



Phase II Environmental Site Assessment

515 Munroe Avenue
Winnipeg, MB

Prepared for:

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EXECUTIVE SUMMARY

Pinchin Ltd. (Pinchin) was retained by Mr. Frank Laba c/o Elite Self Storage (Client) to conduct a Phase II Environmental Site Assessment (ESA) of the property located at 515 Munroe Avenue in Winnipeg, MB (hereafter referred to as the Site).

The Site is developed with one single-storey office and reception building and six single-storey rectangular storage buildings on the western half of Site. The eastern half of the Site is used as parking and storage of vehicles and trailers.

The purpose of this Phase II ESA was to address potential issues of environmental concern identified during a Phase I ESA conducted by Pinchin at the Site in 2009, in relation to the potential acquisition of the Site.

The results of the Phase I ESA completed by Pinchin identified the following potential issues of environmental concern:

- A Radio Oil Refinery, with numerous aboveground storage tanks (ASTs) of varying sizes, was located approximately 20 metres (m) south of the Site in the 1961 Fire Insurance Plan (FIP), the 1948, 1960, 1968 and 1979 aerial photographs and city directories from the early 1950s to the late 1970s;
- An underground storage tank (UST) was located on the Canada Dry Bottling Plant property located north of the Site;
- A railway spur line was located on-Site on the north side of the former manufacturing plant;
- A 10,000 gallon fuel oil AST was located on the south side of the former manufacturing plant located on-Site;
- Hazardous wastes were formerly generated at the Site;
- A 2,727-litre gasoline UST located on-Site identified in the FIP and a Property Underwriter Report;
- Hydrocarbon odours were detected in four of the six boreholes advanced at the Site during a previous investigation completed by M. Block, which may indicate the potential presence of petroleum hydrocarbon (PHC) impacted soils at the Site;



- The storage of asphalt on the northeast portion of the Site; and
- An automotive repair/servicing facility has operated immediately adjacent to the north of the Site from 1990 until the time of the Phase I ESA in 2009.

Based on the above-mentioned findings, Pinchin recommended that a Phase II ESA be conducted at the Site in order to assess for the presence of environmental impacts.

The Phase II ESA was completed at the Site by Pinchin between October 17 and October 29, 2014, and consisted of the advancement of 18 boreholes, 11 of which were completed as groundwater monitoring wells.

Select “worst case” soil samples collected during the borehole drilling program were submitted for laboratory analysis of benzene, toluene, ethylbenzene and xylenes (BTEX), PHCs in the F1 to F4 fraction range (F1-F4), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs) and/or metals analysis.

Groundwater samples collected from the newly installed monitoring wells were submitted for laboratory analysis of BTEX, PHCs (F1-F4), VOCs and/or PAHs.

Based on Site-specific information, the soil quality was assessed based on the Canadian Council of Ministers of the Environment (CCME) “*Environmental Quality Guidelines*” accessed on the CCME web site in November 2014, the CCME “*Canada-Wide Standards for Petroleum Hydrocarbons in Soil*”, dated 2008 and the CCME “*Canadian Environmental Soil Quality Guidelines for the Protection of Environmental and Human Health - Polycyclic Aromatic Hydrocarbons*”, dated 2010 (hereafter collectively referred to as the CCME Soil Guidelines).

For properties where groundwater is considered non-potable, Manitoba Conservation and Water Stewardship (Manitoba Conservation) designates that groundwater quality be assessed based on the Ontario Ministry of the Environment and Climate Control (MOECC) “*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*” dated April 15, 2011 (MOECC Groundwater Guidelines).

The reported concentrations of BTEX, PHCs (F1-F4), VOCs, PAHs and metals in the soil samples submitted for analysis met the CCME Soil Guidelines, with the following exceptions:

- Soil sample BH3 S1 collected at borehole BH3 (MW3), which had concentrations of PHCs (F1) and PHCs (F2) that exceeded the CCME Soil Guidelines; and



- Soil sample BH5 S1 collected at borehole BH5 (MW5) had a concentration of barium that exceeded the CCME Soil Guidelines.

The reported concentrations of BTEX, PHCs (F1-F4), VOCs and PAHs in the groundwater samples submitted for analysis met the MOECC Groundwater Guidelines, with the following exceptions:

- The groundwater sample collected from monitoring well BH1 (MW1) had a concentration of benzene that exceeded the MOECC Groundwater Guidelines;
- The groundwater sample collected from monitoring well BH11 (MW11) had concentrations of PHCs (F2) and PHCs (F3) that exceeded the MOECC Groundwater Guidelines.

Based on the findings of this Phase II ESA, Pinchin recommends that additional boreholes be completed at the Site to delineate the extent of the soil impacts at boreholes BH3 (MW3) (PHCs (F1 and F2)) and BH5 (MW5) (barium), and the extent of the groundwater impacts at monitoring wells BH1 (MW1) (benzene) and BH11 (MW11) (PHCs (F2 and F3)).

This Executive Summary is subject to the same standard limitations as contained in the report and must be read in conjunction with the entire report.



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1.0 INTRODUCTION

Pinchin Ltd. (Pinchin) was retained through an Authorization to Proceed signed by Mr. Frank Laba c/o Elite Self Storage (Client) to conduct a Phase II Environmental Site Assessment (ESA) of the property located at 515 Munroe Avenue in Winnipeg, MB (hereafter referred to as the Site). The Site location is shown on Figure 1 (all Figures are provided in Appendix I).

The Site is developed with one single-storey office and reception building and six single-storey rectangular storage buildings on the western half of Site. The eastern half of the Site is used as parking and storage of vehicles and trailers.

The purpose of this Phase II ESA was to address potential issues of environmental concern identified during a Phase I ESA conducted by Pinchin in relation to the potential acquisition of the Site.

This Phase II ESA was completed in general accordance with the Canadian Standards Association document entitled "*Phase II Environmental Site Assessment, CSA Standard Z769-00 (R2013)*", dated 2000 and reaffirmed in 2013.

1.1 Background

Pinchin completed a Phase I ESA of the Site for the Client, the findings of which were provided in the report entitled "*Phase I Environmental Site Assessment, 515 Munroe Avenue, Winnipeg, Manitoba*", dated June 18, 2009. The results of the Phase I ESA completed by Pinchin identified the following potential issues of environmental concern:

- A Radio Oil Refinery, with numerous aboveground storage tanks (ASTs) of varying sizes, was located approximately 20 metres (m) south of the Site in the 1961 Fire Insurance Plan (FIP), the 1948, 1960, 1968 and 1979 aerial photographs and city directories from the early 1950s to the late 1970s;
- An underground storage tank (UST) was located on the Canada Dry Bottling Plant property located north of the Site;
- A railway spur line was located on-Site on the north side of the former manufacturing plant;
- A 10,000 gallon fuel oil AST was located on the south side of the former manufacturing plant located on-Site;



- Hazardous wastes were formerly generated at the Site;
- A 2,727-litre gasoline UST located on-Site identified in the FIP and Property Underwriter Report;
- Hydrocarbon odours were detected in four of the six boreholes advanced at the Site during a previous investigation completed by M. Block, which may indicate the potential presence of petroleum hydrocarbon (PHC) impacted soils at the Site;
- The storage of asphalt on the northeast portion of the Site; and
- An automotive repair/servicing facility has operated immediately adjacent to the north of the Site from 1990 until the time of the Phase I ESA in 2009.

Based on the above-mentioned findings, it was Pinchin's recommendation that a Phase II ESA be conducted at the Site in order to assess the above-noted potential issues of environmental concern.

1.2 Scope of Work

The scope of work completed by Pinchin, as outlined in the Pinchin proposal entitled "*Proposal for Phase II Environmental Site Assessment, 515 Munroe Avenue, Winnipeg, Manitoba*" submitted to the Client on July 24, 2014, included the following:

- Advancement of 18 boreholes following the clearance of underground services, 11 of which were instrumented with a monitoring well;
- Submission of select "worst case" soil samples for laboratory analysis of benzene, toluene, ethylbenzene and xylenes (BTEX), PHCs in the F1 to F4 fraction range (F1-F4), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs) and/or metals;
- Collection of groundwater samples from each of the newly installed monitoring wells, following well development and purging, for laboratory analysis of BTEX, PHCs (F1-F4), VOCs and/or PAHs;
- Completion of depth to groundwater measurements for the newly installed monitoring wells;
- Comparison of the soil and groundwater laboratory analytical results to the applicable regulatory criteria; and



- Preparation of a factual report detailing the findings of the Phase II ESA and recommendations.

2.0 METHODOLOGY

The investigation methodology was conducted in general accordance with Manitoba Conservation and Water Stewardship's (Manitoba Conservation) "*Guideline for Environmental Site Investigations in Manitoba*," dated 1998 (Revised 2002) (*Manitoba Conservation Guideline*) and Pinchin's standard operating procedures (SOPs).

2.1 Borehole Investigation

Pinchin retained Maple Leaf Drilling to complete the borehole drilling program at the Site on October 17 and October 20, 2014 following the clearance of underground services in the vicinity of the work area by public utility locators and a private utility locator retained by Pinchin.

The boreholes were advanced to a maximum depth of 6.1 metres below ground surface (mbgs) using a truck-mounted drilling rig equipped with solid stem augers. Soil samples were collected at continuous 0.76 m intervals from the auger flights. Discrete soil samples were collected from the auger flights and containerized in laboratory-supplied glass sampling jars.

Subsurface soil conditions were logged on-Site by Pinchin personnel at the time of drilling. Soil samples were examined for visual and olfactory evidence of impacts and a portion of each sample was analyzed in the field for solvent and petroleum-derived vapour concentrations in soil headspace using a photoionization detector (PID) and a hydrocarbon surveyor operated in methane elimination mode (RKI Eagle).

The locations of the boreholes are shown on Figure 2 and a description of the subsurface stratigraphy encountered during the drilling program is documented in the borehole logs included in Appendix II.

2.2 Monitoring Well Installation

Groundwater monitoring wells were installed in boreholes BH1 (MW1), BH2 (MW2), BH3 (MW3), BH4 (MW4), BH5 (MW5), BH7 (MW7), BH9 (MW9), BH10 (MW10), BH11 (MW11), BH14 (MW14) and BH15 (MW15) to enable groundwater monitoring and sampling. The monitoring wells were constructed with 5.2 centimetre (cm) inner diameter (ID) flush-threaded Schedule 40 polyvinyl chloride (PVC) risers, followed by a length of 5.2 cm ID No. 10 slot PVC.

Each well screen was sealed at the bottom using a threaded cap and each riser was sealed at the top with a lockable J-plug cap. Silica sand was placed around and above the screened interval to form a filter pack around the well screen. A layer of bentonite was placed above the silica sand and was extended to the ground surface. A protective flush-mount cover was installed at the ground surface over each riser pipe and cemented in place.

The locations of the monitoring wells are shown on Figure 2. The monitoring well construction details are shown on the borehole logs included in Appendix II.

2.3 Groundwater Monitoring

The water levels within the monitoring wells were measured on October 23, 2014 using an interface probe. The presence/absence of non-aqueous phase liquid (NAPL) was also assessed during groundwater monitoring using the interface probe and dedicated bailers.

2.4 Sampling and Laboratory Analysis

2.4.1 Soil

Up to two “worst case” soil samples, based on vapour concentrations as well as visual and/or olfactory considerations, recovered from each borehole were submitted for laboratory analysis of BTEX, PHCs (F1-F4), VOCs, PAHs and/or metals.

The borehole locations are shown on Figure 2. Table 1 in Appendix III (all Tables are provided within Appendix III) provides a summary of the soil samples submitted for laboratory analysis.

2.4.2 Groundwater

On October 23, 2014, all newly installed groundwater monitoring wells were developed by removing three to five well casing volumes, or were purged until dry, in accordance with Pinchin's SOPs.

On October 29, 2014, newly installed groundwater monitoring wells BH1 (MW1), BH2 (MW2), BH3 (MW3), BH4 (MW4), BH5 (MW5), BH7 (MW7), BH9 (MW9), BH10 (MW10), BH11 (MW11), BH14 (MW14) and BH15 (MW15) were purged prior to sampling by removing three to five well casing volumes, or were purged until dry, in accordance with Pinchin's SOPs. Upon groundwater recovery, groundwater samples were collected from these monitoring wells and submitted for laboratory analysis of BTEX, PHCs (F1-F4), VOCs and/or PAHs.



All monitoring well development, purging and sampling activities were conducted using dedicated disposable PVC bailers to draw groundwater to the surface.

The monitoring well locations are shown on Figure 2. Table 1 provides a summary of the groundwater samples submitted for laboratory analysis.

2.4.3 Analytical Laboratory

Selected soil and groundwater samples were delivered to Maxxam Analytics Inc. (Maxxam) in Winnipeg, MB for analysis. Maxxam is an independent laboratory accredited by the Standards Council of Canada and the Canadian Association for Laboratory Accreditation. Formal chain of custody records of the sample submissions were maintained between Pinchin and the staff at Maxxam.

2.5 QA/QC Protocols

Various quality assurance/quality control (QA/QC) protocols were followed during the Phase II ESA to ensure that representative samples were obtained and that representative analytical data were reported by the laboratory.

Field QA/QC protocols that were employed by Pinchin included the following:

- Care was exercised not to obtain soil samples that were in direct contact with the drilling equipment or that had been smeared along the edge of the borehole;
- Soil and groundwater samples were placed in laboratory-supplied glass sample jars;
- The monitoring wells were developed following installation and were purged to remove stagnant water prior to sample collection so that representative groundwater samples could be obtained. Dedicated purging and sampling equipment was used for monitoring well development, purging and sampling to minimize the potential for cross-contamination;
- Soil and groundwater samples were placed in coolers on ice immediately upon collection, with appropriate sample temperatures maintained prior to submission to the laboratory;
- Dedicated and disposable nitrile gloves were used for sample handling;



- Non-dedicated monitoring and sampling equipment (i.e., interface probe and soil sampling knife) was cleaned before initial use and between uses to minimize the potential for cross-contamination by washing with an Alconox™/potable water mixture followed by a deionized water rinse; and
- Sample collection and handling procedures were performed in general accordance with the *Manitoba Conservation Guideline* and Pinchin's SOPs for Phase II ESAs.

Maxxam's internal laboratory QA/QC consisted of the analysis of laboratory duplicate, method blank, matrix spike and spiked blank samples, an evaluation of relative percent difference calculations for laboratory duplicate samples, and an evaluation of surrogate recoveries.

2.6 Regulatory Criteria

Manitoba Conservation has adopted Canadian Council of Ministers of the Environment (CCME) guidelines as the regulatory criteria applicable to soil conditions in Manitoba. Analytical results of soil samples are compared to criteria set forth in the CCME "*Environmental Quality Guidelines*" that are accessed at the CCME web site, the CCME "*Canada-Wide Standards for Petroleum Hydrocarbons in Soil*", dated 2008, and the CCME "*Canadian Environmental Soil Quality Guidelines for the Protection of Environmental and Human Health - Polycyclic Aromatic Hydrocarbons*", dated 2010. These guidelines are collectively referred to as the "CCME Soil Guidelines".

For properties where groundwater is considered non-potable, Manitoba Conservation designates that groundwater quality be assessed based on the Ontario Ministry of the Environment and Climate Change (MOECC) "*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*" dated April 15, 2011 (MOECC Guidelines).

The above guidelines have been developed using a risk-based approach. The application of the appropriate criteria is dependent upon several site-specific conditions including:

- The existing/proposed land use;
- The existing/potential groundwater use;
- Soil depth; and
- Soil texture.

Guidelines are further subdivided into the following types of protection:

- Human health guidelines; and



- Environmental health guidelines.

Within each of these categories, several pathways are listed that describe how the chemical or compound in question would come in contact with the receptor. If a pathway is not applicable to a site, or a specific area of a site, then the corresponding guideline value is not applicable. For example, if the site is covered with asphalt or concrete, access to the soil is limited and the human health guideline for soil ingestion is not applicable because there is no pathway for humans to come into contact with the soil if the cover is maintained. If future use of a site is modified, pathways that were not applicable can become applicable and need to be reassessed.

Site-specific details for the evaluation of applicable pathways are as noted below:

- The Site is a commercial property and commercial land use guidelines are applicable to the Site.
- Potable water for the Site and surrounding area is supplied by the City of Winnipeg, with Shoal Lake serving as the water source. As such, groundwater is not a potable source on-Site or in the vicinity of the Site.
- Groundwater is not used for livestock watering at the Site and the Site is located more than 30 m from the nearest water body. Therefore, the livestock watering and freshwater aquatic life pathways are not applicable to the Site.
- Native soils at the Site are prominently comprised of fine-grained soils (clay and silt) and fine-grained guidelines are applicable to the Site.
- The human health vapour inhalation pathway is applicable within 30 cm of a building foundation (or proposed building foundation). For the purpose of this Phase II ESA, the human health vapour inhalation pathway has been considered applicable to the Site.
- The environmental health soil contact, human health ingestion, and human health dermal contact pathways are applicable in areas where access to the soil is possible (i.e., not under asphalt, concrete or a building foundation). The areas of the Site included in this Phase II ESA were covered by asphalt, concrete and gravel and, therefore, the environmental health soil contact, human health ingestion and human health dermal contact pathways are considered to be not applicable to the Site.

Based on the above evaluation, all soil analytical results have been compared to the CCME Soil Guidelines for commercial land use and fine-grained soils, excluding the protection of potable groundwater, livestock watering and freshwater aquatic life.



Based on the above evaluation, groundwater analytical results have been compared to the MOECC Groundwater Guidelines for commercial land use and fine-grained soils, excluding the protection of potable groundwater and freshwater aquatic life.

The above evaluation is based on Pinchin's observation of Site conditions at the time of the Phase II ESA. If Site conditions or use of the Site changes in the future, the applicable pathways should be re-evaluated.

3.0 RESULTS

3.1 Site Geology and Hydrogeology

Based on the soil samples recovered during the borehole drilling program, the soil stratigraphy at the drilling locations below the gravel, asphalt and concrete generally consists of fill material comprised of granular fill to a depth between approximately 0.15 and 1.2 mbgs.

Native subsurface material underlying the fill material was observed to generally consist of brown clay, followed by brown silt, and then by an additional brown clay unit that extended to the maximum borehole completion depth of 6.1 mbgs. Damp to wet soil conditions were generally observed between 0.15 and 6.1 mbgs.

A detailed description of the subsurface stratigraphy encountered during borehole advancement is documented in the borehole logs located in Appendix II.

The water level information obtained during groundwater monitoring is presented in Table 2 and on the borehole logs in Appendix II. The depth to groundwater measured within the monitoring wells ranged from 0.88 mbgs at monitoring well BH5 (MW5) to 1.98 mbgs at monitoring well BH7 (MW7) on October 21, 2014.

The Red River is located approximately 1.25 kilometres west of the Site. The topography of the Site and surrounding area were observed to be relatively flat. Groundwater flow at the Site is inferred to be towards the west based on the topography of the Site area and the location of the Red River.

3.2 Soil Headspace Vapour Concentrations

Vapour concentrations measured in the headspace of soil samples collected during the drilling investigation are presented on the borehole logs in Appendix II and ranged from 0 parts per million by volume (ppm_v) to a maximum of 600 ppm_v in soil sample BH3 S1 collected at a depth of 0.61 mbgs in borehole BH3 (MW3).

3.3 Field Observations

No odours or staining were observed in the soil samples collected during the borehole drilling program, with the following exceptions:

- Soil sample BH1 S3 and S4 collected at borehole BH1 (MW1) at a range of depth from 2.29 mbgs to 3.05 which exhibited PHC-like odours and staining;
- Soil sample BH2 S4 collected at borehole BH2 (MW2) at a depth of 3.05 mbgs which exhibited PHC-like odours and staining;
- Soil sample BH3 S1 collected at borehole BH3 (MW3) at a depth of 0.61 mbgs which exhibited PHC-like odours and black staining;
- Soil sample BH10 S4 collected at borehole BH10 (MW10) at a depth of 3.05 mbgs which exhibited PHC-like odours and staining;
- Soil sample BH11 S4 collected at borehole BH11 (MW11) at a depth of 3.05 mbgs which exhibited PHC-like odours and staining;
- Soil sample BH12 S3 collected at borehole BH12 at a depth of 2.29 mbgs which exhibited PHC-like odours and staining;
- Soil sample BH13 S1 collected at borehole BH13 at a depth of 0.76 mbgs which exhibited sewage-like odours;
- Soil sample BH15 S3 collected at borehole BH15 (MW15) at a depth of 2.29 mbgs which exhibited PHC-like odours and staining; and
- Soil sample BH16 S1 collected at borehole BH16 at a depth of 0.76 mbgs which exhibited solvent-like odours.

No odours or evidence of NAPL were observed during groundwater monitoring and sampling.

3.4 Analytical

3.4.1 Soil

As indicated in Tables 3 through 6, reported concentrations of BTEX, PHCs (F1-F4), VOCs, PAHs and metals in the soil samples submitted for analysis met the CCME Soil Guidelines, with the following exceptions:

- Soil sample BH3 S1 collected at borehole BH3 (MW3) exceeded the CCME Soil Guidelines for PHCs (F1) (730 micrograms per kilogram (mg/kg) vs. the CCME Soil Guideline of 320 mg/kg) and PHCs (F2) (7,000 mg/kg vs. the CCME Soil Guideline of 260 mg/kg); and
- Soil sample BH5 S1 collected at borehole BH5 (MW5) exceeded the CCME Soil Guidelines for barium (2,040 mg/kg vs. the CCME Soil Guideline of 2000 mg/kg).

The laboratory Certificate of Analysis for the soil samples is provided in Appendix IV.

3.4.2 Groundwater

As indicated in Tables 7 through 9, reported concentrations of BTEX, PHCs (F1-F4), VOCs and PAHs in the groundwater samples submitted for analysis met the MOECC Groundwater Guidelines, with the following exceptions:

- The groundwater sample collected from monitoring well BH1 (MW1) exceeded the MOECC Groundwater Guidelines for benzene (540 micrograms per litre (µg/L) vs. the MOECC Groundwater Guideline of 430 µg/L); and
- The groundwater sample collected from monitoring well BH11 (MW11) exceeded the MOECC Groundwater Guidelines for PHCs (F2) (960 µg/L vs. the MOECC Groundwater Guideline of 150 µg/L) and PHCs (F3) (920 µg/L vs. the MOECC Groundwater Guideline of 500 µg/L).

The laboratory Certificate of Analysis for the groundwater samples is provided in Appendix IV.



4.0 FINDINGS AND CONCLUSIONS

Based on the work completed, a summary of the activities and findings of this Phase II ESA are noted below.

- Pinchin retained Maple Leaf Drilling to advance 18 boreholes at the Site on October 17 and October 20, 2014. The boreholes were advanced to a maximum depth of 6.1 mbgs using a truck-mounted drilling rig equipped with solid stem augers. Eleven of the boreholes were instrumented with monitoring wells to enable groundwater monitoring and sampling.
- The soil stratigraphy at the drilling locations generally consists of granular fill material to a depth between approximately 0.15 and 1.2 mbgs overlying native soil comprised of brown clay, followed by brown silt, and then by an additional brown clay unit that extended to the maximum borehole completion depth of 6.1 mbgs. The soil was generally observed to be damp to wet between 0.15 and 6.1 mbgs.
- Groundwater levels at the Site measured on October 21, 2014 varied between 0.88 mbgs at BH5 (MW5) and 1.98 mbgs at BH7 (MW7). Inferred groundwater flow is expected to be towards the west based on topography of the Site and the location of the Red River to the west.
- Based on Site-specific information, the soil quality was assessed based on the CCME Soil Guidelines for commercial land use and fine-textured soils, excluding the protection of potable groundwater, livestock watering and freshwater aquatic life.
- Based on Site-specific information, the groundwater quality was assessed based on the MOECC Groundwater Guidelines for commercial land use and fine-textured soils, excluding the protection of potable water and freshwater aquatic life.
- Twenty-two “worst case” soil samples based on the results of field screening were submitted for laboratory analysis of BTEX, PHCs (F1-F4), VOCs, PAHs and/or metals.
- Groundwater samples were collected on October 29, 2014 from monitoring wells BH1 (MW1), BH2 (MW2), BH3 (MW3), BH4 (MW4), BH5 (MW5), BH7 (MW7), BH9 (MW9), BH10 (MW10), BH11 (MW11), BH14 (MW14) and BH15 (MW15) installed by Pinchin and were submitted for laboratory analysis of BTEX, PHCs (F1-F4), VOCs and/or PAHs.



- Reported concentrations in the soil samples submitted for analysis of BTEX, PHCs (F1-F4), VOCs, PAHs and metals satisfied their respective CCME Soil Guidelines, with the following exceptions:
 - Soil sample BH3 S1 collected at borehole BH3 (MW3) exceeded the CCME Soil Guidelines for PHCs (F1) and PHCs (F2); and
 - Soil sample BH5 S1 collected at borehole BH5 (MW5) exceeded the CCME Soil Guidelines for barium.
- Reported concentrations in the groundwater samples submitted for analysis of BTEX, PHCs (F1-F4), VOCs and PAHs satisfied their MOECC Groundwater Guidelines, with the following exceptions:
 - The groundwater sample collected from monitoring well BH1 (MW1) exceeded the MOECC Groundwater Guidelines for benzene; and
 - The groundwater sample collected from monitoring well BH11 (MW11) exceeded the MOECC Groundwater Guidelines for PHCs (F2) and PHCs (F3).

Based on the findings of this Phase II ESA, Pinchin recommends that additional boreholes be completed at the Site to delineate the extent of the soil impacts at boreholes BH3 (MW3) (PHCs (F1 and F2)) and BH5 (MW5) (barium), and the extent of the groundwater impacts at monitoring wells BH1 (MW1) (benzene) and BH11 (MW11) (PHCs (F2 and F3)).

5.0 DISCLAIMER

This Phase II ESA was performed for Frank Laba c/o Elite Self Storage (Client) in order to investigate potential environmental impacts at 515 Munroe Avenue, Winnipeg, MB (Site). The term recognized environmental condition means the presence or likely presence of any hazardous substance on a property under conditions that indicate an existing release, past release, or a material threat of a release of a hazardous substance into structures on the property or into the ground, groundwater, or surface water of the property. This Phase II ESA does not quantify the extent of the current and/or recognized environmental condition or the cost of any remediation.

Conclusions derived are specific to the immediate area of study and cannot be extrapolated extensively away from sample locations. Samples have been analyzed for a limited number of contaminants that are expected to be present at the Site, and the absence of information relating to a specific contaminant does not indicate that it is not present.



No environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions on a property. Performance of this Phase II ESA to the standards established by Pinchin is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions on the Site, and recognizes reasonable limits on time and cost.

This Phase II ESA was performed in general compliance with currently acceptable practices for environmental site investigations, and specific Client requests, as applicable to this Site.

This report was prepared for the exclusive use of the Client, subject to the conditions and limitations contained within the duly authorized proposal. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of the third parties. If additional parties require reliance on this report, written authorization from Pinchin will be required. Pinchin disclaims responsibility of consequential financial effects on transactions or property values, or requirements for follow-up actions and costs. No other warranties are implied or expressed. Furthermore, this report should not be construed as legal advice.

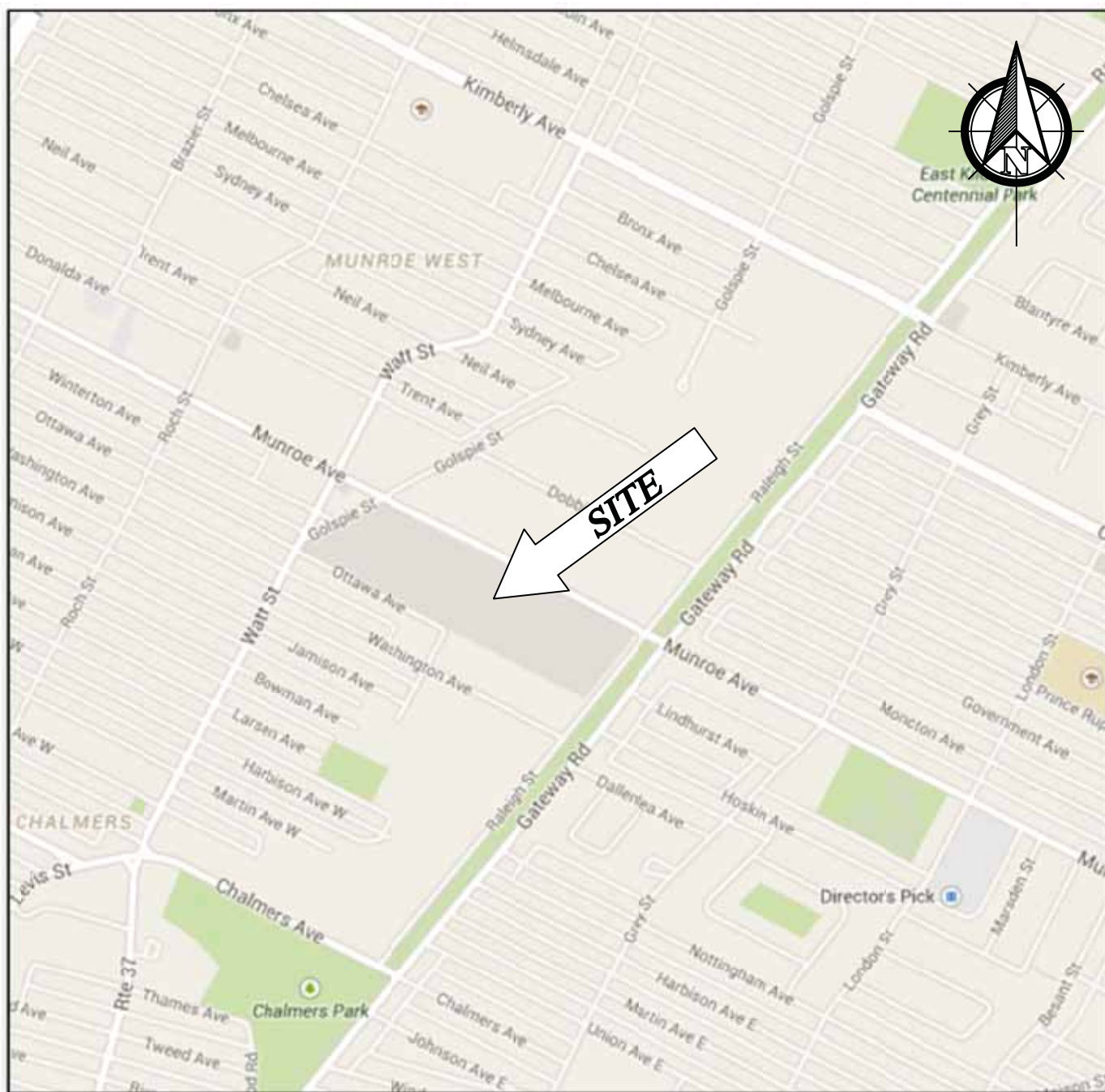
Pinchin will not be responsible for any consequential or indirect damages. Pinchin will only be liable for damages resulting from the negligence of Pinchin. Pinchin will not be liable for any losses or damage if the Client has failed, within a period of two years following the date upon which the claim is discovered (Claim Period), to commence legal proceedings against Pinchin to recover such losses or damage unless the laws of the jurisdiction which governs the Claim Period which is applicable to such claim provides that the applicable Claim Period is greater than two years and cannot be abridged by the contract between the Client and Pinchin, in which case the Claim Period shall be deemed to be extended by the shortest additional period which results in this provision being legally enforceable.

Pinchin makes no other representations whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in this report, including, but not limited to, ownership of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and these interpretations may change over time.

J:\96000s\96012 LabaHoldings,515Munroe,Wpg,ESA,SA2\Report\96012 - 515 Munroe - Report - Phase II ESA - November 14, 2014.docx

Template: Master Report for Phase II ESA - Stage 2 PSI, EDR, October 23, 2014

APPENDIX I
Figures



PROJECT NAME

PHASE II ENVIRONMENTAL SITE ASSESSMENT

CLIENT NAME

FRANK LABA C/O ELITE SELF STORAGE

PROJECT LOCATION

515 MUNROE AVENUE, WINNIPEG, MB

DRAWING NAME

KEY MAP

FIGURE NO.

SCALE

NTS

PROJECT NO.

96012

DATE

NOVEMBER 2014

1



 <u>LEGEND</u> BOREHOLE LOCATION MONITORING WELL LOCATION	PROJECT NAME PHASE II ENVIRONMENTAL SITE ASSESSMENT			FIGURE NO. 2	
	CLIENT NAME FRANK LABA C/O ELITE SELF STORAGE			DATE NOVEMBER 2014	
	PROJECT LOCATION 515 MUNROE AVENUE, WINNIPEG, MB			PROJECT NO. 96012	
	FIGURE NAME BOREHOLE AND MONITORING WELL LOCATION PLAN				
	APPROXIMATE SCALE AS SHOWN				
	PROJECT NO. 96012			DATE NOVEMBER 2014	

APPENDIX II
Borehole Logs



Project No: 96012

Borehole: BH1 (MW1)

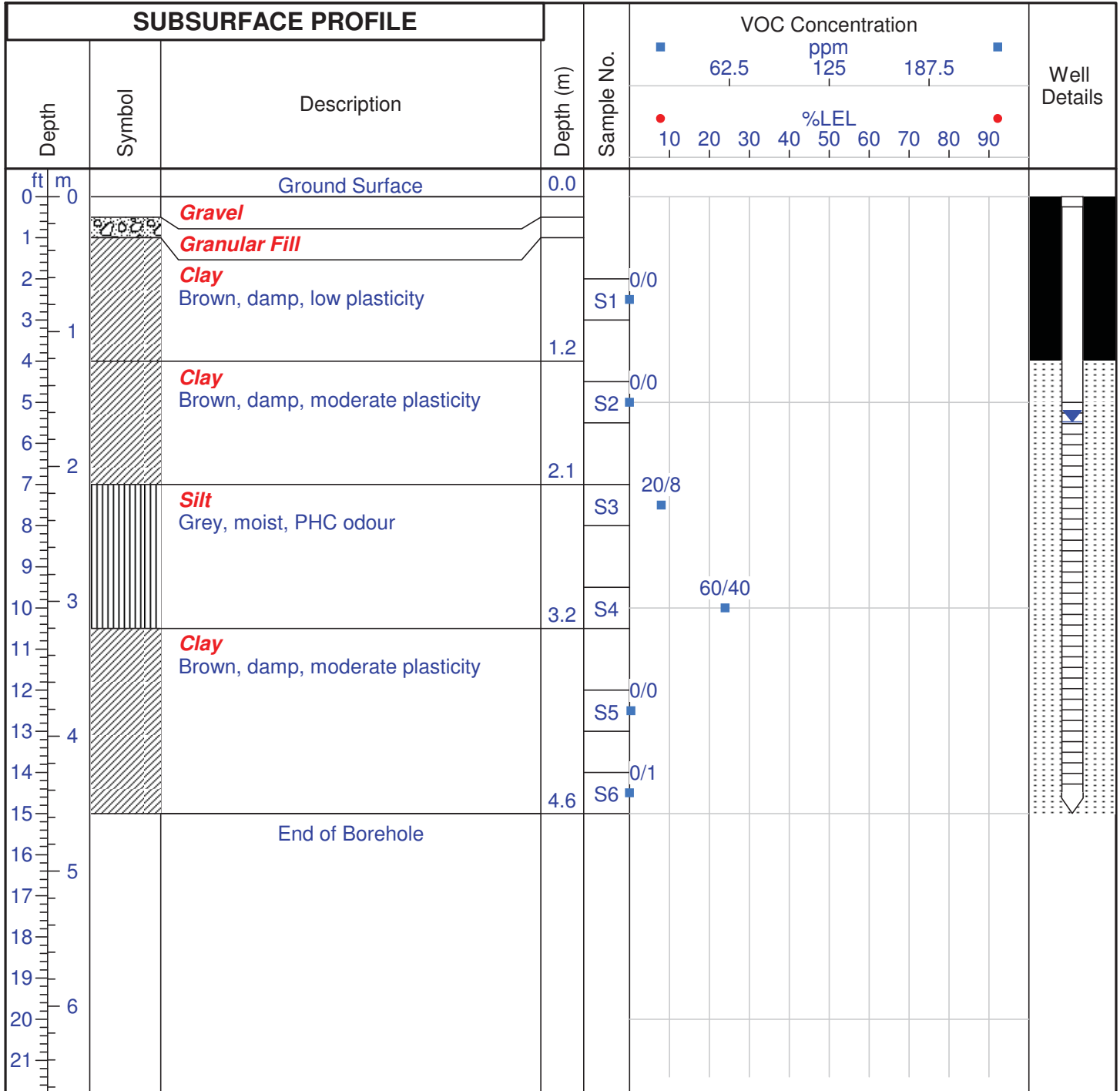
Project: Phase II Environmental Site Assessment

Client: Frank Laba c/o Elite Self Storage

Logged By: RS

Location: 515 Munroe Avenue, Winnipeg, Manitoba

Entered By: RS



Drill Method: Solid Stem Auger

Datum: Ground Level

Drilled By: Maple Leaf Drilling

Checked by: RM

Drill Date: October 17, 2014

Sheet: 1 of 1



Project No: 96012

Borehole: BH2 (MW2)

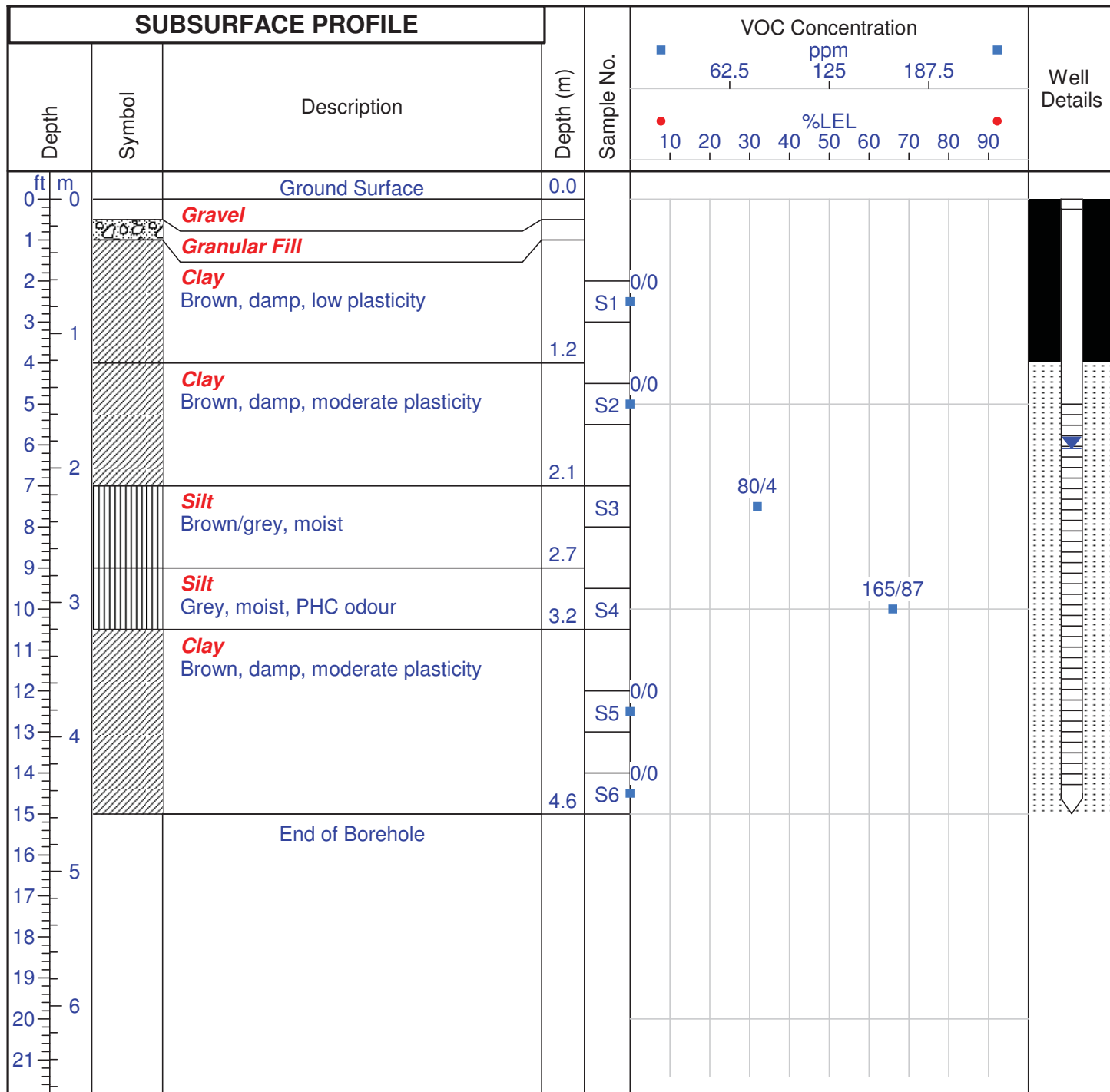
Project: Phase II Environmental Site Assessment

Client: Frank Laba c/o Elite Self Storage

Logged By: RS

Location: 515 Munroe Avenue, Winnipeg, Manitoba

Entered By: RS



Drill Method: Solid Stem Auger

Datum: Ground Level

Drilled By: Maple Leaf Drilling

Checked by: RM

Drill Date: October 17, 2014

Sheet: 1 of 1



Project No: 96012

Borehole: BH3 (MW3)

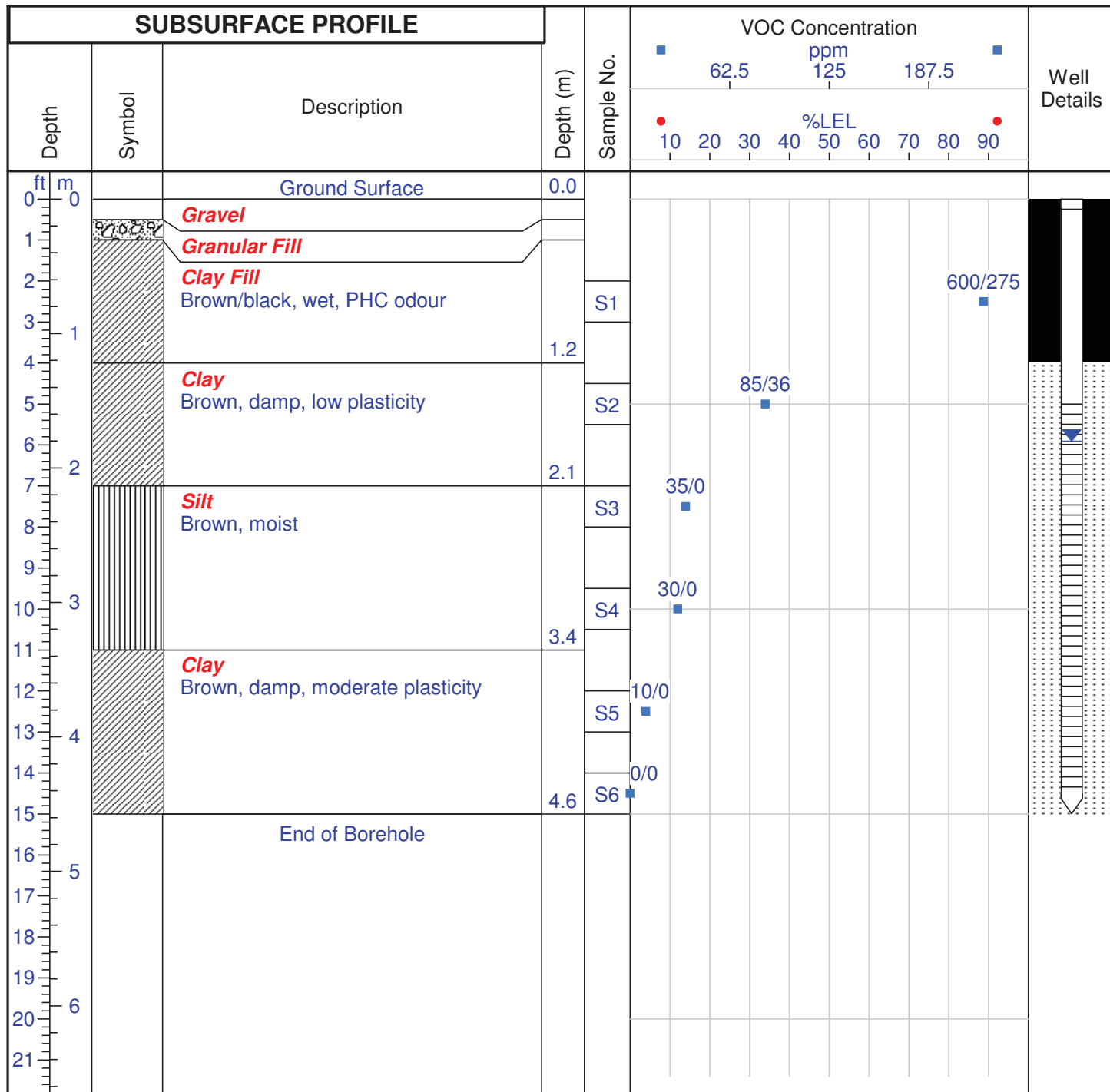
Project: Phase II Environmental Site Assessment

Client: Frank Laba c/o Elite Self Storage

Logged By: RS

Location: 515 Munroe Avenue, Winnipeg, Manitoba

Entered By: RS



Drill Method: Solid Stem Auger

Datum: Ground Level

Drilled By: Maple Leaf Drilling

Checked by: RM

Drill Date: October 17, 2014

Sheet: 1 of 1



Project No: 96012

Borehole: BH4 (MW4)

