

**PETROLEUM VAPOR INTRUSION (PVI) TRIAGE STUDY  
LIMITED PHASE IIA & IIB  
CUMBERLAND FARMS STATION #1803  
982 MAIN STREET  
SANFORD, MAINE**

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## EXECUTIVE SUMMARY

The following report presents the findings of the Phase IIA and Phase IIB 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 ESA was performed for the Cumberland Farms Station #1803 located at 982 Main Street in City of Sanford, York County, Maine (the "Site"). The Site encompasses 0.47 acres and is located in a mixed use commercial and residential area of Sanford.

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 northern portion of the Site. Municipal sewer and water utilities are located in a subsurface utility corridor that extends across the northern portion of the Site, adjacent to the UST area. A single-family residence, identified herein as the 5 Emery St Residence, abuts the Site to the northeast. The Site was developed as a gasoline filling station from approximately 1950 to 1973. The former filling station was demolished and the existing Site Building was constructed circa 1974. In 1997, the Site was renovated and the UST systems were upgraded. Soil remediation activities were conducted at that time, which included the removal of 595 tons of contaminated soil. 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 inferred full-service automobile repair activities.

In accordance with the objectives of the MEDEP PVI Triage Study, the Phase IIA and Phase IIB 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 and the neighboring 5 Emery St. Residence in order to evaluate the objectives of the PVI Triage Study.

Findings from the Phase IIA and Phase IIB ESA indicate residual petroleum contamination remains at the Site, primarily in the form of dissolved-phase contaminants in groundwater and vapor-phase contaminants in soil gas. A soil contaminant source area in the unsaturated zone was not identified during this investigation. However, the area on the northeastern portion of the property occupied by the current and former UST systems appears to be acting as the source area for the petroleum contaminants documented during this investigation. Contaminants associated with the Site appear to have migrated off-site and are currently impacting groundwater and soil vapor conditions on the neighboring 5 Emery St. Residence property. Additional investigation, performed during periods of low groundwater elevation, would be necessary to determine the primary mechanism by which contaminants are migrating (i.e. as dissolved-phase in groundwater, or in vapor phase through a contaminated "smear zone").

Comparison of data collected from co-located groundwater monitoring wells and soil vapor points in some cases suggested that volatile petroleum hydrocarbon (VPH) fractions exceeding their respective groundwater guidelines and/or standards would result in vapor-phase petroleum fractions that also exceeded their respective Soil Gas Targets. However, this correlation was not consistent and did not appear to be applicable to individual petroleum-related or chlorinated volatile organic compounds (CVOCs) detected in co-located groundwater monitoring wells and soil vapor points during this

investigation. Evaluation of vertical attenuation in both side-gradient and down-gradient directions from the presumed source location showed significant decreases between the concentrations of certain petroleum fractions in the deep-zone soil vapor samples as compared to those observed in the shallow-zone soil vapor samples. However, this observation did not appear to be consistent for all petroleum fractions and compounds, which in some cases increased in concentration from the deeper zone to shallow zone soil vapor samples.

Laboratory analytical results associated with the sewer/water utility corridor indicated significantly higher concentrations of petroleum- and CVOC-contaminants in soil vapor in both the utility corridor and nearby soil matrix than those attributable to off-gassing from contaminated groundwater at the Site. Considering the contaminant concentrations detected within the utility corridor and similar concentrations detected at the same depth and presumably outside the utility corridor; it is not clear if the utility corridor is acting as a preferential pathway for vapor contaminant migration.

Tetrachloroethene (PCE), a CVOC, was detected in nearly all of the soil vapor samples at concentrations exceeding its multi-contaminant Soil Gas Target for residential scenarios. The presence of PCE in soil gas at the Site is inferred to be associated with various solvents that were presumably utilized at the Site during its use as a full-service automotive repair station. PCE was detected in only one of the groundwater samples collected during this investigation; at a concentration slightly above the laboratory reporting limit. Additional investigation would be necessary to determine the source area of detected PCE-impacted groundwater and soil gas at the Site.

A general decrease in soil vapor contaminant concentrations was observed between the September and December 2010 sampling events at all soil vapor sample points sampled during these events. The observed decrease in contaminant concentrations may be related to contaminant volatility as a function of ambient soil vapor temperatures, and/or contaminant dilution in groundwater at the time of sample collection. If soil vapor concentrations are proven to be temperature dependent, or influenced by dynamic groundwater levels, these factors may have implications on the interpretation of soil vapor results collected at different times of the year, and may also influence vapor intrusion scenarios for potential receptors, such as the 5 Emery St. Residence.

Concentrations of petroleum constituents detected in soil vapor beneath the foundation of the Site Building did not exceed their respective Soil Gas Targets for the chronic, residential, multi-contaminant scenarios; and therefore, the detected contaminants are not expected to adversely impact the indoor air quality of the Site Building at this time. Sub-slab vapor and indoor air samples collected at the 5 Emery St. Residence suggest that contaminants from the Site are migrating into the basement and are adversely impacting the indoor air conditions of the 5 Emery St. Residence. Indoor air concentrations of petroleum constituents detected during this investigation did not exceed their respective risk-based Indoor Air Targets established by the MEDEP. Nevertheless, the potential for future exposure risks remains at the property as long as vapor intrusion is occurring within the 5 Emery St. Residence.

Considering the potential for future exposure risks resulting from Site related vapor intrusion into the 5 Emery St. Residence, it appears that additional evaluation and/or vapor mitigation is warranted. Cumberland Farms and the MEDEP may wish to consider additional soil vapor and groundwater assessment to determine the primary mechanism by which contaminants are migrating onto the 5 Emery St. property. Additional investigation should include the collection of indoor air samples at the residence in order to monitor contaminant concentrations over time and/or to facilitate the design and construction of a sub-slab depressurization system.

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## 1.0 OBJECTIVES

The following report presents the methods and findings of the Phase IIA and Phase IIB investigations conducted by Ransom Environmental Consultants, Inc. (Ransom) at the Cumberland Farms Inc. (CFI) gas station and convenience store located at 982 Main Street in the City of Sanford, York County, 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 and Ransom's "PVI Investigation Phase IIB Work Plan," dated December 8, 2010 with modifications as determined in the field and following consultation with the MEDEP.

The Phase IIA and IIB investigations were 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 and IIB investigations included the following:

1. Determine residual soil and groundwater contaminant location(s), strength 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.
7. Determine contaminant contribution from offsite sources.

## **2.0 SITE BACKGROUND**

### **2.1 SITE CHARACTERISTICS & HISTORY**

The Site is an irregular-shaped parcel of land encompassing approximately 0.47 acres located at the southeastern corner of the intersection of Main Street and Emery Street. The Site is developed with one building (the "Site Building"), which is currently operated as a Cumberland Farms gasoline station and convenience store. The Site Building is a rectangular-shaped, single story, steel-frame, concrete block-sided building with concrete slab-on-grade foundation encompassing an approximate footprint of 2,900 square feet. The building was originally constructed in 1973 and was subsequently remodeled into the current configuration in approximately 1997. The western portion of the Site is developed with a canopied fuel dispenser area containing two pump islands and four fuel dispensers. Properties along Main Street in the area of the Site are primarily commercial; however, residential properties are located to the east of the Site along Emery Street and the Emerson School is located across Main Street to the west of the Site.

Three 8,000-gallon underground storage tanks (USTs) containing gasoline are located beneath concrete surface pads on the northern portion of the Site. The USTs are connected via subsurface piping to the four fuel dispensers located on the western portion of the Site. Municipal water and sewer lines as well as electrical conduits for the fuel pumps enter the northeastern corner of the Site Building. A storm drain utility transects the western portion of the Site. Site features are shown on the attached Figures 1 and 2.

The Site was improved with a filling station from circa 1950 to 1973, which was located on the south-central portion of the Site. Consistent with filling stations of this era, it is inferred that full service automotive repair activities were performed at the Site. The former filling station was demolished and the existing Site Building was constructed in approximately 1974, and has operated as a Cumberland Farms gasoline station and convenience store to the present date. In 1997, the Site was renovated and the UST systems were upgraded. Four 8,000-gallon gasoline USTs and three 550-gallon #2 fuel oil USTs were removed from the northern and eastern portions of the Site at that time. Soil contamination was identified in connection with former gasoline and fuel oil USTs and approximately 595 tons of contaminated soil was removed and transported for off-site disposal. Confirmation soil sampling conducted following UST removal and over-excavation of contaminated soils indicated that volatile petroleum constituents remained in Site soils at concentrations up to 438 parts per million (ppm).

### **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. Documented soil contamination which reportedly remains at the Site has the potential to impact on-site soil vapor conditions thereby representing a vapor intrusion risk to the Site Building. Furthermore, petroleum contaminants in the form of soil vapor have the potential to migrate off-site through preferential pathways such as underground utility corridors, or by diffusion through the generally porous surface lithology associated with the Site. Off-site migration of petroleum contaminants may represent a vapor intrusion risk to surrounding structures such as the Emerson School or the residential properties in the vicinity of the Site.

2. The potential for Soil, groundwater, or soil vapor contamination associated with unknown or unreported releases of petroleum which may have occurred as a result of current retail gasoline UST storage and dispensing operations.
3. Historic use of the Site as a filling station, presumed to include full-service automotive repair activities, which likely included the use, storage, and potential on-site releases of hazardous materials such as waste oils, motor oils, metals, and PCB-containing hydraulic fluids from former automotive service operations, as well as chlorinated solvents from parts degreasers.

Based on Ransom's understanding of the objectives of the PVI study, the scope of work for the Phase IIA and IIB investigations were 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 recommends 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 Underground Storage Tanks

AOC 1 encompasses the northern and eastern portion of the Site. AOC 1 includes the three currently existing 8,000-gallon gasoline USTs, the area of four 8,000-gallon gasoline USTs that were removed from the Site in 1997, and the area of three 550-gallon fuel oil USTs that were also removed in 1997. The municipal sewer and water utilities traverse the eastern portion of AOC 1 extending from Emery Street to the northeastern corner of the Site Building.

Contaminants of concern (COCs) specific to this investigation which are associated with this AOC include volatile petroleum products which were documented in the soil during the 1997 UST removal and system upgrade. The documented petroleum release has the potential to have impacted groundwater and 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 western portion of the Site and consists of four fuel dispensers located beneath the canopied area, asphalt-paved driveways/parking areas, and concrete pads. A storm-drain utility extends through the fuel dispenser area and discharges to the municipal system through a structure located southwestern corner of the Site property.

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 in the vapor phase through diffusion and advection particularly along preferential pathways such as the subsurface storm drain corridor that bisects this AOC.



### **3.0 INVESTIGATION METHODOLOGY**

The Site investigation was designed in two stages, identified herein as Phase IIA and Phase IIB. The investigation methodology for the Phase IIA investigation was originally outlined in Ransom's "PVI Investigation Phase IIA - Final Work Plan," dated August 31, 2010 and was modified following discussion with the MEDEP, as described below.

Field activities for the Phase IIA investigation were conducted by Ransom and MEDEP personnel on September 2, 2010. The Work Plan had originally proposed a series of sample locations to investigate vapor contaminant variables in both AOC 1 and AOC 2. However, due to difficult drilling conditions and time constraints, Ransom and the MEDEP agreed to limit the Phase IIA investigation to focus exclusively on AOC 1. 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 implant points.

Following analysis of the Phase IIA results and discussion with the MEDEP, the Phase IIB investigation was designed as outlined in Ransom's "PVI Investigation Phase IIB Work Plan," dated December 8, 2010. The purpose of the Phase IIB investigation was to further evaluate contaminant migration mechanisms and assess potential impacts to off-site, downgradient receptors. Phase IIB field activities were conducted by Ransom and MEDEP personnel on December 15 and 22, 2010.

Standard field investigation methods employed during the investigation are discussed in Section 3.1. Sections 3.2 and 3.3 provide a discussion of the particular methods and locations chosen to evaluate the objectives of the Phase IIA and Phase IIB investigations, respectively. Sampling locations for the current investigation are shown on Figure 2.

#### **3.1 STANDARD FIELD INVESTIGATION METHODS**

##### Soil Boring Advancement

Ransom observed the advancement of nine (9) soil borings, identified as B101 through B104, B107, and B201 through B204 during the Phase IIA and IIB investigative activities. The soil borings were advanced by Environmental Projects Inc. (EPI) of Auburn, Maine 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 11 to 23 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 a modified Burmister Soil Classification System.

##### 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

Soil samples were collected from soil borings B103 (12-16 feet bgs), B104 (16-20 feet bgs), B201 (12 – 16 feet bgs), and B204 (10-14 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), including the target petroleum volatile organic compounds (VOCs), by MA DEP Method 98-1.

### Groundwater Monitoring Well Installation

Soil borings B101, B103, B104, B203, and B204 were subsequently completed as groundwater monitoring wells (MW101 through MW103, MW201 and MW202, respectively). 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 2, 2010, groundwater samples were collected from monitoring wells MW101 through MW103 as part of the Phase IIA investigation. An additional groundwater sampling event was conducted as part of the Phase IIB investigation on December 22, 2010, and included sampling of monitoring wells MW101 through MW103 as well as MW201 and MW202.

Prior to sample collection, each well was developed using a peristaltic pump and dedicated tubing until the discharge water was relatively free of silt and fines. 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.

### Soil Vapor Point Installation

Ransom observed the construction of eighteen (18) soil vapor sample points during the Phase IIA and Phase IIB investigations. Sixteen (16) of the soil vapor sample points (SV101 through SV105, SV201 through SV204, SV301 through SV304, and SV401 through SV403) were constructed using soil vapor implants. The soil vapor implants consisted of an approximate 6-inch long by ½-inch diameter stainless steel screen. Teflon tubing was fitted onto the top of the stainless steel screen and extended to the ground surface. Filter sand was placed around the vapor implant, and a bentonite seal was constructed above the filter sand. The remainder of the hole was backfilled with native material. Soil vapor points were completed with a flush-mounted roadbox. The soil vapor implants were constructed at various depths depending on the specific purpose of each sampling point. Soil vapor implant depths and construction details are shown on the Soil Boring Logs included in Appendix A.

Soil vapor sample points SV108 and SV205 were constructed as “sub-slab” vapor samples beneath the Site Building and the residential structure located to the northeast of the Site (5 Emery St. Residence), respectively. The sub-slab vapor sample points were constructed by inserting Teflon® tubing through a drilled hole in the concrete slab foundation. The hole was cleared to a depth of 2-3 inches below the concrete building slab. Inert “play dough” material or bentonite was packed into the drilled hole around the tubing to form a seal and prevent the influx of ambient air during vapor 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<sub>2</sub>)
- Ambient air Carbon Dioxide (CO<sub>2</sub>)
- Pre-sample O<sub>2</sub>
- Pre-sample CO<sub>2</sub>
- Pre-sample Methane (CH<sub>4</sub>)
- 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 the August 31, 2010 “PVI Investigation Phase IIA - Final Work Plan.” 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<sub>2</sub> and CO<sub>2</sub> were also recorded. Soil gas sampling field data sheets providing additional information regarding the soil vapor samples are included in Appendix B.

### **3.2 EVALUATION OF INVESTIGATION OBJECTIVES – PHASE IIA**

As previously stated, the Phase IIA investigation focused on variables associated with soil vapor characteristics in AOC1. The following outlines the approach taken by Ransom and the MEDEP to evaluate the objectives outlined in Section 1 of this report.

### Source Area Evaluation

In order to evaluate the contaminant source area extent and residual source area contaminant concentrations, four soil borings (B101, B102, B103, and B107) were advanced in the area of the former and currently existing USTs (AOC 1). Soil samples from the soil borings were screened for the presence of contaminants as previously discussed. Based on field observations, one soil sample from the source area (collected from B103 at a depth of 12 to 16 feet bgs) was submitted for laboratory analysis.

To evaluate dissolved-phase contaminant concentrations in the source area, soil borings B101 and B103 were converted into groundwater monitoring wells MW101 and MW102, respectively. The monitoring wells were sampled as described in Section 3.1.

Soil vapor in the source area was evaluated via the installation of vapor implants SV101 and SV102. These implants were constructed to sample a depth interval of 13.5 to 14 feet bgs, which corresponds to the soil/groundwater interface and the depth at which source contaminants were observed in soil samples collected from B103.

### Preferential Pathway Evaluation

As discussed in the conceptual site model (Section 2.3), the sewer and water service utilities were identified as potential preferential pathways for soil vapor contaminant migration associated with AOC 1. In an effort to evaluate contaminant migration along the subsurface utility corridor and potential impacts to off-site receptors, soil vapor implant SV105 was installed directly on top of the identified sewer/water utility corridor. SV105 was advanced using hand tools to prevent damage to the subsurface utilities, and was constructed in the utility trench backfill material at a depth of 2.5 to 3 feet bgs.

### Contaminant Migration/Attenuation

Soil boring B104 was advanced approximately 15 feet from the source area, in the direction of the Site Building (receptor). A soil sample collected from 16 to 20 feet bgs in this boring was submitted for laboratory analysis to evaluate soil conditions in what was presumed to be the down-gradient direction from the source area. Soil boring B104 was subsequently converted into monitoring well MW103 to monitor dissolved-phase contaminant concentrations in the presumed down-gradient direction. However, subsequent groundwater flow direction calculations suggest the B104/MW103 location is side-gradient/upgradient from the residual contaminant source area.

In addition, the soil vapor implant SV103 was installed at a depth of 12.5 to 13 feet bgs and co-located with B104/MW103, to evaluate the lateral attenuation of soil vapor contaminants throughout the general subsurface matrix at the Site. Soil vapor implant SV104 was also co-located with B104/MW103, and was constructed at a depth of 7.5 to 8 feet bgs, to evaluate vertical attenuation of contaminant partitioning from dissolved phase contaminants presumably present in the groundwater in this location.

### On-site Receptor

The potential for soil vapor intrusion to the Site Building was evaluated via the collection of the sub-slab vapor sample SV108. The sub-slab vapor sample was located adjacent to subsurface utility connections in the Site Building.

### **3.3 EVALUATION OF INVESTIGATION OBJECTIVES – PHASE IIB**

Following analysis of the results from the Phase IIA investigation, the Phase IIB investigation was designed to further evaluate contaminant migration and attenuation along the underground water and sewer utility corridor, in addition to characterizing the potential impacts to the identified off-site, downgradient residential receptor.

#### Preferential Pathway Evaluation

The findings from the Phase IIA investigation (soil vapor sample SV105) suggested concentrations of petroleum constituents and CVOCs (specifically PCE), were migrating in soil vapor along the subsurface sewer and water utility corridor. In order to further evaluate contaminant attenuation within the apparent preferential pathway, soil vapor implants SV201, SV202, and SV203 were installed at approximately 15-foot intervals laterally along the subsurface utility corridor. Soil borings for these vapor point locations were advanced using an “air knife” (compressed air) and soil vacuum to prevent damage to the subsurface utilities. This method also allowed for positive identification of the subsurface water line, which was observed in these borings at depths ranging from 6 to 7.5 feet bgs. Soil vapor implants SV102, SV202, and SV203 were constructed immediately adjacent to the subsurface water line.

#### Contaminant Migration/Attenuation

To compare contaminant migration concentrations within the preferential pathway with concentrations which may be present in the subsurface soil matrix as a result of off-gassing from contaminated groundwater, soil vapor implants SV301, SV302, and SV303 were installed at depths of 12 to 12.5 feet bgs (approximately 2 feet above the measured water table) at locations corresponding to the preferential pathway vapor implants SV201 through SV203.

Similarly, soil vapor implants SV401, SV402, and SV403 were installed at corresponding depths and approximately 5 feet laterally from preferential pathway vapor implants SV201, SV202, and SV203. The purpose of vapor implants SV401 through SV403 was to compare soil vapor concentrations that may be migrating laterally through the general soil matrix to concentrations observed within the subsurface utility corridor, and determine if the utility corridor is acting as a preferential pathway for contaminant migration.

In addition to the soil vapor implants, soil borings B201, B202, and B203 were also installed at approximately 15-foot intervals along the subsurface utility corridor to document localized subsurface lithology. A soil sample collected from B201 at a depth of 12 to 16 feet bgs was submitted for laboratory analysis to confirm that the cluster of samples at this location was outside the contaminant source area. Soil boring B203 was subsequently converted into monitoring well MW201 to evaluate dissolved-phase contaminant concentrations at the Site property boundary in the area of the subsurface utility preferential pathway.

Contaminant migration in the down-gradient direction from the source area, towards the off-site residential receptor, was evaluated through the installation of soil boring B204 (subsequently converted to monitoring well MW202) and soil vapor samples SV204 (7 to 7.5 feet bgs) and SV304 (12 to 12.5 feet bgs).

### Off-site Residential Receptor

Results from the Phase IIA investigation indicated a groundwater flow direction to the northeast. A residential dwelling, identified herein as the 5 Emery St. Residence, is located in this direction within 30 feet of the identified petroleum source area. The 5 Emery St. Residence consists of a 2-story wood framed house with full basement constructed of a field stone foundation and poured concrete floor. The basement extends approximately 5 feet below ground surface. Sewer and water utilities enter the northwestern wall of the basement foundation from Emery Street (refer to Figure 3).

In order to evaluate potential impacts to the off-site residential receptor, the sub-slab vapor sample SV205 was collected from below the concrete basement floor of the 5 Emery St. Residence (at a total depth of approximately 5.5 feet below surface grade). Additionally, an indoor air sample, identified as "Martinez Basement," was collected in the vicinity of subsurface water and sewer connections in the basement of the residence.

## 4.0 RESULTS

The following subsections document the results of the Phase IIA investigation. Laboratory analytical results are summarized in the following Tables (attached):

- Table 1: Soil Sample Analytical Results
- Table 2: Groundwater Sample Analytical Results
- Table 3: Soil Vapor Sample Analytical Results
- Table 4: Sub-slab Vapor Sample Analytical Results
- Table 5: Indoor Air Sample Analytical Results
- Table 6: Fixed Gases Field Screening & Sample Analytical Results

Certified laboratory analytical reports are included in Appendix D. As a mechanism to evaluate potential exposure risks associated with the contaminants detected at the Site, laboratory analytical results were compared to applicable regulatory standards as described below.

### Applicable Regulatory Standards: Soil

Laboratory analytical results of soil samples collected during this investigation were compared to their respective Residential, Outdoor Commercial Worker, and/or 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.

### Applicable Regulatory Standards: 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 residential and commercial scenarios, dated November 23, 2010 (Groundwater VI Screening Levels).

### Applicable Regulatory Standards: 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, the data was reviewed to determine the quality and usability of the data. A discussion of this evaluation follows.

##### Precision

Precision measures the reproducibility of measurements and is established using the relative percent difference (RPD) between duplicate sample results. Following consultation with the MEDEP, duplicate samples were not collected during the Phase IIA or Phase IIB investigations at the Site. It should be noted, however, that this investigation was performed in conjunction with a similar site in Saco, Maine. Analysis of duplicate sample precision at the Saco site indicated acceptable results. Therefore, it can be inferred that the precision of the results from this investigation, having been obtained through similar field and laboratory methods, is likewise acceptable.

##### 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 the soil vapor samples did not fluctuate by more than 20%, with the exception of SV303 during the Phase IIB sampling event. Carbon dioxide readings in SV303 were recorded at 1.4% prior to sample collection, and 2.4% following sample collection, which are significantly higher readings than the ambient air carbon dioxide readings recorded during the sampling event, which ranged from 0% to 0.11%. Furthermore, the increase in carbon dioxide concentration over the course of the sample collection period is indicative of soil gas characteristics, and does not suggest the influx of ambient air.

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 measurements, it can be inferred that the soil vapor sample points were properly sealed during sample collection activities at the Site.

#### **4.2 SOURCE AREA SOIL**

Soil samples collected during this investigation generally consisted of fine to medium sand with various amounts of silt and gravel (refer to boring logs, Appendix A). Due to the location of historic USTs at the Site, it is likely that the top 10 to 12 feet of subsurface material at the northeastern portion of the Site consists of general backfill material. However, because of the sandy nature of native soils in the area, it was difficult to determine the precise contact between fill and native materials at the Site. Based on the soil characteristics observed in the soil borings, the Site soils are anticipated to be characterized by a relatively high hydraulic conductivity in terms of groundwater and high permeability in terms of soil vapor migration.



Field screening results from soil borings B101, B103, B104, and B201 suggest residual petroleum-contaminated soil exists generally at or below the groundwater table across much of the northeastern portion of the Site. The soil sample submitted for laboratory analysis from B103 (12-16 feet bgs) was above the measured groundwater table at the time of sample collection, however, the groundwater table was observed at approximately 14 feet bgs during the Phase IIB sampling event, suggesting this sample was collected in a “smear zone” (soil contamination resulting from contaminant transport in a fluctuating groundwater table). It is likely that the majority of non-saturated petroleum-contaminated soil was removed from the Site during the 1997 UST system upgrade and remediation efforts.

### **4.3 GROUNDWATER**

During the Phase IIA investigation, groundwater was measured at depths ranging from approximately 15.6 to 17.1 feet bgs in monitoring wells MW101 through MW103. Groundwater was calculated to be flowing towards the northeast, as shown on the attached Figure 1. During the Phase IIB investigation, groundwater was measured at depths ranging from approximately 13.1 to 14.1 feet bgs in monitoring wells MW101 through MW103, MW201, and MW202. Based on these measurements, the groundwater elevation increased by approximately 2 to 3 feet between the September and December 2010 sampling events. Groundwater during the Phase IIB investigation was also calculated to be flowing generally towards the north/northeast (Figure 2). Monitoring well survey data and groundwater elevations are included in Appendix C.

Evaluation of laboratory analytical results of the groundwater samples collected during the Phase IIA investigation indicated concentrations of petroleum fractions that exceeded the MEGs and the Groundwater VI Screening Levels at the presumed petroleum “source area” monitoring wells (MW101 and MW102), as well as the sidegradient monitoring well (MW103). Petroleum VOCs, including ethylbenzene, toluene, xylene, and naphthalene were also detected above their respective MEGs and Groundwater VI Screening Levels in the presumed “source area” monitoring wells during the Phase IIA sampling event. Additionally, the concentrations of VPH fractions C<sub>5</sub>-C<sub>9</sub> aliphatics and C<sub>9</sub>-C<sub>12</sub> aliphatics detected in MW102 exceeded their respective MADEP Method 1, GW-2 Groundwater Standards during the Phase IIA sampling event.

Groundwater sample analytical results from the Phase IIB investigation indicated similar petroleum contaminant concentrations in MW101, however, a significant reduction in petroleum contaminant concentrations was observed in MW102. With the exception of C<sub>9</sub>-C<sub>10</sub> aromatics, all VPH fractions and petroleum VOCs detected in MW102 during the Phase IIB sampling event were below their respective MEGs and MADEP Method 1 GW-2 Groundwater Standards. The groundwater level in MW102 was measured to be approximately three (3) feet higher during the Phase IIB sampling event; and therefore, the reduction in petroleum contaminant concentrations may be a function of petroleum contaminant distribution at the soil/groundwater interface or the result of contaminant dilution in groundwater at the Site. Similar petroleum contaminant reductions were noted in monitoring well MW103 between the Phase IIA and IIB sampling events.

Groundwater sample analytical results from MW201 (Phase IIB sampling event) indicate only trace concentrations of one VPH fraction, C<sub>9</sub>-C<sub>10</sub> aromatics, and two petroleum VOCs, naphthalene and toluene. The concentration of C<sub>9</sub>-C<sub>10</sub> aromatics detected in MW201 exceeded its MEDEP Groundwater VI Screening Level for residential scenarios, but did not exceed its Screening Level for commercial scenarios.

The highest concentrations of petroleum contaminants detected in groundwater during the Phase IIB sampling event were observed in monitoring well MW202, located adjacent to the 5 Emery St. Residence (Figure 2). Concentrations of VPH fractions detected in this monitoring well exceeded its MEGs, MADEP Method 1 GW-2 Groundwater Standards, and its MEDEP Groundwater VI Screening Levels. Concentrations of benzene, toluene, ethylbenzene, xylenes, and naphthalene detected in monitoring well MW202 exceeded their respective MEDEP Groundwater VI Screening Levels for residential scenarios.

It should be noted that PCE was detected at a concentration of 1.1 micrograms per liter ( $\mu\text{g}/\text{l}$ ) in the groundwater sample collected from MW103 during the Phase IIB sampling event. PCE was not detected in groundwater at any other location during this investigation. The detected concentration of PCE exceeded its MEDEP Groundwater VI Screening Level for residential scenarios, but did not exceed its Screening Level for commercial scenarios.

#### **4.4 SOIL VAPOR**

Soil vapor sample SV101 was collected during the Phase IIA investigation in the presumed petroleum contaminant source area and exhibited concentrations of APH fractions that exceeded their respective Soil Gas Targets for residential multi-contaminant scenarios. These soil vapor results appear to correspond with the concentrations of petroleum fractions detected in the co-located groundwater sample (MW101), which exceeded their MEGs and Groundwater VI Screening Levels. However, the concentrations of petroleum VOCs detected above regulatory guidelines and standards in groundwater at the Site generally did not result in detectable concentrations of petroleum VOCs in soil vapor samples at the Site. This evidence may suggest the contaminant concentrations detected in the vapor sample SV101 are not associated with petroleum off-gassing from groundwater or that petroleum fractions off-gas from groundwater more readily than the individual petroleum VOCs. It should be noted that soil vapor point SV101 was observed to be saturated with groundwater at the time of the Phase IIB sampling event; and therefore, a soil vapor sample could not be collected at that time.

Soil vapor point SV102 was also located within the presumed petroleum contaminant source area, and at a similar depth as SV101. VPH fractions detected in the soil vapor sample collected from SV102 during the Phase IIA investigation did not exceed their respective Soil Gas Targets and were significantly lower than the concentrations of petroleum constituents detected in SV101. When compared to the co-located groundwater monitoring well (MW102), the concentrations of petroleum constituents detected in groundwater exceeded their respective MEGs and Groundwater VI Screening Levels; however, the concentrations of petroleum constituents detected in the soil vapor sample collected from SV102 did not exceed their respective Soil Gas Targets. A significant reduction in contaminant concentrations was observed in the soil vapor sample collected from SV102 during the Phase IIB sampling event, which may be the result of reduced groundwater concentrations at that time.

Soil vapor points SV103 and SV104 were co-located with groundwater monitoring well MW103, and were installed to evaluate the vertical attenuation of petroleum contaminant vapors expected to be off-gassing from the groundwater table. Analysis of the soil vapor data collected from SV103 and SV104 during the Phase IIA sampling event exhibited a general decrease in petroleum contaminant concentrations from the deep soil vapor point (SV103) to those detected in the shallow vapor point (SV104). The factor by which the concentrations decreased varied widely between petroleum VOCs and volatile petroleum fractions. The exception to the general decrease in petroleum concentrations with increasing distance from the groundwater table was VPH fraction,  $\text{C}_9\text{-C}_{10}$  aromatics, which increased from non-detect in the deep vapor sample (SV103) to  $45 \mu\text{g}/\text{m}^3$  in the shallow vapor sample (SV104).

Laboratory analytical results from SV103 and SV104 during the Phase IIB sampling event showed a significant decrease in petroleum contaminant concentrations in both vapor points as compared to the Phase IIA sampling event. The observed reduction in petroleum contaminant concentrations may be the result of decreased volatility of petroleum constituents due to colder ambient temperatures, or contaminant dilution due to the elevated groundwater during the Phase IIB sampling event.

Soil vapor points SV204 and SV304 were constructed to evaluate vertical attenuation associated with petroleum contaminant off-gassing from groundwater downgradient from the petroleum source area and adjacent to the 5 Emery St. Residence. These soil vapor points were co-located with monitoring well MW202. Soil vapor sample analytical results exhibited a significant decrease of one VPH fraction, C<sub>5</sub>-C<sub>8</sub> aliphatics, from the deep vapor point (SV304) to the shallow vapor point (SV204). The concentration of C<sub>5</sub>-C<sub>8</sub> aliphatics detected in SV304 exceeded its Soil Gas Target and correlates with elevated concentrations of VPH fractions detected in the groundwater sample collected from monitoring well MW202. However, the concentrations of petroleum VOCs detected in groundwater exceeding their MEGs and Groundwater VI Screening Levels did not correlate to elevated concentrations of petroleum VOCs in soil vapor exceeding their respective Soil Gas Targets for residential scenarios.

Evaluation of soil vapor laboratory analytical results collected from soil vapor points installed within the sewer/water utility trench (SV201, SV202, and SV203) exhibit a decreasing trend in petroleum contaminant concentrations with increasing distance from the petroleum "source area." It should be noted that the petroleum contaminant concentrations detected in SV201 were significantly higher than the petroleum contaminant concentrations detected in the presumed "source area" soil vapor point SV102. Additional soil vapor samples collected in this area (SV301 and SV401) also exhibited significantly higher petroleum contaminant concentrations than those detected in the soil vapor sample collected from the presumed "source area" soil vapor point (SV102).

Evaluation of laboratory analytical results from soil vapor points that were installed to evaluate off-gassing from groundwater in the area of the sewer/water utility corridor (SV301, SV302, and SV303) also exhibited decreasing petroleum contaminant concentrations with increasing distance from the petroleum "source area." Concentrations of petroleum constituents detected in these soil vapor points were significantly lower than those detected in the utility corridor samples (SV201, SV202, and SV203), which suggests that the utility corridor may be acting as a preferential pathway for petroleum contaminant migration.

Soil vapor implants SV401, SV402, and SV403 were installed at the same depth and distance from the source area as the utility corridor samples (SV201, SV202, and SV203, respectively) in order to evaluate soil vapor concentrations in the general soil matrix outside the utility corridor. Analytical results from soil vapor points SV401, SV402, and SV403 also exhibited decreasing petroleum contaminant concentrations with increasing distance from the petroleum source area. The contaminant concentrations observed in SV401, SV402, and SV403 were similar to those observed within the utility corridor (SV201, SV202, and SV203). Based on these results, it is not clear that the utility corridor is acting as any more of a preferential pathway for soil vapor contaminant migration than the surrounding soil matrix at depths of the utility corridor (6 to 7 feet bgs). The similarity in contaminant concentrations in these locations suggest vapor implants SV401, SV402, and SV403 may have been installed within the utility corridor backfill material, or alternatively, the results may suggest there is little difference in terms of soil vapor contaminant migration between the utility corridor and the surrounding soil matrix.

Evaluation of laboratory analytical results of the soil vapor sample collected beneath the concrete slab foundation of the Cumberland Farms convenience store (SV108) exhibited low concentrations of two VPH fractions (C<sub>5</sub>-C<sub>8</sub> aliphatics, C<sub>9</sub>-C<sub>12</sub> aliphatics) and one petroleum VOC, toluene. However, the concentrations of these petroleum constituents did not exceed their respective Soil Gas Targets. Based on these results, documented petroleum-impacted soil and groundwater at the Site does not appear to represent a risk to the indoor air quality of the Site Building at this time.

The soil vapor sample collected from beneath the concrete floor of the 5 Emery St. Residence (SV205) exhibited an elevated concentration of PCE and low level concentrations of VPH fractions and petroleum VOCs, including toluene and xylenes. PCE was the only compound detected in the sub-slab soil vapor sample at a concentration exceeding its Soil Gas Target for residential scenarios. The indoor air sample collected from the basement of the residence ("Martinez Basement") exhibited lower concentrations of PCE and VPH fractions (specifically C<sub>5</sub>-C<sub>8</sub> aliphatics), which were below their respective Indoor Air Targets for residential, chronic, multi-contaminant scenarios. Based on these results, it does not appear that the concentrations of PCE or petroleum constituents detected in the 5 Emery St. Residence basement present an exposure risk at this time. Nevertheless, the detection of these compounds within the indoor air indicates petroleum and VOC contaminants associated with the Cumberland Farms property are migrating into the 5 Emery St. Residence and impacting indoor air conditions. As long as vapor intrusion continues to occur at the 5 Emery St. Residence, the potential exists for exposure to contaminant concentrations that may exceed the Indoor Air Targets in the future.

## 5.0 CONCLUSIONS

Findings from the Phase IIA and Phase IIB ESA indicate residual petroleum contamination remains at the Site, primarily in the form of dissolved-phase contaminants in groundwater and vapor-phase contaminants in soil gas. A soil contaminant source area in the unsaturated zone was not identified during this investigation. It is likely that the majority of the contaminated soil existing above the water table was removed from the Site during the 1997 UST system upgrade and soil excavation activities. Nevertheless, the northeastern portion of the property occupied by the current and former UST systems is presumed to be acting as the source area for the petroleum contaminants documented during this investigation.

Groundwater analytical results collected during this investigation suggest the highest concentrations of dissolved-phase petroleum contaminants exist between the current UST system and the 5 Emery St. Residence, which is located approximately 30 feet downgradient of the current UST system. Comparison of laboratory analytical data collected from co-located groundwater monitoring wells and soil vapor points suggested that VPH fractions exceeding their respective groundwater guidelines and/or standards in some cases resulted in vapor-phase petroleum fractions that also exceeded their respective Soil Gas Targets. However, this correlation was not consistent and did not appear to be applicable to individual petroleum-related or CVOCs detected in co-located groundwater monitoring wells and soil vapor points during this investigation.

Evaluation of vertical attenuation in both side-gradient and down-gradient directions from the presumed source location showed significant decreases between the concentrations of certain petroleum fractions in the deep-zone soil vapor samples as compared to those observed in the shallow-zone soil vapor samples. However, this observation did not appear to be consistent for all petroleum fractions and compounds, which in some cases increased in concentration from the deeper zone to shallow zone soil vapor samples.

