PETROLEUM VAPOR INTRUSION (PVI) TRIAGE STUDY – PHASE IIA
CUMBERLAND FARMS STATION #1822
31 ELM STREET
SACO, MAINE

Prepared for:

Maine Department of Environmental Protection
312 Canco Road
Portland, Maine

Prepared by:

Ransom Environmental Consultants, Inc.
400 Commercial Street, Suite 404
Portland, Maine 04101
(207) 772-2891

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EXECUTIVE SUMMARY

The following report presents the findings of the Phase IIA Environmental Site Assessment (ESA) performed by Ransom Environmental Consultants, Inc. (Ransom) in conjunction with the Maine Department of Environmental Protection (MEDEP) as part of the Petroleum Vapor Intrusion (PVI) Triage Study. The Phase II ESA was performed for the Cumberland Farms Station #1822 located at 31 Elm Street in Saco, Maine (the "Site"). The Site encompasses 0.28 acres and is located in a mixed use commercial and residential area of Saco.

The Site is occupied by a single building (the "Site Building"), which is currently operated as a Cumberland Farms gasoline station and convenience store. Three 8,000-gallon gasoline underground storage tanks (USTs) are currently located on the eastern portion of the Site and two fuel dispensers are located beneath a canopy structure on the north/central portion of the Site. Municipal water service extends across the Site property from Elm Street and enters the Site Building near the western building corner. Municipal sewer exits the southeastern corner of the Site Building and discharges to a sewer main located along the southern property boundary.

The Site was initially developed as a gasoline filling station and full-service automobile repair facility in the 1940s. Numerous environmental investigations and remedial activities were performed at the Site in the 1990s, including the removal and disposal of petroleum-impacted soil, and in-situ treatment of petroleum-impacted groundwater. A Phase I ESA performed by Ransom in July, 2010, identified several Recognized Environmental Conditions (RECs) associated with the current and historic use of the Site as a gas station and former full-service automobile repair facility.

In accordance with the objectives of the MEDEP PVI Triage Study, the Phase IIA ESA was designed to evaluate the vapor intrusion potential to the Site Building and neighboring structures, as well as investigate several variables associated with vapor intrusion at petroleum release sites. These variables included "source area" contaminant concentrations and extent, contaminant migration mechanisms, and lateral and vertical attenuation of soil vapor contaminants. A series of soil borings, groundwater monitoring wells, and soil vapor points were positioned and constructed at specific locations and intervals at the Site in order to evaluate the objectives of the PVI Triage Study.

Analytical results from the Phase IIA ESA indicated soil and groundwater contamination acting as apparent "source areas" on the northern and eastern portions of the Site. Aqueous phase petroleum contaminants appear to have migrated with the localized groundwater flow direction to the western portion of the Site. Groundwater was observed at depths ranging from approximately 5.5 to 9.5 feet below ground surface (bgs), and the majority of the petroleum soil contamination was identified at or below the groundwater table. Petroleum contaminant concentrations detected in the soil samples submitted for laboratory analysis during this investigation did not exceed their respective MEDEP Remedial Action Guidelines (RAGs).

Volatile Petroleum Hydrocarbon (VPH) fractions were detected in groundwater samples at concentrations exceeding their respective Maine Center for Disease Control (CDC) Maximum Exposure Guidelines (MEGs) and MEDEP Groundwater Vapor Intrusion Screening Levels (VI Screening Levels) on the eastern and western portions of the Site. These results suggest that the dissolved-phase petroleum groundwater contaminant plume extends beneath a significant portion of the Site Building footprint.

However, analysis of the vapor sample collected beneath the slab foundation of the Site Building did not indicate the presence of vapor phase petroleum contaminants at concentrations that exceeded their respective MEDEP Soil Gas Targets.

Analysis of vapor attenuation data yielded mixed results. Comparison of "source area" soil vapor concentrations to the sub-slab vapor concentrations indicated an attenuation factor of at least 4.4 over a lateral distance of approximately 15 feet and vertical distance of 2 feet. In contrast, soil vapor samples collected on the northern portion of the Site for the purpose of evaluating lateral attenuation exhibited generally increasing concentrations of petroleum contaminants with distance from the presumed "source area" location.

Analytical results from soil vapor samples collected for the purpose of evaluating potential petroleum contaminant migration preferential pathways associated with the sewer and water utility trenches indicated similar contaminant compounds and concentrations as those observed in soil vapor samples collected from other areas of the Site. Based on these results, the subsurface utility trenches did not appear to be acting as preferential pathways for petroleum contaminant migration at the Site. Petroleum contaminants appeared to be migrating throughout the Site in the dissolved phase and subsequently impacting the soil vapor conditions at the Site. Collection and analysis of groundwater samples in the area of the sewer and water utility trenches would be useful in evaluating this presumption.

Based on the analytical results of the sub-slab vapor sample, petroleum contaminants identified in the soil, groundwater, and soil vapor at the Site do not appear to represent a risk to indoor air conditions of the Site Building. Petroleum compounds were detected above the MEDEP Residential Multi-contaminant Soil Gas Targets at the Site boundaries, as well as the on-site subsurface utility trenches. As previously discussed, the on-site subsurface utility trenches do not appear to be acting as preferential contaminant migration pathways. Based on this observation, the utility trenches within the public right-of-ways on Elm Street and Pleasant Street are not anticipated to be acting as preferential pathways for contaminant migration. Considering the contaminant attenuation observed between the on-site "source area" vapor concentrations and sub-slab vapor concentrations, soil vapor contaminants are not expected to represent a vapor intrusion risk to residential properties located to the northeast and southeast of the Site property. However, additional off-site investigation in these areas would be required to confirm this assumption.

This summary does not contain all the information that is found in the full report. The report should be read in its entirety to obtain a more complete understanding of the information provided, and to aid in any decisions made or actions taken based on this information.

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1.0 OBJECTIVES

The following report presents the methods and findings of the Phase IIA Investigation conducted by Ransom Environmental Consultants, Inc. (Ransom) at the Cumberland Farms Inc. (CFI) gasoline station and convenience store located at 31 Elm Street in Saco, Maine (the "Site"). The Phase IIA Investigation was conducted in conjunction with the Maine Department of Environmental Protection (MEDEP) as part of the Petroleum Vapor Intrusion (PVI) Triage Study. The work documented in this report was completed in general accordance with Ransom's "PVI Investigation Phase IIA - Final Work Plan," dated August 31, 2010, with modifications as determined during our field investigation and following consultation with the MEDEP.

The Phase IIA investigation was designed to evaluate the influence and relative importance of several variables which have the potential to affect contaminant vapor migration and exposure risks at petroleum release sites. The objectives of the Phase IIA investigation included the following:

1. Determine residual soil and groundwater contaminant location(s), concentrations, and extent;

2. Evaluate groundwater flow direction and gradient to discern potential downgradient receptors;

3. Evaluate preferential pathways;

4. Determine vertical and lateral soil gas extent to evaluate attenuation;

5. Evaluate facility sub slab conditions to evaluate VI potential at most likely receptor;

6. Evaluate VI potential at most likely offsite receptors; and

7. Determine contaminant contribution from offsite sources.

2.0 SITE BACKGROUND

2.1 SITE CHARACTERISTICS & HISTORY

The Site is a trapezoid-shaped parcel of land encompassing approximately 0.28 acres located at the southeastern corner of the intersection of Elm Street (Route 1) and Pleasant Street in the City of Saco. The Site is improved with one building (the "Site Building"), which is currently occupied by a Cumberland Farms gasoline station and convenience store. The northern portion of the Site is improved with canopied fuel dispenser area containing two fuel dispensing pump islands. Remaining portions of the Site consist of asphalt-paved driveways/parking areas, concrete pads, and limited landscaping. The Site is located in a mixed use commercial/residential area of Saco, with single and multi-family residential properties located to the northeast, southeast, and south of the Site property.

Three 8,000-gallon underground storage tanks (USTs) containing gasoline are located beneath concrete surface pads on the eastern portion of the Site. The USTs are connected via subsurface piping to the two fuel dispensers located beneath the canopied area to the north of the Site Building. Municipal water and sewer lines connect with the Site Building near its northwestern and southwestern corners, respectively, and electrical conduits for the USTs and gasoline dispensers connect with the building near its northeastern corner.

The Site was improved with a gasoline station and full-service automotive repair facility from circa 1940 to 1982, which was located at the center of the Site. The former gasoline station and full service automotive repair building was demolished and the existing Site Building was constructed in 1982 and has operated as a Cumberland Farms gasoline station and convenience store to the present date.

Numerous environmental investigations and remedial activities have been performed at the Site from 1991 to 1997, including the removal and proper off-site disposal of petroleum-impacted soil, and in-situ treatment of petroleum-impacted groundwater. Petroleum-impacted soil and groundwater remains at the Site.

Sawyer Brook (formerly known as Woodbury Brook) historically flowed in an open channel along the eastern and southern Site boundary prior to the 1940s. This brook was reportedly culverted underground beneath Elm Street, the northern adjoining property, and along the eastern and southern Site boundaries sometime prior to the 1940s; however, the City of Saco Public Works Department rerouted Sawyer Brook through a new underground culvert system in 1999. The underground culverted section extending beneath Elm Street and the northern adjoining property was reportedly abandoned with flowable fill and the section extending along the eastern and southern Site boundaries was reportedly connected to the municipal sewer system.

2.2 RECOGNIZED ENVIRONMENTAL CONDITIONS

A Phase I ESA was completed for the Site by Ransom on July 16, 2010. The Phase I ESA was completed in accordance with ASTM Standard E 1527-05, and identified the following Recognized Environmental Conditions (RECs):

1. Current use of the Site as a gasoline filling station with reported, potentially unreported, and potential unknown releases of oil and/or hazardous materials (OHM) associated with existing and/or former removed USTs containing gasoline, their product piping, and/or fuel dispensing activities at the Site;

2. Former use of the Site as a full-service automotive repair facility with potential unknown releases of OHM associated with former removed and/or potentially abandoned USTs containing gasoline, diesel fuel, kerosene, fuel oil, and/or waste oil, their product piping, and/or fuel dispensing activities at the Site. In addition, unreported releases of oil and OHM including chlorinated solvents from parts degreasers, lubricants, hydraulic fluids, waste oils, motor oils, metals, and polychlorinated biphenyls (PCBs) from former automotive service operations within the building may have also occurred at the Site;

3. Potential soil and/or groundwater contamination that may have migrated to the Site associated with reported, potentially unreported, and potential unknown releases of OHM at the northwestern adjoining Xtra Mart gasoline station property (28 Elm Street); and

4. Potential soil and/or groundwater contamination that may have migrated to the Site associated with potential unknown petroleum releases of OHM that may have been discharged/migrated into Sawyer's Brook (formerly Woodbury Brook), which formerly flowed along the southeastern portion of the Site prior to 1999.

Based on Ransom's understanding of the objectives of the PVI study, the scope of work for the Phase IIA investigation was not intended to fully evaluate the potential exposure risks associated with non-volatile contaminants of concern, such as waste oil, metals, and/or PCBs. These non-volatile compounds may represent an exposure risk to future site workers or site occupants in the event the property is renovated or redeveloped. Prior to renovation or redevelopment, Ransom also recommended that additional assessment/investigation be performed by Cumberland Farms to evaluate potential exposure risks which are outside the scope of this study.

2.3 CONCEPTUAL SITE MODEL

Based on the RECs presented in Ransom's Phase I ESA, and given the focus of the PVI study, the following potential source areas or Areas of Concern (AOCs) were identified at the Site.

AOC 1—Location of Existing and Former, Removed-Leaking Gasoline Underground Storage Tanks

AOC 1 encompasses the eastern portion of the Site and consists of asphalt-paved driveways/parking areas and concrete pads for the existing USTs, as shown on the appended Figure. AOC 1 includes three currently existing 8,000-gallon gasoline USTs and the former locations of three 8,000-gallon gasoline USTs that were removed from the Site in 1997.

Contaminants of concern (COCs) associated with this AOC include volatile petroleum products which were documented in the soil and groundwater during UST removals and system upgrade activities, and reportedly remain on-site. The documented petroleum release may have also impacted soil vapor conditions in this AOC. Contamination is expected to be present in native materials underlying presumably clean backfill materials which would have been placed when the current UST system was installed.

Volatile petroleum contaminants are likely to migrate in aqueous phase with the prevailing groundwater flow direction, and in vapor phase through diffusion and advection particularly along preferential pathways such as subsurface utility corridors. If present, the COCs would likely be detected in subsurface soils, groundwater, and soil vapor at the Site.

AOC 2—Location of Existing and Former Gasoline Dispensers & Product Piping

AOC 2 encompasses the northern portion of the Site and consists of two fuel dispensers located beneath the canopied area, asphalt-paved driveways/parking areas, and concrete pads, as shown on the appended Figure.

COCs associated with this AOC include volatile petroleum products which may be present as a result of residual contamination from the product piping and fuel dispensing system which was removed in 1997, or from unknown or unreported releases from the current system. Releases associated with the former or current piping and fuel dispensing system would likely have impacted soil, soil vapor, and potentially groundwater conditions in this AOC. COCs are likely to migrate in the aqueous phase with the prevailing groundwater flow direction and/or in the vapor phase through diffusion and advection, particularly along preferential pathways such as underground product piping or utility trenches.

AOC 3—Location of Former Callahan's Full-Service Automobile Repair Station

AOC 3 encompasses the footprint of former full-service automobile repair station, which was located at the center of the Site, as shown on the appended Figure. AOC 3 consists of the subsurface beneath the existing Site Building, asphalt-paved driveways/parking areas, and concrete sidewalks. The Site building has been utilized as a gas station and historically included a full-service automobile repair station. Activities associated with the former on-site, full-service automobile repair station likely included the use, storage, and possible disposal of hazardous materials such as chlorinated solvents and degreasers, antifreeze, lubricants, motor oils, waste oils, metals, and potentially polychlorinated biphenyl (PCB)-containing hydraulic fluids.

COCs associated with this AOC include volatile and semi-volatile petroleum products, chlorinated solvents, waste oil, and lubricating oils. Given the objective of the current investigation, AOC 3 was assessed for the presence of volatile petroleum constituents only. It is important to note that non-volatile petroleum constituents associated with this AOC may also be present in the soil and/or groundwater at the Site, which will not be fully assessed during this investigation. These non-volatile petroleum constituents may represent an exposure risk to future site workers or site occupants in the event the property is renovated or redeveloped. Prior to renovation or redevelopment, Ransom recommends that additional assessment/investigation be performed by Cumberland Farms to evaluate potential exposure risks, which are outside the scope of this investigation.

AOC 4—Northeastern Border of Site (Adjacent to Xtra Mart Gasoline Filling Station (28 Elm Street)

AOC 4 encompasses the northeastern border of the Site and consists of asphalt-paved driveways/parking areas, which do not represent an environmental concern; however, the current use of the northeastern adjoining property as a gasoline filling station represents an environmental concern to the Site. This assertion is based on the property's current use, close proximity and presumed crossgradient/upgradient location to the Site. Additionally, MEDEP reported that petroleum-impacted soil and groundwater remained at the northeastern adjoining property following the removal of gasoline USTs at that property in 1990.

COCs associated with this AOC include volatile petroleum products which may be present as a result of reported, unknown, and/or unreported petroleum releases at this property. Petroleum releases at this property may have migrated in the aqueous phase with the prevailing groundwater flow direction and/or in the vapor phase through diffusion and advection and may have adversely impacted groundwater, and/or soil vapor at the Site.

3.0 INVESTIGATION METHODOLOGY

Field activities were conducted by Ransom and MEDEP personnel on September 1, 2010, and are summarized in the following sections. The scope of work for the Phase IIA investigation included the collection of soil, groundwater, and soil vapor samples from a series of soil borings, groundwater monitoring wells, and soil vapor points. Sampling locations for the Phase IIA investigation are shown on the attached Figure.

Soil Boring Advancement

On September 1, 2010, Ransom observed the advancement of six soil borings, identified as B101, B102, B104, B107, B108, and B109. Soil borings were advanced by Environmental Projects Inc. (EPI) of Auburn, Maine. The soil borings were advanced utilizing direct-push (i.e., GeoProbe®) drilling techniques. At each soil boring location, 4-foot macrocore soil samples were collected continuously from surface grade to the termination of each boring. The borings were advanced to depths ranging from 12 to 16 feet below the ground surface (bgs). Soil samples collected during the advancement of the soil borings were visually classified in the field by Ransom in general accordance with the Burmister Soil Classification System.

Deviations from the Phase IIA investigation outlined in our workplan included the elimination of five soil borings (B103, B105, B106, B110, and B111). These borings were eliminated from the investigation since sufficient data was collected during the soil vapor investigation, which focused on petroleum-impacted soil and groundwater identified at "source areas" surrounding the USTs (AOC 1) and dispensers/piping (AOC 2), as described in the following paragraphs.

Qualitative Field Screening

Soil samples collected during the advancement of the soil borings were screened in the field for the presence of total organic volatile compounds (TVOCs) using a photoionization detector (PID) equipped with a 10.6 eV lamp and calibrated to an isobutylene standard. Sample intervals, sample recovery, and organic vapor concentrations (as determined by field screening) are included on the soil boring logs provided as Appendix A.

Soil Sampling and Analytical Testing

One soil sample was collected from soil borings B102 (8-12 feet bgs) and B104 (4-8 feet bgs) and submitted for chemical analysis to Analytics Environmental Laboratory, LLC (Analytics) of Portsmouth, New Hampshire. The soil samples were collected directly from the sampling equipment and transferred into laboratory-prepared glassware. The samples were preserved in the field in accordance with applicable protocols and delivered on ice under chain-of-custody protocol for laboratory analysis. The soil samples were analyzed for Volatile Petroleum Hydrocarbons (VPH Full), including the target petroleum volatile organic compounds (VOCs), by MA DEP Method 98-1.

Groundwater Monitoring Well Installation

Soil borings B101, B102, B108, and B109 were completed as groundwater monitoring wells (MW101 through MW104, respectively). During advancement of these soil borings, groundwater was measured at depths ranging from 7.72 to 9.69 feet bgs. Each monitoring well was constructed using 1-inch-diameter Schedule 40 PVC well casing and factory-slotted screen. The monitoring wells were finished with a locking, flush-mounted roadbox, which was cemented into the ground. Well construction details can be found on the boring logs provided as Appendix A.

Groundwater Sampling and Analytical Testing

On September 1, 2010, groundwater samples were collected from the four monitoring wells (MW101 through MW104). Prior to sample collection, each well was developed using a peristaltic pump and dedicated tubing. Approximately four well volumes were purged in an effort to remove silt and fines and to restore the natural permeability of the soils surrounding the well screens. When purging was complete, the monitoring wells were sampled in general accordance with modified low-flow methods using a peristaltic pump. Stabilized groundwater levels were also recorded and used to calculate the groundwater flow direction. Water parameters including dissolved oxygen and turbidity were monitored during well purging activities, and are recorded on the field data sheets included in Appendix B.

The groundwater samples were collected directly from the sampling equipment and transferred into laboratory-prepared glassware. The samples were preserved in the field in accordance with applicable protocols and delivered on ice under chain-of-custody protocol to Analytics for laboratory analysis for VPH with target petroleum VOCs. Additionally, a duplicate groundwater sample was collected from monitoring well MW103 and submitted for laboratory analysis for QA/QC protocols as outlined in our workplan.

Soil Vapor Point Installation

On September 1, 2010, Ransom observed the construction of seven soil vapor sample points (SV101 through SV107). Six soil vapor sample points (SV101 through SV106) were constructed with soil vapor implants, which consisted of 6-inch long by ½-inch diameter stainless-steel screen implants. Teflon® tubing was fitted onto the top of the stainless steel screen and extended to the ground surface. These soil vapor sample points were completed with a locking, flush-mounted roadbox, which was cemented into the ground.

One soil vapor sample point (SV107) was installed beneath the concrete floor at the cashier's area near the northwestern corner of the Site Building in order to assess the sub-slab vapor conditions beneath the building. This soil vapor sample point was advanced by drilling a hole through the approximate 4-inch thick concrete slab floor and inserting Teflon® tubing into the soil to an approximate depth of 6 inches beneath the floor of the building. A bentonite seal was placed around the sampling tubing at the floor surface in order to prevent the influx of ambient air during sample collection.

Soil Vapor Sampling and Analytical Testing

Prior to soil vapor sample collection, approximately 3 liters of soil vapor was purged from each soil vapor point, and the following air/vapor parameters were recorded:

- Ambient air Oxygen (O_2)
- Ambient air Carbon Dioxide (CO_2)
- Pre-sample O_2
- Pre-sample CO_2
- Pre-sample Methane (CH_4)
- Pre-sample Volatile Organic Compounds (VOCs) as measured with the PID.

After purging, a soil vapor sample was collected in accordance with MEDEP standard operating procedures using laboratory-prepared SUMMA® passivated stainless steel canister with a 100 milliliters per minute flow control valve. Additionally, a duplicate soil vapor sample was collected from SV102 and submitted for laboratory analysis for QA/QC protocols as outlined in our workplan. The samples were submitted to Alpha Analytical, Inc. (Alpha) of Mansfield, Massachusetts and analyzed for the following:

- Chlorinated VOCs [1,2-Dibromoethane; 1,1-Dichloroethane (1,1,1-DCA); 1,1,1-Dichloroethene (1,1,1-DCE); 1,2-Dichloroethane; (1,2-DCA); cis-1,2-Dichloroethene (cis-1,2-DCE); trans-1,2-dichloroethene (trans-1,2-DCE); Tetrachloroethene (PCE); Trichloroethene (TCE); 1,1,1-Trichloroethane (1,1,-TCA); and Vinyl Chloride] by U.S. EPA Method TO-15.
- Air Petroleum Hydrocarbons (APH);and
- Fixed Gases (Oxygen, Methane, and Carbon Dioxide).

Following sample collection, post sample O_2 and CO_2 were also recorded. Soil gas sampling field data sheets providing additional information regarding the soil vapor samples are included in Appendix B.

Summary of Source Area, Migration, Preferential Pathways, and Receptor Evaluation

The following is a summary of Ransom's and MEDEP's approach to evaluate OHM-impacted soil, groundwater, and soil vapor at "source areas," the potential contaminant migration mechanisms/pathways, and potential receptors of contaminants in soil, groundwater, and soil vapor.

Source Area Evaluation- Underground Storage Tanks (AOC 1)

Soil borings B101 and B102 were advanced at the "source area" of previously identified petroleum-impacted soil and groundwater associated with former gasoline USTs at the Site (AOC 1). These soil borings were advanced to the southwest and southeast of the existing 8,000-gallon gasoline USTs and were subsequently converted into groundwater monitoring wells (MW101 and MW102), respectively. The purpose of these soil borings/monitoring wells was to evaluate the

current extent and concentrations of remaining petroleum-impacted soil and groundwater at the "source area".

In addition, soil vapor point (SV101) was installed to evaluate soil vapor concentrations at the UST source area. The soil vapor implant at SV101 was set at 3 to 3.5 feet bgs (interval exhibiting highest VOC readings by field screening methods).

Source Area Evaluation- Gasoline Dispensers and Product Piping (AOC 2)

Soil boring B104 was advanced to the northeast of the gasoline dispensers and their associated product piping. Soil boring B107 was advanced at the reported location of a former gasoline UST immediately to the south of the gasoline dispensers and their associated product piping. The purpose of these soil borings was to evaluate the current extent and concentrations of remaining petroleum-impacted soils associated with this "source area."

Soil vapor sample point (SV102) was installed to evaluate vapor phase contaminants emanating directly from the gasoline dispensers/product piping source area (AOC 2) and to evaluate the potential for contaminant partitioning from the groundwater table to the vapor phase at this "source area."

Source Area & Migration Evaluation From Source Areas- Former Callahan's Full-Service Automobile Service Station (AOC 3)

Soil boring B108 was advanced at the "source area" at the location of the former Callahan's full-service automobile repair station at the Site (AOC 3). This soil boring was subsequently converted into a groundwater monitoring well (MW103). The purpose of this soil boring/monitoring well was to evaluate if former automotive service operations had adversely impacted soil and groundwater at the Site and to evaluate the potential for migration of petroleum-impacted groundwater originating from the USTs, gasoline dispensers, and their associated product piping "source areas."

Migration Evaluation From Source Areas

Soil boring B109 was advanced to the west of the gasoline dispensers (AOC 2), and was subsequently converted into groundwater monitoring well (MW104). This boring was initially installed to assess potential groundwater impacts from the adjacent Xtra Mart property located to the northwest of the Site. However, subsequent groundwater flow direction measurements recorded during the current investigation indicate this monitoring well is downgradient of the on-site fuel dispensers (AOC 2). Therefore, data collected from this location is representative of dissolved-phase contaminant attenuation from the "source area" (AOC 2).

Soil vapor sample points (SV103) and (SV104) were installed approximately 15 feet northwest and 30 feet northwest of soil vapor sample point (SV102), respectively, in order evaluate contaminant attenuation in the vapor phase laterally from the "source area" (AOC 2).

Preferential Pathways Evaluation

Soil vapor sample point SV105 was installed directly above the municipal water utility trench to evaluate vapor phase contaminant migration in preferential pathways and to evaluate potential exposure risks to off-site properties.

Soil vapor sample point SV106 was installed directly above the municipal sewer utility trench to evaluate vapor phase contaminant migration in preferential pathways and to evaluate potential exposure risks to off-site properties.

Receptor Evaluation

Soil vapor sample point SV107 was installed beneath the concrete floor at the cashier's area near the northern corner of the Site Building in order to assess the sub-slab vapor conditions beneath the building and evaluate the potential for impacts to indoor air conditions resulting from subsurface vapor-phase contaminants.

4.0 RESULTS

The following subsections document the results of the Phase IIA investigation. Soil sample analytical results are summarized in Table 1. Groundwater sample analytical results are summarized in Table 2. Soil vapor analytical results are summarized in Table 3. Sub-slab soil vapor analytical results are summarized in Table 4. Fixed gases field screening and analytical results are summarized in Table 5. Copies of the laboratory chemical analysis data reports are provided in Appendix C.

Soil

Laboratory analytical results of soil samples collected at the Site were compared to their respective Outdoor Commercial Worker and Excavation or Construction Worker Remediation Guidelines provided in the MEDEP Bureau of Remediation and Waste Management's (BRWM's) "*Remediation Guidelines for Petroleum Contaminated Sites in Maine*," dated December 1, 2009.

Groundwater

Laboratory analytical results of groundwater samples collected at the Site were compared to their respective Maine Center for Disease Control (CDC) "*Maximum Exposure Guidelines (MEGs) for Drinking Water in Maine*," which are provided as the Statewide Ground Water and Drinking Water Remediation Guidelines in Table 1 of the MEDEP BRWM's "*Remediation Guidelines for Petroleum Contaminated Sites in Maine*," dated December 1, 2009. Laboratory analytical results of groundwater samples collected at the Site were also compared to their respective Massachusetts Department of Environmental Protection's (MADEP's) Method 1, GW-2 Groundwater Standards, provided in 310 CMR 40.0000 of the Massachusetts Contingency Plan (MCP). In addition, groundwater sample analytical results were compared to the recently released MEDEP *Draft Groundwater Vapor Intrusion Screening Levels* for chronic commercial scenarios, dated November 23, 2010 (VI Screening Levels).

Soil Vapor

Laboratory analytical results of soil vapor samples collected at the Site were compared to their respective Residential Multi-Contaminant Chronic Soil Gas Targets (G-1) provided in Table 10 of the MEDEP BRWM's "*Vapor Intrusion Evaluation Guidance*," dated January 13, 2010.

4.1 QUALITY ANALYSIS/QUALITY CONTROL

Upon the completion of the field tasks and receipt of the analytical results, a data usability analysis was conducted to document the precision of the results. The following sections present this analysis.

Precision

Precision measures the reproducibility of measurements. The precision measurement is established using the relative percent difference (RPD) between the duplicate sample results. Relative percent differences were calculated for groundwater and soil vapor samples where both sample and duplicate values were greater than five times the Practical Quantitation Limit (PQL) of the analyte. The RPD is calculated as follows:

$$RPD = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Mean of the Two Results}} \times 100$$

One duplicate groundwater and one duplicate soil vapor sample were collected for laboratory analysis. The duplicate groundwater sample (MW-103 DUP) was collected from monitoring well MW103 and was submitted for laboratory analysis of VPH. The duplicate soil vapor sample (SV102 Split) was collected from soil vapor sample point SV102 and was submitted for laboratory analysis of TO-15 and APH.

Groundwater Monitoring Well (MW103)

- One Target Petroleum VOC [methyl tert-butyl ether (MTBE)] was detected in the MW103 groundwater sample and its duplicate groundwater sample (MW-103 DUP). The RPD for MTBE was 0.7 percent, which is below 35 percent; and therefore, the precision of these sample results are acceptable.

- Two VPH fractions (C_9 to C_{12} aliphatics and C_9 to C_{10} aromatics) were detected in the MW103 groundwater sample and its duplicate groundwater sample (MW-103 DUP). The RPD for C_9 to C_{12} aliphatics was 2.2 percent and the RPD for C_9 to C_{10} aromatics was 6.5 percent, which are below 35 percent; and therefore, the precision of these sample results are acceptable.

- No other Target Petroleum VOCs or VPH fractions were detected in the MW103 groundwater sample and its duplicate groundwater sample (MW-103 DUP) above their respective laboratory reporting limits; and therefore, no other RPDs were calculated.

Soil Vapor Sample Point (SV102)

- Five APH compounds (benzene, ethylbenzene, toluene, m,p-xylene, and o-xylene) were detected in the SV102 soil vapor sample and its duplicate soil vapor sample (SV102-Spilt). The RPDs for these APH compounds ranged from 0 to 6.5 percent, which are below 35 percent; and therefore, the precision of these sample results are acceptable.

- Three VPH fractions (C_5 to C_8 aliphatics, C_9 to C_{12} aliphatics, and C_9 to C_{10} aromatics) were detected in the SV102 soil vapor sample and its duplicate soil vapor sample (SV102-Spilt). The RPDs for these VPH fractions ranged from 8.9 to 12.2 percent, which are below 35 percent; and therefore, the precision of these sample results are acceptable.

- One fixed gas (carbon dioxide) was detected in the SV102 soil vapor sample and its duplicate soil vapor sample (SV102-Spilt). The RPD for carbon dioxide was 5.8 percent, which is below 35 percent; and therefore, the precision of these sample results are acceptable.

- No Chlorinated VOCs and no other Target Petroleum VOCs or Fixed Gases were detected in the SV102 soil vapor sample and its duplicate soil vapor sample (SV102-Spilt) above their respective laboratory reporting limits; and therefore, no other RPDs were calculated.

Evaluation of Soil Vapor Leakage

Prior to and upon collection of soil vapor samples, oxygen and carbon dioxide concentrations were measured in ambient air and within the soil vapor sample point utilizing a multi-gas meter. Additionally, soil vapor samples collected from each soil vapor sample point were submitted for laboratory analysis of fixed gases (oxygen, carbon dioxide, and methane). The goal of these measurements and laboratory analysis was to determine whether the soil vapor sample point was properly sealed in order to prevent the influx of ambient air during soil vapor sample collection.

The field measurements of oxygen and carbon dioxide concentrations detected within the soil vapor sample point prior to and upon collection of all soil vapor samples did not fluctuate by more than 20%. Greater than one order of magnitude difference was observed between ambient air measurements and soil vapor sample point measurements of carbon dioxide in all soil vapor samples collected (refer to field data sheets included in Appendix B). Laboratory analytical results for oxygen and carbon dioxide correlated well with the respective field measurements from the soil vapor sample points. Based on these lines of evidence, it can be inferred that the soil vapor sample points were properly sealed.

4.2 SOURCE AREA SOIL

Soil samples collected during this investigation above the measured groundwater table generally consisted of sand and silty-sand with various amounts of gravel, cobbles, and bricks, which were presumed to be general backfill material associated with historic UST replacements and/or soil removal activities (refer to boring logs, Appendix A).

Field screening results of soil samples (B102, B104, and B107) collected during our investigation indicated extensive petroleum-impacted soil contamination on the northern portion of the Site at the areas of the current USTs and product piping systems. Two soil samples (B102 and B104) were collected from suspected contaminant "source areas" and submitted for laboratory analysis. Petroleum hydrocarbon fractions and VOCs were detected in these samples at concentrations which did not exceed their MEDEP RAGs for commercial worker or excavation worker scenarios. Based on the detected contaminants of concern, petroleum-impacted soils at the Site appears to be attributable to the former UST systems (weathered petroleum), as opposed to the current UST system.

Correlations between field screening results and laboratory analytical results of soil samples collected from borings B102 and B104 indicate that field screening results yielded greater TVOC concentrations than the laboratory analytical result concentrations. Field screening TVOC concentrations of the soil sample collected from boring B102 (8-12 feet bgs) was 1,887 ppmv and the soil sample collected from boring B104 (4-8 feet bgs) was 4,594 ppmv. Laboratory total VPH concentrations of the soil sample collected from boring B102 (8-12 feet bgs) was 327 ppm and the soil sample collected from boring B104 (4-8 feet bgs) was 1,598 ppm (refer to Table 2).

Soil samples collected and submitted for laboratory analysis suggest the results should be indicative of the UST system "source area", however, it should be noted that both of these soil samples were collected at or below the groundwater table. Therefore, it is possible that the detected petroleum contaminants were transported via dissolved-phase contaminant migration in groundwater at the Site. Significant contaminant concentrations were not identified by field screening methods at depth intervals above the groundwater table from these soil borings (refer to boring logs, Appendix A). Nevertheless, due to the shallow groundwater table at the Site, the "source" petroleum may have been released within the saturated zone, thereby making it difficult to identify an isolated "soil source area."

4.3 GROUNDWATER

Groundwater was measured at depths ranging from approximately 7.7 feet bgs to 9.7 feet bgs in monitoring wells MW101 through MW104; however, groundwater was also observed at an approximate depth of 5.5 feet bgs in soil boring B104, which was advanced at the northeastern portion of the property. Based on the depths to water recorded in the monitoring wells, the groundwater direction was calculated to flow from northeast to southwest across the Site. Groundwater elevations and contours are shown on the attached Figure.

Groundwater sample analytical results indicate that VPH fractions were detected in each groundwater monitoring well during this investigation. The highest concentrations of petroleum contaminants were detected in the groundwater sample collected from MW101. Petroleum contaminant concentrations were detected in the groundwater sample collected from MW101 at concentrations ranging from 25 to 2,610 micrograms per liter (µg/l), which were at least one order of magnitude greater than petroleum concentrations detected in the remaining groundwater samples, which ranged from non-detect to 305 µg/l (refer to Table 2). MW101 was installed immediately adjacent to, and on the downgradient side of the current and former gasoline USTs and presumably represents the "source area." The petroleum concentrations detected in MW101 generally exceeded their respective MEDEP MEGs and VI Screening Levels for chronic commercial scenarios; however, petroleum contaminants detected in groundwater collected from MW101 did not exceed their respective Massachusetts Method 1 GW-2 standards.

Monitoring well MW102 was installed adjacent to, and apparently side-gradient of the UST "source area." VPH fractions and VOCs were detected in the groundwater sample collected from this monitoring well. The concentration of benzene detected in this well exceeded its MEDEP MEG and VI Screening Level; however, the nearest residential receptor is located approximately 30 feet east (side-gradient) of this monitoring well. Therefore, concentrations of benzene attributable to petroleum releases originating from the Site are not anticipated to have adversely impacted indoor air conditions at the adjoining residential receptor.

Monitoring well MW103 was installed approximately 55 feet southwest (downgradient) from the apparent petroleum-impacted soil and groundwater at the UST system "source area" (MW101). Groundwater sample analytical results from MW103 indicate petroleum VPH fractions at concentrations of approximately 10% of the concentrations observed in the UST system "source area" (MW101). The concentration of C_9-C_{10} aromatics (VPH fraction) detected in the groundwater sample collected from MW103 exceeded its MEDEP MEG and VI Screening Levels, but did not exceed its MADEP Method 1 GW-2 Standard. The remaining VPH fractions detected in the groundwater sample collected from MW103 did not exceed any of their applicable regulatory standards. Based on these laboratory results, it is inferred that the on-site petroleum-impacted groundwater plume extends from the apparent UST system "source area" (MW101) beneath the majority of the Site Building footprint.

Low concentrations of VPH fractions and methyl tert-butyl ether (MtBE) were detected in the groundwater sample collected from MW104, which was installed approximately 30 feet downgradient from the current gasoline dispensers. It should be noted that MtBE was detected in all of the groundwater samples at concentrations which exceeded its MEDEP MEG, but was below its MADEP Method 1 GW-2 Standard and MEDEP VI Screening Level. Based on this information, it is inferred that MtBE-impacted groundwater is present throughout the Site and the potential for off-gassing of MtBE is relatively low.

4.4 SOIL VAPOR

Soil vapor samples collected from the apparent UST system and dispenser/product piping "source areas" (SV101 and SV102) exhibited concentrations of C_5-C_8 aliphatics (APH fraction), which exceeded its MEDEP Soil Gas Target for residential multi-contaminant scenarios. All other APH fractions and petroleum constituents, including benzene, toluene, ethylbenzene, and xylenes (BTEX) were detected at concentrations that did not exceed their respective Soil Gas Targets in the soil vapor samples collected from SV101 and SV102 (refer to Table 3).

Soil vapor sample SV101 was co-located with groundwater monitoring well MW101, and was installed approximately 5 feet above the groundwater table at the UST system "source area." A comparison of results between the soil vapor data and groundwater data at this location indicates that several petroleum fractions and compounds were detected in groundwater (MW101) at concentrations that exceeded their regulatory standards; however, only one VPH fraction (C_5-C_8 aliphatic) was detected in SV101 at a concentration that exceeded its regulatory Soil Gas Target. It should be noted that the C_5-C_8 aliphatic fraction detected in groundwater from MW101 did not exceed its MADEP Method 1 GW-2 Standard. This data suggests that the MADEP Method 1 GW-2 Standard was not stringent enough to screen out the possibility of vapor contaminants at concentrations which exceed the MEDEP Soil Gas Target for this petroleum hydrocarbon fraction.

Laboratory results from SV102 indicated detections of similar compounds/fractions at relatively similar concentrations as those detected in SV101, suggesting the area in which SV102 was installed may also be acting as a "source area". However, no soil or groundwater data was collected in this immediate area to confirm this presumption. Furthermore, this soil vapor point was installed at a depth of 5.5 to 6 feet bgs, which appears to be in close proximity to the groundwater table (groundwater was observed in nearby boring B104 at a depth of 5.5 feet bgs).

Laboratory analysis of soil vapor samples SV103 and SV104, which were installed to evaluate lateral attenuation of vapor contaminants away from the dispenser/piping "source area," did not reflect the expected result of attenuating concentrations with increasing distance. On the contrary, concentrations of volatile contaminants, including C_9-C_{10} aromatics and BTEX compounds appear to increase with distance from the dispenser/product piping "source area" (SV102). This observation may be the result of a variety of factors, such as influence from nearby subsurface utility corridors/preferential pathways in the sidewalk adjacent to Route 1, former on-site USTs, dispenser/product piping, and/or porous backfill material and potential void spaces associated with the demolition of historic residential foundations in this area (refer to Phase I ESA). Alternatively, the observed soil vapor concentrations in SV103 and SV104 may suggest that these vapor points were not installed at increasing distance from the "source area" and vapors in these areas may be influenced by soil and/or groundwater contamination in these areas. Concentrations of several petroleum compounds detected in SV103 and SV104 exceeded their respective Soil Gas Targets.

APH fractions and several petroleum compounds were also detected in samples SV105 and SV106, which were installed to evaluate the water service and sewer utility trenches, respectively. SV105 was installed to a depth of 3.3 feet bgs while SV106 was installed to a depth of 2.5 feet bgs. Utilities in these areas are anticipated to be at depths ranging from 5 to 7 feet bgs. Soil vapor sample SV105 exhibited concentrations of benzene and ethylbenzene which exceeded the Soil Vapor Target for multi-contaminant residential scenarios. Concentrations of naphthalene and one APH fraction (C_9-C_{10} aromatics) exceeded the multi-contaminant residential Soil Vapor Target in SV106. Because the surrounding property use in the vicinity of these samples is primarily commercial in nature, the exceedances of the residential Soil

Gas Targets are not anticipated to represent an exposure risk to off-site properties at this time. The compounds and concentrations detected in SV105 and SV106 were similar to compounds and concentrations observed in the soil vapor samples collected from other areas of the Site. Therefore, it is not clear that the utility corridors are acting as preferential pathways for soil vapor contaminant migration.

The sub-slab soil vapor sample (SV107) collected to evaluate the potential impacts to indoor air conditions at the Site Building, indicated a detection of one APH fraction (C_5-C_8 aliphatics); however, this concentration was below the respective Soil Gas Target. No other petroleum fractions or compounds were detected in this sample. The sub-slab vapor sample SV107 was collected at a location off-set approximately 15 feet laterally and 2 feet vertically from the UST system "source area" soil vapor point (SV101). Comparison of the data from these locations shows attenuation of the APH fraction C_5-C_8 aliphatics by a factor of 4.4 over this distance. All other APH fractions and compounds attenuated to below laboratory detection levels. Based on these results, it appears that the petroleum contaminants identified in the soil, groundwater, and soil vapor at the Site are unlikely to impact indoor air conditions at the Site Building.

Low level concentrations of tetrachloroethene (PCE), a chlorinated VOC, were detected in soil vapor samples SV101, SV103, and SV104. Chlorinated solvents, including PCE, were identified as contaminants of concern potentially associated with automobile repair activities historically performed on the central/western portion of the Site (refer to Phase I ESA). However, PCE was not expected to be detected at the locations identified during this investigation. No other PCE breakdown products were detected in the vapor samples collected during this investigation. Therefore, the origin of the PCE detected in the soil vapor samples at the Site can not be determined at this time.

5.0 CONCLUSIONS

Findings from the Phase IIA PVI Triage Study investigation indicate widespread petroleum contamination in soil, groundwater, and soil vapor at the Site. Based on detected petroleum contaminant concentrations, the northern and eastern portions of the Site property appear to be "source areas" for historic, reported petroleum releases at the Site associated with leaking USTs, their product piping, and/or gasoline dispensers. Petroleum contaminants appear to have migrated in the aqueous phase with the localized groundwater flow direction from the UST system and dispenser/piping "source areas" to the western portion of the Site. Groundwater analytical results suggest that a petroleum-impacted groundwater plume extends beneath a significant portion of the Site Building footprint.

Analysis of vapor attenuation data collected during this investigation yielded mixed results. Comparison of "source area" soil vapor concentrations with concentrations detected beneath the Site Building slab suggested an attenuation factor of at least 4.4 over a lateral distance of approximately 15 feet and vertical distance of 2 feet. In contrast, soil vapor samples collected on the northern portion of the Site for the purpose of evaluating lateral attenuation exhibited generally increasing concentrations of petroleum contaminants with distance from the presumed "source area" location. This observation suggests these vapor points were not installed at increasing distance from the "source area" and/or vapor contaminants are present due to partitioning from groundwater or other contaminant migration mechanisms. Additional soil and groundwater data (co-located with the vapor points on the northern portion of the Site) would be necessary to determine the origin of the vapor contaminants observed in this area.

Analytical results from soil vapor samples collected to evaluate potential contaminant migration preferential pathways associated with the on-site sewer and water utility trenches indicated similar contaminant compounds and concentrations as those observed in soil vapor samples collected from other areas of the Site. Based on these results, the subsurface utility trenches do not appear to be acting as preferential pathways for contaminant migration at the Site. Analytical results suggest contaminants in the form of soil vapor are migrating throughout the Site by alternative migration mechanisms. The most likely mechanism by which contaminants are migrating appears to be in the form of dissolved phase contaminants, which are subsequently partitioning from the groundwater table and impacting soil vapor conditions at the Site. Collection and analysis of groundwater samples in the area of the sewer and water utility trenches would be useful in evaluating this presumption.

Analysis of co-located groundwater and soil vapor data from the current investigation indicates the MEDEP MEGs and VI Screening Levels for groundwater were adequately conservative to identify corresponding soil vapor concentrations that exceeded the Soil Gas Targets for residential multi-contaminant scenarios. However, the co-located groundwater and soil vapor data collected during this investigation suggested that the MADEP Method 1 GW-2 groundwater standard was not conservative enough to identify corresponding soil vapor concentrations in excess of the MEDEP Soil Gas Targets for residential multi-contaminant scenarios.

Analytical results from the soil vapor sample collected immediately beneath the slab foundation of the Site Building indicate vapor concentrations which do not represent a risk to the indoor air conditions of the Site Building. Petroleum compounds were detected above the MEDEP Residential Multi-contaminant Soil Gas Targets at the Site boundaries, as well as the on-site subsurface utility trenches. As previously discussed, the on-site subsurface utility trenches do not appear to be acting as preferential contaminant migration pathways. Based on this observation, the utility trenches within the public right-of-ways on Elm Street and Pleasant Street are not anticipated to be acting as preferential pathways for contaminant migration.

Considering the contaminant attenuation observed between the on-site "source area" vapor concentrations and sub-slab vapor concentrations, soil vapor contaminants are not expected to represent a vapor intrusion risk to residential properties located to the northeast and southeast of the Site. However, additional off-site investigation in these areas would be required to confirm this assumption.

6.0 REFERENCES

1. MEDEP, Bureau of Remediation; January 13, 2010; Vapor Intrusion Evaluation Guidance.

2. MEDEP; December 1, 2009; Remediation Guidelines for Petroleum Contaminated Sites in Maine.

3. Ransom Environmental Consultants Inc.; July 16, 2010; Phase I Environmental Site Assessment, Cumberland Farms Station# 1822, 31 Elm Street, Saco, Maine.

4. MEDEP; July 30, 2010; Petroleum Vapor Intrusion, Phase IIA Investigation, Request for Workplan, Budget, and Schedule.

5. Ransom Environmental Consultants Inc.; August 11, 2010; Petroleum Vapor Intrusion Investigation Phase IIA – Draft Work Plan, Cumberland Farms Station# 1822, 31 Elm Street, Saco, Maine.

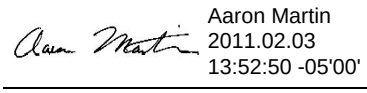
6. MEDEP; October 29, 2010; Petroleum Vapor Intrusion Triage Study, Phase IIA Report Format.

7.0 SIGNATURE(S) OF ENVIRONMENTAL PROFESSIONAL(S)

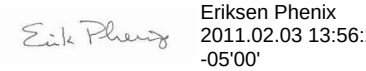
Ransom performed services in a manner consistent with the guidelines set forth in the American Society for Testing and Materials (ASTM) E 1903-97 (Standard Practices for Environmental Site Assessments: Phase II Environmental Site Assessment Process), and in accordance with the scope of work and standard operating procedures outlined in the July 30, 2010 Request for Workplan, Budget, and Schedule, and the August 11, 2010 Phase IIA Draft Work Plan.

The following Ransom personnel possess the sufficient training and experience necessary to conduct a Phase II Environmental Site Assessment, and from the information generated by such activities, have the ability to develop opinions and conclusions regarding environmental conditions at the Site.

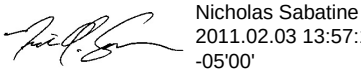
Environmental Professionals:



Aaron R. Martin
Environmental Scientist II/Primary Author



Eriksen P. Phenix, C.G.
Project Manager/Secondary Author



Nicholas O. Sabatine, P.G.
Vice President
Senior Geologist

TABLE 1: **SUMMARY OF SOIL SAMPLE CHEMICAL ANALYSIS RESULTS**
Phase IIA VI Study
Cumberland Farms #1822
31 Elm Street
Saco, Maine

Method			**MADEP-VPH**	**MADEP-VPH**	**MADEP-VPH**	**MADEP-VPH**	**MADEP-VPH**	**MADEP-VPH**	**MADEP-VPH**	**MADEP-VPH**	**MADEP-VPH**
Parameter			**BENZENE**	**C5-C8 ALIPHATIC HYDROCARBONS**	**C9-C10 AROMATIC HYDROCARBONS**	**C9-C12 ALIPHATIC HYDROCARBONS**	**ETHYLBENZENE**	**XYLENES**	**METHYL-TERT-BUTYL ETHER (MTBE)**	**NAPHTHALENE**	**TOLUENE**
Sample Point	Sample Date	Depth	Concentrations in Micrograms per Kilogram (ug/kg)								
SB102	9/1/2010 10:00 AM	8 to 12 FGS	534	144000	72000	100000	2190	4580	455	1680	1820
SB104	9/1/2010 1:00 PM	4 to 8 FGS	1490	753000	241000	466000	18100	40700	BRL	4630	3220
PETROLEUM SOIL REMEDIATION GUIDELINE - EXCAVATION CONSTRUCTION WORKER			30000	10000000	5500000	9800000	2700000	7000000	10000000	32000	10000000
PETROLEUM SOIL REMEDIATION GUIDELINE - OUTDOOR COMMERCIAL WORKER			86000	10000000	5100000	10000000	420000	10000000	2600000	200000	10000000

NOTES:

1. BRL = below reporting limit.

TABLE 2: **SUMMARY OF GROUNDWATER CHEMICAL ANALYSIS RESULTS**
Phase IIA VI Study
Cumberland Farms #1822
31 Elm Street
Saco, Maine

Method			**MADEP-VPH**	**MADEP-VPH**	**MADEP-VPH**	**MADEP-VPH**	**MADEP-VPH**	**MADEP-VPH**	**MADEP-VPH**	**MADEP-VPH**	**MADEP-VPH**
Parameter			**BENZENE**	**C5-C8 ALIPHATIC HYDROCARBONS**	**C9-C10 AROMATIC HYDROCARBONS**	**C9-C12 ALIPHATIC HYDROCARBONS**	**ETHYLBENZENE**	**XYLENES (TOTAL)**	**METHYL-TERT-BUTYL ETHER (MTBE)**	**NAPHTHALENE**	**TOLUENE**
Sample Point	Sample Date	Depth	Concentrations in Micrograms per Liter (ug/l)								
MW 101	9/1/2010 12:25 PM	16	54	1790	2050	2610	346	1699	1250	62	25
MW 102	9/1/2010 1:25 PM	16	31	171	171	145	3	8	231	4	5
MW 103 DUP	9/1/2010 4:10 PM	16	BRL	BRL	224	188	BRL	BRL	303	BRL	BRL
MW 103	9/1/2010 4:10 PM	16	BRL	BRL	239	184	BRL	BRL	305	BRL	BRL
MW 104	9/1/2010 5:05 PM	16	BRL	BRL	28	39	BRL	BRL	219	BRL	BRL
CURRENT MAXIMUM EXPOSURE GUIDELINE (MEG)			4	300	200	700	30	1000	35	10	600
MASSACHUSETTS GROUNDWATER STANDARD (GW-2)			2000	3000	7000	5000	20000	9000	50000	1000	50000

NOTES:

1. BRL = below reporting limit.

TABLE 3: SUMMARY OF SOIL VAPOR CHEMICAL ANALYSIS RESULTS
Phase IIA VI Study
Cumberland Farms #1822
31 Elm Street
Saco, Maine

Method		**MADEP-APH**	**MADEP-APH**	**MADEP-APH**	**MADEP-APH**	**MADEP-APH**	**MADEP-APH**	**MADEP-APH**	**MADEP-APH**	**MADEP-APH**	**MADEP-APH**	**TO15**
Parameter		**1,3-BUTADIENE**	**BENZENE**	**C5-C8 ALIPHATIC HYDROCARBONS**	**C9-C10 AROMATIC HYDROCARBONS**	**C9-C12 ALIPHATIC HYDROCARBONS**	**ETHYLBENZENE**	**XYLENES (TOTAL)**	**METHYL-TERT-BUTYL ETHER (MTBE)**	**NAPHTHALENE**	**TOLUENE**	**TETRACHLOROETHYLENE**
Sample Point	Depth	Concentrations in Micrograms per Cubic Meter (ug/m3)										
SV101	3.5 FT	BRL	BRL	4400	26	2000	7	91	BRL	BRL	BRL	3.01
SV102	6 FT	BRL	8.8	7500	62	540	24	55	BRL	BRL	390	BRL
SV103	6 FT	BRL	28	1100	520	1600	68	244	11	BRL	310	3.64
SV104	6 FT	16	65	1900	950	3200	99	354	15	7.3	520	4.05
SV105	3.3 FT	BRL	46	1600	92	820	55	127	37	BRL	430	BRL
SV106	2.9 FT	BRL	12	1200	600	2000	32	125	BRL	4.9	54	BRL
MAINE RESIDENTIAL MULTI-CONTAMINANT CHRONIC SOIL GAS TARGET (G-1)		4.05	15.5	2100	500	2100	48.5	1042.86	470	3.6	50000	20.5

NOTES:

1. Samples were collected on September 1, 2010
2. BRL = below reporting limit.
3. Analyte not detected in any of the soil vapor samples are not shown on this data table.