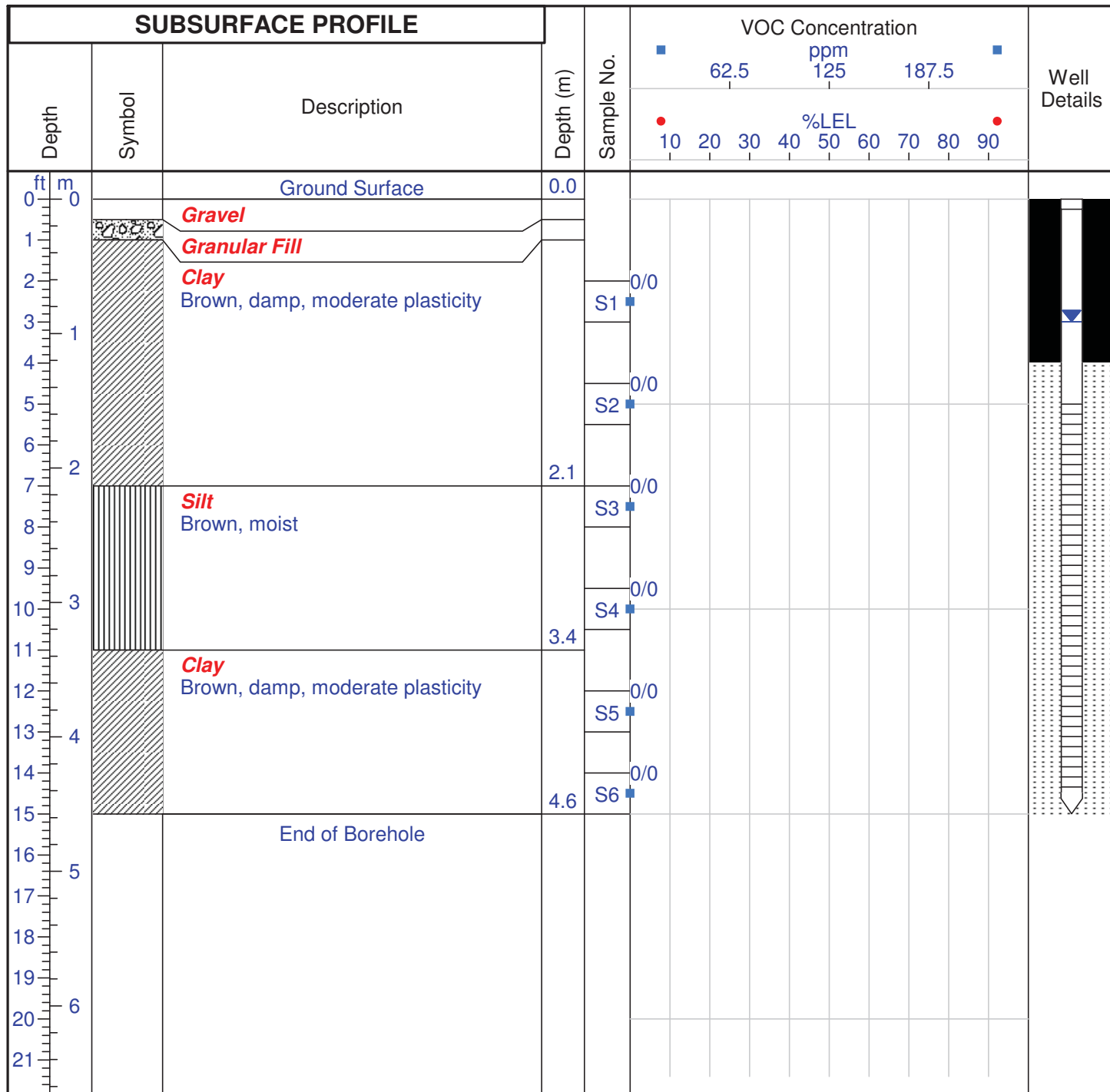
Project: Phase II Environmental Site Assessment

Client: Frank Laba c/o Elite Self Storage

Logged By: RS

Location: 515 Munroe Avenue, Winnipeg, Manitoba

Entered By: RS



Drill Method: Solid Stem Auger

Datum: Ground Level

Drilled By: Maple Leaf Drilling

Checked by: RM

Drill Date: October 17, 2014

Sheet: 1 of 1



Project No: 96012

Borehole: BH5 (MW5)

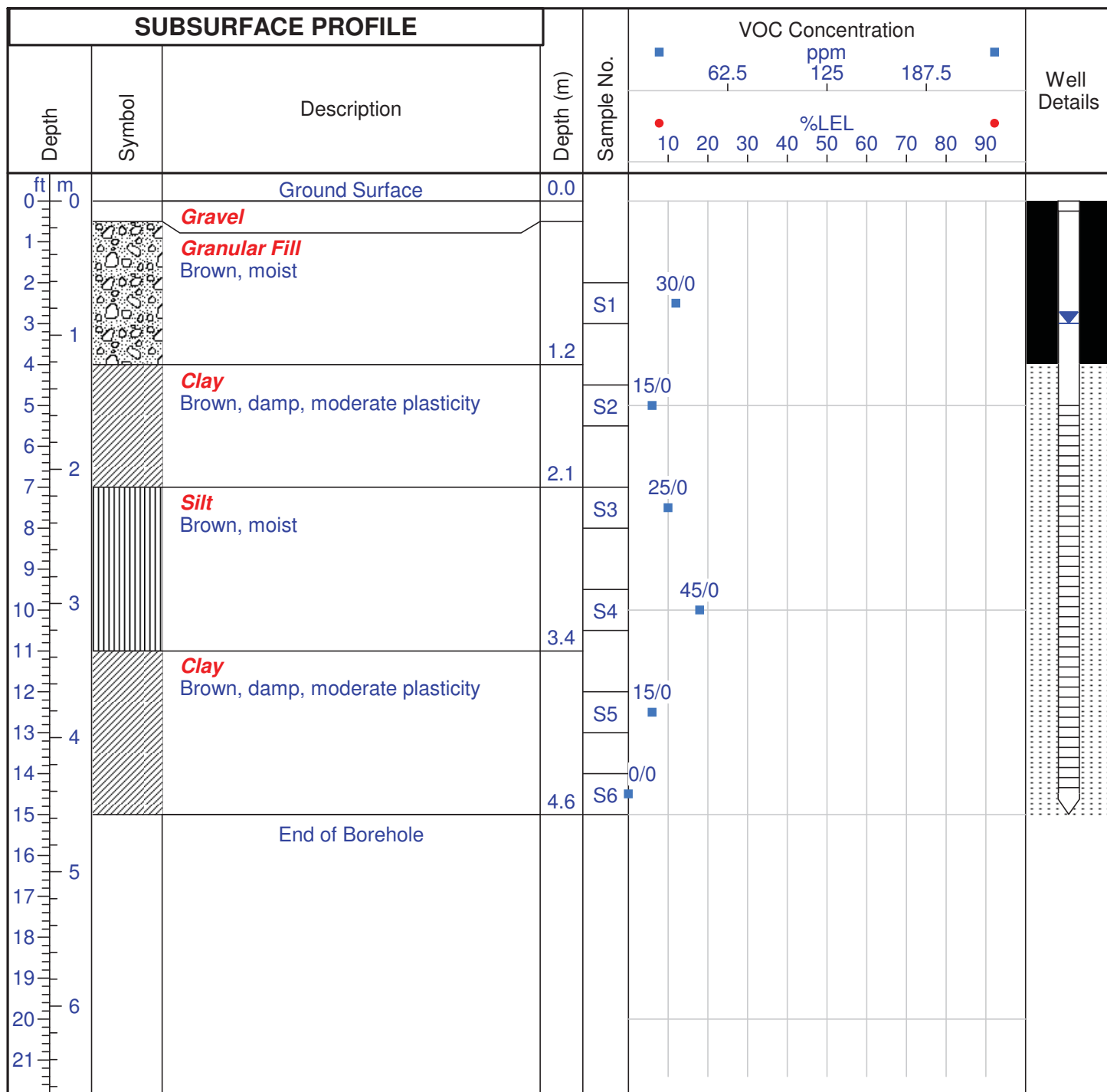
Project: Phase II Environmental Site Assessment

Client: Frank Laba c/o Elite Self Storage

Logged By: RS

Location: 515 Munroe Avenue, Winnipeg, Manitoba

Entered By: RS



Drill Method: Solid Stem Auger

Datum: Ground Level

Drilled By: Maple Leaf Drilling

Checked by: RM

Drill Date: October 17, 2014

Sheet: 1 of 1



Project No: 96012

Borehole: BH6

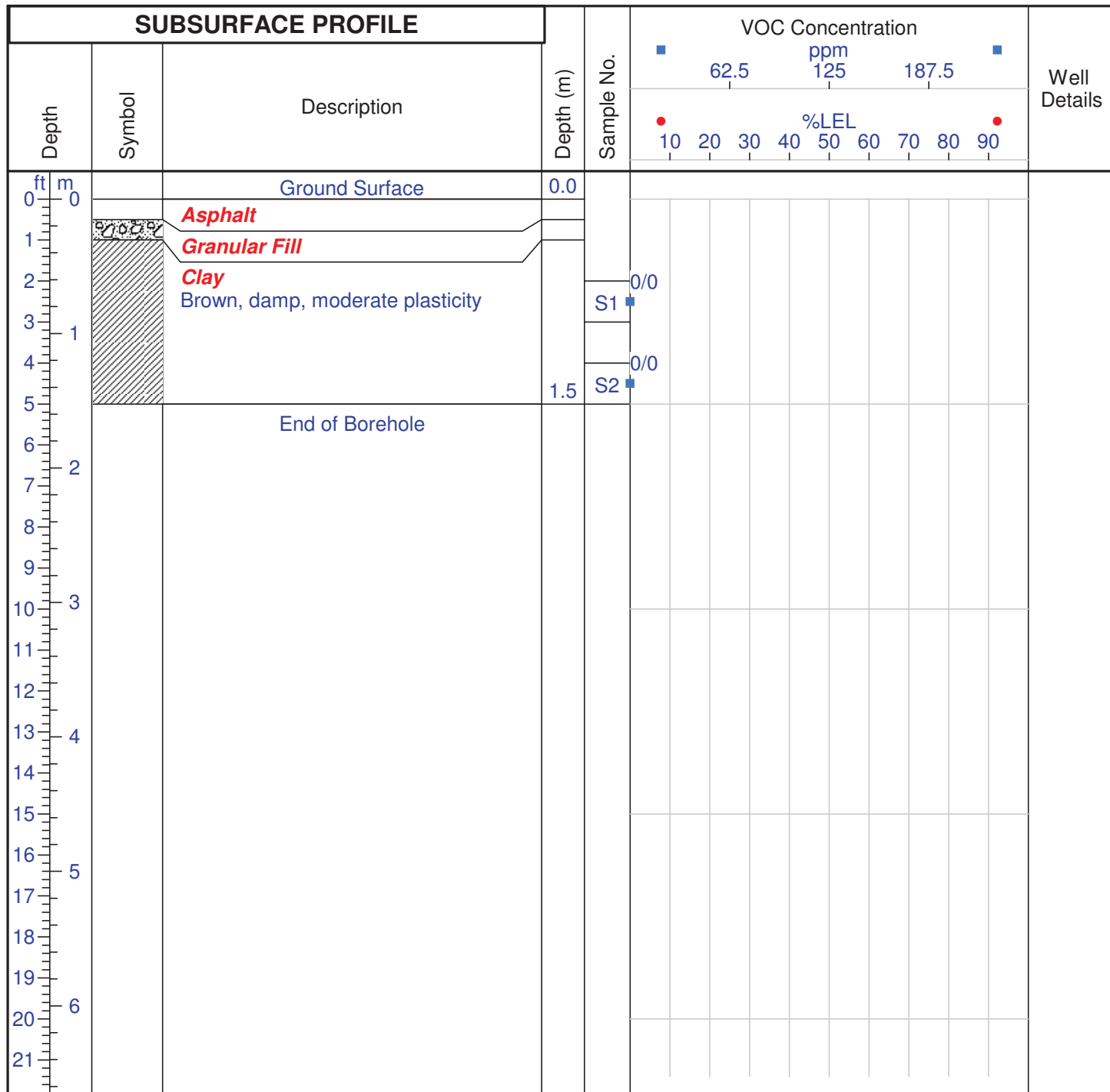
Project: Phase II Environmental Site Assessment

Client: Frank Laba c/o Elite Self Storage

Logged By: RS

Location: 515 Munroe Avenue, Winnipeg, Manitoba

Entered By: RS



Drill Method: Solid Stem Auger

Datum: Ground Level

Drilled By: Maple Leaf Drilling

Checked by: RM

Drill Date: October 17, 2014

Sheet: 1 of 1



Project No: 96012

Borehole: BH7 (MW7)

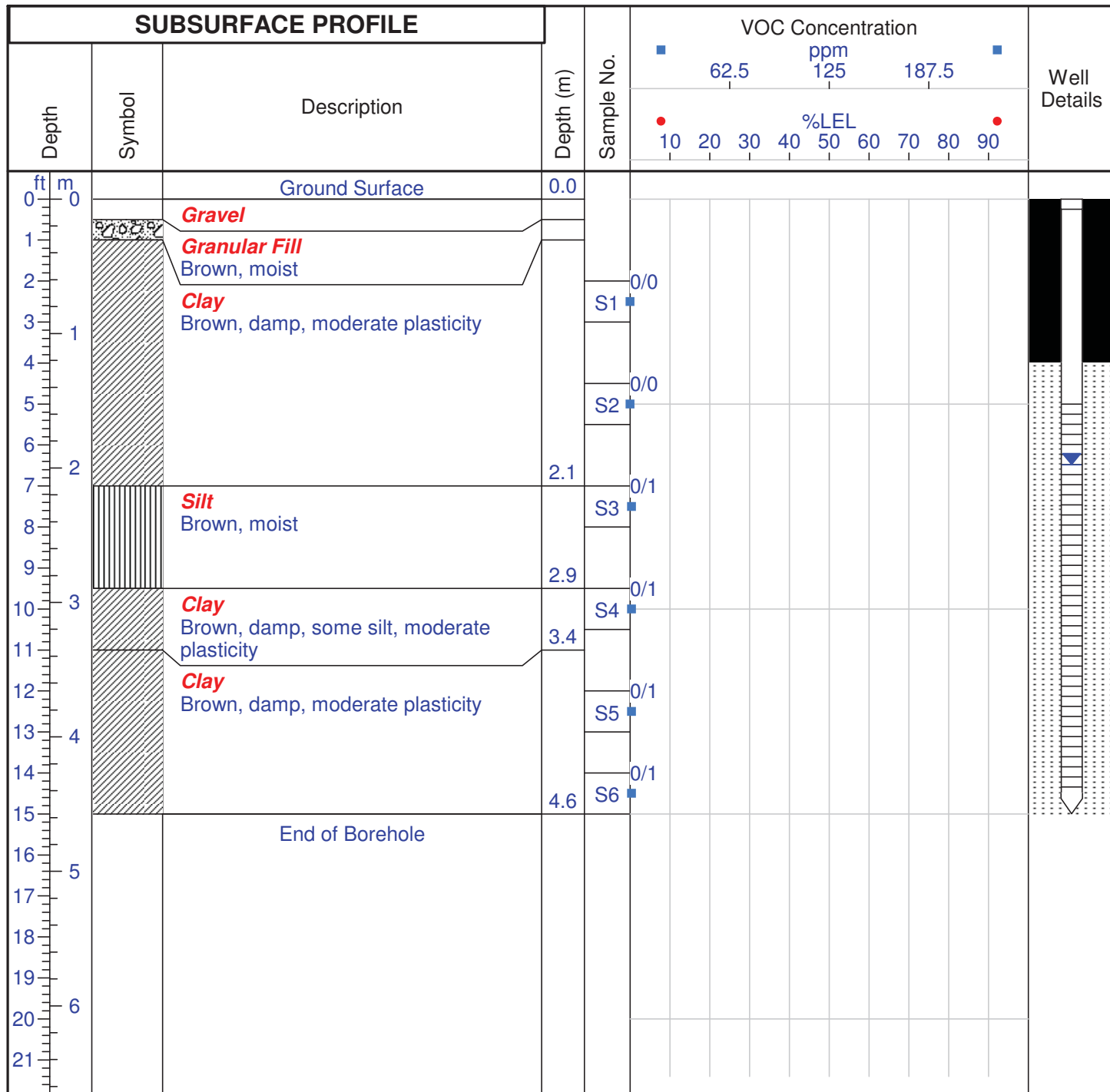
Project: Phase II Environmental Site Assessment

Client: Frank Laba c/o Elite Self Storage

Logged By: RS

Location: 515 Munroe Avenue, Winnipeg, Manitoba

Entered By: RS



Drill Method: Solid Stem Auger

Datum: Ground Level

Drilled By: Maple Leaf Drilling

Checked by: RM

Drill Date: October 17, 2014

Sheet: 1 of 1



Project No: 96012

Borehole: BH8

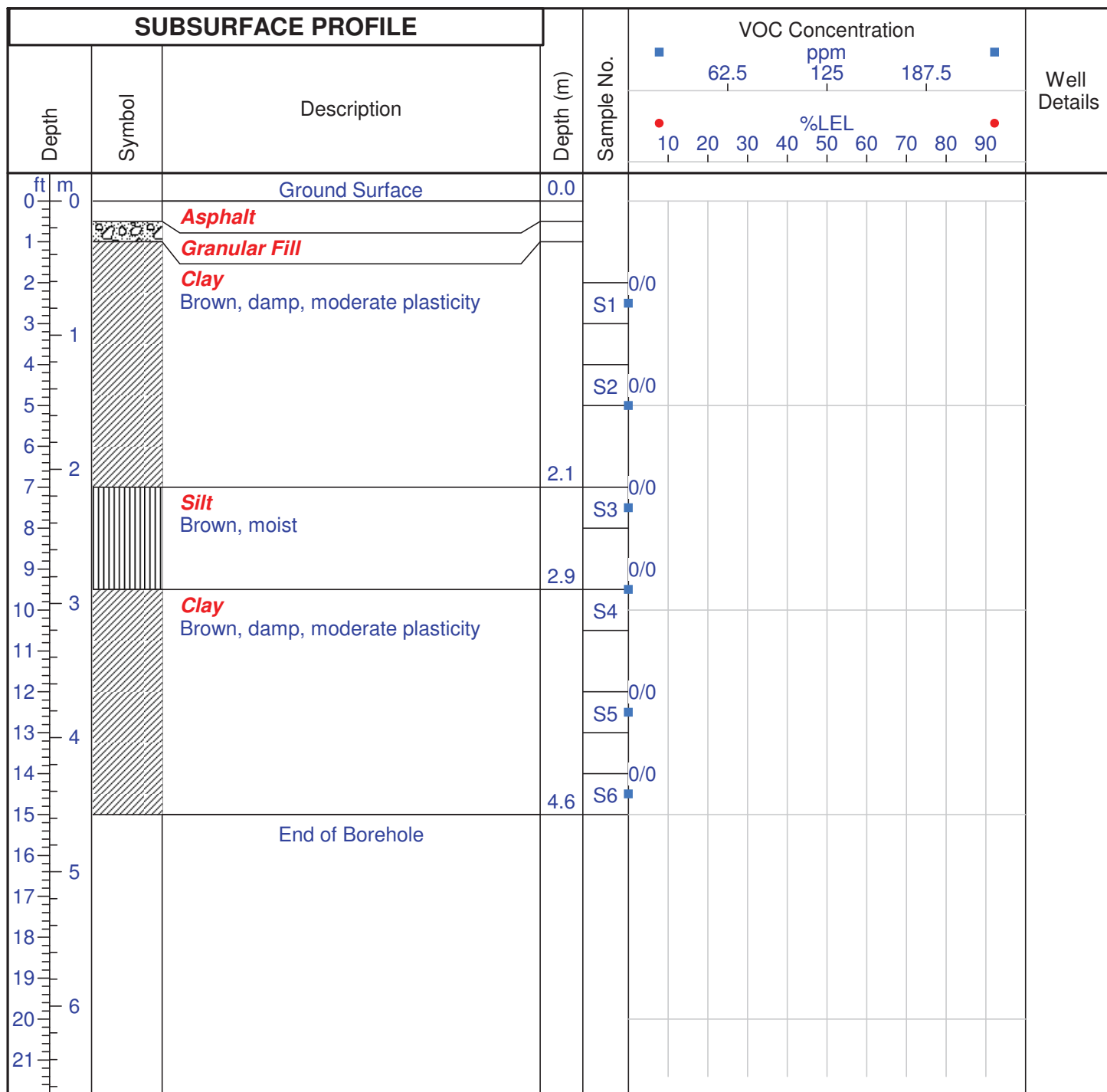
Project: Phase II Environmental Site Assessment

Client: Frank Laba c/o Elite Self Storage

Logged By: RS

Location: 515 Munroe Avenue, Winnipeg, Manitoba

Entered By: RS



Drill Method: Solid Stem Auger

Datum: Ground Level

Drilled By: Maple Leaf Drilling

Checked by: RM

Drill Date: October 17, 2014

Sheet: 1 of 1



Project No: 96012

Borehole: BH9 (MW9)

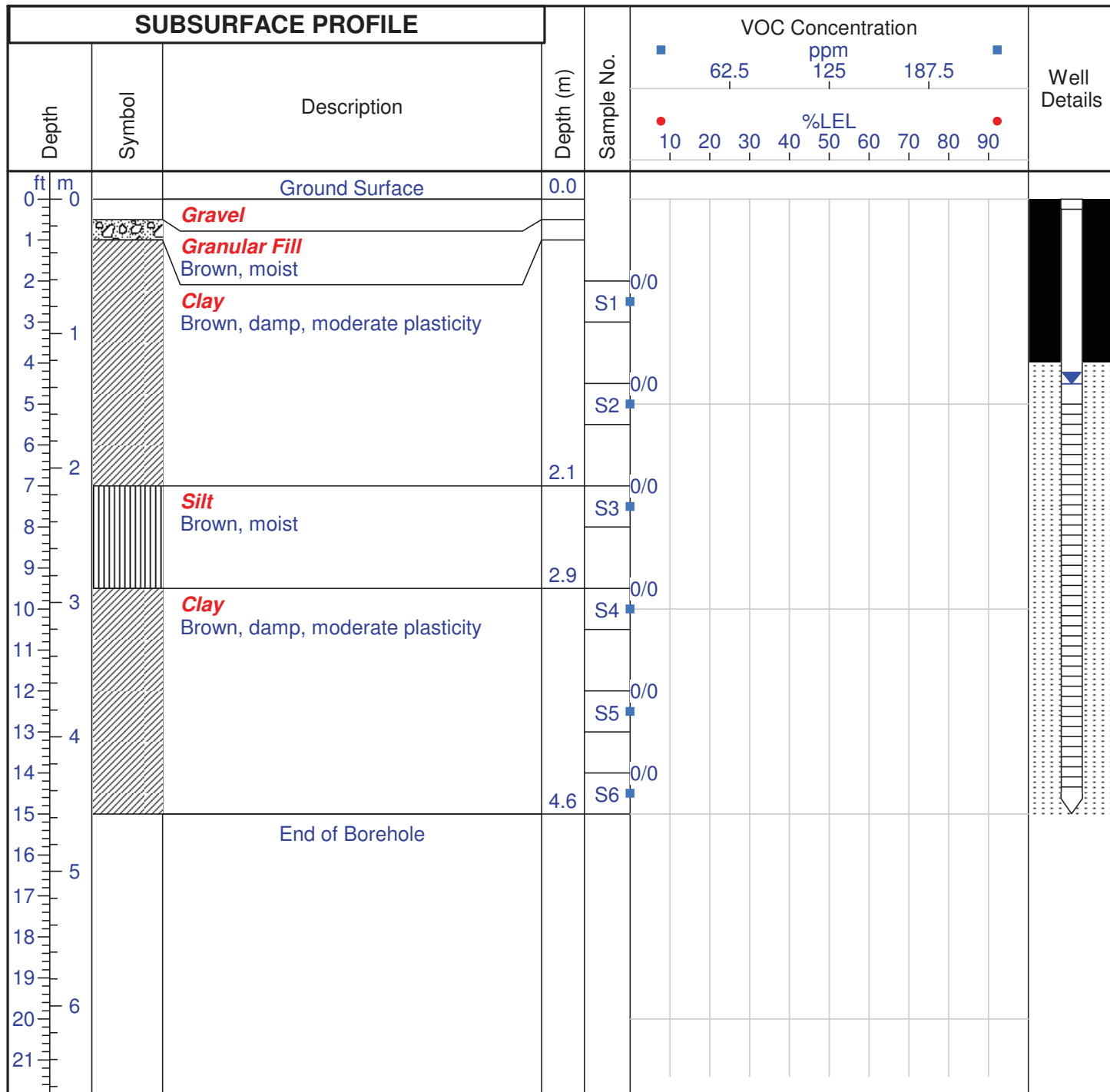
Project: Phase II Environmental Site Assessment

Client: Frank Laba c/o Elite Self Storage

Logged By: RS

Location: 515 Munroe Avenue, Winnipeg, Manitoba

Entered By: RS



Drill Method: Solid Stem Auger

Datum: Ground Level

Drilled By: Maple Leaf Drilling

Checked by: RM

Drill Date: October 17, 2014

Sheet: 1 of 1



Project No: 96012

Borehole: BH10 (MW10)

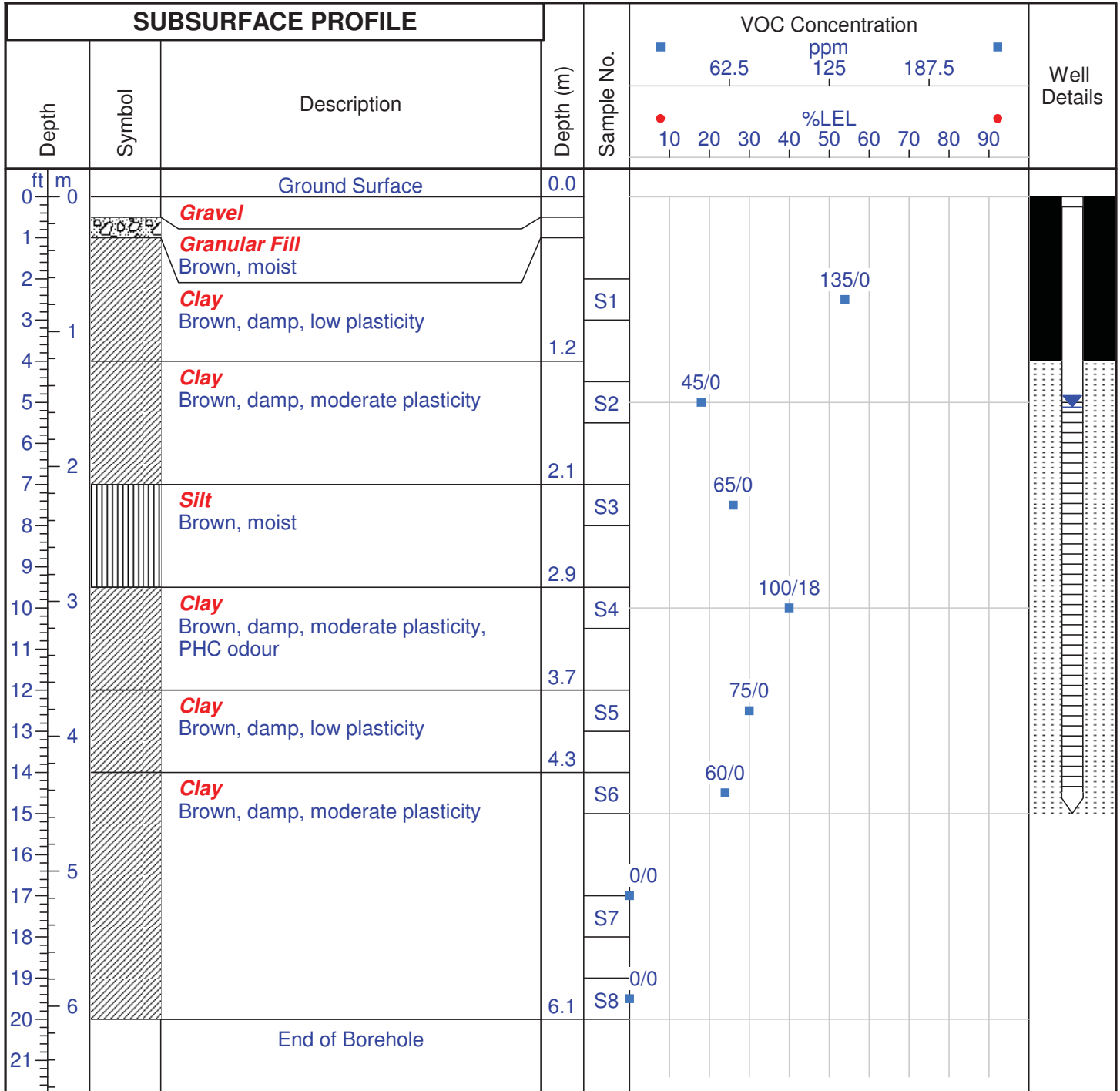
Project: Phase II Environmental Site Assessment

Client: Frank Laba c/o Elite Self Storage

Logged By: RS

Location: 515 Munroe Avenue, Winnipeg, Manitoba

Entered By: RS



Drill Method: Solid Stem Auger

Datum: Ground Level

Drilled By: Maple Leaf Drilling

Checked by: RM

Drill Date: October 17, 2014

Sheet: 1 of 1



Project No: 96012

Borehole: BH11 (MW11)

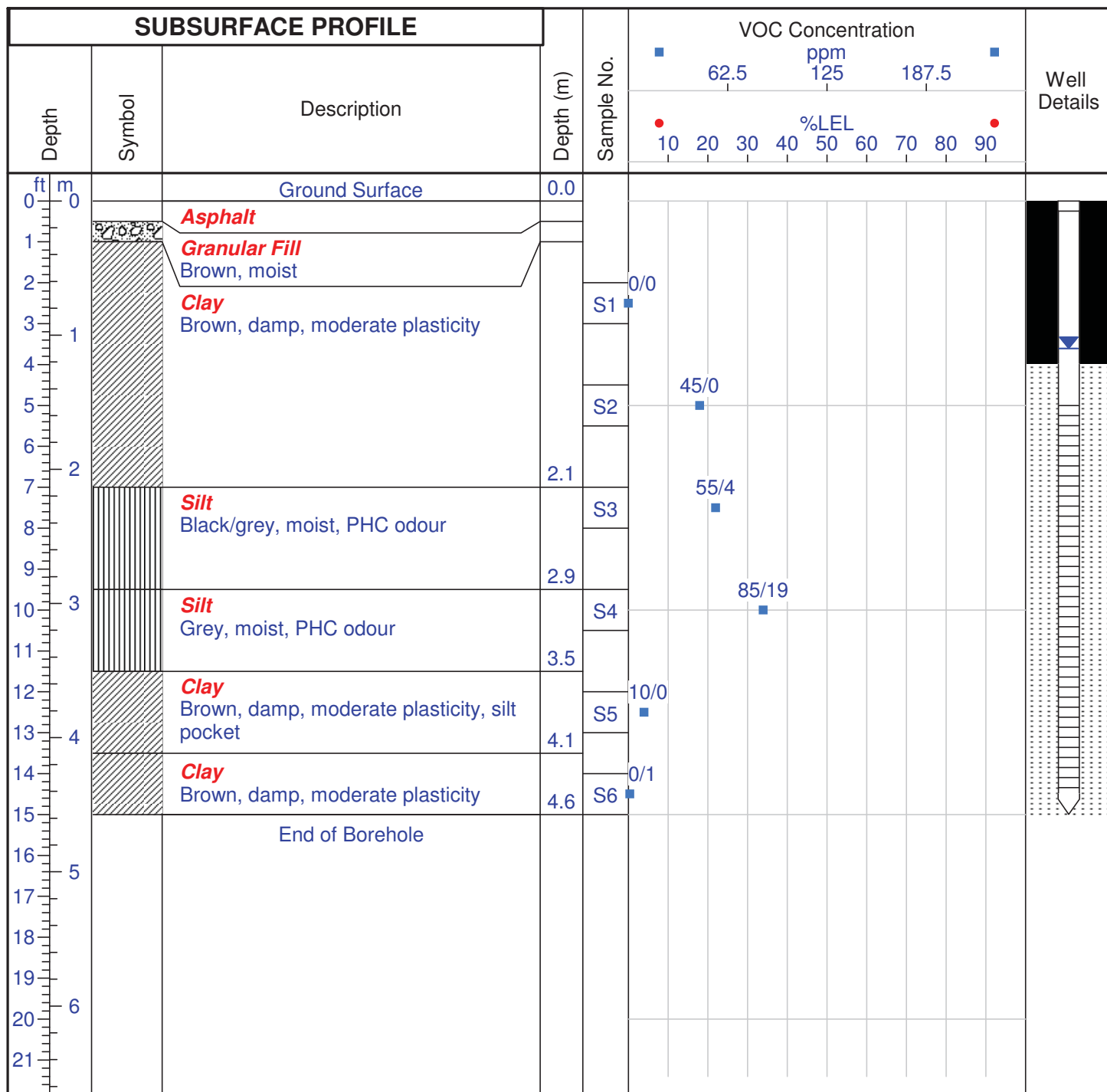
Project: Phase II Environmental Site Assessment

Client: Frank Laba c/o Elite Self Storage

Logged By: RS

Location: 515 Munroe Avenue, Winnipeg, Manitoba

Entered By: RS



Drill Method: Solid Stem Auger

Datum: Ground Level

Drilled By: Maple Leaf Drilling

Checked by: RM

Drill Date: October 17, 2014

Sheet: 1 of 1



Project No: 96012

Borehole: BH12

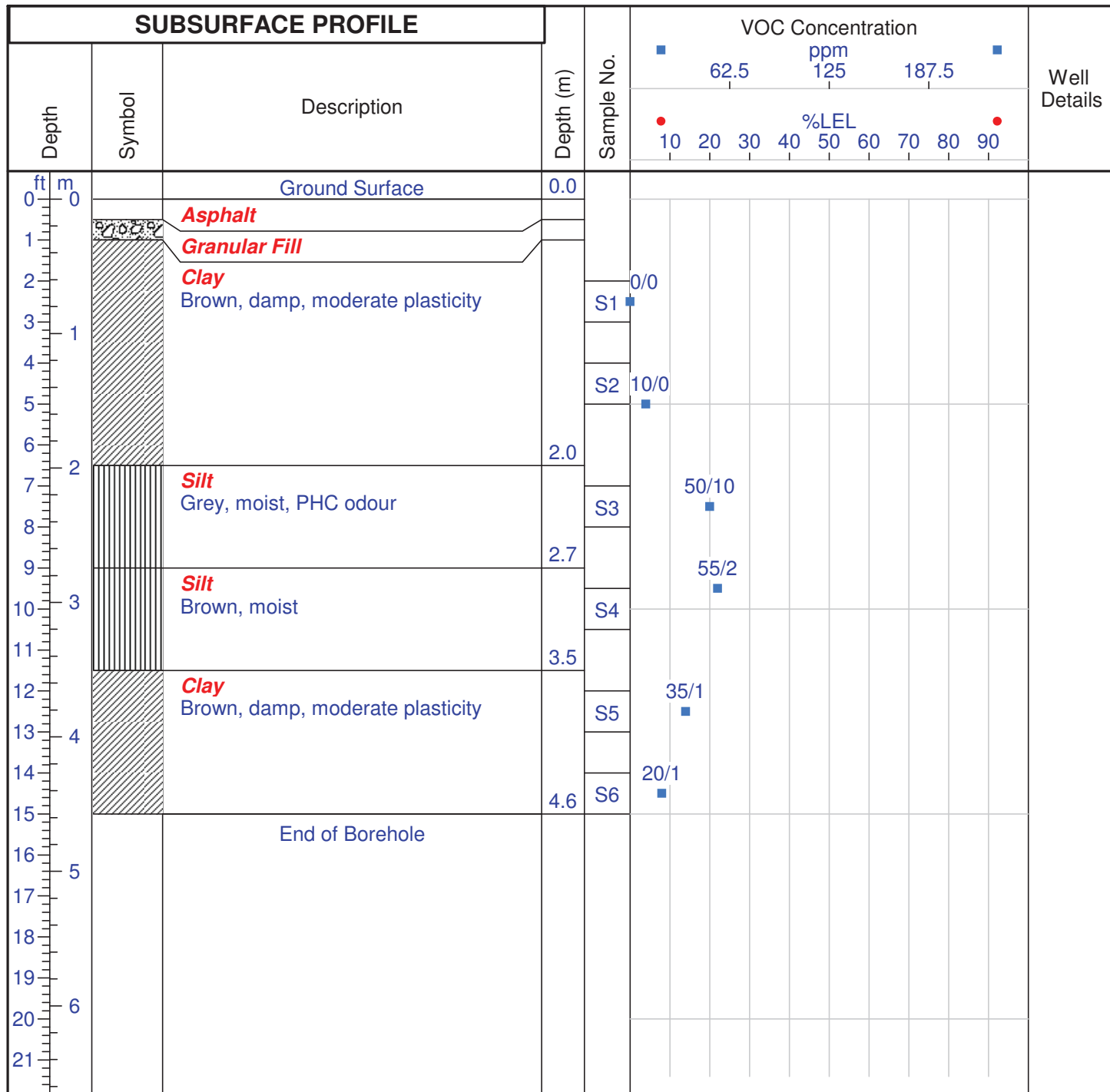
Project: Phase II Environmental Site Assessment

Client: Frank Laba c/o Elite Self Storage

Logged By: RS

Location: 515 Munroe Avenue, Winnipeg, Manitoba

Entered By: RS



Drill Method: Solid Stem Auger

Datum: Ground Level

Drilled By: Maple Leaf Drilling

Checked by: RM

Drill Date: October 17, 2014

Sheet: 1 of 1



Project No: 96012

Borehole: BH13

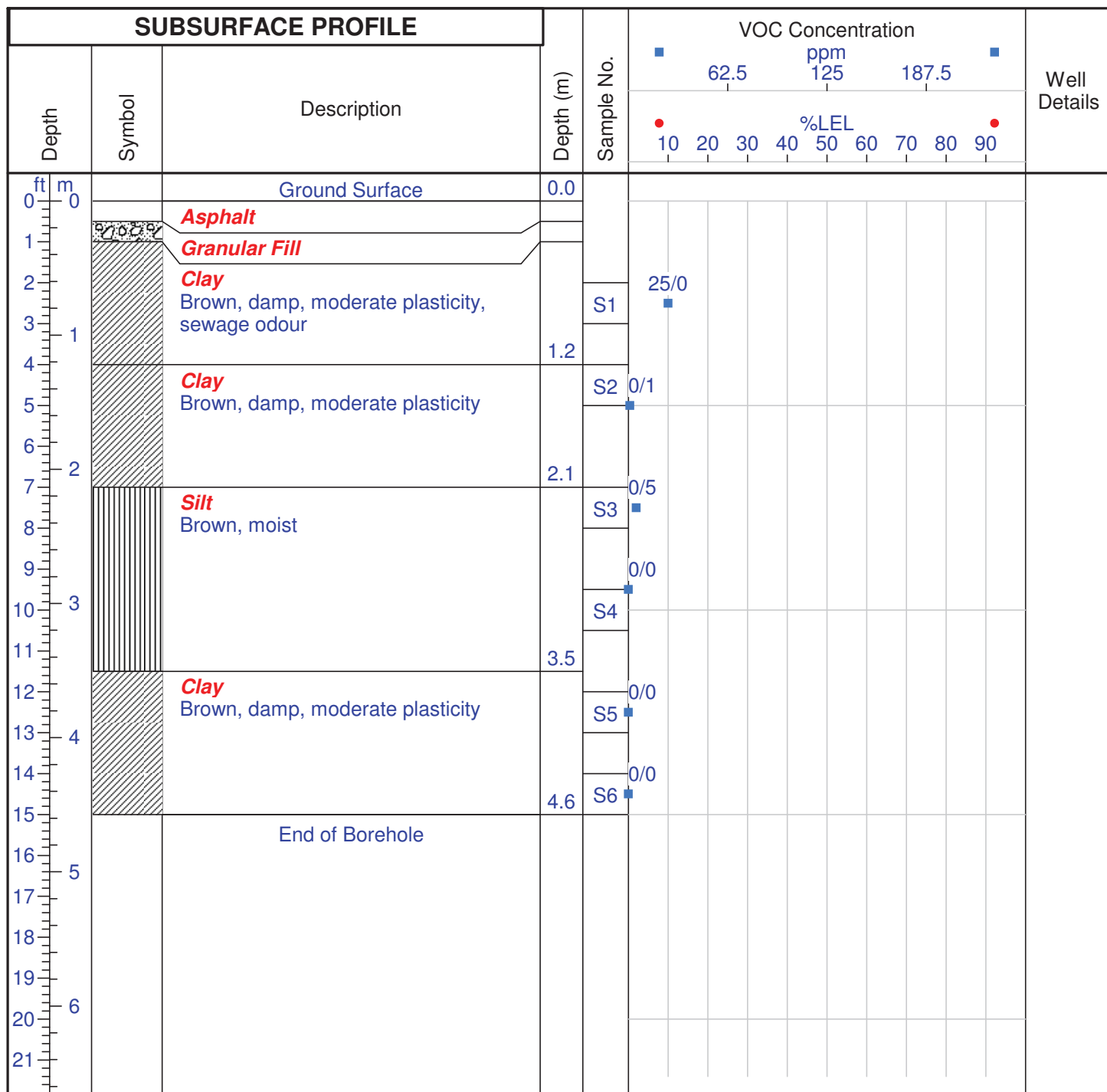
Project: Phase II Environmental Site Assessment

Client: Frank Laba c/o Elite Self Storage

Logged By: RS

Location: 515 Munroe Avenue, Winnipeg, Manitoba

Entered By: RS



Drill Method: Solid Stem Auger

Datum: Ground Level

Drilled By: Maple Leaf Drilling

Checked by: RM

Drill Date: October 17, 2014

Sheet: 1 of 1



Project No: 96012

Borehole: BH14 (MW14)

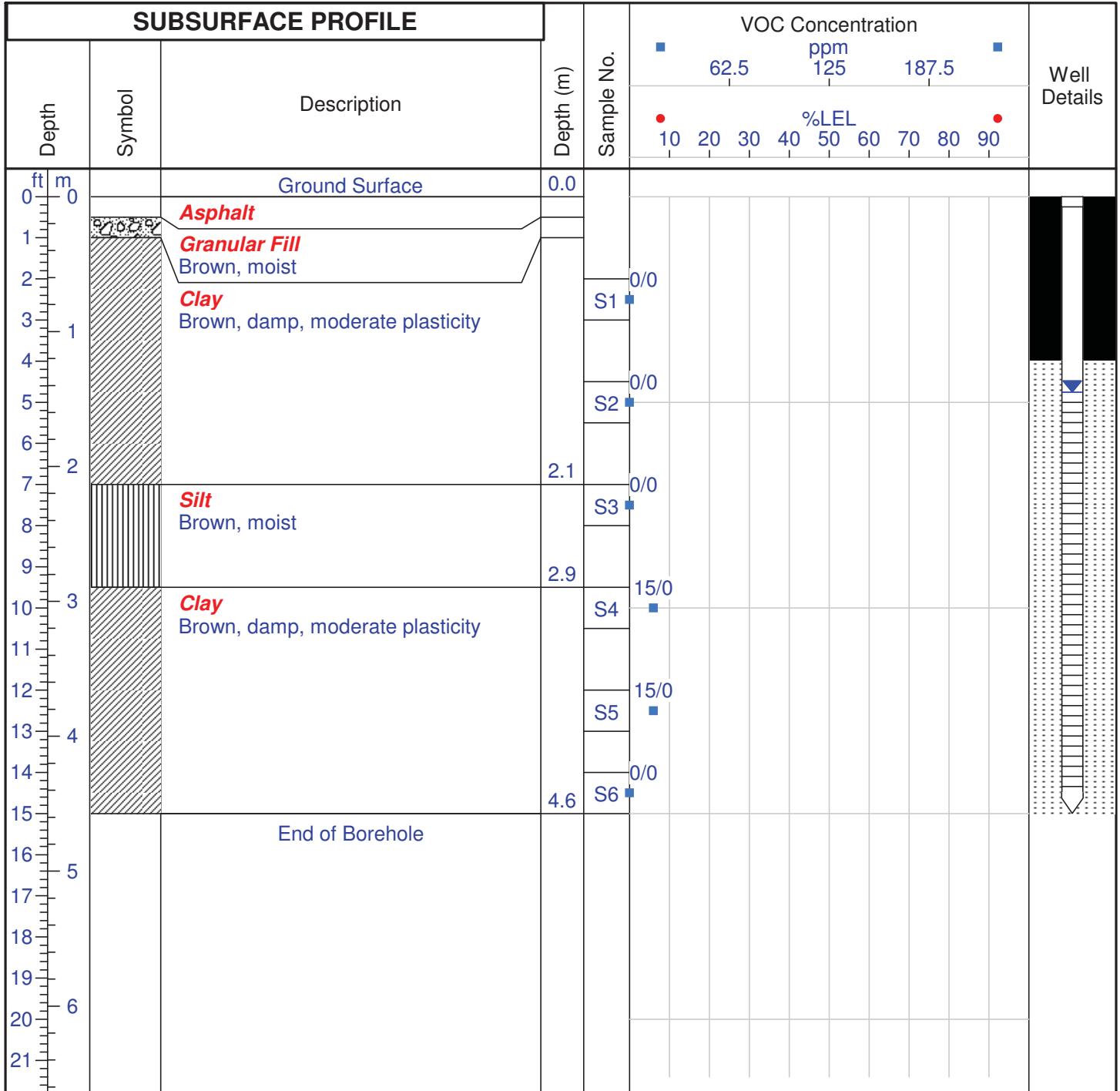
Project: Phase II Environmental Site Assessment

Client: Frank Laba c/o Elite Self Storage

Logged By: RS

Location: 515 Munroe Avenue, Winnipeg, Manitoba

Entered By: RS



Drill Method: Solid Stem Auger

Datum: Ground Level

Drilled By: Maple Leaf Drilling

Checked by: RM

Drill Date: October 20, 2014

Sheet: 1 of 1



Project No: 96012

Borehole: BH15 (MW15)

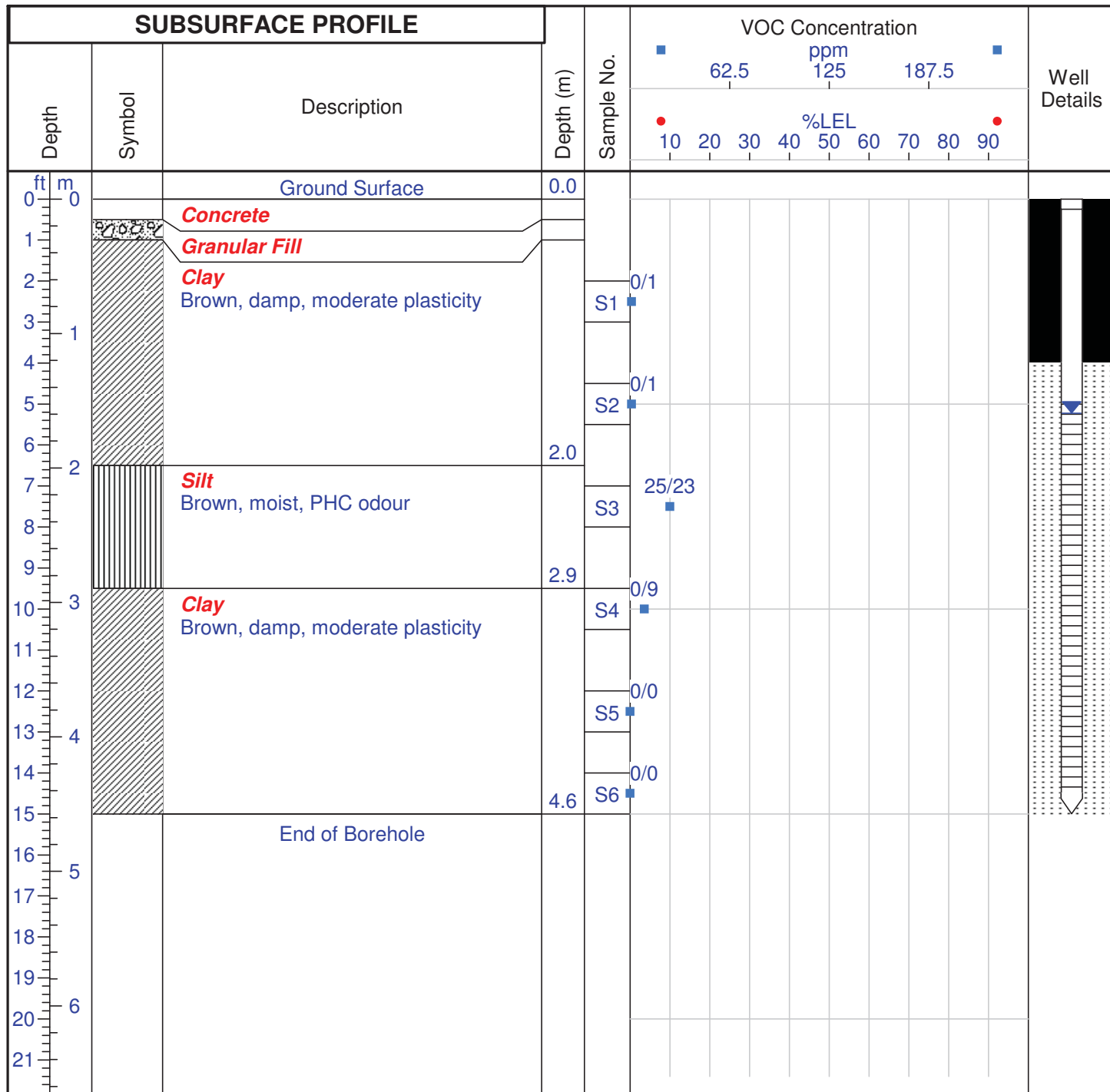
Project: Phase II Environmental Site Assessment