Laboratory analytical results associated with the sewer/water utility corridor indicated significantly higher concentrations of petroleum- and CVOC-contaminants in soil vapor in both the utility corridor and nearby soil matrix than those attributable to off-gassing from contaminated groundwater at the Site. Considering the contaminant concentrations detected within the utility corridor and similar concentrations detected at the same depth and presumably outside the utility corridor; it is not clear that the utility corridor is acting as more of a preferential pathway for vapor contaminant migration than the surrounding soil matrix.

PCE was detected in nearly all of the soil vapor samples at concentrations exceeding its multi-contaminant Soil Gas Target for residential scenarios. The presence of PCE in soil gas at the Site is inferred to be associated with various solvents that were presumably utilized during former automobile repair and maintenance activities that were performed at the Site during its use as a full-service automotive repair station. Additional investigation would be necessary to determine the source area of detected PCE-impacted groundwater and soil gas at the Site.

One trend that was apparent in all of the soil vapor sample results was the general decrease in petroleum contaminant concentrations between the September and December 2010 sampling events. The observed decrease in contaminant concentrations may be related to contaminant dilution in groundwater at the time of sample collection. If soil vapor concentrations are proven to be influenced by dynamic groundwater levels, this factor may have implications on the interpretation of soil vapor results collected during high water table and low water table conditions, and may also influence vapor intrusion scenarios for potential receptors, such as the 5 Emery St. Residence. It should be noted that a 2- to 3-foot increase in groundwater elevation was observed from September to December 2010 sampling events.

Concentrations of petroleum constituents detected in soil vapor beneath the foundation of the Site Building did not exceed their respective Soil Gas Targets for the chronic, residential, multi-contaminant scenarios; and therefore, the detected contaminants are not expected to adversely impact the indoor air quality of the Site Building at this time. Sub-slab vapor and indoor air samples collected at the 5 Emery St. Residence suggest that contaminants from the Site are migrating into the basement and are impacting the indoor air conditions of the 5 Emery St. Residence. The mechanism by which soil vapor contaminants are migrating to the off-site property could not be determined given the available data. Contaminants may be migrating in the dissolved phase, in which case the off-site soil vapor concentrations would be related to groundwater contaminant concentrations. Alternatively, the off-site soil vapor contaminants may be migrating in vapor phase through a contaminated “smear zone” during periods of low groundwater elevation. Additional groundwater and soil vapor sampling during periods of low groundwater elevation would be required to determine the primary mechanism by which soil vapor contaminants are migrating to the 5 Emery St. Residence property.

Indoor air concentrations of petroleum constituents detected at the 5 Emery St. Residence during this investigation did not exceed their respective risk-based Indoor Air Targets established by the MEDEP. Nevertheless, the presence of petroleum compounds detected within the indoor air are inferred to be originating from documented petroleum releases at the Site, and the potential for future exposure risks remains as long as vapor intrusion is occurring within the 5 Emery St. Residence..

Considering the potential for future exposure risks resulting from the Site related vapor intrusion into the 5 Emery St. Residence, it appears that additional evaluation and/or vapor mitigation is warranted. Cumberland Farms and the MEDEP may wish to consider additional soil vapor and groundwater assessment to determine the primary mechanism by which contaminants are migrating onto the 5 Emery St. property. Additional investigation should include the collection of indoor air samples at the residence in order to monitor contaminant concentrations over time and/or to facilitate the design and construction of a sub-slab depressurization system, which would likely prevent vapor intrusion into the 5 Emery St. Residence.

## **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 #1803, 982 Main Street, Sanford, Maine.
4. MEDEP; July 30, 2010; Petroleum Vapor Intrusion, Phase IIA Investigation, Request for Workplan, Budget, and Schedule.
5. Ransom Environmental Consultants Inc.; August 31, 2010; Petroleum Vapor Intrusion Investigation Phase IIA – Final Work Plan, Cumberland Farms Station# 1803, 982 Main Street, Sanford, Maine.
6. Ransom Environmental Consultants Inc.; December 8, 2010; Petroleum Vapor Intrusion Investigation Phase IIB –Work Plan, Cumberland Farms Station# 1803, 982 Main Street, Sanford, Maine.
7. 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 Phase IIA and Phase IIB Work Plans referenced above.

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:

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

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Aaron R. Martin  
Environmental Scientist II/Primary Reviewer

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



**TABLE 1: SUMMARY OF SOIL SAMPLE CHEMICAL ANALYSIS RESULTS**

Phase IIA & IIB VI Study  
 Cumberland Farms #1803  
 982 Main Street  
 Sanford, Maine

Method			MADEP-VPH	MADEP-VPH	MADEP-VPH	MADEP-VPH	MADEP-VPH	MADEP-VPH
Parameter			C5-C8 ALIPHATIC HYDROCARBONS	C9-C10 AROMATIC HYDROCARBONS	C9-C12 ALIPHATIC HYDROCARBONS	ETHYLBENZENE	XYLENES (TOTAL)	NAPHTHALENE
Sample Point	Sample Date	Depth	Concentrations in Micrograms per Kilogram (ug/kg)					
B201	12/15/2010 8:25 AM	12 to 16 FGS	BRL	BRL	BRL	BRL	BRL	BRL
B204	12/15/2010 2:15 PM	10 to 14 FGS	BRL	BRL	BRL	BRL	BRL	BRL
SB103	9/2/2010 1:00 PM	12 to 16 FGS	15600	23100	28200	225	937	748
SB104	9/2/2010 3:00 PM	16 to 20 FGS	BRL	BRL	BRL	BRL	BRL	BRL
<b>PETROLEUM SOIL REMEDIATION GUIDELINE - EXCAVATION CONSTRUCTION WORKER</b>			10000000	5500000	9800000	2700000	7000000	32000
<b>PETROLEUM SOIL REMEDIATION GUIDELINE - OUTDOOR COMMERCIAL WORKER</b>			10000000	5100000	10000000	420000	10000000	200000

**NOTES:**

1. BRL = Below Laboratory Reporting Limit
2. NA = Not Applicable
3. Analytes not detected in any soil samples were removed from this data table.
4. FGS = Feet from Ground Surface.

**TABLE 2: SUMMARY OF GROUNDWATER CHEMICAL ANALYSIS RESULTS**

Phase IIA & IIB VI Study  
 Cumberland Farms #1803  
 982 Main Street  
 Sanford, Maine

Method			MADEP-VPH	MADEP-VPH	MADEP-VPH	MADEP-VPH	MADEP-VPH	MADEP-VPH	MADEP-VPH	MADEP-VPH	MADEP-VPH	SW8260B
Parameter			BENZENE	C5-C8 ALIPHATIC HYDROCARBONS	C9-C10 AROMATIC HYDROCARBONS	C9-C12 ALIPHATIC HYDROCARBONS	ETHYLBENZENE	XYLENES (TOTAL)	METHYL-TERT-BUTYL ETHER	NAPHTHALENE	TOLUENE	TETRACHLOROETHYLENE
Sample Point	Sample Date	Depth	Concentrations in Micrograms per Liter (ug/l)									
MW101	9/2/2010 12:15 PM	20 FT	BRL	1520	5190	8130	1600	7060	BRL	384	750	BRL
MW101	12/22/2010 11:05 AM	20 FT	BRL	1500	4810	8350	1570	4940	BRL	378	135	BRL
MW102	9/2/2010 2:20 PM	20 FT	BRL	13800	6430	14700	2490	16110	BRL	454	17400	BRL
MW102	12/22/2010 12:24 PM	20 FT	BRL	232	251	136	10	127	BRL	5	15	BRL
MW103	9/2/2010 4:30 PM	23 FT	BRL	774	276	256	4	12	BRL	4	1	BRL
MW103	12/22/2010 11:41 AM	23 FT	BRL	93	84	BRL	BRL	8	BRL	BRL	BRL	1.1
MW201	12/22/2010 10:22 AM	16 FT	BRL	BRL	50	BRL	BRL	BRL	BRL	2	3	BRL
MW202	12/22/2010 9:29 AM	20 FT	431	15800	15300	10900	2950	35100	71	1850	20700	BRL
<b>CURRENT MAXIMUM EXPOSURE GUIDELINE (MEG)</b>			4	300	200	700	30	1000	35	10	600	0.6
<b>MAINE GOUNDWATER VAPOR INTRUSION SCREENING LEVEL (RESIDENTIAL)</b>			1.4	0.77	32	0.64	3.0	98	390	4.0	3800	0.57
<b>MAINE GOUNDWATER VAPOR INTRUSION SCREENING LEVEL (COMMERCIAL)</b>			6.9	3.2	130	2.7	15	410	2000	20	16000	2.9
<b>MASSACHUSETTS GROUNDWATER STANDARD (GW-2)</b>			2000	3000	7000	5000	20000	9000	50000	1000	50000	50

**NOTES:**

1. BRL = Below Laboratory Reporting Limit
2. Analytes not detected in any groundwater samples were removed from this data table.

**TABLE 3: SUMMARY OF SOIL VAPOR SAMPLE CHEMICAL ANALYSIS RESULTS**

Phase IIA & IIB VI Study  
 Cumberland Farms #1803  
 982 Main Street  
 Sanford, Maine

Method			MADEP-APH	MADEP-APH	MADEP-APH	MADEP-APH	MADEP-APH	MADEP-APH	MADEP-APH	MADEP-APH	MADEP-APH	MADEP-APH	TO15	TO15	TO15	TO15
Parameter			1,3-BUTADIENE	BENZENE	C5-C8 ALIPHATIC HYDROCARBONS	C9-C10 AROMATIC HYDROCARBONS	C9-C12 ALIPHATIC HYDROCARBONS	ETHYLBENZENE	XYLENES (TOTAL)	MTBE	NAPHTHALENE	TOLUENE	1,2-DBE	CIS-1,2-DCE	PCE	TCE
Sample Point	Sample Date	Depth	Concentrations in Micrograms per Cubic Meter (ug/m3)													
SV101	9/2/2010	14 FT	BRL*	BRL	35000	690	4000	BRL	BRL	BRL	BRL*	BRL	BRL*	BRL	227	BRL
SV102	9/2/2010	14 FT	23	18	510	BRL	130	BRL	BRL	BRL	BRL*	15	BRL*	BRL	325	BRL
SV102	12/22/2010	14 FT	BRL*	BRL	88	BRL	BRL	BRL	BRL	BRL	BRL*	BRL	BRL*	BRL	23.8	BRL
SV103	9/2/2010	13 FT	18	9.5	710	BRL	450	5.8	20.4	BRL	BRL*	74	BRL*	BRL	53.5	BRL
SV103	12/22/2010	13 FT	BRL*	BRL	94	BRL	BRL	BRL	BRL	BRL	BRL*	BRL	BRL*	BRL	112	BRL
SV104	9/2/2010	8 FT	7.5	4.8	250	45	280	BRL	BRL	BRL	8.3	7	BRL*	BRL	27.4	BRL
SV104	12/22/2010	8 FT	BRL*	BRL	57	BRL	BRL	BRL	BRL	BRL	BRL*	BRL	BRL*	BRL	28.1	BRL
SV105	9/2/2010	3 FT	BRL*	13	790	280	1100	27	90	8.2	5.7	120	BRL*	BRL	7.07	BRL
SV105	12/22/2010	3 FT	BRL*	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL*	BRL	BRL*	BRL	BRL	BRL
SV201	12/22/2010	6.5 FT	BRL*	BRL	87000	BRL	BRL	BRL	BRL	BRL	BRL*	BRL	BRL*	BRL	57.2	BRL
SV202	12/22/2010	6.5 FT	BRL*	BRL	390	BRL	BRL	BRL	BRL	BRL	BRL*	24	BRL*	BRL	15.4	2.69
SV203	12/22/2010	8 FT	BRL*	BRL	90	BRL	88	BRL	BRL	BRL	BRL*	BRL	BRL*	BRL	40	BRL
SV204	12/22/2010	7.5 FT	BRL*	BRL	130	BRL	40	BRL	BRL	BRL	BRL*	BRL	BRL*	2.01	25.4	BRL
SV301	12/22/2010	12.5 FT	BRL*	BRL	37000	440	340	BRL	BRL	BRL	BRL*	BRL	BRL*	BRL	31.9	BRL
SV302	12/22/2010	12.5 FT	BRL*	BRL	150	BRL	BRL	BRL	BRL	BRL	BRL*	BRL	BRL*	BRL	66.9	BRL
SV303	12/22/2010	12.5 FT	BRL*	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL*	BRL	BRL*	BRL	61.1	BRL
SV304	12/22/2010	12.5 FT	BRL*	BRL	13000	BRL	BRL	BRL	BRL	BRL	BRL*	BRL	BRL*	BRL	59	BRL
SV401	12/22/2010	6.5 FT	BRL*	BRL	190000	BRL	BRL	BRL	BRL	BRL	BRL*	BRL	BRL*	BRL	34	BRL
SV402	12/22/2010	6.5 FT	BRL*	BRL	390	BRL	BRL	BRL	BRL	BRL	BRL*	BRL	BRL*	BRL	BRL	BRL
SV403	12/22/2010	8 FT	BRL*	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL*	BRL	BRL*	BRL	BRL	BRL
<b>MAINE RESIDENTIAL MULTI-CONTAMINANT CHRONIC SOIL GAS TARGET (G-1)</b>			4.05	15.5	2100	500	2100	48.5	1042.86	470	3.6	50000	0.205	650	20.5	60

**NOTES:**

1. Analytes not detected in any soil vapor samples were removed from this data table.
2. BRL\* = Laboratory Reporting Limits are greater than the Soil Gas Target, therefore risk could not be evaluated for this compound

**TABLE 4: SUMMARY OF SUB-SLAB SOIL VAPOR SAMPLE CHEMICAL ANALYSIS RESULTS**

Phase IIA & IIB VI Study  
 Cumberland Farms #1803  
 982 Main Street  
 Sanford, Maine

Method			MADEP-APH	MADEP-APH	MADEP-APH	MADEP-APH	MADEP-APH	MADEP-APH	MADEP-APH	TO15	TO15
Parameter			1,3-BUTADIENE	C5-C8 ALIPHATIC HYDROCARBONS	C9-C10 AROMATIC HYDROCARBONS	C9-C12 ALIPHATIC HYDROCARBONS	XYLENES (TOTAL)	NAPHTHALENE	TOLUENE	1,2-DIBROMOETHANE	TETRACHLOROETHYLENE
Sample Point	Sample Date	Depth	Concentrations in Micrograms per Cubic Meter (ug/m3)								
SV108	9/2/2010	0.5 FT	BRL*	230	BRL	82	BRL	BRL*	5.8	BRL*	BRL
SV205	12/22/2010	5.5 FT	BRL	1800	100	170	13.2	BRL*	9	BRL*	28.5
<b>MAINE RESIDENTIAL MULTI-CONTAMINANT CHRONIC SOIL GAS TARGET (G-1)</b>			4.05	2100	500	2100	1042.86	3.6	50000	0.205	20.5

**NOTES:**

1. Analytes not detected in any of the sub-slab soil vapor samples were removed from this data table.
2. BRL\* = Laboratory Reporting Limits are greater than the Soil Gas Target, therefore risk could not be evaluated for this compound.
3. BRL = Below Laboratory Reporting Limit.

**TABLE 5: SUMMARY OF INDOOR AIR SAMPLE CHEMICAL ANALYSIS RESULTS**

Phase IIA & IIB VI Study  
 Cumberland Farms #1803  
 982 Main Street  
 Sanford, Maine

Method		MADEP-APH	MADEP-APH	MADEP-APH	MADEP-APH	MADEP-APH	TO15_SIM
Parameter		1,3-BUTADIENE	BENZENE	C5-C8 ALIPHATIC HYDROCARBONS	ETHYLBENZENE	NAPHTHALENE	TETRACHLOROETHYLENE
Sample Point	Sample Date	Concentrations in Micrograms per Cubic Meter (ug/m3)					
MARTINEZ BASEMENT	12/22/2010	BRL*	BRL*	16	BRL*	BRL*	0.217
<b>MAINE RESIDENTIAL MULTI-CONTAMINANT CHRONIC INDOOR AIR TARGET</b>		0.08	0.31	41.7	0.97	0.07	0.4124

**NOTES:**

1. BRL\* = Laboratory Reporting Limits are greater than the Indoor Air Target, therefore risk could not be evaluated for this compound
2. Analytes not detected in the indoor air sample were removed from this data table.

**TABLE 6: SUMMARY OF FIXED GASES FIELD RESULTS & CHEMICAL ANALYSIS RESULTS**

Phase IIA & IIB VI Study  
 Cumberland Farms #1803  
 982 Main Street  
 Sanford, 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	Concentrations in Percentage of Measurable Gas (%)							Inches of Water (In/H2O)
SV101	9/2/2010	14 FT				0.035	ND	20.6		
SV101	9/2/2010 12:32 PM	14 FT				1	ND	10.3	0.00043	
SV101	9/2/2010 12:44 PM	14 FT	9.41	ND	7.03	1	ND	10.2		
SV101	9/20/2010	14 FT								0.005
SV102	9/2/2010	14 FT				0.055	ND	20.7		
SV102	9/2/2010 2:36 PM	14 FT				1	ND	20.7	0.00006	
SV102	9/2/2010 2:48 PM	14 FT	8.24	ND	7.77	1	ND	10.7		
SV102	9/20/2010	14 FT								0.005
SV102	12/22/2010 9:07 AM	14 FT	1.37	ND	15.2				ND	
SV103	9/2/2010	13 FT				0.045	ND	20.7		
SV103	9/2/2010 4:42 PM	13 FT				1	ND	16.3	0.00006	
SV103	9/2/2010 4:58 PM	13 FT	3.14	ND	13.4	1	ND	16.3		
SV103	9/20/2010	13 FT								0.005
SV103	12/22/2010 9:53 AM	13 FT	1.9	ND	15.4				0.00011	
SV104	9/2/2010	8 FT				0.045	ND	20.7		
SV104	9/2/2010 4:42 PM	8 FT				1	ND	16	0.00003	
SV104	9/2/2010 4:53 PM	8 FT	3.47	ND	13.1	1	ND	16.1		
SV104	9/20/2010	8 FT								0.005
SV104	12/22/2010 10:11 AM	8 FT	1.77	ND	14.6				0.00001	NM
SV105	9/2/2010	3 FT				0.035	ND	20.9		
SV105	9/2/2010 11:30 AM	3 FT				1	ND	18.1	0.00006	NM
SV105	9/2/2010 11:43 AM	3 FT	2.2	ND	15.6	1	ND	17.8		
SV105	12/22/2010 11:46 AM	3 FT	0.511	ND	16.2				0.0194	NM
SV108	9/2/2010	0.5 FT				0.055	ND	20.9		
SV108	9/2/2010 9:40 AM	0.5 FT				0.325	ND	20.9	ND	NM
SV108	9/2/2010 9:50 AM	0.5 FT				0.35	ND	20.9		
SV108	9/2/2010 9:50 AM	0.5 FT	ND	ND	17.8					
SV201	12/22/2010 8:13 AM	6.5 FT	2.23	ND	14.3	2.2	2	16.9	0.0015	NM
SV202	12/22/2010 11:13 AM	7 FT	0.58	ND	16.8	1.8	ND	19.1	0.0217	NM
SV203	12/22/2010 12:09 PM	8 FT	0.89	ND	15.9	1.2	ND	20.1	0.0226	NM
SV204	12/22/2010 12:16 PM	7.5 FT	1.25	ND	15.7	1.56	ND	19.2	ND	NM

**NOTES:**

1. NA= Not Applicable
2. NM= Not Measured
3. ND = Not Detected

**TABLE 6: SUMMARY OF FIXED GASES FIELD RESULTS & CHEMICAL ANALYSIS RESULTS**










Phase IIA & IIB VI Study  
 Cumberland Farms #1803  
 982 Main Street  
 Sanford, 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	Concentrations in Percentage of Measurable Gas (%)							Inches of Water (In/H2O)
SV205	12/22/2010	0.5 FT				0.11	ND	20.8		
SV205	12/22/2010 10:26 AM	0.5 FT				1.06	ND	19.6	ND	NM
SV205	12/22/2010 10:56 AM	0.5 FT	0.929	ND	17.3	1.1	ND	19.6		
SV301	12/22/2010 8:27 AM	12.5 FT	2.43	ND	12.9	2.6	ND	16.4	0.0005	NM
SV302	12/22/2010 11:00 AM	12.5 FT	2.49	ND	13.5	2.4	ND	18.7	0.0226	NM
SV303	12/22/2010 12:36 PM	12.5 FT	2.21	ND	15.8	1.4	ND	19.9	0.0213	NM
SV304	12/22/2010 12:45 PM	12.5 FT	2.1	ND	14.4	2.15	ND	18.5	0.0021	NM
SV401	12/22/2010 8:49 AM	6.5 FT	1.51	ND	14	1.74	ND	17.6	0.00192	NM
SV402	12/22/2010 10:47 AM	6.5 FT	1.29	ND	15.6	1.4	ND	19.4	0.0129	NM
SV403	12/22/2010 12:23 PM	8 FT	0.817	ND	15	1.2	ND	20.1	0.0213	NM
MARTINEZ BASEMENT	12/22/2010 11:25 AM	NA	ND	ND	17.7	0.09	20.8	NM	NM	16

**NOTES:**

1. NA= Not Applicable
2. NM= Not Measured
3. ND = Not Detected

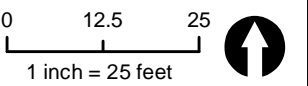
*Legend*

-  Site Boundary
-  Soil Boring / Monitoring Well
-  Soil Boring
-  Soil Vapor Sample Location
-  Catch Basin
-  Sewer Manhole
-  Sewer Line
-  Water / Sewer Utility Corridor
-  Water Line

*Notes*

1. Site Plan based on 2007 Orthophotography
2. Some features are approximate in location and scale
3. This plan has been prepared for Maine Department of Environmental Protection. All other uses are not authorized unless written permission is obtained from Ransom Environmental Consultants, Inc.

*Scale and Orientation*



*Prepared For*

Maine DEP  
312 Canco Road  
Portland, Maine

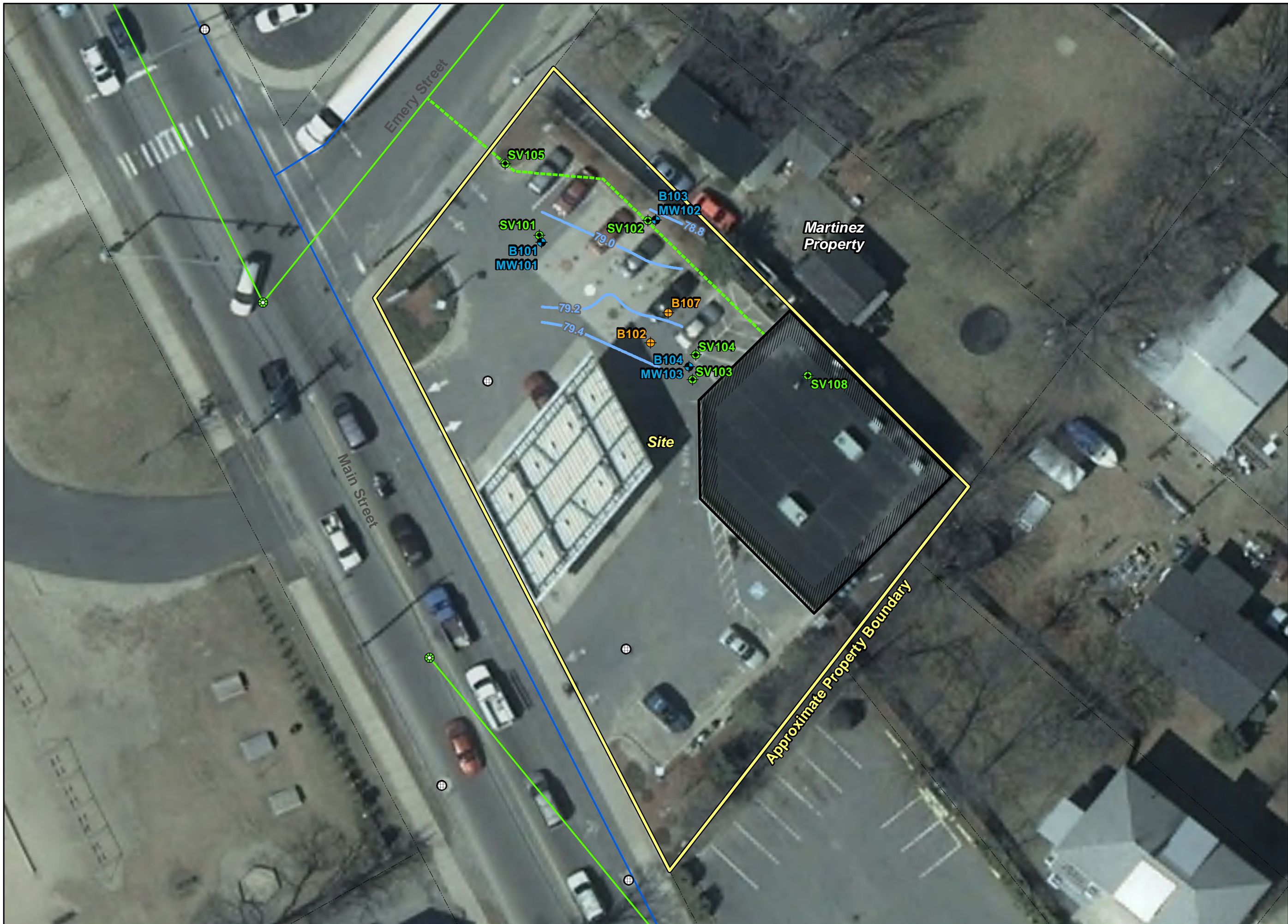
*Site Address*

Cumberland Farms  
Station #1803  
982 Main Street  
Sanford, Maine

101.06074 Jan 2011











**Figure 1**

Phase IIA Investigation  
September 2010





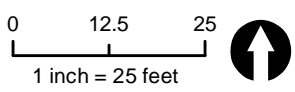
*Legend*

-  Site Boundary
-  Soil Boring / Monitoring Well
-  Soil Boring
-  Soil Vapor Sample Location
-  Catch Basin
-  Sewer Manhole
-  Indoor Air Sample
-  Sewer Line
-  Water / Sewer Utility Corridor
-  Water Line

*Notes*

1. Site Plan based on 2007 Orthophotography
2. Some features are approximate in location and scale
3. This plan has been prepared for Maine Department of Environmental Protection. All other uses are not authorized unless written permission is obtained from Ransom Environmental Consultants, Inc.

*Scale and Orientation*



*Prepared For*

Maine DEP  
312 Canco Road  
Portland, Maine

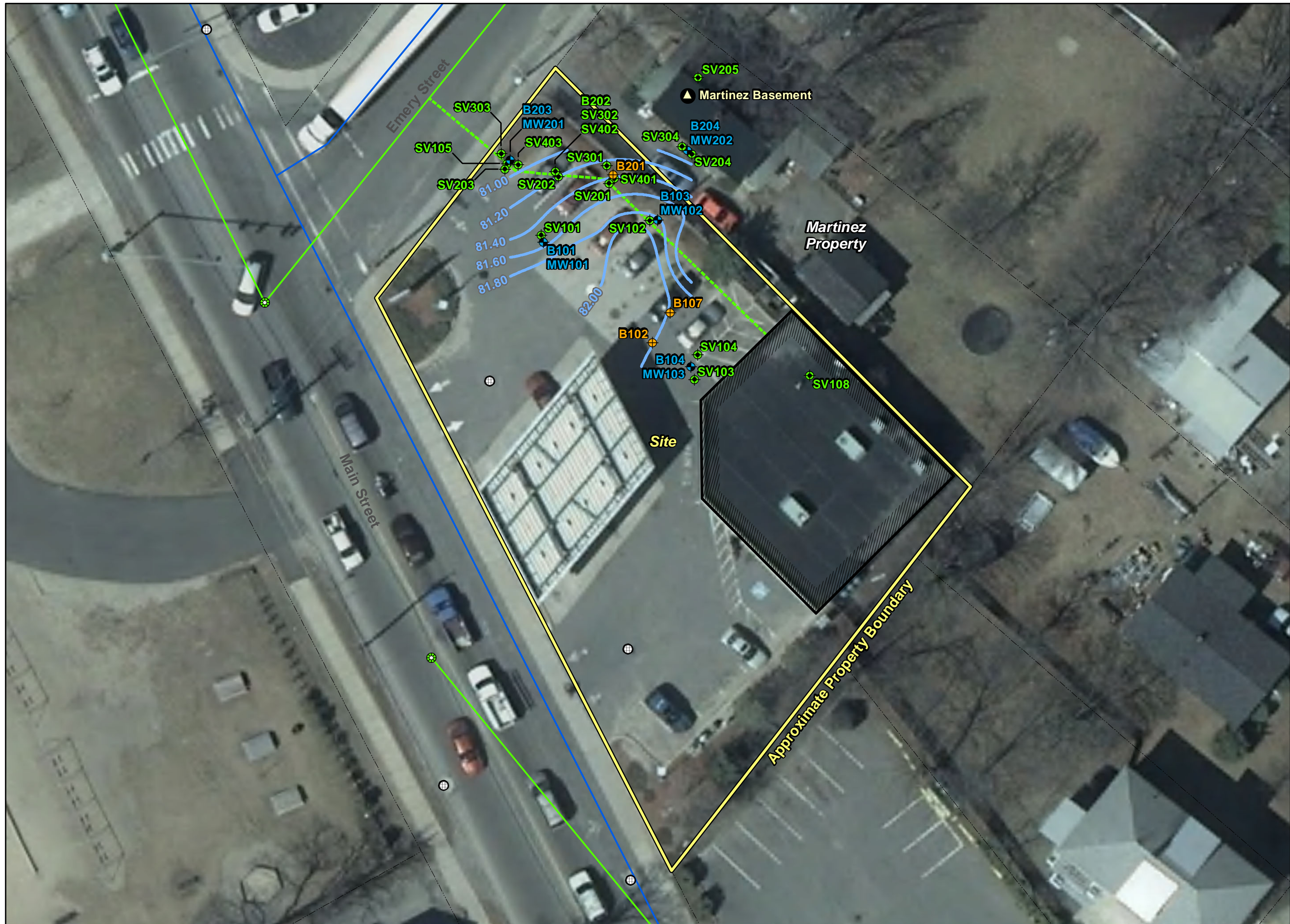
*Site Address*

Cumberland Farms  
Station #1803  
982 Main Street  
Sanford, Maine

101.06074 Jan 2011

**Figure 2**

Phase IIB Investigation  
December 2010



**APPENDIX A**

Soil Boring Logs

Petroleum Vapor Intrusion (PVI) Triage Study  
Limited Phase IIA & IIB  
Cumberland Farms Station #1803  
982 Main Street  
Sanford, Maine

## BORING AND MONITORING WELL LOG: B101 / MW101

Reviewed by: <i>Erik Pherry</i>	Total Depth: 20 Feet	Logged By: ARM
Date Reviewed: <i>2/3/11</i>	Boring Diameter: 2 Inches	Date Drilled: 9/2/10 to 9/2/10
GW Observed at: 16' 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
	S1(0.0'-4.0') - Top 3" - Asphalt. Bottom 21" - Brown, fine to medium SAND, some Silt and fine Gravel, dry.		S1	-	48/24	2.687		
5	S2(4.0'-8.0') - 20" - Brown, fine to medium SAND, some Silt and fine Gravel, dry.		S2	-	48/20	4.714	5	
10	S3(8.0'-12.0') - 16" - Brown, fine to medium SAND, some Silt and fine Gravel, moist.		S3	-	48/16	5.228	10	
15	S4(12.0'-16.0') - 24" - Brown, fine to medium SAND, some Silt and fine Gravel, moist.		S4	-	48/24	5.214	15	
20	S5(16.0'-20.0') - 48" - Brown, fine SAND and SILT, trace coarse gravel, wet.		S5	-	48/48	164.8	20	
20	Bottom of Boring @ 20' bgs.						20	

LEGEND:

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

NOTES:  
 1) Boring advanced using GeoProbe 6010 DT direct push drilling. 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:  
**Cumberland Farms Station #1803**  
**982 Main Street**  
**Sanford, ME**

Project No.: 101.06074.003      Page: 1



**BORING LOG:**

**B102**

Reviewed By: <i>Erik Plouffe</i>	Total Depth: 11 Feet	Logged By: ARM
Date Reviewed: 2/3/11	Boring Diameter: 2 Inches	Date Drilled: 9/2/10 to 9/2/10
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)	DEXSIL (ppm)	DEPTH
	S1(0.0'-4.0') - Top 3" - Asphalt. Middle 16" - Brown, fine to medium SAND, some Silt, trace fine gravel, moist. Bottom 12" - Concrete.		S1	-	48/31	1.189		
5	S2(4.0'-8.0') - 20" - Brown, fine to medium SAND, some Silt, moist.		S2	-	48/20	1.647		5
10	S3(8.0'-11.0') - Top 12" - Brown, fine to medium SAND, some Silt and cobble, moist.		S3	-	36/12	5.475		10
	Refusal @ 11' bgs.							
15								15
20								20

NOTES:  
 1) Boring advanced using GeoProbe 6010 DT direct push drilling. 2)  
 NM = Not Measured; TOC = Top of Casing; bgs = below ground surface.

CLIENT:  
 Maine DEP

SITE:  
 Cumberland Farms Station #1803  
 982 Main Street  
 Sanford, ME

**BORING AND MONITORING WELL LOG: B103 / MW102**

Reviewed by: <i>Erik Phelan</i>	Total Depth: 20 Feet	Logged By: ARM
Date Reviewed: 2/3/11	Boring Diameter: 2 Inches	Date Drilled: 9/2/10 to 9/2/10
GW Observed at: 17' 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
	S1(0.0'-4.0') - 14" - Brown, fine SAND, some Silt and medium to coarse sand, dry.		S1	-	48/14	0.9		
5	S2(4.0'-8.0') - 24" - Brown, fine SAND, some Silt and medium to coarse sand, contains bricks, moist.		S2	-	48/24	0.949	5	
10	S3(8.0'-12.0') - 18" - Brown, fine SAND, some Silt and medium to coarse sand, moist.		S3	-	48/18	2.331	10	
15	S4(12.0'-16.0') - Top 20" - Brown, fine SAND, some Silt and medium to coarse sand, moist. Bottom 2" - Gray, fine to coarse SAND, some Silt, trace fine to coarse gravel, moist, petroleum odor.		S4	-	48/22	1,754	15	
20	S5(16.0'-20.0') - 36" - Brown, fine SAND and SILT, trace medium to coarse sand, wet, petroleum odor.		S5	-	48/36	1,689	20	
20	Bottom of Boring @ 20' bgs.						20	

**LEGEND:**

						
Filler Sand	Native Fill	Bentonite	Bentonite Grout	Concrete	PVC Screen	Solid PVC Riser

**NOTES:**  
 1) Boring advanced using GeoProbe 6010 DT direct push drilling. 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:**  
Maine DEP

**SITE:**  
Cumberland Farms Station #1803  
982 Main Street  
Sanford, ME

## BORING AND MONITORING WELL LOG: B104 / MW103

Reviewed by: <i>Eric Phelan</i>	Total Depth: 23 Feet	Logged By: ARM
Date Reviewed: 2/3/11	Boring Diameter: 2 Inches	Date Drilled: 9/2/10 to 9/2/10
GW Observed at: 16' 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
	S1(0.0'-4.0') - Top 4" - Asphalt. Bottom 12" - Brown, fine to medium SAND, some Silt, trace fine to coarse Gravel, dry.		S1	-	48/18	1.913		
5	S2(4.0'-8.0') - Top 6" - Brown, fine to medium SAND, some Silt, trace coarse Gravel, dry. Bottom 16" - Brown, fine to medium Sand, some Silt and coarse sand, moist.		S2	-	48/22	1.511	5	
10	S3(8.0'-12.0') - 24" - Brown, fine to medium Sand, some Silt and coarse sand, moist.		S3	-	48/24	2.745	10	
15	S4(12.0'-16.0') - 4" - Brown, fine SAND and SILT, moist.		S4	-	48/4	3.450	15	
20	S5(16.0'-20.0') - 24" - Brown, fine SAND and SILT, trace coarse Gravel, wet.		S5	-	48/24	1.029	20	
	S6(20.0'-23.0') - 36" - Brown, fine SAND and SILT, trace coarse Gravel.							

**LEGEND:**

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

**NOTES:**

1) Boring advanced using GeoProbe 6010 DT direct push drilling. 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:**

Maine DEP

**SITE:**

Cumberland Farms Station #1803  
982 Main Street  
Sanford, ME

**BORING AND MONITORING WELL LOG: B104 / MW103**

Reviewed by: <i>Eric Plumb</i>	Total Depth: 23 Feet	Logged By: ARM
Date Reviewed: 2/3/11	Boring Diameter: 2 Inches	Date Drilled: 9/2/10 to 9/2/10
GW Observed at: 16' 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
	wet.		S6	-	36/36	3.872		
	Refusal @ 23' bgs.							
25							25	
30							30	
35							35	
40							40	

**LEGEND:**

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

**NOTES:**  
 1) Boring advanced using GeoProbe 6010 DT direct push drilling. 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:**  
Maine DEP

**SITE:**  
Cumberland Farms Station #1803  
982 Main Street  
Sanford, ME



**BORING LOG:**

**B107**

Reviewed By: <i>Erik Pherry</i>	Total Depth: 14.5 Feet	Logged By: ARM
Date Reviewed: 2/3/11	Boring Diameter: 2 Inches	Date Drilled: 9/2/10 to 9/2/10
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)	DEXSIL (ppm)	DEPTH
5	S1(3.0'-4.0') - 8" - Brown, fine to coarse SAND, dry. S2(4.0'-8.0') - No Recovery		S1	-	12/8	3.660		5
			S2	-	48/0	NA		
10	S3(8.0'-12.0') - 20" - Brown, fine to medium SAND, some Silt, coarse Sand and fine to coarse Gravel, moist.		S3	-	48/20	6.620		10
			S4	-	30/20	3.250		
15	Refusal @ 14.5' bgs.							15
20								20

NOTES:  
 1) Boring advanced using GeoProbe 6010 DT direct push drilling. 2)  
 NM = Not Measured; TOC = Top of Casing; bgs = below ground surface.

