND	
TETRACHLOROETHENE	ug/m3	81	3.04		ND		**652**		52.9		14.5		**570**		1.73	
TETRAHYDROFURAN	ug/m3	NS	ND		ND		ND		2.09		ND		ND		ND	
TOLUENE	ug/m3	4,000	1.71		1.5		2.21		3.9		2.18		18.6		37.8	
1,1,1-TRICHLOROETHANE	ug/m3	22,000	ND		ND		ND		1.41		ND		ND		ND	
TRICHLOROETHENE	ug/m3	2.2	1.26		ND		**1230**		**10.7**		ND		**1130**		ND	
1,2,4-TRIMETHYLBENZENE	ug/m3	60	3.52		ND		2.71		2.85		1.08		5.49		7.64	
1,3,5-TRIMETHYLBENZENE	ug/m3	60	ND		ND		ND		ND		ND		1.45		1.92	
2,2,4-TRIMETHYLPENTANE	ug/m3	NS	3.18		1.31		1.58		0.966		ND		5.44		10.3	
M&P-XYLENE	ug/m3	70,000	2.67		ND		2.75		4.92		ND		10.9		18.2	
O-XYLENE	ug/m3	70,000	1.38		ND		1.2		1.59		ND		4.33		6.96	

Notes:
USEPA Values from "OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and soils, November 2002.
ND =Not detected
NS = No standard or guidance level
ug/M3 = micrograms per cubic meter.

ATTACHMENT 1
LABORATORY REPORT

ANALYTICAL REPORT

June 13, 2016

Leader Environmental

Sample Delivery Group:	L839577
Samples Received:	06/04/2016
Project Number:	900002
Description:	Flint Street Redevelopment Project 2

Report To:

Mr. Peter von Schondorf
271 Marsh Road, Suite 2
Pittsford, NY 14534

Entire Report Reviewed By:

Terrie Fudge
Technical Service Representative

TABLE OF CONTENTS

SV-1 L839577-01 Air

Collected by: Pete Von Schondorf
Collected date/time: 06/02/16 10:55
Received date/time: 06/04/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG878843	1	06/09/16 07:01	06/09/16 07:01	SNH
Volatile Organic Compounds (MS) by Method TO-15	WG879370	1	06/10/16 15:27	06/10/16 15:27	SNH

SV-2 L839577-02 Air

Collected by: Pete Von Schondorf
Collected date/time: 06/02/16 11:10
Received date/time: 06/04/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG878843	1	06/09/16 07:43	06/09/16 07:43	SNH
Volatile Organic Compounds (MS) by Method TO-15	WG879370	1	06/10/16 16:16	06/10/16 16:16	SNH

SV-3 L839577-03 Air

Collected by: Pete Von Schondorf
Collected date/time: 06/02/16 11:30
Received date/time: 06/04/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG878843	1	06/09/16 08:24	06/09/16 08:24	SNH
Volatile Organic Compounds (MS) by Method TO-15	WG879340	1	06/10/16 11:08	06/10/16 11:08	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG879340	20	06/10/16 13:56	06/10/16 13:56	MBF

SV-4 L839577-04 Air

Collected by: Pete Von Schondorf
Collected date/time: 06/02/16 12:15
Received date/time: 06/04/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG878843	1	06/09/16 09:06	06/09/16 09:06	SNH
Volatile Organic Compounds (MS) by Method TO-15	WG879340	20	06/10/16 11:54	06/10/16 11:54	MBF

SV-5 L839577-05 Air

Collected by: Pete Von Schondorf
Collected date/time: 06/02/16 14:04
Received date/time: 06/04/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG878625	1	06/08/16 21:35	06/08/16 21:35	MBF

SV-6 L839577-06 Air

Collected by: Pete Von Schondorf
Collected date/time: 06/02/16 14:20
Received date/time: 06/04/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG878625	1	06/08/16 22:25	06/08/16 22:25	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG879045	20	06/09/16 23:22	06/09/16 23:22	MBF

SV-7 L839577-07 Air

Collected by: Pete Von Schondorf
Collected date/time: 06/02/16 15:10
Received date/time: 06/04/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG878625	1	06/08/16 23:11	06/08/16 23:11	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG879045	10	06/10/16 00:02	06/10/16 00:02	MBF

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Terrie Fudge
Technical Service Representative

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	2.68	6.38		1	WG879370
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG878843
Benzene	71-43-2	78.10	0.200	0.639	0.214	0.684		1	WG878843
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG878843
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG878843
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG878843
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG878843
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG878843
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG878843
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG878843
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG878843
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG878843
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG878843
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG878843
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG878843
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG878843
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG878843
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG878843
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG878843
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG878843
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG878843
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG878843
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG878843
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG878843
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG878843
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG878843
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG878843
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG878843
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG878843
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG878843
Ethanol	64-17-5	46.10	0.630	1.19	8.14	15.3		1	WG878843
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG878843
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG878843
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.355	2.00		1	WG878843
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.346	1.71		1	WG878843
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG878843
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG878843
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG878843
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG878843
n-Hexane	110-54-3	86.20	0.200	0.705	0.272	0.958		1	WG878843
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG878843
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.291	1.01	B	1	WG878843
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG878843
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG878843
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG878843
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG878843
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG878843
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG878843
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG878843
Propene	115-07-1	42.10	0.400	0.689	0.485	0.836	B	1	WG878843
Styrene	100-42-5	104	0.200	0.851	0.340	1.45		1	WG878843
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG878843
Tetrachloroethylene	127-18-4	166	0.200	1.36	0.447	3.04		1	WG878843
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG878843
Toluene	108-88-3	92.10	0.200	0.753	0.454	1.71		1	WG878843
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG878843

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG878843
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG878843
Trichloroethylene	79-01-6	131	0.200	1.07	0.234	1.26		1	WG878843
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.718	3.52		1	WG878843
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG878843
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	0.680	3.18		1	WG878843
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG878843
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG878843
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG878843
m&p-Xylene	1330-20-7	106	0.400	1.73	0.616	2.67		1	WG878843
o-Xylene	95-47-6	106	0.200	0.867	0.319	1.38		1	WG878843
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*101*				WG878843
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*96.9*				WG879370

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	2.96	7.04		1	WG879370
Allyl chloride	107-05-1	76.53	0.200	0.626	0.297	0.930		1	WG878843
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG878843
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG878843
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG878843
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG878843
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG878843
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG878843
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG878843
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG878843
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG878843
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG878843
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG878843
Chloromethane	74-87-3	50.50	0.200	0.413	0.542	1.12		1	WG878843
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG878843
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG878843
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG878843
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG878843
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG878843
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG878843
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG878843
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG878843
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG878843
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG878843
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG878843
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG878843
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG878843
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG878843
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG878843
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG878843
Ethanol	64-17-5	46.10	0.630	1.19	5.67	10.7		1	WG878843
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG878843
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG878843
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.241	1.35		1	WG878843
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.669	3.31		1	WG878843
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG878843
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG878843
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG878843
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG878843
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG878843
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG878843
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.215	0.745	B	1	WG878843
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG878843
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG878843
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG878843
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG878843
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG878843
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG878843
2-Propanol	67-63-0	60.10	1.25	3.07	2.19	5.39		1	WG878843
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG878843
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG878843
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG878843
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG878843
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG878843
Toluene	108-88-3	92.10	0.200	0.753	0.397	1.50		1	WG878843
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG878843

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG878843
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG878843
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG878843
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG878843
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG878843
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	0.279	1.31		1	WG878843
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG878843
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG878843
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG878843
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG878843
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG878843
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*97.6*				WG879370
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*101*				WG878843

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	4.26	10.1		1	WG879340
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG878843
Benzene	71-43-2	78.10	0.200	0.639	0.430	1.37		1	WG878843
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG878843
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG878843
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG878843
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG878843
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG878843
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG878843
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG878843
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG878843
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG878843
Chloroform	67-66-3	119	0.200	0.973	8.68	42.3		1	WG878843
Chloromethane	74-87-3	50.50	0.200	0.413	0.402	0.830		1	WG878843
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG878843
Cyclohexane	110-82-7	84.20	0.200	0.689	0.216	0.745		1	WG878843
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG878843
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG878843
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG878843
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG878843
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG878843
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG878843
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG878843
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG878843
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	2.30	9.13		1	WG878843
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	1.20	4.77		1	WG878843
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG878843
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG878843
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG878843
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG878843
Ethanol	64-17-5	46.10	0.630	1.19	5.22	9.85		1	WG878843
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG878843
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG878843
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.345	1.94		1	WG878843
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.362	1.79		1	WG878843
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG878843
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG878843
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG878843
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG878843
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG878843
Isopropylbenzene	98-82-8	120.20	0.200	0.983	0.342	1.68		1	WG878843
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG878843
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG878843
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG878843
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG878843
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG878843
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG878843
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG878843
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG878843
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG878843
Styrene	100-42-5	104	0.200	0.851	0.210	0.895		1	WG878843
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG878843
Tetrachloroethylene	127-18-4	166	4.00	27.2	96.0	652		20	WG879340
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG878843
Toluene	108-88-3	92.10	0.200	0.753	0.587	2.21		1	WG878843
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG878843

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG878843
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG878843
Trichloroethylene	79-01-6	131	4.00	21.4	229	1230		20	WG879340
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.552	2.71		1	WG878843
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG878843
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	0.338	1.58		1	WG878843
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG878843
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG878843
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG878843
m&p-Xylene	1330-20-7	106	0.400	1.73	0.634	2.75		1	WG878843
o-Xylene	95-47-6	106	0.200	0.867	0.276	1.20		1	WG878843
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*100*				WG878843
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*93.4*				WG879340
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*102*				WG879340

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	25.0	59.4	ND	ND		20	WG879340
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG878843
Benzene	71-43-2	78.10	0.200	0.639	0.423	1.35		1	WG878843
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG878843
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG878843
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG878843
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG878843
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG878843
Carbon disulfide	75-15-0	76.10	0.200	0.622	0.354	1.10		1	WG878843
Carbon tetrachloride	56-23-5	154	0.200	1.26	0.239	1.51		1	WG878843
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG878843
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG878843
Chloroform	67-66-3	119	4.00	19.5	177	862		20	WG879340
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG878843
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG878843
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG878843
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG878843
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG878843
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG878843
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG878843
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG878843
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG878843
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG878843
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG878843
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG878843
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	2.47	9.78		1	WG878843
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG878843
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG878843
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG878843
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG878843
Ethanol	64-17-5	46.10	0.630	1.19	9.10	17.2		1	WG878843
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG878843
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG878843
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.608	3.42		1	WG878843
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.364	1.80		1	WG878843
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG878843
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG878843
Heptane	142-82-5	100	0.200	0.818	0.207	0.846		1	WG878843
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG878843
n-Hexane	110-54-3	86.20	0.200	0.705	0.246	0.866		1	WG878843
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG878843
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.233	0.810	B	1	WG878843
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG878843
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG878843
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG878843
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG878843
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG878843
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG878843
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG878843
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG878843
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG878843
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG878843
Tetrachloroethylene	127-18-4	166	0.200	1.36	7.79	52.9		1	WG878843
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	0.708	2.09		1	WG878843
Toluene	108-88-3	92.10	0.200	0.753	1.04	3.90		1	WG878843
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG878843

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	0.260	1.41		1	WG878843
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG878843
Trichloroethylene	79-01-6	131	0.200	1.07	2.00	10.7		1	WG878843
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.581	2.85		1	WG878843
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG878843
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	0.207	0.966		1	WG878843
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG878843
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG878843
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG878843
m&p-Xylene	1330-20-7	106	0.400	1.73	1.13	4.92		1	WG878843
o-Xylene	95-47-6	106	0.200	0.867	0.366	1.59		1	WG878843
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*106*				WG878843
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*94.9*				WG879340

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	ND	ND		1	WG878625
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG878625
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG878625
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG878625
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG878625
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG878625
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG878625
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG878625
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG878625
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG878625
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG878625
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG878625
Chloroform	67-66-3	119	0.200	0.973	0.948	4.61		1	WG878625
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG878625
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG878625
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG878625
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG878625
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG878625
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG878625
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG878625
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG878625
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG878625
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG878625
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG878625
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG878625
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG878625
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG878625
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG878625
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG878625
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG878625
Ethanol	64-17-5	46.10	0.630	1.19	12.4	23.3		1	WG878625
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG878625
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG878625
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.278	1.56		1	WG878625
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.319	1.58		1	WG878625
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG878625
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG878625
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG878625
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG878625
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG878625
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG878625
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG878625
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG878625
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG878625
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG878625
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG878625
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG878625
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG878625
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG878625
Propene	115-07-1	42.10	0.400	0.689	ND	ND	J3	1	WG878625
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG878625
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG878625
Tetrachloroethylene	127-18-4	166	0.200	1.36	2.13	14.5		1	WG878625
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG878625
Toluene	108-88-3	92.10	0.200	0.753	0.579	2.18		1	WG878625
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG878625

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG878625
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG878625
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG878625
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.220	1.08		1	WG878625
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG878625
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG878625
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG878625
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG878625
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG878625
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG878625
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG878625
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*95.7*				WG878625

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	2.66	6.32		1	WG878625
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG878625
Benzene	71-43-2	78.10	0.200	0.639	0.952	3.04		1	WG878625
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG878625
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG878625
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG878625
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG878625
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG878625
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG878625
Carbon tetrachloride	56-23-5	154	0.200	1.26	0.288	1.81		1	WG878625
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG878625
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG878625
Chloroform	67-66-3	119	0.200	0.973	1.88	9.14		1	WG878625
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG878625
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG878625
Cyclohexane	110-82-7	84.20	0.200	0.689	0.521	1.79		1	WG878625
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG878625
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG878625
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG878625
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG878625
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG878625
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG878625
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG878625
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG878625
cis-1,2-Dichloroethene	156-59-2	96.90	4.00	15.9	62.3	247		20	WG879045
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG878625
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG878625
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG878625
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG878625
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG878625
Ethanol	64-17-5	46.10	0.630	1.19	22.0	41.5		1	WG878625
Ethylbenzene	100-41-4	106	0.200	0.867	0.627	2.72		1	WG878625
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.661	3.25		1	WG878625
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.406	2.28		1	WG878625
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.453	2.24		1	WG878625
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG878625
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG878625
Heptane	142-82-5	100	0.200	0.818	0.875	3.58		1	WG878625
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG878625
n-Hexane	110-54-3	86.20	0.200	0.705	2.65	9.35		1	WG878625
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG878625
Methylene Chloride	75-09-2	84.90	0.200	0.694	3.44	11.9		1	WG878625
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG878625
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG878625
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG878625
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG878625
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG878625
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG878625
2-Propanol	67-63-0	60.10	1.25	3.07	1.54	3.79		1	WG878625
Propene	115-07-1	42.10	0.400	0.689	ND	ND	J3	1	WG878625
Styrene	100-42-5	104	0.200	0.851	0.235	1.00		1	WG878625
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG878625
Tetrachloroethylene	127-18-4	166	4.00	27.2	83.9	570		20	WG879045
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG878625
Toluene	108-88-3	92.10	0.200	0.753	4.95	18.6		1	WG878625
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG878625

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG878625
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG878625
Trichloroethylene	79-01-6	131	4.00	21.4	212	1130		20	WG879045
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.12	5.49		1	WG878625
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.295	1.45		1	WG878625
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	1.17	5.44		1	WG878625
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG878625
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG878625
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG878625
m&p-Xylene	1330-20-7	106	0.400	1.73	2.52	10.9		1	WG878625
o-Xylene	95-47-6	106	0.200	0.867	0.998	4.33		1	WG878625
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*96.3*				WG878625
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*95.9*				WG879045

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	9.45	22.4		1	WG878625
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG878625
Benzene	71-43-2	78.10	0.200	0.639	2.33	7.43		1	WG878625
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG878625
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG878625
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG878625
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG878625
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG878625
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG878625
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG878625
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG878625
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG878625
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG878625
Chloromethane	74-87-3	50.50	0.200	0.413	0.430	0.887		1	WG878625
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG878625
Cyclohexane	110-82-7	84.20	0.200	0.689	0.970	3.34		1	WG878625
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG878625
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG878625
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG878625
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG878625
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG878625
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG878625
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG878625
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG878625
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG878625
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG878625
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG878625
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG878625
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG878625
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG878625
Ethanol	64-17-5	46.10	6.30	11.9	57.9	109		10	WG879045
Ethylbenzene	100-41-4	106	0.200	0.867	1.11	4.82		1	WG878625
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.941	4.62		1	WG878625
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.359	2.02		1	WG878625
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.421	2.08		1	WG878625
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG878625
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG878625
Heptane	142-82-5	100	0.200	0.818	1.42	5.79		1	WG878625
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG878625
n-Hexane	110-54-3	86.20	0.200	0.705	5.74	20.2		1	WG878625
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG878625
Methylene Chloride	75-09-2	84.90	0.200	0.694	11.8	40.8		1	WG878625
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG878625
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	5.44	16.0		1	WG878625
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG878625
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG878625
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG878625
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG878625
2-Propanol	67-63-0	60.10	1.25	3.07	3.99	9.81		1	WG878625
Propene	115-07-1	42.10	0.400	0.689	ND	ND	J3	1	WG878625
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG878625
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG878625
Tetrachloroethylene	127-18-4	166	0.200	1.36	0.254	1.73		1	WG878625
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG878625
Toluene	108-88-3	92.10	0.200	0.753	10.0	37.8		1	WG878625
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG878625

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG878625
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG878625
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG878625
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.56	7.64		1	WG878625
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.390	1.92		1	WG878625
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	2.21	10.3		1	WG878625
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG878625
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG878625
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG878625
m&p-Xylene	1330-20-7	106	0.400	1.73	4.19	18.2		1	WG878625
o-Xylene	95-47-6	106	0.200	0.867	1.60	6.96		1	WG878625
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*96.6*				WG878625
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*96.5*				WG879045

Method Blank (MB)

(MB) R3142483-3 06/08/16 09:46

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.0569	1.25
Allyl Chloride	U		0.0546	0.200
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
1,3-Butadiene	U		0.0563	2.00
Carbon disulfide	U		0.0544	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Cyclohexane	U		0.0534	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
4-Ethyltoluene	U		0.0666	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Heptane	U		0.0626	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200

Method Blank (MB)

(MB) R3142483-3 06/08/16 09:46

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Methylene Chloride	U		0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
Methyl Methacrylate	U		0.0773	0.200
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
2-Propanol	U		0.0882	1.25
Propene	U		0.0932	0.400
Styrene	U		0.0465	0.200
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
2,2,4-Trimethylpentane	U		0.0456	0.200
Vinyl chloride	U		0.0457	0.200
Vinyl Bromide	U		0.0727	0.200
Vinyl acetate	U		0.0639	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
(S) 1,4-Bromofluorobenzene	*96.9*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142483-1 06/08/16 08:16 • (LCSD) R3142483-2 06/08/16 09:01

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	3.88	3.95	103	105	34.3-167			2.03	25
Propene	3.75	3.75	2.34	100	62.5	53.9-143		J3	46.2	25
Dichlorodifluoromethane	3.75	3.77	3.65	101	97.3	56.7-140			3.34	25
1,2-Dichlorotetrafluoroethane	3.75	3.82	4.05	102	108	70.0-130			5.90	25
Chloromethane	3.75	3.78	4.01	101	107	70.0-130			6.12	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142483-1 06/08/16 08:16 • (LCSD) R3142483-2 06/08/16 09:01

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Vinyl chloride	3.75	3.86	4.09	103	109	70.0-130			5.82	25
1,3-Butadiene	3.75	3.60	4.11	96.0	110	70.0-130			13.2	25
Bromomethane	3.75	4.36	4.44	116	118	70.0-130			1.86	25
Chloroethane	3.75	4.35	4.52	116	120	70.0-130			3.86	25
Trichlorofluoromethane	3.75	4.31	4.39	115	117	70.0-130			1.70	25
1,1,2-Trichlorotrifluoroethane	3.75	4.24	4.33	113	116	70.0-130			2.28	25
1,1-Dichloroethene	3.75	4.05	4.15	108	111	70.0-130			2.40	25
1,1-Dichloroethane	3.75	3.97	3.94	106	105	70.0-130			0.690	25
Acetone	3.75	4.00	4.18	107	111	70.0-130			4.27	25
2-Propanol	3.75	3.80	3.88	101	103	50.4-152			1.97	25
Carbon disulfide	3.75	4.13	4.26	110	113	70.0-130			2.99	25
Methylene Chloride	3.75	3.53	3.55	94.2	94.6	70.0-130			0.460	25
MTBE	3.75	3.95	3.95	105	105	70.0-130			0.0800	25
trans-1,2-Dichloroethene	3.75	3.95	3.95	105	105	70.0-130			0.140	25
n-Hexane	3.75	3.96	3.98	106	106	70.0-130			0.480	25
Vinyl acetate	3.75	4.03	4.05	107	108	70.0-130			0.480	25
Methyl Ethyl Ketone	3.75	4.04	4.06	108	108	70.0-130			0.400	25
cis-1,2-Dichloroethene	3.75	3.98	3.99	106	106	70.0-130			0.270	25
Chloroform	3.75	3.95	3.94	105	105	70.0-130			0.450	25
Cyclohexane	3.75	4.01	4.02	107	107	70.0-130			0.290	25
1,1,1-Trichloroethane	3.75	3.94	3.96	105	105	70.0-130			0.280	25
Carbon tetrachloride	3.75	3.99	4.00	107	107	70.0-130			0.180	25
Benzene	3.75	3.99	3.98	106	106	70.0-130			0.0300	25
1,2-Dichloroethane	3.75	3.96	3.90	106	104	70.0-130			1.40	25
Heptane	3.75	4.05	4.07	108	108	70.0-130			0.410	25
Trichloroethylene	3.75	4.02	3.94	107	105	70.0-130			1.99	25
1,2-Dichloropropane	3.75	3.96	3.92	106	104	70.0-130			1.16	25
1,4-Dioxane	3.75	4.28	4.23	114	113	48.0-156			1.09	25
Bromodichloromethane	3.75	3.98	3.96	106	106	70.0-130			0.530	25
cis-1,3-Dichloropropene	3.75	4.04	4.02	108	107	70.0-130			0.630	25
4-Methyl-2-pentanone (MIBK)	3.75	4.06	4.04	108	108	55.3-154			0.390	25
Toluene	3.75	4.03	4.02	107	107	70.0-130			0.270	25
trans-1,3-Dichloropropene	3.75	4.04	3.99	108	106	70.0-130			1.37	25
1,1,2-Trichloroethane	3.75	3.99	3.95	106	105	70.0-130			0.870	25
Tetrachloroethylene	3.75	4.08	4.06	109	108	70.0-130			0.540	25
Methyl Butyl Ketone	3.75	4.11	4.10	109	109	47.9-165			0.110	25
Dibromochloromethane	3.75	4.16	4.10	111	109	70.0-130			1.34	25
1,2-Dibromoethane	3.75	4.07	4.03	108	107	70.0-130			0.980	25
Chlorobenzene	3.75	4.07	4.02	108	107	70.0-130			1.13	25
Ethylbenzene	3.75	4.04	4.03	108	108	70.0-130			0.0300	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142483-1 06/08/16 08:16 • (LCSD) R3142483-2 06/08/16 09:01

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
m&p-Xylene	7.50	7.97	7.97	106	106	70.0-130			0.0300	25
o-Xylene	3.75	4.08	4.06	109	108	70.0-130			0.370	25
Styrene	3.75	4.19	4.18	112	111	70.0-130			0.390	25
Bromoform	3.75	4.27	4.23	114	113	70.0-130			0.830	25
1,1,2,2-Tetrachloroethane	3.75	4.01	4.01	107	107	70.0-130			0.100	25
4-Ethyltoluene	3.75	4.12	4.12	110	110	70.0-130			0.170	25
1,3,5-Trimethylbenzene	3.75	4.11	4.11	110	110	70.0-130			0.0800	25
1,2,4-Trimethylbenzene	3.75	4.15	4.11	111	110	70.0-130			0.930	25
1,3-Dichlorobenzene	3.75	4.12	4.12	110	110	70.0-130			0.120	25
1,4-Dichlorobenzene	3.75	4.13	4.13	110	110	70.0-130			0.0400	25
Benzyl Chloride	3.75	4.18	4.16	112	111	55.6-160			0.670	25
1,2-Dichlorobenzene	3.75	4.12	4.10	110	109	70.0-130			0.540	25
1,2,4-Trichlorobenzene	3.75	4.39	4.39	117	117	53.6-154			0.0400	25
Hexachloro-1,3-butadiene	3.75	4.21	4.18	112	112	62.1-143			0.620	25
Naphthalene	3.75	4.38	4.37	117	116	52.0-158			0.360	25
Allyl Chloride	3.75	4.08	3.99	109	106	70.0-130			2.27	25
2-Chlorotoluene	3.75	4.03	4.04	108	108	70.0-130			0.250	25
Methyl Methacrylate	3.75	3.74	3.69	99.7	98.5	70.0-130			1.22	25
Tetrahydrofuran	3.75	4.01	4.00	107	107	65.0-140			0.160	25
2,2,4-Trimethylpentane	3.75	4.03	4.02	108	107	70.0-130			0.280	25
Vinyl Bromide	3.75	4.39	4.44	117	118	70.0-130			1.01	25
Isopropylbenzene	3.75	4.12	4.11	110	110	70.0-130			0.270	25
(S) 1,4-Bromofluorobenzene				*98.2*	*98.8*	*60.0-140*				

Method Blank (MB)

(MB) R3142646-2 06/09/16 04:01

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Allyl Chloride	U		0.0546	0.200
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
1,3-Butadiene	U		0.0563	2.00
Carbon disulfide	U		0.0544	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Cyclohexane	U		0.0534	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
4-Ethyltoluene	U		0.0666	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Heptane	U		0.0626	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200
Methylene Chloride	0.0719	J	0.0465	0.200

Method Blank (MB)

(MB) R3142646-2 06/09/16 04:01

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
Methyl Methacrylate	U		0.0773	0.200
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
2-Propanol	U		0.0882	1.25
Propene	0.102	J	0.0932	0.400
Styrene	U		0.0465	0.200
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
2,2,4-Trimethylpentane	U		0.0456	0.200
Vinyl chloride	U		0.0457	0.200
Vinyl Bromide	U		0.0727	0.200
Vinyl acetate	U		0.0639	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
(S) 1,4-Bromofluorobenzene	*97.1*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142646-1 06/09/16 03:20 • (LCSD) R3142646-3 06/09/16 11:40

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	3.63	4.47	96.7	119	34.3-167			20.9	25
Propene	3.75	3.78	3.39	101	90.3	53.9-143			11.0	25
Dichlorodifluoromethane	3.75	3.82	3.44	102	91.7	56.7-140			10.5	25
1,2-Dichlorotetrafluoroethane	3.75	3.98	3.65	106	97.5	70.0-130			8.62	25
Chloromethane	3.75	3.91	3.41	104	91.0	70.0-130			13.5	25
Vinyl chloride	3.75	3.75	3.36	99.9	89.6	70.0-130			10.8	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142646-1 06/09/16 03:20 • (LCSD) R3142646-3 06/09/16 11:40

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,3-Butadiene	3.75	3.55	3.10	94.8	82.6	70.0-130			13.7	25
Bromomethane	3.75	3.65	3.32	97.3	88.6	70.0-130			9.33	25
Chloroethane	3.75	3.70	3.25	98.6	86.7	70.0-130			12.9	25
Trichlorofluoromethane	3.75	3.82	4.03	102	108	70.0-130			5.51	25
1,1,2-Trichlorotrifluoroethane	3.75	3.72	4.47	99.3	119	70.0-130			18.2	25
1,1-Dichloroethene	3.75	3.88	4.42	103	118	70.0-130			13.0	25
1,1-Dichloroethane	3.75	3.57	4.33	95.2	115	70.0-130			19.2	25
2-Propanol	3.75	4.30	5.13	115	137	50.4-152			17.5	25
Carbon disulfide	3.75	3.82	4.75	102	127	70.0-130			21.7	25
Methylene Chloride	3.75	3.48	4.24	92.9	113	70.0-130			19.6	25
MTBE	3.75	3.74	4.37	99.8	117	70.0-130			15.5	25
trans-1,2-Dichloroethene	3.75	3.76	4.41	100	118	70.0-130			15.9	25
n-Hexane	3.75	3.70	4.73	98.8	126	70.0-130			24.3	25
Vinyl acetate	3.75	3.62	4.51	96.6	120	70.0-130			21.9	25
Methyl Ethyl Ketone	3.75	3.97	3.78	106	101	70.0-130			4.92	25
cis-1,2-Dichloroethene	3.75	3.92	3.73	104	99.3	70.0-130			4.97	25
Chloroform	3.75	3.91	3.65	104	97.4	70.0-130			6.66	25
Cyclohexane	3.75	4.00	3.83	107	102	70.0-130			4.38	25
1,1,1-Trichloroethane	3.75	3.94	3.69	105	98.3	70.0-130			6.75	25
Carbon tetrachloride	3.75	3.90	3.63	104	96.9	70.0-130			7.23	25
Benzene	3.75	3.93	3.60	105	96.0	70.0-130			8.85	25
1,2-Dichloroethane	3.75	3.94	3.57	105	95.1	70.0-130			10.0	25
Heptane	3.75	4.10	3.71	109	98.9	70.0-130			10.0	25
Trichloroethylene	3.75	3.90	3.64	104	97.1	70.0-130			6.82	25
1,2-Dichloropropane	3.75	3.92	3.58	105	95.5	70.0-130			9.05	25
1,4-Dioxane	3.75	4.44	4.02	118	107	48.0-156			9.93	25
Bromodichloromethane	3.75	3.92	3.58	105	95.5	70.0-130			9.13	25
cis-1,3-Dichloropropene	3.75	4.03	3.78	107	101	70.0-130			6.43	25
4-Methyl-2-pentanone (MIBK)	3.75	4.10	3.76	109	100	55.3-154			8.59	25
Toluene	3.75	4.00	3.69	107	98.3	70.0-130			8.28	25
trans-1,3-Dichloropropene	3.75	4.05	3.76	108	100	70.0-130			7.32	25
1,1,2-Trichloroethane	3.75	3.91	3.60	104	95.9	70.0-130			8.41	25
Tetrachloroethylene	3.75	3.89	3.58	104	95.5	70.0-130			8.41	25
Methyl Butyl Ketone	3.75	4.28	3.94	114	105	47.9-165			8.37	25
Dibromochloromethane	3.75	4.01	3.62	107	96.5	70.0-130			10.1	25
1,2-Dibromoethane	3.75	3.96	3.62	106	96.5	70.0-130			9.00	25
Chlorobenzene	3.75	3.89	3.56	104	95.0	70.0-130			8.95	25
Ethylbenzene	3.75	3.98	3.68	106	98.0	70.0-130			7.99	25
m&p-Xylene	7.50	8.09	7.42	108	98.9	70.0-130			8.62	25
o-Xylene	3.75	4.04	3.74	108	99.8	70.0-130			7.72	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142646-1 06/09/16 03:20 • (LCSD) R3142646-3 06/09/16 11:40

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Styrene	3.75	4.14	3.83	110	102	70.0-130			7.79	25
Bromoform	3.75	4.07	3.69	109	98.4	70.0-130			9.90	25
1,1,2,2-Tetrachloroethane	3.75	3.96	3.54	106	94.5	70.0-130			11.1	25
4-Ethyltoluene	3.75	4.00	3.64	107	97.0	70.0-130			9.45	25
1,3,5-Trimethylbenzene	3.75	4.07	3.69	109	98.3	70.0-130			10.0	25
1,2,4-Trimethylbenzene	3.75	4.03	3.65	108	97.3	70.0-130			10.0	25
1,3-Dichlorobenzene	3.75	3.99	3.55	107	94.6	70.0-130			11.8	25
1,4-Dichlorobenzene	3.75	4.12	3.65	110	97.3	70.0-130			12.1	25
Benzyl Chloride	3.75	4.30	3.90	115	104	55.6-160			9.72	25
1,2-Dichlorobenzene	3.75	3.97	3.51	106	93.7	70.0-130			12.3	25
1,2,4-Trichlorobenzene	3.75	4.20	3.85	112	103	53.6-154			8.74	25
Hexachloro-1,3-butadiene	3.75	3.88	3.47	104	92.6	62.1-143			11.2	25
Naphthalene	3.75	4.27	3.86	114	103	52.0-158			10.2	25
Allyl Chloride	3.75	3.71	4.65	98.9	124	70.0-130			22.6	25
2-Chlorotoluene	3.75	4.04	3.58	108	95.3	70.0-130			12.3	25
Methyl Methacrylate	3.75	3.87	3.59	103	95.6	70.0-130			7.60	25
Tetrahydrofuran	3.75	4.00	3.73	107	99.5	65.0-140			6.87	25
2,2,4-Trimethylpentane	3.75	4.07	3.83	109	102	70.0-130			6.18	25
Vinyl Bromide	3.75	3.75	4.33	100	116	70.0-130			14.4	25
Isopropylbenzene	3.75	4.06	3.77	108	100	70.0-130			7.55	25
(S) 1,4-Bromofluorobenzene				*99.5*	*99.9*	*60.0-140*				

Method Blank (MB)

(MB) R3142703-3 06/09/16 09:38

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
cis-1,2-Dichloroethene	U		0.0389	0.200
Tetrachloroethylene	U		0.0497	0.200
Trichloroethylene	U		0.0545	0.200
Ethanol	U		0.0832	0.630
(S) 1,4-Bromofluorobenzene	*96.3*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142703-1 06/09/16 08:11 • (LCSD) R3142703-2 06/09/16 08:54

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Ethanol	3.75	3.85	3.75	103	100	34.3-167			2.77	25
cis-1,2-Dichloroethene	3.75	4.04	4.07	108	109	70.0-130			0.740	25
Trichloroethylene	3.75	3.98	4.06	106	108	70.0-130			1.96	25
Tetrachloroethylene	3.75	4.16	4.20	111	112	70.0-130			0.920	25
(S) 1,4-Bromofluorobenzene				*96.4*	*97.7*	*60.0-140*				

Method Blank (MB)

(MB) R3142829-3 06/10/16 05:23

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.0569	1.25
Chloroform	U		0.0574	0.200
Tetrachloroethylene	0.0648	J	0.0497	0.200
Trichloroethylene	U		0.0545	0.200
(S) 1,4-Bromofluorobenzene	*95.4*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142829-1 06/10/16 03:50 • (LCSD) R3142829-2 06/10/16 04:36

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	3.75	4.33	4.28	115	114	70.0-130			1.00	25
Chloroform	3.75	3.80	3.78	101	101	70.0-130			0.520	25
Trichloroethylene	3.75	3.80	3.77	101	101	70.0-130			0.770	25
Tetrachloroethylene	3.75	3.85	3.72	103	99.3	70.0-130			3.31	25
(S) 1,4-Bromofluorobenzene				*103*	*103*	*60.0-140*				

Method Blank (MB)

(MB) R3142904-3 06/10/16 09:25

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.0569	1.25
(S) 1,4-Bromofluorobenzene	*95.2*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3142904-1 06/10/16 07:57 • (LCSD) R3142904-2 06/10/16 08:41

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	3.75	3.89	3.28	104	87.5	70.0-130			16.9	25
(S) 1,4-Bromofluorobenzene				*94.9*	*95.1*	*60.0-140*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [14]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

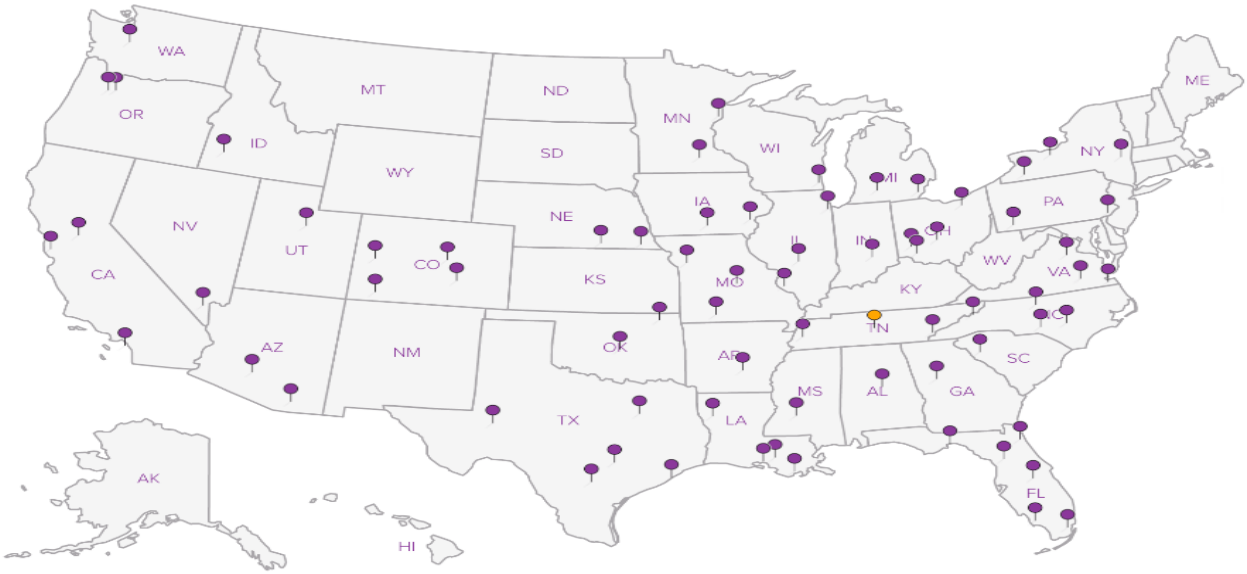
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



Leader Environmental

271 Marsh Road, Suite 2
Pittsford, NY 14534

Billing Information:
Accounts Payable
271 Marsh Road, Suite 2
Pittsford, NY 14534

Report to: **Mr. Peter von Schondorf**

Email To: **pvonschondorf@leaderlink.com**

Project Description: **Flint Street Redevelopment Project 2**

City/State Collected:

Phone: **585-248-2413**
Fax:

Client Project # 900 002

Lab Project # **LEADERPNY-FLINT**

Collected by (print): PETE VON SCHONDORF

Site/Facility ID #

P.O. #

Collected by (signature): Pete von Schondorf

Immediately Packed on Ice N X Y ___

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X__Yes
FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TO-15 Summa										Rem./Contaminant	Sample # (lab only)
SV-1	G	Air		6-2-16	10:55	1	X											-01
SV-2	G	Air		"	11:10	1	X											-02
SV-3	G	Air		"	11:30	1	X											-03
SV-4	G	Air		"	12:15	1	X											-04
SV-5	G	Air		"	2:04	1	X											-05
SV-6	G	Air		"	2:20	1	X											-06
SV-7	G	Air		"	~~2:55~~ 3:10	1	X											-07

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

ESC LABORATORY SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L839577

Ta F150

Acctnum: **LEADERPNY**
Template: **T110779**
Prelogin: **P553717**
TSR: **064 - Terrie Fudge**
PB: BAK 5-18-16
Shipped Via: **FedEX 2nd Day**

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

Remarks: 6711 0340 0778

pH _____ Temp _____
Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Pete von Schondorf	6-3-16	5:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Forrest Huff

Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ _____
Temp: Amb °C Bottles Received: 7
Date: 6/4/16 Time: 9:00

Condition: (lab use only) GDU
5+x T
COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

ATTACHMENT 4
ExxonMobil Sub-slab and Indoor Air Sample Laboratory Reports

T:\GIS\XOM\Rochester\0172.0180M008\MXDs\Sub Slab Vapor and Indoor Air Sampling.mxd

LEGEND

- Sub Slab Vapor Points
- Indoor Air Sample Points

Notes

1) All features shown are approximate.

Sources

1) Aerial Photograph is a 12-inch resolution 4 band digital orthophoto available at NYSGIS Clearinghouse (http://gis.ny.gov).
2) Property Owner information obtained from the City of Rochester's Property Information Application. Accessed 12/3/2015.

0 30 60 120 Feet

N W E S

Title: **Soil Vapor and Indoor Air Sample Location Map**

Former Vacuum Oil Company Refinery Area
22 Flint Street and 936 Exchange Street
Rochester, New York

Prepared For:

ExxonMobil Environmental Services Company

ROUX

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled By:	JNL	Date:	10/21/2016
Prepared By:	JNL	Scale:	AS SHOWN
Project Mgr.:	IR	Office:	MA
File No.:	ROCHESTER	Project:	

FIGURE
1

ANALYTICAL REPORT

Lab Number:	L1616769
Client:	NewFields 300 Ledgewood Place Suite 305 Rockland, MA 02370
ATTN:	Mike Mitchell
Phone:	(781) 681-5040
Project Name:	FLINT ST. REDEVELOPMENT
Project Number:	Not Specified
Report Date:	06/27/16

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), ME (MA00030), PA (68-02089), VA (460194), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), USFWS (Permit #LE2069641), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1616769-01	RX-SSVP-01	SOIL_VAPOR	FLINT ST. ROCHESTER, NY	06/02/16 11:05	06/02/16
L1616769-02	RX-SSVP-02	SOIL_VAPOR	FLINT ST. ROCHESTER, NY	06/02/16 11:23	06/02/16
L1616769-03	RX-SSVP-03	SOIL_VAPOR	FLINT ST. ROCHESTER, NY	06/02/16 11:55	06/02/16
L1616769-04	RX-AA-03	AIR	FLINT ST. ROCHESTER, NY	06/02/16 11:55	06/02/16
L1616769-05	RX-SSVP-04	SOIL_VAPOR	FLINT ST. ROCHESTER, NY	06/02/16 12:34	06/02/16
L1616769-06	RX-SSVP-05	SOIL_VAPOR	FLINT ST. ROCHESTER, NY	06/02/16 01:11	06/02/16
L1616769-07	RX-SSVP-06	SOIL_VAPOR	FLINT ST. ROCHESTER, NY	06/02/16 02:35	06/02/16
L1616769-08	RX-SSVP-07	SOIL_VAPOR	FLINT ST. ROCHESTER, NY	06/02/16 02:55	06/02/16
L1616769-09	RX-AA-07	AIR	FLINT ST. ROCHESTER, NY	06/02/16 02:55	06/02/16
L1616769-10	UNUSED CANISTER 918	SOIL_VAPOR	FLINT ST. ROCHESTER, NY		06/02/16

Project Name: FLINT ST. REDEVELOPMENT **Lab Number:** L1616769
Project Number: Not Specified **Report Date:** 06/27/16

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	FLINT ST. REDEVELOPMENT	**Lab Number:**	L1616769
Project Number:	Not Specified	**Report Date:**	06/27/16

Case Narrative (continued)

Report Submission

This final report replaces the partial report issued on June 23, 2016 and includes the results of all requested analyses.

Volatile Organics in Air

Canisters were released from the laboratory on June 1, 2016. The canister certification results are provided as an addendum.

Volatile Organics by TO-15

Volatile Organic Compounds were analyzed by GC/MS following the procedures in the Alpha Analytical SOP Determination of Volatile Organic Compounds in Ambient Air and Soil Vapor Using Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (Revision 10) Method TO-15, modified. Air volatile samples are introduced into the GC by a three stage concentration technique called Microscale Purge-and-Trap. A maximum volume of 250mLs is concentrated to about a 0.5mL volume in a cryogenic trap. The trap is then heated to 10 degrees and held while passing helium through to transfer the compounds to a second trap. After transfer to the second trap, the compounds are back flushed while heating to be further focused on an open tubular focusing trap (cryofocuser) for rapid injection onto the narrow bore capillary column for analysis and detection by mass spectrometry in dual full scan and selective ion mode (SIM). Internal standards are added to the first stage cryogenic trap prior to the sample by a mass flow controller. Additional dilutions, if required, are performed by lowering the sample volume to a minimum of 50mLs for a 1:5 dilution. If further external dilutions are needed, the canister is then pressurized with UHP Nitrogen and a known volume is then injected into a 1L Canister. Qualitative identifications were confirmed by analyzing standards under the same conditions used for samples and comparing mass spectra and GC retention times. Quantification was based on the average response factor derived from a multi-level initial calibration using internal standard techniques, from the full scan signal.

Project Name:	FLINT ST. REDEVELOPMENT	**Lab Number:**	L1616769
Project Number:	Not Specified	**Report Date:**	06/27/16

Case Narrative (continued)

On the initial calibration and continuing calibration information included in the data deliverable package, C is indicated on compounds which are listed in the EPA TO-15 method.

The canister certification results are provided as an addendum.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Per client specification, all samples are B-qualified if the analyte was detected in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank.

The initial calibration was analyzed on 6/14/16 and has all analytes within the 30%RSD QC limit. Refer to the Initial Calibration Summary Form VI for specific details.

Sample L1616769-02 and WG905786-6 Duplicate: The samples have elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the samples.

Sample L1616769-03 and -07: The samples were diluted and re-analyzed to quantify the results within the calibration range. The results should be considered estimated, and are qualified with an E flag, for any compound that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound that exceeded the calibration range.

Sample The continuing calibration verification standard WG905786-2 has the percent deviation for Vinyl Bromide and Benzothiophene above the 30%D limit, but below 50%D at 30.6% and 30.9%. These compounds represented less than 10% of the total analytes evaluated. Refer to the Calibration Verification Form VII for specific details.

Project Name:	FLINT ST. REDEVELOPMENT	**Lab Number:**	L1616769
Project Number:	Not Specified	**Report Date:**	06/27/16

Case Narrative (continued)

Sample Method blank, WG905786-5, has Isopropyl Alcohol which is J qualified. Associated field sample results would be flagged with B qualifiers if the concentration of the analyte in the samples were less than 10x the concentration in the blank.

Volatile Organics by PIANO

Volatile Organic Compounds were analyzed by GC/MS following the procedures in the Alpha Analytical SOP Determination of PIANO Volatile Organic Compounds in Ambient Air and Soil Vapor Using Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry Method TO-15, modified (SOP 2188, Rev. 7, 7/27/15). Air volatile samples are introduced into the GC by a three stage concentration technique called Microscale Purge-and-Trap. A maximum volume of 250mLs is concentrated to about a 0.5mL volume in a cryogenic trap. The trap is then heated to 10 degrees and held while passing helium through to transfer the compounds to a second trap. After transfer to the second trap, the compounds are back flushed while heating to be further focused on an open tubular focusing trap (cryofocuser) for rapid injection onto the narrow bore capillary column for analysis and detection by mass spectrometry in dual full scan and selective ion mode (SIM). Internal standards are added to the first stage cryogenic trap prior to the sample by a mass flow controller. Additional dilutions, if required, are performed by lowering the sample volume to a minimum of 25mLs for a 1:10 dilution. If further external dilutions are needed, the canister is then pressurized with UHP Nitrogen and a known volume is then injected into a 1L Canister. Qualitative identifications were confirmed by analyzing standards under the same conditions used for samples and comparing mass spectra and GC retention times. Quantification was based on the average response factor derived from a multi-level initial calibration using internal standard techniques, from the SIM scan signal.

The canister certification results are provided as an addendum.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Per client specification, all samples are B-qualified if the analyte was detected in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten

Project Name: FLINT ST. REDEVELOPMENT **Lab Number:** L1616769
Project Number: Not Specified **Report Date:** 06/27/16

Case Narrative (continued)

times (10x) the concentration found in the blank.

The initial calibration was analyzed on 6/23/16 and has Indene and Tridecane above the 30%RSD QC limit. Refer to the Initial Calibration Summary Form VI for specific details. These compounds represented less than 10% of the total analytes evaluated, and the RSD was below 50%, therefore, analysis proceeded.

The initial calibration verification standard has 1-Methyl-4-Isopropylbenzene and Naphthalene with a %D above the 30% limit at 30.3% and 45.4% respectively. These compounds represented less than 10% of the total analytes evaluated, and the RSDs were below 50%, therefore, analysis proceeded.

Samples L1616769-02, -03 and -07: The samples have elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the samples.

Samples L1616769-02, -03, -05 and -06: The results for Isopentane should be considered estimated due to co-elution with a non-target compound.

The continuing calibration verification standard WG905446-2 has the percent deviation for Benzothiophene, Tridecane, 2-Methylnaphthalene, and 1-Methylnaphthalene above the 30%D limit at 34.3%, 79.9%, 49.9% and 56.6% respectively. Refer to the Calibration Verification Form VII for specific details.

The continuing calibration verification standard WG905446-7 has the percent deviation for Benzothiophene, Tridecane, 2-Methylnaphthalene, and 1-Methylnaphthalene above the 30%D limit at 30.0%, 72.2%, 43.9% and 50.9% respectively. Refer to the Calibration Verification Form VII for specific details.
All associated samples do not have amounts of these compounds reported over the reporting limt, therefore the data was reported.

The WG905446-3/4 LCS/LCSD recoveries for Naphthalene (143% and 145%) are outside the 70%-130% acceptance limit. The LCS was within overall method allowances, therefore the analysis proceeded.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative Date: 06/27/16

AIR

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-01
Client ID: RX-SSVP-01
Sample Location: FLINT ST. ROCHESTER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 06/20/16 15:51
Analyst: MB

Date Collected: 06/02/16 11:05
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.350	0.200	0.047	1.73	0.989	0.230		1
Chloromethane	ND	0.200	0.096	ND	0.413	0.198		1
Freon-114	ND	0.200	0.042	ND	1.40	0.293		1
Vinyl chloride	ND	0.200	0.038	ND	0.511	0.097		1
1,3-Butadiene	ND	0.200	0.080	ND	0.442	0.177		1
Butane	ND	0.200	0.044	ND	0.475	0.105		1
Acetaldehyde	3.59	2.50	0.547	6.47	4.50	0.985		1
Bromomethane	ND	0.200	0.070	ND	0.777	0.270		1
Chloroethane	ND	0.200	0.077	ND	0.528	0.202		1
Ethanol	0.783	2.50	0.542	1.48	4.71	1.02	J	1
Vinyl bromide	ND	0.200	0.070	ND	0.874	0.306		1
Acrolein	ND	0.500	0.114	ND	1.15	0.261		1
Acetone	1.82	1.00	0.165	4.32	2.38	0.392		1
Trichlorofluoromethane	0.319	0.200	0.042	1.79	1.12	0.234		1
Isopropanol	0.226	0.500	0.053	0.556	1.23	0.129	JB	1
Pentane	ND	0.200	0.048	ND	0.590	0.140		1
1,1-Dichloroethene	ND	0.200	0.057	ND	0.793	0.224		1
tert-Butyl Alcohol	0.090	0.500	0.060	0.273	1.52	0.182	J	1
Methylene chloride	ND	1.00	0.299	ND	1.74	1.04		1
3-Chloropropene	ND	0.200	0.081	ND	0.626	0.254		1
Carbon disulfide	ND	0.200	0.035	ND	0.623	0.107		1
Freon-113	0.063	0.200	0.051	0.483	1.53	0.392	J	1
trans-1,2-Dichloroethene	ND	0.200	0.074	ND	0.793	0.293		1
1,1-Dichloroethane	ND	0.200	0.077	ND	0.809	0.312		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-01
Client ID: RX-SSVP-01
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 11:05
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Methyl tert butyl ether	ND	0.200	0.053	ND	0.721	0.190		1
2-Butanone	0.223	0.500	0.047	0.658	1.47	0.139	J	1
cis-1,2-Dichloroethene	ND	0.200	0.059	ND	0.793	0.233		1
Chloroform	0.867	0.200	0.053	4.23	0.977	0.259		1
1,2-Dichloroethane	ND	0.200	0.055	ND	0.809	0.223		1
n-Hexane	ND	0.200	0.052	ND	0.705	0.183		1
1,1,1-Trichloroethane	ND	0.200	0.057	ND	1.09	0.311		1
Benzene	ND	0.200	0.054	ND	0.639	0.172		1
Thiophene	ND	0.200	0.053	ND	0.688	0.182		1
Carbon tetrachloride	0.059	0.200	0.047	0.371	1.26	0.296	J	1
Cyclohexane	ND	0.200	0.066	ND	0.688	0.226		1
1,2-Dichloropropane	ND	0.200	0.070	ND	0.924	0.322		1
Bromodichloromethane	ND	0.200	0.066	ND	1.34	0.439		1
1,4-Dioxane	ND	0.200	0.078	ND	0.721	0.281		1
Trichloroethene	ND	0.200	0.071	ND	1.07	0.382		1
2,2,4-Trimethylpentane	ND	0.200	0.066	ND	0.934	0.308		1
Heptane	ND	0.200	0.055	ND	0.820	0.227		1
cis-1,3-Dichloropropene	ND	0.200	0.075	ND	0.908	0.338		1
4-Methyl-2-pentanone	ND	0.500	0.061	ND	2.05	0.249		1
trans-1,3-Dichloropropene	ND	0.200	0.069	ND	0.908	0.315		1
1,1,2-Trichloroethane	ND	0.200	0.067	ND	1.09	0.364		1
Toluene	ND	0.200	0.063	ND	0.754	0.237		1
2-Methylthiophene	ND	0.200	0.079	ND	0.803	0.317		1
2-Hexanone	ND	0.200	0.060	ND	0.820	0.248		1
3-Methylthiophene	ND	0.200	0.067	ND	0.803	0.269		1
Dibromochloromethane	ND	0.200	0.075	ND	1.70	0.636		1
1,2-Dibromoethane	ND	0.200	0.078	ND	1.54	0.599		1
Octane	ND	0.200	0.042	ND	0.934	0.197		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-01
Client ID: RX-SSVP-01
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 11:05
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	1.85	0.200	0.076	12.5	1.36	0.514		1
Chlorobenzene	ND	0.200	0.079	ND	0.921	0.363		1
Ethylbenzene	ND	0.200	0.056	ND	0.869	0.241		1
2-Ethylthiophene	ND	0.200	0.057	ND	0.918	0.262		1
p/m-Xylene	ND	0.400	0.139	ND	1.74	0.604		1
Bromoform	ND	0.200	0.052	ND	2.07	0.541		1
Styrene	ND	0.200	0.080	ND	0.852	0.340		1
1,1,2,2-Tetrachloroethane	ND	0.200	0.055	ND	1.37	0.376		1
o-Xylene	ND	0.200	0.063	ND	0.869	0.274		1
Nonane	ND	0.200	0.063	ND	1.05	0.328		1
2-Chlorotoluene	ND	0.200	0.049	ND	1.04	0.252		1
4-Ethyltoluene	ND	0.200	0.078	ND	0.983	0.381		1
1,3,5-Trimethylbenzene	ND	0.200	0.058	ND	0.983	0.287		1
1,2,4-Trimethylbenzene	0.102	0.200	0.069	0.501	0.983	0.341	J	1
Decane	0.307	0.200	0.048	1.79	1.16	0.282		1
1,3-Dichlorobenzene	ND	0.200	0.064	ND	1.20	0.383		1
1,4-Dichlorobenzene	ND	0.200	0.036	ND	1.20	0.217		1
1,2,3-Trimethylbenzene	ND	0.200	0.075	ND	0.983	0.369		1
1,2-Dichlorobenzene	ND	0.200	0.061	ND	1.20	0.369		1
Indane	ND	0.200	0.080	ND	0.967	0.384		1
Indene	ND	0.200	0.061	ND	0.951	0.289		1
Undecane	0.547	0.200	0.053	3.50	1.28	0.338		1
1,2,4,5-Tetramethylbenzene	ND	0.500	0.080	ND	2.74	0.436		1
Dodecane	0.568	0.500	0.048	3.96	3.48	0.333		1
1,2,4-Trichlorobenzene	ND	0.200	0.061	ND	1.48	0.454		1
Naphthalene	0.138	0.200	0.043	0.724	1.05	0.223	J	1
Benzothiophene	ND	0.500	0.047	ND	2.74	0.257		1
Hexachlorobutadiene	ND	0.200	0.073	ND	2.13	0.781		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-01
Client ID: RX-SSVP-01
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:05
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
2-Methylnaphthalene	ND	1.00	0.272	ND	5.82	1.58		1
1-Methylnaphthalene	ND	1.00	0.250	ND	5.82	1.45		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-01
Client ID: RX-SSVP-01
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:05
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Bromofluorobenzene	93		70-130
Toluene-d8	106		70-130

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	90		60-140
Bromochloromethane	90		60-140
chlorobenzene-d5	86		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-01
Client ID: RX-SSVP-01
Sample Location: FLINT ST. ROCHESTER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 06/24/16 21:29
Analyst: RY

Date Collected: 06/02/16 11:05
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.025	0.010	ND	0.055	0.022		1
Isopentane	ND	0.025	0.010	ND	0.074	0.030		1
1-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
2-Methyl-1-Butene	ND	0.025	0.010	ND	0.072	0.029		1
Pentane	0.017	0.025	0.010	0.050	0.074	0.030	J	1
trans-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
cis-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
Tertiary Butanol	0.110	0.025	0.010	0.333	0.076	0.030		1
Cyclopentane	ND	0.025	0.010	ND	0.072	0.029		1
2,3-Dimethylbutane	ND	0.025	0.010	ND	0.088	0.035		1
2-Methylpentane	ND	0.025	0.010	ND	0.088	0.035		1
Methyl tert butyl ether	ND	0.025	0.010	ND	0.090	0.036		1
3-Methylpentane	ND	0.025	0.010	ND	0.088	0.035		1
1-Hexene	ND	0.025	0.010	ND	0.086	0.034		1
n-Hexane	0.031	0.025	0.010	0.109	0.088	0.035		1
Isopropyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
Ethyl-Tert-Butyl-Ether	ND	0.025	0.010	ND	0.104	0.042		1
2,2-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclopentane	ND	0.025	0.010	ND	0.086	0.034		1
2,4-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
1,2-Dichloroethane	ND	0.025	0.010	ND	0.101	0.041		1
Cyclohexane	ND	0.025	0.010	ND	0.086	0.034		1
2-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1
Benzene	0.019	0.025	0.010	0.061	0.080	0.032	J	1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-01
Client ID: RX-SSVP-01
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:05
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
2,3-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Thiophene	ND	0.025	0.010	ND	0.086	0.034		1
3-Methylhexane	0.019	0.025	0.010	0.078	0.102	0.041	J	1
Tertiary-Amyl Methyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
1-Heptene	ND	0.025	0.010	ND	0.100	0.040		1
Isooctane	0.013	0.025	0.010	0.061	0.117	0.047	J	1
Heptane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclohexane	ND	0.025	0.010	ND	0.100	0.040		1
2,5-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2,4-Dimethylhexane/2,2,3-Trimethylpentan	ND	0.050	0.025	ND	0.234	0.117		1
2,3,4-Trimethylpentane	0.022	0.025	0.010	0.103	0.117	0.047	J	1
2,3,3-Trimethylpentane	0.019	0.025	0.010	0.089	0.117	0.047	J	1
2,3-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
3-Ethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
3-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
Toluene	0.043	0.025	0.010	0.162	0.094	0.038		1
2-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
3-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
1-Octene	ND	0.025	0.010	ND	0.115	0.046		1
1-Ethyl-1-Methylcyclopentane	ND	0.025	0.010	ND	0.115	0.046		1
Octane	0.022	0.025	0.010	0.103	0.117	0.047	J	1
1,2-Dibromoethane	ND	0.025	0.010	ND	0.192	0.077		1
Ethylbenzene	0.018	0.025	0.010	0.078	0.109	0.043	J	1
2-Ethylthiophene	ND	0.025	0.010	ND	0.115	0.046		1
p/m-Xylene	0.071	0.050	0.010	0.308	0.217	0.043		1
1-Nonene	ND	0.025	0.010	ND	0.129	0.052		1
Nonane (C9)	0.041	0.025	0.010	0.215	0.131	0.053		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-01
Client ID: RX-SSVP-01
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:05
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Styrene	0.065	0.025	0.010	0.277	0.106	0.043		1
o-Xylene	0.038	0.050	0.010	0.165	0.217	0.043	J	1
Isopropylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
n-Propylbenzene	0.014	0.025	0.010	0.069	0.123	0.049	J	1
1-Methyl-3-Ethylbenzene	0.043	0.050	0.025	0.211	0.246	0.123	J	1
1-Methyl-4-Ethylbenzene	0.023	0.025	0.010	0.113	0.123	0.049	J	1
1,3,5-Trimethylbenzene	0.027	0.025	0.010	0.133	0.123	0.049		1
1-Decene	0.029	0.050	0.025	0.166	0.287	0.143	J	1
1-Methyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
Decane (C10)	0.423	0.050	0.025	2.46	0.291	0.146		1
1,2,4-Trimethylbenzene	0.122	0.050	0.025	0.600	0.246	0.123		1
sec-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-3-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-Isopropylbenzene	0.034	0.050	0.025	0.187	0.274	0.137	J	1
1-Methyl-2-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Indane	ND	0.050	0.025	ND	0.242	0.121		1
Indene	ND	0.050	0.025	ND	0.238	0.119		1
1-Methyl-3-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
n-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Diethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,4-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Undecane	0.313	0.050	0.025	2.00	0.320	0.160		1
1,3-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,3-Dimethyl-5-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,3-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-01
Client ID: RX-SSVP-01
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 11:05
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dimethyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2,4,5-Tetramethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
N-Pentylbenzene	ND	0.050	0.025	ND	0.303	0.152		1
Dodecane (C12)	0.554	0.100	0.050	3.86	0.697	0.348		1
Naphthalene	0.215	0.050	0.025	1.13	0.262	0.131		1
Benzothiophene	ND	0.100	0.050	ND	0.549	0.274		1
MMT	ND	0.100	0.050	ND	0.892	0.446		1
Tridecane	0.194	1.00	0.050	1.46	7.54	0.377	J	1
2-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1
1-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-01
Client ID: RX-SSVP-01
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 11:05
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
4-Bromofluorobenzene	98		70-130
Toluene-d8	99		70-130

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	96		60-140
Bromochloromethane	98		60-140
chlorobenzene-d5	97		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-02 D
Client ID: RX-SSVP-02
Sample Location: FLINT ST. ROCHESTER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 06/20/16 16:24
Analyst: MB

Date Collected: 06/02/16 11:23
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.378	0.500	0.116	1.87	2.47	0.574	J	2.5
Chloromethane	ND	0.500	0.240	ND	1.03	0.496		2.5
Freon-114	ND	0.500	0.105	ND	3.49	0.734		2.5
Vinyl chloride	ND	0.500	0.095	ND	1.28	0.242		2.5
1,3-Butadiene	ND	0.500	0.200	ND	1.11	0.442		2.5
Butane	0.230	0.500	0.110	0.547	1.19	0.261	J	2.5
Acetaldehyde	3.68	6.25	1.37	6.63	11.3	2.47	J	2.5
Bromomethane	ND	0.500	0.174	ND	1.94	0.676		2.5
Chloroethane	ND	0.500	0.192	ND	1.32	0.507		2.5
Ethanol	4.84	6.25	1.35	9.12	11.8	2.54	J	2.5
Vinyl bromide	ND	0.500	0.175	ND	2.19	0.765		2.5
Acrolein	ND	1.25	0.284	ND	2.87	0.651		2.5
Acetone	4.07	2.50	0.412	9.67	5.94	0.979		2.5
Trichlorofluoromethane	0.578	0.500	0.104	3.25	2.81	0.584		2.5
Isopropanol	0.798	1.25	0.131	1.96	3.07	0.322	JB	2.5
Pentane	0.408	0.500	0.119	1.20	1.48	0.351	J	2.5
1,1-Dichloroethene	ND	0.500	0.142	ND	1.98	0.563		2.5
tert-Butyl Alcohol	ND	1.25	0.150	ND	3.79	0.455		2.5
Methylene chloride	ND	1.25	0.748	ND	4.34	2.60		2.5
3-Chloropropene	ND	0.500	0.203	ND	1.57	0.635		2.5
Carbon disulfide	0.205	0.500	0.086	0.638	1.56	0.268	J	2.5
Freon-113	ND	0.500	0.128	ND	3.83	0.981		2.5
trans-1,2-Dichloroethene	1.65	0.500	0.185	6.54	1.98	0.733		2.5
1,1-Dichloroethane	ND	0.500	0.193	ND	2.02	0.781		2.5

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-02 D
Client ID: RX-SSVP-02
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:23
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Methyl tert butyl ether	ND	0.500	0.132	ND	1.80	0.476		2.5
2-Butanone	0.430	1.25	0.118	1.27	3.69	0.348	J	2.5
cis-1,2-Dichloroethene	ND	0.500	0.147	ND	1.98	0.583		2.5
Chloroform	172	0.500	0.133	840	2.44	0.649		2.5
1,2-Dichloroethane	ND	0.500	0.138	ND	2.02	0.559		2.5
n-Hexane	0.178	0.500	0.130	0.627	1.76	0.458	J	2.5
1,1,1-Trichloroethane	0.162	0.500	0.142	0.884	2.73	0.775	J	2.5
Benzene	0.340	0.500	0.134	1.09	1.60	0.428	J	2.5
Thiophene	ND	0.500	0.132	ND	1.72	0.454		2.5
Carbon tetrachloride	0.152	0.500	0.118	0.956	3.15	0.742	J	2.5
Cyclohexane	ND	0.500	0.164	ND	1.72	0.565		2.5
1,2-Dichloropropane	ND	0.500	0.174	ND	2.31	0.804		2.5
Bromodichloromethane	ND	0.500	0.164	ND	3.35	1.10		2.5
1,4-Dioxane	ND	0.500	0.195	ND	1.80	0.703		2.5
Trichloroethene	1.50	0.500	0.178	8.06	2.69	0.957		2.5
2,2,4-Trimethylpentane	ND	0.500	0.165	ND	2.34	0.771		2.5
Heptane	0.168	0.500	0.138	0.688	2.05	0.566	J	2.5
cis-1,3-Dichloropropene	ND	0.500	0.186	ND	2.27	0.844		2.5
4-Methyl-2-pentanone	ND	1.25	0.152	ND	5.12	0.623		2.5
trans-1,3-Dichloropropene	ND	0.500	0.173	ND	2.27	0.785		2.5
1,1,2-Trichloroethane	ND	0.500	0.167	ND	2.73	0.911		2.5
Toluene	0.862	0.500	0.157	3.25	1.88	0.592		2.5
2-Methylthiophene	ND	0.500	0.197	ND	2.01	0.791		2.5
2-Hexanone	ND	0.500	0.151	ND	2.05	0.619		2.5
3-Methylthiophene	ND	0.500	0.167	ND	2.01	0.671		2.5
Dibromochloromethane	ND	0.500	0.187	ND	4.26	1.59		2.5
1,2-Dibromoethane	ND	0.500	0.195	ND	3.84	1.50		2.5
Octane	0.115	0.500	0.105	0.537	2.34	0.490	J	2.5

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-02 D
Client ID: RX-SSVP-02
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 11:23
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	6.93	0.500	0.190	47.0	3.39	1.29		2.5
Chlorobenzene	ND	0.500	0.197	ND	2.30	0.907		2.5
Ethylbenzene	ND	0.500	0.139	ND	2.17	0.604		2.5
2-Ethylthiophene	ND	0.500	0.143	ND	2.29	0.656		2.5
p/m-Xylene	0.758	1.00	0.347	3.29	4.34	1.51	J	2.5
Bromoform	ND	0.500	0.131	ND	5.17	1.35		2.5
Styrene	ND	0.500	0.200	ND	2.13	0.852		2.5
1,1,2,2-Tetrachloroethane	ND	0.500	0.137	ND	3.43	0.941		2.5
o-Xylene	0.205	0.500	0.158	0.890	2.17	0.686	J	2.5
Nonane	ND	0.500	0.156	ND	2.62	0.819		2.5
2-Chlorotoluene	ND	0.500	0.122	ND	2.59	0.632		2.5
4-Ethyltoluene	ND	0.500	0.194	ND	2.46	0.954		2.5
1,3,5-Trimethylbenzene	ND	0.500	0.146	ND	2.46	0.718		2.5
1,2,4-Trimethylbenzene	0.242	0.500	0.174	1.19	2.46	0.855	J	2.5
Decane	0.570	0.500	0.121	3.32	2.91	0.704		2.5
1,3-Dichlorobenzene	ND	0.500	0.159	ND	3.01	0.956		2.5
1,4-Dichlorobenzene	ND	0.500	0.090	ND	3.01	0.542		2.5
1,2,3-Trimethylbenzene	ND	0.500	0.188	ND	2.46	0.924		2.5
1,2-Dichlorobenzene	ND	0.500	0.154	ND	3.01	0.926		2.5
Indane	ND	0.500	0.199	ND	2.42	0.962		2.5
Indene	ND	0.500	0.152	ND	2.38	0.722		2.5
Undecane	1.01	0.500	0.132	6.46	3.20	0.844		2.5
1,2,4,5-Tetramethylbenzene	ND	1.25	0.199	ND	6.86	1.09		2.5
Dodecane	0.782	1.25	0.120	5.45	8.71	0.836	J	2.5
1,2,4-Trichlorobenzene	ND	0.500	0.153	ND	3.71	1.14		2.5
Naphthalene	0.150	0.500	0.106	0.787	2.62	0.556	J	2.5
Benzothiophene	ND	1.25	0.117	ND	6.86	0.642		2.5
Hexachlorobutadiene	ND	0.500	0.183	ND	5.33	1.95		2.5

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-02 D
Client ID: RX-SSVP-02
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:23
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
2-Methylnaphthalene	ND	2.50	0.681	ND	14.5	3.96		2.5
1-Methylnaphthalene	ND	2.50	0.624	ND	14.5	3.63		2.5

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-02 D
Client ID: RX-SSVP-02
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:23
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	97		70-130
Bromofluorobenzene	94		70-130
Toluene-d8	106		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	91		60-140
Bromochloromethane	90		60-140
chlorobenzene-d5	87		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-02 D
Client ID: RX-SSVP-02
Sample Location: FLINT ST. ROCHESTER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 06/24/16 23:42
Analyst: RY

Date Collected: 06/02/16 11:23
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.063	0.025	ND	0.138	0.055		2.5
Isopentane	0.132	0.063	0.025	0.390	0.184	0.074		2.5
1-Pentene	0.025	0.063	0.025	0.072	0.179	0.072	J	2.5
2-Methyl-1-Butene	ND	0.063	0.025	ND	0.179	0.072		2.5
Pentane	0.208	0.063	0.025	0.614	0.184	0.074		2.5
trans-2-Pentene	ND	0.063	0.025	ND	0.179	0.072		2.5
cis-2-Pentene	ND	0.063	0.025	ND	0.179	0.072		2.5
Tertiary Butanol	0.160	0.063	0.025	0.485	0.189	0.076		2.5
Cyclopentane	ND	0.063	0.025	ND	0.179	0.072		2.5
2,3-Dimethylbutane	0.038	0.063	0.025	0.132	0.220	0.088	J	2.5
2-Methylpentane	0.073	0.063	0.025	0.256	0.220	0.088		2.5
Methyl tert butyl ether	ND	0.063	0.025	ND	0.225	0.090		2.5
3-Methylpentane	0.050	0.063	0.025	0.176	0.220	0.088	J	2.5
1-Hexene	ND	0.063	0.025	ND	0.215	0.086		2.5
n-Hexane	0.205	0.063	0.025	0.722	0.220	0.088		2.5
Isopropyl Ether	ND	0.063	0.025	ND	0.261	0.104		2.5
Ethyl-Tert-Butyl-Ether	ND	0.063	0.025	ND	0.261	0.104		2.5
2,2-Dimethylpentane	ND	0.063	0.025	ND	0.256	0.102		2.5
Methylcyclopentane	0.050	0.063	0.025	0.172	0.215	0.086	J	2.5
2,4-Dimethylpentane	ND	0.063	0.025	ND	0.256	0.102		2.5
1,2-Dichloroethane	ND	0.063	0.025	ND	0.253	0.101		2.5
Cyclohexane	0.048	0.063	0.025	0.164	0.215	0.086	J	2.5
2-Methylhexane	0.035	0.063	0.025	0.143	0.256	0.102	J	2.5
Benzene	0.370	0.063	0.025	1.18	0.200	0.080		2.5