Client: Frank Laba c/o Elite Self Storage

Logged By: RS

Location: 515 Munroe Avenue, Winnipeg, Manitoba

Entered By: RS



Drill Method: Solid Stem Auger

Datum: Ground Level

Drilled By: Maple Leaf Drilling

Checked by: RM

Drill Date: October 20, 2014

Sheet: 1 of 1



Project No: 96012

Borehole: BH16

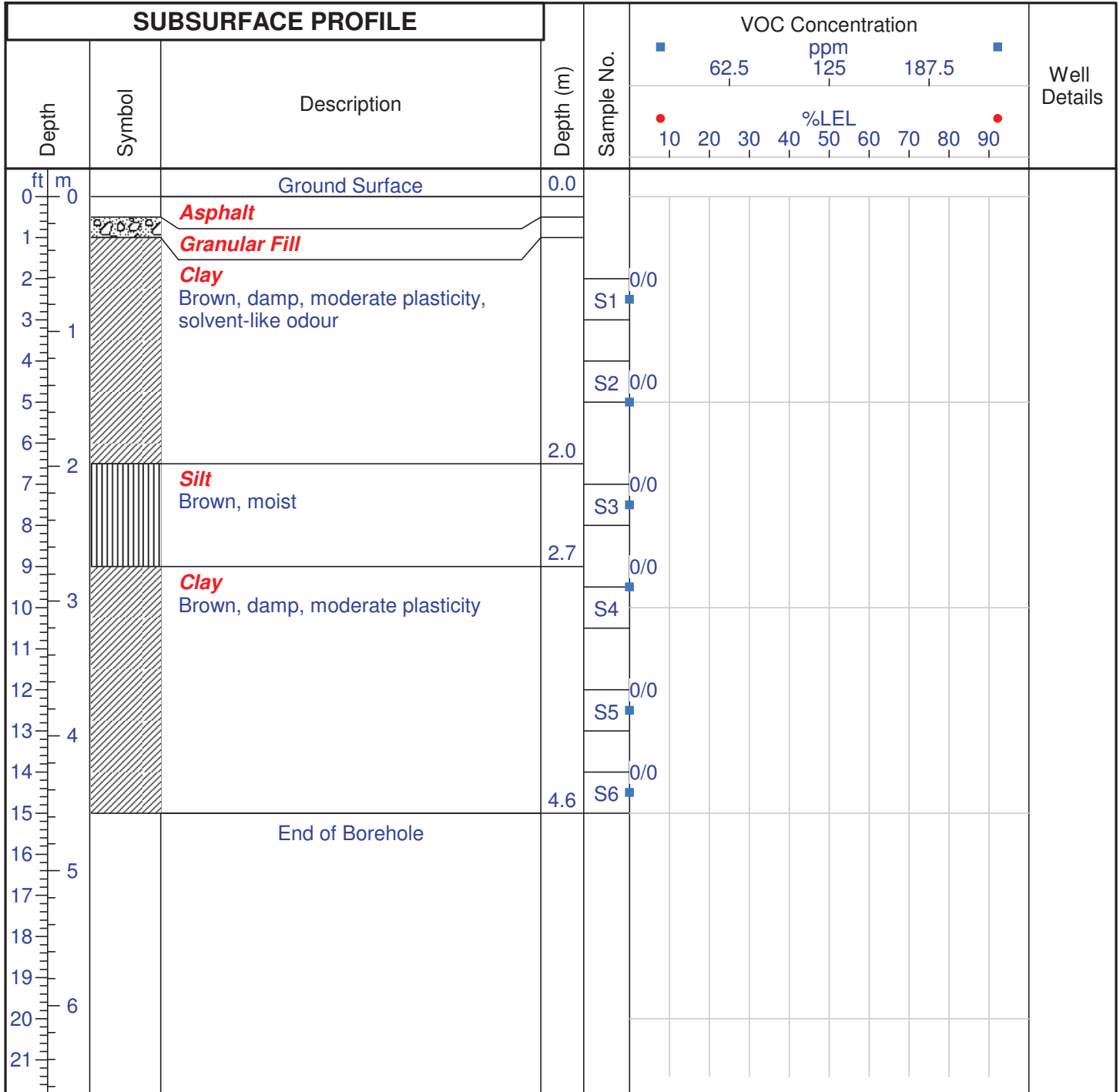
Project: Phase II Environmental Site Assessment

Client: Frank Laba c/o Elite Self Storage

Logged By: RS

Location: 515 Munroe Avenue, Winnipeg, Manitoba

Entered By: RS



Drill Method: Solid Stem Auger

Datum: Ground Level

Drilled By: Maple Leaf Drilling

Checked by: RM

Drill Date: October 17, 2014

Sheet: 1 of 1



Project No: 96012

Borehole: BH17

Project: Phase II Environmental Site Assessment

Client: Frank Laba c/o Elite Self Storage

Logged By: RS

Location: 515 Munroe Avenue, Winnipeg, Manitoba

Entered By: RS

SUBSURFACE PROFILE				VOC Concentration		Well Details
Depth	Symbol	Description	Depth (m)	Sample No.	ppm	
					%LEL	
0		Ground Surface	0.0		10	
1		Gravel			20	
2		Granular Fill			30	
3		Clay			40	
4		Brown, damp, moderate plasticity		S1	50	
5			1.5	S2	60	
6		End of Borehole			70	
7					80	
8					90	
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						

Drill Method: Solid Stem Auger

Datum: Ground Level

Drilled By: Maple Leaf Drilling

Checked by: RM

Drill Date: October 17, 2014

Sheet: 1 of 1



Project No: 96012

Borehole: BH18

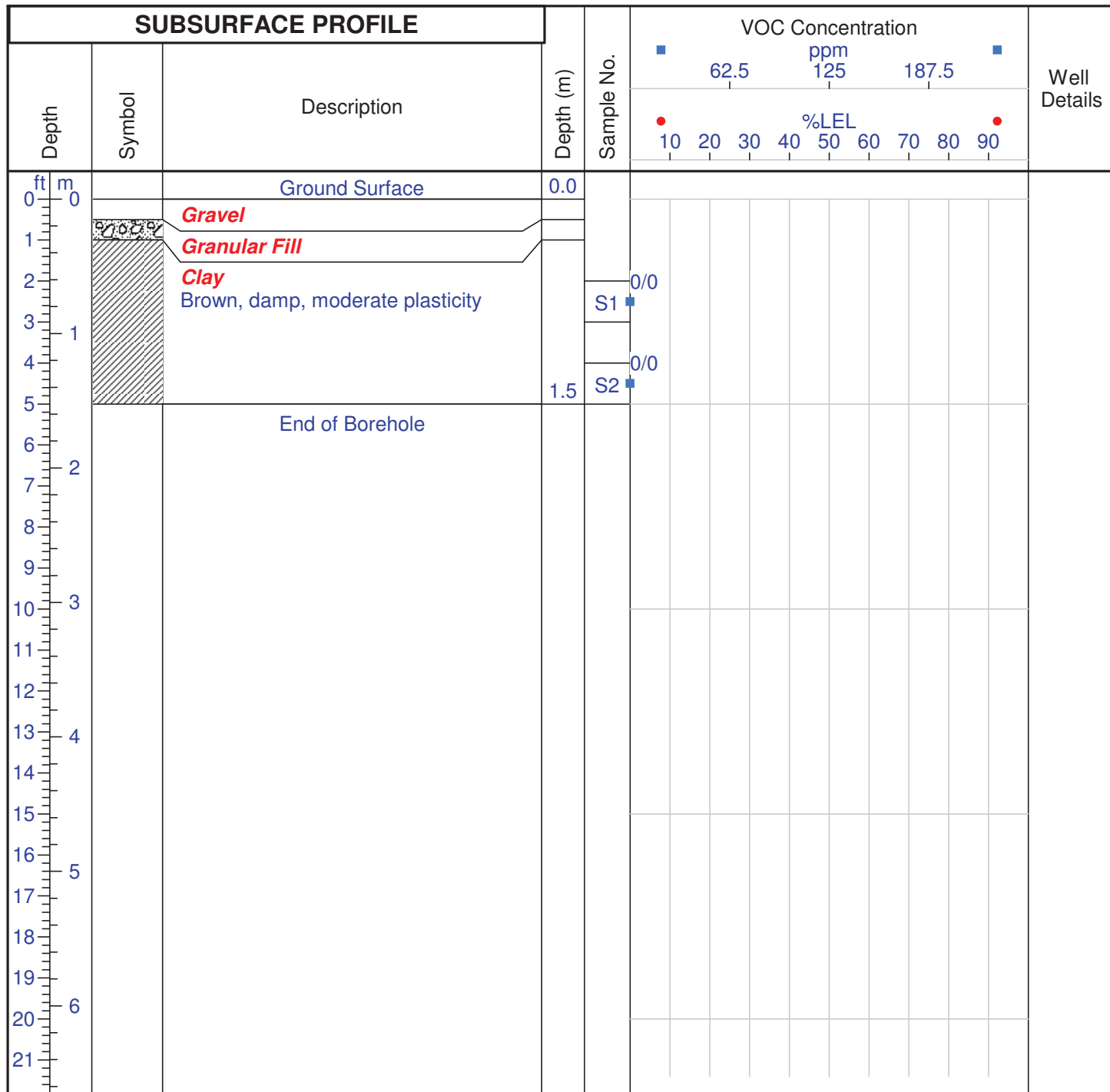
Project: Phase II Environmental Site Assessment

Client: Frank Laba c/o Elite Self Storage

Logged By: RS

Location: 515 Munroe Avenue, Winnipeg, Manitoba

Entered By: RS



Drill Method: Solid Stem Auger

Datum: Ground Level

Drilled By: Maple Leaf Drilling

Checked by: RM

Drill Date: October 17, 2014

Sheet: 1 of 1

APPENDIX III
Summary Tables

Table 1 Samples Submitted for Laboratory Analysis Phase II Environmental Site Assessment 515 Munroe Avenue Winnipeg, MB																	
Samples	Parameters											Rationale					
	Sample Location	Sample Identifier	Sample Depth (mbgs)	PHCs (F1 - F4)	BTEX	Metals Analysis	VOCs	PAHs	Grain Size Analysis	TCLP VOCs	Lead Analysis		PHCs	BTEX	VOCs	PAHs	Metals
SOIL SAMPLES	BH1 (MW1)	BH1 S4	3.05	●	●						●		●			Assess soil conditions in relation to historic on-Site operations.	
		MW1	–													Assess groundwater conditions in relation to historic on-Site operations.	
	BH2 (MW2)	BH2 S4	3.05	●	●						●					Assess soil conditions in relation to historic on-Site operations.	
		MW2	–										●	●			Assess groundwater conditions in relation to historic on-Site operations.
	BH3 (MW3)	BH3 S1	0.61		●			●								Assess soil conditions in relation to historic on-Site operations.	
		MW3	–										●	●			Assess groundwater conditions in relation to historic on-Site operations.
	BH4 (MW4)	BH4 S1	0.76		●			●							●		Assess soil conditions in relation to historic on-Site operations.
		MW4	–										●	●			Assess groundwater conditions in relation to historic on-Site operations.
	BH5 (MW5)	BH5 S1	0.76	●	●										●		Assess groundwater conditions in relation to historic off-Site operations.
		BH5 S4	3.05	●	●												Assess soil conditions in relation to historic off-Site operations.
	MW5	MW5	–											●	●		Assess groundwater conditions in relation to historic off-Site operations.
		BH6	BH6 S1	0.76	●	●			●								Assess soil conditions in relation to historic on-Site operations.
	BH7 (MW7)	BH7 S3	2.29	●	●			●									Assess soil conditions in relation to historic on-Site operations.
		MW7	–														Assess groundwater conditions in relation to historic on-Site operations.
	BH8	BH8 S2	1.52		●			●									Assess soil conditions in relation to historic on-Site operations.
		BH9 (MW9)	BH9 S2	1.52	●	●			●								Assess groundwater conditions in relation to historic on-Site operations.
	MW9	MW9	–											●	●		Assess groundwater conditions in relation to historic on-Site operations.
BH10 (MW10)		BH10 S1	0.76	●	●											Assess soil conditions in relation to historic off-Site operations.	
BH10 S4	BH10 S4	3.05	●	●			●									Assess soil conditions in relation to historic off-Site operations.	
	MW10	–											●	●		Assess groundwater conditions in relation to historic off-Site operations.	
BH11 (MW11)	BH11 S4	3.05	●	●			●									Assess soil conditions in relation to historic off-Site operations.	
	MW11	–											●	●		Assess groundwater conditions in relation to historic off-Site operations.	
BH12	BH12 S3	2.29		●			●									Assess soil conditions in relation to historic off-Site operations.	
	BH12 S4	3.05		●			●									Assess soil conditions in relation to historic off-Site operations.	
BH13	BH13 S1	0.76	●	●												Assess soil conditions in relation to historic off-Site operations.	
	BH13 S3	2.29	●	●												Assess soil conditions in relation to historic off-Site operations.	
BH14 (MW14)	BH14 S4	3.05	●	●			●									Assess soil conditions in relation to historic off-Site operations.	
	MW14	–											●	●		Assess groundwater conditions in relation to historic off-Site operations.	
BH15 (MW15)	BH15 S3	2.29	●	●			●									Assess soil conditions in relation to historic off-Site operations.	
	MW15	–														Assess groundwater conditions in relation to historic off-Site operations.	
BH16	BH16 S3	2.29		●											●	Assess groundwater conditions in relation to historic off-Site operations.	
	BH17	BH17 S1	0.76	●	●											Assess soil conditions in relation to historic off-Site operations.	
BH18	BH18 S1	0.76	●	●			●									Assess soil conditions in relation to historic on-Site operations.	
Notes:																	
mbgs Metres Below Ground Surface PHCs Petroleum Hydrocarbons BTEX Benzene, Toluene, Ethylbenzene, and Xylenes PAH Polycyclic Aromatic Hydrocarbons VOCs Volatile Organic Compounds TCLP Toxicity Characteristic Leaching Procedure																	

Table 2 Groundwater Level Data Phase II Environmental Site Assessment 515 Munroe Avenue Winnipeg, MB					
Well Number	Date (dd/mm/yyyy)	NAPL Level Measurement from TOC (m)	Water Level Measurement from TOC (m)	Water Level Measurement from Ground (mbgs)	Product Thickness (m)
BH1 (MW1)	21/10/2014	ND	1.57	1.67	ND
BH2 (MW2)	21/10/2014	ND	1.76	1.84	ND
BH3 (MW3)	21/10/2014	ND	1.68	1.76	ND
BH4 (MW4)	21/10/2014	ND	0.86	0.93	ND
BH5 (MW5)	21/10/2014	ND	0.76	0.88	ND
BH7 (MW7)	21/10/2014	ND	1.89	1.98	ND
BH9 (MW9)	21/10/2014	ND	1.25	1.35	ND
BH10 (MW10)	21/10/2014	ND	1.51	1.60	ND
BH11 (MW11)	21/10/2014	ND	1.07	1.14	ND
BH14 (MW14)	21/10/2014	ND	1.35	1.45	ND
BH15 (MW15)	21/10/2014	ND	1.48	1.57	ND
Notes: NAPL Non-Aqueous Phase Liquid ND Not Detected TOC Indicates Top of Casing m Metres mbgs Metres Below Ground Surface					

Table 4
Volatile Organic Compound Analysis for Soil
Phase II Environmental Site Assessment
515 Munroe Avenue
Winnipeg, MB

Parameter	Sample Identification							CCME Guideline ^a
	BH7 S3	BH10 S4	BH11 S4	BH12 S3	BH13 S3	BH14 S4	BH15 S3	
	2.29 mbgs	3.05 mbgs	3.05 mbgs	2.29 mbgs	2.29 mbgs	3.05 mbgs	2.29 mbgs	
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NG
1,1,1-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NG
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NG
1,1,2-Trichloroethane	<0.025	<1.3 ^b	<0.43 ^b	<0.79	<0.025	<0.025	<0.73 ^b	NG
1,1-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NG
1,1-Dichloroethene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	50
1,2,3-Trichlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NG
1,2,4-Trichlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	50
1,2-Dibromoethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	50
1,2-Dichlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	50
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	50
1,2-Dichloropropane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	50
1,3-Dichlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	50
1,4-Dichlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	50
Bromodichloromethane	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	NG
Bromoform	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	50
Bromomethane	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	0.01
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NG
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NG
Chlorodibromomethane	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	NG
Chloroethane	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	50
Chloroform	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	NG
Chloromethane	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	NG
cis-1,2-Dichloroethene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5
cis-1,3-Dichloropropene	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	10
Dichloromethane	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	NG
Hexachlorobutadiene	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	NG
Styrene	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	50
Tetrachloroethene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	10
trans-1,2-Dichloroethene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	10
trans-1,3-Dichloropropene	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	10
Trichloroethene	<0.0090	<0.0090	<0.0090	<0.0090	<0.0090	<0.0090	<0.0090	10
Trichlorofluoromethane	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	NG
Vinyl Chloride	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	10

Note:

- All concentrations in milligrams per kilogram (mg/kg) unless otherwise noted
- VOCs = Volatile Organic Compounds
- NG = no guideline for corresponding parameter
- < = concentration is less than the laboratory's minimum reportable detection limit
- BH7 S3 = sample was collected from Borehole 7, Sample Number 3
- 2.29 mbgs = sample was collected from 2.29 metres below ground surface
- CCME = Canadian Council of the Ministers of the Environment
- ^a Referenced from the CCME Canadian Environmental Quality Guidelines, Accessed On-Line in November 2014
- Data represents the most stringent criteria for commercial land-use excluding the protection of potable water and freshwater life
- ^b Detection limits raised due to matrix interference.
- Concentrations in **BOLD** print indicates concentration exceeds referenced guideline

Table 5 Polycyclic Aromatic Hydrocarbon Analysis for Soil Phase II Environmental Site Assessment 515 Munroe Avenue Winnipeg, MB												
Parameter	Sample Identification											CCME Guideline ^a
	BH3 S1	BH4 S1	BH6 S1	BH8 S2	BH9 S2	BH10 S4	BH12 S3	BH15 S3	BH17 S1	BH18 S1		
	0.61 mbgbs	0.76 mbgbs	0.76 mbgbs	1.52 mbgbs	1.52 mbgbs	3.05 mbgbs	2.29 mbgbs	2.29 mbgbs	0.76 mbgbs	0.76 mbgbs		
Benzo(a)Pyrene Equivalency ^b	0.09	0.04	0.28	0.04	0.04	0.04	0.04	0.04	0.04	0.04	5.3	
2-Methylnaphthalene	8.9	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.048	<0.020	<0.020	NG	
Acenaphthene	0.86	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0090 ^c	<0.018 ^c	<0.0050	<0.0050	21.5	
Acenaphthylene	0.13	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	320	
Anthracene	0.035	<0.0040	0.0064	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.0061	<0.0040	2.5	
Benzo(a)anthracene	0.062	<0.020	0.14	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	1	
Benzo(a)pyrene	0.047	<0.020	0.22	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.6	
Benzo(b&j)fluoranthene	0.083	<0.020	0.13	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	NG	
Benzo(b)fluoranthene	0.053	<0.020	0.094	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	1	
Benzo(g,h,i)perylene	<0.050	<0.050	0.31	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	1	
Benzo(k)fluoranthene	0.024	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	6.2	
Chrysene	0.082	<0.020	0.27	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	1	
Dibenz(a,h)anthracene	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	15.4	
Fluoranthene	0.17	<0.020	0.32	<0.020	<0.020	<0.020	<0.020	<0.020	0.023	<0.020	15.4	
Fluorene	0.53	<0.020	<0.020	<0.020	<0.020	<0.020	0.051	0.042	<0.020	<0.020	1	
Indeno(1,2,3-cd)pyrene	<0.050	<0.050	0.056	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.6	
Naphthalene	1.0	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.019	<0.010	5	
Phenanthrene	0.77	<0.020	0.34	<0.020	<0.020	<0.020	0.035	0.041	0.031	<0.020	7.7	
Pyrene	0.14	<0.020	0.13	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	NG	
Low Molecular Weight PAHs	12	<0.050	<0.050	<0.050	<0.050	<0.050	0.086	0.13	0.056	<0.050	NG	
High Molecular Weight PAHs	0.61	<0.050	1.3	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	NG	
Total PAH	13	<0.050	1.3	<0.050	<0.050	<0.050	0.086	0.13	0.080	<0.050	NG	

Note:

- All concentrations in milligrams per kilogram (mg/kg) unless otherwise noted
- PAHs = Polycyclic Aromatic Hydrocarbons
- NG = no guideline for corresponding parameter
- < = concentration is less than the laboratory's minimum reportable detection limit
- BH3 S1 = sample was collected from Borehole 3, Sample Number 1
- 0.61 mbgbs = sample was collected from 0.61 metres below ground surface
- CCME = Canadian Council of the Ministers of the Environment
- ^a Referenced from the CCME Canadian Environmental Soil Quality Guidelines for the Protection of Environmental and Human Health Polycyclic Aromatic Hydrocarbons, dated 2010
- Value listed represents the most stringent criteria for commercial properties excluding protection of potable water and freshwater life
- ^b Benzo(a)pyrene Total Potency Equivalents is calculated by summing the products of the detectable levels of following parameters by their respective Benzo(a)pyrene Equivalency Factor : Benzo(a)anthracene (0.1), Benzo(a)pyrene (1), Benzo(b+ j)fluoranthene (0.1), Benzo(k)fluoranthene (0.1), Benzo(g,h,i)perylene (0.01), Chrysene (0.01), Dibenz(a,h)anthracene (1) and Indeno(1,2,3-cd)pyrene (0.1)
- ^c Detection limits raised due to matrix interference.
- Concentrations in **BOLD** print indicates concentration exceeds referenced guideline

Note:

- All concentrations in milligrams per kilogram (mg/kg) unless otherwise noted
- PAHs = Polycyclic Aromatic Hydrocarbons
- NG = no guideline for corresponding parameter
- < = concentration is less than the laboratory's minimum reportable detection limit
- BH3 S1 = sample was collected from Borehole 3, Sample Number 1
- 0.61 mbgbs = sample was collected from 0.61 metres below ground surface
- CCME = Canadian Council of the Ministers of the Environment
- ^a Referenced from the CCME Canadian Environmental Soil Quality Guidelines for the Protection of Environmental and Human Health Polycyclic Aromatic Hydrocarbons, dated 2010
- Value listed represents the most stringent criteria for commercial properties excluding protection of potable water and freshwater life
- ^b Benzo(a)pyrene Total Potency Equivalents is calculated by summing the products of the detectable levels of following parameters by their respective Benzo(a)pyrene Equivalency Factor : Benzo(a)anthracene (0.1), Benzo(a)pyrene (1), Benzo(b-j)fluoranthene (0.1), Benzo(k)fluoranthene (0.1), Benzo(g,h,i)perylene (0.01), Chrysene (0.01), Dibenz(a,h)anthracene (1) and Indeno(1,2,3-cd)pyrene (0.1)
- ^c Detection limits raised due to matrix interference.
- Concentrations in **BOLD** print indicates concentration exceeds referenced guideline

Table 6
Metals Analysis for Soil
Phase II Environmental Site Assessment
515 Munroe Avenue
Winnipeg, MB

Parameter	Sample Identification						CCME Guideline ^a
	BH1 S4	BH2 S4	BH5 S1	BH6 S1	BH17 S1	BH18 S1	
	3.05 mbgs	3.05 mbgs	0.76 mbgs	0.76 mbgs	0.76 mbgs	0.76 mbgs	
Total Aluminum	NA	NA	30700	31200	31800	27700	NG
Total Antimony	NA	NA	3.13	0.48	3.41	0.43	40
Total Arsenic	NA	NA	12.0	8.72	7.44	7.44	12
Total Barium	NA	NA	2,040	178	152	184	2000
Total Beryllium	NA	NA	2.80	1.17	1.45	1.12	8
Total Bismuth	NA	NA	0.26	0.26	0.30	0.24	NG
Total Cadmium	NA	NA	1.21	0.620	0.734	0.601	22
Total Calcium	NA	NA	95500	51400	10300	62400	NG
Total Chromium	NA	NA	29.1	47.7	48.8	43.0	87
Total Cobalt	NA	NA	11.4	14.6	14.1	12.6	300
Total Copper	NA	NA	64.2	34.2	43.1	28.9	91
Total Iron	NA	NA	29500	31000	33400	27600	NG
Total Lead	6.47	7.31	125	25.8	236	28.6	260
Total Lithium	NA	NA	28.9	30.2	24.1	29.2	NG
Total Magnesium	NA	NA	20100	18800	12600	24000	NG
Total Manganese	NA	NA	433	468	264	480	NG
Total Mercury	NA	NA	<0.050	<0.050	<0.050	<0.050	24
Total Molybdenum	NA	NA	3.23	0.38	0.44	0.21	40
Total Nickel	NA	NA	32.0	44.5	42.7	38.2	50
Total Phosphorus	NA	NA	1520	480	392	413	NG
Total Potassium	NA	NA	2990	6080	5950	5280	NG
Total Selenium	NA	NA	1.58	<0.50	<0.50	<0.50	2.9
Total Silver	NA	NA	0.373	0.157	0.229	0.146	40
Total Sodium	NA	NA	1490	230	373	327	NG
Total Strontium	NA	NA	1690	117	70.8	108	NG
Total Thallium	NA	NA	0.224	0.350	0.391	0.320	1
Total Tin	NA	NA	8.46	1.20	3.23	1.05	300
Total Titanium	NA	NA	538	229	186	281	NG
Total Uranium	NA	NA	3.24	1.01	1.07	0.940	33
Total Vanadium	NA	NA	59.4	82.4	76.2	78.1	130
Total Zinc	NA	NA	183	90.9	106	80.6	320
Total Zirconium	NA	NA	25.0	14.9	14.5	14.7	NG

Note:

- All concentrations in milligrams per kilogram (mg/kg) unless otherwise noted
- NG = no guideline for corresponding parameter
- < = concentration is less than the laboratory's minimum reportable detection limit
- BH1 S4 = sample was collected from Borehole 1, Sample Number 4
- 3.05 mbgs = sample was collected from 3.05 metres below ground surface
- CCME = Canadian Council of the Ministers of the Environment
- ^a Referenced from the CCME Canadian Environmental Quality Guidelines, Accessed On-line in November 2014
- Concentrations in **BOLD** print indicates concentration exceeds referenced guideline
- NA = Not Analyzed

Table 7 Petroleum Hydrocarbon and BTEX Analysis for Groundwater Phase II Environmental Site Assessment 515 Munroe Avenue Winnipeg, MB													
Parameter	Sample Identification										MOECC Guidelines ^a		
	MW1	MW2	MW3	MW4	MW5	MW7	MW9	MW10	MW11	MW14	MW15		
BTEX	Benzene	540	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	1.0	<0.40	<0.40	44 ^b	430 ^c
	Toluene	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	18,000	
	Ethylbenzene	53	1.0	<0.40	<0.40	<0.40	<0.40	<0.40	0.57	<0.40	<0.40	2,300	
	Xylenes	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	4,200	
PHCs	F1 (C6-C10)	610	<300	<300	<300	<300	<300	<300	<300	<300	<300	750	
	F2 (C10-C16)	<150	<150	<150	<150	<150	<150	<150	960	<150	<150	150	
	F3 (C16-C34)	<200	<200	<200	<200	<200	<200	<200	920	<200	<200	500	
	F4 (C34-C50)	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	500	
	Methyl-tert-butylether (MTBE)	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	NG	
Note: • All concentrations in micrograms per litre (µg/L) unless otherwise noted • NA = Not Analyzed • BTEX = Benzene, Toluene, Ethylbenzene, Xylenes • PHCs = Petroleum Hydrocarbons • MW1 = sample was collected from Monitoring Well BH1 (MW1) • ^a Referenced from the Ontario Ministry of the Environment and Climate Control: Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011 • ^b Value listed represents the most stringent criteria for all property types, coarse-grained soils excluding protection of potable water (Table 3) • ^c Value listed represents the most stringent criteria for all property types, fine-grained soils excluding protection of potable water (Table 3) • Concentrations in BOLD print indicates concentration exceeds referenced guideline													

Table 8 Volatile Organic Compound Analysis for Groundwater Phase II Environmental Site Assessment 515 Munroe Avenue Winnipeg, MB											
Parameters	Sample Identification					MOECC Guidelines ^a					
	MW7	MW10	MW11	MW14	MW15						
1,1,1,2-Tetrachloroethane	<0.50	<0.50	<0.50	<0.50	<0.50		3.3 ^b 28 ^c				
1,1,1-Trichloroethane	<0.50	<0.50	<0.50	<0.50	<0.50		640 ^b 6,700 ^c				
1,1,2,2-Tetrachloroethane	<0.50	<0.50	<0.50	<0.50	<0.50		3.2 ^b 15 ^c				
1,1,2Trichloro-1,2,2Trifluoroethane	<2.0	<2.0	<2.0	<2.0	<2.0		NG				
1,1,2-Trichloroethane	<0.50	<0.50	<0.84	<0.50	<0.50		4.7 ^b 30 ^c				
1,1-Dichloroethane	<0.50	<0.50	<0.50	<0.50	<0.50		320 ^b 3,100 ^c				
1,1-Dichloroethene	<0.50	<0.50	<0.50	<0.50	<0.50		1.6 ^b 17 ^c				
1,2,3-Trichlorobenzene	<2.0	<2.0	<2.0	<2.0	<2.0		NG				
1,2,4-Trichlorobenzene	<2.0	<2.0	<2.0	<2.0	<2.0		180 ^b 850 ^c				
1,2-Dibromoethane	<0.20	<0.20	<0.20	<0.20	<0.20		0.25 ^b 0.83 ^c				
1,2-Dichlorobenzene	<0.50	<0.50	<0.50	<0.50	<0.50		4,600 ^b 9,600 ^c				
1,2-Dichloroethane	<0.50	<0.50	<0.50	<0.50	<0.50		1.6 ^b 12 ^c				
1,2-Dichloropropane	<0.50	<0.50	<0.50	<0.50	<0.50		16 ^b 140 ^c				
1,3-Dichlorobenzene	<0.50	<0.50	<0.50	<0.50	<0.50		9,600				
1,4-Dichlorobenzene	<0.50	<0.50	<0.50	<0.50	<0.50		8 ^b 67 ^c				
Bromodichloromethane	<1.0	<1.7	<1.6	<1.0	<1.0		85,000				
Bromoform	<1.0	<1.0	<1.0	<1.0	<1.0		380 ^b 770 ^c				
Bromomethane	<1.0	<1.0	<1.0	<1.0	<1.0		5.6 ^b 56 ^c				
Carbon Tetrachloride	<0.50	<0.50	<0.50	<0.50	<0.50		0.79 ^b 8.4 ^c				
Chlorobenzene	<0.50	<0.50	<0.50	<0.50	<0.50		630				
Chlorodibromomethane	<1.0	<1.0	<1.0	<1.0	<1.0		82,000				
Chloroethane	<1.0	<1.0	<1.0	<1.0	<1.0		NG				
Chloroform	<1.0	<1.0	<1.0	<1.0	<1.0		2.4 ^b 22 ^c				
Chloromethane	<1.0	<1.0	<1.0	<1.0	<1.0		NG				
cis-1,2-Dichloroethene	<1.0	<1.0	<1.0	<1.0	<1.0		1.6 ^b 17 ^c				
cis-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0	<1.0		NG				
Dichlorodifluoromethane	<2.0	<2.0	<2.0	<2.0	<2.0		4,400				
Dichloromethane	<2.0	<2.0	<2.0	<2.0	<2.0		610 ^b 5,500 ^c				
Hexachlorobutadiene	<0.50	<0.50	0.55	<0.50	<0.50		0.44 ^b 4.5 ^c				
Styrene	<0.50	<0.50	<0.50	<0.50	<0.50		1,300 ^b 9,100 ^c				
Tetrachloroethene	<0.50	<0.50	<0.50	<0.50	<0.50		1.6 ^b 17 ^c				
trans-1,2-Dichloroethene	<1.0	<1.0	<1.0	<1.0	<1.0		1.6 ^b 17 ^c				
trans-1,3-Dichloropropene	<1.0	<1.0	<1.0	<1.0	<1.0		NG				
Trichloroethene	<0.50	<0.50	<0.50	<0.50	<0.50		1.6 ^b 17 ^c				
Trichlorofluoromethane	<4.0	<4.0	<4.0	<4.0	<4.0		2,500				
Vinyl Chloride	<0.50	<0.50	<0.50	<0.50	<0.50		0.5 ^b 1.7 ^c				
Note:											
• All concentrations in ug/L or equivalent unless otherwise noted											
• VOCs = Volatile Organic Compounds											
• NG = no guideline for corresponding parameter											
• < = concentration is less than the laboratory's minimum reportable detection limit											
• MW7 = sample was collected from monitoring well 7											
• ^a Referenced from the Ontario Ministry of the Environment and Climate Change: Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011											
• ^b Value listed represents the most stringent criteria for all property types, coarse-grained soils excluding protection of potable water (Table 3)											
• ^c Value listed represents the most stringent criteria for all property types, fine-grained soils excluding protection of potable water (Table 3)											
• Concentrations in BOLD print indicates concentration exceeds referenced guideline											

Note:

- All concentrations in ug/L or equivalent unless otherwise noted
- VOCs = Volatile Organic Compounds
- NG = no guideline for corresponding parameter
- < = concentration is less than the laboratory's minimum reportable detection limit
- MW7 = sample was collected from monitoring well 7
- ^a Referenced from the Ontario Ministry of the Environment and Climate Change: Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011
- ^b Value listed represents the most stringent criteria for all property types, coarse-grained soils excluding protection of potable water (Table 3)
- ^c Value listed represents the most stringent criteria for all property types, fine-grained soils excluding protection of potable water (Table 3)
- Concentrations in **BOLD** print indicates concentration exceeds referenced guideline

Table 9 Polycyclic Aromatic Hydrocarbon Analysis for Groundwater Phase II Environmental Site Assessment 515 Munroe Avenue Winnipeg, MB						
Parameter	Sample Identification					MOECC Guidelines ^a
	MW3	MW4	MW9	MW10	MW15	
Naphthalene	<0.10	<0.10	<0.10	<0.10	<0.10	1,400 ^b 6,400 ^c
2-Methylnaphthalene	<0.10	<0.10	<0.10	<0.10	<0.10	1,800
Quinoline	<0.24	<0.24	<0.24	<0.24	<0.24	NG
Acenaphthylene	<0.050	<0.050	<0.050	<0.050	<0.050	1.8
Acenaphthene	<0.050	<0.050	<0.050	<0.050	<0.050	600 ^b 1,700 ^c
Fluorene	<0.050	<0.050	<0.050	<0.050	<0.050	400
Phenanthrene	<0.050	<0.050	<0.050	<0.050	<0.050	580
Anthracene	<0.010	<0.010	<0.010	<0.010	<0.010	2.4
Acridine	<0.050	<0.050	<0.050	<0.050	<0.050	NG
Fluoranthene	<0.020	<0.020	<0.020	<0.020	<0.020	130
Pyrene	<0.020	<0.020	<0.020	<0.020	<0.020	68
Benzo(a)anthracene	<0.010	<0.010	<0.010	<0.010	<0.010	4.7
Chrysene	<0.050	<0.050	<0.050	<0.050	<0.050	1
Benzo(b&l)fluoranthene	<0.050	<0.050	<0.050	<0.050	<0.050	0.75
Benzo(k)fluoranthene	<0.050	<0.050	<0.050	<0.050	<0.050	0.4
Benzo(a)pyrene	<0.0090	<0.0090	0.019	<0.0090	<0.0090	0.81
Indeno(1,2,3-cd)pyrene	<0.050	<0.050	<0.050	<0.050	<0.050	0.2
Dibenz(a,h)anthracene	<0.050	<0.050	<0.050	<0.050	<0.050	0.52
Benzo(g,h,i)perylene	<0.050	<0.050	<0.050	<0.050	<0.050	0.2
Low Molecular Weight PAH's	<0.24	<0.24	<0.24	<0.24	<0.24	NG
High Molecular Weight PAH's	<0.050	<0.050	<0.050	<0.050	<0.050	NG
Total PAHs	<0.24	<0.24	<0.24	<0.24	<0.24	NG

Note:

- All concentrations in micrograms per Litre (ug/L) or equivalent unless otherwise noted
- PAHs = Polycyclic Aromatic Hydrocarbons
- NG = no applicable guideline for corresponding parameter
- < = concentration is less than the laboratory's minimum reportable detection limit
- MW3 = sample was collected from Monitoring Well BH3 (MW3)
- MOECC = Ontario Ministry of the Environment and Climate Change
- ^a Referenced from the Ontario Ministry of the Environment and Climate Change
- ^b Value listed represents the most stringent criteria for all property types, coarse-grained soils excluding protection of potable water (Table 3)
- ^c Value listed represents the most stringent criteria for all property types, fine-grained soils excluding protection of potable water (Table 3)
- Concentrations in **BOLD** print indicates concentration exceeds referenced guideline

APPENDIX IV
Laboratory Certificates of Analysis

Your Project #: 96012
Site Location: 515 MUNROE
Your C.O.C. #: N000016-N000017

Attention:ROBERT SLATER

PINCHIN ENVIRONMENTAL LTD
54 Terracon Pl.
Winnipeg, MB
CANADA R2J 4G7

Report Date: 2014/10/30
Report #: R1674740
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B495130

Received: 2014/10/21, 14:35

Sample Matrix: Soil
Samples Received: 22

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC-MS/FID (MeOH extract) (2)	2	2014/10/22	2014/10/26	WINSOP-00054 WINSOP-00055	EPA8260C/CCME PHCCWS
BTEX/F1 by HS GC-MS/FID (MeOH extract) (2)	18	2014/10/23	2014/10/26	WINSOP-00054 WINSOP-00055	EPA8260C/CCME PHCCWS
BTEX/F1 by HS GC-MS/FID (MeOH extract) (2)	2	2014/10/23	2014/10/28	WINSOP-00054 WINSOP-00055	EPA8260C/CCME PHCCWS
CCME Hydrocarbons (F2-F4 in soil) (3)	2	2014/10/22	2014/10/29	WINSOP-00056	CCME PHC-CWS
CCME Hydrocarbons (F2-F4 in soil) (3)	13	2014/10/23	2014/10/24	WINSOP-00056	CCME PHC-CWS
CCME Hydrocarbons (F2-F4 in soil) (3)	7	2014/10/23	2014/10/29	WINSOP-00056	CCME PHC-CWS
CCME Hydrocarbons (F4G in soil) (3)	1	2014/10/30	2014/10/30	WIN SOP-00056	CCME PHC-CWS
Elements by ICPMS (total) (1)	6	2014/10/23	2014/10/24	BBY7SOP-00001	EPA 6020a R1 m
Moisture (1)	1	N/A	2014/10/30	BBY8SOP-00017	OMOE E3139 3.1 m
Moisture	2	N/A	2014/10/23	WIN SOP-00060	Carter Method 51.2
Moisture	20	N/A	2014/10/24	WIN SOP-00060	Carter Method 51.2
PAH in Soil by GC/MS (SIM) - CCME (1)	9	2014/10/24	2014/10/28	BBY8SOP-00022	EPA 8270d R4 m
PAH in Soil by GC/MS (SIM) - CCME (1)	1	2014/10/28	2014/10/29	BBY8SOP-00022	EPA 8270d R4 m
Benzo[a]pyrene Equivalency (1)	10	N/A	2014/10/28	BBY WI-00033	Auto Calc
Total LMW, HMW, Total PAH Calc (1)	10	N/A	2014/10/28	BBY WI-00033	Auto Calc
pH (2:1 DI Water Extract) (1)	6	2014/10/24	2014/10/24	BBY6SOP-00028	BCMOE BCLM Mar2005 m
VOCs in Soil by HS GC/MS	7	2014/10/23	2014/10/24	WIN SOP-00062	EPA 8260C

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Vancouver

(2) This method complies with the reference method for the CWS PHC and is validated for use in the laboratory.

Applicable only to F1 and/or LH - nC6 and nC10 response factors are within 30% of the toluene response factor.

The hydrocarbon results are expressed as a dry weight basis.

(3) This method complies with the reference method for the CWS PHC and is validated for use in the laboratory.

The hydrocarbon results are expressed as a dry weight basis.