CLIENT:  
 Maine DEP

SITE:  
 Cumberland Farms Station #1803  
 982 Main Street  
 Sanford, ME



**BORING AND MONITORING WELL LOG: SV101**

Reviewed by: <i>Eric Phoenix</i>	Total Depth: 14 Feet	Logged By: ARM
Date Reviewed: 2/3/11	Boring Diameter: 1 Inches	Date Drilled: 9/2/10 to 9/2/10
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
5	-Drove Probe to 14' bgs -Installed SV101 -No Soil Samples Collected						5	
10							10	
15	Bottom of Boring @ 14' bgs.						15	
20							20	

**LEGEND:**

						
Filler Sand	Native Fill	Bentonite	Bentonite Grout	Concrete	PVC Screen	Solid PVC Riser

**NOTES:**

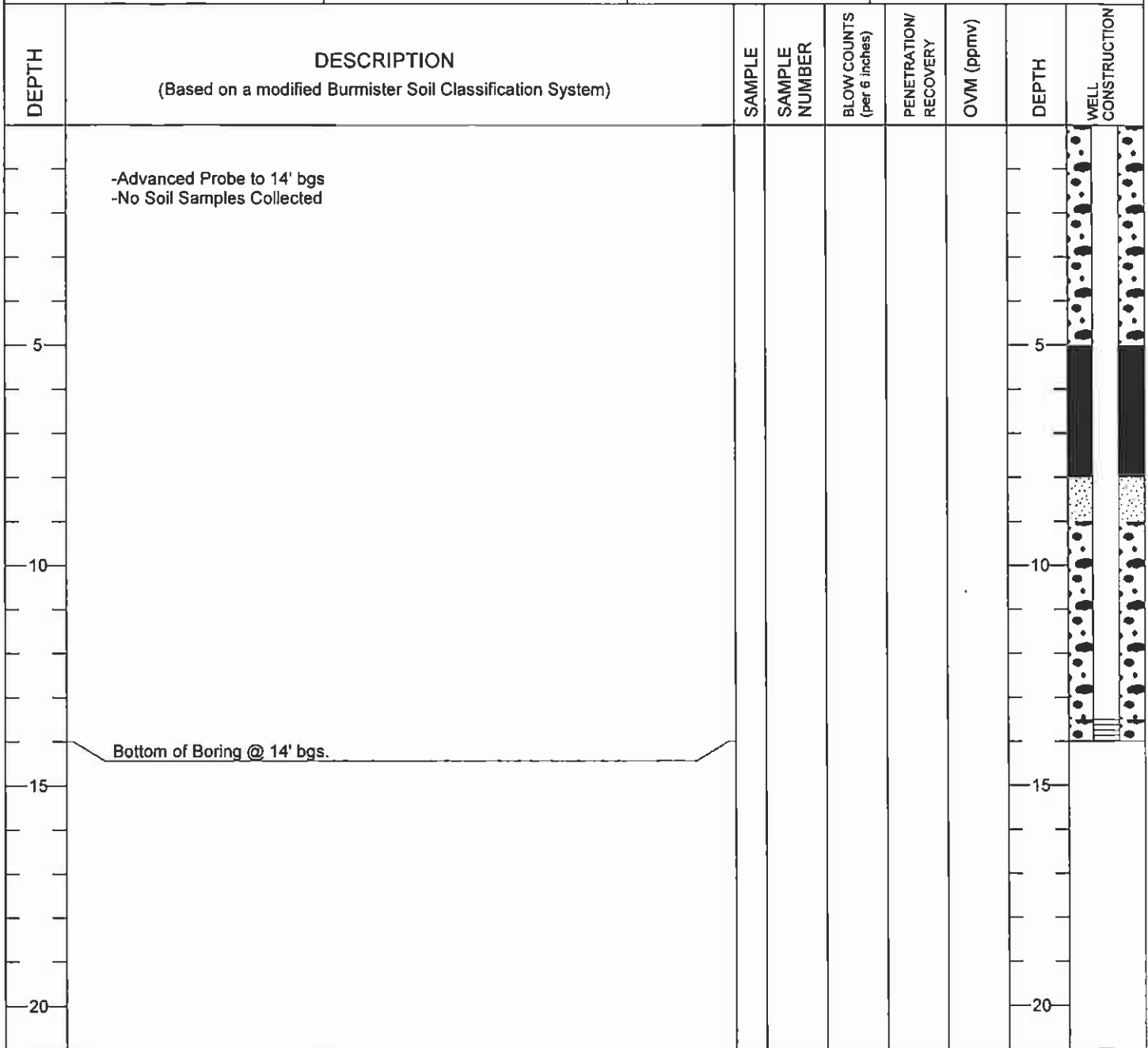
1) Boring advanced using GeoProbe 6010 DT direct push drilling. 2) Soil vapor point finished with a locking flush-mounted roadbox, cemented into the ground. 3) NM = Not Measured; bgs = below ground surface.

**CLIENT:**  
Maine DEP

**SITE:**  
Cumberland Farms Station #1803  
982 Main Street  
Sanford, ME

**BORING AND MONITORING WELL LOG: SV102**

Reviewed by: <i>Eirik Pharo</i>	Total Depth: 14 Feet	Logged By: EPP
Date Reviewed: <i>2/3/11</i>	Boring Diameter: 1 Inches	Date Drilled: 9/2/10 to 9/2/10
GW Observed at: NO Feet	Well Stickup: NA	Driller: EPI



**LEGEND:**

Filler Sand	Native Fill	Bentonite	Bentonite Grout	Concrete	PVC Screen	Solid PVC Riser

<p><b>NOTES:</b> 1) Boring advanced using GeoProbe 6010 DT direct push drilling. 2) Soil vapor point finished with a locking flush-mounted roadbox, cemented into the ground. 3) NM = Not Measured; bgs = below ground surface.</p>	<p><b>CLIENT:</b> Maine DEP</p>
	<p><b>SITE:</b> Cumberland Farms Station #1803 982 Main Street Sanford, ME</p>
	<p>Project No.: 101.06074.003      Page: 1</p>

**BORING AND MONITORING WELL LOG: SV103**

Reviewed by: <i>E. J. Phelan</i>	Total Depth: 13 Feet	Logged By: ARM
Date Reviewed: 2/3/11	Boring Diameter: 1 Inches	Date Drilled: 9/2/10 to 9/2/10
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	-Drove Probe to 13' bgs -No Soil Samples Collected						0	
5							5	
10							10	
13	Bottom of Boring @ 13' bgs.						13	
15							15	
20							20	

LEGEND:

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

NOTES:

1) Boring advanced using GeoProbe 6010 DT direct push drilling. 2) Soil vapor point finished with a locking flush-mounted roadbox, cemented into the ground. 3) NM = Not Measured; bgs = below ground surface.

CLIENT:  
Maine DEP

SITE:  
Cumberland Farms Station #1803  
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Sanford, ME



**BORING AND MONITORING WELL LOG: SV104**

Reviewed by: <i>Erik Pharis</i>	Total Depth: 8 Feet	Logged By: ARM
Date Reviewed: <i>2/3/11</i>	Boring Diameter: 1 Inches	Date Drilled: 9/2/10 to 9/2/10
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	OMV (ppmv)	DEPTH	WELL CONSTRUCTION	
0	<p>-Drove Probe to 8' bgs -No Soil Samples Collected</p> <p>Bottom of Boring @ 8' bgs.</p>						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 6010 DT direct push drilling. 2) Soil vapor point finished with a locking flush-mounted roadbox, cemented into the ground. 3) NM = Not Measured; bgs = below ground surface.

**CLIENT:**  
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**SITE:**  
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**BORING AND MONITORING WELL LOG: SV105**

Reviewed by: <i>Emily Phelan</i>	Total Depth: 3 Feet	Logged By: ARM
Date Reviewed: <i>2/3/11</i>	Boring Diameter: 6 Inches	Date Drilled: 9/2/10 to 9/2/10
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
	-Hand Augered to 3' bgs -No Soil Samples Collected  Bottom of Boring @ 3' bgs.							
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 installed using hand tools. 2) Soil vapor point finished with a locking flush-mounted roadbox, cemented into the ground. 3) NM = Not Measured; bgs = below ground surface.

**CLIENT:**  
Maine DEP

**SITE:**  
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982 Main Street  
Sanford, ME

**BORING AND MONITORING WELL LOG: B201 - SV301**

Reviewed by: <i>Erik Perry</i>	Total Depth: 20 Feet	Logged By: ARM
Date Reviewed: <i>2/3/11</i>	Boring Diameter: 2 Inches	Date Drilled: 12/15/10 to 12/15/10
GW Observed at: 16 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
	S1(0.0'-4.0') - 12" - Brown, fine to medium SAND, some Silt and wood fragments, dry, FILL		S1	-	48/12	<1		
5	S2(4.0'-8.0') - 4" - Brown, fine to medium SAND, some Silt, dry, FILL		S2	-	48/4	<1	5	
10	S3(8.0'-12.0') - 32" - Brown, fine to medium SAND, some fine to coarse Gravel and Silt, moist, FILL		S3	-	48/32	<1	10	
15	S4(12.0'-16.0') - 12" - Brown, fine to medium SAND, some fine to coarse Gravel and Silt, moist, FILL		S4	-	48/12	<1	15	
20	S5(16.0'-20.0') - 30" - Tan, fine to medium SAND, some Silt, wet, Glacial/Fluvial		S5	-	48/30	199.2	20	
	Bottom of Boring @ 20'bgs							

**LEGEND:**

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

**NOTES:**

- Boring advanced using GeoProbe 6610DT track-mounted rig.
- Sample designated with solid fill submitted for laboratory analysis.
- Vapor Implant finished with a locking, flush-mounted roadbox, cemented into ground.
- Groundwater encountered at 16 ft. bgs.
- NA = Not Applicable; NM = Not Measured.

CLIENT:  
Maine DEP

SITE:  
Cumberland Farms Station #1803  
982 Main Street  
Sanford, ME

**BORING AND MONITORING WELL LOG: B202 - SV302**

Reviewed by: <i>Eric Phares</i>	Total Depth: 12.5 Feet	Logged By: ARM
Date Reviewed: 2/3/11	Boring Diameter: 2 Inches	Date Drilled: 12/15/10 to 12/15/10
GW Observed at: 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
	S1(0.0'-1.0') - Top 4" - Asphalt. (Hand cleared to 1' bgs) Bottom 12" - Brown, fine to medium SAND, some Silt and fine to coarse Gravel, dry, FILL		S1	-	12/12	<1		
	S2(1.0'-2.0') - 12" - Brown, fine to medium SAND, some Silt and fine to coarse Gravel, dry, FILL		S2	-	12/12	<1		
	S3(2.0'-4.0') - 20" - Brown, fine to medium SAND, some Silt and fine to coarse Gravel, dry, FILL		S3	-	24/20	<1		
5	S4(4.0'-8.0') - 30" - Brown, fine to medium SAND, some Silt and fine to coarse Gravel, moist, FILL		S4	-	48/30	<1	5	
10	S5(8.0'-12.0') - 28" - Brown, fine to medium SAND, some Silt and fine to coarse Gravel, moist, FILL Advanced probe to 12.5' for soil vapor point (SV302)		S5	-	48/28	<1	10	
	Bottom of boring @ 12.5' bgs							

**LEGEND:**

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

**NOTES:**

- Boring advanced using GeoProbe 6610DT track-mounted rig.
- Sample designated with solid fill submitted for laboratory analysis.
- Vapor Implant finished with a locking, flush-mounted roadbox, cemented into ground.
- Groundwater not encountered.
- NA = Not Applicable; NM = Not Measured.

**CLIENT:**  
Maine DEP

**SITE:**  
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982 Main Street  
Sanford, ME

**BORING AND MONITORING WELL LOG: B203 - MW201**

Reviewed by: <i>Eric Plow</i>	Total Depth: 16 Feet	Logged By: ARM
Date Reviewed: 2/3/11	Boring Diameter: 2 Inches	Date Drilled: 12/15/10 to 12/15/10
GW Observed at: 14 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
	S1(0.0'-4.0') - 16" - Brown, fine to medium SAND, some Silt and cobbles, contains wood chips, dry, FILL		S1	-	48/16	<1		
5	S2(4.0'-8.0') - 24" - Brown, fine to medium SAND, some Silt, dry, FILL		S2	-	48/24	<1	5	
10	S3(8.0'-12.0') - 12" - Brown, fine to coarse SAND, some Silt and fine to coarse Gravel, moist, FILL		S3	-	48/12	<1	10	
15	S4(12.0'-16.0') - Top 16" - Brown, fine to coarse SAND, some Silt and fine to coarse Gravel, moist, FILL. Bottom 16" - Brown, fine SAND and SILT, wet, Glacial Fluvial		S4	-	48/32	<1	15	
	Bottom of Boring @ 16' bgs							

LEGEND:

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

NOTES:  
 1) Boring advanced using GeoProbe 6610DT track-mounted rig. 2) Sample designated with solid fill submitted for laboratory analysis. 3) Vapor Implant finished with a locking, flush-mounted roadbox, cemented into ground. 4) Groundwater encountered at 14 ft. bgs. 5) NA = Not Applicable; NM = Not Measured.

CLIENT:  
**Maine DEP**

SITE:  
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 Sanford, ME**



**BORING AND MONITORING WELL LOG: B204 - MW202**

Reviewed by: <i>Eric Pheasant</i>	Total Depth: 20 Feet	Logged By: EPP
Date Reviewed: <i>2/3/11</i>	Boring Diameter: 2 Inches	Date Drilled: 12/15/10 to 12/15/10
GW Observed at: 16 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
	S1(0.0'-2.0') - Top 3" - Patio stone. Bottom 8" - Dark brown, fine to coarse SAND, some Silt, moist		S1	-	24/8	0		
	S2(2.0'-6.0') - 4" - Brown, fine to medium SAND, some Silt, dry, FILL		S2	-	26/48	0	5	
	S3(6.0'-10.0') - 48" - Light brown, poorly graded, fine to medium SAND, moist		S3	-	24/48	0	10	
	S4(10.0'-14.0') - Top 12" - Poorly graded, SAND. Bottom 8" - Light gray, fine to medium SAND<m some Silt, moist		S4	-	20/48	2.1	10	
	S5(14.0'-16.0') - 3" - Light gray SAND, some Silt, little gravel, moist, petroleum odor		S5	-	3/24	296	15	
	S6(16.0'-20.0') - 48" - Light brown, fine to coarse SAND, some Silt, trace gravel, wet, petroleum odor		S6	-	34/48	1583	20	
	Bottom of Boring @ 20'bgs						20	

**LEGEND:**

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

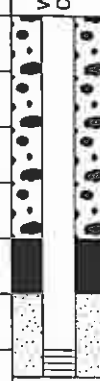
**NOTES:**  
 1) Boring advanced using GeoProbe 6610DT track-mounted rig. 2) Sample designated with solid fill submitted for laboratory analysis. 3) Vapor Implant finished with a locking, flush-mounted roadbox, cemented into ground. 4) Groundwater encountered at 16 ft. bgs. 5) NA = Not Applicable; NM = Not Measured.

**CLIENT:**  
Maine DEP

**SITE:**  
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Sanford, ME

**BORING AND MONITORING WELL LOG: SV201**

Reviewed by: <i>Erik Phelan</i>	Total Depth: 6.5 Feet	Logged By: ARM
Date Reviewed: 2/3/11	Boring Diameter: 8 Inches	Date Drilled: 12/15/10 to 12/15/10
GW Observed at: Feet	Well Stickup: NA	Driller: TDS

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
5	Boring advanced using air knife to 6.5' bgs. No soil samples collected. Water utility observed at 6' bgs. Vapor implant installed immediately adjacent to water utility.						5	
	Bottom of Boring @ 6.5' bgs							
10							10	
15							15	
20							20	

**LEGEND:**

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

<p><b>NOTES:</b></p> <p>1) Boring advanced using Air knife and vactor rig. 2) Vapor Implant finished with a locking, flush-mounted roadbox, cemented into ground.</p> <p>3) NA = Not Applicable; NM = Not Measured.</p>	<p><b>CLIENT:</b> Maine DEP</p>
	<p><b>SITE:</b> Cumberland Farms Station #1803 982 Main Street Sanford, ME</p>
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**BORING AND MONITORING WELL LOG: SV202**

Reviewed by: <i>Emile Phares</i>	Total Depth: 7 Feet	Logged By: EPP
Date Reviewed: 2/3/11	Boring Diameter: 8 Inches	Date Drilled: 12/15/10 to 12/15/10
GW Observed at: Feet	Well Stickup: NA	Driller: TDS

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
5	<p>Boring advanced using air knife to 7' bgs. No soil samples collected. Water utility observed at 6.5' bgs. Vapor implant installed immediately adjacent to water utility.</p> <p>Bottom of Boring @ 7' bgs</p>							
10								
15								
20								

**LEGEND:**

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

**NOTES:**

- 1) Boring advanced using Air knife and vactor rig. 2) Vapor Implant finished with a locking, flush-mounted roadbox, cemented into ground.
- 3) NA = Not Applicable; NM = Not Measured.

CLIENT:  
Maine DEP

SITE:  
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982 Main Street  
Sanford, ME

**BORING AND MONITORING WELL LOG: SV203**

Reviewed by: <i>Eric Phelan</i>	Total Depth: 8 Feet	Logged By: ARM
Date Reviewed: 2/3/11	Boring Diameter: 8 Inches	Date Drilled: 12/15/10 to 12/15/10
GW Observed at: Feet	Well Slickup: NA	Driller: TDS

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
5	<p>Boring advanced using air knife to 8' bgs. No soil samples collected. Water utility observed at 7.5' bgs. Vapor implant installed immediately adjacent to water utility.</p> <p>Bottom of Boring @ 8' bgs</p>						5	
10							10	
15							15	
20							20	

**LEGEND:**

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

<p><b>NOTES:</b></p> <p>1) Boring advanced using Air knife and vactor rig. 2) Vapor Implant finished with a locking, flush-mounted roadbox, cemented into ground. 3) NA = Not Applicable; NM = Not Measured.</p>	<p><b>CLIENT:</b> Maine DEP</p>
	<p><b>SITE:</b> Cumberland Farms Station #1803 982 Main Street Sanford, ME</p>
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**BORING AND MONITORING WELL LOG: SV204**

Reviewed by: <i>Eric Phelan</i>	Total Depth: 7.5 Feet	Logged By: EPP
Date Reviewed: 2/3/11	Boring Diameter: 2 Inches	Date Drilled: 12/15/10 to 12/15/10
GW Observed at: 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
5	Advance probe to 7.5' bgs.; install vapor implant SV204. No soil samples collected. Refer to B204/MW202 for adjacent subsurface lithology.						5	
10	Bottom of Boring @ 7.5' bgs						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 6610DT track-mounted rig. 2) Vapor Implant finished with a locking, flush-mounted roadbox, cemented into ground. 3) NA = Not Applicable; NM = Not Measured.

**CLIENT:**  
Maine DEP

**SITE:**  
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Sanford, ME

**BORING AND MONITORING WELL LOG: SV303**

Reviewed by: <i>E. P. Pharis</i>	Total Depth: 12.5 Feet	Logged By: ARM
Date Reviewed: 2/3/11	Boring Diameter: 2 Inches	Date Drilled: 12/15/10 to 12/15/10
GW Observed at: 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
5	Advance probe to 12.5' bgs.; install vapor implant SV303. Refer to B203/MW201 for adjacent subsurface lithology.						5	
10							10	
15	Bottom of Boring @ 12.5' bgs						15	
20							20	

**LEGEND:**

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

**NOTES:**  
 1) Boring advanced using GeoProbe 6610DT track-mounted rig. 2) Vapor Implant finished with a locking, flush-mounted roadbox, cemented into ground. 3) NA = Not Applicable; NM = Not Measured.

**CLIENT:**  
Maine DEP

**SITE:**  
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**BORING AND MONITORING WELL LOG: SV304**

Reviewed by: <i>Erik Pherson</i>	Total Depth: 12.5 Feet	Logged By: EPP
Date Reviewed: 2/3/11	Boring Diameter: 2 Inches	Date Drilled: 12/15/10 to 12/15/10
GW Observed at: 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
5	Advance probe to 12.5' bgs.; install vapor implant SV304. No soil samples collected. Refer to B204/MW202 for adjacent subsurface lithology.						5	
10							10	
15	Bottom of Boring @ 12.5' bgs						15	
20							20	

**LEGEND:**

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

**NOTES:**

1) Boring advanced using GeoProbe 6610DT track-mounted rig. 2) Vapor Implant finished with a locking, flush-mounted roadbox, cemented into ground. 3) NA = Not Applicable; NM = Not Measured.

CLIENT:  
Maine DEP








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**BORING AND MONITORING WELL LOG: SV401**

Reviewed by: <i>E. Phelan</i>	Total Depth: 6.5 Feet	Logged By: ARM
Date Reviewed: 2/3/11	Boring Diameter: 2 Inches	Date Drilled: 12/15/10 to 12/15/10
GW Observed at: 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
5	Advance probe to 6.5' bgs. No soil samples collected.						5	
	Bottom of Boring @ 6.5' bgs							
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 6610DT track-mounted rig. 2) Vapor Implant finished with a locking, flush-mounted roadbox, cemented into ground. 3) NA = Not Applicable; NM = Not Measured.

**CLIENT:**  
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**BORING AND MONITORING WELL LOG: SV402**

Reviewed by: <i>Eric Pherry</i>	Total Depth: 12.5 Feet	Logged By: ARM
Date Reviewed: 2/3/11	Boring Diameter: 2 Inches	Date Drilled: 12/15/10 to 12/15/10
GW Observed at: 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
5	Vapor implant installed in same boring as B202/SV302. Refer to B202 for subsurface lithology.						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 6610DT track-mounted rig. 2) Vapor Implant finished with a locking, flush-mounted roadbox, cemented into ground. 3) NA = Not Applicable; NM = Not Measured.

CLIENT:  
Maine DEP

SITE:  
Cumberland Farms Station #1803  
982 Main Street  
Sanford, ME

**BORING AND MONITORING WELL LOG: SV403**

Reviewed by: <i>E. J. Pham</i>	Total Depth: 8 Feet	Logged By: ARM
Date Reviewed: 2/3/11	Boring Diameter: 2 Inches	Date Drilled: 12/15/10 to 12/15/10
GW Observed at: 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
5	Advance probe to 8' bgs.; install vapor implant SV403. No soil samples collected. Refer to B203/MW201 for adjacent subsurface lithology.						5	
10							10	
15							15	
20							20	

**LEGEND:**

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

<p><b>NOTES:</b> 1) Boring advanced using GeoProbe 6610DT track-mounted rig. 2) Vapor Implant finished with a locking, flush-mounted roadbox, cemented into ground. 3) NA = Not Applicable; NM = Not Measured.</p>	<p><b>CLIENT:</b> Maine DEP</p>
	<p><b>SITE:</b> Cumberland Farms Station #1803 982 Main Street Sanford, ME</p>
	<p>Project No.: 101.06074.003</p>

### Soil Classification Terms

<b>Grain Size</b>		
<i>Material</i>	<i>Fraction</i>	<i>Sieve Size</i>
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

<b>Coarse and Fine Grained Soils</b>	
<i>Descriptive Adjective</i>	<i>*Percentage Requirement</i>
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.

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.

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

<b>GRANULAR</b>		<b>COHESIVE</b>	
<i>N</i>	<i>Relative Density (%)</i>	<i>N</i>	<i>Consistency</i>
		<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

### Rock Classification Terms

<i>Weathering Classification</i>		
<i>Grade</i>	<i>Symbol</i>	<i>Diagnostic Features</i>
Fresh	<b>F</b>	No visible sign of decomposition or discoloration. Rings under hammer impact.
Slightly Weathered	<b>WS</b>	Slight discoloration inwards from open fracture, otherwise similar to F.
Moderately Weathered	<b>WM</b>	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	<b>WH</b>	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	<b>WC</b>	Minerals decomposed to soil but fabric and structure preserved (Saprolite). Specimens easily crumbled or penetrated.
Residual Soil	<b>RS</b>	Advanced state of decomposition resulting in Plastic soils. Rock fabric and structure completely destroyed. Large volume change.

<i>Rock Descriptors</i>			
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" )	

**Unified System Classification of Soils (ASTM D-2487)**

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

**APPENDIX B**

Field Data Sheets

Petroleum Vapor Intrusion (PVI) Triage Study  
Limited Phase IIA & IIB  
Cumberland Farms Station #1803  
982 Main Street  
Sanford, Maine



Date: 9/2/10 Purge Method (peristaltic, bladder pump): peristaltic  
 Site Name: CFI/SANFORD Depth to Bottom (DTB): 2.0'  
 Well #: MW-101 Depth to Water (DTW): 15.6 TDR  
 Project #: \_\_\_\_\_ Water Column: 5.6 / 4.9

Time (Min.)	Water Level	DO (%)	Turbidity (NTU)	Comments
1145				
1200	17.82	3.5	675	Filter
1207				
1211	15.05			
1215	17.55	3.5	109	SAMPLE VPH
(3 consecutive readings 5 min. apart)	Drawdown < 10% of water column	± 10%	± 10% for values greater than 1 NTU	

Sample ID: MW-101 Laboratory Analysis: VPH Fuji  
 Sample Time: 12:15  
 Samplers: F. ANDOLSKA  
 QC: \_\_\_\_\_

Well# MW101

Date 12-22-10

Static Water Level 13.13

Begin Time of Purge 10:45

### Monitoring Well Purge and Sample Data Sheet

Site Name Cumberland Farm Superfund

Total Depth \_\_\_\_\_ Well Diameter 14

Screen Interval \_\_\_\_\_

Formation \_\_\_\_\_

Temp. \_\_\_\_\_

Cond. \_\_\_\_\_

pH \_\_\_\_\_

ORP \_\_\_\_\_ mV

Sample Device Peristaltic

Turb. \_\_\_\_\_ NTU



Min.	Feet below MP	Flow mL/Min	DO mg/L	Temp. Celcius	Cond.	pH -log[H <sup>+</sup> ]	ORP mV	Turb. NTU	Comments
10:50	13.75		1.0					83.5	
10:55	13.91		1.6					29.3	
10:58	13.98		1.5					28.3	
11:02	13.70		1.5					27.8	
11:05	13.99		1.5					27.1	

**Equilibrium Goals**  
 3 consecutive readings 3-5 min. apart  
 Flow 1-2 mL/Min  
 Water Level + 0.01  
 DO +/- 10%  
 Turb +/- 10%

**mL/Ft Information**  
 3/4 in well = 87 mL/Ft  
 2 in well = 617 mL/Ft  
 4 in well = 2470 mL/Ft  
 Record all instrument calibrations in Instrument Calibration Log Book or Field Book

**Samplers:** Piston / Jetting

**Laboratory Sample Numbers**  
 Analysis / Depth  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



Date: 9/2/10  
 Site Name: CFI - Sanford  
 Well #: MW-102  
 Project #: 01-06074.003

Purge Method (peristaltic, bladder pump): peristaltic  
 Depth to Bottom (DTB): 19.50  
 Depth to Water (DTW): 17.48 - 17.10  
 Water Column: 2.40

Time (Min.)	Water Level	DO (%)	Turbidity (NTU)	Comments
<u>1412</u>				<u>START</u>
<u>1416</u>	<u>18.60</u>			<u>reduce</u>
<u>1418</u>	<u>19.00</u>			<u>130m/s</u>
<u>1420</u>	<u>19.10</u>	<u>1.0</u>	<u>399</u>	
(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 1420  
 Laboratory Analysis VPH Full

Samplers RHA

QC: \_\_\_\_\_





Date: 9/2/10  
 Site Name: CF1/SANFORD  
 Well #: MW-103  
 Project # \_\_\_\_\_  
 Purge Method (Denstaltic, bladder pump): peristaltic  
 Depth to Bottom (DTB): 2.3' bss  
 Depth to Water (DTW): 15.80  
 Water Column: 7.2

Time (Min.)	Water Level	DO (%)	Turbidity (NTU)	Comments
16:13				
16:21	16.10		71000	230nd
16:25	16.20	3.5	688	"
16:30	16.30	3.5	25.9	"
(3 consecutive readings 5 min. apart)	Drawdown < 10% of water column	± 10%	± 10% for values greater than 1 NTU	

Sample ID MW-103      Sample Time 14:30  
 Samplers ARBOLESAK  
 Laboratory Analysis VPH Fuji  
 QC: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# Monitoring Well Purge and Sample Data Sheet

**Well#** MW103  
**Date** 2-22-10  
**Static Water Level** 13.32  
**Begin Time of Purge** 1200  
**Time** Water Level | Flow | DO

**Site Name** Searford Country Club Farms  
**Total Depth** 10'  
**Screen Interval**  
**Temp.** Celsius  
**DO** mg/L  
**Formation** pH  
**ORP** mV  
**Sample Device** Peristaltic  
**Turb.** NTU

Min.	Feet below MP	mL/Min	Flow	DO	Temp.	Celsius	Cond.	pH	ORP	Turb.	Comments
Write Meter Number of Instrument Used				mg/L				-log[H <sup>+</sup> ]	mV	NTU	
1128	13.38			4.5						65.4	
1132	13.39			3.0						48.5	
1135	13.41			3.0						30.3	
1138	13.40			3.0						28.2	
1141	13.40			3.0						27.9	

**Equilibrium Goals**  
 3 consecutive readings 3-5 min. apart  
 Flow 1-2 mL/Min  
 Water Level +/- 0.01  
 DO +/- 10%  
 Turb +/- 10%  
 Eh Correction for Ag/AgCl probe:  
 Add 199 mV to ORP value

**mL/Ft Information**  
 3/4 in well = 87 mL/Ft  
 2 in well = 617 mL/Ft  
 4 in well = 2470 mL/Ft  
 Record all instrument calibrations in Instrument Calibration Log Book or Field Book

**Samplers:** Rawson / Hesterman

**Laboratory Sample Numbers**  
 Analysis / Depth  
 Number

Date Revised 1/28/2002





### Monitoring Well Purge and Sample Data Sheet

Well# MW 202  
 Date 12-22-10  
 Static Water Level 13.5  
 Begin Time of Purge 0908

Site Name Sanford Commercial Farms  
 Total Depth 20' Well Diameter 1"  
 Screen Interval 10'-20' Formation \_\_\_\_\_  
 Temp. \_\_\_\_\_ Cond. \_\_\_\_\_

Sample Device Pens 3, 4, 6  
 Turb. \_\_\_\_\_

Time	Water Level	Flow	DO	Temp.	Conc.	pH	ORP	Turb.	Comments
Min.	Feet below MP	mL/Min	mg/L	Celcius		-log[H <sup>+</sup> ]	mV	NTU	
0921	13.91		1.0					566	
0925	13.68		1.0					558	
0929	13.54		1.0					518	

Equilibrium Goals  
 3 consecutive readings 3-5 min. apart  
 Flow 1-2 mL/Min  
 Water Level +/- 0.01  
 DO +/- 10%  
 Turb +/- 10%  
 Eh Correction for Ag/AgCl probe:  
 Add 199 mV to ORP value

mL/Ft Information  
 3/4 in well = 87 mL/Ft  
 2 in well = 617 mL/Ft  
 4 in well = 2470 mL/Ft  
 Record all instrument calibrations in  
 Instrument Calibration Log Book or Field Book

Samplers:  
Kurt... H... ..