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-02 D
Client ID: RX-SSVP-02
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 11:23
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
2,3-Dimethylpentane	ND	0.063	0.025	ND	0.256	0.102		2.5
Thiophene	ND	0.063	0.025	ND	0.215	0.086		2.5
3-Methylhexane	0.105	0.063	0.025	0.430	0.256	0.102		2.5
Tertiary-Amyl Methyl Ether	ND	0.063	0.025	ND	0.261	0.104		2.5
1-Heptene	0.043	0.063	0.025	0.171	0.251	0.100	J	2.5
Isooctane	0.050	0.063	0.025	0.234	0.292	0.117	J	2.5
Heptane	0.205	0.063	0.025	0.840	0.256	0.102		2.5
Methylcyclohexane	0.088	0.063	0.025	0.351	0.251	0.100		2.5
2,5-Dimethylhexane	ND	0.063	0.025	ND	0.292	0.117		2.5
2,4-Dimethylhexane/2,2,3-Trimethylpentan	0.065	0.125	0.063	0.304	0.584	0.292	J	2.5
2,3,4-Trimethylpentane	0.080	0.063	0.025	0.374	0.292	0.117		2.5
2,3,3-Trimethylpentane	0.073	0.063	0.025	0.339	0.292	0.117		2.5
2,3-Dimethylhexane	ND	0.063	0.025	ND	0.292	0.117		2.5
3-Ethylhexane	ND	0.063	0.025	ND	0.292	0.117		2.5
2-Methylheptane	0.048	0.063	0.025	0.222	0.292	0.117	J	2.5
3-Methylheptane	ND	0.063	0.025	ND	0.292	0.117		2.5
Toluene	0.908	0.063	0.025	3.42	0.236	0.094		2.5
2-Methylthiophene	ND	0.063	0.025	ND	0.251	0.100		2.5
3-Methylthiophene	ND	0.063	0.025	ND	0.251	0.100		2.5
1-Octene	ND	0.063	0.025	ND	0.287	0.115		2.5
1-Ethyl-1-Methylcyclopentane	ND	0.063	0.025	ND	0.287	0.115		2.5
Octane	0.160	0.063	0.025	0.747	0.292	0.117		2.5
1,2-Dibromoethane	ND	0.063	0.025	ND	0.480	0.192		2.5
Ethylbenzene	0.125	0.063	0.025	0.543	0.271	0.109		2.5
2-Ethylthiophene	ND	0.063	0.025	ND	0.287	0.115		2.5
p/m-Xylene	0.840	0.125	0.025	3.65	0.543	0.109		2.5
1-Nonene	ND	0.063	0.025	ND	0.323	0.129		2.5
Nonane (C9)	0.155	0.063	0.025	0.813	0.328	0.131		2.5

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-02 D
Client ID: RX-SSVP-02
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:23
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Styrene	0.108	0.063	0.025	0.460	0.266	0.106		2.5
o-Xylene	0.248	0.125	0.025	1.08	0.543	0.109		2.5
Isopropylbenzene	ND	0.063	0.025	ND	0.307	0.123		2.5
n-Propylbenzene	0.038	0.063	0.025	0.184	0.307	0.123	J	2.5
1-Methyl-3-Ethylbenzene	0.148	0.125	0.063	0.728	0.615	0.307		2.5
1-Methyl-4-Ethylbenzene	0.073	0.063	0.025	0.356	0.307	0.123		2.5
1,3,5-Trimethylbenzene	0.110	0.063	0.025	0.541	0.307	0.123		2.5
1-Decene	ND	0.125	0.063	ND	0.717	0.359		2.5
1-Methyl-2-Ethylbenzene	ND	0.125	0.063	ND	0.615	0.307		2.5
Decane (C10)	0.778	0.125	0.063	4.53	0.728	0.364		2.5
1,2,4-Trimethylbenzene	0.318	0.125	0.063	1.56	0.615	0.307		2.5
sec-Butylbenzene	ND	0.125	0.063	ND	0.686	0.343		2.5
1-Methyl-3-Isopropylbenzene	ND	0.125	0.063	ND	0.686	0.343		2.5
1-Methyl-4-Isopropylbenzene	0.065	0.125	0.063	0.357	0.686	0.343	J	2.5
1-Methyl-2-Isopropylbenzene	ND	0.125	0.063	ND	0.686	0.343		2.5
Indane	0.112	0.125	0.063	0.541	0.604	0.302	J	2.5
Indene	ND	0.125	0.063	ND	0.594	0.297		2.5
1-Methyl-3-N-Propylbenzene	ND	0.125	0.063	ND	0.686	0.343		2.5
1-Methyl-4-N-Propylbenzene	ND	0.125	0.063	ND	0.686	0.343		2.5
n-Butylbenzene	ND	0.125	0.063	ND	0.686	0.343		2.5
1,2-Dimethyl-4-Ethylbenzene	ND	0.125	0.063	ND	0.686	0.343		2.5
1,2-Diethylbenzene	ND	0.125	0.063	ND	0.686	0.343		2.5
1-Methyl-2-N-Propylbenzene	ND	0.125	0.063	ND	0.686	0.343		2.5
1,4-Dimethyl-2-Ethylbenzene	ND	0.125	0.063	ND	0.686	0.343		2.5
Undecane	0.692	0.125	0.063	4.42	0.799	0.400		2.5
1,3-Dimethyl-4-Ethylbenzene	ND	0.125	0.063	ND	0.686	0.343		2.5
1,3-Dimethyl-5-Ethylbenzene	ND	0.125	0.063	ND	0.686	0.343		2.5
1,3-Dimethyl-2-Ethylbenzene	ND	0.125	0.063	ND	0.686	0.343		2.5

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-02 D
Client ID: RX-SSVP-02
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:23
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dimethyl-3-Ethylbenzene	ND	0.125	0.063	ND	0.686	0.343		2.5
1,2,4,5-Tetramethylbenzene	ND	0.125	0.063	ND	0.686	0.343		2.5
N-Pentylbenzene	ND	0.125	0.063	ND	0.758	0.379		2.5
Dodecane (C12)	0.938	0.250	0.125	6.53	1.74	0.871		2.5
Naphthalene	0.255	0.125	0.063	1.34	0.655	0.328		2.5
Benzothiophene	ND	0.250	0.125	ND	1.37	0.686		2.5
MMT	ND	0.250	0.125	ND	2.23	1.12		2.5
Tridecane	0.288	2.50	0.125	2.17	18.9	0.943	J	2.5
2-Methylnaphthalene	ND	1.25	0.125	ND	7.27	0.727		2.5
1-Methylnaphthalene	ND	1.25	0.125	ND	7.27	0.727		2.5

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-02 D
Client ID: RX-SSVP-02
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:23
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
4-Bromofluorobenzene	99		70-130
Toluene-d8	100		70-130

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	95		60-140
Bromochloromethane	96		60-140
chlorobenzene-d5	94		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-03 D
Client ID: RX-SSVP-03
Sample Location: FLINT ST. ROCHESTER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 06/20/16 17:30
Analyst: MB

Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.420	0.667	0.155	2.08	3.30	0.766	J	3.333
Chloromethane	ND	0.667	0.319	ND	1.38	0.659		3.333
Freon-114	ND	0.667	0.140	ND	4.66	0.979		3.333
Vinyl chloride	ND	0.667	0.126	ND	1.71	0.322		3.333
1,3-Butadiene	ND	0.667	0.266	ND	1.48	0.588		3.333
Butane	0.590	0.667	0.147	1.40	1.59	0.349	J	3.333
Acetaldehyde	12.6	8.33	1.82	22.7	15.0	3.28		3.333
Bromomethane	ND	0.667	0.232	ND	2.59	0.901		3.333
Chloroethane	ND	0.667	0.256	ND	1.76	0.676		3.333
Ethanol	4.19	8.33	1.80	7.90	15.7	3.39	J	3.333
Vinyl bromide	ND	0.667	0.233	ND	2.92	1.02		3.333
Acrolein	ND	1.67	0.379	ND	3.83	0.869		3.333
Acetone	7.72	3.33	0.550	18.3	7.91	1.31		3.333
Trichlorofluoromethane	0.437	0.667	0.139	2.46	3.75	0.781	J	3.333
Isopropanol	0.540	1.67	0.175	1.33	4.10	0.430	JB	3.333
Pentane	0.397	0.667	0.158	1.17	1.97	0.466	J	3.333
1,1-Dichloroethene	ND	0.667	0.189	ND	2.64	0.749		3.333
tert-Butyl Alcohol	0.880	1.67	0.200	2.67	5.06	0.606	J	3.333
Methylene chloride	ND	1.67	0.997	ND	5.80	3.46		3.333
3-Chloropropene	ND	0.667	0.271	ND	2.09	0.848		3.333
Carbon disulfide	ND	0.667	0.115	ND	2.08	0.358		3.333
Freon-113	ND	0.667	0.170	ND	5.11	1.30		3.333
trans-1,2-Dichloroethene	1.34	0.667	0.247	5.31	2.64	0.979		3.333
1,1-Dichloroethane	ND	0.667	0.257	ND	2.70	1.04		3.333

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-03 D
Client ID: RX-SSVP-03
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Methyl tert butyl ether	ND	0.667	0.176	ND	2.40	0.635		3.333
2-Butanone	0.850	1.67	0.157	2.51	4.93	0.463	J	3.333
cis-1,2-Dichloroethene	2.84	0.667	0.196	11.3	2.64	0.777		3.333
Chloroform	12.0	0.667	0.177	58.6	3.26	0.864		3.333
1,2-Dichloroethane	ND	0.667	0.184	ND	2.70	0.745		3.333
n-Hexane	ND	0.667	0.173	ND	2.35	0.610		3.333
1,1,1-Trichloroethane	ND	0.667	0.190	ND	3.64	1.04		3.333
Benzene	0.463	0.667	0.179	1.48	2.13	0.572	J	3.333
Thiophene	ND	0.667	0.176	ND	2.30	0.606		3.333
Carbon tetrachloride	ND	0.667	0.157	ND	4.20	0.988		3.333
Cyclohexane	0.230	0.667	0.219	0.792	2.30	0.754	J	3.333
1,2-Dichloropropane	ND	0.667	0.232	ND	3.08	1.07		3.333
Bromodichloromethane	ND	0.667	0.219	ND	4.47	1.47		3.333
1,4-Dioxane	ND	0.667	0.260	ND	2.40	0.937		3.333
Trichloroethene	414	0.667	0.237	2220	3.58	1.27	E	3.333
2,2,4-Trimethylpentane	ND	0.667	0.220	ND	3.12	1.03		3.333
Heptane	ND	0.667	0.184	ND	2.73	0.754		3.333
cis-1,3-Dichloropropene	ND	0.667	0.248	ND	3.03	1.13		3.333
4-Methyl-2-pentanone	ND	1.67	0.202	ND	6.84	0.828		3.333
trans-1,3-Dichloropropene	ND	0.667	0.231	ND	3.03	1.05		3.333
1,1,2-Trichloroethane	ND	0.667	0.222	ND	3.64	1.21		3.333
Toluene	0.497	0.667	0.209	1.87	2.51	0.788	J	3.333
2-Methylthiophene	ND	0.667	0.263	ND	2.68	1.06		3.333
2-Hexanone	0.760	0.667	0.201	3.11	2.73	0.824		3.333
3-Methylthiophene	ND	0.667	0.223	ND	2.68	0.895		3.333
Dibromochloromethane	ND	0.667	0.249	ND	5.68	2.12		3.333
1,2-Dibromoethane	ND	0.667	0.260	ND	5.13	2.00		3.333
Octane	ND	0.667	0.140	ND	3.12	0.654		3.333

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-03 D
Client ID: RX-SSVP-03
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	180	0.667	0.253	1220	4.52	1.72		3.333
Chlorobenzene	ND	0.667	0.263	ND	3.07	1.21		3.333
Ethylbenzene	ND	0.667	0.185	ND	2.90	0.804		3.333
2-Ethylthiophene	ND	0.667	0.190	ND	3.06	0.872		3.333
p/m-Xylene	ND	1.33	0.463	ND	5.78	2.01		3.333
Bromoform	ND	0.667	0.174	ND	6.90	1.80		3.333
Styrene	ND	0.667	0.266	ND	2.84	1.13		3.333
1,1,2,2-Tetrachloroethane	ND	0.667	0.183	ND	4.58	1.26		3.333
o-Xylene	ND	0.667	0.210	ND	2.90	0.912		3.333
Nonane	ND	0.667	0.208	ND	3.50	1.09		3.333
2-Chlorotoluene	ND	0.667	0.162	ND	3.45	0.839		3.333
4-Ethyltoluene	ND	0.667	0.259	ND	3.28	1.27		3.333
1,3,5-Trimethylbenzene	ND	0.667	0.195	ND	3.28	0.959		3.333
1,2,4-Trimethylbenzene	ND	0.667	0.231	ND	3.28	1.14		3.333
Decane	0.573	0.667	0.161	3.33	3.88	0.937	J	3.333
1,3-Dichlorobenzene	ND	0.667	0.212	ND	4.01	1.27		3.333
1,4-Dichlorobenzene	ND	0.667	0.120	ND	4.01	0.721		3.333
1,2,3-Trimethylbenzene	ND	0.667	0.250	ND	3.28	1.23		3.333
1,2-Dichlorobenzene	ND	0.667	0.205	ND	4.01	1.23		3.333
Indane	ND	0.667	0.265	ND	3.22	1.28		3.333
Indene	ND	0.667	0.203	ND	3.17	0.965		3.333
Undecane	0.806	0.667	0.176	5.15	4.26	1.13		3.333
1,2,4,5-Tetramethylbenzene	ND	1.67	0.265	ND	9.17	1.45		3.333
Dodecane	0.593	1.67	0.159	4.13	11.6	1.11	J	3.333
1,2,4-Trichlorobenzene	ND	0.667	0.204	ND	4.95	1.51		3.333
Naphthalene	0.267	0.667	0.142	1.40	3.50	0.745	J	3.333
Benzothiophene	ND	1.67	0.156	ND	9.17	0.856		3.333
Hexachlorobutadiene	ND	0.667	0.244	ND	7.11	2.60		3.333

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-03 D
Client ID: RX-SSVP-03
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
2-Methylnaphthalene	ND	3.33	0.908	ND	19.4	5.28		3.333
1-Methylnaphthalene	ND	3.33	0.832	ND	19.4	4.84		3.333

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-03 D
Client ID: RX-SSVP-03
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	95		70-130
Bromofluorobenzene	96		70-130
Toluene-d8	108		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	90		60-140
Bromochloromethane	88		60-140
chlorobenzene-d5	85		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-03 D
Client ID: RX-SSVP-03
Sample Location: FLINT ST. ROCHESTER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 06/25/16 00:49
Analyst: RY

Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.083	0.033	ND	0.184	0.074		3.333
Isopentane	0.580	0.083	0.033	1.71	0.246	0.098		3.333
1-Pentene	0.063	0.083	0.033	0.182	0.239	0.096	J	3.333
2-Methyl-1-Butene	0.077	0.083	0.033	0.220	0.239	0.096	J	3.333
Pentane	0.183	0.083	0.033	0.540	0.246	0.098		3.333
trans-2-Pentene	0.047	0.083	0.033	0.134	0.239	0.096	J	3.333
cis-2-Pentene	0.057	0.083	0.033	0.163	0.239	0.096	J	3.333
Tertiary Butanol	0.963	0.083	0.033	2.92	0.253	0.101		3.333
Cyclopentane	0.173	0.083	0.033	0.496	0.239	0.096		3.333
2,3-Dimethylbutane	0.183	0.083	0.033	0.645	0.294	0.117		3.333
2-Methylpentane	0.103	0.083	0.033	0.363	0.294	0.117		3.333
Methyl tert butyl ether	ND	0.083	0.033	ND	0.300	0.120		3.333
3-Methylpentane	ND	0.083	0.033	ND	0.294	0.117		3.333
1-Hexene	ND	0.083	0.033	ND	0.287	0.115		3.333
n-Hexane	0.137	0.083	0.033	0.483	0.294	0.117		3.333
Isopropyl Ether	ND	0.083	0.033	ND	0.348	0.139		3.333
Ethyl-Tert-Butyl-Ether	ND	0.083	0.033	ND	0.348	0.139		3.333
2,2-Dimethylpentane	ND	0.083	0.033	ND	0.341	0.136		3.333
Methylcyclopentane	0.097	0.083	0.033	0.333	0.287	0.115		3.333
2,4-Dimethylpentane	0.120	0.083	0.033	0.492	0.341	0.136		3.333
1,2-Dichloroethane	ND	0.083	0.033	ND	0.337	0.135		3.333
Cyclohexane	0.243	0.083	0.033	0.836	0.287	0.115		3.333
2-Methylhexane	0.047	0.083	0.033	0.191	0.341	0.136	J	3.333
Benzene	0.513	0.083	0.033	1.64	0.266	0.106		3.333

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-03 D
Client ID: RX-SSVP-03
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
2,3-Dimethylpentane	0.047	0.083	0.033	0.191	0.341	0.136	J	3.333
Thiophene	ND	0.083	0.033	ND	0.287	0.115		3.333
3-Methylhexane	0.150	0.083	0.033	0.615	0.341	0.136		3.333
Tertiary-Amyl Methyl Ether	ND	0.083	0.033	ND	0.348	0.139		3.333
1-Heptene	ND	0.083	0.033	ND	0.335	0.134		3.333
Isooctane	0.073	0.083	0.033	0.342	0.389	0.156	J	3.333
Heptane	0.180	0.083	0.033	0.738	0.341	0.136		3.333
Methylcyclohexane	0.123	0.083	0.033	0.494	0.334	0.134		3.333
2,5-Dimethylhexane	ND	0.083	0.033	ND	0.389	0.156		3.333
2,4-Dimethylhexane/2,2,3-Trimethylpentan	ND	0.167	0.083	ND	0.780	0.389		3.333
2,3,4-Trimethylpentane	0.060	0.083	0.033	0.280	0.389	0.156	J	3.333
2,3,3-Trimethylpentane	0.063	0.083	0.033	0.296	0.389	0.156	J	3.333
2,3-Dimethylhexane	ND	0.083	0.033	ND	0.389	0.156		3.333
3-Ethylhexane	ND	0.083	0.033	ND	0.389	0.156		3.333
2-Methylheptane	0.107	0.083	0.033	0.500	0.389	0.156		3.333
3-Methylheptane	ND	0.083	0.033	ND	0.389	0.156		3.333
Toluene	0.560	0.083	0.033	2.11	0.314	0.125		3.333
2-Methylthiophene	ND	0.083	0.033	ND	0.334	0.134		3.333
3-Methylthiophene	ND	0.083	0.033	ND	0.334	0.134		3.333
1-Octene	ND	0.083	0.033	ND	0.382	0.153		3.333
1-Ethyl-1-Methylcyclopentane	ND	0.083	0.033	ND	0.382	0.153		3.333
Octane	0.107	0.083	0.033	0.500	0.389	0.156		3.333
1,2-Dibromoethane	ND	0.083	0.033	ND	0.640	0.256		3.333
Ethylbenzene	0.087	0.083	0.033	0.376	0.362	0.145		3.333
2-Ethylthiophene	ND	0.083	0.033	ND	0.382	0.153		3.333
p/m-Xylene	0.320	0.167	0.033	1.39	0.725	0.145		3.333
1-Nonene	ND	0.083	0.033	ND	0.430	0.172		3.333
Nonane (C9)	0.140	0.083	0.033	0.735	0.437	0.175		3.333

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-03 D
Client ID: RX-SSVP-03
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Styrene	0.087	0.083	0.033	0.369	0.355	0.142		3.333
o-Xylene	0.137	0.167	0.033	0.595	0.725	0.145	J	3.333
Isopropylbenzene	ND	0.083	0.033	ND	0.410	0.164		3.333
n-Propylbenzene	0.037	0.083	0.033	0.180	0.410	0.164	J	3.333
1-Methyl-3-Ethylbenzene	0.097	0.167	0.083	0.475	0.821	0.410	J	3.333
1-Methyl-4-Ethylbenzene	0.050	0.083	0.033	0.246	0.410	0.164	J	3.333
1,3,5-Trimethylbenzene	0.070	0.083	0.033	0.344	0.410	0.164	J	3.333
1-Decene	ND	0.167	0.083	ND	0.958	0.478		3.333
1-Methyl-2-Ethylbenzene	ND	0.167	0.083	ND	0.821	0.410		3.333
Decane (C10)	0.770	0.167	0.083	4.48	0.972	0.485		3.333
1,2,4-Trimethylbenzene	0.243	0.167	0.083	1.19	0.821	0.410		3.333
sec-Butylbenzene	ND	0.167	0.083	ND	0.917	0.457		3.333
1-Methyl-3-Isopropylbenzene	ND	0.167	0.083	ND	0.917	0.457		3.333
1-Methyl-4-Isopropylbenzene	ND	0.167	0.083	ND	0.917	0.457		3.333
1-Methyl-2-Isopropylbenzene	ND	0.167	0.083	ND	0.917	0.457		3.333
Indane	ND	0.167	0.083	ND	0.807	0.403		3.333
Indene	ND	0.167	0.083	ND	0.794	0.396		3.333
1-Methyl-3-N-Propylbenzene	ND	0.167	0.083	ND	0.917	0.457		3.333
1-Methyl-4-N-Propylbenzene	ND	0.167	0.083	ND	0.917	0.457		3.333
n-Butylbenzene	ND	0.167	0.083	ND	0.917	0.457		3.333
1,2-Dimethyl-4-Ethylbenzene	ND	0.167	0.083	ND	0.917	0.457		3.333
1,2-Diethylbenzene	ND	0.167	0.083	ND	0.917	0.457		3.333
1-Methyl-2-N-Propylbenzene	ND	0.167	0.083	ND	0.917	0.457		3.333
1,4-Dimethyl-2-Ethylbenzene	ND	0.167	0.083	ND	0.917	0.457		3.333
Undecane	0.443	0.167	0.083	2.83	1.07	0.533		3.333
1,3-Dimethyl-4-Ethylbenzene	ND	0.167	0.083	ND	0.917	0.457		3.333
1,3-Dimethyl-5-Ethylbenzene	ND	0.167	0.083	ND	0.917	0.457		3.333
1,3-Dimethyl-2-Ethylbenzene	ND	0.167	0.083	ND	0.917	0.457		3.333

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-03 D
Client ID: RX-SSVP-03
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dimethyl-3-Ethylbenzene	ND	0.167	0.083	ND	0.917	0.457		3.333
1,2,4,5-Tetramethylbenzene	ND	0.167	0.083	ND	0.917	0.457		3.333
N-Pentylbenzene	ND	0.167	0.083	ND	1.01	0.505		3.333
Dodecane (C12)	0.640	0.333	0.167	4.46	2.32	1.16		3.333
Naphthalene	0.423	0.167	0.083	2.22	0.876	0.437		3.333
Benzothiophene	ND	0.333	0.167	ND	1.83	0.917		3.333
MMT	ND	0.333	0.167	ND	2.97	1.49		3.333
Tridecane	0.230	3.33	0.167	1.73	25.1	1.26	J	3.333
2-Methylnaphthalene	ND	1.67	0.167	ND	9.71	0.971		3.333
1-Methylnaphthalene	ND	1.67	0.167	ND	9.71	0.971		3.333

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-03 D
Client ID: RX-SSVP-03
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	98		70-130
4-Bromofluorobenzene	97		70-130
Toluene-d8	100		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	95		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	96		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-03 D2
Client ID: RX-SSVP-03
Sample Location: FLINT ST. ROCHESTER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 06/21/16 06:49
Analyst: MB

Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Trichloroethene	386	2.00	0.710	2070	10.7	3.82		10

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-03 D2
Client ID: RX-SSVP-03
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Bromofluorobenzene	96		70-130
Toluene-d8	105		70-130

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	99		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	95		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-04
Client ID: RX-AA-03
Sample Location: FLINT ST. ROCHESTER, NY
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 06/20/16 14:40
Analyst: MB

Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.386	0.200	0.047	1.91	0.989	0.230		1
Chloromethane	0.621	0.200	0.096	1.28	0.413	0.198		1
Freon-114	ND	0.200	0.042	ND	1.40	0.293		1
Vinyl chloride	ND	0.200	0.038	ND	0.511	0.097		1
1,3-Butadiene	ND	0.200	0.080	ND	0.442	0.177		1
Butane	0.352	0.200	0.044	0.837	0.475	0.105		1
Acetaldehyde	3.84	2.50	0.547	6.92	4.50	0.985		1
Bromomethane	ND	0.200	0.070	ND	0.777	0.270		1
Chloroethane	ND	0.200	0.077	ND	0.528	0.202		1
Ethanol	3.07	2.50	0.542	5.78	4.71	1.02		1
Vinyl bromide	ND	0.200	0.070	ND	0.874	0.306		1
Acrolein	0.188	0.500	0.114	0.431	1.15	0.261	J	1
Acetone	4.58	1.00	0.165	10.9	2.38	0.392		1
Trichlorofluoromethane	0.273	0.200	0.042	1.53	1.12	0.234		1
Isopropanol	0.614	0.500	0.053	1.51	1.23	0.129	B	1
Pentane	0.268	0.200	0.048	0.791	0.590	0.140		1
1,1-Dichloroethene	ND	0.200	0.057	ND	0.793	0.224		1
tert-Butyl Alcohol	ND	0.500	0.060	ND	1.52	0.182		1
Methylene chloride	ND	1.00	0.299	ND	1.74	1.04		1
3-Chloropropene	ND	0.200	0.081	ND	0.626	0.254		1
Carbon disulfide	ND	0.200	0.035	ND	0.623	0.107		1
Freon-113	0.058	0.200	0.051	0.445	1.53	0.392	J	1
trans-1,2-Dichloroethene	ND	0.200	0.074	ND	0.793	0.293		1
1,1-Dichloroethane	ND	0.200	0.077	ND	0.809	0.312		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-04
Client ID: RX-AA-03
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Methyl tert butyl ether	ND	0.200	0.053	ND	0.721	0.190		1
2-Butanone	0.318	0.500	0.047	0.938	1.47	0.139	J	1
cis-1,2-Dichloroethene	ND	0.200	0.059	ND	0.793	0.233		1
Chloroform	ND	0.200	0.053	ND	0.977	0.259		1
1,2-Dichloroethane	ND	0.200	0.055	ND	0.809	0.223		1
n-Hexane	0.057	0.200	0.052	0.201	0.705	0.183	J	1
1,1,1-Trichloroethane	ND	0.200	0.057	ND	1.09	0.311		1
Benzene	0.062	0.200	0.054	0.198	0.639	0.172	J	1
Thiophene	ND	0.200	0.053	ND	0.688	0.182		1
Carbon tetrachloride	0.067	0.200	0.047	0.421	1.26	0.296	J	1
Cyclohexane	ND	0.200	0.066	ND	0.688	0.226		1
1,2-Dichloropropane	ND	0.200	0.070	ND	0.924	0.322		1
Bromodichloromethane	ND	0.200	0.066	ND	1.34	0.439		1
1,4-Dioxane	ND	0.200	0.078	ND	0.721	0.281		1
Trichloroethene	ND	0.200	0.071	ND	1.07	0.382		1
2,2,4-Trimethylpentane	ND	0.200	0.066	ND	0.934	0.308		1
Heptane	ND	0.200	0.055	ND	0.820	0.227		1
cis-1,3-Dichloropropene	ND	0.200	0.075	ND	0.908	0.338		1
4-Methyl-2-pentanone	ND	0.500	0.061	ND	2.05	0.249		1
trans-1,3-Dichloropropene	ND	0.200	0.069	ND	0.908	0.315		1
1,1,2-Trichloroethane	ND	0.200	0.067	ND	1.09	0.364		1
Toluene	0.136	0.200	0.063	0.513	0.754	0.237	J	1
2-Methylthiophene	ND	0.200	0.079	ND	0.803	0.317		1
2-Hexanone	ND	0.200	0.060	ND	0.820	0.248		1
3-Methylthiophene	ND	0.200	0.067	ND	0.803	0.269		1
Dibromochloromethane	ND	0.200	0.075	ND	1.70	0.636		1
1,2-Dibromoethane	ND	0.200	0.078	ND	1.54	0.599		1
Octane	ND	0.200	0.042	ND	0.934	0.197		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-04
Client ID: RX-AA-03
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	ND	0.200	0.076	ND	1.36	0.514		1
Chlorobenzene	ND	0.200	0.079	ND	0.921	0.363		1
Ethylbenzene	ND	0.200	0.056	ND	0.869	0.241		1
2-Ethylthiophene	ND	0.200	0.057	ND	0.918	0.262		1
p/m-Xylene	ND	0.400	0.139	ND	1.74	0.604		1
Bromoform	ND	0.200	0.052	ND	2.07	0.541		1
Styrene	ND	0.200	0.080	ND	0.852	0.340		1
1,1,2,2-Tetrachloroethane	ND	0.200	0.055	ND	1.37	0.376		1
o-Xylene	ND	0.200	0.063	ND	0.869	0.274		1
Nonane	ND	0.200	0.063	ND	1.05	0.328		1
2-Chlorotoluene	ND	0.200	0.049	ND	1.04	0.252		1
4-Ethyltoluene	ND	0.200	0.078	ND	0.983	0.381		1
1,3,5-Trimethylbenzene	ND	0.200	0.058	ND	0.983	0.287		1
1,2,4-Trimethylbenzene	ND	0.200	0.069	ND	0.983	0.341		1
Decane	ND	0.200	0.048	ND	1.16	0.282		1
1,3-Dichlorobenzene	ND	0.200	0.064	ND	1.20	0.383		1
1,4-Dichlorobenzene	ND	0.200	0.036	ND	1.20	0.217		1
1,2,3-Trimethylbenzene	ND	0.200	0.075	ND	0.983	0.369		1
1,2-Dichlorobenzene	ND	0.200	0.061	ND	1.20	0.369		1
Indane	ND	0.200	0.080	ND	0.967	0.384		1
Indene	ND	0.200	0.061	ND	0.951	0.289		1
Undecane	ND	0.200	0.053	ND	1.28	0.338		1
1,2,4,5-Tetramethylbenzene	ND	0.500	0.080	ND	2.74	0.436		1
Dodecane	0.061	0.500	0.048	0.425	3.48	0.333	J	1
1,2,4-Trichlorobenzene	ND	0.200	0.061	ND	1.48	0.454		1
Naphthalene	0.080	0.200	0.043	0.419	1.05	0.223	J	1
Benzothiophene	ND	0.500	0.047	ND	2.74	0.257		1
Hexachlorobutadiene	ND	0.200	0.073	ND	2.13	0.781		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-04
Client ID: RX-AA-03
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
2-Methylnaphthalene	ND	1.00	0.272	ND	5.82	1.58		1
1-Methylnaphthalene	ND	1.00	0.250	ND	5.82	1.45		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-04
Client ID: RX-AA-03
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Bromofluorobenzene	92		70-130
Toluene-d8	104		70-130

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	94		60-140
Bromochloromethane	96		60-140
chlorobenzene-d5	91		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-04
Client ID: RX-AA-03
Sample Location: FLINT ST. ROCHESTER, NY
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 06/24/16 19:16
Analyst: RY

Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.025	0.010	ND	0.055	0.022		1
Isopentane	0.188	0.025	0.010	0.555	0.074	0.030		1
1-Pentene	0.010	0.025	0.010	0.029	0.072	0.029	J	1
2-Methyl-1-Butene	0.012	0.025	0.010	0.034	0.072	0.029	J	1
Pentane	0.169	0.025	0.010	0.499	0.074	0.030		1
trans-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
cis-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
Tertiary Butanol	0.040	0.025	0.010	0.121	0.076	0.030		1
Cyclopentane	0.020	0.025	0.010	0.057	0.072	0.029	J	1
2,3-Dimethylbutane	0.019	0.025	0.010	0.067	0.088	0.035	J	1
2-Methylpentane	0.102	0.025	0.010	0.360	0.088	0.035		1
Methyl tert butyl ether	ND	0.025	0.010	ND	0.090	0.036		1
3-Methylpentane	0.050	0.025	0.010	0.176	0.088	0.035		1
1-Hexene	ND	0.025	0.010	ND	0.086	0.034		1
n-Hexane	0.072	0.025	0.010	0.254	0.088	0.035		1
Isopropyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
Ethyl-Tert-Butyl-Ether	ND	0.025	0.010	ND	0.104	0.042		1
2,2-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclopentane	0.029	0.025	0.010	0.10	0.086	0.034		1
2,4-Dimethylpentane	0.012	0.025	0.010	0.049	0.102	0.041	J	1
1,2-Dichloroethane	ND	0.025	0.010	ND	0.101	0.041		1
Cyclohexane	0.014	0.025	0.010	0.048	0.086	0.034	J	1
2-Methylhexane	0.033	0.025	0.010	0.135	0.102	0.041		1
Benzene	0.069	0.025	0.010	0.220	0.080	0.032		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-04
Client ID: RX-AA-03
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
2,3-Dimethylpentane	0.017	0.025	0.010	0.070	0.102	0.041	J	1
Thiophene	ND	0.025	0.010	ND	0.086	0.034		1
3-Methylhexane	0.057	0.025	0.010	0.234	0.102	0.041		1
Tertiary-Amyl Methyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
1-Heptene	0.017	0.025	0.010	0.068	0.100	0.040	J	1
Isooctane	0.034	0.025	0.010	0.159	0.117	0.047		1
Heptane	0.046	0.025	0.010	0.189	0.102	0.041		1
Methylcyclohexane	0.016	0.025	0.010	0.064	0.100	0.040	J	1
2,5-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2,4-Dimethylhexane/2,2,3-Trimethylpentan	ND	0.050	0.025	ND	0.234	0.117		1
2,3,4-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3,3-Trimethylpentane	0.016	0.025	0.010	0.075	0.117	0.047	J	1
2,3-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
3-Ethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2-Methylheptane	0.012	0.025	0.010	0.056	0.117	0.047	J	1
3-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
Toluene	0.147	0.025	0.010	0.554	0.094	0.038		1
2-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
3-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
1-Octene	ND	0.025	0.010	ND	0.115	0.046		1
1-Ethyl-1-Methylcyclopentane	ND	0.025	0.010	ND	0.115	0.046		1
Octane	0.019	0.025	0.010	0.089	0.117	0.047	J	1
1,2-Dibromoethane	ND	0.025	0.010	ND	0.192	0.077		1
Ethylbenzene	0.023	0.025	0.010	0.10	0.109	0.043	J	1
2-Ethylthiophene	ND	0.025	0.010	ND	0.115	0.046		1
p/m-Xylene	0.069	0.050	0.010	0.300	0.217	0.043		1
1-Nonene	ND	0.025	0.010	ND	0.129	0.052		1
Nonane (C9)	0.019	0.025	0.010	0.10	0.131	0.053	J	1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-04
Client ID: RX-AA-03
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Styrene	0.013	0.025	0.010	0.055	0.106	0.043	J	1
o-Xylene	0.028	0.050	0.010	0.122	0.217	0.043	J	1
Isopropylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
n-Propylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Methyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
1-Methyl-4-Ethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1,3,5-Trimethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Decene	ND	0.050	0.025	ND	0.287	0.143		1
1-Methyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
Decane (C10)	0.102	0.050	0.025	0.594	0.291	0.146		1
1,2,4-Trimethylbenzene	0.026	0.050	0.025	0.128	0.246	0.123	J	1
sec-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-3-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Indane	ND	0.050	0.025	ND	0.242	0.121		1
Indene	ND	0.050	0.025	ND	0.238	0.119		1
1-Methyl-3-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
n-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Diethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,4-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Undecane	0.027	0.050	0.025	0.173	0.320	0.160	J	1
1,3-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,3-Dimethyl-5-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,3-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-04
Client ID: RX-AA-03
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dimethyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2,4,5-Tetramethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
N-Pentylbenzene	ND	0.050	0.025	ND	0.303	0.152		1
Dodecane (C12)	0.091	0.100	0.050	0.634	0.697	0.348	J	1
Naphthalene	0.100	0.050	0.025	0.524	0.262	0.131		1
Benzothiophene	ND	0.100	0.050	ND	0.549	0.274		1
MMT	ND	0.100	0.050	ND	0.892	0.446		1
Tridecane	ND	1.00	0.050	ND	7.54	0.377		1
2-Methylnaphthalene	0.059	0.500	0.050	0.343	2.91	0.291	J	1
1-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-04
Client ID: RX-AA-03
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 11:55
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
4-Bromofluorobenzene	94		70-130
Toluene-d8	94		70-130

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	102		60-140
Bromochloromethane	102		60-140
chlorobenzene-d5	102		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-05
Client ID: RX-SSVP-04
Sample Location: FLINT ST. ROCHESTER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 06/20/16 18:06
Analyst: MB

Date Collected: 06/02/16 12:34
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.248	0.200	0.047	1.23	0.989	0.230		1
Chloromethane	ND	0.200	0.096	ND	0.413	0.198		1
Freon-114	ND	0.200	0.042	ND	1.40	0.293		1
Vinyl chloride	ND	0.200	0.038	ND	0.511	0.097		1
1,3-Butadiene	ND	0.200	0.080	ND	0.442	0.177		1
Butane	1.12	0.200	0.044	2.66	0.475	0.105		1
Acetaldehyde	2.36	2.50	0.547	4.25	4.50	0.985	J	1
Bromomethane	ND	0.200	0.070	ND	0.777	0.270		1
Chloroethane	ND	0.200	0.077	ND	0.528	0.202		1
Ethanol	0.994	2.50	0.542	1.87	4.71	1.02	J	1
Vinyl bromide	ND	0.200	0.070	ND	0.874	0.306		1
Acrolein	ND	0.500	0.114	ND	1.15	0.261		1
Acetone	3.74	1.00	0.165	8.88	2.38	0.392		1
Trichlorofluoromethane	0.286	0.200	0.042	1.61	1.12	0.234		1
Isopropanol	0.292	0.500	0.053	0.718	1.23	0.129	JB	1
Pentane	0.264	0.200	0.048	0.779	0.590	0.140		1
1,1-Dichloroethene	ND	0.200	0.057	ND	0.793	0.224		1
tert-Butyl Alcohol	0.213	0.500	0.060	0.646	1.52	0.182	J	1
Methylene chloride	ND	1.00	0.299	ND	1.74	1.04		1
3-Chloropropene	ND	0.200	0.081	ND	0.626	0.254		1
Carbon disulfide	0.786	0.200	0.035	2.45	0.623	0.107		1
Freon-113	0.058	0.200	0.051	0.445	1.53	0.392	J	1
trans-1,2-Dichloroethene	ND	0.200	0.074	ND	0.793	0.293		1
1,1-Dichloroethane	ND	0.200	0.077	ND	0.809	0.312		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-05
Client ID: RX-SSVP-04
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 12:34
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Methyl tert butyl ether	ND	0.200	0.053	ND	0.721	0.190		1
2-Butanone	0.427	0.500	0.047	1.26	1.47	0.139	J	1
cis-1,2-Dichloroethene	ND	0.200	0.059	ND	0.793	0.233		1
Chloroform	0.143	0.200	0.053	0.698	0.977	0.259	J	1
1,2-Dichloroethane	ND	0.200	0.055	ND	0.809	0.223		1
n-Hexane	0.142	0.200	0.052	0.500	0.705	0.183	J	1
1,1,1-Trichloroethane	ND	0.200	0.057	ND	1.09	0.311		1
Benzene	0.191	0.200	0.054	0.610	0.639	0.172	J	1
Thiophene	ND	0.200	0.053	ND	0.688	0.182		1
Carbon tetrachloride	ND	0.200	0.047	ND	1.26	0.296		1
Cyclohexane	ND	0.200	0.066	ND	0.688	0.226		1
1,2-Dichloropropane	ND	0.200	0.070	ND	0.924	0.322		1
Bromodichloromethane	ND	0.200	0.066	ND	1.34	0.439		1
1,4-Dioxane	ND	0.200	0.078	ND	0.721	0.281		1
Trichloroethene	ND	0.200	0.071	ND	1.07	0.382		1
2,2,4-Trimethylpentane	ND	0.200	0.066	ND	0.934	0.308		1
Heptane	0.193	0.200	0.055	0.791	0.820	0.227	J	1
cis-1,3-Dichloropropene	ND	0.200	0.075	ND	0.908	0.338		1
4-Methyl-2-pentanone	ND	0.500	0.061	ND	2.05	0.249		1
trans-1,3-Dichloropropene	ND	0.200	0.069	ND	0.908	0.315		1
1,1,2-Trichloroethane	ND	0.200	0.067	ND	1.09	0.364		1
Toluene	0.315	0.200	0.063	1.19	0.754	0.237		1
2-Methylthiophene	ND	0.200	0.079	ND	0.803	0.317		1
2-Hexanone	ND	0.200	0.060	ND	0.820	0.248		1
3-Methylthiophene	ND	0.200	0.067	ND	0.803	0.269		1
Dibromochloromethane	ND	0.200	0.075	ND	1.70	0.636		1
1,2-Dibromoethane	ND	0.200	0.078	ND	1.54	0.599		1
Octane	0.233	0.200	0.042	1.09	0.934	0.197		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-05
Client ID: RX-SSVP-04
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 12:34
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	0.514	0.200	0.076	3.49	1.36	0.514		1
Chlorobenzene	ND	0.200	0.079	ND	0.921	0.363		1
Ethylbenzene	0.101	0.200	0.056	0.439	0.869	0.241	J	1
2-Ethylthiophene	ND	0.200	0.057	ND	0.918	0.262		1
p/m-Xylene	0.648	0.400	0.139	2.81	1.74	0.604		1
Bromoform	ND	0.200	0.052	ND	2.07	0.541		1
Styrene	0.192	0.200	0.080	0.817	0.852	0.340	J	1
1,1,2,2-Tetrachloroethane	ND	0.200	0.055	ND	1.37	0.376		1
o-Xylene	0.199	0.200	0.063	0.864	0.869	0.274	J	1
Nonane	0.312	0.200	0.063	1.64	1.05	0.328		1
2-Chlorotoluene	ND	0.200	0.049	ND	1.04	0.252		1
4-Ethyltoluene	0.085	0.200	0.078	0.418	0.983	0.381	J	1
1,3,5-Trimethylbenzene	0.171	0.200	0.058	0.841	0.983	0.287	J	1
1,2,4-Trimethylbenzene	0.493	0.200	0.069	2.42	0.983	0.341		1
Decane	1.16	0.200	0.048	6.75	1.16	0.282		1
1,3-Dichlorobenzene	ND	0.200	0.064	ND	1.20	0.383		1
1,4-Dichlorobenzene	ND	0.200	0.036	ND	1.20	0.217		1
1,2,3-Trimethylbenzene	0.150	0.200	0.075	0.737	0.983	0.369	J	1
1,2-Dichlorobenzene	ND	0.200	0.061	ND	1.20	0.369		1
Indane	ND	0.200	0.080	ND	0.967	0.384		1
Indene	ND	0.200	0.061	ND	0.951	0.289		1
Undecane	1.72	0.200	0.053	11.0	1.28	0.338		1
1,2,4,5-Tetramethylbenzene	ND	0.500	0.080	ND	2.74	0.436		1
Dodecane	2.19	0.500	0.048	15.3	3.48	0.333		1
1,2,4-Trichlorobenzene	ND	0.200	0.061	ND	1.48	0.454		1
Naphthalene	0.295	0.200	0.043	1.55	1.05	0.223		1
Benzothiophene	ND	0.500	0.047	ND	2.74	0.257		1
Hexachlorobutadiene	ND	0.200	0.073	ND	2.13	0.781		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-05
Client ID: RX-SSVP-04
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 12:34
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
2-Methylnaphthalene	ND	1.00	0.272	ND	5.82	1.58		1
1-Methylnaphthalene	ND	1.00	0.250	ND	5.82	1.45		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-05
Client ID: RX-SSVP-04
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 12:34
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	94		70-130
Bromofluorobenzene	97		70-130
Toluene-d8	105		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	89		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	86		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-05
Client ID: RX-SSVP-04
Sample Location: FLINT ST. ROCHESTER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 06/25/16 01:55
Analyst: RY

Date Collected: 06/02/16 12:34
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	0.013	0.025	0.010	0.029	0.055	0.022	J	1
Isopentane	0.093	0.025	0.010	0.274	0.074	0.030		1
1-Pentene	0.049	0.025	0.010	0.141	0.072	0.029		1
2-Methyl-1-Butene	0.050	0.025	0.010	0.143	0.072	0.029		1
Pentane	0.182	0.025	0.010	0.537	0.074	0.030		1
trans-2-Pentene	0.012	0.025	0.010	0.034	0.072	0.029	J	1
cis-2-Pentene	0.023	0.025	0.010	0.066	0.072	0.029	J	1
Tertiary Butanol	0.221	0.025	0.010	0.670	0.076	0.030		1
Cyclopentane	0.041	0.025	0.010	0.118	0.072	0.029		1
2,3-Dimethylbutane	0.014	0.025	0.010	0.049	0.088	0.035	J	1
2-Methylpentane	0.073	0.025	0.010	0.257	0.088	0.035		1
Methyl tert butyl ether	ND	0.025	0.010	ND	0.090	0.036		1
3-Methylpentane	ND	0.025	0.010	ND	0.088	0.035		1
1-Hexene	0.020	0.025	0.010	0.069	0.086	0.034	J	1
n-Hexane	0.180	0.025	0.010	0.634	0.088	0.035		1
Isopropyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
Ethyl-Tert-Butyl-Ether	ND	0.025	0.010	ND	0.104	0.042		1
2,2-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclopentane	0.072	0.025	0.010	0.248	0.086	0.034		1
2,4-Dimethylpentane	0.012	0.025	0.010	0.049	0.102	0.041	J	1
1,2-Dichloroethane	ND	0.025	0.010	ND	0.101	0.041		1
Cyclohexane	0.072	0.025	0.010	0.248	0.086	0.034		1
2-Methylhexane	0.043	0.025	0.010	0.176	0.102	0.041		1
Benzene	0.199	0.025	0.010	0.636	0.080	0.032		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-05
Client ID: RX-SSVP-04
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 12:34
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
2,3-Dimethylpentane	0.022	0.025	0.010	0.090	0.102	0.041	J	1
Thiophene	ND	0.025	0.010	ND	0.086	0.034		1
3-Methylhexane	0.092	0.025	0.010	0.377	0.102	0.041		1
Tertiary-Amyl Methyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
1-Heptene	0.109	0.025	0.010	0.438	0.100	0.040		1
Isooctane	0.063	0.025	0.010	0.294	0.117	0.047		1
Heptane	0.257	0.025	0.010	1.05	0.102	0.041		1
Methylcyclohexane	0.226	0.025	0.010	0.908	0.100	0.040		1
2,5-Dimethylhexane	0.012	0.025	0.010	0.056	0.117	0.047	J	1
2,4-Dimethylhexane/2,2,3-Trimethylpentan	0.099	0.050	0.025	0.462	0.234	0.117		1
2,3,4-Trimethylpentane	0.124	0.025	0.010	0.579	0.117	0.047		1
2,3,3-Trimethylpentane	0.095	0.025	0.010	0.444	0.117	0.047		1
2,3-Dimethylhexane	0.055	0.025	0.010	0.257	0.117	0.047		1
3-Ethylhexane	0.016	0.025	0.010	0.075	0.117	0.047	J	1
2-Methylheptane	0.080	0.025	0.010	0.374	0.117	0.047		1
3-Methylheptane	0.053	0.025	0.010	0.248	0.117	0.047		1
Toluene	0.337	0.025	0.010	1.27	0.094	0.038		1
2-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
3-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
1-Octene	0.031	0.025	0.010	0.142	0.115	0.046		1
1-Ethyl-1-Methylcyclopentane	ND	0.025	0.010	ND	0.115	0.046		1
Octane	0.278	0.025	0.010	1.30	0.117	0.047		1
1,2-Dibromoethane	ND	0.025	0.010	ND	0.192	0.077		1
Ethylbenzene	0.112	0.025	0.010	0.486	0.109	0.043		1
2-Ethylthiophene	ND	0.025	0.010	ND	0.115	0.046		1
p/m-Xylene	0.686	0.050	0.010	2.98	0.217	0.043		1
1-Nonene	0.016	0.025	0.010	0.083	0.129	0.052	J	1
Nonane (C9)	0.385	0.025	0.010	2.02	0.131	0.053		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-05
Client ID: RX-SSVP-04
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 12:34
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Styrene	0.202	0.025	0.010	0.860	0.106	0.043		1
o-Xylene	0.222	0.050	0.010	0.964	0.217	0.043		1
Isopropylbenzene	0.034	0.025	0.010	0.167	0.123	0.049		1
n-Propylbenzene	0.063	0.025	0.010	0.310	0.123	0.049		1
1-Methyl-3-Ethylbenzene	0.188	0.050	0.025	0.924	0.246	0.123		1
1-Methyl-4-Ethylbenzene	0.091	0.025	0.010	0.447	0.123	0.049		1
1,3,5-Trimethylbenzene	0.184	0.025	0.010	0.905	0.123	0.049		1
1-Decene	0.091	0.050	0.025	0.522	0.287	0.143		1
1-Methyl-2-Ethylbenzene	0.081	0.050	0.025	0.398	0.246	0.123		1
Decane (C10)	1.25	0.050	0.025	7.28	0.291	0.146		1
1,2,4-Trimethylbenzene	0.502	0.050	0.025	2.47	0.246	0.123		1
sec-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-3-Isopropylbenzene	0.035	0.050	0.025	0.192	0.274	0.137	J	1
1-Methyl-4-Isopropylbenzene	0.103	0.050	0.025	0.565	0.274	0.137		1
1-Methyl-2-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Indane	0.043	0.050	0.025	0.208	0.242	0.121	J	1
Indene	0.025	0.050	0.025	0.119	0.238	0.119	J	1
1-Methyl-3-N-Propylbenzene	0.076	0.050	0.025	0.417	0.274	0.137		1
1-Methyl-4-N-Propylbenzene	0.032	0.050	0.025	0.176	0.274	0.137	J	1
n-Butylbenzene	0.025	0.050	0.025	0.137	0.274	0.137	J	1
1,2-Dimethyl-4-Ethylbenzene	0.071	0.050	0.025	0.390	0.274	0.137		1
1,2-Diethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-N-Propylbenzene	0.036	0.050	0.025	0.198	0.274	0.137	J	1
1,4-Dimethyl-2-Ethylbenzene	0.045	0.050	0.025	0.247	0.274	0.137	J	1
Undecane	0.741	0.050	0.025	4.74	0.320	0.160		1
1,3-Dimethyl-4-Ethylbenzene	0.047	0.050	0.025	0.258	0.274	0.137	J	1
1,3-Dimethyl-5-Ethylbenzene	0.067	0.050	0.025	0.368	0.274	0.137		1
1,3-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-05
Client ID: RX-SSVP-04
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 12:34
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dimethyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2,4,5-Tetramethylbenzene	0.028	0.050	0.025	0.154	0.274	0.137	J	1
N-Pentylbenzene	0.033	0.050	0.025	0.200	0.303	0.152	J	1
Dodecane (C12)	1.33	0.100	0.050	9.26	0.697	0.348		1
Naphthalene	0.354	0.050	0.025	1.86	0.262	0.131		1
Benzothiophene	ND	0.100	0.050	ND	0.549	0.274		1
MMT	ND	0.100	0.050	ND	0.892	0.446		1
Tridecane	0.711	1.00	0.050	5.36	7.54	0.377	J	1
2-Methylnaphthalene	0.113	0.500	0.050	0.657	2.91	0.291	J	1
1-Methylnaphthalene	0.087	0.500	0.050	0.506	2.91	0.291	J	1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-05
Client ID: RX-SSVP-04
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 12:34
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
4-Bromofluorobenzene	96		70-130
Toluene-d8	99		70-130

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	95		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	98		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-06
Client ID: RX-SSVP-05
Sample Location: FLINT ST. ROCHESTER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 06/20/16 18:41
Analyst: MB

Date Collected: 06/02/16 01:11
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.392	0.200	0.047	1.94	0.989	0.230		1
Chloromethane	ND	0.200	0.096	ND	0.413	0.198		1
Freon-114	ND	0.200	0.042	ND	1.40	0.293		1
Vinyl chloride	ND	0.200	0.038	ND	0.511	0.097		1
1,3-Butadiene	ND	0.200	0.080	ND	0.442	0.177		1
Butane	0.160	0.200	0.044	0.380	0.475	0.105	J	1
Acetaldehyde	4.12	2.50	0.547	7.42	4.50	0.985		1
Bromomethane	ND	0.200	0.070	ND	0.777	0.270		1
Chloroethane	ND	0.200	0.077	ND	0.528	0.202		1
Ethanol	1.74	2.50	0.542	3.28	4.71	1.02	J	1
Vinyl bromide	ND	0.200	0.070	ND	0.874	0.306		1
Acrolein	0.163	0.500	0.114	0.374	1.15	0.261	J	1
Acetone	3.71	1.00	0.165	8.81	2.38	0.392		1
Trichlorofluoromethane	0.336	0.200	0.042	1.89	1.12	0.234		1
Isopropanol	0.288	0.500	0.053	0.708	1.23	0.129	JB	1
Pentane	0.071	0.200	0.048	0.210	0.590	0.140	J	1
1,1-Dichloroethene	ND	0.200	0.057	ND	0.793	0.224		1
tert-Butyl Alcohol	0.234	0.500	0.060	0.709	1.52	0.182	J	1
Methylene chloride	ND	1.00	0.299	ND	1.74	1.04		1
3-Chloropropene	ND	0.200	0.081	ND	0.626	0.254		1
Carbon disulfide	0.050	0.200	0.035	0.156	0.623	0.107	J	1
Freon-113	0.061	0.200	0.051	0.468	1.53	0.392	J	1
trans-1,2-Dichloroethene	ND	0.200	0.074	ND	0.793	0.293		1
1,1-Dichloroethane	ND	0.200	0.077	ND	0.809	0.312		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-06
Client ID: RX-SSVP-05
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 01:11
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Methyl tert butyl ether	ND	0.200	0.053	ND	0.721	0.190		1
2-Butanone	0.370	0.500	0.047	1.09	1.47	0.139	J	1
cis-1,2-Dichloroethene	ND	0.200	0.059	ND	0.793	0.233		1
Chloroform	ND	0.200	0.053	ND	0.977	0.259		1
1,2-Dichloroethane	ND	0.200	0.055	ND	0.809	0.223		1
n-Hexane	0.076	0.200	0.052	0.268	0.705	0.183	J	1
1,1,1-Trichloroethane	ND	0.200	0.057	ND	1.09	0.311		1
Benzene	0.134	0.200	0.054	0.428	0.639	0.172	J	1
Thiophene	ND	0.200	0.053	ND	0.688	0.182		1
Carbon tetrachloride	0.071	0.200	0.047	0.447	1.26	0.296	J	1
Cyclohexane	ND	0.200	0.066	ND	0.688	0.226		1
1,2-Dichloropropane	ND	0.200	0.070	ND	0.924	0.322		1
Bromodichloromethane	ND	0.200	0.066	ND	1.34	0.439		1
1,4-Dioxane	ND	0.200	0.078	ND	0.721	0.281		1
Trichloroethene	0.211	0.200	0.071	1.13	1.07	0.382		1
2,2,4-Trimethylpentane	ND	0.200	0.066	ND	0.934	0.308		1
Heptane	ND	0.200	0.055	ND	0.820	0.227		1
cis-1,3-Dichloropropene	ND	0.200	0.075	ND	0.908	0.338		1
4-Methyl-2-pentanone	ND	0.500	0.061	ND	2.05	0.249		1
trans-1,3-Dichloropropene	ND	0.200	0.069	ND	0.908	0.315		1
1,1,2-Trichloroethane	ND	0.200	0.067	ND	1.09	0.364		1
Toluene	0.181	0.200	0.063	0.682	0.754	0.237	J	1
2-Methylthiophene	ND	0.200	0.079	ND	0.803	0.317		1
2-Hexanone	ND	0.200	0.060	ND	0.820	0.248		1
3-Methylthiophene	ND	0.200	0.067	ND	0.803	0.269		1
Dibromochloromethane	ND	0.200	0.075	ND	1.70	0.636		1
1,2-Dibromoethane	ND	0.200	0.078	ND	1.54	0.599		1
Octane	0.064	0.200	0.042	0.299	0.934	0.197	J	1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-06
Client ID: RX-SSVP-05
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 01:11
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	0.370	0.200	0.076	2.51	1.36	0.514		1
Chlorobenzene	ND	0.200	0.079	ND	0.921	0.363		1
Ethylbenzene	ND	0.200	0.056	ND	0.869	0.241		1
2-Ethylthiophene	ND	0.200	0.057	ND	0.918	0.262		1
p/m-Xylene	0.238	0.400	0.139	1.03	1.74	0.604	J	1
Bromoform	ND	0.200	0.052	ND	2.07	0.541		1
Styrene	0.125	0.200	0.080	0.532	0.852	0.340	J	1
1,1,2,2-Tetrachloroethane	ND	0.200	0.055	ND	1.37	0.376		1
o-Xylene	0.125	0.200	0.063	0.543	0.869	0.274	J	1
Nonane	0.109	0.200	0.063	0.572	1.05	0.328	J	1
2-Chlorotoluene	ND	0.200	0.049	ND	1.04	0.252		1
4-Ethyltoluene	ND	0.200	0.078	ND	0.983	0.381		1
1,3,5-Trimethylbenzene	0.067	0.200	0.058	0.329	0.983	0.287	J	1
1,2,4-Trimethylbenzene	0.287	0.200	0.069	1.41	0.983	0.341		1
Decane	0.923	0.200	0.048	5.37	1.16	0.282		1
1,3-Dichlorobenzene	ND	0.200	0.064	ND	1.20	0.383		1
1,4-Dichlorobenzene	ND	0.200	0.036	ND	1.20	0.217		1
1,2,3-Trimethylbenzene	0.085	0.200	0.075	0.418	0.983	0.369	J	1
1,2-Dichlorobenzene	ND	0.200	0.061	ND	1.20	0.369		1
Indane	ND	0.200	0.080	ND	0.967	0.384		1
Indene	ND	0.200	0.061	ND	0.951	0.289		1
Undecane	1.42	0.200	0.053	9.08	1.28	0.338		1
1,2,4,5-Tetramethylbenzene	ND	0.500	0.080	ND	2.74	0.436		1
Dodecane	1.17	0.500	0.048	8.15	3.48	0.333		1
1,2,4-Trichlorobenzene	ND	0.200	0.061	ND	1.48	0.454		1
Naphthalene	0.261	0.200	0.043	1.37	1.05	0.223		1
Benzothiophene	ND	0.500	0.047	ND	2.74	0.257		1
Hexachlorobutadiene	ND	0.200	0.073	ND	2.13	0.781		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-06
Client ID: RX-SSVP-05
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 01:11
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
2-Methylnaphthalene	ND	1.00	0.272	ND	5.82	1.58		1
1-Methylnaphthalene	ND	1.00	0.250	ND	5.82	1.45		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-06
Client ID: RX-SSVP-05
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 01:11
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	96		70-130
Bromofluorobenzene	95		70-130
Toluene-d8	104		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	90		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	88		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-06
Client ID: RX-SSVP-05
Sample Location: FLINT ST. ROCHESTER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 06/25/16 03:02
Analyst: RY

Date Collected: 06/02/16 01:11
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	0.014	0.025	0.010	0.031	0.055	0.022	J	1
Isopentane	0.072	0.025	0.010	0.212	0.074	0.030		1
1-Pentene	0.036	0.025	0.010	0.103	0.072	0.029		1
2-Methyl-1-Butene	0.023	0.025	0.010	0.066	0.072	0.029	J	1
Pentane	0.063	0.025	0.010	0.186	0.074	0.030		1
trans-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
cis-2-Pentene	0.013	0.025	0.010	0.037	0.072	0.029	J	1
Tertiary Butanol	0.236	0.025	0.010	0.715	0.076	0.030		1
Cyclopentane	ND	0.025	0.010	ND	0.072	0.029		1
2,3-Dimethylbutane	ND	0.025	0.010	ND	0.088	0.035		1
2-Methylpentane	0.031	0.025	0.010	0.109	0.088	0.035		1
Methyl tert butyl ether	ND	0.025	0.010	ND	0.090	0.036		1
3-Methylpentane	ND	0.025	0.010	ND	0.088	0.035		1
1-Hexene	0.013	0.025	0.010	0.045	0.086	0.034	J	1
n-Hexane	0.085	0.025	0.010	0.300	0.088	0.035		1
Isopropyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
Ethyl-Tert-Butyl-Ether	ND	0.025	0.010	ND	0.104	0.042		1
2,2-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclopentane	0.039	0.025	0.010	0.134	0.086	0.034		1
2,4-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
1,2-Dichloroethane	ND	0.025	0.010	ND	0.101	0.041		1
Cyclohexane	0.035	0.025	0.010	0.120	0.086	0.034		1
2-Methylhexane	0.018	0.025	0.010	0.074	0.102	0.041	J	1
Benzene	0.155	0.025	0.010	0.495	0.080	0.032		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-06
Client ID: RX-SSVP-05
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 01:11
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
2,3-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Thiophene	ND	0.025	0.010	ND	0.086	0.034		1
3-Methylhexane	0.057	0.025	0.010	0.234	0.102	0.041		1
Tertiary-Amyl Methyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
1-Heptene	0.039	0.025	0.010	0.157	0.100	0.040		1
Isooctane	0.061	0.025	0.010	0.285	0.117	0.047		1
Heptane	0.040	0.025	0.010	0.164	0.102	0.041		1
Methylcyclohexane	0.049	0.025	0.010	0.197	0.100	0.040		1
2,5-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2,4-Dimethylhexane/2,2,3-Trimethylpentan	0.098	0.050	0.025	0.458	0.234	0.117		1
2,3,4-Trimethylpentane	0.119	0.025	0.010	0.556	0.117	0.047		1
2,3,3-Trimethylpentane	0.091	0.025	0.010	0.425	0.117	0.047		1
2,3-Dimethylhexane	0.028	0.025	0.010	0.131	0.117	0.047		1
3-Ethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2-Methylheptane	0.028	0.025	0.010	0.131	0.117	0.047		1
3-Methylheptane	0.014	0.025	0.010	0.065	0.117	0.047	J	1
Toluene	0.195	0.025	0.010	0.735	0.094	0.038		1
2-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
3-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
1-Octene	0.030	0.025	0.010	0.138	0.115	0.046		1
1-Ethyl-1-Methylcyclopentane	ND	0.025	0.010	ND	0.115	0.046		1
Octane	0.076	0.025	0.010	0.355	0.117	0.047		1
1,2-Dibromoethane	ND	0.025	0.010	ND	0.192	0.077		1
Ethylbenzene	0.060	0.025	0.010	0.261	0.109	0.043		1
2-Ethylthiophene	ND	0.025	0.010	ND	0.115	0.046		1
p/m-Xylene	0.253	0.050	0.010	1.10	0.217	0.043		1
1-Nonene	0.013	0.025	0.010	0.067	0.129	0.052	J	1
Nonane (C9)	0.124	0.025	0.010	0.651	0.131	0.053		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-06
Client ID: RX-SSVP-05
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 01:11
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Styrene	0.152	0.025	0.010	0.647	0.106	0.043		1
o-Xylene	0.139	0.050	0.010	0.604	0.217	0.043		1
Isopropylbenzene	0.021	0.025	0.010	0.103	0.123	0.049	J	1
n-Propylbenzene	0.038	0.025	0.010	0.187	0.123	0.049		1
1-Methyl-3-Ethylbenzene	0.115	0.050	0.025	0.565	0.246	0.123		1
1-Methyl-4-Ethylbenzene	0.058	0.025	0.010	0.285	0.123	0.049		1
1,3,5-Trimethylbenzene	0.073	0.025	0.010	0.359	0.123	0.049		1
1-Decene	0.050	0.050	0.025	0.287	0.287	0.143		1
1-Methyl-2-Ethylbenzene	0.055	0.050	0.025	0.270	0.246	0.123		1
Decane (C10)	1.12	0.050	0.025	6.52	0.291	0.146		1
1,2,4-Trimethylbenzene	0.324	0.050	0.025	1.59	0.246	0.123		1
sec-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-3-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-Isopropylbenzene	0.082	0.050	0.025	0.450	0.274	0.137		1
1-Methyl-2-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Indane	0.032	0.050	0.025	0.155	0.242	0.121	J	1
Indene	ND	0.050	0.025	ND	0.238	0.119		1
1-Methyl-3-N-Propylbenzene	0.057	0.050	0.025	0.313	0.274	0.137		1
1-Methyl-4-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
n-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-4-Ethylbenzene	0.043	0.050	0.025	0.236	0.274	0.137	J	1
1,2-Diethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-N-Propylbenzene	0.025	0.050	0.025	0.137	0.274	0.137	J	1
1,4-Dimethyl-2-Ethylbenzene	0.032	0.050	0.025	0.176	0.274	0.137	J	1
Undecane	0.682	0.050	0.025	4.36	0.320	0.160		1
1,3-Dimethyl-4-Ethylbenzene	0.035	0.050	0.025	0.192	0.274	0.137	J	1
1,3-Dimethyl-5-Ethylbenzene	0.052	0.050	0.025	0.285	0.274	0.137		1
1,3-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-06
Client ID: RX-SSVP-05
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 01:11
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dimethyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2,4,5-Tetramethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
N-Pentylbenzene	ND	0.050	0.025	ND	0.303	0.152		1
Dodecane (C12)	1.06	0.100	0.050	7.38	0.697	0.348		1
Naphthalene	0.380	0.050	0.025	1.99	0.262	0.131		1
Benzothiophene	ND	0.100	0.050	ND	0.549	0.274		1
MMT	ND	0.100	0.050	ND	0.892	0.446		1
Tridecane	0.302	1.00	0.050	2.28	7.54	0.377	J	1
2-Methylnaphthalene	0.135	0.500	0.050	0.785	2.91	0.291	J	1
1-Methylnaphthalene	0.105	0.500	0.050	0.611	2.91	0.291	J	1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-06
Client ID: RX-SSVP-05
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 01:11
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
4-Bromofluorobenzene	97		70-130
Toluene-d8	99		70-130

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	96		60-140
Bromochloromethane	97		60-140
chlorobenzene-d5	97		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-07 D
Client ID: RX-SSVP-06
Sample Location: FLINT ST. ROCHESTER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 06/20/16 19:15
Analyst: MB

Date Collected: 06/02/16 02:35
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.418	0.400	0.093	2.07	1.98	0.461		2
Chloromethane	ND	0.400	0.192	ND	0.826	0.396		2
Freon-114	ND	0.400	0.084	ND	2.80	0.586		2
Vinyl chloride	ND	0.400	0.076	ND	1.02	0.193		2
1,3-Butadiene	ND	0.400	0.160	ND	0.885	0.354		2
Butane	1.03	0.400	0.088	2.45	0.951	0.210		2
Acetaldehyde	1.48	5.00	1.09	2.67	9.01	1.96	J	2
Bromomethane	ND	0.400	0.139	ND	1.55	0.540		2
Chloroethane	ND	0.400	0.153	ND	1.06	0.404		2
Ethanol	1.38	5.00	1.08	2.60	9.42	2.03	J	2
Vinyl bromide	ND	0.400	0.140	ND	1.75	0.612		2
Acrolein	ND	1.00	0.228	ND	2.29	0.523		2
Acetone	2.40	2.00	0.330	5.70	4.75	0.784		2
Trichlorofluoromethane	0.456	0.400	0.083	2.56	2.25	0.468		2
Isopropanol	0.514	1.00	0.105	1.26	2.46	0.258	JB	2
Pentane	0.908	0.400	0.095	2.68	1.18	0.280		2
1,1-Dichloroethene	ND	0.400	0.113	ND	1.59	0.448		2
tert-Butyl Alcohol	0.200	1.00	0.120	0.606	3.03	0.364	J	2
Methylene chloride	0.808	1.00	0.598	2.81	3.47	2.08	J	2
3-Chloropropene	ND	0.400	0.162	ND	1.25	0.507		2
Carbon disulfide	0.132	0.400	0.069	0.411	1.25	0.215	J	2
Freon-113	ND	0.400	0.102	ND	3.07	0.782		2
trans-1,2-Dichloroethene	ND	0.400	0.148	ND	1.59	0.587		2
1,1-Dichloroethane	ND	0.400	0.154	ND	1.62	0.623		2

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-07 D
Client ID: RX-SSVP-06
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 02:35
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Methyl tert butyl ether	ND	0.400	0.106	ND	1.44	0.382		2
2-Butanone	0.294	1.00	0.094	0.867	2.95	0.278	J	2
cis-1,2-Dichloroethene	78.8	0.400	0.117	312	1.59	0.464		2
Chloroform	1.97	0.400	0.106	9.62	1.95	0.518		2
1,2-Dichloroethane	ND	0.400	0.110	ND	1.62	0.445		2
n-Hexane	0.252	0.400	0.104	0.888	1.41	0.367	J	2
1,1,1-Trichloroethane	ND	0.400	0.114	ND	2.18	0.622		2
Benzene	0.214	0.400	0.107	0.684	1.28	0.342	J	2
Thiophene	ND	0.400	0.106	ND	1.38	0.365		2
Carbon tetrachloride	0.270	0.400	0.094	1.70	2.52	0.593	J	2
Cyclohexane	ND	0.400	0.131	ND	1.38	0.451		2
1,2-Dichloropropane	ND	0.400	0.139	ND	1.85	0.642		2
Bromodichloromethane	ND	0.400	0.131	ND	2.68	0.878		2
1,4-Dioxane	ND	0.400	0.156	ND	1.44	0.562		2
Trichloroethene	240	0.400	0.142	1290	2.15	0.763	E	2
2,2,4-Trimethylpentane	ND	0.400	0.132	ND	1.87	0.617		2
Heptane	0.122	0.400	0.111	0.500	1.64	0.455	J	2
cis-1,3-Dichloropropene	ND	0.400	0.149	ND	1.82	0.676		2
4-Methyl-2-pentanone	ND	1.00	0.121	ND	4.10	0.496		2
trans-1,3-Dichloropropene	ND	0.400	0.139	ND	1.82	0.631		2
1,1,2-Trichloroethane	ND	0.400	0.133	ND	2.18	0.726		2
Toluene	0.498	0.400	0.126	1.88	1.51	0.475		2
2-Methylthiophene	ND	0.400	0.158	ND	1.61	0.634		2
2-Hexanone	ND	0.400	0.121	ND	1.64	0.496		2
3-Methylthiophene	ND	0.400	0.134	ND	1.61	0.538		2
Dibromochloromethane	ND	0.400	0.149	ND	3.41	1.27		2
1,2-Dibromoethane	ND	0.400	0.156	ND	3.07	1.20		2
Octane	ND	0.400	0.084	ND	1.87	0.393		2

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-07 D
Client ID: RX-SSVP-06
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 02:35
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	103	0.400	0.152	698	2.71	1.03		2
Chlorobenzene	ND	0.400	0.158	ND	1.84	0.728		2
Ethylbenzene	ND	0.400	0.111	ND	1.74	0.482		2
2-Ethylthiophene	ND	0.400	0.114	ND	1.84	0.523		2
p/m-Xylene	0.400	0.800	0.278	1.74	3.47	1.21	J	2
Bromoform	ND	0.400	0.105	ND	4.14	1.09		2
Styrene	ND	0.400	0.160	ND	1.70	0.681		2
1,1,2,2-Tetrachloroethane	ND	0.400	0.110	ND	2.75	0.755		2
o-Xylene	0.156	0.400	0.126	0.678	1.74	0.547	J	2
Nonane	ND	0.400	0.125	ND	2.10	0.656		2
2-Chlorotoluene	ND	0.400	0.097	ND	2.07	0.504		2
4-Ethyltoluene	ND	0.400	0.155	ND	1.97	0.762		2
1,3,5-Trimethylbenzene	ND	0.400	0.117	ND	1.97	0.575		2
1,2,4-Trimethylbenzene	0.270	0.400	0.139	1.33	1.97	0.683	J	2
Decane	0.436	0.400	0.097	2.54	2.33	0.563		2
1,3-Dichlorobenzene	ND	0.400	0.127	ND	2.40	0.764		2
1,4-Dichlorobenzene	ND	0.400	0.072	ND	2.40	0.434		2
1,2,3-Trimethylbenzene	ND	0.400	0.150	ND	1.97	0.737		2
1,2-Dichlorobenzene	ND	0.400	0.123	ND	2.40	0.740		2
Indane	ND	0.400	0.159	ND	1.93	0.769		2
Indene	ND	0.400	0.122	ND	1.90	0.580		2
Undecane	0.862	0.400	0.106	5.51	2.56	0.678		2
1,2,4,5-Tetramethylbenzene	ND	1.00	0.159	ND	5.49	0.873		2
Dodecane	0.642	1.00	0.096	4.47	6.97	0.666	J	2
1,2,4-Trichlorobenzene	ND	0.400	0.122	ND	2.97	0.906		2
Naphthalene	0.134	0.400	0.085	0.703	2.10	0.446	J	2
Benzothiophene	ND	1.00	0.094	ND	5.49	0.514		2
Hexachlorobutadiene	ND	0.400	0.146	ND	4.27	1.56		2

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-07 D
Client ID: RX-SSVP-06
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 02:35
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
2-Methylnaphthalene	ND	2.00	0.545	ND	11.6	3.17		2
1-Methylnaphthalene	ND	2.00	0.499	ND	11.6	2.90		2

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-07 D
Client ID: RX-SSVP-06
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 02:35
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	97		70-130
Bromofluorobenzene	94		70-130
Toluene-d8	105		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	91		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	88		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-07 D
Client ID: RX-SSVP-06
Sample Location: FLINT ST. ROCHESTER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 06/25/16 04:09
Analyst: RY