TABLE 4: **SUMMARY OF SUB-SLAB SOIL VAPOR CHEMICAL ANALYSIS RESULTS**
Phase IIA VI Study
Cumberland Farms #1822
31 Elm Street
Saco, Maine

Method		**MADEP-APH**	**MADEP-APH**	**MADEP-APH**	**MADEP-APH**	**MADEP-APH**	**MADEP-APH**	**MADEP-APH**	**MADEP-APH**	**MADEP-APH**	**MADEP-APH**	**TO15**
Parameter		**1,3-BUTADIENE**	**BENZENE**	**C5-C8 ALIPHATIC HYDROCARBONS**	**C9-C10 AROMATIC HYDROCARBONS**	**C9-C12 ALIPHATIC HYDROCARBONS**	**ETHYLBENZENE**	**XYLENES (TOTAL)**	**METHYL-TERT-BUTYL ETHER (MTBE)**	**NAPHTHALENE**	**TOLUENE**	**TETRACHLOROETHYLENE**
Sample Point	Depth	Concentrations in Micrograms per Cubic Meter (ug/m3)										
SV107	0.5 FT	BRL	BRL	1000	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL

NOTES:

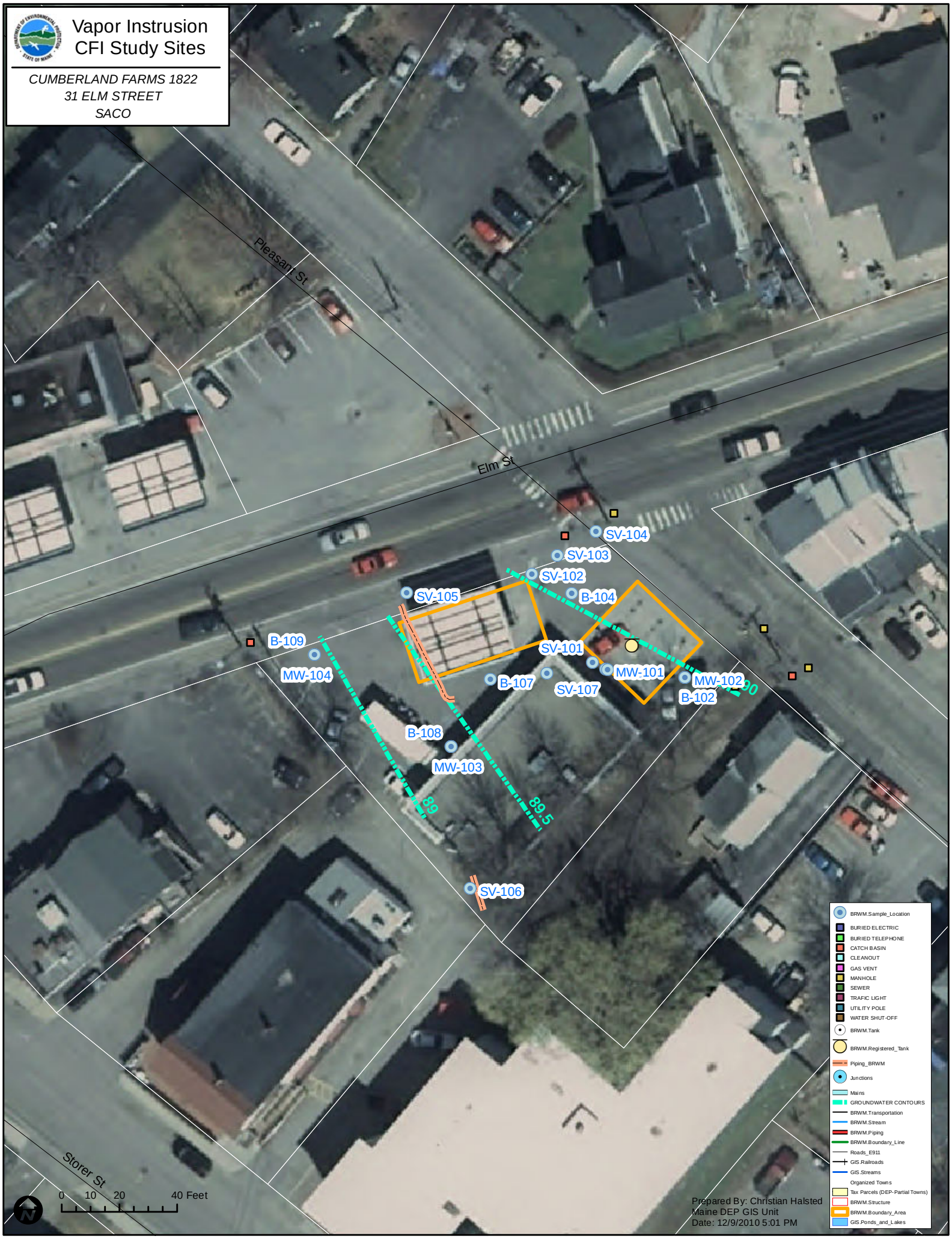
1. Sample collected on September 1, 2010.
2. BRL = Below Laboratory Reporting Limit
3. Analytes not detected in any of the soil vapor samples are not shown on this data table.

TABLE 5: SUMMARY OF FIXED GASES FIELD SCREENING & CHEMICAL ANALYSIS RESULTS
Phase IIA VI Study
Cumberland Farms #1822
31 Elm Street
Saco, Maine

Method			**EPA METHOD 3C**	**EPA METHOD 3C**	**EPA METHOD 3C**	**FIELD**	**FIELD**	**FIELD**	**FIELD**	**FIELD**
Parameter			**CARBON DIOXIDE**	**METHANE**	**OXYGEN GAS**	**CARBON DIOXIDE**	**METHANE**	**OXYGEN GAS**	**PID SOIL GAS SCREEN**	**SUBSURFACE PRESSURE**
Sample Point	Sample Date	Depth	Percentage of Measurable Gas (%)							Inches of Water (In/H2O)
SV101	9/1/2010					0.000001		20.8		
SV101	9/1/2010 12:30 PM	3.5 FT				3.1	ND	16.8	ND	
SV101	9/1/2010 12:38 PM	3.5 FT	2.91	BRL	14.5	3.1		16.8		
SV101	9/21/2010									0.005
SV102	9/1/2010					0.000001		20.8		
SV102	9/1/2010 3:52 PM	6 FT				5	2	2.5	ND	
SV102	9/1/2010 4:01 PM	6 FT	11.8	BRL	BRL	5		2.5		
SV102	9/21/2010									0.005
SV103	9/1/2010					0.000002		20.8		
SV103	9/1/2010 3:13 PM	6 FT				5	1.5	5.1	ND	
SV103	9/1/2010 3:22 PM	6 FT	10.2	BRL	2.84	5		4.8		
SV103	9/21/2010									0.005
SV104	9/1/2010					0.000003		20.8		
SV104	9/1/2010 2:32 PM	6 FT				5	0.5	9.7	ND	
SV104	9/1/2010 2:41 PM	6 FT	7.42	BRL	7.31	5		9.6		
SV104	9/21/2010									0.01
SV105	9/1/2010							20.8		NM
SV105	9/1/2010 4:36 PM	3.3 FT				0.66	ND	19.6	ND	
SV105	9/1/2010 4:45 PM	3.3 FT	0.774	BRL	16.1	0.88		19.5		
SV106	9/1/2010					0.000003		20.8		
SV106	9/1/2010 11:43 AM	2.9 FT				2.4	ND	18.5	ND	
SV106	9/1/2010 11:53 AM	2.9 FT	2.54	BRL	15	2.75		18		NM
SV107	9/1/2010					0.00001		20.8		
SV107	9/1/2010 10:10 AM					1.36	ND	17.4	ND	
SV107	9/1/2010 10:22 AM					0.000147		17.3		
SV107	9/1/2010 10:22 AM	0.5 FT	0.979	BRL	14.5					
SV107	9/21/2010									0.005

NOTES:

1. BRL = Below Laboratory Reporting Limit
2. ND = Not Detectable
3. NM = Not Measured


Vapor Instrusion
CFI Study Sites
CUMBERLAND FARMS 1822
31 ELM STREET
SACO
Pleasant St
Elm St
Storer St
SV-104
SV-103
SV-102
SV-105
B-104
B-109
MW-104
SV-101
MW-101
MW-102
B-107
SV-107
B-102
B-108
MW-103
90
89
89.5
SV-106
0 10 20 40 Feet
BRWM.Sample_Location
BURIED ELECTRIC
BURIED TELEPHONE
CATCH BASIN
CLEANOUT
GAS VENT
MANHOLE
SEWER
TRAFIC LIGHT
UTILITY POLE
WATER SHUT-OFF
BRWM.Tank
BRWM.Registered_Tank
Piping_BRWM
Junctions
Mains
GROUNDWATER CONTOURS
BRWM.Transportation
BRWM.Stream
BRWM.Piping
BRWM.Boundary_Line
Roads_E911
GIS.Railroads
GIS.Streams
Organized Towns
Tax Parcels (DEP-Partial Towns)
BRWM.Structure
BRWM.Boundary_Area
GIS.Ponds_and_Lakes
Prepared By: Christian Halsted
Maine DEP GIS Unit
Date: 12/9/2010 5:01 PM

APPENDIX A

Soil Boring Logs

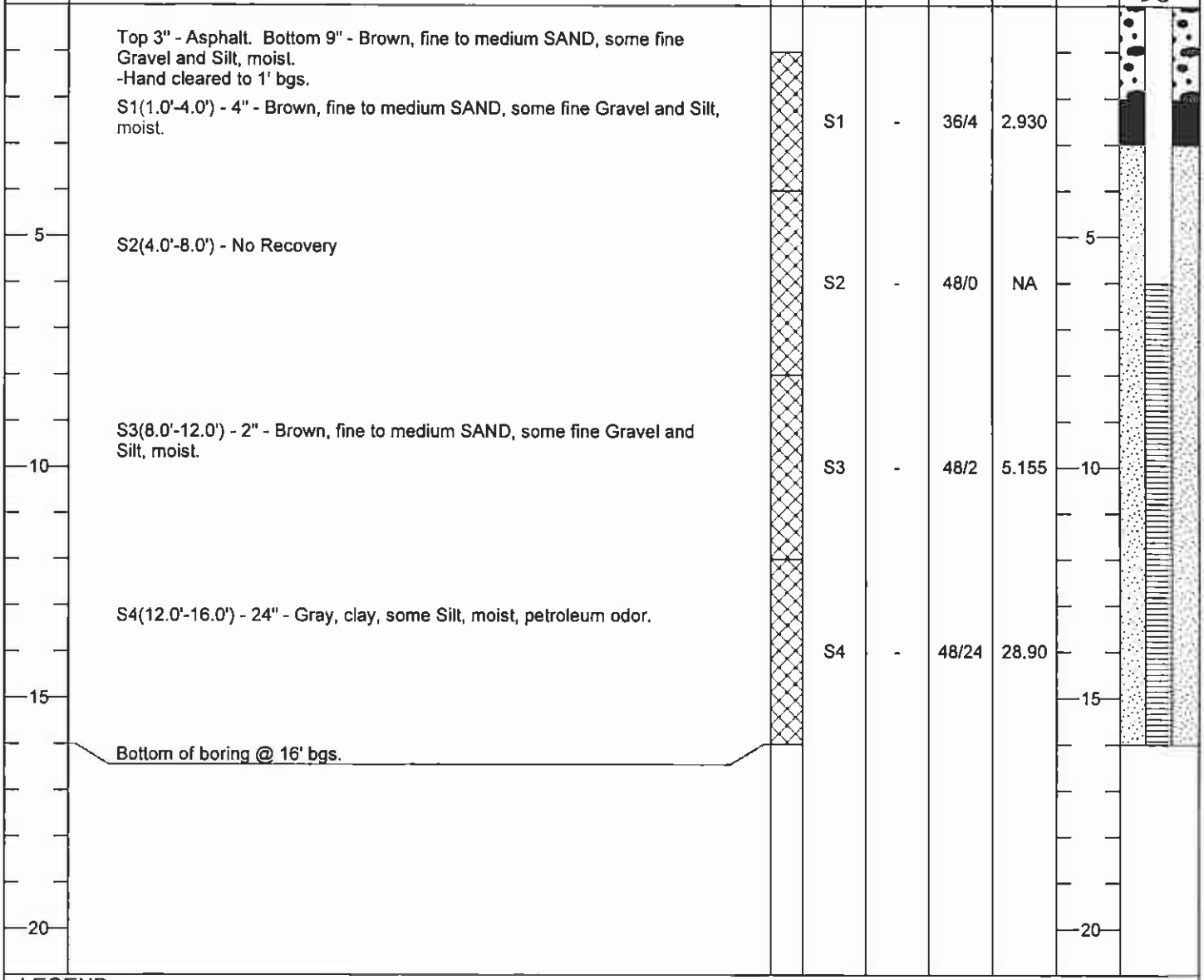
Petroleum Vapor Intrusion Triage Study-Phase IIA
Cumberland Farms Station #1822
31 Elm Street
Saco, Maine

RANSOM Environmental Consultants, Inc.

BORING AND MONITORING WELL LOG: B101 / MW101

Reviewed by: Emily Rhoads		Total Depth:	16 Feet	Logged By:	ARM
Date Reviewed: 2/3/11		Boring Diameter:	2 Inches	Date Drilled:	9/1/10 to 9/1/10
GW Observed at:	9' Feet	Well Stickup:	NA	Driller:	EPI

DEPTH	DESCRIPTION (Based on a modified Burmister Soil Classification System)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS (per 6 inches)	PENETRATION/ RECOVERY	OVM (ppmv)
	Top 3" - Asphalt. Bottom 9" - Brown, fine to medium SAND, some fine Gravel and Silt, moist. -Hand cleared to 1' bgs.					
	S1(1.0'-4.0') - 4" - Brown, fine to medium SAND, some fine Gravel and Silt, moist.		S1	-	36/4	2.930
5	S2(4.0'-8.0') - No Recovery		S2	-	48/0	NA
	S3(8.0'-12.0') - 2" - Brown, fine to medium SAND, some fine Gravel and Silt, moist.		S3	-	48/2	5.155
10						
	S4(12.0'-16.0') - 24" - Gray, clay, some Silt, moist, petroleum odor.		S4	-	48/24	28.90
15	Bottom of boring @ 16' bgs.					
20						



LEGEND: Filter Sand; Native Fill; Bentonite; Bentonite Grout; Concrete; PVC Screen; Solid PVC Riser

NOTES:
1) Boring advanced using GeoProbe 6610 DT direct push drilling rig. 2) Well finished with a locking flush-mounted roadbox cemented into the ground. 3) NM = Not Measured; TOC = Top of Casing; bgs = below ground surface.

CLIENT:
Maine DEP

SITE:
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31 Elm Street
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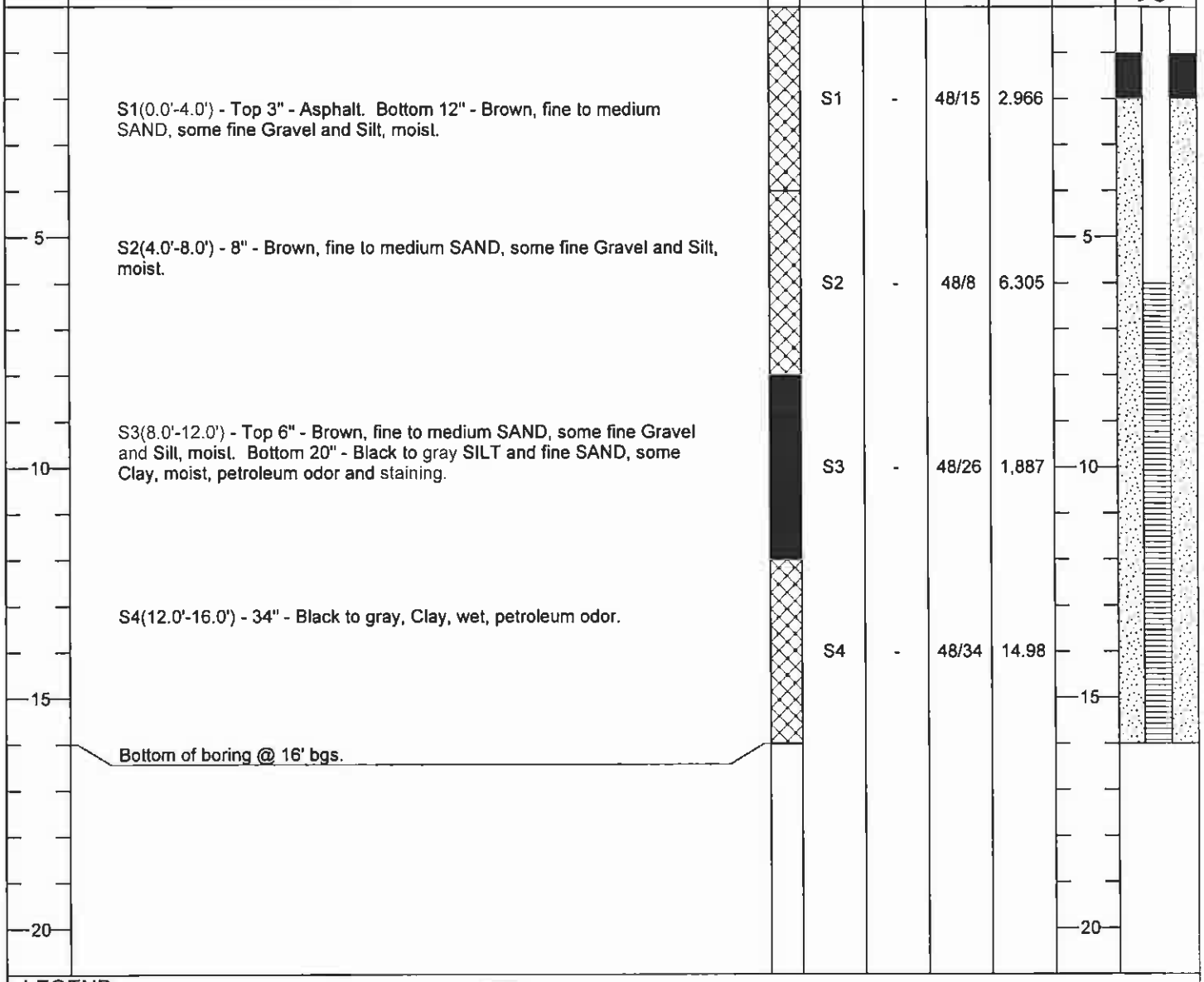
BORING AND MONITORING WELL LOG: B102 / MW102

Reviewed by: Eric. Rhey		Total Depth:	16 Feet	Logged By:	ARM
Date Reviewed: 2/3/11		Boring Diameter:	2 Inches	Date Drilled:	9/1/10 to 9/1/10
GW Observed at:	8' Feet	Well Stickup:	NA	Driller:	EPI

DEPTH	DESCRIPTION (Based on a modified Burmister Soil Classification System)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS (per 6 inches)	PENETRATION/ RECOVERY	OVM (ppmv)
0	S1(0.0'-4.0') - Top 3" - Asphalt. Bottom 12" - Brown, fine to medium SAND, some fine Gravel and Silt, moist.		S1	-	48/15	2.966
5	S2(4.0'-8.0') - 8" - Brown, fine to medium SAND, some fine Gravel and Silt, moist.		S2	-	48/8	6.305
10	S3(8.0'-12.0') - Top 6" - Brown, fine to medium SAND, some fine Gravel and Silt, moist. Bottom 20" - Black to gray SILT and fine SAND, some Clay, moist, petroleum odor and staining.		S3	-	48/26	1,887
15	S4(12.0'-16.0') - 34" - Black to gray, Clay, wet, petroleum odor.		S4	-	48/34	14.98
	Bottom of boring @ 16' bgs.					
20						



LEGEND: Filter Sand; Native Fill; Bentonite; Bentonite Grout; Concrete; PVC Screen; Solid PVC Riser

NOTES:
1) Boring advanced using GeoProbe 6610 DT direct push drilling rig. 2) Well finished with a locking flush-mounted roadbox cemented into the ground. 3) NM = Not Measured; TOC = Top of Casing; bgs = below ground surface. 4) Sample designated with solid fill submitted for laboratory analysis.

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Saco, ME

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BORING LOG: B104

Reviewed By: Emily Rhoy		Total Depth:	12 Feet	Logged By:	ARM
Date Reviewed: 2/3/11		Boring Diameter:	2 Inches	Date Drilled:	9/1/10 to 9/1/10
GW Observed at:	5.5' Feet	Well Stickup:	NA	Driller:	EPI

DEPTH	DESCRIPTION (Based on a modified Burmister Soil Classification System)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS (per 6 inches)	PENETRATION/ RECOVERY	OVM (ppmv)	DEXSIL (ppm)	DEPTH
	S1(0.0'-4.0') - Top 3" - Asphalt. Bottom 16" - Brown, fine SAND and SILT, trace fine to coarse Gravel, moist.		S1	-	48/19	20.38		
5	S2(4.0'-8.0') - Top 16" - Brown, fine SAND and SILT, trace fine to coarse Gravel, moist. Bottom 10" - Gray, fine SAND and SILT, some Clay, wet, petroleum odor.		S2	-	48/26	4,594		5
	S3(8.0'-12.0') - 30" - Gray SILT and fine SAND, some Clay, wet, petroleum odor.		S3	-	48/30	2,897		
10	Bottom of boring @ 12' bgs.							10
15								15
20								20

NOTES:
1) Boring advanced using GeoProbe 6610 DT direct push drilling rig. 2) NM = Not Measured; TOC = Top of Casing; bgs = below ground surface. 3) Sample designated with solid fill submitted for laboratory analysis.

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Maine DEP

SITE:
Cumberland Farms Station 1822
31 Elm Street
Saco, ME

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BORING LOG: B107

Reviewed By: Emily Rhemp	Total Depth: 12 Feet	Logged By: ARM	
Date Reviewed: 2/3/11	Boring Diameter: 2 Inches	Date Drilled: 9/1/10 to 9/1/10	
GW Observed at: 9' Feet	Well Stickup: NA	Driller: EPI	

DEPTH	DESCRIPTION (Based on a modified Burmister Soil Classification System)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS (per 6 inches)	PENETRATION/ RECOVERY	OVM (ppmv)	DEXSIL (ppm)	DEPTH
	S1(0.0'-4.0') - Top 3" - Asphalt. Bottom 20" - Brown, fine to medium SAND, some fine Gravel and Silt, moist.		S1	-	48/23	3.031		
5	S2(4.0'-8.0') - Top 10" - Brown, fine to medium SAND, some fine Gravel and Silt, moist. Bottom 6" - Grayish-black, fine SAND and SILT, moist, petroleum odor.		S2	-	48/16	54.05		5
	S3(8.0'-12.0') - 8" - Grayish-black, fine SAND and SILT, wet, petroleum odor.		S3	-	48/8	2353		
10	Bottom of boring @ 12' bgs.							10
15								15
20								20

NOTES:
1) Boring advanced using GeoProbe 6610 DT direct push drilling rig. 2) NM = Not Measured; TOC = Top of Casing; bgs = below ground surface.

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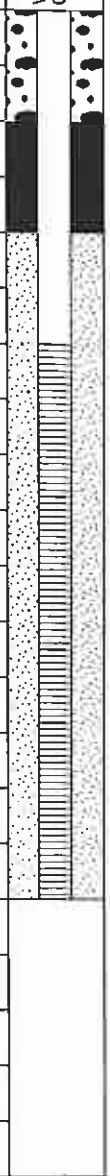
BORING AND MONITORING WELL LOG: B108 / MW103

Reviewed by: Eric Rhoney		Total Depth:	16 Feet	Logged By:	ARM
Date Reviewed: 2/3/10		Boring Diameter:	2 Inches	Date Drilled:	9/1/10 to 9/1/10
GW Observed at:	10' Feet	Well Stickup:	NA	Driller:	EPI

DEPTH	DESCRIPTION (Based on a modified Burmister Soil Classification System)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS (per 6 inches)	PENETRATION/ RECOVERY	OVM (ppmv)
	S1(0.0'-4.0') - Top 3" - Asphalt. Bottom 17" - Brown, fine to medium SAND, some Silt, trace fine to coarse Gravel, contains bricks, moist. -Hand cleared to 1' bgs.		S1	-	36/20	1.371
5	S2(4.0'-8.0') - 28" - Olive brown to gray, fine SAND and SILT, contains bricks, moist.		S2	-	48/28	3.057
	S3(8.0'-12.0') - Top 12" - Olive brown to gray, fine SAND and SILT, wet. Bottom 24" - Gray, Clay and SILT, wet.		S3	-	48/36	4.092
10	S4(12.0'-16.0') - 48" - Gray, Clay and SILT, contains wood fragments, wet.		S4	-	48/48	4.890
15	Bottom of boring @ 16' bgs.					
20						



LEGEND:

Filter Sand | Native Fill | Bentonite | Bentonite Grout | Concrete | PVC Screen | Solid PVC Riser

NOTES:
1) Boring advanced using GeoProbe 6610 DT direct push drilling rig. 2) Well finished with a locking flush-mounted roadbox cemented into the ground. 3) NM = Not Measured; TOC = Top of Casing; bgs = below ground surface. 4) Sample designated with solid fill submitted for laboratory analysis.

CLIENT:
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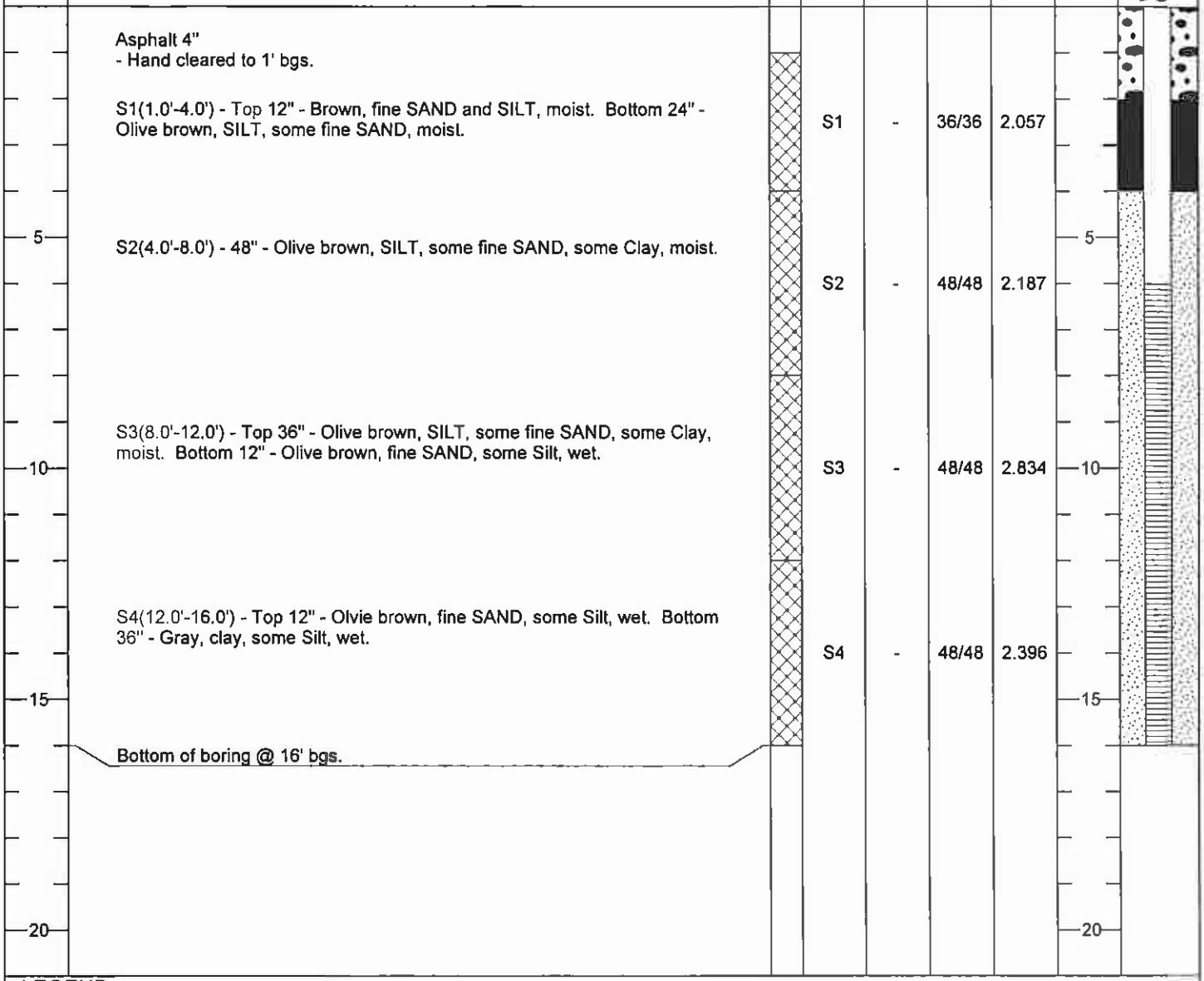
BORING AND MONITORING WELL LOG: B109 / MW104

Reviewed by: Eric Phelps		Total Depth:	16 Feet	Logged By:	ARM
Date Reviewed: 2/3/11		Boring Diameter:	2 Inches	Date Drilled:	9/1/10 to 9/1/10
GW Observed at:	11' Feet	Well Stickup:	NA	Driller:	EPI

DEPTH	DESCRIPTION (Based on a modified Burmister Soil Classification System)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS (per 6 inches)	PENETRATION/ RECOVERY	OVM (ppmv)
	Asphalt 4" - Hand cleared to 1' bgs.					
	S1(1.0'-4.0') - Top 12" - Brown, fine SAND and SILT, moist. Bottom 24" - Olive brown, SILT, some fine SAND, moist.		S1	-	36/36	2.057
5	S2(4.0'-8.0') - 48" - Olive brown, SILT, some fine SAND, some Clay, moist.		S2	-	48/48	2.187
10	S3(8.0'-12.0') - Top 36" - Olive brown, SILT, some fine SAND, some Clay, moist. Bottom 12" - Olive brown, fine SAND, some Silt, wet.		S3	-	48/48	2.834
	S4(12.0'-16.0') - Top 12" - Olvie brown, fine SAND, some Silt, wet. Bottom 36" - Gray, clay, some Silt, wet.		S4	-	48/48	2.396
15	Bottom of boring @ 16' bgs.					
20						



LEGEND:

Filter Sand | Native Fill | Bentonite | Bentonite Grout | Concrete | PVC Screen | Solid PVC Riser

NOTES:
1) Boring advanced using GeoProbe 6610 DT direct push drilling rig. 2) Well finished with a locking flush-mounted roadbox cemented into the ground. 3) NM = Not Measured; TOC = Top of Casing; bgs = below ground surface.

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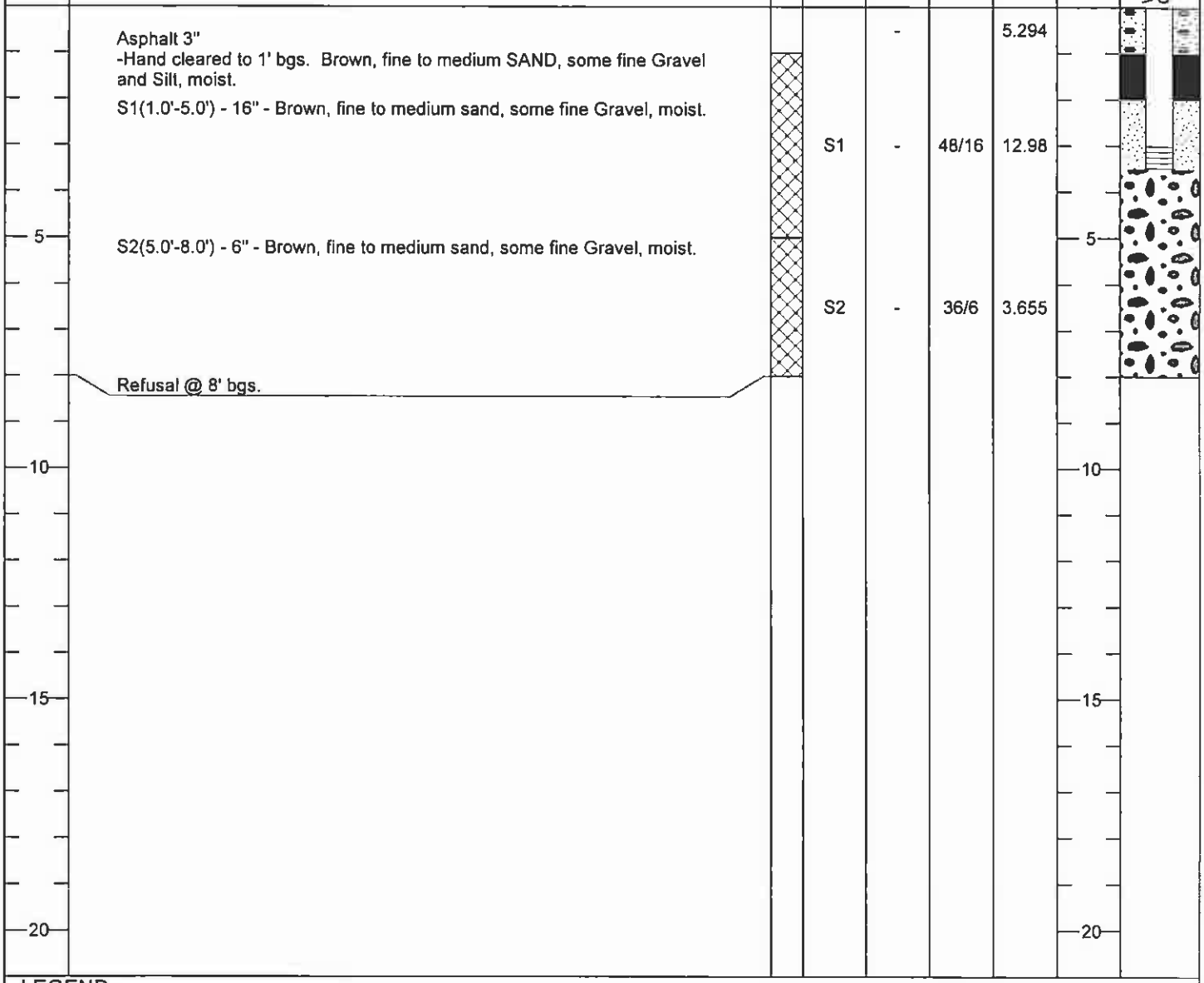
BORING AND MONITORING WELL LOG: SV101

Reviewed by: Eric Rhein		Total Depth:	8 Feet	Logged By:	ARM
Date Reviewed: 2/3/11		Boring Diameter:	2 Inches	Date Drilled:	9/1/10 to 9/1/10
GW Observed at:	NO Feet	Well Stickup:	NA	Driller:	EPI

DEPTH	DESCRIPTION (Based on a modified Burmister Soil Classification System)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS (per 6 inches)	PENETRATION/ RECOVERY	OVM (ppmv)
0	Asphalt 3"			-		5.294
	-Hand cleared to 1' bgs. Brown, fine to medium SAND, some fine Gravel and Silt, moist.					
	S1(1.0'-5.0') - 16" - Brown, fine to medium sand, some fine Gravel, moist.		S1	-	48/16	12.98
5	S2(5.0'-8.0') - 6" - Brown, fine to medium sand, some fine Gravel, moist.		S2	-	36/6	3.655
	Refusal @ 8' bgs.					
10						
15						
20						



LEGEND: Filter Sand; Native Fill; Bentonite; Bentonite Grout; Concrete; PVC Screen; Solid PVC Riser

NOTES:
1) Boring advanced using GeoProbe 6610 DT direct push drilling rig. 2) Soil vapor point finished with a locking flush-mount roadbox, cemented into the ground. 3) NM = Not Measured; NO = Not Observed; bgs = below ground surface.

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BORING AND MONITORING WELL LOG: SV102

Reviewed by: Erik Rhemp		Total Depth:	6 Feet	Logged By:	ARM
Date Reviewed: 2/3/11		Boring Diameter:	2 Inches	Date Drilled:	9/1/10 to 9/1/10
GW Observed at:	NO Feet	Well Stickup:	NA	Driller:	EPI

DEPTH	DESCRIPTION (Based on a modified Burmister Soil Classification System)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS (per 6 inches)	PENETRATION/ RECOVERY	OVM (ppmv)	DEPTH	WELL CONSTRUCTION
0	Asphalt 3" -Hand cleared to 1'bgs - Brown, fine SAND and SILT, trace fine to coarse Gravel, moist. -No soil samples collected from 1'-6' bgs during installation of soil vapor point.			-			0	
5							5	
10							10	
15							15	
20							20	

NOTES:
1) Boring advanced using GeoProbe 6610 DT direct push drilling rig. 2) Soil vapor point finished with a locking flush-mount roadbox, cemented into the ground. 3) NM = Not Measured; NO = Not Observed; bgs = below ground surface.

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BORING AND MONITORING WELL LOG: SV103

Reviewed by: Emily Rheaume		Total Depth:	6 Feet	Logged By:	ARM
Date Reviewed: 2/3/10		Boring Diameter:	2 Inches	Date Drilled:	9/1/10 to 9/1/10
GW Observed at:	NO Feet	Well Stickup:	NA	Driller:	EPI

DEPTH	DESCRIPTION (Based on a modified Burmister Soil Classification System)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS (per 6 inches)	PENETRATION/ RECOVERY	OVM (ppmv)	DEPTH	WELL CONSTRUCTION
0	Asphalt 3" -Hand cleared to 1'bgs - Brown, fine SAND and SILT, trace fine to coarse Gravel, moist. -No soil samples collected from 1'-6' bgs during installation of soil vapor point.						0	
5							5	
10							10	
15							15	
20							20	

NOTES:
1) Boring advanced using GeoProbe 6610 DT direct push drilling rig. 2) Soil vapor point finished with a locking flush-mount roadbox, cemented into the ground. 3) NM = Not Measured; NO = Not Observed; bgs = below ground surface.

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BORING AND MONITORING WELL LOG: SV104

Reviewed by: Emily Rheaume		Total Depth:	6 Feet	Logged By:	ARM
Date Reviewed: 2/3/11		Boring Diameter:	2 Inches	Date Drilled:	9/1/10 to 9/1/10
GW Observed at:	NO Feet	Well Stickup:	NA	Driller:	EPI

DEPTH	DESCRIPTION (Based on a modified Burmister Soil Classification System)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS (per 6 inches)	PENETRATION/ RECOVERY	OVM (ppmv)	DEPTH	WELL CONSTRUCTION
0	Asphalt 3" -Hand cleared to 1'bgs - Brown, fine SAND and SILT, trace fine to coarse Gravel, moist. -No soil samples collected from 1'-6' bgs during installation of soil vapor point.						0	
5							5	
10							10	
15							15	
20							20	

LEGEND: Filter Sand; Native Fill; Bentonite; Bentonite Grout; Concrete; PVC Screen; Solid PVC Riser

NOTES:
1) Boring advanced using GeoProbe 6610 DT direct push drilling rig. 2) Soil vapor point finished with a locking flush-mount roadbox, cemented into the ground. 3) NM = Not Measured; NO = Not Observed; bgs = below ground surface.

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BORING AND MONITORING WELL LOG: SV105

Reviewed by: Eric Ahrens		Total Depth:	3.3 Feet	Logged By:	ARM
Date Reviewed: 2/3/11		Boring Diameter:	6 Inches	Date Drilled:	9/1/10 to 9/1/10
GW Observed at:	NO Feet	Well Stickup:	NA	Driller:	EPI

DEPTH	DESCRIPTION (Based on a modified Burmister Soil Classification System)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS (per 6 inches)	PENETRATION/ RECOVERY	OVM (ppmv)	DEPTH	WELL CONSTRUCTION
	Asphalt 3"		-	-	-	-		
	-Hand cleared to 3.3' bgs - Brown, fine SAND and SILT, trace fine to coarse gravel, moist.							
	Bottom of Boring @ 3.3' bgs.							
5							5	
10							10	
15							15	
20							20	

NOTES:
1) Boring advanced using hand tools. 2) Soil vapor point finished with a locking flush-mount roadbox, cemented into the ground. 3) NM = Not Measured; NO = Not Observed; bgs = below ground surface.

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BORING AND MONITORING WELL LOG: SV106

Reviewed by: Eric Rhemp	Total Depth: 2.6 Feet	Logged By: EPP
Date Reviewed: 8/3/11	Boring Diameter: 6 Inches	Date Drilled: 9/1/10 to 9/1/10
GW Observed at: NO Feet	Well Stickup: NA	Driller: EPI

DEPTH	DESCRIPTION (Based on a modified Burmister Soil Classification System)	SAMPLE	SAMPLE NUMBER	BLOW COUNTS (per 6 inches)	PENETRATION/ RECOVERY	OVM (ppmv)	DEPTH	WELL CONSTRUCTION
	Top 6" - Fine brown SAND. Bottom 27" - Dark brown SILT, some Gravel, some Cobbles (fill), moist.		-	-	33/33	-		
	Bottom of Boring @ 2.6' bgs.							
5							5	
10							10	
15							15	
20							20	

NOTES:
1) Boring advanced using hand tools. 2) Soil vapor point finished with a locking flush-mount roadbox, cemented into the ground. 3) NM = Not Measured; NO = Not Observed; bgs = below ground surface.

CLIENT:
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SITE:
Cumberland Farms Station 1822
31 Elm Street
Saco, ME

Project No.: 101.06074.002

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Soil Classification Terms

Grain Size		
Material	*Fraction*	*Sieve Size*
Boulders		12" +
Cobbles		3"–12"
Gravel	coarse	¾"–3"
	fine	No. 4 to ¾"
Sand	coarse	No. 10 to No. 4
	medium	No. 40 to No. 10
	fine	No. 200 to No. 40
Fines (Silt & Clay)		Passing No. 200

Identification of soil type Is made on the basis of an estimate of particle sizes, and in the case of fine-grained soils, also on basis of plasticity.

Coarse and Fine Grained Soils	
Descriptive Adjective	**Percentage Requirement*
Trace	1–10%
Little	10–20%
Some	20–35%
And	35–50%

When sampling gravelly soils with a standard split spoon, the true percentage of gravel is often not recovered due to the relatively small sampler diameter.
*Percentage measured by weight.

Standard Penetration Values (N) v. Relative Density & Consistency

GRANULAR		**COHESIVE**	
N	***Relative Density (%)***	***N***	***Consistency***
		<2	Very Soft
0–4	Very Loose (0-15)	2–4	Soft
4–10	Loose (15-35)	4–8	Medium
10–30	Firm (35-65)	8–15	Stiff
30–50	Dense (65-85)	15–30	Very Stiff
>50	Very Dense (>85)	>30	Hard

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Rock Classification Terms

Weathering Classification		
Grade	***Symbol***	***Diagnostic Features***
Fresh	**F**	No visible sign of decomposition or discoloration. Rings under hammer impact.
Slightly Weathered	**WS**	Slight discoloration inwards from open fracture, otherwise similar to F.
Moderately Weathered	**WM**	Discoloration throughout. Weaker mineral such as feldspar decomposed. Strength somewhat less than fresh rock but cores can not be broken by hand or scraped by knife.
Highly Weathered	**WH**	Most minerals somewhat decomposed. Specimens can be broken by hand with effort or shaved with knife. Core stones present in rock mass. Texture becoming distinct but fabric.
Completely Weathered	**WC**	Minerals decomposed to soil but fabric and structure preserved (Saprolite). Specimens easily crumbled or penetrated.
Residual Soil	**RS**	Advanced state of decomposition resulting in Plastic soils. Rock fabric and structure completely destroyed. Large volume change.

Rock Descriptors			
Term		Meaning	
Hardness	Soft	Scratched by fingernail	
	Medium Hard	Scratched easily by penknife	
	Hard	Scratched with difficulty by penknife	
	Very Hard	Cannot be scratched by penknife	
Jointing/ Fractures	Slight	2 to 6 ft. spacing	
	Moderate	8in. to 2 ft.	
	High	2 in. to 8 in.	
	Intense	< 2in.	
Bedding	Laminated	(< 1")	Natural Break in Rock Layers
	Thin Bedded	(1" - 4")	
	Bedded	(4" - 12")	
	Thick Bedded	(12" - 36")	
	Massive	(> 36")	

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Unified System Classification of Soils (ASTM D-2487)

Major Divisions			*Group Symbols*	*Typical Names*
Coarse-Grained Soils More than 50% retained on No. 200 sieve	Gravels 50% or more of coarse fracton retained on No. 4 sieve	Clean Gravels	**GW**	Well-graded gravels and gravel-sand mixtures, little or no fines.
			GP	Poorly graded gravels and gravel-sand mixtures, little or no fines.
		Gravels w/ Fines	**GM**	Silty gravels, gravel-sand-silt mixtures.
			GC	Clayey gravels, gravel-sand-clay mixtures.
	Sands More than 50% coarse fraction passes No. 4 sieve	Clean Sands	**SW**	Well-graded sands and gravelly sands little or no fines.
			SP	Poorly graded sands and gravelly sands little or no fines.
		Sands w/ Fines	**SM**	Silty gravels, gravel-sand-silt mixtures.
			SC	Clayey sands, sand-clay mixtures.
Fine-Grained Soils 50% or more passes No. 200 sieve	Silts and Clays Liquid Limit 50% or less		**ML**	Inorganic silts, very fine sands, rock flour, silty or clayey sands.
			CL	Inorganic clays of low plasticity, gravelly clays, sandy clays, silty clays.
			OL	Organic silts and organic silty clays of low plasticity.
	Silts and Clays Liquid limit greater than 50%		**MH**	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity.
Highly Organic Soils			**Pt**	Peat, much and other highly organic soils

APPENDIX B

Field Data Sheets

Petroleum Vapor Intrusion Triage Study-Phase IIA
Cumberland Farms Station #1822
31 Elm Street
Saco, Maine

Date: 9/1/10
Site Name: CFI - Scio
Well #: MW-101
Project # 101.06074.0002

Purge Method (peristaltic, bladder pump): peristaltic
Depth to Bottom (DTB): 14.90 (TOC)
Depth to Water (DTW): 8.60 (TOC)
Water Column:

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Time (Min.)	Water Level	DO (%)	Turbidity (NTU)	Comments
1211	8.90	*	38.4	
1216	8.93		31.8	
1221	8.93		34.4	
1225	8.93		36.0	
(3 consecutive readings 5 min. apart)	Drawdown <10% of water column	± 10%	± 10% for values greater than 1 NTU	

* DO meter not working. Replace batteries - meter still will not turn on. Call Pine - they will bring replacement meter.

Sample ID: MW-101
Sample Time: 1225

Samplers: EPP

Laboratory Analysis
VPH Full

QC: extra container (VOA) for lab QC

Date: 9/1/10
Site Name: CFI-Saco
Well #: MW-102
Project # 101.06074.002

Purge Method (peristaltic, bladder pump): peristaltic
Depth to Bottom (DTB): 14.90
Depth to Water (DTW): 7.72
Water Column:

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Time (Min.)	Water Level	DO (%)	Turbidity (NTU)	~~Comments~~ Temp °C
1309	7.81	19.5	33.6	21.0
1314	7.84	22.7	21.1	20.8
1319	7.84	33.9	~~33.9~~ 21.2	20.7
1324	7.84	30.3	19.8	20.7
(3 consecutive readings 5 min. apart)	Drawdown <10% of water column	± 10%	± 10% for values greater than 1 NTU	

Sample ID: MW-102
Sample Time: 1325

Samplers: EPP

Laboratory Analysis
VPH Full

QC:

Date: 9/1/10
Site Name: CFI-Saco
Well #: MW-103
Project # 101.06074.002

Purge Method (peristaltic, bladder pump): peristaltic
Depth to Bottom (DTB): 14.90
Depth to Water (DTW): 9.61
Water Column:

RANSOM Environmental Consultants, Inc.

Time (Min.)	Water Level	DO (%)	Turbidity (NTU)	~~Comments~~ temp °C
1558	10.06	15.9	147	20.8
1603	10.12	14.0	189	20.6
1608	10.16	16.2	177	19.7
(3 consecutive readings 5 min. apart)	Drawdown <10% of water column	± 10%	± 10% for values greater than 1 NTU	

Sample ID

Sample Time

Samplers

Laboratory Analysis
VPH Full

QC:

Date: 9/1/10
Site Name: CFI-Sacramento
Well #: MW-104
Project # 101.06094.002

Purge Method (peristaltic, bladder pump): peristaltic
Depth to Bottom (DTB): 14.60
Depth to Water (DTW): 9.69
Water Column:

RANSOM Environmental Consultants, Inc.