Laboratory Sample Numbers  
 Analysis / Depth  
 Number

Date Revised 1/28/2002

**Soil Gas Sampling Field Sheet  
Maine DEP**

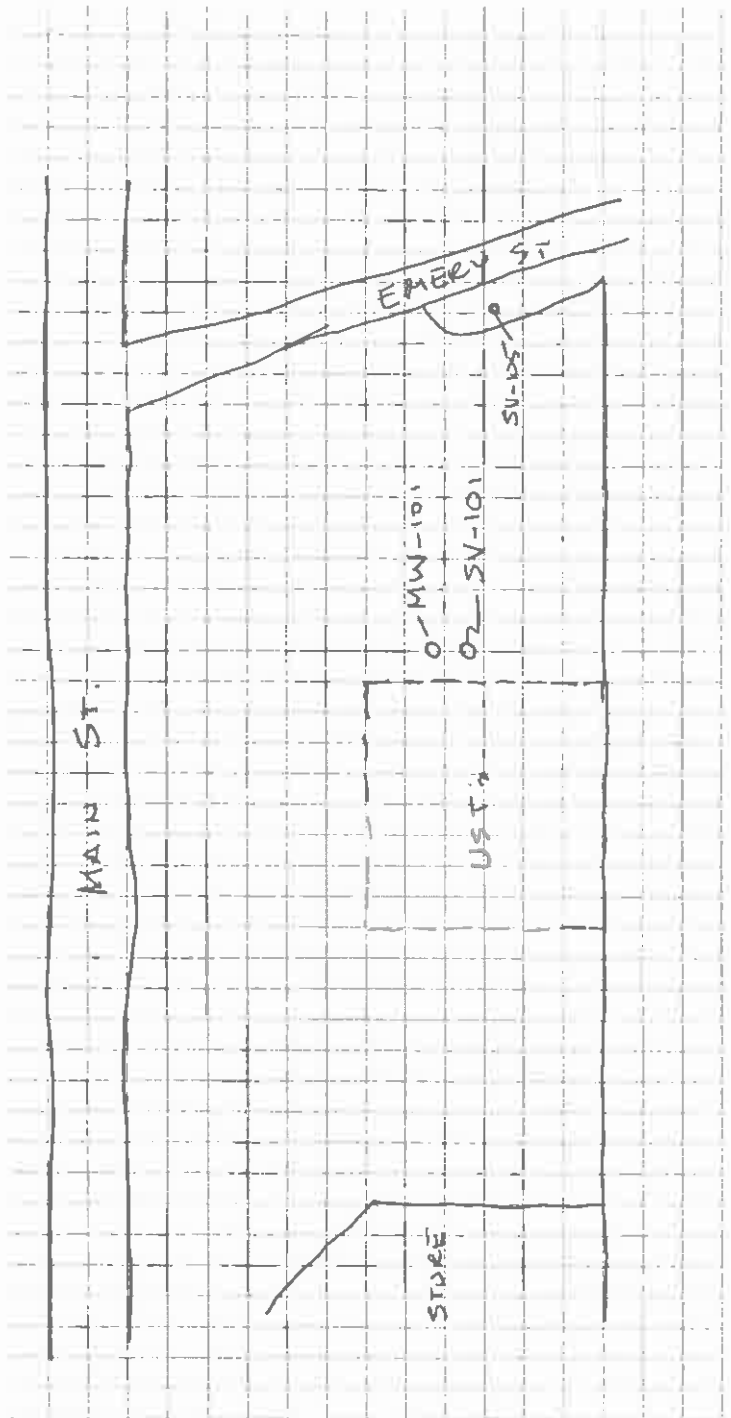
Site Name:	CFI / SANFORD
Town:	SANFORD
Date:	9/2/10
Sample I.D.:	SV-101
Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)
Sampling Personnel:	WOODRUFF
Project Manager	P. EREMITA
Collection Device:	(Summa Can) (Tedlar Bag)
Sample Penetration Location:	(Asphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)
Sample Depth:	14
Depth to Water:	16
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	684
Flow Control I.D.:	435
Flow control rate:	95
O <sub>2</sub> Ambient	20.6
CO <sub>2</sub> Ambient	350
subsurface pressure/vacuum	(+/- inches of water column)
Pre-Sample O <sub>2</sub>	10.3
Pre-Sample CO <sub>2</sub>	>10 K
Pre-Sample PID:	4.3
Pre-Sample CH <sub>4</sub> :	0 (% Volume, %LEL, PPM)
Sample Initiation Time:	1232
Initial Vacuum:	-4
Sample End Time:	1244
Final Vacuum:	-5
Post Sample O <sub>2</sub>	10.2
Post Sample CO <sub>2</sub> :	>10K

POST PID 7.1

**Notes:**

1210 START PURGE ~ 1L  
1225 END PURGE

**Sample Location Sketch**



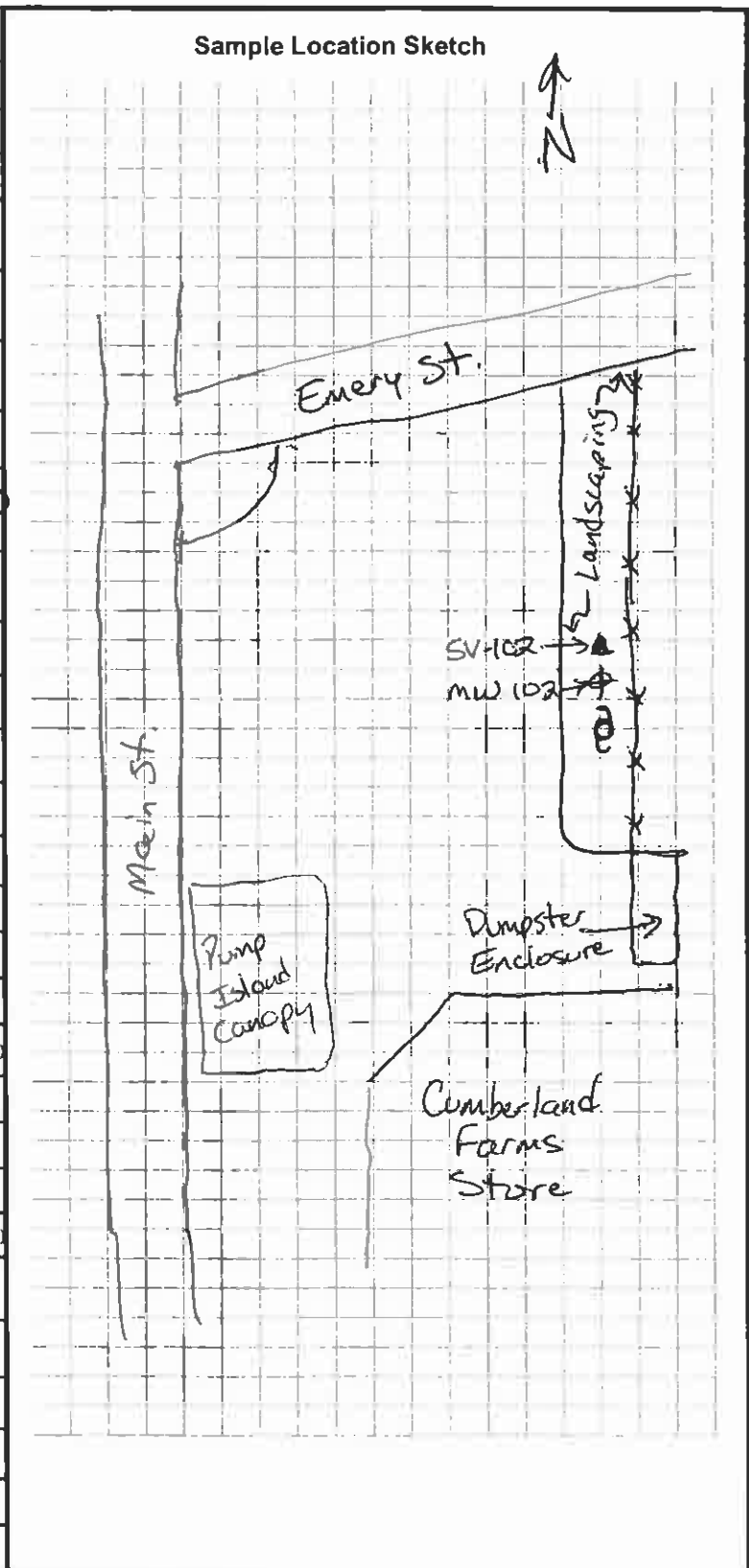
**Soil Gas Sampling Field Sheet  
Maine DEP**

Site Name:	Cumberland Farms Station #1803	<p align="center"><b>Sample Location Sketch</b></p>
Town:	Sanford, Maine	
Date:	12/22/2010	
Sample I.D.:	SY101	
Sampling Personnel:	APW	
Project Manager:	Peter Eremita	
Collection Device:	(Suma Cannister) (Tedlar Bag) (Niosh Tube)	
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.:		
Controller I.D.:		
Flow rate:	100 mL/min	
PID:		
O <sub>2</sub> Ambient:	20.9% Eagle	
CO <sub>2</sub> Ambient:	0.0% Eagle	
O <sub>2</sub> Before:		
CO <sub>2</sub> Before:		
Sampling Start Time:		
Initial Vacuum:		
Sampling End Time:		
Final Vacuum:		
O <sub>2</sub> After:		
CO <sub>2</sub> After:		
Notes:	<p>Start Purge @ 11:15 CH<sub>4</sub> Before = Stop Purge @ 11 - Water in Sample</p>	



**Soil Gas Sampling Field Sheet**  
Maine DEP

Site Name:	CFI-Sanford
Town:	Sanford
Date:	9/2/10
Sample I.D.:	SV102
Sampling Purpose:	(Source) (Utility) (Mitigation) (Receptor) (Other)
Sampling Personnel:	EPP
Project Manager:	E. Phoenix
Collection Device:	(Summa Can) (Tedlar Bag)
Sample Penetration Location:	(Asphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)
Sample Depth:	14'
Depth to Water:	13.5'
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	817
Flow Control I.D.:	0467
Flow control rate:	100 mls/min.
O <sub>2</sub> Ambient:	20.7 % vol.
CO <sub>2</sub> Ambient:	550 ppm
subsurface pressure/vacuum	(+/- inches of water column)
Pre-Sample O <sub>2</sub> :	10.8 ppm
Pre-Sample CO <sub>2</sub> :	10,000 ppm
Pre-Sample PID:	0.6 ppm
Pre-Sample CH <sub>4</sub> :	0 (% Volume, %LEL, PPM)
Sample Initiation Time:	1436
Initial Vacuum:	-30
Sample End Time:	1448
Final Vacuum:	-2
Post Sample O <sub>2</sub> :	10.7
Post Sample CO <sub>2</sub> :	10,000



Notes: Begin purging @ 1413  
End Purging @ 1431

**Soil Gas Sampling Field Sheet  
Maine DEP**

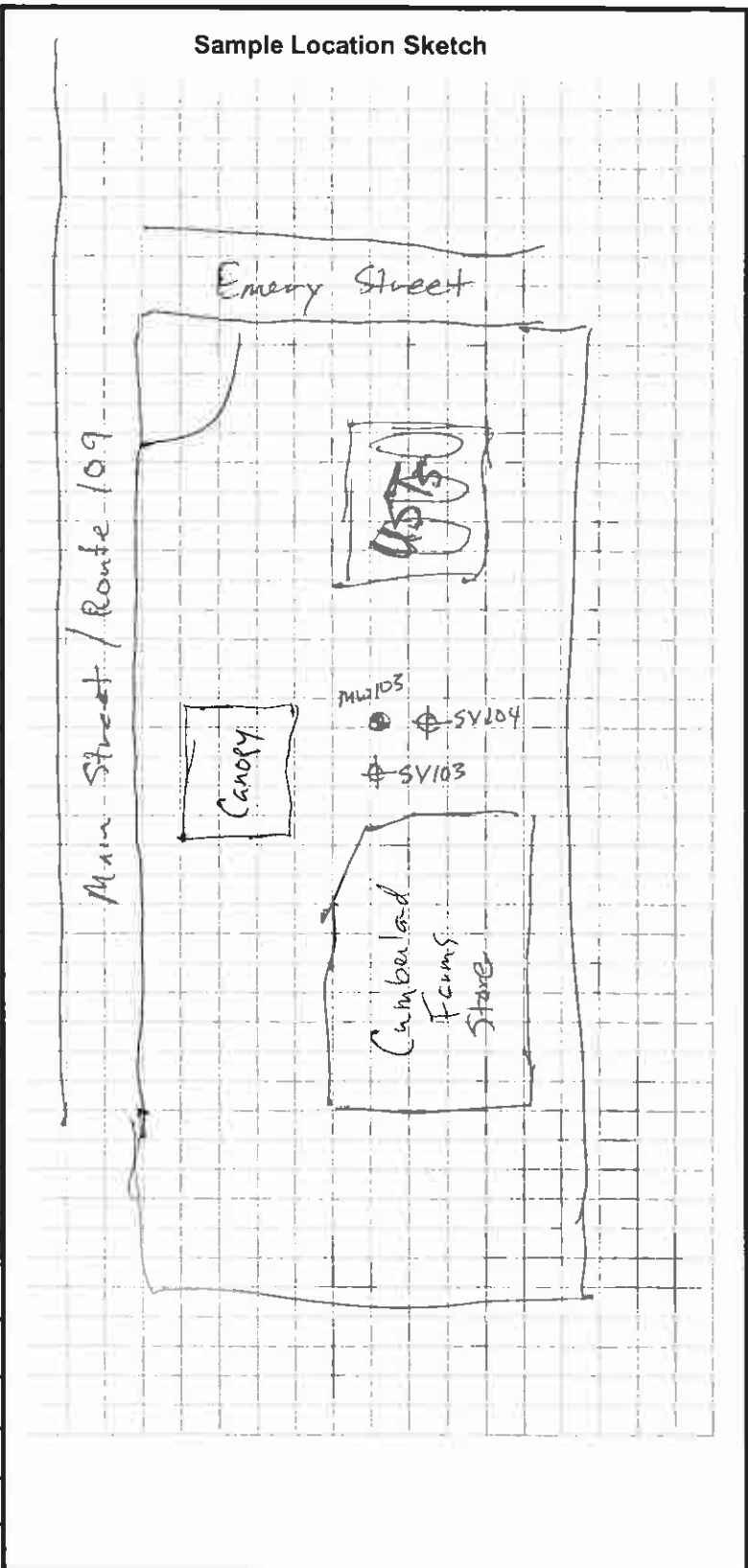
Site Name:	Cumberland Farms Station #1803	<p><b>Sample Location Sketch</b></p>
Town:	Sanford, Maine	
Date:	12/22/2010	
Sample I.D.:	SV102	
Sampling Personnel:	PME Arn	
Project Manager:	Peter Eremita	
Collection Device:	(Suma Cannister) (Tedlar Bag) (Niosh Tube)	
Sample Penetration Location:	(Ashphalt) (Concrete) (Soil)	
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)	
Sample Depth:		
Depth to Water:		
Suspected COCs:	(Petroleum) (Solvents)	
Cannister I.D.:	802	
Controller I.D.:	46	
Flow rate:	100 ml/min	
PID:	0.0 ppm	
O <sub>2</sub> Ambient:	20.8% Atm.	
CO <sub>2</sub> Ambient:	0.01% Atm.	
O <sub>2</sub> Before:	18.5%	
CO <sub>2</sub> Before:	1.80%	
Sampling Start Time:	9:00	
Initial Vacuum:	-27" Hg	
Sampling End Time:	9:07	
Final Vacuum:	-5" Hg	
O <sub>2</sub> After:	18.5%	
CO <sub>2</sub> After:	1.80%	
Notes:	<p>Start purge @ 8:45 0.2" Vacuum Stop purge @ 8:55</p> <p>CH<sub>4</sub> Before = 0% LEL</p>	

**Soil Gas Sampling Field Sheet  
Maine DEP**

Site Name:	CFI - Sanford
Town:	Sanford
Date:	9/2/10
Sample I.D.:	SV103
Sampling Purpose:	(Source) (Utility) (Mitigation) (Receptor) (Other)
Sampling Personnel:	Aaron Martin
Project Manager:	Erik Phenix
Collection Device:	(Summa Can) (Tedlar Bag)
Sample Penetration Location:	(Asphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)
Sample Depth:	13' bgs
Depth to Water:	15.80' bgs
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	816
Flow Control I.D.:	450
Flow control rate:	100 mL/min
O <sub>2</sub> Ambient:	20.7
CO <sub>2</sub> Ambient:	450
subsurface pressure/vacuum	(+/- inches of water column)
Pre-Sample O <sub>2</sub> :	16.3
Pre-Sample CO <sub>2</sub> :	10,000
Pre-Sample PID:	0.6
Pre-Sample CH <sub>4</sub> :	ϕ (% Volume, %LEL, PPM)
Sample Initiation Time:	<del>NA/NA</del> 16:42
Initial Vacuum:	-30+
Sample End Time:	16:58
Final Vacuum:	-5
Post Sample O <sub>2</sub> :	16.3
Post Sample CO <sub>2</sub> :	10,000

Vertical Attenuation

**Sample Location Sketch**



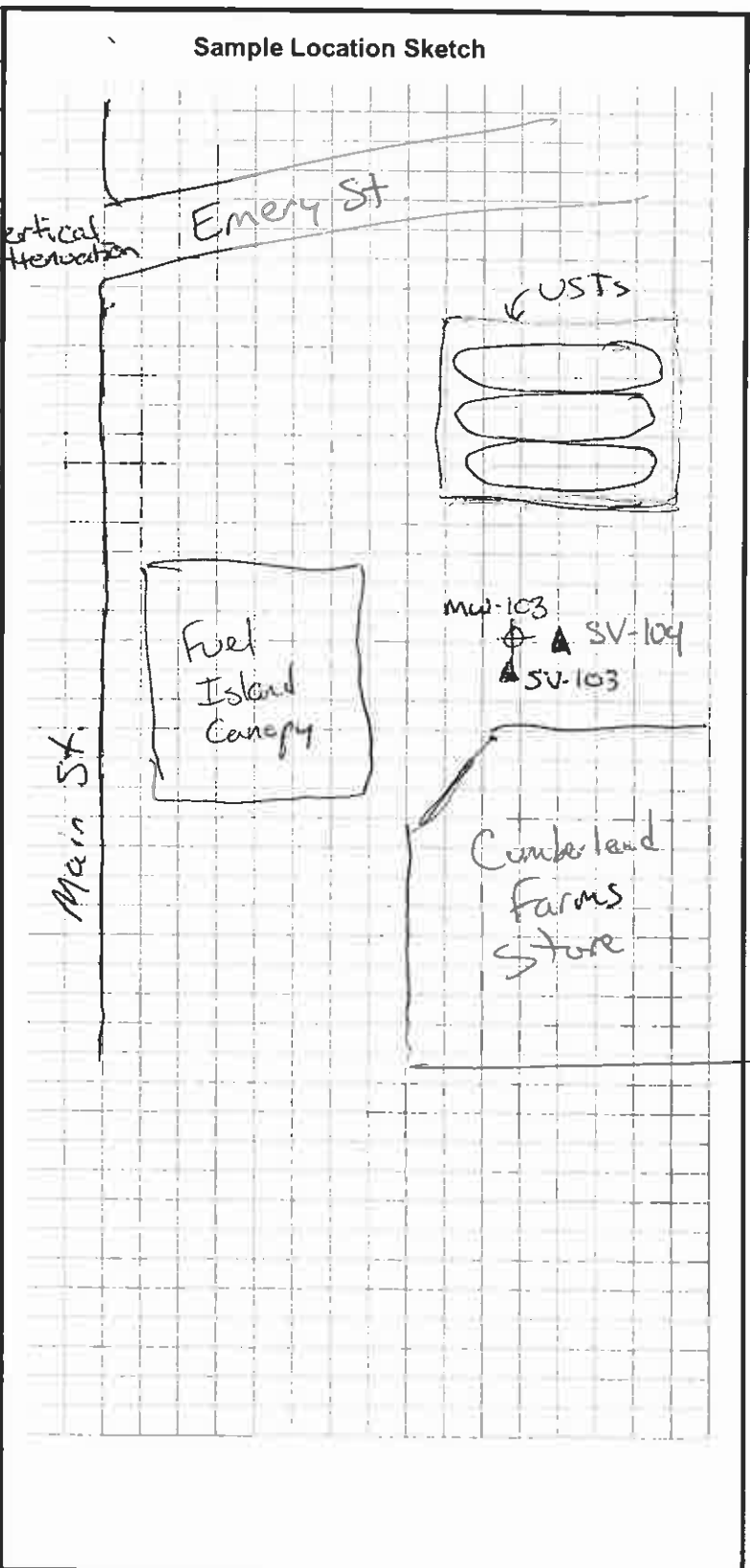
Notes: Basin Purging - 16:18  
Stop Purging - 16:37

**Soil Gas Sampling Field Sheet  
Maine DEP**

Site Name:	Cumberland Farms Station #1803	<p><b>Sample Location Sketch</b></p>
Town:	Sanford, Maine	
Date:	12/22/2010	
Sample I.D.:	SV103	
Sampling Personnel:	ACM	
Project Manager:	Peter Eremita	
Collection Device:	(Suma Cannister) (Tedlar Bag) (Niosh Tube)	
Sample Penetration Location:	(Asphalt) (Concrete) (Soil)	
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)	
Sample Depth:		
Depth to Water:		
Suspected COCs:	(Petroleum) (Solvents)	
Cannister I.D.:	803	
Controller I.D.:	368	
Flow rate:	100 ml/min	
PID:	1.1 ppm	
O <sub>2</sub> Ambient	20.8% Altair	
CO <sub>2</sub> Ambient	0.11% Altair	
O <sub>2</sub> Before :	18.8%	
CO <sub>2</sub> Before :	2.05%	
Sampling Start Time:	945	
Initial Vacuum:	-28" Hg	
Sampling End Time:	953	
Final Vacuum:	-5" Hg	
O <sub>2</sub> After :	18.9%	
CO <sub>2</sub> After :	2.05%	
Notes:	<p>Start Pump @ 9:30 CH<sub>4</sub> Before = 0% LEL  0.2" Vacuum  Stop Pump @ 9:40</p>	

**Soil Gas Sampling Field Sheet  
Maine DEP**

Site Name:	CFI-Sanford
Town:	Sanford
Date:	9/2/10
Sample I.D.:	SV-104
Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other) ← Vertical Attenuation
Sampling Personnel:	EPP
Project Manager	E. Phenix
Collection Device:	(Summa Can) (Tedlar Bag)
Sample Penetration Location:	(Asphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)
Sample Depth:	<del>15</del> 8'
Depth to Water:	15.80
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	1508
Flow Control I.D.:	0156
Flow control rate:	100 ml
O <sub>2</sub> Ambient	20.7 % Vol
CO <sub>2</sub> Ambient	450 ppm
subsurface pressure/vacuum	(+/- inches of water column)
Pre-Sample O <sub>2</sub>	16.0
Pre-Sample CO <sub>2</sub>	10,000
Pre-Sample PID:	0.3
Pre-Sample CH <sub>4</sub> :	0 (% Volume, %LEL, PPM)
Sample Initiation Time:	1642
Initial Vacuum:	> -30
Sample End Time:	1653
Final Vacuum:	-3
Post Sample O <sub>2</sub> :	16.1
Post Sample CO <sub>2</sub> :	10,000



Notes: Begin Purging at 1617  
stop Purging at 1637

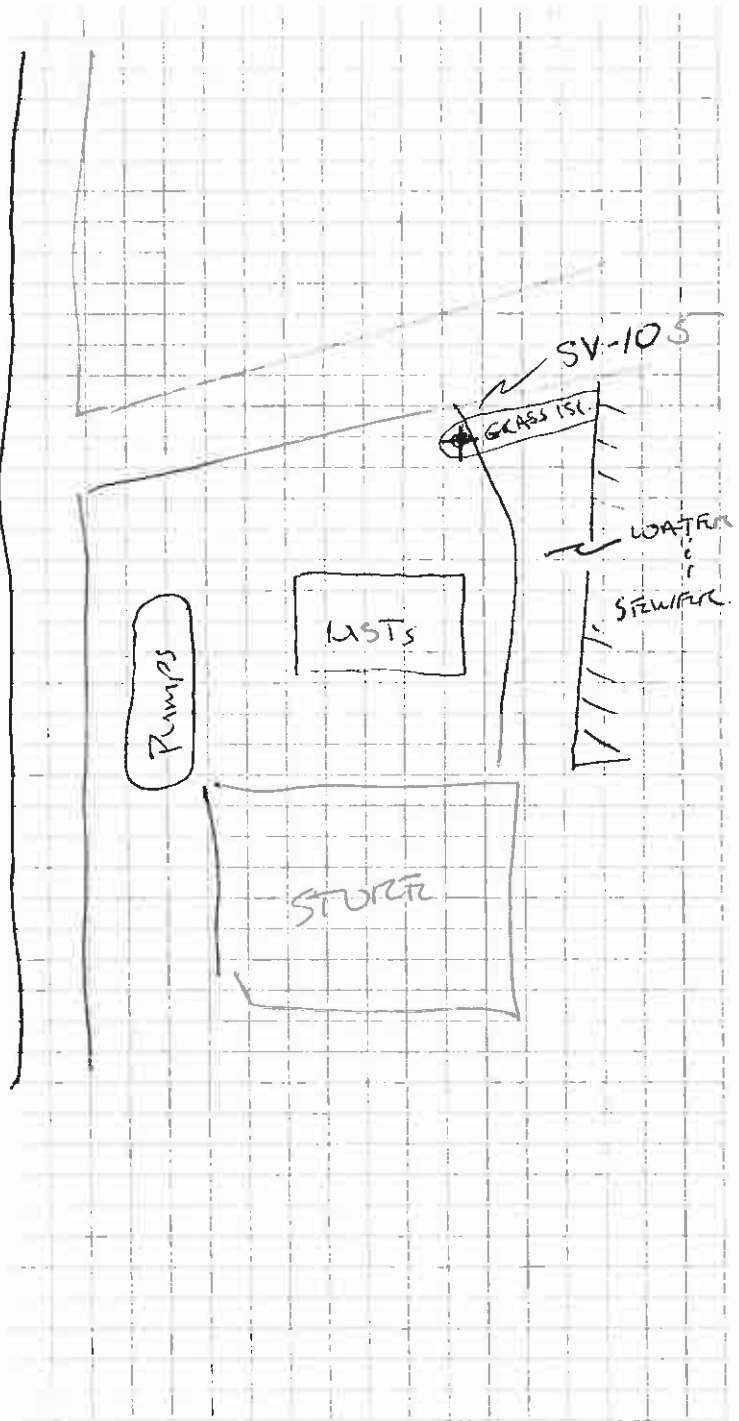
**Soil Gas Sampling Field Sheet  
Maine DEP**

Site Name:	Cumberland Farms Station #1803	<p><b>Sample Location Sketch</b></p>
Town:	Sanford, Maine	
Date:	12/22/2010	
Sample I.D.:	SV104	
Sampling Personnel:	ARM	
Project Manager:	Peter Eremita	
Collection Device:	(Suma Cannister) (Tedlar Bag) (Niosh Tube)	
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.:	504	
Controller I.D.:	182	
Flow rate:	100 mL/min	
PID:	0.1 ppm	
O <sub>2</sub> Ambient	20.8% Altair	
CO <sub>2</sub> Ambient	0.11% Altair	
O <sub>2</sub> Before:	18.9 Altair	
CO <sub>2</sub> Before:	1.88 Altair	
Sampling Start Time:	1002	
Initial Vacuum:	-28.22" Hg	
Sampling End Time:	↗ -4.78" Hg	
Final Vacuum:	↘ 10.11	
O <sub>2</sub> After:	19.2% Eagle	
CO <sub>2</sub> After:	2.00% Eagle	
Notes:	<p>Start Purge @ 947 0.2" - Vacuum Stop Purge @ 957</p> <p>CH<sub>4</sub> Before = 0% LEL PID - Default to 3.0 ppm for ambient air</p>	

**Soil Gas Sampling Field Sheet**  
Maine DEP

Site Name:	CFI/SANFORD
Town:	SANFORD
Date:	9/2/10
Sample I.D.:	SV-105
Sampling Purpose:	(Source) <del>(Utility)</del> <del>(Mitigation)</del> (Receptor) (Other)
Sampling Personnel:	ANDOLSKA/WOODRUFF
Project Manager:	PETER F.
Collection Device:	<del>(Summa Can)</del> (Tedlar Bag)
Sample Penetration Location:	(Ashphalt) (Concrete) <u>(Soil)</u>
Soil Type:	<u>(Fill)</u> (Till) (Sand & Gravel) (Glacial Marine)
Sample Depth:	3'
Depth to Water:	~ 15'
Suspected COCs:	<u>(Petroleum)</u> (Solvents)
Cannister I.D.:	864
Flow Control I.D.:	0014
Flow control rate:	100 ml/min
O <sub>2</sub> Ambient:	20.9
CO <sub>2</sub> Ambient:	350
subsurface pressure/vacuum	(+/- inches of water column)
Pre-Sample O <sub>2</sub> :	18.1
Pre-Sample CO <sub>2</sub> :	>10K
Pre-Sample PID:	0.6
Pre-Sample CH <sub>4</sub> :	∅ (% Volume, %LEL, PPM)
Sample Initiation Time:	11:30
Initial Vacuum:	-30
Sample End Time:	11:43
Final Vacuum:	-4
Post Sample O <sub>2</sub> :	17.8
Post Sample CO <sub>2</sub> :	>10K

**Sample Location Sketch**



Post PID 0.4

Notes:

START PURGING 11:05  
END 11:25 1L purged.

**Soil Gas Sampling Field Sheet  
Maine DEP**

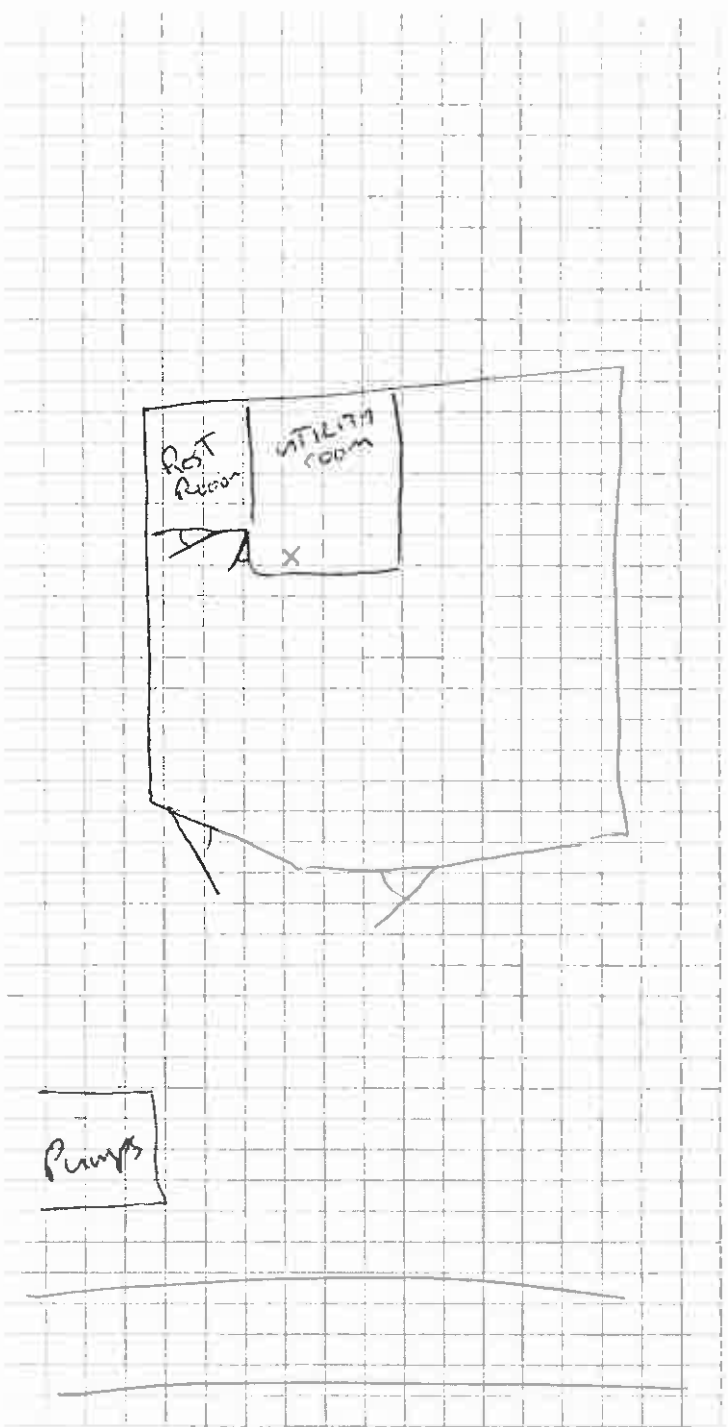
Site Name:	Cumberland Farms Station #1803	<p><b>Sample Location Sketch</b></p>
Town:	Sanford, Maine	
Date:	12/22/2010	
Sample I.D.:	SV105	
Sampling Personnel:	APW	
Project Manager:	Peter Eremita	
Collection Device:	(Suma Cannister) (Tedlar Bag) (Niosh Tube)	
Sample Penetration Location:	(Ashphalt) (Concrete) (Soil)	
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)	
Sample Depth:		
Depth to Water:		
Suspected COCs:	(Petroleum) (Solvents)	
Cannister I.D.:	716	
Controller I.D.:	75	
Flow rate:	100 ml/min	
PID:	194 ppb	
O <sub>2</sub> Ambient	20.9%	
CO <sub>2</sub> Ambient	0.09%	
O <sub>2</sub> Before :	20.8%	
CO <sub>2</sub> Before :	0.6%	
Sampling Start Time:	1139	
Initial Vacuum:	-28" Hg	
Sampling End Time:	1146	
Final Vacuum:	-5" Hg	
O <sub>2</sub> After :	20.8%	
CO <sub>2</sub> After :	0.6%	
Notes:	<p>Start Purge @ 1125      CH<sub>4</sub> Before = 0% LEL                  Stop Purge @ 1135</p>	



**Soil Gas Sampling Field Sheet  
Maine DEP**

Site Name:	CFI / Sanford
Town:	Sanford
Date:	
Sample I.D.:	SV-108
Sampling Purpose:	(Source) (Utility) (Mitigation) (Receptor) (Other)
Sampling Personnel:	Phenix / Andolsek
Project Manager:	Peter E.
Collection Device:	(Summa Can) (Tedlar Bag)
Sample Penetration Location:	(Asphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Fill) (Sand & Gravel) (Glacial Marine)
Sample Depth:	12"
Depth to Water:	> 12"
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	731
Flow Control I.D.:	0012
Flow control rate:	100 ml/min
O <sub>2</sub> Ambient:	20.9
CO <sub>2</sub> Ambient:	550
subsurface pressure/vacuum	(+/- inches of water column)
Pre-Sample O <sub>2</sub> :	20.9
Pre-Sample CO <sub>2</sub> :	<del>15</del> 2500 3250
Pre-Sample PID:	∅ (< 1)
Pre-Sample CH <sub>4</sub> :	∅ (% Volume, %LEL, PPM)
Sample Initiation Time:	0940
Initial Vacuum:	> -30
Sample End Time:	0950
Final Vacuum:	-4
Post Sample O <sub>2</sub> :	20.9
Post Sample CO <sub>2</sub> :	3500

**Sample Location Sketch**



Notes: subskb - utility room

**Soil Gas Sampling Field Sheet  
Maine DEP**

Site Name:	Main St CF1
Town:	Sanford
Date:	12/22/10
Sample I.D.:	SU 201
Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)
Sampling Personnel:	PME
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.:	448
Flow Control I.D.:	441
Flow control rate:	
O <sub>2</sub> Ambient	20.8 % Vol Air
CO <sub>2</sub> Ambient	0.07 % Vol Air
subsurface pressure/vacuum	(+/- inches of water column)
Pre-Sample O <sub>2</sub>	16.9%
Pre-Sample CO <sub>2</sub>	2.20%
Pre-Sample PID:	15 ppm
Pre-Sample CH <sub>4</sub> :	2 (% Volume) (LEL) (PPM)
Sample Initiation Time:	7:48
Initial Vacuum:	-30" Hg
Sample End Time:	8:13
Final Vacuum:	-5" Hg
Post Sample O <sub>2</sub> :	16.8
Post Sample CO <sub>2</sub> :	2.25

**Sample Location Sketch**

ION SCIENCE CAL BUMP TEST w/ 100 ppm ISO = 105 ppm

Notes: start purging SU 201 @ 7:27  
fill approx 2 L troller in 10 min @ 7:37  
rate = 200 ml/min

**Soil Gas Sampling Field Sheet  
Maine DEP**

Site Name:	Cumberland Farms Station #1803	<p><b>Sample Location Sketch</b></p>
Town:	Sanford, Maine	
Date:	12/22/2010	
Sample I.D.:	SV202	
Sampling Personnel:	AEW	
Project Manager:	Peter Eremita	
Collection Device:	(Suma Cannister) (Tedlar Bag) (Niosh Tube)	
Sample Penetration Location:	(Asphalt) (Concrete) (Soil)	
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)	
Sample Depth:		
Depth to Water:		
Suspected COCs:	(Petroleum) (Solvents)	
Cannister I.D.:	713	
Controller I.D.:	467	
Flow rate:	108 ml/min	
PID:	217 ppb	
O <sub>2</sub> Ambient	20.9% Eagle	
CO <sub>2</sub> Ambient	0.0% Eagle	
O <sub>2</sub> Before :	19.1%	
CO <sub>2</sub> Before :	1.8%	
Sampling Start Time:	1109	
Initial Vacuum:	-23" Hg	
Sampling End Time:	1113	
Final Vacuum:	-5" Hg	
O <sub>2</sub> After :	19.1%	
CO <sub>2</sub> After :	1.8%	
Notes:	<p>Start Purge @ 1056      CH<sub>4</sub> Before = 0% LEL          Stop Purge @ 1106</p>	

**Soil Gas Sampling Field Sheet  
Maine DEP**

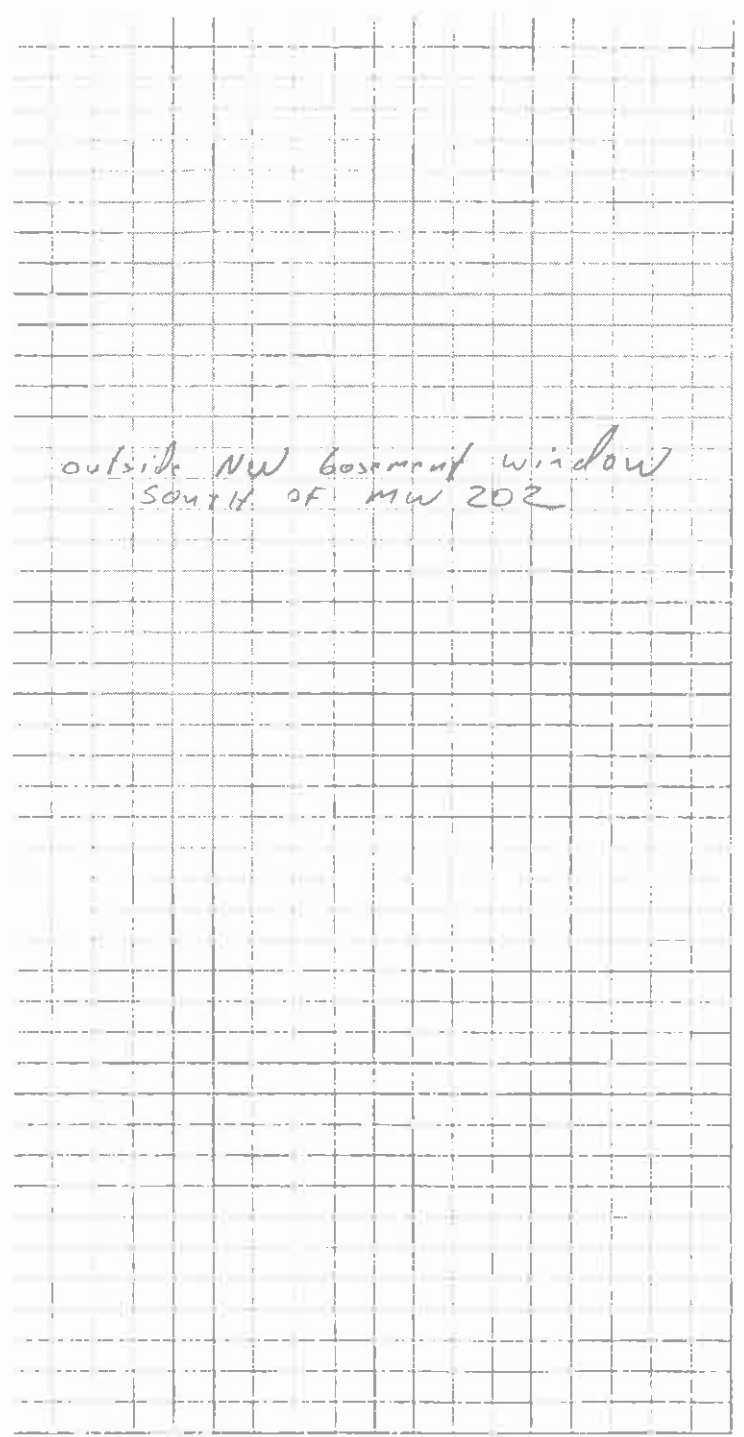
Site Name:	Cumberland Farms Station #1803	<p><b>Sample Location Sketch</b></p>
Town:	Sanford, Maine	
Date:	12/22/2010	
Sample I.D.:	SV203	
Sampling Personnel:	ARM	
Project Manager:	Peter Eremita	
Collection Device:	(Suma Cannister) (Tedlar Bag) (Niosh Tube)	
Sample Penetration Location:	(Ashphalt) (Concrete) (Soil)	
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)	
Sample Depth:		
Depth to Water:		
Suspected COCs:	(Petroleum) (Solvents)	
Cannister I.D.:	1512	
Controller I.D.:	217	
Flow rate:	100 ml/min	
PID:	226 pph	
O <sub>2</sub> Ambient	20.9 % Eagle	
CO <sub>2</sub> Ambient	0.0 % Eagle	
O <sub>2</sub> Before :	20.1 %	
CO <sub>2</sub> Before :	1.2 %	
Sampling Start Time:	1158	
Initial Vacuum:	-27" Hg	
Sampling End Time:	1209	
Final Vacuum:	-5" Hg	
O <sub>2</sub> After :	21.1 %	
CO <sub>2</sub> After :	1.2 %	
Notes:	<p>Start Purge @ 1142      CH<sub>4</sub> Before = 0% LEL          Stop Purge @ 1152</p>	

791 9105 (handwritten)