Date Collected: 06/02/16 02:35
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	0.024	0.050	0.020	0.053	0.111	0.044	J	2
Isopentane	0.854	0.050	0.020	2.52	0.148	0.059		2
1-Pentene	0.046	0.050	0.020	0.132	0.143	0.057	J	2
2-Methyl-1-Butene	0.074	0.050	0.020	0.212	0.143	0.057		2
Pentane	0.614	0.050	0.020	1.81	0.148	0.059		2
trans-2-Pentene	0.078	0.050	0.020	0.224	0.143	0.057		2
cis-2-Pentene	0.052	0.050	0.020	0.149	0.143	0.057		2
Tertiary Butanol	0.212	0.050	0.020	0.643	0.152	0.061		2
Cyclopentane	0.062	0.050	0.020	0.178	0.143	0.057		2
2,3-Dimethylbutane	0.094	0.050	0.020	0.331	0.176	0.071		2
2-Methylpentane	0.292	0.050	0.020	1.03	0.176	0.071		2
Methyl tert butyl ether	ND	0.050	0.020	ND	0.180	0.072		2
3-Methylpentane	0.206	0.050	0.020	0.726	0.176	0.071		2
1-Hexene	ND	0.050	0.020	ND	0.172	0.069		2
n-Hexane	0.272	0.050	0.020	0.959	0.176	0.071		2
Isopropyl Ether	ND	0.050	0.020	ND	0.209	0.084		2
Ethyl-Tert-Butyl-Ether	ND	0.050	0.020	ND	0.209	0.084		2
2,2-Dimethylpentane	ND	0.050	0.020	ND	0.205	0.082		2
Methylcyclopentane	0.146	0.050	0.020	0.503	0.172	0.069		2
2,4-Dimethylpentane	0.044	0.050	0.020	0.180	0.205	0.082	J	2
1,2-Dichloroethane	ND	0.050	0.020	ND	0.202	0.081		2
Cyclohexane	0.108	0.050	0.020	0.372	0.172	0.069		2
2-Methylhexane	0.096	0.050	0.020	0.393	0.205	0.082		2
Benzene	0.246	0.050	0.020	0.786	0.160	0.064		2

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-07 D
Client ID: RX-SSVP-06
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 02:35
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
2,3-Dimethylpentane	0.058	0.050	0.020	0.238	0.205	0.082		2
Thiophene	ND	0.050	0.020	ND	0.172	0.069		2
3-Methylhexane	0.140	0.050	0.020	0.574	0.205	0.082		2
Tertiary-Amyl Methyl Ether	ND	0.050	0.020	ND	0.209	0.084		2
1-Heptene	ND	0.050	0.020	ND	0.201	0.080		2
Isooctane	0.138	0.050	0.020	0.645	0.234	0.093		2
Heptane	0.142	0.050	0.020	0.582	0.205	0.082		2
Methylcyclohexane	0.162	0.050	0.020	0.651	0.201	0.080		2
2,5-Dimethylhexane	0.024	0.050	0.020	0.112	0.234	0.093	J	2
2,4-Dimethylhexane/2,2,3-Trimethylpentan	0.086	0.100	0.050	0.402	0.467	0.234	J	2
2,3,4-Trimethylpentane	0.100	0.050	0.020	0.467	0.234	0.093		2
2,3,3-Trimethylpentane	0.084	0.050	0.020	0.392	0.234	0.093		2
2,3-Dimethylhexane	0.038	0.050	0.020	0.177	0.234	0.093	J	2
3-Ethylhexane	ND	0.050	0.020	ND	0.234	0.093		2
2-Methylheptane	0.056	0.050	0.020	0.262	0.234	0.093		2
3-Methylheptane	0.048	0.050	0.020	0.224	0.234	0.093	J	2
Toluene	0.544	0.050	0.020	2.05	0.188	0.075		2
2-Methylthiophene	ND	0.050	0.020	ND	0.201	0.080		2
3-Methylthiophene	ND	0.050	0.020	ND	0.201	0.080		2
1-Octene	ND	0.050	0.020	ND	0.229	0.092		2
1-Ethyl-1-Methylcyclopentane	ND	0.050	0.020	ND	0.229	0.092		2
Octane	0.102	0.050	0.020	0.476	0.234	0.093		2
1,2-Dibromoethane	ND	0.050	0.020	ND	0.384	0.154		2
Ethylbenzene	0.092	0.050	0.020	0.400	0.217	0.087		2
2-Ethylthiophene	ND	0.050	0.020	ND	0.229	0.092		2
p/m-Xylene	0.430	0.100	0.020	1.87	0.434	0.087		2
1-Nonene	ND	0.050	0.020	ND	0.258	0.103		2
Nonane (C9)	0.102	0.050	0.020	0.535	0.262	0.105		2

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-07 D
Client ID: RX-SSVP-06
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 02:35
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Styrene	0.080	0.050	0.020	0.341	0.213	0.085		2
o-Xylene	0.184	0.100	0.020	0.799	0.434	0.087		2
Isopropylbenzene	0.022	0.050	0.020	0.108	0.246	0.098	J	2
n-Propylbenzene	0.038	0.050	0.020	0.187	0.246	0.098	J	2
1-Methyl-3-Ethylbenzene	0.126	0.100	0.050	0.619	0.492	0.246		2
1-Methyl-4-Ethylbenzene	0.052	0.050	0.020	0.256	0.246	0.098		2
1,3,5-Trimethylbenzene	0.084	0.050	0.020	0.413	0.246	0.098		2
1-Decene	ND	0.100	0.050	ND	0.574	0.287		2
1-Methyl-2-Ethylbenzene	0.050	0.100	0.050	0.246	0.492	0.246	J	2
Decane (C10)	0.564	0.100	0.050	3.28	0.582	0.291		2
1,2,4-Trimethylbenzene	0.304	0.100	0.050	1.49	0.492	0.246		2
sec-Butylbenzene	ND	0.100	0.050	ND	0.549	0.274		2
1-Methyl-3-Isopropylbenzene	ND	0.100	0.050	ND	0.549	0.274		2
1-Methyl-4-Isopropylbenzene	ND	0.100	0.050	ND	0.549	0.274		2
1-Methyl-2-Isopropylbenzene	ND	0.100	0.050	ND	0.549	0.274		2
Indane	ND	0.100	0.050	ND	0.483	0.242		2
Indene	ND	0.100	0.050	ND	0.475	0.238		2
1-Methyl-3-N-Propylbenzene	0.052	0.100	0.050	0.285	0.549	0.274	J	2
1-Methyl-4-N-Propylbenzene	ND	0.100	0.050	ND	0.549	0.274		2
n-Butylbenzene	ND	0.100	0.050	ND	0.549	0.274		2
1,2-Dimethyl-4-Ethylbenzene	ND	0.100	0.050	ND	0.549	0.274		2
1,2-Diethylbenzene	ND	0.100	0.050	ND	0.549	0.274		2
1-Methyl-2-N-Propylbenzene	ND	0.100	0.050	ND	0.549	0.274		2
1,4-Dimethyl-2-Ethylbenzene	ND	0.100	0.050	ND	0.549	0.274		2
Undecane	0.548	0.100	0.050	3.50	0.639	0.320		2
1,3-Dimethyl-4-Ethylbenzene	ND	0.100	0.050	ND	0.549	0.274		2
1,3-Dimethyl-5-Ethylbenzene	ND	0.100	0.050	ND	0.549	0.274		2
1,3-Dimethyl-2-Ethylbenzene	ND	0.100	0.050	ND	0.549	0.274		2

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-07 D
Client ID: RX-SSVP-06
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 02:35
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dimethyl-3-Ethylbenzene	ND	0.100	0.050	ND	0.549	0.274		2
1,2,4,5-Tetramethylbenzene	ND	0.100	0.050	ND	0.549	0.274		2
N-Pentylbenzene	ND	0.100	0.050	ND	0.606	0.303		2
Dodecane (C12)	0.722	0.200	0.100	5.03	1.39	0.697		2
Naphthalene	0.220	0.100	0.050	1.15	0.524	0.262		2
Benzothiophene	ND	0.200	0.100	ND	1.10	0.549		2
MMT	ND	0.200	0.100	ND	1.78	0.892		2
Tridecane	0.252	2.00	0.100	1.90	15.1	0.754	J	2
2-Methylnaphthalene	ND	1.00	0.100	ND	5.82	0.582		2
1-Methylnaphthalene	ND	1.00	0.100	ND	5.82	0.582		2

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-07 D
Client ID: RX-SSVP-06
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 02:35
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
4-Bromofluorobenzene	96		70-130
Toluene-d8	99		70-130

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	96		60-140
Bromochloromethane	96		60-140
chlorobenzene-d5	98		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-07 D2
Client ID: RX-SSVP-06
Sample Location: FLINT ST. ROCHESTER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 06/21/16 07:21
Analyst: MB

Date Collected: 06/02/16 02:35
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Trichloroethene	220	1.00	0.355	1180	5.37	1.91		5

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-07 D2
Client ID: RX-SSVP-06
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 02:35
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Bromofluorobenzene	93		70-130
Toluene-d8	105		70-130

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	96		60-140
Bromochloromethane	94		60-140
chlorobenzene-d5	92		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-08
Client ID: RX-SSVP-07
Sample Location: FLINT ST. ROCHESTER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 06/20/16 19:50
Analyst: MB

Date Collected: 06/02/16 02:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.501	0.200	0.047	2.48	0.989	0.230		1
Chloromethane	ND	0.200	0.096	ND	0.413	0.198		1
Freon-114	ND	0.200	0.042	ND	1.40	0.293		1
Vinyl chloride	ND	0.200	0.038	ND	0.511	0.097		1
1,3-Butadiene	ND	0.200	0.080	ND	0.442	0.177		1
Butane	0.787	0.200	0.044	1.87	0.475	0.105		1
Acetaldehyde	4.75	2.50	0.547	8.56	4.50	0.985		1
Bromomethane	ND	0.200	0.070	ND	0.777	0.270		1
Chloroethane	ND	0.200	0.077	ND	0.528	0.202		1
Ethanol	1.54	2.50	0.542	2.90	4.71	1.02	J	1
Vinyl bromide	ND	0.200	0.070	ND	0.874	0.306		1
Acrolein	ND	0.500	0.114	ND	1.15	0.261		1
Acetone	2.25	1.00	0.165	5.34	2.38	0.392		1
Trichlorofluoromethane	0.526	0.200	0.042	2.96	1.12	0.234		1
Isopropanol	0.268	0.500	0.053	0.659	1.23	0.129	JB	1
Pentane	0.617	0.200	0.048	1.82	0.590	0.140		1
1,1-Dichloroethene	ND	0.200	0.057	ND	0.793	0.224		1
tert-Butyl Alcohol	0.384	0.500	0.060	1.16	1.52	0.182	J	1
Methylene chloride	0.463	1.00	0.299	1.61	1.74	1.04	J	1
3-Chloropropene	ND	0.200	0.081	ND	0.626	0.254		1
Carbon disulfide	0.133	0.200	0.035	0.414	0.623	0.107	J	1
Freon-113	0.091	0.200	0.051	0.697	1.53	0.392	J	1
trans-1,2-Dichloroethene	ND	0.200	0.074	ND	0.793	0.293		1
1,1-Dichloroethane	ND	0.200	0.077	ND	0.809	0.312		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-08
Client ID: RX-SSVP-07
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 02:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Methyl tert butyl ether	ND	0.200	0.053	ND	0.721	0.190		1
2-Butanone	0.474	0.500	0.047	1.40	1.47	0.139	J	1
cis-1,2-Dichloroethene	ND	0.200	0.059	ND	0.793	0.233		1
Chloroform	0.090	0.200	0.053	0.440	0.977	0.259	J	1
1,2-Dichloroethane	ND	0.200	0.055	ND	0.809	0.223		1
n-Hexane	0.216	0.200	0.052	0.761	0.705	0.183		1
1,1,1-Trichloroethane	0.319	0.200	0.057	1.74	1.09	0.311		1
Benzene	0.206	0.200	0.054	0.658	0.639	0.172		1
Thiophene	ND	0.200	0.053	ND	0.688	0.182		1
Carbon tetrachloride	ND	0.200	0.047	ND	1.26	0.296		1
Cyclohexane	0.168	0.200	0.066	0.578	0.688	0.226	J	1
1,2-Dichloropropane	ND	0.200	0.070	ND	0.924	0.322		1
Bromodichloromethane	ND	0.200	0.066	ND	1.34	0.439		1
1,4-Dioxane	ND	0.200	0.078	ND	0.721	0.281		1
Trichloroethene	0.106	0.200	0.071	0.570	1.07	0.382	J	1
2,2,4-Trimethylpentane	0.095	0.200	0.066	0.444	0.934	0.308	J	1
Heptane	0.101	0.200	0.055	0.414	0.820	0.227	J	1
cis-1,3-Dichloropropene	ND	0.200	0.075	ND	0.908	0.338		1
4-Methyl-2-pentanone	ND	0.500	0.061	ND	2.05	0.249		1
trans-1,3-Dichloropropene	ND	0.200	0.069	ND	0.908	0.315		1
1,1,2-Trichloroethane	ND	0.200	0.067	ND	1.09	0.364		1
Toluene	0.975	0.200	0.063	3.67	0.754	0.237		1
2-Methylthiophene	ND	0.200	0.079	ND	0.803	0.317		1
2-Hexanone	ND	0.200	0.060	ND	0.820	0.248		1
3-Methylthiophene	ND	0.200	0.067	ND	0.803	0.269		1
Dibromochloromethane	ND	0.200	0.075	ND	1.70	0.636		1
1,2-Dibromoethane	ND	0.200	0.078	ND	1.54	0.599		1
Octane	0.122	0.200	0.042	0.570	0.934	0.197	J	1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-08
Client ID: RX-SSVP-07
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 02:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	1.35	0.200	0.076	9.15	1.36	0.514		1
Chlorobenzene	ND	0.200	0.079	ND	0.921	0.363		1
Ethylbenzene	0.277	0.200	0.056	1.20	0.869	0.241		1
2-Ethylthiophene	ND	0.200	0.057	ND	0.918	0.262		1
p/m-Xylene	2.45	0.400	0.139	10.6	1.74	0.604		1
Bromoform	ND	0.200	0.052	ND	2.07	0.541		1
Styrene	0.192	0.200	0.080	0.817	0.852	0.340	J	1
1,1,2,2-Tetrachloroethane	ND	0.200	0.055	ND	1.37	0.376		1
o-Xylene	1.22	0.200	0.063	5.30	0.869	0.274		1
Nonane	0.171	0.200	0.063	0.897	1.05	0.328	J	1
2-Chlorotoluene	ND	0.200	0.049	ND	1.04	0.252		1
4-Ethyltoluene	0.117	0.200	0.078	0.575	0.983	0.381	J	1
1,3,5-Trimethylbenzene	0.179	0.200	0.058	0.880	0.983	0.287	J	1
1,2,4-Trimethylbenzene	0.592	0.200	0.069	2.91	0.983	0.341		1
Decane	1.27	0.200	0.048	7.39	1.16	0.282		1
1,3-Dichlorobenzene	ND	0.200	0.064	ND	1.20	0.383		1
1,4-Dichlorobenzene	0.063	0.200	0.036	0.379	1.20	0.217	J	1
1,2,3-Trimethylbenzene	0.194	0.200	0.075	0.954	0.983	0.369	J	1
1,2-Dichlorobenzene	0.113	0.200	0.061	0.679	1.20	0.369	J	1
Indane	ND	0.200	0.080	ND	0.967	0.384		1
Indene	ND	0.200	0.061	ND	0.951	0.289		1
Undecane	2.21	0.200	0.053	14.1	1.28	0.338		1
1,2,4,5-Tetramethylbenzene	ND	0.500	0.080	ND	2.74	0.436		1
Dodecane	1.36	0.500	0.048	9.47	3.48	0.333		1
1,2,4-Trichlorobenzene	ND	0.200	0.061	ND	1.48	0.454		1
Naphthalene	0.342	0.200	0.043	1.79	1.05	0.223		1
Benzothiophene	ND	0.500	0.047	ND	2.74	0.257		1
Hexachlorobutadiene	ND	0.200	0.073	ND	2.13	0.781		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-08
Client ID: RX-SSVP-07
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 02:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
2-Methylnaphthalene	ND	1.00	0.272	ND	5.82	1.58		1
1-Methylnaphthalene	ND	1.00	0.250	ND	5.82	1.45		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-08
Client ID: RX-SSVP-07
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 02:55
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Bromofluorobenzene	96		70-130
Toluene-d8	105		70-130

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	91		60-140
Bromochloromethane	88		60-140
chlorobenzene-d5	86		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-08
Client ID: RX-SSVP-07
Sample Location: FLINT ST. ROCHESTER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 06/25/16 05:16
Analyst: RY

Date Collected: 06/02/16 02:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	0.020	0.025	0.010	0.044	0.055	0.022	J	1
Isopentane	0.590	0.025	0.010	1.74	0.074	0.030		1
1-Pentene	0.070	0.025	0.010	0.201	0.072	0.029		1
2-Methyl-1-Butene	0.057	0.025	0.010	0.163	0.072	0.029		1
Pentane	0.484	0.025	0.010	1.43	0.074	0.030		1
trans-2-Pentene	0.037	0.025	0.010	0.106	0.072	0.029		1
cis-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
Tertiary Butanol	0.422	0.025	0.010	1.28	0.076	0.030		1
Cyclopentane	0.067	0.025	0.010	0.192	0.072	0.029		1
2,3-Dimethylbutane	0.050	0.025	0.010	0.176	0.088	0.035		1
2-Methylpentane	0.225	0.025	0.010	0.793	0.088	0.035		1
Methyl tert butyl ether	ND	0.025	0.010	ND	0.090	0.036		1
3-Methylpentane	0.174	0.025	0.010	0.613	0.088	0.035		1
1-Hexene	0.021	0.025	0.010	0.072	0.086	0.034	J	1
n-Hexane	0.284	0.025	0.010	1.00	0.088	0.035		1
Isopropyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
Ethyl-Tert-Butyl-Ether	ND	0.025	0.010	ND	0.104	0.042		1
2,2-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclopentane	0.153	0.025	0.010	0.527	0.086	0.034		1
2,4-Dimethylpentane	0.025	0.025	0.010	0.102	0.102	0.041		1
1,2-Dichloroethane	ND	0.025	0.010	ND	0.101	0.041		1
Cyclohexane	0.227	0.025	0.010	0.781	0.086	0.034		1
2-Methylhexane	0.074	0.025	0.010	0.303	0.102	0.041		1
Benzene	0.236	0.025	0.010	0.754	0.080	0.032		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-08
Client ID: RX-SSVP-07
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 02:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
2,3-Dimethylpentane	0.036	0.025	0.010	0.148	0.102	0.041		1
Thiophene	ND	0.025	0.010	ND	0.086	0.034		1
3-Methylhexane	0.122	0.025	0.010	0.500	0.102	0.041		1
Tertiary-Amyl Methyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
1-Heptene	0.102	0.025	0.010	0.410	0.100	0.040		1
Isooctane	0.111	0.025	0.010	0.518	0.117	0.047		1
Heptane	0.141	0.025	0.010	0.578	0.102	0.041		1
Methylcyclohexane	0.261	0.025	0.010	1.05	0.100	0.040		1
2,5-Dimethylhexane	0.017	0.025	0.010	0.079	0.117	0.047	J	1
2,4-Dimethylhexane/2,2,3-Trimethylpentan	0.150	0.050	0.025	0.701	0.234	0.117		1
2,3,4-Trimethylpentane	0.200	0.025	0.010	0.934	0.117	0.047		1
2,3,3-Trimethylpentane	0.160	0.025	0.010	0.747	0.117	0.047		1
2,3-Dimethylhexane	0.088	0.025	0.010	0.411	0.117	0.047		1
3-Ethylhexane	0.015	0.025	0.010	0.070	0.117	0.047	J	1
2-Methylheptane	0.056	0.025	0.010	0.262	0.117	0.047		1
3-Methylheptane	0.051	0.025	0.010	0.238	0.117	0.047		1
Toluene	1.03	0.025	0.010	3.88	0.094	0.038		1
2-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
3-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
1-Octene	0.032	0.025	0.010	0.147	0.115	0.046		1
1-Ethyl-1-Methylcyclopentane	ND	0.025	0.010	ND	0.115	0.046		1
Octane	0.135	0.025	0.010	0.631	0.117	0.047		1
1,2-Dibromoethane	ND	0.025	0.010	ND	0.192	0.077		1
Ethylbenzene	0.316	0.025	0.010	1.37	0.109	0.043		1
2-Ethylthiophene	ND	0.025	0.010	ND	0.115	0.046		1
p/m-Xylene	2.62	0.050	0.010	11.4	0.217	0.043		1
1-Nonene	0.014	0.025	0.010	0.072	0.129	0.052	J	1
Nonane (C9)	0.218	0.025	0.010	1.14	0.131	0.053		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-08
Client ID: RX-SSVP-07
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 02:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Styrene	0.218	0.025	0.010	0.928	0.106	0.043		1
o-Xylene	1.36	0.050	0.010	5.91	0.217	0.043		1
Isopropylbenzene	0.098	0.025	0.010	0.482	0.123	0.049		1
n-Propylbenzene	0.082	0.025	0.010	0.403	0.123	0.049		1
1-Methyl-3-Ethylbenzene	0.273	0.050	0.025	1.34	0.246	0.123		1
1-Methyl-4-Ethylbenzene	0.123	0.025	0.010	0.605	0.123	0.049		1
1,3,5-Trimethylbenzene	0.187	0.025	0.010	0.919	0.123	0.049		1
1-Decene	0.080	0.050	0.025	0.459	0.287	0.143		1
1-Methyl-2-Ethylbenzene	0.111	0.050	0.025	0.546	0.246	0.123		1
Decane (C10)	1.04	0.050	0.025	6.05	0.291	0.146		1
1,2,4-Trimethylbenzene	0.651	0.050	0.025	3.20	0.246	0.123		1
sec-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-3-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-Isopropylbenzene	0.129	0.050	0.025	0.708	0.274	0.137		1
1-Methyl-2-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Indane	0.057	0.050	0.025	0.276	0.242	0.121		1
Indene	ND	0.050	0.025	ND	0.238	0.119		1
1-Methyl-3-N-Propylbenzene	0.085	0.050	0.025	0.467	0.274	0.137		1
1-Methyl-4-N-Propylbenzene	0.034	0.050	0.025	0.187	0.274	0.137	J	1
n-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-4-Ethylbenzene	0.079	0.050	0.025	0.434	0.274	0.137		1
1,2-Diethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-N-Propylbenzene	0.037	0.050	0.025	0.203	0.274	0.137	J	1
1,4-Dimethyl-2-Ethylbenzene	0.053	0.050	0.025	0.291	0.274	0.137		1
Undecane	1.30	0.050	0.025	8.31	0.320	0.160		1
1,3-Dimethyl-4-Ethylbenzene	0.051	0.050	0.025	0.280	0.274	0.137		1
1,3-Dimethyl-5-Ethylbenzene	0.083	0.050	0.025	0.456	0.274	0.137		1
1,3-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-08
Client ID: RX-SSVP-07
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 02:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dimethyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2,4,5-Tetramethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
N-Pentylbenzene	ND	0.050	0.025	ND	0.303	0.152		1
Dodecane (C12)	1.10	0.100	0.050	7.66	0.697	0.348		1
Naphthalene	0.415	0.050	0.025	2.18	0.262	0.131		1
Benzothiophene	ND	0.100	0.050	ND	0.549	0.274		1
MMT	ND	0.100	0.050	ND	0.892	0.446		1
Tridecane	0.404	1.00	0.050	3.05	7.54	0.377	J	1
2-Methylnaphthalene	0.120	0.500	0.050	0.698	2.91	0.291	J	1
1-Methylnaphthalene	0.056	0.500	0.050	0.326	2.91	0.291	J	1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-08
Client ID: RX-SSVP-07
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 02:55
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
4-Bromofluorobenzene	97		70-130
Toluene-d8	99		70-130

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	95		60-140
Bromochloromethane	96		60-140
chlorobenzene-d5	97		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-09
Client ID: RX-AA-07
Sample Location: FLINT ST. ROCHESTER, NY
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 06/20/16 15:16
Analyst: MB

Date Collected: 06/02/16 02:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.510	0.200	0.047	2.52	0.989	0.230		1
Chloromethane	0.615	0.200	0.096	1.27	0.413	0.198		1
Freon-114	ND	0.200	0.042	ND	1.40	0.293		1
Vinyl chloride	ND	0.200	0.038	ND	0.511	0.097		1
1,3-Butadiene	0.509	0.200	0.080	1.13	0.442	0.177		1
Butane	15.0	0.200	0.044	35.7	0.475	0.105		1
Acetaldehyde	18.2	2.50	0.547	32.8	4.50	0.985		1
Bromomethane	ND	0.200	0.070	ND	0.777	0.270		1
Chloroethane	ND	0.200	0.077	ND	0.528	0.202		1
Ethanol	32.0	2.50	0.542	60.3	4.71	1.02		1
Vinyl bromide	ND	0.200	0.070	ND	0.874	0.306		1
Acrolein	0.911	0.500	0.114	2.09	1.15	0.261		1
Acetone	8.76	1.00	0.165	20.8	2.38	0.392		1
Trichlorofluoromethane	0.446	0.200	0.042	2.51	1.12	0.234		1
Isopropanol	6.19	0.500	0.053	15.2	1.23	0.129		1
Pentane	19.8	0.200	0.048	58.4	0.590	0.140		1
1,1-Dichloroethene	ND	0.200	0.057	ND	0.793	0.224		1
tert-Butyl Alcohol	0.208	0.500	0.060	0.631	1.52	0.182	J	1
Methylene chloride	17.0	1.00	0.299	59.1	1.74	1.04		1
3-Chloropropene	ND	0.200	0.081	ND	0.626	0.254		1
Carbon disulfide	ND	0.200	0.035	ND	0.623	0.107		1
Freon-113	0.065	0.200	0.051	0.498	1.53	0.392	J	1
trans-1,2-Dichloroethene	ND	0.200	0.074	ND	0.793	0.293		1
1,1-Dichloroethane	ND	0.200	0.077	ND	0.809	0.312		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-09
Client ID: RX-AA-07
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 02:55
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Methyl tert butyl ether	ND	0.200	0.053	ND	0.721	0.190		1
2-Butanone	6.96	0.500	0.047	20.5	1.47	0.139		1
cis-1,2-Dichloroethene	ND	0.200	0.059	ND	0.793	0.233		1
Chloroform	ND	0.200	0.053	ND	0.977	0.259		1
1,2-Dichloroethane	ND	0.200	0.055	ND	0.809	0.223		1
n-Hexane	4.11	0.200	0.052	14.5	0.705	0.183		1
1,1,1-Trichloroethane	ND	0.200	0.057	ND	1.09	0.311		1
Benzene	2.04	0.200	0.054	6.52	0.639	0.172		1
Thiophene	ND	0.200	0.053	ND	0.688	0.182		1
Carbon tetrachloride	0.055	0.200	0.047	0.346	1.26	0.296	J	1
Cyclohexane	0.683	0.200	0.066	2.35	0.688	0.226		1
1,2-Dichloropropane	ND	0.200	0.070	ND	0.924	0.322		1
Bromodichloromethane	ND	0.200	0.066	ND	1.34	0.439		1
1,4-Dioxane	ND	0.200	0.078	ND	0.721	0.281		1
Trichloroethene	ND	0.200	0.071	ND	1.07	0.382		1
2,2,4-Trimethylpentane	0.973	0.200	0.066	4.54	0.934	0.308		1
Heptane	0.915	0.200	0.055	3.75	0.820	0.227		1
cis-1,3-Dichloropropene	ND	0.200	0.075	ND	0.908	0.338		1
4-Methyl-2-pentanone	0.375	0.500	0.061	1.54	2.05	0.249	J	1
trans-1,3-Dichloropropene	ND	0.200	0.069	ND	0.908	0.315		1
1,1,2-Trichloroethane	ND	0.200	0.067	ND	1.09	0.364		1
Toluene	10.3	0.200	0.063	38.8	0.754	0.237		1
2-Methylthiophene	ND	0.200	0.079	ND	0.803	0.317		1
2-Hexanone	ND	0.200	0.060	ND	0.820	0.248		1
3-Methylthiophene	ND	0.200	0.067	ND	0.803	0.269		1
Dibromochloromethane	ND	0.200	0.075	ND	1.70	0.636		1
1,2-Dibromoethane	ND	0.200	0.078	ND	1.54	0.599		1
Octane	0.333	0.200	0.042	1.56	0.934	0.197		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-09
Client ID: RX-AA-07
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 02:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	ND	0.200	0.076	ND	1.36	0.514		1
Chlorobenzene	ND	0.200	0.079	ND	0.921	0.363		1
Ethylbenzene	0.893	0.200	0.056	3.88	0.869	0.241		1
2-Ethylthiophene	ND	0.200	0.057	ND	0.918	0.262		1
p/m-Xylene	3.37	0.400	0.139	14.6	1.74	0.604		1
Bromoform	ND	0.200	0.052	ND	2.07	0.541		1
Styrene	0.103	0.200	0.080	0.439	0.852	0.340	J	1
1,1,2,2-Tetrachloroethane	ND	0.200	0.055	ND	1.37	0.376		1
o-Xylene	1.27	0.200	0.063	5.52	0.869	0.274		1
Nonane	0.341	0.200	0.063	1.79	1.05	0.328		1
2-Chlorotoluene	ND	0.200	0.049	ND	1.04	0.252		1
4-Ethyltoluene	0.309	0.200	0.078	1.52	0.983	0.381		1
1,3,5-Trimethylbenzene	0.321	0.200	0.058	1.58	0.983	0.287		1
1,2,4-Trimethylbenzene	1.19	0.200	0.069	5.85	0.983	0.341		1
Decane	0.549	0.200	0.048	3.20	1.16	0.282		1
1,3-Dichlorobenzene	ND	0.200	0.064	ND	1.20	0.383		1
1,4-Dichlorobenzene	ND	0.200	0.036	ND	1.20	0.217		1
1,2,3-Trimethylbenzene	0.301	0.200	0.075	1.48	0.983	0.369		1
1,2-Dichlorobenzene	ND	0.200	0.061	ND	1.20	0.369		1
Indane	0.139	0.200	0.080	0.672	0.967	0.384	J	1
Indene	ND	0.200	0.061	ND	0.951	0.289		1
Undecane	0.691	0.200	0.053	4.42	1.28	0.338		1
1,2,4,5-Tetramethylbenzene	0.103	0.500	0.080	0.565	2.74	0.436	J	1
Dodecane	0.476	0.500	0.048	3.32	3.48	0.333	J	1
1,2,4-Trichlorobenzene	ND	0.200	0.061	ND	1.48	0.454		1
Naphthalene	0.216	0.200	0.043	1.13	1.05	0.223		1
Benzothiophene	ND	0.500	0.047	ND	2.74	0.257		1
Hexachlorobutadiene	ND	0.200	0.073	ND	2.13	0.781		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-09
Client ID: RX-AA-07
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 02:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
2-Methylnaphthalene	ND	1.00	0.272	ND	5.82	1.58		1
1-Methylnaphthalene	ND	1.00	0.250	ND	5.82	1.45		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-09
Client ID: RX-AA-07
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 02:55
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Bromofluorobenzene	95		70-130
Toluene-d8	103		70-130

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	93		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	90		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-09
Client ID: RX-AA-07
Sample Location: FLINT ST. ROCHESTER, NY
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 06/24/16 20:23
Analyst: RY

Date Collected: 06/02/16 02:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	0.446	0.025	0.010	0.987	0.055	0.022		1
Isopentane	15.6	0.025	0.010	46.0	0.074	0.030		1
1-Pentene	0.521	0.025	0.010	1.49	0.072	0.029		1
2-Methyl-1-Butene	1.05	0.025	0.010	3.01	0.072	0.029		1
Pentane	14.8	0.025	0.010	43.7	0.074	0.030		1
trans-2-Pentene	1.40	0.025	0.010	4.02	0.072	0.029		1
cis-2-Pentene	0.739	0.025	0.010	2.12	0.072	0.029		1
Tertiary Butanol	0.234	0.025	0.010	0.709	0.076	0.030		1
Cyclopentane	1.04	0.025	0.010	2.98	0.072	0.029		1
2,3-Dimethylbutane	1.16	0.025	0.010	4.09	0.088	0.035		1
2-Methylpentane	4.07	0.025	0.010	14.3	0.088	0.035		1
Methyl tert butyl ether	ND	0.025	0.010	ND	0.090	0.036		1
3-Methylpentane	3.17	0.025	0.010	11.2	0.088	0.035		1
1-Hexene	0.090	0.025	0.010	0.310	0.086	0.034		1
n-Hexane	4.86	0.025	0.010	17.1	0.088	0.035		1
Isopropyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
Ethyl-Tert-Butyl-Ether	ND	0.025	0.010	ND	0.104	0.042		1
2,2-Dimethylpentane	0.119	0.025	0.010	0.488	0.102	0.041		1
Methylcyclopentane	2.26	0.025	0.010	7.78	0.086	0.034		1
2,4-Dimethylpentane	0.425	0.025	0.010	1.74	0.102	0.041		1
1,2-Dichloroethane	ND	0.025	0.010	ND	0.101	0.041		1
Cyclohexane	0.827	0.025	0.010	2.85	0.086	0.034		1
2-Methylhexane	1.35	0.025	0.010	5.53	0.102	0.041		1
Benzene	2.14	0.025	0.010	6.84	0.080	0.032		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-09
Client ID: RX-AA-07
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 02:55
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
2,3-Dimethylpentane	0.643	0.025	0.010	2.64	0.102	0.041		1
Thiophene	ND	0.025	0.010	ND	0.086	0.034		1
3-Methylhexane	1.53	0.025	0.010	6.27	0.102	0.041		1
Tertiary-Amyl Methyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
1-Heptene	0.685	0.025	0.010	2.75	0.100	0.040		1
Isooctane	1.22	0.025	0.010	5.70	0.117	0.047		1
Heptane	1.22	0.025	0.010	5.00	0.102	0.041		1
Methylcyclohexane	0.767	0.025	0.010	3.08	0.100	0.040		1
2,5-Dimethylhexane	0.188	0.025	0.010	0.878	0.117	0.047		1
2,4-Dimethylhexane/2,2,3-Trimethylpentan	0.214	0.050	0.025	1.00	0.234	0.117		1
2,3,4-Trimethylpentane	0.441	0.025	0.010	2.06	0.117	0.047		1
2,3,3-Trimethylpentane	0.494	0.025	0.010	2.31	0.117	0.047		1
2,3-Dimethylhexane	0.194	0.025	0.010	0.906	0.117	0.047		1
3-Ethylhexane	0.070	0.025	0.010	0.327	0.117	0.047		1
2-Methylheptane	0.334	0.025	0.010	1.56	0.117	0.047		1
3-Methylheptane	0.300	0.025	0.010	1.40	0.117	0.047		1
Toluene	10.1	0.025	0.010	38.1	0.094	0.038		1
2-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
3-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
1-Octene	ND	0.025	0.010	ND	0.115	0.046		1
1-Ethyl-1-Methylcyclopentane	ND	0.025	0.010	ND	0.115	0.046		1
Octane	0.410	0.025	0.010	1.92	0.117	0.047		1
1,2-Dibromoethane	ND	0.025	0.010	ND	0.192	0.077		1
Ethylbenzene	0.977	0.025	0.010	4.24	0.109	0.043		1
2-Ethylthiophene	ND	0.025	0.010	ND	0.115	0.046		1
p/m-Xylene	3.55	0.050	0.010	15.4	0.217	0.043		1
1-Nonene	ND	0.025	0.010	ND	0.129	0.052		1
Nonane (C9)	0.393	0.025	0.010	2.06	0.131	0.053		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-09
Client ID: RX-AA-07
Sample Location: FLINT ST. ROCHESTER, NY
Date Collected: 06/02/16 02:55
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Styrene	0.118	0.025	0.010	0.502	0.106	0.043		1
o-Xylene	1.40	0.050	0.010	6.08	0.217	0.043		1
Isopropylbenzene	0.077	0.025	0.010	0.379	0.123	0.049		1
n-Propylbenzene	0.209	0.025	0.010	1.03	0.123	0.049		1
1-Methyl-3-Ethylbenzene	0.783	0.050	0.025	3.85	0.246	0.123		1
1-Methyl-4-Ethylbenzene	0.342	0.025	0.010	1.68	0.123	0.049		1
1,3,5-Trimethylbenzene	0.353	0.025	0.010	1.74	0.123	0.049		1
1-Decene	0.027	0.050	0.025	0.155	0.287	0.143	J	1
1-Methyl-2-Ethylbenzene	0.301	0.050	0.025	1.48	0.246	0.123		1
Decane (C10)	0.722	0.050	0.025	4.20	0.291	0.146		1
1,2,4-Trimethylbenzene	1.34	0.050	0.025	6.59	0.246	0.123		1
sec-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-3-Isopropylbenzene	0.060	0.050	0.025	0.329	0.274	0.137		1
1-Methyl-4-Isopropylbenzene	0.068	0.050	0.025	0.373	0.274	0.137		1
1-Methyl-2-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Indane	0.154	0.050	0.025	0.744	0.242	0.121		1
Indene	0.026	0.050	0.025	0.124	0.238	0.119	J	1
1-Methyl-3-N-Propylbenzene	0.165	0.050	0.025	0.906	0.274	0.137		1
1-Methyl-4-N-Propylbenzene	0.070	0.050	0.025	0.384	0.274	0.137		1
n-Butylbenzene	0.048	0.050	0.025	0.263	0.274	0.137	J	1
1,2-Dimethyl-4-Ethylbenzene	0.171	0.050	0.025	0.939	0.274	0.137		1
1,2-Diethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-N-Propylbenzene	0.069	0.050	0.025	0.379	0.274	0.137		1
1,4-Dimethyl-2-Ethylbenzene	0.118	0.050	0.025	0.648	0.274	0.137		1
Undecane	0.618	0.050	0.025	3.95	0.320	0.160		1
1,3-Dimethyl-4-Ethylbenzene	0.112	0.050	0.025	0.615	0.274	0.137		1
1,3-Dimethyl-5-Ethylbenzene	0.192	0.050	0.025	1.05	0.274	0.137		1
1,3-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-09
Client ID: RX-AA-07
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 02:55
Date Received: 06/02/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dimethyl-3-Ethylbenzene	0.050	0.050	0.025	0.274	0.274	0.137		1
1,2,4,5-Tetramethylbenzene	0.045	0.050	0.025	0.247	0.274	0.137	J	1
N-Pentylbenzene	ND	0.050	0.025	ND	0.303	0.152		1
Dodecane (C12)	0.660	0.100	0.050	4.60	0.697	0.348		1
Naphthalene	0.272	0.050	0.025	1.43	0.262	0.131		1
Benzothiophene	ND	0.100	0.050	ND	0.549	0.274		1
MMT	ND	0.100	0.050	ND	0.892	0.446		1
Tridecane	0.354	1.00	0.050	2.67	7.54	0.377	J	1
2-Methylnaphthalene	0.094	0.500	0.050	0.547	2.91	0.291	J	1
1-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

SAMPLE RESULTS

Lab ID: L1616769-09
Client ID: RX-AA-07
Sample Location: FLINT ST. ROCHESTER, NY

Date Collected: 06/02/16 02:55
Date Received: 06/02/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
4-Bromofluorobenzene	96		70-130
Toluene-d8	99		70-130

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	97		60-140
Bromochloromethane	100		60-140
chlorobenzene-d5	99		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 06/24/16 17:46

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-09 Batch: WG905446-5								
1,3-Butadiene	ND	0.025	0.010	ND	0.055	0.022		1
Ethyl Alcohol	ND	0.500	0.100	ND	0.942	0.188		1
Isopentane	ND	0.025	0.010	ND	0.074	0.030		1
1-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
2-Methyl-1-Butene	ND	0.025	0.010	ND	0.072	0.029		1
Pentane	ND	0.025	0.010	ND	0.074	0.030		1
iso-Propyl Alcohol	ND	0.500	0.100	ND	1.23	0.246		1
trans-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
cis-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
Tertiary Butanol	ND	0.025	0.010	ND	0.076	0.030		1
Cyclopentane	ND	0.025	0.010	ND	0.072	0.029		1
2,3-Dimethylbutane	ND	0.025	0.010	ND	0.088	0.035		1
2-Methylpentane	ND	0.025	0.010	ND	0.088	0.035		1
Methyl tert butyl ether	ND	0.025	0.010	ND	0.090	0.036		1
3-Methylpentane	ND	0.025	0.010	ND	0.088	0.035		1
1-Hexene	ND	0.025	0.010	ND	0.086	0.034		1
n-Hexane	ND	0.025	0.010	ND	0.088	0.035		1
Isopropyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
Ethyl-Tert-Butyl-Ether	ND	0.025	0.010	ND	0.104	0.042		1
2,2-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclopentane	ND	0.025	0.010	ND	0.086	0.034		1
2,4-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
1,2-Dichloroethane	ND	0.025	0.010	ND	0.101	0.041		1
Cyclohexane	ND	0.025	0.010	ND	0.086	0.034		1
2-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1

Project Name: FLINT ST. REDEVELOPMENT **Lab Number:** L1616769

Project Number: Not Specified **Report Date:** 06/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 06/24/16 17:46

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-09 Batch: WG905446-5								
Benzene	ND	0.025	0.010	ND	0.080	0.032		1
2,3-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Thiophene	ND	0.025	0.010	ND	0.086	0.034		1
3-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1
Tertiary-Amyl Methyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
1-Heptene	ND	0.025	0.010	ND	0.100	0.040		1
Isooctane	ND	0.025	0.010	ND	0.117	0.047		1
Heptane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclohexane	ND	0.025	0.010	ND	0.100	0.040		1
2,5-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2,4-Dimethylhexane/2,2,3-Trimethylpentan	ND	0.050	0.025	ND	0.234	0.117		1
2,3,4-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3,3-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
3-Ethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
3-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
Toluene	ND	0.025	0.010	ND	0.094	0.038		1
2-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
3-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
1-Octene	ND	0.025	0.010	ND	0.115	0.046		1
1-Ethyl-1-Methylcyclopentane	ND	0.025	0.010	ND	0.115	0.046		1
Octane	ND	0.025	0.010	ND	0.117	0.047		1
1,2-Dibromoethane	ND	0.025	0.010	ND	0.192	0.077		1
Ethylbenzene	ND	0.025	0.010	ND	0.109	0.043		1

Project Name: FLINT ST. REDEVELOPMENT **Lab Number:** L1616769

Project Number: Not Specified **Report Date:** 06/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 06/24/16 17:46

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-09 Batch: WG905446-5								
2-Ethylthiophene	ND	0.025	0.010	ND	0.115	0.046		1
p/m-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
1-Nonene	ND	0.025	0.010	ND	0.129	0.052		1
Nonane (C9)	ND	0.025	0.010	ND	0.131	0.053		1
Styrene	ND	0.025	0.010	ND	0.106	0.043		1
o-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
Isopropylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
n-Propylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Methyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
1-Methyl-4-Ethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1,3,5-Trimethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Decene	ND	0.050	0.025	ND	0.287	0.143		1
1-Methyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
Decane (C10)	ND	0.050	0.025	ND	0.291	0.146		1
1,2,4-Trimethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
sec-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-3-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Indane	ND	0.050	0.025	ND	0.242	0.121		1
Indene	ND	0.050	0.025	ND	0.238	0.119		1
1-Methyl-3-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
n-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 06/24/16 17:46

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-09 Batch: WG905446-5								
1,2-Diethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,4-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Undecane	ND	0.050	0.025	ND	0.320	0.160		1
1,3-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,3-Dimethyl-5-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,3-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2,4,5-Tetramethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
N-Pentylbenzene	ND	0.050	0.025	ND	0.303	0.152		1
Dodecane (C12)	ND	0.100	0.050	ND	0.697	0.348		1
Naphthalene	ND	0.050	0.025	ND	0.262	0.131		1
Benzothiophene	ND	0.100	0.050	ND	0.549	0.274		1
MMT	ND	0.100	0.050	ND	0.892	0.446		1
Tridecane	ND	1.00	0.050	ND	7.54	0.377		1
2-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1
1-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 06/24/16 17:46

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-09 Batch: WG905446-5								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	72		70-130
4-Bromofluorobenzene	100		70-130
Toluene-d8	98		70-130

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 06/20/16 13:15

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-09 Batch: WG905786-5								
Dichlorodifluoromethane	ND	0.200	0.047	ND	0.989	0.230		1
Chloromethane	ND	0.200	0.096	ND	0.413	0.198		1
Freon-114	ND	0.200	0.042	ND	1.40	0.293		1
Vinyl chloride	ND	0.200	0.038	ND	0.511	0.097		1
1,3-Butadiene	ND	0.200	0.080	ND	0.442	0.177		1
Butane	ND	0.200	0.044	ND	0.475	0.105		1
Acetaldehyde	ND	2.50	0.547	ND	4.50	0.985		1
Bromomethane	ND	0.200	0.070	ND	0.777	0.270		1
Chloroethane	ND	0.200	0.077	ND	0.528	0.202		1
Ethanol	ND	2.50	0.542	ND	4.71	1.02		1
Vinyl bromide	ND	0.200	0.070	ND	0.874	0.306		1
Acrolein	ND	0.500	0.114	ND	1.15	0.261		1
Acetone	ND	1.00	0.165	ND	2.38	0.392		1
Trichlorofluoromethane	ND	0.200	0.042	ND	1.12	0.234		1
Isopropanol	0.093	0.500	0.053	0.229	1.23	0.129	J	1
Pentane	ND	0.200	0.048	ND	0.590	0.140		1
1,1-Dichloroethene	ND	0.200	0.057	ND	0.793	0.224		1
tert-Butyl Alcohol	ND	0.500	0.060	ND	1.52	0.182		1
Methylene chloride	ND	1.00	0.299	ND	1.74	1.04		1
3-Chloropropene	ND	0.200	0.081	ND	0.626	0.254		1
Carbon disulfide	ND	0.200	0.035	ND	0.623	0.107		1
Freon-113	ND	0.200	0.051	ND	1.53	0.392		1
trans-1,2-Dichloroethene	ND	0.200	0.074	ND	0.793	0.293		1
1,1-Dichloroethane	ND	0.200	0.077	ND	0.809	0.312		1
Methyl tert butyl ether	ND	0.200	0.053	ND	0.721	0.190		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 06/20/16 13:15

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-09 Batch: WG905786-5								
2-Butanone	ND	0.500	0.047	ND	1.47	0.139		1
cis-1,2-Dichloroethene	ND	0.200	0.059	ND	0.793	0.233		1
Chloroform	ND	0.200	0.053	ND	0.977	0.259		1
1,2-Dichloroethane	ND	0.200	0.055	ND	0.809	0.223		1
n-Hexane	ND	0.200	0.052	ND	0.705	0.183		1
1,1,1-Trichloroethane	ND	0.200	0.057	ND	1.09	0.311		1
Benzene	ND	0.200	0.054	ND	0.639	0.172		1
Thiophene	ND	0.200	0.053	ND	0.688	0.182		1
Carbon tetrachloride	ND	0.200	0.047	ND	1.26	0.296		1
Cyclohexane	ND	0.200	0.066	ND	0.688	0.226		1
1,2-Dichloropropane	ND	0.200	0.070	ND	0.924	0.322		1
Bromodichloromethane	ND	0.200	0.066	ND	1.34	0.439		1
1,4-Dioxane	ND	0.200	0.078	ND	0.721	0.281		1
Trichloroethene	ND	0.200	0.071	ND	1.07	0.382		1
2,2,4-Trimethylpentane	ND	0.200	0.066	ND	0.934	0.308		1
Heptane	ND	0.200	0.055	ND	0.820	0.227		1
cis-1,3-Dichloropropene	ND	0.200	0.075	ND	0.908	0.338		1
4-Methyl-2-pentanone	ND	0.500	0.061	ND	2.05	0.249		1
trans-1,3-Dichloropropene	ND	0.200	0.069	ND	0.908	0.315		1
1,1,2-Trichloroethane	ND	0.200	0.067	ND	1.09	0.364		1
Toluene	ND	0.200	0.063	ND	0.754	0.237		1
2-Methylthiophene	ND	0.200	0.079	ND	0.803	0.317		1
2-Hexanone	ND	0.200	0.060	ND	0.820	0.248		1
3-Methylthiophene	ND	0.200	0.067	ND	0.803	0.269		1
Dibromochloromethane	ND	0.200	0.075	ND	1.70	0.636		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 06/20/16 13:15

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-09 Batch: WG905786-5								
1,2-Dibromoethane	ND	0.200	0.078	ND	1.54	0.599		1
Octane	ND	0.200	0.042	ND	0.934	0.197		1
Tetrachloroethene	ND	0.200	0.076	ND	1.36	0.514		1
Chlorobenzene	ND	0.200	0.079	ND	0.921	0.363		1
Ethylbenzene	ND	0.200	0.056	ND	0.869	0.241		1
2-Ethylthiophene	ND	0.200	0.057	ND	0.918	0.262		1
p/m-Xylene	ND	0.400	0.139	ND	1.74	0.604		1
Bromoform	ND	0.200	0.052	ND	2.07	0.541		1
Styrene	ND	0.200	0.080	ND	0.852	0.340		1
1,1,2,2-Tetrachloroethane	ND	0.200	0.055	ND	1.37	0.376		1
o-Xylene	ND	0.200	0.063	ND	0.869	0.274		1
Nonane	ND	0.200	0.063	ND	1.05	0.328		1
2-Chlorotoluene	ND	0.200	0.049	ND	1.04	0.252		1
4-Ethyltoluene	ND	0.200	0.078	ND	0.983	0.381		1
1,3,5-Trimethylbenzene	ND	0.200	0.058	ND	0.983	0.287		1
1,2,4-Trimethylbenzene	ND	0.200	0.069	ND	0.983	0.341		1
Decane	ND	0.200	0.048	ND	1.16	0.282		1
1,3-Dichlorobenzene	ND	0.200	0.064	ND	1.20	0.383		1
1,4-Dichlorobenzene	ND	0.200	0.036	ND	1.20	0.217		1
1,2,3-Trimethylbenzene	ND	0.200	0.075	ND	0.983	0.369		1
1,2-Dichlorobenzene	ND	0.200	0.061	ND	1.20	0.369		1
Indane	ND	0.200	0.080	ND	0.967	0.384		1
Indene	ND	0.200	0.061	ND	0.951	0.289		1
Undecane	ND	0.200	0.053	ND	1.28	0.338		1
1,2,4,5-Tetramethylbenzene	ND	0.500	0.080	ND	2.74	0.436		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 06/20/16 13:15

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-09 Batch: WG905786-5								
Dodecane	ND	0.500	0.048	ND	3.48	0.333		1
1,2,4-Trichlorobenzene	ND	0.200	0.061	ND	1.48	0.454		1
Naphthalene	ND	0.200	0.043	ND	1.05	0.223		1
Benzothiophene	ND	0.500	0.047	ND	2.74	0.257		1
Hexachlorobutadiene	ND	0.200	0.073	ND	2.13	0.781		1
2-Methylnaphthalene	ND	1.00	0.272	ND	5.82	1.58		1
1-Methylnaphthalene	ND	1.00	0.250	ND	5.82	1.45		1

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified
Lab Number: L1616769
Report Date: 06/27/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 06/20/16 13:15

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-09 Batch: WG905786-5								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Bromofluorobenzene	96		70-130
Toluene-d8	108		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST. REDEVELOPMENT

Project Number: Not Specified

Lab Number: L1616769

Report Date: 06/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PIANO Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-09 Batch: WG905446-3 WG905446-4								
Methyl tert butyl ether	108		107		70-130	1		30
n-Hexane	106		108		70-130	2		30
1,2-Dichloroethane	109		110		70-130	1		30
Cyclohexane	114		115		70-130	1		30
Benzene	104		105		70-130	1		30
Isooctane	112		113		70-130	1		30
Heptane	112		113		70-130	1		30
Toluene	106		107		70-130	1		30
1,2-Dibromoethane	117		118		70-130	1		30
Ethylbenzene	108		109		70-130	1		30
p/m-Xylene	112		113		70-130	1		30
Styrene	120		121		70-130	1		30
o-Xylene	110		111		70-130	1		30
n-Propylbenzene	113		114		70-130	1		30
1-Methyl-4-Ethylbenzene	117		118		70-130	1		30
1,3,5-Trimethylbenzene	114		116		70-130	2		30
1,2,4-Trimethylbenzene	114		116		70-130	2		30
Naphthalene	**143**	Q	**145**	Q	50-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST. REDEVELOPMENT

Project Number: Not Specified

Lab Number: L1616769

Report Date: 06/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PIANO Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-09 Batch: WG905446-3 WG905446-4								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
4-Bromofluorobenzene	100		98		70-130
1,2-Dichloroethane-d4	100		98		70-130
Toluene-d8	101		99		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST. REDEVELOPMENT

Project Number: Not Specified

Lab Number: L1616769

Report Date: 06/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-09 Batch: WG905786-3 WG905786-4								
1,3-Butadiene	117		116		70-130	1		25
Isopropanol	107		108		70-130	1		25
Methyl tert butyl ether	96		96		70-130	0		25
1,2-Dichloroethane	100		100		70-130	0		25
n-Hexane	86		89		70-130	3		25
Benzene	91		92		70-130	1		25
Cyclohexane	87		88		70-130	1		25
2,2,4-Trimethylpentane	90		92		70-130	2		25
Heptane	85		86		70-130	1		25
Toluene	101		101		70-130	0		25
1,2-Dibromoethane	105		107		70-130	2		25
Ethylbenzene	100		102		70-130	2		25
p/m-Xylene	104		105		70-130	1		25
Styrene	106		108		70-130	2		25
o-Xylene	109		111		70-130	2		25
4-Ethyltoluene	101		103		70-130	2		25
1,3,5-Trimethylbenzene	105		107		70-130	2		25
1,2,4-Trimethylbenzene	115		119		70-130	3		25
Naphthalene	103		107		70-130	4		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: FLINT ST. REDEVELOPMENT

Project Number: Not Specified

Lab Number: L1616769

Report Date: 06/27/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-09 Batch: WG905786-3 WG905786-4								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		96		70-130
Toluene-d8	102		102		70-130
Bromofluorobenzene	98		98		70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
PIANO Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG905446-6 QC Sample: L1616769-01 Client ID: RX-SSVP-01						
1,3-Butadiene	ND	ND	ppbV	NC		25
Isopentane	ND	ND	ppbV	NC		25
1-Pentene	ND	ND	ppbV	NC		25
2-Methyl-1-Butene	ND	ND	ppbV	NC		25
Pentane	0.017J	0.016J	ppbV	NC		25
trans-2-Pentene	ND	ND	ppbV	NC		25
cis-2-Pentene	ND	ND	ppbV	NC		25
Tertiary Butanol	0.110	0.109	ppbV	1		25
Cyclopentane	ND	ND	ppbV	NC		25
2,3-Dimethylbutane	ND	ND	ppbV	NC		25
2-Methylpentane	ND	ND	ppbV	NC		25
Methyl tert butyl ether	ND	ND	ppbV	NC		25
3-Methylpentane	ND	ND	ppbV	NC		25
1-Hexene	ND	ND	ppbV	NC		25
n-Hexane	0.031	0.035	ppbV	12		25
Isopropyl Ether	ND	ND	ppbV	NC		25
Ethyl-Tert-Butyl-Ether	ND	ND	ppbV	NC		25
2,2-Dimethylpentane	ND	ND	ppbV	NC		25
Methylcyclopentane	ND	0.010J	ppbV	NC		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
PIANO Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG905446-6 QC Sample: L1616769-01 Client ID: RX-SSVP-01					
2,4-Dimethylpentane	ND	ND	ppbV	NC	25
1,2-Dichloroethane	ND	ND	ppbV	NC	25
Cyclohexane	ND	0.010J	ppbV	NC	25
2-Methylhexane	ND	ND	ppbV	NC	25
Benzene	0.019J	0.019J	ppbV	NC	25
2,3-Dimethylpentane	ND	ND	ppbV	NC	25
Thiophene	ND	ND	ppbV	NC	25
3-Methylhexane	0.019J	0.016J	ppbV	NC	25
Tertiary-Amyl Methyl Ether	ND	ND	ppbV	NC	25
1-Heptene	ND	ND	ppbV	NC	25
Isooctane	0.013J	0.013J	ppbV	NC	25
Heptane	ND	0.010J	ppbV	NC	25
Methylcyclohexane	ND	ND	ppbV	NC	25
2,5-Dimethylhexane	ND	ND	ppbV	NC	25
2,4-Dimethylhexane/2,2,3-Trimethylpentan	ND	ND	ppbV	NC	25
2,3,4-Trimethylpentane	0.022J	0.023J	ppbV	NC	25
2,3,3-Trimethylpentane	0.019J	0.019J	ppbV	NC	25
2,3-Dimethylhexane	ND	ND	ppbV	NC	25
3-Ethylhexane	ND	ND	ppbV	NC	25

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
PIANO Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG905446-6 QC Sample: L1616769-01 Client ID: RX-SSVP-01					
2-Methylheptane	ND	ND	ppbV	NC	25
3-Methylheptane	ND	ND	ppbV	NC	25
Toluene	0.043	0.040	ppbV	7	25
2-Methylthiophene	ND	ND	ppbV	NC	25
3-Methylthiophene	ND	ND	ppbV	NC	25
1-Octene	ND	ND	ppbV	NC	25
1-Ethyl-1-Methylcyclopentane	ND	ND	ppbV	NC	25
Octane	0.022J	0.024J	ppbV	NC	25
1,2-Dibromoethane	ND	ND	ppbV	NC	25
Ethylbenzene	0.018J	0.018J	ppbV	NC	25
2-Ethylthiophene	ND	ND	ppbV	NC	25
p/m-Xylene	0.071	0.068	ppbV	4	25
1-Nonene	ND	ND	ppbV	NC	25
Nonane (C9)	0.041	0.041	ppbV	0	25
Styrene	0.065	0.065	ppbV	0	25
o-Xylene	0.038J	0.037J	ppbV	NC	25
Isopropylbenzene	ND	ND	ppbV	NC	25
n-Propylbenzene	0.014J	0.015J	ppbV	NC	25
1-Methyl-3-Ethylbenzene	0.043J	0.042J	ppbV	NC	25

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
PIANO Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG905446-6 QC Sample: L1616769-01 Client ID: RX-SSVP-01					
1-Methyl-4-Ethylbenzene	0.023J	0.023J	ppbV	NC	25
1,3,5-Trimethylbenzene	0.027	0.028	ppbV	4	25
1-Decene	0.029J	0.026J	ppbV	NC	25
1-Methyl-2-Ethylbenzene	ND	ND	ppbV	NC	25
Decane (C10)	0.423	0.424	ppbV	0	25
1,2,4-Trimethylbenzene	0.122	0.122	ppbV	0	25
sec-Butylbenzene	ND	ND	ppbV	NC	25
1-Methyl-3-Isopropylbenzene	ND	ND	ppbV	NC	25
1-Methyl-4-Isopropylbenzene	0.034J	0.033J	ppbV	NC	25
1-Methyl-2-Isopropylbenzene	ND	ND	ppbV	NC	25
Indane	ND	ND	ppbV	NC	25
Indene	ND	ND	ppbV	NC	25
1-Methyl-3-N-Propylbenzene	ND	ND	ppbV	NC	25
1-Methyl-4-N-Propylbenzene	ND	ND	ppbV	NC	25
n-Butylbenzene	ND	ND	ppbV	NC	25
1,2-Dimethyl-4-Ethylbenzene	ND	ND	ppbV	NC	25
1,2-Diethylbenzene	ND	ND	ppbV	NC	25
1-Methyl-2-N-Propylbenzene	ND	ND	ppbV	NC	25
1,4-Dimethyl-2-Ethylbenzene	ND	ND	ppbV	NC	25

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
PIANO Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG905446-6 QC Sample: L1616769-01 Client ID: RX-SSVP-01					
Undecane	0.313	0.338	ppbV	8	25
1,3-Dimethyl-4-Ethylbenzene	ND	ND	ppbV	NC	25
1,3-Dimethyl-5-Ethylbenzene	ND	ND	ppbV	NC	25
1,3-Dimethyl-2-Ethylbenzene	ND	ND	ppbV	NC	25
1,2-Dimethyl-3-Ethylbenzene	ND	ND	ppbV	NC	25
1,2,4,5-Tetramethylbenzene	ND	ND	ppbV	NC	25
N-Pentylbenzene	ND	ND	ppbV	NC	25
Dodecane (C12)	0.554	0.571	ppbV	3	25
Naphthalene	0.215	0.219	ppbV	2	25
Benzothiophene	ND	ND	ppbV	NC	25
MMT	ND	ND	ppbV	NC	25
Tridecane	0.194J	0.207J	ppbV	NC	25
2-Methylnaphthalene	ND	ND	ppbV	NC	25
1-Methylnaphthalene	ND	ND	ppbV	NC	25

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
4-Bromofluorobenzene	98		96		70-130
1,2-Dichloroethane-d4	98		97		70-130
Toluene-d8	99		98		70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
PIANO Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG905446-6 QC Sample: L1616769-01 Client ID: RX-SSVP-01					

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG905786-6 QC Sample: L1616769-02 Client ID: RX-SSVP-02					
Dichlorodifluoromethane	0.378J	ND	ppbV	NC	25
Chloromethane	ND	ND	ppbV	NC	25
Freon-114	ND	ND	ppbV	NC	25
Vinyl chloride	ND	ND	ppbV	NC	25
1,3-Butadiene	ND	ND	ppbV	NC	25
Butane	0.230J	0.260J	ppbV	NC	25
Acetaldehyde	3.68J	3.94J	ppbV	NC	25
Bromomethane	ND	ND	ppbV	NC	25
Chloroethane	ND	ND	ppbV	NC	25
Ethanol	4.84J	5.05J	ppbV	NC	25
Vinyl bromide	ND	ND	ppbV	NC	25
Acrolein	ND	ND	ppbV	NC	25
Acetone	4.07	4.65	ppbV	13	25
Trichlorofluoromethane	0.578	0.555	ppbV	4	25
Isopropanol	0.798JB	0.812JB	ppbV	NC	25
Pentane	0.408J	0.348J	ppbV	NC	25
1,1-Dichloroethene	ND	ND	ppbV	NC	25
tert-Butyl Alcohol	ND	ND	ppbV	NC	25
Methylene chloride	ND	ND	ppbV	NC	25

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG905786-6 QC Sample: L1616769-02 Client ID: RX-SSVP-02					
3-Chloropropene	ND	ND	ppbV	NC	25
Carbon disulfide	0.205J	0.202J	ppbV	NC	25
Freon-113	ND	ND	ppbV	NC	25
trans-1,2-Dichloroethene	1.65	1.50	ppbV	10	25
1,1-Dichloroethane	ND	ND	ppbV	NC	25
Methyl tert butyl ether	ND	ND	ppbV	NC	25
2-Butanone	0.430J	0.405J	ppbV	NC	25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC	25
Chloroform	172	174	ppbV	1	25
1,2-Dichloroethane	ND	ND	ppbV	NC	25
n-Hexane	0.178J	0.148J	ppbV	NC	25
1,1,1-Trichloroethane	0.162J	0.155J	ppbV	NC	25
Benzene	0.340J	0.310J	ppbV	NC	25
Thiophene	ND	ND	ppbV	NC	25
Carbon tetrachloride	0.152J	0.140J	ppbV	NC	25
Cyclohexane	ND	ND	ppbV	NC	25
1,2-Dichloropropane	ND	ND	ppbV	NC	25
Bromodichloromethane	ND	ND	ppbV	NC	25
1,4-Dioxane	ND	ND	ppbV	NC	25

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG905786-6 QC Sample: L1616769-02 Client ID: RX-SSVP-02					
Trichloroethene	1.50	1.46	ppbV	3	25
2,2,4-Trimethylpentane	ND	ND	ppbV	NC	25
Heptane	0.168J	ND	ppbV	NC	25
cis-1,3-Dichloropropene	ND	ND	ppbV	NC	25
4-Methyl-2-pentanone	ND	ND	ppbV	NC	25
trans-1,3-Dichloropropene	ND	ND	ppbV	NC	25
1,1,2-Trichloroethane	ND	ND	ppbV	NC	25
Toluene	0.862	0.908	ppbV	5	25
2-Methylthiophene	ND	ND	ppbV	NC	25
2-Hexanone	ND	ND	ppbV	NC	25
3-Methylthiophene	ND	ND	ppbV	NC	25
Dibromochloromethane	ND	ND	ppbV	NC	25
1,2-Dibromoethane	ND	ND	ppbV	NC	25
Octane	0.115J	0.115J	ppbV	NC	25
Tetrachloroethene	6.93	7.34	ppbV	6	25
Chlorobenzene	ND	ND	ppbV	NC	25
Ethylbenzene	ND	ND	ppbV	NC	25
2-Ethylthiophene	ND	ND	ppbV	NC	25
p/m-Xylene	0.758J	0.738J	ppbV	NC	25

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG905786-6 QC Sample: L1616769-02 Client ID: RX-SSVP-02					
Bromoform	ND	ND	ppbV	NC	25
Styrene	ND	ND	ppbV	NC	25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC	25
o-Xylene	0.205J	0.200J	ppbV	NC	25
Nonane	ND	ND	ppbV	NC	25
2-Chlorotoluene	ND	ND	ppbV	NC	25
4-Ethyltoluene	ND	ND	ppbV	NC	25
1,3,5-Trimethylbenzene	ND	ND	ppbV	NC	25
1,2,4-Trimethylbenzene	0.242J	0.270J	ppbV	NC	25
Decane	0.570	0.595	ppbV	4	25
1,3-Dichlorobenzene	ND	ND	ppbV	NC	25
1,4-Dichlorobenzene	ND	ND	ppbV	NC	25
1,2,3-Trimethylbenzene	ND	ND	ppbV	NC	25
1,2-Dichlorobenzene	ND	ND	ppbV	NC	25
Indane	ND	ND	ppbV	NC	25
Indene	ND	ND	ppbV	NC	25
Undecane	1.01	1.01	ppbV	0	25
1,2,4,5-Tetramethylbenzene	ND	ND	ppbV	NC	25
Dodecane	0.782J	0.835J	ppbV	NC	25

Lab Duplicate Analysis
Batch Quality Control

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-09 QC Batch ID: WG905786-6 QC Sample: L1616769-02 Client ID: RX-SSVP-02					
1,2,4-Trichlorobenzene	ND	ND	ppbV	NC	25
Naphthalene	0.150J	0.140J	ppbV	NC	25
Benzothiophene	ND	ND	ppbV	NC	25
Hexachlorobutadiene	ND	ND	ppbV	NC	25
2-Methylnaphthalene	ND	ND	ppbV	NC	25
1-Methylnaphthalene	ND	ND	ppbV	NC	25

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		96		70-130
Toluene-d8	106		106		70-130
Bromofluorobenzene	94		96		70-130

Project Name: FLINT ST. REDEVELOPMENT

Project Number:

Lab Number: L1616769

Report Date: 06/27/16

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1616769-01	RX-SSVP-01	0680	#20 AMB	06/01/16	222644		-	-	-	Pass	78	72	8
L1616769-01	RX-SSVP-01	1669	6.0L Can	06/01/16	222644	L1615353-12	Pass	-29.6	-6.8	-	-	-	-
L1616769-02	RX-SSVP-02	0920	#3 AMB	06/01/16	222644		-	-	-	Pass	80	91	13
L1616769-02	RX-SSVP-02	630	6.0L Can	06/01/16	222644	L1615353-10	Pass	-29.6	-5.0	-	-	-	-
L1616769-03	RX-SSVP-03	0389	#90 SV	06/01/16	222644		-	-	-	Pass	80	92	14
L1616769-03	RX-SSVP-03	2060	6.0L Can	06/01/16	222644	L1615353-03	Pass	-29.7	-4.5	-	-	-	-
L1616769-04	RX-AA-03	0138	#90 SV	06/01/16	222644		-	-	-	Pass	79	81	3
L1616769-04	RX-AA-03	1664	6.0L Can	06/01/16	222644	L1615353-02	Pass	-29.6	-8.3	-	-	-	-
L1616769-05	RX-SSVP-04	0326	#90 SV	06/01/16	222644		-	-	-	Pass	80	75	6
L1616769-05	RX-SSVP-04	744	6.0L Can	06/01/16	222644	L1615353-01	Pass	-29.6	-7.0	-	-	-	-
L1616769-06	RX-SSVP-05	0356	#90 SV	06/01/16	222644		-	-	-	Pass	79	92	15
L1616769-06	RX-SSVP-05	1546	6.0L Can	06/01/16	222644	L1615353-04	Pass	-29.7	-4.4	-	-	-	-
L1616769-07	RX-SSVP-06	0083	#90 SV	06/01/16	222644		-	-	-	Pass	79	98	21
L1616769-07	RX-SSVP-06	595	6.0L Can	06/01/16	222644	L1615353-07	Pass	-29.6	-7.6	-	-	-	-
L1616769-08	RX-SSVP-07	0099	#90 SV	06/01/16	222644		-	-	-	Pass	80	78	3

Project Name: FLINT ST. REDEVELOPMENT

Project Number:

Lab Number: L1616769

Report Date: 06/27/16

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1616769-08	RX-SSVP-07	1706	6.0L Can	06/01/16	222644	L1615353-08	Pass	-29.7	-8.6	-	-	-	-
L1616769-09	RX-AA-07	0144	#90 SV	06/01/16	222644		-	-	-	Pass	79	83	5
L1616769-09	RX-AA-07	2258	6.0L Can	06/01/16	222644	L1615353-05	Pass	-29.7	-7.1	-	-	-	-
L1616769-10	UNUSED CANISTER 918	0113	#90 SV	06/01/16	222644		-	-	-	Pass	78	134	53
L1616769-10	UNUSED CANISTER 918	918	6.0L Can	06/01/16	222644	L1615353-06	Pass	-29.6	-29.6	-	-	-	-

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-01
Client ID: CAN 744
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 05/23/16 14:36
Analyst: MB