Your Project #: 96012
Site Location: 515 MUNROE
Your C.O.C. #: N000016-N000017

Attention:ROBERT SLATER

PINCHIN ENVIRONMENTAL LTD
54 Terracon Pl.
Winnipeg, MB
CANADA R2J 4G7

Report Date: 2014/10/30
Report #: R1674740
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B495130

Received: 2014/10/21, 14:35

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Janelle Kochan, B.Sc., Project Manager

Email: JKochan@maxxam.ca

Phone# (204)772-7276 Ext:2209

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B495130
Report Date: 2014/10/30

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		KX6157	KX6158	KX6159	KX6160	KX6161	KX6162	KX6163		
Sampling Date		2014/10/17 10:00	2014/10/17 11:00	2014/10/17 11:45	2014/10/17 12:45	2014/10/17 13:45	2014/10/17 15:00	2014/10/17 15:45		
COC Number		N000016	N000016	N000016	N000016	N000016	N000016	N000016		
	Units	BH1 S4	BH2 S4	BH3 S1	BH4 S1	BH5 S1	BH5 S4	BH6 S1	RDL	QC Batch

Physical Properties										
Soluble (2:1) pH	pH	8.55	8.58			8.47		8.45	N/A	7689568
Physical Properties										
Moisture	%	20	20	27	26	38	22	23	0.3	7689977
RDL = Reportable Detection Limit										
N/A = Not Applicable										

Maxxam ID		KX6164	KX6165	KX6166	KX6167	KX6168	KX6169	KX6170		
Sampling Date		2014/10/17 16:30	2014/10/17 17:00	2014/10/17 17:30	2014/10/20 08:30	2014/10/20 08:45	2014/10/20 09:45	2014/10/20 10:45		
COC Number		N000016	N000016	N000016	N000016	N000016	N000017	N000017		
	Units	BH7 S3	BH8 S2	BH9 S2	BH10 S1	BH10 S4	BH11 S4	BH12 S3	RDL	QC Batch

Physical Properties										
Moisture	%	18	26	24	25	28	18	18	0.3	7689977
RDL = Reportable Detection Limit										

Maxxam ID		KX6171	KX6172	KX6173	KX6174	KX6175	KX6176		
Sampling Date		2014/10/20 11:00	2014/10/20 11:30	2014/10/20 11:45	2014/10/20 12:45	2014/10/20 13:45	2014/10/20 14:45		
COC Number		N000017	N000017	N000017	N000017	N000017	N000017		
	Units	BH12 S4	BH13 S1	BH13 S3	BH14 S4	BH15 S3	BH16 S3	RDL	QC Batch

Physical Properties									
Moisture	%	21	26	21	32	20	18	0.3	7689977
RDL = Reportable Detection Limit									

Maxxam ID		KX6177	KX6178		
Sampling Date		2014/10/20 15:30	2014/10/20 16:30		
COC Number		N000017	N000017		
	Units	BH17 S1	BH18 S1	RDL	QC Batch

Physical Properties					
Soluble (2:1) pH	pH	8.35	8.47	N/A	7689568
Physical Properties					
Moisture	%	27	25	0.3	7688699
RDL = Reportable Detection Limit					
N/A = Not Applicable					

Maxxam Job #: B495130
Report Date: 2014/10/30

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		KX6157	KX6158	KX6159	KX6160	KX6161	KX6162		
Sampling Date		2014/10/17 10:00	2014/10/17 11:00	2014/10/17 11:45	2014/10/17 12:45	2014/10/17 13:45	2014/10/17 15:00		
COC Number		N000016	N000016	N000016	N000016	N000016	N000016		
	Units	BH1 S4	BH2 S4	BH3 S1	BH4 S1	BH5 S1	BH5 S4	RDL	QC Batch

Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	130	67	7000	240	<20	<20	20	7689971
F3 (C16-C34 Hydrocarbons)	mg/kg	81	53	1600	110	140	<20	20	7689971
F4 (C34-C50 Hydrocarbons)	mg/kg	<20	<20	170	<20	71	<20	20	7689971
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes		7689971
Surrogate Recovery (%)									
O-TERPHENYL (sur.)	%	98	105	105	95	92	94		7689971
RDL = Reportable Detection Limit									

Maxxam ID		KX6163	KX6164	KX6165	KX6166	KX6167	KX6168		
Sampling Date		2014/10/17 15:45	2014/10/17 16:30	2014/10/17 17:00	2014/10/17 17:30	2014/10/20 08:30	2014/10/20 08:45		
COC Number		N000016	N000016	N000016	N000016	N000016	N000016		
	Units	BH6 S1	BH7 S3	BH8 S2	BH9 S2	BH10 S1	BH10 S4	RDL	QC Batch

Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	<20	<20	<20	<20	<20	41	20	7689971
F3 (C16-C34 Hydrocarbons)	mg/kg	<20	<20	<20	<20	<20	38	20	7689971
F4 (C34-C50 Hydrocarbons)	mg/kg	<20	<20	<20	<20	<20	<20	20	7689971
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	N/A	7689971
Surrogate Recovery (%)									
O-TERPHENYL (sur.)	%	101	98	91	92	95	92		7689971
RDL = Reportable Detection Limit									
N/A = Not Applicable									

Maxxam Job #: B495130
Report Date: 2014/10/30

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		KX6169	KX6170	KX6171	KX6172	KX6173	KX6174		
Sampling Date		2014/10/20 09:45	2014/10/20 10:45	2014/10/20 11:00	2014/10/20 11:30	2014/10/20 11:45	2014/10/20 12:45		
COC Number		N000017	N000017	N000017	N000017	N000017	N000017		
	Units	BH11 S4	BH12 S3	BH12 S4	BH13 S1	BH13 S3	BH14 S4	RDL	QC Batch

Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	54	240	<20	<20	170	<20	20	7689971
F3 (C16-C34 Hydrocarbons)	mg/kg	74	180	<20	<20	190	<20	20	7689971
F4 (C34-C50 Hydrocarbons)	mg/kg	<20	20	<20	<20	<20	<20	20	7689971
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	N/A	7689971

Surrogate Recovery (%)									
O-TERPHENYL (sur.)	%	93	98	91	91	98	82		7689971

RDL = Reportable Detection Limit

N/A = Not Applicable

Maxxam ID		KX6175	KX6176		KX6177	KX6178		
Sampling Date		2014/10/20 13:45	2014/10/20 14:45		2014/10/20 15:30	2014/10/20 16:30		
COC Number		N000017	N000017		N000017	N000017		
	Units	BH15 S3	BH16 S3	QC Batch	BH17 S1	BH18 S1	RDL	QC Batch

Ext. Pet. Hydrocarbon								
F2 (C10-C16 Hydrocarbons)	mg/kg	130	<20	7689971	<20	<20	20	7688681
F3 (C16-C34 Hydrocarbons)	mg/kg	72	<20	7689971	120	<20	20	7688681
F4 (C34-C50 Hydrocarbons)	mg/kg	<20	<20	7689971	110	<20	20	7688681
Reached Baseline at C50	mg/kg	Yes	Yes	7689971	No	Yes	N/A	7688681
F4G-SG (Heavy Hydrocarbons-Grav.)	mg/kg				<500		500	7699824

Surrogate Recovery (%)								
O-TERPHENYL (sur.)	%	89	99	7689971	107	97		7688681

RDL = Reportable Detection Limit

Maxxam Job #: B495130
Report Date: 2014/10/30

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

PHYSICAL TESTING (SOIL)

Maxxam ID		KX6177		
Sampling Date		2014/10/20 15:30		
COC Number		N000017		
	Units	BH17 S1	RDL	QC Batch
Physical Properties				
Moisture	%	27	0.30	7698691
RDL = Reportable Detection Limit				

Maxxam Job #: B495130
Report Date: 2014/10/30

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KX6159			KX6160	KX6163	KX6165	KX6166		
Sampling Date		2014/10/17 11:45			2014/10/17 12:45	2014/10/17 15:45	2014/10/17 17:00	2014/10/17 17:30		
COC Number		N000016			N000016	N000016	N000016	N000016		
	Units	BH3 S1	RDL	QC Batch	BH4 S1	BH6 S1	BH8 S2	BH9 S2	RDL	QC Batch

Calculated Parameters

Index of Additive Cancer Risk(IARC)	N/A	1.1	0.10	7686188	0.31	2.2	0.31	0.31	0.10	7686188
Benzo[a]pyrene equivalency	N/A	<0.10	0.10	7686188	<0.10	0.28	<0.10	<0.10	0.10	7686188

Polycyclic Aromatics

Naphthalene	mg/kg	1.0	0.010	7697978	<0.010	<0.010	<0.010	<0.010	0.010	7695275
2-Methylnaphthalene	mg/kg	8.9	0.020	7697978	<0.020	<0.020	<0.020	<0.020	0.020	7695275
Acenaphthylene	mg/kg	0.13	0.0050	7697978	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7695275
Acenaphthene	mg/kg	0.86	0.0050	7697978	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7695275
Fluorene	mg/kg	0.53	0.020	7697978	<0.020	<0.020	<0.020	<0.020	0.020	7695275
Phenanthrene	mg/kg	0.77	0.020	7697978	<0.020	0.034	<0.020	<0.020	0.020	7695275
Anthracene	mg/kg	0.035	0.0040	7697978	<0.0040	0.0064	<0.0040	<0.0040	0.0040	7695275
Fluoranthene	mg/kg	0.17	0.020	7697978	<0.020	0.032	<0.020	<0.020	0.020	7695275
Pyrene	mg/kg	0.14	0.020	7697978	<0.020	0.13	<0.020	<0.020	0.020	7695275
Benzo(a)anthracene	mg/kg	0.062	0.020	7697978	<0.020	0.14	<0.020	<0.020	0.020	7695275
Chrysene	mg/kg	0.082	0.020	7697978	<0.020	0.27	<0.020	<0.020	0.020	7695275
Benzo(b&j)fluoranthene	mg/kg	0.083	0.020	7697978	<0.020	0.13	<0.020	<0.020	0.020	7695275
Benzo(b)fluoranthene	mg/kg	0.053	0.020	7697978	<0.020	0.094	<0.020	<0.020	0.020	7695275
Benzo(k)fluoranthene	mg/kg	0.024	0.020	7697978	<0.020	<0.020	<0.020	<0.020	0.020	7695275
Benzo(a)pyrene	mg/kg	0.047	0.020	7697978	<0.020	0.22	<0.020	<0.020	0.020	7695275
Indeno(1,2,3-cd)pyrene	mg/kg	<0.050	0.050	7697978	<0.050	0.056	<0.050	<0.050	0.050	7695275
Dibenz(a,h)anthracene	mg/kg	<0.050	0.050	7697978	<0.050	<0.050	<0.050	<0.050	0.050	7695275
Benzo(g,h,i)perylene	mg/kg	<0.050	0.050	7697978	<0.050	0.31	<0.050	<0.050	0.050	7695275
Low Molecular Weight PAH's	mg/kg	12	0.70	7685994	<0.050	<0.050	<0.050	<0.050	0.050	7685994
High Molecular Weight PAH's	mg/kg	0.61	0.050	7685994	<0.050	1.3	<0.050	<0.050	0.050	7685994
Total PAH	mg/kg	13	0.70	7685994	<0.050	1.3	<0.050	<0.050	0.050	7685994

Surrogate Recovery (%)

D10-ANTHRACENE (sur.)	%	56 (1)		7697978	71	67	77	80		7695275
D8-ACENAPHTHYLENE (sur.)	%	63		7697978	81	78	80	82		7695275
D8-NAPHTHALENE (sur.)	%	76		7697978	81	80	79	81		7695275
TERPHENYL-D14 (sur.)	%	56 (1)		7697978	90	90	90	93		7695275

RDL = Reportable Detection Limit

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Maxxam Job #: B495130
Report Date: 2014/10/30

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KX6168		KX6170		KX6175		KX6177		
Sampling Date		2014/10/20 08:45		2014/10/20 10:45		2014/10/20 13:45		2014/10/20 15:30		
COC Number		N000016		N000017		N000017		N000017		
	Units	BH10 S4	RDL	BH12 S3	RDL	BH15 S3	RDL	BH17 S1	RDL	QC Batch

Calculated Parameters										
Index of Additive Cancer Risk(IARC)	N/A	0.31	0.10	0.31	0.10	0.31	0.10	0.31	0.10	7686188
Benzo[a]pyrene equivalency	N/A	<0.10	0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10	7686188

Polycyclic Aromatics										
Naphthalene	mg/kg	<0.010	0.010	<0.010	0.010	<0.010	0.010	0.019	0.010	7695275
2-Methylnaphthalene	mg/kg	<0.020	0.020	<0.020	0.020	0.048	0.020	<0.020	0.020	7695275
Acenaphthylene	mg/kg	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0050	7695275
Acenaphthene	mg/kg	<0.0050	0.0050	<0.0090 (1)	0.0090	<0.018 (1)	0.018	<0.0050	0.0050	7695275
Fluorene	mg/kg	<0.020	0.020	0.051	0.020	0.042	0.020	<0.020	0.020	7695275
Phenanthrene	mg/kg	<0.020	0.020	0.035	0.020	0.041	0.020	0.031	0.020	7695275
Anthracene	mg/kg	<0.0040	0.0040	<0.0040	0.0040	<0.0040	0.0040	0.0061	0.0040	7695275
Fluoranthene	mg/kg	<0.020	0.020	<0.020	0.020	<0.020	0.020	0.023	0.020	7695275
Pyrene	mg/kg	<0.020	0.020	<0.020	0.020	<0.020	0.020	<0.020	0.020	7695275
Benzo(a)anthracene	mg/kg	<0.020	0.020	<0.020	0.020	<0.020	0.020	<0.020	0.020	7695275
Chrysene	mg/kg	<0.020	0.020	<0.020	0.020	<0.020	0.020	<0.020	0.020	7695275
Benzo(b&j)fluoranthene	mg/kg	<0.020	0.020	<0.020	0.020	<0.020	0.020	<0.020	0.020	7695275
Benzo(b)fluoranthene	mg/kg	<0.020	0.020	<0.020	0.020	<0.020	0.020	<0.020	0.020	7695275
Benzo(k)fluoranthene	mg/kg	<0.020	0.020	<0.020	0.020	<0.020	0.020	<0.020	0.020	7695275
Benzo(a)pyrene	mg/kg	<0.020	0.020	<0.020	0.020	<0.020	0.020	<0.020	0.020	7695275
Indeno(1,2,3-cd)pyrene	mg/kg	<0.050	0.050	<0.050	0.050	<0.050	0.050	<0.050	0.050	7695275
Dibenz(a,h)anthracene	mg/kg	<0.050	0.050	<0.050	0.050	<0.050	0.050	<0.050	0.050	7695275
Benzo(g,h,i)perylene	mg/kg	<0.050	0.050	<0.050	0.050	<0.050	0.050	<0.050	0.050	7695275
Low Molecular Weight PAH's	mg/kg	<0.050	0.050	0.086	0.050	0.13	0.050	0.056	0.050	7685994
High Molecular Weight PAH's	mg/kg	<0.050	0.050	<0.050	0.050	<0.050	0.050	<0.050	0.050	7685994
Total PAH	mg/kg	<0.050	0.050	0.086	0.050	0.13	0.050	0.080	0.050	7685994

Surrogate Recovery (%)										
D10-ANTHRACENE (sur.)	%	65		74		84		59 (2)		7695275
D8-ACENAPHTHYLENE (sur.)	%	70		79		80		71		7695275
D8-NAPHTHALENE (sur.)	%	76		81		87		81		7695275
TERPHENYL-D14 (sur.)	%	84		92		93		89		7695275

RDL = Reportable Detection Limit

(1) RDL raised due to sample matrix interference.

(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Maxxam Job #: B495130
Report Date: 2014/10/30

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KX6178		
Sampling Date		2014/10/20 16:30		
COC Number		N000017		
	Units	BH18 S1	RDL	QC Batch
Calculated Parameters				
Index of Additive Cancer Risk(IARC)	N/A	0.31	0.10	7686188
Benzo[a]pyrene equivalency	N/A	<0.10	0.10	7686188
Polycyclic Aromatics				
Naphthalene	mg/kg	<0.010	0.010	7695275
2-Methylnaphthalene	mg/kg	<0.020	0.020	7695275
Acenaphthylene	mg/kg	<0.0050	0.0050	7695275
Acenaphthene	mg/kg	<0.0050	0.0050	7695275
Fluorene	mg/kg	<0.020	0.020	7695275
Phenanthrene	mg/kg	<0.020	0.020	7695275
Anthracene	mg/kg	<0.0040	0.0040	7695275
Fluoranthene	mg/kg	<0.020	0.020	7695275
Pyrene	mg/kg	<0.020	0.020	7695275
Benzo(a)anthracene	mg/kg	<0.020	0.020	7695275
Chrysene	mg/kg	<0.020	0.020	7695275
Benzo(b&j)fluoranthene	mg/kg	<0.020	0.020	7695275
Benzo(b)fluoranthene	mg/kg	<0.020	0.020	7695275
Benzo(k)fluoranthene	mg/kg	<0.020	0.020	7695275
Benzo(a)pyrene	mg/kg	<0.020	0.020	7695275
Indeno(1,2,3-cd)pyrene	mg/kg	<0.050	0.050	7695275
Dibenz(a,h)anthracene	mg/kg	<0.050	0.050	7695275
Benzo(g,h,i)perylene	mg/kg	<0.050	0.050	7695275
Low Molecular Weight PAH's	mg/kg	<0.050	0.050	7685994
High Molecular Weight PAH's	mg/kg	<0.050	0.050	7685994
Total PAH	mg/kg	<0.050	0.050	7685994
Surrogate Recovery (%)				
D10-ANTHRACENE (sur.)	%	65		7695275
D8-ACENAPHTHYLENE (sur.)	%	80		7695275
D8-NAPHTHALENE (sur.)	%	89		7695275
TERPHENYL-D14 (sur.)	%	93		7695275
RDL = Reportable Detection Limit				

Maxxam Job #: B495130
Report Date: 2014/10/30

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		KX6157	KX6158	KX6161	KX6163	KX6177	KX6178		
Sampling Date		2014/10/17 10:00	2014/10/17 11:00	2014/10/17 13:45	2014/10/17 15:45	2014/10/20 15:30	2014/10/20 16:30		
COC Number		N000016	N000016	N000016	N000016	N000017	N000017		
	Units	BH1 S4	BH2 S4	BH5 S1	BH6 S1	BH17 S1	BH18 S1	RDL	QC Batch
Total Metals by ICPMS									
Total Aluminum (Al)	mg/kg			30700	31200	31800	27700	100	7689563
Total Antimony (Sb)	mg/kg			3.13	0.48	3.41	0.43	0.10	7689563
Total Arsenic (As)	mg/kg			12.0	8.72	7.44	7.44	0.50	7689563
Total Barium (Ba)	mg/kg			2040	178	152	184	0.10	7689563
Total Beryllium (Be)	mg/kg			2.80	1.17	1.45	1.12	0.40	7689563
Total Bismuth (Bi)	mg/kg			0.26	0.26	0.30	0.24	0.10	7689563
Total Cadmium (Cd)	mg/kg			1.21	0.620	0.734	0.601	0.050	7689563
Total Calcium (Ca)	mg/kg			95500	51400	10300	62400	100	7689563
Total Chromium (Cr)	mg/kg			29.1	47.7	48.8	43.0	1.0	7689563
Total Cobalt (Co)	mg/kg			11.4	14.6	14.1	12.6	0.30	7689563
Total Copper (Cu)	mg/kg			64.2	34.2	43.1	28.9	0.50	7689563
Total Iron (Fe)	mg/kg			29500	31000	33400	27600	100	7689563
Total Lead (Pb)	mg/kg	6.47	7.31	125	25.8	236	28.6	0.10	7689563
Total Lithium (Li)	mg/kg			28.9	30.2	24.1	29.2	5.0	7689563
Total Magnesium (Mg)	mg/kg			20100	18800	12600	24000	100	7689563
Total Manganese (Mn)	mg/kg			433	468	264	480	0.20	7689563
Total Mercury (Hg)	mg/kg			<0.050	<0.050	<0.050	<0.050	0.050	7689563
Total Molybdenum (Mo)	mg/kg			3.23	0.38	0.44	0.21	0.10	7689563
Total Nickel (Ni)	mg/kg			32.0	44.5	42.7	38.2	0.80	7689563
Total Phosphorus (P)	mg/kg			1520	480	392	413	10	7689563
Total Potassium (K)	mg/kg			2990	6080	5950	5280	100	7689563
Total Selenium (Se)	mg/kg			1.58	<0.50	<0.50	<0.50	0.50	7689563
Total Silver (Ag)	mg/kg			0.373	0.157	0.229	0.146	0.050	7689563
Total Sodium (Na)	mg/kg			1490	230	373	327	100	7689563
Total Strontium (Sr)	mg/kg			1690	117	70.8	108	0.10	7689563
Total Thallium (Tl)	mg/kg			0.224	0.350	0.391	0.320	0.050	7689563
Total Tin (Sn)	mg/kg			8.46	1.20	3.23	1.05	0.10	7689563
Total Titanium (Ti)	mg/kg			538	229	186	281	1.0	7689563
Total Uranium (U)	mg/kg			3.24	1.01	1.07	0.940	0.050	7689563
Total Vanadium (V)	mg/kg			59.4	82.4	76.2	78.1	2.0	7689563
Total Zinc (Zn)	mg/kg			183	90.9	106	80.6	1.0	7689563
Total Zirconium (Zr)	mg/kg			25.0	14.9	14.5	14.7	0.50	7689563
RDL = Reportable Detection Limit									

Maxxam Job #: B495130
Report Date: 2014/10/30

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KX6157	KX6158	KX6159	KX6160	KX6161	KX6162		
Sampling Date		2014/10/17 10:00	2014/10/17 11:00	2014/10/17 11:45	2014/10/17 12:45	2014/10/17 13:45	2014/10/17 15:00		
COC Number		N000016	N000016	N000016	N000016	N000016	N000016		
	Units	BH1 S4	BH2 S4	BH3 S1	BH4 S1	BH5 S1	BH5 S4	RDL	QC Batch
Volatiles									
Benzene	mg/kg	1.2	0.099	0.030	<0.0050	<0.0050	<0.0050	0.0050	7689164
Toluene	mg/kg	<0.020	<0.020	0.23	0.068	0.040	0.031	0.020	7689164
Ethylbenzene	mg/kg	1.2	0.037	0.78	<0.010	<0.010	<0.010	0.010	7689164
Xylenes (Total)	mg/kg	<0.040	<0.040	8.4	<0.040	<0.040	<0.040	0.040	7689164
m & p-Xylene	mg/kg	<0.040	<0.040	3.3	<0.040	<0.040	<0.040	0.040	7689164
o-Xylene	mg/kg	<0.020	<0.020	5.1	<0.020	<0.020	<0.020	0.020	7689164
Methyl-tert-butylether (MTBE)	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	7689164
F1 (C6-C10) - BTEX	mg/kg	140	120	730	<10	<10	<10	10	7689164
(C6-C10)	mg/kg	140	120	740	<10	<10	<10	10	7689164
Surrogate Recovery (%)									
4-Bromofluorobenzene (sur.)	%	109	109	104	107	106	107		7689164
D10-ETHYLBENZENE (sur.)	%	101	102	103	104	101	99		7689164
D4-1,2-Dichloroethane (sur.)	%	109	107	110	102	105	108		7689164
D8-TOLUENE (sur.)	%	100	100	96	102	100	100		7689164
RDL = Reportable Detection Limit									

Maxxam Job #: B495130
Report Date: 2014/10/30

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KX6163	KX6164	KX6165	KX6166	KX6167	KX6168		
Sampling Date		2014/10/17 15:45	2014/10/17 16:30	2014/10/17 17:00	2014/10/17 17:30	2014/10/20 08:30	2014/10/20 08:45		
COC Number		N000016	N000016	N000016	N000016	N000016	N000016		
	Units	BH6 S1	BH7 S3	BH8 S2	BH9 S2	BH10 S1	BH10 S4	RDL	QC Batch
Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7689164
Toluene	mg/kg	<0.020	<0.020	<0.020	0.032	<0.020	<0.020	0.020	7689164
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	7689164
Xylenes (Total)	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7689164
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7689164
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7689164
Methyl-tert-butylether (MTBE)	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	7689164
F1 (C6-C10) - BTEX	mg/kg	<10	<10	<10	<10	<10	190	10	7689164
(C6-C10)	mg/kg	<10	<10	<10	<10	<10	190	10	7689164
Surrogate Recovery (%)									
4-Bromofluorobenzene (sur.)	%	106	106	107	105	105	112		7689164
D10-ETHYLBENZENE (sur.)	%	109	100	106	104	107	109		7689164
D4-1,2-Dichloroethane (sur.)	%	106	108	104	109	105	106		7689164
D8-TOLUENE (sur.)	%	101	99	101	99	102	101		7689164
RDL = Reportable Detection Limit									

Maxxam Job #: B495130
Report Date: 2014/10/30

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KX6169	KX6170	KX6171	KX6172	KX6173	KX6174		
Sampling Date		2014/10/20 09:45	2014/10/20 10:45	2014/10/20 11:00	2014/10/20 11:30	2014/10/20 11:45	2014/10/20 12:45		
COC Number		N000017	N000017	N000017	N000017	N000017	N000017		
	Units	BH11 S4	BH12 S3	BH12 S4	BH13 S1	BH13 S3	BH14 S4	RDL	QC Batch
Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7689164
Toluene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7689164
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	7689164
Xylenes (Total)	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7689164
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7689164
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7689164
Methyl-tert-butylether (MTBE)	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	7689164
F1 (C6-C10) - BTEX	mg/kg	28	51	<10	<10	<10	<10	10	7689164
(C6-C10)	mg/kg	28	51	<10	<10	<10	<10	10	7689164
Surrogate Recovery (%)									
4-Bromofluorobenzene (sur.)	%	106	105	106	106	105	106		7689164
D10-ETHYLBENZENE (sur.)	%	99	101	102	106	99	109		7689164
D4-1,2-Dichloroethane (sur.)	%	110	112	104	112	111	105		7689164
D8-TOLUENE (sur.)	%	100	99	100	100	99	101		7689164
RDL = Reportable Detection Limit									

Maxxam Job #: B495130
Report Date: 2014/10/30

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KX6175	KX6176		KX6177	KX6178		
Sampling Date		2014/10/20 13:45	2014/10/20 14:45		2014/10/20 15:30	2014/10/20 16:30		
COC Number		N000017	N000017		N000017	N000017		
	Units	BH15 S3	BH16 S3	QC Batch	BH17 S1	BH18 S1	RDL	QC Batch
Volatiles								
Benzene	mg/kg	<0.0050	<0.0050	7689164	<0.0050	<0.0050	0.0050	7688666
Toluene	mg/kg	<0.020	<0.020	7689164	0.068	<0.020	0.020	7688666
Ethylbenzene	mg/kg	0.034	<0.010	7689164	<0.010	<0.010	0.010	7688666
Xylenes (Total)	mg/kg	<0.040	<0.040	7689164	0.19	<0.040	0.040	7688666
m & p-Xylene	mg/kg	<0.040	<0.040	7689164	0.19	<0.040	0.040	7688666
o-Xylene	mg/kg	<0.020	<0.020	7689164	<0.020	<0.020	0.020	7688666
Methyl-tert-butylether (MTBE)	mg/kg	<0.10	<0.10	7689164	<0.10	<0.10	0.10	7688666
F1 (C6-C10) - BTEX	mg/kg	65	<10	7689164	<10	<10	10	7688666
(C6-C10)	mg/kg	65	<10	7689164	<10	<10	10	7688666
Surrogate Recovery (%)								
4-Bromofluorobenzene (sur.)	%	108	103	7689164	105	107		7688666
D10-ETHYLBENZENE (sur.)	%	100	96	7689164	110	111		7688666
D4-1,2-Dichloroethane (sur.)	%	107	108	7689164	105	107		7688666
D8-TOLUENE (sur.)	%	100	100	7689164	100	100		7688666
RDL = Reportable Detection Limit								

Maxxam Job #: B495130
Report Date: 2014/10/30

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KX6164		KX6168		KX6169		KX6170		
Sampling Date		2014/10/17 16:30		2014/10/20 08:45		2014/10/20 09:45		2014/10/20 10:45		
COC Number		N000016		N000016		N000017		N000017		
	Units	BH7 S3	RDL	BH10 S4	RDL	BH11 S4	RDL	BH12 S3	RDL	QC Batch
Volatiles										
Chloromethane	mg/kg	<0.10	0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10	7690504
Vinyl chloride	mg/kg	<0.060	0.060	<0.060	0.060	<0.060	0.060	<0.060	0.060	7690504
Bromomethane	mg/kg	<0.30	0.30	<0.30	0.30	<0.30	0.30	<0.30	0.30	7690504
Chloroethane	mg/kg	<0.10	0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10	7690504
Trichlorofluoromethane	mg/kg	<0.20	0.20	<0.20	0.20	<0.20	0.20	<0.20	0.20	7690504
1,1-dichloroethene	mg/kg	<0.025	0.025	<0.025	0.025	<0.025	0.025	<0.025	0.025	7690504
Dichloromethane	mg/kg	<0.10	0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10	7690504
trans-1,2-dichloroethene	mg/kg	<0.025	0.025	<0.025	0.025	<0.025	0.025	<0.025	0.025	7690504
1,1-dichloroethane	mg/kg	<0.025	0.025	<0.025	0.025	<0.025	0.025	<0.025	0.025	7690504
cis-1,2-dichloroethene	mg/kg	<0.025	0.025	<0.025	0.025	<0.025	0.025	<0.025	0.025	7690504
Chloroform	mg/kg	<0.050	0.050	<0.050	0.050	<0.050	0.050	<0.050	0.050	7690504
1,1,1-trichloroethane	mg/kg	<0.025	0.025	<0.025	0.025	<0.025	0.025	<0.025	0.025	7690504
1,2-dichloroethane	mg/kg	<0.025	0.025	<0.025	0.025	<0.025	0.025	<0.025	0.025	7690504
Carbon tetrachloride	mg/kg	<0.025	0.025	<0.025	0.025	<0.025	0.025	<0.025	0.025	7690504
1,2-dichloropropane	mg/kg	<0.025	0.025	<0.025	0.025	<0.025	0.025	<0.025	0.025	7690504
Trichloroethene	mg/kg	<0.0090	0.0090	<0.0090	0.0090	<0.0090	0.0090	<0.0090	0.0090	7690504
Bromodichloromethane	mg/kg	<0.050	0.050	<0.050	0.050	<0.050	0.050	<0.050	0.050	7690504
cis-1,3-dichloropropene	mg/kg	<0.050	0.050	<0.050	0.050	<0.050	0.050	<0.050	0.050	7690504
trans-1,3-dichloropropene	mg/kg	<0.050	0.050	<0.050	0.050	<0.050	0.050	<0.050	0.050	7690504
1,1,2-trichloroethane	mg/kg	<0.025	0.025	<1.3 (1)	1.3	<0.43 (1)	0.43	<0.79 (1)	0.79	7690504
Chlorodibromomethane	mg/kg	<0.050	0.050	<0.050	0.050	<0.050	0.050	<0.050	0.050	7690504
1,2-dibromoethane	mg/kg	<0.025	0.025	<0.025	0.025	<0.025	0.025	<0.025	0.025	7690504
Tetrachloroethene	mg/kg	<0.025	0.025	<0.025	0.025	<0.025	0.025	<0.025	0.025	7690504
Chlorobenzene	mg/kg	<0.025	0.025	<0.025	0.025	<0.025	0.025	<0.025	0.025	7690504
1,1,1,2-tetrachloroethane	mg/kg	<0.025	0.025	<0.025	0.025	<0.025	0.025	<0.025	0.025	7690504
Bromoform	mg/kg	<0.050	0.050	<0.050	0.050	<0.050	0.050	<0.050	0.050	7690504
Styrene	mg/kg	<0.030	0.030	<0.030	0.030	<0.030	0.030	<0.030	0.030	7690504
1,1,2,2-tetrachloroethane	mg/kg	<0.025	0.025	<0.025	0.025	<0.025	0.025	<0.025	0.025	7690504
1,2-dichlorobenzene	mg/kg	<0.025	0.025	<0.025	0.025	<0.025	0.025	<0.025	0.025	7690504
1,3-dichlorobenzene	mg/kg	<0.025	0.025	<0.025	0.025	<0.025	0.025	<0.025	0.025	7690504
1,4-dichlorobenzene	mg/kg	<0.025	0.025	<0.025	0.025	<0.025	0.025	<0.025	0.025	7690504
1,2,3-trichlorobenzene	mg/kg	<0.025	0.025	<0.025	0.025	<0.025	0.025	<0.025	0.025	7690504
Hexachlorobutadiene	mg/kg	<0.20	0.20	<0.20	0.20	<0.20	0.20	<0.20	0.20	7690504
RDL = Reportable Detection Limit										
(1) Detection limits raised due to matrix interference.										

Maxxam Job #: B495130
Report Date: 2014/10/30

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KX6164		KX6168		KX6169		KX6170		
Sampling Date		2014/10/17 16:30		2014/10/20 08:45		2014/10/20 09:45		2014/10/20 10:45		
COC Number		N000016		N000016		N000017		N000017		
	Units	BH7 S3	RDL	BH10 S4	RDL	BH11 S4	RDL	BH12 S3	RDL	QC Batch
1,2,4-trichlorobenzene	mg/kg	<0.025	0.025	<0.025	0.025	<0.025	0.025	<0.025	0.025	7690504
Surrogate Recovery (%)										
4-Bromofluorobenzene (sur.)	%	87		93		93		92		7690504
D10-ETHYLBENZENE (sur.)	%	96		121		113		102		7690504
D4-1,2-Dichloroethane (sur.)	%	105		110		119		109		7690504
RDL = Reportable Detection Limit										

Maxxam Job #: B495130
Report Date: 2014/10/30

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KX6173	KX6174		KX6175		
Sampling Date		2014/10/20 11:45	2014/10/20 12:45		2014/10/20 13:45		
COC Number		N000017	N000017		N000017		
	Units	BH13 S3	BH14 S4	RDL	BH15 S3	RDL	QC Batch
Volatiles							
Chloromethane	mg/kg	<0.10	<0.10	0.10	<0.10	0.10	7690504
Vinyl chloride	mg/kg	<0.060	<0.060	0.060	<0.060	0.060	7690504
Bromomethane	mg/kg	<0.30	<0.30	0.30	<0.30	0.30	7690504
Chloroethane	mg/kg	<0.10	<0.10	0.10	<0.10	0.10	7690504
Trichlorofluoromethane	mg/kg	<0.20	<0.20	0.20	<0.20	0.20	7690504
1,1-dichloroethene	mg/kg	<0.025	<0.025	0.025	<0.025	0.025	7690504
Dichloromethane	mg/kg	<0.10	<0.10	0.10	<0.10	0.10	7690504
trans-1,2-dichloroethene	mg/kg	<0.025	<0.025	0.025	<0.025	0.025	7690504
1,1-dichloroethane	mg/kg	<0.025	<0.025	0.025	<0.025	0.025	7690504
cis-1,2-dichloroethene	mg/kg	<0.025	<0.025	0.025	<0.025	0.025	7690504
Chloroform	mg/kg	<0.050	<0.050	0.050	<0.050	0.050	7690504
1,1,1-trichloroethane	mg/kg	<0.025	<0.025	0.025	<0.025	0.025	7690504
1,2-dichloroethane	mg/kg	<0.025	<0.025	0.025	<0.025	0.025	7690504
Carbon tetrachloride	mg/kg	<0.025	<0.025	0.025	<0.025	0.025	7690504
1,2-dichloropropane	mg/kg	<0.025	<0.025	0.025	<0.025	0.025	7690504
Trichloroethene	mg/kg	<0.0090	<0.0090	0.0090	<0.0090	0.0090	7690504
Bromodichloromethane	mg/kg	<0.050	<0.050	0.050	<0.050	0.050	7690504
cis-1,3-dichloropropene	mg/kg	<0.050	<0.050	0.050	<0.050	0.050	7690504
trans-1,3-dichloropropene	mg/kg	<0.050	<0.050	0.050	<0.050	0.050	7690504
1,1,2-trichloroethane	mg/kg	<0.025	<0.025	0.025	<0.73 (1)	0.73	7690504
Chlorodibromomethane	mg/kg	<0.050	<0.050	0.050	<0.050	0.050	7690504
1,2-dibromoethane	mg/kg	<0.025	<0.025	0.025	<0.025	0.025	7690504
Tetrachloroethene	mg/kg	<0.025	<0.025	0.025	<0.025	0.025	7690504
Chlorobenzene	mg/kg	<0.025	<0.025	0.025	<0.025	0.025	7690504
1,1,1,2-tetrachloroethane	mg/kg	<0.025	<0.025	0.025	<0.025	0.025	7690504
Bromoform	mg/kg	<0.050	<0.050	0.050	<0.050	0.050	7690504
Styrene	mg/kg	<0.030	<0.030	0.030	<0.030	0.030	7690504
1,1,2,2-tetrachloroethane	mg/kg	<0.025	<0.025	0.025	<0.025	0.025	7690504
1,2-dichlorobenzene	mg/kg	<0.025	<0.025	0.025	<0.025	0.025	7690504
1,3-dichlorobenzene	mg/kg	<0.025	<0.025	0.025	<0.025	0.025	7690504
1,4-dichlorobenzene	mg/kg	<0.025	<0.025	0.025	<0.025	0.025	7690504
1,2,3-trichlorobenzene	mg/kg	<0.025	<0.025	0.025	<0.025	0.025	7690504
Hexachlorobutadiene	mg/kg	<0.20	<0.20	0.20	<0.20	0.20	7690504
RDL = Reportable Detection Limit							
(1) Detection limits raised due to matrix interference.							

Maxxam Job #: B495130
Report Date: 2014/10/30

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		KX6173	KX6174		KX6175		
Sampling Date		2014/10/20 11:45	2014/10/20 12:45		2014/10/20 13:45		
COC Number		N000017	N000017		N000017		
	Units	BH13 S3	BH14 S4	RDL	BH15 S3	RDL	QC Batch
1,2,4-trichlorobenzene	mg/kg	<0.025	<0.025	0.025	<0.025	0.025	7690504
Surrogate Recovery (%)							
4-Bromofluorobenzene (sur.)	%	91	89		91		7690504
D10-ETHYLBENZENE (sur.)	%	101	106		104		7690504
D4-1,2-Dichloroethane (sur.)	%	116	113		108		7690504
RDL = Reportable Detection Limit							

Maxxam Job #: B495130
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PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
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GENERAL COMMENTS

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7688666	4-Bromofluorobenzene (sur.)	2014/10/26	107	60 - 140	105	60 - 140	104	%				
7688666	D10-ETHYLBENZENE (sur.)	2014/10/26	104	50 - 130	99	50 - 130	100	%				
7688666	D4-1,2-Dichloroethane (sur.)	2014/10/26	105	60 - 140	107	60 - 140	104	%				
7688666	D8-TOLUENE (sur.)	2014/10/26	100	60 - 140	100	60 - 140	102	%				
7688681	O-TERPHENYL (sur.)	2014/10/23	88	50 - 130	79	50 - 130	88	%				
7689164	4-Bromofluorobenzene (sur.)	2014/10/26	111	60 - 140	110	60 - 140	107	%				
7689164	D10-ETHYLBENZENE (sur.)	2014/10/26	105	50 - 130	97	50 - 130	98	%				
7689164	D4-1,2-Dichloroethane (sur.)	2014/10/26	109	60 - 140	109	60 - 140	107	%				
7689164	D8-TOLUENE (sur.)	2014/10/26	99	60 - 140	101	60 - 140	102	%				
7689971	O-TERPHENYL (sur.)	2014/10/29	90	50 - 130	83	50 - 130	90	%				
7690504	4-Bromofluorobenzene (sur.)	2014/10/24	101	50 - 140	100	50 - 140	91	%				
7690504	D10-ETHYLBENZENE (sur.)	2014/10/24	120	50 - 140	104	50 - 140	105	%				
7690504	D4-1,2-Dichloroethane (sur.)	2014/10/24	103	50 - 140	104	50 - 140	107	%				
7695275	D10-ANTHRACENE (sur.)	2014/10/28	85	60 - 130	89	60 - 130	92	%				
7695275	D8-ACENAPHTHYLENE (sur.)	2014/10/28	81	50 - 130	84	50 - 130	84	%				
7695275	D8-NAPHTHALENE (sur.)	2014/10/28	81	50 - 130	84	50 - 130	85	%				
7695275	TERPHENYL-D14 (sur.)	2014/10/28	90	60 - 130	92	60 - 130	93	%				
7697978	D10-ANTHRACENE (sur.)	2014/10/29	82	60 - 130	102	60 - 130	103	%				
7697978	D8-ACENAPHTHYLENE (sur.)	2014/10/29	84	50 - 130	100	50 - 130	102	%				
7697978	D8-NAPHTHALENE (sur.)	2014/10/29	84	50 - 130	102	50 - 130	104	%				
7697978	TERPHENYL-D14 (sur.)	2014/10/29	85	60 - 130	102	60 - 130	102	%				
7688666	(C6-C10)	2014/10/26	107	60 - 140	64	60 - 140	<10	mg/kg	NC	50		
7688666	Benzene	2014/10/26	116	60 - 140	109	60 - 140	<0.0050	mg/kg	NC	50		
7688666	Ethylbenzene	2014/10/26	111	60 - 140	103	60 - 140	<0.010	mg/kg	NC	50		
7688666	F1 (C6-C10) - BTEX	2014/10/26					<10	mg/kg	NC	50		
7688666	m & p-Xylene	2014/10/26	111	60 - 140	102	60 - 140	<0.040	mg/kg	NC	50		
7688666	Methyl-tert-butylether (MTBE)	2014/10/26	120	60 - 140	111	60 - 140	<0.10	mg/kg	NC	50		
7688666	o-Xylene	2014/10/26	111	60 - 140	105	60 - 140	<0.020	mg/kg	NC	50		
7688666	Toluene	2014/10/26	109	60 - 140	102	60 - 140	<0.020	mg/kg	NC	50		
7688666	Xylenes (Total)	2014/10/26					<0.040	mg/kg	NC	50		
7688681	F2 (C10-C16 Hydrocarbons)	2014/10/23	88	50 - 130	85	70 - 130	<20	mg/kg	NC	50		
7688681	F3 (C16-C34 Hydrocarbons)	2014/10/23	89	50 - 130	85	70 - 130	<20	mg/kg	NC	50		

QUALITY ASSURANCE REPORT(CONT'D)

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7688681	F4 (C34-C50 Hydrocarbons)	2014/10/23	82	50 - 130	81	70 - 130	<20	mg/kg	21	50		
7688699	Moisture	2014/10/23					<0.3	%	2.7	20		
7689164	(C6-C10)	2014/10/26	63	60 - 140	112	60 - 140	<10	mg/kg	NC	50		
7689164	Benzene	2014/10/26	116	60 - 140	106	60 - 140	<0.0050	mg/kg	NC	50		
7689164	Ethylbenzene	2014/10/26	113	60 - 140	101	60 - 140	<0.010	mg/kg	NC	50		
7689164	F1 (C6-C10) - BTEX	2014/10/26					<10	mg/kg	NC	50		
7689164	m & p-Xylene	2014/10/26	109	60 - 140	100	60 - 140	<0.040	mg/kg	NC	50		
7689164	Methyl-tert-butylether (MTBE)	2014/10/26	120	60 - 140	112	60 - 140	<0.10	mg/kg	NC	50		
7689164	o-Xylene	2014/10/26	112	60 - 140	103	60 - 140	<0.020	mg/kg	NC	50		
7689164	Toluene	2014/10/26	107	60 - 140	101	60 - 140	<0.020	mg/kg	NC	50		
7689164	Xylenes (Total)	2014/10/26					<0.040	mg/kg	NC	50		
7689563	Total Aluminum (Al)	2014/10/24					<100	mg/kg	2.9	35	115	70 - 130
7689563	Total Antimony (Sb)	2014/10/24	102	75 - 125	99	75 - 125	<0.10	mg/kg	NC	30	108	70 - 130
7689563	Total Arsenic (As)	2014/10/24	100	75 - 125	99	75 - 125	<0.50	mg/kg	2.7	30	102	70 - 130
7689563	Total Barium (Ba)	2014/10/24	NC	75 - 125	107	75 - 125	<0.10	mg/kg	2.4	35	105	70 - 130
7689563	Total Beryllium (Be)	2014/10/24	107	75 - 125	102	75 - 125	<0.40	mg/kg	NC	30		
7689563	Total Bismuth (Bi)	2014/10/24					<0.10	mg/kg	NC	30		
7689563	Total Cadmium (Cd)	2014/10/24	104	75 - 125	100	75 - 125	<0.050	mg/kg	NC	30	112	70 - 130
7689563	Total Calcium (Ca)	2014/10/24					<100	mg/kg	6.8	30	100	70 - 130
7689563	Total Chromium (Cr)	2014/10/24	101	75 - 125	102	75 - 125	<1.0	mg/kg	5.0	30	110	70 - 130
7689563	Total Cobalt (Co)	2014/10/24	103	75 - 125	106	75 - 125	<0.30	mg/kg	0.58	30	100	70 - 130
7689563	Total Copper (Cu)	2014/10/24	NC	75 - 125	106	75 - 125	<0.50	mg/kg	0.37	30	99	70 - 130
7689563	Total Iron (Fe)	2014/10/24					<100	mg/kg	1.4	30	100	70 - 130
7689563	Total Lead (Pb)	2014/10/24	110	75 - 125	106	75 - 125	<0.10	mg/kg	4.1	35	106	70 - 130
7689563	Total Lithium (Li)	2014/10/24	103	75 - 125	104	75 - 125	<5.0	mg/kg				
7689563	Total Magnesium (Mg)	2014/10/24					<100	mg/kg	3.0	30	98	70 - 130
7689563	Total Manganese (Mn)	2014/10/24	NC	75 - 125	104	75 - 125	<0.20	mg/kg	2.7	30	104	70 - 130
7689563	Total Mercury (Hg)	2014/10/24	100	75 - 125	97	75 - 125	<0.050	mg/kg	NC	35	84	70 - 130
7689563	Total Molybdenum (Mo)	2014/10/24	110	75 - 125	100	75 - 125	<0.10	mg/kg	NC	35	118	70 - 130
7689563	Total Nickel (Ni)	2014/10/24	109	75 - 125	104	75 - 125	<0.80	mg/kg	1.8	30	98	70 - 130
7689563	Total Phosphorus (P)	2014/10/24					<10	mg/kg	2.1	30	95	70 - 130
7689563	Total Potassium (K)	2014/10/24					<100	mg/kg	1.7	35		

QUALITY ASSURANCE REPORT(CONT'D)

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7689563	Total Selenium (Se)	2014/10/24	103	75 - 125	102	75 - 125	<0.50	mg/kg	NC	30		
7689563	Total Silver (Ag)	2014/10/24	107	75 - 125	99	75 - 125	<0.050	mg/kg	NC	35		
7689563	Total Sodium (Na)	2014/10/24					<100	mg/kg				
7689563	Total Strontium (Sr)	2014/10/24	NC	75 - 125	106	75 - 125	<0.10	mg/kg	0.32	35	107	70 - 130
7689563	Total Thallium (Tl)	2014/10/24	106	75 - 125	104	75 - 125	<0.050	mg/kg	NC	30	97	70 - 130
7689563	Total Tin (Sn)	2014/10/24	103	75 - 125	95	75 - 125	<0.10	mg/kg	NC	35		
7689563	Total Titanium (Ti)	2014/10/24	NC	75 - 125	99	75 - 125	<1.0	mg/kg	2.0	35	113	70 - 130
7689563	Total Uranium (U)	2014/10/24	104	75 - 125	104	75 - 125	<0.050	mg/kg			102	70 - 130
7689563	Total Vanadium (V)	2014/10/24	NC	75 - 125	98	75 - 125	<2.0	mg/kg	0.13	30	103	70 - 130
7689563	Total Zinc (Zn)	2014/10/24	NC	75 - 125	104	75 - 125	<1.0	mg/kg	1.0	30	96	70 - 130
7689563	Total Zirconium (Zr)	2014/10/24					<0.50	mg/kg	2.6	30		
7689568	Soluble (2:1) pH	2014/10/24			100	97 - 103			0.12	N/A		
7689971	F2 (C10-C16 Hydrocarbons)	2014/10/29	83	50 - 130	80	70 - 130	<20	mg/kg	NC	50		
7689971	F3 (C16-C34 Hydrocarbons)	2014/10/29	86	50 - 130	88	70 - 130	<20	mg/kg	NC	50		
7689971	F4 (C34-C50 Hydrocarbons)	2014/10/29	88	50 - 130	83	70 - 130	<20	mg/kg	NC	50		
7689977	Moisture	2014/10/24					<0.3	%	3.0	20		
7690504	1,1,1,2-tetrachloroethane	2014/10/24	112	50 - 140	102	60 - 130	<0.025	mg/kg	NC	40		
7690504	1,1,1-trichloroethane	2014/10/24	113	50 - 140	104	60 - 130	<0.025	mg/kg	NC	40		
7690504	1,1,2,2-tetrachloroethane	2014/10/24	84	50 - 140	94	60 - 130	<0.025	mg/kg	NC	40		
7690504	1,1,2-trichloroethane	2014/10/24	135	50 - 140	101	60 - 130	<0.025	mg/kg	NC	40		
7690504	1,1-dichloroethane	2014/10/24	106	50 - 140	98	60 - 130	<0.025	mg/kg	NC	40		
7690504	1,1-dichloroethene	2014/10/24	110	50 - 140	104	60 - 130	<0.025	mg/kg	NC	40		
7690504	1,2,3-trichlorobenzene	2014/10/24	100	50 - 140	91	60 - 130	<0.025	mg/kg	NC	40		
7690504	1,2,4-trichlorobenzene	2014/10/24	103	50 - 140	92	60 - 130	<0.025	mg/kg	NC	40		
7690504	1,2-dibromoethane	2014/10/24	111	50 - 140	98	60 - 130	<0.025	mg/kg	NC	40		
7690504	1,2-dichlorobenzene	2014/10/24	101	50 - 140	94	60 - 130	<0.025	mg/kg	NC	40		
7690504	1,2-dichloroethane	2014/10/24	106	50 - 140	100	60 - 130	<0.025	mg/kg	NC	40		
7690504	1,2-dichloropropane	2014/10/24	115	50 - 140	102	60 - 130	<0.025	mg/kg	NC	40		
7690504	1,3-dichlorobenzene	2014/10/24	92	50 - 140	91	60 - 140	<0.025	mg/kg	NC	40		
7690504	1,4-dichlorobenzene	2014/10/24	96	50 - 140	92	60 - 130	<0.025	mg/kg	NC	40		
7690504	Bromodichloromethane	2014/10/24	115	50 - 140	105	60 - 130	<0.050	mg/kg	NC	40		
7690504	Bromoform	2014/10/24	105	50 - 140	96	60 - 130	<0.050	mg/kg	NC	40		

QUALITY ASSURANCE REPORT(CONT'D)

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7690504	Bromomethane	2014/10/24	114	50 - 140	109	60 - 130	<0.30	mg/kg	NC	40		
7690504	Carbon tetrachloride	2014/10/24	110	50 - 140	102	60 - 130	<0.025	mg/kg	NC	40		
7690504	Chlorobenzene	2014/10/24	124	50 - 140	104	60 - 130	<0.025	mg/kg	NC	40		
7690504	Chlorodibromomethane	2014/10/24	111	50 - 140	100	60 - 130	<0.050	mg/kg	NC	40		
7690504	Chloroethane	2014/10/24	100	50 - 140	106	60 - 130	<0.10	mg/kg	NC	40		
7690504	Chloroform	2014/10/24	101	50 - 140	95	60 - 130	<0.050	mg/kg	NC	40		
7690504	Chloromethane	2014/10/24	118	50 - 140	124	60 - 130	<0.10	mg/kg	NC	40		
7690504	cis-1,2-dichloroethene	2014/10/24	113	50 - 140	104	60 - 130	<0.025	mg/kg	NC	40		
7690504	cis-1,3-dichloropropene	2014/10/24	104	50 - 140	91	60 - 130	<0.050	mg/kg	NC	40		
7690504	Dichloromethane	2014/10/24	107	50 - 140	97	60 - 130	<0.10	mg/kg	NC	40		
7690504	Hexachlorobutadiene	2014/10/24	101	50 - 140	95	60 - 130	<0.20	mg/kg	NC	40		
7690504	Styrene	2014/10/24	110	50 - 140	95	60 - 130	<0.030	mg/kg	NC	40		
7690504	Tetrachloroethene	2014/10/24	107	30 - 140	99	60 - 130	<0.025	mg/kg	NC	40		
7690504	trans-1,2-dichloroethene	2014/10/24	109	50 - 140	99	60 - 130	<0.025	mg/kg	NC	40		
7690504	trans-1,3-dichloropropene	2014/10/24	105	50 - 140	83	60 - 140	<0.050	mg/kg	NC	40		
7690504	Trichloroethene	2014/10/24	106	50 - 140	102	60 - 130	<0.0090	mg/kg	NC	40		
7690504	Trichlorofluoromethane	2014/10/24	134	50 - 140	127	60 - 130	<0.20	mg/kg	NC	40		
7690504	Vinyl chloride	2014/10/24	118	50 - 140	128	60 - 130	<0.060	mg/kg	NC	40		
7695275	2-Methylnaphthalene	2014/10/28	79	50 - 130	85	50 - 130	<0.020	mg/kg	NC	50		
7695275	Acenaphthene	2014/10/28	82	50 - 130	86	50 - 130	<0.0050	mg/kg	NC	50		
7695275	Acenaphthylene	2014/10/28	78	50 - 130	82	50 - 130	<0.0050	mg/kg	NC	50		
7695275	Anthracene	2014/10/28	84	60 - 130	87	60 - 130	<0.0040	mg/kg	NC	50		
7695275	Benzo(a)anthracene	2014/10/28	82	60 - 130	86	60 - 130	<0.020	mg/kg	NC	50		
7695275	Benzo(a)pyrene	2014/10/28	84	60 - 130	86	60 - 130	<0.020	mg/kg	NC	50		
7695275	Benzo(b&j)fluoranthene	2014/10/28	83	60 - 130	86	60 - 130	<0.020	mg/kg	NC	50		
7695275	Benzo(b)fluoranthene	2014/10/28					<0.020	mg/kg	NC	20		
7695275	Benzo(g,h,i)perylene	2014/10/28	82	60 - 130	80	60 - 130	<0.050	mg/kg	NC	50		
7695275	Benzo(k)fluoranthene	2014/10/28	86	60 - 130	89	60 - 130	<0.020	mg/kg	NC	50		
7695275	Chrysene	2014/10/28	86	60 - 130	90	60 - 130	<0.020	mg/kg	NC	50		
7695275	Dibenz(a,h)anthracene	2014/10/28	78	60 - 130	75	60 - 130	<0.050	mg/kg	NC	50		
7695275	Fluoranthene	2014/10/28	84	60 - 130	88	60 - 130	<0.020	mg/kg	NC	50		
7695275	Fluorene	2014/10/28	79	50 - 130	82	50 - 130	<0.020	mg/kg	NC	50		