Soil Gas Sampling Field Sheet  
Maine DEP

Site Name:	SANFORD CFI MAIN ST
Town:	SANFORD
Date:	12/22/10
Sample I.D.:	SV 204
Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)
Sampling Personnel:	PME
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.:	700
Flow Control I.D.:	0209
Flow control rate:	
O <sub>2</sub> Ambient	20.8 % Vol Air
CO <sub>2</sub> Ambient	0.10 % Vol Air
subsurface pressure/vacuum	(+/- inches of water column)
Pre-Sample O <sub>2</sub>	19.2 % Vol
Pre-Sample CO <sub>2</sub>	1.56 % Vol
Pre-Sample PID:	0.0 PPM
Pre-Sample CH <sub>4</sub> :	0.0 (% Volume, %LEL, PPM)
Sample Initiation Time:	12:09
Initial Vacuum:	-28.36 "Hg
Sample End Time:	12:16
Final Vacuum:	-3.9 "Hg
Post Sample O <sub>2</sub> :	19.2 % Vol
Post Sample CO <sub>2</sub> :	1.56 % Vol

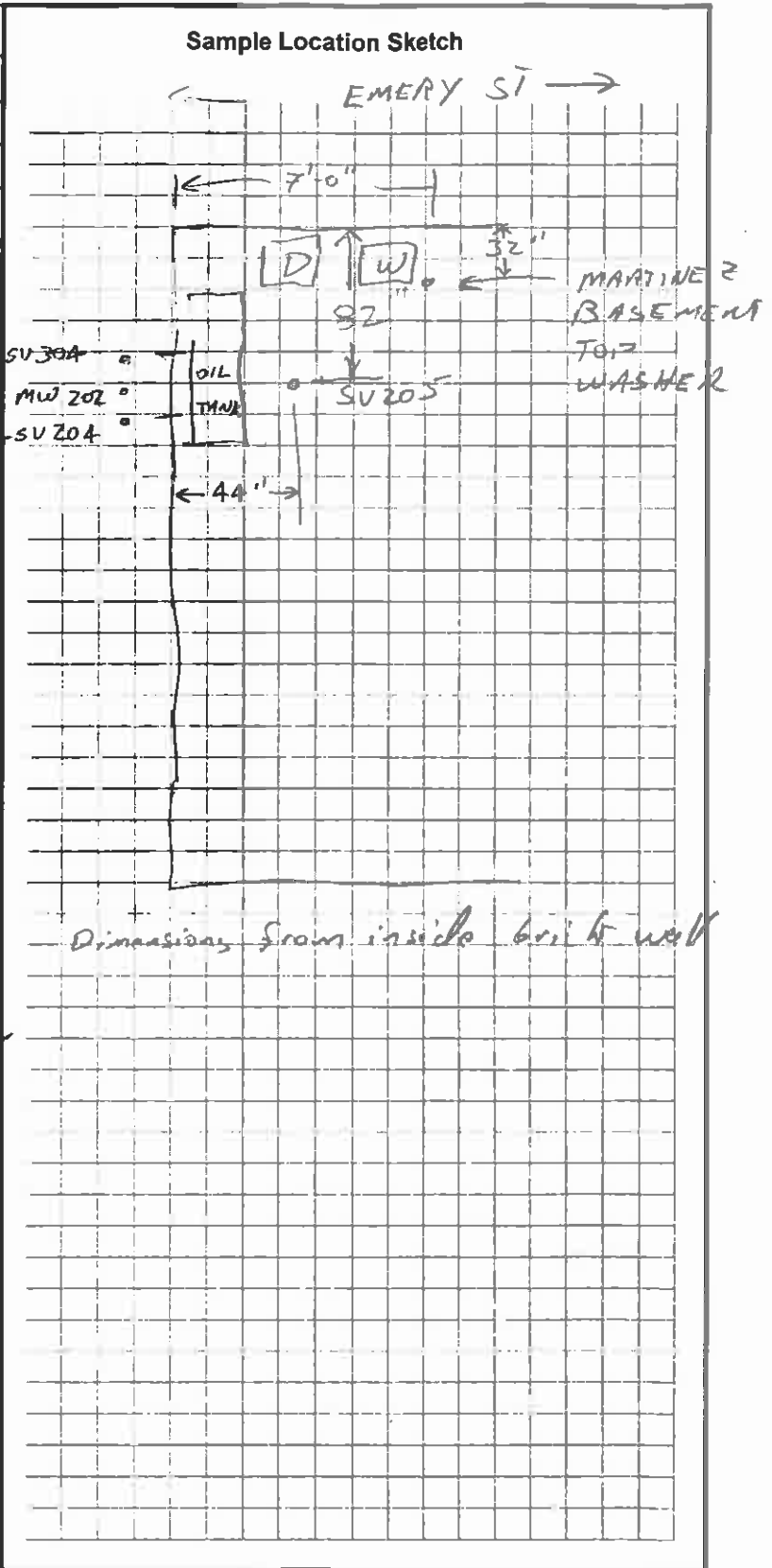
Sample Location Sketch



Notes:  
start purge 11:47 w/ col pump = 180 ml/min  
purge vac = 0.06" WC  
end, purge 11:57

**Indoor Air/Subslab Sampling Field Sheet**  
Maine DEP

Site Name:	Main Street CFJ MARTINEZ RES
Town:	SANFORD
Date:	12/22/10
Sample I.D.:	SV-205 MARTINEZ SUBSLAB
Project Manager:	
Sampling Personnel:	PME AM Lucas
Collection Device:	(Summa Can) (Tedlar Bag)
Sample Type:	(Subslab) (Indoor Air)
Sampling Location:	MARTINEZ BASEMENT SUBSLAB
Foundation Floor Type:	(Dirt) (Concrete) 2"
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.:	336
Flow Control I.D.:	119
Flow control rate:	
O <sub>2</sub> Ambient	20.8 % Vol / Atm
CO <sub>2</sub> Ambient	0.11 % Vol / Atm
Pre-Sample O <sub>2</sub>	19.6
Pre-Sample CO <sub>2</sub>	1.06
Pre-Sample PID:	0.0 PPM
Pre-Sample CH <sub>4</sub> :	0.0 % LEL
Sample Initiation Time:	10:26
Initial Vacuum:	-30" Hg
Sample End Time:	10:56
Final Vacuum:	-5"
Post Sample O <sub>2</sub> :	19.6 %
Post Sample CO <sub>2</sub> :	1.10 %

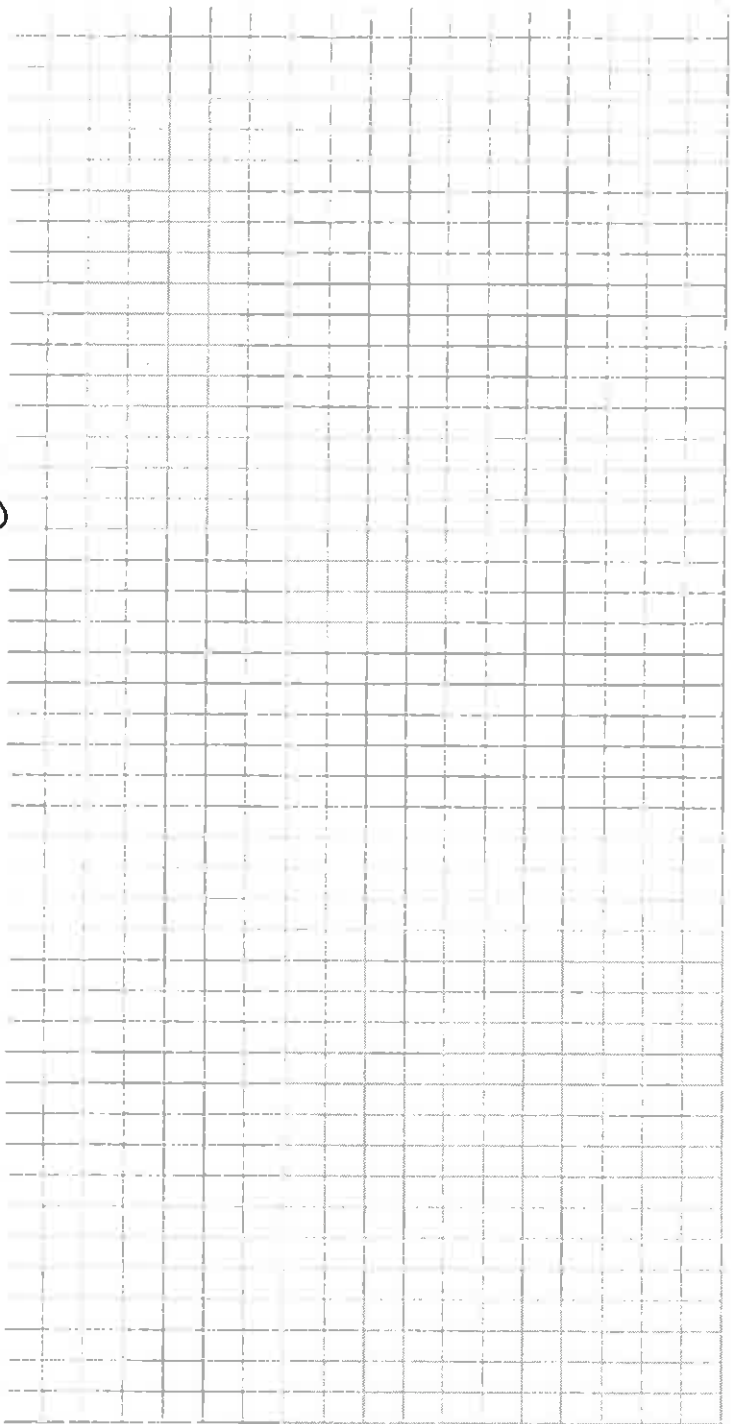


Notes/Observations: start purging 9:56 w/ cal 180 ml/min pump  
End @ 10:06  
Purge vol > 0.25" WC

**Soil Gas Sampling Field Sheet  
Maine DEP**

Site Name:	Main St CFI
Town:	Sanford
Date:	12/22/10
Sample I.D.:	SU 301
Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)
Sampling Personnel:	PME Lucas Aaron
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.:	867
Flow Control I.D.:	480
Flow control rate:	
O <sub>2</sub> Ambient	20.8 % Vol Air
CO <sub>2</sub> Ambient	0.09 % Vol Air
subsurface pressure/vacuum	(+/- inches of water column)
Pre-Sample O <sub>2</sub>	16.4 %
Pre-Sample CO <sub>2</sub>	2.60 %
Pre-Sample PID:	5.0 PPM
Pre-Sample CH <sub>4</sub> :	0 % LEL (% Volume) (%LEL, PPM)
Sample Initiation Time:	819
Initial Vacuum:	-30" Hg
Sample End Time:	827
Final Vacuum:	-5" Hg
Post Sample O <sub>2</sub> :	16.4 %
Post Sample CO <sub>2</sub> :	2.60 %

**Sample Location Sketch**



Notes: INITIATE PURGING SU 301 @ 7.53  
stop purge @ 803

**Soil Gas Sampling Field Sheet  
Maine DEP**

Site Name:	Cumberland Farms Station #1803	<p><b>Sample Location Sketch</b></p>
Town:	Sanford, Maine	
Date:	12/22/2010	
Sample I.D.:	SY302	
Sampling Personnel:	APL	
Project Manager:	Peter Eremita	
Collection Device:	(Suma Cannister) (Tedlar Bag) (Niosh Tube)	
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.:	669	
Controller I.D.:	477	
Flow rate:	100 ml/min	
PID:	226 ppb	
O <sub>2</sub> Ambient	20.9% E <sub>range</sub>	
CO <sub>2</sub> Ambient	0.09% E <sub>range</sub>	
O <sub>2</sub> Before:	18.7%	
CO <sub>2</sub> Before:	2.4%	
Sampling Start Time:	1054	
Initial Vacuum:	-29" Hg	
Sampling End Time:	1100	
Final Vacuum:	-5	
O <sub>2</sub> After:	18.1%	
CO <sub>2</sub> After:	2.6%	
Notes:	<p>Start Purge C 1042      CH<sub>4</sub> Before = 0% LEL          Stop Purge C 1052</p>	



**Soil Gas Sampling Field Sheet  
Maine DEP**

Site Name:	Cumberland Farms Station #1803	<p><b>Sample Location Sketch</b></p>
Town:	Sanford, Maine	
Date:	12/22/2010	
Sample I.D.:	SV 303	
Sampling Personnel:	ARW	
Project Manager:	Peter Eremita	
Collection Device:	(Suma Cannister) (Tedlar Bag) (Niosh Tube)	
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.:	819	
Controller I.D.:	450	
Flow rate:	100 ml/min	
PID:	213 ppb	
O <sub>2</sub> Ambient	20.9 % Fresh	
CO <sub>2</sub> Ambient	0.0 % Fresh	
O <sub>2</sub> Before:	19.9 %	
CO <sub>2</sub> Before:	1.4 %	
Sampling Start Time:	1230	
Initial Vacuum:	-30" Hg	
Sampling End Time:	1236	
Final Vacuum:	-5" Hg	
O <sub>2</sub> After:	19.0 %	
CO <sub>2</sub> After:	2.4 %	
Notes:	<p>Start Purge @ 1215      CH<sub>4</sub> Before = 0% LEL End Purge @ 1225</p>	

**Soil Gas Sampling Field Sheet  
Maine DEP**

Site Name:	MAIN ST CFI	<p align="center"><b>Sample Location Sketch</b></p>
Town:	SANFORD	
Date:	12/22/10	
Sample I.D.:	SV 304	
Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)	
Sampling Personnel:	PME	
Project Manager		
Collection Device:	(Summa Can) (Tedlar Bag)	
Sample Penetration Location:	(Ashphalt) (Concrete) (Soil)	
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)	
Sample Depth:	12-12.5'	
Depth to Water:		
Suspected COCs:	(Petroleum) (Solvents)	
Cannister I.D.:	718	
Flow Control I.D.:	0353	
Flow control rate:		
O <sub>2</sub> Ambient	20.8	
CO <sub>2</sub> Ambient	0.11	
subsurface pressure/vacuum	(+/- inches of water column)	
Pre-Sample O <sub>2</sub>	18.5 % Vol Air	
Pre-Sample CO <sub>2</sub>	2.15 % Vol Air	
Pre-Sample PID:	2.1 PPM	
Pre-Sample CH <sub>4</sub> :	0.0 (% Volume, %LEL, PPM)	
Sample Initiation Time:	12:36	
Initial Vacuum:	-30" Hg	
Sample End Time:	12:45	
Final Vacuum:	-4.5" Hg	
Post Sample O <sub>2</sub> :	18.5 %	
Post Sample CO <sub>2</sub> :	2.15 %	

outside NW basement window  
North of MW 202

Notes:  
start purge 12:11  
purge vac = 0.12" WC  
END PURGE 12:21

**Soil Gas Sampling Field Sheet  
Maine DEP**

Site Name:	Cumberland Farms Station #1803	<p><b>Sample Location Sketch</b></p>
Town:	Sanford, Maine	
Date:	12/22/2010	
Sample I.D.:	54401	
Sampling Personnel:	ARM, LDH, PME	
Project Manager:	Peter Eremita	
Collection Device:	(Suma Cannister) (Tedlar Bag) (Niosh Tube)	
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.:	735	
Controller I.D.:	283	
Flow rate:	160 ml/min	
PID:	19.2 ppm	
O <sub>2</sub> Ambient	20.8 % Altair	
CO <sub>2</sub> Ambient	0.09 % Altair	
O <sub>2</sub> Before:	17.6 % Altair	
CO <sub>2</sub> Before:	1.74 % Altair	
Sampling Start Time:	8:41	
Initial Vacuum:	-28.6" H <sub>g</sub> - 28.0	
Sampling End Time:	8:49	
Final Vacuum:	-0.5" H <sub>g</sub>	
O <sub>2</sub> After:	17.6 %	
CO <sub>2</sub> After:	1.74 %	

Notes: Start purging @ 824 CH<sub>4</sub> Before = 1 % LEL  
 - 0.5" Water Column - Magnetelic  
 Stop purge @ 834

**Soil Gas Sampling Field Sheet  
Maine DEP**

Site Name:	Cumberland Farms Station #1803	<p><b>Sample Location Sketch</b></p>
Town:	Sanford, Maine	
Date:	12/22/2010	
Sample I.D.:	SV402	
Sampling Personnel:	ARW	
Project Manager:	Peter Eremita	
Collection Device:	(Suma Cannister) (Tedlar Bag) (Niosh Tube)	
Sample Penetration Location:	(Asphalt) (Concrete) (Soil)	
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)	
Sample Depth:		
Depth to Water:		
Suspected COCs:	(Petroleum) (Solvents)	
Cannister I.D.:	569	
Controller I.D.:	390	
Flow rate:	100 ml/min	
PID:	129 <del>ppb</del>	
O <sub>2</sub> Ambient:	20.9% Eagle	
CO <sub>2</sub> Ambient:	0.0% Eagle	
O <sub>2</sub> Before:	19.4	
CO <sub>2</sub> Before:	1.4	
Sampling Start Time:	1037	
Initial Vacuum:	-30" Hg	
Sampling End Time:	1047	
Final Vacuum:	-5" Hg	
O <sub>2</sub> After:	19.4	
CO <sub>2</sub> After:	1.4	
Notes:	<p>Start Purge @ 1024      CH<sub>4</sub> Before = 0% LEL            Stop Purge @ 1034</p>	

**Soil Gas Sampling Field Sheet  
Maine DEP**

Site Name:	Cumberland Farms Station #1803	<p><b>Sample Location Sketch</b></p>
Town:	Sanford, Maine	
Date:	12/22/2010	
Sample I.D.:	54403	
Sampling Personnel:	ARM	
Project Manager:	Peter Eremita	
Collection Device:	(Suma Cannister) (Tedlar Bag) (Niosh Tube)	
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.:	1511	
Controller I.D.:	400	
Flow rate:	100 ml/min	
PID:	213 ppb	
O <sub>2</sub> Ambient	20.9 %	
CO <sub>2</sub> Ambient	0.0 %	
O <sub>2</sub> Before:	20.1 %	
CO <sub>2</sub> Before:	1.2 %	
Sampling Start Time:	1217	
Initial Vacuum:	-24" Hg	
Sampling End Time:	1227	
Final Vacuum:	-5" Hg	
O <sub>2</sub> After:	20.2 %	
CO <sub>2</sub> After:	1.2 %	
Notes:	<p>Start Purge @ 1203      CH<sub>4</sub> Before = 0% LEL          Stop Purge @ 1213</p>	

Indoor Air/Subslab Sampling Field Sheet  
Maine DEP

Site Name:	MAIN ST CFI MARTINEZ RESIDENCE	<p align="center">Sample Location Sketch</p>
Town:	SANFORD	
Date:	12/22/10	
Sample I.D.:	MARTINEZ BASEMENT	
Project Manager:		
Sampling Personnel:	PME, AM, Lucas	
Collection Device:	(Summa Can) (Tedlar Bag)	
Sample Type:	(Subslab) (Indoor Air)	
Sampling Location:	ON WASHER WEST CORNER BASEMENT	
Foundation Floor Type:	(Dirt) (Concrete) 2"	
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.:	1 1768	
Flow Control I.D.:	408	
Flow control rate:		
O <sub>2</sub> Ambient	20.8	
CO <sub>2</sub> Ambient	0.09	
Pre-Sample O <sub>2</sub>	NA	
Pre-Sample CO <sub>2</sub>	NA	
Pre-Sample PID:	NA	
Pre-Sample CH <sub>4</sub> :	NA	
Sample Initiation Time:	11:01	
Initial Vacuum:	-28" Hg	
Sample End Time:	11:25	
Final Vacuum:	-4.5" Hg	
Post Sample O <sub>2</sub> :	20.8	
Post Sample CO <sub>2</sub> :	0.09	

SEE SV 205  
FOR  
LOCATION

Notes/Observations:

OTHER SOURCES in BASEMENT

OIL TANK

COPPER FEED (W SPEED, DRY)

FABRIC SOFT DETERGENT

PAINTE  
PETOLEUM

**APPENDIX C**

Well Survey/Water Elevation Data

Petroleum Vapor Intrusion (PVI) Triage Study  
Limited Phase IIA & IIB  
Cumberland Farms Station #1803  
982 Main Street  
Sanford, Maine

**MONITORING WELL SURVEY AND WATER LEVEL DATA**  
**Cumberland Farms Store #1803**  
**982 Main Street, Sanford, Maine**

<b>Monitoring Well I.D.</b>	<b>Well Depth (ft.)</b>	<b>Screened Interval (ft.)</b>	<b>TOC Elevation (ft.)</b>	<b>Depth to Groundwater from TOC (ft.)</b>	<b>Groundwater Elevation (MSL)</b>	<b>Date</b>
<b>MW101</b>	20	10 - 20	94.68	15.60	79.08	9/2/2010
				13.13	81.55	12/22/2010
<b>MW102</b>	20	10 - 20	95.89	17.10	78.79	9/2/2010
				14.08	81.81	12/22/2010
<b>MW103</b>	23	13 - 23	95.16	15.80	79.36	9/2/2010
				13.32	81.84	12/22/2010
<b>MW201</b>	16	11 - 16	94.99	14.11	80.88	12/22/2010
<b>MW202</b>	20	10 - 20	94.40	13.56	80.84	12/22/2010

TOC: Top of Casing  
MSL = Mean Sea Level



**APPENDIX D**

Certified Laboratory Analytical Results

Petroleum Vapor Intrusion (PVI) Triage Study  
Limited Phase IIA & IIB  
Cumberland Farms Station #1803  
982 Main Street  
Sanford, Maine



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-Sanford  
Analytics #67694**

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 67694-1, 67694-2 and 67694-4 required dilution due to the concentrations of hydrocarbons in the sample.

The MS/MSD analyzed on sample 67694-3 had some analytes with low recoveries. 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

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

**Report Number: 67694**

**Revision: Rev. 0**

**Re: Cumberland Farms- Sanford (Project No: R101.06074.003)**

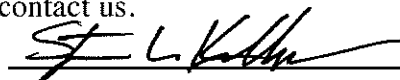
Enclosed are the results of the analyses on your sample(s). Samples were received on 03 September 2010 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory 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.

<u>Lab Number</u>	<u>Sample Date</u>	<u>Station Location</u>	<u>Analysis</u>	<u>Comments</u>
67694-1	09/02/10	MW-101	Volatile Petroleum Hydrocarbons	
67694-2	09/02/10	MW-102	Volatile Petroleum Hydrocarbons	
67694-3	09/02/10	MW-103	Volatile Petroleum Hydrocarbons	
67694-4	09/02/10	SB103-S4-090210	Volatile Petroleum Hydrocarbons	
67694-5	09/02/10	SB104-S5-090210	Volatile Petroleum Hydrocarbons	
67694-6	09/02/10	Trip Blank (s)	Volatile Petroleum Hydrocarbons	
67694-7	09/02/10	Trip Blank (aq)	Electronic Data Deliverable	
	09/02/10	Trip Blank (aq)	Volatile Petroleum Hydrocarbons	

**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 Department 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

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**Surrogate Compound Limits**

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

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

September 17, 2010

**SAMPLE DATA**

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

**CLIENT SAMPLE ID**

Project Name: Cumberland Farms- Sanford  
 Project Number: R101.06074.003  
 Client Sample ID: LabQC

**VPH ANALYTICAL RESULTS**

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics <sup>1</sup>	N/A	50	µg/L	U
Unadjusted C9-C12 Aliphatics <sup>1</sup>	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 <sup>1,2</sup>	N/A	50	µg/L	U
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	50	µg/L	U
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	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%

<sup>1</sup>Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup>C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup>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: *M. M. M. M.*

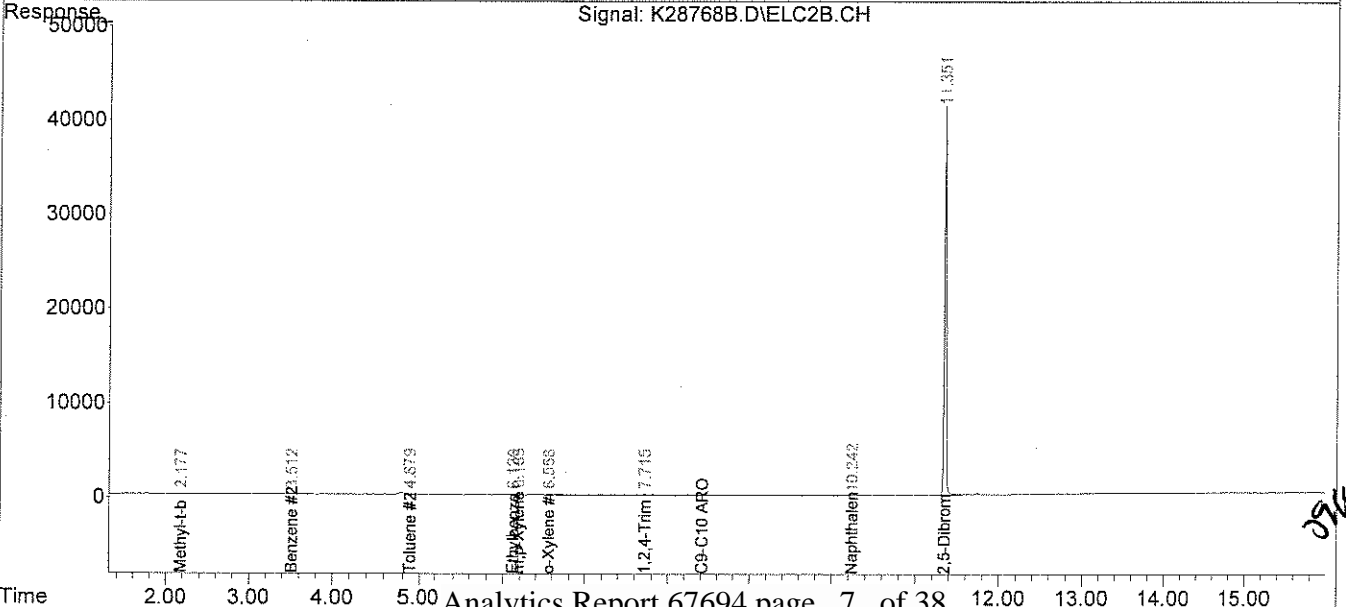
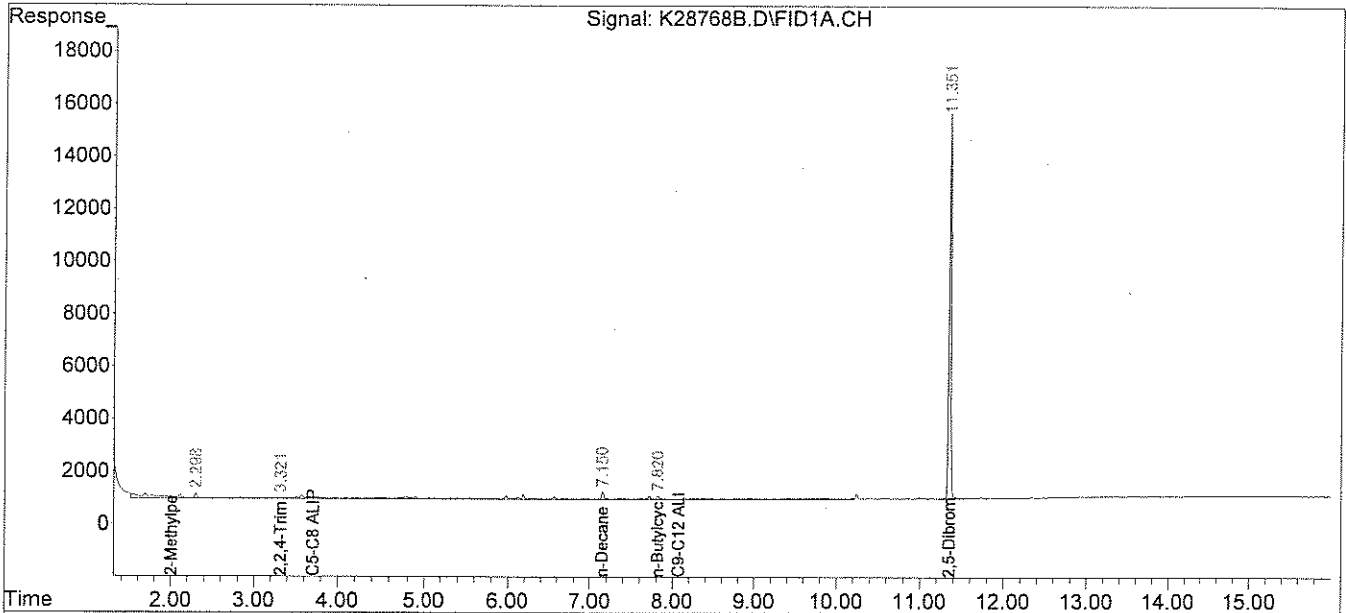
Quantitation Report (Not Reviewed)

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 :



9/13/10



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

September 17, 2010

**SAMPLE DATA**

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

**CLIENT SAMPLE ID**

Project Name: Cumberland Farms- Sanford  
 Project Number: R101.06074.003  
 Client Sample ID: LabQC

**VPH ANALYTICAL RESULTS**

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics <sup>1</sup>	N/A	50	µg/L	U
Unadjusted C9-C12 Aliphatics <sup>1</sup>	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 <sup>1,2</sup>	N/A	50	µg/L	U
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	50	µg/L	U
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	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%

<sup>1</sup> Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup> C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup> 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: *M. Phelix*

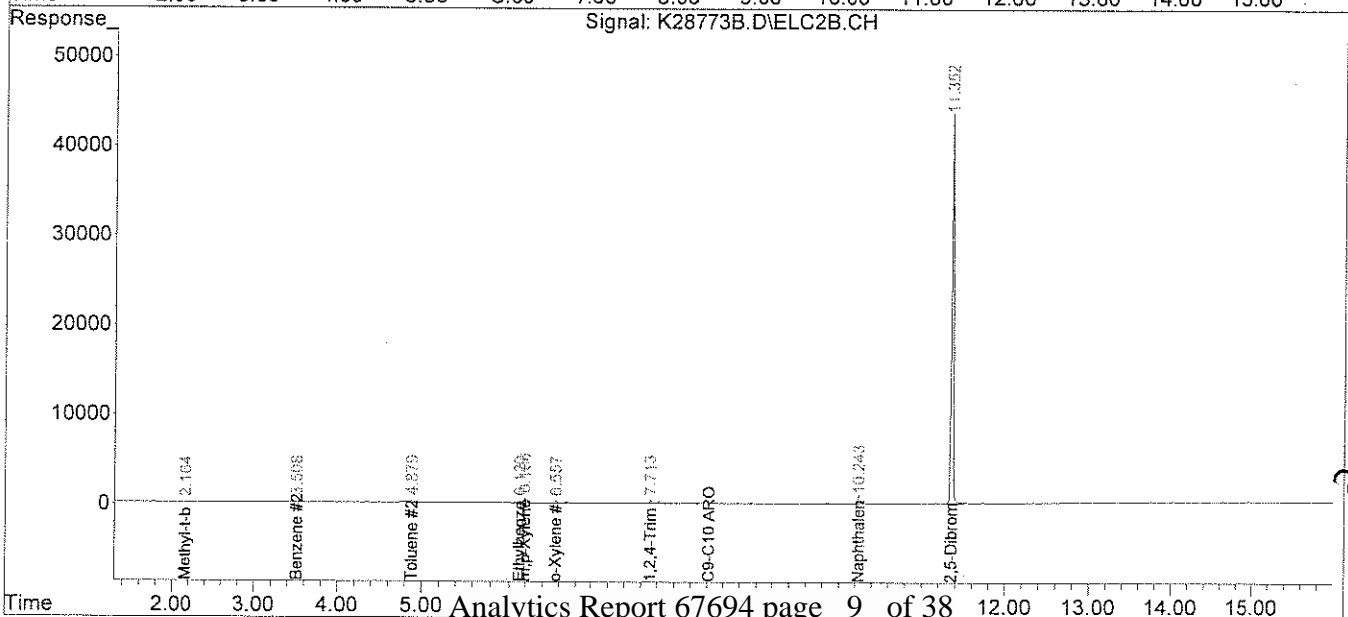
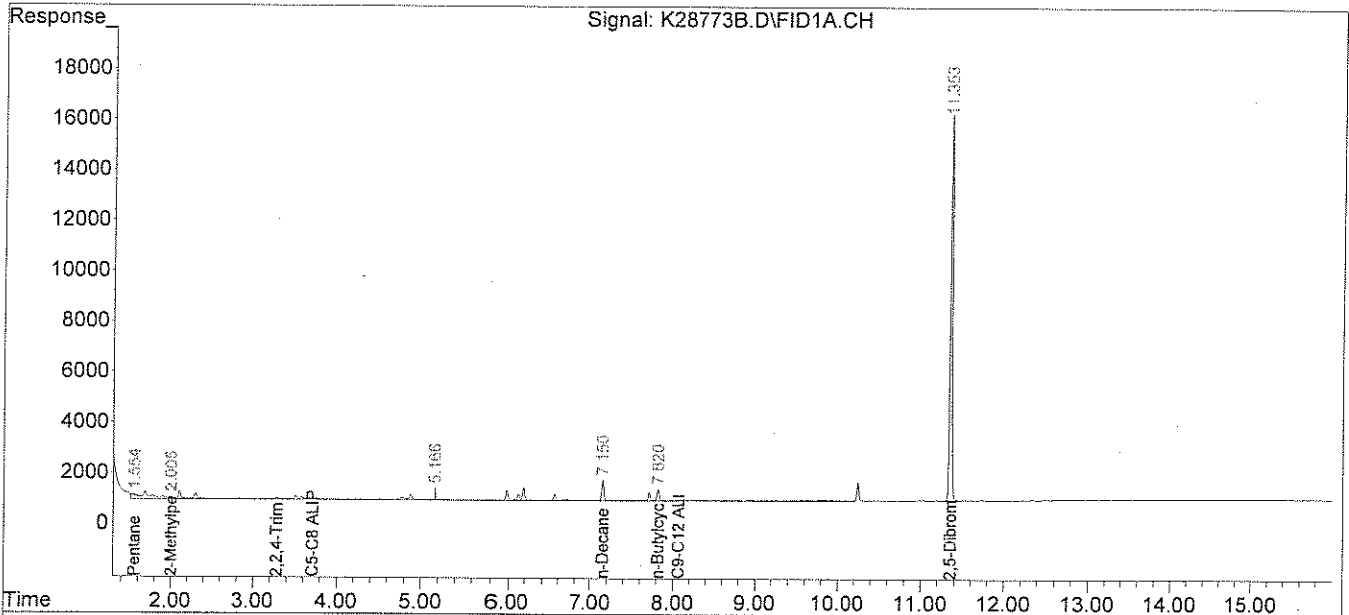
Quantitation Report (Not Reviewed)

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 :



27660

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

September 17, 2010

**SAMPLE DATA**

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

**CLIENT SAMPLE ID**

Project Name: Cumberland Farms- Sanford  
 Project Number: R101.06074.003  
 Client Sample ID: LabQC

**VPH ANALYTICAL RESULTS**

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics <sup>1</sup>	N/A	50	µg/L	U
Unadjusted C9-C12 Aliphatics <sup>1</sup>	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 <sup>1,2</sup>	N/A	50	µg/L	U
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	50	µg/L	U
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	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%

<sup>1</sup>Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup>C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup>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: *M. Phelix*

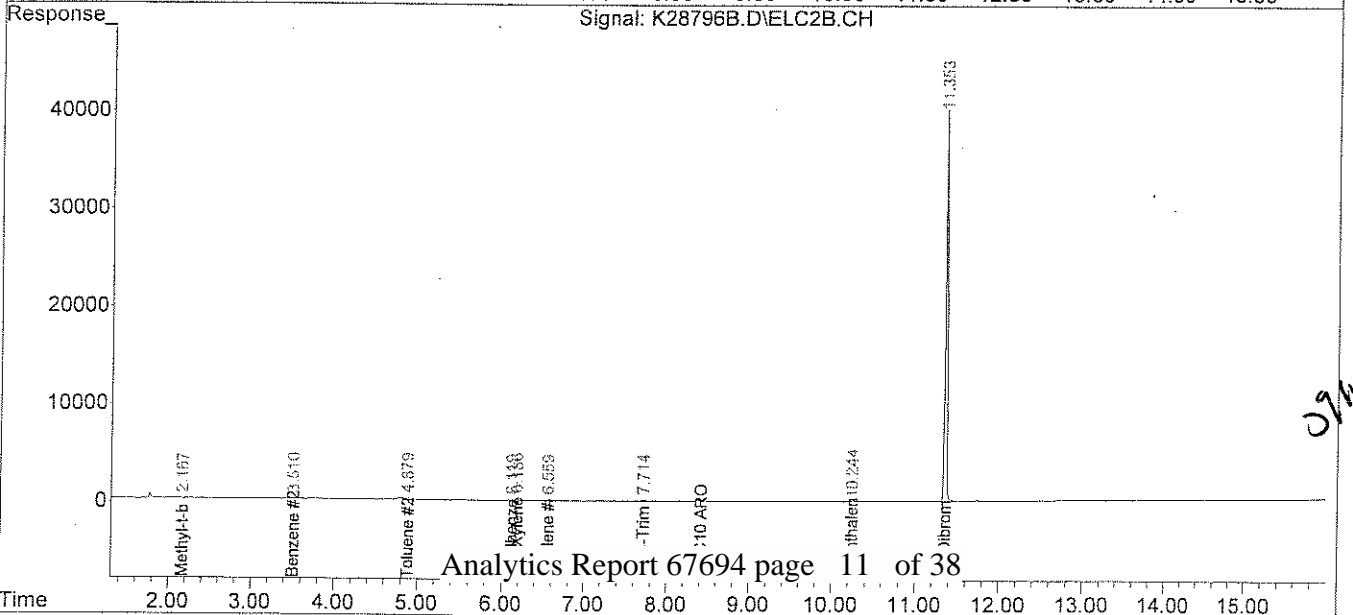
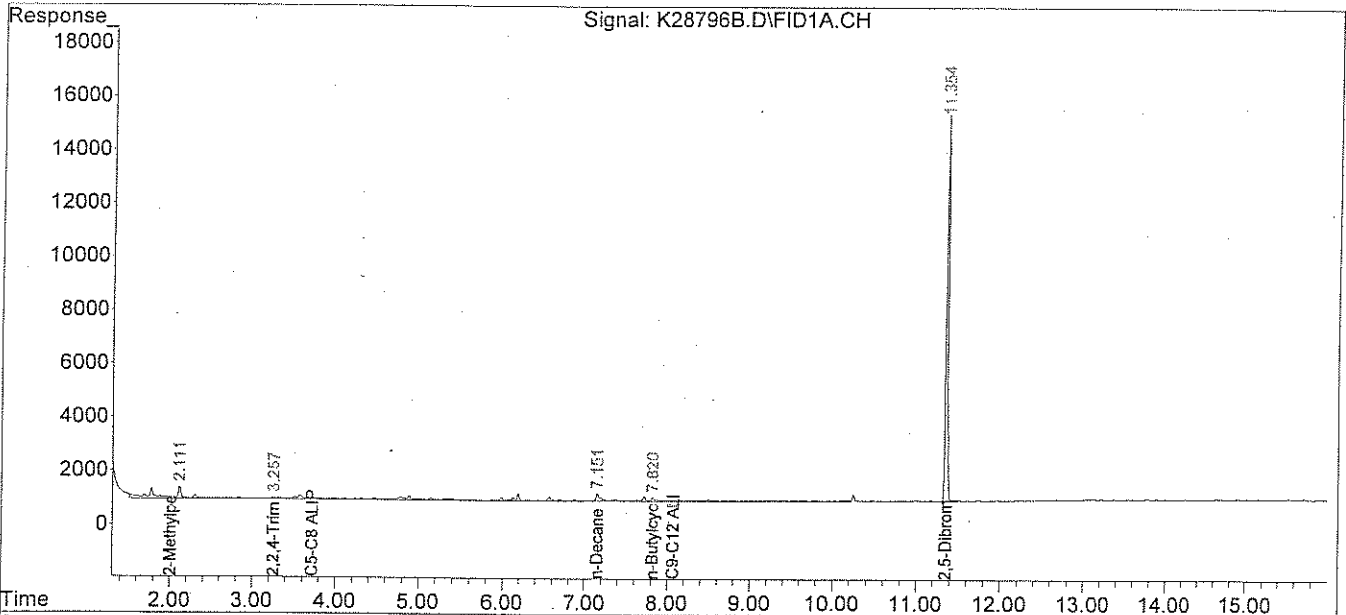
Quantitation Report (Not Reviewed)

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

*JJL* 9/13/10

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



*JJL*

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

September 17, 2010

**SAMPLE DATA**

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

**CLIENT SAMPLE ID**

**Project Name:** Cumberland Farms- Sanford  
**Project Number:** R101.06074.003  
**Client Sample ID:** LabQC

**VPH ANALYTICAL RESULTS**

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics <sup>1</sup>	N/A	2500	µg/kg	U
Unadjusted C9-C12 Aliphatics <sup>1</sup>	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 Aliphatic Hydrocarbons <sup>1,2</sup>	N/A	2500	µg/kg	U
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	2500	µg/kg	U
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	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%

<sup>1</sup>Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup>C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup>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 I.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.