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	0.047	ND	0.989	0.230		1
Chloromethane	ND	0.200	0.096	ND	0.413	0.198		1
Freon-114	ND	0.200	0.042	ND	1.40	0.293		1
Vinyl chloride	ND	0.200	0.038	ND	0.511	0.097		1
1,3-Butadiene	ND	0.200	0.080	ND	0.442	0.177		1
Butane	ND	0.200	0.044	ND	0.475	0.105		1
Acetaldehyde	ND	2.50	0.547	ND	4.50	0.985		1
Bromomethane	ND	0.200	0.070	ND	0.777	0.270		1
Chloroethane	ND	0.200	0.077	ND	0.528	0.202		1
Ethanol	ND	2.50	0.542	ND	4.71	1.02		1
Vinyl bromide	ND	0.200	0.070	ND	0.874	0.306		1
Acrolein	ND	0.500	0.114	ND	1.15	0.261		1
Acetone	ND	1.00	0.165	ND	2.38	0.392		1
Trichlorofluoromethane	ND	0.200	0.042	ND	1.12	0.234		1
Isopropanol	ND	0.500	0.053	ND	1.23	0.129		1
Pentane	ND	0.200	0.048	ND	0.590	0.140		1
1,1-Dichloroethene	ND	0.200	0.057	ND	0.793	0.224		1
tert-Butyl Alcohol	ND	0.500	0.060	ND	1.52	0.182		1
Methylene chloride	ND	1.00	0.299	ND	1.74	1.04		1
3-Chloropropene	ND	0.200	0.081	ND	0.626	0.254		1
Carbon disulfide	ND	0.200	0.035	ND	0.623	0.107		1
Freon-113	ND	0.200	0.051	ND	1.53	0.392		1
trans-1,2-Dichloroethene	ND	0.200	0.074	ND	0.793	0.293		1
1,1-Dichloroethane	ND	0.200	0.077	ND	0.809	0.312		1
Methyl tert butyl ether	ND	0.200	0.053	ND	0.721	0.190		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-01
Client ID: CAN 744
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
2-Butanone	ND	0.500	0.047	ND	1.47	0.139		1
cis-1,2-Dichloroethene	ND	0.200	0.059	ND	0.793	0.233		1
Chloroform	ND	0.200	0.053	ND	0.977	0.259		1
1,2-Dichloroethane	ND	0.200	0.055	ND	0.809	0.223		1
n-Hexane	ND	0.200	0.052	ND	0.705	0.183		1
1,1,1-Trichloroethane	ND	0.200	0.057	ND	1.09	0.311		1
Benzene	ND	0.200	0.054	ND	0.639	0.172		1
Thiophene	ND	0.200	0.053	ND	0.688	0.182		1
Carbon tetrachloride	ND	0.200	0.047	ND	1.26	0.296		1
Cyclohexane	ND	0.200	0.066	ND	0.688	0.226		1
1,2-Dichloropropane	ND	0.200	0.070	ND	0.924	0.322		1
Bromodichloromethane	ND	0.200	0.066	ND	1.34	0.439		1
1,4-Dioxane	ND	0.200	0.078	ND	0.721	0.281		1
Trichloroethene	ND	0.200	0.071	ND	1.07	0.382		1
2,2,4-Trimethylpentane	ND	0.200	0.066	ND	0.934	0.308		1
Heptane	ND	0.200	0.055	ND	0.820	0.227		1
cis-1,3-Dichloropropene	ND	0.200	0.075	ND	0.908	0.338		1
4-Methyl-2-pentanone	ND	0.500	0.061	ND	2.05	0.249		1
trans-1,3-Dichloropropene	ND	0.200	0.069	ND	0.908	0.315		1
1,1,2-Trichloroethane	ND	0.200	0.067	ND	1.09	0.364		1
Toluene	ND	0.200	0.063	ND	0.754	0.237		1
2-Methylthiophene	ND	0.200	0.079	ND	0.803	0.317		1
2-Hexanone	ND	0.200	0.060	ND	0.820	0.248		1
3-Methylthiophene	ND	0.200	0.067	ND	0.803	0.269		1
Dibromochloromethane	ND	0.200	0.075	ND	1.70	0.636		1
1,2-Dibromoethane	ND	0.200	0.078	ND	1.54	0.599		1
Octane	ND	0.200	0.042	ND	0.934	0.197		1
Tetrachloroethene	ND	0.200	0.076	ND	1.36	0.514		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-01
Client ID: CAN 744
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorobenzene	ND	0.200	0.079	ND	0.921	0.363		1
Ethylbenzene	ND	0.200	0.056	ND	0.869	0.241		1
2-Ethylthiophene	ND	0.200	0.057	ND	0.918	0.262		1
p/m-Xylene	ND	0.400	0.139	ND	1.74	0.604		1
Bromoform	ND	0.200	0.052	ND	2.07	0.541		1
Styrene	ND	0.200	0.080	ND	0.852	0.340		1
1,1,2,2-Tetrachloroethane	ND	0.200	0.055	ND	1.37	0.376		1
o-Xylene	ND	0.200	0.063	ND	0.869	0.274		1
Nonane	ND	0.200	0.063	ND	1.05	0.328		1
2-Chlorotoluene	ND	0.200	0.049	ND	1.04	0.252		1
4-Ethyltoluene	ND	0.200	0.078	ND	0.983	0.381		1
1,3,5-Trimethylbenzene	ND	0.200	0.058	ND	0.983	0.287		1
1,2,4-Trimethylbenzene	ND	0.200	0.069	ND	0.983	0.341		1
Decane	ND	0.200	0.048	ND	1.16	0.282		1
1,3-Dichlorobenzene	ND	0.200	0.064	ND	1.20	0.383		1
1,4-Dichlorobenzene	ND	0.200	0.036	ND	1.20	0.217		1
1,2,3-Trimethylbenzene	ND	0.200	0.075	ND	0.983	0.369		1
1,2-Dichlorobenzene	ND	0.200	0.061	ND	1.20	0.369		1
Indane	ND	0.200	0.080	ND	0.967	0.384		1
Indene	ND	0.200	0.061	ND	0.951	0.289		1
Undecane	ND	0.200	0.053	ND	1.28	0.338		1
1,2,4,5-Tetramethylbenzene	ND	0.500	0.080	ND	2.74	0.436		1
Dodecane	ND	0.500	0.048	ND	3.48	0.333		1
1,2,4-Trichlorobenzene	ND	0.200	0.061	ND	1.48	0.454		1
Naphthalene	ND	0.200	0.043	ND	1.05	0.223		1
Benzothiophene	ND	0.500	0.047	ND	2.74	0.257		1
Hexachlorobutadiene	ND	0.200	0.073	ND	2.13	0.781		1
2-Methylnaphthalene	ND	1.00	0.272	ND	5.82	1.58		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-01
Client ID: CAN 744
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
1-Methylnaphthalene	ND	1.00	0.250	ND	5.82	1.45		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	90		60-140
Bromochloromethane	94		60-140
chlorobenzene-d5	89		60-140

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-01
Client ID: CAN 744
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 05/21/16 14:35
Analyst: RY

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.025	0.010	ND	0.055	0.022		1
Ethyl Alcohol	ND	0.500	0.100	ND	0.942	0.188		1
Isopentane	ND	0.025	0.010	ND	0.074	0.030		1
1-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
2-Methyl-1-Butene	ND	0.025	0.010	ND	0.072	0.029		1
Pentane	ND	0.025	0.010	ND	0.074	0.030		1
iso-Propyl Alcohol	ND	0.500	0.100	ND	1.23	0.246		1
trans-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
cis-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
Tertiary Butanol	ND	0.050	0.010	ND	0.152	0.030		1
Cyclopentane	ND	0.025	0.010	ND	0.072	0.029		1
2,3-Dimethylbutane	ND	0.025	0.010	ND	0.088	0.035		1
2-Methylpentane	ND	0.025	0.010	ND	0.088	0.035		1
Methyl tert butyl ether	ND	0.025	0.010	ND	0.090	0.036		1
3-Methylpentane	ND	0.025	0.010	ND	0.088	0.035		1
1-Hexene	ND	0.025	0.010	ND	0.086	0.034		1
n-Hexane	ND	0.025	0.010	ND	0.088	0.035		1
Isopropyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
Ethyl-Tert-Butyl-Ether	ND	0.025	0.010	ND	0.104	0.042		1
2,2-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclopentane	ND	0.025	0.010	ND	0.086	0.034		1
2,4-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
1,2-Dichloroethane	ND	0.025	0.010	ND	0.101	0.041		1
Cyclohexane	ND	0.025	0.010	ND	0.086	0.034		1
2-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-01
Client ID: CAN 744
Sample Location:
Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Benzene	ND	0.025	0.010	ND	0.080	0.032		1
2,3-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Thiophene	ND	0.025	0.010	ND	0.086	0.034		1
3-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1
Tertiary-Amyl Methyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
1-Heptene	ND	0.025	0.010	ND	0.100	0.040		1
Isooctane	ND	0.500	0.010	ND	2.34	0.047		1
Heptane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclohexane	ND	0.025	0.010	ND	0.100	0.040		1
2,5-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2,4-Dimethylhexane/2,2,3-Trimethylpentan	ND	0.050	0.025	ND	0.234	0.117		1
2,3,4-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3,3-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
3-Ethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
3-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
Toluene	ND	0.025	0.010	ND	0.094	0.038		1
2-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
3-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
1-Octene	ND	0.025	0.010	ND	0.115	0.046		1
1-Ethyl-1-Methylcyclopentane	ND	0.025	0.010	ND	0.115	0.046		1
Octane	ND	0.025	0.010	ND	0.117	0.047		1
1,2-Dibromoethane	ND	0.025	0.010	ND	0.192	0.077		1
Ethylbenzene	ND	0.025	0.010	ND	0.109	0.043		1
2-Ethylthiophene	ND	0.025	0.010	ND	0.115	0.046		1
p/m-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
1-Nonene	ND	0.025	0.010	ND	0.129	0.052		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-01
Client ID: CAN 744
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Nonane (C9)	ND	0.025	0.010	ND	0.131	0.053		1
Styrene	ND	0.025	0.010	ND	0.106	0.043		1
o-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
Isopropylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
n-Propylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Methyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
1-Methyl-4-Ethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1,3,5-Trimethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Decene	ND	0.050	0.025	ND	0.287	0.143		1
1-Methyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
Decane (C10)	ND	0.050	0.025	ND	0.291	0.146		1
1,2,4-Trimethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
sec-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-3-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Indane	ND	0.050	0.025	ND	0.242	0.121		1
Indene	ND	0.050	0.025	ND	0.238	0.119		1
1-Methyl-3-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
n-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Diethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,4-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Undecane	ND	0.050	0.025	ND	0.320	0.160		1
1,3-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,3-Dimethyl-5-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-01
Client ID: CAN 744
Sample Location:
Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2,4,5-Tetramethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
N-Pentylbenzene	ND	0.050	0.025	ND	0.303	0.152		1
Dodecane (C12)	ND	0.100	0.050	ND	0.697	0.348		1
Naphthalene	ND	0.050	0.025	ND	0.262	0.131		1
Benzothiophene	ND	0.100	0.050	ND	0.549	0.274		1
MMT	ND	0.100	0.050	ND	0.892	0.446		1
Tridecane	ND	1.00	0.050	ND	7.54	0.377		1
2-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1
1-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	94		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	95		60-140

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-02
Client ID: CAN 1664
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 05/23/16 15:11
Analyst: MB

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	0.047	ND	0.989	0.230		1
Chloromethane	ND	0.200	0.096	ND	0.413	0.198		1
Freon-114	ND	0.200	0.042	ND	1.40	0.293		1
Vinyl chloride	ND	0.200	0.038	ND	0.511	0.097		1
1,3-Butadiene	ND	0.200	0.080	ND	0.442	0.177		1
Butane	ND	0.200	0.044	ND	0.475	0.105		1
Acetaldehyde	ND	2.50	0.547	ND	4.50	0.985		1
Bromomethane	ND	0.200	0.070	ND	0.777	0.270		1
Chloroethane	ND	0.200	0.077	ND	0.528	0.202		1
Ethanol	ND	2.50	0.542	ND	4.71	1.02		1
Vinyl bromide	ND	0.200	0.070	ND	0.874	0.306		1
Acrolein	ND	0.500	0.114	ND	1.15	0.261		1
Acetone	ND	1.00	0.165	ND	2.38	0.392		1
Trichlorofluoromethane	ND	0.200	0.042	ND	1.12	0.234		1
Isopropanol	ND	0.500	0.053	ND	1.23	0.129		1
Pentane	ND	0.200	0.048	ND	0.590	0.140		1
1,1-Dichloroethene	ND	0.200	0.057	ND	0.793	0.224		1
tert-Butyl Alcohol	ND	0.500	0.060	ND	1.52	0.182		1
Methylene chloride	ND	1.00	0.299	ND	1.74	1.04		1
3-Chloropropene	ND	0.200	0.081	ND	0.626	0.254		1
Carbon disulfide	ND	0.200	0.035	ND	0.623	0.107		1
Freon-113	ND	0.200	0.051	ND	1.53	0.392		1
trans-1,2-Dichloroethene	ND	0.200	0.074	ND	0.793	0.293		1
1,1-Dichloroethane	ND	0.200	0.077	ND	0.809	0.312		1
Methyl tert butyl ether	ND	0.200	0.053	ND	0.721	0.190		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-02
Client ID: CAN 1664
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
2-Butanone	ND	0.500	0.047	ND	1.47	0.139		1
cis-1,2-Dichloroethene	ND	0.200	0.059	ND	0.793	0.233		1
Chloroform	ND	0.200	0.053	ND	0.977	0.259		1
1,2-Dichloroethane	ND	0.200	0.055	ND	0.809	0.223		1
n-Hexane	ND	0.200	0.052	ND	0.705	0.183		1
1,1,1-Trichloroethane	ND	0.200	0.057	ND	1.09	0.311		1
Benzene	ND	0.200	0.054	ND	0.639	0.172		1
Thiophene	ND	0.200	0.053	ND	0.688	0.182		1
Carbon tetrachloride	ND	0.200	0.047	ND	1.26	0.296		1
Cyclohexane	ND	0.200	0.066	ND	0.688	0.226		1
1,2-Dichloropropane	ND	0.200	0.070	ND	0.924	0.322		1
Bromodichloromethane	ND	0.200	0.066	ND	1.34	0.439		1
1,4-Dioxane	ND	0.200	0.078	ND	0.721	0.281		1
Trichloroethene	ND	0.200	0.071	ND	1.07	0.382		1
2,2,4-Trimethylpentane	ND	0.200	0.066	ND	0.934	0.308		1
Heptane	ND	0.200	0.055	ND	0.820	0.227		1
cis-1,3-Dichloropropene	ND	0.200	0.075	ND	0.908	0.338		1
4-Methyl-2-pentanone	ND	0.500	0.061	ND	2.05	0.249		1
trans-1,3-Dichloropropene	ND	0.200	0.069	ND	0.908	0.315		1
1,1,2-Trichloroethane	ND	0.200	0.067	ND	1.09	0.364		1
Toluene	ND	0.200	0.063	ND	0.754	0.237		1
2-Methylthiophene	ND	0.200	0.079	ND	0.803	0.317		1
2-Hexanone	ND	0.200	0.060	ND	0.820	0.248		1
3-Methylthiophene	ND	0.200	0.067	ND	0.803	0.269		1
Dibromochloromethane	ND	0.200	0.075	ND	1.70	0.636		1
1,2-Dibromoethane	ND	0.200	0.078	ND	1.54	0.599		1
Octane	ND	0.200	0.042	ND	0.934	0.197		1
Tetrachloroethene	ND	0.200	0.076	ND	1.36	0.514		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-02
Client ID: CAN 1664
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorobenzene	ND	0.200	0.079	ND	0.921	0.363		1
Ethylbenzene	ND	0.200	0.056	ND	0.869	0.241		1
2-Ethylthiophene	ND	0.200	0.057	ND	0.918	0.262		1
p/m-Xylene	ND	0.400	0.139	ND	1.74	0.604		1
Bromoform	ND	0.200	0.052	ND	2.07	0.541		1
Styrene	ND	0.200	0.080	ND	0.852	0.340		1
1,1,2,2-Tetrachloroethane	ND	0.200	0.055	ND	1.37	0.376		1
o-Xylene	ND	0.200	0.063	ND	0.869	0.274		1
Nonane	ND	0.200	0.063	ND	1.05	0.328		1
2-Chlorotoluene	ND	0.200	0.049	ND	1.04	0.252		1
4-Ethyltoluene	ND	0.200	0.078	ND	0.983	0.381		1
1,3,5-Trimethylbenzene	ND	0.200	0.058	ND	0.983	0.287		1
1,2,4-Trimethylbenzene	ND	0.200	0.069	ND	0.983	0.341		1
Decane	ND	0.200	0.048	ND	1.16	0.282		1
1,3-Dichlorobenzene	ND	0.200	0.064	ND	1.20	0.383		1
1,4-Dichlorobenzene	ND	0.200	0.036	ND	1.20	0.217		1
1,2,3-Trimethylbenzene	ND	0.200	0.075	ND	0.983	0.369		1
1,2-Dichlorobenzene	ND	0.200	0.061	ND	1.20	0.369		1
Indane	ND	0.200	0.080	ND	0.967	0.384		1
Indene	ND	0.200	0.061	ND	0.951	0.289		1
Undecane	ND	0.200	0.053	ND	1.28	0.338		1
1,2,4,5-Tetramethylbenzene	ND	0.500	0.080	ND	2.74	0.436		1
Dodecane	ND	0.500	0.048	ND	3.48	0.333		1
1,2,4-Trichlorobenzene	ND	0.200	0.061	ND	1.48	0.454		1
Naphthalene	ND	0.200	0.043	ND	1.05	0.223		1
Benzothiophene	ND	0.500	0.047	ND	2.74	0.257		1
Hexachlorobutadiene	ND	0.200	0.073	ND	2.13	0.781		1
2-Methylnaphthalene	ND	1.00	0.272	ND	5.82	1.58		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-02
Client ID: CAN 1664
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
1-Methylnaphthalene	ND	1.00	0.250	ND	5.82	1.45		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	87		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	84		60-140

Project Name: INDIV. CANISTER CERTIFICATION **Lab Number:** L1615353

Project Number: CANISTER QC INDIV **Report Date:** 06/27/16

Air Canister Certification Results

Lab ID: L1615353-02
Client ID: CAN 1664
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 05/21/16 15:42
Analyst: RY

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.025	0.010	ND	0.055	0.022		1
Ethyl Alcohol	ND	0.500	0.100	ND	0.942	0.188		1
Isopentane	ND	0.025	0.010	ND	0.074	0.030		1
1-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
2-Methyl-1-Butene	ND	0.025	0.010	ND	0.072	0.029		1
Pentane	ND	0.025	0.010	ND	0.074	0.030		1
iso-Propyl Alcohol	ND	0.500	0.100	ND	1.23	0.246		1
trans-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
cis-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
Tertiary Butanol	ND	0.050	0.010	ND	0.152	0.030		1
Cyclopentane	ND	0.025	0.010	ND	0.072	0.029		1
2,3-Dimethylbutane	ND	0.025	0.010	ND	0.088	0.035		1
2-Methylpentane	ND	0.025	0.010	ND	0.088	0.035		1
Methyl tert butyl ether	ND	0.025	0.010	ND	0.090	0.036		1
3-Methylpentane	ND	0.025	0.010	ND	0.088	0.035		1
1-Hexene	ND	0.025	0.010	ND	0.086	0.034		1
n-Hexane	ND	0.025	0.010	ND	0.088	0.035		1
Isopropyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
Ethyl-Tert-Butyl-Ether	ND	0.025	0.010	ND	0.104	0.042		1
2,2-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclopentane	ND	0.025	0.010	ND	0.086	0.034		1
2,4-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
1,2-Dichloroethane	ND	0.025	0.010	ND	0.101	0.041		1
Cyclohexane	ND	0.025	0.010	ND	0.086	0.034		1
2-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-02
Client ID: CAN 1664
Sample Location:
Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Benzene	ND	0.025	0.010	ND	0.080	0.032		1
2,3-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Thiophene	ND	0.025	0.010	ND	0.086	0.034		1
3-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1
Tertiary-Amyl Methyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
1-Heptene	ND	0.025	0.010	ND	0.100	0.040		1
Isooctane	ND	0.500	0.010	ND	2.34	0.047		1
Heptane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclohexane	ND	0.025	0.010	ND	0.100	0.040		1
2,5-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2,4-Dimethylhexane/2,2,3-Trimethylpentan	ND	0.050	0.025	ND	0.234	0.117		1
2,3,4-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3,3-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
3-Ethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
3-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
Toluene	ND	0.025	0.010	ND	0.094	0.038		1
2-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
3-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
1-Octene	ND	0.025	0.010	ND	0.115	0.046		1
1-Ethyl-1-Methylcyclopentane	ND	0.025	0.010	ND	0.115	0.046		1
Octane	ND	0.025	0.010	ND	0.117	0.047		1
1,2-Dibromoethane	ND	0.025	0.010	ND	0.192	0.077		1
Ethylbenzene	ND	0.025	0.010	ND	0.109	0.043		1
2-Ethylthiophene	ND	0.025	0.010	ND	0.115	0.046		1
p/m-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
1-Nonene	ND	0.025	0.010	ND	0.129	0.052		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-02
Client ID: CAN 1664
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Nonane (C9)	ND	0.025	0.010	ND	0.131	0.053		1
Styrene	ND	0.025	0.010	ND	0.106	0.043		1
o-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
Isopropylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
n-Propylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Methyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
1-Methyl-4-Ethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1,3,5-Trimethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Decene	ND	0.050	0.025	ND	0.287	0.143		1
1-Methyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
Decane (C10)	ND	0.050	0.025	ND	0.291	0.146		1
1,2,4-Trimethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
sec-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-3-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Indane	ND	0.050	0.025	ND	0.242	0.121		1
Indene	ND	0.050	0.025	ND	0.238	0.119		1
1-Methyl-3-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
n-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Diethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,4-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Undecane	ND	0.050	0.025	ND	0.320	0.160		1
1,3-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,3-Dimethyl-5-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-02
Client ID: CAN 1664
Sample Location:
Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2,4,5-Tetramethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
N-Pentylbenzene	ND	0.050	0.025	ND	0.303	0.152		1
Dodecane (C12)	ND	0.100	0.050	ND	0.697	0.348		1
Naphthalene	ND	0.050	0.025	ND	0.262	0.131		1
Benzothiophene	ND	0.100	0.050	ND	0.549	0.274		1
MMT	ND	0.100	0.050	ND	0.892	0.446		1
Tridecane	ND	1.00	0.050	ND	7.54	0.377		1
2-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1
1-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	92		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	93		60-140

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-03
Client ID: CAN 2060
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 05/23/16 15:47
Analyst: MB

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	0.047	ND	0.989	0.230		1
Chloromethane	ND	0.200	0.096	ND	0.413	0.198		1
Freon-114	ND	0.200	0.042	ND	1.40	0.293		1
Vinyl chloride	ND	0.200	0.038	ND	0.511	0.097		1
1,3-Butadiene	ND	0.200	0.080	ND	0.442	0.177		1
Butane	ND	0.200	0.044	ND	0.475	0.105		1
Acetaldehyde	ND	2.50	0.547	ND	4.50	0.985		1
Bromomethane	ND	0.200	0.070	ND	0.777	0.270		1
Chloroethane	ND	0.200	0.077	ND	0.528	0.202		1
Ethanol	ND	2.50	0.542	ND	4.71	1.02		1
Vinyl bromide	ND	0.200	0.070	ND	0.874	0.306		1
Acrolein	ND	0.500	0.114	ND	1.15	0.261		1
Acetone	ND	1.00	0.165	ND	2.38	0.392		1
Trichlorofluoromethane	ND	0.200	0.042	ND	1.12	0.234		1
Isopropanol	ND	0.500	0.053	ND	1.23	0.129		1
Pentane	ND	0.200	0.048	ND	0.590	0.140		1
1,1-Dichloroethene	ND	0.200	0.057	ND	0.793	0.224		1
tert-Butyl Alcohol	ND	0.500	0.060	ND	1.52	0.182		1
Methylene chloride	ND	1.00	0.299	ND	1.74	1.04		1
3-Chloropropene	ND	0.200	0.081	ND	0.626	0.254		1
Carbon disulfide	ND	0.200	0.035	ND	0.623	0.107		1
Freon-113	ND	0.200	0.051	ND	1.53	0.392		1
trans-1,2-Dichloroethene	ND	0.200	0.074	ND	0.793	0.293		1
1,1-Dichloroethane	ND	0.200	0.077	ND	0.809	0.312		1
Methyl tert butyl ether	ND	0.200	0.053	ND	0.721	0.190		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-03
Client ID: CAN 2060
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
2-Butanone	ND	0.500	0.047	ND	1.47	0.139		1
cis-1,2-Dichloroethene	ND	0.200	0.059	ND	0.793	0.233		1
Chloroform	ND	0.200	0.053	ND	0.977	0.259		1
1,2-Dichloroethane	ND	0.200	0.055	ND	0.809	0.223		1
n-Hexane	ND	0.200	0.052	ND	0.705	0.183		1
1,1,1-Trichloroethane	ND	0.200	0.057	ND	1.09	0.311		1
Benzene	ND	0.200	0.054	ND	0.639	0.172		1
Thiophene	ND	0.200	0.053	ND	0.688	0.182		1
Carbon tetrachloride	ND	0.200	0.047	ND	1.26	0.296		1
Cyclohexane	ND	0.200	0.066	ND	0.688	0.226		1
1,2-Dichloropropane	ND	0.200	0.070	ND	0.924	0.322		1
Bromodichloromethane	ND	0.200	0.066	ND	1.34	0.439		1
1,4-Dioxane	ND	0.200	0.078	ND	0.721	0.281		1
Trichloroethene	ND	0.200	0.071	ND	1.07	0.382		1
2,2,4-Trimethylpentane	ND	0.200	0.066	ND	0.934	0.308		1
Heptane	ND	0.200	0.055	ND	0.820	0.227		1
cis-1,3-Dichloropropene	ND	0.200	0.075	ND	0.908	0.338		1
4-Methyl-2-pentanone	ND	0.500	0.061	ND	2.05	0.249		1
trans-1,3-Dichloropropene	ND	0.200	0.069	ND	0.908	0.315		1
1,1,2-Trichloroethane	ND	0.200	0.067	ND	1.09	0.364		1
Toluene	ND	0.200	0.063	ND	0.754	0.237		1
2-Methylthiophene	ND	0.200	0.079	ND	0.803	0.317		1
2-Hexanone	ND	0.200	0.060	ND	0.820	0.248		1
3-Methylthiophene	ND	0.200	0.067	ND	0.803	0.269		1
Dibromochloromethane	ND	0.200	0.075	ND	1.70	0.636		1
1,2-Dibromoethane	ND	0.200	0.078	ND	1.54	0.599		1
Octane	ND	0.200	0.042	ND	0.934	0.197		1
Tetrachloroethene	ND	0.200	0.076	ND	1.36	0.514		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-03
Client ID: CAN 2060
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorobenzene	ND	0.200	0.079	ND	0.921	0.363		1
Ethylbenzene	ND	0.200	0.056	ND	0.869	0.241		1
2-Ethylthiophene	ND	0.200	0.057	ND	0.918	0.262		1
p/m-Xylene	ND	0.400	0.139	ND	1.74	0.604		1
Bromoform	ND	0.200	0.052	ND	2.07	0.541		1
Styrene	ND	0.200	0.080	ND	0.852	0.340		1
1,1,2,2-Tetrachloroethane	ND	0.200	0.055	ND	1.37	0.376		1
o-Xylene	ND	0.200	0.063	ND	0.869	0.274		1
Nonane	ND	0.200	0.063	ND	1.05	0.328		1
2-Chlorotoluene	ND	0.200	0.049	ND	1.04	0.252		1
4-Ethyltoluene	ND	0.200	0.078	ND	0.983	0.381		1
1,3,5-Trimethylbenzene	ND	0.200	0.058	ND	0.983	0.287		1
1,2,4-Trimethylbenzene	ND	0.200	0.069	ND	0.983	0.341		1
Decane	ND	0.200	0.048	ND	1.16	0.282		1
1,3-Dichlorobenzene	ND	0.200	0.064	ND	1.20	0.383		1
1,4-Dichlorobenzene	ND	0.200	0.036	ND	1.20	0.217		1
1,2,3-Trimethylbenzene	ND	0.200	0.075	ND	0.983	0.369		1
1,2-Dichlorobenzene	ND	0.200	0.061	ND	1.20	0.369		1
Indane	ND	0.200	0.080	ND	0.967	0.384		1
Indene	ND	0.200	0.061	ND	0.951	0.289		1
Undecane	ND	0.200	0.053	ND	1.28	0.338		1
1,2,4,5-Tetramethylbenzene	ND	0.500	0.080	ND	2.74	0.436		1
Dodecane	ND	0.500	0.048	ND	3.48	0.333		1
1,2,4-Trichlorobenzene	ND	0.200	0.061	ND	1.48	0.454		1
Naphthalene	ND	0.200	0.043	ND	1.05	0.223		1
Benzothiophene	ND	0.500	0.047	ND	2.74	0.257		1
Hexachlorobutadiene	ND	0.200	0.073	ND	2.13	0.781		1
2-Methylnaphthalene	ND	1.00	0.272	ND	5.82	1.58		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-03
Client ID: CAN 2060
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
1-Methylnaphthalene	ND	1.00	0.250	ND	5.82	1.45		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	85		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	83		60-140

Project Name: INDIV. CANISTER CERTIFICATION **Lab Number:** L1615353

Project Number: CANISTER QC INDIV **Report Date:** 06/27/16

Air Canister Certification Results

Lab ID: L1615353-03
Client ID: CAN 2060
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 05/25/16 20:59
Analyst: RY

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.025	0.010	ND	0.055	0.022		1
Ethyl Alcohol	ND	0.500	0.100	ND	0.942	0.188		1
Isopentane	ND	0.025	0.010	ND	0.074	0.030		1
1-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
2-Methyl-1-Butene	ND	0.025	0.010	ND	0.072	0.029		1
Pentane	ND	0.025	0.010	ND	0.074	0.030		1
iso-Propyl Alcohol	ND	0.500	0.100	ND	1.23	0.246		1
trans-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
cis-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
Tertiary Butanol	ND	0.050	0.010	ND	0.152	0.030		1
Cyclopentane	ND	0.025	0.010	ND	0.072	0.029		1
2,3-Dimethylbutane	ND	0.025	0.010	ND	0.088	0.035		1
2-Methylpentane	ND	0.100	0.010	ND	0.352	0.035		1
Methyl tert butyl ether	ND	0.025	0.010	ND	0.090	0.036		1
3-Methylpentane	ND	0.025	0.010	ND	0.088	0.035		1
1-Hexene	ND	0.025	0.010	ND	0.086	0.034		1
n-Hexane	ND	0.025	0.010	ND	0.088	0.035		1
Isopropyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
Ethyl-Tert-Butyl-Ether	ND	0.025	0.010	ND	0.104	0.042		1
2,2-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclopentane	ND	0.025	0.010	ND	0.086	0.034		1
2,4-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
1,2-Dichloroethane	ND	0.025	0.010	ND	0.101	0.041		1
Cyclohexane	ND	0.025	0.010	ND	0.086	0.034		1
2-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-03
Client ID: CAN 2060
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Benzene	ND	0.025	0.010	ND	0.080	0.032		1
2,3-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Thiophene	ND	0.025	0.010	ND	0.086	0.034		1
3-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1
Tertiary-Amyl Methyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
1-Heptene	ND	0.025	0.010	ND	0.100	0.040		1
Isooctane	ND	0.025	0.010	ND	0.117	0.047		1
Heptane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclohexane	ND	0.025	0.010	ND	0.100	0.040		1
2,5-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2,4-Dimethylhexane/2,2,3-Trimethylpentan	ND	0.050	0.025	ND	0.234	0.117		1
2,3,4-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3,3-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
3-Ethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
3-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
Toluene	ND	0.025	0.010	ND	0.094	0.038		1
2-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
3-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
1-Octene	ND	0.025	0.010	ND	0.115	0.046		1
1-Ethyl-1-Methylcyclopentane	ND	0.025	0.010	ND	0.115	0.046		1
Octane	ND	0.025	0.010	ND	0.117	0.047		1
1,2-Dibromoethane	ND	0.025	0.010	ND	0.192	0.077		1
Ethylbenzene	ND	0.025	0.010	ND	0.109	0.043		1
2-Ethylthiophene	ND	0.025	0.010	ND	0.115	0.046		1
p/m-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
1-Nonene	ND	0.025	0.010	ND	0.129	0.052		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-03
Client ID: CAN 2060
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Nonane (C9)	ND	0.025	0.010	ND	0.131	0.053		1
Styrene	ND	0.025	0.010	ND	0.106	0.043		1
o-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
Isopropylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
n-Propylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Methyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
1-Methyl-4-Ethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1,3,5-Trimethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Decene	ND	0.050	0.025	ND	0.287	0.143		1
1-Methyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
Decane (C10)	ND	0.050	0.025	ND	0.291	0.146		1
1,2,4-Trimethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
sec-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-3-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Indane	ND	0.050	0.025	ND	0.242	0.121		1
Indene	ND	0.050	0.025	ND	0.238	0.119		1
1-Methyl-3-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
n-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Diethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,4-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Undecane	ND	0.050	0.025	ND	0.320	0.160		1
1,3-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,3-Dimethyl-5-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-03
Client ID: CAN 2060
Sample Location:
Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2,4,5-Tetramethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
N-Pentylbenzene	ND	0.050	0.025	ND	0.303	0.152		1
Dodecane (C12)	ND	0.100	0.050	ND	0.697	0.348		1
Naphthalene	ND	0.050	0.025	ND	0.262	0.131		1
Benzothiophene	ND	0.100	0.050	ND	0.549	0.274		1
MMT	ND	0.100	0.050	ND	0.892	0.446		1
Tridecane	ND	1.00	0.050	ND	7.54	0.377		1
2-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1
1-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	95		60-140
Bromochloromethane	96		60-140
chlorobenzene-d5	96		60-140

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-04
Client ID: CAN 1546
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 05/23/16 16:22
Analyst: MB

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	0.047	ND	0.989	0.230		1
Chloromethane	ND	0.200	0.096	ND	0.413	0.198		1
Freon-114	ND	0.200	0.042	ND	1.40	0.293		1
Vinyl chloride	ND	0.200	0.038	ND	0.511	0.097		1
1,3-Butadiene	ND	0.200	0.080	ND	0.442	0.177		1
Butane	ND	0.200	0.044	ND	0.475	0.105		1
Acetaldehyde	ND	2.50	0.547	ND	4.50	0.985		1
Bromomethane	ND	0.200	0.070	ND	0.777	0.270		1
Chloroethane	ND	0.200	0.077	ND	0.528	0.202		1
Ethanol	ND	2.50	0.542	ND	4.71	1.02		1
Vinyl bromide	ND	0.200	0.070	ND	0.874	0.306		1
Acrolein	ND	0.500	0.114	ND	1.15	0.261		1
Acetone	ND	1.00	0.165	ND	2.38	0.392		1
Trichlorofluoromethane	ND	0.200	0.042	ND	1.12	0.234		1
Isopropanol	ND	0.500	0.053	ND	1.23	0.129		1
Pentane	ND	0.200	0.048	ND	0.590	0.140		1
1,1-Dichloroethene	ND	0.200	0.057	ND	0.793	0.224		1
tert-Butyl Alcohol	ND	0.500	0.060	ND	1.52	0.182		1
Methylene chloride	ND	1.00	0.299	ND	1.74	1.04		1
3-Chloropropene	ND	0.200	0.081	ND	0.626	0.254		1
Carbon disulfide	ND	0.200	0.035	ND	0.623	0.107		1
Freon-113	ND	0.200	0.051	ND	1.53	0.392		1
trans-1,2-Dichloroethene	ND	0.200	0.074	ND	0.793	0.293		1
1,1-Dichloroethane	ND	0.200	0.077	ND	0.809	0.312		1
Methyl tert butyl ether	ND	0.200	0.053	ND	0.721	0.190		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-04
Client ID: CAN 1546
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
2-Butanone	ND	0.500	0.047	ND	1.47	0.139		1
cis-1,2-Dichloroethene	ND	0.200	0.059	ND	0.793	0.233		1
Chloroform	ND	0.200	0.053	ND	0.977	0.259		1
1,2-Dichloroethane	ND	0.200	0.055	ND	0.809	0.223		1
n-Hexane	ND	0.200	0.052	ND	0.705	0.183		1
1,1,1-Trichloroethane	ND	0.200	0.057	ND	1.09	0.311		1
Benzene	ND	0.200	0.054	ND	0.639	0.172		1
Thiophene	ND	0.200	0.053	ND	0.688	0.182		1
Carbon tetrachloride	ND	0.200	0.047	ND	1.26	0.296		1
Cyclohexane	ND	0.200	0.066	ND	0.688	0.226		1
1,2-Dichloropropane	ND	0.200	0.070	ND	0.924	0.322		1
Bromodichloromethane	ND	0.200	0.066	ND	1.34	0.439		1
1,4-Dioxane	ND	0.200	0.078	ND	0.721	0.281		1
Trichloroethene	ND	0.200	0.071	ND	1.07	0.382		1
2,2,4-Trimethylpentane	ND	0.200	0.066	ND	0.934	0.308		1
Heptane	ND	0.200	0.055	ND	0.820	0.227		1
cis-1,3-Dichloropropene	ND	0.200	0.075	ND	0.908	0.338		1
4-Methyl-2-pentanone	ND	0.500	0.061	ND	2.05	0.249		1
trans-1,3-Dichloropropene	ND	0.200	0.069	ND	0.908	0.315		1
1,1,2-Trichloroethane	ND	0.200	0.067	ND	1.09	0.364		1
Toluene	ND	0.200	0.063	ND	0.754	0.237		1
2-Methylthiophene	ND	0.200	0.079	ND	0.803	0.317		1
2-Hexanone	ND	0.200	0.060	ND	0.820	0.248		1
3-Methylthiophene	ND	0.200	0.067	ND	0.803	0.269		1
Dibromochloromethane	ND	0.200	0.075	ND	1.70	0.636		1
1,2-Dibromoethane	ND	0.200	0.078	ND	1.54	0.599		1
Octane	ND	0.200	0.042	ND	0.934	0.197		1
Tetrachloroethene	ND	0.200	0.076	ND	1.36	0.514		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-04
Client ID: CAN 1546
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorobenzene	ND	0.200	0.079	ND	0.921	0.363		1
Ethylbenzene	ND	0.200	0.056	ND	0.869	0.241		1
2-Ethylthiophene	ND	0.200	0.057	ND	0.918	0.262		1
p/m-Xylene	ND	0.400	0.139	ND	1.74	0.604		1
Bromoform	ND	0.200	0.052	ND	2.07	0.541		1
Styrene	ND	0.200	0.080	ND	0.852	0.340		1
1,1,2,2-Tetrachloroethane	ND	0.200	0.055	ND	1.37	0.376		1
o-Xylene	ND	0.200	0.063	ND	0.869	0.274		1
Nonane	ND	0.200	0.063	ND	1.05	0.328		1
2-Chlorotoluene	ND	0.200	0.049	ND	1.04	0.252		1
4-Ethyltoluene	ND	0.200	0.078	ND	0.983	0.381		1
1,3,5-Trimethylbenzene	ND	0.200	0.058	ND	0.983	0.287		1
1,2,4-Trimethylbenzene	ND	0.200	0.069	ND	0.983	0.341		1
Decane	ND	0.200	0.048	ND	1.16	0.282		1
1,3-Dichlorobenzene	ND	0.200	0.064	ND	1.20	0.383		1
1,4-Dichlorobenzene	ND	0.200	0.036	ND	1.20	0.217		1
1,2,3-Trimethylbenzene	ND	0.200	0.075	ND	0.983	0.369		1
1,2-Dichlorobenzene	ND	0.200	0.061	ND	1.20	0.369		1
Indane	ND	0.200	0.080	ND	0.967	0.384		1
Indene	ND	0.200	0.061	ND	0.951	0.289		1
Undecane	ND	0.200	0.053	ND	1.28	0.338		1
1,2,4,5-Tetramethylbenzene	ND	0.500	0.080	ND	2.74	0.436		1
Dodecane	ND	0.500	0.048	ND	3.48	0.333		1
1,2,4-Trichlorobenzene	ND	0.200	0.061	ND	1.48	0.454		1
Naphthalene	ND	0.200	0.043	ND	1.05	0.223		1
Benzothiophene	ND	0.500	0.047	ND	2.74	0.257		1
Hexachlorobutadiene	ND	0.200	0.073	ND	2.13	0.781		1
2-Methylnaphthalene	ND	1.00	0.272	ND	5.82	1.58		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-04
Client ID: CAN 1546
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
1-Methylnaphthalene	ND	1.00	0.250	ND	5.82	1.45		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	84		60-140
Bromochloromethane	90		60-140
chlorobenzene-d5	82		60-140

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-04
Client ID: CAN 1546
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 05/25/16 21:32
Analyst: RY

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.025	0.010	ND	0.055	0.022		1
Ethyl Alcohol	ND	0.500	0.100	ND	0.942	0.188		1
Isopentane	ND	0.025	0.010	ND	0.074	0.030		1
1-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
2-Methyl-1-Butene	ND	0.025	0.010	ND	0.072	0.029		1
Pentane	ND	0.025	0.010	ND	0.074	0.030		1
iso-Propyl Alcohol	ND	0.500	0.100	ND	1.23	0.246		1
trans-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
cis-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
Tertiary Butanol	ND	0.050	0.010	ND	0.152	0.030		1
Cyclopentane	ND	0.025	0.010	ND	0.072	0.029		1
2,3-Dimethylbutane	ND	0.025	0.010	ND	0.088	0.035		1
2-Methylpentane	ND	0.100	0.010	ND	0.352	0.035		1
Methyl tert butyl ether	ND	0.025	0.010	ND	0.090	0.036		1
3-Methylpentane	ND	0.025	0.010	ND	0.088	0.035		1
1-Hexene	ND	0.025	0.010	ND	0.086	0.034		1
n-Hexane	ND	0.025	0.010	ND	0.088	0.035		1
Isopropyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
Ethyl-Tert-Butyl-Ether	ND	0.025	0.010	ND	0.104	0.042		1
2,2-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclopentane	ND	0.025	0.010	ND	0.086	0.034		1
2,4-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
1,2-Dichloroethane	ND	0.025	0.010	ND	0.101	0.041		1
Cyclohexane	ND	0.025	0.010	ND	0.086	0.034		1
2-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-04
Client ID: CAN 1546
Sample Location:
Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Benzene	ND	0.025	0.010	ND	0.080	0.032		1
2,3-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Thiophene	ND	0.025	0.010	ND	0.086	0.034		1
3-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1
Tertiary-Amyl Methyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
1-Heptene	ND	0.025	0.010	ND	0.100	0.040		1
Isooctane	ND	0.025	0.010	ND	0.117	0.047		1
Heptane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclohexane	ND	0.025	0.010	ND	0.100	0.040		1
2,5-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2,4-Dimethylhexane/2,2,3-Trimethylpentan	ND	0.050	0.025	ND	0.234	0.117		1
2,3,4-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3,3-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
3-Ethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
3-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
Toluene	ND	0.025	0.010	ND	0.094	0.038		1
2-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
3-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
1-Octene	ND	0.025	0.010	ND	0.115	0.046		1
1-Ethyl-1-Methylcyclopentane	ND	0.025	0.010	ND	0.115	0.046		1
Octane	ND	0.025	0.010	ND	0.117	0.047		1
1,2-Dibromoethane	ND	0.025	0.010	ND	0.192	0.077		1
Ethylbenzene	ND	0.025	0.010	ND	0.109	0.043		1
2-Ethylthiophene	ND	0.025	0.010	ND	0.115	0.046		1
p/m-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
1-Nonene	ND	0.025	0.010	ND	0.129	0.052		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-04
Client ID: CAN 1546
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Nonane (C9)	ND	0.025	0.010	ND	0.131	0.053		1
Styrene	ND	0.025	0.010	ND	0.106	0.043		1
o-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
Isopropylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
n-Propylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Methyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
1-Methyl-4-Ethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1,3,5-Trimethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Decene	ND	0.050	0.025	ND	0.287	0.143		1
1-Methyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
Decane (C10)	ND	0.050	0.025	ND	0.291	0.146		1
1,2,4-Trimethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
sec-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-3-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Indane	ND	0.050	0.025	ND	0.242	0.121		1
Indene	ND	0.050	0.025	ND	0.238	0.119		1
1-Methyl-3-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
n-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Diethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,4-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Undecane	ND	0.050	0.025	ND	0.320	0.160		1
1,3-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,3-Dimethyl-5-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-04
Client ID: CAN 1546
Sample Location:
Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2,4,5-Tetramethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
N-Pentylbenzene	ND	0.050	0.025	ND	0.303	0.152		1
Dodecane (C12)	ND	0.100	0.050	ND	0.697	0.348		1
Naphthalene	ND	0.050	0.025	ND	0.262	0.131		1
Benzothiophene	ND	0.100	0.050	ND	0.549	0.274		1
MMT	ND	0.100	0.050	ND	0.892	0.446		1
Tridecane	ND	1.00	0.050	ND	7.54	0.377		1
2-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1
1-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	95		60-140
Bromochloromethane	63		60-140
chlorobenzene-d5	95		60-140

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-05
Client ID: CAN 2258
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 05/23/16 16:57
Analyst: MB

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	0.047	ND	0.989	0.230		1
Chloromethane	ND	0.200	0.096	ND	0.413	0.198		1
Freon-114	ND	0.200	0.042	ND	1.40	0.293		1
Vinyl chloride	ND	0.200	0.038	ND	0.511	0.097		1
1,3-Butadiene	ND	0.200	0.080	ND	0.442	0.177		1
Butane	ND	0.200	0.044	ND	0.475	0.105		1
Acetaldehyde	ND	2.50	0.547	ND	4.50	0.985		1
Bromomethane	ND	0.200	0.070	ND	0.777	0.270		1
Chloroethane	ND	0.200	0.077	ND	0.528	0.202		1
Ethanol	ND	2.50	0.542	ND	4.71	1.02		1
Vinyl bromide	ND	0.200	0.070	ND	0.874	0.306		1
Acrolein	ND	0.500	0.114	ND	1.15	0.261		1
Acetone	ND	1.00	0.165	ND	2.38	0.392		1
Trichlorofluoromethane	ND	0.200	0.042	ND	1.12	0.234		1
Isopropanol	ND	0.500	0.053	ND	1.23	0.129		1
Pentane	ND	0.200	0.048	ND	0.590	0.140		1
1,1-Dichloroethene	ND	0.200	0.057	ND	0.793	0.224		1
tert-Butyl Alcohol	ND	0.500	0.060	ND	1.52	0.182		1
Methylene chloride	ND	1.00	0.299	ND	1.74	1.04		1
3-Chloropropene	ND	0.200	0.081	ND	0.626	0.254		1
Carbon disulfide	ND	0.200	0.035	ND	0.623	0.107		1
Freon-113	ND	0.200	0.051	ND	1.53	0.392		1
trans-1,2-Dichloroethene	ND	0.200	0.074	ND	0.793	0.293		1
1,1-Dichloroethane	ND	0.200	0.077	ND	0.809	0.312		1
Methyl tert butyl ether	ND	0.200	0.053	ND	0.721	0.190		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-05
Client ID: CAN 2258
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
2-Butanone	ND	0.500	0.047	ND	1.47	0.139		1
cis-1,2-Dichloroethene	ND	0.200	0.059	ND	0.793	0.233		1
Chloroform	ND	0.200	0.053	ND	0.977	0.259		1
1,2-Dichloroethane	ND	0.200	0.055	ND	0.809	0.223		1
n-Hexane	ND	0.200	0.052	ND	0.705	0.183		1
1,1,1-Trichloroethane	ND	0.200	0.057	ND	1.09	0.311		1
Benzene	ND	0.200	0.054	ND	0.639	0.172		1
Thiophene	ND	0.200	0.053	ND	0.688	0.182		1
Carbon tetrachloride	ND	0.200	0.047	ND	1.26	0.296		1
Cyclohexane	ND	0.200	0.066	ND	0.688	0.226		1
1,2-Dichloropropane	ND	0.200	0.070	ND	0.924	0.322		1
Bromodichloromethane	ND	0.200	0.066	ND	1.34	0.439		1
1,4-Dioxane	ND	0.200	0.078	ND	0.721	0.281		1
Trichloroethene	ND	0.200	0.071	ND	1.07	0.382		1
2,2,4-Trimethylpentane	ND	0.200	0.066	ND	0.934	0.308		1
Heptane	ND	0.200	0.055	ND	0.820	0.227		1
cis-1,3-Dichloropropene	ND	0.200	0.075	ND	0.908	0.338		1
4-Methyl-2-pentanone	ND	0.500	0.061	ND	2.05	0.249		1
trans-1,3-Dichloropropene	ND	0.200	0.069	ND	0.908	0.315		1
1,1,2-Trichloroethane	ND	0.200	0.067	ND	1.09	0.364		1
Toluene	ND	0.200	0.063	ND	0.754	0.237		1
2-Methylthiophene	ND	0.200	0.079	ND	0.803	0.317		1
2-Hexanone	ND	0.200	0.060	ND	0.820	0.248		1
3-Methylthiophene	ND	0.200	0.067	ND	0.803	0.269		1
Dibromochloromethane	ND	0.200	0.075	ND	1.70	0.636		1
1,2-Dibromoethane	ND	0.200	0.078	ND	1.54	0.599		1
Octane	ND	0.200	0.042	ND	0.934	0.197		1
Tetrachloroethene	ND	0.200	0.076	ND	1.36	0.514		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-05
Client ID: CAN 2258
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorobenzene	ND	0.200	0.079	ND	0.921	0.363		1
Ethylbenzene	ND	0.200	0.056	ND	0.869	0.241		1
2-Ethylthiophene	ND	0.200	0.057	ND	0.918	0.262		1
p/m-Xylene	ND	0.400	0.139	ND	1.74	0.604		1
Bromoform	ND	0.200	0.052	ND	2.07	0.541		1
Styrene	ND	0.200	0.080	ND	0.852	0.340		1
1,1,2,2-Tetrachloroethane	ND	0.200	0.055	ND	1.37	0.376		1
o-Xylene	ND	0.200	0.063	ND	0.869	0.274		1
Nonane	ND	0.200	0.063	ND	1.05	0.328		1
2-Chlorotoluene	ND	0.200	0.049	ND	1.04	0.252		1
4-Ethyltoluene	ND	0.200	0.078	ND	0.983	0.381		1
1,3,5-Trimethylbenzene	ND	0.200	0.058	ND	0.983	0.287		1
1,2,4-Trimethylbenzene	ND	0.200	0.069	ND	0.983	0.341		1
Decane	ND	0.200	0.048	ND	1.16	0.282		1
1,3-Dichlorobenzene	ND	0.200	0.064	ND	1.20	0.383		1
1,4-Dichlorobenzene	ND	0.200	0.036	ND	1.20	0.217		1
1,2,3-Trimethylbenzene	ND	0.200	0.075	ND	0.983	0.369		1
1,2-Dichlorobenzene	ND	0.200	0.061	ND	1.20	0.369		1
Indane	ND	0.200	0.080	ND	0.967	0.384		1
Indene	ND	0.200	0.061	ND	0.951	0.289		1
Undecane	ND	0.200	0.053	ND	1.28	0.338		1
1,2,4,5-Tetramethylbenzene	ND	0.500	0.080	ND	2.74	0.436		1
Dodecane	ND	0.500	0.048	ND	3.48	0.333		1
1,2,4-Trichlorobenzene	ND	0.200	0.061	ND	1.48	0.454		1
Naphthalene	ND	0.200	0.043	ND	1.05	0.223		1
Benzothiophene	ND	0.500	0.047	ND	2.74	0.257		1
Hexachlorobutadiene	ND	0.200	0.073	ND	2.13	0.781		1
2-Methylnaphthalene	ND	1.00	0.272	ND	5.82	1.58		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-05
Client ID: CAN 2258
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
1-Methylnaphthalene	ND	1.00	0.250	ND	5.82	1.45		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	83		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	81		60-140

Project Name: INDIV. CANISTER CERTIFICATION **Lab Number:** L1615353

Project Number: CANISTER QC INDIV **Report Date:** 06/27/16

Air Canister Certification Results

Lab ID: L1615353-05
Client ID: CAN 2258
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 05/21/16 19:02
Analyst: RY

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.025	0.010	ND	0.055	0.022		1
Ethyl Alcohol	ND	0.500	0.100	ND	0.942	0.188		1
Isopentane	ND	0.025	0.010	ND	0.074	0.030		1
1-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
2-Methyl-1-Butene	ND	0.025	0.010	ND	0.072	0.029		1
Pentane	ND	0.025	0.010	ND	0.074	0.030		1
iso-Propyl Alcohol	ND	0.500	0.100	ND	1.23	0.246		1
trans-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
cis-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
Tertiary Butanol	ND	0.050	0.010	ND	0.152	0.030		1
Cyclopentane	ND	0.025	0.010	ND	0.072	0.029		1
2,3-Dimethylbutane	ND	0.025	0.010	ND	0.088	0.035		1
2-Methylpentane	ND	0.025	0.010	ND	0.088	0.035		1
Methyl tert butyl ether	ND	0.025	0.010	ND	0.090	0.036		1
3-Methylpentane	ND	0.025	0.010	ND	0.088	0.035		1
1-Hexene	ND	0.025	0.010	ND	0.086	0.034		1
n-Hexane	ND	0.025	0.010	ND	0.088	0.035		1
Isopropyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
Ethyl-Tert-Butyl-Ether	ND	0.025	0.010	ND	0.104	0.042		1
2,2-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclopentane	ND	0.025	0.010	ND	0.086	0.034		1
2,4-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
1,2-Dichloroethane	ND	0.025	0.010	ND	0.101	0.041		1
Cyclohexane	ND	0.025	0.010	ND	0.086	0.034		1
2-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-05
Client ID: CAN 2258
Sample Location:
Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Benzene	ND	0.025	0.010	ND	0.080	0.032		1
2,3-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Thiophene	ND	0.025	0.010	ND	0.086	0.034		1
3-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1
Tertiary-Amyl Methyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
1-Heptene	ND	0.025	0.010	ND	0.100	0.040		1
Isooctane	ND	0.500	0.010	ND	2.34	0.047		1
Heptane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclohexane	ND	0.025	0.010	ND	0.100	0.040		1
2,5-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2,4-Dimethylhexane/2,2,3-Trimethylpentan	ND	0.050	0.025	ND	0.234	0.117		1
2,3,4-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3,3-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
3-Ethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
3-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
Toluene	ND	0.025	0.010	ND	0.094	0.038		1
2-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
3-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
1-Octene	ND	0.025	0.010	ND	0.115	0.046		1
1-Ethyl-1-Methylcyclopentane	ND	0.025	0.010	ND	0.115	0.046		1
Octane	ND	0.025	0.010	ND	0.117	0.047		1
1,2-Dibromoethane	ND	0.025	0.010	ND	0.192	0.077		1
Ethylbenzene	ND	0.025	0.010	ND	0.109	0.043		1
2-Ethylthiophene	ND	0.025	0.010	ND	0.115	0.046		1
p/m-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
1-Nonene	ND	0.025	0.010	ND	0.129	0.052		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-05
Client ID: CAN 2258
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Nonane (C9)	ND	0.025	0.010	ND	0.131	0.053		1
Styrene	ND	0.025	0.010	ND	0.106	0.043		1
o-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
Isopropylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
n-Propylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Methyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
1-Methyl-4-Ethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1,3,5-Trimethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Decene	ND	0.050	0.025	ND	0.287	0.143		1
1-Methyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
Decane (C10)	ND	0.050	0.025	ND	0.291	0.146		1
1,2,4-Trimethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
sec-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-3-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Indane	ND	0.050	0.025	ND	0.242	0.121		1
Indene	ND	0.050	0.025	ND	0.238	0.119		1
1-Methyl-3-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
n-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Diethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,4-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Undecane	ND	0.050	0.025	ND	0.320	0.160		1
1,3-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,3-Dimethyl-5-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-05
Client ID: CAN 2258
Sample Location:
Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2,4,5-Tetramethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
N-Pentylbenzene	ND	0.050	0.025	ND	0.303	0.152		1
Dodecane (C12)	ND	0.100	0.050	ND	0.697	0.348		1
Naphthalene	ND	0.050	0.025	ND	0.262	0.131		1
Benzothiophene	ND	0.100	0.050	ND	0.549	0.274		1
MMT	ND	0.100	0.050	ND	0.892	0.446		1
Tridecane	ND	1.00	0.050	ND	7.54	0.377		1
2-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1
1-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	89		60-140
Bromochloromethane	88		60-140
chlorobenzene-d5	88		60-140

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-06
Client ID: CAN 918
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 05/23/16 17:33
Analyst: MB

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	0.047	ND	0.989	0.230		1
Chloromethane	ND	0.200	0.096	ND	0.413	0.198		1
Freon-114	ND	0.200	0.042	ND	1.40	0.293		1
Vinyl chloride	ND	0.200	0.038	ND	0.511	0.097		1
1,3-Butadiene	ND	0.200	0.080	ND	0.442	0.177		1
Butane	ND	0.200	0.044	ND	0.475	0.105		1
Acetaldehyde	ND	2.50	0.547	ND	4.50	0.985		1
Bromomethane	ND	0.200	0.070	ND	0.777	0.270		1
Chloroethane	ND	0.200	0.077	ND	0.528	0.202		1
Ethanol	ND	2.50	0.542	ND	4.71	1.02		1
Vinyl bromide	ND	0.200	0.070	ND	0.874	0.306		1
Acrolein	ND	0.500	0.114	ND	1.15	0.261		1
Acetone	ND	1.00	0.165	ND	2.38	0.392		1
Trichlorofluoromethane	ND	0.200	0.042	ND	1.12	0.234		1
Isopropanol	ND	0.500	0.053	ND	1.23	0.129		1
Pentane	ND	0.200	0.048	ND	0.590	0.140		1
1,1-Dichloroethene	ND	0.200	0.057	ND	0.793	0.224		1
tert-Butyl Alcohol	ND	0.500	0.060	ND	1.52	0.182		1
Methylene chloride	ND	1.00	0.299	ND	1.74	1.04		1
3-Chloropropene	ND	0.200	0.081	ND	0.626	0.254		1
Carbon disulfide	ND	0.200	0.035	ND	0.623	0.107		1
Freon-113	ND	0.200	0.051	ND	1.53	0.392		1
trans-1,2-Dichloroethene	ND	0.200	0.074	ND	0.793	0.293		1
1,1-Dichloroethane	ND	0.200	0.077	ND	0.809	0.312		1
Methyl tert butyl ether	ND	0.200	0.053	ND	0.721	0.190		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-06
Client ID: CAN 918
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
2-Butanone	ND	0.500	0.047	ND	1.47	0.139		1
cis-1,2-Dichloroethene	ND	0.200	0.059	ND	0.793	0.233		1
Chloroform	ND	0.200	0.053	ND	0.977	0.259		1
1,2-Dichloroethane	ND	0.200	0.055	ND	0.809	0.223		1
n-Hexane	ND	0.200	0.052	ND	0.705	0.183		1
1,1,1-Trichloroethane	ND	0.200	0.057	ND	1.09	0.311		1
Benzene	ND	0.200	0.054	ND	0.639	0.172		1
Thiophene	ND	0.200	0.053	ND	0.688	0.182		1
Carbon tetrachloride	ND	0.200	0.047	ND	1.26	0.296		1
Cyclohexane	ND	0.200	0.066	ND	0.688	0.226		1
1,2-Dichloropropane	ND	0.200	0.070	ND	0.924	0.322		1
Bromodichloromethane	ND	0.200	0.066	ND	1.34	0.439		1
1,4-Dioxane	ND	0.200	0.078	ND	0.721	0.281		1
Trichloroethene	ND	0.200	0.071	ND	1.07	0.382		1
2,2,4-Trimethylpentane	ND	0.200	0.066	ND	0.934	0.308		1
Heptane	ND	0.200	0.055	ND	0.820	0.227		1
cis-1,3-Dichloropropene	ND	0.200	0.075	ND	0.908	0.338		1
4-Methyl-2-pentanone	ND	0.500	0.061	ND	2.05	0.249		1
trans-1,3-Dichloropropene	ND	0.200	0.069	ND	0.908	0.315		1
1,1,2-Trichloroethane	ND	0.200	0.067	ND	1.09	0.364		1
Toluene	ND	0.200	0.063	ND	0.754	0.237		1
2-Methylthiophene	ND	0.200	0.079	ND	0.803	0.317		1
2-Hexanone	ND	0.200	0.060	ND	0.820	0.248		1
3-Methylthiophene	ND	0.200	0.067	ND	0.803	0.269		1
Dibromochloromethane	ND	0.200	0.075	ND	1.70	0.636		1
1,2-Dibromoethane	ND	0.200	0.078	ND	1.54	0.599		1
Octane	ND	0.200	0.042	ND	0.934	0.197		1
Tetrachloroethene	ND	0.200	0.076	ND	1.36	0.514		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-06
Client ID: CAN 918
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorobenzene	ND	0.200	0.079	ND	0.921	0.363		1
Ethylbenzene	ND	0.200	0.056	ND	0.869	0.241		1
2-Ethylthiophene	ND	0.200	0.057	ND	0.918	0.262		1
p/m-Xylene	ND	0.400	0.139	ND	1.74	0.604		1
Bromoform	ND	0.200	0.052	ND	2.07	0.541		1
Styrene	ND	0.200	0.080	ND	0.852	0.340		1
1,1,2,2-Tetrachloroethane	ND	0.200	0.055	ND	1.37	0.376		1
o-Xylene	ND	0.200	0.063	ND	0.869	0.274		1
Nonane	ND	0.200	0.063	ND	1.05	0.328		1
2-Chlorotoluene	ND	0.200	0.049	ND	1.04	0.252		1
4-Ethyltoluene	ND	0.200	0.078	ND	0.983	0.381		1
1,3,5-Trimethylbenzene	ND	0.200	0.058	ND	0.983	0.287		1
1,2,4-Trimethylbenzene	ND	0.200	0.069	ND	0.983	0.341		1
Decane	ND	0.200	0.048	ND	1.16	0.282		1
1,3-Dichlorobenzene	ND	0.200	0.064	ND	1.20	0.383		1
1,4-Dichlorobenzene	ND	0.200	0.036	ND	1.20	0.217		1
1,2,3-Trimethylbenzene	ND	0.200	0.075	ND	0.983	0.369		1
1,2-Dichlorobenzene	ND	0.200	0.061	ND	1.20	0.369		1
Indane	ND	0.200	0.080	ND	0.967	0.384		1
Indene	ND	0.200	0.061	ND	0.951	0.289		1
Undecane	ND	0.200	0.053	ND	1.28	0.338		1
1,2,4,5-Tetramethylbenzene	ND	0.500	0.080	ND	2.74	0.436		1
Dodecane	ND	0.500	0.048	ND	3.48	0.333		1
1,2,4-Trichlorobenzene	ND	0.200	0.061	ND	1.48	0.454		1
Naphthalene	ND	0.200	0.043	ND	1.05	0.223		1
Benzothiophene	ND	0.500	0.047	ND	2.74	0.257		1
Hexachlorobutadiene	ND	0.200	0.073	ND	2.13	0.781		1
2-Methylnaphthalene	ND	1.00	0.272	ND	5.82	1.58		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-06
Client ID: CAN 918
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
1-Methylnaphthalene	ND	1.00	0.250	ND	5.82	1.45		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	81		60-140
Bromochloromethane	88		60-140
chlorobenzene-d5	79		60-140

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-06
Client ID: CAN 918
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 05/25/16 22:04
Analyst: RY

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.025	0.010	ND	0.055	0.022		1
Ethyl Alcohol	ND	0.500	0.100	ND	0.942	0.188		1
Isopentane	ND	0.025	0.010	ND	0.074	0.030		1
1-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
2-Methyl-1-Butene	ND	0.025	0.010	ND	0.072	0.029		1
Pentane	ND	0.025	0.010	ND	0.074	0.030		1
iso-Propyl Alcohol	ND	0.500	0.100	ND	1.23	0.246		1
trans-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
cis-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
Tertiary Butanol	ND	0.050	0.010	ND	0.152	0.030		1
Cyclopentane	ND	0.025	0.010	ND	0.072	0.029		1
2,3-Dimethylbutane	ND	0.025	0.010	ND	0.088	0.035		1
2-Methylpentane	ND	0.100	0.010	ND	0.352	0.035		1
Methyl tert butyl ether	ND	0.025	0.010	ND	0.090	0.036		1
3-Methylpentane	ND	0.025	0.010	ND	0.088	0.035		1
1-Hexene	ND	0.025	0.010	ND	0.086	0.034		1
n-Hexane	ND	0.025	0.010	ND	0.088	0.035		1
Isopropyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
Ethyl-Tert-Butyl-Ether	ND	0.025	0.010	ND	0.104	0.042		1
2,2-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclopentane	ND	0.025	0.010	ND	0.086	0.034		1
2,4-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
1,2-Dichloroethane	ND	0.025	0.010	ND	0.101	0.041		1
Cyclohexane	ND	0.025	0.010	ND	0.086	0.034		1
2-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-06
Client ID: CAN 918
Sample Location:
Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Benzene	ND	0.025	0.010	ND	0.080	0.032		1
2,3-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Thiophene	ND	0.025	0.010	ND	0.086	0.034		1
3-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1
Tertiary-Amyl Methyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
1-Heptene	ND	0.025	0.010	ND	0.100	0.040		1
Isooctane	ND	0.025	0.010	ND	0.117	0.047		1
Heptane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclohexane	ND	0.025	0.010	ND	0.100	0.040		1
2,5-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2,4-Dimethylhexane/2,2,3-Trimethylpentan	ND	0.050	0.025	ND	0.234	0.117		1
2,3,4-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3,3-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
3-Ethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
3-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
Toluene	ND	0.025	0.010	ND	0.094	0.038		1
2-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
3-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
1-Octene	ND	0.025	0.010	ND	0.115	0.046		1
1-Ethyl-1-Methylcyclopentane	ND	0.025	0.010	ND	0.115	0.046		1
Octane	ND	0.025	0.010	ND	0.117	0.047		1
1,2-Dibromoethane	ND	0.025	0.010	ND	0.192	0.077		1
Ethylbenzene	ND	0.025	0.010	ND	0.109	0.043		1
2-Ethylthiophene	ND	0.025	0.010	ND	0.115	0.046		1
p/m-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
1-Nonene	ND	0.025	0.010	ND	0.129	0.052		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-06
Client ID: CAN 918
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Nonane (C9)	ND	0.025	0.010	ND	0.131	0.053		1
Styrene	ND	0.025	0.010	ND	0.106	0.043		1
o-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
Isopropylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
n-Propylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Methyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
1-Methyl-4-Ethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1,3,5-Trimethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Decene	ND	0.050	0.025	ND	0.287	0.143		1
1-Methyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
Decane (C10)	ND	0.050	0.025	ND	0.291	0.146		1
1,2,4-Trimethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
sec-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-3-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Indane	ND	0.050	0.025	ND	0.242	0.121		1
Indene	ND	0.050	0.025	ND	0.238	0.119		1
1-Methyl-3-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
n-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Diethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,4-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Undecane	ND	0.050	0.025	ND	0.320	0.160		1
1,3-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,3-Dimethyl-5-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-06
Client ID: CAN 918
Sample Location:
Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2,4,5-Tetramethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
N-Pentylbenzene	ND	0.050	0.025	ND	0.303	0.152		1
Dodecane (C12)	ND	0.100	0.050	ND	0.697	0.348		1
Naphthalene	ND	0.050	0.025	ND	0.262	0.131		1
Benzothiophene	ND	0.100	0.050	ND	0.549	0.274		1
MMT	ND	0.100	0.050	ND	0.892	0.446		1
Tridecane	ND	1.00	0.050	ND	7.54	0.377		1
2-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1
1-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	94		60-140
Bromochloromethane	62		60-140
chlorobenzene-d5	94		60-140

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-07
Client ID: CAN 595
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 05/23/16 18:08
Analyst: MB

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	0.047	ND	0.989	0.230		1
Chloromethane	ND	0.200	0.096	ND	0.413	0.198		1
Freon-114	ND	0.200	0.042	ND	1.40	0.293		1
Vinyl chloride	ND	0.200	0.038	ND	0.511	0.097		1
1,3-Butadiene	ND	0.200	0.080	ND	0.442	0.177		1
Butane	ND	0.200	0.044	ND	0.475	0.105		1
Acetaldehyde	ND	2.50	0.547	ND	4.50	0.985		1
Bromomethane	ND	0.200	0.070	ND	0.777	0.270		1
Chloroethane	ND	0.200	0.077	ND	0.528	0.202		1
Ethanol	ND	2.50	0.542	ND	4.71	1.02		1
Vinyl bromide	ND	0.200	0.070	ND	0.874	0.306		1
Acrolein	ND	0.500	0.114	ND	1.15	0.261		1
Acetone	ND	1.00	0.165	ND	2.38	0.392		1
Trichlorofluoromethane	ND	0.200	0.042	ND	1.12	0.234		1
Isopropanol	ND	0.500	0.053	ND	1.23	0.129		1
Pentane	ND	0.200	0.048	ND	0.590	0.140		1
1,1-Dichloroethene	ND	0.200	0.057	ND	0.793	0.224		1
tert-Butyl Alcohol	ND	0.500	0.060	ND	1.52	0.182		1
Methylene chloride	ND	1.00	0.299	ND	1.74	1.04		1
3-Chloropropene	ND	0.200	0.081	ND	0.626	0.254		1
Carbon disulfide	ND	0.200	0.035	ND	0.623	0.107		1
Freon-113	ND	0.200	0.051	ND	1.53	0.392		1
trans-1,2-Dichloroethene	ND	0.200	0.074	ND	0.793	0.293		1
1,1-Dichloroethane	ND	0.200	0.077	ND	0.809	0.312		1
Methyl tert butyl ether	ND	0.200	0.053	ND	0.721	0.190		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-07
Client ID: CAN 595
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
2-Butanone	ND	0.500	0.047	ND	1.47	0.139		1
cis-1,2-Dichloroethene	ND	0.200	0.059	ND	0.793	0.233		1
Chloroform	ND	0.200	0.053	ND	0.977	0.259		1
1,2-Dichloroethane	ND	0.200	0.055	ND	0.809	0.223		1
n-Hexane	ND	0.200	0.052	ND	0.705	0.183		1
1,1,1-Trichloroethane	ND	0.200	0.057	ND	1.09	0.311		1
Benzene	ND	0.200	0.054	ND	0.639	0.172		1
Thiophene	ND	0.200	0.053	ND	0.688	0.182		1
Carbon tetrachloride	ND	0.200	0.047	ND	1.26	0.296		1
Cyclohexane	ND	0.200	0.066	ND	0.688	0.226		1
1,2-Dichloropropane	ND	0.200	0.070	ND	0.924	0.322		1
Bromodichloromethane	ND	0.200	0.066	ND	1.34	0.439		1
1,4-Dioxane	ND	0.200	0.078	ND	0.721	0.281		1
Trichloroethene	ND	0.200	0.071	ND	1.07	0.382		1
2,2,4-Trimethylpentane	ND	0.200	0.066	ND	0.934	0.308		1
Heptane	ND	0.200	0.055	ND	0.820	0.227		1
cis-1,3-Dichloropropene	ND	0.200	0.075	ND	0.908	0.338		1
4-Methyl-2-pentanone	ND	0.500	0.061	ND	2.05	0.249		1
trans-1,3-Dichloropropene	ND	0.200	0.069	ND	0.908	0.315		1
1,1,2-Trichloroethane	ND	0.200	0.067	ND	1.09	0.364		1
Toluene	ND	0.200	0.063	ND	0.754	0.237		1
2-Methylthiophene	ND	0.200	0.079	ND	0.803	0.317		1
2-Hexanone	ND	0.200	0.060	ND	0.820	0.248		1
3-Methylthiophene	ND	0.200	0.067	ND	0.803	0.269		1
Dibromochloromethane	ND	0.200	0.075	ND	1.70	0.636		1
1,2-Dibromoethane	ND	0.200	0.078	ND	1.54	0.599		1
Octane	ND	0.200	0.042	ND	0.934	0.197		1
Tetrachloroethene	ND	0.200	0.076	ND	1.36	0.514		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-07
Client ID: CAN 595
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorobenzene	ND	0.200	0.079	ND	0.921	0.363		1
Ethylbenzene	ND	0.200	0.056	ND	0.869	0.241		1
2-Ethylthiophene	ND	0.200	0.057	ND	0.918	0.262		1
p/m-Xylene	ND	0.400	0.139	ND	1.74	0.604		1
Bromoform	ND	0.200	0.052	ND	2.07	0.541		1
Styrene	ND	0.200	0.080	ND	0.852	0.340		1
1,1,2,2-Tetrachloroethane	ND	0.200	0.055	ND	1.37	0.376		1
o-Xylene	ND	0.200	0.063	ND	0.869	0.274		1
Nonane	ND	0.200	0.063	ND	1.05	0.328		1
2-Chlorotoluene	ND	0.200	0.049	ND	1.04	0.252		1
4-Ethyltoluene	ND	0.200	0.078	ND	0.983	0.381		1
1,3,5-Trimethylbenzene	ND	0.200	0.058	ND	0.983	0.287		1
1,2,4-Trimethylbenzene	ND	0.200	0.069	ND	0.983	0.341		1
Decane	ND	0.200	0.048	ND	1.16	0.282		1
1,3-Dichlorobenzene	ND	0.200	0.064	ND	1.20	0.383		1
1,4-Dichlorobenzene	ND	0.200	0.036	ND	1.20	0.217		1
1,2,3-Trimethylbenzene	ND	0.200	0.075	ND	0.983	0.369		1
1,2-Dichlorobenzene	ND	0.200	0.061	ND	1.20	0.369		1
Indane	ND	0.200	0.080	ND	0.967	0.384		1
Indene	ND	0.200	0.061	ND	0.951	0.289		1
Undecane	ND	0.200	0.053	ND	1.28	0.338		1
1,2,4,5-Tetramethylbenzene	ND	0.500	0.080	ND	2.74	0.436		1
Dodecane	ND	0.500	0.048	ND	3.48	0.333		1
1,2,4-Trichlorobenzene	ND	0.200	0.061	ND	1.48	0.454		1
Naphthalene	ND	0.200	0.043	ND	1.05	0.223		1
Benzothiophene	ND	0.500	0.047	ND	2.74	0.257		1
Hexachlorobutadiene	ND	0.200	0.073	ND	2.13	0.781		1
2-Methylnaphthalene	ND	1.00	0.272	ND	5.82	1.58		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-07
Client ID: CAN 595
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
1-Methylnaphthalene	ND	1.00	0.250	ND	5.82	1.45		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	79		60-140
Bromochloromethane	86		60-140
chlorobenzene-d5	76		60-140

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-07
Client ID: CAN 595
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 05/26/16 10:58
Analyst: RY