QUALITY ASSURANCE REPORT(CONT'D)

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7695275	Indeno(1,2,3-cd)pyrene	2014/10/28	82	60 - 130	79	60 - 130	<0.050	mg/kg	NC	50		
7695275	Naphthalene	2014/10/28	76	50 - 130	83	50 - 130	<0.010	mg/kg	NC	50		
7695275	Phenanthrene	2014/10/28	81	60 - 130	86	60 - 130	<0.020	mg/kg	NC	50		
7695275	Pyrene	2014/10/28	86	60 - 130	89	60 - 130	<0.020	mg/kg	NC	50		
7697978	2-Methylnaphthalene	2014/10/29	90	50 - 130	95	50 - 130	<0.020	mg/kg	NC	50		
7697978	Acenaphthene	2014/10/29	91	50 - 130	94	50 - 130	<0.0050	mg/kg	NC	50		
7697978	Acenaphthylene	2014/10/29	88	50 - 130	92	50 - 130	<0.0050	mg/kg	NC	50		
7697978	Anthracene	2014/10/29	92	60 - 130	96	60 - 130	<0.0040	mg/kg	NC	50		
7697978	Benzo(a)anthracene	2014/10/29	95	60 - 130	96	60 - 130	<0.020	mg/kg	NC	50		
7697978	Benzo(a)pyrene	2014/10/29	94	60 - 130	92	60 - 130	<0.020	mg/kg	NC	50		
7697978	Benzo(b&j)fluoranthene	2014/10/29	98	60 - 130	98	60 - 130	<0.020	mg/kg	NC	50		
7697978	Benzo(b)fluoranthene	2014/10/29					<0.020	mg/kg				
7697978	Benzo(g,h,i)perylene	2014/10/29	83	60 - 130	82	60 - 130	<0.050	mg/kg	NC	50		
7697978	Benzo(k)fluoranthene	2014/10/29	99	60 - 130	100	60 - 130	<0.020	mg/kg	NC	50		
7697978	Chrysene	2014/10/29	97	60 - 130	98	60 - 130	<0.020	mg/kg	NC	50		
7697978	Dibenz(a,h)anthracene	2014/10/29	88	60 - 130	88	60 - 130	<0.050	mg/kg	NC	50		
7697978	Fluoranthene	2014/10/29	88	60 - 130	92	60 - 130	<0.020	mg/kg	NC	50		
7697978	Fluorene	2014/10/29	90	50 - 130	92	50 - 130	<0.020	mg/kg	NC	50		
7697978	Indeno(1,2,3-cd)pyrene	2014/10/29	91	60 - 130	90	60 - 130	<0.050	mg/kg	NC	50		
7697978	Naphthalene	2014/10/29	86	50 - 130	93	50 - 130	<0.010	mg/kg	NC	50		
7697978	Phenanthrene	2014/10/29	88	60 - 130	90	60 - 130	<0.020	mg/kg	NC	50		
7697978	Pyrene	2014/10/29	92	60 - 130	97	60 - 130	<0.020	mg/kg	NC	50		
7698691	Moisture	2014/10/30							6.1	20		

QUALITY ASSURANCE REPORT(CONT'D)

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
7699824	F4G-SG (Heavy Hydrocarbons-Grav.)	2014/10/30			113	70 - 130	<500	mg/kg				

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Job #: B495130
Report Date: 2014/10/30

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Site Location: 515 MUNROE
Sampler Initials: RS

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Rob Reinert, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

INVOICE INFORMATION Company Name: <u>Pinchin Ltd.</u> Contact Name: <u>Robert Slater</u> Address: <u>54 Terrason Place</u> <u>Winnipeg, MB</u> Phone: <u>204-452-0983</u> Fax: _____ Email: <u>rslater@pinchin.com</u>		REPORT INFORMATION (if different from invoice) Company Name: _____ Contact Name: _____ Address: _____ Phone: _____ Fax: _____ Email: _____	
PROJECT INFORMATION Quotation #: _____ P.O. #: <u>96012</u> Project #: _____ Project Name: <u>515 Munroe</u> Location: _____ Sampled By: <u>RS</u>		MAXXAM JOB NUMBER <u>B495130</u> CHAIN OF CUSTODY # <u>N000016</u>	

REGULATORY REQUIREMENTS SERVICE REQUESTED:		ANALYSIS REQUESTED (Please be specific)		TURNAROUND TIME (TAT) REQUIRED	
☒ COME ☐ DRINKING WATER ☐ Other: _____		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS. Regular (Standard) TAT: ☒ 5 to 7 Working Days Rush TAT: ☐ 1 day ☐ 2 days ☐ 3 days DATE Required: _____ TIME Required: _____ TATs for certain tests are > 5 days. Please contact your Project Manager for details.		HOLD - DO NOT ANALYZE	
Lab Use	Sample Identification	Date Sampled	Time Sampled	Matrix	Time
1 KX6157	BH1 S4	Oct 17	1000	Soil	
2 58	BH2 S4		1100		
3 59	BH3 S1		1145		
4 60	BH4 S1		1245		
5 61	BH5 S1		1345		
6 62	BH5 S4		1500		
7 63	BH6 S1		1545		
8 64	BH7 S3		1630		
9 65	BH8 S2		1700		
10 66	BH9 S2		1730		
11 67	BH10 S1	Oct 20	0830		
12 68	BH10 S4		0845		
RECEIVED BY (Signature/Print) <u>Robert Slater.</u>		RECEIVED BY (Signature/Print) <u>[Signature]</u>		Laboratory Use Only Temperature (°C) on Receipt <u>82, 80° 60°C</u>	

***MANDATORY SECTIONS IN GREY MUST BE FILLED OUT: AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.**
 CoC-1028 - WINFCD-001611
 Maxxam International Corporation c/o Maxxam
 White: Maxxam
 Yellow: Client Copy

INVOICE INFORMATION Company Name: <u>Pirchin Ltd.</u> Contact Name: <u>Robert Slater</u> Address: <u>54 Terracon Place</u> <u>Winnipeg, MB</u> Phone: <u>2044520983</u> Fax: _____ Email: <u>rslater@pirchin.com</u>		REPORT INFORMATION (if different from invoice) Company Name: _____ Contact Name: _____ Address: _____ Phone: _____ Fax: _____ Email: _____		PROJECT INFORMATION Quotation #: _____ P.O. #: <u>96012</u> Project #: _____ Project Name: <u>S/S Munroe</u> Location: _____ Sampled By: <u>RS</u>		MAXXAM JOB NUMBER <u>2495130</u> CHAIN OF CUSTODY # <u>N000017</u>	
---	--	--	--	---	--	---	--

REGULATORY REQUIREMENTS SERVICE REQUESTED: ☒ CCME ☐ DRINKING WATER ☐ Other: _____		ANALYSIS REQUESTED (Please be specific) Lead PCBs BTEX / F1 BTEX F2-F4 PCB Biochemical Oxygen Demand Metals VOCs		TURNAROUND TIME (TAT) REQUIRED PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS. Regular (Standard) TAT: ☒ 5 to 7 Working Days Rush TAT: ☐ 1 day ☐ 2 days ☐ 3 days DATE Required: _____ TIME Required: _____ TATs for certain tests are > 5 days. Please contact your Project Manager for details.	
SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.		HOLD - DO NOT ANALYZE		COMMENTS / TAT COMMENTS	
Lab Use	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.
1 KX6169	BH 11 S4	Oct 20	0945	Soil	2
2 70	BH 12 S3		1045		2
3 71	BH 12 S4		1100		2
4 72	BH 13 S1		1130		2
5 73	BH 13 S3		1145		2
6 74	BH 14 S4		1245		2
7 75	BH 15 S3		1345		2
8 76	BH 16 S3		1445		2
9 77	BH 17 S1		1530		3
10 78	BH 18 S1		1630		3
11					
12					
RELINQUISHED BY (Signature/Print) <u>Robert Slater</u>		RECEIVED BY (Signature/Print) <u>Robert Slater</u>		LABORATORY USE ONLY Temperature (°C) on Receipt <u>5.0, 6.4, 6.8</u>	

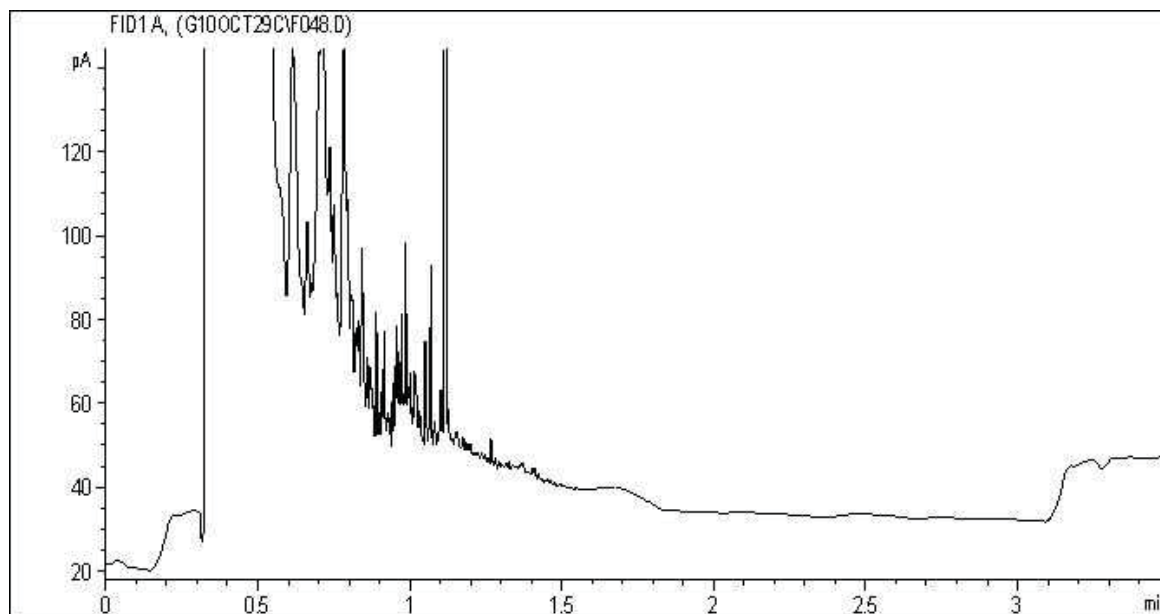
*MANDATORY SECTIONS IN GREY MUST BE FILLED OUT. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

CoC-1028 - W99FCD-0016111

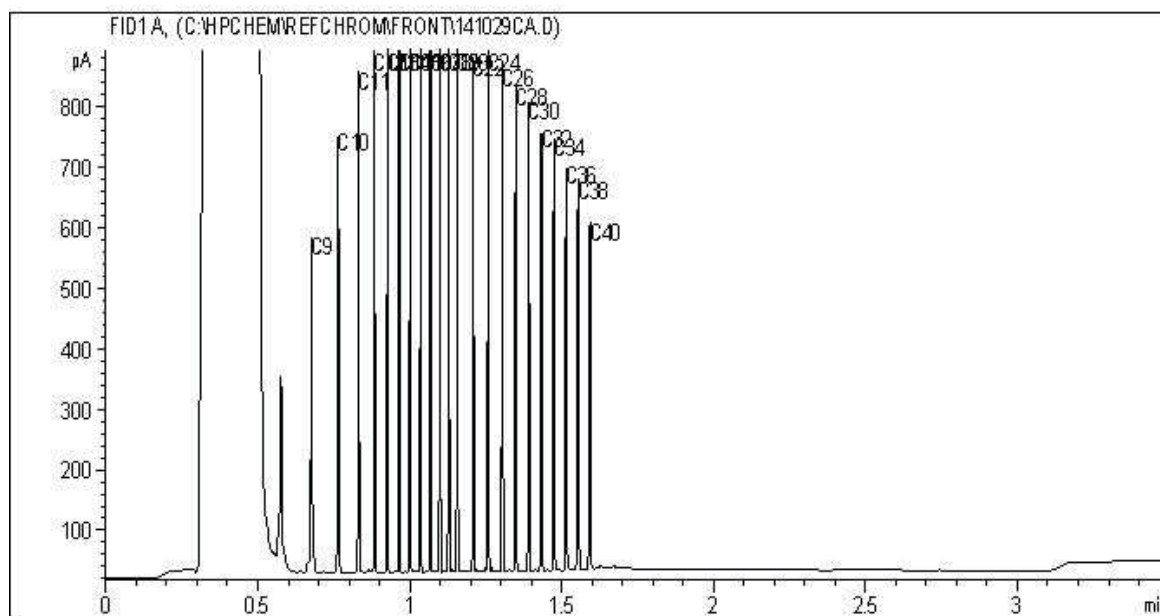
White: Maxxam

Yellow: Client Copy

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

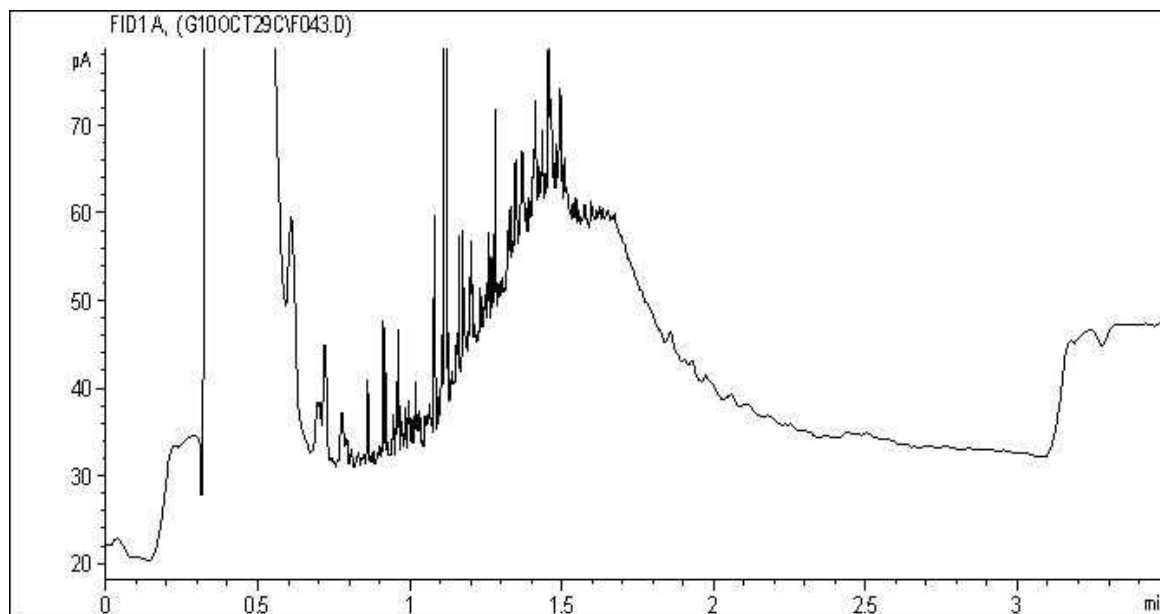


TYPICAL PRODUCT CARBON NUMBER RANGES

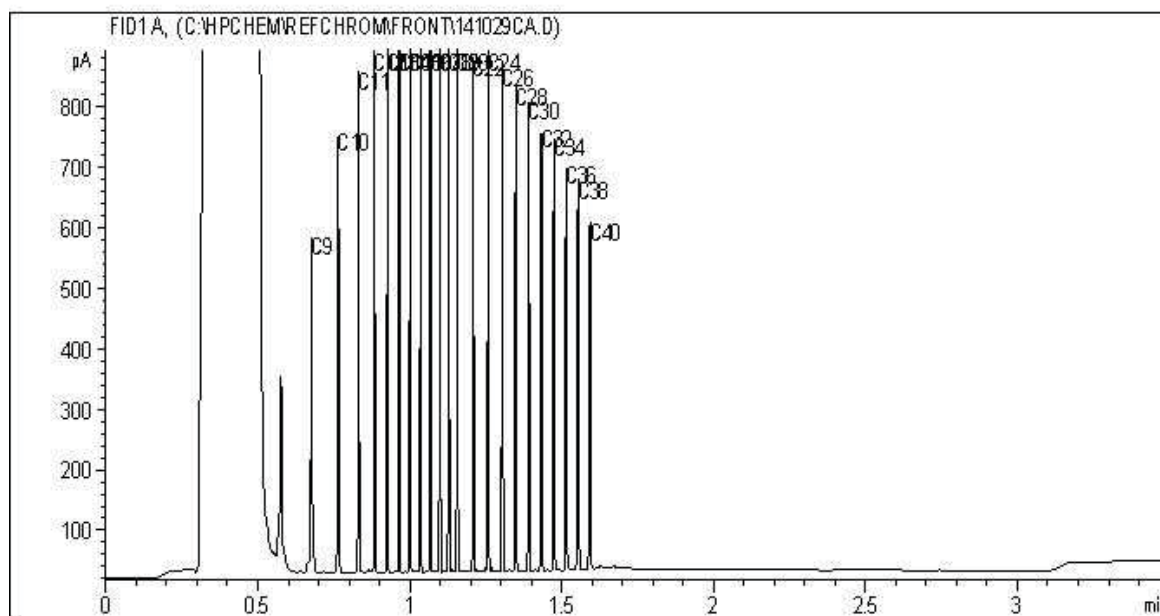
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

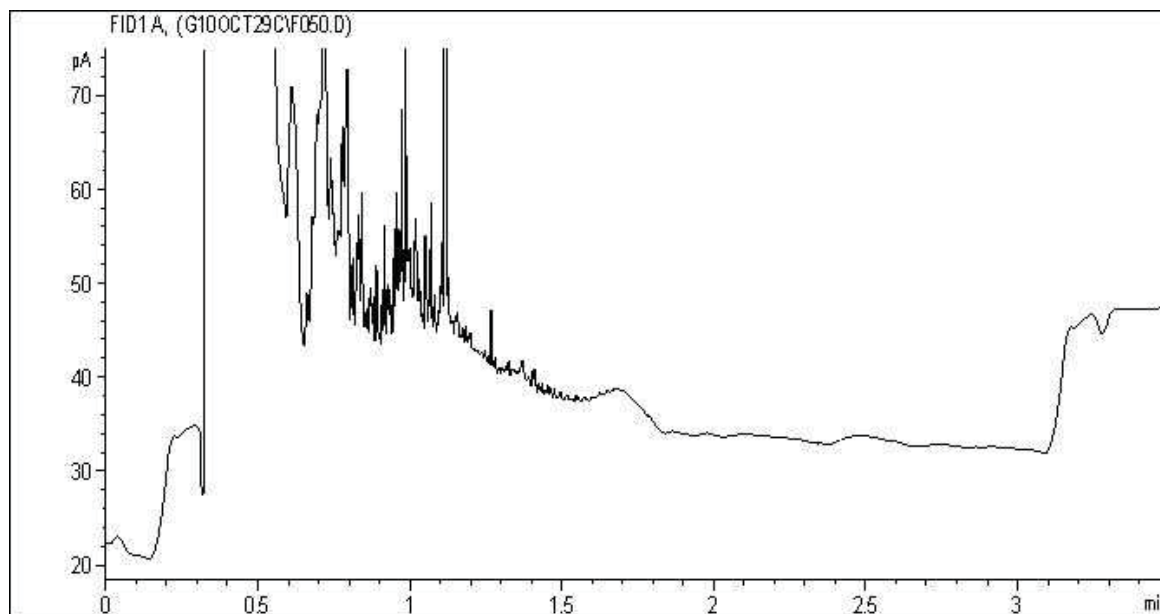


TYPICAL PRODUCT CARBON NUMBER RANGES

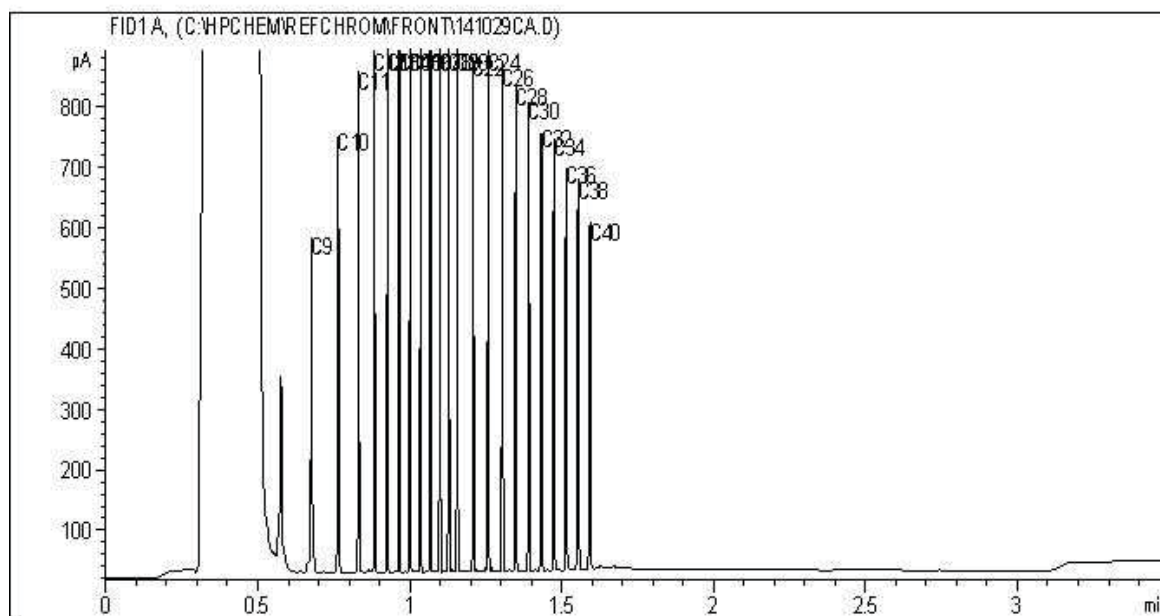
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Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

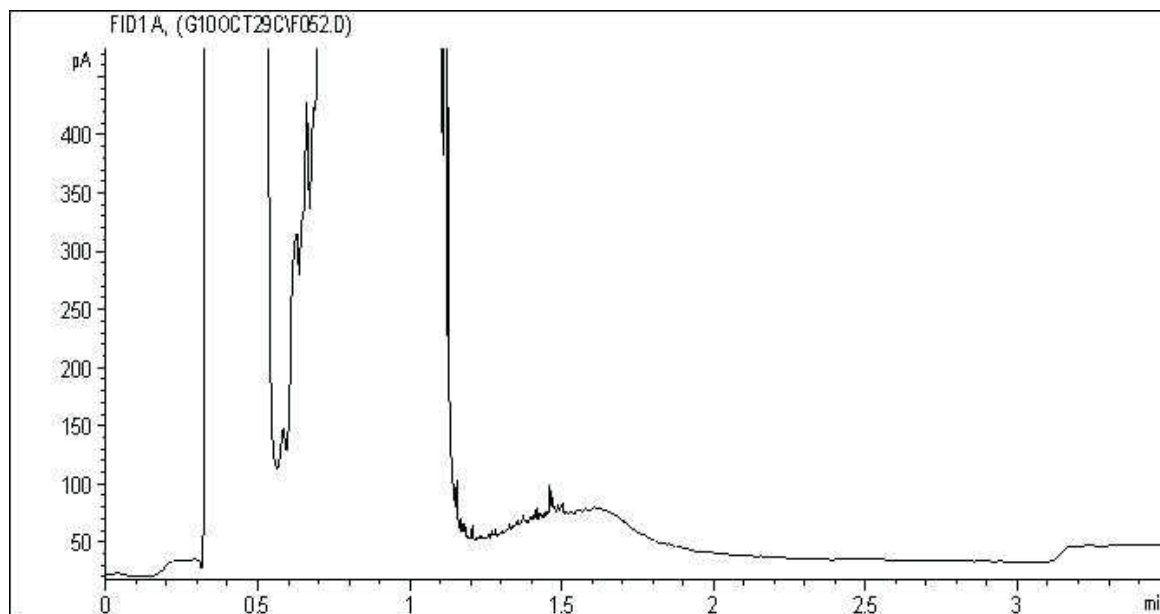


TYPICAL PRODUCT CARBON NUMBER RANGES

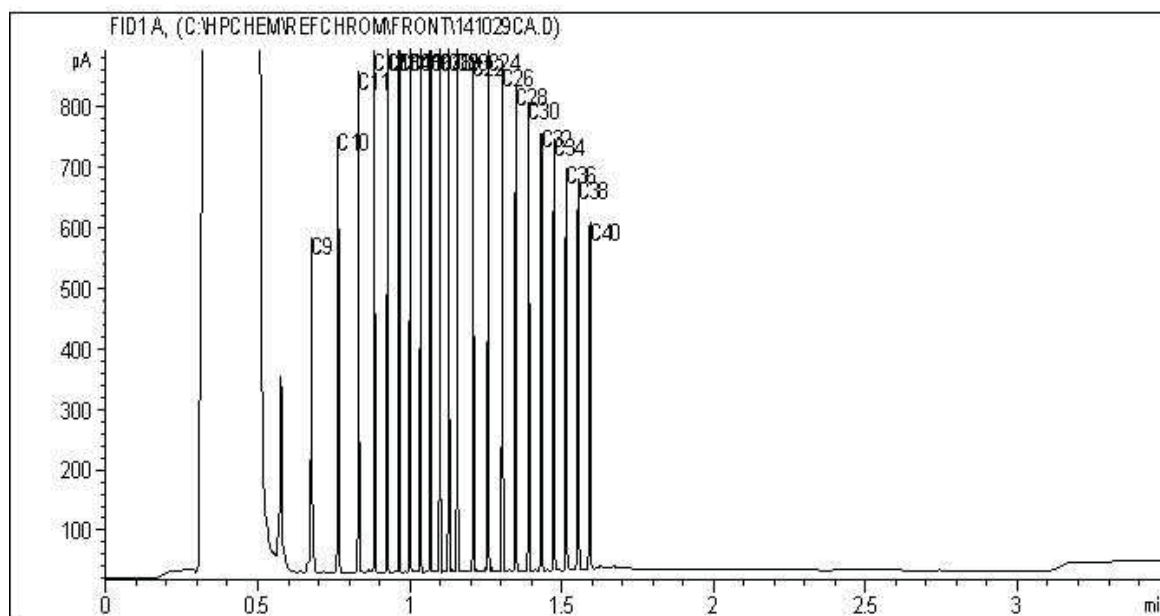
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

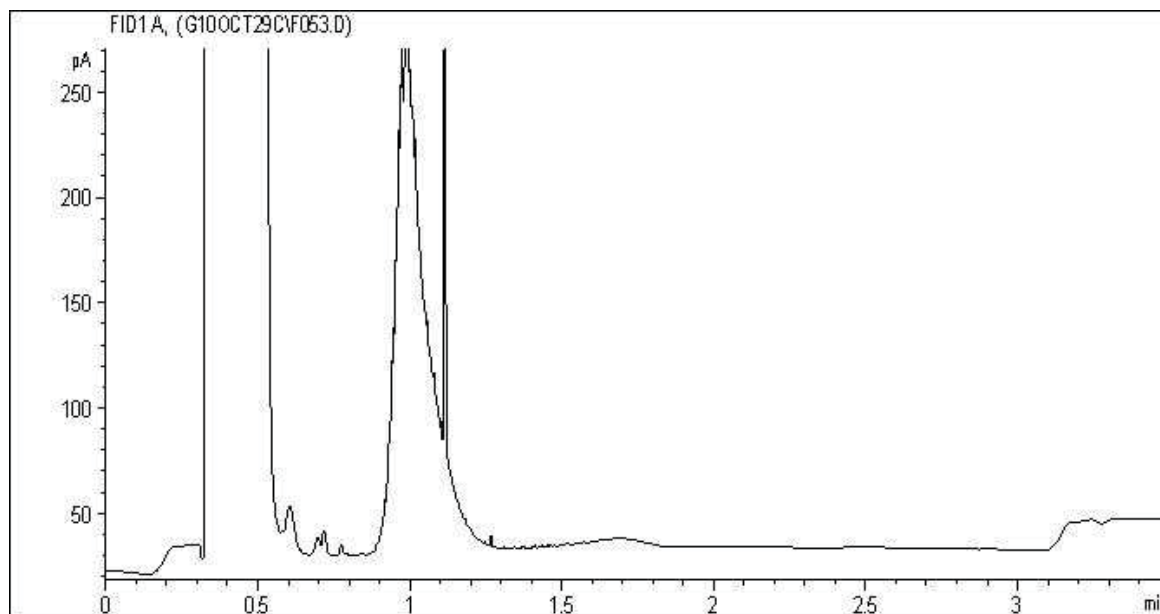


TYPICAL PRODUCT CARBON NUMBER RANGES

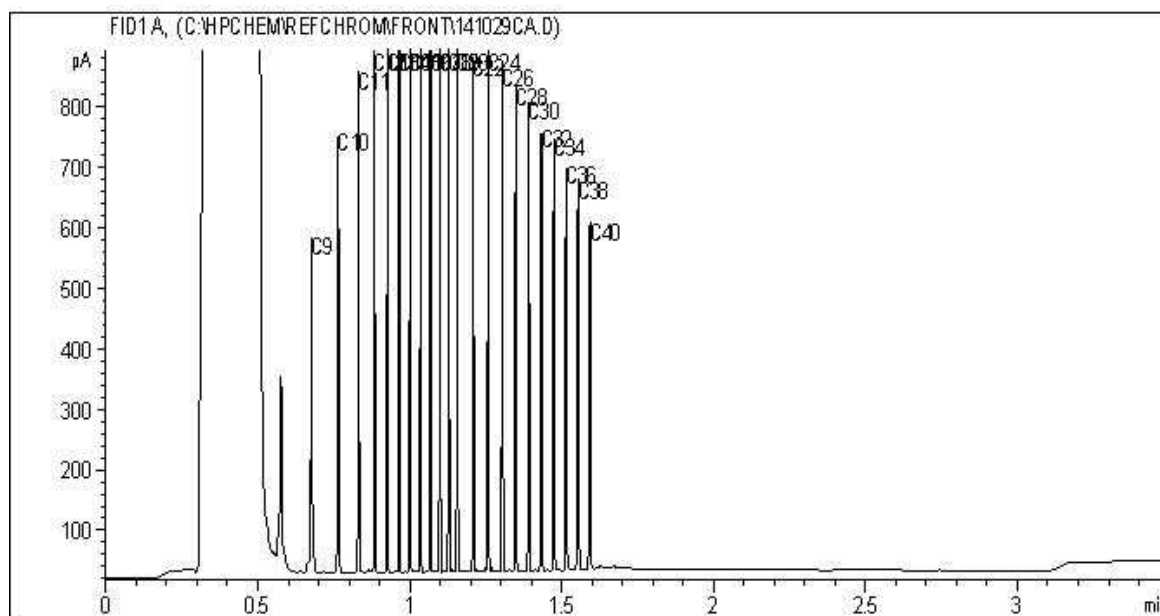
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

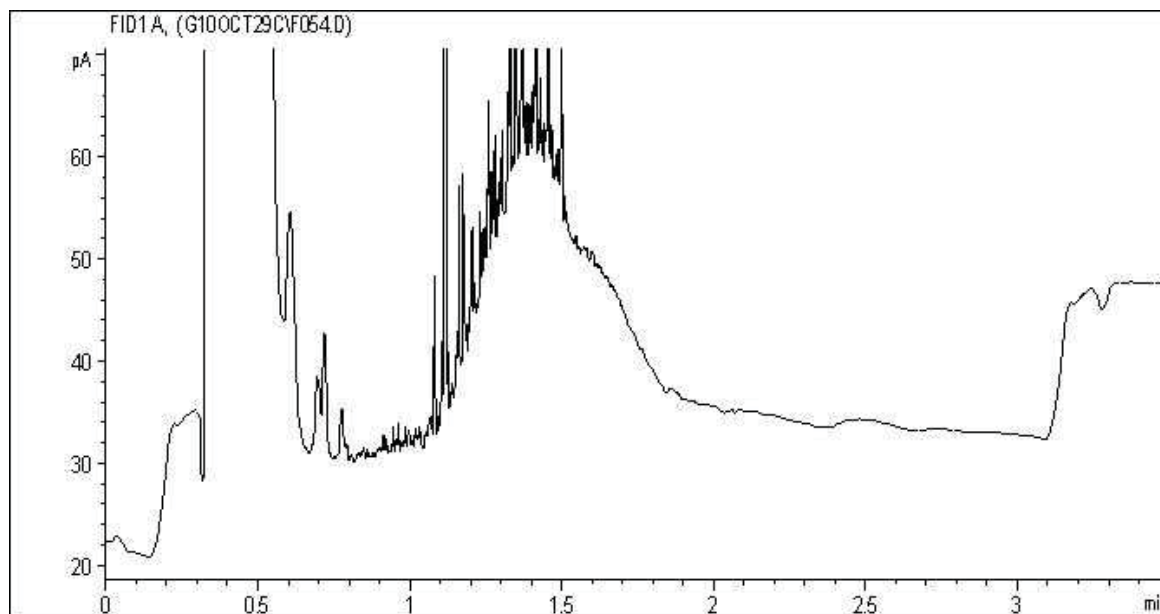


TYPICAL PRODUCT CARBON NUMBER RANGES

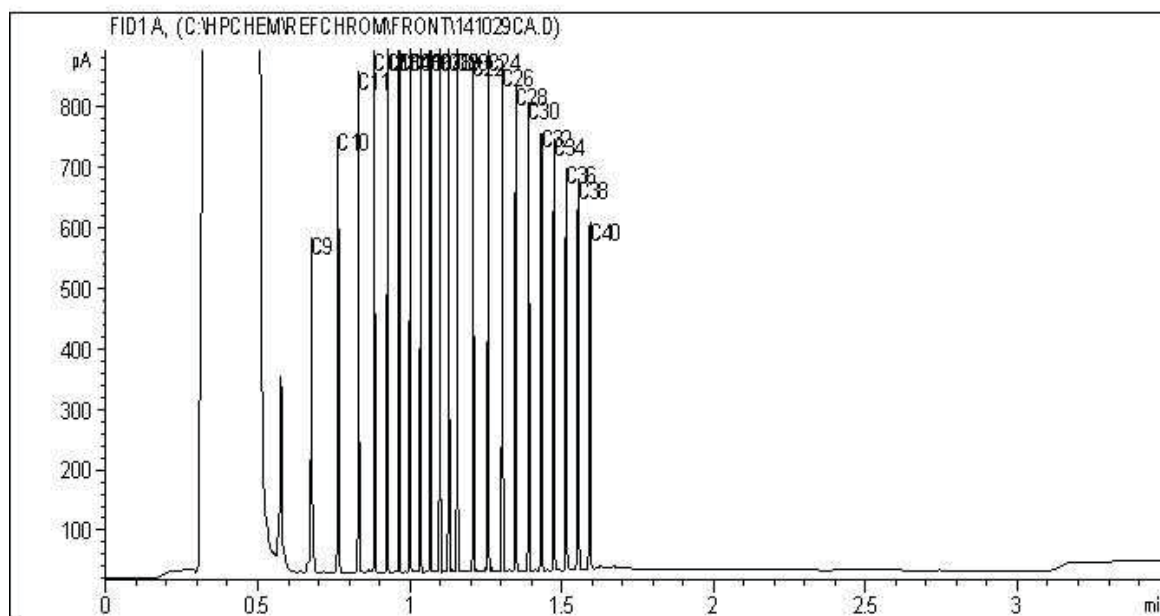
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

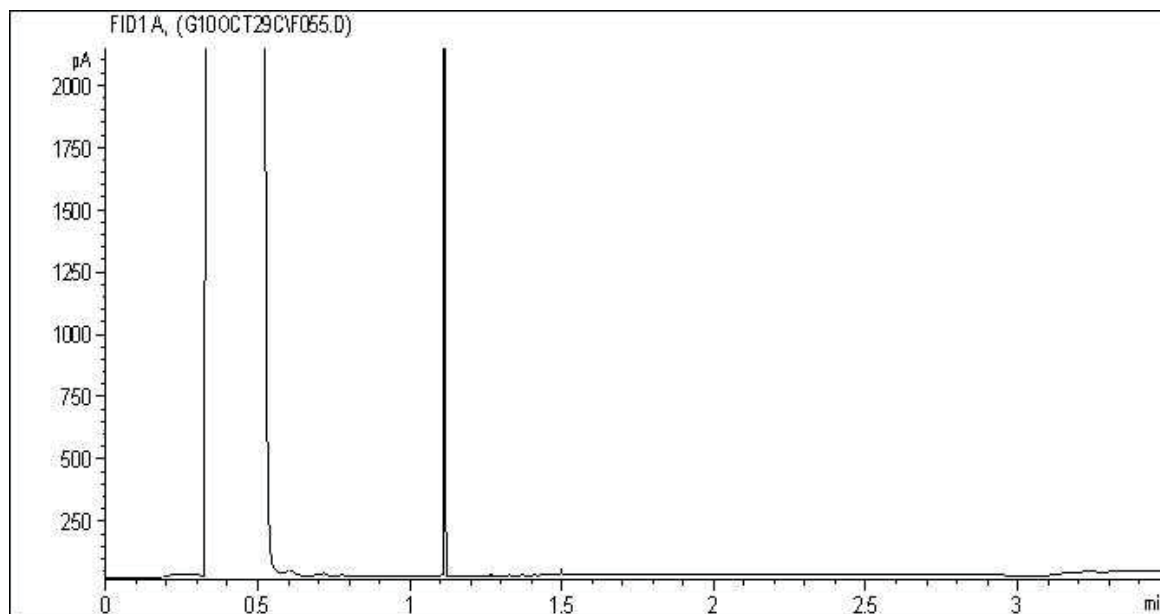


TYPICAL PRODUCT CARBON NUMBER RANGES

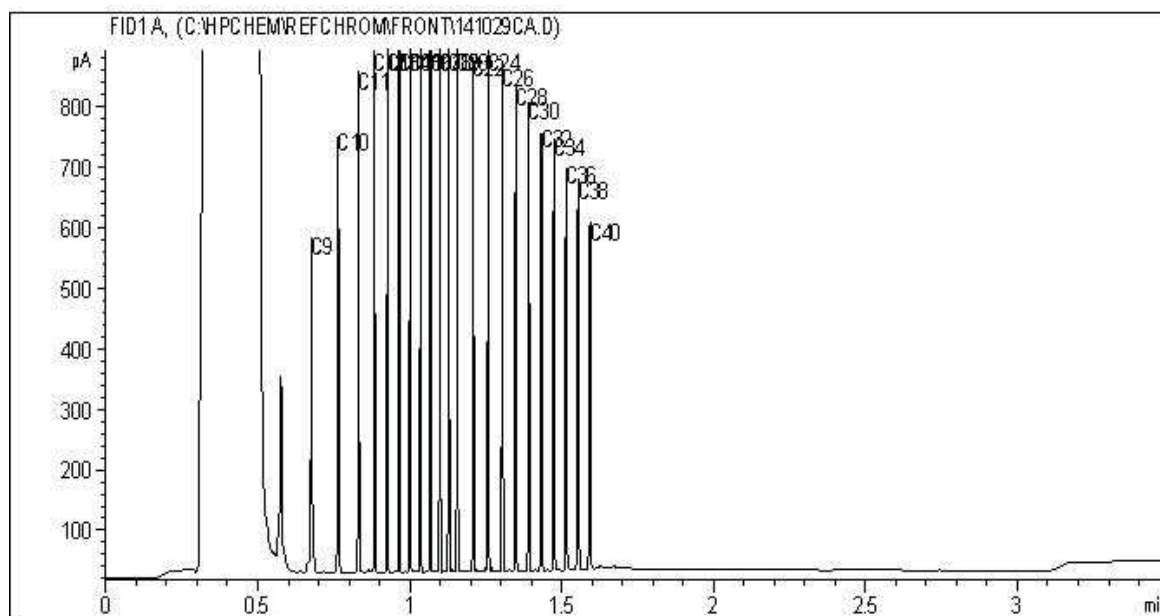
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

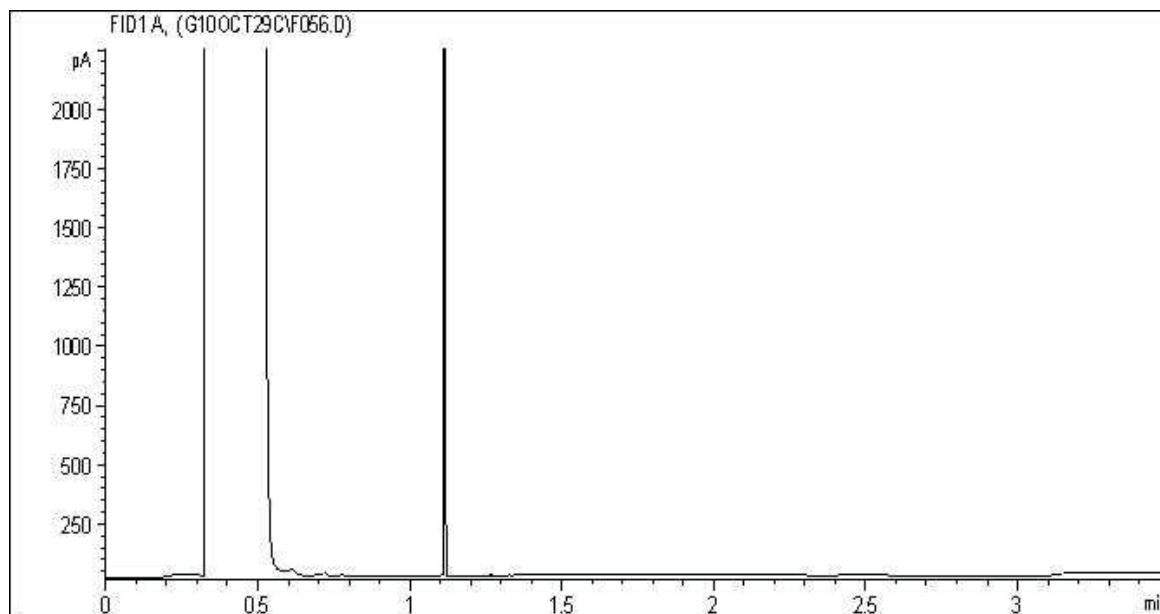


TYPICAL PRODUCT CARBON NUMBER RANGES

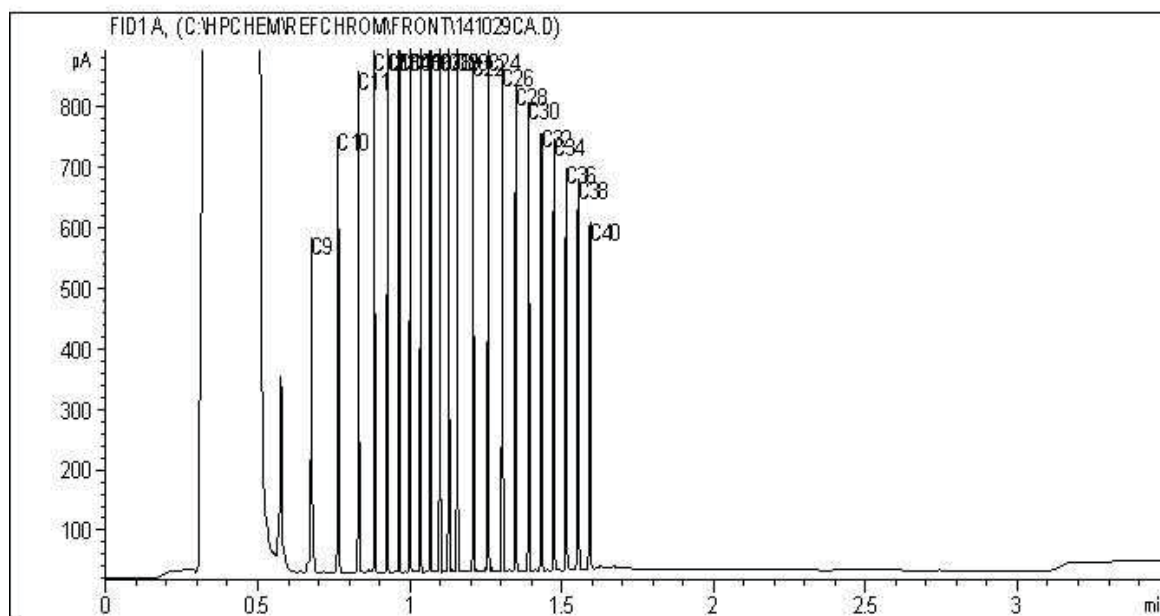
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