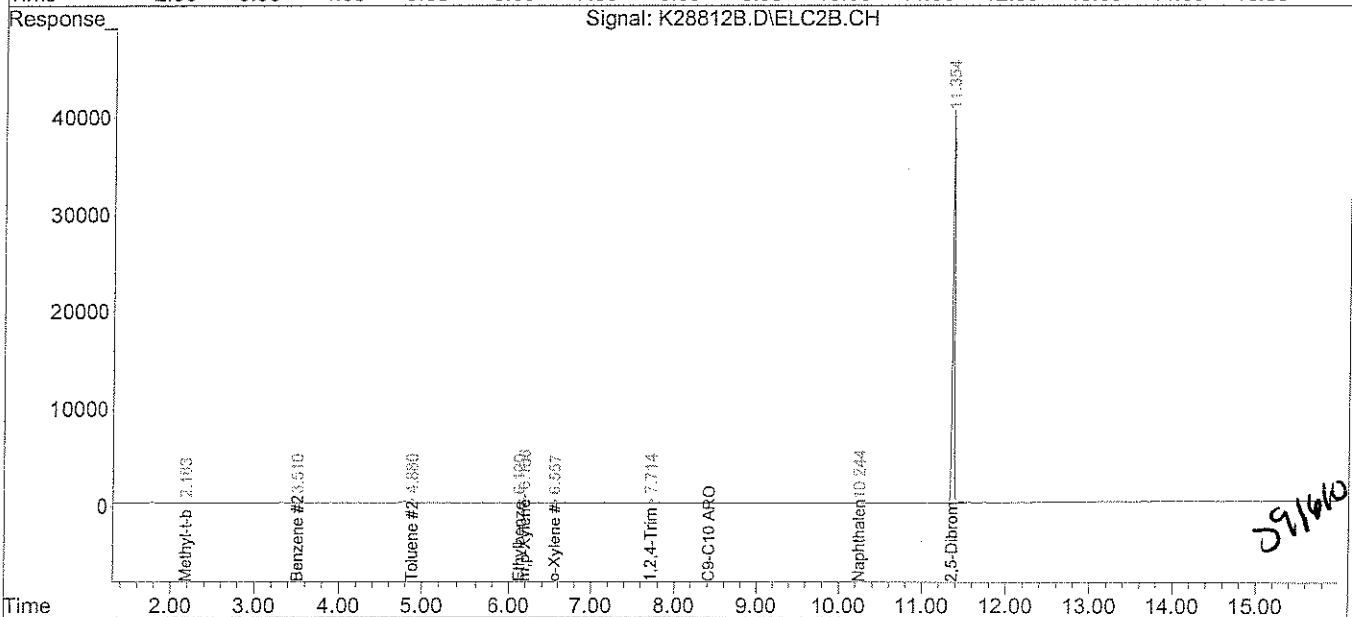
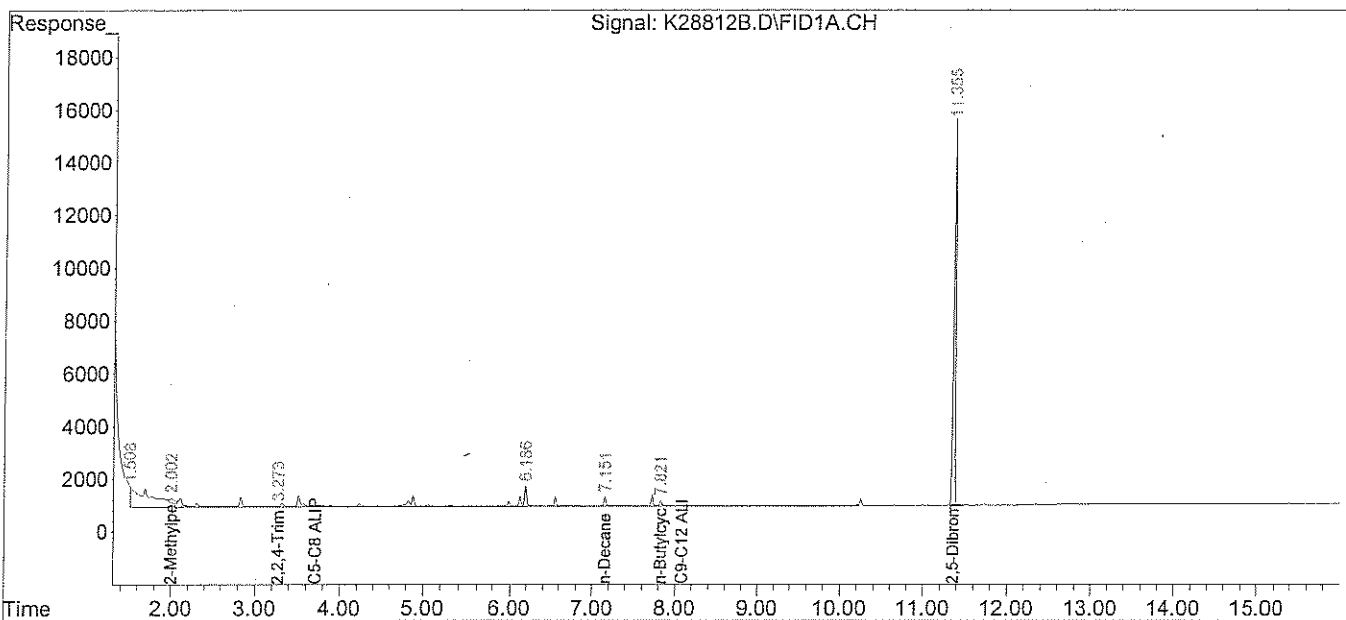
Authorized signature: *M. Sullivan*

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 : JJJ  
 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

*88 9/9/10*

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



*59/10/10*

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

September 17, 2010

**SAMPLE DATA**

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

**CLIENT SAMPLE ID**

Project Name: Cumberland Farms- Sanford  
 Project Number: R101.06074.003  
 Client Sample ID: LabQC

**VPH ANALYTICAL RESULTS**

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics <sup>1</sup>	N/A	2500	µg/kg	U
Unadjusted C9-C12 Aliphatics <sup>1</sup>	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 Aliphatic Hydrocarbons <sup>1,2</sup>	N/A	2500	µg/kg	U
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	2500	µg/kg	U
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	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%

<sup>1</sup> Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup> C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup> 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.

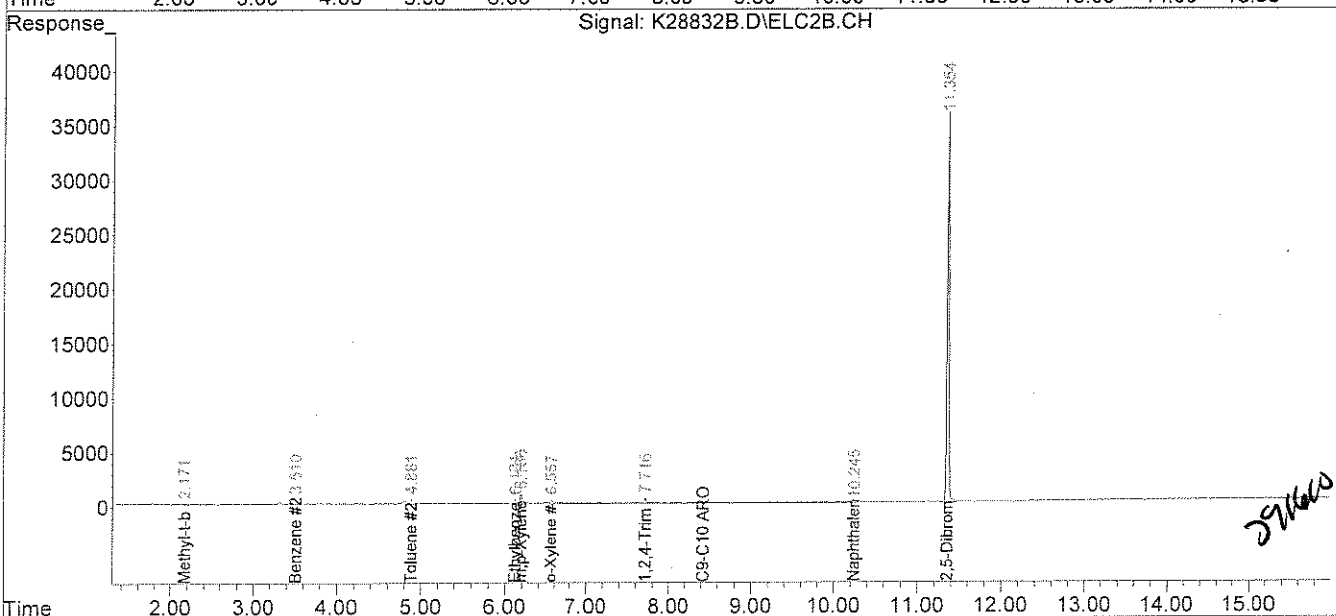
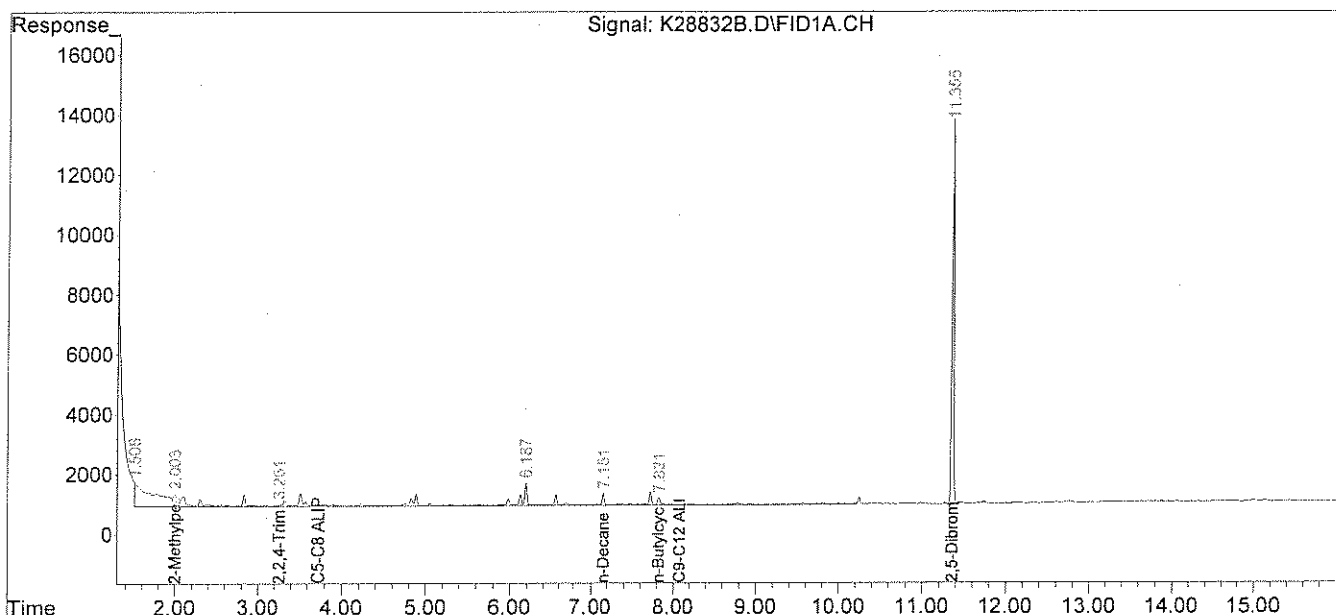
Authorized signature: *M. Hill*

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

*JJL* 9/10/10

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



*JJL*





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 15, 2010

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Cumberland Farms- Sanford  
**Project Number:** R101.06074.003  
**Client Sample ID:** MW-101

**Lab Sample ID:** 67694-1  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 50  
**Collection Date:** 09/02/10  
**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 <sup>1</sup>	N/A	2500	µg/L	<b>2270 J</b>
Unadjusted C9-C12 Aliphatics <sup>1</sup>	N/A	2500	µg/L	<b>22000</b>
Benzene	C5-C8	100	µg/L	U
Ethylbenzene	C9-C12	100	µg/L	<b>1600</b>
Methyl-tert-butyl ether	C5-C8	100	µg/L	U
Naphthalene	N/A	100	µg/L	<b>384</b>
Toluene	C5-C8	100	µg/L	<b>750</b>
m- & p-Xylenes	C9-C12	200	µg/L	<b>3670</b>
o-Xylene	C9-C12	100	µg/L	<b>3390</b>
C5-C8 Aliphatic Hydrocarbons <sup>1,2</sup>	N/A	2500	µg/L	<b>1520 J</b>
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	2500	µg/L	<b>8130</b>
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	N/A	500	µg/L	<b>5190</b>
Surrogate % Recovery (2,5-Dibromotoluene) PID				*
Surrogate % Recovery (2,5-Dibromotoluene) FID				*
Surrogate Acceptance Range				70-130%

<sup>1</sup>Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup>C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup>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.

\* The surrogates were diluted out.

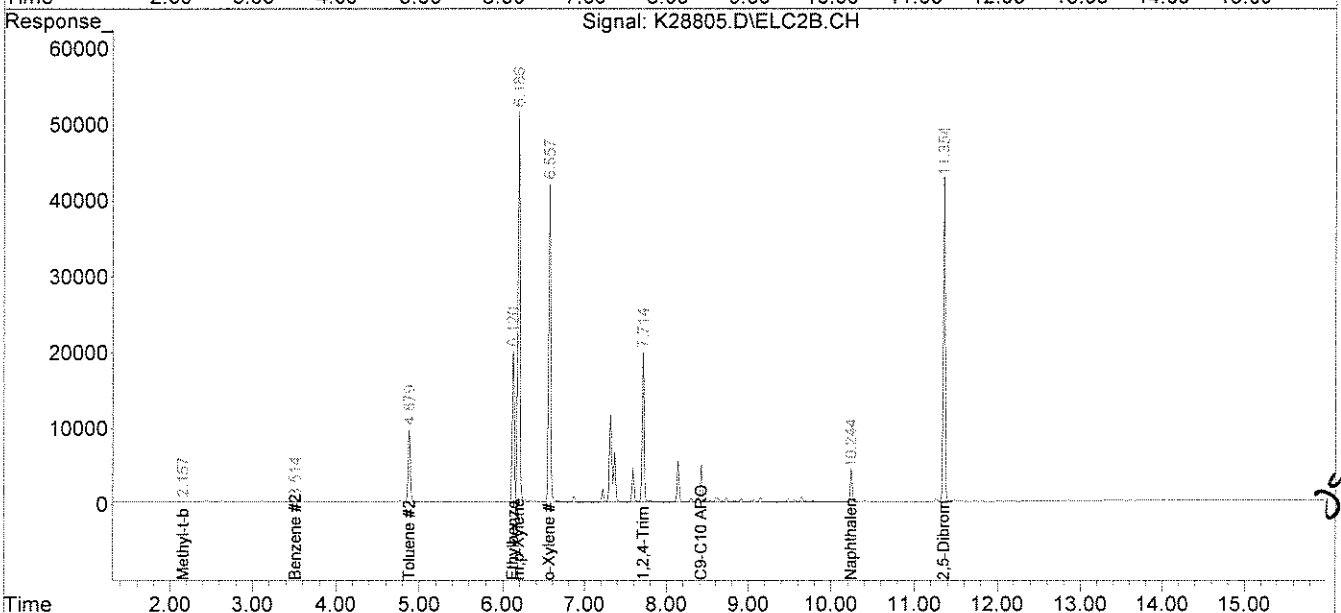
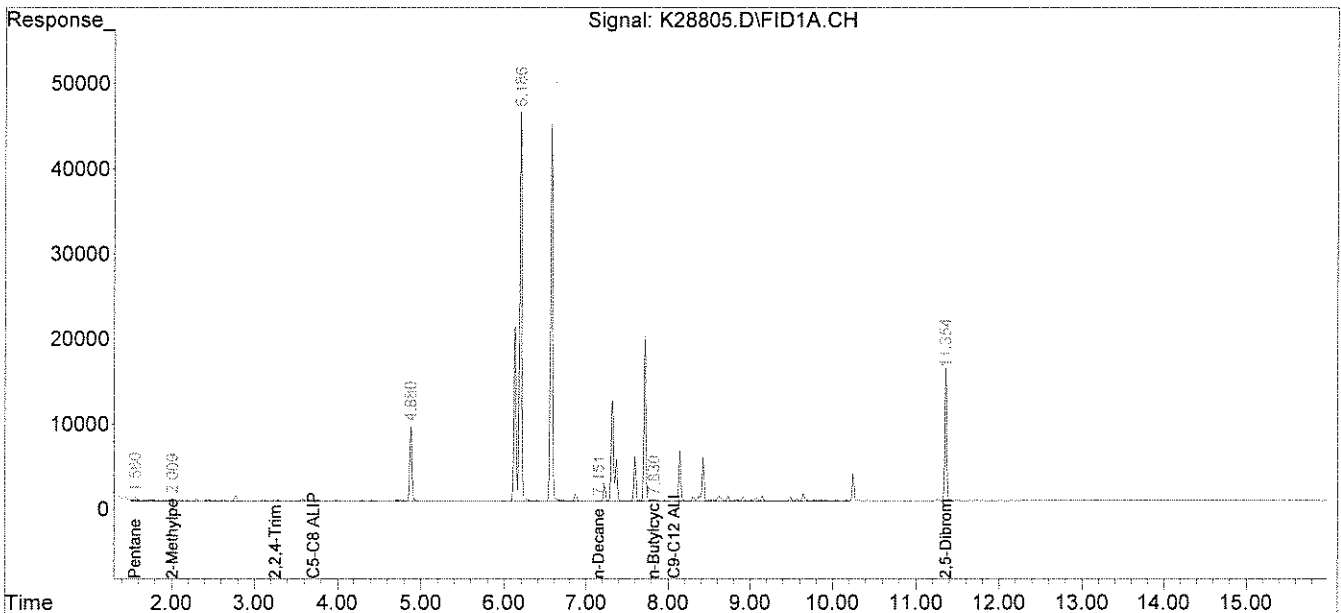
Authorized signature: *M. Bull*

Data Path : C:\msdchem\1\DATA\090810-K\  
 Data File : K28805.D  
 Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH  
 Acq On : 08 Sep 2010 3:24 pm  
 Operator : JJL  
 Sample : 67694-1,50X  
 Misc : 100  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Sep 13 13:56:00 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

*gg 9/13/10*

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



*27166*

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September 15, 2010

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Cumberland Farms- Sanford  
**Project Number:** R101.06074.003  
**Client Sample ID:** MW-102

**Lab Sample ID:** 67694-2  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 50  
**Collection Date:** 09/02/10  
**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 <sup>1</sup>	N/A	2500	µg/L	<b>31200</b>
Unadjusted C9-C12 Aliphatics <sup>1</sup>	N/A	2500	µg/L	<b>39900</b>
Benzene	C5-C8	100	µg/L	U
Ethylbenzene	C9-C12	100	µg/L	<b>2490</b>
Methyl-tert-butyl ether	C5-C8	100	µg/L	U
Naphthalene	N/A	100	µg/L	<b>454</b>
Toluene	C5-C8	100	µg/L	<b>17400</b>
m- & p-Xylenes	C9-C12	200	µg/L	<b>11100</b>
o-Xylene	C9-C12	100	µg/L	<b>5010</b>
C5-C8 Aliphatics Hydrocarbons <sup>1,2</sup>	N/A	2500	µg/L	<b>13800</b>
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	2500	µg/L	<b>14700</b>
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	N/A	500	µg/L	<b>6430</b>
Surrogate % Recovery (2,5-Dibromotoluene) PID				*
Surrogate % Recovery (2,5-Dibromotoluene) FID				*
Surrogate Acceptance Range				70-130%

<sup>1</sup> Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup> C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup> 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.  
 \* The surrogates were diluted out.

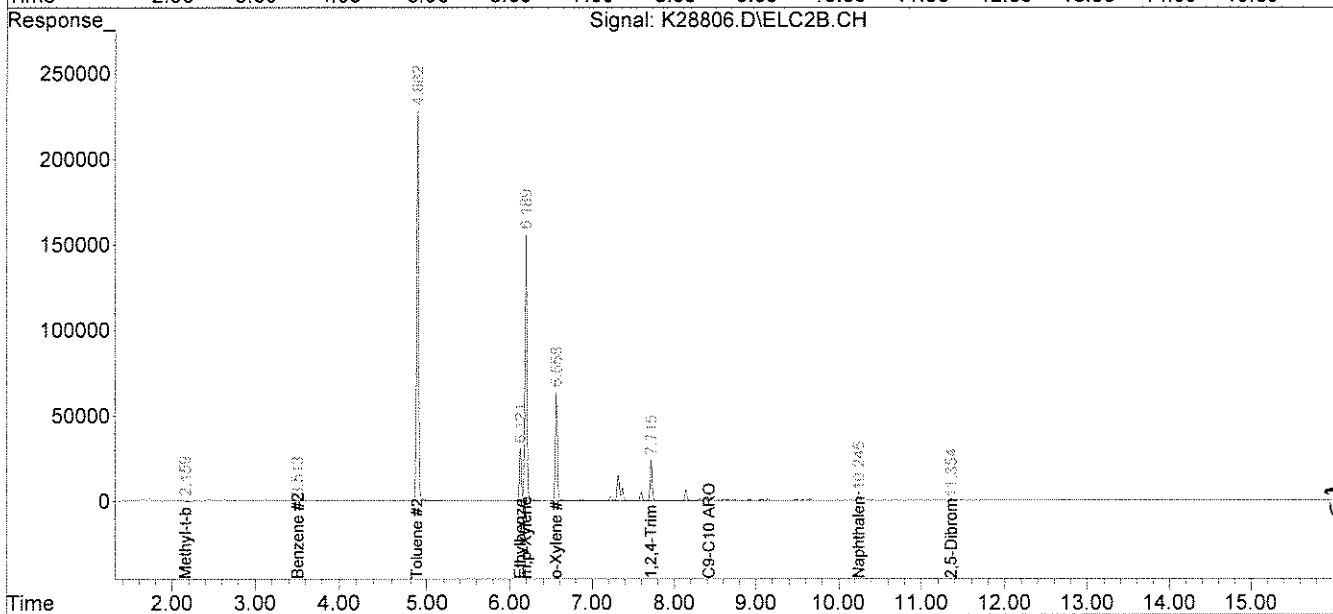
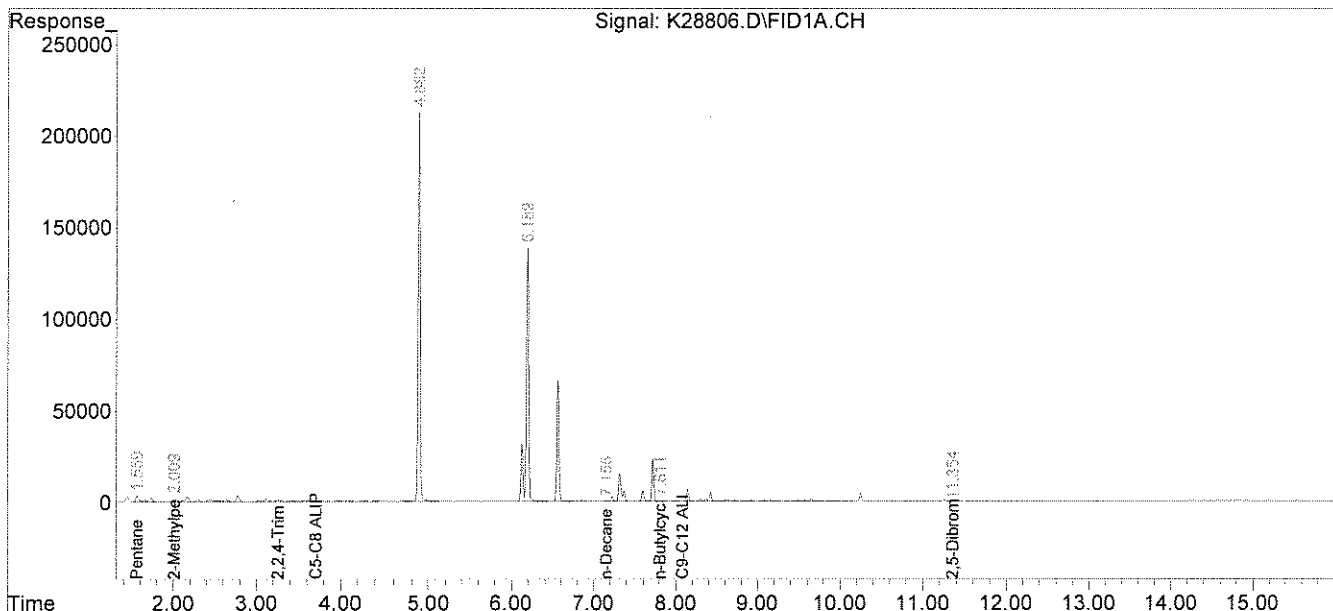
Authorized signature: *M. Phenix*

Data Path : C:\msdchem\1\DATA\090810-K\  
 Data File : K28806.D  
 Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH  
 Acq On : 08 Sep 2010 3:58 pm  
 Operator : JJL  
 Sample : 67694-2,50X  
 Misc : 100  
 ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Sep 13 13:58:26 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

*gg 9/13/10*

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



*DTW*

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September 15, 2010

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Cumberland Farms- Sanford  
**Project Number:** R101.06074.003  
**Client Sample ID:** MW-103

**Lab Sample ID:** 67694-3  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 1  
**Collection Date:** 09/02/10  
**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 <sup>1</sup>	N/A	50	µg/L	<b>776</b>
Unadjusted C9-C12 Aliphatics <sup>1</sup>	N/A	50	µg/L	<b>548</b>
Benzene	C5-C8	2	µg/L	U
Ethylbenzene	C9-C12	2	µg/L	<b>4</b>
Methyl-tert-butyl ether	C5-C8	2	µg/L	U
Naphthalene	N/A	2	µg/L	<b>4</b>
Toluene	C5-C8	2	µg/L	<b>1 J</b>
m- & p-Xylenes	C9-C12	4	µg/L	<b>6</b>
o-Xylene	C9-C12	2	µg/L	<b>6</b>
C5-C8 Aliphatics Hydrocarbons <sup>1,2</sup>	N/A	50	µg/L	<b>774</b>
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	50	µg/L	<b>256</b>
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	N/A	10	µg/L	<b>276</b>
Surrogate % Recovery (2,5-Dibromotoluene) PID				105
Surrogate % Recovery (2,5-Dibromotoluene) FID				111
Surrogate Acceptance Range				70-130%

<sup>1</sup> Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup> C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup> 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.

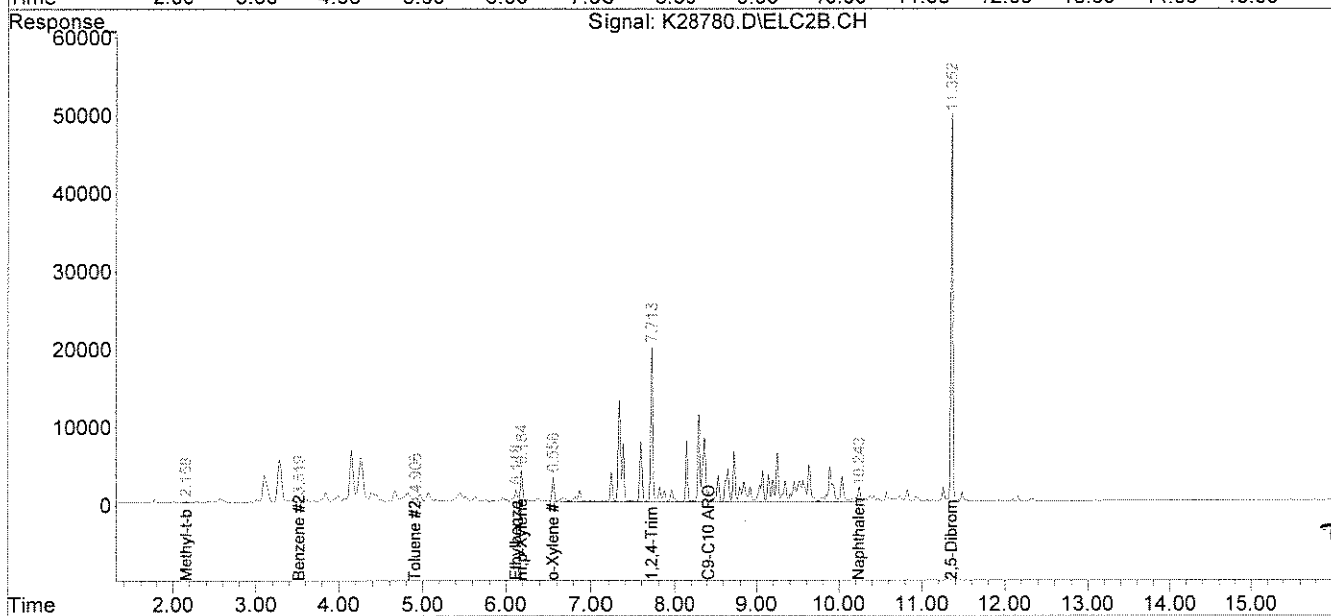
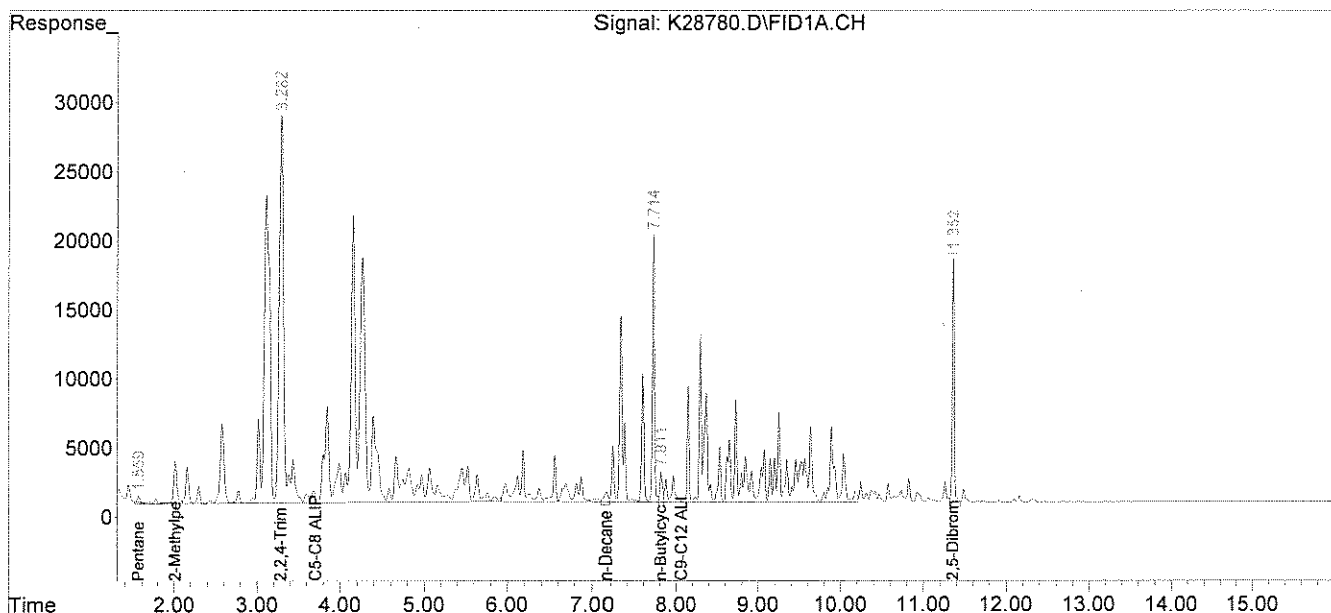
Authorized signature: *M. Bull*

Data Path : C:\msdchem\1\DATA\090710-K\  
 Data File : K28780.D  
 Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH  
 Acq On : 07 Sep 2010 6:23 pm  
 Operator : JJL  
 Sample : 67694-3  
 Misc : 5000  
 ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Sep 13 13:12:08 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 #2 Phase:  
 Signal #1 Info : Signal #2 Info :



09/13/10

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September 15, 2010

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Cumberland Farms- Sanford  
**Project Number:** R101.06074.003  
**Client Sample ID:** SB103-S4-090210

**Lab Sample ID:** 67694-4  
**Matrix:** Solid  
**Percent Solid:** 96  
**Dilution Factor:** 114  
**Collection Date:** 09/02/10  
**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 <sup>1</sup>	N/A	5700	µg/kg	<b>15600</b>
Unadjusted C9-C12 Aliphatics <sup>1</sup>	N/A	5700	µg/kg	<b>52500</b>
Benzene	C5-C8	230	µg/kg	U
Ethylbenzene	C9-C12	230	µg/kg	<b>225 J</b>
Methyl-tert-butyl ether	C5-C8	230	µg/kg	U
Naphthalene	N/A	230	µg/kg	<b>748</b>
Toluene	C5-C8	230	µg/kg	U
m- & p-Xylenes	C9-C12	460	µg/kg	<b>657</b>
o-Xylene	C9-C12	230	µg/kg	<b>280</b>
C5-C8 Aliphatic Hydrocarbons <sup>1,2</sup>	N/A	5700	µg/kg	<b>15600</b>
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	5700	µg/kg	<b>28200</b>
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	N/A	1140	µg/kg	<b>23100</b>
Surrogate % Recovery (2,5-Dibromotoluene) PID				102
Surrogate % Recovery (2,5-Dibromotoluene) FID				121
Surrogate Acceptance Range				70-130%

<sup>1</sup>Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup>C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup>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: *M. S. Bull*