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.025	0.010	ND	0.055	0.022		1
Ethyl Alcohol	ND	0.500	0.100	ND	0.942	0.188		1
Isopentane	ND	0.025	0.010	ND	0.074	0.030		1
1-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
2-Methyl-1-Butene	ND	0.025	0.010	ND	0.072	0.029		1
Pentane	ND	0.025	0.010	ND	0.074	0.030		1
iso-Propyl Alcohol	ND	0.500	0.100	ND	1.23	0.246		1
trans-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
cis-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
Tertiary Butanol	ND	0.050	0.010	ND	0.152	0.030		1
Cyclopentane	ND	0.025	0.010	ND	0.072	0.029		1
2,3-Dimethylbutane	ND	0.025	0.010	ND	0.088	0.035		1
2-Methylpentane	ND	0.100	0.010	ND	0.352	0.035		1
Methyl tert butyl ether	ND	0.025	0.010	ND	0.090	0.036		1
3-Methylpentane	ND	0.025	0.010	ND	0.088	0.035		1
1-Hexene	ND	0.025	0.010	ND	0.086	0.034		1
n-Hexane	ND	0.025	0.010	ND	0.088	0.035		1
Isopropyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
Ethyl-Tert-Butyl-Ether	ND	0.025	0.010	ND	0.104	0.042		1
2,2-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclopentane	ND	0.025	0.010	ND	0.086	0.034		1
2,4-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
1,2-Dichloroethane	ND	0.025	0.010	ND	0.101	0.041		1
Cyclohexane	ND	0.025	0.010	ND	0.086	0.034		1
2-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-07
Client ID: CAN 595
Sample Location:
Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Benzene	ND	0.025	0.010	ND	0.080	0.032		1
2,3-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Thiophene	ND	0.025	0.010	ND	0.086	0.034		1
3-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1
Tertiary-Amyl Methyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
1-Heptene	ND	0.025	0.010	ND	0.100	0.040		1
Isooctane	ND	0.025	0.010	ND	0.117	0.047		1
Heptane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclohexane	ND	0.025	0.010	ND	0.100	0.040		1
2,5-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2,4-Dimethylhexane/2,2,3-Trimethylpentan	ND	0.050	0.025	ND	0.234	0.117		1
2,3,4-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3,3-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
3-Ethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
3-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
Toluene	ND	0.025	0.010	ND	0.094	0.038		1
2-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
3-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
1-Octene	ND	0.025	0.010	ND	0.115	0.046		1
1-Ethyl-1-Methylcyclopentane	ND	0.025	0.010	ND	0.115	0.046		1
Octane	ND	0.025	0.010	ND	0.117	0.047		1
1,2-Dibromoethane	ND	0.025	0.010	ND	0.192	0.077		1
Ethylbenzene	ND	0.025	0.010	ND	0.109	0.043		1
2-Ethylthiophene	ND	0.025	0.010	ND	0.115	0.046		1
p/m-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
1-Nonene	ND	0.025	0.010	ND	0.129	0.052		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-07
Client ID: CAN 595
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Nonane (C9)	ND	0.025	0.010	ND	0.131	0.053		1
Styrene	ND	0.025	0.010	ND	0.106	0.043		1
o-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
Isopropylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
n-Propylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Methyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
1-Methyl-4-Ethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1,3,5-Trimethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Decene	ND	0.050	0.025	ND	0.287	0.143		1
1-Methyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
Decane (C10)	ND	0.050	0.025	ND	0.291	0.146		1
1,2,4-Trimethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
sec-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-3-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Indane	ND	0.050	0.025	ND	0.242	0.121		1
Indene	ND	0.050	0.025	ND	0.238	0.119		1
1-Methyl-3-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
n-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Diethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,4-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Undecane	ND	0.050	0.025	ND	0.320	0.160		1
1,3-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,3-Dimethyl-5-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-07
Client ID: CAN 595
Sample Location:
Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2,4,5-Tetramethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
N-Pentylbenzene	ND	0.050	0.025	ND	0.303	0.152		1
Dodecane (C12)	ND	0.100	0.050	ND	0.697	0.348		1
Naphthalene	ND	0.050	0.025	ND	0.262	0.131		1
Benzothiophene	ND	0.100	0.050	ND	0.549	0.274		1
MMT	ND	0.100	0.050	ND	0.892	0.446		1
Tridecane	ND	1.00	0.050	ND	7.54	0.377		1
2-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1
1-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	88		60-140
Bromochloromethane	60		60-140
chlorobenzene-d5	90		60-140

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-08
Client ID: CAN 1706
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 05/23/16 18:43
Analyst: MB

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	0.047	ND	0.989	0.230		1
Chloromethane	ND	0.200	0.096	ND	0.413	0.198		1
Freon-114	ND	0.200	0.042	ND	1.40	0.293		1
Vinyl chloride	ND	0.200	0.038	ND	0.511	0.097		1
1,3-Butadiene	ND	0.200	0.080	ND	0.442	0.177		1
Butane	ND	0.200	0.044	ND	0.475	0.105		1
Acetaldehyde	ND	2.50	0.547	ND	4.50	0.985		1
Bromomethane	ND	0.200	0.070	ND	0.777	0.270		1
Chloroethane	ND	0.200	0.077	ND	0.528	0.202		1
Ethanol	ND	2.50	0.542	ND	4.71	1.02		1
Vinyl bromide	ND	0.200	0.070	ND	0.874	0.306		1
Acrolein	ND	0.500	0.114	ND	1.15	0.261		1
Acetone	ND	1.00	0.165	ND	2.38	0.392		1
Trichlorofluoromethane	ND	0.200	0.042	ND	1.12	0.234		1
Isopropanol	ND	0.500	0.053	ND	1.23	0.129		1
Pentane	ND	0.200	0.048	ND	0.590	0.140		1
1,1-Dichloroethene	ND	0.200	0.057	ND	0.793	0.224		1
tert-Butyl Alcohol	ND	0.500	0.060	ND	1.52	0.182		1
Methylene chloride	ND	1.00	0.299	ND	1.74	1.04		1
3-Chloropropene	ND	0.200	0.081	ND	0.626	0.254		1
Carbon disulfide	ND	0.200	0.035	ND	0.623	0.107		1
Freon-113	ND	0.200	0.051	ND	1.53	0.392		1
trans-1,2-Dichloroethene	ND	0.200	0.074	ND	0.793	0.293		1
1,1-Dichloroethane	ND	0.200	0.077	ND	0.809	0.312		1
Methyl tert butyl ether	ND	0.200	0.053	ND	0.721	0.190		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-08
Client ID: CAN 1706
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
2-Butanone	ND	0.500	0.047	ND	1.47	0.139		1
cis-1,2-Dichloroethene	ND	0.200	0.059	ND	0.793	0.233		1
Chloroform	ND	0.200	0.053	ND	0.977	0.259		1
1,2-Dichloroethane	ND	0.200	0.055	ND	0.809	0.223		1
n-Hexane	ND	0.200	0.052	ND	0.705	0.183		1
1,1,1-Trichloroethane	ND	0.200	0.057	ND	1.09	0.311		1
Benzene	ND	0.200	0.054	ND	0.639	0.172		1
Thiophene	ND	0.200	0.053	ND	0.688	0.182		1
Carbon tetrachloride	ND	0.200	0.047	ND	1.26	0.296		1
Cyclohexane	ND	0.200	0.066	ND	0.688	0.226		1
1,2-Dichloropropane	ND	0.200	0.070	ND	0.924	0.322		1
Bromodichloromethane	ND	0.200	0.066	ND	1.34	0.439		1
1,4-Dioxane	ND	0.200	0.078	ND	0.721	0.281		1
Trichloroethene	ND	0.200	0.071	ND	1.07	0.382		1
2,2,4-Trimethylpentane	ND	0.200	0.066	ND	0.934	0.308		1
Heptane	ND	0.200	0.055	ND	0.820	0.227		1
cis-1,3-Dichloropropene	ND	0.200	0.075	ND	0.908	0.338		1
4-Methyl-2-pentanone	ND	0.500	0.061	ND	2.05	0.249		1
trans-1,3-Dichloropropene	ND	0.200	0.069	ND	0.908	0.315		1
1,1,2-Trichloroethane	ND	0.200	0.067	ND	1.09	0.364		1
Toluene	ND	0.200	0.063	ND	0.754	0.237		1
2-Methylthiophene	ND	0.200	0.079	ND	0.803	0.317		1
2-Hexanone	ND	0.200	0.060	ND	0.820	0.248		1
3-Methylthiophene	ND	0.200	0.067	ND	0.803	0.269		1
Dibromochloromethane	ND	0.200	0.075	ND	1.70	0.636		1
1,2-Dibromoethane	ND	0.200	0.078	ND	1.54	0.599		1
Octane	ND	0.200	0.042	ND	0.934	0.197		1
Tetrachloroethene	ND	0.200	0.076	ND	1.36	0.514		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-08
Client ID: CAN 1706
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorobenzene	ND	0.200	0.079	ND	0.921	0.363		1
Ethylbenzene	ND	0.200	0.056	ND	0.869	0.241		1
2-Ethylthiophene	ND	0.200	0.057	ND	0.918	0.262		1
p/m-Xylene	ND	0.400	0.139	ND	1.74	0.604		1
Bromoform	ND	0.200	0.052	ND	2.07	0.541		1
Styrene	ND	0.200	0.080	ND	0.852	0.340		1
1,1,2,2-Tetrachloroethane	ND	0.200	0.055	ND	1.37	0.376		1
o-Xylene	ND	0.200	0.063	ND	0.869	0.274		1
Nonane	ND	0.200	0.063	ND	1.05	0.328		1
2-Chlorotoluene	ND	0.200	0.049	ND	1.04	0.252		1
4-Ethyltoluene	ND	0.200	0.078	ND	0.983	0.381		1
1,3,5-Trimethylbenzene	ND	0.200	0.058	ND	0.983	0.287		1
1,2,4-Trimethylbenzene	ND	0.200	0.069	ND	0.983	0.341		1
Decane	ND	0.200	0.048	ND	1.16	0.282		1
1,3-Dichlorobenzene	ND	0.200	0.064	ND	1.20	0.383		1
1,4-Dichlorobenzene	ND	0.200	0.036	ND	1.20	0.217		1
1,2,3-Trimethylbenzene	ND	0.200	0.075	ND	0.983	0.369		1
1,2-Dichlorobenzene	ND	0.200	0.061	ND	1.20	0.369		1
Indane	ND	0.200	0.080	ND	0.967	0.384		1
Indene	ND	0.200	0.061	ND	0.951	0.289		1
Undecane	ND	0.200	0.053	ND	1.28	0.338		1
1,2,4,5-Tetramethylbenzene	ND	0.500	0.080	ND	2.74	0.436		1
Dodecane	ND	0.500	0.048	ND	3.48	0.333		1
1,2,4-Trichlorobenzene	ND	0.200	0.061	ND	1.48	0.454		1
Naphthalene	ND	0.200	0.043	ND	1.05	0.223		1
Benzothiophene	ND	0.500	0.047	ND	2.74	0.257		1
Hexachlorobutadiene	ND	0.200	0.073	ND	2.13	0.781		1
2-Methylnaphthalene	ND	1.00	0.272	ND	5.82	1.58		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-08
Client ID: CAN 1706
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
1-Methylnaphthalene	ND	1.00	0.250	ND	5.82	1.45		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	78		60-140
Bromochloromethane	87		60-140
chlorobenzene-d5	77		60-140

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-08
Client ID: CAN 1706
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 05/26/16 11:31
Analyst: RY

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.025	0.010	ND	0.055	0.022		1
Ethyl Alcohol	ND	0.500	0.100	ND	0.942	0.188		1
Isopentane	ND	0.025	0.010	ND	0.074	0.030		1
1-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
2-Methyl-1-Butene	ND	0.025	0.010	ND	0.072	0.029		1
Pentane	ND	0.025	0.010	ND	0.074	0.030		1
iso-Propyl Alcohol	ND	0.500	0.100	ND	1.23	0.246		1
trans-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
cis-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
Tertiary Butanol	ND	0.050	0.010	ND	0.152	0.030		1
Cyclopentane	ND	0.025	0.010	ND	0.072	0.029		1
2,3-Dimethylbutane	ND	0.025	0.010	ND	0.088	0.035		1
2-Methylpentane	ND	0.100	0.010	ND	0.352	0.035		1
Methyl tert butyl ether	ND	0.025	0.010	ND	0.090	0.036		1
3-Methylpentane	ND	0.025	0.010	ND	0.088	0.035		1
1-Hexene	ND	0.025	0.010	ND	0.086	0.034		1
n-Hexane	ND	0.025	0.010	ND	0.088	0.035		1
Isopropyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
Ethyl-Tert-Butyl-Ether	ND	0.025	0.010	ND	0.104	0.042		1
2,2-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclopentane	ND	0.025	0.010	ND	0.086	0.034		1
2,4-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
1,2-Dichloroethane	ND	0.025	0.010	ND	0.101	0.041		1
Cyclohexane	ND	0.025	0.010	ND	0.086	0.034		1
2-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-08
Client ID: CAN 1706
Sample Location:
Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Benzene	ND	0.025	0.010	ND	0.080	0.032		1
2,3-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Thiophene	ND	0.025	0.010	ND	0.086	0.034		1
3-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1
Tertiary-Amyl Methyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
1-Heptene	ND	0.025	0.010	ND	0.100	0.040		1
Isooctane	ND	0.025	0.010	ND	0.117	0.047		1
Heptane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclohexane	ND	0.025	0.010	ND	0.100	0.040		1
2,5-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2,4-Dimethylhexane/2,2,3-Trimethylpentan	ND	0.050	0.025	ND	0.234	0.117		1
2,3,4-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3,3-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
3-Ethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
3-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
Toluene	ND	0.025	0.010	ND	0.094	0.038		1
2-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
3-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
1-Octene	ND	0.025	0.010	ND	0.115	0.046		1
1-Ethyl-1-Methylcyclopentane	ND	0.025	0.010	ND	0.115	0.046		1
Octane	ND	0.025	0.010	ND	0.117	0.047		1
1,2-Dibromoethane	ND	0.025	0.010	ND	0.192	0.077		1
Ethylbenzene	ND	0.025	0.010	ND	0.109	0.043		1
2-Ethylthiophene	ND	0.025	0.010	ND	0.115	0.046		1
p/m-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
1-Nonene	ND	0.025	0.010	ND	0.129	0.052		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-08
Client ID: CAN 1706
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Nonane (C9)	ND	0.025	0.010	ND	0.131	0.053		1
Styrene	ND	0.025	0.010	ND	0.106	0.043		1
o-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
Isopropylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
n-Propylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Methyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
1-Methyl-4-Ethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1,3,5-Trimethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Decene	ND	0.050	0.025	ND	0.287	0.143		1
1-Methyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
Decane (C10)	ND	0.050	0.025	ND	0.291	0.146		1
1,2,4-Trimethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
sec-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-3-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Indane	ND	0.050	0.025	ND	0.242	0.121		1
Indene	ND	0.050	0.025	ND	0.238	0.119		1
1-Methyl-3-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
n-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Diethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,4-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Undecane	ND	0.050	0.025	ND	0.320	0.160		1
1,3-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,3-Dimethyl-5-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-08
Client ID: CAN 1706
Sample Location:
Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2,4,5-Tetramethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
N-Pentylbenzene	ND	0.050	0.025	ND	0.303	0.152		1
Dodecane (C12)	ND	0.100	0.050	ND	0.697	0.348		1
Naphthalene	ND	0.050	0.025	ND	0.262	0.131		1
Benzothiophene	ND	0.100	0.050	ND	0.549	0.274		1
MMT	ND	0.100	0.050	ND	0.892	0.446		1
Tridecane	ND	1.00	0.050	ND	7.54	0.377		1
2-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1
1-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	93		60-140
Bromochloromethane	64		60-140
chlorobenzene-d5	97		60-140

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-10
Client ID: CAN 630
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 05/23/16 19:54
Analyst: MB

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	0.047	ND	0.989	0.230		1
Chloromethane	ND	0.200	0.096	ND	0.413	0.198		1
Freon-114	ND	0.200	0.042	ND	1.40	0.293		1
Vinyl chloride	ND	0.200	0.038	ND	0.511	0.097		1
1,3-Butadiene	ND	0.200	0.080	ND	0.442	0.177		1
Butane	ND	0.200	0.044	ND	0.475	0.105		1
Acetaldehyde	ND	2.50	0.547	ND	4.50	0.985		1
Bromomethane	ND	0.200	0.070	ND	0.777	0.270		1
Chloroethane	ND	0.200	0.077	ND	0.528	0.202		1
Ethanol	ND	2.50	0.542	ND	4.71	1.02		1
Vinyl bromide	ND	0.200	0.070	ND	0.874	0.306		1
Acrolein	ND	0.500	0.114	ND	1.15	0.261		1
Acetone	ND	1.00	0.165	ND	2.38	0.392		1
Trichlorofluoromethane	ND	0.200	0.042	ND	1.12	0.234		1
Isopropanol	ND	0.500	0.053	ND	1.23	0.129		1
Pentane	ND	0.200	0.048	ND	0.590	0.140		1
1,1-Dichloroethene	ND	0.200	0.057	ND	0.793	0.224		1
tert-Butyl Alcohol	ND	0.500	0.060	ND	1.52	0.182		1
Methylene chloride	ND	1.00	0.299	ND	1.74	1.04		1
3-Chloropropene	ND	0.200	0.081	ND	0.626	0.254		1
Carbon disulfide	ND	0.200	0.035	ND	0.623	0.107		1
Freon-113	ND	0.200	0.051	ND	1.53	0.392		1
trans-1,2-Dichloroethene	ND	0.200	0.074	ND	0.793	0.293		1
1,1-Dichloroethane	ND	0.200	0.077	ND	0.809	0.312		1
Methyl tert butyl ether	ND	0.200	0.053	ND	0.721	0.190		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-10
Client ID: CAN 630
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
2-Butanone	ND	0.500	0.047	ND	1.47	0.139		1
cis-1,2-Dichloroethene	ND	0.200	0.059	ND	0.793	0.233		1
Chloroform	ND	0.200	0.053	ND	0.977	0.259		1
1,2-Dichloroethane	ND	0.200	0.055	ND	0.809	0.223		1
n-Hexane	ND	0.200	0.052	ND	0.705	0.183		1
1,1,1-Trichloroethane	ND	0.200	0.057	ND	1.09	0.311		1
Benzene	ND	0.200	0.054	ND	0.639	0.172		1
Thiophene	ND	0.200	0.053	ND	0.688	0.182		1
Carbon tetrachloride	ND	0.200	0.047	ND	1.26	0.296		1
Cyclohexane	ND	0.200	0.066	ND	0.688	0.226		1
1,2-Dichloropropane	ND	0.200	0.070	ND	0.924	0.322		1
Bromodichloromethane	ND	0.200	0.066	ND	1.34	0.439		1
1,4-Dioxane	ND	0.200	0.078	ND	0.721	0.281		1
Trichloroethene	ND	0.200	0.071	ND	1.07	0.382		1
2,2,4-Trimethylpentane	ND	0.200	0.066	ND	0.934	0.308		1
Heptane	ND	0.200	0.055	ND	0.820	0.227		1
cis-1,3-Dichloropropene	ND	0.200	0.075	ND	0.908	0.338		1
4-Methyl-2-pentanone	ND	0.500	0.061	ND	2.05	0.249		1
trans-1,3-Dichloropropene	ND	0.200	0.069	ND	0.908	0.315		1
1,1,2-Trichloroethane	ND	0.200	0.067	ND	1.09	0.364		1
Toluene	ND	0.200	0.063	ND	0.754	0.237		1
2-Methylthiophene	ND	0.200	0.079	ND	0.803	0.317		1
2-Hexanone	ND	0.200	0.060	ND	0.820	0.248		1
3-Methylthiophene	ND	0.200	0.067	ND	0.803	0.269		1
Dibromochloromethane	ND	0.200	0.075	ND	1.70	0.636		1
1,2-Dibromoethane	ND	0.200	0.078	ND	1.54	0.599		1
Octane	ND	0.200	0.042	ND	0.934	0.197		1
Tetrachloroethene	ND	0.200	0.076	ND	1.36	0.514		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-10
Client ID: CAN 630
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorobenzene	ND	0.200	0.079	ND	0.921	0.363		1
Ethylbenzene	ND	0.200	0.056	ND	0.869	0.241		1
2-Ethylthiophene	ND	0.200	0.057	ND	0.918	0.262		1
p/m-Xylene	ND	0.400	0.139	ND	1.74	0.604		1
Bromoform	ND	0.200	0.052	ND	2.07	0.541		1
Styrene	ND	0.200	0.080	ND	0.852	0.340		1
1,1,2,2-Tetrachloroethane	ND	0.200	0.055	ND	1.37	0.376		1
o-Xylene	ND	0.200	0.063	ND	0.869	0.274		1
Nonane	ND	0.200	0.063	ND	1.05	0.328		1
2-Chlorotoluene	ND	0.200	0.049	ND	1.04	0.252		1
4-Ethyltoluene	ND	0.200	0.078	ND	0.983	0.381		1
1,3,5-Trimethylbenzene	ND	0.200	0.058	ND	0.983	0.287		1
1,2,4-Trimethylbenzene	ND	0.200	0.069	ND	0.983	0.341		1
Decane	ND	0.200	0.048	ND	1.16	0.282		1
1,3-Dichlorobenzene	ND	0.200	0.064	ND	1.20	0.383		1
1,4-Dichlorobenzene	ND	0.200	0.036	ND	1.20	0.217		1
1,2,3-Trimethylbenzene	ND	0.200	0.075	ND	0.983	0.369		1
1,2-Dichlorobenzene	ND	0.200	0.061	ND	1.20	0.369		1
Indane	ND	0.200	0.080	ND	0.967	0.384		1
Indene	ND	0.200	0.061	ND	0.951	0.289		1
Undecane	ND	0.200	0.053	ND	1.28	0.338		1
1,2,4,5-Tetramethylbenzene	ND	0.500	0.080	ND	2.74	0.436		1
Dodecane	ND	0.500	0.048	ND	3.48	0.333		1
1,2,4-Trichlorobenzene	ND	0.200	0.061	ND	1.48	0.454		1
Naphthalene	ND	0.200	0.043	ND	1.05	0.223		1
Benzothiophene	ND	0.500	0.047	ND	2.74	0.257		1
Hexachlorobutadiene	ND	0.200	0.073	ND	2.13	0.781		1
2-Methylnaphthalene	ND	1.00	0.272	ND	5.82	1.58		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-10
Client ID: CAN 630
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
1-Methylnaphthalene	ND	1.00	0.250	ND	5.82	1.45		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	77		60-140
Bromochloromethane	85		60-140
chlorobenzene-d5	77		60-140

Project Name: INDIV. CANISTER CERTIFICATION **Lab Number:** L1615353

Project Number: CANISTER QC INDIV **Report Date:** 06/27/16

Air Canister Certification Results

Lab ID: L1615353-10
Client ID: CAN 630
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 05/25/16 23:43
Analyst: RY

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.025	0.010	ND	0.055	0.022		1
Ethyl Alcohol	ND	0.500	0.100	ND	0.942	0.188		1
Isopentane	ND	0.025	0.010	ND	0.074	0.030		1
1-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
2-Methyl-1-Butene	ND	0.025	0.010	ND	0.072	0.029		1
Pentane	ND	0.025	0.010	ND	0.074	0.030		1
iso-Propyl Alcohol	ND	0.500	0.100	ND	1.23	0.246		1
trans-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
cis-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
Tertiary Butanol	ND	0.050	0.010	ND	0.152	0.030		1
Cyclopentane	ND	0.025	0.010	ND	0.072	0.029		1
2,3-Dimethylbutane	ND	0.025	0.010	ND	0.088	0.035		1
2-Methylpentane	ND	0.100	0.010	ND	0.352	0.035		1
Methyl tert butyl ether	ND	0.025	0.010	ND	0.090	0.036		1
3-Methylpentane	ND	0.025	0.010	ND	0.088	0.035		1
1-Hexene	ND	0.025	0.010	ND	0.086	0.034		1
n-Hexane	ND	0.025	0.010	ND	0.088	0.035		1
Isopropyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
Ethyl-Tert-Butyl-Ether	ND	0.025	0.010	ND	0.104	0.042		1
2,2-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclopentane	ND	0.025	0.010	ND	0.086	0.034		1
2,4-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
1,2-Dichloroethane	ND	0.025	0.010	ND	0.101	0.041		1
Cyclohexane	ND	0.025	0.010	ND	0.086	0.034		1
2-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-10
Client ID: CAN 630
Sample Location:
Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Benzene	ND	0.025	0.010	ND	0.080	0.032		1
2,3-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Thiophene	ND	0.025	0.010	ND	0.086	0.034		1
3-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1
Tertiary-Amyl Methyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
1-Heptene	ND	0.025	0.010	ND	0.100	0.040		1
Isooctane	ND	0.025	0.010	ND	0.117	0.047		1
Heptane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclohexane	ND	0.025	0.010	ND	0.100	0.040		1
2,5-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2,4-Dimethylhexane/2,2,3-Trimethylpentan	ND	0.050	0.025	ND	0.234	0.117		1
2,3,4-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3,3-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
3-Ethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
3-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
Toluene	ND	0.025	0.010	ND	0.094	0.038		1
2-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
3-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
1-Octene	ND	0.025	0.010	ND	0.115	0.046		1
1-Ethyl-1-Methylcyclopentane	ND	0.025	0.010	ND	0.115	0.046		1
Octane	ND	0.025	0.010	ND	0.117	0.047		1
1,2-Dibromoethane	ND	0.025	0.010	ND	0.192	0.077		1
Ethylbenzene	ND	0.025	0.010	ND	0.109	0.043		1
2-Ethylthiophene	ND	0.025	0.010	ND	0.115	0.046		1
p/m-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
1-Nonene	ND	0.025	0.010	ND	0.129	0.052		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-10
Client ID: CAN 630
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Nonane (C9)	ND	0.025	0.010	ND	0.131	0.053		1
Styrene	ND	0.025	0.010	ND	0.106	0.043		1
o-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
Isopropylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
n-Propylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Methyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
1-Methyl-4-Ethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1,3,5-Trimethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Decene	ND	0.050	0.025	ND	0.287	0.143		1
1-Methyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
Decane (C10)	ND	0.050	0.025	ND	0.291	0.146		1
1,2,4-Trimethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
sec-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-3-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Indane	ND	0.050	0.025	ND	0.242	0.121		1
Indene	ND	0.050	0.025	ND	0.238	0.119		1
1-Methyl-3-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
n-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Diethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,4-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Undecane	ND	0.050	0.025	ND	0.320	0.160		1
1,3-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,3-Dimethyl-5-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-10
Client ID: CAN 630
Sample Location:
Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2,4,5-Tetramethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
N-Pentylbenzene	ND	0.050	0.025	ND	0.303	0.152		1
Dodecane (C12)	ND	0.100	0.050	ND	0.697	0.348		1
Naphthalene	ND	0.050	0.025	ND	0.262	0.131		1
Benzothiophene	ND	0.100	0.050	ND	0.549	0.274		1
MMT	ND	0.100	0.050	ND	0.892	0.446		1
Tridecane	ND	1.00	0.050	ND	7.54	0.377		1
2-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1
1-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	92		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	94		60-140

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-12
Client ID: CAN 1669
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 05/23/16 20:30
Analyst: MB

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	0.047	ND	0.989	0.230		1
Chloromethane	ND	0.200	0.096	ND	0.413	0.198		1
Freon-114	ND	0.200	0.042	ND	1.40	0.293		1
Vinyl chloride	ND	0.200	0.038	ND	0.511	0.097		1
1,3-Butadiene	ND	0.200	0.080	ND	0.442	0.177		1
Butane	ND	0.200	0.044	ND	0.475	0.105		1
Acetaldehyde	ND	2.50	0.547	ND	4.50	0.985		1
Bromomethane	ND	0.200	0.070	ND	0.777	0.270		1
Chloroethane	ND	0.200	0.077	ND	0.528	0.202		1
Ethanol	ND	2.50	0.542	ND	4.71	1.02		1
Vinyl bromide	ND	0.200	0.070	ND	0.874	0.306		1
Acrolein	ND	0.500	0.114	ND	1.15	0.261		1
Acetone	ND	1.00	0.165	ND	2.38	0.392		1
Trichlorofluoromethane	ND	0.200	0.042	ND	1.12	0.234		1
Isopropanol	ND	0.500	0.053	ND	1.23	0.129		1
Pentane	ND	0.200	0.048	ND	0.590	0.140		1
1,1-Dichloroethene	ND	0.200	0.057	ND	0.793	0.224		1
tert-Butyl Alcohol	ND	0.500	0.060	ND	1.52	0.182		1
Methylene chloride	ND	1.00	0.299	ND	1.74	1.04		1
3-Chloropropene	ND	0.200	0.081	ND	0.626	0.254		1
Carbon disulfide	ND	0.200	0.035	ND	0.623	0.107		1
Freon-113	ND	0.200	0.051	ND	1.53	0.392		1
trans-1,2-Dichloroethene	ND	0.200	0.074	ND	0.793	0.293		1
1,1-Dichloroethane	ND	0.200	0.077	ND	0.809	0.312		1
Methyl tert butyl ether	ND	0.200	0.053	ND	0.721	0.190		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-12
Client ID: CAN 1669
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
2-Butanone	ND	0.500	0.047	ND	1.47	0.139		1
cis-1,2-Dichloroethene	ND	0.200	0.059	ND	0.793	0.233		1
Chloroform	ND	0.200	0.053	ND	0.977	0.259		1
1,2-Dichloroethane	ND	0.200	0.055	ND	0.809	0.223		1
n-Hexane	ND	0.200	0.052	ND	0.705	0.183		1
1,1,1-Trichloroethane	ND	0.200	0.057	ND	1.09	0.311		1
Benzene	ND	0.200	0.054	ND	0.639	0.172		1
Thiophene	ND	0.200	0.053	ND	0.688	0.182		1
Carbon tetrachloride	ND	0.200	0.047	ND	1.26	0.296		1
Cyclohexane	ND	0.200	0.066	ND	0.688	0.226		1
1,2-Dichloropropane	ND	0.200	0.070	ND	0.924	0.322		1
Bromodichloromethane	ND	0.200	0.066	ND	1.34	0.439		1
1,4-Dioxane	ND	0.200	0.078	ND	0.721	0.281		1
Trichloroethene	ND	0.200	0.071	ND	1.07	0.382		1
2,2,4-Trimethylpentane	ND	0.200	0.066	ND	0.934	0.308		1
Heptane	ND	0.200	0.055	ND	0.820	0.227		1
cis-1,3-Dichloropropene	ND	0.200	0.075	ND	0.908	0.338		1
4-Methyl-2-pentanone	ND	0.500	0.061	ND	2.05	0.249		1
trans-1,3-Dichloropropene	ND	0.200	0.069	ND	0.908	0.315		1
1,1,2-Trichloroethane	ND	0.200	0.067	ND	1.09	0.364		1
Toluene	ND	0.200	0.063	ND	0.754	0.237		1
2-Methylthiophene	ND	0.200	0.079	ND	0.803	0.317		1
2-Hexanone	ND	0.200	0.060	ND	0.820	0.248		1
3-Methylthiophene	ND	0.200	0.067	ND	0.803	0.269		1
Dibromochloromethane	ND	0.200	0.075	ND	1.70	0.636		1
1,2-Dibromoethane	ND	0.200	0.078	ND	1.54	0.599		1
Octane	ND	0.200	0.042	ND	0.934	0.197		1
Tetrachloroethene	ND	0.200	0.076	ND	1.36	0.514		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-12
Client ID: CAN 1669
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorobenzene	ND	0.200	0.079	ND	0.921	0.363		1
Ethylbenzene	ND	0.200	0.056	ND	0.869	0.241		1
2-Ethylthiophene	ND	0.200	0.057	ND	0.918	0.262		1
p/m-Xylene	ND	0.400	0.139	ND	1.74	0.604		1
Bromoform	ND	0.200	0.052	ND	2.07	0.541		1
Styrene	ND	0.200	0.080	ND	0.852	0.340		1
1,1,2,2-Tetrachloroethane	ND	0.200	0.055	ND	1.37	0.376		1
o-Xylene	ND	0.200	0.063	ND	0.869	0.274		1
Nonane	ND	0.200	0.063	ND	1.05	0.328		1
2-Chlorotoluene	ND	0.200	0.049	ND	1.04	0.252		1
4-Ethyltoluene	ND	0.200	0.078	ND	0.983	0.381		1
1,3,5-Trimethylbenzene	ND	0.200	0.058	ND	0.983	0.287		1
1,2,4-Trimethylbenzene	ND	0.200	0.069	ND	0.983	0.341		1
Decane	ND	0.200	0.048	ND	1.16	0.282		1
1,3-Dichlorobenzene	ND	0.200	0.064	ND	1.20	0.383		1
1,4-Dichlorobenzene	ND	0.200	0.036	ND	1.20	0.217		1
1,2,3-Trimethylbenzene	ND	0.200	0.075	ND	0.983	0.369		1
1,2-Dichlorobenzene	ND	0.200	0.061	ND	1.20	0.369		1
Indane	ND	0.200	0.080	ND	0.967	0.384		1
Indene	ND	0.200	0.061	ND	0.951	0.289		1
Undecane	ND	0.200	0.053	ND	1.28	0.338		1
1,2,4,5-Tetramethylbenzene	ND	0.500	0.080	ND	2.74	0.436		1
Dodecane	ND	0.500	0.048	ND	3.48	0.333		1
1,2,4-Trichlorobenzene	ND	0.200	0.061	ND	1.48	0.454		1
Naphthalene	ND	0.200	0.043	ND	1.05	0.223		1
Benzothiophene	ND	0.500	0.047	ND	2.74	0.257		1
Hexachlorobutadiene	ND	0.200	0.073	ND	2.13	0.781		1
2-Methylnaphthalene	ND	1.00	0.272	ND	5.82	1.58		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-12
Client ID: CAN 1669
Sample Location:
Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
1-Methylnaphthalene	ND	1.00	0.250	ND	5.82	1.45		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	76		60-140
Bromochloromethane	85		60-140
chlorobenzene-d5	75		60-140

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-12
Client ID: CAN 1669
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 05/26/16 00:16
Analyst: RY

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.025	0.010	ND	0.055	0.022		1
Ethyl Alcohol	ND	0.500	0.100	ND	0.942	0.188		1
Isopentane	ND	0.025	0.010	ND	0.074	0.030		1
1-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
2-Methyl-1-Butene	ND	0.025	0.010	ND	0.072	0.029		1
Pentane	ND	0.025	0.010	ND	0.074	0.030		1
iso-Propyl Alcohol	ND	0.500	0.100	ND	1.23	0.246		1
trans-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
cis-2-Pentene	ND	0.025	0.010	ND	0.072	0.029		1
Tertiary Butanol	ND	0.050	0.010	ND	0.152	0.030		1
Cyclopentane	ND	0.025	0.010	ND	0.072	0.029		1
2,3-Dimethylbutane	ND	0.025	0.010	ND	0.088	0.035		1
2-Methylpentane	ND	0.100	0.010	ND	0.352	0.035		1
Methyl tert butyl ether	ND	0.025	0.010	ND	0.090	0.036		1
3-Methylpentane	ND	0.025	0.010	ND	0.088	0.035		1
1-Hexene	ND	0.025	0.010	ND	0.086	0.034		1
n-Hexane	ND	0.025	0.010	ND	0.088	0.035		1
Isopropyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
Ethyl-Tert-Butyl-Ether	ND	0.025	0.010	ND	0.104	0.042		1
2,2-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclopentane	ND	0.025	0.010	ND	0.086	0.034		1
2,4-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
1,2-Dichloroethane	ND	0.025	0.010	ND	0.101	0.041		1
Cyclohexane	ND	0.025	0.010	ND	0.086	0.034		1
2-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-12
Client ID: CAN 1669
Sample Location:
Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Benzene	ND	0.025	0.010	ND	0.080	0.032		1
2,3-Dimethylpentane	ND	0.025	0.010	ND	0.102	0.041		1
Thiophene	ND	0.025	0.010	ND	0.086	0.034		1
3-Methylhexane	ND	0.025	0.010	ND	0.102	0.041		1
Tertiary-Amyl Methyl Ether	ND	0.025	0.010	ND	0.104	0.042		1
1-Heptene	ND	0.025	0.010	ND	0.100	0.040		1
Isooctane	ND	0.025	0.010	ND	0.117	0.047		1
Heptane	ND	0.025	0.010	ND	0.102	0.041		1
Methylcyclohexane	ND	0.025	0.010	ND	0.100	0.040		1
2,5-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2,4-Dimethylhexane/2,2,3-Trimethylpentan	ND	0.050	0.025	ND	0.234	0.117		1
2,3,4-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3,3-Trimethylpentane	ND	0.025	0.010	ND	0.117	0.047		1
2,3-Dimethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
3-Ethylhexane	ND	0.025	0.010	ND	0.117	0.047		1
2-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
3-Methylheptane	ND	0.025	0.010	ND	0.117	0.047		1
Toluene	ND	0.025	0.010	ND	0.094	0.038		1
2-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
3-Methylthiophene	ND	0.025	0.010	ND	0.100	0.040		1
1-Octene	ND	0.025	0.010	ND	0.115	0.046		1
1-Ethyl-1-Methylcyclopentane	ND	0.025	0.010	ND	0.115	0.046		1
Octane	ND	0.025	0.010	ND	0.117	0.047		1
1,2-Dibromoethane	ND	0.025	0.010	ND	0.192	0.077		1
Ethylbenzene	ND	0.025	0.010	ND	0.109	0.043		1
2-Ethylthiophene	ND	0.025	0.010	ND	0.115	0.046		1
p/m-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
1-Nonene	ND	0.025	0.010	ND	0.129	0.052		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-12
Client ID: CAN 1669
Sample Location:

Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
Nonane (C9)	ND	0.025	0.010	ND	0.131	0.053		1
Styrene	ND	0.025	0.010	ND	0.106	0.043		1
o-Xylene	ND	0.050	0.010	ND	0.217	0.043		1
Isopropylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
n-Propylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Methyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
1-Methyl-4-Ethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1,3,5-Trimethylbenzene	ND	0.025	0.010	ND	0.123	0.049		1
1-Decene	ND	0.050	0.025	ND	0.287	0.143		1
1-Methyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
Decane (C10)	ND	0.050	0.025	ND	0.291	0.146		1
1,2,4-Trimethylbenzene	ND	0.050	0.025	ND	0.246	0.123		1
sec-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-3-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-Isopropylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Indane	ND	0.050	0.025	ND	0.242	0.121		1
Indene	ND	0.050	0.025	ND	0.238	0.119		1
1-Methyl-3-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-4-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
n-Butylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Diethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1-Methyl-2-N-Propylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,4-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
Undecane	ND	0.050	0.025	ND	0.320	0.160		1
1,3-Dimethyl-4-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,3-Dimethyl-5-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L1615353
Report Date: 06/27/16

Air Canister Certification Results

Lab ID: L1615353-12
Client ID: CAN 1669
Sample Location:
Date Collected: 05/20/16 13:30
Date Received: 05/20/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
PIANO Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Dimethyl-2-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2-Dimethyl-3-Ethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
1,2,4,5-Tetramethylbenzene	ND	0.050	0.025	ND	0.274	0.137		1
N-Pentylbenzene	ND	0.050	0.025	ND	0.303	0.152		1
Dodecane (C12)	ND	0.100	0.050	ND	0.697	0.348		1
Naphthalene	ND	0.050	0.025	ND	0.262	0.131		1
Benzothiophene	ND	0.100	0.050	ND	0.549	0.274		1
MMT	ND	0.100	0.050	ND	0.892	0.446		1
Tridecane	ND	1.00	0.050	ND	7.54	0.377		1
2-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1
1-Methylnaphthalene	ND	0.500	0.050	ND	2.91	0.291		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	92		60-140
Bromochloromethane	67		60-140
chlorobenzene-d5	94		60-140

Project Name: FLINT ST. REDEVELOPMENT
Project Number: Not Specified

Lab Number: L1616769
Report Date: 06/27/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information **Custody Seal**
Cooler
N/A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1616769-01A	Canister - 6 Liter	N/A	N/A		Y	Absent	NF-TO15(30),NF-TO15SIM-PIANO(30)
L1616769-02A	Canister - 6 Liter	N/A	N/A		Y	Absent	NF-TO15(30),NF-TO15SIM-PIANO(30)
L1616769-03A	Canister - 6 Liter	N/A	N/A		Y	Absent	NF-TO15(30),NF-TO15SIM-PIANO(30)
L1616769-04A	Canister - 6 Liter	N/A	N/A		Y	Absent	NF-TO15(30),NF-TO15SIM-PIANO(30)
L1616769-05A	Canister - 6 Liter	N/A	N/A		Y	Absent	NF-TO15(30),NF-TO15SIM-PIANO(30)
L1616769-06A	Canister - 6 Liter	N/A	N/A		Y	Absent	NF-TO15(30),NF-TO15SIM-PIANO(30)
L1616769-07A	Canister - 6 Liter	N/A	N/A		Y	Absent	NF-TO15(30),NF-TO15SIM-PIANO(30)
L1616769-08A	Canister - 6 Liter	N/A	N/A		Y	Absent	NF-TO15(30),NF-TO15SIM-PIANO(30)
L1616769-09A	Canister - 6 Liter	N/A	N/A		Y	Absent	NF-TO15(30),NF-TO15SIM-PIANO(30)
L1616769-10A	Canister - 6 Liter	N/A	N/A		Y	Absent	CLEAN-FEE()

*Values in parentheses indicate holding time in days

Project Name:	FLINT ST. REDEVELOPMENT	**Lab Number:**	L1616769
Project Number:	Not Specified	**Report Date:**	06/27/16

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Report Format: DU Report with 'J' Qualifiers

Project Name:	FLINT ST. REDEVELOPMENT	**Lab Number:**	L1616769
Project Number:	Not Specified	**Report Date:**	06/27/16

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

REFERENCES

48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 524.2: 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene
EPA 624: 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene
EPA 625: Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.
EPA 1010A: NPW: Ignitability
EPA 6010C: NPW: Strontium; SCM: Strontium
EPA 8151A: NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate (soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 9010: NPW: Amenable Cyanide Distillation, Total Cyanide Distillation
EPA 9038: NPW: Sulfate
EPA 9050A: NPW: Specific Conductance
EPA 9056: NPW: Chloride, Nitrate, Sulfate
EPA 9065: NPW: Phenols
EPA 9251: NPW: Chloride
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
EPA 8270D: NPW: Biphenyl; SCM: Biphenyl, Caprolactam
EPA 8270D-SIM Isotope Dilution: SCM: 1,4-Dioxane
SM 2540D: TSS
SM2540G: SCM: Percent Solids
EPA 1631E: SCM: Mercury
EPA 7474: SCM: Mercury
EPA 8081B: NPW and SCM: Mirex, Hexachlorobenzene.
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA 8270-SIM: NPW and SCM: Alkylated PAHs.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene, n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene.
Biological Tissue Matrix: ***8270D-SIM; 3050B; 3051A; 7471B; 8081B; 8082A; 6020A:*** Lead***; 8270D:*** bis(2-ethylhexyl)phthalate, Butylbenzylphthalate, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Di-n-octyl phthalate, Fluoranthene, Pentachlorophenol.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F,**
EPA 353.2: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Serial No:06271616:29

AIR ANALYSIS

PAGE 1 OF 1

CHAIN OF CUSTODY

ALPHA ANALYTICAL
320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 6/3/16

ALPHA Job #: L1616769

Client Information

Client: Roux Associates
Address: 12 Gill St. Woburn MA
Phone: (781)569-4032
Fax:
Email: mcasey@rouxinc.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Flint St. Redevelopment
Project Location: Flint St. Rochester N.Y.
Project #:
Project Manager: Matt Casey
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☐ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☑ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☑ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH Subtract Non-petroleum HCs ☐	Fixed Gases	Sulfides & Mercaptans by TO-15	PIANO	Sample Comments (i.e. PID)
6769-01	RX-SSVP-01	6/2	1005	1105	-29.6	-6.75	SV	MC	6L	1669	0680	✓	✓	✓	✓	✓	✓	1.8 PPM
-02	RX-SSVP-02	6/2	1030	1123	-28.96	-4.63	SV	MC	6L	630	0920	✓	✓	✓	✓	✓	✓	1.6 PPM
-03	RX-SSVP-03	6/2	1100	1155	-29.65	-3.94	SV	MC	6L	2060	0389	✓	✓	✓	✓	✓	✓	1.5 PPM
-04	RX-AA-03	6/2	1100	1155	-29.15	-7.93	AA	MC	6L	1664	0138	✓	✓	✓	✓	✓	✓	[illegible]
-05	RX-SSVP-04	6/2	1130	1234	-29.19	-6.98	SV	MC	6L	744	0326	✓	✓	✓	✓	✓	✓	0.0 PPM
-06	RX-SSVP-05	6/2	1213	0111	-28.98	-3.98	SV	MC	6L	1549	0356	✓	✓	✓	✓	✓	✓	4.1 PPM
-07	RX-SSVP-06	6/2	0134	0235	-29.68	-7.51	SV	MC	6L	595	0083	✓	✓	✓	✓	✓	✓	0.3 PPM
-08	RX-SSVP-07	6/2	0200	0255	-29.51	-8.27	SV	MC	6L	1706	0099	✓	✓	✓	✓	✓	✓	1.7 PPM
-09	RX-[illegible]-07	6/2	0200	0255	-29.66	-6.86	AA	MC	6L	2258	0144	✓	✓	✓	✓	✓	✓	

*SAMPLE MATRIX CODES
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
[signature]	6/2/16 5:01	[signature] AAC	6/2/16 17:00
[signature]	6/02/16	[signature]	6/3/16 00:55
[signature]	6/3/16 07:15	[signature]	6/3/16 07:15

Serial No:06271616:29 L1616769

AIR ANALYSIS

PAGE 1 OF 1

CHAIN OF CUSTODY

ALPHA ANALYTICAL
320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L1616769

Client Information

Client: Roux Associates
Address: 12 Gill St. Woburn MA
Phone: (781)569-4032
Fax:
Email: mcasey@rouxinc.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Flint St. Redevelopment
Project Location: Flint St. Rochester N.Y.
Project #:
Project Manager: Matt Casey
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☐ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☑ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☑ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

ANALYSIS

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	ID Can	ID - Flow Controller	TO-15	TO-15 SIM	APH Subtract Non-petroleum HCs ☐	Fixed Gases	Sulfides & Mercaptans by TO-15	PIANO	Sample Comments (i.e. PID)
6769-01	RX-SSVP-01	6/2	1005	1105	-29.6	-6.75	SV	MC	6L	1669	0680	✓	✓	✓	✓	✓	✓	1.8 PPM
-02	RX-SSVP-02	6/2	1030	1123	-28.96	-4.63	SV	MC	6L	630	0920	✓	✓	✓	✓	✓	✓	1.6 PPM
-03	RX-SSVP-03	6/2	1100	1155	-29.65	-3.94	SV	MC	6L	2060	0389	✓	✓	✓	✓	✓	✓	1.5 PPM
-04	RX-AA-03	6/2	1100	1155	-29.15	-7.93	AA	MC	6L	11664	0138	✓	✓	✓	✓	✓	✓	[illegible]
-05	RX-SSVP-04	6/2	1130	1234	-29.19	-6.98	SV	MC	6L	744	0326	✓	✓	✓	✓	✓	✓	0.0 PPM
-06	RX-SSVP-05	6/2	1213	0111	-28.98	-3.98	SV	MC	6L	1549	0356	✓	✓	✓	✓	✓	✓	4.1 PPM
-07	RX-SSVP-06	6/2	0134	0235	-29.68	-7.51	SV	MC	6L	595	0083	✓	✓	✓	✓	✓	✓	0.3 PPM
-08	RX-SSVP-07	6/2	0200	0255	-29.51	-8.27	SV	MC	6L	1706	0099	✓	✓	✓	✓	✓	✓	1.7 PPM
-09	RX-[illegible]-07	6/2	0200	0255	-29.66	-6.86	AA	MC	6L	2258	0144	✓	✓	✓	✓	✓	✓	

*SAMPLE MATRIX CODES
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
[signature]	6/2/16 5:01	[signature] AAC	6/2/16 17:00
[signature]	6/2/16	[signature]	6/3/16 00:55
[signature]	6/3/16 0715	[signature]	

APPENDIX A

Quality Assurance Project Plan

March 2019

Sampling for 1,4-Dioxane and Per- and Polyfluoroalkyl Substances (PFAS) Under DEC's Part 375 Remedial Programs

Objective

The Department of Environmental Conservation (DEC) is requiring sampling of all environmental media and subsequent analysis for the emerging contaminants 1,4-Dioxane and PFAS as part of all remedial programs implemented under 6 NYCRR Part 375, as further described in the guidance below.

Sample Planning

The number of samples required for emerging contaminant analyses is to be the same number of samples where "full TAL/TCL sampling" would typically be required in an investigation or remedial action compliance program.

Sampling of all media for ECs is required at all sites coming into or already in an investigative phase of any DER program. In other words, if the sampling outlined in the guidance hasn't already been done or isn't part of an existing work plan to be sampled for in the future, it will be necessary to go back out and perform the sampling prior to approving a SC report or issuing a decision document.

PFAS and 1,4-dioxane shall be incorporated into the investigation of potentially affected media, including soil, groundwater, surface water, and sediment as an addition to the standard "full TAL/TCL sampling." Biota sampling may be necessary based upon the potential for biota to be affected as determined pursuant to a Fish and Wildlife Impact analysis. Soil vapor sampling for PFAS and 1,4-dioxane is not required.

Upon an emerging contaminant being identified as a contaminant of concern (COC) for a site, those compounds must be assessed as part of the remedy selection process in accordance with Part 375 and DER-10 and included as part of the monitoring program upon entering the site management phase.

Soil imported to a site for use in a soil cap, soil cover, or as backfill must be sampled for 1,4-dioxane and PFAS contamination in general conformance with DER-10, section 5.4(e). Assessment of the soil data will be made on a site-specific basis to determine appropriateness for use.

The work plan should explicitly describe analysis and reporting requirements, including laboratory analytical procedures for modified methods discussed below.

Analysis and Reporting

Labs should provide a full category B deliverable, and a DUSR should be prepared by an independent 3rd party data validator. QA/QC samples should be collected as required in DER-10, Section 2.3(c). The electronic data submission should meet the requirements provided at: https://www.dec.ny.gov/chemical/62440.html.

PFAS analysis and reporting: DEC has developed a *PFAS Analyte List* (below) for remedial programs. It is expected that reported results for PFAS will include, at a minimum, all the compounds listed. If lab and/or matrix specific issues are encountered for any compounds, the DEC project manager, in consultation with the DEC remedial program chemist, will make case-by-case decisions as to whether certain analytes may be temporarily or permanently discontinued from analysis at each site.

Currently, ELAP does not offer certification for PFAS compounds in matrices other than finished drinking water. However, laboratories analyzing environmental samples (e.g., soil, sediments, and groundwater) are required by DER to hold ELAP certification for PFOA and PFOS in drinking water by EPA Method 537 or ISO 25101. Labs must also adhere to the requirements and criteria set forth in the Laboratory Guidance for Analysis of PFAS in Non-Potable Water and Solids.

Modified EPA Method 537 is the preferred method to use for environmental samples due to its ability to achieve very low detection limits. Reporting limits for PFAS in groundwater and soil are to be 2 ng/L (ppt) and 1 ug/kg (ppb), respectively. If contract labs or work plans submitted by responsible parties indicate that they are not able to achieve these reporting limits for the entire list of 21 PFAS, site-specific decisions will need to be made by the DEC project manager in consultation with the DEC remedial program chemist. Note: Reporting limits for PFOA and PFOS in groundwater should not exceed 2 ng/L.

Additional laboratory methods for analysis of PFAS may be warranted at a site. These methods include Synthetic Precipitation Leaching Procedure (SPLP) by EPA Method 1312 and Total Oxidizable Precursor Assay (TOP Assay).

SPLP is a technique for determining the potential for chemicals in soil to leach to groundwater and may be helpful in determining the need for addressing PFAS-containing soils or other solid material as part of the remedy. SPLP sampling need not be considered if there are no elevated PFAS levels in groundwater. If elevated levels of PFAS are detected in water, and PFAS are also seen in soil, then an SPLP test should be considered to better understand the relationship between the PFAS in the two media.

The TOP Assay can assist in determining the potential PFAS risk at a site. For example, some polyfluoroalkyl substances may transform to form perfluoroalkyl substances, resulting in an increase in perfluoroalkyl substance concentrations as contaminated groundwater moves away from the site. To conceptualize the amount and type of oxidizable perfluoroalkyl substances which could be liberated in the environment, a “TOP Assay” analysis can be performed, which approximates the maximum concentration of perfluoroalkyl substances that could be generated if all polyfluoroalkyl substances were oxidized.

PFAS-containing materials can be made up of per- and polyfluoroalkyl substances that are not analyzable by routine analytical methodology (LC-MS/MS). The TOP assay converts, through oxidation, polyfluoroalkyl substances (precursors) into perfluoroalkyl substances that can be detected by current analytical methodology. Please note that analysis of highly contaminated samples, such as those from an AFFF site, can result in incomplete oxidation of the samples and an underestimation of the total perfluoroalkyl substances. Please consult with a DEC remedial program chemist for assistance interpreting the results.

1,4-Dioxane analysis and reporting: The reporting limit for 1,4-dioxane in groundwater should be no higher than 0.35 µg/L (ppb) and no higher than 0.1 mg/kg (ppm) in soil. Although ELAP offers certification for both EPA Method 8260 SIM and EPA Method 8270 SIM in waters, DER is advising the use of Method 8270 SIM because it provides a more robust extraction procedure, uses a larger sample volume, and is less vulnerable to interference from chlorinated solvents. The analysis currently performed for SVOCs in soil is adequate for evaluation of 1,4-dioxane in soil, which already has an established SCO.

Refinement of sample analyses

As with other contaminants that are analyzed for at a site, the emerging contaminant analyte list may be refined for future sampling events based on investigative findings. Initially, however, sampling using this PFAS Analyte List and 1,4-dioxane is needed to understand the nature of contamination.

PFAS Analyte List

Group	Chemical Name	Abbreviation	CAS Number
Perfluoroalkyl sulfonates	Perfluorobutanesulfonic acid	PFBS	375-73-5
	Perfluorohexanesulfonic acid	PFHxS	355-46-4
	Perfluoroheptanesulfonic acid	PFHpS	375-92-8
	Perfluorooctanessulfonic acid	PFOS	1763-23-1
	Perfluorodecanesulfonic acid	PFDS	335-77-3
Perfluoroalkyl carboxylates	Perfluorobutanoic acid	PFBA	375-22-4
	Perfluoropentanoic acid	PFPeA	2706-90-3
	Perfluorohexanoic acid	PFHxA	307-24-4
	Perfluoroheptanoic acid	PFHpA	375-85-9
	Perfluorooctanoic acid	PFOA	335-67-1
	Perfluorononanoic acid	PFNA	375-95-1
	Perfluorodecanoic acid	PFDA	335-76-2
	Perfluoroundecanoic acid	PFUA/PFUdA	2058-94-8
	Perfluorododecanoic acid	PFDoA	307-55-1
	Perfluorotridecanoic acid	PFTriA/PFTrDA	72629-94-8
	Perfluorotetradecanoic acid	PFTA/PFTeDA	376-06-7
Fluorinated Telomer Sulfonates	6:2 Fluorotelomer sulfonate	6:2 FTS	27619-97-2
	8:2 Fluorotelomer sulfonate	8:2 FTS	39108-34-4
Perfluorooctane-sulfonamides	Perfluroroctanesulfonamide	FOSA	754-91-6
Perfluorooctane-sulfonamidoacetic acids	N-methyl perfluorooctanesulfonamidoacetic acid	N-MeFOSAA	2355-31-9
	N-ethyl perfluorooctanesulfonamidoacetic acid	N-EtFOSAA	2991-50-6

Groundwater Sampling for Emerging Contaminants

July 2018

Issue: NYSDEC has committed to analyzing representative groundwater samples at remediation sites for emerging contaminants (1,4-dioxane and PFAS) as described in the below guidance.

Implementation

NYSDEC project managers will be contacting site owners to schedule sampling for these chemicals. Only groundwater sampling is required. The number of samples required will be similar to the number of samples where "full TAL/TCL sampling" would typically be required in a remedial investigation. If sampling is not feasible (e.g., the site no longer has any monitoring wells in place), sampling may be waived on a site-specific basis after first considering potential sources of these chemicals and whether there are water supplies nearby.

Upon a new site being brought into any program (i.e., SSF, BCP), PFAS and 1,4-dioxane will be incorporated into the investigation of groundwater as part of the standard "full TAL/TCL" sampling. Until an SCO is established for PFAS, soil samples do not need to be analyzed for PFAS unless groundwater contamination is detected. Separate guidance will be developed to address sites where emerging contaminants are found in the groundwater. The analysis currently performed for SVOCs in soil is adequate for evaluation of 1,4-dioxane, which already has an established SCO.

Analysis and Reporting

Labs should provide a full category B deliverable, and a DUSR should be prepared by an independent 3rd party data validator. QA/QC samples should be collected as required in DER-10, Section 2.3(c). The electronic data submission should meet the requirements provided at: https://www.dec.ny.gov/chemical/62440.html ,

The work plan should explicitly describe analysis and reporting requirements.

PFAS sample analysis: Currently, ELAP does not offer certification for PFAS compounds in matrices other than finished drinking water. However, laboratories analyzing environmental samples (ex. soil, sediments, and groundwater) are required, by DER, to hold ELAP certification for PFOA and PFOS in drinking water by EPA Method 537 or ISO 25101.

Modified EPA Method 537 is the preferred method to use for groundwater samples due to the ability to achieve 2 ng/L (ppt) reporting limits. If contract labs or work plans submitted by responsible parties indicate that they are not able to achieve similar reporting limits, the project manager should discuss this with a DER chemist. Note: Reporting limits for PFOA and PFOS should not exceed 2 ng/L.

PFAS sample reporting: DER has developed a PFAS target analyte list (below) with the intent of achieving reporting consistency between labs for commonly reportable analytes. It is expected that reported results for PFAS will include, at a minimum, all the compounds listed. This list may be updated in the future as new information is learned and as labs develop new capabilities. If lab and/or matrix specific issues are encountered for any particular compounds, the NYSDEC project manager will make case-by-case decisions as to whether particular analytes may be temporarily or permanently discontinued from analysis for each site. Any technical lab issues should be brought to the attention of a NYSDEC chemist.

Some sampling using this full PFAS target analyte list is needed to understand the nature of contamination. It may also be critical to differentiate PFAS compounds associated with a site from other sources of these chemicals. Like routine refinements to parameter lists based on investigative findings, the full PFAS target analyte list may not be needed for all sampling intended to define the extent of contamination. Project managers may approve a shorter analyte list (e.g., just the UCMR3 list) for some reporting on a case by case basis.

1,4-Dioxane Analysis and Reporting: The method detection limit (MDL) for 1,4-dioxane should be no higher than 0.35 µg/l (ppb). Although ELAP offers certification for both EPA Method 8260 SIM and EPA Method 8270 SIM, DER is advising the use of method 8270 SIM. EPA Method 8270 SIM provides a more robust extraction procedure, uses a larger sample volume, and is less vulnerable to interference from chlorinated solvents.

Full PFAS Target Analyte List

Group	Chemical Name	Abbreviation	CAS Number
Perfluoroalkyl sulfonates	**Perfluorobutanesulfonic acid**	**PFBS**	**375-73-5**
	Perfluorohexanesulfonic acid	**PFHxS**	**355-46-4**
	Perfluoroheptanesulfonic acid	PFHpS	375-92-8
	Perfluorooctanessulfonic acid	**PFOS**	**1763-23-1**
	Perfluorodecanesulfonic acid	PFDS	335-77-3
Perfluoroalkyl carboxylates	Perfluorobutanoic acid	PFBA	375-22-4
	Perfluoropentanoic acid	PFPeA	2706-90-3
	Perfluorohexanoic acid	PFHxA	307-24-4
	Perfluoroheptanoic acid	**PFHpA**	**375-85-9**
	Perfluorooctanoic acid	**PFOA**	**335-67-1**
	Perfluorononanoic acid	**PFNA**	**375-95-1**
	Perfluorodecanoic acid	PFDA	335-76-2
	Perfluoroundecanoic acid	PFUA/PFUdA	2058-94-8
	Perfluorododecanoic acid	PFDoA	307-55-1
	Perfluorotridecanoic acid	PFTriA/PFTrDA	72629-94-8
	Perfluorotetradecanoic acid	PFTA/PFTeDA	376-06-7
Fluorinated Telomer Sulfonates	6:2 Fluorotelomer sulfonate	6:2 FTS	27619-97-2
	8:2 Fluorotelomer sulfonate	8:2 FTS	39108-34-4
Perfluorooctane-sulfonamides	Perfluroroctanesulfonamide	FOSA	754-91-6
Perfluorooctane-sulfonamidoacetic acids	N-methyl perfluorooctanesulfonamidoacetic acid	N-MeFOSAA	2355-31-9
	N-ethyl perfluorooctanesulfonamidoacetic acid	N-EtFOSAA	2991-50-6

Bold entries depict the 6 original UCMR3 chemicals

Collection of Groundwater Samples for Per- and Polyfluoroalkyl Substances (PFAS) from Monitoring Wells Sample Protocol

Samples collected using this protocol are intended to be analyzed for perfluorooctanoic acid (PFOA) and other perfluorinated compounds by Modified (Low Level) Test Method 537.

The sampling procedure used must be consistent with the NYSDEC March 1991 Sampling Guidelines and Protocols http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf with the following materials limitations.

At this time acceptable materials for sampling include: stainless steel, high density polyethylene (HDPE) and polypropylene. Additional materials may be acceptable if proven not to contain PFAS. **NOTE: Grunfos pumps and some bladder pumps are known to contain PFAS materials (e.g. Teflon™ washers for Grunfos pumps and LDPE bladders for bladder pumps).** All sampling equipment components and sample containers should not come in contact with aluminum foil, low density polyethylene (LDPE), glass or polytetrafluoroethylene (PTFE, Teflon™) materials including sample bottle cap liners with a PTFE layer. Standard two step decontamination using detergent and clean water rinse will be performed for equipment that does come in contact with PFAS materials. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFAS materials must be avoided. Many food and drink packaging materials and "plumbers thread seal tape" contain PFAS.

All clothing worn by sampling personnel must have been laundered multiple times. The sampler must wear nitrile gloves while filling and sealing the sample bottles.

Pre-cleaned sample bottles with closures, coolers, ice, sample labels and a chain of custody form will be provided by the laboratory.

1. Fill two pre-cleaned 250 mL HDPE or polypropylene bottle with the sample.
2. Cap the bottles with an acceptable cap and liner closure system.
3. Label the sample bottles.
4. Fill out the chain of custody.
5. Place in a cooler maintained at 4 ± 2º Celsius.

Collect one equipment blank for every sample batch, not to exceed 20 samples.

Collect one field duplicate for every sample batch, not to exceed 20 samples.

Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, not to exceed 20 samples.

Request appropriate data deliverable (Category A or B) and an electronic data deliverable.

February 2019

Laboratory Guidance for Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Non-Potable Water and Solids

The Division of Environmental Remediation (DER) developed the following guidance for laboratories submitting PFAS data to DER. If laboratories cannot comply with any of the following requirements, they must contact Dana Maikels at dana.maikels@dec.ny.gov prior to analysis of samples.

1. Standards containing both branched and linear isomers must be used when standards are commercially available. Currently, quantitative standards are available for PFHxS, PFOS, NMeFOSAA, and NEtFOSAA. All isomer peaks present in the standard must be integrated and the areas summed. Samples must be integrated in the same manner as the standards.

   Since a quantitative standard does not exist for branched isomers of PFOA, the instrument must be calibrated using just the linear isomer and a technical (qualitative) PFOA standard must be used to identify the retention time of the branched PFOA isomers in the sample. The total response of PFOA branched and linear isomers must be integrated in the samples and quantitated using the calibration curve of the linear standard.

2. Quantifier and qualifier ions must be monitored for all target analytes (PFPeA and PFBA are an exception). The ratio of quantifier ion response to qualifier ion response must be calculated for each target analyte and the ratio compared to standards. Lab derived criteria can be used to determine if the ratios are acceptable.

3. The ion transitions below must be used for the following PFASs:

PFOA	413 > 369
PFOS	499 > 80
PFHxS	399 > 80
PFBS	299 > 80
6:2 FTS	427 > 407
8:2 FTS	527 > 507
NEtFOSAA	584 > 419
NMeFOSAA	570 > 419

4. For all target analyte ions used for quantification, signal to noise ratio must be 3:1 or greater.

5. For water samples, the entire sample bottle must be extracted, and the sample bottle rinsed with appropriate solvent to remove any residual PFAS.

6. Detections below the reporting limit should be reported and qualified with a J qualifier.

QUALITY ASSURANCE/QUALITY CONTROL PROJECT PLAN FOR PLANNED SAMPLING ACTIVITIES

Vacuum Oil Refinery Site
22 Flint Street and 936 Exchange Street
New York State Department of Environmental Conservation
Site # C828193

Prepared for:

Flint Redevelopment, LLC
1400 Crossroads Building
2 State Street
Rochester, New York 14604

Prepared By:

Leader Professional Services, Inc.
271 Marsh Road, Suite 2
Pittsford, New York 14534

May 2017

900.003

Leader

Figures

Tables

Appendices

1.0 INTRODUCTION

This Quality Assurance and Quality Control ("QA/QC") Project Plan contains the information pertaining to the collection, handling, analysis and documentation of standards for site activities. The sample test results will be used to prepare a Remedial Investigation Report and Feasibility Study Report of the Vacuum Oil Refinery Site ("Site") located at 22 Flint Street and 936 Exchange Street in Rochester, New York.

2.0 PROJECT DESCRIPTION

This QA/QC Project Plan was prepared to support the sampling of soil and groundwater samples for characterization of the physical conditions and environmental quality of the Site. This will be accomplished by providing procedures for the collection, handling, analysis of samples, and documentation standards of the Site activities.

3.0 PROJECT ORGANIZATION AND RESPONSIBILITY

The management structure of this project is presented in Figure 1, "Project Management Organization." The responsibilities of each individual shown on Figure 1 are described below:

NYSDEC Project Manager - Frank Sowers, P.E., Division of Hazardous Waste Remediation, located in Avon, New York (585) 226-5357. Mr. Sowers' responsibility is to manage the project and the NYSDEC personnel assigned to the project for technical review and oversight, and to ensure that all aspects of the project are completed. Mr. Durnin will be notified prior to deviations from the protocols presented herein and if there has been a problem with the procedures or analyses because of Site-specific conditions.

Leader Professional Services, Inc. Principal-in-Charge - Michael Rumrill, 271 Marsh Road, Suite 2, Pittsford, New York 14534 (585) 248-2413. Mr. Rumrill's responsibility is for overall quality control and to ensure that adequate resources are dedicated to this project.

Leader Professional Services, Inc. Project Quality Assurance Officer/ Project Manager - Peter von Schondorf, P.G. 271 Marsh Road, Suite 2, Pittsford, New York 14534, (585) 248-2413. Mr. von Schondorf's responsibility is to ensure that the project and QA/QC Project Plan are adhered to and enforce any corrective actions needed and be a point of contact for all technical issues regarding the project. Mr. von Schondorf will be notified by Leader's Site Manager or by the analytical laboratory of any deviations from the protocols presented herein or if there has been a problem with implementing the procedures or analyses because of Site-specific conditions.

Leader Professional Services, Inc. Project Engineer - Dixon Rollins, P.E. 271 Marsh Road, Suite 2, Pittsford, New York 14534 (585) 248-2413. Mr. Rollins' responsibility is to ensure that the Work Plan is adhered to and enforce any corrective actions needed, and to supervise all technical aspects of the project implementation and report writing. Mr. Rollins will be notified by Leader's Site Manager or Project Manager of any problems with implementing the procedures or analyses because of Site-specific conditions, or deviations from the protocols presented herein.

Leader Professional Services, Inc. Project Supervisor/Site Manager – Matthew Knight, 271 Marsh Road, Suite 2, Pittsford, New York 14534, (585) 248-2413. Mr. Knight's responsibility is to manage the project and to ensure that aspects of the project are completed in accordance with the work plan, and to manage the field investigation and the project budget.

4.0 SAMPLING PLAN DESIGN AND RATIONALE

The design of the sampling plan is discussed in the Work Plan, and to a limited extent, discussed in the following sections. The sampling plan is intended to be implemented as a series of individual and concurrent run tasks to make the best use of field time.

In general, the conceptual model for the Site's geology, hydrogeology, receptors and contaminants begins with the notion that the Site's overburden is composed of a number of different surface materials, including asphalt pavement and historic fill materials. The subsurface materials consist of historic fill and native soils. Within the native soil layer and possibly the historic fill layer, there is the interface between the unsaturated and saturated zones. Groundwater is suspected at a depth of approximately 4.2 to 7.7 feet below the ground surface. Field tasks have been proposed to characterize these different intervals or layers with respect to their physical characteristics (texture, thickness, extent, direction of groundwater flow, etc.) and to determine if the different media (soil and groundwater) have been impacted by past commercial/industrial activities.

The investigation of the Site uses different investigation strategies and sampling techniques. The principle investigation strategy assumes the entire Site was used for industrial purposes at multiple times and each probably had stationary equipment or features (rail siding, pipelines, tanks) which may influence or impact the Site differently. Leader placed the monitoring wells based on the direction of groundwater flow interpreted from offsite monitoring wells. The procedures for the proposed sampling are discussed in the following sections.

5.0 TARGET PARAMETERS

5.1 LABORATORY PARAMETERS

Soil and groundwater samples will be analyzed for Chemicals of Potential Concern (COPC). The COPC are defined as Target Compound List (TCL), volatile organic compounds (VOCs) plus 20 highest peaked tentatively identified compounds ("TICs"), TCL semi-volatile organic compounds (SVOCs) plus TICs, TCL pesticides/ polychlorinated biphenyls (PCBs), and Target Analyte List (TAL) inorganics plus cyanide and mercury, 1,4-dioxane, and TAL PFAS.

Metals and PCBs in water analysis results will be reported as total concentrations (non-filtered) unless the monitoring wells cannot be developed to reduce the turbidity to a concentration of less than 50 Nephelometric units ("NTU"). If this condition occurs, the NYSDEC project manager will be contacted to determine if both non-filtered and filtered samples will be analyzed. Percent solid determinations will be performed for all soil samples. All soil samples will be reported on a dry weight basis.

A summary of the analytical parameters for each medium is provided in Table 1.

5.2 FIELD PARAMETERS

Field parameters measured during groundwater sampling will include the following: conductivity, pH, temperature, dissolved oxygen, oxidation-reduction potential and turbidity. These field parameters will be measured during groundwater sampling with the aid of a flow-through cell.

For soil sampling, a PID will be used to evaluate undisturbed and disturbed soil conditions and sample headspace.

6.0 DATA QUALITY OBJECTIVES

The data quality objectives ("DQOs") were determined based on the use of the data, and the analytical reporting limits that can be achieved with the analytical methods specified. The results of the soil sample analyses obtained during the investigation will be compared to the NYSDEC's Part 375 Soil Cleanup Objectives for unrestricted use and restricted industrial use which is consistent with the current and anticipated future use. The results of the groundwater samples collected during the investigation will be compared to the NYSDEC TOGS 1.1.1 Ambient Water Quality Standards and Groundwater Effluent Values.

7.0 QUALITY ASSURANCE OBJECTIVES FOR MEASUREMENT DATA

Specific procedures for sampling, laboratory instrument calibration, laboratory analysis, reporting of data, internal QC, audits, preventive maintenance, and corrective action are described below.

8.0 PROCEDURES FOR THE COLLECTION OF ENVIRONMENTAL SAMPLES

The procedures in this document have been standardized to make them applicable to the anticipated site's field conditions. It must be recognized that under certain conditions, the procedures discussed herein may not be appropriate given the site conditions at the time of sample collection. In such cases, it will be necessary to adapt the procedures given the specific conditions of the Site and the sampling objective. Changes will be discussed with NYSDEC before sampling.

8.1 Surface Soil Sampling

Surface soil samples will be collected as grab samples. All surface grab samples will be collected at the locations identified on Figure 2 of this plan. The sampling procedures to be used are detailed in Appendix 1 of this plan and limited to the upper two inches of the soil. The purpose of limiting the depth of investigation is to obtain data on the immediate environmental and health risks associated with the surface soil.

Information pertinent to the sampling procedures used and observations of the environmental conditions at the time of sampling will be entered in a field logbook with an indelible ink marker. The samples will be visually inspected for staining, color and texture following the Unified Soil Classification System. The sample will also be screened with portable organic vapor analyzers using photoionization detector ("PID").

8.2 Subsurface Soil Sampling

Subsurface sampling will be completed at the proposed sampling locations shown on Figures 3 of this plan. The sampling procedures to be used are detailed in Appendix 2 using either direct push or split spoon sampling tools. The purpose of the subsurface soil sampling is to obtain data on the extent of soil contamination within specific intervals in the overburden and to characterize the soil and groundwater zone conditions. The intervals to be sampled include the following:

- Unsaturated Zone - Fill and Native Soil. This interval was selected to characterize the conditions in the fill and/or native soil in the unsaturated zone. The fill is wide spread across the Site and in some cases, continues into the saturated zone. The Phase II Site Environmental Investigation ("Phase II") found fill reaching a thickness of 3 to 7-feet below the ground surface. The saturated zone was found approximately 4.2 to 7.7 feet below the ground surface.

  Sampling for chemical analysis will be based on the following criteria: the presence of staining, free product, odors and PID readings. A sample from the unsaturated fill and native soil will be collected using this criteria. If none of these criteria are present, then a sample will be collected from above the fill/native soil interface and from the saturated zone interface. If bedrock is encountered before the saturated zone, then the sample will be collected immediately above the overburden (fill or native soil)/bedrock interface.