Time (Min.)	Water Level	DO (%)	Turbidity (NTU)	~~Comments~~ Temp
1651	10.41	17.1	7/000	20.7
1656	10.76	40.5	197	20.3
1701	10.95	37.4	180	20.4
(3 consecutive readings 5 min. apart)	Drawdown <10% of water column	± 10%	± 10% for values greater than 1 NTU	

Sample ID: MW-104
Sample Time: 1705

Samplers: EPP

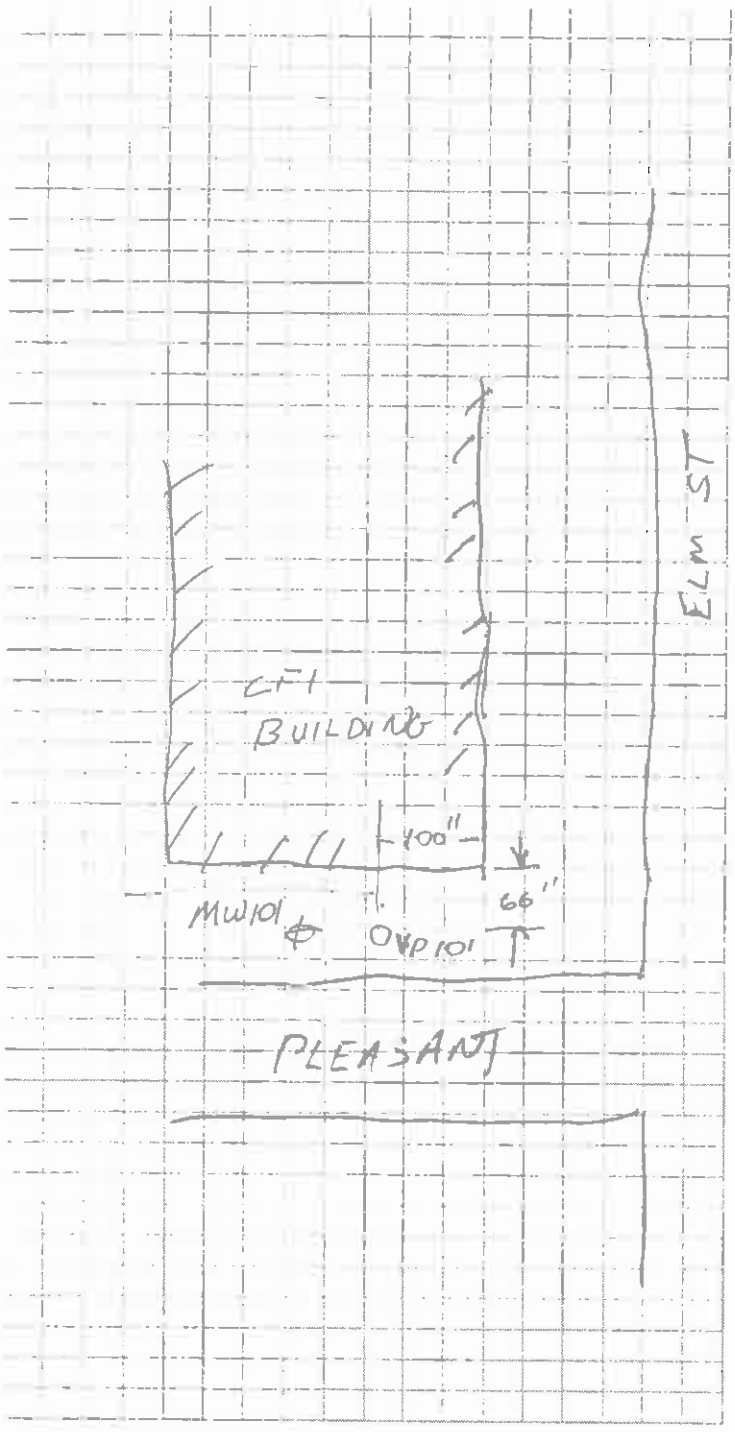
Laboratory Analysis: VPH Full

QC:

Soil Gas Sampling Field Sheet
Maine DEP

Site Name:	Elm St CFI
Town:	Saco
Date:	9/1/10
Sample I.D.:	SV101
Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)
Sampling Personnel:	Near CFI PME / BDH
Project Manager	
Collection Device:	(Summa Can) (Tedlar Bag)
Sample Penetration Location:	(Ashphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)
Sample Depth:	screen 3.5' to 3.0'
Depth to Water:	9'
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	678
Flow Control I.D.:	0130
Flow control rate:	
O_2 Ambient	ALTAIR 20.8
CO_2 Ambient	ALTAIR 0.01
subsurface pressure/vacuum	(+/- inches of water column)
Pre-Sample: O_2	ALTAIR 16.8 GX 16.0
Pre-Sample CO_2 :	ALTAIR 3.10 GX
Pre-Sample PID:	DEP THERMO 0.0
Pre-Sample CH_4:	0.0 % (% Volume, %LEL, PPM)
Sample Initiation Time:	12:30
Initial Vacuum:	-30 +
Sample End Time:	12:38
Final Vaccum:	-4
Post Sample O_2 :	Altair 16.8 %
Post Sample CO_2:	Altair 3.10 %

Sample Location Sketch

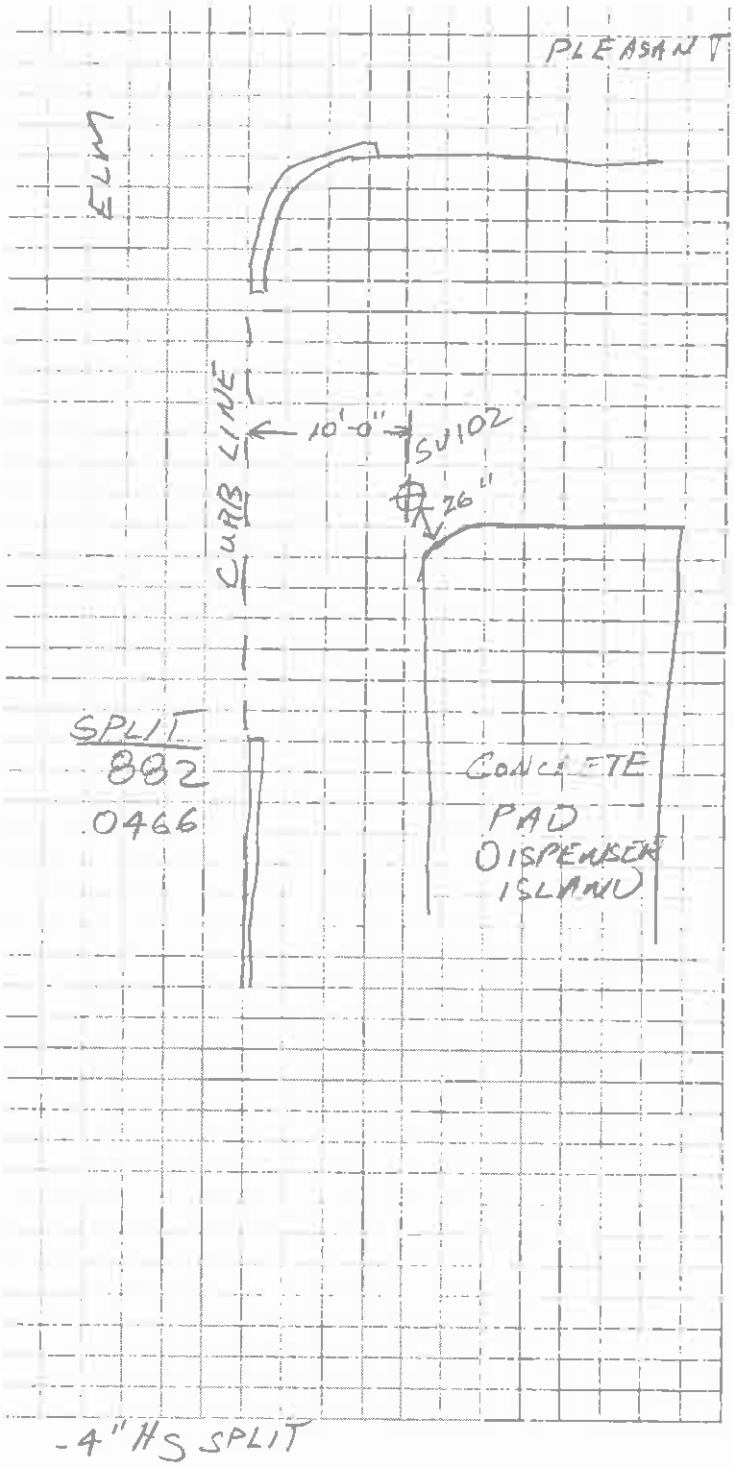


Notes: start purse 12:10 into 3L Tedlar @ 1/4 geopump speed
stop @ 12:20

Soil Gas Sampling Field Sheet
Maine DEP

Site Name:	Elm St CFI
Town:	SACO
Date:	9/1/10
Sample I.D.:	SV 102
Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)
Sampling Personnel:	PME / EP
Project Manager	
Collection Device:	(Summa Can) (Tedlar Bag)
Sample Penetration Location:	(Ashphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)
Sample Depth:	6'
Depth to Water:	8'
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	906
Flow Control I.D.:	0423
Flow control rate:	
O_2 Ambient	ALTAIR 20.8
CO_2 Ambient	ALTAIR 0.0
subsurface pressure/vacuum	Not Meas (+/- inches of water column)
Pre-Sample: O_2	RKI 0.6% ALTAIR 2.5%
Pre-Sample CO_2:	ALTAIR 5.00%
Pre-Sample PID:	DEP THERMO 0.0
Pre-Sample CH_4:	RKI 4% (% Volume %LEL PPM)
Sample Initiation Time:	3:52 Both
Initial Vacuum:	-30" Both
Sample End Time:	4:01 Both
Final Vaccum:	-10 "Hg
Post Sample O_2:	2.5%
Post Sample CO_2:	5.00%

Sample Location Sketch



Notes:

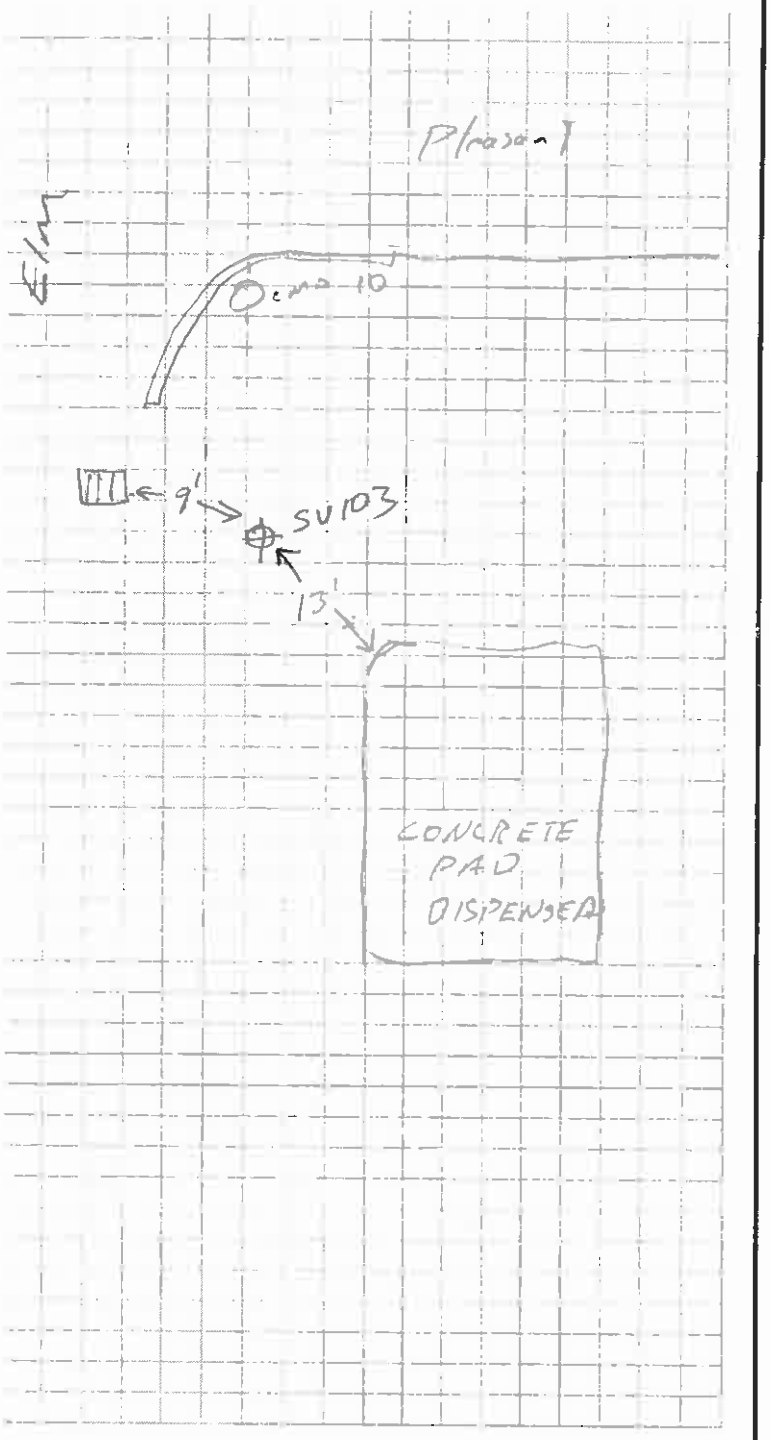
start purge 3:09

stop 3:25

Soil Gas Sampling Field Sheet
Maine DEP

Site Name:	Elm St CFI
Town:	Saco
Date:	9/1/10
Sample I.D.:	SV 103
Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)
Sampling Personnel:	PME & EP
Project Manager	
Collection Device:	(Summa Can) (Tedlar Bag)
Sample Penetration Location:	(Ashphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)
Sample Depth:	6'
Depth to Water:	8-9'
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	670
Flow Control I.D.:	~~670~~ 0173
Flow control rate:	~~0173~~
O_2 Ambient	20.8
CO_2 Ambient	0.02
subsurface pressure/vacuum	NOT MEAS (+/- inches of water column)
Pre-Sample: O_2	~~5.1 % Altair~~ 3.3 % RKI
Pre-Sample CO_2 :	5.00% Altair
Pre-Sample PID:	0.0 ppm
Pre-Sample CH_4:	3% LEL (% Volume, %LEL, PPM)
Sample Initiation Time:	3:13
Initial Vacuum:	-30" Hg
Sample End Time:	3:22
Final Vaccum:	-5"
Post Sample O_2 :	4.8% Altair
Post Sample CO_2:	5.00% Altair

Sample Location Sketch



Notes:

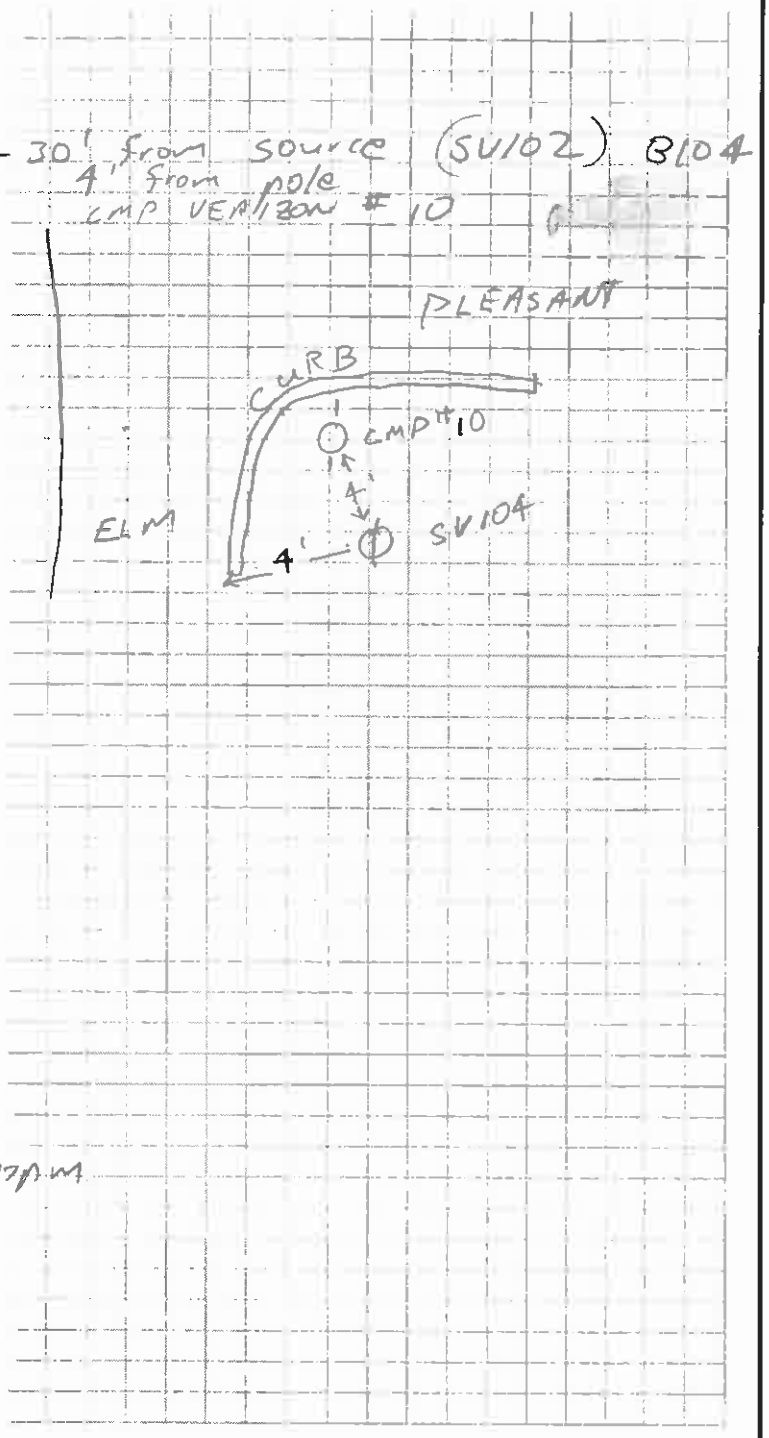
start purge @ 2.4 l into 3L tedlar @ 1/4 geopump speed
end 3:03

SV102 3:09 purge

Soil Gas Sampling Field Sheet
Maine DEP

Site Name:	Elm St CF1
Town:	Saco
Date:	9/1/10
Sample I.D.:	SV104
Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)
Sampling Personnel:	CME
Project Manager	
Collection Device:	(Summa Can) (Tedlar Bag)
Sample Penetration Location:	(Ashphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)
Sample Depth:	6' bottom probe
Depth to Water:	8-9'
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	813
Flow Control I.D.:	0323
Flow control rate:	
O_2 Ambient	20.8
CO_2 Ambient	0.03
subsurface pressure/vacuum	Not Meas (+/- inches of water column)
Pre-Sample: O_2	ALTAIR 9.7% RKI 8.1%
Pre-Sample CO_2 :	ALTAIR 5.00%
Pre-Sample PID:	DEP THERMO 580 0.0
Pre-Sample CH_4:	RKI 6X2003 (% Volume, %LEL, PPM) 1% LEL
Sample Initiation Time:	2:32
Initial Vacuum:	-30" +
Sample End Time:	2.41
Final Vaccum:	-5"
Post Sample O_2 :	Altair 9.6%
Post Sample CO_2:	Altair 5.0%

Sample Location Sketch

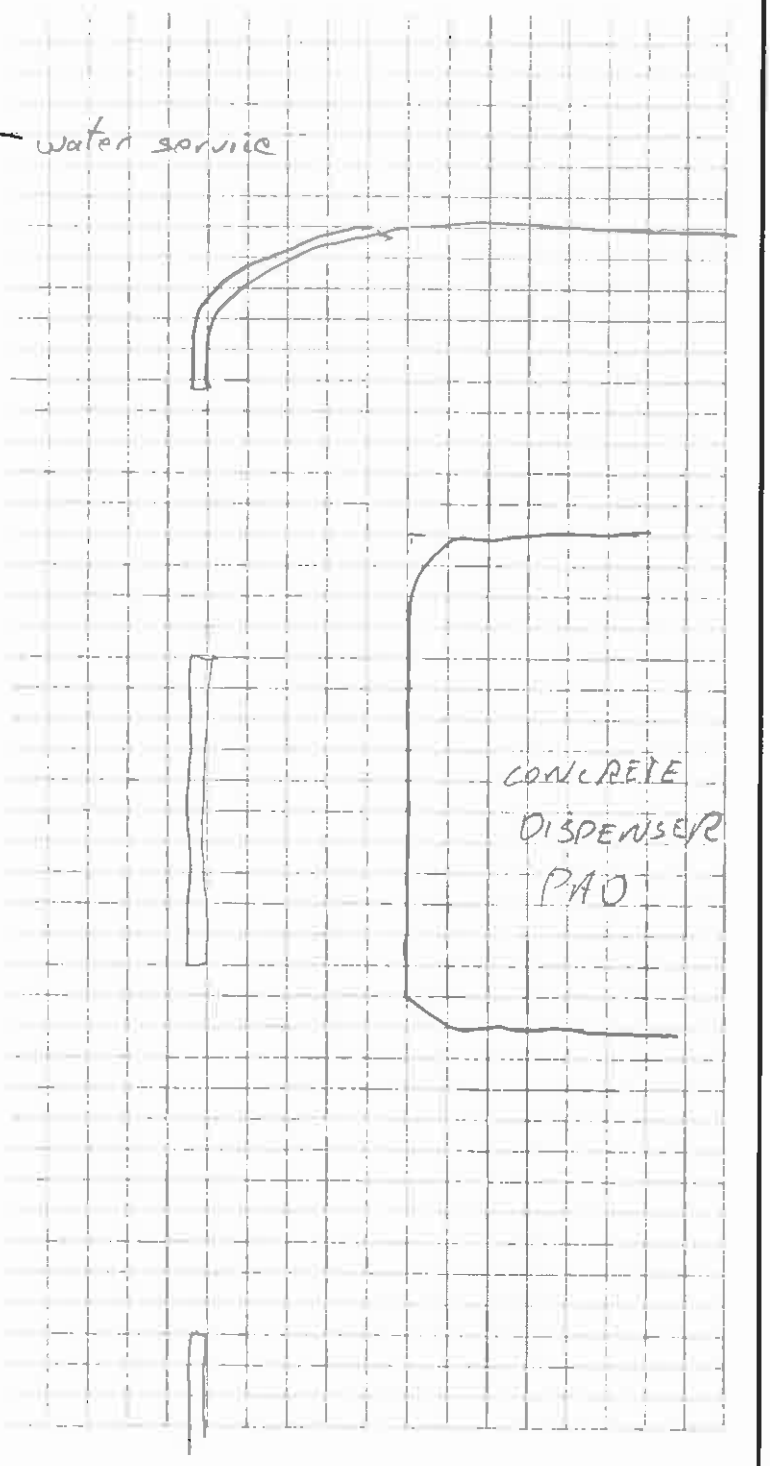


Notes: start purge @ 2:10 into 3L Tedlar bag @ 1/4 groupump speed
stop 2:23

Soil Gas Sampling Field Sheet
Maine DEP

Site Name:	Elm St CFI
Town:	Saco
Date:	9/1/10
Sample I.D.:	SV-105
Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)
Sampling Personnel:	PME & EP
Project Manager	
Collection Device:	(Summa Can) (Tedlar Bag)
Sample Penetration Location:	(Ashphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)
Sample Depth:	
Depth to Water:	
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	853
Flow Control I.D.:	0217
Flow control rate:	
O_2 Ambient	20.8 Alfair
CO_2 Ambient	0.00 Alfair
subsurface pressure/vacuum	(+/- inches of water column)
Pre-Sample: O_2	RKI 20.9 Alfair 19.6
Pre-Sample CO_2 :	Alfair 0.66 %
Pre-Sample PID:	Thermo DEP; 0.0
Pre-Sample CH_4:	0% (% Volume) (%LEL) PPM)
Sample Initiation Time:	4:36
Initial Vacuum:	-29"
Sample End Time:	4:45
Final Vaccum:	-3"
Post Sample O_2 :	19.5
Post Sample CO_2:	0.00

Sample Location Sketch



Begin purging at 1519; End purging at 15:48

Notes:

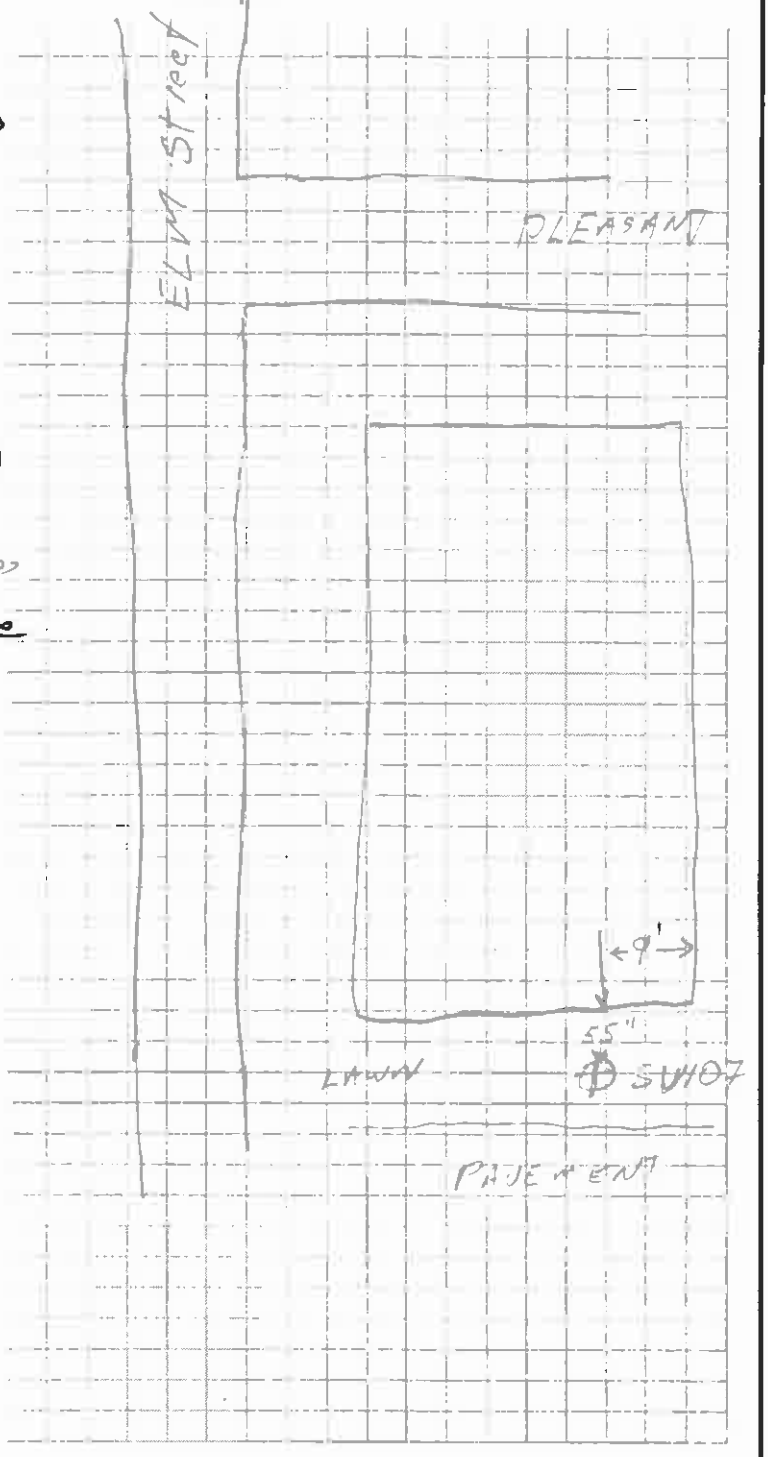
.66% = 6600 ppm

.1% = 1000 ppm

Soil Gas Sampling Field Sheet
Maine DEP

Site Name:	Elm St CFI
Town:	Saco
Date:	9/1/10
Sample I.D.:	SV106 in sewer manhole
Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)
Sampling Personnel:	PME & BDH
Project Manager	
Collection Device:	(Summa Can) (Tedlar Bag)
Sample Penetration Location:	(Ashphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine) w/cobbles
Sample Depth:	33" to bottom 6" probe
Depth to Water:	
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	852
Flow Control I.D.:	0320
Flow control rate:	
O_2 Ambient	20.8% Altair
CO_2 Ambient	0.03% Altair
subsurface pressure/vacuum	Not Made (+/- inches of water column)
Pre-Sample: O_2	ALTAIR 18.5 GX 2003 17.8
Pre-Sample CO_2 :	Altair 2.40
Pre-Sample PID:	DEP THERMO 0.0 PPM
Pre-Sample CH_4:	ALT GX 2003 0.0% (%Volume, %LEL, PPM)
Sample Initiation Time:	11:43
Initial Vacuum:	-30"
Sample End Time:	11:53
Final Vaccum:	-4
Post Sample O_2 :	13.2
Post Sample CO_2:	2.75

Sample Location Sketch

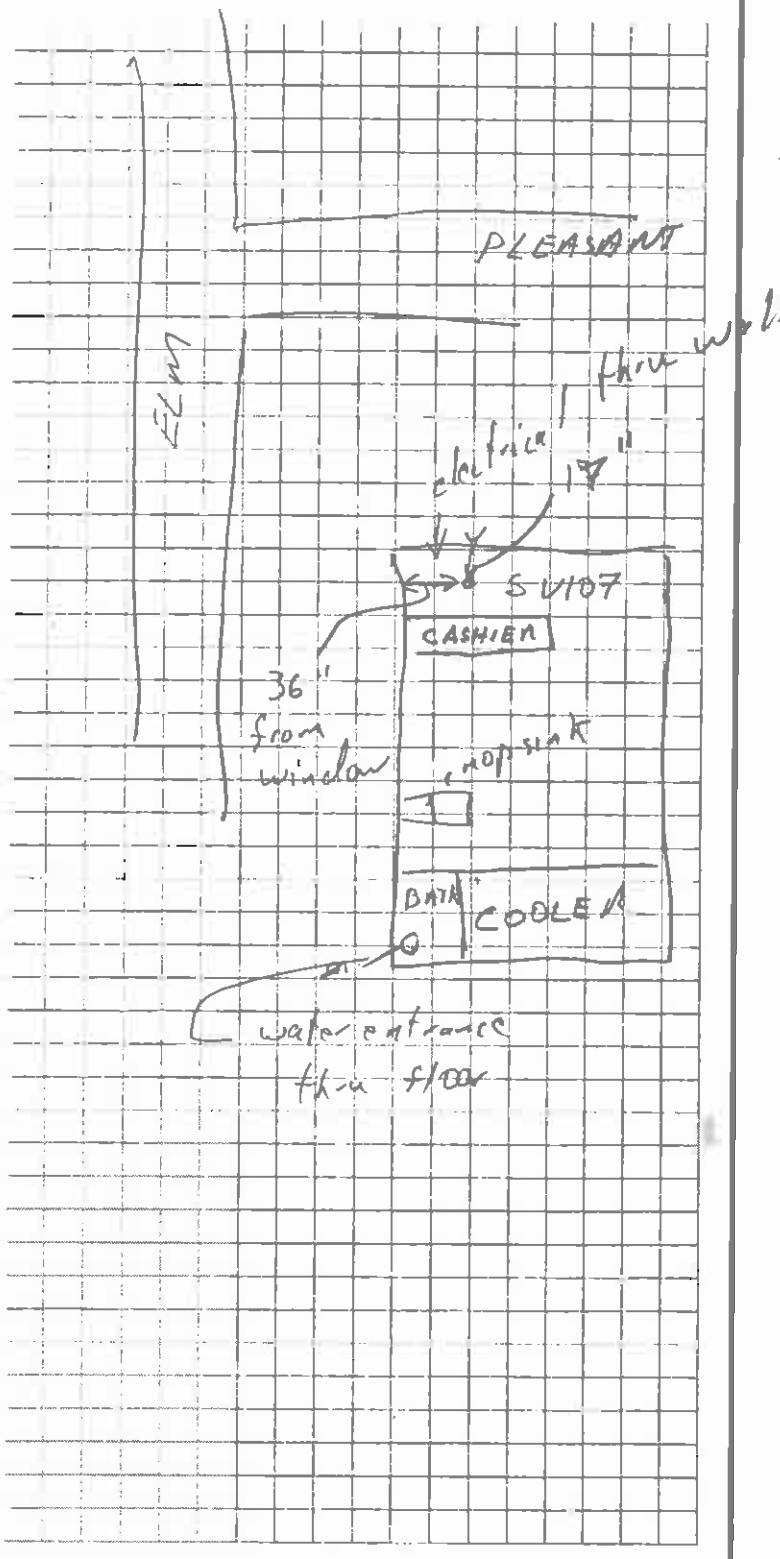


Notes: start purge 11:27
end purge 11:37

Indoor Air/Subslab Sampling Field Sheet
Maine DEP

Site Name:	Elm St CF1
Town:	Saco
Date:	9/1/10
Sample I.D.:	SV107
Project Manager:	
Sampling Personnel:	PM E/BDH
Collection Device:	(Summa Can) (Tedlar Bag)
Sample Type:	(Subslab) (Indoor Air)
Sampling Location:	Behind cashier
Foundation Floor Type:	(Dirt) (Concrete)
Foundation Wall Type:	(Concrete) (Block) (Stone) (Brick) (Slab on Grade)
Sump Hole:	(Yes) (No)
Penetrations in Floor:	(Sewer) (Water) (Gas) (Cracks) (Drains)
Penetrations in Wall:	(Sewer) (Water) (Gas) (Electric) (Cracks)
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	847
Flow Control I.D.:	0085
Flow control rate:	
O_2 Ambient	20.8%
CO_2 Ambient	0.10%
Pre-Sample: O_2	Altair 17.4 RKI GX-2003 17%
Pre-Sample CO_2:	1.36%
Pre-Sample PID:	DeltaRAE 0.0
Pre-Sample CH_4:	RKI GX-2003 0.0
Sample Initiation Time:	10:10
Initial Vacuum:	-30" Hg
Sample End Time:	10:22
Final Vaccum:	-3" Hg
Post Sample O_2:	17.3
Post Sample CO_2:	1.47

Sample Location Sketch



Notes/Observations:

start purge @ 9:48 into 3L bag @ 1/2 gpm pump speed
shutdown 9:59

APPENDIX C

Laboratory Analytical Reports

Petroleum Vapor Intrusion Triage Study-Phase IIA
Cumberland Farms Station #1822
31 Elm Street
Saco, Maine

analytics environmental laboratory LLC

195 Commerce Way Suite E
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906
www.analyticslab.com

September 17, 2010

Mr. Erik Phenix
Ransom Environmental Consultants, Inc.
400 Commercial Street Suite 404
Portland, ME 04101

RE: Analytical Results Case Narrative
Cumberland Farms-Saco
Analytics #67695

Dear Mr. Phenix:

Enclosed please find the analytical report for samples collected from the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Volatile Petroleum Hydrocarbons (VPH) using MADEP VPH Method 2004 Rev 1.1.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II package has been assembled in the following order:

- Case Narrative/Non-Conformance Summary
- Sample Log Sheet - Cover Page
- VPH Form I Data Sheet for Samples and Blanks
  - Chromatograms
- VPH Form 3 MS/MSD (LCS) Recoveries
  - Chromatograms
- Subcontracted Reports and Narratives
- Chain of Custody (COC) Forms
- Sample Receipt Checklist

QC NON CONFORMANCE SUMMARY

Sample Receipt:
No exceptions.

Volatile Petroleum Hydrocarbons (VPH):
No results were reported below the quantitation limit for C9-C10 Aromatic Range.

Samples 67695-1, 67695-2, and 67695-3 required dilution due to the concentrations of hydrocarbons in the sample.

The MS/MSD analyzed on sample 67695- had low recovery for Pentane. The hydrocarbon ranges and target analytes were in control. The laboratory control samples ((LV090710K/LV090710K2) were in control for all analytes. Results were reported without qualification.

If you have any questions or I can be of further assistance please do not hesitate to contact me.

Sincerely,
ANALYTICS Environmental Laboratory, LLC

Stephen Knollmeyer
Laboratory Director

analytics environmental laboratory LLC

195 Commerce Way Suite E
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906
www.analyticslab.com

Mr. Erik Phenix
Ransom Environmental Consultants, Inc.
400 Commercial Street Suite 404
Portland, ME 04101

Report Number: 67695

Revision: Rev. 0

Re: Cumberland Farms- Saco (Project No: 101.06074.002)

Enclosed are the results of the analyses on your sample(s). Samples were received on 03 September 2010 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

Sample Analysis: The attached pages detail the Client Sample IDs, Lab Sample IDs, and Analyses requested

Sample Receipt Exceptions: None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Virginia, Maryland, and is accredited by the Deparment of Defense (DOD) ELAP program. A list of actual certified parameters is available upon request.

If you have any questions on these results, please do not hesitate to contact us.

Authorized signature _____
Stephen L. Knollmeyer Lab. Director

Date 9/17/2010

analytics environmental laboratory LLC

195 Commerce Way Suite E
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906
www.analyticslab.com

CLIENT: Ransom Environmental Consultants, Inc. **REPORT NUMBER: 67695** **REV: Rev. 0**

PROJECT: Cumberland Farms- Saco (Project No: 101.06074.002)

Lab Number	Sample Date	Station Location	Analysis	Comments
67695-1	09/01/10	SB102-S3-090110	Volatile Petroleum Hydrocarbons	
67695-2	09/01/10	SB104-S2-090110	Volatile Petroleum Hydrocarbons	
67695-3	09/01/10	MW-101	Volatile Petroleum Hydrocarbons	
67695-4	09/01/10	MW-102	Volatile Petroleum Hydrocarbons	
67695-5	09/01/10	MW-103	Volatile Petroleum Hydrocarbons	
67695-6	09/01/10	MW-103 DUP	Volatile Petroleum Hydrocarbons	
67695-7	09/01/10	MW-104	Volatile Petroleum Hydrocarbons	
67695-8	09/01/10	Trip Blank (s)	Volatile Petroleum Hydrocarbons	
67695-9	09/01/10	Trip Blank (aq)	Electronic Data Deliverable	
	09/01/10	Trip Blank (aq)	Volatile Petroleum Hydrocarbons	

Surrogate Compound Limits

	Matrix: Aqueous Units: % Recovery	Solid % Recovery	Method
Volatile Organic Compounds - Drinking Water			
1,4-Difluorobenzene	70-130		EPA 524.2
Bromofluorobenzene	70-130		
1,2-Dichlorobenzene-d4	70-130		
Volatile Organic Compounds			
1,2-Dichloroethane-d4	70-120	70-120	EPA 624/8260B
Toluene-d8	85-120	85-120	
Bromofluorobenzene	75-120	75-120	
Semi-Volatile Organic Compounds			
2-Fluorophenol	20-110	35-105	EPA 625/8270C
d5-Phenol	15-110	40-100	
d5-nitrobenzene	40-110	35-100	
2-Fluorobiphenyl	50-110	45-105	
2,4,6-Tribromophenol	40-110	40-125	
d14-p-terphenyl	50-130	30-125	
PAH's by SIM			
d5-nitrobenzene	21-110	35-110	EPA 8270C
2-Fluorobiphenyl	36-121	45-105	
d14-p-terphenyl	33-141	30-125	
Pesticides and PCBs			
2,4,5,6-Tetrachloro-m-xylene (TCX)	46-122	40-130	EPA 608/8082
Decachlorobiphenyl (DCB)	40-135	40-130	
Herbicides			
Dichloroacetic acid (DCAA)	30-150	30-150	
Gasoline Range Organics/TPH Gasoline			
Trifluorotoluene TFT (FID)	60-140	60-140	MEDEP 4217/EPA 8015
Bromofluorobenzene (BFB) (FID)	60-140	60-140	
Trifluorotoluene TFT (PID)	60-140	60-140	
Bromofluorobenzene (BFB) (PID)	60-140	60-140	
Diesel Range Organics/TPH Diesel			
m-terphenyl	60-140	60-140	MEDEP 4125/EPA 8015/CT ETPH
Volatile Petroleum Hydrocarbons			
2,5-Dibromotoluene (PID)	70-130	70-130	MADEP VPH May 2004 Rev1.1
2,5-Dibromotoluene (FID)	70-130	70-130	
Extracatable Petroleum Hydrocarbons			
1-chloro-octadecane (aliphatic)	40-140	40-140	MADEP EPH May 2004 Rev1.1
o-Terphenyl (aromatic)	40-140	40-140	
2-Fluorobiphenyl (Fractionation)	40-140	40-140	
2-Bromonaphthalene (fractionation)	40-140	40-140	

VPH
DATA SUMMARIES

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. Erik Phenix
Ransom Environmental Consultants, Inc.
400 Commercial Street Suite 404
Portland, ME 04101

September 17, 2010

CLIENT SAMPLE ID

Project Name: Cumberland Farms- Saco

Project Number: 101.06074.002
Client Sample ID: LabQC

SAMPLE DATA

Lab Sample ID: BV090710K
Matrix: Aqueous
Percent Solid: N/A
Dilution Factor: 1
Collection Date:
Lab Receipt Date:
Analysis Date: 09/07/10

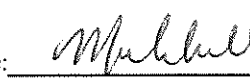
VPH ANALYTICAL RESULTS

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics[1]	N/A	50	µg/L	U
Unadjusted C9-C12 Aliphatics[1]	N/A	50	µg/L	U
Benzene	C5-C8	2	µg/L	U
Ethylbenzene	C9-C12	2	µg/L	U
Methyl-tert-butyl ether	C5-C8	2	µg/L	U
Naphthalene	N/A	2	µg/L	U
Toluene	C5-C8	2	µg/L	U
m- & p-Xylenes	C9-C12	4	µg/L	U
o-Xylene	C9-C12	2	µg/L	U
C5-C8 Aliphatics Hydrocarbons[1,2]	N/A	50	µg/L	U
C9-C12 Aliphatic Hydrocarbons[1,3]	N/A	50	µg/L	U
C9-C10 Aromatic Hydrocarbons[1]	N/A	10	µg/L	U
Surrogate % Recovery (2,5-Dibromotoluene) PID				87
Surrogate % Recovery (2,5-Dibromotoluene) FID				83
Surrogate Acceptance Range				70-130%

[1]Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
[3]C9-C12 Aliphatic Hydrocarbons exclude conc. of Target Analytes eluting in that range and conc. of C9-C10 Aromatic Hydrocarbons.
RL = Report Limit
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: MADEP Volatile Petroleum Hydrocarbons (VPH), ORS Division of Environmental Analysis, Revision 1.1 May 2004.

COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist.

Authorized signature: 

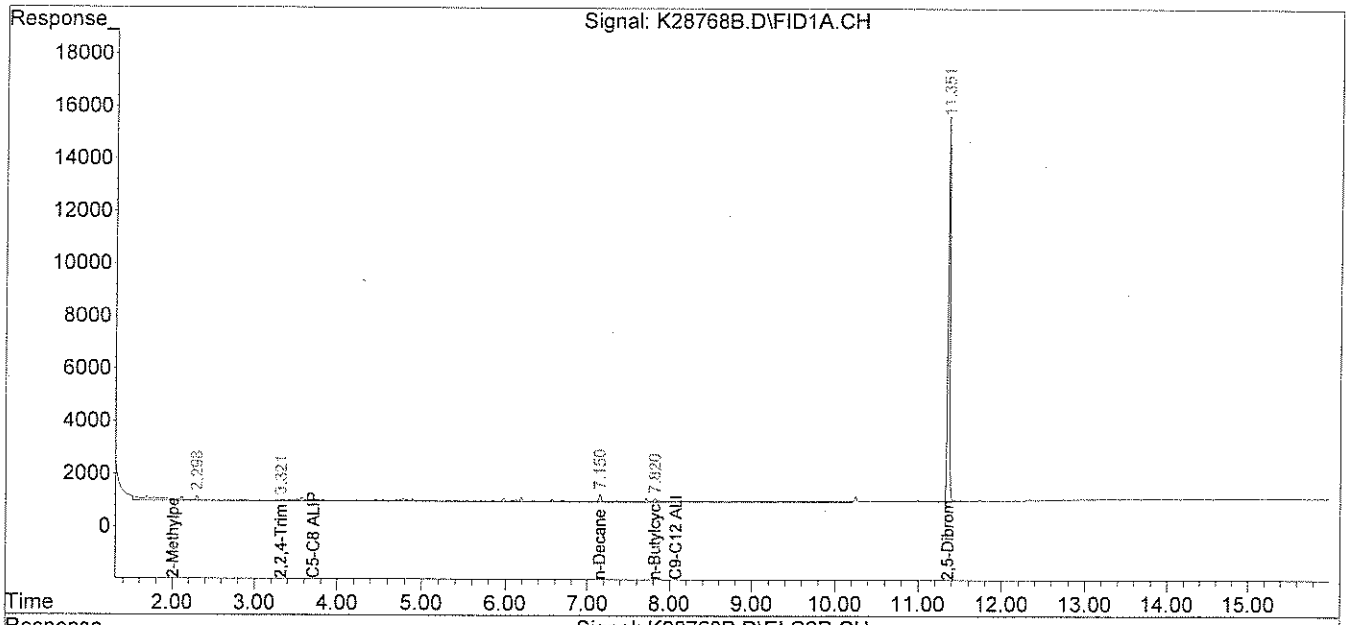
Quantitation Report (Not Reviewed)

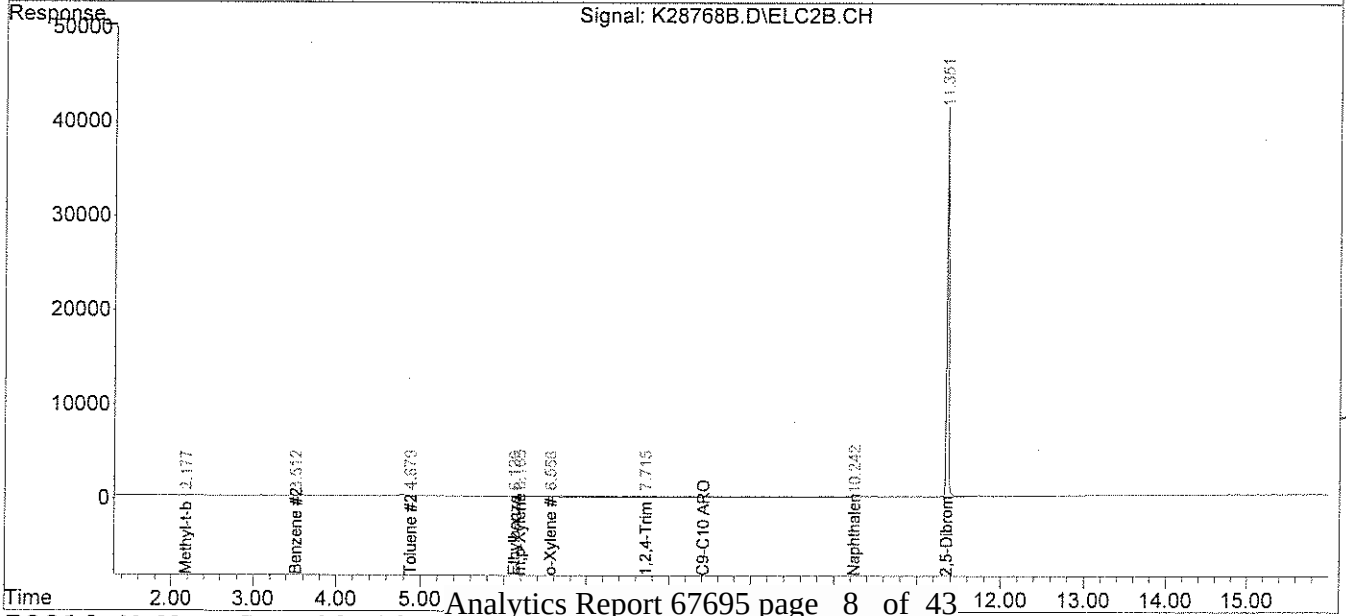
Data Path : C:\msdchem\1\DATA\090710-K\
Data File : K28768B.D
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 07 Sep 2010 11:51 am
Operator : JJL
Sample : BV090710K
Misc : 5000
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 12:44:16 2010
Quant Method : C:\msdchem\1\METHODS\VPH072210.M
Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004
QLast Update : Fri Jul 23 15:04:23 2010
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

9/13/10

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





3/17/10

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. Erik Phenix
Ransom Environmental Consultants, Inc.
400 Commercial Street Suite 404
Portland, ME 04101

September 17, 2010

CLIENT SAMPLE ID

Project Name: Cumberland Farms- Saco

Project Number: 101.06074.002
Client Sample ID: LabQC

SAMPLE DATA

Lab Sample ID: BV090710K2
Matrix: Aqueous
Percent Solid: N/A
Dilution Factor: 1
Collection Date:
Lab Receipt Date:
Analysis Date: 09/07/10

VPH ANALYTICAL RESULTS

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics[1]	N/A	50	µg/L	U
Unadjusted C9-C12 Aliphatics[1]	N/A	50	µg/L	U
Benzene	C5-C8	2	µg/L	U
Ethylbenzene	C9-C12	2	µg/L	U
Methyl-tert-butyl ether	C5-C8	2	µg/L	U
Naphthalene	N/A	2	µg/L	U
Toluene	C5-C8	2	µg/L	U
m- & p-Xylenes	C9-C12	4	µg/L	U
o-Xylene	C9-C12	2	µg/L	U
C5-C8 Aliphatics Hydrocarbons[1,2]	N/A	50	µg/L	U
C9-C12 Aliphatic Hydrocarbons[1,3]	N/A	50	µg/L	U
C9-C10 Aromatic Hydrocarbons[1]	N/A	10	µg/L	U
Surrogate % Recovery (2,5-Dibromotoluene) PID				93
Surrogate % Recovery (2,5-Dibromotoluene) FID				87
Surrogate Acceptance Range				70-130%

[1]Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
[3]C9-C12 Aliphatic Hydrocarbons exclude conc. of Target Analytes eluting in that range and conc. of C9-C10 Aromatic Hydrocarbons.
RL = Report Limit
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: MADEP Volatile Petroleum Hydrocarbons (VPH), ORS Division of Environmental Analysis, Revision 1.1 May 2004.

COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist.

Authorized signature:

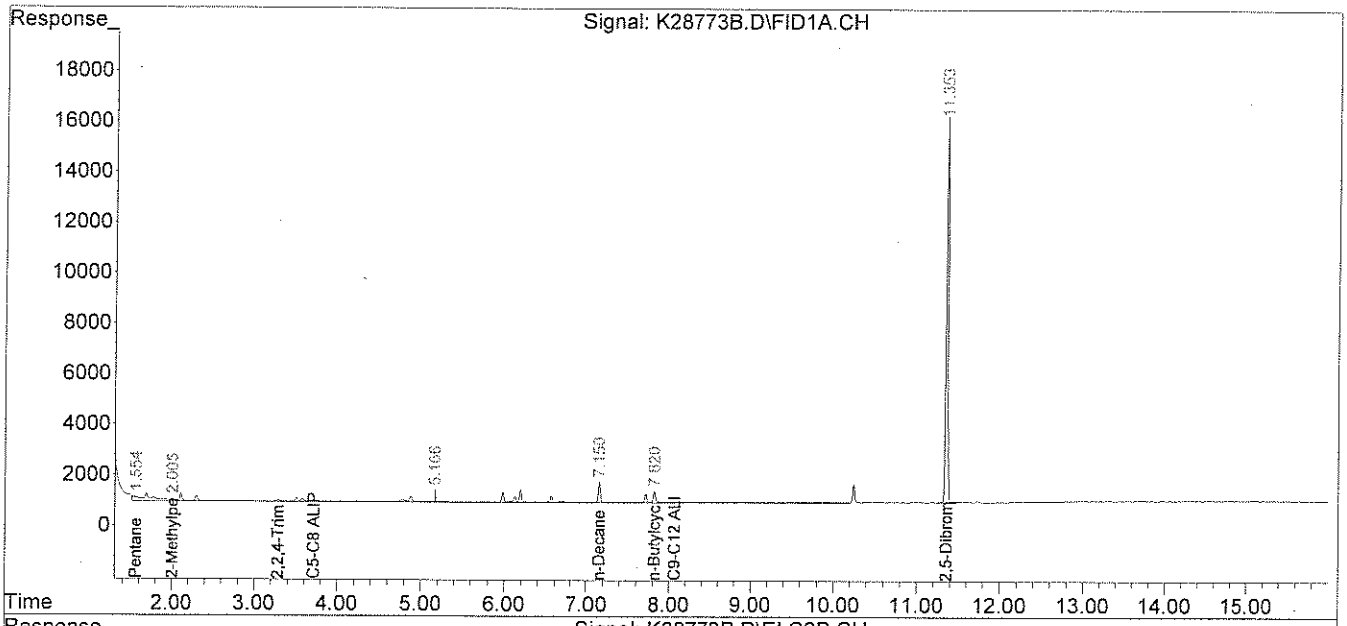
Quantitation Report (Not Reviewed)

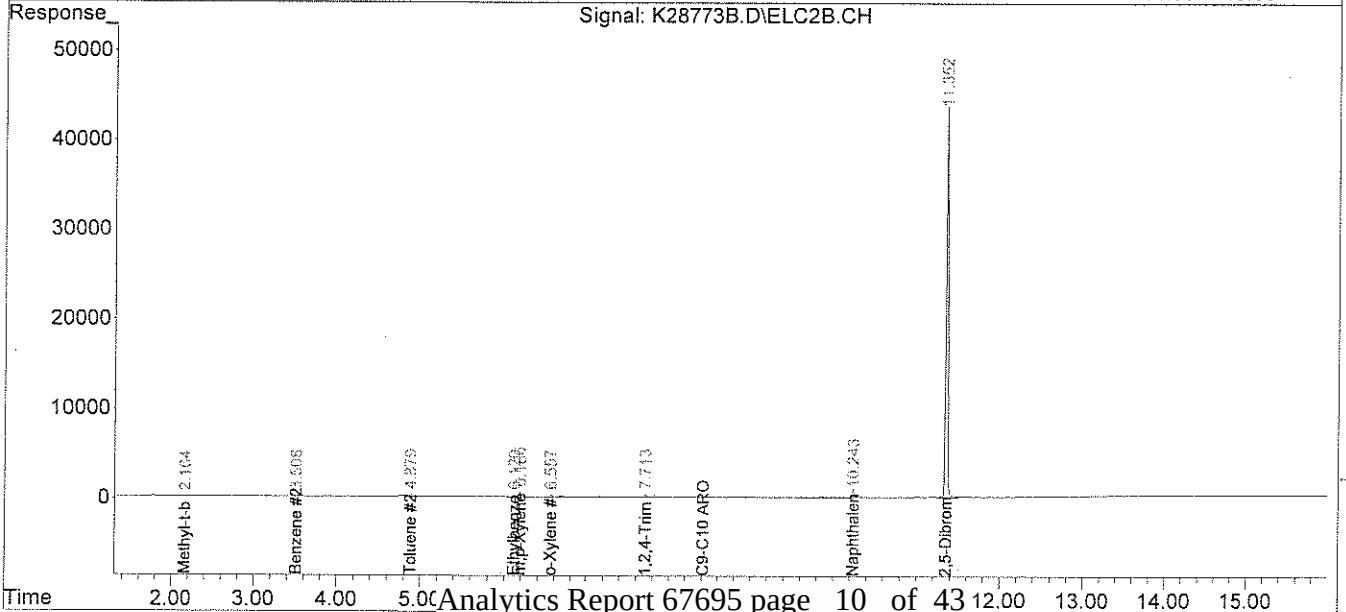
Data Path : C:\msdchem\1\DATA\090710-K\
Data File : K28773B.D
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 07 Sep 2010 3:16 pm
Operator : JJL
Sample : BV090710K2
Misc : 5000
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 12:46:30 2010
Quant Method : C:\msdchem\1\METHODS\VPH072210.M
Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004
QLast Update : Fri Jul 23 15:04:23 2010
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

9/13/10

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





J9174

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. Erik Phenix
Ransom Environmental Consultants, Inc.
400 Commercial Street Suite 404
Portland, ME 04101

September 17, 2010

CLIENT SAMPLE ID

Project Name: Cumberland Farms- Saco

Project Number: 101.06074.002
Client Sample ID: LabQC

SAMPLE DATA

Lab Sample ID: BV090810K
Matrix: Aqueous
Percent Solid: N/A
Dilution Factor: 1
Collection Date:
Lab Receipt Date:
Analysis Date: 09/08/10

VPH ANALYTICAL RESULTS

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics[1]	N/A	50	µg/L	U
Unadjusted C9-C12 Aliphatics[1]	N/A	50	µg/L	U
Benzene	C5-C8	2	µg/L	U
Ethylbenzene	C9-C12	2	µg/L	U
Methyl-tert-butyl ether	C5-C8	2	µg/L	U
Naphthalene	N/A	2	µg/L	U
Toluene	C5-C8	2	µg/L	U
m- & p-Xylenes	C9-C12	4	µg/L	U
o-Xylene	C9-C12	2	µg/L	U
C5-C8 Aliphatics Hydrocarbons[1,2]	N/A	50	µg/L	U
C9-C12 Aliphatic Hydrocarbons[1,3]	N/A	50	µg/L	U
C9-C10 Aromatic Hydrocarbons[1]	N/A	10	µg/L	U
Surrogate % Recovery (2,5-Dibromotoluene) PID				84
Surrogate % Recovery (2,5-Dibromotoluene) FID				81
Surrogate Acceptance Range				70-130%

[1]Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
[3]C9-C12 Aliphatic Hydrocarbons exclude conc. of Target Analytes eluting in that range and conc. of C9-C10 Aromatic Hydrocarbons.
RL = Report Limit
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: MADEP Volatile Petroleum Hydrocarbons (VPH), ORS Division of Environmental Analysis, Revision 1.1 May 2004.

COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist.