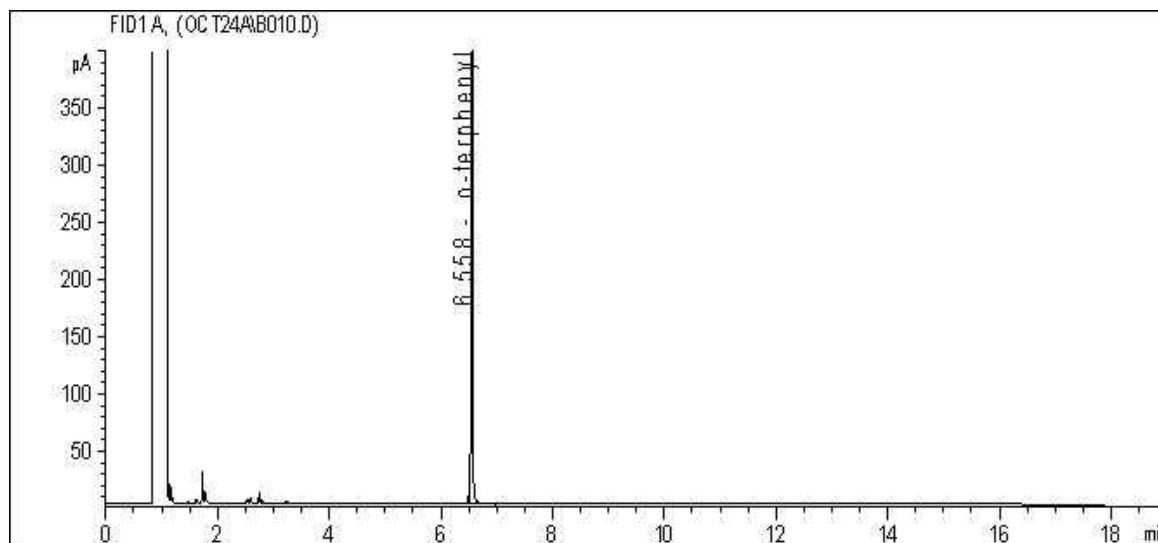


TYPICAL PRODUCT CARBON NUMBER RANGES

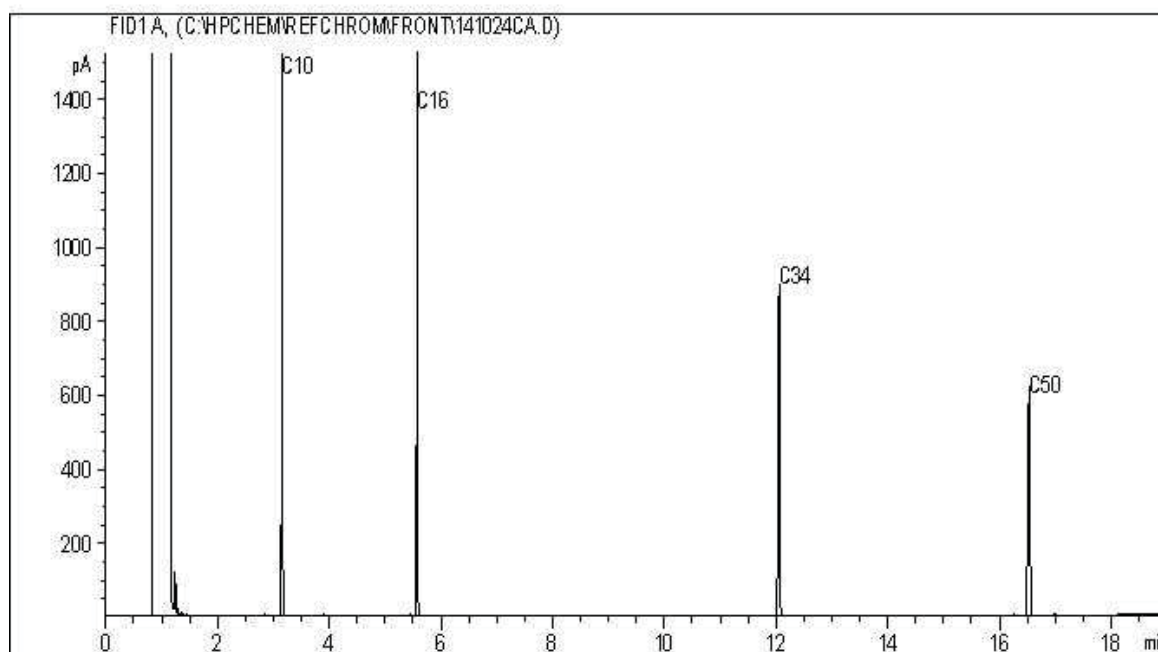
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

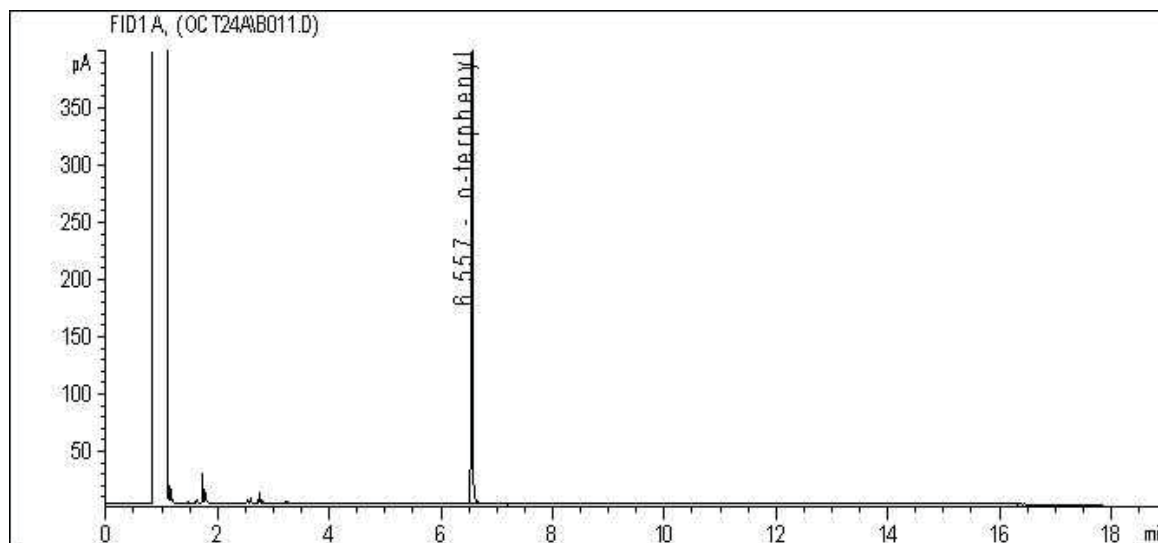


TYPICAL PRODUCT CARBON NUMBER RANGES

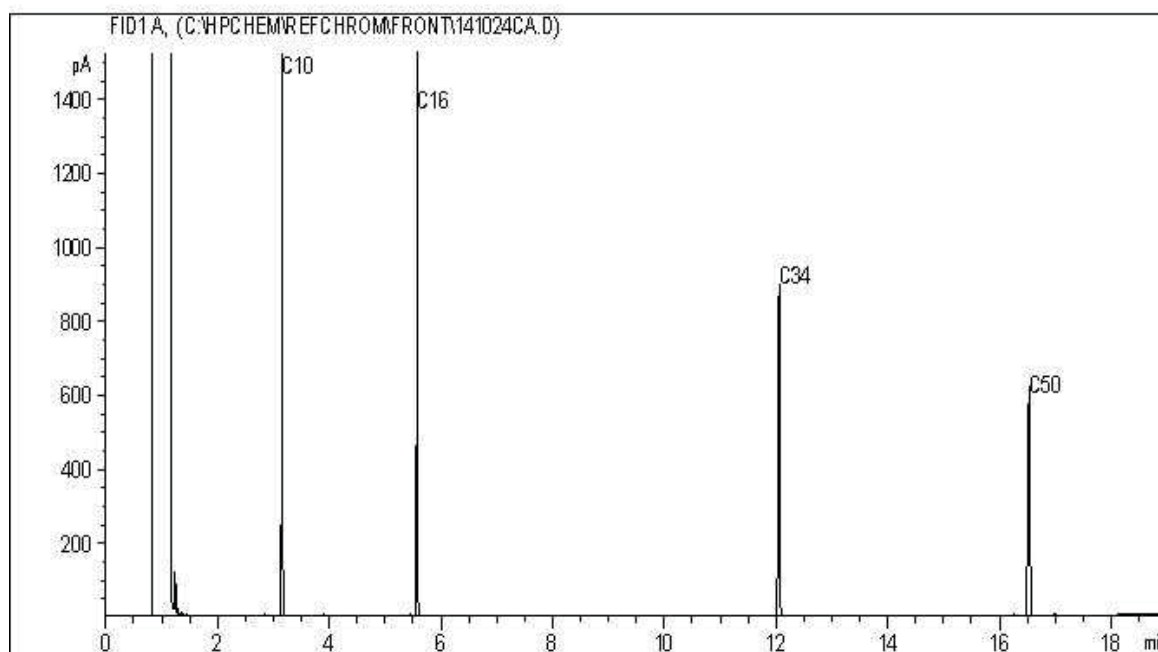
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

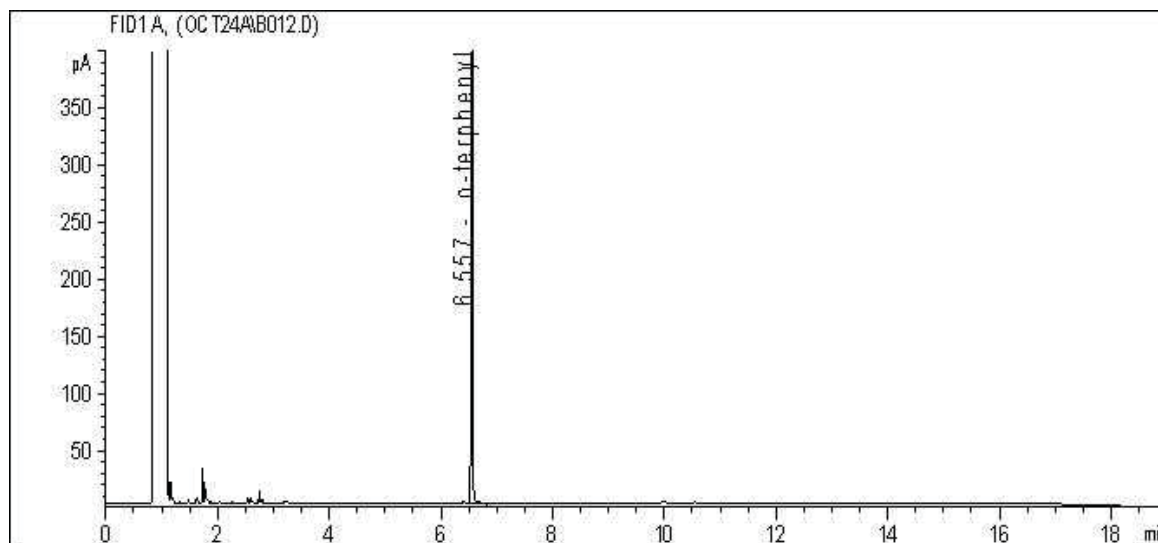


TYPICAL PRODUCT CARBON NUMBER RANGES

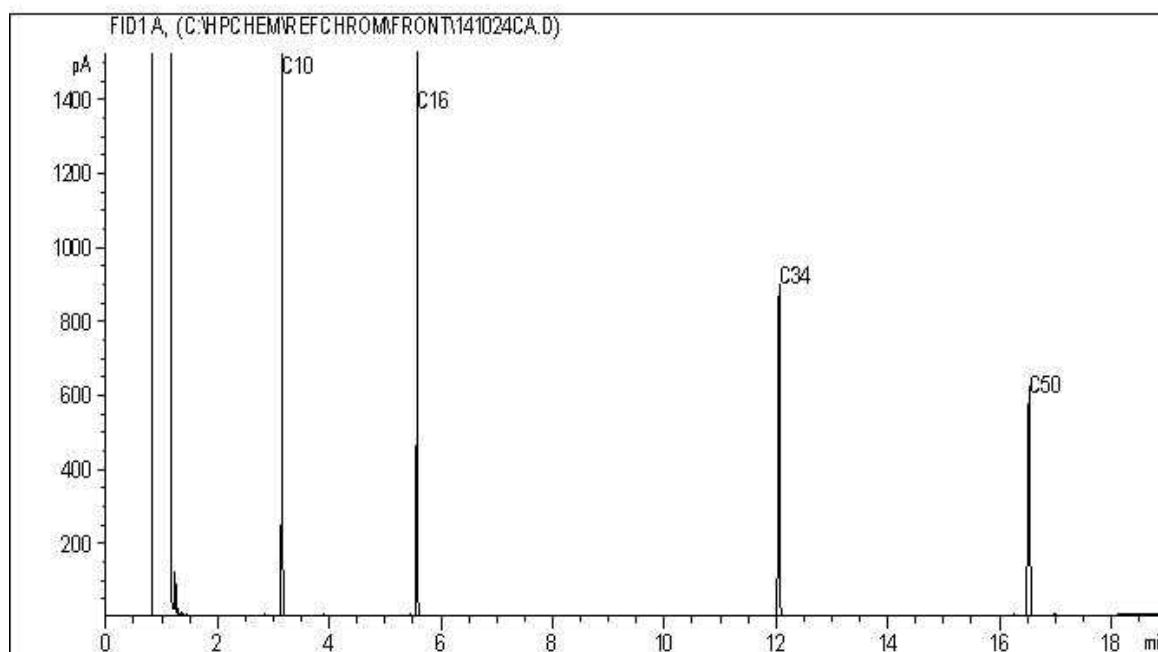
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

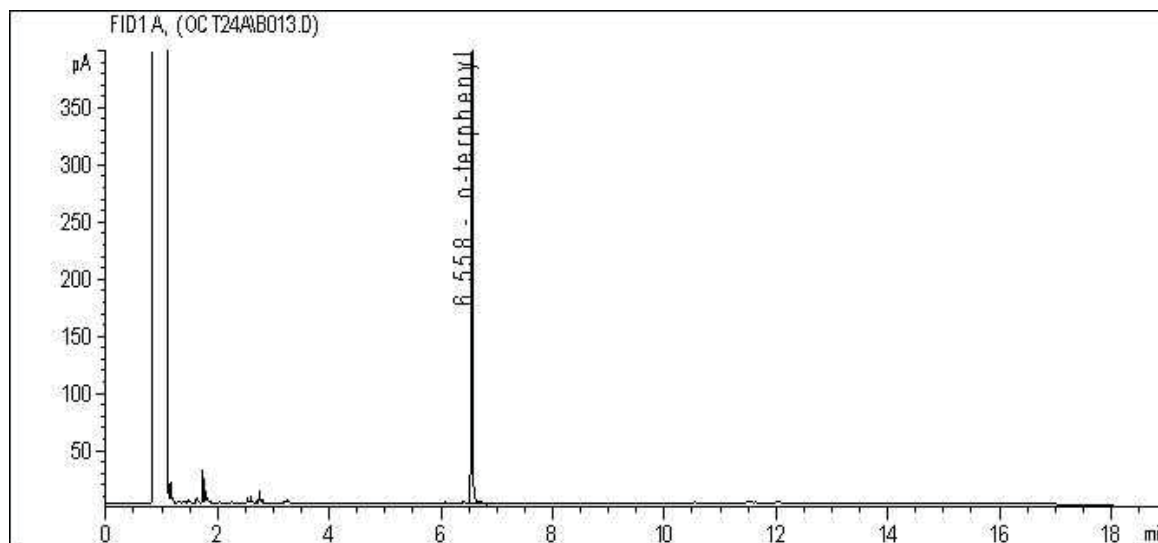


TYPICAL PRODUCT CARBON NUMBER RANGES

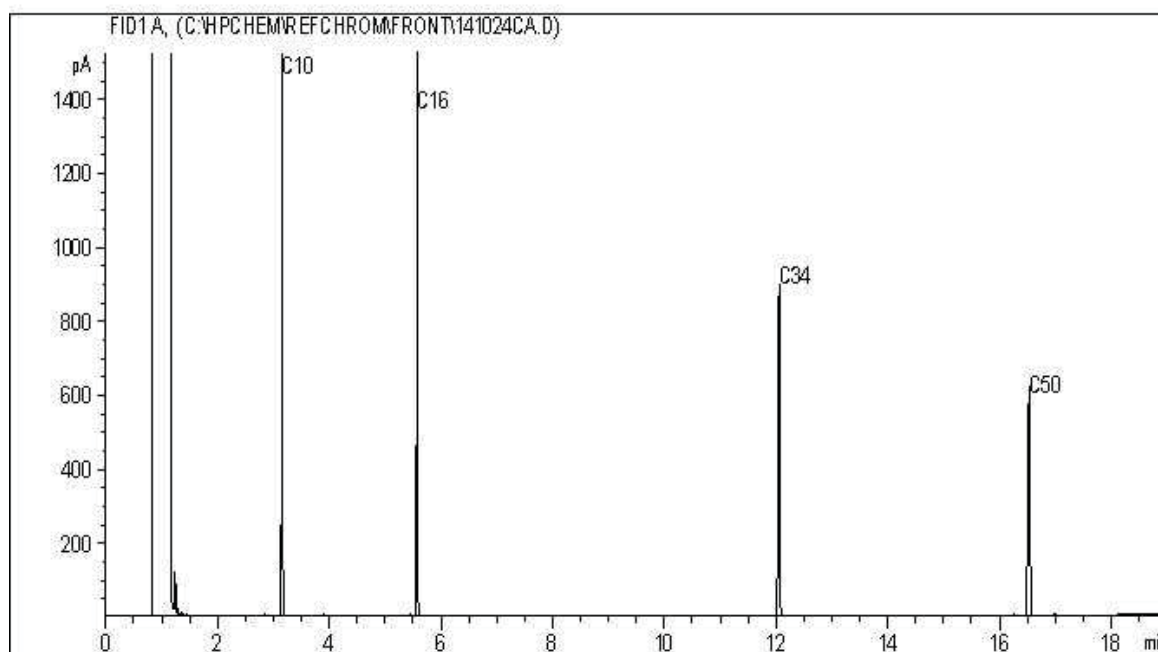
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

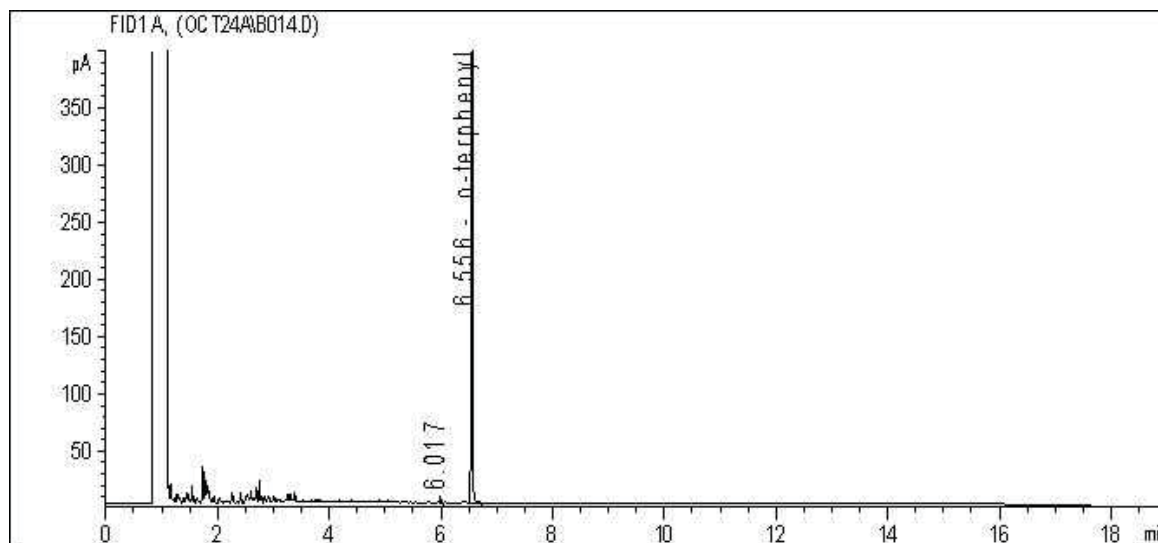


TYPICAL PRODUCT CARBON NUMBER RANGES

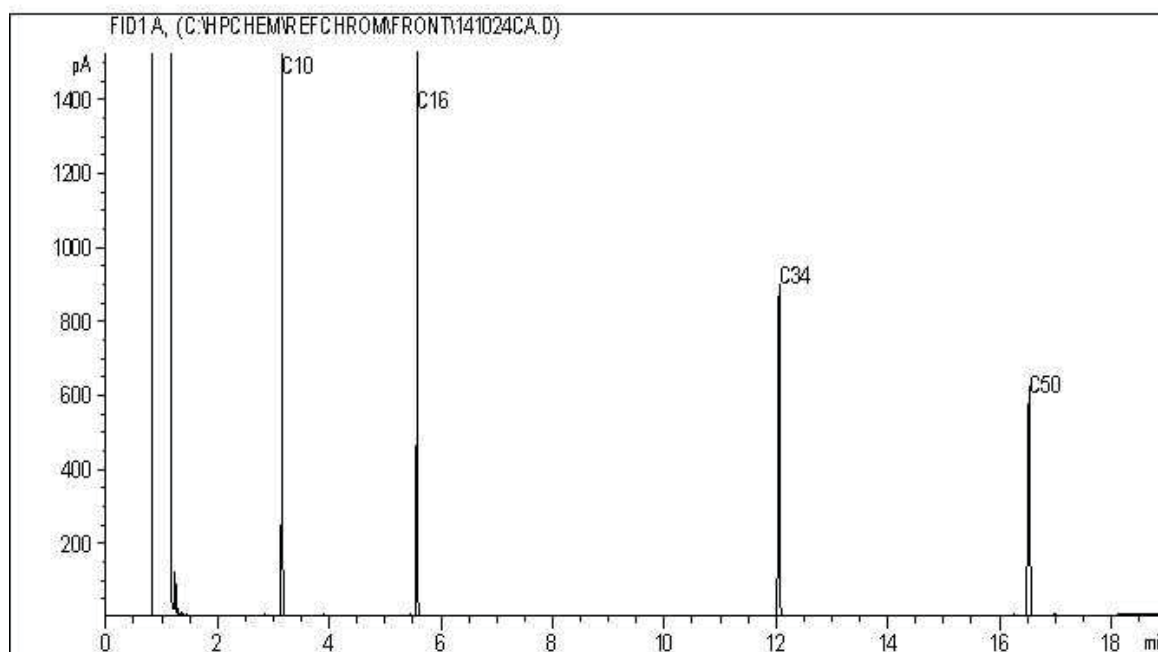
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

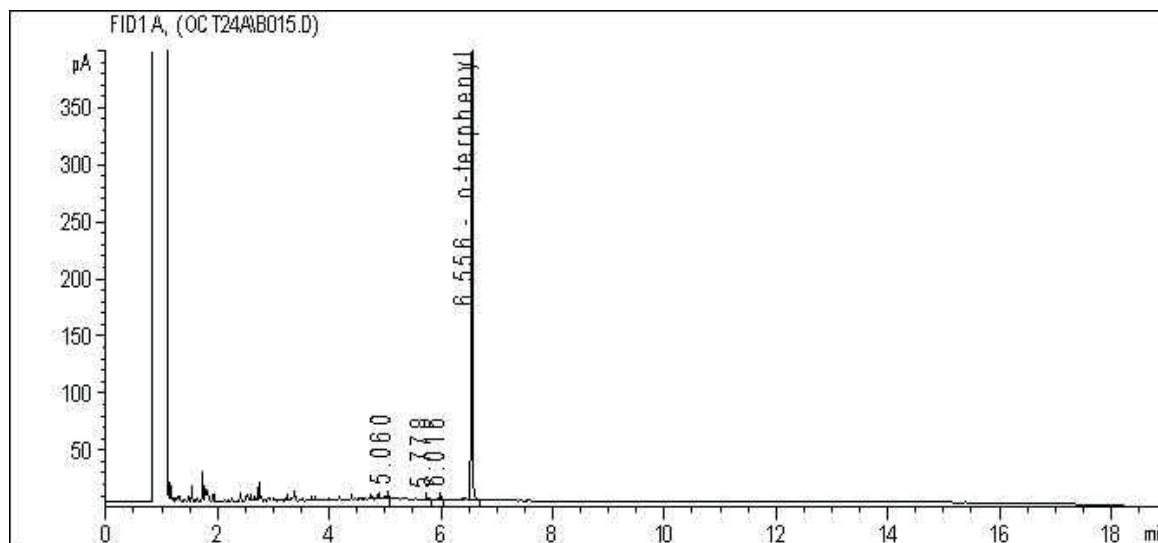


TYPICAL PRODUCT CARBON NUMBER RANGES

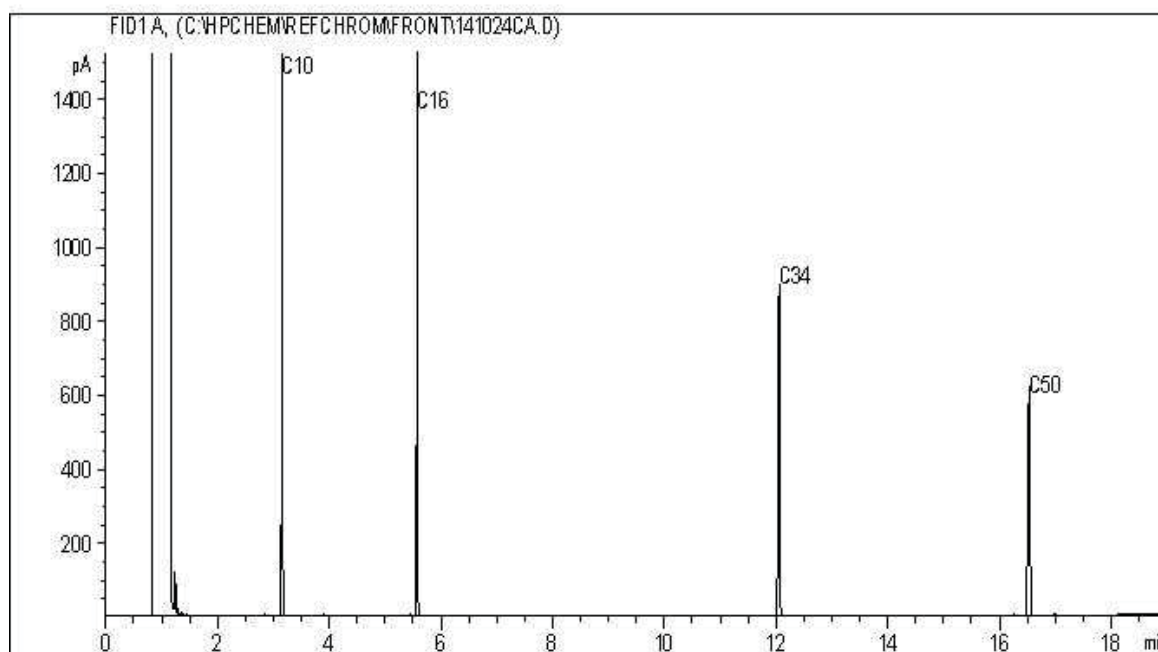
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

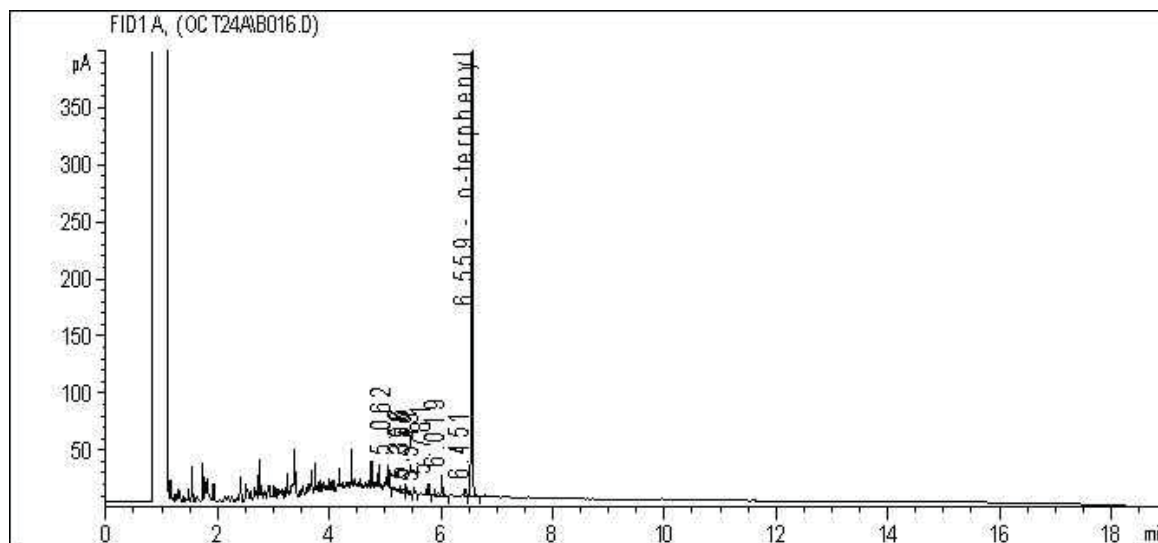


TYPICAL PRODUCT CARBON NUMBER RANGES

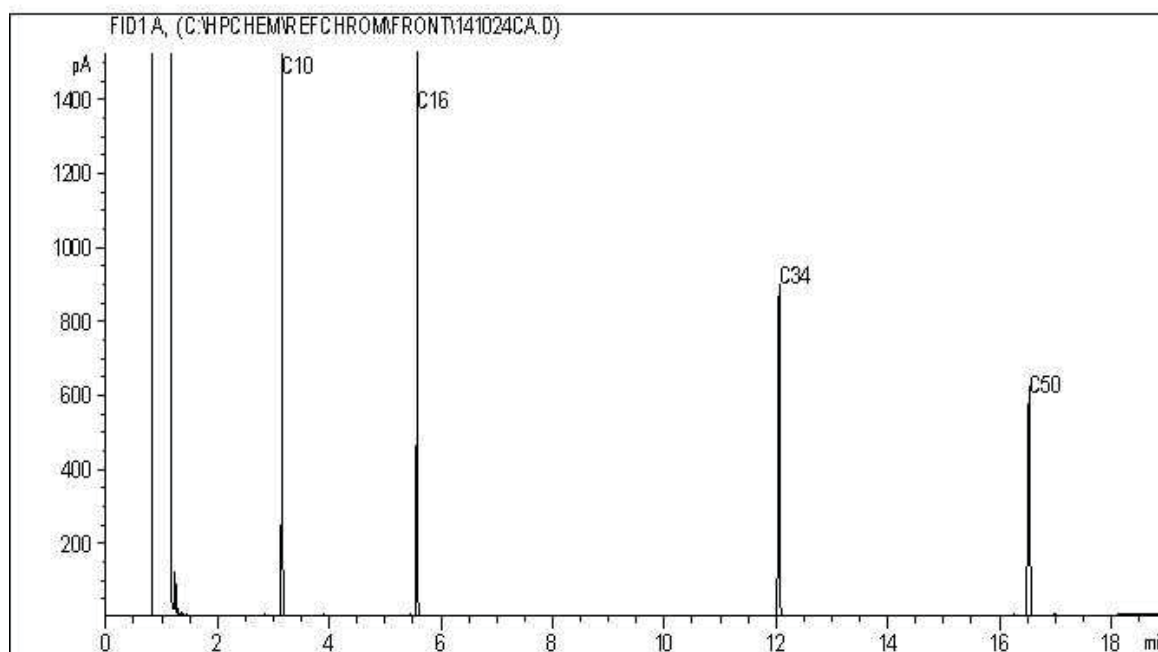
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

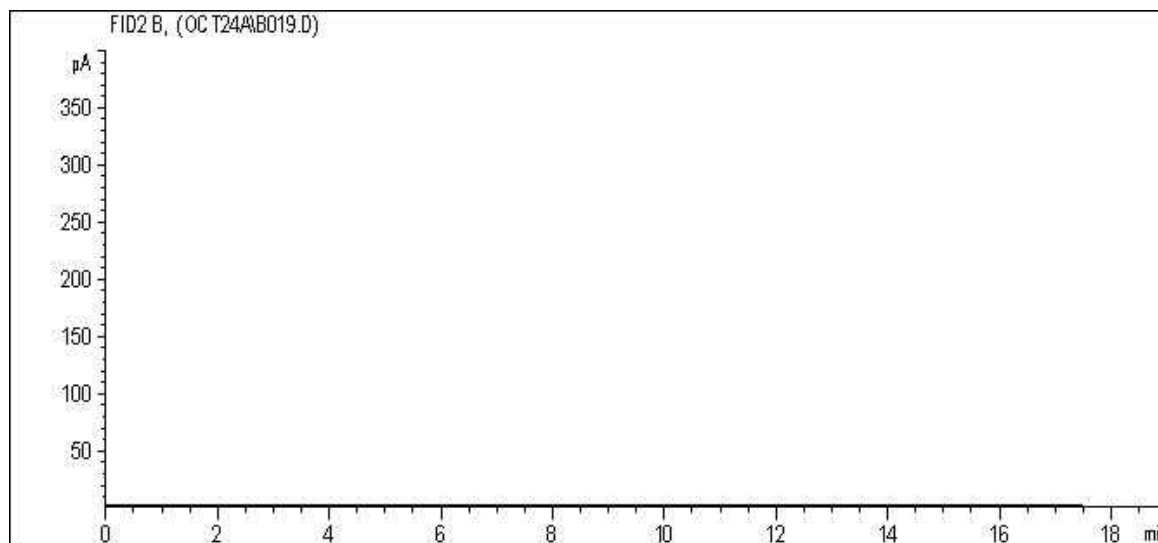


TYPICAL PRODUCT CARBON NUMBER RANGES

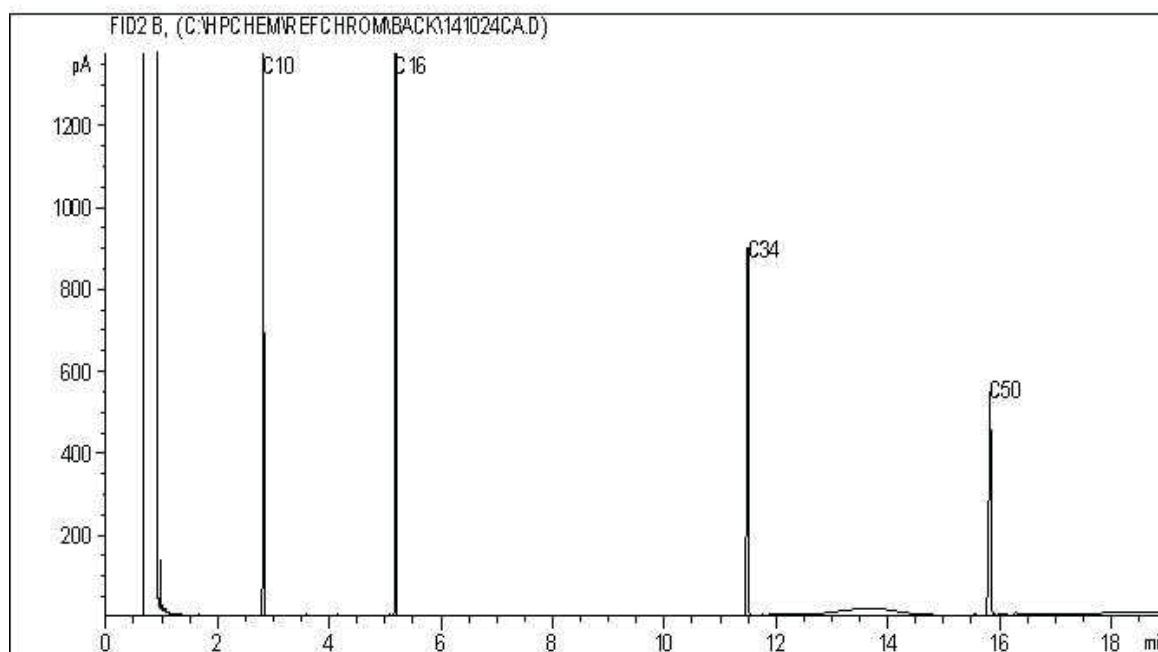
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



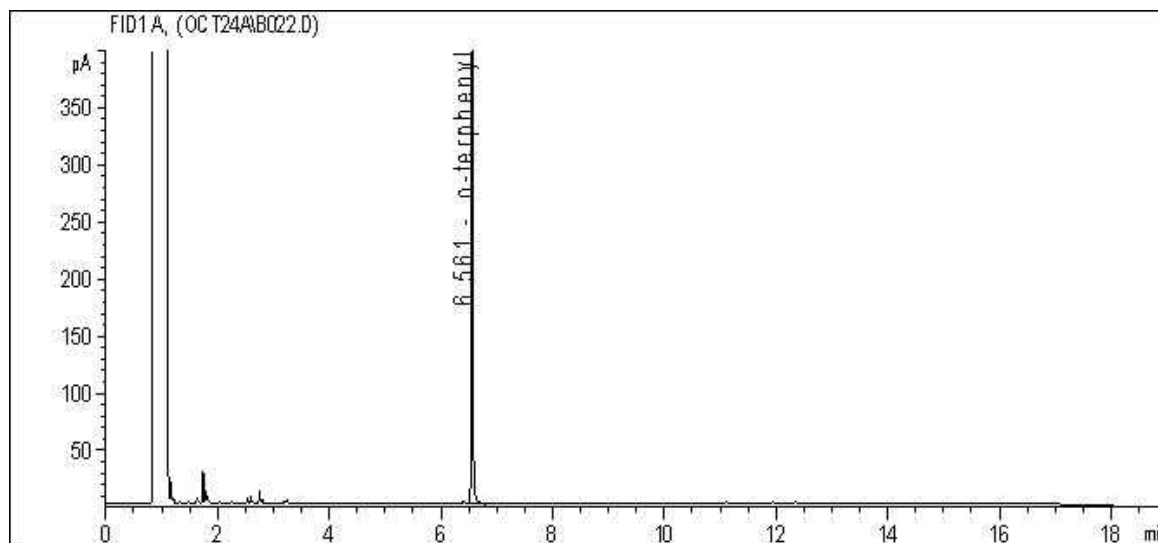
TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline: C4 - C12
Varsol: C8 - C12

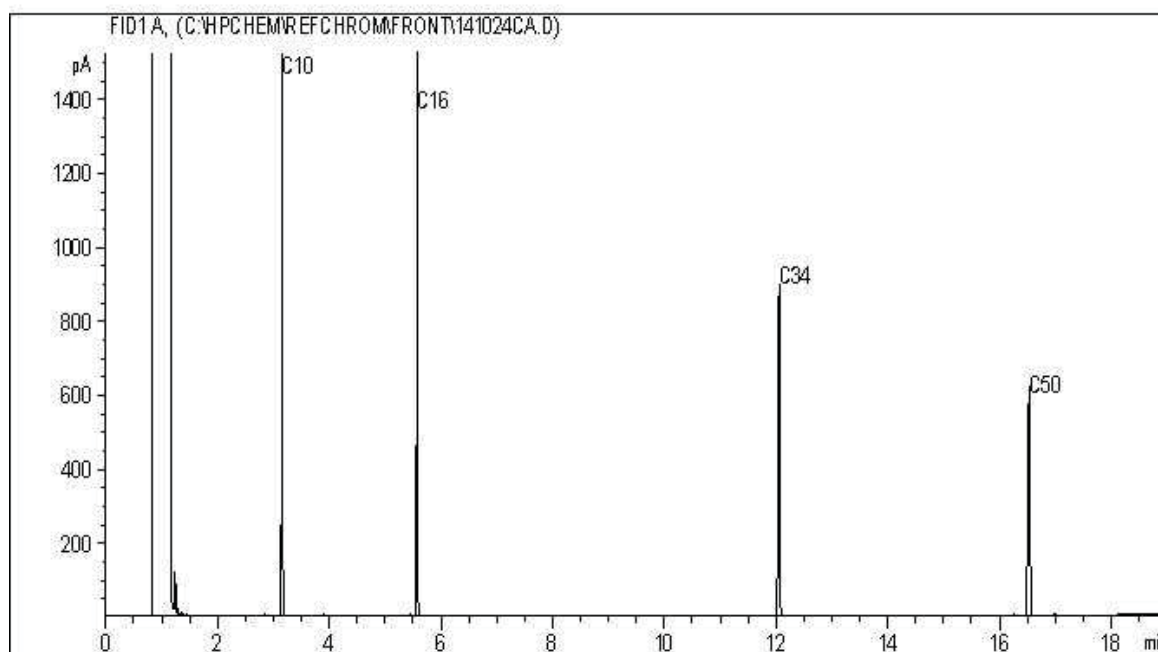
Diesel: C8 - C22
Lubricating Oils: C20 - C40

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

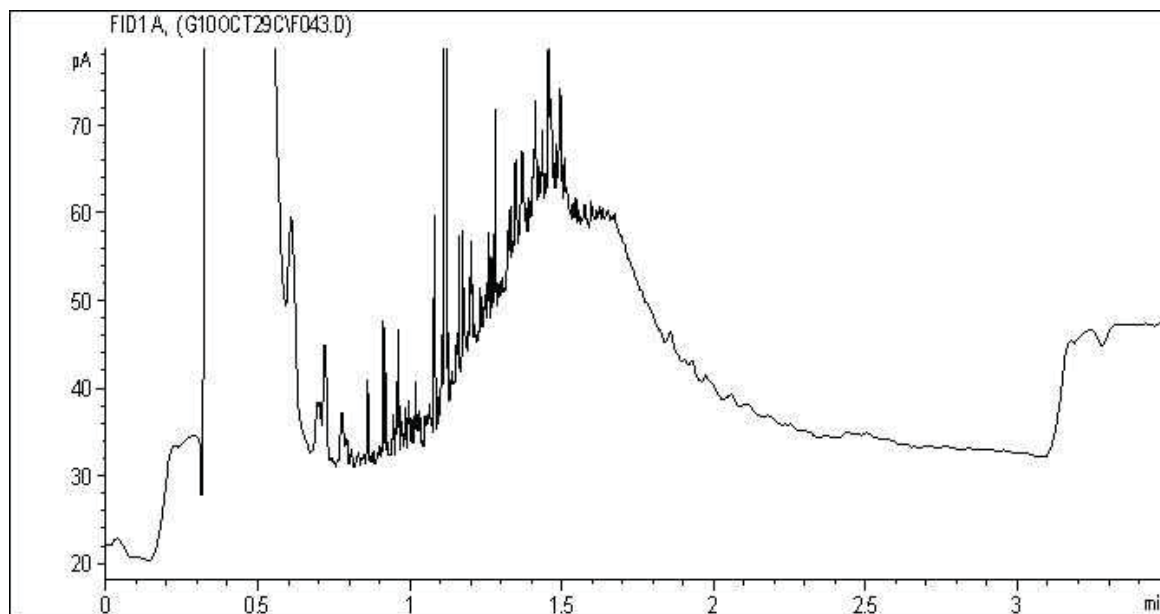


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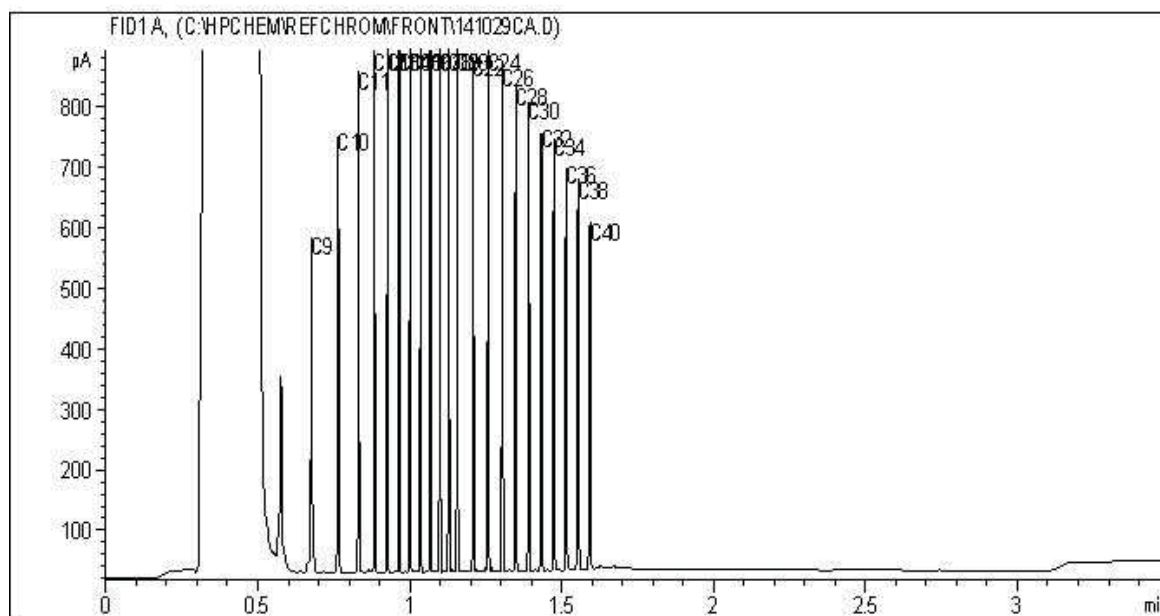
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

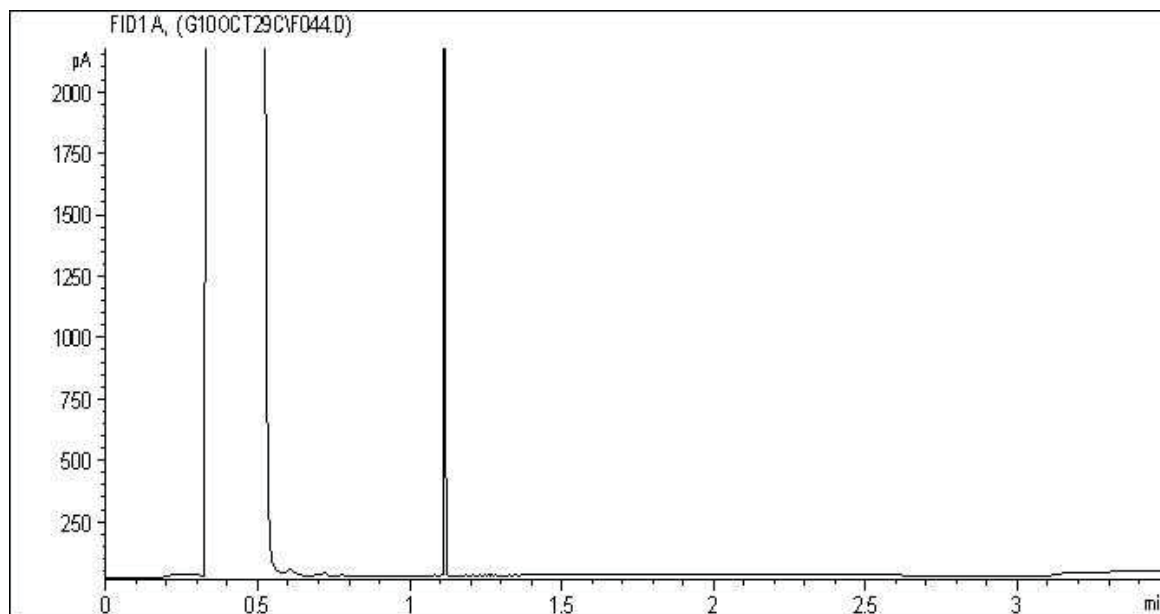


TYPICAL PRODUCT CARBON NUMBER RANGES

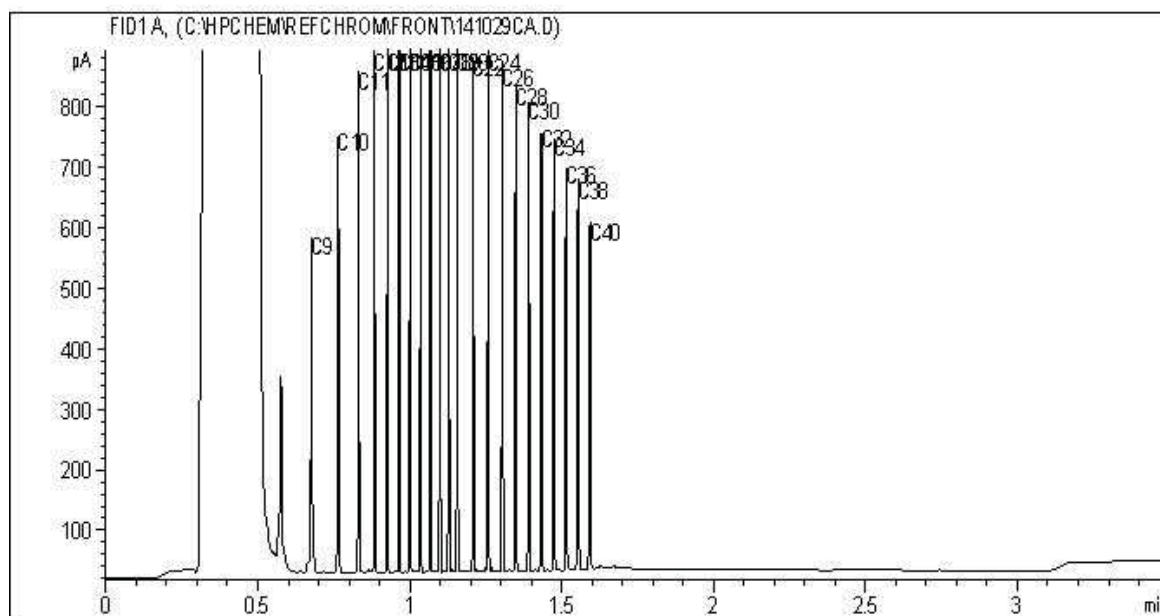
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Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40