- Saturated Zone – A sample of the overburden will be collected from the saturated zone to evaluate the potential impact from absorbed phase COPCs. Samples will be collected where evidence of contamination is found. If contamination is not found in the unsaturated zone, but appears to lessen or stop before the saturated zone interface is encountered, then the sample will be collected from an interval immediately below the interface.

Information pertinent to the sampling procedures used and observations of the environmental conditions at the time of sampling will be entered in a field logbook with an indelible ink marker. The samples will be inspected to evaluate organic vapor readings, color, staining, and texture following the Unified Soil Classification System, location of stains and the location of saturated soil. The information gathered during the collection of subsurface soil samples collected using a sampling device and a borehole drilling method (e.g. hollow stem augers or direct push tools) will be recorded in the field notebook but also on a boring log/test pit log which is provided in Appendix 2.

8.3 Headspace Soil Sampling

A portion of each sample will be retained for head space screening using a PID. These samples will be retrieved from direct push or split spoon sampling spoons as soon as possible after the initial visual inspection. The samples will be placed into a clean plastic bag or a clean glass container. If the ambient air temperatures are below 70-degrees Fahrenheit ("F") the samples will be warmed either by placing them into the sunlight or in a warm area for approximately five minutes before they are screened with the PID. The screening results will be recorded in the field logbook.

8.4 Procedures for the Installation of Monitoring Wells

The purpose of the installation of groundwater monitoring wells is to obtain data on the groundwater quality and groundwater elevation data. These goals are achieved through the installation of monitoring wells. Two types of monitoring wells will be installed; overburden monitoring wells and a bedrock monitoring well. Both types of monitoring wells have similarities. The overburden monitoring well installation process will be completed in two parts: drilling and sampling of test borings, and the construction and sampling of the monitoring wells. The proposed locations of the monitoring wells are shown on Figure 4. The bedrock monitoring well installation process includes installing a permanent casing and coring the bedrock to a specific depth. These procedures are discussed below.

Figure 4 also shows existing monitoring wells, which were installed for Leader's Phase II. These monitoring wells were constructed using one inch diameter PVC well screens and risers, and at the time of the Phase II had limited ability to provide enough groundwater for the collection of all analytical parameters being tested. The inadequacy of the existing monitoring wells could be a function of insufficient development or drought conditions being experienced at the time. Prior to the installation of the proposed monitoring wells, the existing monitoring wells will be developed following those procedures identified in Section 8.4 to determine if sufficient groundwater can be obtained for sampling. If the

existing monitoring wells cannot be used, the NYSDEC Project Manager will be notified and a decision made to replace the monitoring well or to put a monitoring well in a new location.

8.4.1 Procedures for the Installation of Overburden Monitoring Wells

Prior to the start of the drilling process, all equipment will be decontaminated to limit the introduction of contaminants into the environment and to limit the carryover of contaminants from one location to the other.

At each proposed monitoring well location, direct push sampling equipment will be used to acquire samples for chemical analysis. Direct push samples will be collected in four feet intervals using a dedicated PVC liner. The samples will be collected continuously from the ground surface, or in the event concrete or asphalt pavement covers the surface directly below the ground surface, to a point approximately eight feet below the water table or to a point of refusal, whichever is shallower. If obtaining enough sample volume if not possible using the direct push tool, then hollow stem augers and split spoon sampling tools will be used to sample the overburden.

The split spoon sampling of the overburden soil will be accomplished in two to four feet intervals. Each sampled interval will be followed by the augering of the soil from the ground surface to increase the hole size. Split spoon sampling will be completed in consecutive sequence from the ground surface to a point approximately eight feet below the water table or to a point of refusal whichever is shallower.

Soil sampling will be done in accordance with the procedures found in Appendix 2. The information gathered during the collection of subsurface soil samples collected during the completion of test boring will be recorded in the field notebook but also on a boring log which is provided in Appendix 2.

Once the bottom of the targeted depth is reached, the drilling contractor will begin the well installation process following procedures in Appendix 3. The monitoring wells will be constructed using two inch diameter flush joint threaded PVC monitoring well screen and riser pipe. The monitoring wells will be constructed using a conventional monitoring well design following the well construction figure in Appendix 3. Appendix 3 also provides a Well Construction Log which will be completed during or following the construction of the monitoring well.

Monitoring wells will be constructed to produce a representative sample of the shallow groundwater zone and will use a screen no longer than ten feet. The location of the screen will depend on the depth of the groundwater zone, the presence of a semi or impermeable layer (clay), the presence of stains, non-aqueous phased liquids, or volatile organic vapors. Ideally the screen will be positioned to intersect the water table surface since petroleum products are suspected contaminants.

Each monitoring well will be completed with a protective casing and bollards (where necessary) to protect the well from on-site traffic, vandalism and to facilitate the locating the wells when snow is present. The following construction practices will be used:

- For on-site monitoring wells, a "stick up" style protective casing with either a locked lid or a locked plug inserted into the monitoring well riser will be used. The casing will be sealed in a ring of concrete while the inside will have a layer of sand extending from inside the well to a point below the concrete ring, which will allow water to drain back into the soil.

- Monitoring wells placed in the street right of way or in the parking lot between the Site's buildings will use a metal protective casing which will be installed flush to the ground surface to allow mowing and to be out of sight. This monitoring well will be fitted with a water tight gasket and a water tight locking plug inside the casing. A layer of sand will be used inside the casing and extend below the casing's sides to allow any storm water to flow back into the soil. The outside of the casing will be secured in concrete. The metal cap will facilitate locating the well during winter with a metal detector.

- The installation of yellow or orange painted bollards will be used to protect the monitoring wells from on-site vehicle traffic.

Following construction, the monitoring wells will be developed to remove silt and clay and to produce a water sample with a turbidity value of less than 50 NTU. Each monitoring well will also be surveyed to located the monitoring well's position and to calculate its elevation.

8.4.2 Bedrock Monitoring Well

The installation of the bedrock monitoring well is similar to the overburden monitoring well construction with several exceptions: During the sampling of the overburden, sampling will be continuous until a point of refusal is encountered with the sampling tool. At this point the hollow stem augers will be advanced until they reach their point of refusal. Once the top of rock has been identified, the drilling contractor will follow the procedures identified in Appendix 3 to complete the drilling and monitoring well installation.

At this point, a nominal 6.25-inch diameter roller bit will be advanced to a depth of no more than two feet into the bedrock to form a socket to install a permanent steel casing. During the roller bit drilling if broken rock or significant water loss is encountered the 6.25-inch diameter hole may be continued to ensure competent bedrock is entered. Once the rock-socket is formed, water will be circulated through the drill bit and borehole to remove mud and rock debris.

A four-inch diameter steel casing will be placed into the borehole with a tremie pipe on the exterior of the casing. The hole will be tremie grouted using a cement-bentonite grout mixed at a ratio of 94-pounds of cement to three pounds of bentonite. Potable water will be

added to the dry mix at a rate of six gallons per 94-pound bag of cement. As needed up to one additional gallon of potable water will be added to produce a slurry that can be pumped through the tremie pipe. When the grout is mixed, it will be pumped through the tremie pipe until the grout reaches approximately three feet below the ground surface. Drilling operations will cease for approximately 24 hours to allow the grout to cure. Once the grout has cured, a coring bit will be used to advance a new borehole inside the four inch casing to a depth of 10 feet below the bottom of the casing. The volume of lost drillwater will be monitored and documented.

When the rock core is removed the depth to water will be measured, then the core will be screened with a PID and visually described. The location and number of fractures will be noted along with the presence of stains, odors or free product. After describing the core, the depth to the water will be measured to evaluate if the monitoring well will produce a volume of water that can be sampled. It the water level drops from the initial measuring, the core hole will be bailed and evaluated again after 10 minutes. If it appears the monitoring well will not produce water, a five foot core will be drilled to complete the monitoring well.

Each monitoring well will be completed with a protective casing and bollards (where necessary) to protect the well from on-site traffic, vandalism and to facilitate locating the wells when snow is present. A "stick up" style protective casing with either a locked lid or a locked plug inserted into the monitoring well riser will be used. The casing will be sealed in a ring of concrete while the inside will have a layer of sand extending from inside the well to a point below the concrete ring, which will allow water to drain back into the soil.

The installation of yellow or orange painted bollards will be used to protect the monitoring wells from on-site vehicle traffic.

Following construction, the monitoring wells will be developed in accordance with section 3.2.5.3 of the main document to remove silt and clay and to produce a water sample with a turbidity value of less than 50 NTU. Each monitoring well will also be surveyed to located the monitoring well's position and to calculate its elevation.

8.5 Groundwater Sampling Procedures

Groundwater sampling will be completed at each of the proposed monitoring well locations and suitable existing monitoring wells found on the Site, see Figure 4. The sampling procedures to be used are detailed in Appendix 4 of this plan. The purpose of the groundwater sampling is to obtain a representative sample of the shallow groundwater zone.

Information pertinent to the sampling procedures used and observations of the environmental conditions at the time of sampling will be entered in a field logbook with an indelible ink marker. As previously explained, there will be two types of groundwater samples collected: grab samples from temporary monitoring wells or driven well points, and samples from permanent monitoring wells.

Samples collected from permanent monitoring wells have a number of field parameters measured during the monitoring well pre-sampling purging: water level depth below ground surface, dissolved oxygen, pH, turbidity, specific conductance, oxidation-reduction potential, temperature, and the presence of sheens and non-aqueous phase liquids. The collection of the groundwater sample will be conducted after three measurements are taken at 10-minute intervals and the measurements do not vary more than 20 percent. The field parameter data collected during purging will be recorded on the sampling form provided in Appendix D.

Samples collected as grab samples will not have field parameters measured prior to sampling with the exception of groundwater depth measurements if a temporary well is used. Following the collection of water level measures the monitoring well will be bailed or pumped for a few minutes to clear the well screen of silt and clay. Grab groundwater samples will only be analyzed for VOCs.

Metals and PCBs groundwater samples will be collected without field filtering unless the monitoring wells cannot be developed to reduce the turbidity to a concentration of less than 50 NTU. If this condition occurs the NYSDEC project manager will be contacted to determine if both non-filtered and filtered samples will be collected

8.6 Field Equipment Cleaning

All non-disposable equipment used for the collection, preparation and preservation of the environmental samples must be cleaned prior to their use. Unless the equipment and materials used are disposable, or there are a sufficient number to be used during any one sampling period, cleaning will be conducted in the field. Field cleaning can be inefficient and lead to cross-contamination problems compared to cleaning in a controlled environment. If possible, attempts will be made to minimize field cleaning. To avoid cross-contamination between sampling points, dedicated disposable sampling equipment will be used when possible.

The materials needed to clean sample equipment are dependent upon the type of equipment needing cleaning. A sampling trowel will have a different requirement than the probes used in a flow-through cell. The following is a generalized list of materials to be used during cleaning:

- Cleaning solutions. Non-phosphate detergents will be used to clean sampling reusable equipment.
- Water. In some cases, tap water may be adequate for initial or intermediate rinses. The final rinses, however, will be with deionized/distilled water.
- Buckets and washbasins. For use in the washing and rinsing of equipment.
- A drying rack. All materials and equipment must be dried prior to additional use. Paper towels will be used when necessary for drying equipment.

Drilling equipment, direct push or split spoon sampling tools, or an excavator bucket used for test pitting during sample collection will be decontaminated between sample locations. The decontamination methods used will include: use of potable water obtained from either a hydrant or a potable water source; high pressure spray wash using hot water from a steam generator; and drying of equipment.

Split spoons or geoprobe soil sampling tools used for the collection of soil samples will be decontaminated using the same process used for drilling equipment or hand washed using soap and water and a stiff brush. The tools will be then rinsed with potable water and dried.

Cleaning of the equipment will be done in a dedicated bermed pad area lined with two layers of plastic to facilitate the collection of waste water. Waste water generated from the cleaning process will be drummed along with any solid material.

8.7 Waste Handling

The handling of investigation derived waste and any remediation waste generated from an Interim Remedial Measure will be handed following the procedures identified in Appendix 5. All wastes will be will be secured in drums, covered roll-off boxes or on top of and covered with plastic sheeting so the waste is controlled at all times. Each container will be labeled to identify the waste, the location of generation (borehole or monitoring well number), and the date of generation. Before the end of a field secession the wastes will be sampled and analyzed for characterization. If the waste is determined to be hazardous then each of those containers, boxes or piles will be appropriately labeled. All hazardous waste will be removed from the site within 90-days of its generation and solid waste will be removed within 365-days of generation. Waste containing chlorinated solvents are listed hazardous wastes unless a contained in determination or sewer use permit is obtained. All waste will be managed at properly licensed off-site facilities in accordance with all local, State, and Federal requirements. All waste disposal documentation will be included in the final report.

8.8 Documentation and Chain of Custody Procedures

8.8.1 Packaging and Shipping Procedures

Once the samples have been collected, the samples will be prepared and preserved in accordance with applicable procedures found in the work plan and this plan, and packaged for overnight shipment and/or delivery to the laboratory. Table 2 provides the container, preservation and holding time requirements for each sample media and the analysis to be conducted. Chain-of-custody procedures will be followed to insure the proper handling and possession of the samples until the analytical laboratory has received the samples. This section outlines procedures for the packing and shipping of environmental samples, and the general chain-of-custody procedures.

All individual glass or plastic sample containers will be placed in a durable shipping container. It is recommended that for this purpose, an insulated plastic cooler be used. The following is an outline of the packaging and shipping procedures to be followed:

- The drain plug at the bottom of the cooler will be sealed to ensure that water from sample container breakage or ice melting does not leak from the outside container.
- Check screw caps for tightness and mark the sample volume level on the outside of large containers.
- For breakable containers, packing peanuts or bubble wrap may be used to keep containers in place and to prevent breakage.
- When samples must be kept at 4 degrees C, ice sealed in plastic bags or cool packs will be placed in the cooler.
- Documents accompanying the samples will be sealed in a plastic bag attached to the inside of the cooler lid.
- The lid of the cooler will be closed and fastened.
- Duct tape or reinforced shipping tape will be wrapped around the cooler several times to ensure that the lid will not open if the latch becomes unfastened.
- The following information will be attached to the outside of the cooler: name and address of receiving laboratory, return address of the sampling team, arrows indicating "This End Up" on all four sides, and a "This End Up" label on the top of the lid.
- A custody seal will be affixed and signed across the lid of the cooler.

Samples will be shipped by air for next day delivery at the specified laboratory. Personnel will be prepared to open and reseal the cooler for inspection if the courier requires it.

8.8.2 Chain-of-Custody Procedures

The primary objective of these procedures is to create an accurate written record, which can be used to trace the possession and handling of the sample from the moment of its collection through analysis, and to its introduction as evidence.

The number of persons involved in collecting and handling samples should be kept to a minimum. Detailed field records will be kept in the project field logbook and will contain the following information:

- Sample identification and source (including sampler's name, sample location, and sample media).
- Dates and times of sample procurement, preparation, and shipping.
- Preservative used.
- Analyses required.
- Pertinent field data (pH, DO, ORP, specific conductance, temperature, etc).

To help eliminate possible problems in the chain-of-custody procedures, one person will be appointed Field Custodian for each task. For tasks where sampling teams are used, all samples are to be turned over to the Field Custodian by the team members who collected the samples. The Field Custodian will then document each sampling event and the sample will remain in his/her custody until it is shipped to the laboratory. The Field Custodian is responsible for properly packaging and dispatching samples to the laboratory. The responsibility includes fill out, date and sign the appropriate portion of the chain-of-custody record.

Labels will be firmly affixed to each sample container. The labels on each sample bottle will be filled out with waterproof ink prior to sample collection. Sample reference numbers identical to that recorded on the labels will be recorded on the chain-of-custody.

When transferring the samples, the individual relinquishing the samples will sign and record the date and time on the chain-of-custody record. Every person who takes custody will fill in the appropriate section of the chain-of-custody record form, and their affiliated company. To minimize custody records, the number of custodians in the chain-of-possession should be minimized.

9.0 SAMPLE ANALYTICAL PROCEDURES

9.1 FIELD ANALYTICAL PROCEDURES

Field measurements will be conducted in accordance with the Work Plan.

9.2 LABORATORY ANALYTICAL PROCEDURES

Chemical analyses in support of soil, groundwater and air data will be performed by NYSDOH ELAP certified laboratories. The laboratories will maintain current SOPs for extraction, cleanup and analysis of soil, water and air matrices and must have on file current method detection limits ("MDL") studies to demonstrate their ability to meet the project required reporting limits within these matrices. The MDLs must be performed by the laboratories on a yearly basis to ensure their ongoing ability to perform the methods, as specified. The MDLs will be performed in accordance with USEPA guidance described in 40 CFR 136, 1986, Appendix B, "Definition and Procure for the Determination of the Method Detection Limit -Revision 1.11".

9.2.1 SOIL, AIR, AND GROUNDWATER METHODS

Using the methods summarized in Table 1, the laboratories will perform analysis of soil, air, and groundwater.

9.3 SAMPLE DOCUMENTATION IN THE LABORATORY

Upon receipt at the laboratory, the designated sample custodian will inspect the shipping cooler/container and the custody seal. The sample custodian will note the condition of the cooler/container and the custody seal on the chain-of-custody record sheet.

The sample custodian will record the temperature of one sample (or temperature blank) from each cooler and the temperature will be noted on the chain-of-custody. If the shipping cooler seal is intact, the sample containers will be accepted for analyses. The sample custodian will document the date and time of receipt of the container and sign the form.

If damage or discrepancies are noticed (including sample temperature exceedances), they will be recorded in the remarks column of the record sheet, dated and signed. Any damage ore discrepancies will be reported to the lab supervisor who will inform the lab manager and QA Officer before samples are processed.

10.0 CALIBRATION

Both field instrumentation and laboratory analytical instrumentation are to be used to provide project data. Both systems will require regular calibration in order to provide comparable and accurate information.

On-Site field data concerning VOCs will be obtained using portable organic vapor analyzer monitoring instruments, which will require daily calibration checks and weekly calibration. Other instruments needing calibration include: the water quality meter providing DO, ORP, field conductivity, turbidity meters, pH and temperature probes. Since this instrument will be obtained directly from Eco Rental Solutions ("Eco Rental") and used for on weekly basis, Leader will rely on Eco Rental to provide calibrated equipment, but Leader will also have the manufacturer's calibration instructions in the event that field calibration is required.

10.1 Field Instruments

10.1.1 Portable Organic Vapor Analyzer Calibration

The PID style equipment has a calibrated range of 0 to 2000 parts per million volume ("ppmv") total hydrocarbons and can collect instantaneous and 15-minute average concentrations. It is typically calibrated using isobutylene. A 10.2-eV lamp will be used, which ionizes many of the common air contaminants. The PID is highly sensitive to aromatic compounds such as benzene or toluene.

Calibration will be performed prior to taking the instrument into the field. Certified isobutylene-in-air (100 ppm) and zero-air standard gases are used for calibration, according to the manufacturer's specifications. Calibration checks will be made daily (at a minimum) using the isobutylene calibration gas. If needed, the instrument will be re-calibrated when the calibration check falls below 10 percent of the isobutylene concentration of the calibration gas. Field calibration records will be kept in the project field logbook

10.1.2 Conductivity, pH Meter, Do, Turbidity, Temperature Calibration

The Horiba 22 or similar device Water Quality Monitor is a multi-probe instrument that can measure most of the required field parameters using one hand-held instrument. Eco Rental will provide the instrument along with operating manuals and calibration equipment. The calibration of the specific conductance, pH, dissolved oxygen ("Do"), and temperature will be checked prior to beginning work and again at the completion of sampling following the manufacturer's operating procedures, or if results do not make sense based on prior testing. Field calibration records will be kept in the project field logbook

Turbidity will be measured using a standalone device such as the Lamotte 2020WE Turbidity meter. This device uses an optical sensor and utilizes manufacturer provided glassware to use a measurement container. The meter kit also come with calibration liquid for field calibration. Calibration of the meter will be completed at the beginning and at the completion of the work day. Field calibration records will be kept in the project field logbook.

10.2 Laboratory Equipment Calibration

All instruments used to perform chemical measurements must be properly calibrated prior and during use to ensure acceptable and valid results. The accuracy and traceability of all calibration standards used must be properly documented.

The methodologies selected for use in this investigation specify the types and frequency of calibrations. The specific methods to be used are provided in Table 1.

Accessory analytical equipment such as refrigerators, balances and ovens required for the storage and preparation of samples must be calibrated and/or monitored with the following guidelines.

Equipment must be checked daily and the records kept in a logbook or calibration-specific log.

The laboratory must document clearly the acceptance criteria for all such equipment (e.g. refrigerator temperature must be 4°C ± 2°C) and corrective actions must be taken for any out-of-control situation as described in the laboratory's Quality Manual.

The equipment must not be used after corrective action until it has been recalibrated or verified through the successful analysis of a check standard.

Calibrations of other miscellaneous analytical equipment (e.g., automatic pipettes) must be performed according to manufacturer's recommendations

Implementation of the laboratory calibrations will be the responsibility of the Laboratory Manager and the analysts performing the procedures.

The procedures described in this QAPP are to be used in conjunction with specific instrument manufacturer's instructions, applicable analytical methodology requirements and specific laboratory field procedures for instrument operation.

10.2.1 *LABORATORY INSTRUMENT PREVENTATIVE MAINTENANCE*

As part of the laboratory QA/QC program, a routine preventative maintenance program is conducted by the laboratory to minimize the occurrence of instrument failure and other system malfunctions. Designated laboratory employees regularly perform routine scheduled maintenance and repair of (or coordinate with the vendor for the repair) all instruments. All laboratory instruments are maintained in accordance with manufacturer's specifications. The preventive maintenance program should include:

- An inventory of replacement and spare parts for instruments that are maintained.
- Maintenance logbooks for each instrument with information on routine and non-routine procedures. The logbook records must include the instrument number, description of malfunction or problem, date of maintenance activity, the type of activity performed and final resolution.
- Training of laboratory staff in the maintenance requirements of the instruments. Preventive maintenance schedules and activities will be outlined in the laboratory SOPs.

10.2.2 Inductively Coupled Plasma Spectroscopy

The Inductively Coupled Plasma (ICP) Spectrometer should be maintained under service contract with the manufacturer. Routine preventive maintenance should include:

Checking pump tubing and replacing when necessary

- Checking nebulizer for even "spray" and cleaning, as necessary
- Checking the torch for plasma height and shape and cleaning, as necessary
- Checking sensitivity of photomultiplier and replacing, as necessary

10.2.3 GAS CHROMATOGRAPH INSTRUMENTS

The Gas Chromatographyy ("GC") and GC/Mass Spectometry ("MS") systems will be maintained on a service contract or undergo in-house maintenance to provide routine preventive maintenance. Spare parts for the GC and GC/MS systems should include: filaments, electron multiplier, source parts, o-rings, ferrules, septa, injection port liners, and columns. Routine preventive maintenance for the systems should include:

- Checking the data systems (disk drives, hard drives etc.) and servicing, as necessary
- Changing oil and traps on mechanical and turbo pumps
- Conditioning of moisture traps, every two months or when the gas source is changed

- Carrier gas evaluation and leak checking of electron capture detector when the gas or column is changed
- Servicing the MS source through cleaning, replacement of filaments and other source parts, as necessary
- Replacement of injection port septa and liners, as necessary
- Clipping the front end of GC column or replacement of GC column, as necessary

10.3.4 ATOMIC ABSORPTION INSTRUMENTS

The atomic absorption (AA) systems will be maintained on a service contract or undergo in-house maintenance to provide routine preventive maintenance. Routine preventive maintenance procedures should include:

- Checking the plumbing connections
- Checking the auto-sampler and tubing

10.3.4 Thermometers

Thermometers for refrigerators and ovens are calibrated yearly against National Institute of Standards and Technology (NIST) certified thermometers. The Laboratory QA Officer will be responsible for the safekeeping of the NIST thermometers, and for the documentation asserting the accuracy of their measurements.

10.3.5 Analytical Balances

Virtually every analytical procedure requires the use of side-loading and/or top-loading balances. Many of these requirements involve standards preparation and are, therefore, crucial to accurate determination. Balances should be maintained on a service contract. A calibration status label is affixed to each balance after calibration during servicing.

11.0 INTERNAL QUALITY CONTROL CHECKS

11.1 Field Measurements

The type and frequency of field-generated QC samples are summarized in Table 3. Primarily, rinse blanks, trip blanks and field duplicates are employed to verify the field sampling approach.

11.2 Laboratory Analysis

The type and frequency of laboratory-generated QC samples are specified by the analytical method and the laboratory's quality assurance plan. Criteria that the laboratory must meet are presented in the analytical methods.

11.2.1 Laboratory Quality Control

Specific procedures related to internal laboratory QC samples are detailed in the analytical methods. The following QC samples will be analyzed and the results will be used to assess overall analytical accuracy and precision.

11.2.2 Reagent (Method) Blanks

Laboratory glassware and sample containers used to store and transport samples will be cleaned in accordance with method protocols.

A reagent blank will be analyzed by the laboratory at a frequency of one blank per analytical batch. The reagent blank, an aliquot of analyte-free water or sand, will be carried through the entire sample preparation and analytical procedure, including all cleanup procedures. The reagent blank is used to document contamination resulting from the analytical process.

11.2.3 Laboratory Control Samples (LCS)/ Blank Spike Analyses

The LCS or blank spike serves as a monitor of the overall performance of all steps in the analysis, including the sample preparation. LCS or blank spikes will be analyzed for each method using the same sample preparation and analytical procedures employed for the investigative samples.

11.2.4 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

An MS/MSD sample will be analyzed for organic parameters and inorganic parameters at a minimum frequency of one per 20 investigative samples. For each matrix, percent recoveries will be used to evaluate analytical accuracy while the RPD between MS/MSD analyses will be used to assess analytical precision.

11.2.5 Surrogate Analysis

Surrogates are organic compounds which are similar to the analytes of interest, but are not normally found in environmental samples. Surrogates are added to samples to monitor the effect of the matrix on the accuracy of the analysis. Every blank, standard, and environmental sample analyzed by GC or GC/MS, including MS/MSD samples, will be spiked with surrogate compounds prior to sample preparation.

The compounds that will be used as surrogates and the levels of recommended spiking are specified in the methods. Surrogate spike recoveries must fall within the laboratory control limits. If surrogate recoveries are excessively low (<10 percent), the laboratory will contact the QA/QC Officer for further instructions.

Dilution of samples to bring the analyte concentration into the linear range of calibration may dilute the surrogates out of the quantification limit. Reanalysis of these samples is not required. Assessment of analytical quality in these cases will be based on the MS/MSD sample analysis results.

11.2.6 Retention Time Window Determination

For organic analyses, determination of the target analyte retention time window will be made based on the procedure specified in the methods of analysis. Positive identification of an analyte will be made when its retention time falls within the window established during calibration.

11.2.7 Internal Standards

To ensure that changes in GC/MS response and sensitivity do not affect sample analysis results, internal standard compounds are added to all samples, blanks, and spike samples prior to VOC and SVOC analyses. All results are calculated as a ratio of the internal standard response. The criteria by which the internal standard results are assessed will be as follows:

- Internal standard area counts must not vary by more than a factor of two (-50 percent to +100 percent) from the associated calibration standard.
- The retention time of the internal standard must not vary more than ±30 seconds from the associated calibration standard.

11.2.8 Cleanup Check Samples

Whenever a cleanup technique is employed to eliminate interferences that may prevent accurate determination of the targets of interest at the project required reporting limits, the cleanup procedure must be verified through the analysis of check standards. A standard containing some or all of the target analytes must be processed through the cleanup procedure and analyzed. The recovery of the target analytes in this check will indicate if the cleanup procedure was effective in elimination of interferences without impacting the target compounds of interest.

11.2.9 Sample Collection QC

Field QA/QC sample quantities are summarized in Table 3 and the use in the analysis of the data is discussed in Table 4. Field duplicates will be submitted at a frequency of one per 20 investigative samples or one per sampling event. The duplicate results will be used to assess overall sampling and analytical precision and will be assessed against acceptance criteria of 50 percent RPD for water samples and 100 percent for soil samples.

Trip blanks for VOCs will be prepared by the laboratory using analyte-free water and submitted with the water sample collection containers. The trip blanks will be kept unopened in the field with sample bottles. One trip blank will be transported to the laboratory with each batch of aqueous VOC samples. The laboratory will analyze trip blanks as samples.

Rinse blanks will be used to assess decontamination procedures of collection equipment used for multiple samples. The rinse blank will be prepared using analyte-free deionized water when non-dedicated equipment is used in the field. The rinse blanks will be analyzed by the laboratory as samples. Rinse blanks will be prepared at a frequency of one per 20 investigative samples per equipment type.

12.0 DATA REDUCTION, VALIDATION, AND REPORTING

All data generated through field activities or by the laboratory operation shall be reduced and validated prior to reporting in accordance with the methods and the following procedures.

12.1 Data Reduction

12.1.1 Field Data Reduction Procedures

Field data reduction procedures will be minimal in scope compared to those implemented in the laboratory setting. Only direct read instrumentation will be employed in the field. The pH, conductivity, temperature, dissolved oxygen, and turbidity readings collected in the field will be generated from direct read instruments following calibration per manufacturer's recommendations. Such data will be written into field logbooks immediately after measurements are taken and/ or recorded on field forms. If errors are made, results will be legibly crossed out, initialed, and dated by the field member, and corrected in a space adjacent to the original entry. Later, when the results forms required for this study are being filled out, the Field QA Officer will proof the forms to determine whether the field crew has made any transcription errors.

12.1.2 Laboratory Data Reduction Procedures

For this project, the equations that will be employed in reducing data are found in the appropriate chapters of SW-846, Third Edition. All calculations are checked at the conclusion of each operating day. Errors are noted, corrections are made, but the original notations are crossed out legibly. Analytical results for soil samples shall be calculated and reported on a dry weight basis.

Quality control data (e.g., laboratory duplicates, surrogates, matrix spikes, and matrix spike duplicates) will be compared to the method acceptance criteria. Data considered to be acceptable will be entered into the laboratory computer system. Data summaries will be sent to the Laboratory QA Officer for review. If approved, data are logged into the project database format. Unacceptable data shall be appropriately qualified in the project report. Case narratives will be prepared which will include information concerning data that fell outside acceptance limits, and any other anomalous conditions encountered during sample analysis.

12.2 Data Validation

Data validation will be conducted in accordance with "U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," EPA-540/R-99/008, October 1999, and the "U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," EPA-540/R-94-013, February 1994. The data assessment will include a review of all technical holding times, instrument performance check sample results, initial and continuing calibration results, and all batch and matrix QC including rinse blanks, field duplicates, MS/MSD, matrix duplicates, surrogate recoveries, method blanks, LCS results, continuing and initial calibration checks, and the identification and quantitation of specific analytes of interest. Assessment of analytical and

in-house data will include checks on data consistency by looking for comparability of duplicate analyses, adherence to accuracy and precision control criteria detailed in this QA/QC Project Plan, and anomalously high or low parameter values. The results of these data validations will be reported to the project manager and the contract laboratory, noting any discrepancies and their effect upon acceptability of the data.

Data validation reports will summarize the samples reviewed, parameters reviewed, any nonconformance with the established criteria, validation actions (including data qualifiers). Data qualifiers will be consistent with the validation guidelines and will consist of the following:

J) The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample

UJ) The analyte was not detected above the sample reporting limit; however, the reporting limit is approximate

U) The sample was analyzed for, but was not detected above the sample reporting limit

R) The sample result is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified

12.3 Laboratory Data Reporting

The Laboratory will provide electronic copies of all laboratory data reports for project reporting purposes in a format consistent with NYSDEC/USEPA Contract Laboratory Program ("CLP") Category B deliverables. Equis electronic deliverables will also be required for the project database.

12.4 Data Reconciliation with Requirements for Usability

The goal of this project is to produce data to be used in comparison to soil and groundwater quality cleanup criteria. As such, the data generated must meet the data user's needs as defined in the project DQOs in Section 6.0 of this QAPP. In summary, the primary objectives for assessing the usability of the data are:

1. To collect data that is representative of site conditions and comparable with prior data;

2. To produce data that meets the project reporting limit requirements; and

3. To produce data of the highest quality possible in order to accurately and precisely characterize the site.

Data validation personnel will apply the standard data validation qualifiers to data to indicate the level of uncertainty in the associated result. In general, for the purposes of this investigation, data that are left unqualified, data qualified "U" (non-detected), data

qualified "J" (detected as an estimated result), and data qualified "UJ" (non-detected at an estimated reporting limit) are considered valid and usable for project objectives. Data that are qualified "R" (rejected) will be considered invalid and unusable.

The goal of this program is to generate valid, usable data. However, in environmental sampling and analysis, some data may be lost due to sampling location logistics, field or laboratory errors, or matrix effects that may cause the rejection of results for some compounds. The overall completeness goal for collection of valid data is 90 percent. If this goal is not met, data gaps may exist that may compromise the intended use of the data.

13.0 PERFORMANCE AND SYSTEM AUDITS

Performance and system audits of both field and laboratory activities may be conducted in accordance with the Work Plan and this QAPP, to verify that sampling and analysis are performed in accordance with the procedures established.

Performance and system audits of both field and laboratory activities will be conducted to verify that sampling and analysis are performed in accordance with the procedures established in the QAPP and analytical methods. The audits of field and laboratory activities will include two independent parts: internal and external audits.

13.1 Field Performance and System Audits

13.1.1 Internal Field Audit Responsibilities

Internal audits of field activities include the review of sampling and field measurements conducted by the Field QA Officer. The audits will verify that all procedures are being followed. Internal field audits will be conducted once during each phase of the sampling and at the conclusion of the project. The audits will include examination of the following:

i) Field sampling records, screening results, instrument operating records

ii) Sample collection

iii) Handling and packaging in compliance with procedures

iv) Maintenance of QA procedures

v) Chain-of-custody reports

Follow up audits will be conducted to correct deficiencies and to verify that procedures are maintained throughout the investigation.

13.1.2 External Field Audit Responsibilities

External audits may be conducted by the NYSDEC or designee at any time during the field operations. These audits may or may not be announced and are at the discretion of the NYSDEC.

13.2 Laboratory Performance and System Audits

13.2.1 Internal Laboratory Audit Responsibilities

For the purpose of internal evaluation, performance evaluation check samples are analyzed periodically by the laboratory. Internally, the evaluation of data from these samples is done on a continuing basis over the duration of a given project.

The project QA Officer may carry out performance and/ or systems audits to ensure that data of known and defensible quality are consistently produced during this program.

Systems audits are qualitative evaluations of all components of laboratory quality control measurement systems. They determine if the measurement systems are being used appropriately. The audits may be carried out before all systems are operational, during the program, or after completion of the analytical report by the laboratory. Such audits typically involve a comparison of the activities given in the QA/QC plan described herein, with activities actually scheduled or performed. A special type of systems audit is the data management audit. This audit addresses only data collection and management activities, and can be used to track data generation and manipulation through the lab.

The performance audit is a quantitative evaluation of the measurement systems used for a monitoring program. It requires testing the measurement systems with samples of known composition or behavior to quantitatively evaluate precision and accuracy. A performance audit may be carried out by or under the auspices of the project QA Officer without the knowledge of the analyst during this program.

It should be noted, however, that any additional QA audits would only be performed if deemed necessary.

13.2.2 External Laboratory Audit Responsibilities

External audits will be conducted as required, by appropriate QA personnel of the NYSDOH.

13.3 Specific Routine Procedures to Assess Data Precision, Accuracy, Representativeness, and Completeness ("PARC")

The laboratory and the project QA/QC officer will evaluate data precision, accuracy, and completeness.

The purpose of this Section is to define the goals for the level of QA effort; namely, accuracy; precision and sensitivity of analyses; and completeness, representativeness, and comparability of measurement data from the analytical laboratories. QA objectives for field measurements are also discussed.

DQOs have been established to ensure that the database developed during the monitoring activities meet the objectives and quality necessary for its intended use.

13.3.1 Precision

Precision is a measure of degree to which two or more measurements are in agreement.

Precision = $(D_2 - D_1) / (D_1 + D_2)/2 \times 100$

D_1 = original result

D_2 = duplicate result

13.3.1.1 Precision Objectives

The method(s) precision (reproducibility between duplicate analyses) will be determined based on the duplicate analysis of matrix spike samples for organic parameters and duplicate sample analyses for inorganic parameters. Precision will be reported as Relative Percent Difference (RPD) between duplicate analyses. Sampling precision will be addressed through the collection and measurement of field duplicates at a rate of one per 20 investigative samples or one per sampling event, whichever is greater. Precision will be evaluated using the laboratory control limits.

13.3.2 Accuracy

Accuracy is the degree of agreement between an observed or measured value and an accepted reference or true value.

Accuracy = [(A-B)/C] X 100

A =The analyte determined experimentally from the spike sample.

B = The background level determined by a separate analysis of the un-spiked sample.

C = The amount of spike added.

13.3.2.1 Accuracy Objectives

Accuracy will be determined for both field and laboratory activities using field blanks and matrix spike samples.

Field (rinsate) blank samples will be collected and analyzed as a check on the efficiency of the sampling device cleansing protocols and to determine if the field, sample transporting procedures, preservatives, and environments have contaminated the sample. Rinse blanks will be collected at a frequency of one per 20 samples per equipment type.

The method accuracy (percent recovery) for water and soil samples will be determined by spiking selected samples (matrix spikes) with all representative spiking compounds, as specified in the analytical methods. Accuracy will be reported as the percent recovery of the spiking compound(s), and will be evaluated using the laboratory control limits.

13.3.3 Completeness

Completeness is a measure of the amount of valid (usable) data obtained from a measurement system compared to the amount that was expected to be obtained under normal conditions.

Completeness = (Number of useable data/Number of useable data planned) X 100

13.3.3.1 Completeness Objective

Completeness is a measure of the amount of valid measurements obtained from all the measurements taken in the project. Laboratory completeness for this project will be 90 percent or greater.

13.3.4 Representativeness

Representativeness expresses the degree to which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition or an environmental condition within a defined spatial and/or temporal boundary.

13.3.4.1 Representativeness Objective

Sampling protocols have been presented for the collection of a variety of samples exhibiting specific characteristics or conditions (i.e., the presence of stains or elevated PID readings or when field parameters collected during groundwater sampling stabilize). These conditions may not be representative of the site conditions, but possibly the worst case so the data might reflect what could potentially be on the site and drive risk assessment and eventual cleanup. In these cases, the term representativeness has a very small characteristic population and very small spatial area. Generically, representativeness may suggest a meaning of “typical” or “average” when in fact the sample was biased toward the worst case extreme.

13.3.5 Corrective Actions

Corrective action is the process of identifying and correcting unacceptable procedures or QC performance that can affect data quality and usability. Corrective actions, if necessary, will be implemented in accordance with the procedures presented below and the laboratory SOPs.

Corrective actions may be required for two classes of problems: analytical and equipment problems, and noncompliance problems. Analytical and equipment problems may occur during sampling and sample handling, sample preparation, and laboratory instrumental analysis.

For non-compliance problems, for example, USEPA methods or QC measures are not being followed, a formal corrective action will be implemented at the time the problem is identified. The person who identifies the problem is responsible for notifying the Project Manager. A description of the problem and the corrective action implemented will be confirmed in writing via e-mail, facsimile, or technical memorandum.

Any nonconformance with the established QC procedures in this QAPP will be identified and corrected.

14.0 FIELD NOTES

Field notes will be maintained during all field activities. The overall chronology of field activities as well as sampling details will be recorded in a bound logbook with an indelible ink marker. Each page will be consecutively numbered and signed by the Site Manager at the end of the workday. The following information, as appropriate, will be documented in the field notes:

- Date
- Weather conditions
- Personnel on or visiting Site
- Subcontractors on-Site
- Worked performed
- Changes to planned work as discussed with NYSDEC
- Time at which work, sampling or analysis was performed
- Equipment calibration methods and time
- Problems with personnel or machinery
- Sample identification numbers
- Sampling sequence
- Types of sample containers used
- Parameters requested
- Field analysis methods and data
- Field observations during the sampling event
- Name of sampler

TABLE 1
Sample Analytical Requirements and Sample Numbers
936 Exchange and 22 Flint Street
Rochester, New York

SEE TABLE 3

Analytical Methods		Headspace Samples, PID	TCL VOCS +20 TICs, SW-846 8260B	TCL SVOCS +20 TICs, SW-846 8270	TCL Pesticides and Herbicides, SW-846 8081B	TAL Metals + Mercury and Cyanide SW-846 6010, 6020, 7471, 9012	PCBs, SW-846 8081
Sample Types							
Surface Soil							
Ground surface grab		5		5	5	5	5
Subsurface Soil							
Fill materials in unsaturated zone		11	11	11	11	11	11
Native soil in unsaturated zone		11	11	11	11	11	11
Saturated zone soil		11	11	11	11	11	11
Groundwater							
Monitoring well					10	10	10
QA/QC Samples							
Duplicates (one sample per type or 1:20 samples)	Soil		2	3	3	3	3
	Groundwater		1	1	1	1	1
Matrix Spike (one sample per media at a frequency of 1:20 samples)	Soil		2	2	2	2	2
	Groundwater		1	1	1	1	1
Matrix Spike Duplicate (one sample per media at a frequency of 1:20 samples)	Soil		2	2	2	2	2
	Groundwater		1	1	1	1	1
Field Blank (one per sampling tool used)	Soil		2	2	2	2	2
	Groundwater		1	1	1	1	1
Trip Blanks (one per sample shipment)	Total		8	0	0	0	0
Total Number of Samples		38	63	61	61	61	61

TABLE 2
Sample Analytical Procedures and Sample Preservation Requirements

Sample Type	Analysis	Type and Size Container	# of Containers per Sample	Preservation	Holding Time
Soil	TCL Volatiles	Glass, 2-ounce jar with Teflon lined cap	2	Cool to 4-deg. C	10 days
	TCL Semivolatile Organics	Glass, 4-ounce jar with Teflon lined cap	1	Cool to 4-deg. C	10 days
	TCL Pesticides	Glass, 4-ounce jar with Teflon lined cap	1	Cool to 4-deg. C	10 days
	TAL Metals + Cyanide	Glass, 4-ounce jar with Teflon lined cap	1	Cool to 4-deg. C	180 days, Mercury 26 days
	Cyanide	Glass, 4-ounce jar with Teflon line cap	1	Cool to 4-deg. C	12 Days
Groundwater	TCL Volatiles	40-ml vial with Teflon septum	3	ph<2 adjusted with HCL Acid, Cool to 4 deg. C	10 days
	TCL Semivolatile Organics	Glass, 1-Liter amber bottle with Teflon lined cap	1	Cool to 4	5 days
	TCL Pesticides	Glass, 1-Liter amber bottle with Teflon lined cap	1	Cool to 4	5 days
	TAL Metals	Plastic, 1-Liter bottle with Teflon lined cap	1	pH<2 adjusted with Nitric Acid, Cool to 4	180 days, Mercury 26 Days
	Cyanide	Plastic, 500-ml with Teflon lined cap	1	pH >12 NaOH	12 days

Soil and Groundwater TAL PFAS Per NYSDEC and Laboratory Requirements

TABLE 3
Quality Assurance Sample Schedule

	Trip Blank[1]	Equipment Rinse Samples[2]	Duplicates Samples[2]	Matrix Spike[2]	Matrix Spike Duplicates[2]
Soil Samples	1 per sample shipment	1 per sampling tool	1:20 samples	1:20 samples	1:20 samples
Groundwater Samples	1 per sample shipment	1 per sampling tool	1:20 samples	1:20 samples	1:20 samples

N/A = not applicable

1. VOCs only.
2. All analyzed parameters.

TABLE 4
Schedule of Quality Assurance Samples and Their Use

	Soil	Groundwater	Use
Trip Blank	√	√	Submitted with each sample shipment and analyzed for volatile organic compounds to determine if cross contamination has occurred between the samples and the laboratory equipment.
Matrix Spike and Matrix Spike Duplicate	√	√	Two samples submitted once per 20 samples for each matrix and analyzed for the same analytical parameters as the typical environmental sample. Is used to determine accuracy of analytical equipment and evaluate sample matrix interference problems.
Duplicates	√	√	One sample is submitted for 10 samples analyzed and analyzed for the same analytical parameters as the typical environmental sample. Is used to determine homogeneity of the sample and accuracy of analytical method and equipment.
Equipment Rinse Blank Samples	√	√	One sample is submitted for every sample tool used. Sample is analyzed for the same analytical parameters as the typical environmental sample. Is used to determine if decontamination procedures are impacting the sample or if procedures are cleaning the equipment.

APPENDIX 1
Procedures for Surface Soil Sampling

Surface Soil Sampling Procedures

The collection of surface soil samples will be required to fulfill a variety of objectives including physical description, field screening, and laboratory chemical analysis. The task specific work plan specifies the data objective, location, depth, and analytical parameters for the soil sample program. The purpose of this field operation procedure is to describe the methods to be used during each of these activities.

This procedure will be used for the collection of surface soil samples. Surface soil samples will be collected using a direct push ("DP") sampling tool or a sample trowel to collect a sample. All surface soil samples will be collected from the upper 2-inches of overburden. In the event vegetation is growing in the sampling area, either a bare spot close to the original location will be selected for sampling or the vegetation will be removed and only the overburden material sampled. The data to be obtained will be used to assess the environmental quality of the ground surface and any impacts that may result from the contaminants that are present.

Field Screening for Volatile Organics

Soil samples collected for field screening will undergo the following handling procedures:

- The sample sleeve will be removed from the DP sampling tool or split spoon sampler will be opened and the soil screened with the PID.
- The observed organic vapor concentration will be recorded for future reference.
- The sample will be visually inspected for soil classification, moisture content, and the presence of debris, stains or waste like materials (sludge, non-aqueous phase liquids).
- The representative portions of the sample will be placed in a glass jars with screw on lids for chemical analysis following the parameter list for surface soil samples.

Physical Description

For each sample interval will be visually examined and described in accordance with the Unified Soil Classification System. This information, together with a record of the length of the recovered portion of the interval, will be entered into the field logbook. Information to be included follows:

- Date;
- Boring Location Number;
- Sample Number;
- Depth Interval;
- Orientation; and
- Job Number.

Soil Samples for Laboratory Analysis

The Project's Work Plan and, or Quality Assurance Plan specifies the sample containers to be used and the parameters to be analyzed. Samples to be analyzed shall be placed in the containers as quickly as possible. Furthermore, all samples for laboratory analysis shall be preserved and transported in accordance with the following procedures. All samples to be sent to the laboratory for chemical analysis must be maintained in a condition that is as close as possible to in situ conditions. The first consideration is the proper selection of containers, preservation, and associated holding times. Other considerations include proper field notes, proper chain-of-custody procedures, and proper labeling of the samples.

Containers

The Quality Assurance Plan specifies the containers to be used.

Preservation

The general purpose of preservation is to maintain the original characteristics (and thus validity) of the sample during the time required for shipping of the sample to the laboratory. For soil, the only preservation technique is cooling the sample to approximately 4°C. This will be done in the field using ice or cold packs in coolers. Samples which are visually (highly) contaminated will be kept in individual sample coolers prior to and during transportation to the laboratory.

Sample Custody Procedures

The goal of implementing chain-of-custody procedures is to ensure that the sample is traceable from the time it is collected until it, or its derived data, are used. Samples would be considered in "custody" under the following conditions:

1. It is in personal possession.
2. It is in personal view after being in personal possession.
3. It was in personal possession when it was property secured.
4. It is in a designated secure area.

When transferring and/or shipping from the field, samples will be accompanied by the chain-of-custody record. The form includes the signatures of the relinquishers and the receiver as well as the date and time of the exchange, and any pertinent remarks. Since all samples will be immediately placed in coolers, shipment will also be made using these coolers. The samplers will complete the appropriate portion of the chain-of-custody form and deliver the cooler to the laboratory or to the shipping company. The receiving party will complete the remainder of the form and a copy will be retained by the sampler and kept with the field data sheets for that round of sampling. Each cooler will also be sealed using chain-of-custody tape.

Labels

The sample to be sent to the laboratory for chemical analysis will be identified with the following information:

- Date and time of collection;
- Location number;
- Sample number; and
- Sampler's name and affiliation.

Equipment Cleaning Methods

Equipment in actual contact with a laboratory sample will be cleaned prior to and between each use. The equipment will then be temporarily placed on clean racks, off the ground until it is used. Equipment such as DP samplers, sample trowels and soil knives will be cleaned with the following materials:

- Trisodium phosphate dissolved in clean water;
- Clean water rinse;
- Distilled/deionized water rinse; and
- Air dry.

APPENDIX 2
Procedures for Subsurface Soil Sampling

Soil Sampling Procedures

The collection of samples will be required to fulfill a variety of objectives including physical description, field screening, and laboratory chemical analysis. The task specific work plan specifies the data objective, location, depth, and analytical parameters for the soil sample program. The purpose of this field operation procedure is to describe the methods to be used during each of these activities.

This procedure will be used for the collection of subsurface samples. Soil samples will be collected using either a 4-foot-long by 2-inch-diameter direct push ("DP") sampling tool, a 2 to 3-inch diameter split spoon sampler, or grab samples from the sidewall of an excavation. A Geoprobe sampling rig will be used to advance DP tooling and a truck mounted drilling rig, using hollow stem augers, will be used to advance the split spoon sampler. The DP sampling tool will collect the samples within a clear acrylic sleeve. Grab samples will be taken directly from the undisturbed soil using a clean trowel or from disturbed soil from the backhoe bucket. Samples taken from the backhoe bucket will only collect samples which are less likely to have been impacted by the bucket. Taking the sample from undisturbed soil clumps. The selection of material for sampling will follow the procedures identified below.

Field Screening for Volatile Organics

Soil samples collected for field screening will undergo the following handling procedures:

- The sample sleeve will be removed from the DP sampling tool or split spoon sampler will be opened and the soil screened with the PID.
- The observed organic vapor concentration will be recorded for future reference.
- The sample will be visually inspected for soil classification, moisture content, and the presence of debris, stains or waste like materials (sludge, non-aqueous phase liquids).
- The representative portions of the sample will be placed in a glass jars with screw on lids.

Physical Description

For each sample interval will be visually examined and described in accordance with the Unified Soil Classification System. This information, together with a record of the length of the recovered portion of the interval, will be entered into the field logbook. Information to be included follows:

- Date;
- Boring Location Number;
- Sample Number;
- Depth Interval;
- Orientation; and
- Job Number.

Soil Samples for Laboratory Analysis

The Project's Work Plan and, or Quality Assurance Plan specifies the sample containers to be used and the parameters to be analyzed. Samples to be analyzed shall be placed in the containers as quickly as possible. Furthermore, all samples for laboratory analysis shall be preserved and transported in accordance with the following procedures. All samples to be sent to the laboratory for chemical analysis must be maintained in a condition that is as close as possible to in situ conditions. The first consideration is the proper selection of containers, preservation, and associated holding times. Other considerations include proper field notes, proper chain-of-custody procedures, and proper labeling of the samples.

Containers

The Quality Assurance Plan specifies the containers to be used.

Preservation

The general purpose of preservation is to maintain the original characteristics (and thus validity) of the sample during the time required for shipping of the sample to the laboratory. For soil, the only preservation technique is cooling the sample to approximately 4°C. This will be done in the field using ice or cold packs in coolers. Samples which are visually (highly) contaminated will be kept in individual sample coolers prior to and during transportation to the laboratory.

Sample Custody Procedures

The goal of implementing chain-of-custody procedures is to ensure that the sample is traceable from the time it is collected until it, or its derived data, are used. Samples would be considered in "custody" under the following conditions:

1. It is in personal possession.
2. It is in personal view after being in personal possession.
3. It was in personal possession when it was property secured.
4. It is in a designated secure area.

When transferring and/or shipping from the field, samples will be accompanied by the chain-of-custody record. The form includes the signatures of the relinquishers and the receiver as well as the date and time of the exchange, and any pertinent remarks. Since all samples will be immediately placed in coolers, shipment will also be made using these coolers. The samplers will complete the appropriate portion of the chain-of-custody form and deliver the cooler to the laboratory or to the shipping company. The receiving party will complete the remainder of the

form and a copy will be retained by the sampler and kept with the field data sheets for that round of sampling. Each cooler will also be sealed using chain-of-custody tape.

Labels

The sample to be sent to the laboratory for chemical analysis will be identified with the following information:

- Date and time of collection;
- Boring number;
- Sample number; and
- Sampler's name and affiliation.

Equipment Cleaning Methods

Equipment in actual contact with a laboratory sample will be cleaned prior to and between each use. The equipment will then be temporarily placed on clean racks, off the ground until it is used. Equipment such as DP samplers, split spoon samplers and soil knives will be cleaned with the following materials:

- Trisodium phosphate dissolved in clean water;
- Clean water rinse;
- Distilled/deionized water rinse; and
- Air dry.

Non-dedicated drilling equipment, backhoe buckets, and sampling equipment in contact with soil or waste materials will be cleaned prior to use and between each boring location. Decontamination of this equipment will be accomplished using a brush and trisodium phosphate dissolved in clean water to remove large solid particles, followed by steam cleaning with clean water. The equipment will be placed on top of open bins, drums, or "luggers" which will collect all wash water. When full, the contents will be pumped into closed drums and left on the Site for a disposal contractor. The drilling rig will be steam-cleaned prior to site entry and prior to leaving the site.

APPENDIX 3
Procedures for Monitoring Well Construction

Monitoring Well Construction Procedure

The purpose of this document is to explain the procedures that will be followed during the construction and installation of monitoring wells. The purpose of the monitoring well construction is to provide representative samples of the groundwater. Monitoring well construction should be designed based on conditions of the groundwater zone and the conditions within a particular groundwater zone. For the purposes of this investigation, two types of monitoring wells will be constructed; overburden and bedrock monitoring wells. Because of the investigations that have been completed in the surrounding area, the elevation of the water table and bedrock are expected to influence the final monitoring well design.

Monitoring Well Construction

Overburden

The sampling of the overburden will be completed using direct push sampling tools and if an inadequate amount of sample is being returned for chemical analysis, split spoon samplers may be used. It is our intention to complete the majority of the overburden sampling prior to using a hollow stem auger drilling tools to complete the monitoring well construction.

Soil sampling will be conducted at each monitoring well location and acquire soil samples from the ground surface or immediately below concrete or asphalt surfaces to a point approximately 8-feet below the water table, or to a point of refusal whichever is shallower. Hollow stem augering tools will be used to advance the borehole to the desired depth. If groundwater is not encountered the NYSDEC Project Manager will be informed and a decision will be made to abandon the location or advance the augers through the weathered bedrock.

The field geologist has confirmed the total depth of the borehole and determine the final design of the planned monitoring well. If the saturated zone is heaving sand into the augers the Drilling Contractor will attempt to clear the hollow stem augers by advancing and retracting the auger flights or removing the augers, inserting an auger plug, and filling the augers with water prior to advancing the augers again.

Once the borehole has been prepared for well construction the Drilling Contractor will construct the monitoring well using 2-inch diameter, clean PVC screen and riser. The monitoring well screen will be composted of slotted PVC with a minimum of 0.001-inch width slots. The slotted pipe will be approximately the length of the exposed groundwater zone thickness plus 2 feet, but will have a length of no more than 10-feet. The Drilling Contractor will then attach a sufficient length of 2-inch diameter PVC riser to extend the top of the monitoring well approximately 2-feet above the ground surface or approximately 4-inches below the ground surface if a flush mount road box will be used. Monitoring well sections will be joined using a threaded coupling.

Once the monitoring well is completed the Drilling Contractor will then remove the auger plug and insert the completed monitoring well. If the monitoring well does not reach the bottom of the hole, the Drilling Contractor will either push lightly onto the top of the monitoring well to force it into place or remove the monitoring well and re-drill that section of the test boring hole.

Once the monitoring well is in place the Drilling Contractor and field geologist will measure the monitoring well to ensure the depth of the bottom. Prior to removing the auger flights, the Drilling Contractor will slowly add sand to the annulus of the monitoring well to form a sand pack surrounding the monitoring well screen. With the addition of sand the Drilling Contractor will slowly begin removing the auger flights. During this process the Drilling Contractor and field geologist will monitor the thickness of the sand pack and monitoring well depth. Sand will be added to the annulus of the monitoring well until the sand reaches a point two feet above the monitoring well screen.

At this point the Drilling Contractor will remove approximately 5 to 10 gallons of water from the monitoring well to settle the sand pack. After the water has been removed the sand pack will be re-measured and if consistent with previous measurement, the Drilling Contractor will be directed to add Bentonite clay pellets or granular clay to the annulus to form a seal above the sand pack. The Bentonite will be added in the same manner as the sand, adding a small amount of material and lifting or removing an auger flight. If the seal is above the water table, the Drilling Contractor will be directed to add potable water to the annulus to help hydrate Bentonite clay. The seal will have a thickness of at least two feet.

The Drilling Contractor will be directed to tamp the surface of the Bentonite with a weight tape or rod to compact the clay before adding the grout mixture. The grout mixture will consist of one sack (90-pounds of Portland cement), 3-pounds Bentonite clay powder, and six gallons of potable water. The grout will be mixed until a smooth consistency is formed. The grout will be placed into the annulus using a Tremie pipe placed approximately 2-feet above the clay. The slurry will be pumped into the annulus until the annulus is filled to a point approximately 1 to 2.5 feet below the ground surface depending the type of surface protective casing being used.

The grout will be allowed to solidify before installing a protective casing or developing the monitoring well. The type of protective casing will be dependent on the location of the monitoring well. High traffic areas will require will be fitted with casing that stick up from the ground surface approximately 2.5 feet and yellow painted bollards located in a triangular pattern around the well. Off-site areas will require flush mounted curb boxes. Securing the protective casing to the ground will involve placing a sand layer inside the protective casing to allow flood water or rain water to permeate back into the ground. The outside of the protective casing a layer of concrete will be used to support the casing securely to prevent damage to the monitoring well if struck and to protect the protective casing position from frost heave. Each casing type will have locking mechanism; either a keyed lock or bolted cover. Each monitoring well will be given a locking plug.

Bedrock

The start of the bedrock monitoring well construction is similar to the overburden monitoring wells. The augers will be advanced into the bedrock until they can no longer be advanced. At this point the auger plug will be removed and a roller-bit will be inserted to advance the borehole approximately 1 to 2 feet depending on the consistency of the bedrock. The roller bit will be advanced to a depth of no more than 2-feet into the bedrock to form a socket to install a permanent steel casing. During the roller bit drilling if broken rock or significant water loss is encountered the 6.25-inch diameter hole may be continued further to ensure competent bedrock is entered. Once the rock-socket is formed water will be circulated through the drill bit and borehole to remove mud and rock debris.

A 4-inch diameter steel casing will be placed into the borehole with a tremie pipe on the exterior of the casing. The hole will be tremie grouted using a cement-bentonite grout mixed at a ratio of 94-pounds of cement to 3-pound of bentonite. Potable water will be added to the dry mix at a rate of 6-gallons per 94-pound bag of cement. As needed up to 1 additional gallon of potable water will be added to produce a slurry that can be pumped through the tremie pipe. When the grout is mixed it will be pumped through the tremie pipe until the grout reaches approximately 2.5-feet below the ground surface. Drilling operations will cease for approximately 24 hours to allow the grout to cure. Once the grout has cured, a coring bit will be used to advance a new borehole inside the 4-inch casing to a depth of 10-feet below the bottom of the casing.

When the rock core is removed the depth to water will be measured, then the core will be screened with a PID and visually described. The location and number of fractures will be noted along with the presence of stains, odors or free product. After describing the core the depth to the water will be measured to evaluate if a the monitoring well will produce a volume of water that can be sampled. It the water level drops from the initial measuring, the core hole will be bailed and evaluated again after 10 minutes. If it appears the monitoring well will not produce water a 5-foot core will be drilled to complete the monitoring well.

The volume of water lost during drilling will be monitored and documented.

Each monitoring well will be completed with a protective casing and bollards (where necessary) to protect the well from on-site traffic, vandalism and to facilitate the locating the wells when snow is present. A “stick up” style protective casing with either a locked lid or a locked plug inserted into the monitoring well riser will be used. The casing will be sealed in a ring of concrete while the inside will have a layer of sand extending from inside the well to a point below the concrete ring, which will allow water to drain back into the soil.

The installation of yellow or orange painted bollards will be used to protect the monitoring wells from on-site vehicle traffic, if needed.

Well Development

Monitoring well development will be started at least 1-day after the monitoring well is completed. Development will be completed by surging and pumping or bailing groundwater from the monitoring well to remove sediment from the monitoring well screen and well bore. Development will continue until the turbidity of the groundwater is less than 50 NTU. During the development process, the field geologist will monitoring the pumped groundwater for water quality (presence of sheens) and monitor the ambient air and groundwater for the presence of volatile organic compounds. At least 10 well volumes will be removed during development of overburden wells. For bedrock wells, at least the volume of water lost plus 5 additional wells volumes will be removed during development.

Records

The field geologist will be responsible for taking notes on all samples collected during the sampling process and all measurements and quantities used during the construction and development of the monitoring well. At the completion of the field activities, boring logs and constructions logs will be prepared for the final report, development records will be kept and water level measurements recorded.

APPENDIX 4
Procedures for Groundwater Sampling

Procedures for Groundwater Quality Sampling

The purpose of this document is to explain the procedures that will be followed during all groundwater sampling activities at the Site.

The water quality sampling will take place over a period of one to several days. The first day will consist of the pre-sampling activities listed below. All of the water level measurements for the wells to be sampled during each round will be made in a single day. Wells will be evacuated and sampled during the same day.

PRE-SAMPLING ACTIVITIES

Well Maintenance Check

Prior to every sampling event, a routine inspection of the condition of the protective casing and surface seal will be performed. The protective casing will be inspected for the integrity of the locking cap and the surface seal. In addition, each well will be checked for any other signs of damage or inadvertent entry. Observations of any irregularities will be noted in the field log book, as well as the well number, date, and time.

Air Monitoring

In order to provide workers with the proper respiratory protection for sampling, air monitoring in the breathing zone and immediately over the wellhead will be performed immediately after the initial uncapping. Health and safety procedures that are appropriate to the ambient air conditions will be implemented. Readings for both the breathing zone and wellhead will be recorded in the field log book. See the Health and Safety Plan for respiratory protection action levels, and a description of the proper air monitoring equipment.

Water Level Measurements

The depth to groundwater will be measured with an electronic depth-indicating sounder. The probe will be lowered into the well until the meter indicates water is reached. The probe will be raised above the water level and slowly lowered again until water is indicated. The cable will be held against the side of the inner protective casing for water level measurements and a depth reading taken. The value will be recorded to the nearest 0.01 foot in the field log book. The measurement will be repeated three times and the measurement recorded. The probe will be raised to the surface and together with the amount of cable that was wetted in the well, will be decontaminated with a wipe followed by a distilled/deionized water rinse.

The calibrated cable on the depth indicator will be checked against a surveyor's steel tape once per quarter year. A new cable will be installed if the cable has changed by more than 0.01 percent (0.01 feet for a 100-foot cable).

WELL EVACUATION

Overburden Monitoring Wells

- The well will be purged with a low flow peristaltic pump. The pump's acrylic or PVC intake tubing will be lowered into the monitoring well to a point that is approximately in the center of the monitoring well screen or in the center of the water column (whichever is lower). The discharge end of the tubing will be placed into a flow-through cell from which groundwater quality parameters will be measured. The discharge from the flow-through cell will be routed into a five-gallon bucket for discharge measurement. For sampling water flow will be approximately 0.25 liters per minute or until a constant stream of water is obtained. The water level in the monitoring well will also be monitored and not allowed to drop below 0.125 feet from the original pre-sampling static water level.
- When the groundwater quality is stable indicating that a representative sample of groundwater can be collected, the discharge end of the tubing will be disconnected from the flow-through cell and routed into a five-gallon bucket to collected spills from the filling of sample containers.
- The appropriate sample vials will be filled slowly and with a constant stream of water (flow) to avoid sample aeration and the field parameter tests conducted as described in "Field Measurements."

FIELD MEASUREMENTS

A portion of the groundwater collected during the sampling procedures will be subjected to the field tests of temperature, dissolved oxygen ("DO"), turbidity, specific electrical conductance, oxidation-reduction potential ("ORP") and pH. Field measurements will be conducted on the well purge water immediately prior to sample collection. Groundwater for these tests will be collected and measured in a plastic flow-through cell. All field test parameters will be measured with a portable water quality instrument such as a Horiba U-22 Water Quality Monitoring System. Temperature will be measured to the nearest tenth of a degree and the value recorded in the field log book. Turbidity will be measured in standardized nephelometeric turbidity units ("N.T.U."). After each measurement the N.T.U. value of the sample will be recorded. The goal of the well purging will be to reduce the turbidity of the groundwater extracted from the monitoring well to less than or equal to 50 N.T.U. In the event turbidity cannot be lowered sufficiently, the NYSDEC Project Manager will be notified to determine if filtered and non-filtered samples may be required for analysis. The specific electrical conductance will be measured to the nearest 1unit and recorded in the field log book. The pH will be measured to the nearest 0.1 pH unit and the reading recorded in the field log book. The DO will be measured to the nearest 0.1 unit and the reading recorded in the field log book. The ORP will be measured to the nearest 1 millivolt and the reading recorded in the field log book. Calibration will be conducted according to manufacturer's specifications.

EQUIPMENT DECONTAMINATION

All of the sampling equipment (excluding the water quality probes) will be decontaminated between sampling events using the following procedures or disposed of, if dedicated equipment is used (i.e. sample tubing).

- An initial wash with trisodium phosphate dissolved in clean water;
- Clean water rinse;
- Pesticide Grade Methanol rinse;
- Air dry.

Decontamination wastewater will be collected in containers and disposed of properly.

SAMPLE LABELS

Sample labels will be placed on all samples and will contain the following information:

- Date and time of collection;
- Sample location;
- Sample number;
- Analysis to be performed; and
- Sampler's initials.

FIELD LOG BOOKS

The field log books used during sampling procedures will include the following information:

- Sampler's name (initials);
- Sampling location;
- Static water level (depth to water);
- Depth to bottom of the well;
- Calculated well volume;
- Actual evacuation volume;
- Date and time;
- Analyses to be performed;
- Preservation method;
- Field meter calibration information;
- General remarks (weather conditions, etc.); and

- Sample number.

All entries will be made in black indelible ink with a ball-point pen and will be written legibly. Entry errors will be crossed out with a single line, dated, and initialed by the person making the correction. Field log books will be reviewed by the Quality Assurance Officer on a weekly basis

SAMPLE CHAIN-OF-CUSTODY

A chain-of-custody form will be completed after sample collection event. The chain-of-custody forms will accompany the samples to the laboratory. The field personnel collecting the samples will be responsible for the custody of the samples until transportation to the laboratory. Sample transfer will require the individuals relinquishing and receiving the samples to sign, date, and note the time on the chain-of-custody forms.

APPENDIX 5
Procedures for Waste Handling

The procedures identified in this Appendix were prepared with the intent of providing instruction for the safe handling, temporary storage and disposal of investigation derived waste and waste possibly generated from the completion of an interim remedial measure ("IRM"). In general, for any of the wastes generated during this project, will be placed in containers compatible with the waste and appropriate containers the type of waste being handled. Health and safety of the site workers is not covered in this procedure.

Investigation Derived Waste

Investigation derived waste can include: drill cuttings, decontamination water, purge water from monitoring wells, solid waste consisting of personnel protective equipment, card board, plastic, and paper. How the waste is handled will be decided based on the expected volume and the consistency of the waste. Consequently, the following acceptable containers have been identified:

Drums - Liquid

Steel or plastic 55-gallon drums with closed lids will be utilized to control decontamination water and purge water from monitoring wells. In general, decontamination water will be kept segregated from other liquid waste because of the potential for this waste stream to be handled as a non-hazardous waste. Decontamination water will be pumped from the decontamination area into the drums after sediment has been removed. This will be done to minimize the amount of sediment accumulating in a drum and the possible need to sample the sediment.

Groundwater pumped from monitoring wells during development and sampling will be containerized in steel or plastic closed lid drums. Since development waters may be heavily laden with sediment an open top drum may be used as an interim step before transferring the waste into closed drums. Sediment separated from development water will be temporarily held in an open top drum. In the event free product is found during the development or monitoring well purging, the free product will be placed in a separate drum and appropriately identified.

When each drum is full, a label will be placed on the drum indicating the type of waste, where it is from (monitoring well number, decontamination pit, etc.), and the date it was generated. The drums will be placed in a location where site equipment and trucks will not disturb them and a location where they can be easily managed. Caution tape and, or snow fencing will be used to warn passersby of the materials being stored.

Drums – Solids

Steel or plastic open top 55-gallon drums will be used to containerize solids generated by the investigation activities. During the course of the field investigation waste solids will be generated and consist of unsoiled personnel protective equipment, paper, plastic, and

card board ("dry waste"), and soil cuttings or sediment. Dry waste will not be co-mingled with other waste and handed as household trash. Personnel protective equipment that has been contaminated with dirt or free product will be separated from the other non-contaminated dry waste and placed in a separate drum.

Soil cuttings or sediment from the decontamination area or development water will be placed into open top steel drums for temporary storage at work locations. At the completion of work at any particular location the drum will be brought to the temporary storage area.

When each drum is full, a label will be placed on the drum indicating the type of waste, where it is from (monitoring well number or decontamination pit), and the date it was generated. The drums will be placed in a location where site equipment and trucks will not disturb them and a location where they can be easily managed. Caution tape and, or snow fencing will be used to warn passersby of the materials being stored.

Soil Cuttings and Sediment

Because the cost of the disposal of soil cuttings and sediment is significantly more when the waste is handled in drums, waste of similar quality will be placed on two layers of plastic sheeting. The temporary storage area will be located in an area where site equipment and trucks will not disturb the waste. The storage area will be constructed with a berm made from soil, sand bags or wood boards. The berm will be covered with a plastic sheet. A second plastic layer will drape over the first and have enough material so it can be folded over the waste. This layer will be secured in place with tires or water filled pails.

If some of the waste is stained, giving off volatiles as measured by the organic vapor analyzer, or odorous a second pile may be started. If only a small quantity of waste has these characteristics, then it may remain in a drum.

The covered soil pile will be inspected weekly and after each storm/wind event for tears or the accumulation of rain or snow. Each inspection will be documented in a field book and with photographs. Water will be either pumped into a drum or absorbed and the plastic replaced of covered.

Soil piles will be posted or labeled indicating the type of waste, where it is from (monitoring well number or decontamination pit), and the date it was generated. The piles will be surrounded with caution tape and, or snow fencing to warn passerby's of the materials being stored.

IRM Waste

IRM waste will be handled like the investigation derived waste if the quantities expected to be generated remain relatively small: a few hundred gallons of water or less than 5-tons of soil. If the IRM will exceed those volumes and weights, then tanks or a roll off box will be used to

containerize the waste. However, regardless of the size of the container, the same procedures will be used. Waters will be as sediment free as possible and waste in the roll off box will be covered. If the waste is anticipated to be wet, the roll off box will be lined. The containers will be located to facilitate removal and, or to minimize handling. The containers will be labeled indicating the type of waste, where it is from (monitoring well number, decontamination pit, etc.), and the date it was generated. The tanks will have valves locked to minimize the consequences of vandalism. Roll offs will be surrounded with caution tape and, or snow fencing to warn passersby of the materials being stored.

Waste Characterization

It is anticipated that the waste characterization requirements will closely follow USEPA's RCRA regulations, but these may be changed based on the requirements of the facilities where the waste may be landfilled and, or treated. Samples of the generated waste will be collected at the completion of field work. The goal of the waste characterization will be to remove the waste from the site within 90-days.

APPENDIX B

Site Health and Safety Plan

HEALTH AND SAFETY PLAN

Vacuum Oil Refinery Site
22 Flint Street and 936 Exchange Street
New York State Department of Environmental Conservation
Site # C828193

Prepared for:

Flint Redevelopment, LLC
1400 Crossroads Building
2 State Street
Rochester, New York 14604

Prepared by:

Leader Professional Services, Inc.
271 Marsh Road, Suite 2
Pittsford, New York 14534

March 2017

Leader

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1.0 Project Personnel Responsibilities

The project organization is presented in Section 1.5.

1.1 Principal-In-Charge

The Principal-In-Charge for this project will be Michael Rumrill. Mr. Rumrill will act in a supervisory capacity for all Leader Professional Services, Inc. ("Leader") employees and their subcontractors and the planned site activities with respect to the project site. Mr. Rumrill has the authority to direct site operations including the performance of this health and safety plan. The project manager will have the required 29 CFR 1910.120 40-Hour Training and have an updated 8-Hour Refresher Training Certificate.

1.2 Project Manager

The Project Manager/QA/QC Manager will be Peter von Schondorf of Leader. If a substitute is required, the Project Supervisor will be an employee of Leader. The project supervisor oversees all field and related activities specific to the project when the project manager is not on the site. The project manager will have the required 29 CFR 1910.120 40-Hour Training and have an updated 8-Hour Refresher Training Certificate.