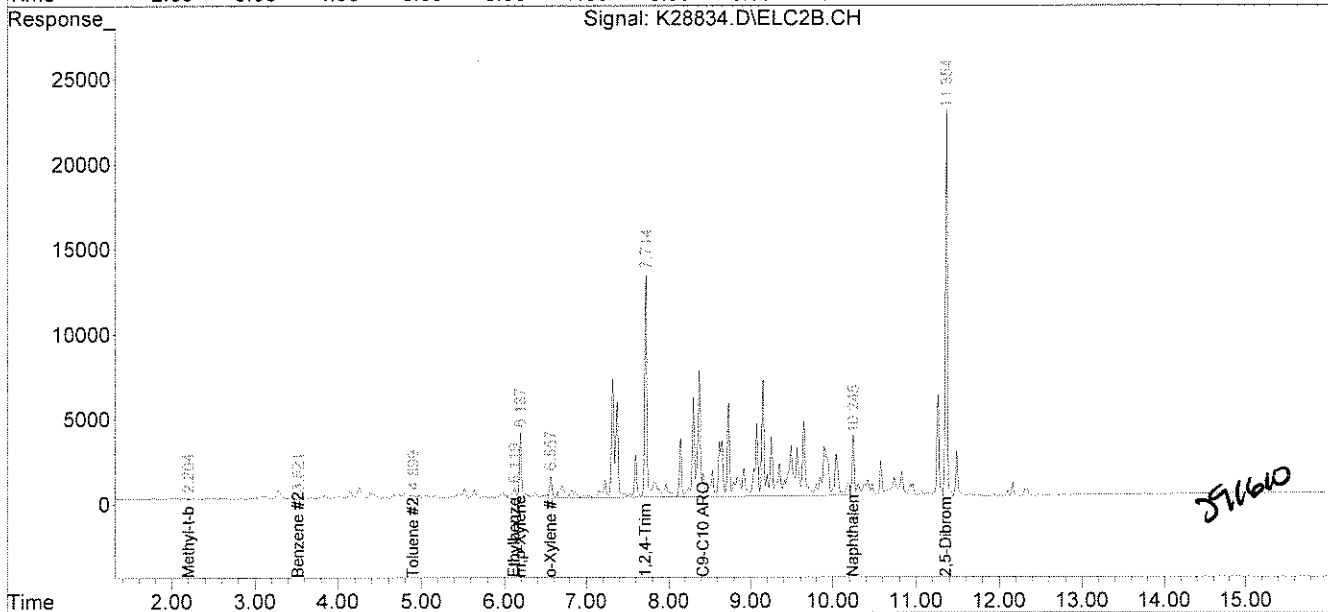
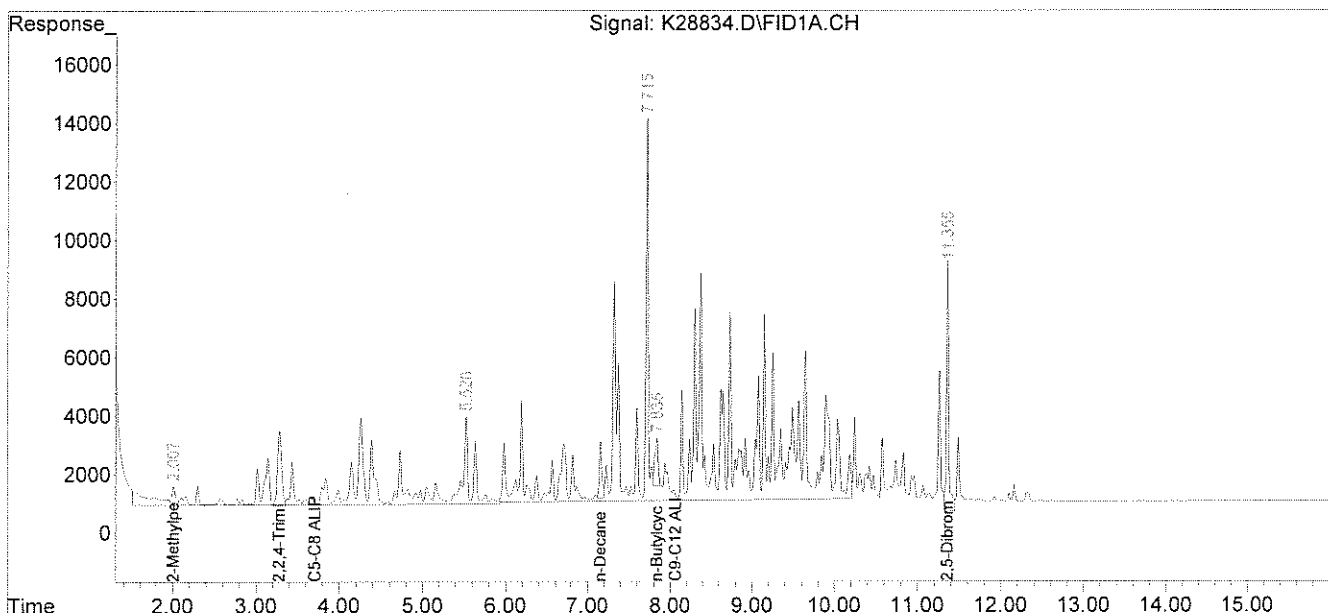
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\090910-K\  
 Data File : K28834.D  
 Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH  
 Acq On : 09 Sep 2010 1:54 pm  
 Operator : JJL  
 Sample : 67694-4,2X  
 Misc : 50,9.48,SOIL  
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Sep 10 11:20:32 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* 9/10/10

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



*JJL*



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September 15, 2010

**CLIENT SAMPLE ID**

**Project Name:** Cumberland Farms- Sanford

**Project Number:** R101.06074.003

**Client Sample ID:** SB104-S5-090210

**SAMPLE DATA**

**Lab Sample ID:** 67694-5

**Matrix:** Solid

**Percent Solid:** 89

**Dilution Factor:** 65

**Collection Date:** 09/02/10

**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 <sup>1</sup>	N/A	3250	µg/kg	U
Unadjusted C9-C12 Aliphatics <sup>1</sup>	N/A	3250	µg/kg	U
Benzene	C5-C8	130	µg/kg	U
Ethylbenzene	C9-C12	130	µg/kg	U
Methyl-tert-butyl ether	C5-C8	130	µg/kg	U
Naphthalene	N/A	130	µg/kg	U
Toluene	C5-C8	130	µg/kg	U
m- & p-Xylenes	C9-C12	260	µg/kg	U
o-Xylene	C9-C12	130	µg/kg	U
C5-C8 Aliphatics Hydrocarbons <sup>1,2</sup>	N/A	3250	µg/kg	U
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	3250	µg/kg	U
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	N/A	650	µg/kg	U
Surrogate % Recovery (2,5-Dibromotoluene) PID				76
Surrogate % Recovery (2,5-Dibromotoluene) FID				72
Surrogate Acceptance Range				70-130%

<sup>1</sup>Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup>C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup>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.

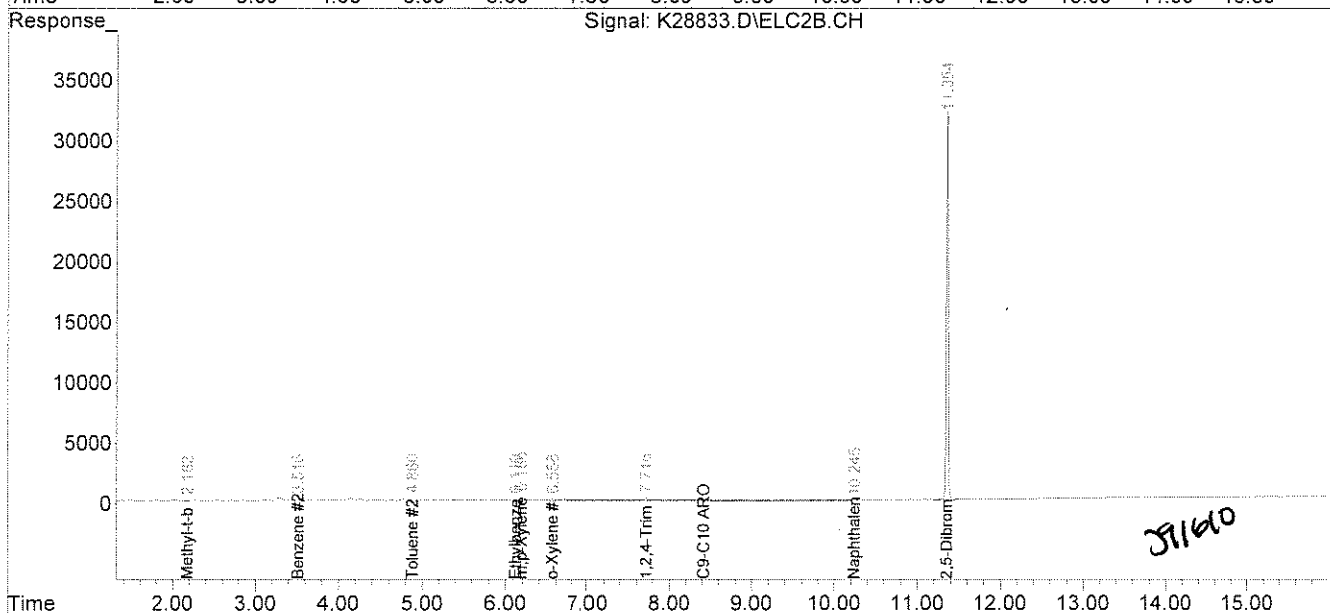
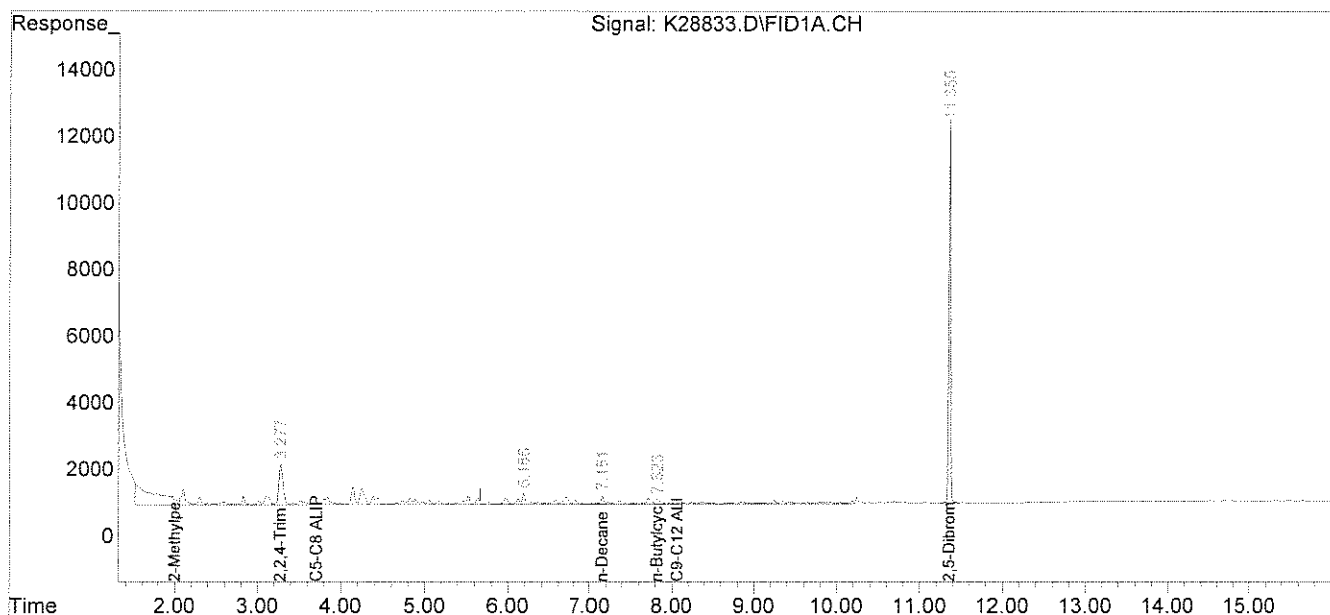
Authorized signature: 

Data Path : C:\msdchem\1\DATA\090910-K\  
 Data File : K28833.D  
 Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH  
 Acq On : 09 Sep 2010 1:29 pm  
 Operator : JJL  
 Sample : 67694-5  
 Misc : 100,9.60,SOIL  
 ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Sep 10 11:06:06 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* 9/10/10

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



*JJL* 9/10

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September 15, 2010

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Cumberland Farms- Sanford

**Project Number:** R101.06074.003

**Client Sample ID:** Trip Blank (s)

**Lab Sample ID:** 67694-6

**Matrix:** Solid

**Percent Solid:** 100

**Dilution Factor:** 50

**Collection Date:** 09/02/10

**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 <sup>1</sup>	N/A	2500	µg/kg	U
Unadjusted C9-C12 Aliphatics <sup>1</sup>	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 <sup>1,2</sup>	N/A	2500	µg/kg	U
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	2500	µg/kg	U
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	N/A	500	µg/kg	U
Surrogate % Recovery (2,5-Dibromotoluene) PID				81
Surrogate % Recovery (2,5-Dibromotoluene) FID				90
Surrogate Acceptance Range				70-130%

<sup>1</sup>Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup>C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup>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.

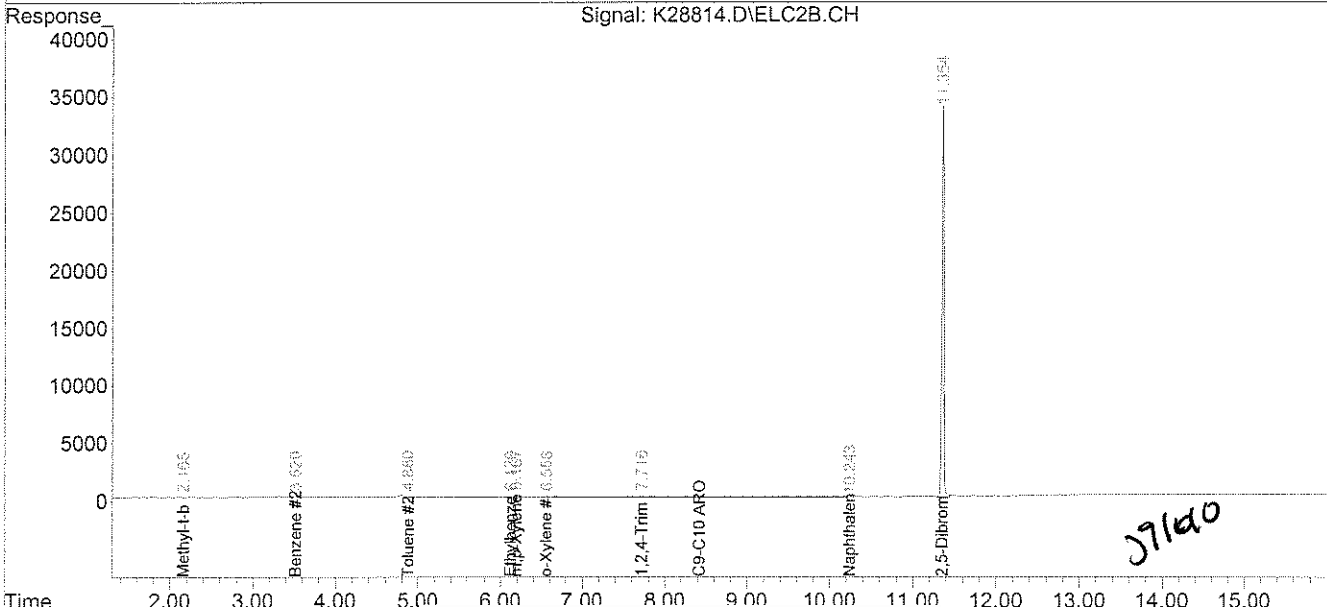
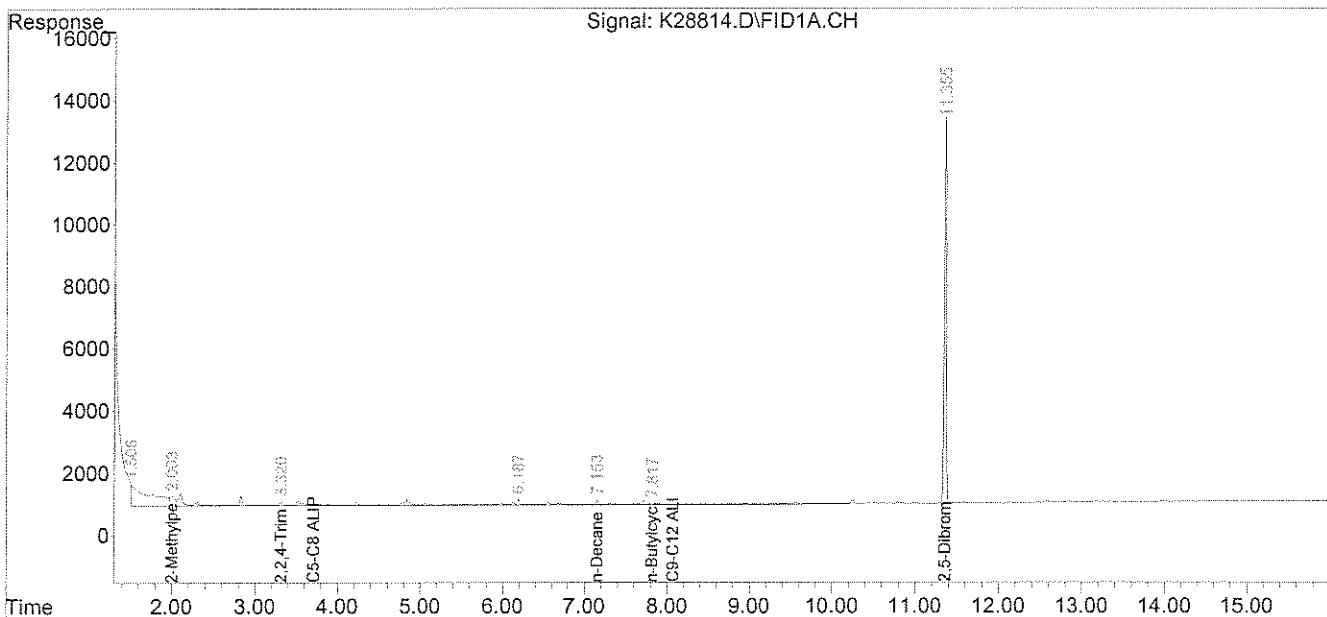
Authorized signature: M. M. M. M.

Data Path : C:\msdchem\1\DATA\090810-K\  
 Data File : K28814.D  
 Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH  
 Acq On : 08 Sep 2010 7:16 pm  
 Operator : JJL  
 Sample : 67694-6  
 Misc : 100,10.00,SOIL  
 ALS Vial : 24 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Sep 09 11:48:03 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

*gg 9/9/10*

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



*37140*

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September 15, 2010

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Cumberland Farms- Sanford  
**Project Number:** R101.06074.003  
**Client Sample ID:** Trip Blank (aq)

**Lab Sample ID:** 67694-7  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 1  
**Collection Date:** 09/02/10  
**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 <sup>1</sup>	N/A	50	µg/L	U
Unadjusted C9-C12 Aliphatics <sup>1</sup>	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 <sup>1,2</sup>	N/A	50	µg/L	U
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	50	µg/L	U
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	N/A	10	µg/L	U
Surrogate % Recovery (2,5-Dibromotoluene) PID				87
Surrogate % Recovery (2,5-Dibromotoluene) FID				82
Surrogate Acceptance Range				70-130%

<sup>1</sup>Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup>C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup>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.

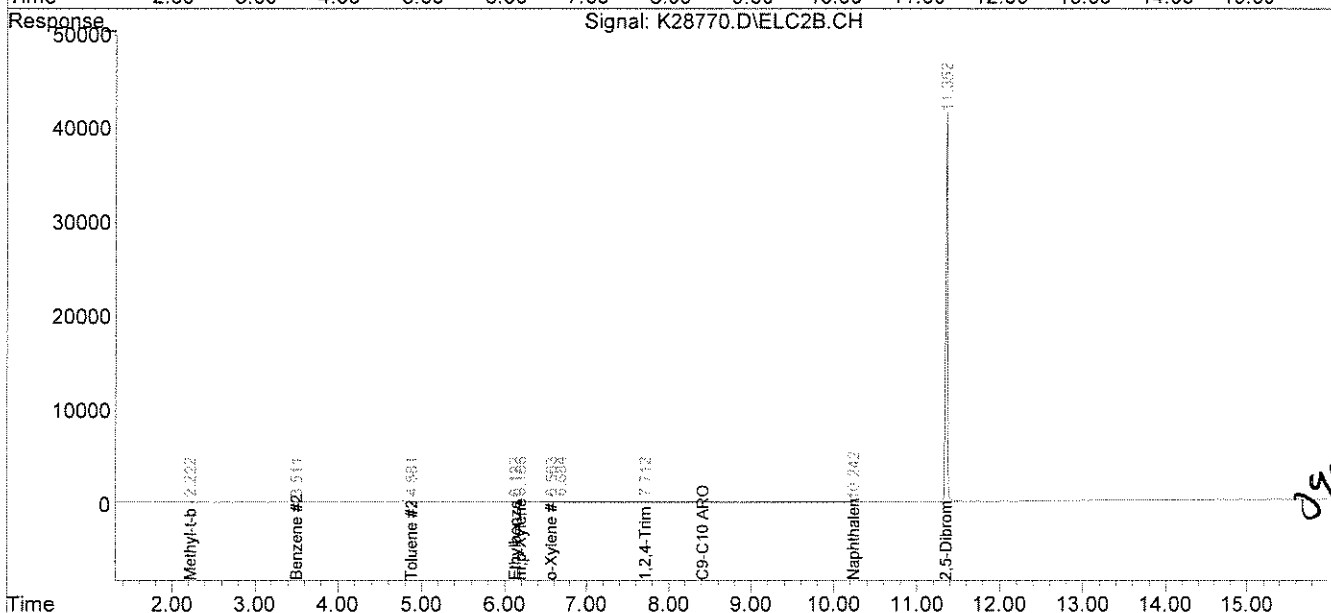
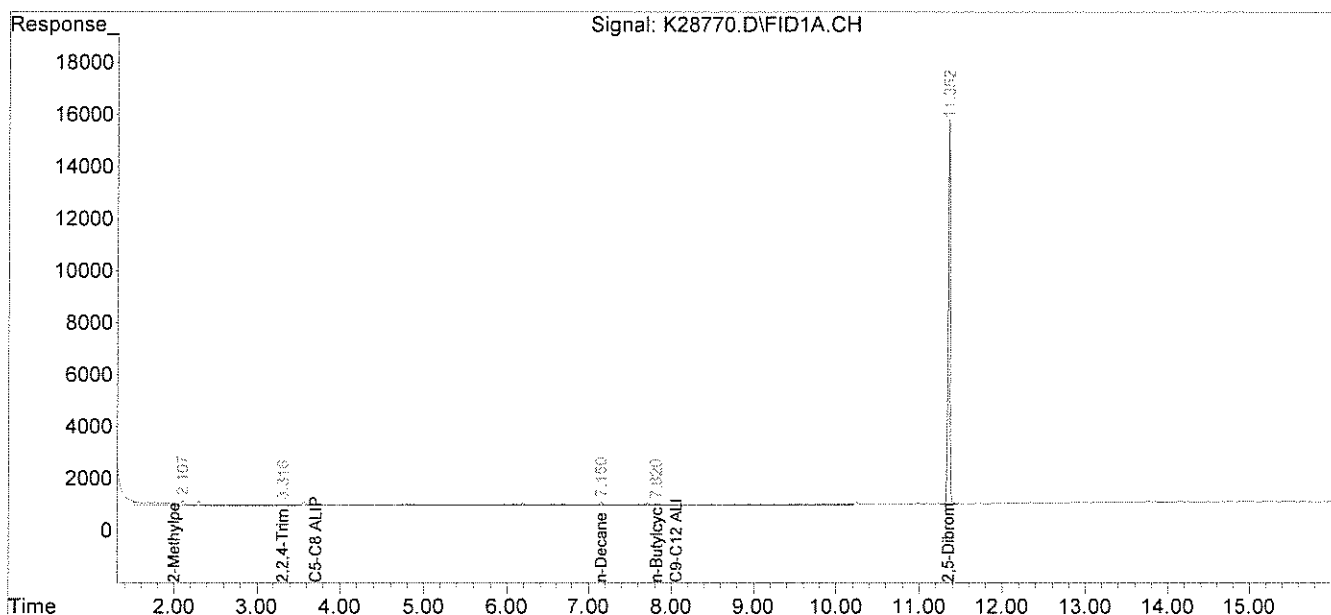
Authorized signature: *Michelle*

Data Path : C:\msdchem\1\DATA\090710-K\  
 Data File : K28770.D  
 Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH  
 Acq On : 07 Sep 2010 12:58 pm  
 Operator : JJL  
 Sample : 67694-7  
 Misc : 5000  
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Sep 13 12:48:32 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

*gg* 9/13/10

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



*JJL*

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: 67694  
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: 67694  
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 SOIL  
LABORATORY CONTROL/LABORATORY CONTROL DUPLICATE  
PERCENT RECOVERY

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

SDG: 67694  
Non-spiked sample: MBV090810K  
Spike: LSV090810K  
Spike duplicate: LSV090810K2

COMPOUND	LCS SPIKE	LCSD SPIKE	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/kg)	SPIKE	SPIKE % REC	SPIKE #	SPIKE DUP	SPIKE DUP % REC	SPIKE DUP #	RPD	#
	ADDED (ug/kg)	ADDED (ug/kg)					RESULT (ug/kg)			RESULT (ug/kg)				
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: 67694  
Non-spiked sample: MBV090910K  
Spike: LSV090910K  
Spike duplicate: LSV090910K

COMPOUND	LCS SPIKE	LCS D SPIKE	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/kg)	SPIKE RESULT (ug/kg)	SPIKE		SPIKE DUP		SPIKE DUP		RPD #
	ADDED (ug/kg)	ADDED (ug/kg)						% REC	#	RESULT (ug/kg)	% 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: \_\_\_\_\_  
\_\_\_\_\_

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: 67694  
Non-spiked sample: 67694-3  
Spike: 67694-3,MSD  
Spike duplicate: 67694-3,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	1.4	121	119		136	134	*	12	
2-Methylpentane	100	70	130	25	10.3	124	114		134	124		8	
2,2,4-Trimethylpentane	100	70	130	25	129.3	184	55	*	183	53	*	1	
n-Decane	100	70	130	25	4.8	126	121		135	130		7	
n-Butylcyclohexane	100	70	130	25	8.2	127	119		139	131	*	9	
Methyl-t-butylether #2	100	70	130	25	0.0	86	86		91	91		5	
Benzene #2	100	70	130	25	0.0	102	102		108	108		6	
Toluene #2	100	70	130	25	1.3	103	101		108	107		5	
Ethylbenzene #2	100	70	130	25	4.5	103	98		108	104		5	
m,p-Xylene #2	200	70	130	25	6.2	208	101		219	106		5	
o-Xylene #2	100	70	130	25	5.5	100	95		106	100		5	
1,2,4-Trimethylbenzene #2	100	70	130	25	29.7	126	96		133	103		5	
Naphthalene #2	100	70	130	25	3.7	98	94		97	93		1	
C5-C8 Aliphatics	300	70	130	25	141.0	429	96		453	104		5	
C9-C12 Aliphatics	200	70	130	25	13.0	253	120		274	130		8	
C9-C10 Aromatics #2	100	70	130	25	29.7	126	96		133	103		5	

# 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

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

Project#: R101.06074.003 Proj. Name: Cumberland Farms - Sanford  
 Company: RANSOM Environmental Consultants, Inc.  
 Contact: Erik Phenix  
 Address: 400 Commercial Street Suite 404  
 Portland, ME 04101  
 Phone: (207) 772-2891 PO# Phenix Quote #  
 Sampler (Signature): Erik Phenix

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: 8/6 9/3/10

Container Key: COOLER # 20  
 P=plastic G=glass

Station Identification	Sample Date	Sample Time	Analysis	Preservation				Matrix	Container number/type	pH	Analytics Sample #	Received By:	Time:	Date:
				Unpres	4° C	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>							
MW-101	9/2/10	1215	VPH Full	X							GW	4 G	67694-1	Received By: <u>[Signature]</u> Time: <u>13:10</u> Date: <u>9/3/10</u>
MW-102	9/2/10	1420	VPH Full	X							GW	3 G	67694-2	Received By: <u>[Signature]</u> Time: <u>13:10</u> Date: <u>9/3/10</u>
MW-103	9/2/10	1630	VPH Full	X							GW	3 G	67694-3	Received By: <u>[Signature]</u> Time: <u>13:10</u> Date: <u>9/3/10</u>
SB103-54-090210	9/2/10	1300	VPH Full	X							S	4 G	67694-4	Received By: <u>[Signature]</u> Time: <u>13:10</u> Date: <u>9/3/10</u>
SB104-55-090210	9/2/10	1500	VPH Full	X							S	2 G	67694-5	Received By: <u>[Signature]</u> Time: <u>13:10</u> Date: <u>9/3/10</u>
TRIP BLANK			SOLID											Received By: <u>[Signature]</u> Time: <u>13:10</u> Date: <u>9/3/10</u>
TRIP BLANK			WATEROUS											Received By: <u>[Signature]</u> Time: <u>13:10</u> Date: <u>9/3/10</u>
														Received By: <u>[Signature]</u> Time: <u>13:10</u> Date: <u>9/3/10</u>

Project Requirements: \*Fee may apply

Report Type:  MCP\*  Level II\*  Level III\*  Level IV\*  Standard

State:  NH  MA  ME  CT  RI  Other: \_\_\_\_\_

State Standard: \_\_\_\_\_  
 (eg. S-1 or GW-1)  
 EDD Required Y\* N  
 Type: MEDEP

Comments / Instructions:  
\* Bill to Maine DEP  
Potential Vapor Intrusion Study  
c/o Peter Erenita  
312 Canco Road  
Portland, ME

Email Results to: ephenix@ransomenv.com

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

**ANALYTICS SAMPLE RECEIPT CHECKLIST**



AEL LAB#: 67694 COOLER NUMBER: 20  
 CLIENT: RANSOM ENVIRONMENTAL CONSULT. NUMBER OF COOLERS: 1  
 PROJECT: CUMBERLAND FARMS SARIFORD DATE RECEIVED: 09/03/10

**A: PRELIMINARY EXAMINATION:**

1. Cooler received by (initials): [Signature] DATE COOLER OPENED: 09/03/10  
 Date Received: 09/03/10
2. Circle one: Hand delivered (If so, skip 3) Shipped
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?  
 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: [Signature]

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:

67694 7-A HAD BUBBLES SMALLER THAN PEASIZED

[Signature] 9/3/10  
[Signature] 9/3/10

21. Laboratory labeling verified by (initials): [Signature]

Date: 9/3/10



## ANALYTICAL REPORT

Lab Number:	L1013798
Client:	Ransom Environmental 400 Commercial Street Suite 404 Portland, ME 04101-4660
ATTN:	Erik Phenix
Phone:	(207) 772-2891
Project Name:	CUMBERLAND FARMS-SANFORD
Project Number:	R101.06074.003
Report Date:	09/15/10

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.

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





**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1013798  
**Report Date:** 09/15/10

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>
L1013798-01	SV-101	SANFORD, ME	09/02/10 12:44
L1013798-02	SV-102	SANFORD, ME	09/02/10 14:48
L1013798-03	SV-103	SANFORD, ME	09/02/10 16:58
L1013798-04	SV-104	SANFORD, ME	09/02/10 16:53
L1013798-05	SV-105	SANFORD, ME	09/02/10 11:43
L1013798-06	SV-108	SANFORD, ME	09/02/10 09:50

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1013798  
**Report Date:** 09/15/10

### 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.

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#### 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 CO<sub>2</sub> and O<sub>2</sub>.

#### Volatile Organics in Air (Low Level)

L1013798-01 through -06 and WG431444-5 Duplicate: 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-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1013798  
**Report Date:** 09/15/10

### Case Narrative (continued)

L1013798-01 and WG431444-5 Duplicate have elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

#### Fixed Gas

L1013798-01 through -06: 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.

#### Petroleum Hydrocarbons in Air

All significant concentrations of non-petroleum VOCs detected in the TO-15 analysis were subtracted from the corresponding hydrocarbon ranges.

L1013798-01 through -06 and WG431442-5 Duplicate: 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.