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Your Project #: 96012
Your C.O.C. #: N000018

Attention:ROBERT SLATER

PINCHIN ENVIRONMENTAL LTD
54 Terracon Pl.
Winnipeg, MB
CANADA R2J 4G7

Report Date: 2014/11/05

Report #: R1678348

Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B498499

Received: 2014/10/29, 14:45

Sample Matrix: Water
Samples Received: 11

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/MTBE LH, VH, F1 SIM/MS (1)	6	2014/11/01	2014/11/02	BBY8SOP-00010	EPA 8260c R3 m
CCME Hydrocarbons (F2-F4 in water) (1)	6	2014/11/01	2014/10/31	BBY8SOP-00030	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in water) (1)	5	2014/11/04	2014/11/04	BBY8SOP-00030	CCME PHC-CWS m
PAH in Water by GC/MS (SIM) (1)	4	2014/11/03	2014/11/04	BBY8SOP-00021	EPA 8270d R4 m
PAH in Water by GC/MS (SIM) (1)	1	2014/11/04	2014/11/05	BBY8SOP-00021	EPA 8270d R4 m
Total LMW, HMW, Total PAH Calc (1)	5	N/A	2014/11/05	BBY WI-00033	Auto Calc
VOCs, VH, F1, LH in Water by HS GC/MS (1)	5	2014/11/04	2014/11/04	BBY8SOP-00009	EPA 8260c R3 m
Volatile F1-BTEX (1)	6	N/A	2014/11/03	BBY WI-00033	Auto Calc
Volatile F1-BTEX (1)	5	N/A	2014/11/05	BBY WI-00033	Auto Calc

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Vancouver

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Janelle Kochan, B.Sc., Project Manager

Email: JKochan@maxxam.ca

Phone# (204)772-7276 Ext:2209

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B498499
Report Date: 2014/11/05

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Sampler Initials: RS

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		KZ9213	KZ9214	KZ9215	KZ9216	KZ9217		KZ9218		
Sampling Date		2014/10/29 09:00	2014/10/29 09:15	2014/10/29 09:30	2014/10/29 10:00	2014/10/29 10:15		2014/10/29 10:30		
COC Number		N000018	N000018	N000018	N000018	N000018		N000018		
	Units	MW1	MW2	MW3	MW4	MW5	QC Batch	MW7	RDL	QC Batch

Calculated Parameters										
F1 (C6-C10) - BTEX	ug/L	610	<300	<300	<300	<300	7699576	<300	300	7701302
Polycyclic Aromatics										
Low Molecular Weight PAH's	ug/L			<0.24	<0.24		7699370		0.24	
High Molecular Weight PAH's	ug/L			<0.050	<0.050		7699370		0.050	
Total PAH	ug/L			<0.24	<0.24		7699370		0.24	
RDL = Reportable Detection Limit										

Maxxam ID		KZ9219		KZ9220	KZ9221	KZ9222	KZ9223		
Sampling Date		2014/10/29 10:45		2014/10/29 11:00	2014/10/29 11:10	2014/10/29 11:15	2014/10/29 11:20		
COC Number		N000018		N000018	N000018	N000018	N000018		
	Units	MW9	QC Batch	MW10	MW11	MW14	MW15	RDL	QC Batch

Calculated Parameters									
F1 (C6-C10) - BTEX	ug/L	<300	7699576	<300	<300	<300	<300	300	7701302
Polycyclic Aromatics									
Low Molecular Weight PAH's	ug/L	<0.24	7699370	<0.24			<0.24	0.24	7699370
High Molecular Weight PAH's	ug/L	<0.050	7699370	<0.050			<0.050	0.050	7699370
Total PAH	ug/L	<0.24	7699370	<0.24			<0.24	0.24	7699370
RDL = Reportable Detection Limit									

Maxxam Job #: B498499
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PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Sampler Initials: RS

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		KZ9213	KZ9214		KZ9215	KZ9216		KZ9217		
Sampling Date		2014/10/29 09:00	2014/10/29 09:15		2014/10/29 09:30	2014/10/29 10:00		2014/10/29 10:15		
COC Number		N000018	N000018		N000018	N000018		N000018		
	Units	MW1	MW2	QC Batch	MW3	MW4	QC Batch	MW5	RDL	QC Batch

Extractable Hydrocarbons										
F2 (C10-C16 Hydrocarbons)	mg/L	<0.15	<0.15	7702952	<0.15	<0.15	7706404	<0.15	0.15	7702952
F3 (C16-C34 Hydrocarbons)	mg/L	<0.20	<0.20	7702952	<0.20	<0.20	7706404	<0.20	0.20	7702952
F4 (C34-C50 Hydrocarbons)	mg/L	<0.20	<0.20	7702952	<0.20	<0.20	7706404	<0.20	0.20	7702952
Surrogate Recovery (%)										
O-TERPHENYL (sur.)	%	99	105	7702952	103	110	7706404	107		7702952
RDL = Reportable Detection Limit										

Maxxam ID		KZ9218		KZ9219	KZ9220		KZ9221	KZ9222		
Sampling Date		2014/10/29 10:30		2014/10/29 10:45	2014/10/29 11:00		2014/10/29 11:10	2014/10/29 11:15		
COC Number		N000018		N000018	N000018		N000018	N000018		
	Units	MW7	QC Batch	MW9	MW10	QC Batch	MW11	MW14	RDL	QC Batch

Extractable Hydrocarbons										
F2 (C10-C16 Hydrocarbons)	mg/L	<0.15	7702952	<0.15	<0.15	7706404	0.96	<0.15	0.15	7702955
F3 (C16-C34 Hydrocarbons)	mg/L	<0.20	7702952	<0.20	<0.20	7706404	0.92	<0.20	0.20	7702955
F4 (C34-C50 Hydrocarbons)	mg/L	<0.20	7702952	<0.20	<0.20	7706404	<0.20	<0.20	0.20	7702955
Surrogate Recovery (%)										
O-TERPHENYL (sur.)	%	97	7702952	103	114	7706404	97	104		7702955
RDL = Reportable Detection Limit										

Maxxam ID		KZ9223		
Sampling Date		2014/10/29 11:20		
COC Number		N000018		
	Units	MW15	RDL	QC Batch

Extractable Hydrocarbons				
F2 (C10-C16 Hydrocarbons)	mg/L	<0.15	0.15	7706404
F3 (C16-C34 Hydrocarbons)	mg/L	<0.20	0.20	7706404
F4 (C34-C50 Hydrocarbons)	mg/L	<0.20	0.20	7706404
Surrogate Recovery (%)				
O-TERPHENYL (sur.)	%	110		7706404
RDL = Reportable Detection Limit				

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PINCHIN ENVIRONMENTAL LTD
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SEMIVOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		KZ9215	KZ9216	KZ9219	KZ9220		KZ9223		
Sampling Date		2014/10/29 09:30	2014/10/29 10:00	2014/10/29 10:45	2014/10/29 11:00		2014/10/29 11:20		
COC Number		N000018	N000018	N000018	N000018		N000018		
	Units	MW3	MW4	MW9	MW10	QC Batch	MW15	RDL	QC Batch
Polycyclic Aromatics									
Naphthalene	ug/L	<0.10	<0.10	<0.10	<0.10	7705104	<0.10	0.10	7705945
2-Methylnaphthalene	ug/L	<0.10	<0.10	<0.10	<0.10	7705104	<0.10	0.10	7705945
Quinoline	ug/L	<0.24	<0.24	<0.24	<0.24	7705104	<0.24	0.24	7705945
Acenaphthylene	ug/L	<0.050	<0.050	<0.050	<0.050	7705104	<0.050	0.050	7705945
Acenaphthene	ug/L	<0.050	<0.050	<0.050	<0.050	7705104	<0.050	0.050	7705945
Fluorene	ug/L	<0.050	<0.050	<0.050	<0.050	7705104	<0.050	0.050	7705945
Phenanthrene	ug/L	<0.050	<0.050	<0.050	<0.050	7705104	<0.050	0.050	7705945
Anthracene	ug/L	<0.010	<0.010	<0.010	<0.010	7705104	<0.010	0.010	7705945
Acridine	ug/L	<0.050	<0.050	<0.050	<0.050	7705104	<0.050	0.050	7705945
Fluoranthene	ug/L	<0.020	<0.020	<0.020	<0.020	7705104	<0.020	0.020	7705945
Pyrene	ug/L	<0.020	<0.020	<0.020	<0.020	7705104	<0.020	0.020	7705945
Benzo(a)anthracene	ug/L	<0.010	<0.010	<0.010	<0.010	7705104	<0.010	0.010	7705945
Chrysene	ug/L	<0.050	<0.050	<0.050	<0.050	7705104	<0.050	0.050	7705945
Benzo(b&j)fluoranthene	ug/L	<0.050	<0.050	<0.050	<0.050	7705104	<0.050	0.050	7705945
Benzo(k)fluoranthene	ug/L	<0.050	<0.050	<0.050	<0.050	7705104	<0.050	0.050	7705945
Benzo(a)pyrene	ug/L	<0.0090	<0.0090	0.019	<0.0090	7705104	<0.0090	0.0090	7705945
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	<0.050	<0.050	<0.050	7705104	<0.050	0.050	7705945
Dibenz(a,h)anthracene	ug/L	<0.050	<0.050	<0.050	<0.050	7705104	<0.050	0.050	7705945
Benzo(g,h,i)perylene	ug/L	<0.050	<0.050	<0.050	<0.050	7705104	<0.050	0.050	7705945
Surrogate Recovery (%)									
D10-ANTHRACENE (sur.)	%	108	107	109	104	7705104	115		7705945
D8-ACENAPHTHYLENE (sur.)	%	101	106	103	101	7705104	106		7705945
D8-NAPHTHALENE (sur.)	%	92	98	93	89	7705104	97		7705945
D9-Acridine	%	74	79	75	71	7705104	73		7705945
TERPHENYL-D14 (sur.)	%	89	93	91	86	7705104	94		7705945
RDL = Reportable Detection Limit									

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VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		KZ9213	KZ9214	KZ9215	KZ9216	KZ9217		
Sampling Date		2014/10/29 09:00	2014/10/29 09:15	2014/10/29 09:30	2014/10/29 10:00	2014/10/29 10:15		
COC Number		N000018	N000018	N000018	N000018	N000018		
	Units	MW1	MW2	MW3	MW4	MW5	RDL	QC Batch
Volatiles								
Methyl-tert-butylether (MTBE)	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	4.0	7703434
Benzene	ug/L	540	<0.40	<0.40	<0.40	<0.40	0.40	7703434
Toluene	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	7703434
Ethylbenzene	ug/L	53	1.0	<0.40	<0.40	<0.40	0.40	7703434
m & p-Xylene	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	7703434
o-Xylene	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	7703434
Styrene	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	7703434
Xylenes (Total)	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	7703434
(C6-C10)	ug/L	1200	<300	<300	<300	<300	300	7703434
Surrogate Recovery (%)								
1,4-Difluorobenzene (sur.)	%	105	104	106	106	105		7703434
4-Bromofluorobenzene (sur.)	%	97	98	98	98	96		7703434
D4-1,2-Dichloroethane (sur.)	%	95	95	95	95	93		7703434
RDL = Reportable Detection Limit								

Maxxam Job #: B498499
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PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Sampler Initials: RS

VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		KZ9218			KZ9219			KZ9220		KZ9221		
Sampling Date		2014/10/29 10:30			2014/10/29 10:45			2014/10/29 11:00		2014/10/29 11:10		
COC Number		N000018			N000018			N000018		N000018		
	Units	MW7	RDL	QC Batch	MW9	RDL	QC Batch	MW10	RDL	MW11	RDL	QC Batch
Volatiles												
Chloromethane	ug/L	<1.0	1.0	7706179		1.0	7706179	<1.0	1.0	<1.0	1.0	7706179
Vinyl chloride	ug/L	<0.50	0.50	7706179		0.50	7706179	<0.50	0.50	<0.50	0.50	7706179
Methyl-tert-butylether (MTBE)	ug/L	<4.0	4.0	7706179	<4.0	4.0	7703434	<4.0	4.0	<4.0	4.0	7706179
Chloroethane	ug/L	<1.0	1.0	7706179		1.0		<1.0	1.0	<1.0	1.0	7706179
Benzene	ug/L	<0.40	0.40	7706179	<0.40	0.40	7703434	<0.40	0.40	1.0	0.40	7706179
Trichlorofluoromethane	ug/L	<4.0	4.0	7706179		4.0		<4.0	4.0	<4.0	4.0	7706179
1,1,2Trichloro-1,2,2Trifluoroethane	ug/L	<2.0	2.0	7706179		2.0		<2.0	2.0	<2.0	2.0	7706179
Toluene	ug/L	<0.40	0.40	7706179	<0.40	0.40	7703434	<0.40	0.40	<0.40	0.40	7706179
Dichlorodifluoromethane	ug/L	<2.0	2.0	7706179		2.0		<2.0	2.0	<2.0	2.0	7706179
Ethylbenzene	ug/L	<0.40	0.40	7706179	<0.40	0.40	7703434	<0.40	0.40	0.57	0.40	7706179
1,1-dichloroethene	ug/L	<0.50	0.50	7706179		0.50		<0.50	0.50	<0.50	0.50	7706179
Dichloromethane	ug/L	<2.0	2.0	7706179		2.0		<2.0	2.0	<2.0	2.0	7706179
m & p-Xylene	ug/L	<0.40	0.40	7706179	<0.40	0.40	7703434	<0.40	0.40	<0.40	0.40	7706179
trans-1,2-dichloroethene	ug/L	<1.0	1.0	7706179		1.0		<1.0	1.0	<1.0	1.0	7706179
1,1-dichloroethane	ug/L	<0.50	0.50	7706179		0.50		<0.50	0.50	<0.50	0.50	7706179
o-Xylene	ug/L	<0.40	0.40	7706179	<0.40	0.40	7703434	<0.40	0.40	<0.40	0.40	7706179
cis-1,2-dichloroethene	ug/L	<1.0	1.0	7706179		1.0		<1.0	1.0	<1.0	1.0	7706179
Styrene	ug/L	<0.50	0.50	7706179	<0.40	0.40	7703434	<0.50	0.50	<0.50	0.50	7706179
Chloroform	ug/L	<1.0	1.0	7706179				<1.0	1.0	<1.0	1.0	7706179
1,1,1-trichloroethane	ug/L	<0.50	0.50	7706179				<0.50	0.50	<0.50	0.50	7706179
Xylenes (Total)	ug/L	<0.40	0.40	7706179	<0.40	0.40	7703434	<0.40	0.40	<0.40	0.40	7706179
1,2-dichloroethane	ug/L	<0.50	0.50	7706179				<0.50	0.50	<0.50	0.50	7706179
Carbon tetrachloride	ug/L	<0.50	0.50	7706179				<0.50	0.50	<0.50	0.50	7706179
(C6-C10)	ug/L	<300	300	7706179	<300	300	7703434	<300	300	<300	300	7706179
1,2-dichloropropane	ug/L	<0.50	0.50	7706179				<0.50	0.50	<0.50	0.50	7706179
cis-1,3-dichloropropene	ug/L	<1.0	1.0	7706179				<1.0	1.0	<1.0	1.0	7706179
trans-1,3-dichloropropene	ug/L	<1.0	1.0	7706179				<1.0	1.0	<1.0	1.0	7706179
Bromomethane	ug/L	<1.0	1.0	7706179				<1.0	1.0	<1.0	1.0	7706179
1,1,2-trichloroethane	ug/L	<0.50	0.50	7706179				<0.50	0.50	<0.84 (1)	0.84	7706179
Trichloroethene	ug/L	<0.50	0.50	7706179				<0.50	0.50	<0.50	0.50	7706179
Chlorodibromomethane	ug/L	<1.0	1.0	7706179				<1.0	1.0	<1.0	1.0	7706179
1,2-dibromoethane	ug/L	<0.20	0.20	7706179				<0.20	0.20	<0.20	0.20	7706179
Tetrachloroethene	ug/L	<0.50	0.50	7706179				<0.50	0.50	<0.50	0.50	7706179
Bromodichloromethane	ug/L	<1.0	1.0	7706179				<1.7 (1)	1.7	<1.6 (1)	1.6	7706179
Bromoform	ug/L	<1.0	1.0	7706179				<1.0	1.0	<1.0	1.0	7706179
RDL = Reportable Detection Limit												
(1) RDL raised due to sample matrix interference.												

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Client Project #: 96012
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VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		KZ9218			KZ9219			KZ9220		KZ9221		
Sampling Date		2014/10/29 10:30			2014/10/29 10:45			2014/10/29 11:00		2014/10/29 11:10		
COC Number		N000018			N000018			N000018		N000018		
	Units	MW7	RDL	QC Batch	MW9	RDL	QC Batch	MW10	RDL	MW11	RDL	QC Batch
1,1,1,2-tetrachloroethane	ug/L	<0.50	0.50	7706179				<0.50	0.50	<0.50	0.50	7706179
1,1,2,2-tetrachloroethane	ug/L	<0.50	0.50	7706179				<0.50	0.50	<0.50	0.50	7706179
1,2-dichlorobenzene	ug/L	<0.50	0.50	7706179				<0.50	0.50	<0.50	0.50	7706179
1,3-dichlorobenzene	ug/L	<0.50	0.50	7706179				<0.50	0.50	<0.50	0.50	7706179
1,4-dichlorobenzene	ug/L	<0.50	0.50	7706179				<0.50	0.50	<0.50	0.50	7706179
Chlorobenzene	ug/L	<0.50	0.50	7706179				<0.50	0.50	<0.50	0.50	7706179
1,2,3-trichlorobenzene	ug/L	<2.0	2.0	7706179				<2.0	2.0	<2.0	2.0	7706179
1,2,4-trichlorobenzene	ug/L	<2.0	2.0	7706179				<2.0	2.0	<2.0	2.0	7706179
Hexachlorobutadiene	ug/L	<0.50	0.50	7706179				<0.50	0.50	0.55	0.50	7706179
Surrogate Recovery (%)												
1,4-Difluorobenzene (sur.)	%				105		7703434					
4-Bromofluorobenzene (sur.)	%				97		7703434					
D4-1,2-Dichloroethane (sur.)	%				93		7703434					
1,4-Difluorobenzene (sur.)	%	100		7706179				100		99		7706179
4-Bromofluorobenzene (sur.)	%	98		7706179				101		100		7706179
D4-1,2-Dichloroethane (sur.)	%	107		7706179				112		108		7706179
RDL = Reportable Detection Limit												

Maxxam Job #: B498499
Report Date: 2014/11/05

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Sampler Initials: RS

VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		KZ9222	KZ9223		
Sampling Date		2014/10/29 11:15	2014/10/29 11:20		
COC Number		N000018	N000018		
	Units	MW14	MW15	RDL	QC Batch
Volatiles					
Chloromethane	ug/L	<1.0	<1.0	1.0	7706179
Vinyl chloride	ug/L	<0.50	<0.50	0.50	7706179
Methyl-tert-butylether (MTBE)	ug/L	<4.0	<4.0	4.0	7706179
Chloroethane	ug/L	<1.0	<1.0	1.0	7706179
Benzene	ug/L	<0.40	<0.40	0.40	7706179
Trichlorofluoromethane	ug/L	<4.0	<4.0	4.0	7706179
1,1,2Trichloro-1,2,2Trifluoroethane	ug/L	<2.0	<2.0	2.0	7706179
Toluene	ug/L	<0.40	<0.40	0.40	7706179
Dichlorodifluoromethane	ug/L	<2.0	<2.0	2.0	7706179
Ethylbenzene	ug/L	<0.40	<0.40	0.40	7706179
1,1-dichloroethene	ug/L	<0.50	<0.50	0.50	7706179
Dichloromethane	ug/L	<2.0	<2.0	2.0	7706179
m & p-Xylene	ug/L	<0.40	<0.40	0.40	7706179
trans-1,2-dichloroethene	ug/L	<1.0	<1.0	1.0	7706179
1,1-dichloroethane	ug/L	<0.50	<0.50	0.50	7706179
o-Xylene	ug/L	<0.40	<0.40	0.40	7706179
cis-1,2-dichloroethene	ug/L	<1.0	<1.0	1.0	7706179
Styrene	ug/L	<0.50	<0.50	0.50	7706179
Chloroform	ug/L	<1.0	<1.0	1.0	7706179
1,1,1-trichloroethane	ug/L	<0.50	<0.50	0.50	7706179
Xylenes (Total)	ug/L	<0.40	<0.40	0.40	7706179
1,2-dichloroethane	ug/L	<0.50	<0.50	0.50	7706179
Carbon tetrachloride	ug/L	<0.50	<0.50	0.50	7706179
(C6-C10)	ug/L	<300	<300	300	7706179
1,2-dichloropropane	ug/L	<0.50	<0.50	0.50	7706179
cis-1,3-dichloropropene	ug/L	<1.0	<1.0	1.0	7706179
trans-1,3-dichloropropene	ug/L	<1.0	<1.0	1.0	7706179
Bromomethane	ug/L	<1.0	<1.0	1.0	7706179
1,1,2-trichloroethane	ug/L	<0.50	<0.50	0.50	7706179
Trichloroethene	ug/L	<0.50	<0.50	0.50	7706179
Chlorodibromomethane	ug/L	<1.0	<1.0	1.0	7706179
1,2-dibromoethane	ug/L	<0.20	<0.20	0.20	7706179
Tetrachloroethene	ug/L	<0.50	<0.50	0.50	7706179
Bromodichloromethane	ug/L	<1.0	<1.0	1.0	7706179
Bromoform	ug/L	<1.0	<1.0	1.0	7706179
RDL = Reportable Detection Limit					

Maxxam Job #: B498499
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PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Sampler Initials: RS

VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		KZ9222	KZ9223		
Sampling Date		2014/10/29 11:15	2014/10/29 11:20		
COC Number		N000018	N000018		
	Units	MW14	MW15	RDL	QC Batch
1,1,1,2-tetrachloroethane	ug/L	<0.50	<0.50	0.50	7706179
1,1,2,2-tetrachloroethane	ug/L	<0.50	<0.50	0.50	7706179
1,2-dichlorobenzene	ug/L	<0.50	<0.50	0.50	7706179
1,3-dichlorobenzene	ug/L	<0.50	<0.50	0.50	7706179
1,4-dichlorobenzene	ug/L	<0.50	<0.50	0.50	7706179
Chlorobenzene	ug/L	<0.50	<0.50	0.50	7706179
1,2,3-trichlorobenzene	ug/L	<2.0	<2.0	2.0	7706179
1,2,4-trichlorobenzene	ug/L	<2.0	<2.0	2.0	7706179
Hexachlorobutadiene	ug/L	<0.50	<0.50	0.50	7706179
Surrogate Recovery (%)					
1,4-Difluorobenzene (sur.)	%	98	98		7706179
4-Bromofluorobenzene (sur.)	%	96	99		7706179
D4-1,2-Dichloroethane (sur.)	%	107	107		7706179
RDL = Reportable Detection Limit					

Maxxam Job #: B498499
Report Date: 2014/11/05

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Sampler Initials: RS

GENERAL COMMENTS

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Sampler Initials: RS

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7702952	O-TERPHENYL (sur.)	2014/10/31	99	50 - 130	96	50 - 130	100	%		
7702955	O-TERPHENYL (sur.)	2014/10/31	100	50 - 130	92	50 - 130	106	%		
7703434	1,4-Difluorobenzene (sur.)	2014/11/01	105	70 - 130	105	70 - 130	104	%		
7703434	4-Bromofluorobenzene (sur.)	2014/11/01	98	70 - 130	97	70 - 130	96	%		
7703434	D4-1,2-Dichloroethane (sur.)	2014/11/01	97	70 - 130	93	70 - 130	93	%		
7705104	D10-ANTHRACENE (sur.)	2014/11/04	110	60 - 130	110	60 - 130	106	%		
7705104	D8-ACENAPHTHYLENE (sur.)	2014/11/04	109	50 - 130	102	50 - 130	100	%		
7705104	D8-NAPHTHALENE (sur.)	2014/11/04	106	50 - 130	92	50 - 130	91	%		
7705104	D9-Acridine	2014/11/04	85	50 - 130	86	50 - 130	75	%		
7705104	TERPHENYL-D14 (sur.)	2014/11/04	90	60 - 130	106	60 - 130	102	%		
7705945	D10-ANTHRACENE (sur.)	2014/11/05	113	60 - 130	114	60 - 130	113	%		
7705945	D8-ACENAPHTHYLENE (sur.)	2014/11/05	112	50 - 130	107	50 - 130	104	%		
7705945	D8-NAPHTHALENE (sur.)	2014/11/05	107	50 - 130	98	50 - 130	96	%		
7705945	D9-Acridine	2014/11/05	92	50 - 130	93	50 - 130	81	%		
7705945	TERPHENYL-D14 (sur.)	2014/11/05	98	60 - 130	113	60 - 130	106	%		
7706179	1,4-Difluorobenzene (sur.)	2014/11/04	100	70 - 130	100	70 - 130	101	%		
7706179	4-Bromofluorobenzene (sur.)	2014/11/04	100	70 - 130	101	70 - 130	97	%		
7706179	D4-1,2-Dichloroethane (sur.)	2014/11/04	107	70 - 130	111	70 - 130	103	%		
7706404	O-TERPHENYL (sur.)	2014/11/04	99	50 - 130	97	50 - 130	105	%		
7702952	F2 (C10-C16 Hydrocarbons)	2014/10/31	111	80 - 120	100	80 - 120	<0.15	mg/L	NC	40
7702952	F3 (C16-C34 Hydrocarbons)	2014/10/31					<0.20	mg/L	NC	40
7702952	F4 (C34-C50 Hydrocarbons)	2014/10/31					<0.20	mg/L	NC	40
7702955	F2 (C10-C16 Hydrocarbons)	2014/10/31	117	80 - 120	106	80 - 120	<0.15	mg/L	NC	40
7702955	F3 (C16-C34 Hydrocarbons)	2014/10/31					<0.20	mg/L	NC	40
7702955	F4 (C34-C50 Hydrocarbons)	2014/10/31					<0.20	mg/L	NC	40
7703434	(C6-C10)	2014/11/01			114	70 - 130	<300	ug/L		
7703434	Benzene	2014/11/01	NC	70 - 130	90	70 - 130	<0.40	ug/L	NC	30
7703434	Ethylbenzene	2014/11/01	NC	70 - 130	99	70 - 130	<0.40	ug/L	NC	30
7703434	m & p-Xylene	2014/11/01	NC	70 - 130	100	70 - 130	<0.40	ug/L	NC	30
7703434	Methyl-tert-butylether (MTBE)	2014/11/01	98	70 - 130	90	70 - 130	<4.0	ug/L	NC	30
7703434	o-Xylene	2014/11/01	101	70 - 130	95	70 - 130	<0.40	ug/L	NC	30
7703434	Styrene	2014/11/01	97	70 - 130	95	70 - 130	<0.40	ug/L	NC	30

QUALITY ASSURANCE REPORT(CONT'D)

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Sampler Initials: RS

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7703434	Toluene	2014/11/01	99	70 - 130	93	70 - 130	<0.40	ug/L	NC	30
7703434	Xylenes (Total)	2014/11/01					<0.40	ug/L	NC	30
7705104	2-Methylnaphthalene	2014/11/04	95	50 - 130	85	50 - 130	<0.10	ug/L	NC	40
7705104	Acenaphthene	2014/11/04	95	50 - 130	90	50 - 130	<0.050	ug/L	NC	40
7705104	Acenaphthylene	2014/11/04	98	50 - 130	92	50 - 130	<0.050	ug/L	NC	40
7705104	Acridine	2014/11/04	79	50 - 130	78	50 - 130	<0.050	ug/L	NC	40
7705104	Anthracene	2014/11/04	96	60 - 130	97	60 - 130	<0.010	ug/L	NC	40
7705104	Benzo(a)anthracene	2014/11/04	89	60 - 130	94	60 - 130	<0.010	ug/L	NC	40
7705104	Benzo(a)pyrene	2014/11/04	90	60 - 130	98	60 - 130	<0.0090	ug/L	NC	40
7705104	Benzo(b&j)fluoranthene	2014/11/04	91	60 - 130	100	60 - 130	<0.050	ug/L	NC	40
7705104	Benzo(g,h,i)perylene	2014/11/04	90	60 - 130	98	60 - 130	<0.050	ug/L	NC	40
7705104	Benzo(k)fluoranthene	2014/11/04	90	60 - 130	98	60 - 130	<0.050	ug/L	NC	40
7705104	Chrysene	2014/11/04	90	60 - 130	95	60 - 130	<0.050	ug/L	NC	40
7705104	Dibenz(a,h)anthracene	2014/11/04	92	60 - 130	98	60 - 130	<0.050	ug/L	NC	40
7705104	Fluoranthene	2014/11/04	94	60 - 130	94	60 - 130	<0.020	ug/L	NC	40
7705104	Fluorene	2014/11/04	96	50 - 130	91	50 - 130	<0.050	ug/L	NC	40
7705104	Indeno(1,2,3-cd)pyrene	2014/11/04	95	60 - 130	103	60 - 130	<0.050	ug/L	NC	40
7705104	Naphthalene	2014/11/04	98	50 - 130	84	50 - 130	<0.10	ug/L	NC	40
7705104	Phenanthrene	2014/11/04	94	60 - 130	94	60 - 130	<0.050	ug/L	NC	40
7705104	Pyrene	2014/11/04	95	60 - 130	96	60 - 130	<0.020	ug/L	NC	40
7705104	Quinoline	2014/11/04	113	50 - 130	110	50 - 130	<0.24	ug/L	NC	40
7705945	2-Methylnaphthalene	2014/11/05	92	50 - 130	87	50 - 130	<0.10	ug/L	NC	40
7705945	Acenaphthene	2014/11/05	94	50 - 130	96	50 - 130	<0.050	ug/L	NC	40
7705945	Acenaphthylene	2014/11/05	95	50 - 130	96	50 - 130	<0.050	ug/L	NC	40
7705945	Acridine	2014/11/05	79	50 - 130	84	50 - 130	<0.050	ug/L	NC	40
7705945	Anthracene	2014/11/05	93	60 - 130	99	60 - 130	<0.010	ug/L	NC	40
7705945	Benzo(a)anthracene	2014/11/05	92	60 - 130	99	60 - 130	<0.010	ug/L	NC	40
7705945	Benzo(a)pyrene	2014/11/05	94	60 - 130	104	60 - 130	<0.0090	ug/L	NC	40
7705945	Benzo(b&j)fluoranthene	2014/11/05	96	60 - 130	104	60 - 130	<0.050	ug/L	NC	40
7705945	Benzo(g,h,i)perylene	2014/11/05	95	60 - 130	104	60 - 130	<0.050	ug/L	NC	40
7705945	Benzo(k)fluoranthene	2014/11/05	94	60 - 130	106	60 - 130	<0.050	ug/L	NC	40
7705945	Chrysene	2014/11/05	94	60 - 130	102	60 - 130	<0.050	ug/L	NC	40

QUALITY ASSURANCE REPORT(CONT'D)

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Sampler Initials: RS

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7705945	Dibenz(a,h)anthracene	2014/11/05	98	60 - 130	105	60 - 130	<0.050	ug/L	NC	40
7705945	Fluoranthene	2014/11/05	93	60 - 130	98	60 - 130	<0.020	ug/L	NC	40
7705945	Fluorene	2014/11/05	94	50 - 130	98	50 - 130	<0.050	ug/L	NC	40
7705945	Indeno(1,2,3-cd)pyrene	2014/11/05	101	60 - 130	110	60 - 130	<0.050	ug/L	NC	40
7705945	Naphthalene	2014/11/05	88	50 - 130	85	50 - 130	<0.10	ug/L	7.2	40
7705945	Phenanthrene	2014/11/05	94	60 - 130	100	60 - 130	<0.050	ug/L	NC	40
7705945	Pyrene	2014/11/05	94	60 - 130	102	60 - 130	<0.020	ug/L	NC	40
7705945	Quinoline	2014/11/05	1.01.6000	50 - 130	108	50 - 130	<0.24	ug/L	NC	40
7706179	(C6-C10)	2014/11/04			117	70 - 130	<300	ug/L	NC	30
7706179	1,1,1,2-tetrachloroethane	2014/11/04	93	70 - 130	88	70 - 130	<0.50	ug/L	NC	30
7706179	1,1,1-trichloroethane	2014/11/04	93	70 - 130	89	70 - 130	<0.50	ug/L	NC	30
7706179	1,1,2,2-tetrachloroethane	2014/11/04	97	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
7706179	1,1,2Trichloro-1,2,2Trifluoroethane	2014/11/04					<2.0	ug/L	NC	30
7706179	1,1,2-trichloroethane	2014/11/04	104	70 - 130	100	70 - 130	<0.50	ug/L	NC	30
7706179	1,1-dichloroethane	2014/11/04	91	70 - 130	86	70 - 130	<0.50	ug/L	NC	30
7706179	1,1-dichloroethene	2014/11/04	101	70 - 130	96	70 - 130	<0.50	ug/L	NC	30
7706179	1,2,3-trichlorobenzene	2014/11/04	93	70 - 130	91	70 - 130	<2.0	ug/L	NC	30
7706179	1,2,4-trichlorobenzene	2014/11/04	91	70 - 130	96	70 - 130	<2.0	ug/L	NC	30
7706179	1,2-dibromoethane	2014/11/04	99	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
7706179	1,2-dichlorobenzene	2014/11/04	86	70 - 130	87	70 - 130	<0.50	ug/L	NC	30
7706179	1,2-dichloroethane	2014/11/04	100	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
7706179	1,2-dichloropropane	2014/11/04	110	70 - 130	106	70 - 130	<0.50	ug/L	NC	30
7706179	1,3-dichlorobenzene	2014/11/04	89	70 - 130	88	70 - 130	<0.50	ug/L	NC	30
7706179	1,4-dichlorobenzene	2014/11/04	95	70 - 130	95	70 - 130	<0.50	ug/L	NC	30
7706179	Benzene	2014/11/04	96	70 - 130	92	70 - 130	<0.40	ug/L	NC	30
7706179	Bromodichloromethane	2014/11/04	98	70 - 130	92	70 - 130	<1.0	ug/L	NC	30
7706179	Bromoform	2014/11/04	86	70 - 130	88	70 - 130	<1.0	ug/L	NC	30
7706179	Bromomethane	2014/11/04	124	60 - 140	121	60 - 140	<1.0	ug/L	NC	30
7706179	Carbon tetrachloride	2014/11/04	91	70 - 130	87	70 - 130	<0.50	ug/L	NC	30
7706179	Chlorobenzene	2014/11/04	95	70 - 130	90	70 - 130	<0.50	ug/L	NC	30
7706179	Chlorodibromomethane	2014/11/04	97	70 - 130	94	70 - 130	<1.0	ug/L	NC	30
7706179	Chloroethane	2014/11/04	101	60 - 140	97	60 - 140	<1.0	ug/L	NC	30

QUALITY ASSURANCE REPORT(CONT'D)

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Sampler Initials: RS

Maxxam Job #: B498499
Report Date: 2014/11/05

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
7706179	Chloroform	2014/11/04	93	70 - 130	89	70 - 130	<1.0	ug/L	NC	30
7706179	Chloromethane	2014/11/04	122	60 - 140	94	60 - 140	<1.0	ug/L	NC	30
7706179	cis-1,2-dichloroethene	2014/11/04	95	70 - 130	101	70 - 130	<1.0	ug/L	NC	30
7706179	cis-1,3-dichloropropene	2014/11/04	102	70 - 130	99	70 - 130	<1.0	ug/L	NC	30
7706179	Dichlorodifluoromethane	2014/11/04	127	60 - 140	127	60 - 140	<2.0	ug/L	NC	30
7706179	Dichloromethane	2014/11/04	119	70 - 130	115	70 - 130	<2.0	ug/L	NC	30
7706179	Ethylbenzene	2014/11/04	100	70 - 130	95	70 - 130	<0.40	ug/L	NC	30
7706179	Hexachlorobutadiene	2014/11/04	85	70 - 130	81	70 - 130	<0.50	ug/L	NC	30
7706179	m & p-Xylene	2014/11/04	95	70 - 130	90	70 - 130	<0.40	ug/L	NC	30
7706179	Methyl-tert-butylether (MTBE)	2014/11/04	98	70 - 130	98	70 - 130	<4.0	ug/L	NC	30
7706179	o-Xylene	2014/11/04	93	70 - 130	88	70 - 130	<0.40	ug/L	NC	30
7706179	Styrene	2014/11/04	92	70 - 130	87	70 - 130	<0.50	ug/L	NC	30
7706179	Tetrachloroethene	2014/11/04	94	70 - 130	88	70 - 130	<0.50	ug/L	NC	30
7706179	Toluene	2014/11/04	95	70 - 130	91	70 - 130	<0.40	ug/L	NC	30
7706179	trans-1,2-dichloroethene	2014/11/04	97	70 - 130	93	70 - 130	<1.0	ug/L	NC	30
7706179	trans-1,3-dichloropropene	2014/11/04	101	70 - 130	97	70 - 130	<1.0	ug/L	NC	30
7706179	Trichloroethene	2014/11/04	100	70 - 130	95	70 - 130	<0.50	ug/L	NC	30
7706179	Trichlorofluoromethane	2014/11/04	137	60 - 140	131	60 - 140	<4.0	ug/L	NC	30
7706179	Vinyl chloride	2014/11/04	117	60 - 140	108	60 - 140	<0.50	ug/L	NC	30
7706179	Xylenes (Total)	2014/11/04					<0.40	ug/L	NC	30
7706404	F2 (C10-C16 Hydrocarbons)	2014/11/04	99	80 - 120	97	80 - 120	<0.15	mg/L	NC	40
7706404	F3 (C16-C34 Hydrocarbons)	2014/11/04					<0.20	mg/L		
7706404	F4 (C34-C50 Hydrocarbons)	2014/11/04					<0.20	mg/L		

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

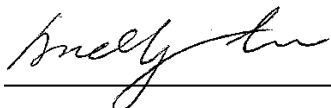
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Job #: B498499
Report Date: 2014/11/05

PINCHIN ENVIRONMENTAL LTD
Client Project #: 96012
Sampler Initials: RS

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Andy Lu, Data Validation Coordinator

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

INVOICE INFORMATION

Company Name: Pinch Ltd.
Contact Name: Robert Slater
Address: 54 Terncon Place
Whinipes, VT3
Phone: 204-250-2316 Fax: _____
Email: rslater@pinchin.com

REPORT INFORMATION (if different from invoice)

Company Name: _____
 Contact Name: _____
 Address: _____

 Phone: _____ Fax: _____
 Email: _____

PROJECT INFORMATION

Quotation #:
P.O. #:
Project #:
Project Name:
Location:
Sampled By:

MAXXAM JOB NUMBER

B498499	CHAIN OF CUSTODY #	N 000018
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REGULATORY REQUIREMENTS SERVICE REQUESTED:

	COME
	DRINKING WATER
X	Other PROCS Groundwater Guidelines.

ANALYSIS REQUESTED (Please be specific)

Coliforms:	Total	Fecal	E. coli
	☐	☐	☐
	MPN	OT	
Disolved Metals	Field Analyzed?	Y	N
	☐	☐	☐
Total Metal	Field Analyzed?	Y	N
	☐	☐	☐
BTEX			
BTEX / F1			
F2 - F4			
PCB			
Biochemical Oxygen Demand			
Notes			
Page 3			

TURNAROUND TIME (TAT) REQUIRED

**PLEASE PROVIDE ADVANCE NOTICE
FOR RUSH PROJECTS.**

Regular (Standard) TAT:
☒ 5 to 7 Working Days

Rush TAT:
☐ 1 day ☐ 2 days ☐ 3 days

DATE Required: _____

TIME Required: _____

TATs for certain leads are ≥ 5 days.
Please contact your Project Manager for details.

# of Zent.	COMMENTS / TAT COMMENTS
---------------	-------------------------

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.