Authorized signature: Mitchell

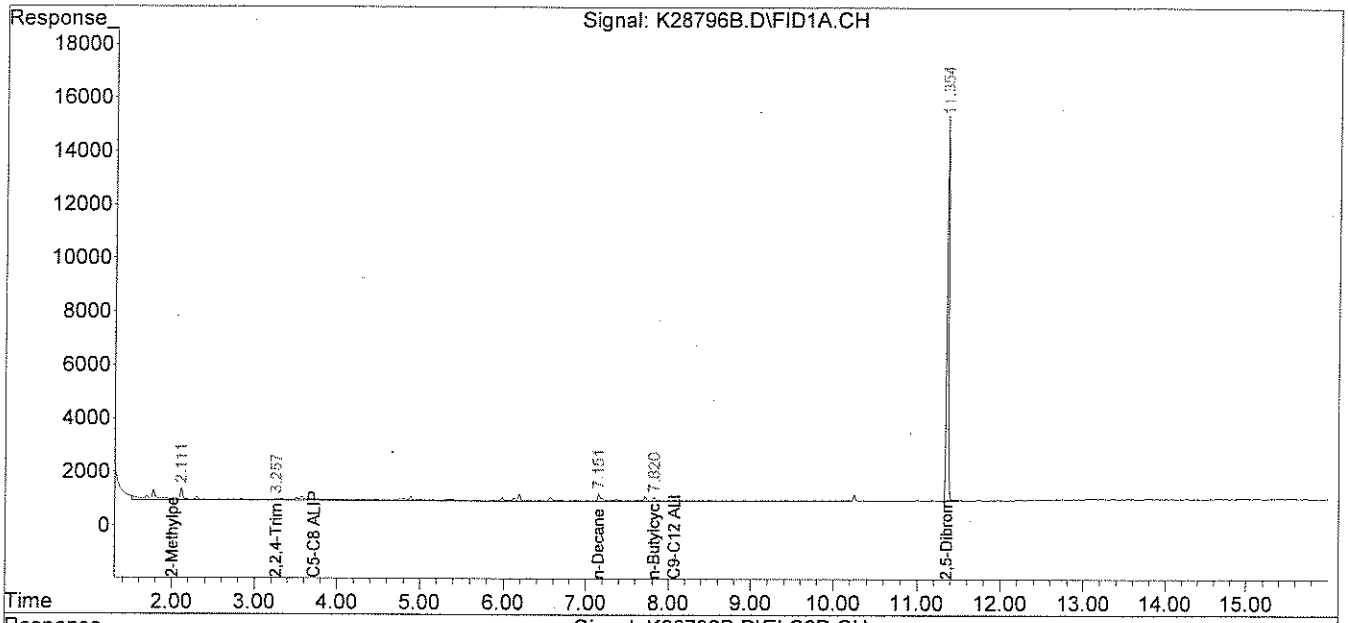
Quantitation Report (Not Reviewed)

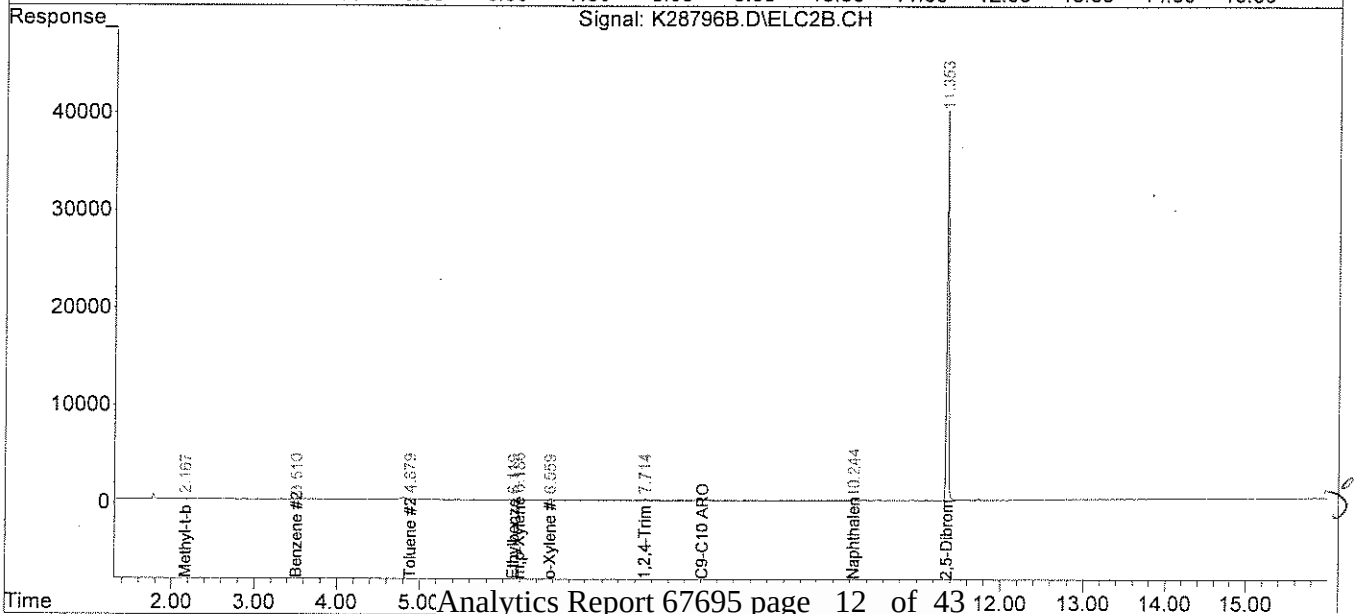
Data Path : C:\msdchem\1\DATA\090810-K\
Data File : K28796B.D
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 08 Sep 2010 11:02 am
Operator : JJL
Sample : BV090810K
Misc : 5000
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 13:22:08 2010
Quant Method : C:\msdchem\1\METHODS\VPH072210.M
Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004
QLast Update : Fri Jul 23 15:04:23 2010
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

9/13/10

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase:
Signal #2 Info :





J9170

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. Erik Phenix
Ransom Environmental Consultants, Inc.
400 Commercial Street Suite 404
Portland, ME 04101

September 17, 2010

CLIENT SAMPLE ID

Project Name: Cumberland Farms- Saco

Project Number: 101.06074.002
Client Sample ID: LabQC

SAMPLE DATA

Lab Sample ID: MBV090810K
Matrix: Soil
Percent Solid: N/A
Dilution Factor: 50
Collection Date:
Lab Receipt Date:
Analysis Date: 09/08/10

VPH ANALYTICAL RESULTS

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics[1]	N/A	2500	µg/kg	U
Unadjusted C9-C12 Aliphatics[1]	N/A	2500	µg/kg	U
Benzene	C5-C8	100	µg/kg	U
Ethylbenzene	C9-C12	100	µg/kg	U
Methyl-tert-butyl ether	C5-C8	100	µg/kg	U
Naphthalene	N/A	100	µg/kg	U
Toluene	C5-C8	100	µg/kg	U
m- & p-Xylenes	C9-C12	200	µg/kg	U
o-Xylene	C9-C12	100	µg/kg	U
C5-C8 Aliphatics Hydrocarbons[1,2]	N/A	2500	µg/kg	U
C9-C12 Aliphatic Hydrocarbons[1,3]	N/A	2500	µg/kg	U
C9-C10 Aromatic Hydrocarbons[1]	N/A	500	µg/kg	U
Surrogate % Recovery (2,5-Dibromotoluene) PID				96
Surrogate % Recovery (2,5-Dibromotoluene) FID				106
Surrogate Acceptance Range				70-130%

[1]Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
[3]C9-C12 Aliphatic Hydrocarbons exclude conc. of Target Analytes eluting in that range and conc. of C9-C10 Aromatic Hydrocarbons.
RL = Report Limit
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: MADEP Volatile Petroleum Hydrocarbons (VPH), ORS Division of Environmental Analysis, Revision 1.1 May 2004

COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist. Results are expressed on a dry weight basis.

Authorized signature:

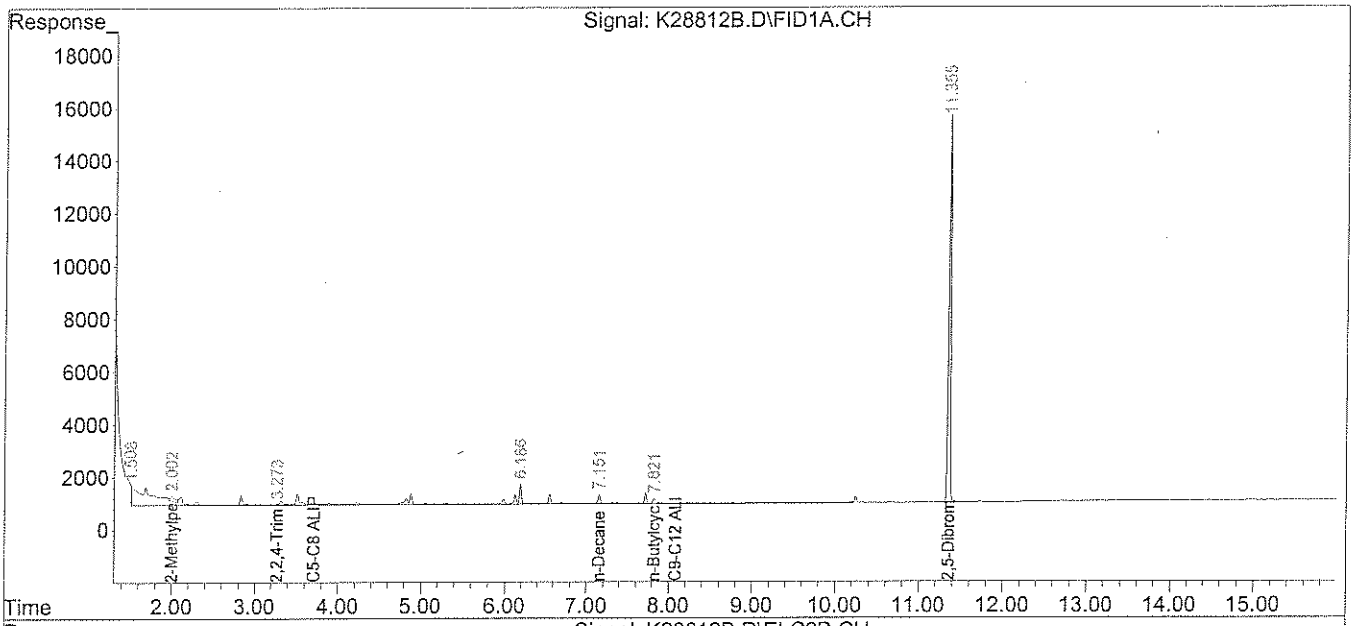
Quantitation Report (Not Reviewed)

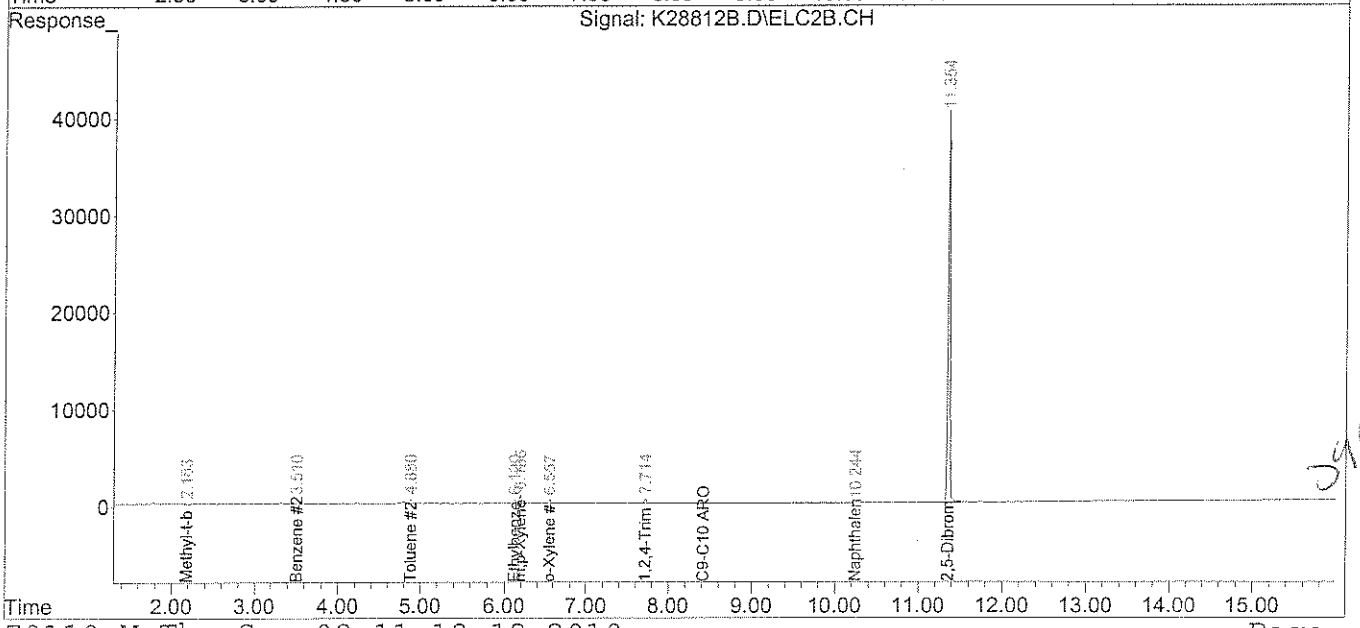
Data Path : C:\msdchem\1\DATA\090810-K\
Data File : K28812B.D
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 08 Sep 2010 6:26 pm
Operator : JJL
Sample : MBV090810K
Misc : 100,10.00,SOIL
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 09 10:24:29 2010
Quant Method : C:\msdchem\1\METHODS\VPH070110.M
Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004
QLast Update : Sun Jul 04 08:52:25 2010
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

JJL 9/9/10

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





JJL 9/9/10

Analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. Erik Phenix
Ransom Environmental Consultants, Inc.
400 Commercial Street Suite 404
Portland, ME 04101

September 17, 2010

CLIENT SAMPLE ID

Project Name: Cumberland Farms- Saco

Project Number: 101.06074.002
Client Sample ID: LabQC

SAMPLE DATA

Lab Sample ID: MBV090910K
Matrix: Soil
Percent Solid: N/A
Dilution Factor: 50
Collection Date:
Lab Receipt Date:
Analysis Date: 09/09/10

VPH ANALYTICAL RESULTS

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics[1]	N/A	2500	µg/kg	U
Unadjusted C9-C12 Aliphatics[1]	N/A	2500	µg/kg	U
Benzene	C5-C8	100	µg/kg	U
Ethylbenzene	C9-C12	100	µg/kg	U
Methyl-tert-butyl ether	C5-C8	100	µg/kg	U
Naphthalene	N/A	100	µg/kg	U
Toluene	C5-C8	100	µg/kg	U
m- & p-Xylenes	C9-C12	200	µg/kg	U
o-Xylene	C9-C12	100	µg/kg	U
C5-C8 Aliphatics Hydrocarbons[1,2]	N/A	2500	µg/kg	U
C9-C12 Aliphatic Hydrocarbons[1,3]	N/A	2500	µg/kg	U
C9-C10 Aromatic Hydrocarbons[1]	N/A	500	µg/kg	U
Surrogate % Recovery (2,5-Dibromotoluene) PID				76
Surrogate % Recovery (2,5-Dibromotoluene) FID				73
Surrogate Acceptance Range				70-130%

[1]Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
[3]C9-C12 Aliphatic Hydrocarbons exclude conc. of Target Analytes eluting in that range and conc. of C9-C10 Aromatic Hydrocarbons.
RL = Report Limit
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: MADEP Volatile Petroleum Hydrocarbons (VPH), ORS Division of Environmental Analysis, Revision 1.1 May 2004

COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist. Results are expressed on a dry weight basis.

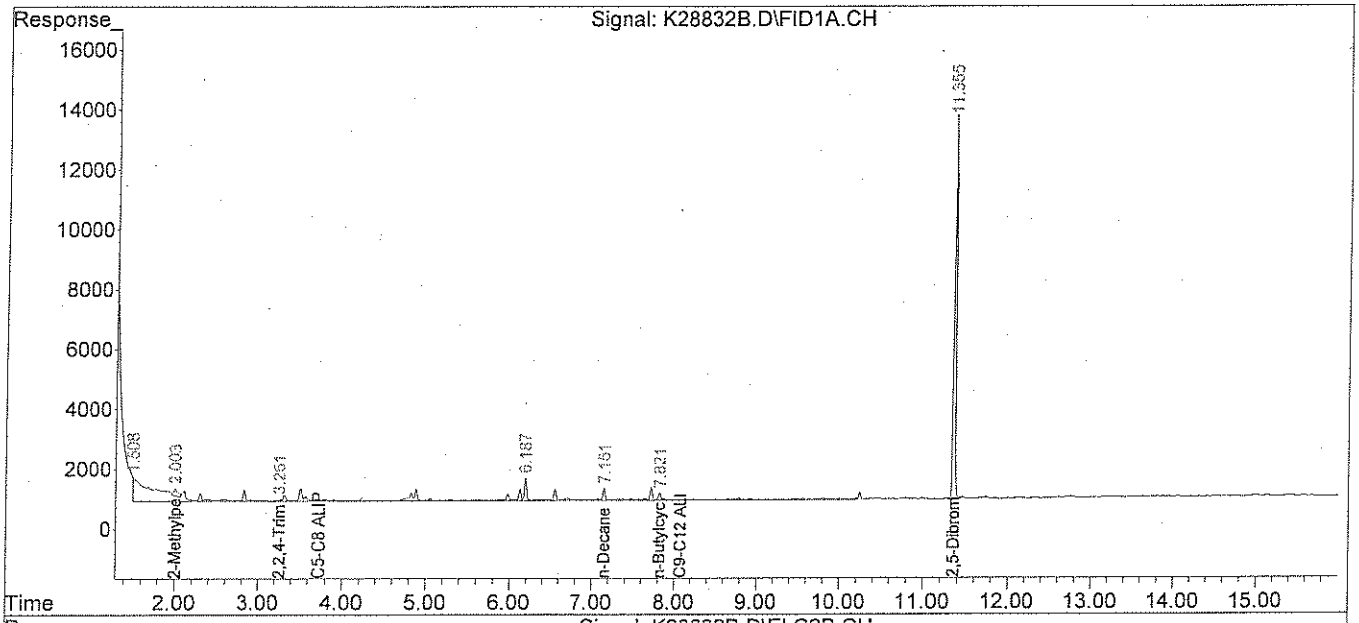
Authorized signature:

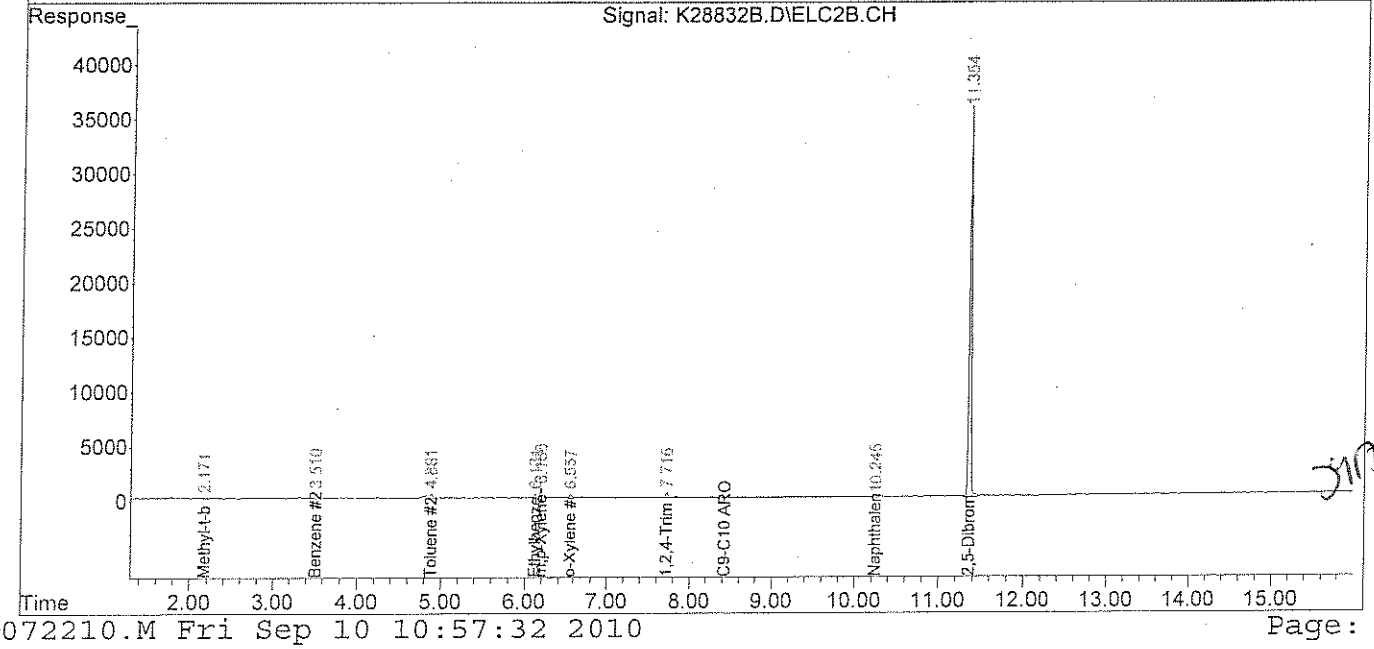
Data Path : C:\msdchem\1\DATA\090910-K\
Data File : K28832B.D
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 09 Sep 2010 12:50 pm
Operator : JJL
Sample : MBV090910K
Misc : 100,10.00,SOIL
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 10 10:57:05 2010
Quant Method : C:\msdchem\1\METHODS\VPH072210.M
Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004
QLast Update : Fri Jul 23 15:04:23 2010
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

9/10/10

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





JJL 9/10/10

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. Erik Phenix
Ransom Environmental Consultants, Inc.
400 Commercial Street Suite 404
Portland, ME 04101

September 17, 2010

CLIENT SAMPLE ID

Project Name: Cumberland Farms- Saco

Project Number: 101.06074.002
Client Sample ID: SB102-S3-090110

SAMPLE DATA

Lab Sample ID: 67695-1
Matrix: Solid
Percent Solid: 79
Dilution Factor: 413
Collection Date: 09/01/10
Lab Receipt Date: 09/03/10
Analysis Date: 09/09/10

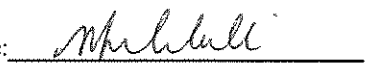
VPH ANALYTICAL RESULTS

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics[1]	N/A	20700	µg/kg	**146000**
Unadjusted C9-C12 Aliphatics[1]	N/A	20700	µg/kg	**179000**
Benzene	C5-C8	830	µg/kg	**534 J**
Ethylbenzene	C9-C12	830	µg/kg	**2190**
Methyl-tert-butyl ether	C5-C8	830	µg/kg	**455 J**
Naphthalene	N/A	830	µg/kg	**1680**
Toluene	C5-C8	830	µg/kg	**1820**
m- & p-Xylenes	C9-C12	1650	µg/kg	**3550**
o-Xylene	C9-C12	830	µg/kg	**1030**
C5-C8 Aliphatics Hydrocarbons[1,2]	N/A	20700	µg/kg	**144000**
C9-C12 Aliphatic Hydrocarbons[1,3]	N/A	20700	µg/kg	**100000**
C9-C10 Aromatic Hydrocarbons[1]	N/A	4130	µg/kg	**72000**
Surrogate % Recovery (2,5-Dibromotoluene) PID				96
Surrogate % Recovery (2,5-Dibromotoluene) FID				169*
Surrogate Acceptance Range				70-130%

[1]Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
[3]C9-C12 Aliphatic Hydrocarbons exclude conc. of Target Analytes eluting in that range and conc. of C9-C10 Aromatic Hydrocarbons.
RL = Report Limit
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: MADEP Volatile Petroleum Hydrocarbons (VPH), ORS Division of Environmental Analysis, Revision 1.1 May 2004

COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist.
Results are expressed on a dry weight basis.
* Surrogate recovery outside of laboratory acceptance criteria.
* Sample was reanalyzed with similar results.

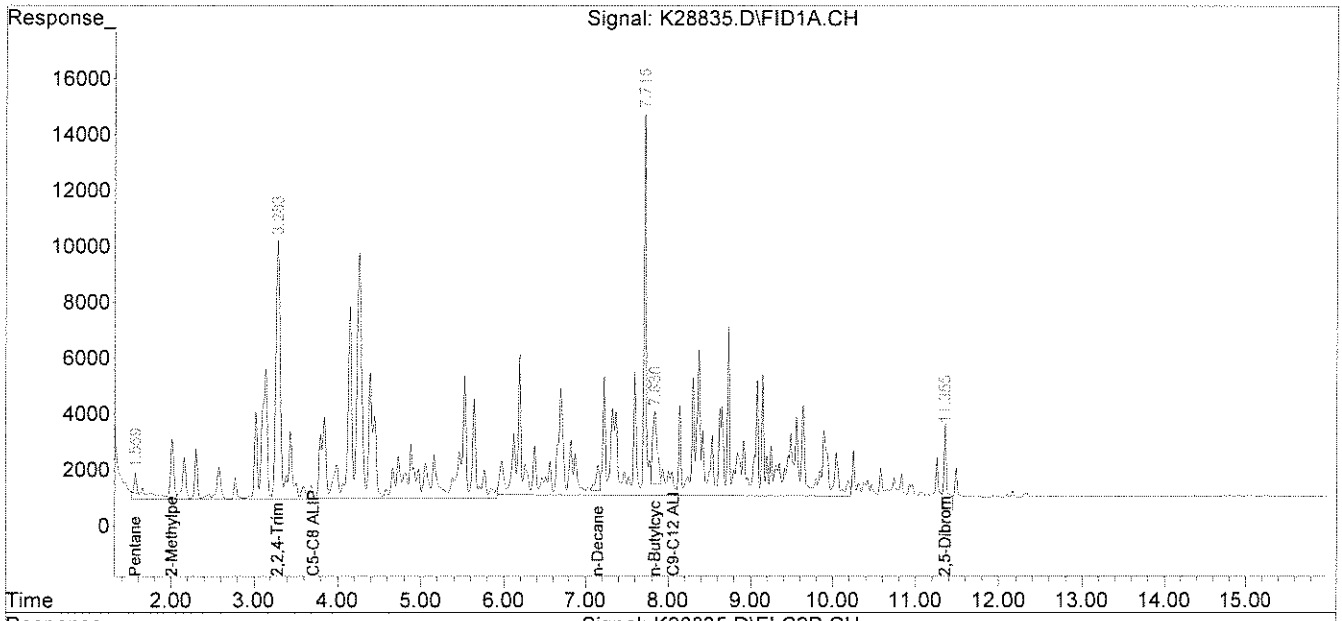
Authorized signature: 

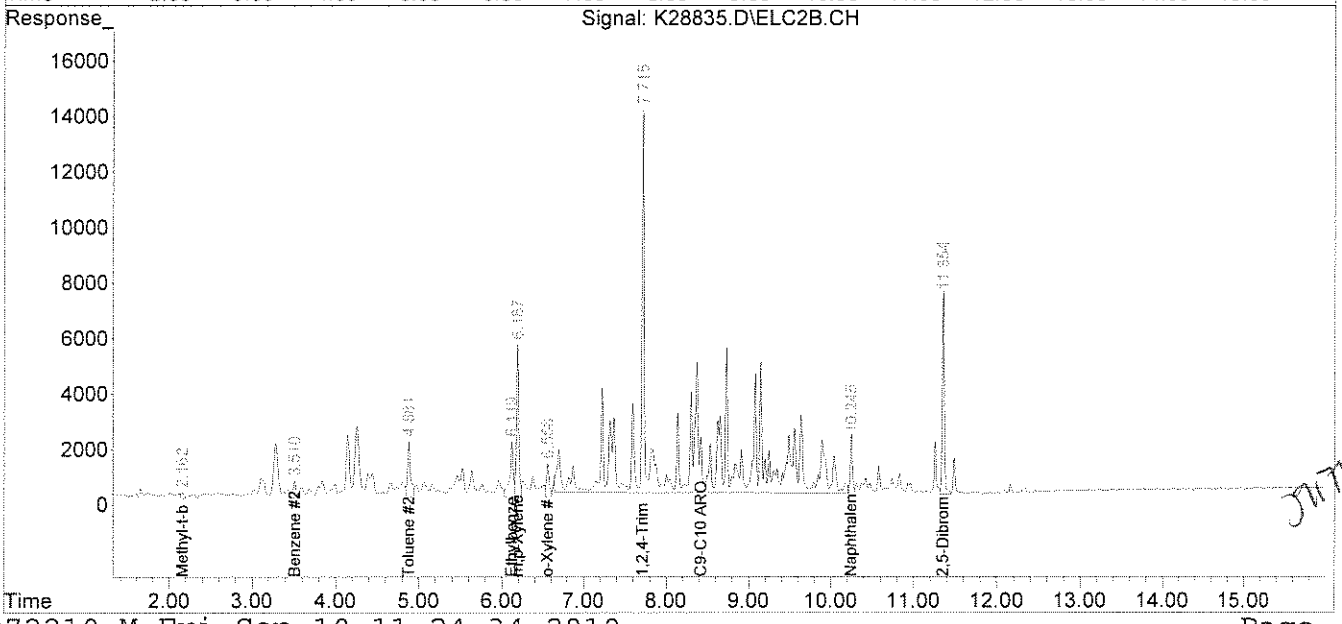
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\090910-K\
Data File : K28835.D
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 09 Sep 2010 2:18 pm
Operator : JJL
Sample : 67695-1,5X
Misc : 20,9.22,SOIL
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 10 11:24:26 2010
Quant Method : C:\msdchem\1\METHODS\VPH072210.M
Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004
QLast Update : Fri Jul 23 15:04:23 2010
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. Erik Phenix
Ransom Environmental Consultants, Inc.
400 Commercial Street Suite 404
Portland, ME 04101

September 17, 2010

CLIENT SAMPLE ID

Project Name: Cumberland Farms- Saco

Project Number: 101.06074.002
Client Sample ID: SB104-S2-090110

SAMPLE DATA

Lab Sample ID: 67695-2
Matrix: Solid
Percent Solid: 81
Dilution Factor: 1466
Collection Date: 09/01/10
Lab Receipt Date: 09/03/10
Analysis Date: 09/09/10

VPH ANALYTICAL RESULTS

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics[1]	N/A	73300	µg/kg	**758000**
Unadjusted C9-C12 Aliphatics[1]	N/A	73300	µg/kg	**766000**
Benzene	C5-C8	2930	µg/kg	**1490 J**
Ethylbenzene	C9-C12	2930	µg/kg	**18100**
Methyl-tert-butyl ether	C5-C8	2930	µg/kg	U
Naphthalene	N/A	2930	µg/kg	**4630**
Toluene	C5-C8	2930	µg/kg	**3220**
m- & p-Xylenes	C9-C12	5860	µg/kg	**29600**
o-Xylene	C9-C12	2930	µg/kg	**11100**
C5-C8 Aliphatics Hydrocarbons[1,2]	N/A	73300	µg/kg	**753000**
C9-C12 Aliphatic Hydrocarbons[1,3]	N/A	73300	µg/kg	**466000**
C9-C10 Aromatic Hydrocarbons[1]	N/A	14700	µg/kg	**241000**
Surrogate % Recovery (2,5-Dibromotoluene) PID				*
Surrogate % Recovery (2,5-Dibromotoluene) FID				*
Surrogate Acceptance Range				70-130%

[1]Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
[3]C9-C12 Aliphatic Hydrocarbons exclude conc. of Target Analytes eluting in that range and conc. of C9-C10 Aromatic Hydrocarbons.
RL = Report Limit
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: MADEP Volatile Petroleum Hydrocarbons (VPH), ORS Division of Environmental Analysis, Revision 1.1 May 2004

COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist.
Results are expressed on a dry weight basis.
* The surrogates were diluted out.

Authorized signature:

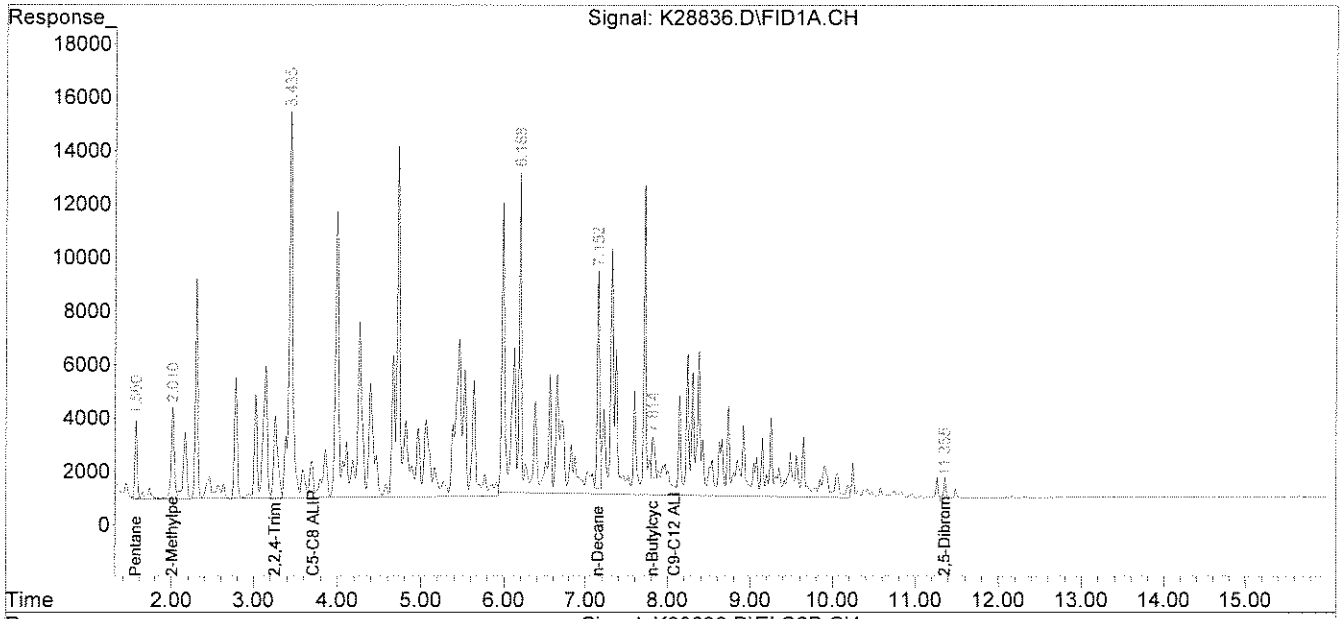
Quantitation Report (QT Reviewed)

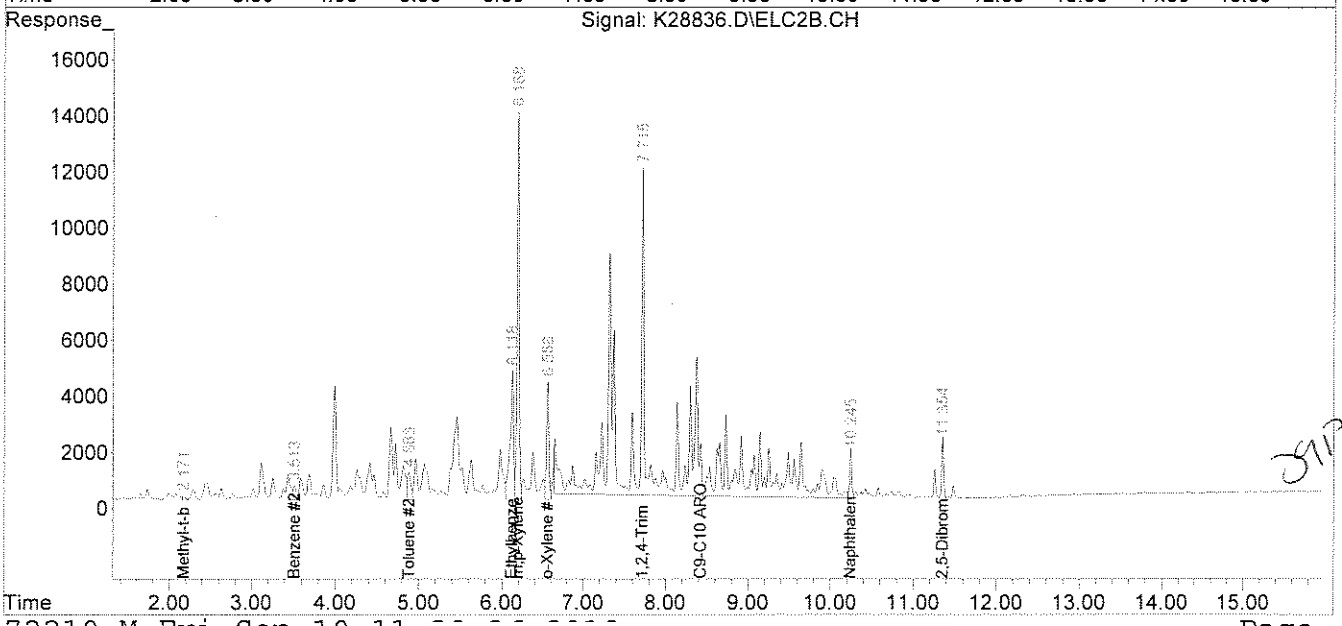
Data Path : C:\msdchem\1\DATA\090910-K\
Data File : K28836.D
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 09 Sep 2010 2:43 pm
Operator : JJL
Sample : 67695-2,20X
Misc : 5,9.91,SOIL
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 10 11:29:25 2010
Quant Method : C:\msdchem\1\METHODS\VPH072210.M
Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004
QLast Update : Fri Jul 23 15:04:23 2010
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

9/10/10

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





39170

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. Erik Phenix
Ransom Environmental Consultants, Inc.
400 Commercial Street Suite 404
Portland, ME 04101

September 17, 2010

CLIENT SAMPLE ID

Project Name: Cumberland Farms- Saco

Project Number: 101.06074.002
Client Sample ID: MW-101

SAMPLE DATA

Lab Sample ID: 67695-3
Matrix: Aqueous
Percent Solid: N/A
Dilution Factor: 10
Collection Date: 09/01/10
Lab Receipt Date: 09/03/10
Analysis Date: 09/08/10

VPH ANALYTICAL RESULTS

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics[1]	N/A	500	µg/L	**3120**
Unadjusted C9-C12 Aliphatics[1]	N/A	500	µg/L	**6720**
Benzene	C5-C8	20	µg/L	**54**
Ethylbenzene	C9-C12	20	µg/L	**346**
Methyl-tert-butyl ether	C5-C8	20	µg/L	**1250**
Naphthalene	N/A	20	µg/L	**62**
Toluene	C5-C8	20	µg/L	**25**
m- & p-Xylenes	C9-C12	40	µg/L	**1480**
o-Xylene	C9-C12	20	µg/L	**219**
C5-C8 Aliphatics Hydrocarbons[1,2]	N/A	500	µg/L	**1790**
C9-C12 Aliphatic Hydrocarbons[1,3]	N/A	500	µg/L	**2610**
C9-C10 Aromatic Hydrocarbons[1]	N/A	100	µg/L	**2050**
Surrogate % Recovery (2,5-Dibromotoluene) PID				94
Surrogate % Recovery (2,5-Dibromotoluene) FID				90
Surrogate Acceptance Range				70-130%

[1]Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
[3]C9-C12 Aliphatic Hydrocarbons exclude conc. of Target Analytes eluting in that range and conc. of C9-C10 Aromatic Hydrocarbons.
RL = Report Limit
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: MADEP Volatile Petroleum Hydrocarbons (VPH), ORS Division of Environmental Analysis, Revision 1.1 May 2004.

COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist.

Authorized signature: _____

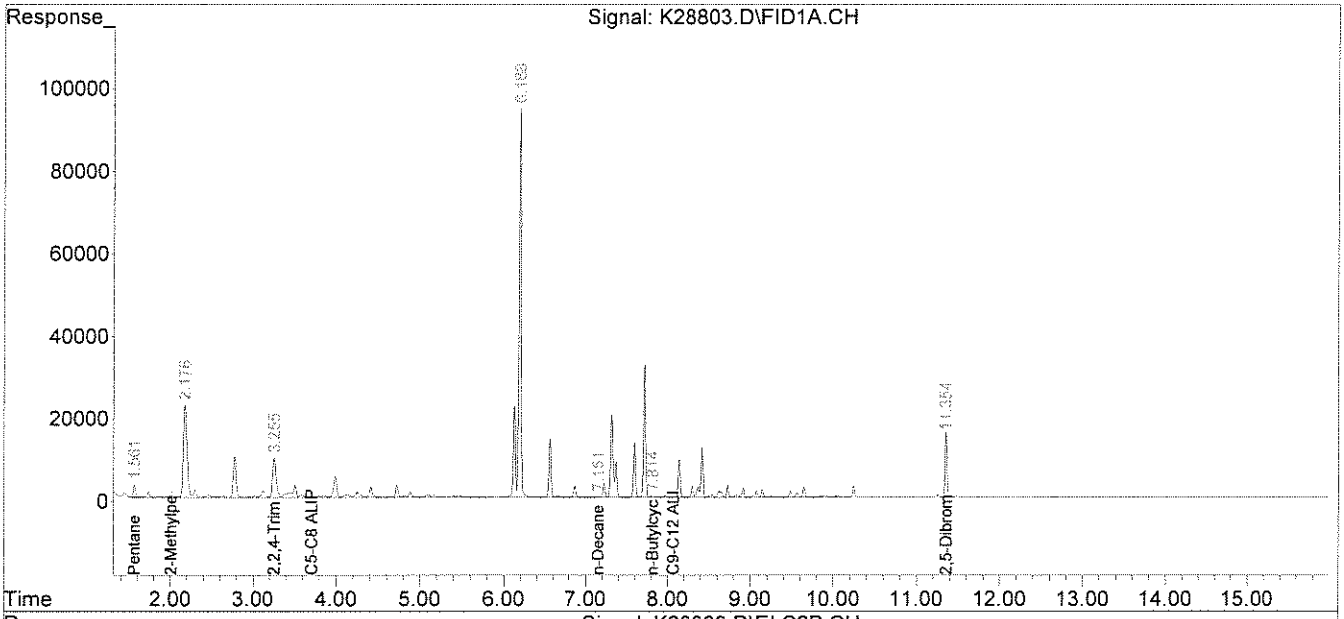
Quantitation Report (Not Reviewed)

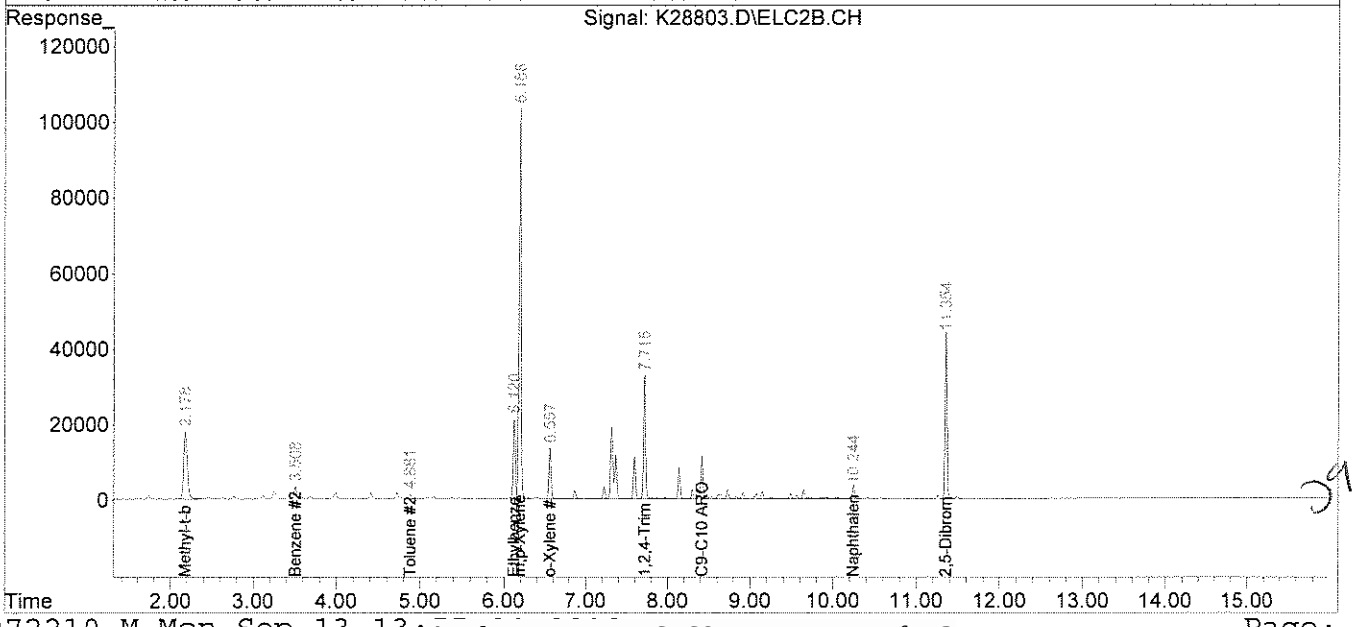
Data Path : C:\msdchem\1\DATA\090810-K\
Data File : K28803.D
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 08 Sep 2010 2:34 pm
Operator : JJL
Sample : 67695-3,10X
Misc : 500
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 13:55:00 2010
Quant Method : C:\msdchem\1\METHODS\VPH072210.M
Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004
QLast Update : Fri Jul 23 15:04:23 2010
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

98 9/13/10

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





J9172

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. Erik Phenix
Ransom Environmental Consultants, Inc.
400 Commercial Street Suite 404
Portland, ME 04101

September 17, 2010

CLIENT SAMPLE ID

Project Name: Cumberland Farms- Saco

Project Number: 101.06074.002
Client Sample ID: MW-102

SAMPLE DATA

Lab Sample ID: 67695-4
Matrix: Aqueous
Percent Solid: N/A
Dilution Factor: 1
Collection Date: 09/01/10
Lab Receipt Date: 09/03/10
Analysis Date: 09/07/10

VPH ANALYTICAL RESULTS

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics[1]	N/A	50	µg/L	**437**
Unadjusted C9-C12 Aliphatics[1]	N/A	50	µg/L	**327**
Benzene	C5-C8	2	µg/L	**31**
Ethylbenzene	C9-C12	2	µg/L	**3**
Methyl-tert-butyl ether	C5-C8	2	µg/L	**231**
Naphthalene	N/A	2	µg/L	**4**
Toluene	C5-C8	2	µg/L	**5**
m- & p-Xylenes	C9-C12	4	µg/L	**6**
o-Xylene	C9-C12	2	µg/L	**2**
C5-C8 Aliphatics Hydrocarbons[1,2]	N/A	50	µg/L	**171**
C9-C12 Aliphatic Hydrocarbons[1,3]	N/A	50	µg/L	**145**
C9-C10 Aromatic Hydrocarbons[1]	N/A	10	µg/L	**171**
Surrogate % Recovery (2,5-Dibromotoluene) PID				103
Surrogate % Recovery (2,5-Dibromotoluene) FID				99
Surrogate Acceptance Range				70-130%

[1]Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
[3]C9-C12 Aliphatic Hydrocarbons exclude conc. of Target Analytes eluting in that range and conc. of C9-C10 Aromatic Hydrocarbons.
RL = Report Limit
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: MADEP Volatile Petroleum Hydrocarbons (VPH), ORS Division of Environmental Analysis, Revision 1.1 May 2004.

COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist.

Authorized signature: 

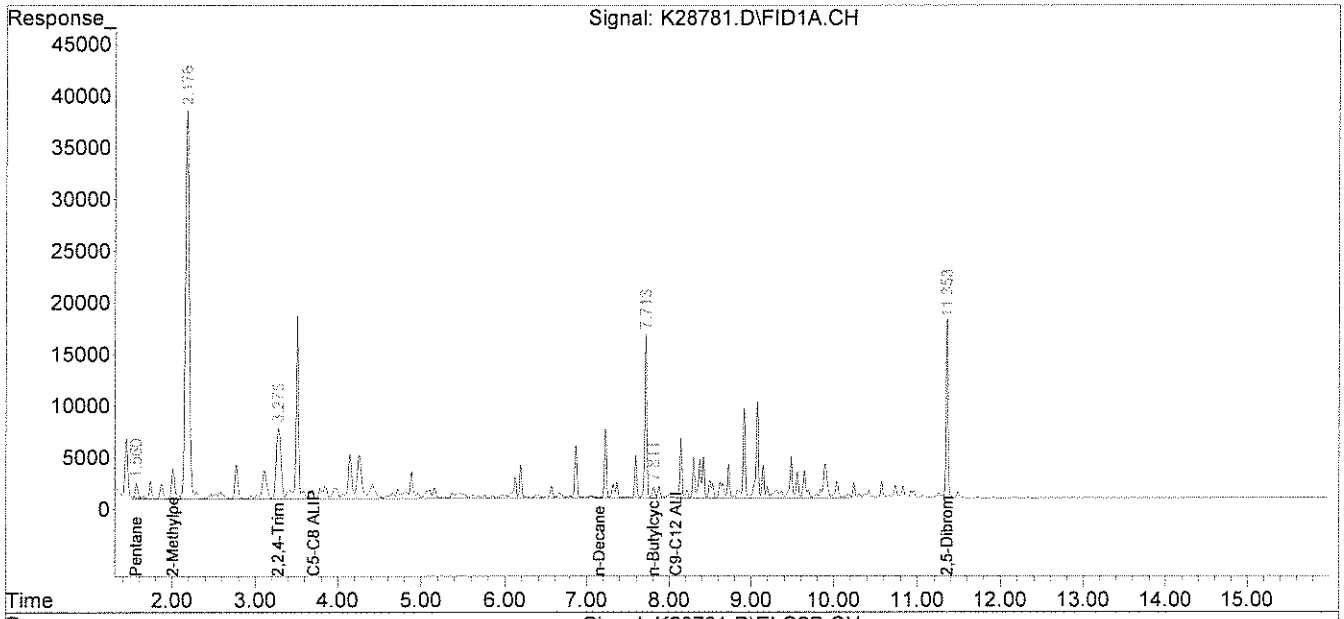
Quantitation Report (Not Reviewed)

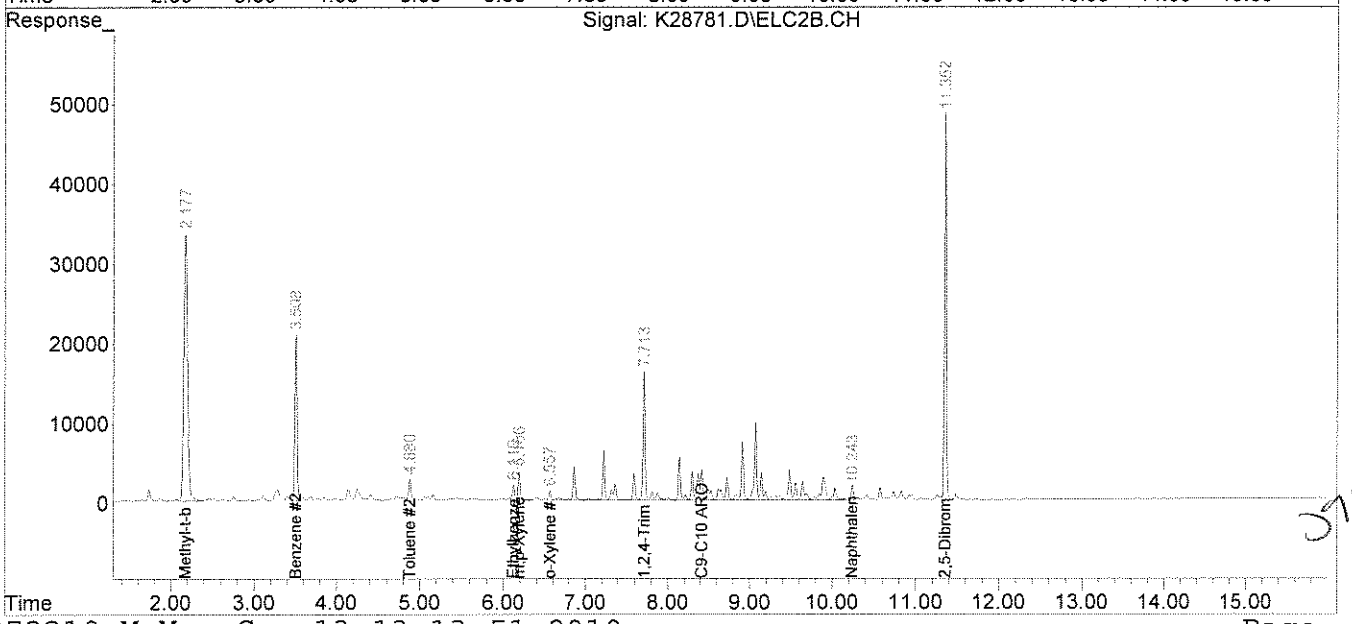
Data Path : C:\msdchem\1\DATA\090710-K\
Data File : K28781.D
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 07 Sep 2010 6:48 pm
Operator : JJL
Sample : 67695-4
Misc : 5000
ALS Vial : 19 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 13:13:20 2010
Quant Method : C:\msdchem\1\METHODS\VPH072210.M
Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004
QLast Update : Fri Jul 23 15:04:23 2010
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

9/13/10

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





J7170

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. Erik Phenix
Ransom Environmental Consultants, Inc.
400 Commercial Street Suite 404
Portland, ME 04101

September 17, 2010

CLIENT SAMPLE ID

Project Name: Cumberland Farms- Saco

Project Number: 101.06074.002
Client Sample ID: MW-103

SAMPLE DATA

Lab Sample ID: 67695-5
Matrix: Aqueous
Percent Solid: N/A
Dilution Factor: 1
Collection Date: 09/01/10
Lab Receipt Date: 09/03/10
Analysis Date: 09/07/10

VPH ANALYTICAL RESULTS

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics[1]	N/A	50	µg/L	**289**
Unadjusted C9-C12 Aliphatics[1]	N/A	50	µg/L	**424**
Benzene	C5-C8	2	µg/L	U
Ethylbenzene	C9-C12	2	µg/L	U
Methyl-tert-butyl ether	C5-C8	2	µg/L	**305**
Naphthalene	N/A	2	µg/L	U
Toluene	C5-C8	2	µg/L	U
m- & p-Xylenes	C9-C12	4	µg/L	U
o-Xylene	C9-C12	2	µg/L	U
C5-C8 Aliphatics Hydrocarbons[1,2]	N/A	50	µg/L	U
C9-C12 Aliphatic Hydrocarbons[1,3]	N/A	50	µg/L	**184**
C9-C10 Aromatic Hydrocarbons[1]	N/A	10	µg/L	**239**
Surrogate % Recovery (2,5-Dibromotoluene) PID				105
Surrogate % Recovery (2,5-Dibromotoluene) FID				100
Surrogate Acceptance Range				70-130%

[1]Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
[3]C9-C12 Aliphatic Hydrocarbons exclude conc. of Target Analytes eluting in that range and conc. of C9-C10 Aromatic Hydrocarbons.
RL = Report Limit
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: MADEP Volatile Petroleum Hydrocarbons (VPH), ORS Division of Environmental Analysis, Revision 1.1 May 2004.

COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist.

Authorized signature:

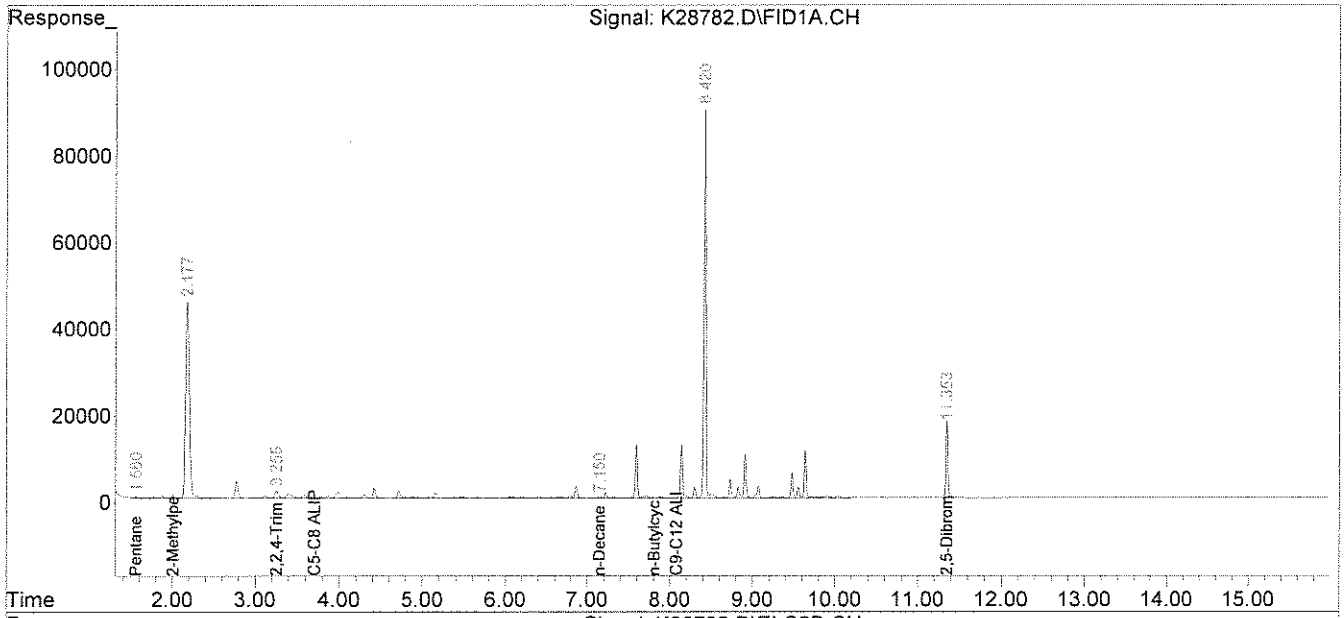
Quantitation Report (Not Reviewed)

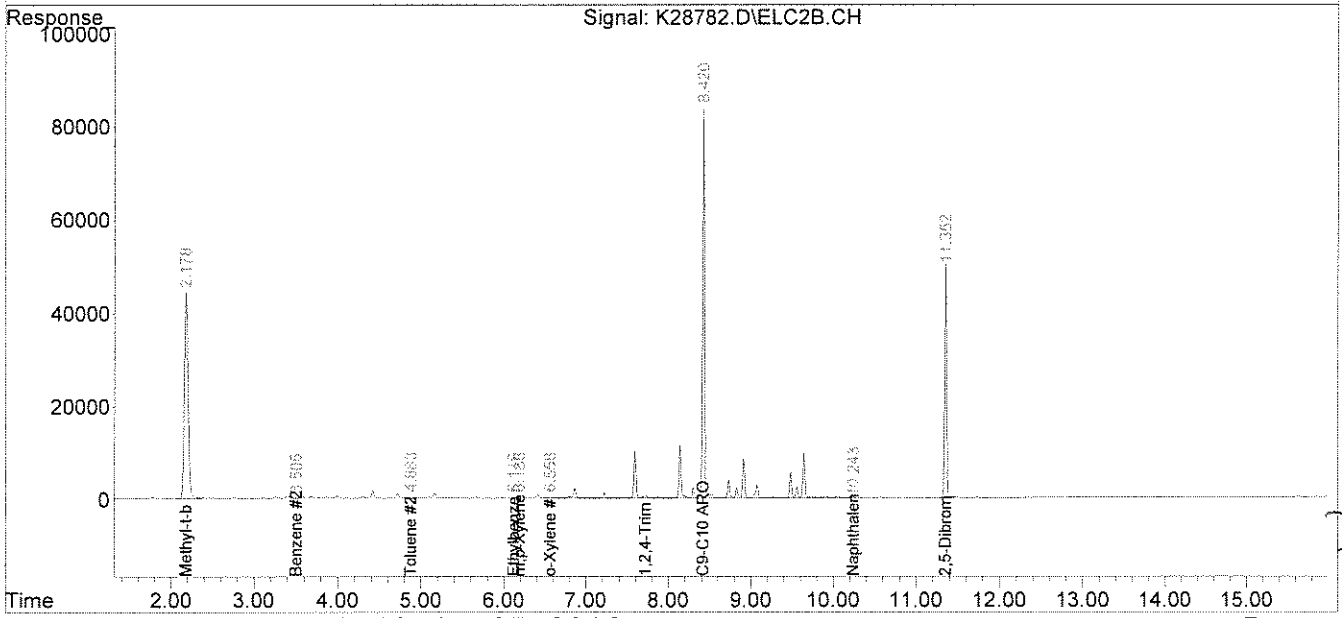
Data Path : C:\msdchem\1\DATA\090710-K\
Data File : K28782.D
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 07 Sep 2010 7:13 pm
Operator : JJL
Sample : 67695-5
Misc : 5000
ALS Vial : 20 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 13:13:59 2010
Quant Method : C:\msdchem\1\METHODS\VPH072210.M
Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004
QLast Update : Fri Jul 23 15:04:23 2010
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

9/13/10

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





9/17/10

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. Erik Phenix
Ransom Environmental Consultants, Inc.
400 Commercial Street Suite 404
Portland, ME 04101

September 17, 2010

CLIENT SAMPLE ID

Project Name: Cumberland Farms- Saco

Project Number: 101.06074.002
Client Sample ID: MW-103 DUP

SAMPLE DATA

Lab Sample ID: 67695-6
Matrix: Aqueous
Percent Solid: N/A
Dilution Factor: 1
Collection Date: 09/01/10
Lab Receipt Date: 09/03/10
Analysis Date: 09/07/10

VPH ANALYTICAL RESULTS

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics[1]	N/A	50	µg/L	**288**
Unadjusted C9-C12 Aliphatics[1]	N/A	50	µg/L	**412**
Benzene	C5-C8	2	µg/L	U
Ethylbenzene	C9-C12	2	µg/L	U
Methyl-tert-butyl ether	C5-C8	2	µg/L	**303**
Naphthalene	N/A	2	µg/L	U
Toluene	C5-C8	2	µg/L	U
m- & p-Xylenes	C9-C12	4	µg/L	U
o-Xylene	C9-C12	2	µg/L	U
C5-C8 Aliphatics Hydrocarbons[1,2]	N/A	50	µg/L	U
C9-C12 Aliphatic Hydrocarbons[1,3]	N/A	50	µg/L	**188**
C9-C10 Aromatic Hydrocarbons[1]	N/A	10	µg/L	**224**
Surrogate % Recovery (2,5-Dibromotoluene) PID				100
Surrogate % Recovery (2,5-Dibromotoluene) FID				97
Surrogate Acceptance Range				70-130%

[1]Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
[3]C9-C12 Aliphatic Hydrocarbons exclude conc. of Target Analytes eluting in that range and conc. of C9-C10 Aromatic Hydrocarbons.
RL = Report Limit
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: MADEP Volatile Petroleum Hydrocarbons (VPH), ORS Division of Environmental Analysis, Revision 1.1 May 2004.

COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist.

Authorized signature:

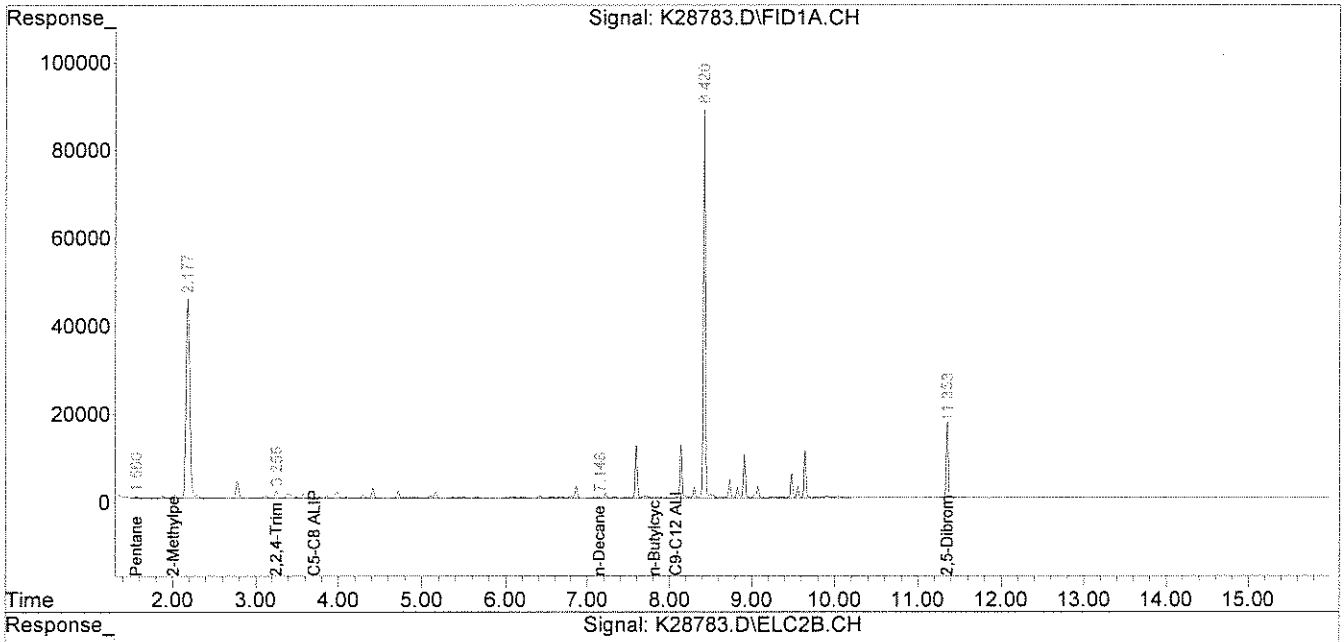
Quantitation Report (Not Reviewed)

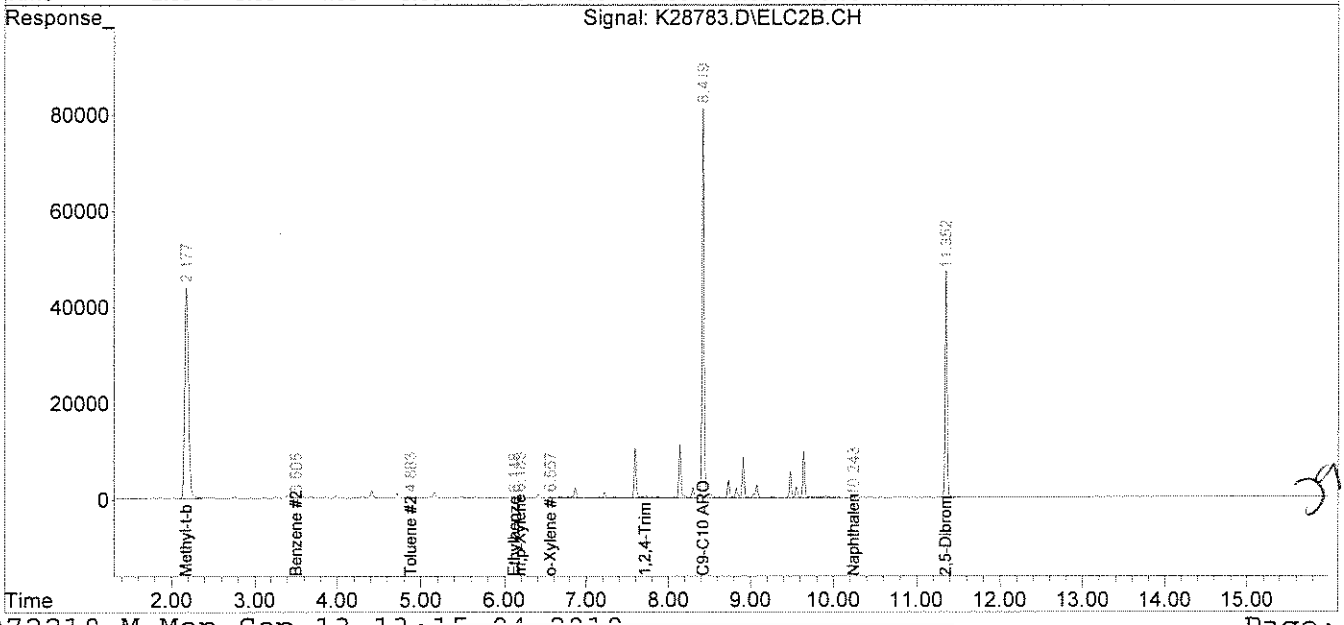
Data Path : C:\msdchem\1\DATA\090710-K\
Data File : K28783.D
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 07 Sep 2010 7:37 pm
Operator : JJL
Sample : 67695-6
Misc : 5000
ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 13:14:35 2010
Quant Method : C:\msdchem\1\METHODS\VPH072210.M
Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004
QLast Update : Fri Jul 23 15:04:23 2010
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

9/13/10

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





JJ 7/20

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. Erik Phenix
Ransom Environmental Consultants, Inc.
400 Commercial Street Suite 404
Portland, ME 04101

September 17, 2010

CLIENT SAMPLE ID

Project Name: Cumberland Farms- Saco

Project Number: 101.06074.002
Client Sample ID: MW-104

SAMPLE DATA

Lab Sample ID: 67695-7
Matrix: Aqueous
Percent Solid: N/A
Dilution Factor: 1
Collection Date: 09/01/10
Lab Receipt Date: 09/03/10
Analysis Date: 09/07/10

VPH ANALYTICAL RESULTS

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics[1]	N/A	50	µg/L	**200**
Unadjusted C9-C12 Aliphatics[1]	N/A	50	µg/L	**67**
Benzene	C5-C8	2	µg/L	U
Ethylbenzene	C9-C12	2	µg/L	U
Methyl-tert-butyl ether	C5-C8	2	µg/L	**219**
Naphthalene	N/A	2	µg/L	U
Toluene	C5-C8	2	µg/L	U
m- & p-Xylenes	C9-C12	4	µg/L	U
o-Xylene	C9-C12	2	µg/L	U
C5-C8 Aliphatics Hydrocarbons[1,2]	N/A	50	µg/L	U
C9-C12 Aliphatic Hydrocarbons[1,3]	N/A	50	µg/L	**39 J**
C9-C10 Aromatic Hydrocarbons[1]	N/A	10	µg/L	**28**
Surrogate % Recovery (2,5-Dibromotoluene) PID				104
Surrogate % Recovery (2,5-Dibromotoluene) FID				101
Surrogate Acceptance Range				70-130%

[1]Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
[3]C9-C12 Aliphatic Hydrocarbons exclude conc. of Target Analytes eluting in that range and conc. of C9-C10 Aromatic Hydrocarbons.
RL = Report Limit
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: MADEP Volatile Petroleum Hydrocarbons (VPH), ORS Division of Environmental Analysis, Revision 1.1 May 2004.

COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist.

Authorized signature: Mark Hall

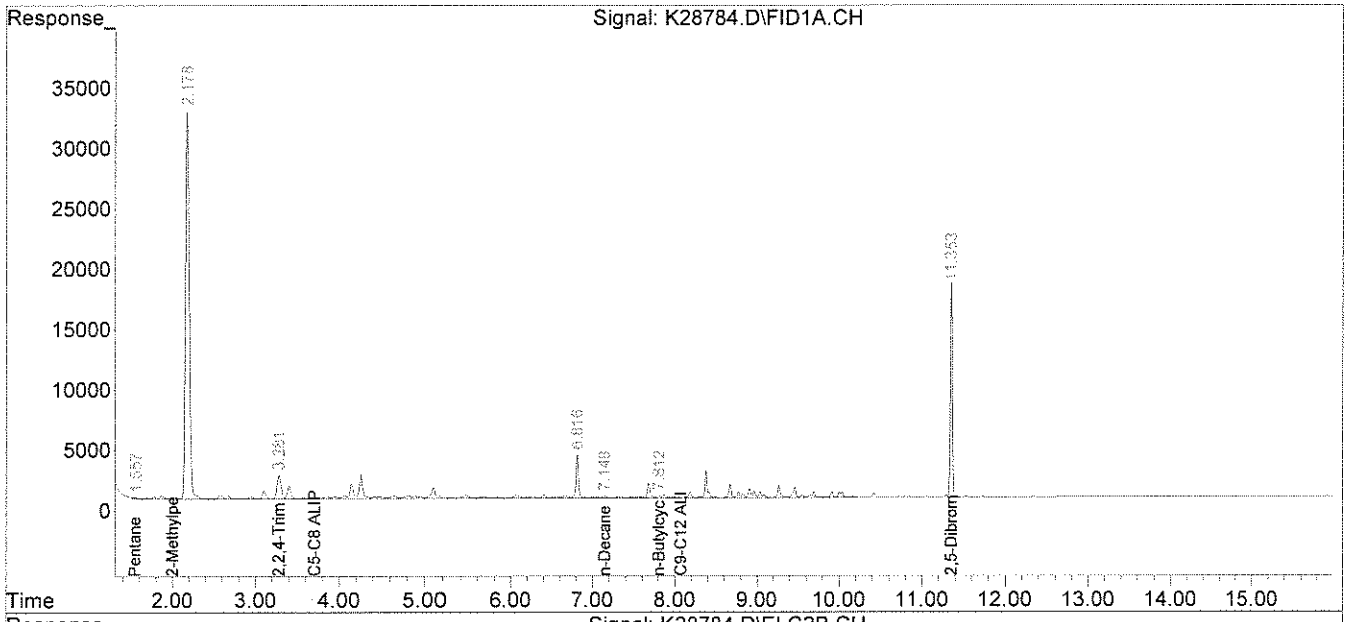
Quantitation Report (Not Reviewed)

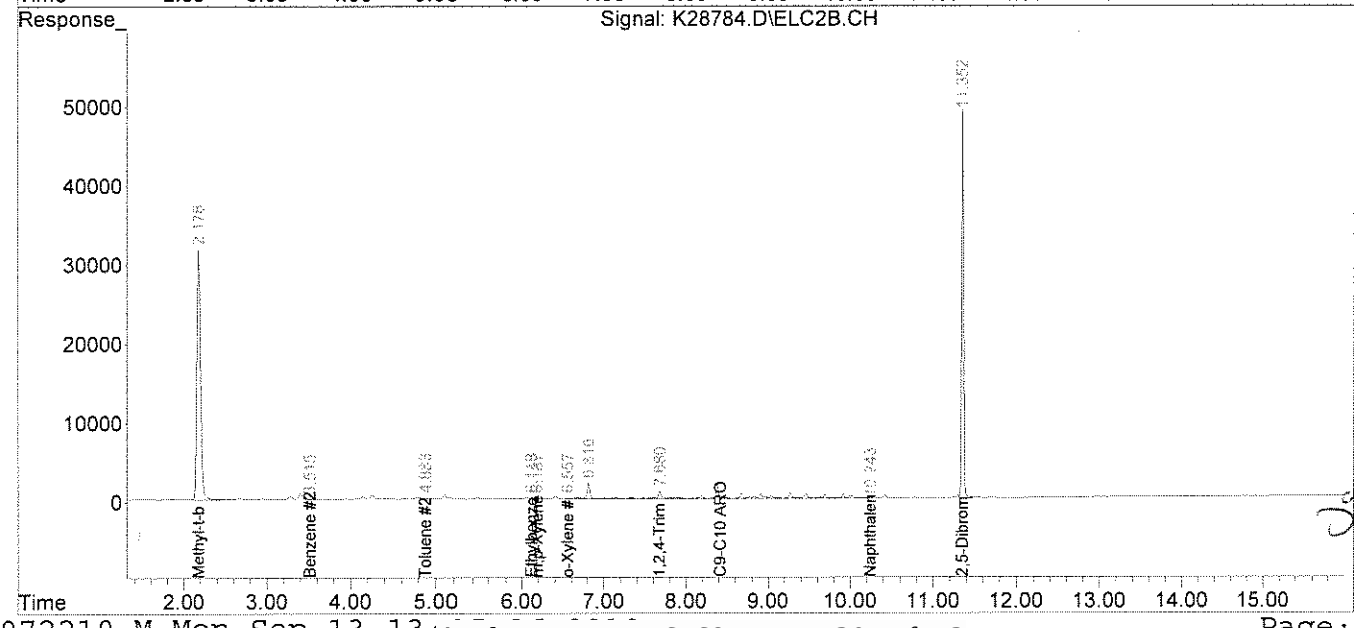
Data Path : C:\msdchem\1\DATA\090710-K\
Data File : K28784.D
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 07 Sep 2010 8:02 pm
Operator : JJL
Sample : 67695-7
Misc : 5000
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 13:15:19 2010
Quant Method : C:\msdchem\1\METHODS\VPH072210.M
Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004
QLast Update : Fri Jul 23 15:04:23 2010
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

9/13/10

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





JJ 9/13/10

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. Erik Phenix
Ransom Environmental Consultants, Inc.
400 Commercial Street Suite 404
Portland, ME 04101

September 17, 2010

CLIENT SAMPLE ID

Project Name: Cumberland Farms- Saco

Project Number: 101.06074.002
Client Sample ID: Trip Blank (s)

SAMPLE DATA

Lab Sample ID: 67695-8
Matrix: Solid
Percent Solid: 100
Dilution Factor: 50
Collection Date: 09/01/10
Lab Receipt Date: 09/03/10
Analysis Date: 09/08/10

VPH ANALYTICAL RESULTS

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics[1]	N/A	2500	µg/kg	U
Unadjusted C9-C12 Aliphatics[1]	N/A	2500	µg/kg	U
Benzene	C5-C8	100	µg/kg	U
Ethylbenzene	C9-C12	100	µg/kg	U
Methyl-tert-butyl ether	C5-C8	100	µg/kg	U
Naphthalene	N/A	100	µg/kg	U
Toluene	C5-C8	100	µg/kg	U
m- & p-Xylenes	C9-C12	200	µg/kg	U
o-Xylene	C9-C12	100	µg/kg	U
C5-C8 Aliphatics Hydrocarbons[1,2]	N/A	2500	µg/kg	U
C9-C12 Aliphatic Hydrocarbons[1,3]	N/A	2500	µg/kg	U
C9-C10 Aromatic Hydrocarbons[1]	N/A	500	µg/kg	U
Surrogate % Recovery (2,5-Dibromotoluene) PID				84
Surrogate % Recovery (2,5-Dibromotoluene) FID				93
Surrogate Acceptance Range				70-130%

[1]Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
[3]C9-C12 Aliphatic Hydrocarbons exclude conc. of Target Analytes eluting in that range and conc. of C9-C10 Aromatic Hydrocarbons.
RL = Report Limit
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: MADEP Volatile Petroleum Hydrocarbons (VPH), ORS Division of Environmental Analysis, Revision 1.1 May 2004

COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist. Results are expressed on a dry weight basis.

Authorized signature:

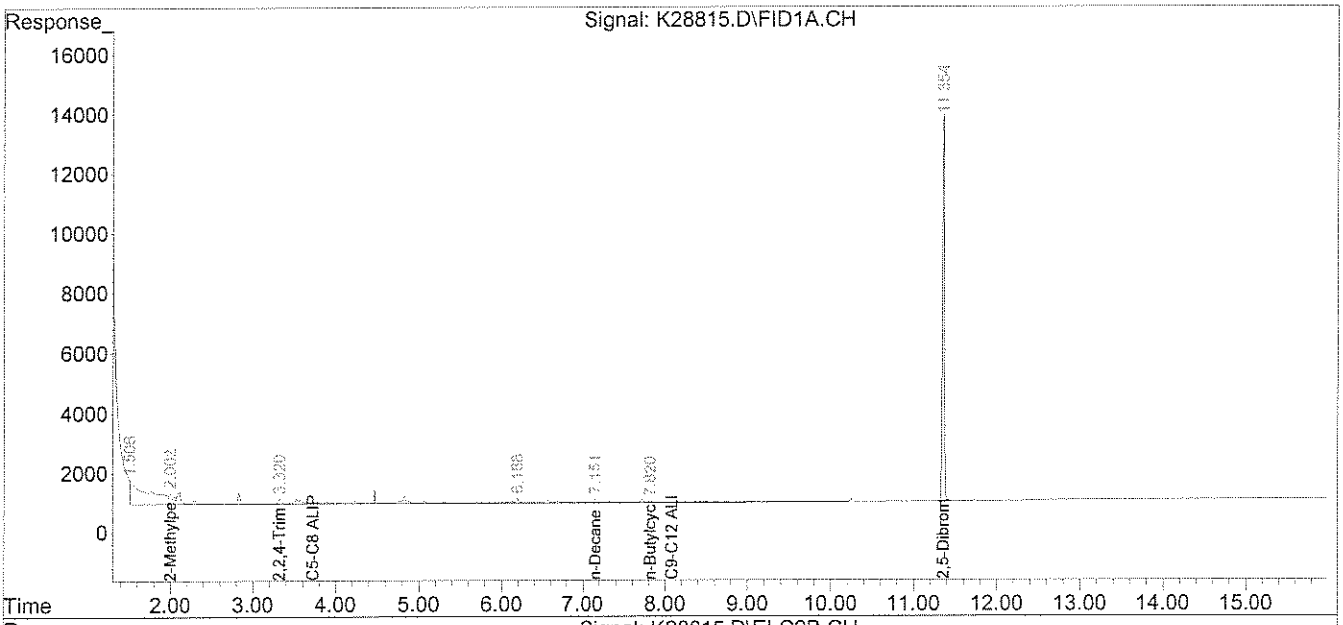
Quantitation Report (Not Reviewed)

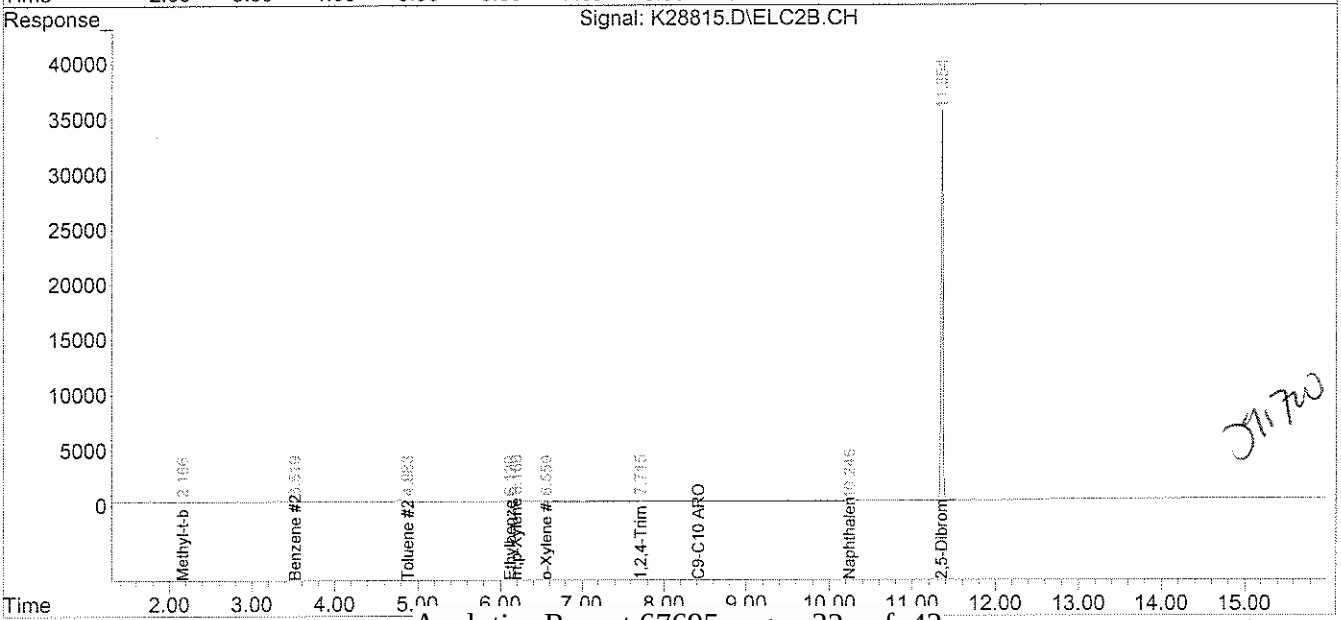
Data Path : C:\msdchem\1\DATA\090810-K\
Data File : K28815.D
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 08 Sep 2010 7:40 pm
Operator : JJL
Sample : 67695-8
Misc : 100,10.00,SOIL
ALS Vial : 25 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 09 10:43:11 2010
Quant Method : C:\msdchem\1\METHODS\VPH070110.M
Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004
QLast Update : Sun Jul 04 08:52:25 2010
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

98 9/9/10

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





JJL 9/10

analytics environmental laboratory LLC

195 Commerce Way
Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906

Mr. Erik Phenix
Ransom Environmental Consultants, Inc.
400 Commercial Street Suite 404
Portland, ME 04101

September 17, 2010

CLIENT SAMPLE ID

Project Name: Cumberland Farms- Saco

Project Number: 101.06074.002
Client Sample ID: Trip Blank (aq)

SAMPLE DATA

Lab Sample ID: 67695-9
Matrix: Aqueous
Percent Solid: N/A
Dilution Factor: 1
Collection Date: 09/01/10
Lab Receipt Date: 09/03/10
Analysis Date: 09/07/10

VPH ANALYTICAL RESULTS

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics[1]	N/A	50	µg/L	U
Unadjusted C9-C12 Aliphatics[1]	N/A	50	µg/L	U
Benzene	C5-C8	2	µg/L	U
Ethylbenzene	C9-C12	2	µg/L	U
Methyl-tert-butyl ether	C5-C8	2	µg/L	U
Naphthalene	N/A	2	µg/L	U
Toluene	C5-C8	2	µg/L	U
m- & p-Xylenes	C9-C12	4	µg/L	U
o-Xylene	C9-C12	2	µg/L	U
C5-C8 Aliphatics Hydrocarbons[1,2]	N/A	50	µg/L	U
C9-C12 Aliphatic Hydrocarbons[1,3]	N/A	50	µg/L	U
C9-C10 Aromatic Hydrocarbons[1]	N/A	10	µg/L	U
Surrogate % Recovery (2,5-Dibromotoluene) PID				90
Surrogate % Recovery (2,5-Dibromotoluene) FID				85
Surrogate Acceptance Range				70-130%

[1]Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
[2]C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
[3]C9-C12 Aliphatic Hydrocarbons exclude conc. of Target Analytes eluting in that range and conc. of C9-C10 Aromatic Hydrocarbons.
RL = Report Limit
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

METHODOLOGY: MADEP Volatile Petroleum Hydrocarbons (VPH), ORS Division of Environmental Analysis, Revision 1.1 May 2004.

COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist.

Authorized signature: Michael

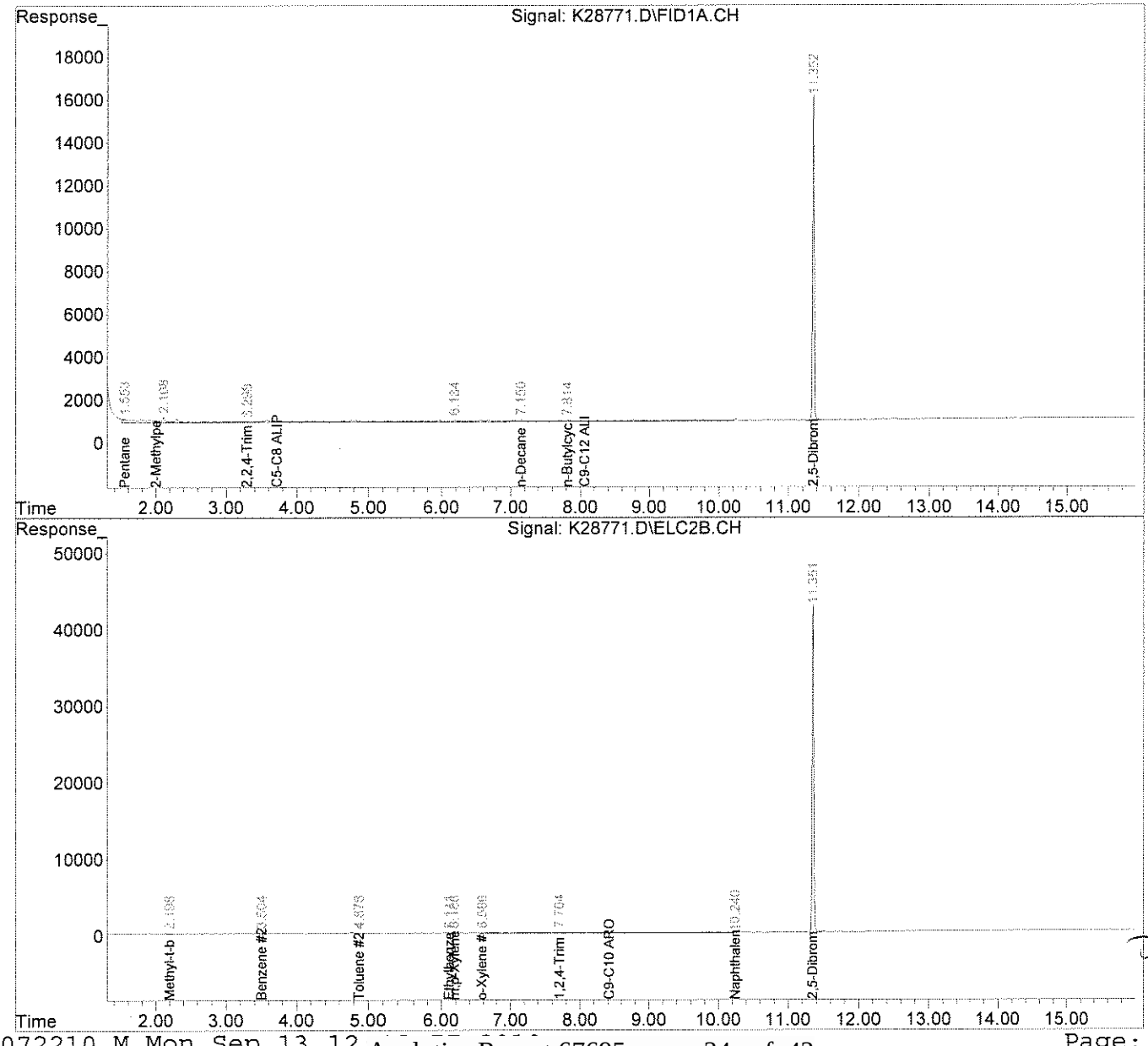
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\090710-K\
Data File : K28771.D
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 07 Sep 2010 1:22 pm
Operator : JJL
Sample : 67695-9
Misc : 5000
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 13 12:49:34 2010
Quant Method : C:\msdchem\1\METHODS\VPH072210.M
Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004
QLast Update : Fri Jul 23 15:04:23 2010
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

JJL 9/13/10

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



VPH
QC FORMS

VOLATILE PETROLEUM HYDROCARBONS
LABORATORY CONTROL SAMPLE
LABORATORY CONTROL SAMPLE DUPLICATE
PERCENT RECOVERY

Instrument ID: K
GC Column: RTX-502.2
Column ID: 0.25 mm

SDG: 67695
Non-spiked sample: BV090710K
Spike: LV090710K
Spike duplicate: LV090710K2

COMPOUND	SPIKE ADDED	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/L)	SPIKE RESULT (ug/L)	SPIKE % REC	#	SPIKE DUP RESULT (ug/L)	SPIKE DUP % REC	#	RPD	#
Pentane	100	70	130	25	0.0	119	119		119	119		0	
2-Methylpentane	100	70	130	25	0.0	113	113		114	114		1	
2,2,4-Trimethylpentane	100	70	130	25	0.0	112	112		113	113		1	
n-Decane	100	70	130	25	0.0	109	109		114	114		5	
n-Butylcyclohexane	100	70	130	25	0.0	106	106		108	108		2	
Methyl-t-butylether #2	100	70	130	25	0.0	93	93		99	99		6	
Benzene #2	100	70	130	25	0.0	101	101		104	104		3	
Toluene #2	100	70	130	25	0.0	101	101		104	104		3	
Ethylbenzene #2	100	70	130	25	0.0	98	98		101	101		3	
m,p-Xylene #2	200	70	130	25	0.0	201	100		206	103		3	
o-Xylene #2	100	70	130	25	0.0	95	95		99	99		3	
1,2,4-Trimethylbenzene #2	100	70	130	25	0.0	96	96		100	100		4	
Naphthalene #2	100	70	130	25	0.0	93	93		97	97		4	
C5-C8 Aliphatics	300	70	130	25	0.0	343	114		346	115		1	
C9-C12 Aliphatics	200	70	130	25	0.0	215	107		222	111		3	
C9-C10 Aromatics #2	100	70	130	25	0.0	96	96		100	100		4	

Column to be used to flag recovery and RPD values outside of QC limits
* Values outside QC limits

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery

Comments: _____

VOLATILE PETROLEUM HYDROCARBONS
LABORATORY CONTROL SAMPLE
LABORATORY CONTROL SAMPLE DUPLICATE
PERCENT RECOVERY

Instrument ID: K
GC Column: RTX-502.2
Column ID: 0.25 mm

SDG: 67695
Non-spiked sample: BV090810K
Spike: LV090810K
Spike duplicate: LV090810K2

COMPOUND	SPIKE ADDED	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/L)	SPIKE RESULT (ug/L)	SPIKE % REC	#	SPIKE DUP RESULT (ug/L)	SPIKE DUP % REC	#	RPD	#
Pentane	100	70	130	25	0.0	113	113		111	111		3	
2-Methylpentane	100	70	130	25	0.0	108	108		105	105		2	
2,2,4-Trimethylpentane	100	70	130	25	0.0	110	110		102	102		8	
n-Decane	100	70	130	25	0.0	111	111		106	106		5	
n-Butylcyclohexane	100	70	130	25	0.0	107	107		100	100		6	
Methyl-t-butylether #2	100	70	130	25	0.0	91	91		89	89		2	
Benzene #2	100	70	130	25	0.0	98	98		95	95		3	
Toluene #2	100	70	130	25	0.0	99	99		96	96		3	
Ethylbenzene #2	100	70	130	25	0.0	95	95		93	93		3	
m,p-Xylene #2	200	70	130	25	0.0	197	98		190	95		3	
o-Xylene #2	100	70	130	25	0.0	94	94		90	90		4	
1,2,4-Trimethylbenzene #2	100	70	130	25	0.0	95	95		91	91		4	
Naphthalene #2	100	70	130	25	0.0	89	89		91	91		2	
C5-C8 Aliphatics	300	70	130	25	0.0	332	111		318	106		4	
C9-C12 Aliphatics	200	70	130	25	0.0	218	109		206	103		6	
C9-C10 Aromatics #2	100	70	130	25	0.0	95	95		91	91		4	

Column to be used to flag recovery and RPD values outside of QC limits
* Values outside QC limits

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery

Comments: _____

VOLATILE PETROLEUM HYDROCARBONS AQUEOUS
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
PERCENT RECOVERY

Instrument ID: K
GC Column: RTX-502.2
Column ID: 0.25 mm

SDG: 67695
Non-spiked sample: 67695-4
Spike: 67695-4,MS
Spike duplicate: 67695-4,MSD

COMPOUND	SPIKE ADDED	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/L)	SPIKE RESULT (ug/L)	SPIKE % REC	#	SPIKE DUP RESULT (ug/L)	SPIKE DUP % REC	#	RPD	#
Pentane	100	70	130	25	4.2	139	135	*	139	135	*	0	
2-Methylpentane	100	70	130	25	10.1	134	124		134	123		1	
2,2,4-Trimethylpentane	100	70	130	25	35.7	116	80		115	80		1	
n-Decane	100	70	130	25	1.1	114	113		109	108		4	
n-Butylcyclohexane	100	70	130	25	3.7	119	115		115	112		3	
Methyl-t-butylether #2	100	70	130	25	230.5	319	89		316	86		1	
Benzene #2	100	70	130	25	30.9	138	107		137	106		1	
Toluene #2	100	70	130	25	4.9	113	108		112	107		1	
Ethylbenzene #2	100	70	130	25	3.5	108	105		106	103		2	
m,p-Xylene #2	200	70	130	25	5.9	219	106		216	105		1	
o-Xylene #2	100	70	130	25	2.2	103	101		101	99		1	
1,2,4-Trimethylbenzene #2	100	70	130	25	24.7	125	100		123	98		2	
Naphthalene #2	100	70	130	25	3.5	110	106		107	104		2	
C5-C8 Aliphatics	300	70	130	25	50.0	389	113		388	113		0	
C9-C12 Aliphatics	200	70	130	25	4.8	233	114		225	110		4	
C9-C10 Aromatics #2	100	70	130	25	24.7	125	100		123	98		2	

Column to be used to flag recovery and RPD values outside of QC limits
* Values outside QC limits

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery

Comments: _____

VOLATILE PETROLEUM HYDROCARBONS SOIL
LABORATORY CONTROL/LABORATORY CONTROL DUPLICATE
PERCENT RECOVERY

Instrument ID: K
GC Column: RTX-502.2
Column ID: 0.25 mm

SDG: 67695
Non-spiked sample: MBV090810K
Spike: LSV090810K
Spike duplicate: LSV090810K2

COMPOUND	LCS SPIKE ADDED (ug/kg)	LCSD SPIKE ADDED (ug/kg)	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/kg)	SPIKE RESULT (ug/kg)	SPIKE % REC	#	SPIKE DUP RESULT (ug/kg)	SPIKE DUP % REC	#	RPD	#
Pentane	5000	5000	70	130	25	0	5824	116		4986	100		15	
2-Methylpentane	5000	5000	70	130	25	0	5637	113		4851	97		15	
2,2,4-Trimethylpentane	5000	5000	70	130	25	0	5583	112		4924	98		13	
n-Decane	5000	5000	70	130	25	0	4620	92		4009	80		14	
n-Butylcyclohexane	5000	5000	70	130	25	0	5554	111		4737	95		16	
Methyl-t-butylether #2	5000	5000	70	130	25	0	4492	90		3876	78		15	
Benzene #2	5000	5000	70	130	25	0	4441	89		3820	76		15	
Toluene #2	5000	5000	70	130	25	0	4384	88		3776	76		15	
Ethylbenzene #2	5000	5000	70	130	25	0	4520	90		3878	78		15	
m,p-Xylene #2	10000	10000	70	130	25	0	9152	92		7881	79		15	
o-Xylene #2	5000	5000	70	130	25	0	4402	88		3800	76		15	
1,2,4-Trimethylbenzene #2	5000	5000	70	130	25	0	4715	94		4063	81		15	
Naphthalene #2	5000	5000	70	130	25	0	5055	101		4381	88		14	
C5-C8 Aliphatics	15000	15000	70	130	25	0	17044	114		14762	98		14	
C9-C12 Aliphatics	10000	10000	70	130	25	0	10174	102		8746	87		15	
C9-C10 Aromatics #2	5000	5000	70	130	25	0	4715	94		4063	81		15	

Column to be used to flag recovery and RPD values outside of QC limits
* Values outside QC limits

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: _____

VOLATILE PETROLEUM HYDROCARBONS SOIL
LABORATORY CONTROL/LABORATORY CONTROL DUPLICATE
PERCENT RECOVERY

Instrument ID: K
GC Column: RTX-502.2
Column ID: 0.25 mm

SDG: 67695
Non-spiked sample: MBV090910K
Spike: LSV090910K
Spike duplicate: LSV090910K

COMPOUND	LCS SPIKE ADDED (ug/kg)	LCSD SPIKE ADDED (ug/kg)	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/kg)	SPIKE RESULT (ug/kg)	SPIKE % REC	#	SPIKE DUP RESULT (ug/kg)	SPIKE DUP % REC	#	RPD	#
Pentane	5000	5000	70	130	25	0	5154	103		4677	94		10	
2-Methylpentane	5000	5000	70	130	25	0	5036	101		4568	91		10	
2,2,4-Trimethylpentane	5000	5000	70	130	25	0	4935	99		4597	92		7	
n-Decane	5000	5000	70	130	25	0	5417	108		4925	99		10	
n-Butylcyclohexane	5000	5000	70	130	25	0	5198	104		4718	94		10	
Methyl-t-butylether #2	5000	5000	70	130	25	0	4145	83		4018	80		3	
Benzene #2	5000	5000	70	130	25	0	4581	92		4321	86		6	
Toluene #2	5000	5000	70	130	25	0	4578	92		4315	86		6	
Ethylbenzene #2	5000	5000	70	130	25	0	4464	89		4176	84		7	
m,p-Xylene #2	10000	10000	70	130	25	0	9177	92		8576	86		7	
o-Xylene #2	5000	5000	70	130	25	0	4389	88		4101	82		7	
1,2,4-Trimethylbenzene #2	5000	5000	70	130	25	0	4449	89		4159	83		7	
Naphthalene #2	5000	5000	70	130	25	0	3997	80		3890	78		3	
C5-C8 Aliphatics	15000	15000	70	130	25	0	15125	101		13843	92		9	
C9-C12 Aliphatics	10000	10000	70	130	25	0	10614	106		9644	96		10	
C9-C10 Aromatics #2	5000	5000	70	130	25	0	4449	89		4159	83		7	

Column to be used to flag recovery and RPD values outside of QC limits
* Values outside QC limits

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: _____

CHAIN OF CUSTODIES

Chain Of Custody Form

analytics environmental laboratory LLC
195 Commerce Way Suite E
Portsmouth, NH 03801
Phone (603) 436-5111
Fax (603) 430-2151

For Analytics Use Only Rev. 4 03/28/08

Samples were:
1) Shipped or hand-delivered
2) Temp blank °C 3.5
3) Received in good condition (Y) or N
4) pH checked by: N/A
5) Labels checked by: SB 9/3/10

cooler #27

Project#: 101.06074.002 Proj. Name: Cumberland Farms - Saco
Company: RANSOM Environmental Consultants, Inc.
Contact: Erik Phenix
Address: 400 Commercial Street Suite 404
Portland, ME 04101
Phone: (207) 772-2891 PO# Quote #
Sampler (Signature):

Matrix Key:
C = Concrete
WP = Wipe
WW = Wastewater
SW = Surface Water
GW = Groundwater
DW = Drinking Water
S = Soil/Sludge
O = Oil
E = Extract
X = Other

Container Key
P=plastic G=glass

Preservation

Station Identification	Sample Date	Sample Time	Analysis	Unpres	4° C	HNO_3	H_2SO_4	HCL	Methanol	Other	Matrix	Container number/type		pH	Analytics Sample #
SB102-S3-090110	9/1/10	1000	VPH Full		X				X		S	2	G		67695-1
SB104-S2-090110	9/1/10	1300	VPH Full		X				X		S	4	G		2
MW-101	9/1/10	1225	VPH Full		X			X			GW	4	G		3
MW-102	9/1/10	1325	VPH Full		X			X			GW	3	G		4
MW-103	9/1/10	1610	VPH Full		X			X			GW	3	G		5
MW-103 Dup	9/1/10	1610	VPH Full		X			X			GW	3	G		6
MW-104	9/1/10	1705	VPH Full		X			X			GW	3	G		7

Received By: Time: 13:15 Date: 090310
Relinquished By Sampler: Time: Date:

Email Results to: ephenix@ransomenv.com

Turnaround Time (TAT)
☐ 24hr* ☐ 48hr*
☐ 72hr* ☐ 5 Days*
☒ 10 Days
*Fee may apply; lab approval required

Comments / Instructions:
Maine DEP Vapor Intrusion Program
★ Bill to Maine DEP Potential Vapor Intrusion Investigation
c/o Pete Eremita
312 Canco Road, Portland ME

Project Requirements:
*Fee may apply

Report Type:
☐ MCP* ☒ Level II*
☐ CTRCP* ☐ Level III*
☐ DOD* ☐ Level IV*
☐ Standard

State:
☐ NH ☐ MA ☒ ME ☐ CT ☐ RI
Other:

State Standard: (eg. S-1 or GW-1)

EDD Required: (Y*) N
Type: Maine DEP

TRIP BLANK 67695-8 SOLID
TRIP BLANK -9 AQUEOUS

Analytics\AEL Documents\AEL COC

Page 1 of 1

ANALYTICS SAMPLE RECEIPT CHECKLIST

analytics environmental laboratory LLC

AEL LAB#: _____ COOLER NUMBER: 27

CLIENT: RANSOM ENVIRONMENTAL CONSULT. NUMBER OF COOLERS: 1

PROJECT: CUMBERLAND FARMS SACO DATE RECEIVED: 09/03/10

A: PRELIMINARY EXAMINATION: DATE COOLER OPENED: 09/03/10

1. Cooler received by(initials): [illegible] Date Received: 09/03/10

2. Circle one: (Hand delivered) Shipped
(If so, skip 3)

3. Did cooler come with a shipping slip? Y (N/A)

3a. Enter carrier name and airbill number here: N/A

4. Were custody seals on the outside of cooler? Y N
How many & where: N/A Seal Date: N/A Seal Name: N/A

5. Did the custody seals arrive unbroken and intact upon arrival? Y (N/A)

6. COC#: N/A

7. Were Custody papers filled out properly (ink,signed, etc)? (Y) N

8. Were custody papers sealed in a plastic bag? (Y) N

9. Did you sign the COC in the appropriate place? (Y) N

10. Was the project identifiable from the COC papers? (Y) N

11. Was enough ice used to chill the cooler? Y N Temp. of cooler: 3.5°

B. Log-In: Date samples were logged in: 09/03/10 By: [illegible]

12. Type of packing in cooler(bubble wrap, popcorn) (Y) N

13. Were all bottles sealed in separate plastic bags? (Y) N

14. Did all bottles arrive unbroken and were labels in good condition? (Y) N

15. Were all bottle labels complete(ID,Date,time,etc.) (Y) N

16. Did all bottle labels agree with custody papers? (Y) N

17. Were the correct containers used for the tests indicated: (Y) N

18. Were samples received at the correct pH? Y (N/A)

19. Was sufficient amount of sample sent for the tests indicated? (Y) N

20. Were bubbles absent in VOA samples? Y (N)

If NO, List Sample ID's and Lab #s: 67695-3-D, 67695-5-A, 67695-5-B, 67695-5-C 67695-9-A HAD BUBBLES SMALLER THAN PEA SIZED

21. Laboratory labeling verified by (initials): [illegible] Date: 9/3/10

ANALYTICAL REPORT

Lab Number:	L1013799
Client:	Ransom Environmental 400 Commercial Street Suite 404 Portland, ME 04101-4660
ATTN:	Erik Phenix
Phone:	(207) 772-2891
Project Name:	CUMBERLAND FARMS-SACO
Project Number:	R101.06074.002
Report Date:	09/14/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: CUMBERLAND FARMS-SACO
Project Number: R101.06074.002

Lab Number: L1013799
Report Date: 09/14/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1013799-01	SV101	SACO, ME	09/01/10 12:38
L1013799-02	SV102	SACO, ME	09/01/10 16:01
L1013799-03	SV103	SACO, ME	09/01/10 15:22
L1013799-04	SV104	SACO, ME	09/01/10 14:41
L1013799-05	SV105	SACO, ME	09/01/10 16:45
L1013799-06	SV106	SACO, ME	09/01/10 11:53
L1013799-07	SV107	SACO, ME	09/01/10 10:22
L1013799-08	SV102 SPLIT	SACO, ME	09/01/10 16:01

Project Name: CUMBERLAND FARMS-SACO **Lab Number:** L1013799
Project Number: R101.06074.002 **Report Date:** 09/14/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

MCP Related Narratives

Canisters were released from the laboratory on August 27, 2010.