1.3 Health and Safety Officer

Katherine Root, CIH, CSP, the Leader site health and safety officer ("HSO"). Ms. Root has the authority to stop work if any operation threatens the health and safety of workers or the public. The HSO may designate a member of the work party for site health and safety responsibilities when the HSO cannot be on site. The HSO will have the required 29CFR 1910.120 40-Hour Training and have an updated 8-Hour Refresher Training Certificate.

1.4 Project Team

Personnel and subcontractors on the project team will be responsible for the completion of the required tasks in the work plan. All personnel on the project team will comply with the site safety plan and ensure the site safety and health officer or supervisor is notified of any unsafe conditions. It is anticipated that the project team will consist of one to three individuals. This may vary due to any changes that occur during the actual site work. All personnel on the project team will have the required 29CFR 1910.120 40-Hour Training and participate in daily tailgate health and safety meetings.

1.5 Project Organization

Project Manager – Peter von Schondorf, Leader
Project Engineer – Dixon Rollins, P.E, Leader
Site Supervisor – Matthew Knight, Leader
Health and Safety Officer – Katherine Root, CIH, CSP, Leader

2.0 Site Standard Operating Safety Procedures

Standard operating and safety procedures include safety precautions and operating practices that all personnel will follow. They include:

2.1 Personal Precautions

- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited in any area designated contaminated.

- Hands and face must be thoroughly washed upon leaving the work area.

- Whenever decontamination procedures for outer garments are in effect, the entire body should be thoroughly washed as soon as possible after the protective garment is removed.

- No facial hair, which interferes with a satisfactory fit of the mask-to-face seal, is allowed on personnel required wear respirators. Personnel will use the negative pressure fit test prior to each use of the equipment.

- Contact with contaminated or suspected contaminated surfaces should be avoided. Whenever possible, do not walk through puddles, leachate, discolored surfaces, kneel on ground, lean, sit or place equipment on drums, containers, or the ground.

- Medicine and alcohol can enhance or mask the effects from exposure to toxic chemicals. Prescribed drugs should not be taken by field personnel where the potential for absorption, inhalation, or ingestion of toxic substances exists unless specifically approved by a qualified physician. Alcoholic beverages should be avoided, in the off-duty hours, during the project.

2.2 Operations

- All personnel going on-site must be adequately trained and thoroughly briefed on anticipated hazards, equipment to be worn, safety practices to be followed, emergency procedures and communications.

- Any required respiratory protection and chemical protective clothing must be worn by all personnel going into areas designated for wearing protective equipment.

- Personnel on-site must use the buddy system when wearing respiratory protection. As a minimum, one person, suitably equipped, is required as safety backup during initial entry.

- Visual contact must be maintained between pairs on-site and safety personnel. Entry team members should remain together to assist each other during emergencies.

- During continual operations, on-site workers act as safety backup to each other. Off-site personnel provide emergency assistance.

  Communications using radios, hand signals, signs, or other means must be maintained between team members at all times.

- Wind indicators visible to all site personnel should be strategically located throughout the site.

- Personnel and equipment in the contaminated area should be minimized to reduce the potential for cross contamination and the generation of decontamination waste.

- Work areas for various operational activities will be established by the project manager, or his designee, and the HSO.

- Procedures for leaving a contaminated area must be planned and implemented prior to going on-site. Work areas and decontamination procedures have been established based on expected site conditions and are described in the project Work Plan.

3.0 Health and Safety Hazards

The potential hazards that may be experienced during the performance of the Work Plan include: chemical exposures from contact with contaminated soil and groundwater; hazards inherent to working with drilling and sampling equipment and working within an active commercial property where vehicles enter and leave the property; slip, trip and fall hazards; and heat stress from performing heavy work while wearing protective clothing. The extent of contamination is well known, but monitoring for the presence of organic vapors will be conducted. To prevent unnecessary exposures to vapors and to limit the potential for cross-contamination, all work areas will be limited from general access. The formation of distinctive work zones will also assist in reducing the potential hazards that

may exist when working at an active commercial property. To further reduce the potential for accidents to involve moving vehicles, Leader will coordinate each field activity with the property owner and tenants so to the extent possible employee will know to expect others on the Site. To reduce accidents from occurring that involve slip, trip and fall hazards and hypothermia, work will be monitored by the Site HSO and workers will be encouraged to use the "buddy-system" while lifting heavy tools or items to reduce early fatigue while wearing protective clothing.

Table 1 lists potential health and safety hazards that may be encountered at the Site based on general site tasks. This list has been compiled based on the scheduled activities and potential site conditions.

4.0 Personal Protective Equipment

4.1 Protective Equipment

All personnel will be provided with appropriate personal safety equipment and protective clothing. Everyone will be properly trained in the use of this safety equipment before the start of field activities. Safety equipment and protective clothing shall be used as directed by the Project Manager and/or Site HSO. All such equipment and clothing will be cleaned and maintained in proper condition by the personnel. The Site HSO will monitor the maintenance of personnel protective equipment to ensure proper procedures are followed.

The required personal protective equipment designated by this Health and Safety Plan will be worn at all times. Levels of protective clothing and equipment are not expected to exceed Level C. Results from the previous groundwater sampling and on-site readings will be used to set action levels and levels of personal protection.

The personal protective equipment levels designated below are in conformance with USEPA criteria for Level A, B, C, and D protection. All respiratory protective equipment used will be approved by National Institute for Occupational Safety and Health ("NIOSH") and Mine Safety and Health Administration ("MSHA"). Although the conditions within the proposed work areas are well known monitoring will be completed at all times. It is anticipated that the level of respiratory protection will be Level D.

4.2 Level C Protection

A. Personal Protective Equipment

- Half-face, air-purifying, canister-equipped respirator (MSHA/NIOSH approved) for acid/gas/organic vapor with particulate filter

- Chemical-resistant clothing (overalls and long sleeved jacket; coveralls or hooded, one piece or two-piece chemical-splash suit; disposable chemical resistant one-piece suits)

- Work Clothes (Long Shelve Shirt and pants)

- Gloves (outer), chemical resistant

- Gloves (inner), chemical resistant

- Boots (inner), leather work shoe with steel toe and shank

- Boots (outer), chemical resistant (disposable*)

- Hard Hat (face shield*)

- Safety Glasses or goggles

- Taping between suit and gloves, and suit and boots

- High visibility vest

*Optional

B. Criteria for Selection

In order to use Level C protective equipment, the following criteria must be met:

- The measured air concentration of identified substances will be reduced by the respirator to, at, or below the substance's Threshold Limit Value (TLV)/Permissible Exposure Limits (PEL) and the concentration is within the service limit of the canister.

- Atmospheric contaminant concentrations do not exceed IDLH levels.

- Atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect the small area of skin left unprotected by chemical resistant clothing.

4.3 Level D Protection

A. Personal Protective Equipment

- Work Clothes (Long shelve shirt and pants)
- Leather, steel-toed boots
- High visibility vest
- As required:
    - Hard hat
    - Safety glasses/goggles
    - Hearing protection
    - Gloves

B. Criteria for Selection

Meeting all of these criteria permits the use of Level D Protection.

- Measured air concentrations of identified substances are below the substances Permissible Exposure Limit (PEL) or TLV.
- Oxygen content is > 19.5%.
- No unknown substances are present.

5.0 Decontamination

It is expected that the usual level of protection for the Site will be Level D. Level C will be used when potential exposures to contaminants justify increased protection. A decontamination zone will be set up at the entrance of each work zone. Based on the level of expected exposure to contaminants, the following decontamination protocol will be used.

5.1 Personnel Decontamination

It is expected that a minimum of Level D decontamination will be continually in effect at the site. On these occasions when higher levels of protection are required, appropriate decontamination procedures will be used. The extent of the decontamination procedures will be at the discretion of the site Health and Safety Officer.

In general, decontamination involves removing potentially contaminated soil from gloves and clothing, followed by scrubbing with a non-phosphate soap/water solution and clean water rinses. As a general rule, protective clothing will be removed in the reverse order as it was put on: gloves and boots off first, followed by protective suits and then breathing apparatus. As different types of waste are generated, the team members will segregate the waste into different drums. Potentially contaminated soil and sediment will be placed into one drum and decontamination waste fluid into a second drum. All disposable items will be placed into a dry goods drum.

Certain parts of contaminated respirators, harness assemblies and leather or cloth components, are difficult to decontaminate. If grossly contaminated, they may have to be discarded. Rubber components can be soaked in soap and water and scrubbed with a brush. In addition to being decontaminated, all respirators, non-disposable protective clothing and other personal articles must be sanitized before they can be used again unless they are assigned to individuals. The manufacturer's instruction should be followed in sanitizing the respirator masks. The Site HSO will be responsible for supervising the proper protective equipment.

All decontamination wastewaters will be collected and disposed of according to applicable regulations. This disposal will be done at the direction of the Project Manager.

5.2 Equipment Decontamination

Decontamination will be applicable to all activities on site and be completed in the contamination reduction zone ("CRZ") section of the exclusion zone. All equipment (i.e. tools, monitoring equipment, etc.) will receive initial decontamination. All equipment that has been in contact with contaminants shall be stored in an area within the limits of the existing exclusion zone or shall be thoroughly decontaminated prior to leaving the area. Decontamination will consist of cleaning of the entire piece of equipment to the satisfaction of the Site Supervisor or the HSO. Decontamination will be a multi-process task, first all loose dirt or other foreign materials will be removed from the equipment surface. Scrubbing with a synthetic wire brush may be required to remove materials that adhere to the surfaces. After the loose dirt is removed, the equipment will be washed using a detergent and water solution and a wire brush followed by successive rinses with clean water. Washing with hot water from a power washer may be substituted for a synthetic wire brush.

All dirty equipment will be stored on plastic sheeting in such a manner that decontamination fluids can be collected and disposed of in accordance with applicable regulations. Clean equipment not in use will be covered with plastic and stored at a designated storage area.

Air monitoring equipment will be protected with an outer coating (i.e. plastic), if there is a potential for the equipment to come into contact with potentially contaminated materials prior to the initial entry into the exclusion zone. Decontamination will then consist of removal of the protective coating in a manner that will not contaminate the air monitoring equipment.

6.0 Site Air Monitoring

Field activities associated with the work tasks at the Site may pose hazardous conditions, such as the release of hazardous substances into the worker's breathing zone. These substances may be in the form of vapors, dusts, or mists that can enter the body through ingestion, inhalation, or direct skin or eye contact. If the HSO, relying on instrument observations and odor, determines that a condition exists in which workers may be exposed to airborne hazardous materials, the HSO will upgrade the team's level of respiratory protection and complete chemical specific monitoring.

The following paragraphs describe the monitoring parameters to be evaluated during the start of the project. As the project continues, other site-specific monitoring will be required based on site conditions and experience at the site. Because this project will be completed in the winter/early spring and the proposed work area is covered with a combination of asphalt, gravel or dirt, there is a concern about contaminated dust being an issue. Potential combustible concentrations of petroleum related compounds have not been identified to date as a concern in the soil or groundwater, thus the necessity for oxygen and combustible gas monitors is not supported. All instruments to be used during site activities will meet the established requirements set forth by OSHA, MSHA, NIOSH, and state agencies where applicable.

Observations will be made during work progress with a direct reading organic vapor meter. Monitoring will take place in the work zone and workers breathing zone, up and down-wind from the work zone and at the Site perimeter. Monitoring within the work zone will be taken at least every 15 to 30 minutes. Monitoring up and downwind of the work zone will be completed at least every 30 to 60 minutes and monitoring at the Site perimeter will be completed at least every 60 minutes. If elevated readings are obtained (elevated compared to up-wind readings or compared to Site specific action levels), then the frequency of taking measurements will be increased at the monitoring stations.

If dust exceeds thresholds at the upwind monitoring location during the investigative activities, the HSO will instruct the site manager to take an appropriate level of corrective action. If dust from the sampling or drilling operations exceed project thresholds at the downwind monitoring location compared to the upwind monitoring location, the HSO will determine what is causing the problem and seek a remedy, and if needed, they will stop work until it

can be corrected. As a result, air monitors will be located up and down wind of the investigation work.

Based on preliminary soil and groundwater sampling data, it is anticipated that organic vapors will range from 0 to 250 ppm in the sample headspace, but no VOCs were identified in the breathing zone. Nuisance odors are noticeable and the odor is that of petroleum compounds. Organic vapor concentrations will be the primary measure for upgrading or downgrading worker respiratory protective equipment and implementing additional precautions or procedures (See Table 2, Action Levels).

All site monitoring will be conducted by or under the direction of the Site HSO. All readings obtained will be recorded in a dedicated site notebook maintained by the Project Supervisor or designee. The Site HSO will maintain all monitoring instruments throughout the site investigation to ensure their reliability and proper operation.

7.0 Action Levels

Action levels have been established for the levels of personal protective equipment. Table 2 lists the action levels, airborne concentrations and their respective personal protection for unknown sources of organic vapor concentrations. Section 8.0 discusses the minimal personal protection required for specific site activities based on current information. Changes to these specified levels are dependent on the result of air monitoring as outlined below.

8.0 Site Activities and Associated Personnel Protective Requirements

The levels of protection have been assigned anticipated Site activities (below) and represent a best estimate of exposure potential and protective equipment needed for that exposure. The site HSO will revise those levels of protection, up or down, based on air monitoring results, and on-site assessments of actual exposures.

- *Level D* - General site work with limited physical contact with contaminated soil by personnel. If workers must pick up contaminated tools or a soil samples, protective chemical resistant gloves will be worn. Respiratory protection is not required because contaminant action levels cited on Table 2 are not exceeded.

- *Modified Level C* - General site work where personnel will be in direct contact with contaminated soil or groundwater, but respiratory protection is not required because contaminant action levels cited on Table 2 are not exceeded.

- *Level C* - General site work where personnel will be in direct contact with contaminated soil or groundwater, and organic vapor measurements or dust measurements are greater than those action levels cited on Table 2.

9.0 Contingency Plan

The Project Manager/Supervisor or HSO is responsible for implementing the Contingency Plan whenever there is either a threat to human health or an environmental hazard. Possible Contingency Plan situations include actual or imminent fires, explosions or spills.

The individual discovering the emergency is to notify the Project Supervisor or HSO who will then notify the tenants, the appropriate organizations as described in Table 3, and the property owner.

9.1 Assessment

The Project Manager/Supervisor is responsible for ascertaining any possible health or environmental hazards and determining the need for evacuation and notification of the proper authorities.

9.2 Control Procedures

The team member or site employee discovering a fire, explosion, spill or other emergency situation is responsible for notifying the Project Supervisor or Site HSO and as much as possible, provide the information listed in Table 3.0. The Project Supervisor or HSO will assess the situation and notify the Flint Redevelopment representative to determine if it can be adequately handled by yard personnel or if additional assistance is needed.

Before any team member attempts to extinguish a fire, clean up and contain a spill or take any action, he or she must be aware of the properties of the material involved and its associated hazards. All team members are familiarized with this information during the initial tail grate safety meeting and are instructed on the proper protective clothing to be worn in such a situation.

Table 3 includes a list of the organizations that are available to provide emergency assistance.

9.3 Fire and/or Explosion

The most serious emergency that could be faced at the site would be a chemical release or major fire. In the event of a fire or explosion, the Project Supervisor or HSO should be notified as described in the preceding section. The Project

Supervisor or HSO are responsible for determining the requirements for outside assistance as well as the necessity for site evacuation.

The Fire Department should be notified immediately once a fire is detected. Small fires can be extinguished using a fire extinguisher located at the site. Larger fires will require the assistance of the fire department. The fire department will be informed of the nature of any fire requiring the use of a fire extinguisher or the presence of hazardous wastes at the site.

9.4 Spill and/or Material Releases

The procedure for notification of the Project Manager/Supervisor and, or HSO are described in Section 9.2. Immediately following the discovery of a spill, the NYSDEC will be notified. In addition, the Federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA", or "Superfund") requires that the National Response Center be notified of any release in excess of the reportable quantity of a listed material.

Spill cleanup poses no danger under normal conditions. The first step is to determine the source of the spill and correct it. This may involve patching a leaking drum, closing a valve or turning off a pump. In the event of a small spill, absorbent granules or sorbent pads will be utilized to soak up the spilled material. The granules would then be swept up and containerized in U.S. Department of Transportation approved drums.

In the event a large spill occurs, the Site spill response contractors, Trec Environmental or Sun Environmental will be called for assistance and NYSDEC will be notified. Any spent materials used to contain or cleanup a spill will be placed in DOT approved drums.

Any contaminated structures and equipment must be properly cleaned before it is returned to service. This procedure will include the use of pressure washers and sorbent materials. All affected floors and equipment, pumps and hoses, will be cleaned with an appropriate detergent and rinsed with clear clean water.

10.0 Work Areas

The Project Manager/Supervisor and/or the HSO and, if needed, the Contractor, will clearly layout and identify work areas in the field and will limit equipment, operations and personnel as defined in the following areas:

a) "Exclusion Zone" - This area will include all areas where environmental monitoring has shown or it is suspected that a contamination may exist and be a potential exposure problem to workers. The level of personnel protective equipment required in these areas will be determined by the Site

HSO. The area will be clearly delineated from the decontamination area. As work within the hazardous zone proceeds, the delineating boundary will be relocated as necessary to prevent the accidental contamination of nearby people and equipment. The Exclusion Zone will be delineated by plastic caution tape, barriers, or fencing (e.g. chain link, snow, or orange plastic fencing).

b) Contamination Reduction Zone (CRZ) - This zone will occur at the interface of "Contaminated" and "Clean" areas and will provide for the decontamination of equipment and materials and the transfer of equipment from the Clean Area to the Exclusion Zone. This area will contain all required emergency equipment, etc. This area will be clearly delineated by plastic tape, barriers or fencing (e.g., chain link, snow, or orange plastic fencing).

c) Support Zone ("Clean" Area) - This area is the remainder of the work site and project site. The "Clean" area will be clearly delineated and procedures implemented to prevent active or passive contamination from the work site.

The function of the "Clean" area includes:

1) An entry area for personnel, material, and equipment to the "Contaminated Zone" area of site operations through the neutral zone.

2) An exit for decontaminated personnel, materials, and equipment from the "CRZ" area of site operations; and

3) A clean storage area for safety and work equipment.

11.0 Safety Equipment and Protective Clothing Specifications

All project team members and contractors will have the following safety equipment:

- Air purifying respirator with appropriate cartridges
- All protective clothing including, but not limited to:
  - Tyvek and washable PVC rain suits
  - Gloves
  - Boots
- Safety glasses
- Hearing protection
- Hard hats
- High visibility vest.

12.0 Air Emissions Control

The Project Team and subcontractor shall have on-site all equipment and personnel necessary to monitor and control air emissions.

It is not expected that air emissions will pose a significant risk to health and safety or to the environment due to the nature of the contaminants on this project.

The Project Manager/Supervisor and/or the HSO will make the determination for requiring monitoring and control of air emissions with the assistance of the following monitoring equipment and the action levels cited on Table 2. It is anticipated that an organic vapor analyzer and chemical specific detection tubes will be used to measure the concentration of most organic contaminants in the air. These two measurement devices will handle the bulk of the real-time contaminant monitoring.

13.0 Additional Health and Safety Comments

1) The Site HSO will ensure that all safety equipment and protective clothing is kept clean and well maintained.

2) All prescription eyeglasses in use on this project will be safety glasses and will be compatible with respirators. No contact lenses shall be allowed on-site.

3) All disposable or reusable gloves worn on the site will be approved by the HSO.

4) During periods of prolonged respirator usage in contaminated areas, respirator filters will be changed upon breakthrough and at a minimum, filters will be changed daily.

5) Footwear used on-site will be covered by rubber over-boots when entering or working in the “Exclusion Zone” area or “CRZ.” Boots will be washed with water and detergents to remove dirt and contaminated sediment before leaving the “CRZ.”

6) All personnel protective equipment used on-site will be decontaminated or disposed of at the end of the workday.

7) All air purifying respirators will be individually assigned and not interchanged between workers without cleaning and sanitizing.

8) Any team member or Contractor unable to pass a fit test as a result of facial hair or facial configuration shall not enter or work in an area that requires respiratory protection.

9) The Contractor will ensure that all project team members shall have vision or corrected vision to at least 20/40 in one eye.

10) Team members found to be disregarding any provision of this plan will, at the request of the HSO, be barred from the project.

11) Used disposable outerwear will be removed upon leaving CRZ and will be placed inside disposable containers labeled for that purpose. These containers will be stored at the site at the designated staging area. Leader will be responsible for proper disposal of these materials at the completion of the project.

12) Tyvek or PVC rain suits that become torn or badly soiled will be replace immediately.

13) Eating, drinking, chewing gum or tobacco, smoking, etc., will be prohibited in the exclusion zones and CRZ zones.

14) All personnel will thoroughly cleanse their hands, face, forearms, and other exposed areas prior to eating, smoking, or drinking.

15) All personnel will wash their hands, face, and forearms before using toilet facilities.

16) No alcohol, firearms, or drugs (without prescription) will be allowed on-site at any time.

14.0 Miscellaneous Health and Safety Items

14.1 Hypothermia

Pervious Clothing: When the ambient air temperature dips below 40^{o} F. the Site HSO will begin to monitor employees for signs of hypothermia. Monitoring will take the form of measuring oral temperatures. The air temperature will be measured two times a day when the air temperature is expected to be below 40^{o} F or as determined by the HSO.

Impervious Clothing: When the ambient air temperature dips below 40^{o} F. the HSO will begin to monitor employees for signs of hypothermia. Monitoring will take the form of measuring oral temperatures and checking an individual's verbal and physical responses. As the air temperature dips below 32^{o} F. oral temperatures

will be measured at the direction of the HSO and, or every hour during work periods.

In the event that the oral temperature at the beginning of the rest period drops below 96^{o} F., the employee will be decontaminated and be advised to proceed to a heated room or vehicle and remove wet clothing and to drink warm fluids. At the end of the rest period, the oral temperature will be taken again to ensure that the employee's temperature is above 96^{o} F. If the oral temperature has remained below 96^{o} F., the employee will be advised to take a shower to increase his or her temperature. However, if the oral temperature remains below 96^{o} F. after the shower, the employee will be immediately sent to consult with a physician.

A fluid/electrolyte replacement will be used as necessary to minimize fluid loss. This liquid supplement will be stored in a cooler or thermos at the edge of the decontamination zone in plastic squeeze bottles. The plastic bottles will be marked with individual's names. Disposable cups with lids and straws may be used in place of the squeeze bottles.

Prior to drinking within the decontamination zone, the project personnel shall follow the following decontamination procedures:

1) Personnel shall wash and rinse their outer gloves and remove them.

2) Personnel shall remove their hard hats and respirators and place on a table.

3) Personnel shall remove their inner gloves and place them on a table.

4) Personnel shall wash and rinse their face and hands.

5) Personnel shall carefully remove their personal bottle or cup from the cooler to ensure that their outer clothes do not touch any bottles, cups, etc.

6) The used bottle or cups will not be returned to the cooler, but will be placed in a receptacle or container to be cleaned or disposed of.

7) Personnel shall replace their respirators, hard hats, gloves, and tape gloves prior to re-entering the hazardous zone.

14.2 Retention On-Site

During the course of the project, it is expected that waste materials will be retained on-site until removed by Flint Redevelopment LLC. All waste containers will be labeled according to DOT and other regulations where appropriate. Waste materials, both drummed and bulk, will be stored in designated areas. All waste drums will be sealed before they are moved from the exclusion zone.

14.3 Equipment and Material Decontamination

All equipment and material used in this project shall be thoroughly decontaminated using procedures described in the project Work Plan before it is removed from the project site. Debris and contaminated clothing and tools which cannot be decontaminated, shall be disposed of.

14.4 Communications

Telephone communications will be available at all times on the site. A telephone will be maintained with the Project Manager or Site Supervisor.

Communication procedures are outlined in the Contingency Plan in Section 9.0 of the Health and Safety Plan.

Table 3 contains an emergency call list and will be posted in one of the team member's vehicles, and provided to Rainbow International of Monroe, the only tenant with employees and an office on the Site.

14.5 On-Site Hygiene Facilities

The office lavatories will be available for decontaminated team members and subcontractors. Water will be available in the CRZ for decontamination.

A first aid kit will be kept in the support zone at the Site at all times.

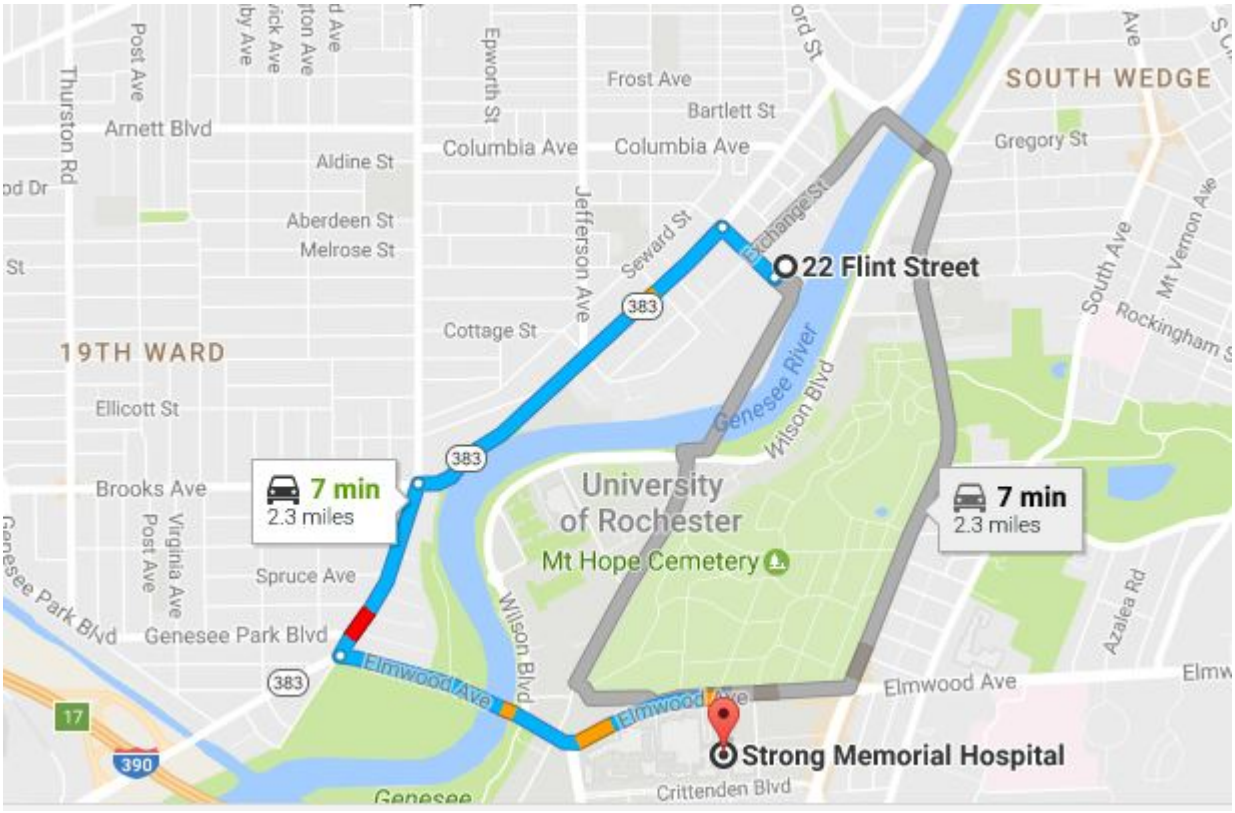
15.0 Tailgate Safety Meetings

The HSO or the designated representative will conduct daily tailgate safety meetings each workday and will be mandatory for all project personnel. The meetings will provide information on the anticipated site conditions and the work to be completed that day. Appendix A contains a form for documenting Safety Meetings. Completed forms will be retained in Leader's project file.

Additional safety meetings will be held on an as required basis.

16.0 Medical Surveillance

All team members and subcontractors that may potentially have contact with hazardous substances at concentrations above the permissible exposure level (PEL) will be part of a Medical Monitoring Program as outlined in 29CFR 1910.134 and 29CFR 1910.120.



1. Head northwest on Flint Street toward Exchange Street.
2. Turn left on to Plymouth Avenue (second intersection)
3. Turn left on to Genesee Street
4. Use two left lanes and turn left on to Elmwood Avenue
5. Hospital is on the right at 601 Elmwood Avenue

Strong Hospital 585-275-2100

Title: Route to Hospital 936 Exchange Street and 22 Flint Street Rochester, NY		Project: 900.003 Date: 2/16/17 Scale: Not to Scale	Drawn: PVS Checked: MPR File Name: Hospital Map	Figure: 1
Prepared For: Flint Redevelopment, LLC 2 State Street Rochester, New York	Leader Professional Services 271 Marsh Road, Suite 2 Pittsford, NY 14534 (585) 248-2413 FAX (585) 248-2834			

TABLE 1

KNOWN AND POTENTIAL HEALTH AND SAFETY HAZARDS
VACUUM OIL REFINERY SITE
ROCHESTER, NEW YORK

Known and Potential Site Hazards: *Chemical* (See Appendix B for information sheets and/or MSDSs)

1) Contaminants

- Petroleum
- Perchloroethylene
- Trichloroethylene
- Arsenic
- Cadmium
- Chromium
- Lead
- Mercury

2) Review of Symptoms

Symptoms of exposure to hazardous wastes, in particular to the contaminants above, will be reviewed with all site personnel. Symptoms of both acute and chronic exposures will be covered. In addition, the on-site coordinators will be advised to watch for outward evidence of changes in workers' health. These outward symptoms may include fatigue, tremor, insomnia, skin irritations or discoloration, eye, nose and throat irritation, cough, or abdominal soreness.

Note the number and nature of potential contaminants mandate that contact of waste materials with the exposed skin must not be allowed to occur under any circumstances.

Known and Potential Site Hazards: *Non-Chemical*

- General Physical Hazards. Since the project will take place at an active truck terminal, the physical hazards include:

  Vehicular traffic
  Sharps (metals and glass)
  Underground and aboveground utilities
  Slip, trip, and fall

TABLE 2

ACTION LEVELS
VACUUM OIL REFINERY SITE
ROCHESTER, NEW YORK

Unknown Organic Vapor Concentrations (ppm)[1]	Level of Protection
< 1	Level D
≥ 1 < 10	Level C
>10	Level B
Anticipated Chemical Contaminants[2]	**Time Weight Average (ppm)**
Petroleum (Gasoline)	300
Metals (as Mercury dust)	<0.025 mg/cubic meter
Trichloroethylene or Perchloroethylene	100

Note:

1 Unknown organic vapor action levels are based on the lowest known exposure limits for chlorine (PEL = 1 ppm, IDLH = 30 ppm). The air purifying cartridge limitation for chlorine is 10 ppm.

TABLE 3

EMERGENCY CALL LIST
VACUUM OIL SITE
ROCHESTER, NEW YORK

Fires - Spills

Rochester City Fire Department	911

Public Services

Rochester City Police Emergency	911

Emergency Medical Services

Strong Hospital	(585) 275-4551

SPILL NOTIFICATION

Agencies

National Response Center	(800) 424-8802
NYSDEC Spill Hotline	(800) 457-7362

Provide the following information to the agencies:

- Name of person making the call
- Company and location
- Nature of fire (fire calls only)
- Name and estimated amount of chemical released to the environment (spills only)
- Time of release
- Remedial action taken to correct the problem

Site Contacts

Frank Sowers (NYSDEC Project Manager)	(585) 226-8193
Peter von Schondorf (Leader Professional Services-Rochester)	(585) 248-2413
Michael Rumrill (Leader Professional Services – Rochester)	(585) 248-2413

APPENDIX A

SAFETY MEETING SIGN-OFF SHEETS

SAFETY MEETING ATTENDENCE SIGN-OFF SHEET

Person/Company	Date

APPENDIX B

MSDS

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name	**UNLEADED GASOLINE**
Version #	03
Issue date	07-28-2011
Revision date	11-13-2012
Supersedes date	09-28-2012
MSDS Number	002
Product use	Motor fuels.
Synonym(s)	Regular/Premium/Midgrade - Unleaded Gasoline, RFG - Reformulated Unleaded Gasoline, Conventional Unleaded Gasoline, Oxygenated Unleaded Gasoline, Non-Oxygenated Unleaded Gasoline, CARB (California Air Resource Board) Unleaded Gasoline, RBOB - Reformulated Blendstock for Oxygenate Blending, CBOB - Conventional Blendstock for Oxygenate Blending, Petrol, Motor Fuel. See section 16 for complete information.
Manufacturer/Supplier	Valero Marketing & Supply Company and Affiliates P.O. Box 696000 San Antonio, TX 78269-6000
General Assistance	210-345-4593
Emergency	24 Hour Emergency 866-565-5220 1-800-424-9300 (CHEMTREC USA)

2. Hazards Identification

Physical state	Liquid.
Appearance	Light straw to red clear liquid with characteristic strong odor of gasoline.
Emergency overview	DANGER! Extremely flammable liquid and vapor - vapor may cause flash fire. Will be easily ignited by heat, spark or flames. Heat may cause the containers to explode. Harmful if inhaled, absorbed through skin, or swallowed. Aspiration may cause lung damage. Irritating to eyes, respiratory system and skin. In high concentrations, vapors and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. Contains benzene. Cancer hazard - can cause cancer. Mutagen. May cause heritable genetic damage. May cause adverse reproductive effects - such as birth defects, miscarriages, or infertility. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Static accumulating flammable materials can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite material and vapor may cause flash fire (or explosion).
OSHA regulatory status	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.
Eyes	Contact may irritate or burn eyes. Eye contact may result in corneal injury.
Skin	Harmful if absorbed through skin. Irritating to skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Inhalation	Harmful if inhaled. Irritating to respiratory system. In high concentrations, vapors and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. May cause breathing disorders and lung damage. May cause cancer by inhalation. Prolonged inhalation may be harmful.
Ingestion	Harmful if swallowed. Ingestion may result in vomiting; aspiration (breathing) of vomitus into lungs must be avoided as even small quantities may result in aspiration pneumonitis. Irritating to mouth, throat, and stomach.
Target organs	Blood. Eyes. Liver. Respiratory system. Skin. Kidneys. Central nervous system.

Chronic effects Cancer hazard. Contains material which may have reproductive toxicity, teratogenetic or mutagenic effects. Liver injury may occur. Kidney injury may occur. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Signs and symptoms Irritation of nose and throat. Irritation of eyes and mucous membranes. Skin irritation. Unconsciousness. Corneal damage. Narcosis. Cyanosis (blue tissue condition, nails, lips, and/or skin). Decrease in motor functions. Behavioral changes. Edema. Liver enlargement. Jaundice. Conjunctivitis. Proteinuria. Defatting of the skin. Rash.

Potential environmental effects Toxic to aquatic organisms. Harmful to aquatic life with long lasting effects.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Gasoline	86290-81-5	0-100
Toluene	108-88-3	0-30
Hexane (Other Isomers)	96-14-0	5-25
Xylene (o, m, p isomers)	1330-20-7	0-25
Octane (All isomers)	111-65-9	0-18.5
Ethanol	64-17-5	0-10
1,2,4, Trimethylbenzene	95-63-6	0-6
n-Heptane	142-82-5	1-5
Pentane	109-66-0	1-5
Cumene	98-82-8	0-5
Ethylbenzene	100-41-4	0-5
Benzene	71-43-2	0-4.9
n-Hexane	110-54-3	0-3
Cyclohexane	110-82-7	0-3

4. First Aid Measures

First aid procedures

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.

Skin contact Remove contaminated clothing and shoes. Wash off immediately with soap and plenty of water. Get medical attention if irritation develops or persists. Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes. If high pressure injection under the skin occurs, always seek medical attention.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Ingestion Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. Do not give mouth-to-mouth resuscitation. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Get medical attention immediately.

Notes to physician In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General advice If exposed or concerned: get medical attention/advice. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use.

5. Fire Fighting Measures

Flammable properties Flammable by OSHA criteria. Containers may explode when heated.

Extinguishing media

Suitable extinguishing media Water spray. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Protection of firefighters

Specific hazards arising from the chemical	Vapor may cause flash fire. Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge.
Protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. In the event of fire, cool tanks with water spray. Cool containers exposed to flames with water until well after the fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Vapors may form explosive air mixtures even at room temperature. Prevent buildup of vapors or gases to explosive concentrations. Some of these materials, if spilled, may evaporate leaving a flammable residue. Water runoff can cause environmental damage. Use compatible foam to minimize vapor generation as needed.
Specific methods	In the event of fire and/or explosion do not breathe fumes. Use water spray to cool unopened containers.
Hazardous combustion products	Carbon monoxide. Carbon Dioxide. Sulfur oxides. Nitrogen oxides (NOx). Hydrocarbons.

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Local authorities should be advised if significant spills cannot be contained. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the MSDS for Personal Protective Equipment.
Environmental precautions	Gasoline may contain oxygenated blend products (Ethanol, etc.) that are soluble in water and therefore precautions should be taken to protect surface and groundwater sources from contamination. If facility or operation has an "oil or hazardous substance contingency plan", activate its procedures. Stay upwind and away from spill. Wear appropriate protective equipment including respiratory protection as conditions warrant. Do not enter or stay in area unless monitoring indicates that it is safe to do so. Isolate hazard area and restrict entry to emergency crew. Extremely flammable. Review Firefighting Measures, Section 5, before proceeding with clean up. Keep all sources of ignition (flames, smoking, flares, etc.) and hot surfaces away from release. Contain spill in smallest possible area. Recover as much product as possible (e.g. by vacuuming). Stop leak if it can be done without risk. Use water spray to disperse vapors. Use compatible foam to minimize vapor generation as needed. Spilled material may be absorbed by an appropriate absorbent, and then handled in accordance with environmental regulations. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment or drainage systems and natural waterways. Contact fire authorities and appropriate federal, state and local agencies. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, contact the National Response Center at 1-800-424-8802. For highway or railways spills, contact Chemtrec at 1-800-424-9300.
Methods for containment	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water. Dike the spilled material, where this is possible. Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	Use non-sparking tools and explosion-proof equipment. Small Spills: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. This material and its container must be disposed of as hazardous waste. Large Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent product from entering drains. Do not allow material to contaminate ground water system. Should not be released into the environment.
Other information	Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling

Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity.
Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Avoid prolonged exposure. Use only with adequate ventilation. Wash thoroughly after handling. The product is extremely flammable, and explosive vapor/air mixtures may be formed even at normal room temperatures. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. When using, do not eat, drink or smoke. Avoid release to the environment.

Storage

Flammable liquid storage. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. The pressure in sealed containers can increase under the influence of heat. Keep container tightly closed in a cool, well-ventilated place. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
1,2,4, Trimethylbenzene (CAS 95-63-6)	TWA	25 ppm
Benzene (CAS 71-43-2)	STEL	2.5 ppm
	TWA	0.5 ppm
Cumene (CAS 98-82-8)	TWA	50 ppm
Cyclohexane (CAS 110-82-7)	TWA	100 ppm
Ethanol (CAS 64-17-5)	STEL	1000 ppm
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm
Gasoline (CAS 86290-81-5)	STEL	500 ppm
	TWA	300 ppm
Hexane (Other Isomers) (CAS 96-14-0)	STEL	1000 ppm
	TWA	500 ppm
n-Heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm
n-Hexane (CAS 110-54-3)	TWA	50 ppm
Octane (All isomers) (CAS 111-65-9)	TWA	300 ppm
Pentane (CAS 109-66-0)	TWA	600 ppm
Toluene (CAS 108-88-3)	TWA	20 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
Benzene (CAS 71-43-2)	STEL	5 ppm
	TWA	1 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Cumene (CAS 98-82-8)	PEL	245 mg/m3
		50 ppm
Cyclohexane (CAS 110-82-7)	PEL	1050 mg/m3
		300 ppm
Ethanol (CAS 64-17-5)	PEL	1900 mg/m3

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
		1000 ppm
Ethylbenzene (CAS 100-41-4)	PEL	435 mg/m3
		100 ppm
n-Heptane (CAS 142-82-5)	PEL	2000 mg/m3
		500 ppm
n-Hexane (CAS 110-54-3)	PEL	1800 mg/m3
		500 ppm
Octane (All isomers) (CAS 111-65-9)	PEL	2350 mg/m3
		500 ppm
Pentane (CAS 109-66-0)	PEL	2950 mg/m3
		1000 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	PEL	435 mg/m3
		100 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
Benzene (CAS 71-43-2)	Ceiling	25 ppm
	TWA	10 ppm
Toluene (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
1,2,4, Trimethylbenzene (CAS 95-63-6)	TWA	123 mg/m3
		25 ppm
Benzene (CAS 71-43-2)	STEL	8 mg/m3
		2.5 ppm
	TWA	1.6 mg/m3
		0.5 ppm
Cumene (CAS 98-82-8)	TWA	246 mg/m3
		50 ppm
Cyclohexane (CAS 110-82-7)	TWA	344 mg/m3
		100 ppm
Ethanol (CAS 64-17-5)	TWA	1880 mg/m3
		1000 ppm
Ethylbenzene (CAS 100-41-4)	STEL	543 mg/m3
		125 ppm
	TWA	434 mg/m3
		100 ppm
Gasoline (CAS 86290-81-5)	STEL	500 ppm
	TWA	300 ppm
Hexane (Other Isomers) (CAS 96-14-0)	STEL	3500 mg/m3
		1000 ppm
	TWA	1760 mg/m3
		500 ppm
n-Heptane (CAS 142-82-5)	STEL	2050 mg/m3
		500 ppm
	TWA	1640 mg/m3
		400 ppm
n-Hexane (CAS 110-54-3)	TWA	176 mg/m3
		50 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Octane (All isomers) (CAS 111-65-9)	TWA	1400 mg/m3
		300 ppm
Pentane (CAS 109-66-0)	TWA	1770 mg/m3
		600 ppm
Toluene (CAS 108-88-3)	TWA	188 mg/m3
		50 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	STEL	651 mg/m3
		150 ppm
	TWA	434 mg/m3
		100 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
1,2,4, Trimethylbenzene (CAS 95-63-6)	TWA	25 ppm
Benzene (CAS 71-43-2)	STEL	2.5 ppm
	TWA	0.5 ppm
Cumene (CAS 98-82-8)	STEL	75 ppm
	TWA	25 ppm
Cyclohexane (CAS 110-82-7)	TWA	100 ppm
Ethanol (CAS 64-17-5)	STEL	1000 ppm
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm
Gasoline (CAS 86290-81-5)	STEL	500 ppm
	TWA	300 ppm
Hexane (Other Isomers) (CAS 96-14-0)	TWA	200 ppm
n-Heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm
n-Hexane (CAS 110-54-3)	TWA	20 ppm
Octane (All isomers) (CAS 111-65-9)	TWA	300 ppm
Pentane (CAS 109-66-0)	TWA	600 ppm
Toluene (CAS 108-88-3)	TWA	20 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
1,2,4, Trimethylbenzene (CAS 95-63-6)	TWA	25 ppm
Benzene (CAS 71-43-2)	STEL	2.5 ppm
	TWA	0.5 ppm
Cumene (CAS 98-82-8)	TWA	50 ppm
Cyclohexane (CAS 110-82-7)	TWA	100 ppm
Ethanol (CAS 64-17-5)	STEL	1000 ppm
Ethylbenzene (CAS 100-41-4)	STEL	125 ppm
	TWA	100 ppm
Gasoline (CAS 86290-81-5)	STEL	500 ppm
	TWA	300 ppm
Hexane (Other Isomers) (CAS 96-14-0)	STEL	1000 ppm
	TWA	500 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
n-Heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm
n-Hexane (CAS 110-54-3)	TWA	50 ppm
Octane (All isomers) (CAS 111-65-9)	TWA	300 ppm
Pentane (CAS 109-66-0)	STEL	2210 mg/m3
		750 ppm
	TWA	1770 mg/m3
		600 ppm
Toluene (CAS 108-88-3)	TWA	20 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
1,2,4, Trimethylbenzene (CAS 95-63-6)	TWA	123 mg/m3
		25 ppm
Benzene (CAS 71-43-2)	STEL	15.5 mg/m3
		5 ppm
	TWA	3 mg/m3
		1 ppm
Cumene (CAS 98-82-8)	TWA	246 mg/m3
		50 ppm
Cyclohexane (CAS 110-82-7)	TWA	1030 mg/m3
		300 ppm
Ethanol (CAS 64-17-5)	TWA	1880 mg/m3
		1000 ppm
Ethylbenzene (CAS 100-41-4)	STEL	543 mg/m3
		125 ppm
	TWA	434 mg/m3
		100 ppm
Hexane (Other Isomers) (CAS 96-14-0)	STEL	3500 mg/m3
		1000 ppm
	TWA	1760 mg/m3
		500 ppm
n-Heptane (CAS 142-82-5)	STEL	2050 mg/m3
		500 ppm
	TWA	1640 mg/m3
		400 ppm
n-Hexane (CAS 110-54-3)	TWA	176 mg/m3
		50 ppm
Octane (All isomers) (CAS 111-65-9)	STEL	1750 mg/m3
		375 ppm
	TWA	1400 mg/m3
		300 ppm
Pentane (CAS 109-66-0)	TWA	350 mg/m3
		120 ppm
Toluene (CAS 108-88-3)	TWA	188 mg/m3
		50 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	STEL	651 mg/m3
		150 ppm
	TWA	434 mg/m3

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
		100 ppm

Mexico. Occupational Exposure Limit Values

Components	Type	Value
1,2,4, Trimethylbenzene (CAS 95-63-6)	STEL	170 mg/m3
		35 ppm
	TWA	125 mg/m3
		25 ppm
Benzene (CAS 71-43-2)	STEL	16 mg/m3
		5 ppm
	TWA	3.2 mg/m3
		1 ppm
Cumene (CAS 98-82-8)	STEL	365 mg/m3
		75 ppm
	TWA	245 mg/m3
		50 ppm
Cyclohexane (CAS 110-82-7)	STEL	1300 mg/m3
		375 ppm
	TWA	1050 mg/m3
		300 ppm
Ethanol (CAS 64-17-5)	TWA	1900 mg/m3
		1000 ppm
Ethylbenzene (CAS 100-41-4)	STEL	545 mg/m3
		125 ppm
	TWA	435 mg/m3
		100 ppm
Hexane (Other Isomers) (CAS 96-14-0)	STEL	3500 mg/m3
		1000 ppm
	TWA	1760 mg/m3
		500 ppm
n-Heptane (CAS 142-82-5)	STEL	2000 mg/m3
		500 ppm
	TWA	1600 mg/m3
		400 ppm
n-Hexane (CAS 110-54-3)	TWA	176 mg/m3
		50 ppm
Octane (All isomers) (CAS 111-65-9)	STEL	1800 mg/m3
		375 ppm
	TWA	1450 mg/m3
		300 ppm
Pentane (CAS 109-66-0)	STEL	2250 mg/m3
		760 ppm
	TWA	1800 mg/m3
		600 ppm
Toluene (CAS 108-88-3)	TWA	188 mg/m3
		50 ppm
Xylene (o, m, p isomers) (CAS 1330-20-7)	STEL	655 mg/m3
		150 ppm
	TWA	435 mg/m3
		100 ppm

Engineering controls	Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment.
Personal protective equipment	
Eye / face protection	Wear safety glasses. If splash potential exists, wear full face shield or chemical goggles.
Skin protection	Wear chemical-resistant, impervious gloves. Full body suit and boots are recommended when handling large volumes or in emergency situations. Flame retardant protective clothing is recommended.
Respiratory protection	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workplace exposure limits for product or components are exceeded, NIOSH approved equipment should be worn. Proper respirator selection should be determined by adequately trained personnel, based on the contaminants, the degree of potential exposure and published respiratory protection factors. This equipment should be available for nonroutine and emergency use.
General hygiene considerations	Consult supervisor for special handling instructions. Avoid contact with eyes. Avoid contact with skin. Keep away from food and drink. Wash hands before breaks and immediately after handling the product. Provide eyewash station and safety shower. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance	Light straw to red clear liquid with characteristic strong odor of gasoline.
Physical state	Liquid.
Form	Liquid.
Color	Light straw to red clear.
Odor	Characteristic Gasoline Odor (Strong).
Odor threshold	Not available.
pH	Not available.
Vapor pressure	60.8 - 101.3 kPa (20°C)
Vapor density	3 - 4 (Air=1)
Boiling point	80.1 - 440.1 °F (26.7 - 226.7 °C)
Melting point/Freezing point	44 °F (6.67 °C) May start to solidify at this temperature. This is based on data for the following ingredient: Cyclohexane. Weighted average: -91.9 deg C (-133.4 deg F)
Solubility (water)	Very slightly soluble.
Specific gravity	0.66 - 0.75 (Water=1) (60°F)
Flash point	-40 °F (-40 °C) (closed cup)
Flammability limits in air, upper, % by volume	7.1 %
Flammability limits in air, lower, % by volume	1.3 %
Auto-ignition temperature	> 500 °F (> 260 °C)
VOC	100 %
Evaporation rate	10 - 11 BuAc
Other data	
Flash point class	Flammable IA

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under normal temperature conditions and recommended use.
Conditions to avoid	Heat, flames and sparks. Ignition sources. Contact with incompatible materials. Do not pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides. Sulfur oxides. Nitrogen oxides (NOx). Hydrocarbons.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data

Components	Species	Test Results
1,2,4, Trimethylbenzene (CAS 95-63-6)		
Acute		
Dermal		
LD50	Rabbit	> 3160 mg/kg
Inhalation		
LC50	Rat	> 2000 mg/l, 48 Hours
Oral		
LD50	Rat	6 g/kg
Benzene (CAS 71-43-2)		
Acute		
Oral		
LD50	Rat	3306 mg/kg
Cumene (CAS 98-82-8)		
Acute		
Inhalation		
LC50	Mouse	2000 mg/l, 7 Hours
	Rat	8000 mg/l, 4 Hours
Oral		
LD50	Rat	1400 mg/kg
		2.91 g/kg
Cyclohexane (CAS 110-82-7)		
Acute		
Oral		
LD50	Rat	12705 mg/kg
Ethanol (CAS 64-17-5)		
Acute		
Inhalation		
LC50	Rat	30000 mg/m3
Oral		
LD50	Rat	11.5 g/kg
Ethylbenzene (CAS 100-41-4)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
Oral		
LD50	Rat	5.46 g/kg
n-Heptane (CAS 142-82-5)		
Acute		
Inhalation		
LC50	Rat	103 mg/l, 4 Hours
Octane (All isomers) (CAS 111-65-9)		
Acute		
Inhalation		
LC50	Rat	118 mg/l, 4 Hours
Pentane (CAS 109-66-0)		
Acute		
Inhalation		
LC50	Rat	364 mg/l, 4 Hours

Components	Species	Test Results
Toluene (CAS 108-88-3)		
Acute		
Dermal		
LD50	Rabbit	14.1 ml/kg
Inhalation		
LC50	Rat	49000 mg/m³, 4 Hours
Oral		
LD50	Rat	636 mg/kg
Xylene (o, m, p isomers) (CAS 1330-20-7)		
Acute		
Oral		
LD50	Rat	4300 mg/kg

Sensitization This substance may have a potential for sensitization which may provoke an allergic reaction among sensitive individuals.

Acute effects Harmful if inhaled, absorbed through skin, or swallowed. Harmful: may cause lung damage if swallowed. Irritating to eyes, respiratory system and skin. In high concentrations, vapors and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea.

Local effects

US. ACGIH Threshold Limit Values

Benzene (CAS 71-43-2)	Can be absorbed through the skin.
n-Hexane (CAS 110-54-3)	Can be absorbed through the skin.

Chronic effects Repeated exposure of laboratory animals to high concentrations of gasoline vapors has caused kidney damage and cancer in rats and cancer in mice. Gasoline was evaluated for genetic activity in assays using microbial cells, cultured mammalian cells and rat bone marrow cells. The results were all negative so gasoline was considered nonmutagenic under these conditions. Overexposure to this product or its components has been suggested as a cause of liver abnormalities in laboratory animals and humans. Lifetime studies by the American Petroleum Institute have shown that kidney damage and kidney cancer can occur in male rats after prolonged inhalation exposures at elevated concentrations of total gasoline. Kidneys of mice and female rats were unaffected. The U.S. EPA Risk Assessment Forum has concluded that the male rat kidney tumor results are not relevant for humans. Total gasoline exposure also produced liver tumors in female mice only. The implication of these data for humans has not been determined.

Subchronic effects Subchronic inhalation of benzene by rats produced decreased white blood cell counts, decreased bone marrow cell activity, increased red blood cell activity and cataracts. Blood disorders may occur after prolonged inhalation, prolonged skin contact and/or ingestion. Liver and kidney damage may occur after prolonged and repeated exposure.

Carcinogenicity

ACGIH Carcinogens

Benzene (CAS 71-43-2)	A1 Confirmed human carcinogen.
Ethanol (CAS 64-17-5)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Ethylbenzene (CAS 100-41-4)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Gasoline (CAS 86290-81-5)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Toluene (CAS 108-88-3)	A4 Not classifiable as a human carcinogen.
Xylene (o, m, p isomers) (CAS 1330-20-7)	A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Benzene (CAS 71-43-2)	1 Carcinogenic to humans.
Cumene (CAS 98-82-8)	2B Possibly carcinogenic to humans.
Ethylbenzene (CAS 100-41-4)	2B Possibly carcinogenic to humans.
Gasoline (CAS 86290-81-5)	2B Possibly carcinogenic to humans.
Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.
Xylene (o, m, p isomers) (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.

US NTP Report on Carcinogens: Known carcinogen

Benzene (CAS 71-43-2)	Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Benzene (CAS 71-43-2) Cancer hazard.

Epidemiology Contains benzene. Human epidemiology studies indicate that prolonged and/or repeated overexposure to benzene may cause damage to the blood-producing system and serious blood disorders, including leukemia. Animal tests suggest that prolonged and/or repeated overexposure to benzene may damage the embryo/fetus. The relevance of these animal studies to humans has not been fully established. Studies have shown a risk of spontaneous abortions in women exposed to high concentrations of organic solvents during pregnancy.

Mutagenicity In in-vitro experiments, neither benzene, toluene nor xylene changed the number of sister-chromatid exchanges (SCEs) or the number of chromosomal aberrations in human lymphocytes. However, toluene and xylene caused a significant cell growth inhibition which was not observed with benzene in the same concentrations. In in-vivo experiments, toluene changed the number of sister-chromatid exchanges (SCEs) in human lymphocytes. Toluene may cause heritable genetic damage.

Neurological effects Chronic exposure to high concentrations of various hydrocarbon blends may lead to polyneuropathy (peripheral nerve damage), characterized by progressive weakness and numbness in the extremities, loss of deep tendon reflexes and reduction of motor nerve conduction velocity. Numerous cases of polyneuritis have been reported following prolonged exposures to a petroleum fraction containing various isomers of heptane as major ingredients. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue) and/or damage.

Reproductive effects Benzene, xylene and toluene have demonstrated animal effects of reproductive toxicity. Animal studies of benzene have shown testicular effects, alterations in reproductive cycles, chromosomal aberrations and embryo/fetotoxicity. Ethanol has demonstrated human effects of reproductive toxicity. May damage fertility or the unborn child. Can cause adverse reproductive effects - such as birth defects, miscarriages, or infertility. Avoid exposure to women during early pregnancy. Avoid contact during pregnancy/while nursing.

Teratogenicity Abusive inhalation of toluene ("glue sniffing") has been reported to be associated with birth defects in the offspring of abusers. Rats exposed to benzene and xylene vapor during pregnancy showed embryo/fetotoxic effects. Ethanol has demonstrated human effects of teratogenicity.

Further information Symptoms may be delayed.

12. Ecological Information

Ecotoxicological data

Components		Species	Test Results
1,2,4, Trimethylbenzene (CAS 95-63-6)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	7.19 - 8.28 mg/l, 96 hours
Benzene (CAS 71-43-2)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	8.76 - 15.6 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	5.3 mg/l, 96 hours
Cumene (CAS 98-82-8)			
Aquatic			
Crustacea	EC50	Brine shrimp (Artemia sp.)	3.55 - 11.29 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2.7 mg/l, 96 hours
Cyclohexane (CAS 110-82-7)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	3.961 - 5.181 mg/l, 96 hours
Ethanol (CAS 64-17-5)			
Aquatic			
Algae	EC50	Freshwater algae	275 mg/l, 72 Hours
		Marine water algae	1970 mg/l
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours
		Freshwater fish	11200 mg/l, 96 Hours

Components		Species	Test Results
Invertebrate	EC50	Freshwater invertebrate	5012 mg/l, 48 Hours
		Marine water invertebrate	857 mg/l, 48 Hours
Ethylbenzene (CAS 100-41-4)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1 - 4 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4 mg/l, 96 hours
n-Hexane (CAS 110-54-3)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	2.101 - 2.981 mg/l, 96 hours
Toluene (CAS 108-88-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch)	5.5 mg/l, 96 hours
Xylene (o, m, p isomers) (CAS 1330-20-7)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	8 mg/l, 96 Hours

Ecotoxicity Contains a substance which causes risk of hazardous effects to the environment.

Environmental effects The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

Aquatic toxicity Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Persistence and degradability Not available.

Bioaccumulation / Accumulation Not available.

Partition coefficient

Ethanol	-0.31
Benzene	2.13
Toluene	2.73
Ethylbenzene	3.15
Xylene (o, m, p isomers)	3.2
Pentane	3.39
Cyclohexane	3.44
Hexane (Other Isomers)	3.6
Cumene	3.66
n-Hexane	3.9
n-Heptane	4.66
Octane (All isomers)	5.18

13. Disposal Considerations

Waste codes D001: Waste Flammable material with a flash point <140 °F
D018: Waste Benzene

Disposal instructions Dispose in accordance with all applicable regulations. Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.

14. Transport Information

DOT

Basic shipping requirements:

UN number UN1203

Proper shipping name Gasoline

Hazard class	3
Packing group	II
Additional information:	
Special provisions	139, B33, B101, T8
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1203
UN proper shipping name	Gasoline
Transport hazard class(es)	3
Packing group	II
ERG code	3H

IMDG

UN number	UN1203
UN proper shipping name	Gasoline
Transport hazard class(es)	3
Packing group	II
EmS	F-E, S-E

TDG

Proper shipping name	GASOLINE; MOTOR SPIRIT; or PETROL, MARINE POLLUTANT
Hazard class	3
UN number	UN1203
Packing group	II
Marine pollutant	Yes
Special provisions	17

15. Regulatory Information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Benzene (CAS 71-43-2)
Cumene (CAS 98-82-8)
Ethylbenzene (CAS 100-41-4)
n-Hexane (CAS 110-54-3)
Toluene (CAS 108-88-3)
Xylene (o, m, p isomers) (CAS 1330-20-7)

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

1,2,4, Trimethylbenzene (CAS 95-63-6)	1.0 %
Benzene (CAS 71-43-2)	0.1 %
Cumene (CAS 98-82-8)	1.0 %
Cyclohexane (CAS 110-82-7)	1.0 %
Ethylbenzene (CAS 100-41-4)	0.1 %
n-Hexane (CAS 110-54-3)	1.0 %
Toluene (CAS 108-88-3)	1.0 %
Xylene (o, m, p isomers) (CAS 1330-20-7)	1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

1,2,4, Trimethylbenzene (CAS 95-63-6)	Listed.
Benzene (CAS 71-43-2)	Listed.
Cumene (CAS 98-82-8)	Listed.
Cyclohexane (CAS 110-82-7)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
n-Hexane (CAS 110-54-3)	Listed.
Toluene (CAS 108-88-3)	Listed.
Xylene (o, m, p isomers) (CAS 1330-20-7)	Listed.

CERCLA (Superfund) reportable quantity (lbs) (40 CFR 302.4)

Gasoline: 100
Toluene: 1000
Hexane (Other Isomers): 100
Xylene (o, m, p isomers): 100
Octane (All isomers): 100
Pentane: 100
Cumene: 5000
Ethylbenzene: 1000
Benzene: 10
n-Hexane: 5000
Cyclohexane: 1000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance (40 CFR 355, Appendix A)
No

Section 311/312 (40 CFR 370)
No

Drug Enforcement Administration (DEA) (21 CFR 1308.11-15)
Not controlled

Canadian regulations
This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS status
Controlled

WHMIS classification
B2 - Flammable Liquids
D1A - Immediate/Serious-VERY TOXIC
D2A - Other Toxic Effects-VERY TOXIC
D2B - Other Toxic Effects-TOXIC

WHMIS labeling

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

State regulations
WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Hazardous Substances (Director's): Listed substance

1,2,4, Trimethylbenzene (CAS 95-63-6) Listed.
Benzene (CAS 71-43-2) Listed.

Cumene (CAS 98-82-8)	Listed.
Cyclohexane (CAS 110-82-7)	Listed.
Ethanol (CAS 64-17-5)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Hexane (Other Isomers) (CAS 96-14-0)	Listed.
n-Heptane (CAS 142-82-5)	Listed.
n-Hexane (CAS 110-54-3)	Listed.
Octane (All isomers) (CAS 111-65-9)	Listed.
Pentane (CAS 109-66-0)	Listed.
Toluene (CAS 108-88-3)	Listed.
Xylene (o, m, p isomers) (CAS 1330-20-7)	Listed.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Benzene (CAS 71-43-2)	Listed.
Cumene (CAS 98-82-8)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Toluene (CAS 108-88-3)	Listed.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Benzene (CAS 71-43-2)	Listed: February 27, 1987 Carcinogenic.
Cumene (CAS 98-82-8)	Listed: April 6, 2010 Carcinogenic.
Ethylbenzene (CAS 100-41-4)	Listed: June 11, 2004 Carcinogenic.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Benzene (CAS 71-43-2)	Listed: December 26, 1997 Developmental toxin.
Toluene (CAS 108-88-3)	Listed: January 1, 1991 Developmental toxin.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

Toluene (CAS 108-88-3)	Listed: August 7, 2009 Female reproductive toxin.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

Benzene (CAS 71-43-2)	Listed: December 26, 1997 Male reproductive toxin.

US - New Jersey RTK - Substances: Listed substance

1,2,4, Trimethylbenzene (CAS 95-63-6)	Listed.
Benzene (CAS 71-43-2)	Listed.
Cumene (CAS 98-82-8)	Listed.
Cyclohexane (CAS 110-82-7)	Listed.
Ethanol (CAS 64-17-5)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
n-Heptane (CAS 142-82-5)	Listed.
n-Hexane (CAS 110-54-3)	Listed.
Octane (All isomers) (CAS 111-65-9)	Listed.
Pentane (CAS 109-66-0)	Listed.
Toluene (CAS 108-88-3)	Listed.
Xylene (o, m, p isomers) (CAS 1330-20-7)	Listed.

US - Pennsylvania RTK - Hazardous Substances: Special hazard

Benzene (CAS 71-43-2)	Special hazard.

US. Massachusetts RTK - Substance List

1,2,4, Trimethylbenzene (CAS 95-63-6)	Listed.
Benzene (CAS 71-43-2)	Listed.
Cumene (CAS 98-82-8)	Listed.
Cyclohexane (CAS 110-82-7)	Listed.
Ethanol (CAS 64-17-5)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Hexane (Other Isomers) (CAS 96-14-0)	Listed.
n-Heptane (CAS 142-82-5)	Listed.
n-Hexane (CAS 110-54-3)	Listed.
Octane (All isomers) (CAS 111-65-9)	Listed.
Pentane (CAS 109-66-0)	Listed.
Toluene (CAS 108-88-3)	Listed.
Xylene (o, m, p isomers) (CAS 1330-20-7)	Listed.

US. New Jersey Worker and Community Right-to-Know Act

1,2,4, Trimethylbenzene (CAS 95-63-6)	500 LBS
Benzene (CAS 71-43-2)	500 LBS
Cumene (CAS 98-82-8)	500 LBS
Cyclohexane (CAS 110-82-7)	500 LBS
Ethylbenzene (CAS 100-41-4)	500 LBS
n-Hexane (CAS 110-54-3)	500 LBS

Pentane (CAS 109-66-0)	500 LBS
Toluene (CAS 108-88-3)	500 LBS
Xylene (o, m, p isomers) (CAS 1330-20-7)	500 LBS

US. Pennsylvania RTK - Hazardous Substances

1,2,4, Trimethylbenzene (CAS 95-63-6)	Listed.
Benzene (CAS 71-43-2)	Listed.
Cumene (CAS 98-82-8)	Listed.
Cyclohexane (CAS 110-82-7)	Listed.
Ethanol (CAS 64-17-5)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Gasoline (CAS 86290-81-5)	Listed.
Hexane (Other Isomers) (CAS 96-14-0)	Listed.
n-Heptane (CAS 142-82-5)	Listed.
n-Hexane (CAS 110-54-3)	Listed.
Octane (All isomers) (CAS 111-65-9)	Listed.
Pentane (CAS 109-66-0)	Listed.
Toluene (CAS 108-88-3)	Listed.
Xylene (o, m, p isomers) (CAS 1330-20-7)	Listed.

16. Other Information

Further information

HMIS® is a registered trade and service mark of the NPCA.

Other information

Note: This Material Safety Data Sheet applies to the listed products and synonym descriptions for Hazard Communication purposes only. Technical Specifications vary greatly depending on the products and are not reflected in this document. Consult specification sheets for technical information.

HMIS® ratings

Health: 2*
Flammability: 3
Physical hazard: 0

NFPA ratings

Health: 1
Flammability: 3
Instability: 0

Disclaimer

This Material Safety Data Sheet (MSDS) was prepared in accordance with 29 CFR 1910.1200 by Valero Marketing & Supply Co., ("VALERO"). VALERO does not assume any liability arising out of product use by others. The information, recommendations, and suggestions presented in this MSDS are based upon test results and data believed to be reliable. The end user of the product has the responsibility for evaluating the adequacy of the data under the conditions of use, determining the safety, toxicity and suitability of the product under these conditions, and obtaining additional or clarifying information where uncertainty exists. No guarantee expressed or implied is made as to the effects of such use , the results to be obtained, or the safety and toxicity of the product in any specific application. Furthermore, the information herein is not represented as absolutely complete, since it is not practicable to provide all the scientific and study information in the format of this document, plus additional information may be necessary under exceptional conditions of use, or because of applicable laws or government regulations.

Arsenic

SAFETY DATA SHEET

1 PRODUCT AND SUPPLIER IDENTIFICATION

Product Name: Arsenic - lump or powder

Formula: As

Supplier: ESPI Metals
1050 Benson Way
Ashland, OR 97520

Telephone: 800-638-2581

Fax: 541-488-8313

Email: sales@espimetals.com

Emergency: Infotrac 800-535-5053 (US) or 352-323-3500 (24 hour)

Recommended Uses: Scientific Research

2 HAZARDS IDENTIFICATION

GHS Classification (29 CFR 1910.1200): Acute toxicity - oral, category 4, Acute toxicity - inhalation, category 4.

GHS Label Elements:

Signal Word: Warning

Hazard Statements: H302 Harmful if swallowed, H332 Harmful if inhaled.

Precautionary Statements: P261 Avoid breathing dust or fume, P264 Wash hands thoroughly after handling, P270 Do not eat, drink or smoke when using this product, P271 Use only outdoors or in a well-ventilated area, P281 Use personal protective equipment as required, P301+P304+P312 IF SWALLOWED OR INHALED: Call a POISON CENTER or doctor/physician if you feel unwell, P330 Rinse mouth, P501 Dispose of contents/container in accordance with local, state or federal regulations.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient: Arsenic

CAS#: 7440-38-2

%: 100

EC#: 231-148-6

4 FIRST AID MEASURES

General Measures: Remove patient from area of exposure.

INHALATION: Remove to fresh air, keep warm and quiet, give oxygen if breathing is difficult. Seek immediate medical attention.

INGESTION: Rinse mouth with water. Do not induce vomiting. Seek immediate medical attention. Never induce vomiting or give anything by mouth to an unconscious person.

SKIN: Remove contaminated clothing, brush material off skin, wash affected area with soap and water. Seek medical attention.

EYES: Flush eyes with lukewarm water, including under upper and lower eyelids, for at least 15 minutes. Seek medical attention.

Most Important Symptoms/Effects, Acute and Delayed: May cause vomiting, abdominal pain, diarrhea. See section 11 for more information.

Indication of Immediate Medical Attention and Special Treatment: No other information available.

5 FIREFIGHTING MEASURES

Extinguishing Media: Use suitable extinguishing agent for surrounding materials and type of fire. Smother small fires involving arsenic powder or dust with Class D or other metal extinguishing agent.

Unsuitable Extinguishing Media: No information available.

Specific Hazards Arising from the Material: Emits toxic fumes under fire conditions.

Special Protective Equipment and Precautions for Firefighters: Full face, self-contained breathing apparatus and full protective clothing when necessary.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures: Wear appropriate respiratory and protective equipment specified in section 8. Isolate spill area and provide ventilation. Avoid breathing dust or fume. Avoid contact with skin and eyes. Eliminate all sources of ignition.

Methods and Materials for Containment and Cleaning Up: Avoid creating dust. Wet sweep or vacuum up spill so as not to create more dust. Place in properly labeled closed containers.

Environmental Precautions: Do not allow to enter drains or to be released to the environment.

7 HANDLING AND STORAGE

Precautions for Safe Handling: Handle in an enclosed, controlled process. Transfer material in closed systems or within a completely hooded containment with local exhaust ventilation. Prevent spillage. Avoid creating dusts. Avoid exposure to high temperature. Avoid breathing dust or fumes. Avoid contact with skin and eyes. Wash thoroughly before eating or smoking. See section 8 for information on personal protection equipment.

Conditions for Safe Storage, Including Any Incompatibilities: Store in a cool, dry area. Store material tightly sealed in properly labeled containers. Do not store together with oxidizers, acids or halogens. See section 10 for more information on incompatible materials.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits: Arsenic

OSHA/PEL: 0.01 mg/m^3

ACGIH/TLV: 0.01 mg/m^3

Appropriate Engineering Controls: Handle in a controlled, enclosed environment. Ensure adequate ventilation to maintain exposures below occupational limits. Whenever possible the use of local exhaust ventilation or other engineering controls is the preferred method of controlling exposure to airborne dust and fume to meet established occupational exposure limits. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air. Clothing worn in areas of exposure to arsenic dust or fume should be restricted to the workplace and laundered regularly.

Individual Protection Measures, Such as Personal Protective Equipment:

Respiratory Protection: Where airborne exposures may exceed OSHA/ACGIH permissible air concentrations, the minimum respiratory protection recommended is negative pressure air purifying respirator with cartridges that are NIOSH/MSHA approved against dusts, fumes and mists having a TWA less than 0.05 mg/m^3.

Eye Protection: Safety glasses or goggles.

Skin Protection: Wear impermeable gloves, protective work clothing. Protective overgarments or work clothing must be worn by persons who may become contaminated with particulate during work activities.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Form: Lump (pieces)

Color: Gray metallic

Odor: Odorless

Odor Threshold: Not determined

pH: N/A

Melting Point: 817 ^{o}C (28 atm.)

Boiling Point: 613 ^{o}C (sublimes)

Flash Point: N/A

Evaporation Rate: N/A

Flammability: N/A

Upper Flammable Limit: N/A

Lower Flammable Limit: N/A

Vapor Pressure: 1 mm Hg @ 372 ^{o}C (solid)

Vapor Density: N/A

Relative Density (Specific Gravity): 5.727 g/cc @ 14 ^{o}C

Solubility in H_2O: Insoluble

Partition Coefficient (n-octanol/water): Not determined

Autoignition Temperature: No data

Decomposition Temperature: No data

Viscosity: N/A

10 STABILITY AND REACTIVITY

Reactivity: No data

Chemical Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hydrogen gas can react with inorganic arsenic to form the highly toxic gas arsine.

Conditions to Avoid: Avoid creating dusts. Avoid high temperatures.

Incompatible Materials: Moist air, strong oxidizing agents, oxidizing acids, halogen and halogen compounds, sulfur, platinum, palladium, zinc, lithium, hydrogen gas.

Hazardous Decomposition Products: Arsenic oxide fume, arsine.

11 TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, skin and eyes

Symptoms of Exposure: May cause irritation and systemic poisoning with symptoms including abdominal pain, nausea, vomiting, diarrhea, and encephalopathy and peripheral neuropathy.

Acute and Chronic Effects: Acute effects of inorganic arsenic compounds include vomiting, abdominal pain and diarrhea, followed by numbness and tingling of the extremities, muscle cramping, and death, in extreme cases. The first signs of long-term exposure to high levels of inorganic arsenic are usually observed in the skin, and include pigmentation changes, skin lesions, and hard patches on the palms and soles of the feet (hyperkeratosis). Other adverse health effects that may be associated with long-term ingestion of inorganic arsenic include developmental effects, neurotoxicity, diabetes and cardiovascular disease.