	Lab Use	Sample Identification	Date Sampled	Time Sampled	Matrix
1	K29213	MW1	Oct 29	0900	GL
2	14	MW2		0915	
3	15	MW3		0930	
4	16	MW4		1000	
5	17	MW5		1015	
6	18	MW7		1030	
7	19	MW9		1045	
8	20	MW10		1100	
9	21	MW11		1110	
10	22	MW14		1115	
11	23	MW15		1120	

RELINQUISHED BY (Signature/Print)

Robert Slater

RECEIVED BY (Signature/Print)

12/10/75

Date _____

6/2/01/15

Time

5171

REAGENTS USED AND NOT

SUBMITTED

Laboratory Use Only

Temperature (°C) on Flacelpt

8.5, 9.1, 9.7

MANDATORY SECTIONS IN GREY MUST BE FILLED OUT. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

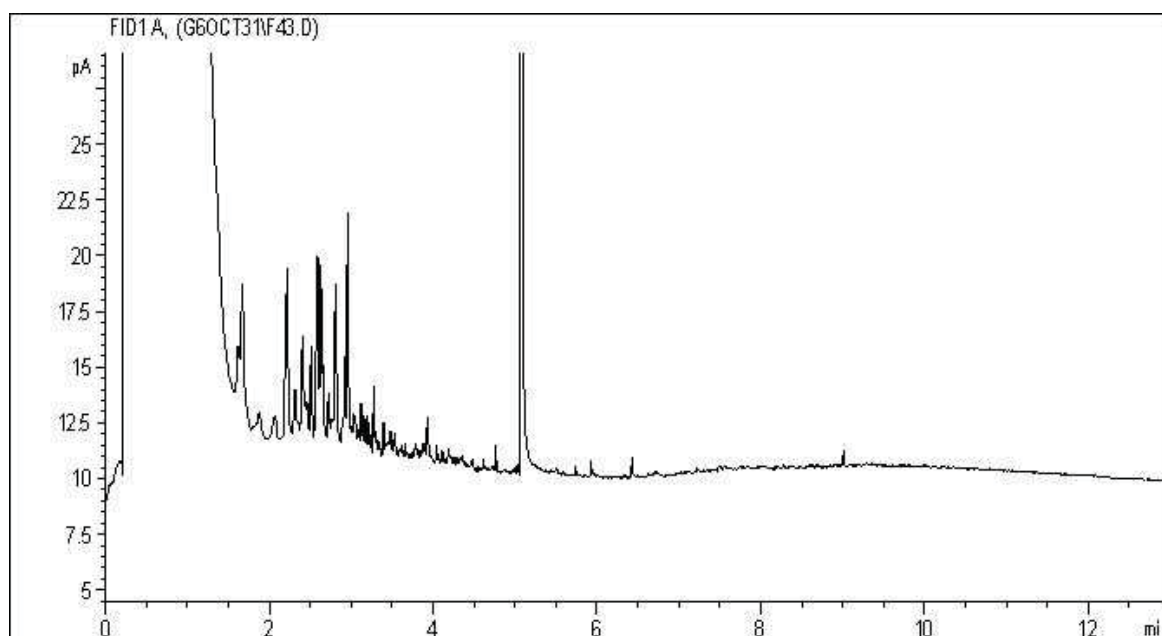
DEC-1028 - WINECD-001A11A

Maximum International Corporation c/o Maxxam

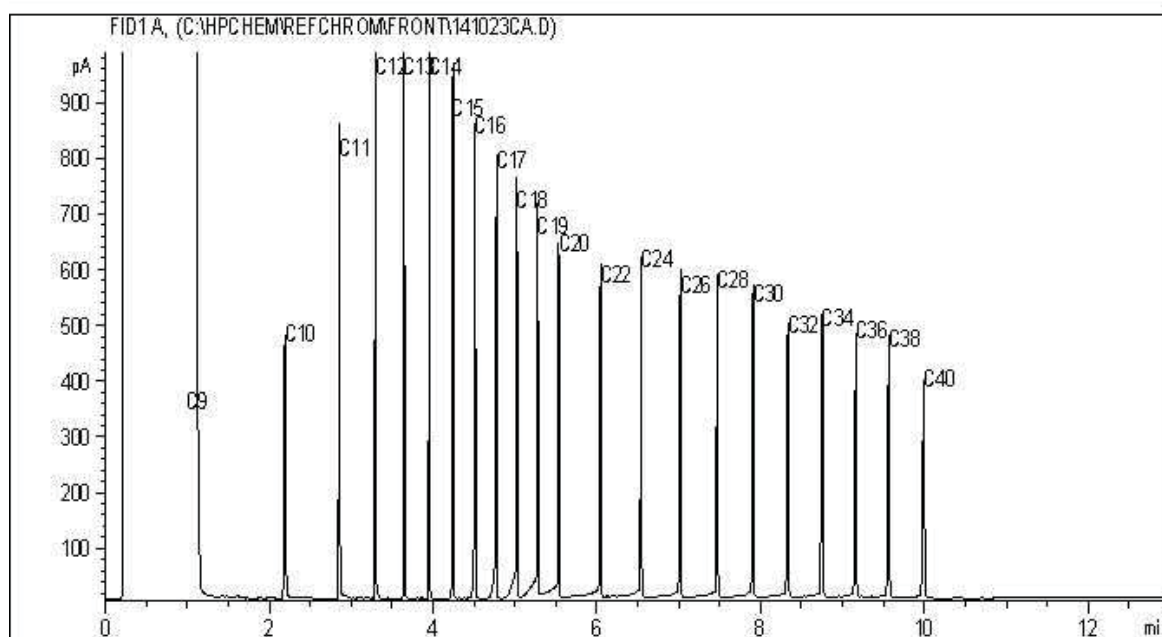
Writer: Maxxam

Yellow: Client Copy

CCME Hydrocarbons (F2-F4 in water) Chromatogram



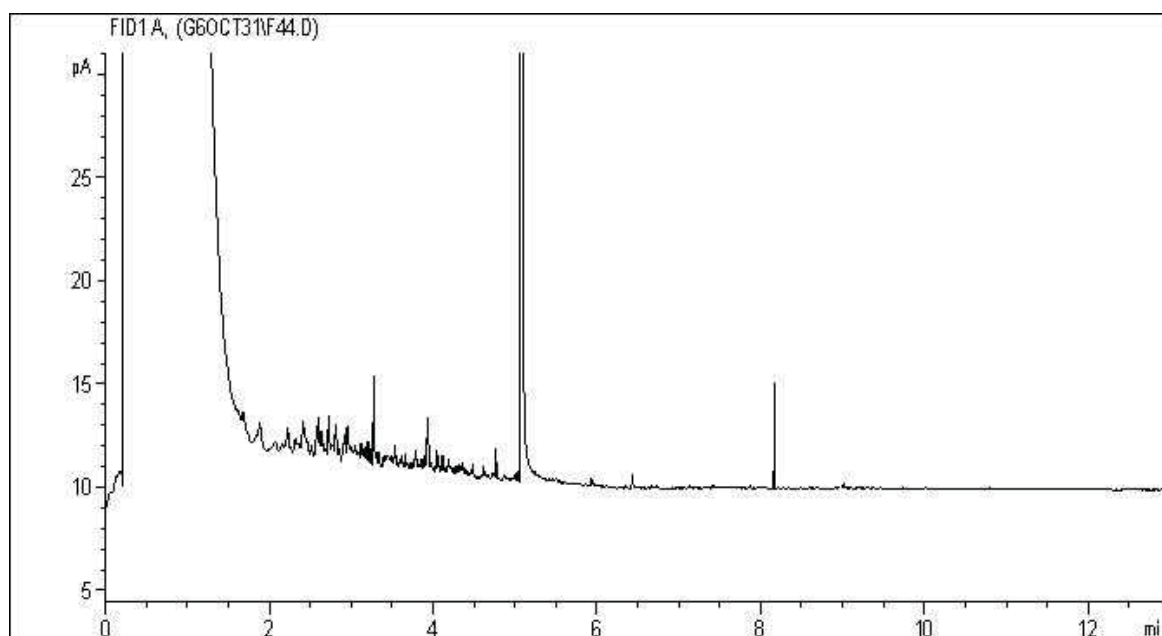
Carbon Range Distribution - Reference Chromatogram



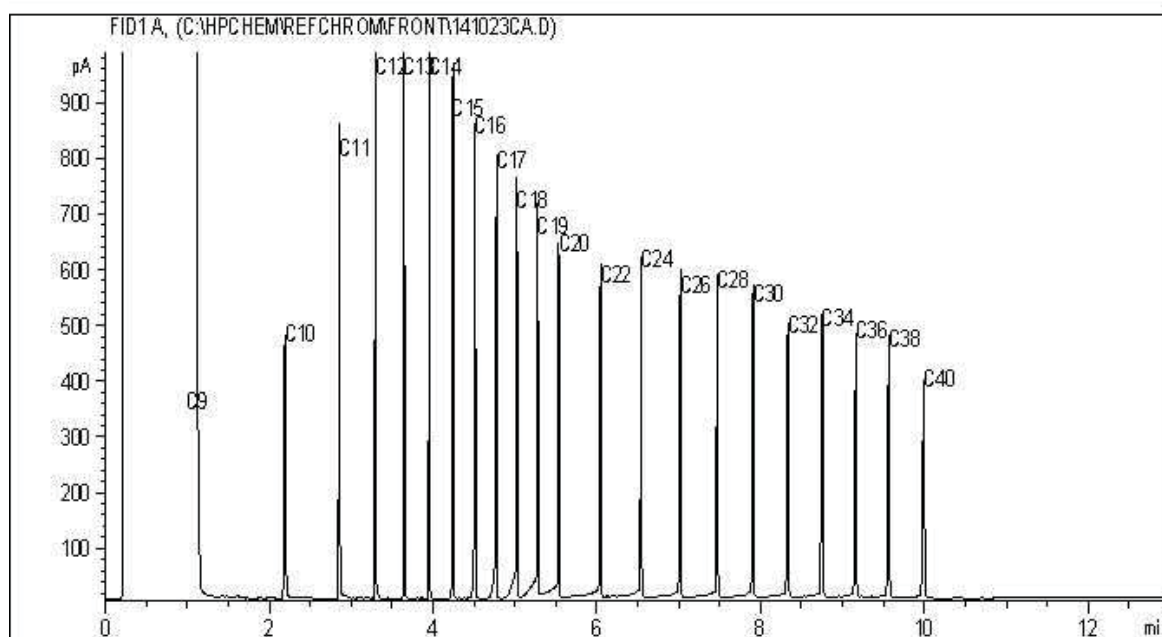
TYPICAL PRODUCT CARBON NUMBER RANGES

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in water) Chromatogram



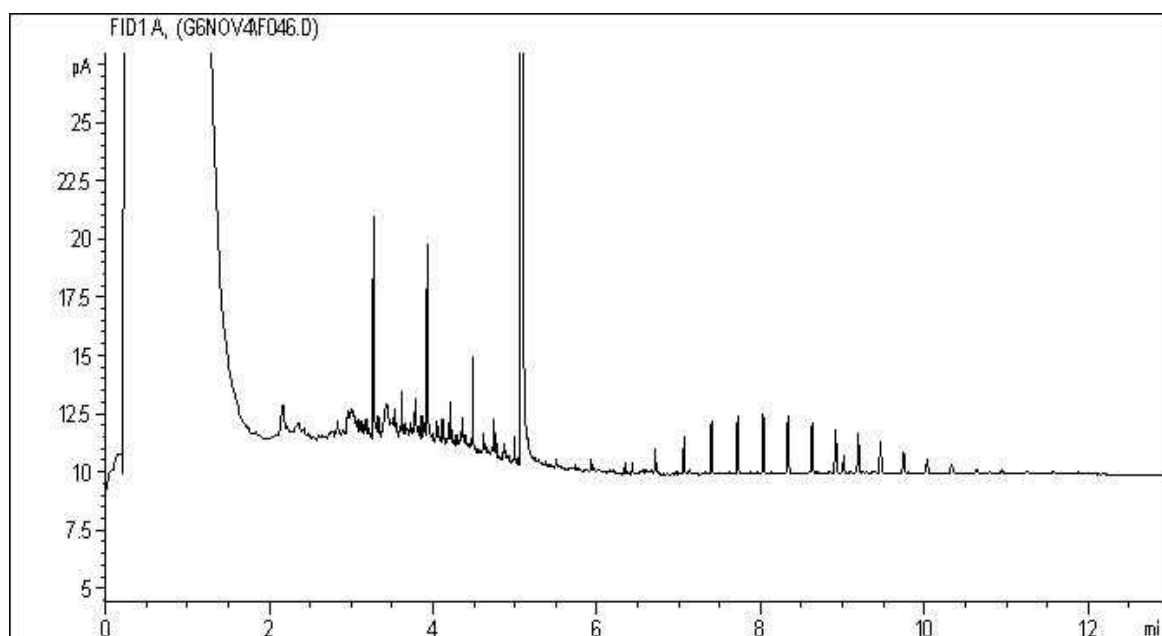
Carbon Range Distribution - Reference Chromatogram



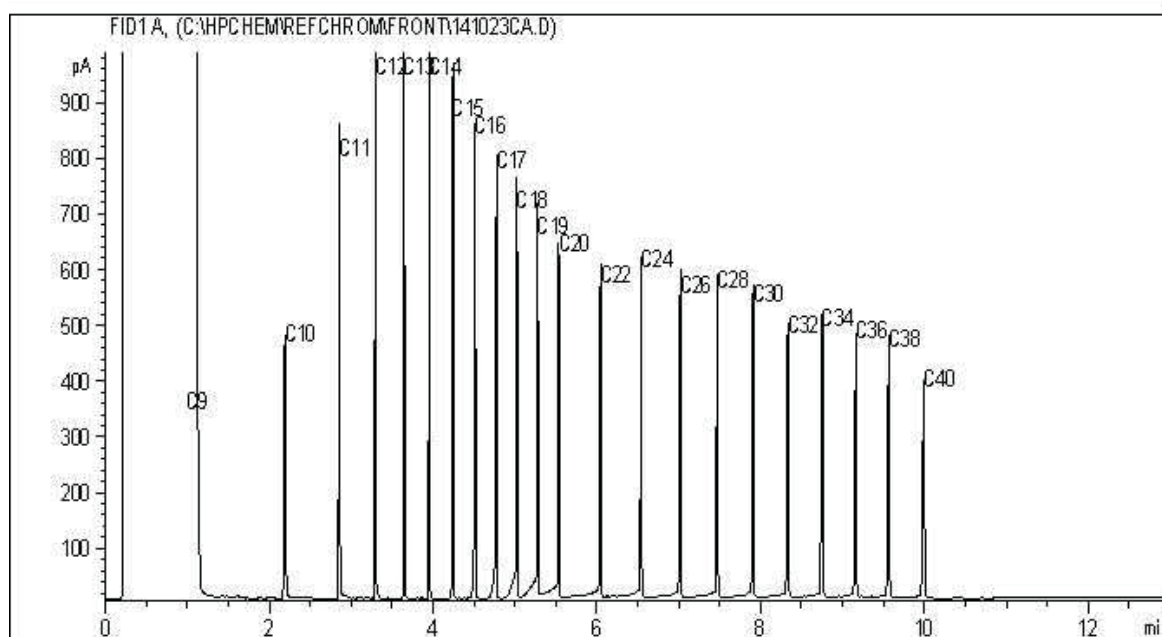
TYPICAL PRODUCT CARBON NUMBER RANGES

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in water) Chromatogram



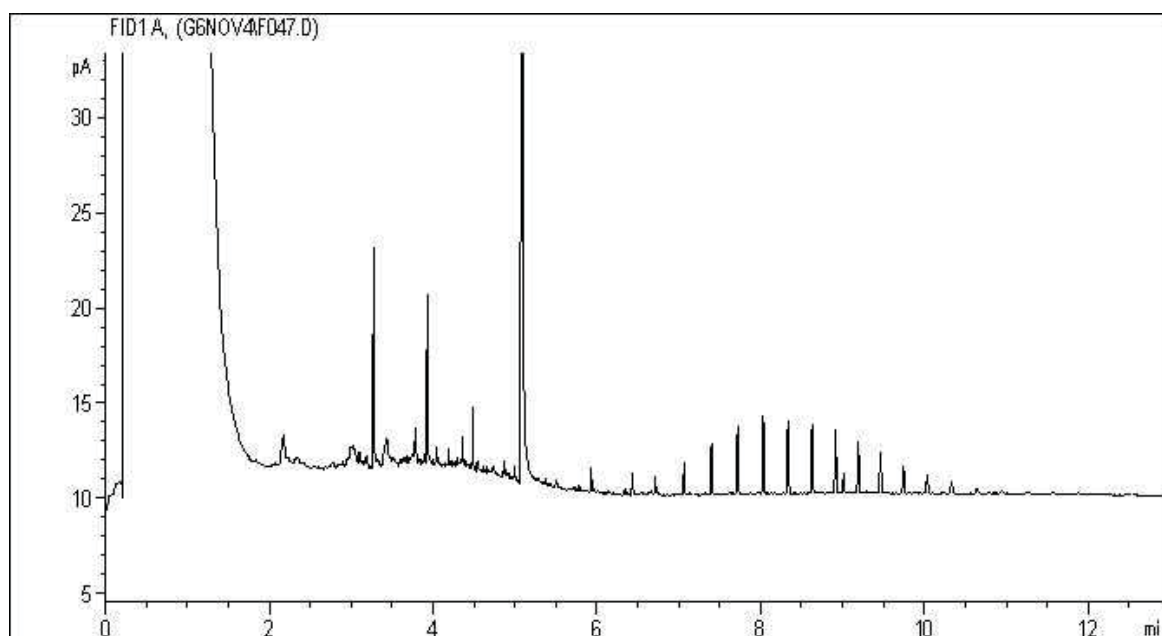
Carbon Range Distribution - Reference Chromatogram



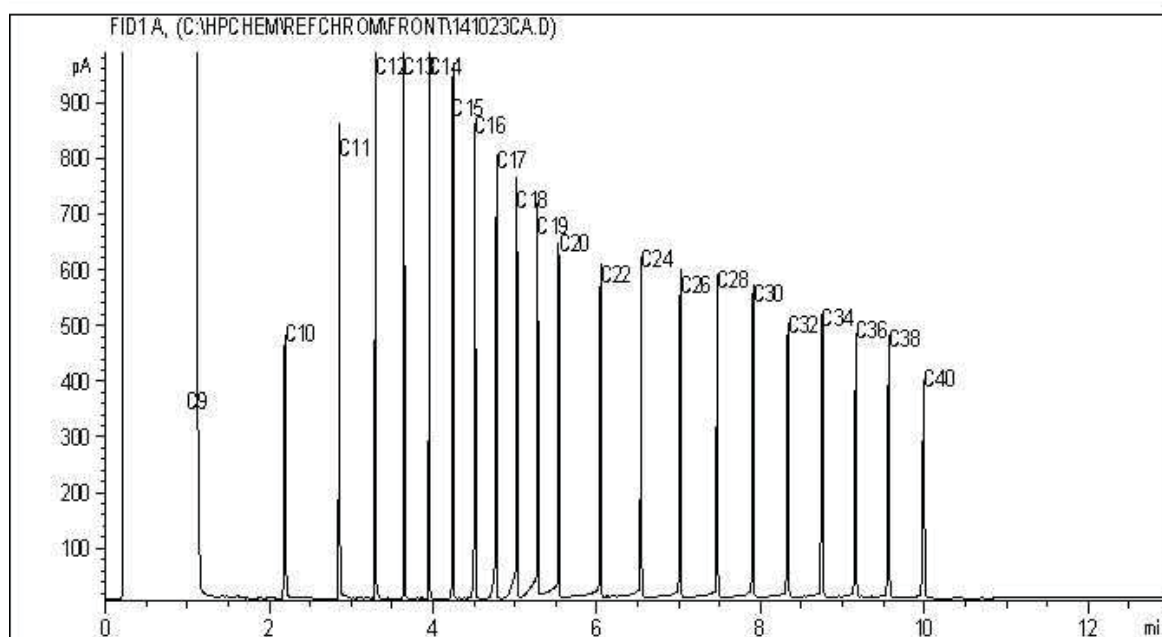
TYPICAL PRODUCT CARBON NUMBER RANGES

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in water) Chromatogram



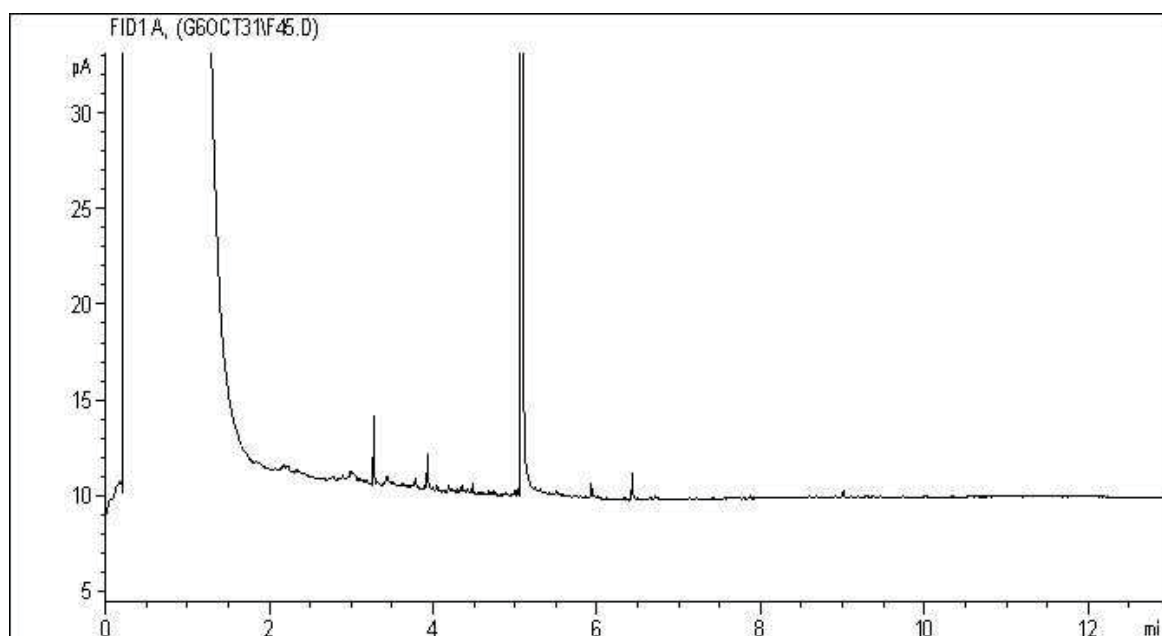
Carbon Range Distribution - Reference Chromatogram



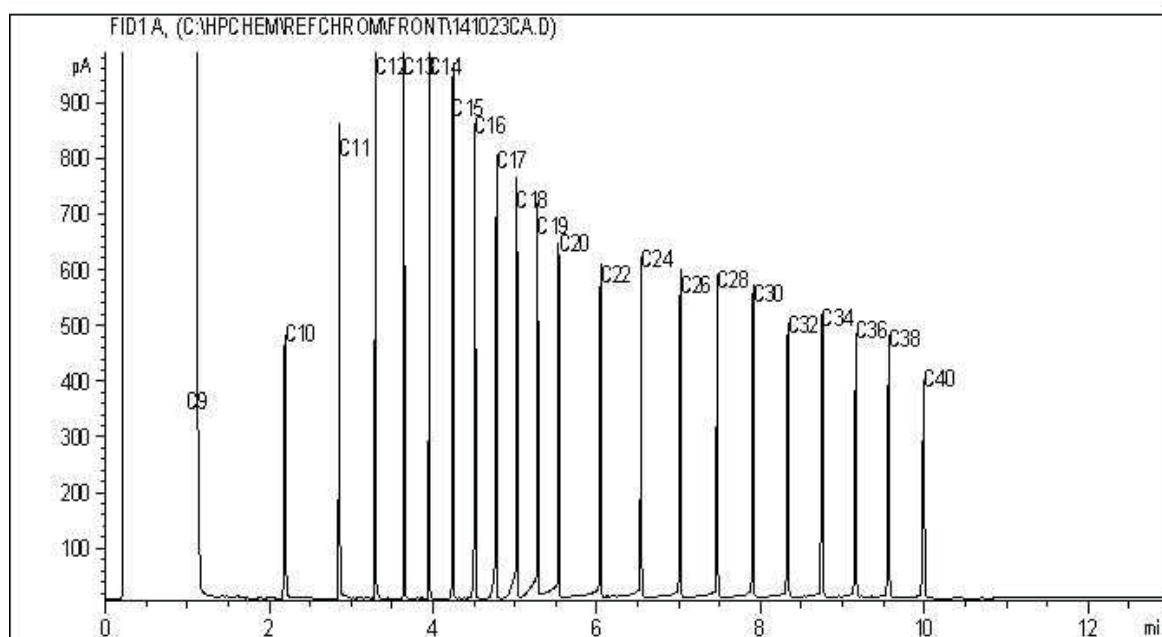
TYPICAL PRODUCT CARBON NUMBER RANGES

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in water) Chromatogram



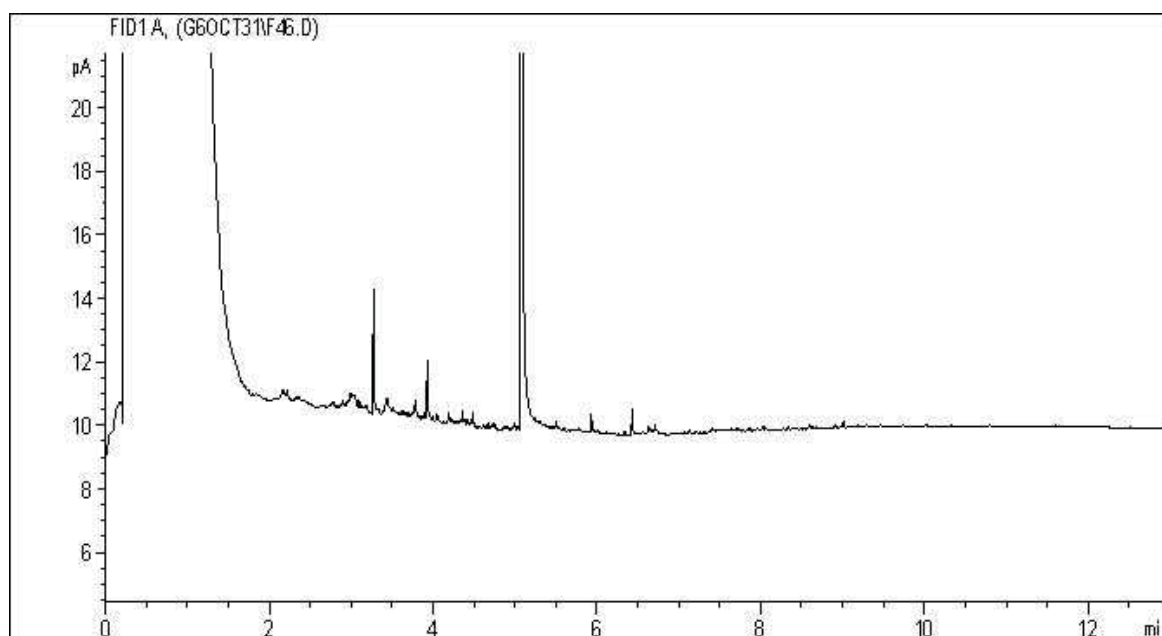
Carbon Range Distribution - Reference Chromatogram



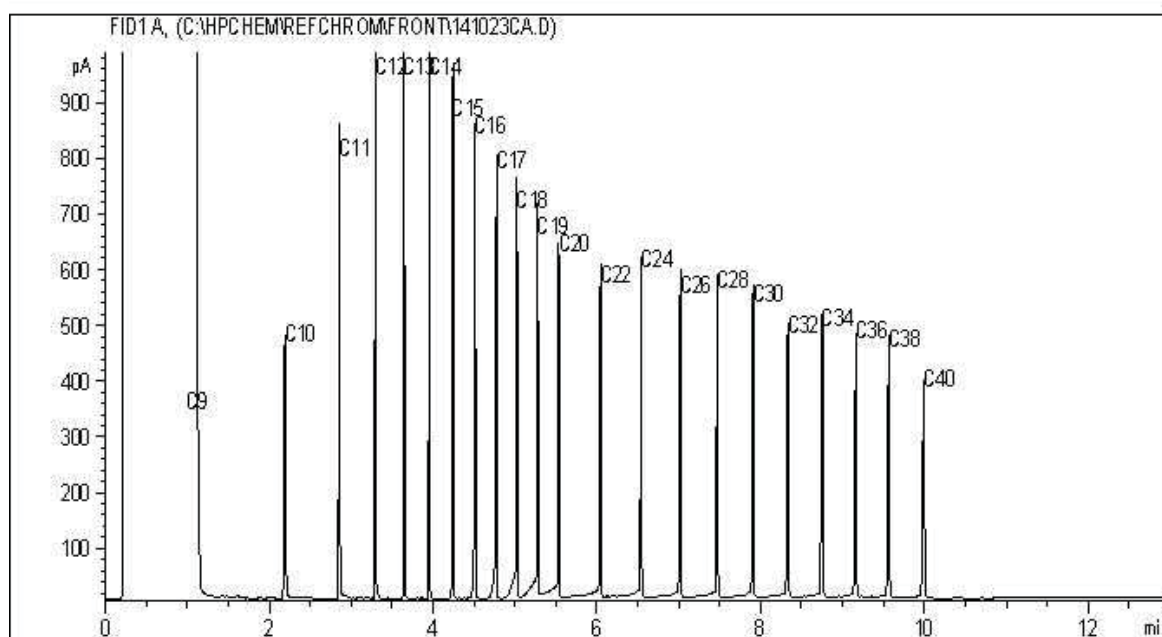
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CCME Hydrocarbons (F2-F4 in water) Chromatogram



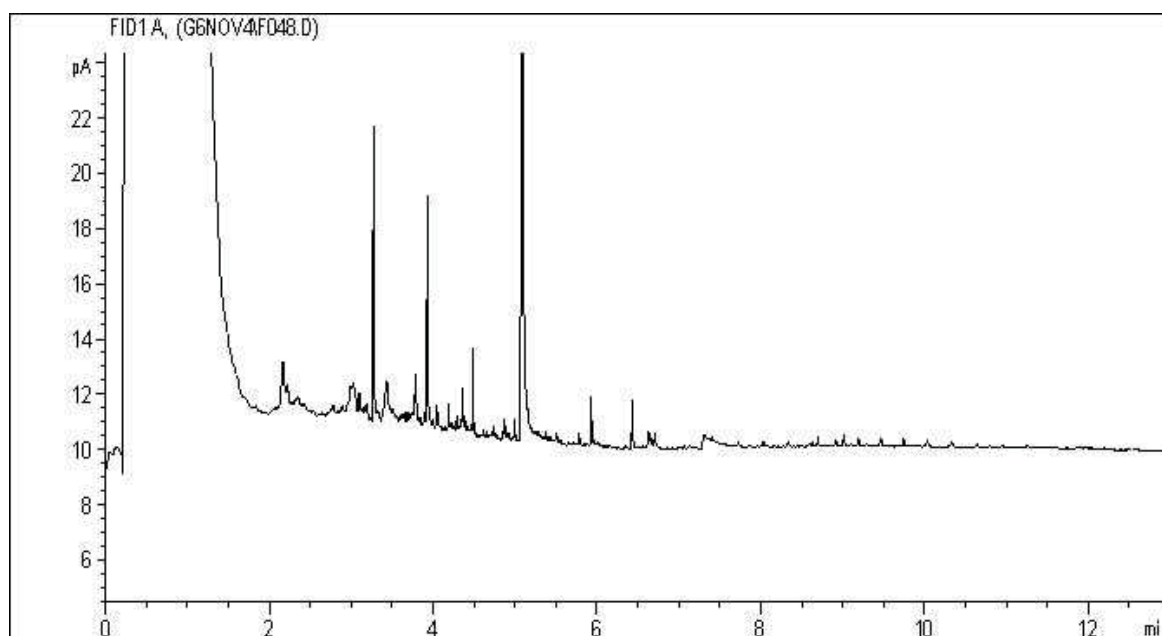
Carbon Range Distribution - Reference Chromatogram



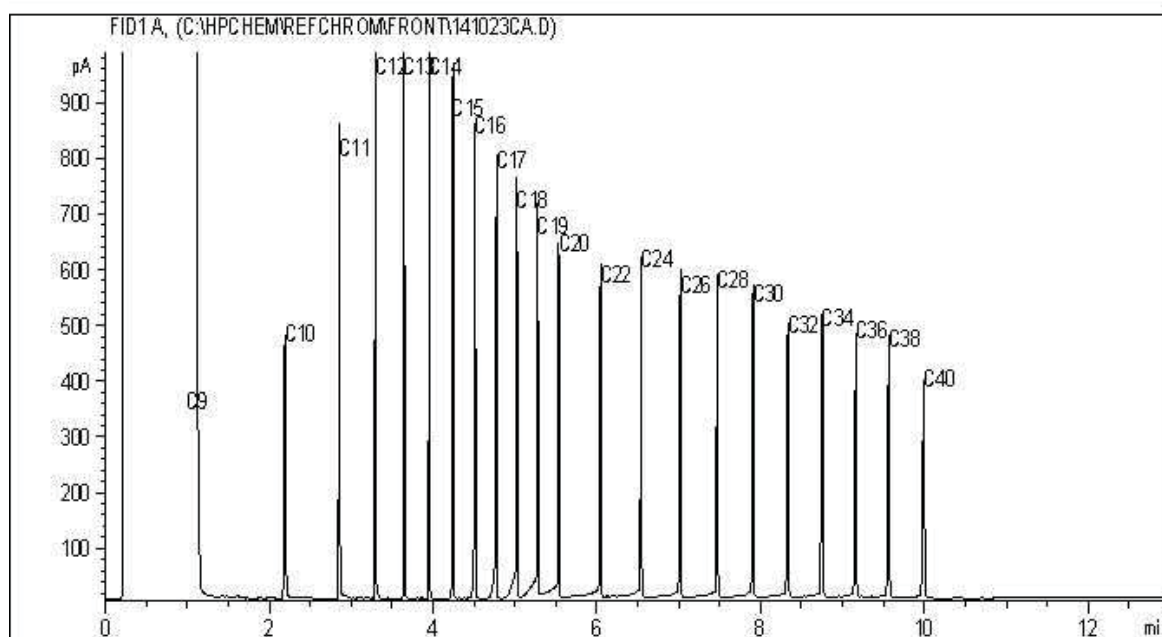
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CCME Hydrocarbons (F2-F4 in water) Chromatogram



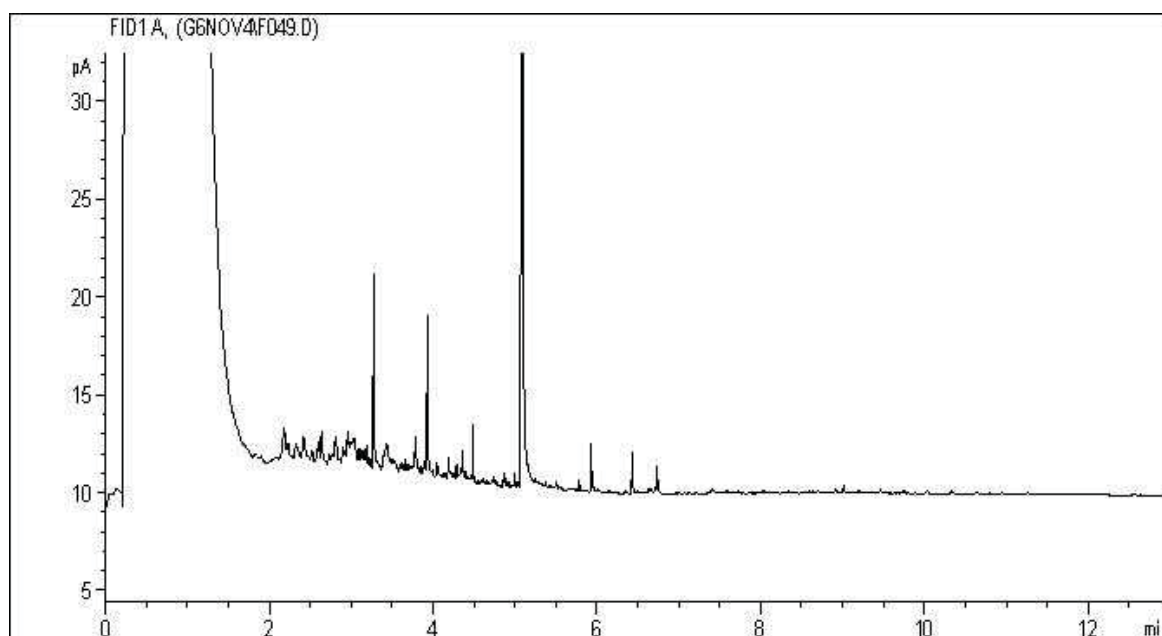
Carbon Range Distribution - Reference Chromatogram



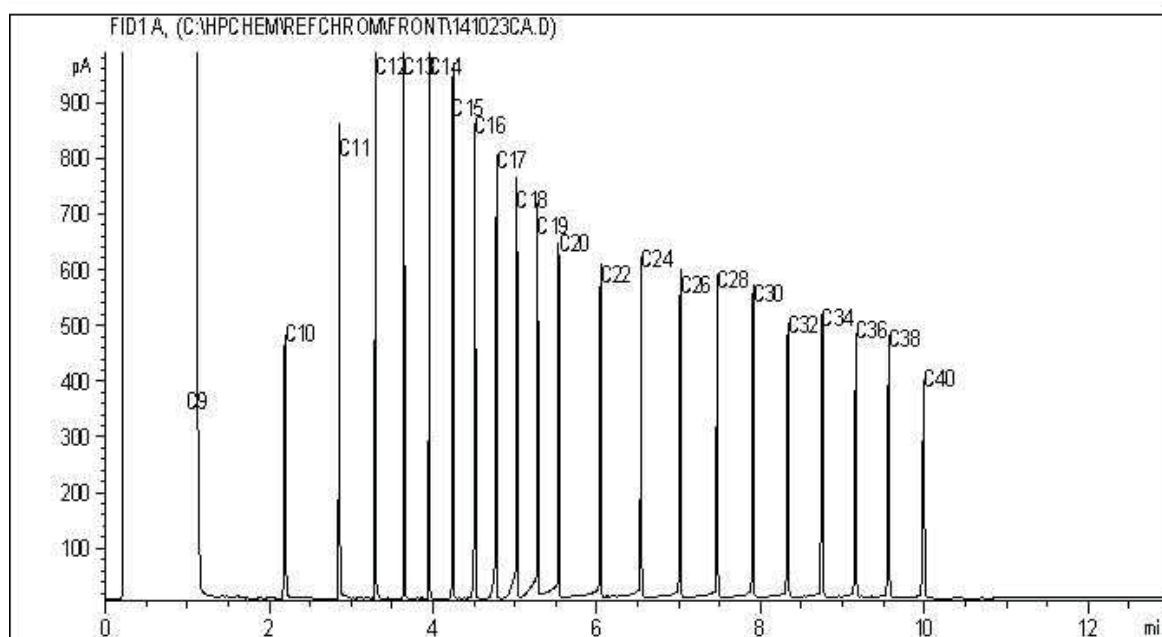
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CCME Hydrocarbons (F2-F4 in water) Chromatogram



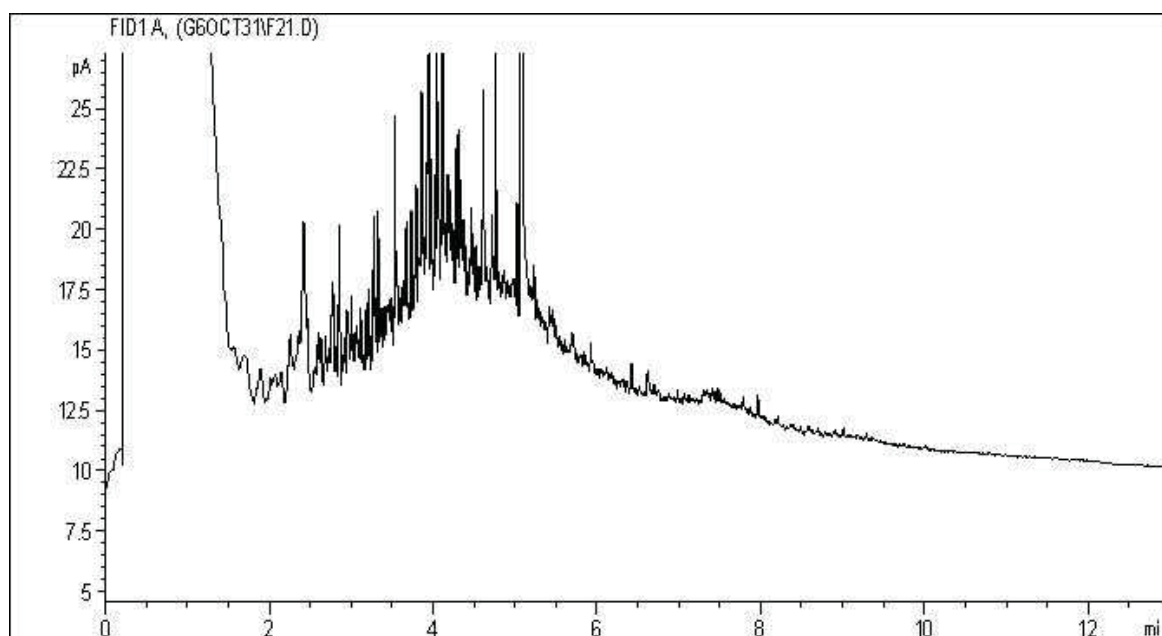
Carbon Range Distribution - Reference Chromatogram



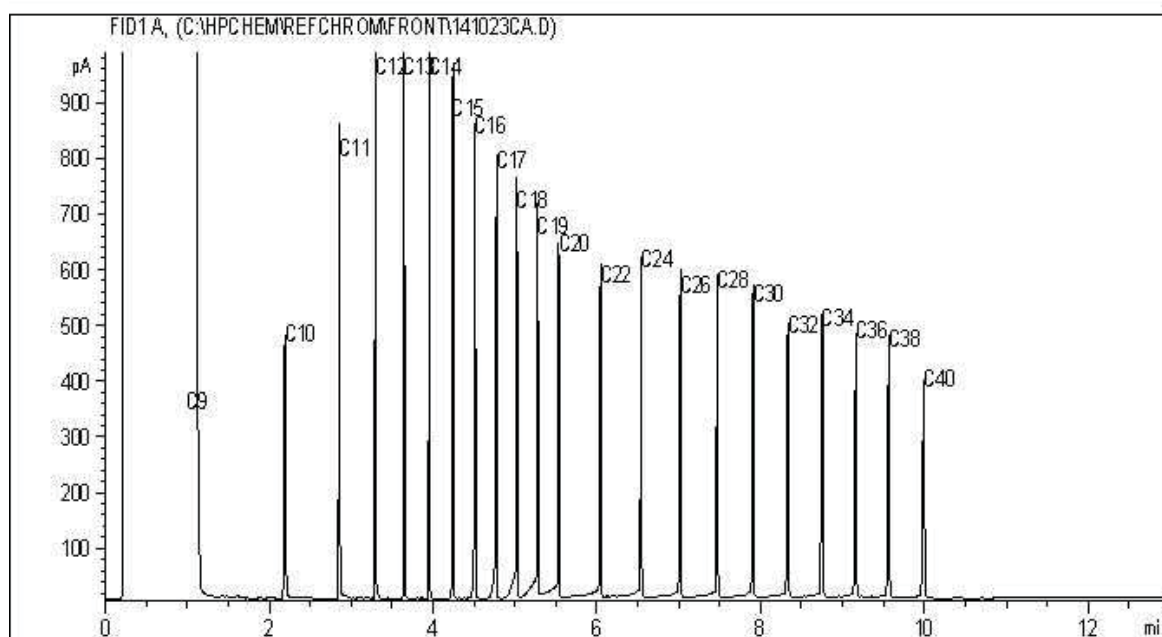
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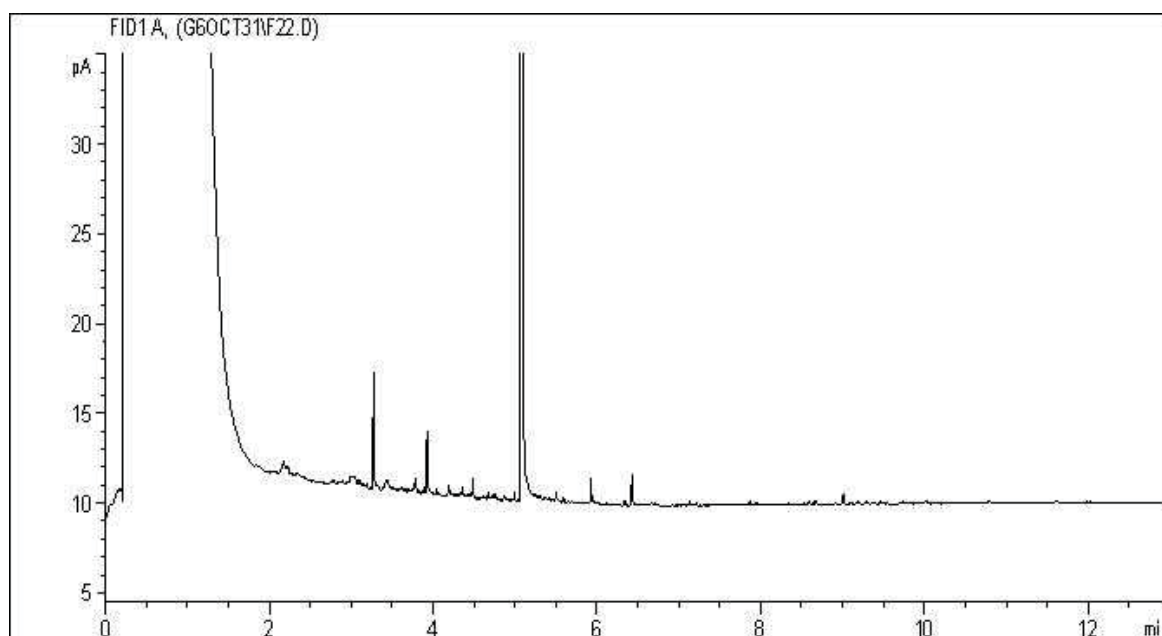
Carbon Range Distribution - Reference Chromatogram



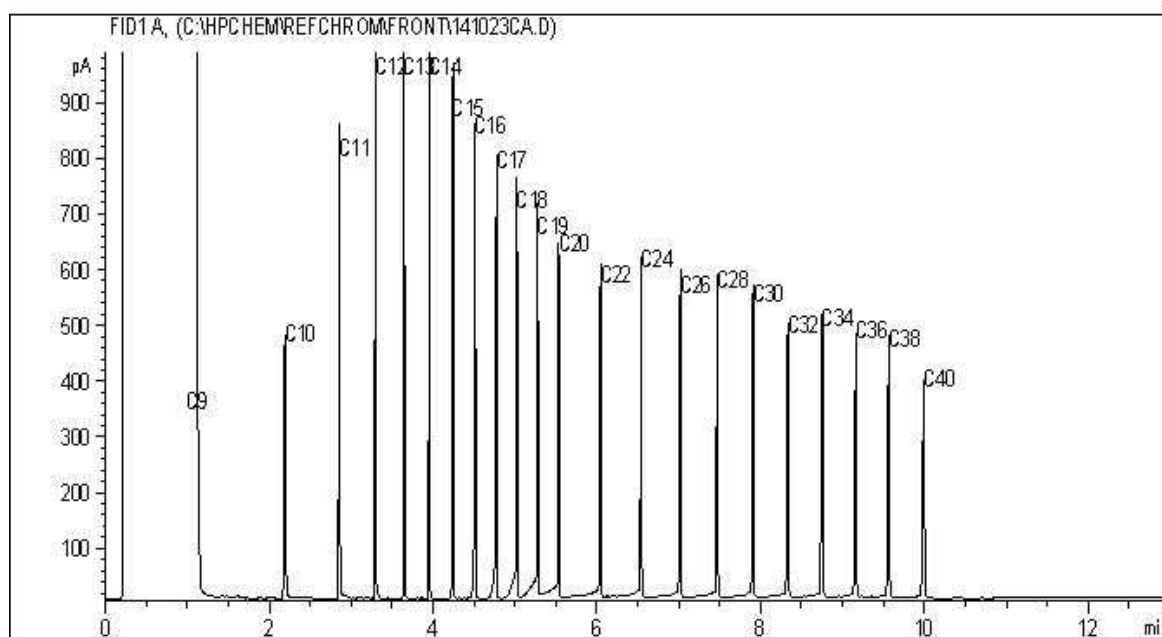
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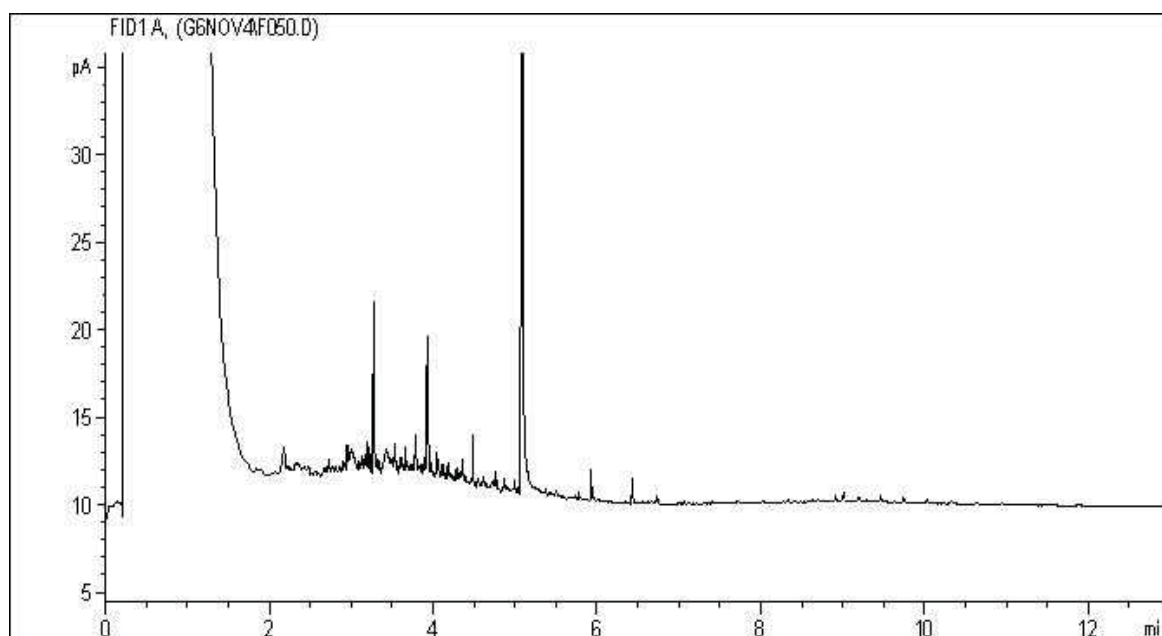
Carbon Range Distribution - Reference Chromatogram



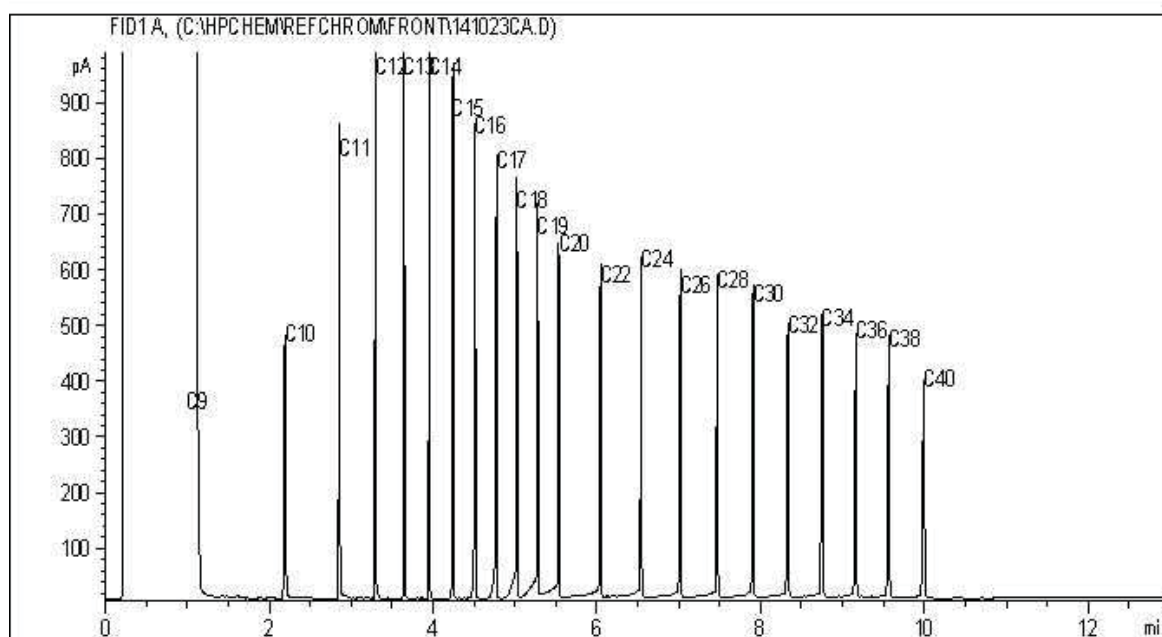
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