The canister certification data is provided as an addendum.

The internal standards were within method criteria.

Per client, only report a limited compound list for the TO-15 analysis and analyze all samples for CO2, O2 and CH4.

Volatile Organics in Air (Low Level)

L1013799-01 through -08: Prior to sample analysis, the canisters were pressurized with UHP Nitrogen due to canister size. The pressurization resulted in a dilution of the sample. The reporting limits have been elevated accordingly.

Project Name:	CUMBERLAND FARMS-SACO	**Lab Number:**	L1013799
Project Number:	R101.06074.002	**Report Date:**	09/14/10

Case Narrative (continued)

Petroleum Hydrocarbons in Air

L1013799-01 through -08: Prior to sample analysis, the canisters were pressurized with UHP Nitrogen due to canister size. The pressurization resulted in a dilution of the sample. The reporting limits have been elevated accordingly.

L1013799-07 has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

Fixed Gas

L1013799-01 through -08: Prior to sample analysis, the canisters were pressurized with UHP Nitrogen due to canister size. The pressurization resulted in a dilution of the sample. The reporting limits have been elevated accordingly.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kathleen O'Brien

Title: Technical Director/Representative Date: 09/14/10

AIR

Project Name: CUMBERLAND FARMS-SACO ***Lab Number:*** L1013799

Project Number: R101.06074.002 ***Report Date:*** 09/14/10

SAMPLE RESULTS

Lab ID: L1013799-01 D
Client ID: SV101
Sample Location: SACO, ME
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/11/10 20:21
Analyst: RY

Date Collected: 09/01/10 12:38
Date Received: 09/04/10
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.433	--	ND	1.10	--		2.165
1,1-Dichloroethene	ND	0.433	--	ND	1.72	--		2.165
trans-1,2-Dichloroethene	ND	0.433	--	ND	1.72	--		2.165
1,1-Dichloroethane	ND	0.433	--	ND	1.75	--		2.165
cis-1,2-Dichloroethene	ND	0.433	--	ND	1.72	--		2.165
1,2-Dichloroethane	ND	0.433	--	ND	1.75	--		2.165
1,1,1-Trichloroethane	ND	0.433	--	ND	2.36	--		2.165
Trichloroethene	ND	0.433	--	ND	2.32	--		2.165
1,2-Dibromoethane	ND	0.433	--	ND	3.32	--		2.165
Tetrachloroethene	0.444	0.433	--	3.01	2.93	--		2.165

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	104		60-140
Bromochloromethane	96		60-140
chlorobenzene-d5	125		60-140

Project Name: CUMBERLAND FARMS-SACO **Lab Number:** L1013799

Project Number: R101.06074.002 **Report Date:** 09/14/10

SAMPLE RESULTS

Lab ID: L1013799-02 D
Client ID: SV102
Sample Location: SACO, ME
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/11/10 20:55
Analyst: RY

Date Collected: 09/01/10 16:01
Date Received: 09/04/10
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.576	--	ND	1.47	--		2.88
1,1-Dichloroethene	ND	0.576	--	ND	2.28	--		2.88
trans-1,2-Dichloroethene	ND	0.576	--	ND	2.28	--		2.88
1,1-Dichloroethane	ND	0.576	--	ND	2.33	--		2.88
cis-1,2-Dichloroethene	ND	0.576	--	ND	2.28	--		2.88
1,2-Dichloroethane	ND	0.576	--	ND	2.33	--		2.88
1,1,1-Trichloroethane	ND	0.576	--	ND	3.14	--		2.88
Trichloroethene	ND	0.576	--	ND	3.09	--		2.88
1,2-Dibromoethane	ND	0.576	--	ND	4.42	--		2.88
Tetrachloroethene	ND	0.576	--	ND	3.90	--		2.88

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	116		60-140
Bromochloromethane	110		60-140
chlorobenzene-d5	108		60-140

Project Name: CUMBERLAND FARMS-SACO
Project Number: R101.06074.002
Lab Number: L1013799
Report Date: 09/14/10

SAMPLE RESULTS

Lab ID: L1013799-03 D
Client ID: SV103
Sample Location: SACO, ME
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/11/10 21:30
Analyst: RY

Date Collected: 09/01/10 15:22
Date Received: 09/04/10
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.494	--	ND	1.26	--		2.472
1,1-Dichloroethene	ND	0.494	--	ND	1.96	--		2.472
trans-1,2-Dichloroethene	ND	0.494	--	ND	1.96	--		2.472
1,1-Dichloroethane	ND	0.494	--	ND	2.00	--		2.472
cis-1,2-Dichloroethene	ND	0.494	--	ND	1.96	--		2.472
1,2-Dichloroethane	ND	0.494	--	ND	2.00	--		2.472
1,1,1-Trichloroethane	ND	0.494	--	ND	2.70	--		2.472
Trichloroethene	ND	0.494	--	ND	2.65	--		2.472
1,2-Dibromoethane	ND	0.494	--	ND	3.80	--		2.472
Tetrachloroethene	0.536	0.494	--	3.64	3.35	--		2.472

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	100		60-140
Bromochloromethane	104		60-140
chlorobenzene-d5	95		60-140

Project Name: CUMBERLAND FARMS-SACO ***Lab Number:*** L1013799

Project Number: R101.06074.002 ***Report Date:*** 09/14/10

SAMPLE RESULTS

Lab ID: L1013799-04 D
Client ID: SV104
Sample Location: SACO, ME
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/11/10 22:05
Analyst: RY

Date Collected: 09/01/10 14:41
Date Received: 09/04/10
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.490	--	ND	1.25	--		2.451
1,1-Dichloroethene	ND	0.490	--	ND	1.94	--		2.451
trans-1,2-Dichloroethene	ND	0.490	--	ND	1.94	--		2.451
1,1-Dichloroethane	ND	0.490	--	ND	1.98	--		2.451
cis-1,2-Dichloroethene	ND	0.490	--	ND	1.94	--		2.451
1,2-Dichloroethane	ND	0.490	--	ND	1.98	--		2.451
1,1,1-Trichloroethane	ND	0.490	--	ND	2.67	--		2.451
Trichloroethene	ND	0.490	--	ND	2.63	--		2.451
1,2-Dibromoethane	ND	0.490	--	ND	3.76	--		2.451
Tetrachloroethene	0.598	0.490	--	4.05	3.32	--		2.451

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	108		60-140
Bromochloromethane	105		60-140
chlorobenzene-d5	104		60-140

Project Name: CUMBERLAND FARMS-SACO ***Lab Number:*** L1013799

Project Number: R101.06074.002 ***Report Date:*** 09/14/10

SAMPLE RESULTS

Lab ID: L1013799-05 D
Client ID: SV105
Sample Location: SACO, ME
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/11/10 22:40
Analyst: RY

Date Collected: 09/01/10 16:45
Date Received: 09/04/10
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.511	--	ND	1.31	--		2.557
1,1-Dichloroethene	ND	0.511	--	ND	2.02	--		2.557
trans-1,2-Dichloroethene	ND	0.511	--	ND	2.02	--		2.557
1,1-Dichloroethane	ND	0.511	--	ND	2.07	--		2.557
cis-1,2-Dichloroethene	ND	0.511	--	ND	2.02	--		2.557
1,2-Dichloroethane	ND	0.511	--	ND	2.07	--		2.557
1,1,1-Trichloroethane	ND	0.511	--	ND	2.79	--		2.557
Trichloroethene	ND	0.511	--	ND	2.74	--		2.557
1,2-Dibromoethane	ND	0.511	--	ND	3.93	--		2.557
Tetrachloroethene	ND	0.511	--	ND	3.46	--		2.557

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	140		60-140
Bromochloromethane	123		60-140
chlorobenzene-d5	119		60-140

Project Name: CUMBERLAND FARMS-SACO **Lab Number:** L1013799

Project Number: R101.06074.002 **Report Date:** 09/14/10

SAMPLE RESULTS

Lab ID: L1013799-06 D
Client ID: SV106
Sample Location: SACO, ME
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/11/10 23:16
Analyst: RY

Date Collected: 09/01/10 11:53
Date Received: 09/04/10
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.449	--	ND	1.15	--		2.247
1,1-Dichloroethene	ND	0.449	--	ND	1.78	--		2.247
trans-1,2-Dichloroethene	ND	0.449	--	ND	1.78	--		2.247
1,1-Dichloroethane	ND	0.449	--	ND	1.82	--		2.247
cis-1,2-Dichloroethene	ND	0.449	--	ND	1.78	--		2.247
1,2-Dichloroethane	ND	0.449	--	ND	1.82	--		2.247
1,1,1-Trichloroethane	ND	0.449	--	ND	2.45	--		2.247
Trichloroethene	ND	0.449	--	ND	2.41	--		2.247
1,2-Dibromoethane	ND	0.449	--	ND	3.45	--		2.247
Tetrachloroethene	ND	0.449	--	ND	3.04	--		2.247

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	109		60-140
Bromochloromethane	106		60-140
chlorobenzene-d5	104		60-140

Project Name: CUMBERLAND FARMS-SACO **Lab Number:** L1013799

Project Number: R101.06074.002 **Report Date:** 09/14/10

SAMPLE RESULTS

Lab ID: L1013799-07 D
Client ID: SV107
Sample Location: SACO, ME
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/11/10 23:51
Analyst: RY

Date Collected: 09/01/10 10:22
Date Received: 09/04/10
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	4.36	--	ND	11.1	--		21.81
1,1-Dichloroethene	ND	4.36	--	ND	17.3	--		21.81
trans-1,2-Dichloroethene	ND	4.36	--	ND	17.3	--		21.81
1,1-Dichloroethane	ND	4.36	--	ND	17.6	--		21.81
cis-1,2-Dichloroethene	ND	4.36	--	ND	17.3	--		21.81
1,2-Dichloroethane	ND	4.36	--	ND	17.6	--		21.81
1,1,1-Trichloroethane	ND	4.36	--	ND	23.8	--		21.81
Trichloroethene	ND	4.36	--	ND	23.4	--		21.81
1,2-Dibromoethane	ND	4.36	--	ND	33.5	--		21.81
Tetrachloroethene	ND	4.36	--	ND	29.6	--		21.81

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	125		60-140
Bromochloromethane	115		60-140
chlorobenzene-d5	105		60-140

Project Name: CUMBERLAND FARMS-SACO
Lab Number: L1013799
Project Number: R101.06074.002
Report Date: 09/14/10

SAMPLE RESULTS

Lab ID: L1013799-08 D
Client ID: SV102 SPLIT
Sample Location: SACO, ME
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/12/10 00:27
Analyst: RY

Date Collected: 09/01/10 16:01
Date Received: 09/04/10
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.494	--	ND	1.26	--		2.472
1,1-Dichloroethene	ND	0.494	--	ND	1.96	--		2.472
trans-1,2-Dichloroethene	ND	0.494	--	ND	1.96	--		2.472
1,1-Dichloroethane	ND	0.494	--	ND	2.00	--		2.472
cis-1,2-Dichloroethene	ND	0.494	--	ND	1.96	--		2.472
1,2-Dichloroethane	ND	0.494	--	ND	2.00	--		2.472
1,1,1-Trichloroethane	ND	0.494	--	ND	2.70	--		2.472
Trichloroethene	ND	0.494	--	ND	2.65	--		2.472
1,2-Dibromoethane	ND	0.494	--	ND	3.80	--		2.472
Tetrachloroethene	ND	0.494	--	ND	3.35	--		2.472

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	115		60-140
Bromochloromethane	112		60-140
chlorobenzene-d5	106		60-140

Project Name: CUMBERLAND FARMS-SACO
Project Number: R101.06074.002
Lab Number: L1013799
Report Date: 09/14/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 09/11/10 12:57

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air (Low Level) - Mansfield Lab for sample(s): 01-08 Batch: WG431974-4								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.792	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.792	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.792	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: CUMBERLAND FARMS-SACO

Project Number: R101.06074.002

Lab Number: L1013799

Report Date: 09/14/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air (Low Level) - Mansfield Lab Associated sample(s): 01-08 Batch: WG431974-3								
Vinyl chloride	102		-		70-130	-		
1,1-Dichloroethene	102		-		70-130	-		
trans-1,2-Dichloroethene	94		-		70-130	-		
1,1-Dichloroethane	95		-		70-130	-		
cis-1,2-Dichloroethene	97		-		70-130	-		
1,2-Dichloroethane	103		-		70-130	-		
1,1,1-Trichloroethane	107		-		70-130	-		
Trichloroethene	109		-		70-130	-		
1,2-Dibromoethane	98		-		70-130	-		
Tetrachloroethene	98		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: CUMBERLAND FARMS-SACO
Project Number: R101.06074.002

Lab Number: L1013799
Report Date: 09/14/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air (Low Level) - Mansfield Lab Associated sample(s): 01-08 QC Batch ID: WG431974-5 QC Sample: L1013911-01 Client ID: DUP Sample						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,2-Dichloroethane	ND	ND	ppbV	NC		25
1,1,1-Trichloroethane	ND	ND	ppbV	NC		25
Trichloroethene	ND	ND	ppbV	NC		25
1,2-Dibromoethane	ND	ND	ppbV	NC		25
Tetrachloroethene	2.03	2.05	ppbV	1		25

Project Name: CUMBERLAND FARMS-SACO
Project Number: R101.06074.002
Lab Number: L1013799
Report Date: 09/14/10

SAMPLE RESULTS

Lab ID:	L1013799-01	Date Collected:	09/01/10 12:38
Client ID:	SV101	Date Received:	09/04/10
Sample Location:	SACO, ME	Field Prep:	Not Specified
Matrix:	Soil_Vapor	Extraction Method:	
Analytical Method:	51,3C		
Analytical Date:	09/13/10 17:15		
Analyst:	AR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Fixed Gases by GC - Mansfield Lab						
Oxygen	14.5		%	2.16	--	2.161
Methane	ND		%	0.216	--	2.161
Carbon Dioxide	2.91		%	0.216	--	2.161

Project Name: CUMBERLAND FARMS-SACO
Project Number: R101.06074.002
Lab Number: L1013799
Report Date: 09/14/10

SAMPLE RESULTS

Lab ID:	L1013799-02	Date Collected:	09/01/10 16:01
Client ID:	SV102	Date Received:	09/04/10
Sample Location:	SACO, ME	Field Prep:	Not Specified
Matrix:	Soil_Vapor	Extraction Method:	
Analytical Method:	51,3C		
Analytical Date:	09/13/10 17:56		
Analyst:	AR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Fixed Gases by GC - Mansfield Lab						
Oxygen	ND		%	2.87	--	2.874
Methane	ND		%	0.287	--	2.874
Carbon Dioxide	11.8		%	0.287	--	2.874

Project Name: CUMBERLAND FARMS-SACO
Project Number: R101.06074.002
Lab Number: L1013799
Report Date: 09/14/10

SAMPLE RESULTS

Lab ID:	L1013799-03	Date Collected:	09/01/10 15:22
Client ID:	SV103	Date Received:	09/04/10
Sample Location:	SACO, ME	Field Prep:	Not Specified
Matrix:	Soil_Vapor	Extraction Method:	
Analytical Method:	51,3C		
Analytical Date:	09/13/10 18:37		
Analyst:	AR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Fixed Gases by GC - Mansfield Lab						
Oxygen	2.84		%	2.47	--	2.467
Methane	ND		%	0.247	--	2.467
Carbon Dioxide	10.2		%	0.247	--	2.467

Project Name: CUMBERLAND FARMS-SACO
Project Number: R101.06074.002
Lab Number: L1013799
Report Date: 09/14/10

SAMPLE RESULTS

Lab ID: L1013799-04
Client ID: SV104
Sample Location: SACO, ME
Matrix: Soil_Vapor
Analytical Method: 51,3C
Analytical Date: 09/13/10 19:18
Analyst: AR

Date Collected: 09/01/10 14:41
Date Received: 09/04/10
Field Prep: Not Specified
Extraction Method:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Fixed Gases by GC - Mansfield Lab						
Oxygen	7.31		%	2.45	--	2.446
Methane	ND		%	0.245	--	2.446
Carbon Dioxide	7.42		%	0.245	--	2.446

Project Name: CUMBERLAND FARMS-SACO
Project Number: R101.06074.002
Lab Number: L1013799
Report Date: 09/14/10

SAMPLE RESULTS

Lab ID:	L1013799-05	Date Collected:	09/01/10 16:45
Client ID:	SV105	Date Received:	09/04/10
Sample Location:	SACO, ME	Field Prep:	Not Specified
Matrix:	Soil_Vapor	Extraction Method:	
Analytical Method:	51,3C		
Analytical Date:	09/13/10 19:59		
Analyst:	AR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Fixed Gases by GC - Mansfield Lab						
Oxygen	16.1		%	2.55	--	2.554
Methane	ND		%	0.255	--	2.554
Carbon Dioxide	0.774		%	0.255	--	2.554

Project Name: CUMBERLAND FARMS-SACO
Project Number: R101.06074.002
Lab Number: L1013799
Report Date: 09/14/10

SAMPLE RESULTS

Lab ID:	L1013799-06	Date Collected:	09/01/10 11:53
Client ID:	SV106	Date Received:	09/04/10
Sample Location:	SACO, ME	Field Prep:	Not Specified
Matrix:	Soil_Vapor	Extraction Method:	
Analytical Method:	51,3C		
Analytical Date:	09/13/10 20:40		
Analyst:	AR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Fixed Gases by GC - Mansfield Lab						
Oxygen	15.0		%	2.24	--	2.243
Methane	ND		%	0.224	--	2.243
Carbon Dioxide	2.54		%	0.224	--	2.243

Project Name: CUMBERLAND FARMS-SACO
Project Number: R101.06074.002
Lab Number: L1013799
Report Date: 09/14/10

SAMPLE RESULTS

Lab ID:	L1013799-07	Date Collected:	09/01/10 10:22
Client ID:	SV107	Date Received:	09/04/10
Sample Location:	SACO, ME	Field Prep:	Not Specified
Matrix:	Soil_Vapor	Extraction Method:	
Analytical Method:	51,3C		
Analytical Date:	09/13/10 21:21		
Analyst:	AR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Fixed Gases by GC - Mansfield Lab						
Oxygen	14.5		%	2.18	--	2.176
Methane	ND		%	0.218	--	2.176
Carbon Dioxide	0.979		%	0.218	--	2.176

Project Name: CUMBERLAND FARMS-SACO
Project Number: R101.06074.002
Lab Number: L1013799
Report Date: 09/14/10

SAMPLE RESULTS

Lab ID:	L1013799-08	Date Collected:	09/01/10 16:01
Client ID:	SV102 SPLIT	Date Received:	09/04/10
Sample Location:	SACO, ME	Field Prep:	Not Specified
Matrix:	Soil_Vapor	Extraction Method:	
Analytical Method:	51,3C		
Analytical Date:	09/13/10 22:03		
Analyst:	AR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Fixed Gases by GC - Mansfield Lab						
Oxygen	ND		%	2.47	--	2.467
Methane	ND		%	0.247	--	2.467
Carbon Dioxide	12.5		%	0.247	--	2.467

Project Name: CUMBERLAND FARMS-SACO **Lab Number:** L1013799

Project Number: R101.06074.002 **Report Date:** 09/14/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 51,3C
Analytical Date: 09/13/10 16:37
Analyst: AR

Parameter	Result	Qualifier	Units	RL	MDL
Fixed Gases by GC - Mansfield Lab for sample(s): 01-08 Batch: WG432138-2					
Oxygen	ND		%	1.00	--
Methane	ND		%	0.100	--
Carbon Dioxide	ND		%	0.100	--

Lab Control Sample Analysis

Batch Quality Control

Project Name: CUMBERLAND FARMS-SACO

Project Number: R101.06074.002

Lab Number: L1013799

Report Date: 09/14/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-08 Batch: WG432138-1								
Oxygen	89		-		80-120	-		
Methane	102		-		80-120	-		
Carbon Dioxide	101		-		80-120	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: CUMBERLAND FARMS-SACO
Project Number: R101.06074.002

Lab Number: L1013799
Report Date: 09/14/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-08 QC Batch ID: WG432138-10 QC Sample: L1013799-08 Client ID: SV102 SPLIT						
Oxygen	ND	ND	%	NC		5
Methane	ND	ND	%	NC		5
Carbon Dioxide	12.5	12.4	%	1		5
Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-08 QC Batch ID: WG432138-11 QC Sample: L1013911-01 Client ID: DUP Sample						
Oxygen	14.9	14.6	%	2		5
Methane	ND	ND	%	NC		5
Carbon Dioxide	2.70	2.71	%	0		5
Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-08 QC Batch ID: WG432138-3 QC Sample: L1013799-01 Client ID: SV101						
Oxygen	14.5	13.8	%	5		5
Methane	ND	ND	%	NC		5
Carbon Dioxide	2.91	2.98	%	2		5
Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-08 QC Batch ID: WG432138-4 QC Sample: L1013799-02 Client ID: SV102						
Oxygen	ND	ND	%	NC		5
Methane	ND	ND	%	NC		5
Carbon Dioxide	11.8	11.8	%	0		5

Lab Duplicate Analysis
Batch Quality Control

Project Name: CUMBERLAND FARMS-SACO
Project Number: R101.06074.002

Lab Number: L1013799
Report Date: 09/14/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-08 QC Batch ID: WG432138-5 QC Sample: L1013799-03 Client ID: SV103					
Oxygen	2.84	2.73	%	4	5
Methane	ND	ND	%	NC	5
Carbon Dioxide	10.2	10.2	%	0	5
Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-08 QC Batch ID: WG432138-6 QC Sample: L1013799-04 Client ID: SV104					
Oxygen	7.31	7.57	%	3	5
Methane	ND	ND	%	NC	5
Carbon Dioxide	7.42	7.45	%	0	5
Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-08 QC Batch ID: WG432138-7 QC Sample: L1013799-05 Client ID: SV105					
Oxygen	16.1	15.4	%	4	5
Methane	ND	ND	%	NC	5
Carbon Dioxide	0.774	0.771	%	0	5
Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-08 QC Batch ID: WG432138-8 QC Sample: L1013799-06 Client ID: SV106					
Oxygen	15.0	14.9	%	1	5
Methane	ND	ND	%	NC	5
Carbon Dioxide	2.54	2.52	%	1	5

Lab Duplicate Analysis
Batch Quality Control

Project Name: CUMBERLAND FARMS-SACO
Project Number: R101.06074.002

Lab Number: L1013799
Report Date: 09/14/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-08 QC Batch ID: WG432138-9 QC Sample: L1013799-07 Client ID: SV107					
Oxygen	14.5	14.6	%	1	5
Methane	ND	ND	%	NC	5
Carbon Dioxide	0.979	1.00	%	2	5

Project Name: CUMBERLAND FARMS-SACO **Lab Number:** L1013799

Project Number: R101.06074.002 **Report Date:** 09/14/10

SAMPLE RESULTS

Lab ID:	L1013799-01	D	Date Collected:	09/01/10 12:38
Client ID:	SV101		Date Received:	09/04/10
Sample Location:	SACO, ME		Field Prep:	Not Specified
Matrix:	Soil_Vapor			
Analytical Method:	96,APH			
Analytical Date:	09/11/10 20:21			
Analyst:	AJ			

Quality Control Information

Sample Type:	100 ml/min Composite
Sample Container Type:	Canister - 1 Liter
Sampling Flow Controller:	Mechanical
Sampling Zone:	Unknown
Sampling Flow Meter RPD of pre & post-sampling calibration check:	<=20%
Were all QA/QC procedures REQUIRED by the method followed?	Yes
Were all performance/acceptance standards for the required procedures achieved?	Yes
Were significant modifications made to the method as specified in Sect 11.1.2?	No

Petroleum Hydrocarbons in Air - Mansfield Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,3-Butadiene	ND		ug/m3	4.4	--	2.2
Methyl tert butyl ether	ND		ug/m3	4.4	--	2.2
Benzene	ND		ug/m3	4.4	--	2.2
Toluene	ND		ug/m3	4.4	--	2.2
C5-C8 Aliphatics, Adjusted	4400		ug/m3	26	--	2.2
Ethylbenzene	7.0		ug/m3	4.4	--	2.2
p/m-Xylene	44		ug/m3	8.8	--	2.2
o-Xylene	47		ug/m3	4.4	--	2.2
Naphthalene	ND		ug/m3	4.4	--	2.2
C9-C12 Aliphatics, Adjusted	2000		ug/m3	31	--	2.2
C9-C10 Aromatics Total	26		ug/m3	22	--	2.2

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	106		50-200
Bromochloromethane	109		50-200
Chlorobenzene-d5	131		50-200

Project Name: CUMBERLAND FARMS-SACO **Lab Number:** L1013799

Project Number: R101.06074.002 **Report Date:** 09/14/10

SAMPLE RESULTS

Lab ID:	L1013799-02	D	Date Collected:	09/01/10 16:01
Client ID:	SV102		Date Received:	09/04/10
Sample Location:	SACO, ME		Field Prep:	Not Specified
Matrix:	Soil_Vapor			
Analytical Method:	96,APH			
Analytical Date:	09/11/10 20:55			
Analyst:	AJ			

Quality Control Information

Sample Type:	100 ml/min Composite
Sample Container Type:	Canister - 1 Liter
Sampling Flow Controller:	Mechanical
Sampling Zone:	Unknown
Sampling Flow Meter RPD of pre & post-sampling calibration check:	<=20%
Were all QA/QC procedures REQUIRED by the method followed?	Yes
Were all performance/acceptance standards for the required procedures achieved?	Yes
Were significant modifications made to the method as specified in Sect 11.1.2?	No

Petroleum Hydrocarbons in Air - Mansfield Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,3-Butadiene	ND		ug/m3	5.8	--	2.9
Methyl tert butyl ether	ND		ug/m3	5.8	--	2.9
Benzene	8.5		ug/m3	5.8	--	2.9
Toluene	390		ug/m3	5.8	--	2.9
C5-C8 Aliphatics, Adjusted	7500		ug/m3	35	--	2.9
Ethylbenzene	23		ug/m3	5.8	--	2.9
p/m-Xylene	37		ug/m3	12	--	2.9
o-Xylene	15		ug/m3	5.8	--	2.9
Naphthalene	ND		ug/m3	5.8	--	2.9
C9-C12 Aliphatics, Adjusted	540		ug/m3	41	--	2.9
C9-C10 Aromatics Total	62		ug/m3	29	--	2.9

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	118		50-200
Bromochloromethane	118		50-200
Chlorobenzene-d5	117		50-200

Project Name: CUMBERLAND FARMS-SACO **Lab Number:** L1013799

Project Number: R101.06074.002 **Report Date:** 09/14/10

SAMPLE RESULTS

Lab ID:	L1013799-03	D	Date Collected:	09/01/10 15:22
Client ID:	SV103		Date Received:	09/04/10
Sample Location:	SACO, ME		Field Prep:	Not Specified
Matrix:	Soil_Vapor			
Analytical Method:	96,APH			
Analytical Date:	09/11/10 21:30			
Analyst:	AJ			

Quality Control Information

Sample Type:	100 ml/min Composite
Sample Container Type:	Canister - 1 Liter
Sampling Flow Controller:	Mechanical
Sampling Zone:	Unknown
Sampling Flow Meter RPD of pre & post-sampling calibration check:	<=20%
Were all QA/QC procedures REQUIRED by the method followed?	Yes
Were all performance/acceptance standards for the required procedures achieved?	Yes
Were significant modifications made to the method as specified in Sect 11.1.2?	No

Petroleum Hydrocarbons in Air - Mansfield Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,3-Butadiene	ND		ug/m3	5.0	--	2.5
Methyl tert butyl ether	11		ug/m3	5.0	--	2.5
Benzene	28		ug/m3	5.0	--	2.5
Toluene	310		ug/m3	5.0	--	2.5
C5-C8 Aliphatics, Adjusted	1100		ug/m3	30	--	2.5
Ethylbenzene	68		ug/m3	5.0	--	2.5
p/m-Xylene	180		ug/m3	10	--	2.5
o-Xylene	64		ug/m3	5.0	--	2.5
Naphthalene	ND		ug/m3	5.0	--	2.5
C9-C12 Aliphatics, Adjusted	1600		ug/m3	35	--	2.5
C9-C10 Aromatics Total	520		ug/m3	25	--	2.5

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	102		50-200
Bromochloromethane	111		50-200
Chlorobenzene-d5	99		50-200

Project Name: CUMBERLAND FARMS-SACO **Lab Number:** L1013799

Project Number: R101.06074.002 **Report Date:** 09/14/10

SAMPLE RESULTS

Lab ID:	L1013799-04	D	Date Collected:	09/01/10 14:41
Client ID:	SV104		Date Received:	09/04/10
Sample Location:	SACO, ME		Field Prep:	Not Specified
Matrix:	Soil_Vapor			
Analytical Method:	96,APH			
Analytical Date:	09/11/10 22:05			
Analyst:	AJ			

Quality Control Information

Sample Type:	100 ml/min Composite
Sample Container Type:	Canister - 1 Liter
Sampling Flow Controller:	Mechanical
Sampling Zone:	Unknown
Sampling Flow Meter RPD of pre & post-sampling calibration check:	<=20%
Were all QA/QC procedures REQUIRED by the method followed?	Yes
Were all performance/acceptance standards for the required procedures achieved?	Yes
Were significant modifications made to the method as specified in Sect 11.1.2?	No

Petroleum Hydrocarbons in Air - Mansfield Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,3-Butadiene	16		ug/m3	4.8	--	2.4
Methyl tert butyl ether	15		ug/m3	4.8	--	2.4
Benzene	65		ug/m3	4.8	--	2.4
Toluene	520		ug/m3	4.8	--	2.4
C5-C8 Aliphatics, Adjusted	1900		ug/m3	29	--	2.4
Ethylbenzene	99		ug/m3	4.8	--	2.4
p/m-Xylene	260		ug/m3	9.6	--	2.4
o-Xylene	94		ug/m3	4.8	--	2.4
Naphthalene	7.3		ug/m3	4.8	--	2.4
C9-C12 Aliphatics, Adjusted	3200		ug/m3	34	--	2.4
C9-C10 Aromatics Total	950		ug/m3	24	--	2.4

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	110		50-200
Bromochloromethane	113		50-200
Chlorobenzene-d5	106		50-200

Project Name: CUMBERLAND FARMS-SACO **Lab Number:** L1013799

Project Number: R101.06074.002 **Report Date:** 09/14/10

SAMPLE RESULTS

Lab ID:	L1013799-05	D	Date Collected:	09/01/10 16:45
Client ID:	SV105		Date Received:	09/04/10
Sample Location:	SACO, ME		Field Prep:	Not Specified
Matrix:	Soil_Vapor			
Analytical Method:	96,APH			
Analytical Date:	09/11/10 22:40			
Analyst:	AJ			

Quality Control Information

Sample Type:	100 ml/min Composite
Sample Container Type:	Canister - 1 Liter
Sampling Flow Controller:	Mechanical
Sampling Zone:	Unknown
Sampling Flow Meter RPD of pre & post-sampling calibration check:	<=20%
Were all QA/QC procedures REQUIRED by the method followed?	Yes
Were all performance/acceptance standards for the required procedures achieved?	Yes
Were significant modifications made to the method as specified in Sect 11.1.2?	No

Petroleum Hydrocarbons in Air - Mansfield Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,3-Butadiene	ND		ug/m3	5.2	--	2.6
Methyl tert butyl ether	37		ug/m3	5.2	--	2.6
Benzene	46		ug/m3	5.2	--	2.6
Toluene	430		ug/m3	5.2	--	2.6
C5-C8 Aliphatics, Adjusted	1600		ug/m3	31	--	2.6
Ethylbenzene	55		ug/m3	5.2	--	2.6
p/m-Xylene	100		ug/m3	10	--	2.6
o-Xylene	27		ug/m3	5.2	--	2.6
Naphthalene	ND		ug/m3	5.2	--	2.6
C9-C12 Aliphatics, Adjusted	820		ug/m3	36	--	2.6
C9-C10 Aromatics Total	92		ug/m3	26	--	2.6

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	142		50-200
Bromochloromethane	136		50-200
Chlorobenzene-d5	121		50-200

Project Name: CUMBERLAND FARMS-SACO **Lab Number:** L1013799

Project Number: R101.06074.002 **Report Date:** 09/14/10

SAMPLE RESULTS

Lab ID:	L1013799-06	D	Date Collected:	09/01/10 11:53
Client ID:	SV106		Date Received:	09/04/10
Sample Location:	SACO, ME		Field Prep:	Not Specified
Matrix:	Soil_Vapor			
Analytical Method:	96,APH			
Analytical Date:	09/11/10 23:16			
Analyst:	AJ			

Quality Control Information

Sample Type:	100 ml/min Composite
Sample Container Type:	Canister - 1 Liter
Sampling Flow Controller:	Mechanical
Sampling Zone:	Unknown
Sampling Flow Meter RPD of pre & post-sampling calibration check:	<=20%
Were all QA/QC procedures REQUIRED by the method followed?	Yes
Were all performance/acceptance standards for the required procedures achieved?	Yes
Were significant modifications made to the method as specified in Sect 11.1.2?	No

Petroleum Hydrocarbons in Air - Mansfield Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,3-Butadiene	ND		ug/m3	4.4	--	2.2
Methyl tert butyl ether	ND		ug/m3	4.4	--	2.2
Benzene	12		ug/m3	4.4	--	2.2
Toluene	54		ug/m3	4.4	--	2.2
C5-C8 Aliphatics, Adjusted	1200		ug/m3	26	--	2.2
Ethylbenzene	32		ug/m3	4.4	--	2.2
p/m-Xylene	88		ug/m3	8.8	--	2.2
o-Xylene	37		ug/m3	4.4	--	2.2
Naphthalene	4.9		ug/m3	4.4	--	2.2
C9-C12 Aliphatics, Adjusted	2000		ug/m3	31	--	2.2
C9-C10 Aromatics Total	600		ug/m3	22	--	2.2

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	111		50-200
Bromochloromethane	112		50-200
Chlorobenzene-d5	107		50-200

Project Name: CUMBERLAND FARMS-SACO **Lab Number:** L1013799

Project Number: R101.06074.002 **Report Date:** 09/14/10

SAMPLE RESULTS

Lab ID:	L1013799-07	D	Date Collected:	09/01/10 10:22
Client ID:	SV107		Date Received:	09/04/10
Sample Location:	SACO, ME		Field Prep:	Not Specified
Matrix:	Soil_Vapor			
Analytical Method:	96,APH			
Analytical Date:	09/11/10 23:51			
Analyst:	AJ			

Quality Control Information

Sample Type:	100 ml/min Composite
Sample Container Type:	Canister - 1 Liter
Sampling Flow Controller:	Mechanical
Sampling Zone:	Unknown
Sampling Flow Meter RPD of pre & post-sampling calibration check:	<=20%
Were all QA/QC procedures REQUIRED by the method followed?	Yes
Were all performance/acceptance standards for the required procedures achieved?	Yes
Were significant modifications made to the method as specified in Sect 11.1.2?	No

Petroleum Hydrocarbons in Air - Mansfield Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,3-Butadiene	ND		ug/m3	44	--	22
Methyl tert butyl ether	ND		ug/m3	44	--	22
Benzene	ND		ug/m3	44	--	22
Toluene	ND		ug/m3	44	--	22
C5-C8 Aliphatics, Adjusted	1000		ug/m3	260	--	22
Ethylbenzene	ND		ug/m3	44	--	22
p/m-Xylene	ND		ug/m3	88	--	22
o-Xylene	ND		ug/m3	44	--	22
Naphthalene	ND		ug/m3	44	--	22
C9-C12 Aliphatics, Adjusted	ND		ug/m3	310	--	22
C9-C10 Aromatics Total	ND		ug/m3	220	--	22

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	127		50-200
Bromochloromethane	123		50-200
Chlorobenzene-d5	111		50-200

Project Name: CUMBERLAND FARMS-SACO **Lab Number:** L1013799

Project Number: R101.06074.002 **Report Date:** 09/14/10

SAMPLE RESULTS

Lab ID:	L1013799-08	D	Date Collected:	09/01/10 16:01
Client ID:	SV102 SPLIT		Date Received:	09/04/10
Sample Location:	SACO, ME		Field Prep:	Not Specified
Matrix:	Soil_Vapor			
Analytical Method:	96,APH			
Analytical Date:	09/12/10 00:27			
Analyst:	AJ			

Quality Control Information

Sample Type:	100 ml/min Composite
Sample Container Type:	Canister - 1 Liter
Sampling Flow Controller:	Mechanical
Sampling Zone:	Unknown
Sampling Flow Meter RPD of pre & post-sampling calibration check:	<=20%
Were all QA/QC procedures REQUIRED by the method followed?	Yes
Were all performance/acceptance standards for the required procedures achieved?	Yes
Were significant modifications made to the method as specified in Sect 11.1.2?	No

Petroleum Hydrocarbons in Air - Mansfield Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,3-Butadiene	ND		ug/m3	5.0	--	2.5
Methyl tert butyl ether	ND		ug/m3	5.0	--	2.5
Benzene	8.8		ug/m3	5.0	--	2.5
Toluene	390		ug/m3	5.0	--	2.5
C5-C8 Aliphatics, Adjusted	8200		ug/m3	30	--	2.5
Ethylbenzene	24		ug/m3	5.0	--	2.5
p/m-Xylene	39		ug/m3	10	--	2.5
o-Xylene	16		ug/m3	5.0	--	2.5
Naphthalene	ND		ug/m3	5.0	--	2.5
C9-C12 Aliphatics, Adjusted	610		ug/m3	35	--	2.5
C9-C10 Aromatics Total	68		ug/m3	25	--	2.5

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	118		50-200
Bromochloromethane	117		50-200
Chlorobenzene-d5	112		50-200

Project Name: CUMBERLAND FARMS-SACO **Lab Number:** L1013799

Project Number: R101.06074.002 **Report Date:** 09/14/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 96,APH
Analytical Date: 09/11/10 12:57
Analyst: AJ

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-08 Batch: WG431975-4					
1,3-Butadiene	ND		ug/m3	2.0	--
Methyl tert butyl ether	ND		ug/m3	2.0	--
Benzene	ND		ug/m3	2.0	--
Toluene	ND		ug/m3	2.0	--
C5-C8 Aliphatics, Adjusted	ND		ug/m3	12	--
Ethylbenzene	ND		ug/m3	2.0	--
p/m-Xylene	ND		ug/m3	4.0	--
o-Xylene	ND		ug/m3	2.0	--
Naphthalene	ND		ug/m3	2.0	--
C9-C12 Aliphatics, Adjusted	ND		ug/m3	14	--
C9-C10 Aromatics Total	ND		ug/m3	10	--

Lab Control Sample Analysis

Batch Quality Control

Project Name: CUMBERLAND FARMS-SACO

Project Number: R101.06074.002

Lab Number: L1013799

Report Date: 09/14/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-08 Batch: WG431975-3								
1,3-Butadiene	90		-		70-130	-		
Methyl tert butyl ether	98		-		70-130	-		
Benzene	102		-		70-130	-		
Toluene	116		-		70-130	-		
C5-C8 Aliphatics, Adjusted	107		-		70-130	-		
Ethylbenzene	108		-		70-130	-		
p/m-Xylene	108		-		70-130	-		
o-Xylene	112		-		70-130	-		
Naphthalene	138		-		50-150	-		
C9-C12 Aliphatics, Adjusted	118		-		70-130	-		
C9-C10 Aromatics Total	101		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: CUMBERLAND FARMS-SACO
Project Number: R101.06074.002

Lab Number: L1013799
Report Date: 09/14/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-08 QC Batch ID: WG431975-5 QC Sample: L1013911-01 Client ID: DUP Sample						
1,3-Butadiene	ND	ND	ug/m3	NC		30
Methyl tert butyl ether	ND	ND	ug/m3	NC		30
Benzene	ND	ND	ug/m3	NC		30
Toluene	ND	ND	ug/m3	NC		30
C5-C8 Aliphatics, Adjusted	59	57	ug/m3	3		30
Ethylbenzene	ND	ND	ug/m3	NC		30
p/m-Xylene	ND	ND	ug/m3	NC		30
o-Xylene	ND	ND	ug/m3	NC		30
Naphthalene	ND	ND	ug/m3	NC		30
C9-C12 Aliphatics, Adjusted	120	100	ug/m3	18		30
C9-C10 Aromatics Total	ND	ND	ug/m3	NC		30

Project Name: CUMBERLAND FARMS-SACO **Lab Number:** L1013799

Project Number: R101.06074.002 **Report Date:** 09/14/10

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Cleaning Batch ID	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Out mL/min	Flow In mL/min	% RSD
L1013799-01	SV101	0130	#90 SV		-	-	98	100	2
L1013799-01	SV101	678	1.0L Can	L1013135	-29.0	-1.9	-	-	-
L1013799-02	SV102	0423	#90 SV		-	-	98	86	13
L1013799-02	SV102	906	1.0L Can	L1013135	-29.0	-7.7	-	-	-
L1013799-03	SV103	0173	#90 SV		-	-	97	95	2
L1013799-03	SV103	670	1.0L Can	L1013135	-29.0	-3.9	-	-	-
L1013799-04	SV104	0323	#90 SV		-	-	100	105	5
L1013799-04	SV104	813	1.0L Can	L1013135	-29.4	-3.8	-	-	-
L1013799-05	SV105	0217	#90 SV		-	-	100	92	8
L1013799-05	SV105	853	1.0L Can	L1013135	-29.4	-4.8	-	-	-
L1013799-06	SV106	0320	#90 SV		-	-	95	100	5
L1013799-06	SV106	852	1.0L Can	L1013135	-29.4	-1.2	-	-	-
L1013799-07	SV107	0085	#90 SV		-	-	100	110	10
L1013799-07	SV107	847	1.0L Can	L1013135	-29.0	-0.3	-	-	-
L1013799-08	SV102 SPLIT	0466	#90 SV		-	-	96	100	4
L1013799-08	SV102 SPLIT	882	1.0L Can	L1013135	-29.5	-4.0	-	-	-

Air Volatiles Can Certification

Project Name: BATCH CANISTER CERTIFICATION ***Lab Number:*** L1013135

Project Number: CANISTER QC BAT ***Report Date:*** 09/14/10

Air Canister Certification Results

Lab ID: L1013135-01
Client ID: CAN 713 SHELF 13
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 08/26/10 12:06
Analyst: AJ

Date Collected: 08/25/10 00:00
Date Received: 08/25/10
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air (Low Level) - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.200	--	ND	0.344	--		1
Propane	ND	0.200	--	ND	0.606	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.988	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.776	--		1
Chloroethane	ND	0.200	--	ND	0.527	--		1
Ethanol	ND	2.50	--	ND	4.71	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.841	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.14	--		1
Acetone	ND	1.00	--	ND	2.37	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.200	--	ND	0.434	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.792	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1

Project Name: BATCH CANISTER CERTIFICATION ***Lab Number:*** L1013135

Project Number: CANISTER QC BAT ***Report Date:*** 09/14/10

Air Canister Certification Results

Lab ID: L1013135-01 Date Collected: 08/25/10 00:00

Client ID: CAN 713 SHELF 13 Date Received: 08/25/10

Sample Location: Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air (Low Level) - Mansfield Lab								
Methylene chloride	ND	1.00	--	ND	3.47	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.622	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.792	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.720	--		1
Vinyl acetate	ND	0.200	--	ND	0.704	--		1
2-Butanone	ND	0.200	--	ND	0.589	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.792	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.976	--		1
Tetrahydrofuran	ND	0.200	--	ND	0.589	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.923	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.704	--		1
Diisopropyl ether	ND	0.200	--	ND	0.835	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.835	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.907	--		1
Benzene	ND	0.200	--	ND	0.638	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.835	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.720	--		1

Project Name: BATCH CANISTER CERTIFICATION ***Lab Number:*** L1013135

Project Number: CANISTER QC BAT ***Report Date:*** 09/14/10

Air Canister Certification Results

Lab ID: L1013135-01 Date Collected: 08/25/10 00:00

Client ID: CAN 713 SHELF 13 Date Received: 08/25/10

Sample Location: Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air (Low Level) - Mansfield Lab								
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.819	--		1
2,4,4-trimethyl-1-pentene	ND	0.500	--	ND	2.29	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.907	--		1
4-Methyl-2-pentanone	ND	0.200	--	ND	0.819	--		1
2,4,4-trimethyl-2-pentene	ND	0.500	--	ND	2.29	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.907	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.753	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.923	--		1
2-Hexanone	ND	0.200	--	ND	0.819	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.37	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.920	--		1
Ethylbenzene	ND	0.200	--	ND	0.868	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.06	--		1
Styrene	ND	0.200	--	ND	0.851	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.868	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.20	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.982	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1013135
Report Date: 09/14/10

Air Canister Certification Results

Lab ID: L1013135-01
Client ID: CAN 713 SHELF 13
Sample Location:
Date Collected: 08/25/10 00:00
Date Received: 08/25/10
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air (Low Level) - Mansfield Lab								
Bromobenzene	ND	0.200	--	ND	1.28	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.03	--		1
n-Propylbenzene	ND	0.200	--	ND	0.982	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.03	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.982	--		1
1,3,5-Trimethybenzene	ND	0.200	--	ND	0.982	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.982	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.03	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION ***Lab Number:*** L1013135

Project Number: CANISTER QC BAT ***Report Date:*** 09/14/10

Air Canister Certification Results

Lab ID: L1013135-01
Client ID: CAN 713 SHELF 13
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 08/26/10 12:06
Analyst: AJ

Date Collected: 08/25/10 00:00
Date Received: 08/25/10
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Chloromethane	ND	0.500	--	ND	1.03	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.08	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	1.00	--	ND	3.47	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
Halothane	ND	0.050	--	ND	0.403	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.020	--	ND	0.072	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION ***Lab Number:*** L1013135

Project Number: CANISTER QC BAT ***Report Date:*** 09/14/10

Air Canister Certification Results

Lab ID: L1013135-01 Date Collected: 08/25/10 00:00

Client ID: CAN 713 SHELF 13 Date Received: 08/25/10

Sample Location: Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.020	--	ND	0.075	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.020	--	ND	0.092	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.206	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.500	--	ND	2.46	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.500	--	ND	2.74	--		1
p-Isopropyltoluene	ND	0.500	--	ND	2.74	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.500	--	ND	2.74	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1013135
Report Date: 09/14/10

Air Canister Certification Results

Lab ID: L1013135-01
Client ID: CAN 713 SHELF 13
Sample Location:
Date Collected: 08/25/10 00:00
Date Received: 08/25/10
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

AIR Petro Can Certification

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1013135

Project Number: CANISTER QC BAT **Report Date:** 09/14/10

AIR CAN CERTIFICATION RESULTS

Lab ID:	L1013135-01	Date Collected:	08/25/10 00:00
Client ID:	CAN 713 SHELF 13	Date Received:	08/25/10
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	08/27/10 17:22		
Analyst:	AR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	2.0	--	1
Methyl tert butyl ether	ND		ug/m3	2.0	--	1
Benzene	ND		ug/m3	2.0	--	1
Toluene	ND		ug/m3	2.0	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/m3	12	--	1
Ethylbenzene	ND		ug/m3	2.0	--	1
p/m-Xylene	ND		ug/m3	4.0	--	1
o-Xylene	ND		ug/m3	2.0	--	1
Naphthalene	ND		ug/m3	2.0	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	14	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Project Name: CUMBERLAND FARMS-SACO
Project Number: R101.06074.002

Lab Number: L1013799
Report Date: 09/14/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information **Custody Seal**

Cooler	
N/A	Present/Intact

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1013799-01A	Canister - 1 Liter	N/A	N/A		NA	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1013799-02A	Canister - 1 Liter	N/A	N/A		NA	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1013799-03A	Canister - 1 Liter	N/A	N/A		NA	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1013799-04A	Canister - 1 Liter	N/A	N/A		NA	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1013799-05A	Canister - 1 Liter	N/A	N/A		NA	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1013799-06A	Canister - 1 Liter	N/A	N/A		NA	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1013799-07A	Canister - 1 Liter	N/A	N/A		NA	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1013799-08A	Canister - 1 Liter	N/A	N/A		NA	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)

*Values in parentheses indicate holding time in days

Project Name:	CUMBERLAND FARMS-SACO	**Lab Number:**	L1013799
Project Number:	R101.06074.002	**Report Date:**	09/14/10

GLOSSARY

Acronyms

EPA · Environmental Protection Agency.

LCS · Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD · Laboratory Control Sample Duplicate: Refer to LCS.

MDL · Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS · Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD · Matrix Spike Sample Duplicate: Refer to MS.

NA · Not Applicable.

NC · Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI · Not Ignitable.

RL · Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD · Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

Report Format: Data Usability Report

Project Name:	CUMBERLAND FARMS-SACO	**Lab Number:**	L1013799
Project Number:	R101.06074.002	**Report Date:**	09/14/10

Data Qualifiers

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

REFERENCES

48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

51 Determination of Carbon Dioxide, Methane, Nitrogen and Oxygen from Stationary Sources. Method 3C. Appendix A, Part 60, 40 CFR (Code of Federal Regulations). June 20, 1996.

96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certificate/Approval Program Summary

Last revised July 19, 2010 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl.

AIR ANALYSIS

PAGE 1 OF 1

ALPHA ANALYTICAL — CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L1013799

Client Information

Client: Ransom Environmental
Address: 400 Commercial St, Suite 404
Portland, ME 04101
Phone: 207-772-2891
Fax: 207-772-3248
Email: ephenix@ransomenv.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Cumberland Farm
Project Location: Saco, Maine
Project #: 101.06074.002
Project Manager: Erik Phenix
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Bill to MEDEP
c/o Pete Eremita 312 Canco Rd. Portland

Regulatory Requirements/Report Limits

State/Fed	Program	Criteria
MEDEP		

Other Project Specific Requirements/Comments:
MEDEP Vapor Intrusion Program

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I.D. Can	I.D. - Flow Controller	ANALYSIS TO-14A by TO-15	TO-15	TO-15 SIM	APH	FIXED GASES	TO-13A	TO-4 / TO-10	Sample Comments (i.e. PID)
L1013799-1	SV101	9/1/10	12:30	12:38	-30+	-4	SV	PME	1L	678	130		X		X				
-2	SV102	9/1/10	15:52	16:01	-30+	-10	SV	PME	1L	906	423		X		X				
-3	SV103	9/1/10	15:13	15:22	-30+	-5	SV	PME	1L	670	173		X		X				
-4	SV104	9/1/10	14:32	14:41	-30+	-5	SV	PME	1L	813	323		X		X				
-5	SV105	9/1/10	16:36	16:45	-29	-3	SV	PME	1L	853	217		X		X				
-6	SV106	9/1/10	11:43	11:53	-30	-4	SV	PME	1L	852	320		X		X				
-7	SV107	9/1/10	10:10	10:22	-30	-3	SV	PME	1L	847	85		X		X				
-8	SV102 SPLIT	9/1/10	15:52	16:01	-30	-4	SV	PME	1L	882	466		X		X				

*SAMPLE MATRIX CODES: AA = Ambient Air (Indoor/Outdoor); SV = Soil Vapor/Landfill Gas/SVE; Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
Erik Phenix	9/4/10 1330		
	9/7/10 1120		9/7/10 1120

Form No: 101-02 (19-Jun-09)

TO-15

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911T\
Data File : R712743.D
Acq On : 11 Sep 2010 8:21 pm
Operator : AIRLAB7:aj
Sample : 11013799-01d,3,115.4733,250
Misc : wg431974,ical5297
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 13 12:18:15 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100911T\TALL100825.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Aug 26 11:10:47 2010
Response via : Initial Calibration

Sub List : 9_Chlorinateds+EDB - .