Acute Toxicity: LD50 oral - rat - 763mg/kg

Carcinogenicity: **NTP**: Known to be human carcinogen **IARC**: Group 1 - Carcinogenic to humans

To the best of our knowledge the chemical, physical and toxicological characteristics of the substance are not fully known.

12 ECOLOGICAL INFORMATION

Ecotoxicity: No data

Persistence and Degradability: No data

Bioaccumulative Potential: No data

Mobility in Soil: No data

Other Adverse Effects: Danger to drinking water and to aquatic organisms. Do not allow material to be released to the environment. No further relevant information available.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Product: Dispose of in accordance with Federal, State and Local regulations.

Packaging: Dispose of in accordance with Federal, State and Local regulations.

14 TRANSPORT INFORMATION

UN Number: UN1558

UN Proper Shipping Name: Arsenic

Transport Hazard Class: 6.1

Packing Group: II

Marine Pollutant: No

Special Precautions: Warning: Toxic substances

15 REGULATORY INFORMATION

TSCA Listed: All components are listed.

Regulation (EC) No 1272/2008 (CLP): Acute toxicity - oral, category 4, Acute toxicity - inhalation, category 4, Hazardous to the aquatic environment - acute hazard, category 1, Hazardous to the aquatic environment - chronic hazard, category 1.

Canada WHMIS Classification (CPR, SOR/88-66): Acute toxicity.

HMIS Ratings: **Health**: 2 **Flammability**: 1 **Physical**: 0

NFPA Ratings: **Health**: 2 **Flammability**: 1 **Instability**: 0

Chemical Safety Assessment: A chemical safety assessment has not been carried out.

16 OTHER INFORMATION

The information contained in this document is based on the state of our knowledge at the time of publication and is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. ESPI Metals makes no representation, warranty, or guarantee of any kind with respect to the information contained in this document or any use of the product based on this information. ESPI Metals shall not be held liable for any damages resulting from handling or from contact with the above product. Users should satisfy themselves that they have all current data relevant to their particular use.

Prepared by: ESPI Metals

Revised/Reviewed: July 2015

CITGO TRANSGARD® Tractor Hydraulic Fluid, Red
Material Safety Data Sheet

CITGO Petroleum Corporation
P.O. Box 4689
Houston, TX 77210

MSDS No. 633308001
Revision Date 8/13/2007

IMPORTANT: This MSDS is prepared in accordance with 29 CFR 1910.1200. Read this MSDS before transporting, handling, storing or disposing of this product and forward this information to employees, customers and users of this product.

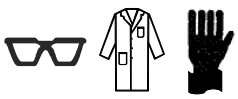
Hazard Rankings

	HMIS	NFPA
Health Hazard	1	1
Fire Hazard	1	1
Reactivity	0	0

*** = Chronic Health Hazard**

Protective Equipment

Minimum Recommended
See Section 8 for Details



Emergency Overview

Physical State Liquid.
Color Red. **Odor** Mild petroleum odor

WARNING:
Oil injected into the skin from high-pressure leaks can cause severe injury.
Most damage occurs during the first few hours.
Seek medical attention immediately.
Surgical removal of oil may be necessary.
Spills may create a slipping hazard.

SECTION 1. PRODUCT IDENTIFICATION

Trade Name	CITGO TRANSGARD® Tractor Hydraulic Fluid, Red	**Technical Contact**	(800) 248-4684
Product Number	633308001	**Medical Emergency**	(832) 486-4700
CAS Number	Mixture.	**CHEMTREC Emergency (United States Only)**	(800) 424-9300
Product Family	Hydraulic oil		
Synonyms	Hydraulic oil; Tractor hydraulic fluid; CITGO® Material Code: 633308001		

SECTION 2. COMPOSITION

Component Name(s)	CAS Registry No.	Concentration (%)
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	70 - 90
Proprietary Ingredients	Proprietary Mixture	<10
Highly-refined petroleum lubricant oils	Mixture	<10
Calcium sulfonates	Proprietary Mixture	<2
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	68649-42-3	<1

SECTION 3. HAZARDS IDENTIFICATION

Also see Emergency Overview and Hazard Ratings on the top of Page 1 of this MSDS.

Major Route(s) of Entry Skin contact.

Signs and Symptoms of Acute Exposure

Inhalation	At elevated temperatures or in enclosed spaces, product mist or vapors may irritate the mucous membranes of the nose, the throat, bronchi, and lungs.
Eye Contact	This product can cause transient mild eye irritation with short-term contact with liquid sprays or mists. Symptoms include stinging, watering, redness, and swelling.
Skin Contact	This material can cause mild skin irritation from prolonged or repeated skin contact. Injection under the skin can cause inflammation and swelling. Injection of pressurized hydrocarbons can cause severe, permanent tissue damage. Initial symptoms may be minor. Injection of petroleum hydrocarbons requires immediate medical attention.
Ingestion	If swallowed, large volumes of material can cause generalized depression, headache, drowsiness, nausea, vomiting and diarrhea. Smaller doses can cause a laxative effect. If aspirated into the lungs, liquid can cause lung damage.
Chronic Health Effects Summary	This product contains a petroleum-based mineral oil. Prolonged or repeated skin contact can cause mild irritation and inflammation characterized by drying, cracking, (dermatitis) or oil acne. Repeated or prolonged inhalation of petroleum-based mineral oil mists at concentrations above applicable workplace exposure levels can cause respiratory irritation or other pulmonary effects.
Conditions Aggravated by Exposure	Disorders of the following organs or organ systems that may be aggravated by significant exposure to this material or its components include: Skin
Target Organs	May cause damage to the following organs: skin.
Carcinogenic Potential	This product is not known to contain any components at concentrations above 0.1% which are considered carcinogenic by OSHA, IARC or NTP.

OSHA Hazard Classification is indicated by an "X" in the box adjacent to the hazard title. If no "X" is present, the product does not exhibit the hazard as defined in the OSHA Hazard Communication Standard (29 CFR 1910.1200).

OSHA Health Hazard Classification				OSHA Physical Hazard Classification					
Irritant		Sensitizer		Combustible		Explosive		Pyrophoric	
Toxic		Highly Toxic		Flammable		Oxidizer		Water-reactive	
Corrosive		Carcinogenic		Compressed Gas		Organic Peroxide		Unstable	

SECTION 4. FIRST AID MEASURES

Take proper precautions to ensure your own health and safety before attempting rescue or providing first aid. For more specific information, refer to Exposure Controls and Personal Protection in Section 8 of this MSDS.

Inhalation	Move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If breathing is difficult, 100 percent humidified oxygen should be administered by a qualified individual. Seek medical attention immediately. Keep the affected individual warm and at rest.
Eye Contact	Check for and remove contact lenses. Flush eyes with cool, clean, low-pressure water while occasionally lifting and lowering eyelids. Seek medical attention if excessive tearing, redness, or pain persists.
Skin Contact	If burned by hot material, cool skin by quenching with large amounts of cool water. For contact with product at ambient temperatures, remove contaminated shoes and clothing. Wipe off excess material. Wash exposed skin with mild soap and water. Seek medical attention if tissue appears damaged or if pain or irritation persists. Thoroughly clean contaminated clothing before reuse. Clean or discard contaminated leather goods. If material is injected under the skin, seek medical attention immediately.
Ingestion	Do not induce vomiting unless directed to by a physician. Do not give anything to drink unless directed to by a physician. Never give anything by mouth to a person who is not fully conscious. Seek medical attention immediately.

Notes to Physician

SKIN: In the event of injection in underlying tissue, immediate treatment should include extensive incision, debridement and saline irrigation. Inadequate treatment can result in ischemia and gangrene. Early symptoms may be minimal.

INGESTION: The viscosity range of the product(s) represented by this MSDS is greater than 100 SUS at 100°F. There is a low risk of aspiration upon ingestion Careful gastric lavage or emesis may be considered to evacuate large quantities of material.

SECTION 5. FIRE FIGHTING MEASURES

NFPA Flammability Classification NFPA Class-IIIB combustible material.

Flash Point Open cup: >150°C (>302°F) (Estimated).

Lower Flammable Limit No data. **Upper Flammable Limit** No data.

Autoignition Temperature Not available.

Hazardous Combustion Products Carbon dioxide, carbon monoxide, smoke, fumes, unburned hydrocarbons and oxides of sulfur, phosphorus, zinc and/or nitrogen.

Special Properties This material can burn but will not readily ignite. This material will release vapors when heated above the flash point temperature that can ignite when exposed to a source of ignition. In enclosed spaces, heated vapor can ignite with explosive force. Mists or sprays may burn at temperatures below the flash point.

Extinguishing Media Use dry chemical, foam, carbon dioxide or water fog. Water or foam may cause frothing. Carbon dioxide and inert gas can displace oxygen. Use caution when applying carbon dioxide or inert gas in confined spaces.

Protection of Fire Fighters Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Take proper precautions to ensure your own health and safety before attempting spill control or clean-up. For more specific information, refer to the Emergency Overview on Page 1, Exposure Controls and Personal Protection in Section 8 and Disposal Considerations in Section 13 of this MSDS.

Do not touch damaged containers or spilled material unless wearing appropriate protective equipment. Slipping hazard; do not walk through spilled material. Stop leak if you can do so without risk. For small spills, absorb or cover with dry earth, sand, or other inert non-combustible absorbent material and place into waste containers for later disposal. Contain large spills to maximize product recovery or disposal. Prevent entry into waterways or sewers. In urban area, cleanup spill as soon as possible. In natural environments, seek cleanup advice from specialists to minimize physical habitat damage. This material will float on water. Absorbent pads and similar materials can be used. Comply with all laws and regulations.

SECTION 7. HANDLING AND STORAGE

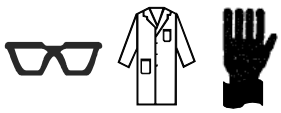
Handling Avoid contamination and extreme temperatures to minimize product degradation. Empty containers may contain product residues that can ignite with explosive force. Do not pressurize, cut, weld, braze solder, drill, grind or expose containers to flames, sparks, heat or other potential ignition sources. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers and/or waste residues of this product.

Storage Keep container closed. Store in a cool, dry, well-ventilated area. Do not store with strong oxidizing agents. Do not store at elevated temperatures. Avoid storing product in direct sunlight for extended periods of time. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers or waste residues of this product.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists and/or vapors below the recommended exposure limits (see below). An eye wash station and safety shower should be located near the work-station.

Personal Protective Equipment Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations. The following pictograms represent the minimum requirements for personal protective equipment. For certain operations, additional PPE may be required.



Eye Protection Safety glasses equipped with side shields are recommended as minimum protection in industrial settings. Wear goggles if splashing or spraying is anticipated. Wear goggles and face shield if material is heated above 125°F (51°C). Have suitable eye wash water available.

Hand Protection None required for incidental contact. Use gloves constructed of chemical resistant materials such as heavy nitrile rubber if frequent or prolonged contact is expected. Use heat-protective gloves when handling product at elevated temperatures.

Body Protection Use clean protective clothing if splashing or spraying conditions are present. Protective clothing may include long-sleeve outer garment, apron, or lab coat. If significant contact occurs, remove oil-contaminated clothing as soon as possible and promptly shower. Launder contaminated clothing before reuse or discard. Wear heat protective boots and protective clothing when handling material at elevated temperatures.

Respiratory Protection The need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134).

General Comments Use good personal hygiene practices. Wash hands and other exposed skin areas with plenty of mild soap and water before eating, drinking, smoking, use of toilet facilities, or leaving work. DO NOT use gasoline, kerosene, solvents or harsh abrasives as skin cleaners. Since specific exposure standards/control limits have not been established for this product, the "Oil Mist, Mineral" exposure limits shown below are suggested as minimum control guidelines.

Occupational Exposure Guidelines

Substance	Applicable Workplace Exposure Levels
Oil Mist, Mineral	**ACGIH (United States).** TWA: 5 mg/m^3 STEL: 10 mg/m^3 **OSHA (United States).** TWA: 5 mg/m^3

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES (TYPICAL)

Physical State	Liquid.	**Color**	Red.	**Odor**	Mild petroleum odor
Specific Gravity	0.87 (Water = 1)	**pH**	Not applicable	**Vapor Density**	>1 (Air = 1)
Boiling Range	Not available.			**Melting/Freezing Point**	Not available.
Vapor Pressure	<0.001 kPa (<0.01 mm Hg) (at 20°C)			**Volatility**	Negligible volatility.
Solubility in Water	Negligible solubility in cold water.			**Viscosity (cSt @ 40°C)**	57

Flash Point Open cup: >150°C (>302°F) (Estimated).

Additional Properties Gravity, ºAPI (ASTM D287) = 31.4 @ 60º F
Density = 7.19 Lbs/gal.
Viscosity (ASTM D2161) = AP 260 SUS @ 100º F

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability Stable. **Hazardous Polymerization** Not expected to occur.

Conditions to Avoid Keep away from extreme heat, strong acids and strong oxidizing conditions.

Materials Incompatibility Strong oxidizers.

Hazardous Decomposition Products No additional hazardous decomposition products were identified other than the combustion products identified in Section 5 of this MSDS.

SECTION 11. TOXICOLOGICAL INFORMATION

For other health-related information, refer to the Emergency Overview on Page 1 and the Hazards Identification in Section 3 of this MSDS.

Toxicity Data

Distillates (petroleum), hydrotreated heavy paraffinic
ORAL (LD50): Acute: >5000 mg/kg [Rat].
DERMAL (LD50): Acute: >2000 mg/kg [Rabbit].

Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects. In long term studies (up to two years) no carcinogenic effects have been reported in any animal species tested.

Hydraulic oil
Repeated or prolonged skin contact with certain hydraulic oils can cause mild skin irritation characterized by drying, cracking (dermatitis) or oil acne. Injection under the skin, in muscle or into the blood stream can cause irritation, inflammation, swelling, fever, and systemic effects, including mild central nervous system depression. Injection of pressurized hydrocarbons can cause severe, permanent tissue damage.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Analysis for ecological effects has not been conducted on this product. However, if spilled, this product and any contaminated soil or water may be harmful to human, animal, and aquatic life. Also, the coating action associated with petroleum and petroleum products can be harmful or fatal to aquatic life and waterfowl.

Environmental Fate

An environmental fate analysis is not available for this specific product. Plants and animals may experience harmful or fatal effects when coated with petroleum products. Petroleum-based (mineral) lubricating oils normally will float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway may be sufficient to cause a fish kill or create an anaerobic environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly, it is the responsibility of the user to determine the proper storage, transportation, treatment and/or disposal methodologies for spent materials and residues at the time of disposition.

Conditions of use may cause this material to become a "hazardous waste", as defined by federal or state regulations. It is the responsibility of the user to determine if the material is a "hazardous waste" at the time of disposal. Transportation, treatment, storage, and disposal of waste material must be conducted in accordance with RCRA regulations (see 40 CFR 260 through 40 CFR 271). State and/or local regulations may be more restrictive. Contact your regional US EPA office for guidance concerning case specific disposal issues. Empty drums and pails retain residue. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose this product's empty container to heat, flame, or other ignition sources. DO NOT attempt to clean it. Empty drums and pails should be drained completely, properly bunged or sealed, and promptly sent to a reconditioner.

SECTION 14. TRANSPORT INFORMATION

The shipping description below may not represent requirements for all modes of transportation, shipping methods or locations outside of the United States.

US DOT Status Not regulated by the U.S. Department of Transportation as a hazardous material.

Proper Shipping Name Not regulated.

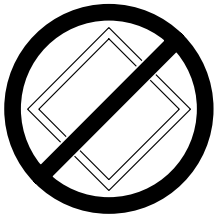
Hazard Class Not regulated.

Packing Group Not applicable.

UN/NA Number Not regulated.

Reportable Quantity A Reportable Quantity (RQ) has not been established for this material.

Placard(s)



Emergency Response Guide No. Not applicable.

MARPOL III Status Not a DOT "Marine Pollutant" per 49 CFR 171.8.

SECTION 15. REGULATORY INFORMATION

TSCA Inventory
This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.

SARA 302/304 Emergency Planning and Notification
The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to Subparts 302 and 304 to submit emergency planning and notification information based on Threshold Planning Quantities (TPQs) and Reportable Quantities (RQs) for "Extremely Hazardous Substances" listed in 40 CFR 302.4 and 40 CFR 355. No components were identified.

SARA 311/312 Hazard Identification
The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to this subpart to submit aggregate information on chemicals by "Hazard Category" as defined in 40 CFR 370.2. This material would be classified under the following hazard categories:

No SARA 311/312 hazard categories identified.

SARA 313 Toxic Chemical Notification and Release Reporting
This product contains the following components in concentrations above *de minimis* levels that are listed as toxic chemicals in 40 CFR Part 372 pursuant to the requirements of Section 313 of SARA: No components were identified.

CERCLA
The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center concerning release of quantities of "hazardous substances" equal to or greater than the reportable quantities (RQ's) listed in 40 CFR 302.4. As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically designated in 40 CFR 302.4. Chemical substances present in this product or refinery stream that may be subject to this statute are:
Zinc and zinc compounds, Concentration: <1%

Clean Water Act (CWA)
This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.

California Proposition 65
This material may contain the following components which are known to the State of California to cause cancer, birth defects or other reproductive harm, and may be subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):
Ethylbenzene: <0.002%

New Jersey Right-to-Know Label
Petroleum Oil (Hydraulic Oil)

Additional Remarks
No additional regulatory remarks.

SECTION 16. OTHER INFORMATION

Refer to the top of Page 1 for the HMIS and NFPA Hazard Ratings for this product.

REVISION INFORMATION

Version Number 2.00
Revision Date 8/13/2007

ABBREVIATIONS

AP: Approximately EQ: Equal >: Greater Than <: Less Than NA: Not Applicable ND: No Data NE: Not Establishe
ACGIH: American Conference of Governmental Industrial Hygienists AIHA: American Industrial Hygiene Associatior
IARC: International Agency for Research on Cancer NTP: National Toxicology Program
NIOSH: National Institute of Occupational Safety and Health OSHA: Occupational Safety and Health Administration

NPCA: National Paint and Coating Manufacturers Association
NFPA: National Fire Protection Association
HMIS: Hazardous Materials Information System
EPA: US Environmental Protection Agency

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* * * * * END OF MSDS * * * * *

Lead

SAFETY DATA SHEET

1 PRODUCT AND SUPPLIER IDENTIFICATION

Product Name: Lead - pellets, shot, sheet, foil, rod, wire, target

Formula: Pb

Supplier: ESPI Metals

1050 Benson Way

Ashland, OR 97520

Telephone: 800-638-2581

Fax: 541-488-8313

Email: sales@espimetals.com

Emergency: Infotrac 800-535-5053 (US) or 352-323-3500 (24 hour)

Recommended Uses: Scientific Research

2 HAZARDS IDENTIFICATION

GHS Classification (29 CFR 1910.1200): Acute toxicity, category 4, Carcinogenicity, category 2, Reproductive toxicity, category 2.

GHS Label Elements:

Signal Word: Warning

Hazard Statements: H302 Harmful if swallowed, H332 Harmful if inhaled, H351 Suspected of causing cancer, H361 Suspected of damaging fertility or the unborn child.

Precautionary Statements: P260 Do not breath dust/fume/gas/mist/vapors/spray, P264 Wash hands thoroughly after handling, P281 Use personal protective equipment as required, P301+P304+P312 IF SWALLOWED OR INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient: Lead

CAS#: 7439-92-1

%: 100

EC#: 231-100-4

4 FIRST AID MEASURES

General Measures: Under normal handling and use, exposure to solid forms of this material present few health hazards. Subsequent operations such as grinding, melting or welding may produce hazardous dust or fumes which can be inhaled or come in contact with the skin or eyes. Emergency responders should take care to avoid secondary exposure to lead particulate. Wear appropriate protective equipment.

INHALATION: Remove to fresh air, keep warm and quiet, give oxygen if breathing is difficult. Seek immediate medical attention.

INGESTION: Rinse mouth with water. Do not induce vomiting. Seek immediate medical attention. Never induce vomiting or give anything by mouth to an unconscious person.

SKIN: Remove contaminated clothing, wash affected area with soap and water. Seek medical attention. Wash contaminated clothing before reusing.

EYES: Flush eyes with lukewarm water, including under upper and lower eyelids, for at least 15 minutes. Seek medical attention.

Most Important Symptoms/Effects, Acute and Delayed: May cause irritation. See section 11 for more information.

Indication of Immediate Medical Attention and Special Treatment: No other information available.

5 FIREFIGHTING MEASURES

Extinguishing Media: Use suitable extinguishing agent for surrounding materials and type of fire.

Unsuitable Extinguishing Media: No information available.

Specific Hazards Arising from the Material: This product does not present fire or explosion hazards as shipped. Fine dust from processing is a weak to moderate fire hazard if allowed to accumulate and subjected to an ignition source. Under fire conditions toxic fumes of lead oxide may be released.

Special Protective Equipment and Precautions for Firefighters: Full face, self-contained breathing apparatus and full protective clothing when necessary.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures: Wear appropriate respiratory

and protective equipment specified in section 8. Avoid creating dusts. Avoid breathing dust or fume. Isolate spill area and provide ventilation.

Methods and Materials for Containment and Cleaning Up: For larger pieces - pick up mechanically. For chips or dust - vacuum using a HEPA filter. Place in properly labeled closed containers. Avoid creating dusts. Do not use compressed air.

Environmental Precautions: Do not allow to enter drains or to be released to the environment.

7 HANDLING AND STORAGE

Precautions for Safe Handling: Handle in a well-ventilated area. Avoid creating dust. Avoid exposure to high temperature. Avoid breathing dust or fumes. Avoid contact with skin and eyes. Wash thoroughly before eating or smoking. See section 8 for information on personal protection equipment.

Conditions for Safe Storage, Including Any Incompatibilities: Store in a sealed container. Store in a cool, dry area. Protect from moisture. Do not store together with strong oxidizers or acids. See section 10 for more information on incompatible materials.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits: Lead

OSHA/PEL: 50 µg/m^3

ACGIH/TLV: 0.05 mg/m^3

Appropriate Engineering Controls: Whenever possible the use of local exhaust ventilation or other engineering controls is the preferred method of controlling exposure to airborne dust and fume to meet established occupational exposure limits. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air. Clothing worn in areas of exposure to lead dust or fume should be restricted to the workplace and laundered regularly.

Individual Protection Measures, Such as Personal Protective Equipment:

Respiratory Protection: When potential exposures are above the occupational limits, approved respirators must be used.

Eye Protection: Safety glasses

Skin Protection: Wear impermeable gloves, protective work clothing as necessary.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Form: Solid in various forms

Color: Silvery metallic

Odor: Odorless

Odor Threshold: Not determined

pH: N/A

Melting Point: 327.5 ^{O}C

Boiling Point: 1740 ^{O}C

Flash Point: N/A

Evaporation Rate: N/A

Flammability: No data

Upper Flammable Limit: No data

Lower Flammable Limit: No data

Vapor Pressure: 1 mm Hg @ 973 ^{O}C

Vapor Density: N/A

Relative Density (Specific Gravity): 11.34 g/cc

Solubility in H_2O: Insoluble

Partition Coefficient (n-octanol/water): Not determined

Autoignition Temperature: No data

Decomposition Temperature: No data

Viscosity: N/A

10 STABILITY AND REACTIVITY

Reactivity: No data

Chemical Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: High temperatures will generate toxic lead oxide fumes.

Conditions to Avoid: Avoid creating or accumulating fines or dusts. Avoid high temperatures.

Incompatible Materials: Strong acids, strong oxidizers, halogens and interhalogen compounds.

Hazardous Decomposition Products: Lead oxide fume.

Other: Freshly cut or cast lead surfaces tarnish rapidly due to the formation of an insoluble protective layer of basic lead carbonate.

11 TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, skin, eyes. Product as shipped does not present an inhalation hazard; however subsequent operations may create dusts or fumes which could be inhaled.

Symptoms of Exposure: Skin or eye contact with dust or fume may cause local irritation. Inhalation of dust or fumes may cause headache, nausea, vomiting, abdominal spasms, fatigue, sleep disturbances, weight loss,

anemia, and pain in legs, arms, and joints. An acute short-term dose of lead could cause acute encephalopathy with seizures, coma, and death. However, short-term exposure of this magnitude is rare. Kidney damage, as well as anemia, can occur from acute exposure. Symptoms due to ingestion of lead dust or fume would be similar to those from inhalation. Other health effects such as metallic taste in the mouth and constipation or bloody diarrhea might also be expected to occur.

Acute and Chronic Effects: Lead accumulates in bone and body organs once it enters the body. Elimination from the body is slow. Initial and periodic medical examinations are advised for persons repeatedly exposed to levels above the exposure limits of lead dust or fumes. Once lead enters the body, it can affect a variety of organ systems, including the nervous system, kidneys, reproductive system, blood formation, and gastrointestinal system.

Acute Toxicity: No data

Carcinogenicity: **NTP**: R - Reasonably anticipated to be a carcinogen **IARC**: 2B - Possibly carcinogenic to humans

To the best of our knowledge the chemical, physical and toxicological characteristics of the substance are not fully known.

12 ECOLOGICAL INFORMATION

Ecotoxicity: No data

Persistence and Degradability: No data

Bioaccumulative Potential: No data

Mobility in Soil: No data

Other Adverse Effects: Do not allow material to be released to the environment. No further relevant information available.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Product: Dispose of in accordance with Federal, State and Local regulations.

Packaging: Dispose of in accordance with Federal, State and Local regulations.

14 TRANSPORT INFORMATION

DOT/ADR/IATA/IMDG Regulations: Not regulated

UN Number: N/A

UN Proper Shipping Name: N/A

Transport Hazard Class: N/A

Packing Group: N/A

Marine Pollutant: No

Special Precautions: N/A

15 REGULATORY INFORMATION

TSCA Listed: All components are listed.

Regulation (EC) No 1272/2008 (CLP): Acute toxicity, category 4, Carcinogenicity, category 2, Reproductive toxicity, category 2.

Canada WHMIS Classification (CPR, SOR/88-66): Class D, Division 2, Subdivision A - Very toxic material causing other toxic effects.

HMIS Ratings: **Health**: 1 **Flammability**: 0 **Physical**: 0

NFPA Ratings: **Health**: 1 **Flammability**: 0 **Reactivity**: 0

Chemical Safety Assessment: A chemical safety assessment has not been carried out.

16 OTHER INFORMATION

The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. ESPI Metals shall not be held liable for any damages resulting from handling or from contact with the above product.

Prepared by: ESPI Metals

Revised/Reviewed: September 2014

Material Safety Data Sheet
Mercury, 99.999%

ACC# 96252

Section 1 - Chemical Product and Company Identification

MSDS Name: Mercury, 99.999%
Catalog Numbers: AC193480000, AC193480500
Synonyms: Colloidal mercury; Hydrargyrum; Metallic mercury; Quick silver; Liquid silver
Company Identification:

Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7439-97-6	Mercury	99.999	231-106-7

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: silver liquid.
Danger! Corrosive. Harmful if inhaled. May be absorbed through intact skin. Causes eye and skin irritation and possible burns. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns. May cause liver and kidney damage. May cause central nervous system effects. This substance has caused adverse reproductive and fetal effects in animals. Inhalation of fumes may cause metal-fume fever. Possible sensitizer.
Target Organs: Blood, kidneys, central nervous system, liver, brain.

Potential Health Effects

Eye: Exposure to mercury or mercury compounds can cause discoloration on the front surface of the lens, which does not interfere with vision. Causes eye irritation and possible burns. Contact with mercury or mercury compounds can cause ulceration of the conjunctiva and cornea.
Skin: May be absorbed through the skin in harmful amounts. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Causes skin irritation and possible burns. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color.
Ingestion: May cause severe and permanent damage to the digestive tract. May cause perforation of the digestive tract. May cause effects similar to those for inhalation exposure. May cause systemic effects.
Inhalation: Causes chemical burns to the respiratory tract. Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count. May cause central nervous system effects including vertigo, anxiety, depression, muscle incoordination, and emotional instability. Aspiration may lead to pulmonary edema. May cause systemic effects. May cause respiratory sensitization.
Chronic: May cause liver and kidney damage. May cause reproductive and fetal effects. Effects may be delayed. Chronic exposure to mercury may cause permanent central nervous system damage, fatigue, weight loss, tremors, personality changes. Chronic ingestion may cause accumulation of mercury in body

tissues. Prolonged or repeated exposure may cause inflammation of the mouth and gums, excessive salivation, and loosening of the teeth.

Section 4 - First Aid Measures

Eyes: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).
Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.
Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately. Wash mouth out with water.
Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.
Notes to Physician: The concentration of mercury in whole blood is a reasonable measure of the body-burden of mercury and thus is used for monitoring purposes. Treat symptomatically and supportively. Persons with kidney disease, chronic respiratory disease, liver disease, or skin disease may be at increased risk from exposure to this substance.
Antidote: The use of d-Penicillamine as a chelating agent should be determined by qualified medical personnel. The use of Dimercaprol or BAL (British Anti-Lewisite) as a chelating agent should be determined by qualified medical personnel.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
Extinguishing Media: Substance is nonflammable; use agent most appropriate to extinguish surrounding fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.
Flash Point: Not applicable.
Autoignition Temperature: Not applicable.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Keep container tightly closed. Do not get on skin or in eyes. Do not ingest or inhale. Use only in a chemical fume hood. Discard contaminated shoes. Do not breathe vapor.

Storage: Keep container closed when not in use. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from metals. Store protected from azides.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Mercury	0.025 mg/m3 TWA; Skin - potential significant contribution to overall exposure by the cutaneous r oute	0.05 mg/m3 TWA (vapor) 10 mg/m3 IDLH	0.1 mg/m3 Ceiling

OSHA Vacated PELs: Mercury: 0.05 mg/m3 TWA (vapor)

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: silver
Odor: odorless
pH: Not available.
Vapor Pressure: 0.002 mm Hg @ 25C
Vapor Density: 7.0
Evaporation Rate: Not available.
Viscosity: 15.5 mP @ 25 deg C
Boiling Point: 356.72 deg C
Freezing/Melting Point:-38.87 deg C
Decomposition Temperature: Not available.
Solubility: Insoluble.
Specific Gravity/Density:13.59 (water=1)
Molecular Formula: Hg
Molecular Weight:200.59

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: High temperatures, incompatible materials.
Incompatibilities with Other Materials: Metals, aluminum, ammonia, chlorates, copper, copper alloys, ethylene oxide, halogens, iron, nitrates, sulfur, sulfuric acid, oxygen, acetylene, lithium, rubidium, sodium carbide, lead, nitromethane, peroxyformic acid, calcium, chlorine dioxide, metal oxides, azides, 3-bromopropyne, alkynes + silver perchlorate, methylsilane + oxygen, tetracarbonylnickel + oxygen, boron diiodophosphide.

Hazardous Decomposition Products: Mercury/mercury oxides.
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:
CAS# 7439-97-6: OV4550000
LD50/LC50:
Not available.

Carcinogenicity:
CAS# 7439-97-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: Intraperitoneal, rat: TDLo = 400 mg/kg/14D-I (Tumorigenic - equivocal tumorigenic agent by RTECS criteria - tumors at site of application).
Teratogenicity: Inhalation, rat: TCLo = 1 mg/m3/24H (female 1-20 day(s) after conception) Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus).
Reproductive Effects: Inhalation, rat: TCLo = 890 ng/m3/24H (male 16 week(s) pre-mating) Paternal Effects - spermatogenesis (incl. genetic material, sperm morphology, motility, and count).; Inhalation, rat: TCLo = 7440 ng/m3/24H (male 16 week(s) pre-mating) Fertility - post-implantation mortality (e.g. dead and/or resorbed implants per total number of implants).
Mutagenicity: Cytogenetic Analysis: Unreported, man = 150 ug/m3.
Neurotoxicity: The brain is the critical organ in humans for chronic vapor exposure; in severe cases, spontaneous degeneration of the brain cortex can occur as a late sequela to past exposure.
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: Fish: Rainbow trout: LC50 = 0.16-0.90 mg/L; 96 Hr; UnspecifiedFish: Bluegill/Sunfish: LC50 = 0.16-0.90 mg/L; 96 Hr; UnspecifiedFish: Channel catfish: LC50 = 0.35 mg/L; 96 Hr; UnspecifiedWater flea Daphnia: EC50 = 0.01 mg/L; 48 Hr; Unspecified In aquatic systems, mercury appears to bind to dissolved matter or fine particulates, while the transport of mercury bound to dust particles in the atmosphere or bed sediment particles in rivers and lakes is generally less substantial. The conversion, in aquatic environments, of inorganic mercury cmpd to methyl mercury implies that recycling of mercury from sediment to water to air and back could be a rapid process.
Environmental: Mercury bioaccumulates and concentrates in food chain (concentration may be as much as 10,000 times that of water). Bioconcentration factors of 63,000 for freshwater fish and 10,000 for salt water fish have been found. Much of the mercury deposited on land, appears to revaporize within a day or two, at least in areas substantially heated by sunlight.
Physical: All forms of mercury (Hg) (metal, vapor, inorganic, or organic) are converted to methyl mercury. Inorganic forms are converted by microbial action in the atmosphere to methyl mercury.
Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series:
CAS# 7439-97-6: waste number U151.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	DOT regulated - small quantity provisions apply (see 49CFR173.4)	MERCURY
Hazard Class:		8
UN Number:		UN2809
Packing Group:		III

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 7439-97-6 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
CAS# 7439-97-6: Section 5
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
CAS# 7439-97-6: 1 lb final RQ; 0.454 kg final RQ
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 7439-97-6: immediate, delayed.
Section 313
This material contains Mercury (CAS# 7439-97-6, 99.999%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.
Clean Air Act:
CAS# 7439-97-6 (listed as Mercury compounds) is listed as a hazardous air pollutant (HAP).
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA. CAS# 7439-97-6 is listed as a Priority Pollutant under the Clean Water Act. CAS# 7439-97-6 is listed as a Toxic Pollutant under the Clean Water Act.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
CAS# 7439-97-6 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65
WARNING: This product contains Mercury, a chemical known to the state of California to cause developmental reproductive toxicity.
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives
Hazard Symbols:
T

Risk Phrases:

R 23 Toxic by inhalation.
R 33 Danger of cumulative effects.

Safety Phrases:

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 7 Keep container tightly closed.

WGK (Water Danger/Protection)

CAS# 7439-97-6: 3

Canada - DSL/NDSL

CAS# 7439-97-6 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D2A, E.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 7439-97-6 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 6/15/1999
Revision #5 Date: 3/16/2007

ZINC METAL
SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product Identity: Zinc Metal

Trade Names and Synonyms: High Grade Zinc; Special High Grade Zinc; Zinc, Zn, CGG Alloy <1% Aluminum.

Manufacturer:
Teck Metals Ltd.
Trail Operations
Trail, British Columbia
V1R 4L8
Emergency Telephone: 250-364-4214

Supplier:
In U.S.:
Teck American Metal Sales Incorporated
501 North Riverpoint Blvd, Suite 300
Spokane, WA
USA, 99202

Other than U.S.:
Teck Metals Ltd.
#1700 – 11 King Street West
Toronto, Ontario
M5H 4C7

Preparer:
Teck Metals Ltd.
Suite 3300 – 550 Burrard Street
Vancouver, British Columbia
V6C 0B3

Date of Last Review: July 15, 2015.

Date of Last Edit: July 15, 2015.

Product Use: Zinc metal is used to coat steel for corrosion protection (galvanizing, electroplating, electrogalvanizing), as an alloying element in bronze, brass, aluminum and other metal alloys, for zinc die casting alloys, for zinc dry cell and zinc/air batteries, for the production of zinc sheet for architectural and coinage applications, as a reducing agent in organic chemistry and for other chemical applications.

SECTION 2. HAZARDS IDENTIFICATION

CLASSIFICATION:

NOTE: In the form in which it is sold this product is not regulated as a Hazardous Product in the U.S. or Canada. This Safety Data Sheet is provided for information purposes only.

Health		Physical	Environmental
Acute Toxicity (Oral, Inhalation)	– Does not meet criteria	Does not meet criteria for any Physical Hazard	Aquatic Toxicity – (Short Term/Long Term) Does not meet any criteria
Skin Corrosion/Irritation	– Does not meet criteria		
Eye Damage/Eye Irritation	– Does not meet criteria		
Respiratory or Skin Sensitization	– Does not meet criteria		
Mutagenicity	– Does not meet criteria		
Carcinogenicity	– Does not meet criteria		
Reproductive Toxicity	– Does not meet criteria		
Specific Target Organ Toxicity:			
Acute Exposure	– Does not meet criteria		
Chronic Exposure	– Does not meet criteria		

LABEL:

Symbols: None required	**Signal Word:** None required
Hazard Statements	**Precautionary Statements:**
None required	None required

Emergency Overview: A lustrous bluish-silver metal that does not burn in bulk but may form explosive mixtures if dispersed in air as a fine powder. Zinc oxide fume is formed when zinc metal is heated to or near the boiling point, or is burned. Contact with acids or alkalis generates flammable hydrogen gas which can accumulate in poorly ventilated areas. Do NOT use water or foam on burning zinc metal. Apply dry chemical, sand or special powder extinguishing media. Zinc is relatively non-toxic and poses little immediate hazard to the health of emergency response personnel or to the environment in an emergency situation.

Potential Health Effects: Zinc is essentially non-toxic to humans. However, zinc oxide fumes may cause mild local irritation to eyes, nose, throat and upper airways. Acute over-exposure to zinc oxide fume may cause metal fume fever, characterized by flu-like symptoms such as chills, fever, nausea, and vomiting which may be delayed 3 – 10 hours in onset. In most cases, dermal exposure to zinc or zinc compounds does not result in any noticeable toxic effects. Zinc is not listed as a carcinogen by OSHA, NTP, IARC, ACGIH or the EU (see Toxicological Information, Section 11).

Potential Environmental Effects: Zinc metal has relatively low bioavailability and poses no immediate ecological risks. Depending on physico-chemical characteristics (e.g., pH, water hardness), compounds of zinc metal can be toxic, particularly in the aquatic environment. Zinc also has the potential to bioaccumulate in plants and animals in both aquatic and terrestrial environments (see Ecological Information, Section 12).

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS Registry No.	CONCENTRATION (% wgt/wgt)
Zinc	7440-66-6	99+%

Note: See Section 8 for Occupational Exposure Guidelines.

SECTION 4. FIRST AID MEASURES

Eye Contact: *Symptoms:* Mild eye irritation, redness. Do not rub eye(s). Let the eye(s) water naturally for a few minutes. Look right and left, then up and down. If particle/dust does not come out, cautiously rinse eye(s) with lukewarm, gently flowing water for 5 minutes or until particle/dust is removed, while holding eyelid(s) open. If eye irritation persists, get medical advice/attention. DO NOT attempt to manually remove anything from the eye.

Skin Contact: *Symptoms:* Soiling of skin. No health effects expected. If irritation does occur, rinse with lukewarm, gently flowing water for 5 minutes or until the product is removed. If skin irritation occurs or you feel unwell, get medical advice/attention. *Molten Metal:* Flush contact area to solidify and cool but do not attempt to remove encrusted material or clothing. Cover burns and seek medical attention immediately.

Inhalation: *Symptoms:* Coughing and irritation in heavy dust clouds. If symptoms are experienced remove source of contamination or move victim from exposure area to fresh air immediately and obtain medical advice. NOTE: Metal fume fever may develop 3-10 hours after exposure to zinc oxide fumes. If symptoms of metal fume fever (flu-like symptoms) develop, obtain medical attention.

Ingestion: *Symptoms:* Stomach upset, nausea, diarrhea. If swallowed, no specific intervention is indicated as this material is not likely to be hazardous by ingestion. However, if you are concerned or you feel unwell, obtain medical advice.

SECTION 5. FIRE FIGHTING MEASURES

Fire and Explosion Hazards: Massive metal is difficult to ignite and is not considered a serious fire hazard. However, finely-divided metallic dust may form flammable or explosive dust clouds when dispersed in the air at high concentrations and exposed to heat, flame, or other ignition sources. Bulk dust in a damp state may heat spontaneously and ignite on exposure to air. Contact with acids and alkali hydroxides results in evolution of hydrogen gas which is potentially explosive. Mixtures with potassium chlorate or fused ammonium nitrate may explode on impact.

Extinguishing Media: Apply dry chemical, dry sand, or special powder extinguishing (Class D) media. Do NOT use water, carbon dioxide or foam on molten metals. Water may be ineffective for extinguishing a fire but should be used to keep fire-exposed billets, ingots and castings cool.

Fire Fighting: If possible, move material not yet involved in the fire from the fire area. If this is not possible, cool fire-exposed zinc by applying hose streams or fogs. Apply only dry chemical, sand, or special powder extinguishing media to any molten or burning zinc metal. Take extreme caution to prevent contact of water with molten or burning zinc. Zinc foil in particular may ignite in the presence of water. Zinc oxide fumes may evolve in fires. Fire fighters should be fully trained and wear full protective clothing including an approved, self-contained breathing apparatus which supplies a positive air pressure within a full face-piece mask.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Procedures for Cleanup: Control source of release if possible to do so safely. Clean up spilled material immediately observing precautions in Section 8, Personal Protection. Molten metal should be allowed to cool and harden before cleanup. Once solidified wear gloves, pick up and return to process. Powder or dust should be cleaned up by sweeping/shoveling, etc. Solid metal is recyclable. Return uncontaminated spilled material to the process if possible. Place contaminated material in clean, dry,

suitably labelled containers for later recovery or disposal. Treat or dispose of waste material in accordance with all local, state/provincial, and national requirements.

Personal Precautions: Protective clothing, gloves, and a respirator are recommended for persons responding to an accidental release (see also Section 8). Close-fitting safety goggles may be necessary in some circumstances to prevent eye contact with zinc dust and fume. Where molten metal is involved, wear heat-resistant gloves and suitable clothing for protection from hot-metal splash.

Environmental Precautions: Zinc metal has relatively low bioavailability and poses no immediate ecological risks. Depending on physico-chemical characteristics (e.g., pH, water hardness), compounds of zinc metal can be toxic, particularly in the aquatic environment. Zinc also has the potential to bioaccumulate in plants and animals in both aquatic and terrestrial environments. Releases of the product to water and soil should be prevented.

SECTION 7. HANDLING AND STORAGE

Store zinc in a DRY covered area, separate from incompatible materials. Zinc ingots suspected of containing moisture should be THOROUGHLY DRIED before being added to a molten bath. Ingots may contain cavities that collect moisture. Entrained moisture will expand explosively when immersed in a molten bath.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Guidelines: *(Time-Weighted Average (TWA) concentration over 8 hr unless otherwise indicated)*

Component	ACGIH TLV	OSHA PEL	NIOSH REL
Zinc	None established†	None established†	None established†

NOTE: OEGs for individual jurisdictions may differ from those given above. Check with local authorities for the applicable OEGs in your jurisdiction.

ACGIH - American Conference of Governmental Industrial Hygienists; OSHA - Occupational Safety and Health Administration; NIOSH - National Institute for Occupational Safety and Health. TLV – Threshold Limit Value, PEL – Permissible Exposure Limit, REL – Recommended Exposure Limit.

† NOTE: While there is no established OEL for zinc as such, there are OELs for zinc oxide which may be formed during burning, welding or other fuming processes.

The OSHA PEL final rule limits for zinc oxide dust are 10 mg/m^3 (total) and 5 mg/m^3 (respirable); the OSHA PEL final rule limit for zinc oxide fume is 5 mg/m^3. Note that the OSHA PEL final rule limits are currently non-enforceable due to a court decision. The OSHA PEL transitional limits therefore remain in force at present. They are 15 mg/m^3 (total) and 5 mg/m^3 (respirable) while the transitional PEL for zinc oxide fume is 5 mg/m^3. The ACGIH TLV for zinc oxide is 2 mg/m^3 (respirable fraction) with a Short Term Exposure Limit (STEL) of 10 mg/m^3 (respirable fraction). The NIOSH REL for zinc oxide (dust or fume) is 5 mg/m^3 10 hr TWA with a 15 mg/m^3 ceiling limit (15 minute sample) for zinc oxide dust and a 10 mg/m^3 STEL for zinc oxide fume (15 minute sample).

NOTE: The selection of the necessary level of engineering controls and personal protective equipment will vary depending upon the conditions of use and the potential for exposure. The following are therefore only general guidelines that may not fit all circumstances. Control measures to consider include:

Ventilation: Use adequate local or general ventilation to maintain the concentration of zinc oxide fumes in the working environment well below recommended occupational exposure limits. Supply sufficient replacement air to make up for air removed by the exhaust system. Where metallic particles of zinc are being collected and transported by a ventilation system, use a non-sparking, grounded ventilation system separate from other exhaust ventilation systems. Locate dust collectors and fans outdoors if possible and provide dust collectors with explosion vents or blow out panels. Refer to appropriate NFPA Standards 484, 654, and/or 68 for specific guidance.

Protective Clothing: Gloves and coveralls, shop coat or other work clothing are recommended to prevent prolonged or repeated direct skin contact when zinc is processed. Eye protection should be worn where fume or dust is generated. Respiratory protection may be required where zinc oxide fume is generated. Where hot or molten metal is handled, heat-resistant gloves, face shield, and clothing to protect from hot metal splash should be worn. Safety type boots are recommended.

Respirators: Where zinc oxide dust or fumes are generated and cannot be controlled to within acceptable levels, use appropriate NIOSH-approved respiratory protection equipment (a 42CFR84 Class N, R or P-95 particulate filter cartridge).

General Hygiene Considerations: Always practice good personal hygiene. Refrain from eating, drinking, or smoking in work areas. Thoroughly wash hands before eating, drinking, or smoking in appropriate designated areas. No special packaging materials are required.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Bluish-silver lustrous metal	**Odour:** None	**Odour Threshold:** None	**pH:** Not Applicable
Vapour Pressure: 1 mm at 487ºC Negligible at 20ºC	**Vapour Density:** Not Applicable	**Melting Point/Range:** 420º C	**Boiling Point/Range:** 908º C
Relative Density (Water = 1)**:** 7.1	**Evaporation Rate:** Not Applicable	**Coefficient of Water/Oil Distribution:** Log P (oct) = -0.47 (estimated)	**Solubility:** Insoluble in Water (0.2 mg/l @ pH 7)
Flash Point: Not Applicable.	**Flammable Limits (LEL/UEL):** LEL (Zinc Dust): 500 g/m^3; UEL Not Determined.	**Auto-ignition Temperature:** Approx 680ºC (dust cloud in air), Approx 460ºC (dust layer).	**Decomposition Temperature:** Oxidation starts approx 450°C

SECTION 10. STABILITY AND REACTIVITY

Stability & Reactivity: Massive metal is stable and not considered reactive under normal temperatures and pressures. Hazardous polymerization or runaway reactions will not occur. Zinc metal slowly becomes covered with a white coating of a hydrated basic zinc carbonate on exposure to moist air. Fine, condensed zinc dust or powder may heat spontaneously and ignite on exposure to air when damp. Zinc metal will react with acids and strong alkalis to generate hydrogen gas. A violent, explosive reaction may occur when powdered zinc is heated with sulphur. Powdered zinc will become incandescent or ignite in the presence of fluorine, chlorine, bromine or interhalogens (e.g., chlorine trifluoride). Powdered zinc can also react explosively with halogenated hydrocarbons if heated. Mixtures with potassium chlorate or fused ammonium nitrate may explode on impact.

Incompatibilities: Contact with acids and alkalis will generate highly flammable hydrogen gas. Contact with acidic solutions of arsenic and antimony compounds may evolve highly toxic ARSINE or STIBINE gas. Incompatible with strong oxidizing agents such as chlorine, fluorine, bromine, sodium, potassium or barium peroxide, sodium or potassium chlorate, chromium trioxide and fused ammonium nitrate. Also incompatible with elemental sulphur dust, halogenated hydrocarbons or chlorinated solvents, chlorinated rubber, and ammonium sulphide or calcium disulphide.

Hazardous Decomposition Products: High temperature operations such as oxy-acetylene cutting, electric arc welding or overheating a molten bath will generate zinc oxide fume which, on inhalation in sufficient quantity, can produce metal fume fever, a transient influenza-like illness.

SECTION 11. TOXICOLOGICAL INFORMATION

General: Zinc, especially in the metal form, is relatively non-toxic. However, it can react with other materials, such as oxygen or acids, to form compounds that can be potentially toxic. The primary route of exposure would be through the generation and inhalation of zinc oxide fume.

Acute:
Skin/Eye: In most cases, dermal exposure to zinc or zinc compounds does not result in any noticeable toxic effects. Zinc metal is not chemically irritating to the eyes.

Inhalation: If excessive quantities of zinc oxide fume are inhaled, it can result in the condition called metal fume fever. The symptoms of metal fume fever will occur within 3 to 10 hours, and include immediate dryness and irritation of the throat, tightness of the chest and coughing, which may later be followed by flu-like symptoms of fever, malaise, perspiration, frontal headache, muscle cramps, low back pain, occasionally blurred vision, nausea, and vomiting. The symptoms are temporary and generally disappear, without medical intervention, within 24 to 48 hours of onset. There are no recognized complications, after affects, or chronic affects that result from this condition.

Ingestion: Zinc is not expected to be harmful if ingested. When ingested in excessive quantities, zinc can irritate the stomach resulting in nausea, vomiting, abdominal pain and diarrhea. Ingestion is not a typical route of occupational exposure.

Chronic:
There is no chronic form of metal fume fever but in rare instances an acute incident may be followed by complaints such as bronchitis or pneumonia. Some workers may develop a short-term immunity (resistance) so that repeated exposure to zinc oxide fumes does not cause metal fume fever. This immunity (resistance) however is quickly lost after short absences from work (weekends or vacations). Workers exposed to finely-divided metallic zinc for up to 35 years revealed no acute or chronic illnesses

attributable to zinc. Prolonged or repeated skin contact with zinc dust or powder may cause dryness, irritation and cracking (dermatitis) since zinc is astringent and may tend to draw moisture from the skin. Zinc is not listed as a human carcinogen by the Occupational Safety and Health Administration (OSHA), the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), the American Conference of Governmental Industrial Hygienists (ACGIH) or the European Union (EU).

Animal Toxicity:

Ingredient:	Acute Oral Toxicity:	Acute Dermal Toxicity:	Acute Inhalation Toxicity:
Zinc	>5,000 mg/kg†	No data	No data

† LD_{50}, Mouse, Oral,

SECTION 12. ECOLOGICAL INFORMATION

Zinc metal is relatively insoluble; however, processing of the product or extended exposure in aquatic and terrestrial environments may lead to the release of zinc compounds in bioavailable forms. Zinc is highly mobile, and can be toxic in the aquatic environment with water hardness, pH and dissolved organic carbon content being major regulating factors. Zinc also has the potential to bioaccumulate in plants and animals in both aquatic and terrestrial environments. In soils, zinc is moderately mobile in accordance with soil properties (e.g., cation exchange capacity, pH, redox potential, chemical species); these properties also influence its bioavailability to terrestrial plants.

SECTION 13. DISPOSAL CONSIDERATIONS

If material cannot be returned to process or salvage, dispose of in accordance with applicable regulations.

SECTION 14. TRANSPORT INFORMATION

PROPER SHIPPING NAME ..... Not applicable – not regulated.
U.S. DOT AND TRANSPORT CANADA HAZARD CLASSIFICATION .... Not applicable
U.S. DOT AND TRANSPORT CANADA PID ..... Not applicable
MARINE POLLUTANT..... No
IMO CLASSIFICATION ..... Not regulated

SECTION 15. REGULATORY INFORMATION

U.S.
INGREDIENTS LISTED ON TSCA INVENTORY..... Yes

HAZARDOUS UNDER HAZARD COMMUNICATION STANDARD..... No

CERCLA SECTION 103 HAZARDOUS SUBSTANCES ..... Zinc.....Yes ..... RQ: 1,000 lb. (454 kg.)*
* reporting not required when diameter of the pieces of solid metal released is equal to or exceeds 100 micrometers (0.004 inches).

EPCRA SECTION 302 EXTREMELY HAZARDOUS SUBSTANCE ..... No

EPCRA SECTION 311/312 HAZARD CATEGORIES ..... No Hazard Categories Apply

EPCRA SECTION 313 TOXIC RELEASE INVENTORY:..... This product does not contain any toxic chemicals subject to the Toxic Release reporting requirements. However, potential by-products from working with this product - "Zinc (Fume or Dust)" CAS 7440-66-6 are reportable.

SECTION 16. OTHER INFORMATION

Date of Original Issue: July 23, 1997 **Version:** 01 *(First edition)*

Date of Latest Revision: July 15, 2015 **Version:** 14

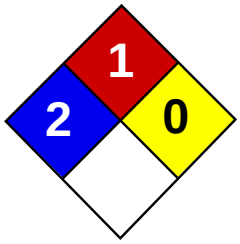
The information in this Safety Data Sheet is based on the following references:

- American Conference of Governmental Industrial Hygienists, 2004, Documentation of the Threshold Limit Values and Biological Exposure Indices, 7th Edition plus updates.

- American Conference of Governmental Industrial Hygienists, 2015, Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices.
- American Conference of Governmental Industrial Hygienists, 2015, Guide to Occupational Exposure Values.
- Bretherick's Handbook of Reactive Chemical Hazards, 20th Anniversary Edition (P. G. Urben, Ed), 1995.
- Canadian Centre for Occupational Health and Safety (CCOHS) Hamilton, ON, CHEMINFO Record No. 239 – Zinc Metal.
- European Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, amending and repealing directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (REACH).
- Health Canada, SOR/2015-17, Hazardous Products Regulations, 30 January 2015.
- International Agency for Research on Cancer (IARC), Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, 1972 – present, (multi-volume work), World Health Organization, Geneva.
- Merck & Co., Inc., 2001, The Merck Index, An Encyclopedia of Chemicals, Drugs, and Biologicals, 13th Edition.
- National Library of Medicine, National Toxicology Information Program, Hazardous Substance Data Bank (on-line version).
- Oak Ridge National Laboratory, Oak Ridge, Tennessee – Toxicity Summary for Zinc and Zinc Compounds, April 1992.
- Patty's Toxicology, 5th Edition, 2001 E. Bingham, B. Cohrssen & CH Powell (Eds.).
- U.S. Dept. of Health and Human Services, National Institute of Environmental Health Sciences, National Toxicology Program (NTP), 13th Report on Carcinogens, October 2014.
- U.S. Dept. of Health and Human Services, National Institute for Occupational Safety and Health, NIOSH Pocket Guide to Chemical Hazards (on-line edition).
- U.S. Dept. of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, Toxicological Profile for Zinc - August 2005.
- U.S. Dept. of Health and Human Services, National Institute for Occupational Safety and Health, Registry of Toxic Effects of Chemical Substances (RTECS), CCOHS on-line version.
- U.S. Occupational Safety and Health Administration, 1989, Code of Federal Regulations, Title 29, Part 1910.

Notice to Reader

Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. Teck American Metal Sales Incorporated and Teck Metals Ltd. extend no warranty and assume no responsibility for the accuracy of the content and expressly disclaim all liability for reliance thereon. This safety data sheet provides guidelines for the safe handling and processing of this product; it does not and cannot advise on all possible situations. Therefore, your specific use of this product should be evaluated to determine if additional precautions are required. Individuals exposed to this product should read and understand this information and be provided pertinent training prior to working with this product.



Material Safety Data Sheet
Trichloroethylene MSDS

Section 1: Chemical Product and Company Identification

Product Name: Trichloroethylene

Catalog Codes: SLT3310, SLT2590

CAS#: 79-01-6

RTECS: KX4560000

TSCA: TSCA 8(b) inventory: Trichloroethylene

CI#: Not available.

Synonym:

Chemical Formula: C2HCl3

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Trichloroethylene	79-01-6	100

Toxicological Data on Ingredients: Trichloroethylene: ORAL (LD50): Acute: 5650 mg/kg [Rat]. 2402 mg/kg [Mouse]. DERMAL (LD50): Acute: 20001 mg/kg [Rabbit].

Section 3: Hazards Identification

Potential Acute Health Effects: Hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Classified + (PROVEN) by OSHA. Classified A5 (Not suspected for human.) by ACGIH. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to kidneys, the nervous system, liver, heart, upper respiratory tract. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

Skin Contact:
After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion:
Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: 420°C (788°F)

Flash Points: Not available.

Flammable Limits: LOWER: 8% UPPER: 10.5%

Products of Combustion: These products are carbon oxides (CO, CO2), halogenated compounds.

Fire Hazards in Presence of Various Substances: Not available.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:
SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill:
Absorb with an inert material and put the spilled material in an appropriate waste disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Keep locked up Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapour/

spray. Wear suitable protective clothing In case of insufficient ventilation, wear suitable respiratory equipment If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes

Storage:
Keep container dry. Keep in a cool place. Ground all equipment containing material. Carcinogenic, teratogenic or mutagenic materials should be stored in a separate locked safety storage cabinet or room.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:
Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
TWA: 50 STEL: 200 (ppm) from ACGIH (TLV) TWA: 269 STEL: 1070 (mg/m3) from ACGIH Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Not available.

Taste: Not available.

Molecular Weight: 131.39 g/mole

Color: Clear Colorless.

pH (1% soln/water): Not available.

Boiling Point: 86.7°C (188.1°F)

Melting Point: -87.1°C (-124.8°F)

Critical Temperature: Not available.

Specific Gravity: 1.4649 (Water = 1)

Vapor Pressure: 58 mm of Hg (@ 20°C)

Vapor Density: 4.53 (Air = 1)

Volatility: Not available.

Odor Threshold: 20 ppm

Water/Oil Dist. Coeff.: The product is equally soluble in oil and water; log(oil/water) = 0

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, methanol, diethyl ether, acetone.

Solubility:
Easily soluble in methanol, diethyl ether, acetone. Very slightly soluble in cold water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Not available.

Corrosivity:
Extremely corrosive in presence of aluminum. Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: No.

Section 11: Toxicological Information

Routes of Entry: Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:
Acute oral toxicity (LD50): 2402 mg/kg [Mouse]. Acute dermal toxicity (LD50): 20001 mg/kg [Rabbit].

Chronic Effects on Humans:
CARCINOGENIC EFFECTS: Classified + (PROVEN) by OSHA. Classified A5 (Not suspected for human.) by ACGIH. The substance is toxic to kidneys, the nervous system, liver, heart, upper respiratory tract.

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Passes through the placental barrier in human. Detected in maternal milk in human.

Special Remarks on other Toxic Effects on Humans: Not available.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification: CLASS 6.1: Poisonous material.

Identification: : Trichloroethylene : UN1710 PG: III

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Trichloroethylene California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Trichloroethylene Pennsylvania RTK: Trichloroethylene Florida: Trichloroethylene Minnesota: Trichloroethylene Massachusetts RTK: Trichloroethylene New Jersey: Trichloroethylene TSCA 8(b) inventory: Trichloroethylene CERCLA: Hazardous substances.: Trichloroethylene

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada):
CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC):
R36/38- Irritating to eyes and skin. R45- May cause cancer.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 1

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/10/2005 08:54 PM

Last Updated: 05/21/2013 12:00 PM

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Colonial Chemical Solutions, Inc.

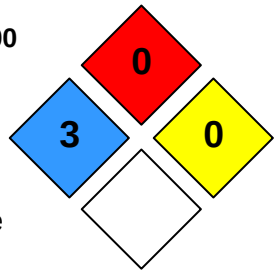
Material Safety Data Sheet – Perchloroethylene

SECTION I · PRODUCT IDENTIFICATION

CHEMTREC – 24HR Emergency Telephone 1-800-424-9300

Manufacturers Address:
916 West Lathrop Avenue
Savannah, Georgia 31415

Information Phone: (912) 443-6702
Date Prepared: 26 Sept 08
Preparer: F.Spaeth



NFPA Rating

0- Minimal 1- Slight 2- Moderate
3- Serious 4- Extreme

Synonym: PERC, Tetrachloroethylene
Chemical Family: Chlorinated Aliphatic

SECTION II · HAZARDOUS INGREDIENTS

CHEMICAL NAME	CAS Number	%WT	TLV	PEL
Tetrachloroethylene	127-18-4	100	25ppm	100 ppm

SECTION III · HAZARDOUS IDENTIFICATION

Potential Acute Health Effects: Irritating to skin and eye tissue. Slightly toxic by inhalation.
Potential Chronic Health Effects: Repeated abuse of high levels produces adverse effects on the liver and to a lesser extent on the kidneys

SECTION IV · PHYSICAL and CHEMICAL PROPERTIES

Boiling Point Range: 250°F
pH: NA
Solubility In Water: Insoluble
Appearance/Odor: Clear colorless liquid with sweet odor.
Melting Point/Freezing Point: No available data.

Vapor Density (Air=1): 5.8
Vapor Pressure (mmHg): 14
VOC %: No available data.
Specific Gravity (H_2O=1): 1.46

SECTION V · FIRE FIGHTING MEASURES

Flash Point: None
Auto Ignition: No Data
Extinguishing Media: As apparent to surrounding fire.
Flammable Limits: Lower: None Upper: None
Fire Fighting Procedures: Evacuate the area and fight from a safe distance. Cool fire-exposed containers with water spray to prevent container weakening and possible rupture. Do not enter fire zone without self-contained breathing apparatus (SCBA) and structural firefighter's protective clothing.
Unusual Fire and Explosion Hazards: Explosive mixtures of tetrachloroethylene and air can be formed, but are difficult to ignite and require high intensity sources of heat.

SECTION VI · STABILITY AND REACTIVITY

Stability: Stable.
Conditions to Avoid: Red hot surfaces and Open Flames
Incompatibility: Avoid contact with powdered metals and strong alkalis.
Hazardous Decomposition Products: Oxides of Carbon, hydrogen chloride and phosgene.
Hazardous Polymerization: Will not occur.

SECTION VII · STORAGE AND HANDLING

Precautions To Be Taken In Handling and Storage: Do not use in confined spaces. Always store in tightly sealed, properly labeled, original container. Store in a cool, dry well ventilated area.
Other Precautions: DO NOT get in eyes, on skin, or on clothing. DO NOT breath vapors, mist, or fumes. DO NOT swallow. May be aspirated into the lungs which could be fatal.

SECTION VIII · HEALTH AND FIRST AID

Skin: Slight/Mildly irritating. Can be absorbed through the skin.
Eyes: Vapors may be irritating. Irritation accompanied by redness.
Inhalation: High vapor concentrations may be irritating to respiratory system. Breathing of vapor may cause headaches, irritation of throat and may cause central nervous system depression.
Ingestion: May cause gastric distress, diarrhea and vomiting.

FIRST AID PROCEDURES:
Eyes: Flush with large amounts of cool running water for at least 15 minutes. If irritation persists get medical attention.
Skin: Wash skin with soap and water. If irritation persists seek medical attention.
Inhalation: For excessive inhalation remove to fresh air. If breathing is difficult seek medical attention.
Ingestion: DO NOT induce vomiting. Drink large amounts of water or milk. Seek medical attention immediately.

SECTION IX · EXPOSURE CONTROLS / PERSONAL PROTECTION

Eye Protection: Eye Protection when pouring. Goggles, safety glasses with side shields are recommended.
Respiratory Protection: Where adequate ventilation is not available an approved NIOSH respirator must be worn. In confined areas, use a self-contained breathing apparatus.
Skin Protection: Use suitable chemically resistant gloves, and clothing.
Ventilation: General Mechanical ventilation to prevent TLV from exceeding control limits.
Protective Clothing: Selection of protective clothing depends on potential exposure conditions and may include gloves, and other protective items.
Other Equipment: Eye wash station and shower in close proximity to use are advised

SECTION X · ACCIDENTAL RELEASE MEASURES

Small Spill: Isolate and stop source of spill provided it is safe to do so. Absorb on inert media and collect into suitable container. Wear necessary PPE.
Large Spill: Shut off or plug source of spill provided it is safe to do sol. Dike area to contain spill. Salvage as much liquid as possible into a suitable container. Absorb residual on inert media and collect into suitable container. Do not allow material to enter drains, sewers or waterways.
Personal Protection in Case of Large Spill: Wear protective equipment and/or garments as described in Section IX as conditions warrant.

SECTION XI · DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose of in accordance with U.S. EPA 40 CFR 262 for concentrations at or above 0.7 mg/L. Avoid contaminating ground and surface water. Do not flush to drain.
Follow local, state and federal applicable regulations for disposal.

SECTION XII · TRANSPORTAION

Proper Shipping Name: Tetrachloroethylene
Hazard Class: 6.1
UN Number: 1879
Packaging Group: III

SECTION XIII · TOXICOLOGY

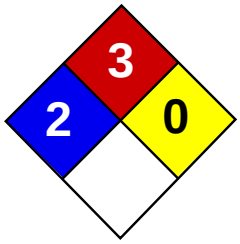
Carcinogenicity: Tetrachloroethylene is listed by NTP as 'reasonably anticipated to be a human carcinogen' and by IARC as a Group 2A carcinogen.
Mutagenicity: Data suggest this to be a Mutagenic.
Reproductive: Data suggest this to have reproductive effects.
Sensitization: No sensitizer data found.

SECTION XIV · REGULATORY

RMP/PSM: Not Listed
CERCLA-RQ: 100 LBS
EPCRA 311/312: Yes, See Sections III and VIII
EPCRA 313: Yes
FIFRA: No documented information available.
RCRA-CODE: U210; D039
TSCA: Listed

SECTION XV · OTHER INFORMATION

The information contained on this Material Safety Data Sheet is considered accurate as of the date of publication. It is not necessarily all inclusive nor fully adequate in every circumstance. The suggestions should not be confused with, nor followed in violation of applicable laws, regulations, rules or insurance requirements. No warranty, express or implied, of merchantability, fitness, accuracy of data, or the results to be obtained from the use thereof is made. The vendor assumes no responsibility for injury or damages resulting from the inappropriate use of this product.



Material Safety Data Sheet
Methyl tert-butyl ether MSDS

Section 1: Chemical Product and Company Identification

Product Name: Methyl tert-butyl ether

Catalog Codes: SLM2152

CAS#: 1634-04-4

RTECS: KN5250000

TSCA: TSCA 8(b) inventory: Methyl tert-butyl ether

CI#: Not available.

Synonym:

Chemical Name: Methyl tert-Butyl Ether

Chemical Formula: C5-H12-O

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Methyl {tert-}butyl ether	1634-04-4	100

Toxicological Data on Ingredients: Methyl tert-butyl ether: ORAL (LD50): Acute: 4000 mg/kg [Rat]. 5960 mg/kg [Mouse]. VAPOR (LC50): Acute: 23576 ppm 4 hour(s) [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:
Extremely hazardous in case of eye contact (irritant), of ingestion. Very hazardous in case of skin contact (irritant), of inhalation. Hazardous in case of skin contact (permeator). Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:
Extremely hazardous in case of eye contact (irritant), of ingestion. Very hazardous in case of skin contact (irritant), of inhalation. Hazardous in case of skin contact (permeator). CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to lungs, the nervous system, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged inhalation of vapors may lead to chronic respiratory irritation.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

Skin Contact:
After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion:
Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 224°C (435.2°F)

Flash Points: CLOSED CUP: -28°C (-18.4°F).

Flammable Limits: LOWER: 2.5% UPPER: 15.1%

Products of Combustion: These products are carbon oxides (CO, CO2).

Fire Hazards in Presence of Various Substances: Flammable in presence of open flames and sparks.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:
Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:
Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

Large Spill:
Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources.

Section 7: Handling and Storage

Precautions:
Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapour/spray. In case of insufficient ventilation, wear suitable respiratory equipment If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes

Storage:
Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. A refrigerated room would be preferable for materials with a flash point lower than 37.8°C (100°F).

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:
Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Characteristic. (Strong.)

Taste: Not available.

Molecular Weight: 88.15 g/mole

Color: Clear Colorless.

pH (1% soln/water): Not available.

Boiling Point: 55.2°C (131.4°F)

Melting Point: -109°C (-164.2°F)

Critical Temperature: Not available.

Specific Gravity: 0.7405 (Water = 1)

Vapor Pressure: 245 mm of Hg (@ 20°C)

Vapor Density: 3.1 (Air = 1)

Volatility: 100% (v/v).

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, methanol, diethyl ether.

Solubility:

Soluble in methanol, diethyl ether. Partially soluble in cold water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Not available.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: No.

Section 11: Toxicological Information

Routes of Entry: Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:
WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 4000 mg/kg [Rat]. Acute toxicity of the vapor (LC50): 23576 ppm 4 hour(s) [Rat].

Chronic Effects on Humans: The substance is toxic to lungs, the nervous system, mucous membranes.

Other Toxic Effects on Humans:
Extremely hazardous in case of ingestion. Very hazardous in case of skin contact (irritant), of inhalation. Hazardous in case of skin contact (permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification: Class 3: Flammable liquid.

Identification: : Methyl tert-butyl ether : UN2398 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:
Pennsylvania RTK: Methyl tert-butyl ether Massachusetts RTK: Methyl tert-butyl ether TSCA 8(b) inventory: Methyl tert-butyl ether SARA 313 toxic chemical notification and release reporting: Methyl tert-butyl ether CERCLA: Hazardous substances.: Methyl tert-butyl ether

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada):
CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):
R11- Highly flammable. R38- Irritating to skin. R41- Risk of serious damage to eyes.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 3

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 3

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/10/2005 08:23 PM

Last Updated: 05/21/2013 12:00 PM

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APPENDIX C

Community Air Monitoring Plan

Attachment C
Generic Community Air Monitoring Plan
Vacuum Oil Refinery Site
Site No. C828193
Flint Redevelopment LLC
Rochester, New York

1.0 Overview

This Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e. dust) at the downwind perimeter of each designated work area when certain site investigation or remediation activities are in progress. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The site-specific CAMP presented below will be sufficient to cover many, if not most, site activities. Specific requirements should be reviewed for each situation in consultation with Site Safety Officer, NYSDEC and NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical-specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures. These requirements will be determined in consultation with Site Safety Officer, NYSDEC, and NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

2.0 Community Air Monitoring Plan

The limited site information suggests VOCs, semivolatile organic compounds ("SVOCs"), and metals are present in the soil and groundwater, and that VOCs are present in the soil vapor. Based on the known and potential contaminants at the site, real-time air monitoring for VOCs and particulate levels at the perimeter of the exclusion zone and work area will be necessary.

2.1 Continuous Monitoring

Continuous air monitoring will be required for all ground intrusive activities conducted during the site investigation, interim remedial measures or remediation. The activities which will require continuous monitoring would include, but are not limited to: drilling of boreholes, installation of monitoring wells, development of monitoring wells , test pitting, and soil/waste excavation and handling.

2.2 Periodic Monitoring

The periodic monitoring for VOCs will be required during non-intrusive site activities such as the collection of groundwater samples from monitoring wells. Periodic monitoring will consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. Continuous sampling will be conducted for these activities, as needed to comply with the Special Requirements CAMP, when work areas are indoors or within 20 feet of potentially exposed populations or occupied structures regardless of the location of the occupants within the building. As sampling data is obtained, the CAMP will be re-evaluated.

2.2.1 VOC Monitoring, Response Levels, and Actions

VOCs will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis. Upwind concentrations will be measured at the start of each workday and periodically (every 15 to 30-minutes) thereafter to establish background conditions, particularly if wind direction changes. The monitoring work will be performed using at least an organic vapor analyzer with a photoionization or flame ionization detector. The VOC monitor will be calibrated in accordance with the manufacturers recommendations. As the field calibration drifts beyond an acceptable limit, a complete calibration will be done or the equipment will be replaced. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or the exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or the exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

    a. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

    b. All 15-minute readings must be recorded and be available for NYSDEC and NYSDOH personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

2.2.2 Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations.

The particulate monitoring equipment will be able to measure real time data to particulate sizes of less than 10 micrometers (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment will also provide an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter ("mcg/m^3") greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for NYSDEC, NYSDOH and County Health personnel to review.

Attachment 1 provides additional dust and particulate monitoring requirements for the CAMP.

Attachment 1
Additional Dust and Particulate Monitoring Requirements

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

Appendix 1B
Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10;
(g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
(l) Operating Temperature: -10 to 50^{o} C (14 to 122^{o} F);
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and
(g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

ATTACHMENT 1: SPECIAL REQUIREMENTS CAMP

Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative- pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring should occur within the occupied structure(s). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.

- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 mcg/m^3 (micrograms per cubic meter), work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/m^3 or less at the monitoring point.

- Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary, for each site.

Special Requirements for Indoor Work With Co-Located Residences or Facilities

Unless a self-contained, negative-pressure enclosure with proper emission controls will encompass the work area, all individuals not directly involved with the planned work must be absent from the room in which the work will occur. Monitoring requirements shall be as stated above under “Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures” except that in this instance “nearby/occupied structures” would be adjacent occupied rooms. Additionally, the location of all exhaust vents in the room and their discharge points, as well as potential vapor pathways (openings, conduits, etc.) relative to adjoining rooms, should be understood and the monitoring locations established accordingly. In these situations, it is strongly recommended that exhaust fans or other engineering controls be used to create negative air pressure within the work area during remedial activities. Additionally, it is strongly recommended that the planned work be implemented during hours (e.g. weekends or evenings) when building occupancy is at a minimum.