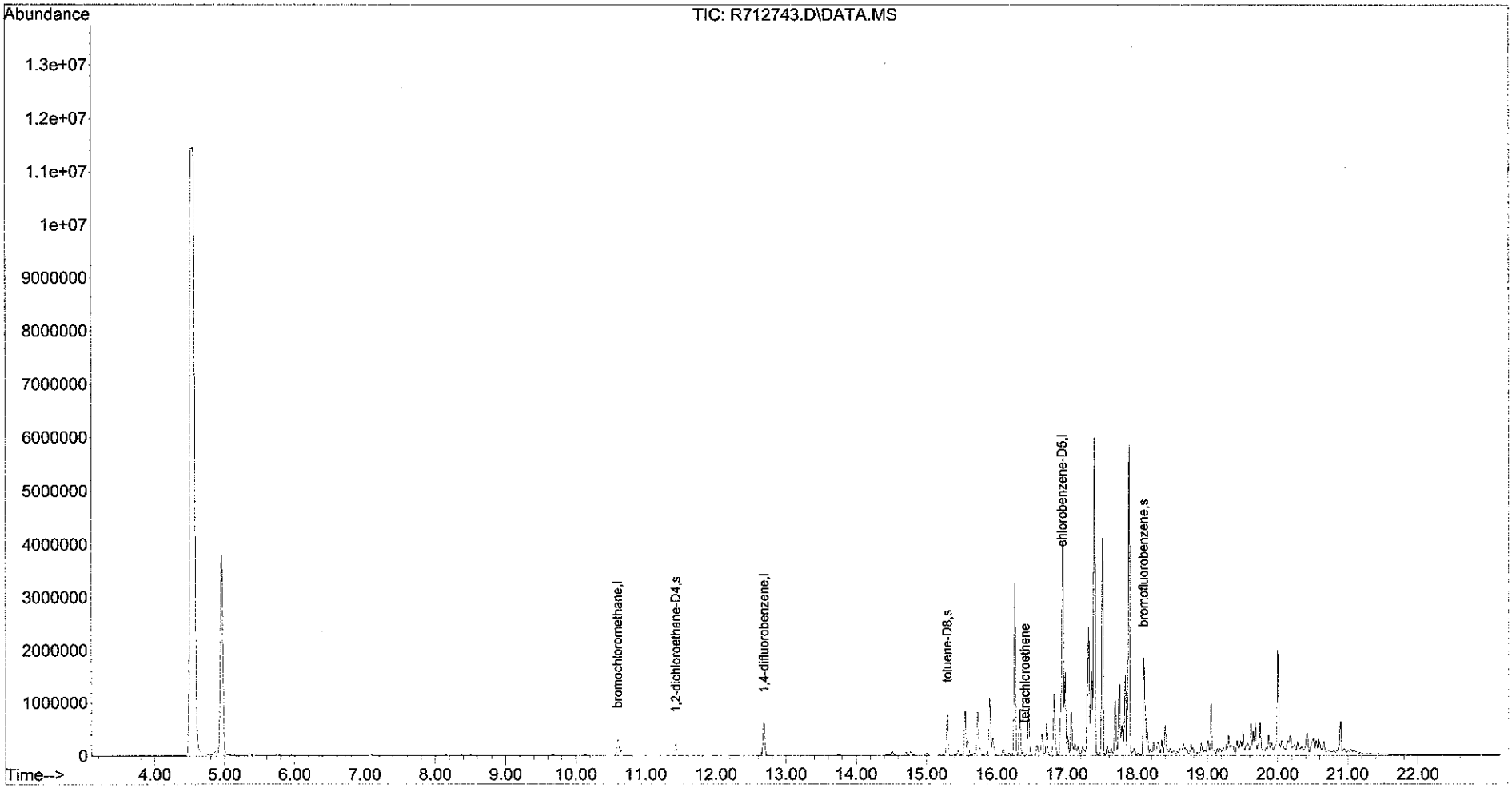
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) bromochloromethane	10.598	49	146416	10.000	ppbV		0.00
Standard Area = 152229			Recovery = 96.18%				
43) 1,4-difluorobenzene	12.685	114	515603	10.000	ppbV		0.00
Standard Area = 497357			Recovery = 103.67%				
68) chlorobenzene-D5	16.931	54	150268	10.000	ppbV	#	0.00
Standard Area = 120658			Recovery = 124.54%				
System Monitoring Compounds							
47) 1,2-dichloroethane-D4	11.426	65	181634	11.305	ppbV		0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 113.05%				
70) toluene-D8	15.296	98	476496	7.529	ppbV		0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 75.29%				
91) bromofluorobenzene	18.089	95	390993	9.162	ppbV		0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 91.62%				
Target Compounds							Qvalue
9) vinyl chloride	0.000		0	N.D.			
26) 1,1-dichloroethene	0.000		0	N.D.			
32) trans-1,2-dichloroethene	0.000		0	N.D.			
33) 1,1-dichloroethane	0.000		0	N.D.			
37) cis-1,2-dichloroethene	10.419	61	131	N.D.			
42) 1,2-dichloroethane	0.000		0	N.D. d			
48) 1,1,1-trichloroethane	0.000		0	N.D.			
59) trichloroethene	0.000		0	N.D.			
76) 1,2-dibromoethane	0.000		0	N.D.			
79) tetrachloroethene	16.406	166	8067	0.205	ppbV		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sub List : 9_Chlorinateds+EDB - .□□□□ (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911T\
Data File : R712743.D
Acq On : 11 Sep 2010 8:21 pm
Operator : AIRLAB7:aj
Sample : 11013799-01d,3,115.4733,250
Misc : wg431974,ical5297
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 13 12:18:15 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100911T\TALL100825.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Aug 26 11:10:47 2010
Response via : Initial Calibration



Data Path : O:\Forensics\Data\Airlab7\2010\100911T\
Data File : R712744.D
Acq On : 11 Sep 2010 8:55 pm
Operator : AIRLAB7:aj
Sample : 11013799-02d,3,86.8157,250
Misc : wg431974,ical5297
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 13 12:20:48 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100911T\TALL100825.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Aug 26 11:10:47 2010
Response via : Initial Calibration

Sub List : 9_Chlorinateds+EDB - .

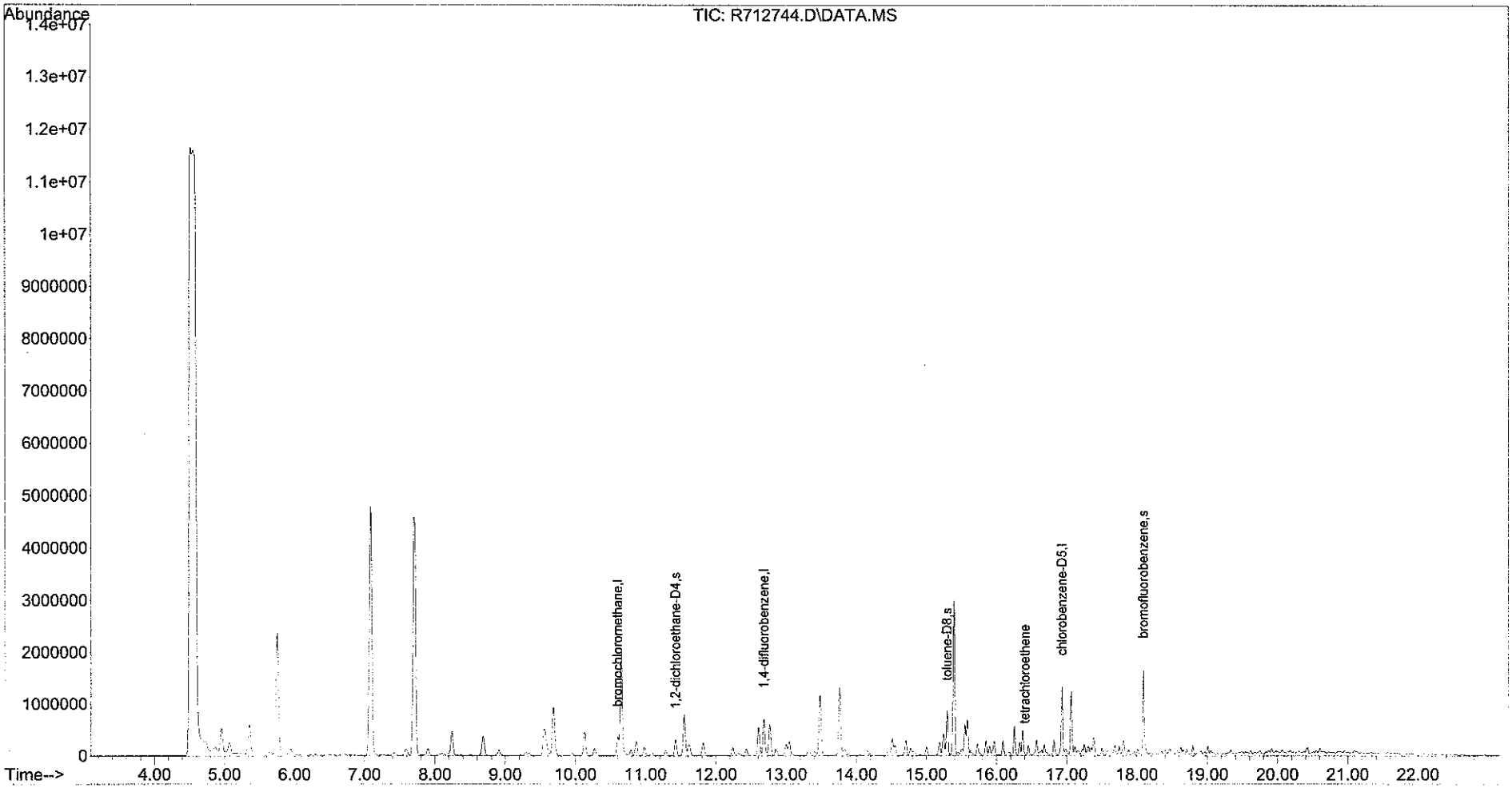
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) bromochloromethane	10.600	49	167040	10.000 ppbV	0.00
Standard Area = 152229			Recovery = 109.73%		
43) 1,4-difluorobenzene	12.683	114	576082	10.000 ppbV	0.00
Standard Area = 497357			Recovery = 115.83%		
68) chlorobenzene-D5	16.930	54	130821	10.000 ppbV	# 0.00
Standard Area = 120658			Recovery = 108.42%		
System Monitoring Compounds					
47) 1,2-dichloroethane-D4	11.426	65	190988	10.639 ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 106.39%		
70) toluene-D8	15.293	98	514740	9.343 ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 93.43%		
91) bromofluorobenzene	18.088	95	357435	9.621 ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 96.21%		
Target Compounds					Qvalue
9) vinyl chloride	0.000		0	N.D.	
26) 1,1-dichloroethene	7.961	61	402	N.D.	
32) trans-1,2-dichloroethene	9.208	61	126	N.D.	
33) 1,1-dichloroethane	9.518	63	121	N.D.	
37) cis-1,2-dichloroethene	10.268	61	132	N.D.	
42) 1,2-dichloroethane	0.000		0	N.D. d	
48) 1,1,1-trichloroethane	0.000		0	N.D.	
59) trichloroethene	0.000		0	N.D.	
76) 1,2-dibromoethane	16.014	107	26	N.D.	
79) tetrachloroethene	16.405	166	2942	0.086 ppbV #	90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sub List : 9_Chlorinateds+EDB - .□□□□ (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911T\
Data File : R712744.D
Acq On : 11 Sep 2010 8:55 pm
Operator : AIRLAB7:aj
Sample : 11013799-02d,3,86.8157,250
Misc : wg431974,ical5297
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 13 12:20:48 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100911T\TALL100825.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Aug 26 11:10:47 2010
Response via : Initial Calibration



Data Path : O:\Forensics\Data\Airlab7\2010\100911T\
Data File : R712745.D
Acq On : 11 Sep 2010 9:30 pm
Operator : AIRLAB7:aj
Sample : 11013799-03d,3,101.1445,250
Misc : wg431974,ical5297
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 13 10:15:01 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100911T\TALL100825.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Aug 26 11:10:47 2010
Response via : Initial Calibration

Sub List : 9_Chlorinateds+EDB - .

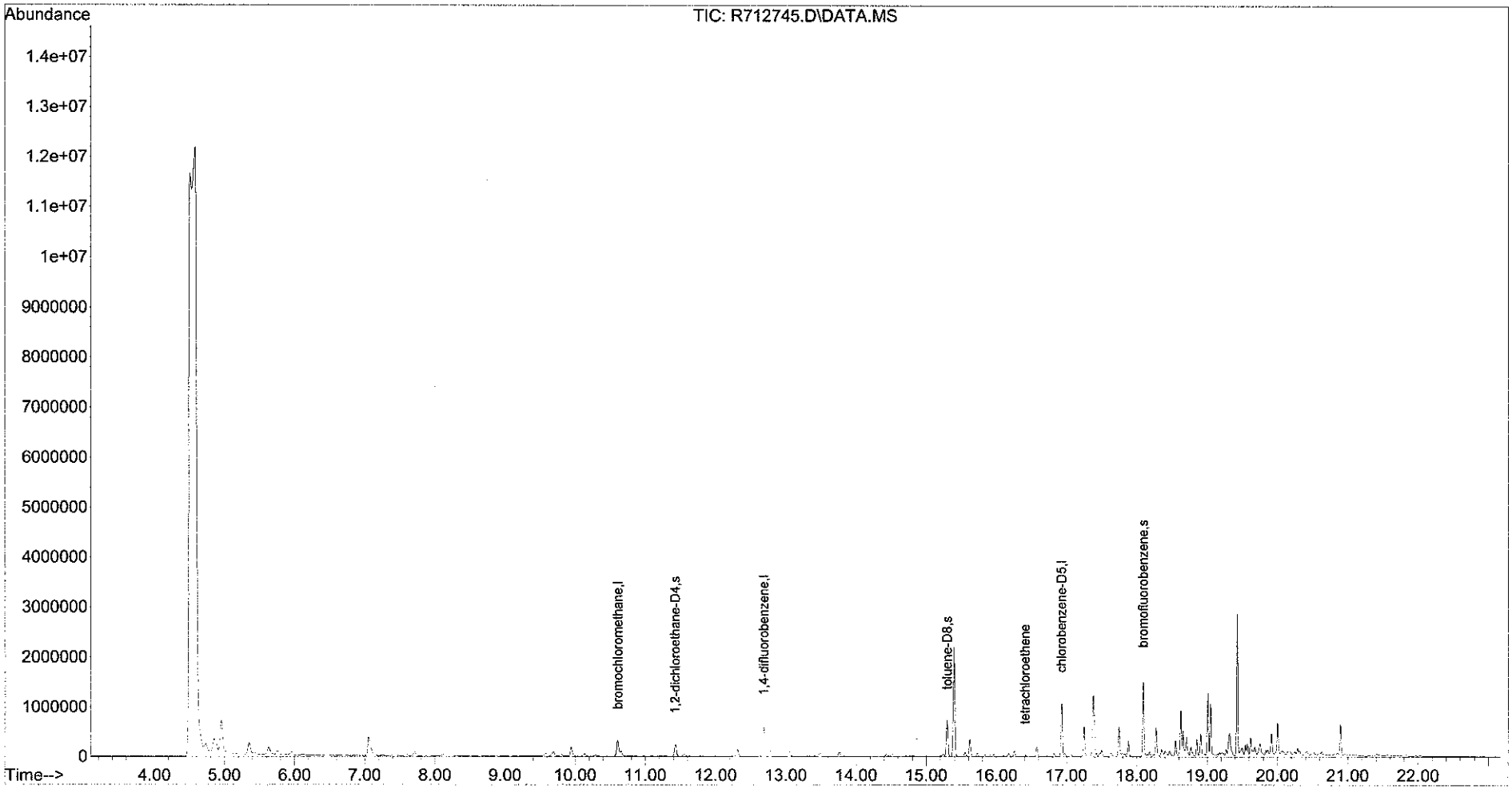
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) bromochloromethane	10.606	49	158205	10.000	ppbV		0.00
Standard Area = 152229			Recovery = 103.93%				
43) 1,4-difluorobenzene	12.683	114	498234	10.000	ppbV		0.00
Standard Area = 497357			Recovery = 100.18%				
68) chlorobenzene-D5	16.927	54	114234	10.000	ppbV	#	0.00
Standard Area = 120658			Recovery = 94.68%				
System Monitoring Compounds							
47) 1,2-dichloroethane-D4	11.426	65	183713	11.833	ppbV		0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 118.33%				
70) toluene-D8	15.297	98	444092	9.231	ppbV		0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 92.31%				
91) bromofluorobenzene	18.090	95	322609	9.944	ppbV		0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 99.44%				
Target Compounds							Qvalue
9) vinyl chloride	0.000		0	N.D.			
26) 1,1-dichloroethene	8.122	61	64	N.D.			
32) trans-1,2-dichloroethene	0.000		0	N.D.			
33) 1,1-dichloroethane	9.529	63	35	N.D.			
37) cis-1,2-dichloroethene	0.000		0	N.D.			
42) 1,2-dichloroethane	11.551	62	154	N.D.			
48) 1,1,1-trichloroethane	0.000		0	N.D.			
59) trichloroethene	0.000		0	N.D.			
76) 1,2-dibromoethane	0.000		0	N.D.			
79) tetrachloroethene	16.406	166	6502	0.217	ppbV	#	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sub List : 9_Chlorinateds+EDB - .□□□□ (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911T\
Data File : R712745.D
Acq On : 11 Sep 2010 9:30 pm
Operator : AIRLAB7:aj
Sample : 11013799-03d,3,101.1445,250
Misc : wg431974,ical5297
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 13 10:15:01 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100911T\TALL100825.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Aug 26 11:10:47 2010
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911T\
Data File : R712746.D
Acq On : 11 Sep 2010 10:05 pm
Operator : AIRLAB7:aj
Sample : 11013799-04d,3,101.9874,250
Misc : wg431974,ical5297
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 13 12:27:29 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100911T\TALL100825.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Aug 26 11:10:47 2010
Response via : Initial Calibration

Sub List : 9_Chlorinateds+EDB - .

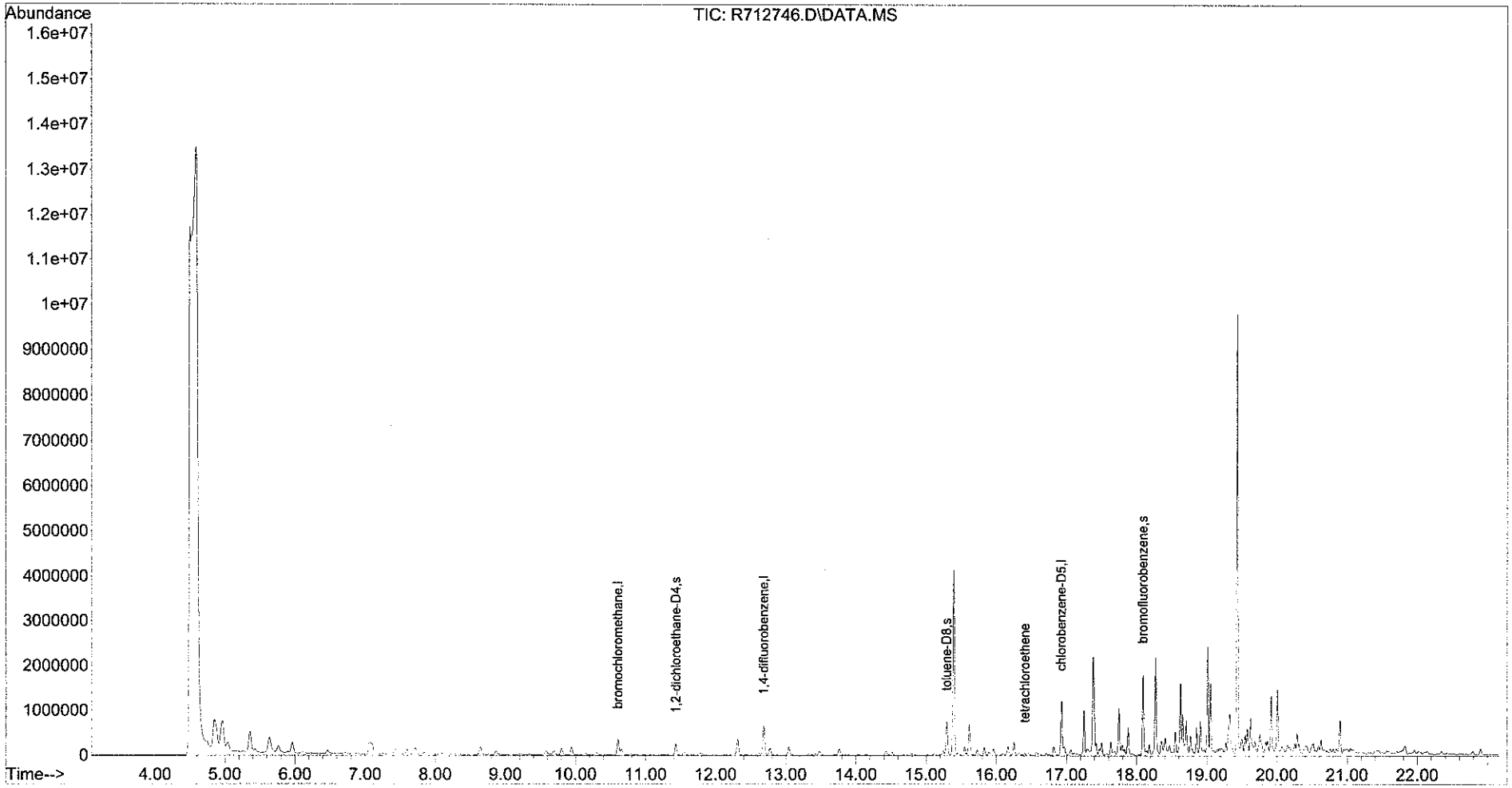
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	10.604	49	160462	10.000	ppbV	0.00
Standard Area = 152229			Recovery = 105.41%			
43) 1,4-difluorobenzene	12.685	114	537799	10.000	ppbV	0.00
Standard Area = 497357			Recovery = 108.13%			
68) chlorobenzene-D5	16.927	54	124944	10.000	ppbV	# 0.00
Standard Area = 120658			Recovery = 103.55%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	11.430	65	183534	10.952	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 109.52%			
70) toluene-D8	15.294	98	450567	8.563	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 85.63%			
91) bromofluorobenzene	18.090	95	334417	9.425	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 94.25%			
Target Compounds						Qvalue
9) vinyl chloride	0.000		0	N.D.		
26) 1,1-dichloroethene	0.000		0	N.D.	d	
32) trans-1,2-dichloroethene	0.000		0	N.D.		
33) 1,1-dichloroethane	9.569	63	55	N.D.		
37) cis-1,2-dichloroethene	0.000		0	N.D.		
42) 1,2-dichloroethane	11.542	62	336	N.D.		
48) 1,1,1-trichloroethane	0.000		0	N.D.		
59) trichloroethene	0.000		0	N.D.		
76) 1,2-dibromoethane	0.000		0	N.D.		
79) tetrachloroethene	16.411	166	7976	0.244	ppbV	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sub List : 9_Chlorinateds+EDB - .□□□□ (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911T\
Data File : R712746.D
Acq On : 11 Sep 2010 10:05 pm
Operator : AIRLAB7:aj
Sample : 11013799-04d,3,101.9874,250
Misc : wg431974,ical5297
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 13 12:27:29 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100911T\TALL100825.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Aug 26 11:10:47 2010
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911T\
Data File : R712747.D
Acq On : 11 Sep 2010 10:40 pm
Operator : AIRLAB7:aj
Sample : 11013799-05d,3,97.7730,250
Misc : wg431974,ical5297
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 13 12:28:43 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100911T\TALL100825.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Aug 26 11:10:47 2010
Response via : Initial Calibration

Sub List : 9_Chlorinateds+EDB - .

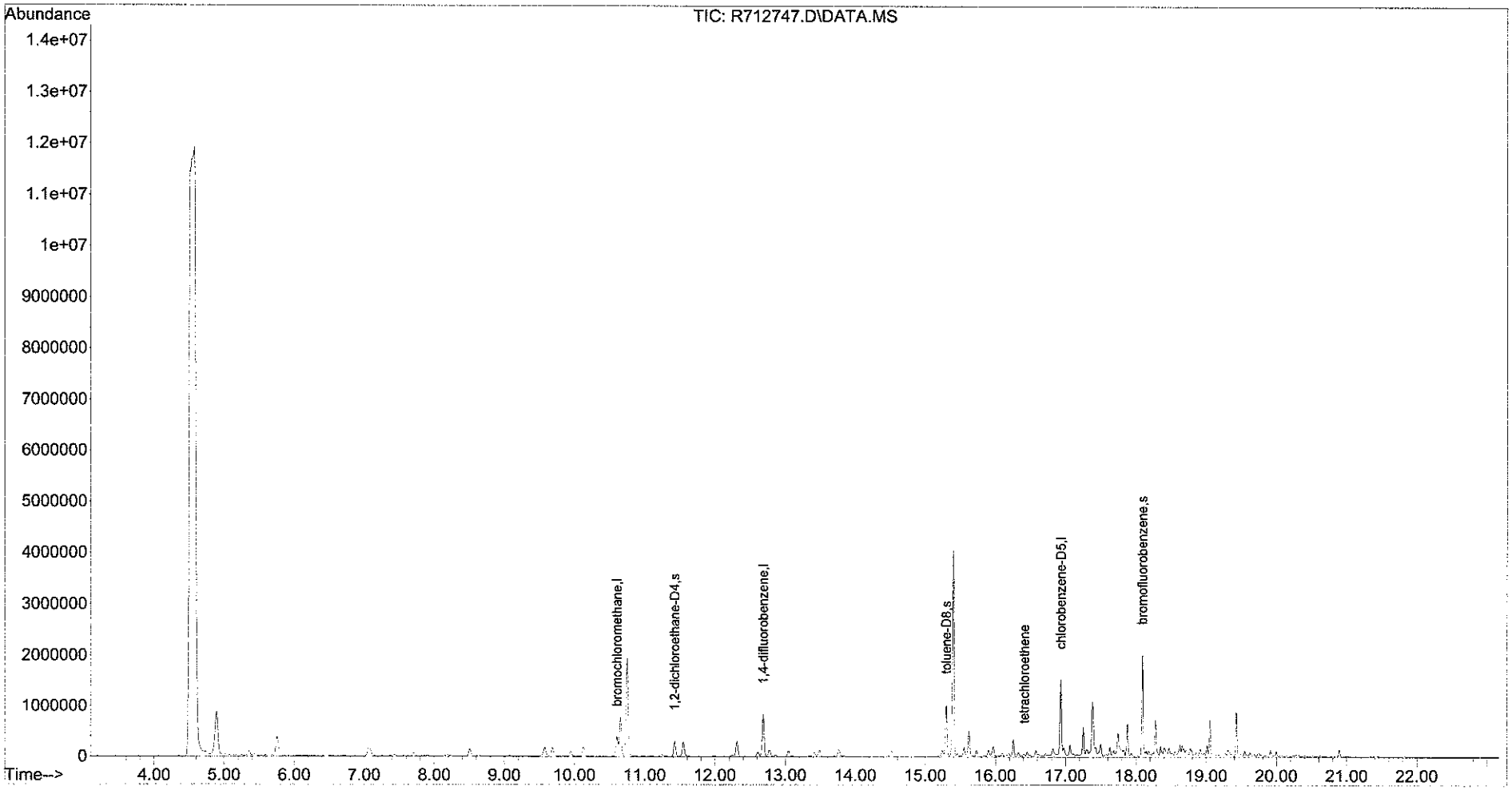
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	10.606	49	187450	10.000	ppbV	0.00
Standard Area = 152229			Recovery = 123.14%			
43) 1,4-difluorobenzene	12.683	114	695310	10.000	ppbV	0.00
Standard Area = 497357			Recovery = 139.80%			
68) chlorobenzene-D5	16.931	54	143163	10.000	ppbV	# 0.00
Standard Area = 120658			Recovery = 118.65%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	11.426	65	224140	10.345	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 103.45%			
70) toluene-D8	15.297	98	635947	10.547	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 105.47%			
91) bromofluorobenzene	18.090	95	412991	10.158	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.58%			
Target Compounds						Qvalue
9) vinyl chloride	0.000		0	N.D.		
26) 1,1-dichloroethene	0.000		0	N.D.	d	
32) trans-1,2-dichloroethene	0.000		0	N.D.		
33) 1,1-dichloroethane	9.666	63	45	N.D.		
37) cis-1,2-dichloroethene	0.000		0	N.D.	d	
42) 1,2-dichloroethane	0.000		0	N.D.	d	
48) 1,1,1-trichloroethane	11.816	97	34	N.D.		
59) trichloroethene	13.451	130	205	N.D.		
76) 1,2-dibromoethane	0.000		0	N.D.		
79) tetrachloroethene	16.411	166	5247	0.140	ppbV	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sub List : 9_Chlorinateds+EDB - .□□□□ (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911T\
Data File : R712747.D
Acq On : 11 Sep 2010 10:40 pm
Operator : AIRLAB7:aj
Sample : 11013799-05d,3,97.7730,250
Misc : wg431974,ical5297
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 13 12:28:43 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100911T\TALL100825.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Aug 26 11:10:47 2010
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911T\
Data File : R712748.D
Acq On : 11 Sep 2010 11:16 pm
Operator : AIRLAB7:aj
Sample : 11013799-06d,3,111.2590,250
Misc : wg431974,ical5297
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 13 10:20:12 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100911T\TALL100825.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Aug 26 11:10:47 2010
Response via : Initial Calibration

Sub List : 9_Chlorinateds+EDB - .

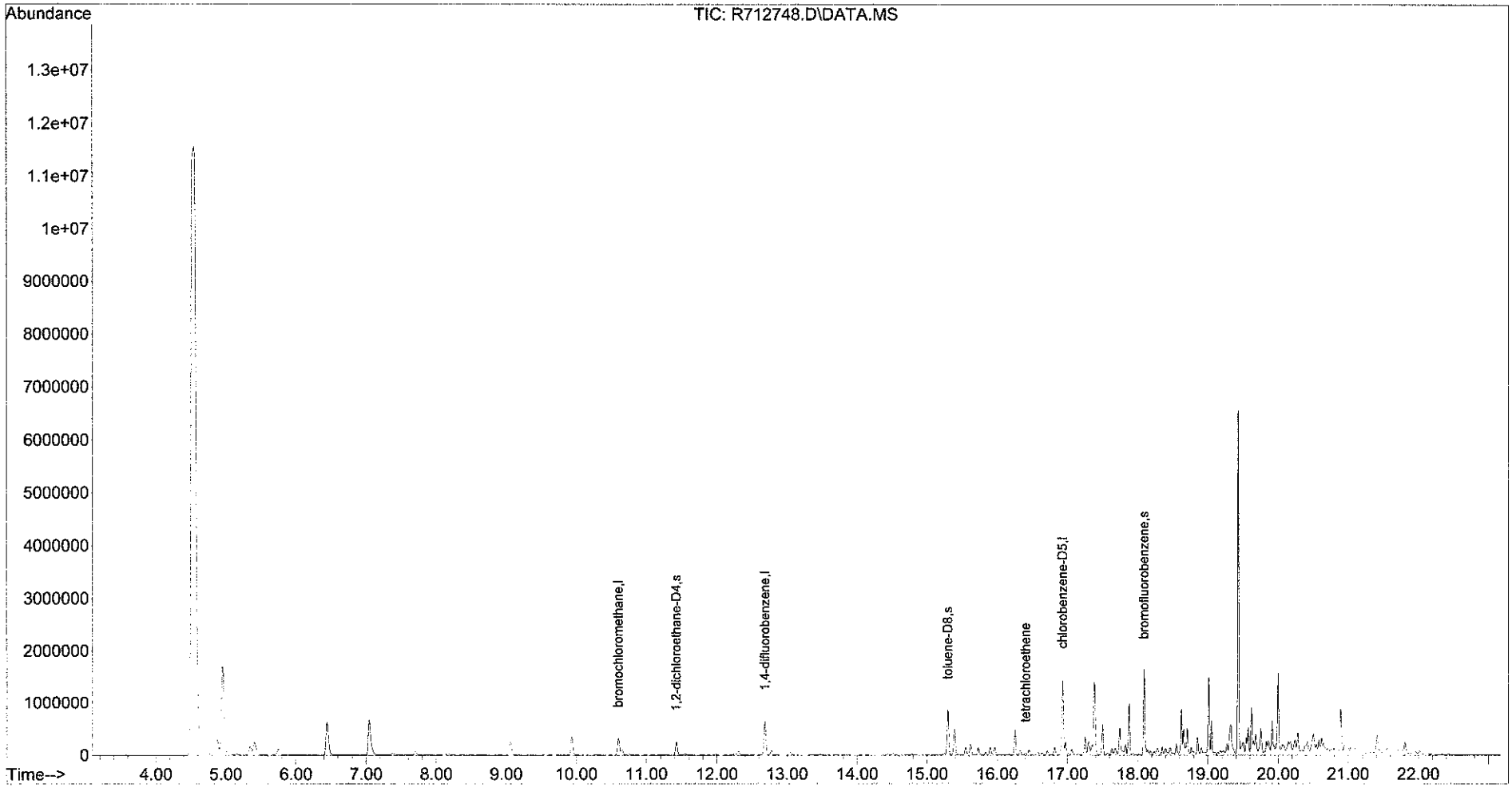
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	10.598	49	160734	10.000	ppbV	0.00
Standard Area = 152229			Recovery = 105.59%			
43) 1,4-difluorobenzene	12.684	114	540638	10.000	ppbV	0.00
Standard Area = 497357			Recovery = 108.70%			
68) chlorobenzene-D5	16.931	54	125467	10.000	ppbV	# 0.00
Standard Area = 120658			Recovery = 103.99%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	11.421	65	187390	11.123	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 111.23%			
70) toluene-D8	15.293	98	525710	9.949	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 99.49%			
91) bromofluorobenzene	18.089	95	360202	10.109	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.09%			
Target Compounds						Qvalue
9) vinyl chloride	0.000		0	N.D.		
26) 1,1-dichloroethene	7.979	61	110	N.D.		
32) trans-1,2-dichloroethene	0.000		0	N.D.		
33) 1,1-dichloroethane	0.000		0	N.D.		
37) cis-1,2-dichloroethene	10.419	61	458	N.D.		
42) 1,2-dichloroethane	11.538	62	166	N.D.		
48) 1,1,1-trichloroethane	0.000		0	N.D.		
59) trichloroethene	0.000		0	N.D.		
76) 1,2-dibromoethane	0.000		0	N.D.		
79) tetrachloroethene	16.406	166	5769	0.176	ppbV	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sub List : 9_Chlorinateds+EDB - .□□□□ (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911T\
Data File : R712748.D
Acq On : 11 Sep 2010 11:16 pm
Operator : AIRLAB7:aj
Sample : 11013799-06d,3,111.2590,250
Misc : wg431974,ical5297
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 13 10:20:12 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100911T\TALL100825.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Aug 26 11:10:47 2010
Response via : Initial Calibration



Data Path : O:\Forensics\Data\Airlab7\2010\100911T\
Data File : R712749.D
Acq On : 11 Sep 2010 11:51 pm
Operator : AIRLAB7:aj
Sample : 11013799-07d,3,11.4630,250
Misc : wg431974,ical5297
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 13 10:20:33 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100911T\TALL100825.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Aug 26 11:10:47 2010
Response via : Initial Calibration

Sub List : 9_Chlorinateds+EDB - .

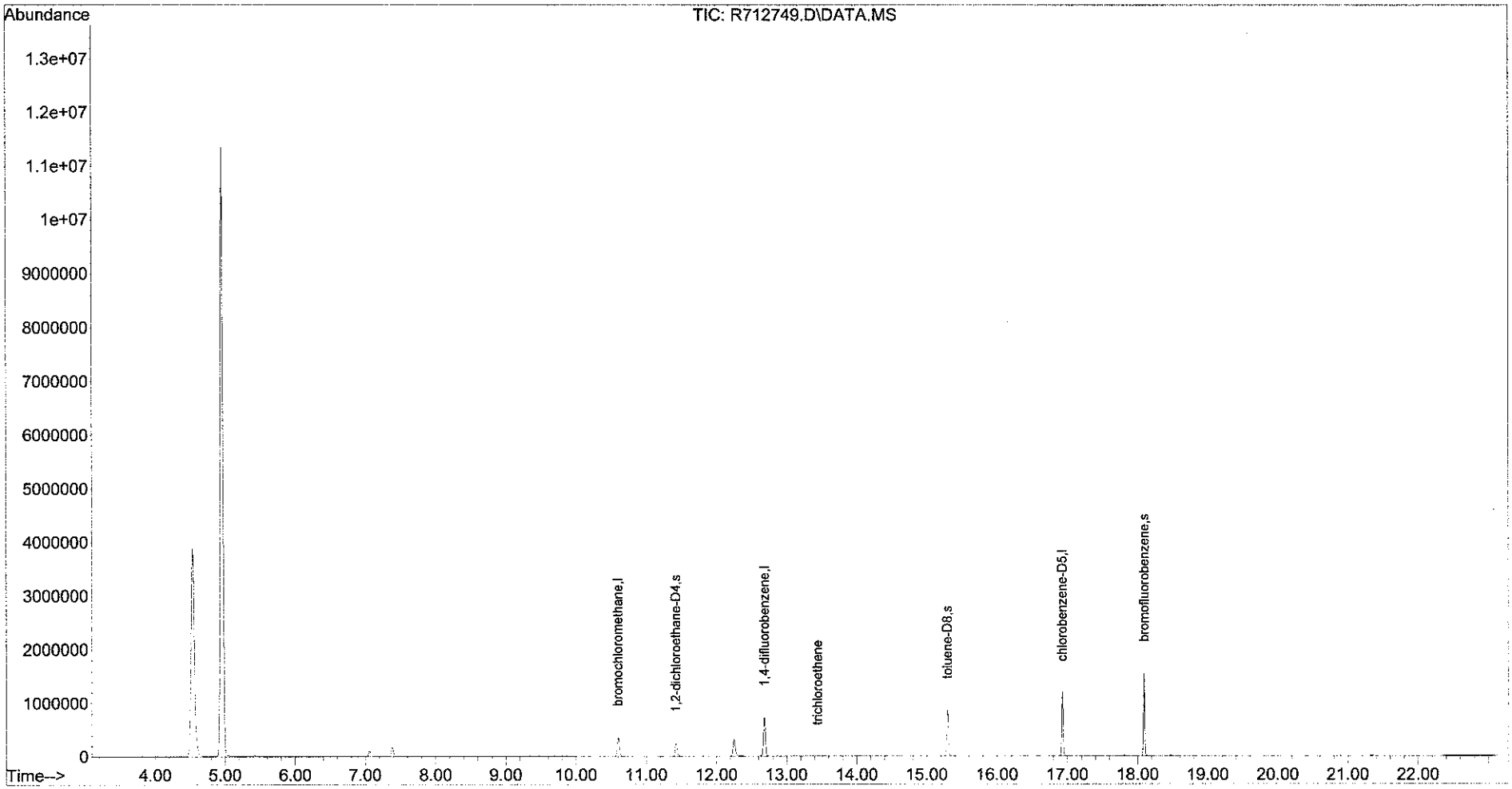
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	10.597	49	174590	10.000	ppbV	0.00
Standard Area = 152229			Recovery = 114.69%			
43) 1,4-difluorobenzene	12.683	114	620281	10.000	ppbV	0.00
Standard Area = 497357			Recovery = 124.72%			
68) chlorobenzene-D5	16.928	54	127064	10.000	ppbV	# 0.00
Standard Area = 120658			Recovery = 105.31%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	11.421	65	193388	10.005	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 100.05%			
70) toluene-D8	15.293	98	538889	10.070	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 100.70%			
91) bromofluorobenzene	18.091	95	349957	9.698	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 96.98%			
Target Compounds						Qvalue
9) vinyl chloride	0.000		0	N.D.		
26) 1,1-dichloroethene	0.000		0	N.D.		
32) trans-1,2-dichloroethene	0.000		0	N.D.		
33) 1,1-dichloroethane	0.000		0	N.D.		
37) cis-1,2-dichloroethene	0.000		0	N.D.		
42) 1,2-dichloroethane	11.495	62	43	N.D.		
48) 1,1,1-trichloroethane	0.000		0	N.D.		
59) trichloroethene	13.443	130	1894	0.077	ppbV #	83
76) 1,2-dibromoethane	0.000		0	N.D.		
79) tetrachloroethene	16.407	166	122	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sub List : 9_Chlorinateds+EDB - .□□□□ (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911T\
Data File : R712749.D
Acq On : 11 Sep 2010 11:51 pm
Operator : AIRLAB7:aj
Sample : 11013799-07d,3,11.4630,250
Misc : wg431974,ical5297
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 13 10:20:33 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100911T\TALL100825.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Aug 26 11:10:47 2010
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911T\
Data File : R712750.D
Acq On : 12 Sep 2010 12:27 am
Operator : AIRLAB7:aj
Sample : 11013799-08d,3,101.1445,250
Misc : wg431974,ical5297
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 13 12:36:02 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100911T\TALL100825.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Aug 26 11:10:47 2010
Response via : Initial Calibration

Sub List : 9_Chlorinateds+EDB - .

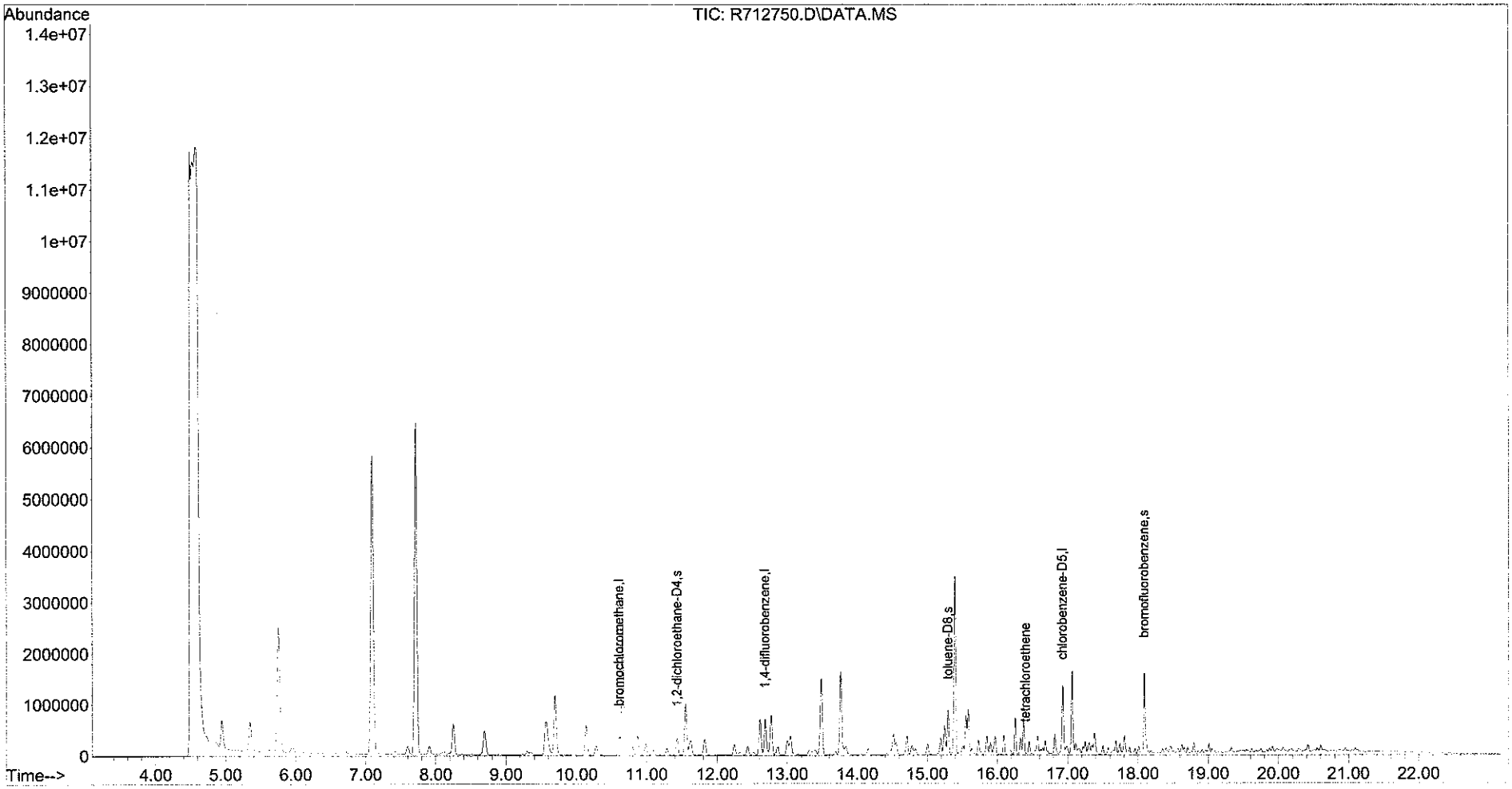
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) bromochloromethane	10.606	49	170893	10.000	ppbV	0.00
Standard Area = 152229			Recovery = 112.26%			
43) 1,4-difluorobenzene	12.683	114	573945	10.000	ppbV	0.00
Standard Area = 497357			Recovery = 115.40%			
68) chlorobenzene-D5	16.927	54	128057	10.000	ppbV	# 0.00
Standard Area = 120658			Recovery = 106.13%			
System Monitoring Compounds						
47) 1,2-dichloroethane-D4	11.431	65	198832	11.117	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 111.17%			
70) toluene-D8	15.297	98	510491	9.465	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 94.65%			
91) bromofluorobenzene	18.090	95	366873	10.088	ppbV	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 100.88%			
Target Compounds						Qvalue
9) vinyl chloride	0.000		0	N.D.		
26) 1,1-dichloroethene	8.002	61	57	N.D.		
32) trans-1,2-dichloroethene	9.285	61	36	N.D.		
33) 1,1-dichloroethane	0.000		0	N.D.	d	
37) cis-1,2-dichloroethene	10.274	61	221	N.D.		
42) 1,2-dichloroethane	0.000		0	N.D.	d	
48) 1,1,1-trichloroethane	0.000		0	N.D.		
59) trichloroethene	0.000		0	N.D.		
76) 1,2-dibromoethane	16.022	107	46	N.D.		
79) tetrachloroethene	16.402	166	3599	0.107	ppbV #	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Sub List : 9_Chlorinateds+EDB - .□□□□ (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911T\
Data File : R712750.D
Acq On : 12 Sep 2010 12:27 am
Operator : AIRLAB7:aj
Sample : 11013799-08d,3,101.1445,250
Misc : wg431974,ical5297
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 13 12:36:02 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100911T\TALL100825.M
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis
QLast Update : Thu Aug 26 11:10:47 2010
Response via : Initial Calibration



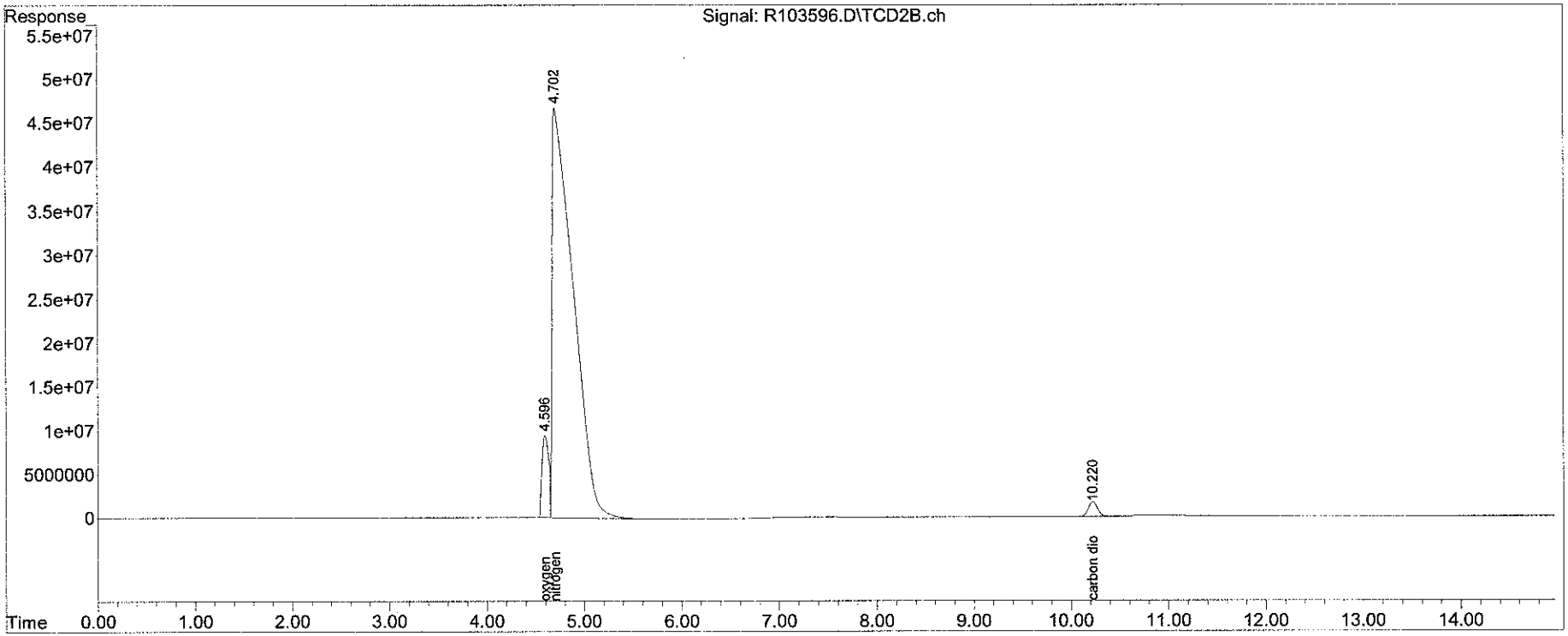
Fixed Gases

Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\100913FG\
Data File : R103596.D
Signal(s) : TCD2B.ch
Acq On : 13 Sep 2010 5:15 pm
Operator : airlab10:AR
Sample : L1013799-01,4,0.4628,1.0
Misc : WG432138,ICAL5222
ALS Vial : 2 Sample Multiplier: 1

Integration File: events.e
Quant Time: Sep 14 10:36:09 2010
Quant Method : O:\Forensics\Data\airlab10\100913FG\FG100730.M
Quant Title : Fixed Gas Analysis via Method 3C
QLast Update : Tue Aug 03 13:41:10 2010
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

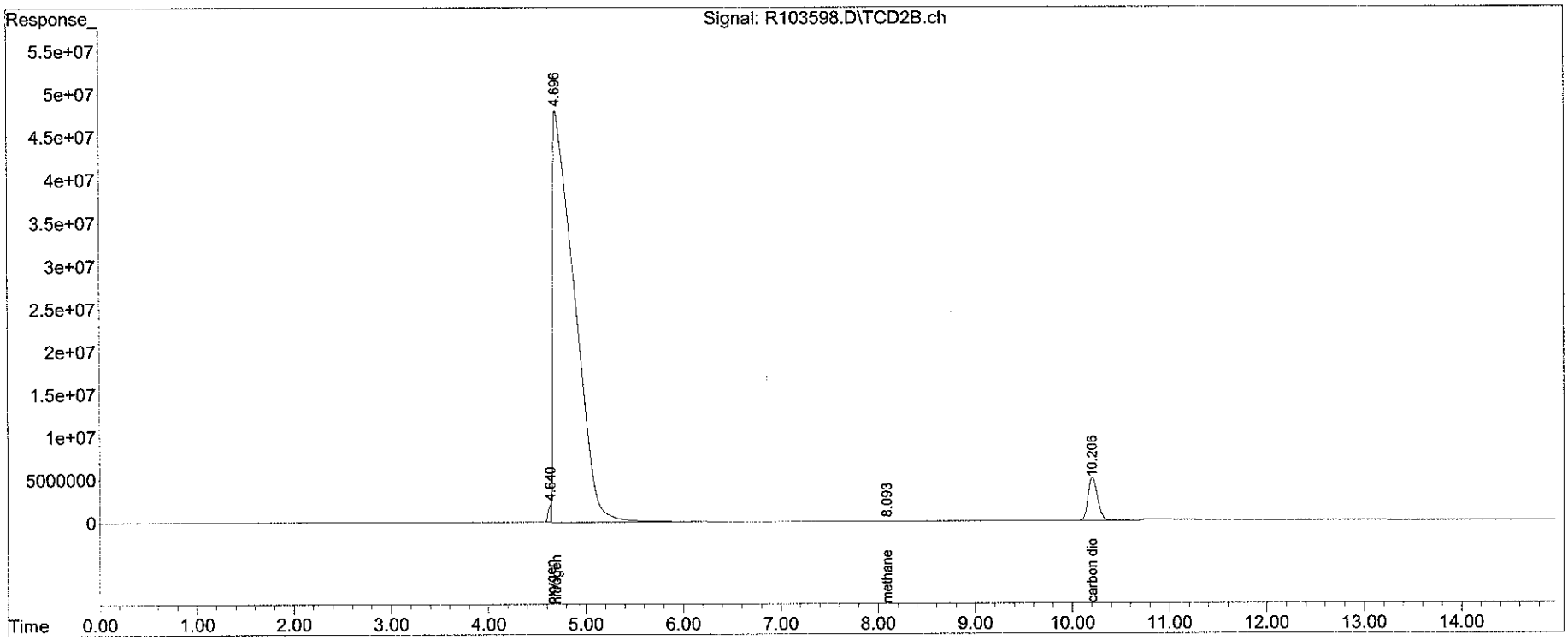


Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\100913FG\
Data File : R103598.D
Signal(s) : TCD2B.ch
Acq On : 13 Sep 2010 5:56 pm
Operator : airlab10:AR
Sample : L1013799-02,4,0.3480,1.0
Misc : WG432138,ICAL5222
ALS Vial : 3 Sample Multiplier: 1

Integration File: events.e
Quant Time: Sep 14 09:01:03 2010
Quant Method : O:\Forensics\Data\airlab10\100913FG\FG100730.M
Quant Title : Fixed Gas Analysis via Method 3C
QLast Update : Tue Aug 03 13:42:03 2010
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

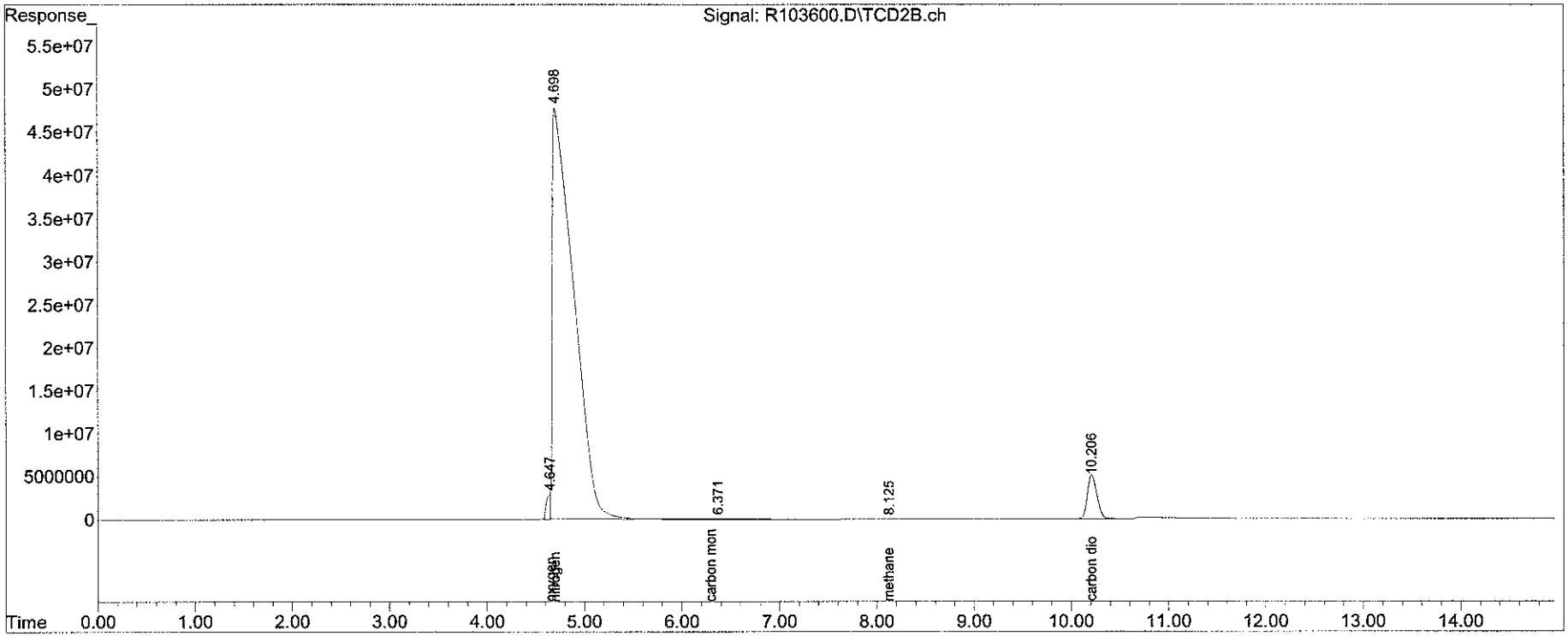


Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\100913FG\
Data File : R103600.D
Signal(s) : TCD2B.ch
Acq On : 13 Sep 2010 6:37 pm
Operator : airlab10:AR
Sample : L1013799-03,4,0.4054,1.0
Misc : WG432138,ICAL5222
ALS Vial : 4 Sample Multiplier: 1

Integration File: events.e
Quant Time: Sep 13 21:12:46 2010
Quant Method : O:\Forensics\Data\airlab10\100913FG\FG100730.M
Quant Title : Fixed Gas Analysis via Method 3C
QLast Update : Tue Aug 03 13:42:03 2010
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

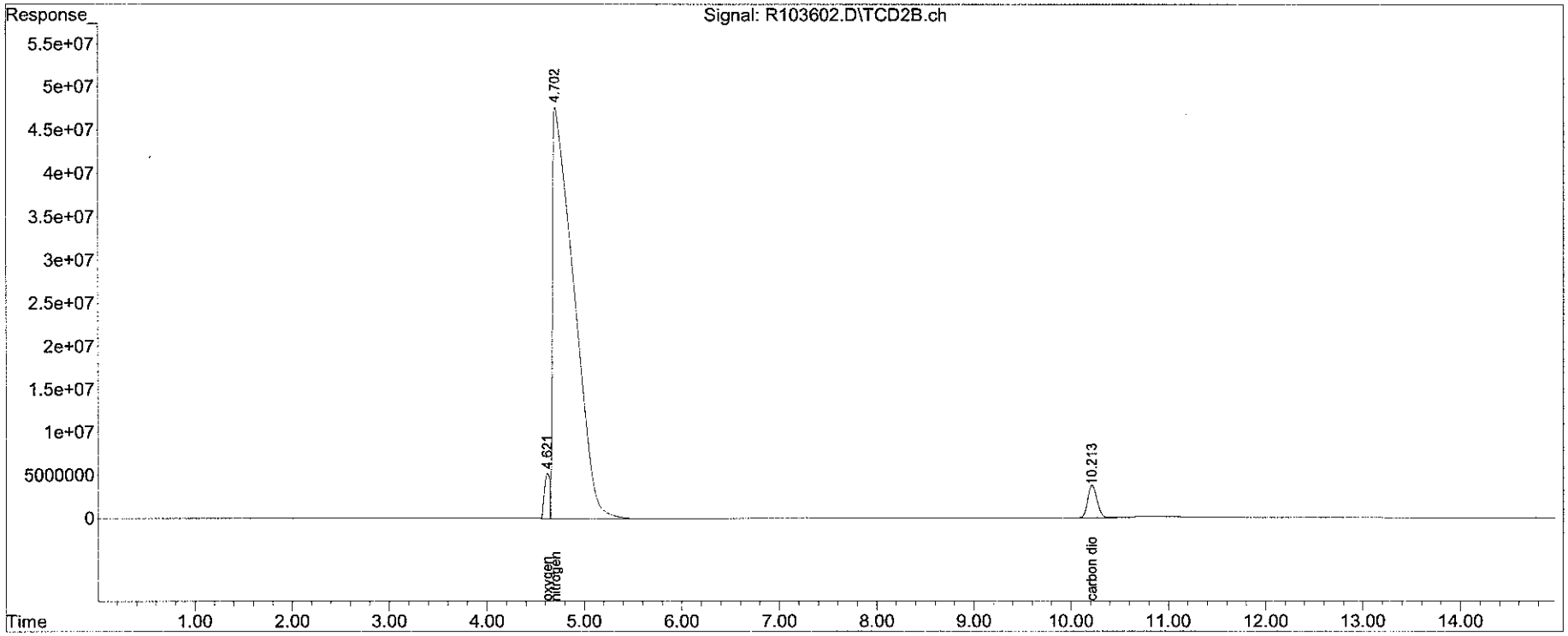


Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\100913FG\
Data File : R103602.D
Signal(s) : TCD2B.ch
Acq On : 13 Sep 2010 7:18 pm
Operator : airlab10:AR
Sample : L1013799-04,4,0.4088,1.0
Misc : WG432138,ICAL5222
ALS Vial : 5 Sample Multiplier: 1

Integration File: events.e
Quant Time: Sep 14 09:02:34 2010
Quant Method : O:\Forensics\Data\airlab10\100913FG\FG100730.M
Quant Title : Fixed Gas Analysis via Method 3C
QLast Update : Tue Aug 03 13:42:03 2010
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

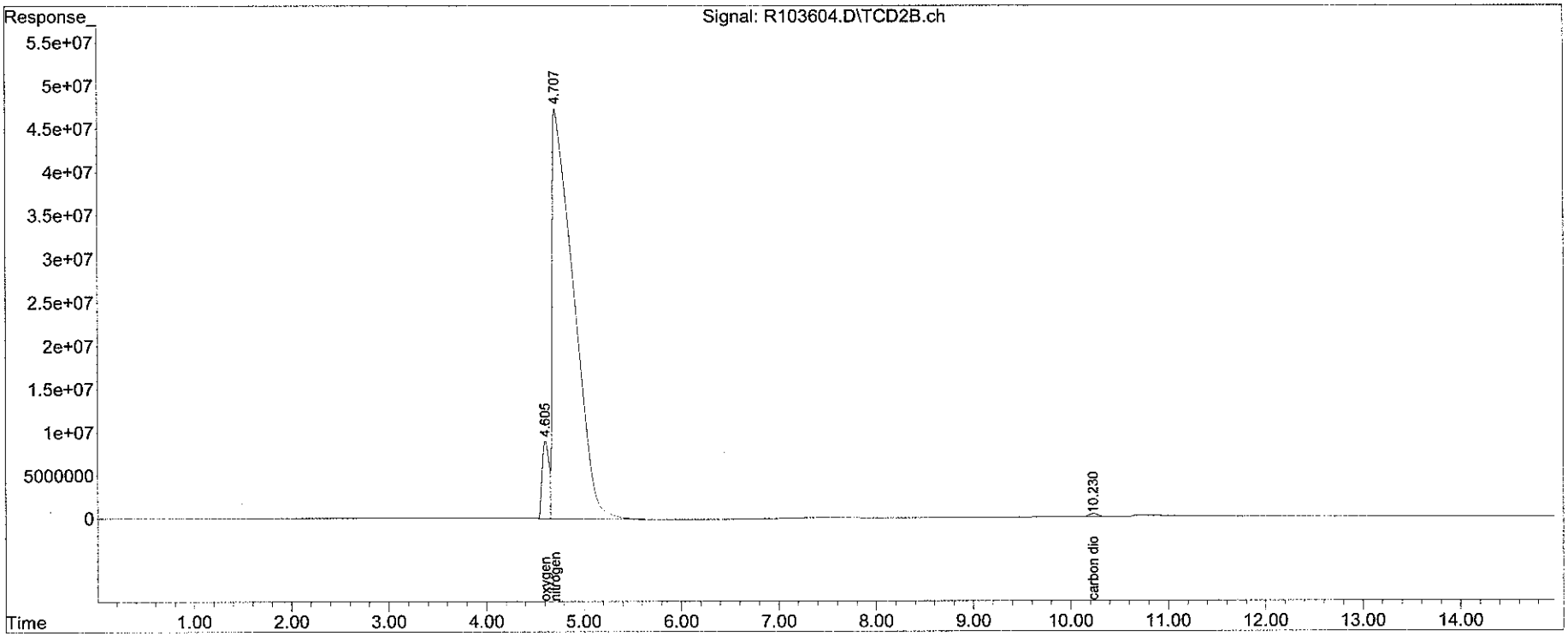


Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\100913FG\
Data File : R103604.D
Signal(s) : TCD2B.ch
Acq On : 13 Sep 2010 7:59 pm
Operator : airlab10:AR
Sample : L1013799-05,4,0.3916,1.0
Misc : WG432138,ICAL5222
ALS Vial : 6 Sample Multiplier: 1

Integration File: events.e
Quant Time: Sep 14 09:03:29 2010
Quant Method : O:\Forensics\Data\airlab10\100913FG\FG100730.M
Quant Title : Fixed Gas Analysis via Method 3C
QLast Update : Tue Aug 03 13:42:03 2010
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

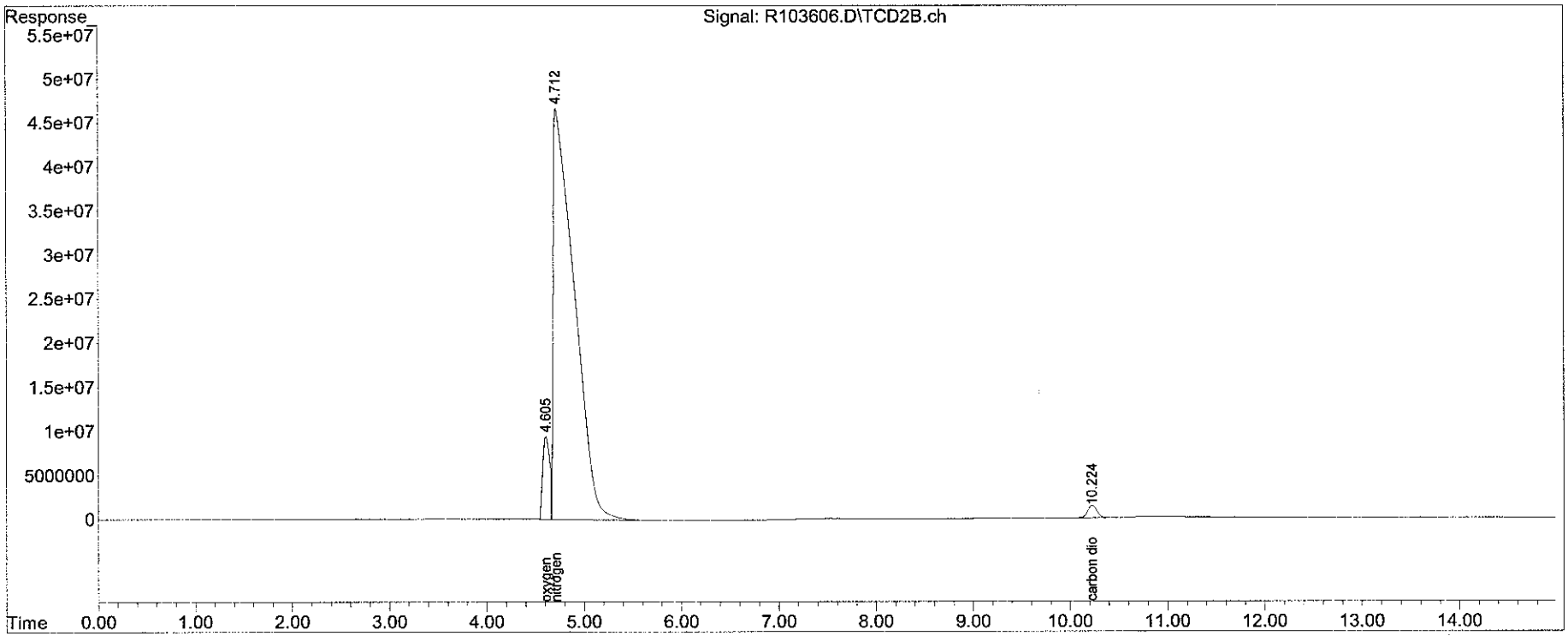


Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\100913FG\
Data File : R103606.D
Signal(s) : TCD2B.ch
Acq On : 13 Sep 2010 8:40 pm
Operator : airlab10:AR
Sample : L1013799-06,4,0.4459,1.0
Misc : WG432138,ICAL5222
ALS Vial : 7 Sample Multiplier: 1

Integration File: events.e
Quant Time: Sep 14 09:04:28 2010
Quant Method : O:\Forensics\Data\airlab10\100913FG\FG100730.M
Quant Title : Fixed Gas Analysis via Method 3C
QLast Update : Tue Aug 03 13:42:03 2010
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

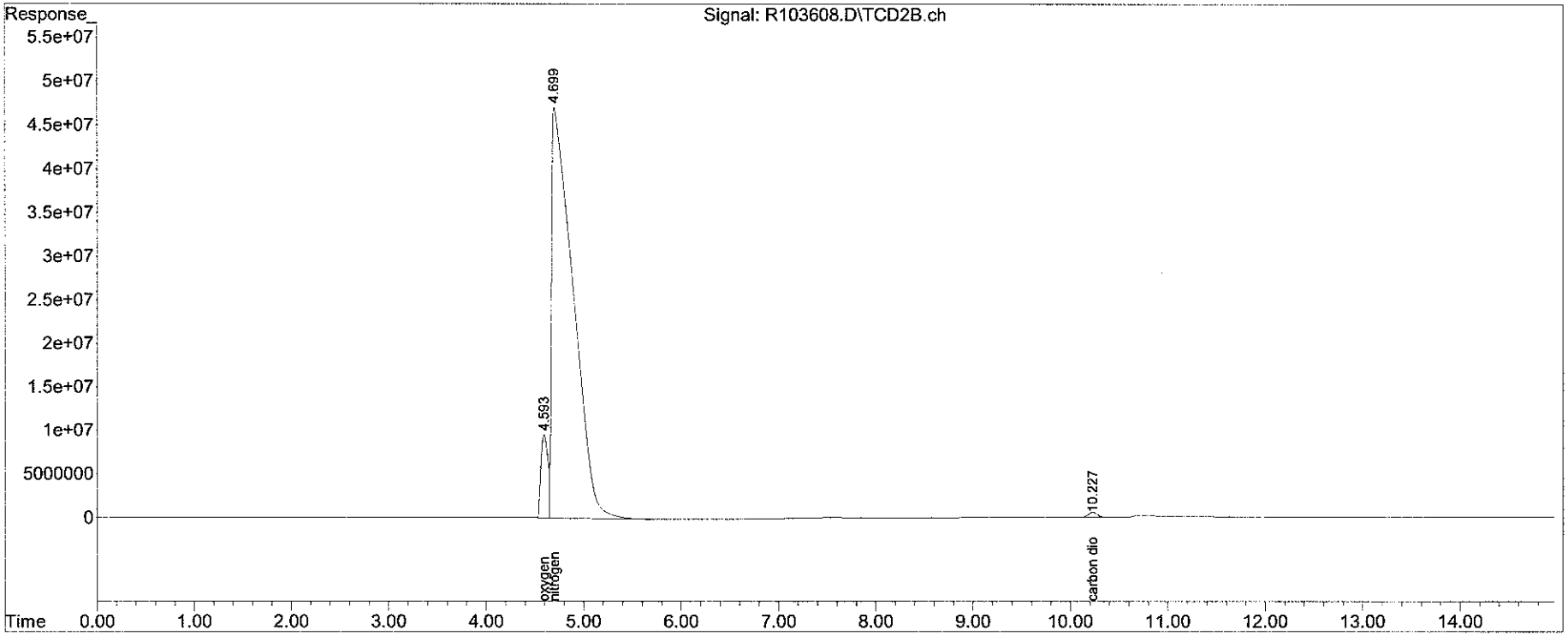


Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\100913FG\
Data File : R103608.D
Signal(s) : TCD2B.ch
Acq On : 13 Sep 2010 9:21 pm
Operator : airlab10:AR
Sample : L1013799-07,4,0.4595,1.0
Misc : WG432138,ICAL5222
ALS Vial : 9 Sample Multiplier: 1

Integration File: events.e
Quant Time: Sep 14 09:05:46 2010
Quant Method : O:\Forensics\Data\airlab10\100913FG\FG100730.M
Quant Title : Fixed Gas Analysis via Method 3C
QLast Update : Tue Aug 03 13:41:10 2010
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

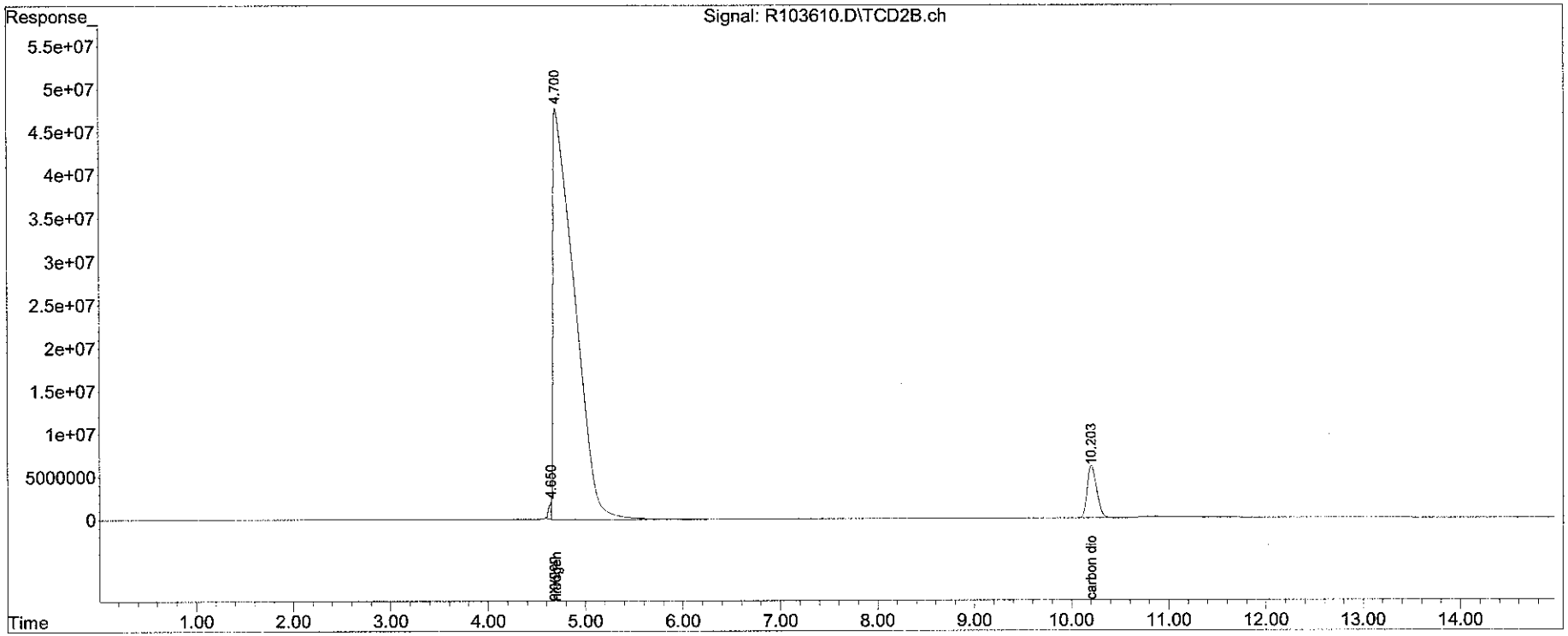


Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\100913FG\
Data File : R103610.D
Signal(s) : TCD2B.ch
Acq On : 13 Sep 2010 10:03 pm
Operator : airlab10:AR
Sample : L1013799-08,4,0.4054,1.0
Misc : WG432138,ICAL5222
ALS Vial : 10 Sample Multiplier: 1

Integration File: events.e
Quant Time: Sep 14 09:07:00 2010
Quant Method : O:\Forensics\Data\airlab10\100913FG\FG100730.M
Quant Title : Fixed Gas Analysis via Method 3C
QLast Update : Tue Aug 03 13:42:03 2010
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

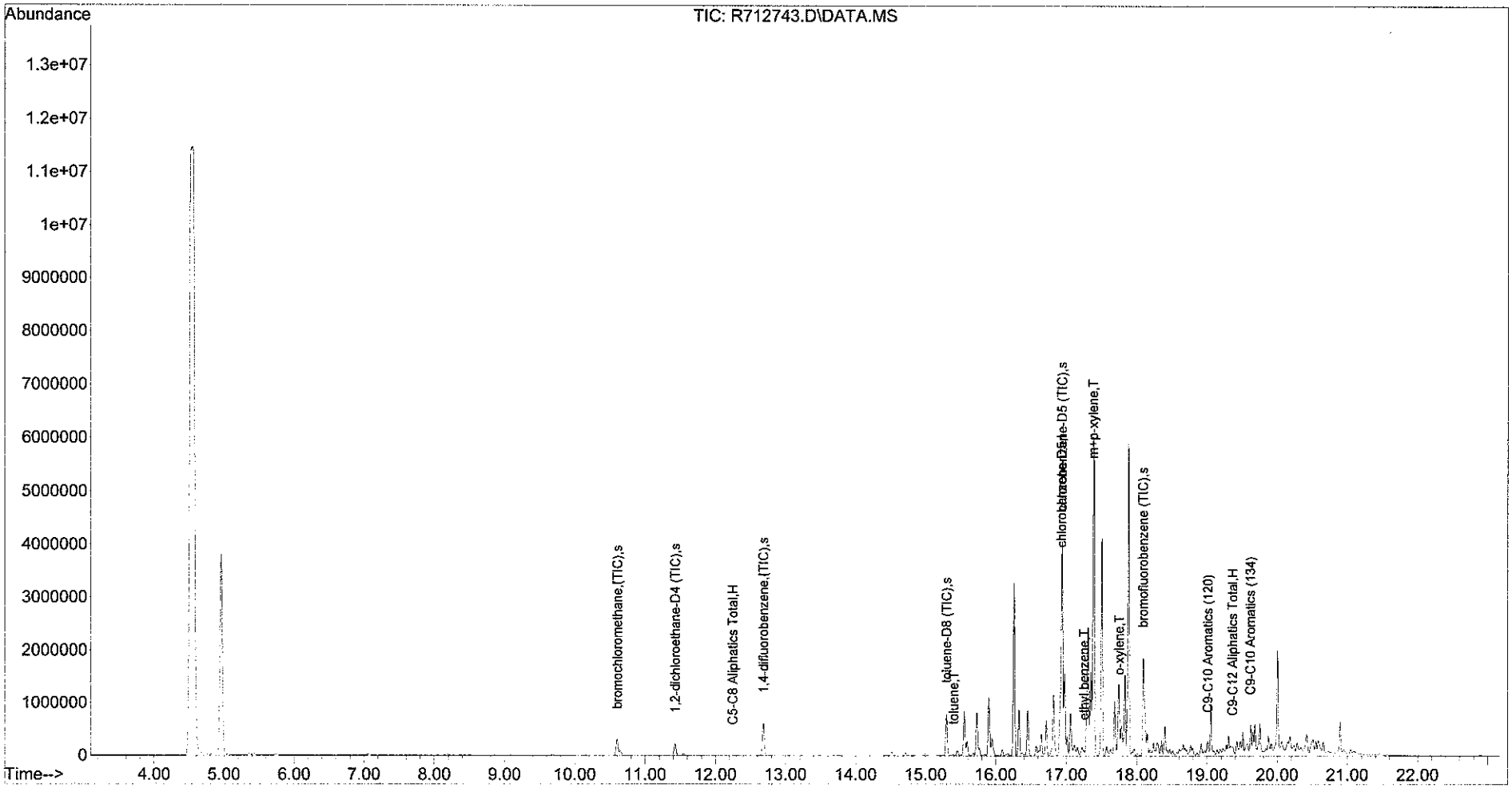


APH

Sub List : APH_STD_M - .□□□□ Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911A\
Data File : R712743.D
Acq On : 11 Sep 2010 8:21 pm
Operator : AIRLAB7:aj
Sample : 11013799-01d,3,115.4733,250
Misc : wg431975
ALS Vial : 3 Sample Multiplier: 1

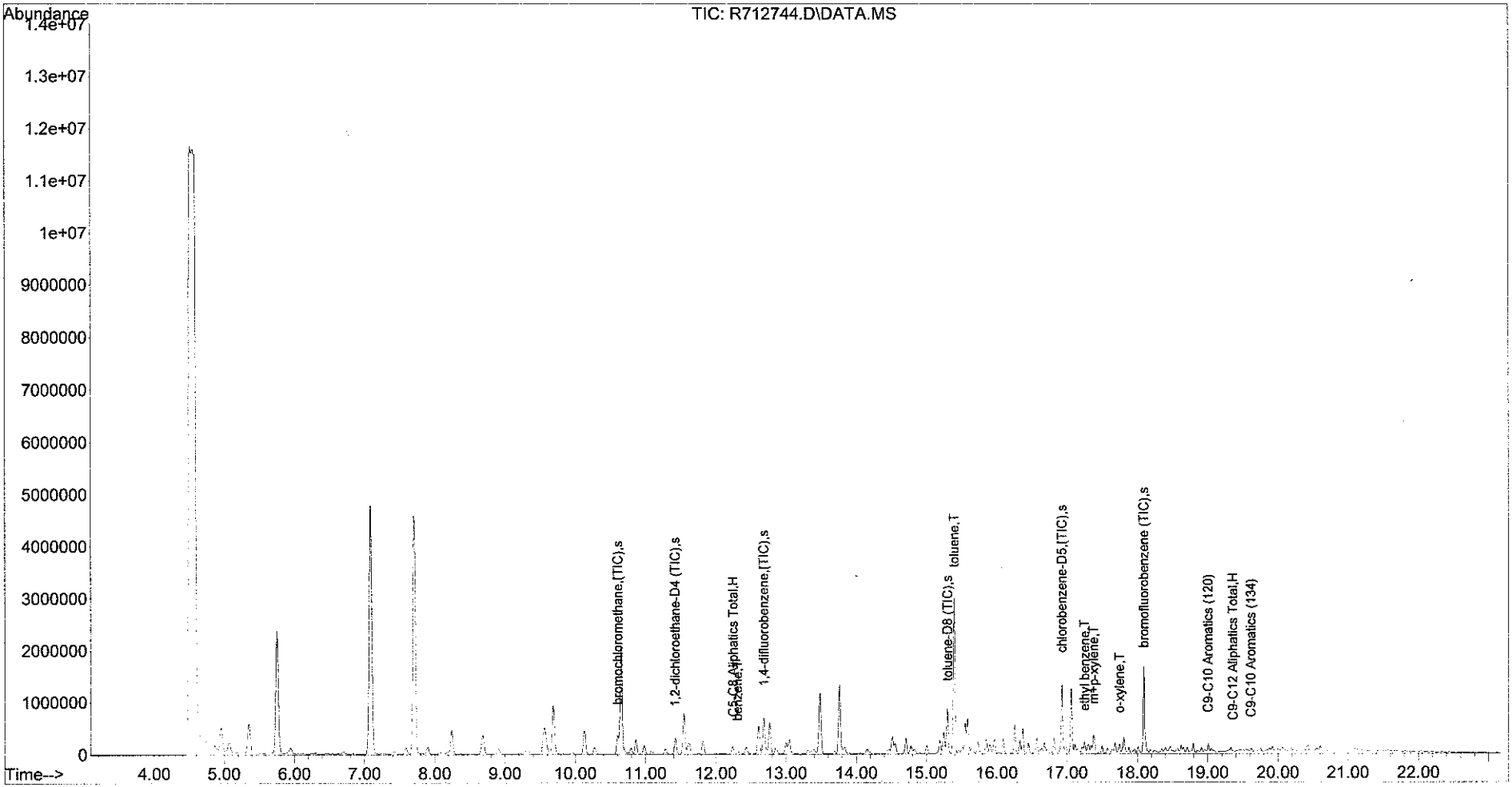
Quant Time: Sep 13 15:17:07 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100909A\APH100907.M
Quant Title : APH Analysis
QLast Update : Tue Sep 07 16:21:34 2010
Response via : Initial Calibration



Sub List : APH_STD_M - .□□□□ Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911A\
Data File : R712744.D
Acq On : 11 Sep 2010 8:55 pm
Operator : AIRLAB7:aj
Sample : 11013799-02d,3,86.8157,250
Misc : wg431975
ALS Vial : 4 Sample Multiplier: 1

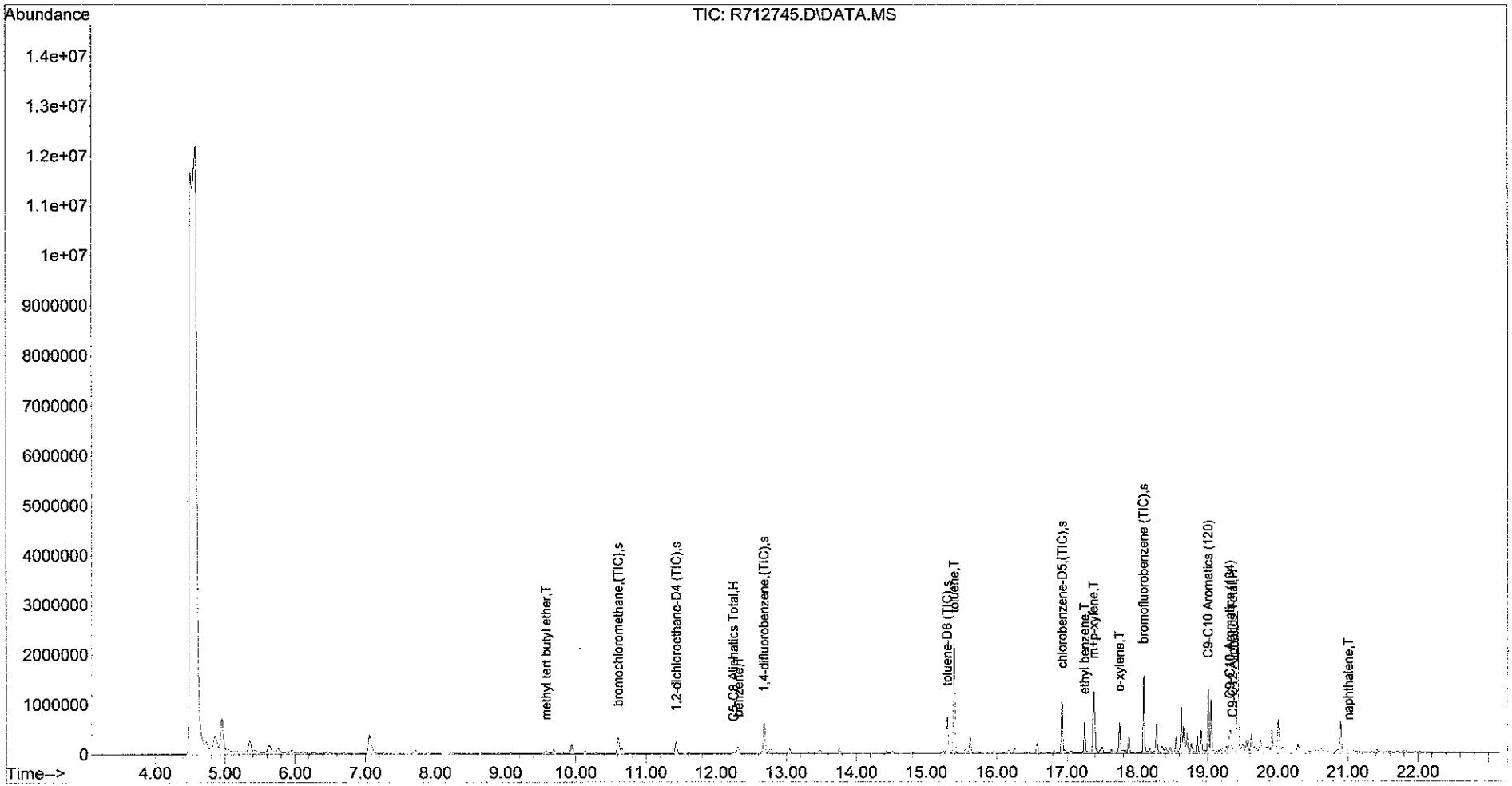
Quant Time: Sep 13 15:17:48 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100909A\APH100907.M
Quant Title : APH Analysis
QLast Update : Tue Sep 07 16:21:34 2010
Response via : Initial Calibration



Sub List : APH_STD_M - .□□□□ Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911A\
Data File : R712745.D
Acq On : 11 Sep 2010 9:30 pm
Operator : AIRLAB7:aj
Sample : 11013799-03d,3,101.1445,250
Misc : wg431975
ALS Vial : 5 Sample Multiplier: 1

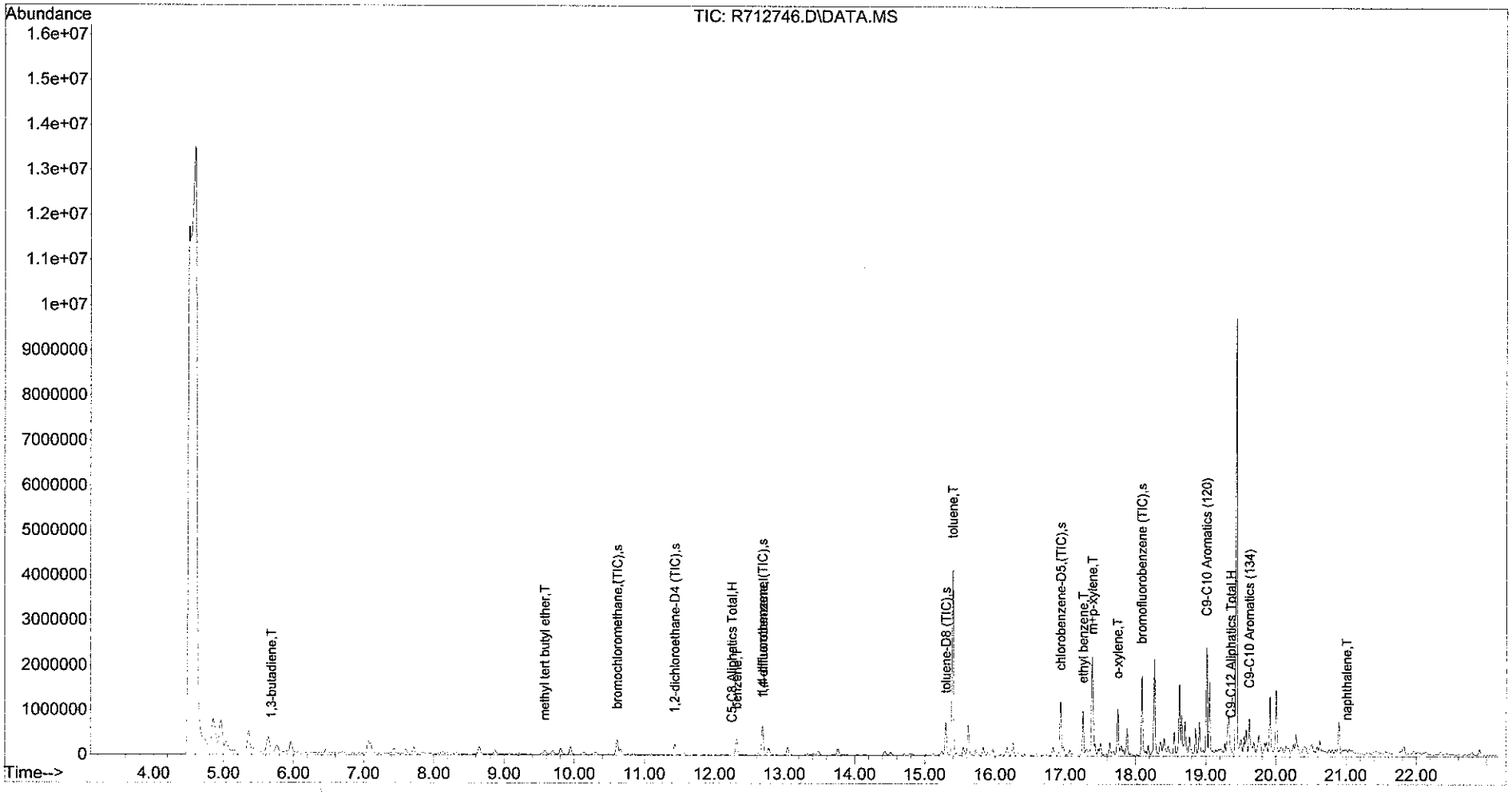
Quant Time: Sep 13 15:18:57 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100909A\APH100907.M
Quant Title : APH Analysis
QLast Update : Tue Sep 07 16:21:34 2010
Response via : Initial Calibration



Sub List : APH_STD_M - .□□□□ Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911A\
Data File : R712746.D
Acq On : 11 Sep 2010 10:05 pm
Operator : AIRLAB7:aj
Sample : 11013799-04d,3,101.9874,250
Misc : wg431975
ALS Vial : 6 Sample Multiplier: 1

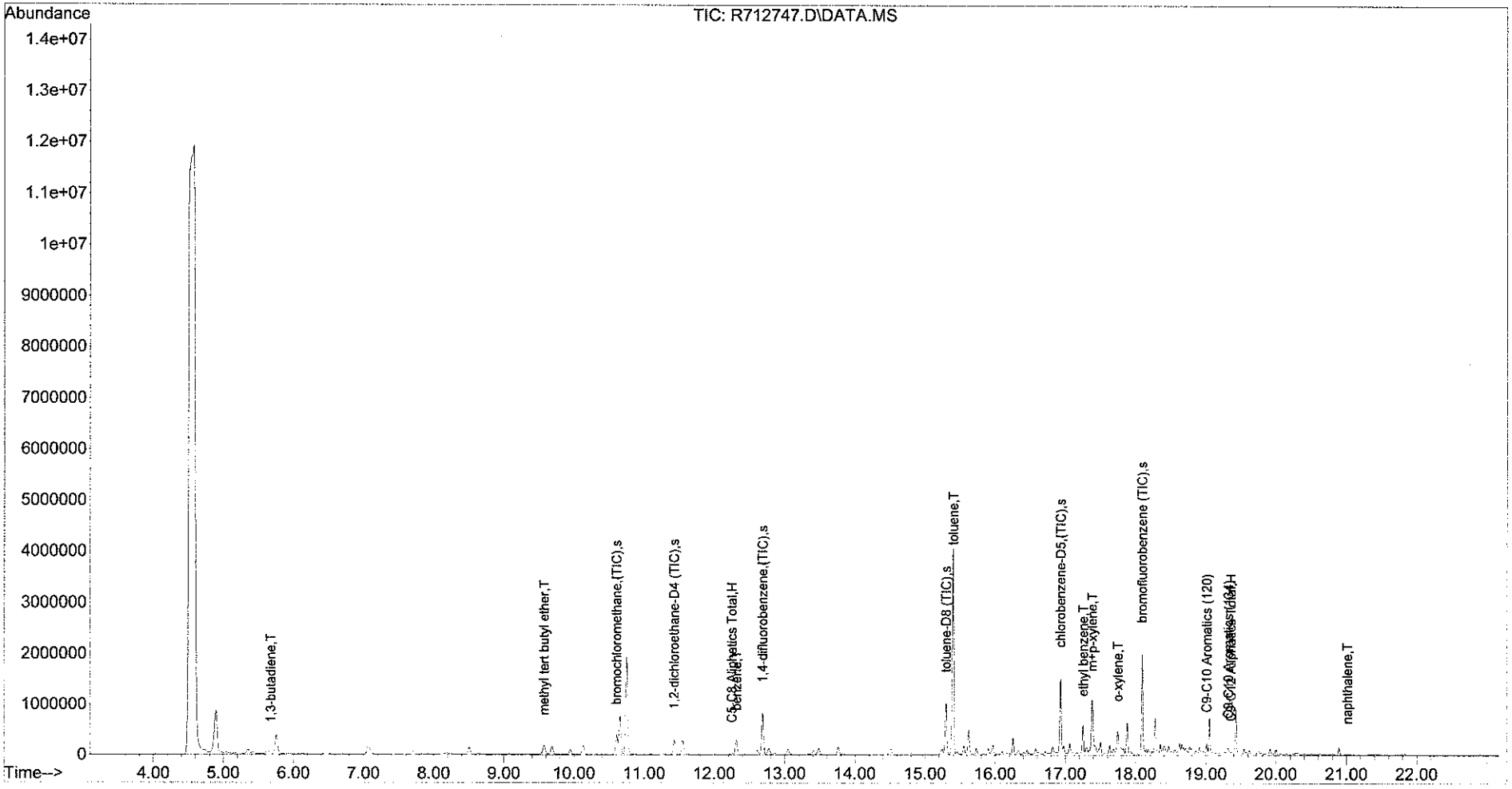
Quant Time: Sep 13 15:19:55 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100909A\APH100907.M
Quant Title : APH Analysis
QLast Update : Tue Sep 07 16:21:34 2010
Response via : Initial Calibration



Sub List : APH_STD_M - .□□□□ Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911A\
Data File : R712747.D
Acq On : 11 Sep 2010 10:40 pm
Operator : AIRLAB7:aj
Sample : 11013799-05d,3,97.7730,250
Misc : wg431975
ALS Vial : 7 Sample Multiplier: 1

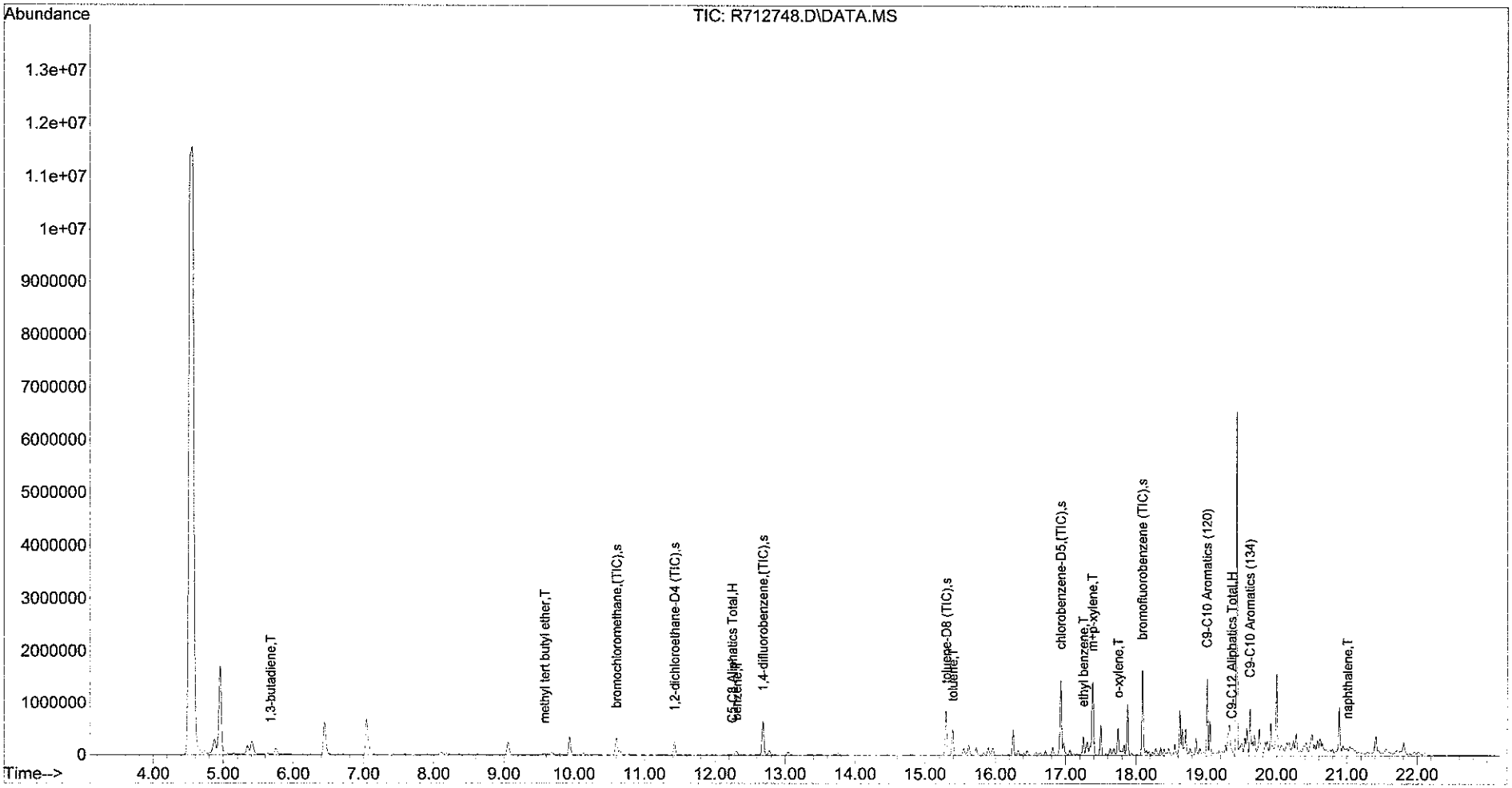
Quant Time: Sep 13 15:21:04 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100909A\APH100907.M
Quant Title : APH Analysis
QLast Update : Tue Sep 07 16:21:34 2010
Response via : Initial Calibration



Sub List : APH_STD_M - .□□□□ Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911A\
Data File : R712748.D
Acq On : 11 Sep 2010 11:16 pm
Operator : AIRLAB7:aj
Sample : 11013799-06d,3,111.2590,250
Misc : wg431975
ALS Vial : 8 Sample Multiplier: 1

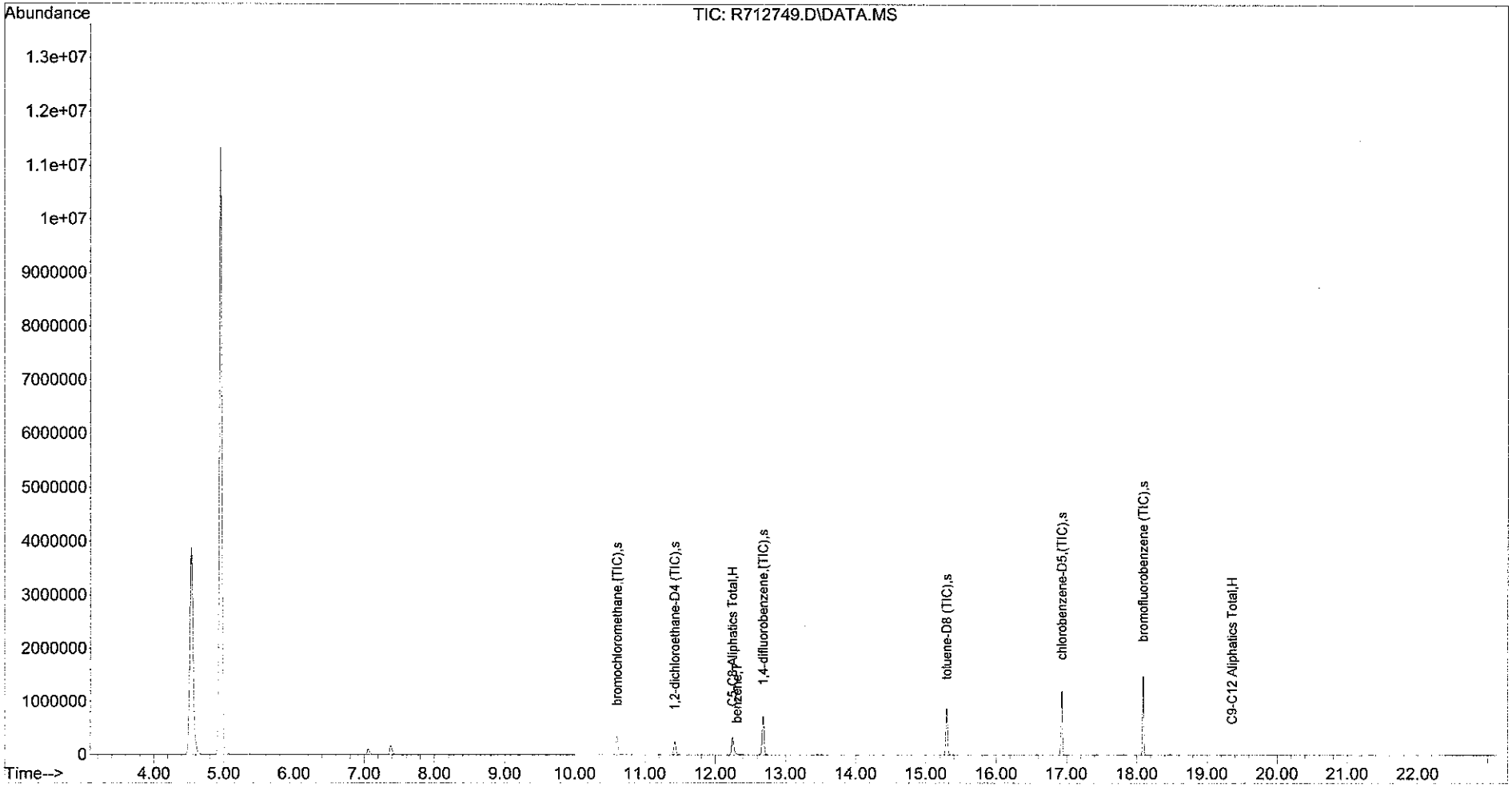
Quant Time: Sep 13 15:21:55 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100909A\APH100907.M
Quant Title : APH Analysis
QLast Update : Tue Sep 07 16:21:34 2010
Response via : Initial Calibration



Sub List : APH_STD_M - .□□□□ Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911A\
Data File : R712749.D
Acq On : 11 Sep 2010 11:51 pm
Operator : AIRLAB7:aj
Sample : 11013799-07d,3,11.4630,250
Misc : wg431975
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 13 15:22:32 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100909A\APH100907.M
Quant Title : APH Analysis
QLast Update : Tue Sep 07 16:21:34 2010
Response via : Initial Calibration



Sub List : APH_STD_M - .□□□□ Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100911A\
Data File : R712750.D
Acq On : 12 Sep 2010 12:27 am
Operator : AIRLAB7:aj
Sample : 11013799-08d,3,101.1445,250
Misc : wg431975
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 13 15:23:16 2010
Quant Method : O:\Forensics\Data\Airlab7\2010\100909A\APH100907.M
Quant Title : APH Analysis
QLast Update : Tue Sep 07 16:21:34 2010
Response via : Initial Calibration