L1013798-01 and WG431442-5 Duplicate have elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

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: 09/15/10

**AIR**

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1013798**Project Number:** R101.06074.003**Report Date:** 09/15/10**SAMPLE RESULTS**

Lab ID: L1013798-01 D  
 Client ID: SV-101  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 09/08/10 22:44  
 Analyst: RY

Date Collected: 09/02/10 12:44  
 Date Received: 09/04/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	4.75	--	ND	12.1	--		23.73
1,1-Dichloroethene	ND	4.75	--	ND	18.8	--		23.73
trans-1,2-Dichloroethene	ND	4.75	--	ND	18.8	--		23.73
1,1-Dichloroethane	ND	4.75	--	ND	19.2	--		23.73
cis-1,2-Dichloroethene	ND	4.75	--	ND	18.8	--		23.73
1,2-Dichloroethane	ND	4.75	--	ND	19.2	--		23.73
1,1,1-Trichloroethane	ND	4.75	--	ND	25.9	--		23.73
Trichloroethene	ND	4.75	--	ND	25.5	--		23.73
1,2-Dibromoethane	ND	4.75	--	ND	36.4	--		23.73
Tetrachloroethene	33.5	4.75	--	227	32.2	--		23.73

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	80		60-140
Bromochloromethane	86		60-140
chlorobenzene-d5	88		60-140



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1013798**Project Number:** R101.06074.003**Report Date:** 09/15/10**SAMPLE RESULTS**

Lab ID: L1013798-02 D  
 Client ID: SV-102  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 09/08/10 23:55  
 Analyst: RY

Date Collected: 09/02/10 14:48  
 Date Received: 09/04/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.475	--	ND	1.21	--		2.373
1,1-Dichloroethene	ND	0.475	--	ND	1.88	--		2.373
trans-1,2-Dichloroethene	ND	0.475	--	ND	1.88	--		2.373
1,1-Dichloroethane	ND	0.475	--	ND	1.92	--		2.373
cis-1,2-Dichloroethene	ND	0.475	--	ND	1.88	--		2.373
1,2-Dichloroethane	ND	0.475	--	ND	1.92	--		2.373
1,1,1-Trichloroethane	ND	0.475	--	ND	2.59	--		2.373
Trichloroethene	ND	0.475	--	ND	2.55	--		2.373
1,2-Dibromoethane	ND	0.475	--	ND	3.64	--		2.373
Tetrachloroethene	47.9	0.475	--	325	3.22	--		2.373

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	84		60-140
Bromochloromethane	90		60-140
chlorobenzene-d5	89		60-140



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1013798**Project Number:** R101.06074.003**Report Date:** 09/15/10**SAMPLE RESULTS**

Lab ID: L1013798-03 D  
 Client ID: SV-103  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 09/09/10 00:29  
 Analyst: RY

Date Collected: 09/02/10 16:58  
 Date Received: 09/04/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.453	--	ND	1.16	--		2.264
1,1-Dichloroethene	ND	0.453	--	ND	1.79	--		2.264
trans-1,2-Dichloroethene	ND	0.453	--	ND	1.79	--		2.264
1,1-Dichloroethane	ND	0.453	--	ND	1.83	--		2.264
cis-1,2-Dichloroethene	ND	0.453	--	ND	1.79	--		2.264
1,2-Dichloroethane	ND	0.453	--	ND	1.83	--		2.264
1,1,1-Trichloroethane	ND	0.453	--	ND	2.47	--		2.264
Trichloroethene	ND	0.453	--	ND	2.43	--		2.264
1,2-Dibromoethane	ND	0.453	--	ND	3.48	--		2.264
Tetrachloroethene	7.90	0.453	--	53.5	3.07	--		2.264

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	85		60-140
Bromochloromethane	90		60-140
chlorobenzene-d5	90		60-140



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1013798**Project Number:** R101.06074.003**Report Date:** 09/15/10**SAMPLE RESULTS**

Lab ID: L1013798-04 D  
 Client ID: SV-104  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 09/09/10 01:05  
 Analyst: RY

Date Collected: 09/02/10 16:53  
 Date Received: 09/04/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.460	--	ND	1.17	--		2.299
1,1-Dichloroethene	ND	0.460	--	ND	1.82	--		2.299
trans-1,2-Dichloroethene	ND	0.460	--	ND	1.82	--		2.299
1,1-Dichloroethane	ND	0.460	--	ND	1.86	--		2.299
cis-1,2-Dichloroethene	ND	0.460	--	ND	1.82	--		2.299
1,2-Dichloroethane	ND	0.460	--	ND	1.86	--		2.299
1,1,1-Trichloroethane	ND	0.460	--	ND	2.51	--		2.299
Trichloroethene	ND	0.460	--	ND	2.47	--		2.299
1,2-Dibromoethane	ND	0.460	--	ND	3.53	--		2.299
Tetrachloroethene	4.04	0.460	--	27.4	3.12	--		2.299

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	83		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	89		60-140





**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1013798**Project Number:** R101.06074.003**Report Date:** 09/15/10**SAMPLE RESULTS**

Lab ID: L1013798-05 D  
 Client ID: SV-105  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 09/09/10 01:41  
 Analyst: RY

Date Collected: 09/02/10 11:43  
 Date Received: 09/04/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.460	--	ND	1.17	--		2.299
1,1-Dichloroethene	ND	0.460	--	ND	1.82	--		2.299
trans-1,2-Dichloroethene	ND	0.460	--	ND	1.82	--		2.299
1,1-Dichloroethane	ND	0.460	--	ND	1.86	--		2.299
cis-1,2-Dichloroethene	ND	0.460	--	ND	1.82	--		2.299
1,2-Dichloroethane	ND	0.460	--	ND	1.86	--		2.299
1,1,1-Trichloroethane	ND	0.460	--	ND	2.51	--		2.299
Trichloroethene	ND	0.460	--	ND	2.47	--		2.299
1,2-Dibromoethane	ND	0.460	--	ND	3.53	--		2.299
Tetrachloroethene	1.04	0.460	--	7.07	3.12	--		2.299

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	88		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	99		60-140



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1013798**Project Number:** R101.06074.003**Report Date:** 09/15/10**SAMPLE RESULTS**

Lab ID: L1013798-06 D  
 Client ID: SV-108  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 09/09/10 02:16  
 Analyst: RY

Date Collected: 09/02/10 09:50  
 Date Received: 09/04/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.427	--	ND	1.09	--		2.134
1,1-Dichloroethene	ND	0.427	--	ND	1.69	--		2.134
trans-1,2-Dichloroethene	ND	0.427	--	ND	1.69	--		2.134
1,1-Dichloroethane	ND	0.427	--	ND	1.73	--		2.134
cis-1,2-Dichloroethene	ND	0.427	--	ND	1.69	--		2.134
1,2-Dichloroethane	ND	0.427	--	ND	1.73	--		2.134
1,1,1-Trichloroethane	ND	0.427	--	ND	2.33	--		2.134
Trichloroethene	ND	0.427	--	ND	2.29	--		2.134
1,2-Dibromoethane	ND	0.427	--	ND	3.28	--		2.134
Tetrachloroethene	ND	0.427	--	ND	2.89	--		2.134

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	93		60-140
Bromochloromethane	100		60-140
chlorobenzene-d5	98		60-140



Project Name: CUMBERLAND FARMS-SANFORD

Lab Number: L1013798

Project Number: R101.06074.003

Report Date: 09/15/10

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 09/08/10 15:04

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab for sample(s): 01-06 Batch: WG431444-4								
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-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1013798  
**Report Date:** 09/15/10

Parameter	LCS		LCSD		%Recovery		RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual	%Recovery	Limits			
Volatile Organics in Air (Low Level) - Mansfield Lab Associated sample(s): 01-06 Batch: WG431444-3									
Chlorodifluoromethane	86	-	-	-	70-130	-	-	-	-
Propylene	96	-	-	-	70-130	-	-	-	-
Propane	83	-	-	-	70-130	-	-	-	-
Dichlorodifluoromethane	99	-	-	-	70-130	-	-	-	-
Chloromethane	94	-	-	-	70-130	-	-	-	-
1,2-Dichloro-1,1,2,2-tetrafluoroethane	97	-	-	-	70-130	-	-	-	-
Methanol	88	-	-	-	70-130	-	-	-	-
Vinyl chloride	98	-	-	-	70-130	-	-	-	-
1,3-Butadiene	100	-	-	-	70-130	-	-	-	-
Butane	96	-	-	-	70-130	-	-	-	-
Bromomethane	93	-	-	-	70-130	-	-	-	-
Chloroethane	97	-	-	-	70-130	-	-	-	-
Ethyl Alcohol	90	-	-	-	70-130	-	-	-	-
Dichlorofluoromethane	81	-	-	-	70-130	-	-	-	-
Vinyl bromide	95	-	-	-	70-130	-	-	-	-
Acrolein	87	-	-	-	70-130	-	-	-	-
Acetone	84	-	-	-	70-130	-	-	-	-
Acetonitrile	82	-	-	-	70-130	-	-	-	-
Trichlorofluoromethane	98	-	-	-	70-130	-	-	-	-
iso-Propyl Alcohol	100	-	-	-	70-130	-	-	-	-
Acrylonitrile	77	-	-	-	70-130	-	-	-	-



## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1013798  
**Report Date:** 09/15/10

Parameter	LCS		LCSD		%Recovery		RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual	%Recovery	Limits			
Volatile Organics in Air (Low Level) - Mansfield Lab Associated sample(s): 01-06 Batch: WG431444-3									
Pentane	89	-	-	-	70-130	-	-	-	70-130
Ethyl ether	79	-	-	-	70-130	-	-	-	70-130
1,1-Dichloroethene	100	-	-	-	70-130	-	-	-	70-130
tert-Butyl Alcohol	94	-	-	-	70-130	-	-	-	70-130
Methylene chloride	101	-	-	-	70-130	-	-	-	70-130
3-Chloropropene	93	-	-	-	70-130	-	-	-	70-130
Carbon disulfide	90	-	-	-	70-130	-	-	-	70-130
1,1,2-Trichloro-1,2,2-Trifluoroethane	94	-	-	-	70-130	-	-	-	70-130
trans-1,2-Dichloroethene	89	-	-	-	70-130	-	-	-	70-130
1,1-Dichloroethane	91	-	-	-	70-130	-	-	-	70-130
Methyl tert butyl ether	81	-	-	-	70-130	-	-	-	70-130
Vinyl acetate	95	-	-	-	70-130	-	-	-	70-130
2-Butanone	82	-	-	-	70-130	-	-	-	70-130
cis-1,2-Dichloroethene	95	-	-	-	70-130	-	-	-	70-130
Ethyl Acetate	80	-	-	-	70-130	-	-	-	70-130
Chloroform	94	-	-	-	70-130	-	-	-	70-130
Tetrahydrofuran	75	-	-	-	70-130	-	-	-	70-130
2,2-Dichloropropane	86	-	-	-	70-130	-	-	-	70-130
1,2-Dichloroethane	99	-	-	-	70-130	-	-	-	70-130
n-Hexane	93	-	-	-	70-130	-	-	-	70-130
Isopropyl Ether	79	-	-	-	70-130	-	-	-	70-130

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1013798  
**Report Date:** 09/15/10

Parameter	LCS		LCSD		%Recovery		RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual	%Recovery	Limits			
Volatile Organics in Air (Low Level) - Mansfield Lab Associated sample(s): 01-06 Batch: WG431444-3									
Ethyl-Ter-Butyl-Ether	79	-	-	-	70-130	-	-	-	-
1,1,1-Trichloroethane	97	-	-	-	70-130	-	-	-	-
1,1-Dichloropropene	94	-	-	-	70-130	-	-	-	-
Benzene	95	-	-	-	70-130	-	-	-	-
Carbon tetrachloride	103	-	-	-	70-130	-	-	-	-
Cyclohexane	96	-	-	-	70-130	-	-	-	-
Tertiary-Amyl Methyl Ether	80	-	-	-	70-130	-	-	-	-
Dibromomethane	89	-	-	-	70-130	-	-	-	-
1,2-Dichloropropane	94	-	-	-	70-130	-	-	-	-
Bromodichloromethane	97	-	-	-	70-130	-	-	-	-
1,4-Dioxane	91	-	-	-	70-130	-	-	-	-
Trichloroethene	96	-	-	-	70-130	-	-	-	-
2,2,4-Trimethylpentane	94	-	-	-	70-130	-	-	-	-
Heptane	94	-	-	-	70-130	-	-	-	-
2,4,4-Trimethyl-1-Pentene	60	Q	-	-	70-130	-	-	-	-
cis-1,3-Dichloropropene	104	-	-	-	70-130	-	-	-	-
4-Methyl-2-pentanone	88	-	-	-	70-130	-	-	-	-
2,4,4-Trimethyl-2-Pentene	81	-	-	-	70-130	-	-	-	-
trans-1,3-Dichloropropene	91	-	-	-	70-130	-	-	-	-
1,1,2-Trichloroethane	96	-	-	-	70-130	-	-	-	-
Toluene	88	-	-	-	70-130	-	-	-	-

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1013798  
**Report Date:** 09/15/10

Parameter	LCS		LCSD		%Recovery		RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual	%Recovery	Limits			
Volatile Organics in Air (Low Level) - Mansfield Lab Associated sample(s): 01-06 Batch: WG431444-3									
1,3-Dichloropropane	76	-	-	-	70-130	-	-	-	-
2-Hexanone	98	-	-	-	70-130	-	-	-	-
Dibromochloromethane	94	-	-	-	70-130	-	-	-	-
1,2-Dibromoethane	92	-	-	-	70-130	-	-	-	-
Butyl Acetate	85	-	-	-	70-130	-	-	-	-
Octane	83	-	-	-	70-130	-	-	-	-
Tetrachloroethene	97	-	-	-	70-130	-	-	-	-
1,1,1,2-Tetrachloroethane	85	-	-	-	70-130	-	-	-	-
Chlorobenzene	92	-	-	-	70-130	-	-	-	-
Ethylbenzene	86	-	-	-	70-130	-	-	-	-
p/m-Xylene	86	-	-	-	70-130	-	-	-	-
Bromoform	94	-	-	-	70-130	-	-	-	-
Styrene	90	-	-	-	70-130	-	-	-	-
1,1,2,2-Tetrachloroethane	87	-	-	-	70-130	-	-	-	-
o-Xylene	87	-	-	-	70-130	-	-	-	-
1,2,3-Trichloropropane	92	-	-	-	70-130	-	-	-	-
Nonane (C9)	83	-	-	-	70-130	-	-	-	-
Isopropylbenzene	80	-	-	-	70-130	-	-	-	-
Bromobenzene	86	-	-	-	70-130	-	-	-	-
o-Chlorotoluene	82	-	-	-	70-130	-	-	-	-
n-Propylbenzene	78	-	-	-	70-130	-	-	-	-

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1013798  
**Report Date:** 09/15/10

Parameter	LCS		LCSD		%Recovery		RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual	%Recovery	Limits			
Volatile Organics in Air (Low Level) - Mansfield Lab Associated sample(s): 01-06 Batch: WG431444-3									
p-Chlorotoluene	82	-	-	-	70-130	-	-	-	-
4-Ethyltoluene	82	-	-	-	70-130	-	-	-	-
1,3,5-Trimethylbenzene	84	-	-	-	70-130	-	-	-	-
tert-Butylbenzene	79	-	-	-	70-130	-	-	-	-
1,2,4-Trimethylbenzene	88	-	-	-	70-130	-	-	-	-
Decane (C10)	85	-	-	-	70-130	-	-	-	-
Benzyl chloride	96	-	-	-	70-130	-	-	-	-
1,3-Dichlorobenzene	96	-	-	-	70-130	-	-	-	-
1,4-Dichlorobenzene	97	-	-	-	70-130	-	-	-	-
sec-Butylbenzene	80	-	-	-	70-130	-	-	-	-
p-Isopropyltoluene	76	-	-	-	70-130	-	-	-	-
1,2-Dichlorobenzene	95	-	-	-	70-130	-	-	-	-
n-Butylbenzene	85	-	-	-	70-130	-	-	-	-
1,2-Dibromo-3-chloropropane	96	-	-	-	70-130	-	-	-	-
Undecane	91	-	-	-	70-130	-	-	-	-
Dodecane (C12)	130	-	-	-	70-130	-	-	-	-
1,2,4-Trichlorobenzene	108	-	-	-	70-130	-	-	-	-
Naphthalene	98	-	-	-	70-130	-	-	-	-
1,2,3-Trichlorobenzene	97	-	-	-	70-130	-	-	-	-
Hexachlorobutadiene	98	-	-	-	70-130	-	-	-	-



## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1013798  
**Report Date:** 09/15/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
<b>Volatile Organics in Air (Low Level) - Mansfield Lab</b> Associated sample(s): 01-06 QC Batch ID: WG431444-5 QC Sample: L1013798-01 Client ID: SV-101						
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	33.5	32.3	ppbV	4		25



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1013798**Project Number:** R101.06074.003**Report Date:** 09/15/10**SAMPLE RESULTS**

**Lab ID:** L1013798-01      D  
**Client ID:** SV-101  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 09/14/10 11:12  
**Analyst:** AR

**Date Collected:** 09/02/10 12:44  
**Date Received:** 09/04/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	7.03		%	2.37	--	2.368
Carbon Dioxide	9.41		%	0.237	--	2.368

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1013798**Project Number:** R101.06074.003**Report Date:** 09/15/10**SAMPLE RESULTS**

**Lab ID:** L1013798-02      D  
**Client ID:** SV-102  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 09/14/10 11:53  
**Analyst:** AR

**Date Collected:** 09/02/10 14:48  
**Date Received:** 09/04/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	7.77		%	2.37	--	2.368
Carbon Dioxide	8.24		%	0.237	--	2.368

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1013798**Project Number:** R101.06074.003**Report Date:** 09/15/10**SAMPLE RESULTS**

**Lab ID:** L1013798-03      D  
**Client ID:** SV-103  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 09/14/10 12:34  
**Analyst:** AR

**Date Collected:** 09/02/10 16:58  
**Date Received:** 09/04/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	13.4		%	2.26	--	2.259
Carbon Dioxide	3.14		%	0.226	--	2.259

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1013798**Project Number:** R101.06074.003**Report Date:** 09/15/10**SAMPLE RESULTS**

**Lab ID:** L1013798-04      D  
**Client ID:** SV-104  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 09/14/10 13:15  
**Analyst:** AR

**Date Collected:** 09/02/10 16:53  
**Date Received:** 09/04/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	13.1		%	2.29	--	2.295
Carbon Dioxide	3.47		%	0.229	--	2.295

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1013798**Project Number:** R101.06074.003**Report Date:** 09/15/10**SAMPLE RESULTS**

**Lab ID:** L1013798-05      D  
**Client ID:** SV-105  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 09/14/10 13:57  
**Analyst:** AR

**Date Collected:** 09/02/10 11:43  
**Date Received:** 09/04/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	15.6		%	2.29	--	2.295
Carbon Dioxide	2.20		%	0.229	--	2.295

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1013798**Project Number:** R101.06074.003**Report Date:** 09/15/10**SAMPLE RESULTS**

**Lab ID:** L1013798-06      D  
**Client ID:** SV-108  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 09/14/10 14:38  
**Analyst:** AR

**Date Collected:** 09/02/10 09:50  
**Date Received:** 09/04/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	17.8		%	2.13	--	2.129
Carbon Dioxide	ND		%	0.213	--	2.129

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1013798**Project Number:** R101.06074.003**Report Date:** 09/15/10**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 51,3C

Analytical Date: 09/14/10 10:03

Analyst: AR

<b>Parameter</b>	<b>Result</b>	<b>Qualifier</b>	<b>Units</b>	<b>RL</b>	<b>MDL</b>
Fixed Gases by GC - Mansfield Lab for sample(s): 01-06 Batch: WG432269-2					
Oxygen	ND		%	1.00	--
Carbon Dioxide	ND		%	0.100	--



# Lab Control Sample Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD

**Lab Number:** L1013798

**Project Number:** R101.06074.003

**Report Date:** 09/15/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-06 Batch: WG432269-1								
Oxygen	90		-		80-120	-		
Carbon Dioxide	103		-		80-120	-		



## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1013798  
**Report Date:** 09/15/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG432269-3 QC Sample: L1013798-01 Client ID: SV-101</b>						
Oxygen	7.03	6.94	%	1		5
Carbon Dioxide	9.41	9.45	%	0		5
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG432269-4 QC Sample: L1013798-02 Client ID: SV-102</b>						
Oxygen	7.77	7.47	%	4		5
Carbon Dioxide	8.24	8.28	%	0		5
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG432269-5 QC Sample: L1013798-03 Client ID: SV-103</b>						
Oxygen	13.4	13.5	%	1		5
Carbon Dioxide	3.14	3.15	%	0		5
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG432269-6 QC Sample: L1013798-04 Client ID: SV-104</b>						
Oxygen	13.1	12.7	%	3		5
Carbon Dioxide	3.47	3.48	%	0		5
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG432269-7 QC Sample: L1013798-05 Client ID: SV-105</b>						
Oxygen	15.6	15.3	%	2		5
Carbon Dioxide	2.20	2.20	%	0		5
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG432269-8 QC Sample: L1013798-06 Client ID: SV-108</b>						
Oxygen	17.8	17.3	%	3		5
Carbon Dioxide	ND	ND	%	NC		5



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1013798**Project Number:** R101.06074.003**Report Date:** 09/15/10**SAMPLE RESULTS**

Lab ID: L1013798-01 D  
 Client ID: SV-101  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 09/08/10 22:44  
 Analyst: RY

Date Collected: 09/02/10 12:44  
 Date Received: 09/04/10  
 Field Prep: Not Specified

**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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	ND		ug/m3	48	--	24
Methyl tert butyl ether	ND		ug/m3	48	--	24
Benzene	ND		ug/m3	48	--	24
Toluene	ND		ug/m3	48	--	24
C5-C8 Aliphatics, Adjusted	35000		ug/m3	290	--	24
Ethylbenzene	ND		ug/m3	48	--	24
p/m-Xylene	ND		ug/m3	96	--	24
o-Xylene	ND		ug/m3	48	--	24
Naphthalene	ND		ug/m3	48	--	24
C9-C12 Aliphatics, Adjusted	4000		ug/m3	340	--	24
C9-C10 Aromatics Total	690		ug/m3	240	--	24

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	85		50-200
Bromochloromethane	91		50-200
Chlorobenzene-d5	90		50-200



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1013798**Project Number:** R101.06074.003**Report Date:** 09/15/10**SAMPLE RESULTS**

Lab ID: L1013798-02 D  
 Client ID: SV-102  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 09/08/10 23:55  
 Analyst: RY

Date Collected: 09/02/10 14:48  
 Date Received: 09/04/10  
 Field Prep: Not Specified

**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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	23		ug/m3	4.8	--	2.4
Methyl tert butyl ether	ND		ug/m3	4.8	--	2.4
Benzene	18		ug/m3	4.8	--	2.4
Toluene	15		ug/m3	4.8	--	2.4
C5-C8 Aliphatics, Adjusted	510		ug/m3	29	--	2.4
Ethylbenzene	ND		ug/m3	4.8	--	2.4
p/m-Xylene	ND		ug/m3	9.6	--	2.4
o-Xylene	ND		ug/m3	4.8	--	2.4
Naphthalene	ND		ug/m3	4.8	--	2.4
C9-C12 Aliphatics, Adjusted	130		ug/m3	34	--	2.4
C9-C10 Aromatics Total	ND		ug/m3	24	--	2.4

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	90		50-200
Bromochloromethane	97		50-200
Chlorobenzene-d5	93		50-200



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1013798**Project Number:** R101.06074.003**Report Date:** 09/15/10**SAMPLE RESULTS**

Lab ID: L1013798-03 D  
 Client ID: SV-103  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 09/09/10 00:29  
 Analyst: RY

Date Collected: 09/02/10 16:58  
 Date Received: 09/04/10  
 Field Prep: Not Specified

**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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	18		ug/m3	4.6	--	2.3
Methyl tert butyl ether	ND		ug/m3	4.6	--	2.3
Benzene	9.5		ug/m3	4.6	--	2.3
Toluene	74		ug/m3	4.6	--	2.3
C5-C8 Aliphatics, Adjusted	710		ug/m3	28	--	2.3
Ethylbenzene	5.8		ug/m3	4.6	--	2.3
p/m-Xylene	15		ug/m3	9.2	--	2.3
o-Xylene	5.4		ug/m3	4.6	--	2.3
Naphthalene	ND		ug/m3	4.6	--	2.3
C9-C12 Aliphatics, Adjusted	450		ug/m3	32	--	2.3
C9-C10 Aromatics Total	ND		ug/m3	23	--	2.3

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	91		50-200
Bromochloromethane	96		50-200
Chlorobenzene-d5	95		50-200



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1013798**Project Number:** R101.06074.003**Report Date:** 09/15/10**SAMPLE RESULTS**

Lab ID: L1013798-04 D  
 Client ID: SV-104  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 09/09/10 01:05  
 Analyst: RY

Date Collected: 09/02/10 16:53  
 Date Received: 09/04/10  
 Field Prep: Not Specified

**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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	7.5		ug/m3	4.6	--	2.3
Methyl tert butyl ether	ND		ug/m3	4.6	--	2.3
Benzene	4.8		ug/m3	4.6	--	2.3
Toluene	7.0		ug/m3	4.6	--	2.3
C5-C8 Aliphatics, Adjusted	250		ug/m3	28	--	2.3
Ethylbenzene	ND		ug/m3	4.6	--	2.3
p/m-Xylene	ND		ug/m3	9.2	--	2.3
o-Xylene	ND		ug/m3	4.6	--	2.3
Naphthalene	8.3		ug/m3	4.6	--	2.3
C9-C12 Aliphatics, Adjusted	280		ug/m3	32	--	2.3
C9-C10 Aromatics Total	45		ug/m3	23	--	2.3

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	89		50-200
Bromochloromethane	98		50-200
Chlorobenzene-d5	92		50-200



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1013798**Project Number:** R101.06074.003**Report Date:** 09/15/10**SAMPLE RESULTS**

Lab ID: L1013798-05 D  
 Client ID: SV-105  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 09/09/10 01:41  
 Analyst: RY

Date Collected: 09/02/10 11:43  
 Date Received: 09/04/10  
 Field Prep: Not Specified

**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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	ND		ug/m3	4.6	--	2.3
Methyl tert butyl ether	8.2		ug/m3	4.6	--	2.3
Benzene	13		ug/m3	4.6	--	2.3
Toluene	120		ug/m3	4.6	--	2.3
C5-C8 Aliphatics, Adjusted	790		ug/m3	28	--	2.3
Ethylbenzene	27		ug/m3	4.6	--	2.3
p/m-Xylene	66		ug/m3	9.2	--	2.3
o-Xylene	24		ug/m3	4.6	--	2.3
Naphthalene	5.7		ug/m3	4.6	--	2.3
C9-C12 Aliphatics, Adjusted	1100		ug/m3	32	--	2.3
C9-C10 Aromatics Total	280		ug/m3	23	--	2.3

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	94		50-200
Bromochloromethane	110		50-200
Chlorobenzene-d5	105		50-200



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1013798**Project Number:** R101.06074.003**Report Date:** 09/15/10**SAMPLE RESULTS**

Lab ID: L1013798-06 D  
 Client ID: SV-108  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 09/09/10 02:16  
 Analyst: RY

Date Collected: 09/02/10 09:50  
 Date Received: 09/04/10  
 Field Prep: Not Specified

**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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	ND		ug/m3	4.2	--	2.1
Methyl tert butyl ether	ND		ug/m3	4.2	--	2.1
Benzene	ND		ug/m3	4.2	--	2.1
Toluene	5.8		ug/m3	4.2	--	2.1
C5-C8 Aliphatics, Adjusted	230		ug/m3	25	--	2.1
Ethylbenzene	ND		ug/m3	4.2	--	2.1
p/m-Xylene	ND		ug/m3	8.4	--	2.1
o-Xylene	ND		ug/m3	4.2	--	2.1
Naphthalene	ND		ug/m3	4.2	--	2.1
C9-C12 Aliphatics, Adjusted	82		ug/m3	29	--	2.1
C9-C10 Aromatics Total	ND		ug/m3	21	--	2.1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	99		50-200
Bromochloromethane	117		50-200
Chlorobenzene-d5	102		50-200



Project Name: CUMBERLAND FARMS-SANFORD

Lab Number: L1013798

Project Number: R101.06074.003

Report Date: 09/15/10

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
 Analytical Date: 09/08/10 15:04  
 Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG431442-4					
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-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1013798  
**Report Date:** 09/15/10

Parameter	LCS		LCSD		%Recovery		RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual	%Recovery	Limits			
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG431442-3									
1,3-Butadiene	93	-	-	-	70-130	-	-	-	-
Methyl tert butyl ether	94	-	-	-	70-130	-	-	-	-
Benzene	99	-	-	-	70-130	-	-	-	-
Toluene	99	-	-	-	70-130	-	-	-	-
C5-C8 Aliphatics, Adjusted	98	-	-	-	70-130	-	-	-	-
Ethylbenzene	99	-	-	-	70-130	-	-	-	-
p/m-Xylene	97	-	-	-	70-130	-	-	-	-
o-Xylene	99	-	-	-	70-130	-	-	-	-
Naphthalene	121	-	-	-	50-150	-	-	-	-
C9-C12 Aliphatics, Adjusted	104	-	-	-	70-130	-	-	-	-
C9-C10 Aromatics Total	85	-	-	-	70-130	-	-	-	-



## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1013798  
**Report Date:** 09/15/10

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG431442-5 QC Sample: L1013798-01 Client ID: SV-101						
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	35000	33000	ug/m3	6		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	4000	3700	ug/m3	8		30
C9-C10 Aromatics Total	690	720	ug/m3	4		30

**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
L1013798-01	SV-101	0435	#90 SV		-	-	95	99	4
L1013798-01	SV-101	684	1.0L Can	L1013135	-29.4	-3.0	-	-	-
L1013798-02	SV-102	0467	#90 SV		-	-	100	100	0
L1013798-02	SV-102	817	1.0L Can	L1013135	-29.2	-2.7	-	-	-
L1013798-03	SV-103	0450	#90 SV		-	-	95	86	10
L1013798-03	SV-103	816	1.0L Can	L1013135	-28.4	-1.3	-	-	-
L1013798-04	SV-104	0156	#90 SV		-	-	100	100	0
L1013798-04	SV-104	1508	1.0L Can	L1013135	-29.4	-1.8	-	-	-
L1013798-05	SV-105	0014	#90 SV		-	-	100	100	0
L1013798-05	SV-105	864	1.0L Can	L1013135	-29.4	-2.2	-	-	-
L1013798-06	SV-108	0042	#90 SV		-	-	100	105	5
L1013798-06	SV-108	731	1.0L Can	L1013135	-29.4	0.3	-	-	-



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1013135**Project Number:** CANISTER QC BAT**Report Date:** 09/15/10**Air Canister Certification Results**

Lab ID: L1013135-01  
 Client ID: CAN 713 SHELF 13  
 Sample Location:  
 Matrix: Air  
 Analytical 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			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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:** 09/15/10**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

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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:** 09/15/10**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

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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**Lab Number:** L1013135**Project Number:** CANISTER QC BAT**Report Date:** 09/15/10**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

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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-Trimethylbenzene	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:** 09/15/10**Air Canister Certification Results**

Lab ID: L1013135-01  
 Client ID: CAN 713 SHELF 13  
 Sample Location:  
 Matrix: Air  
 Analytical 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			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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:** 09/15/10**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

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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-Trimethylbenzene	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**Lab Number:** L1013135**Project Number:** CANISTER QC BAT**Report Date:** 09/15/10**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

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1013135**Project Number:** CANISTER QC BAT**Report Date:** 09/15/10**AIR CAN CERTIFICATION RESULTS**

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

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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
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-SANFORD**Lab Number:** L1013798**Project Number:** R101.06074.003**Report Date:** 09/15/10**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(*)
L1013798-01A	Canister - 1 Liter	N/A	N/A		NA	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1013798-02A	Canister - 1 Liter	N/A	N/A		NA	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1013798-03A	Canister - 1 Liter	N/A	N/A		NA	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1013798-04A	Canister - 1 Liter	N/A	N/A		NA	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1013798-05A	Canister - 1 Liter	N/A	N/A		NA	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1013798-06A	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-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1013798  
**Report Date:** 09/15/10

## 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-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1013798  
**Report Date:** 09/15/10

*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.

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1013798  
**Report Date:** 09/15/10

## 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.

# ALPHA ANALYSIS

CHAIN OF CUSTODY

PAGE 1 OF 1

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

**Client Information**

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

**Project Information**

Project Name: Camberland Farms - Sanford  
 Project Location: Sanford ME  
 Project #: R101.06074.003  
 Project Manager: Erik Pheix  
 ALPHA Quote #:  
 Turn-Around Time  
 Standard  RUSH (only confirmed if pre-approved)  
 Date Due: \_\_\_\_\_ Time: \_\_\_\_\_

**Date Rec'd in Lab:**

**Report Information - Data Deliverables**

FAX  
 EDX  
 Criteria Checker: \_\_\_\_\_  
 (Default based on Regulatory Criteria Indicated)  
 Other Formats:  
 EMAIL (standard pdf report)  
 Additional Deliverables:  
 Report to: (if different than Project Manager)  
Erik Pheix

ALPHA Job #: A1013798

**Billing Information**

Same as Client Info  
 PO #:  
Maire DEP, 40 Pate Erewita  
312 Concor Rd. Portland ME  
 Regulatory Requirements/Report Limits  
 State/Fed Program Criteria

**All Columns Below Must Be Filled Out**

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION		Sample Matrix*	Sampler's Initials	Can Size	ID Can	10-Flow Controller	Sample Comments (i.e. PID)								
		Date	Start Time							End Time	Vacuum	Vacuum					
A1013798-1	SV-101	9/2/10	1232	1244	-30	-5	SV	RHA 1hr	684 435	X	X						
	2	9/2/10	1436	1448	-30	-2	SV	EPP 1hr	817 0467	X	X						
	3	9/2/10	1642	1658	-30	-5	SV	ARM 1hr	816 0450	X	X						
	4	9/2/10	1642	1653	-30	-3	SV	EPP 1hr	1508 0156	X	X						
	5	9/2/10	1130	1143	-30	-4	SV	RHA 1hr	864 0014	X	X						
	6	9/2/10	0940	0950	-30	-4	SV	EPP 1hr	731 0042	X	X						

**\*SAMPLE MATRIX CODES**

AA = Ambient Air (Indoor/Outdoor)  
 SV = Soil Vapor/Landfill Gas/SVE  
 Other = Please Specify

Relinquished By: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Received By: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Container Type

U

U

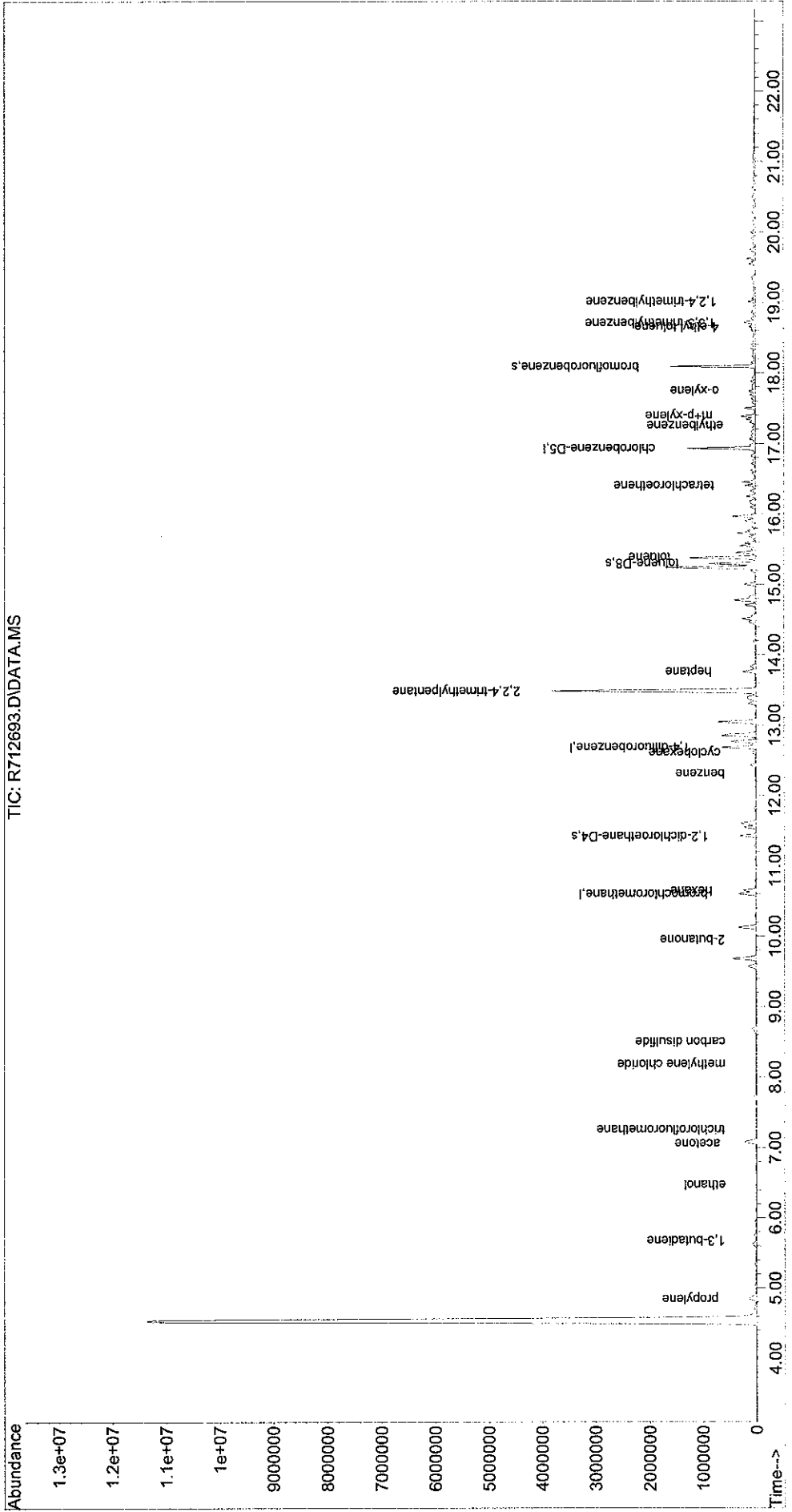
Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

# TO-15

Sub List : TO15\_STD - .0000n Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100908T\  
Data File : R712693.D  
Acq On : 8 Sep 2010 10:44 pm  
Operator : AIRLAB7:ry  
Sample : 11013798-01d,3,10.5359,250  
Misc : wg431444,ical5297  
ALS Vial : 13 Sample Multiplier: 1

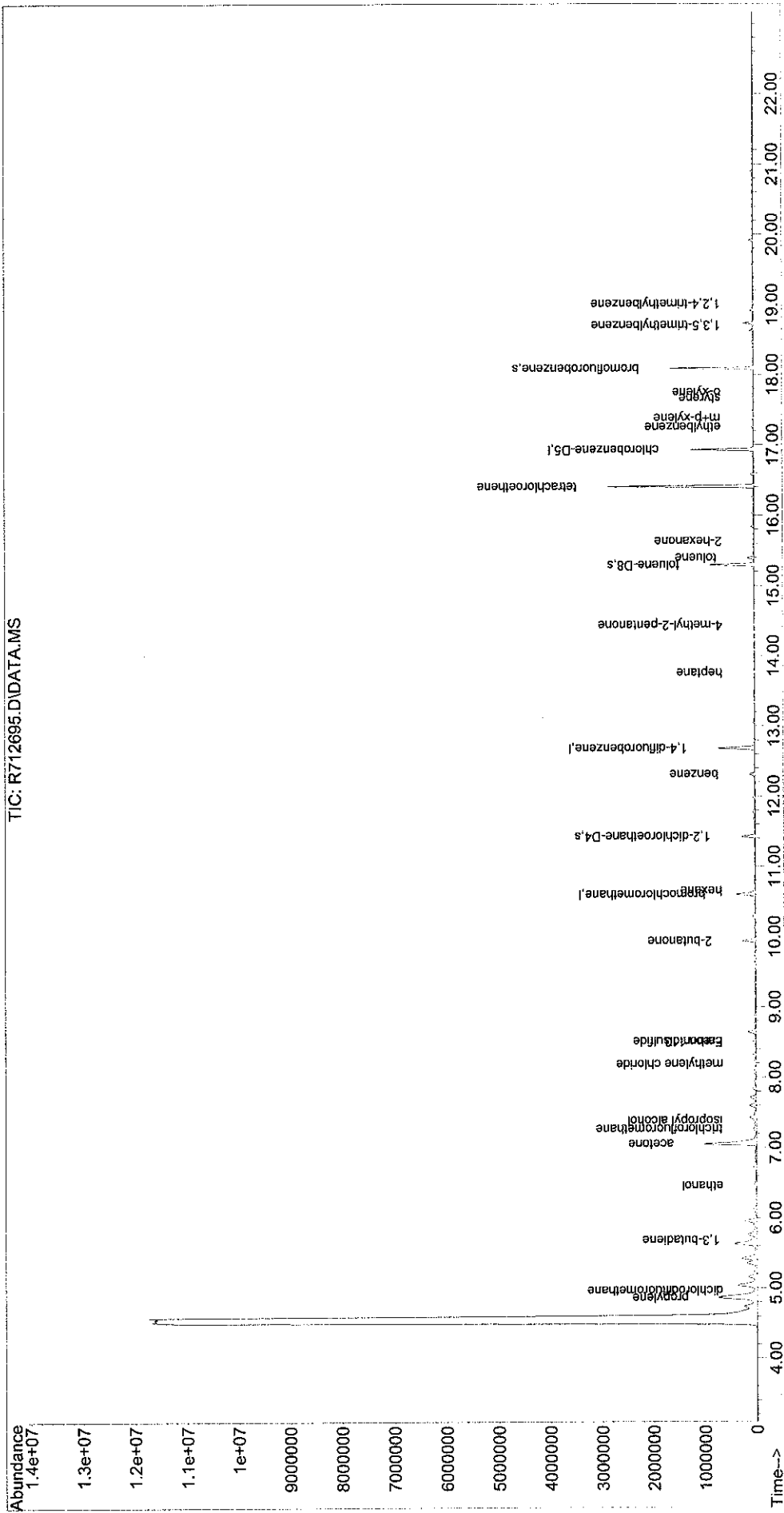
Quant Time: Sep 09 11:46:24 2010  
Quant Method : O:\Forensics\Data\Airlab7\2010\100908T\TALL100825.M  
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
QLast Update : Thu Aug 26 11:10:47 2010  
Response via : Initial Calibration



Sub List : TO15 STD - . . . . . Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100908T\  
Data File : R712695.D  
Acq On : 8 Sep 2010 11:55 pm  
Operator : AIRLAB7:ry  
Sample : 11013798-02d,3,105.3589,250  
Misc : wg431444,ical15297  
ALS Vial : 14 Sample Multiplier: 1

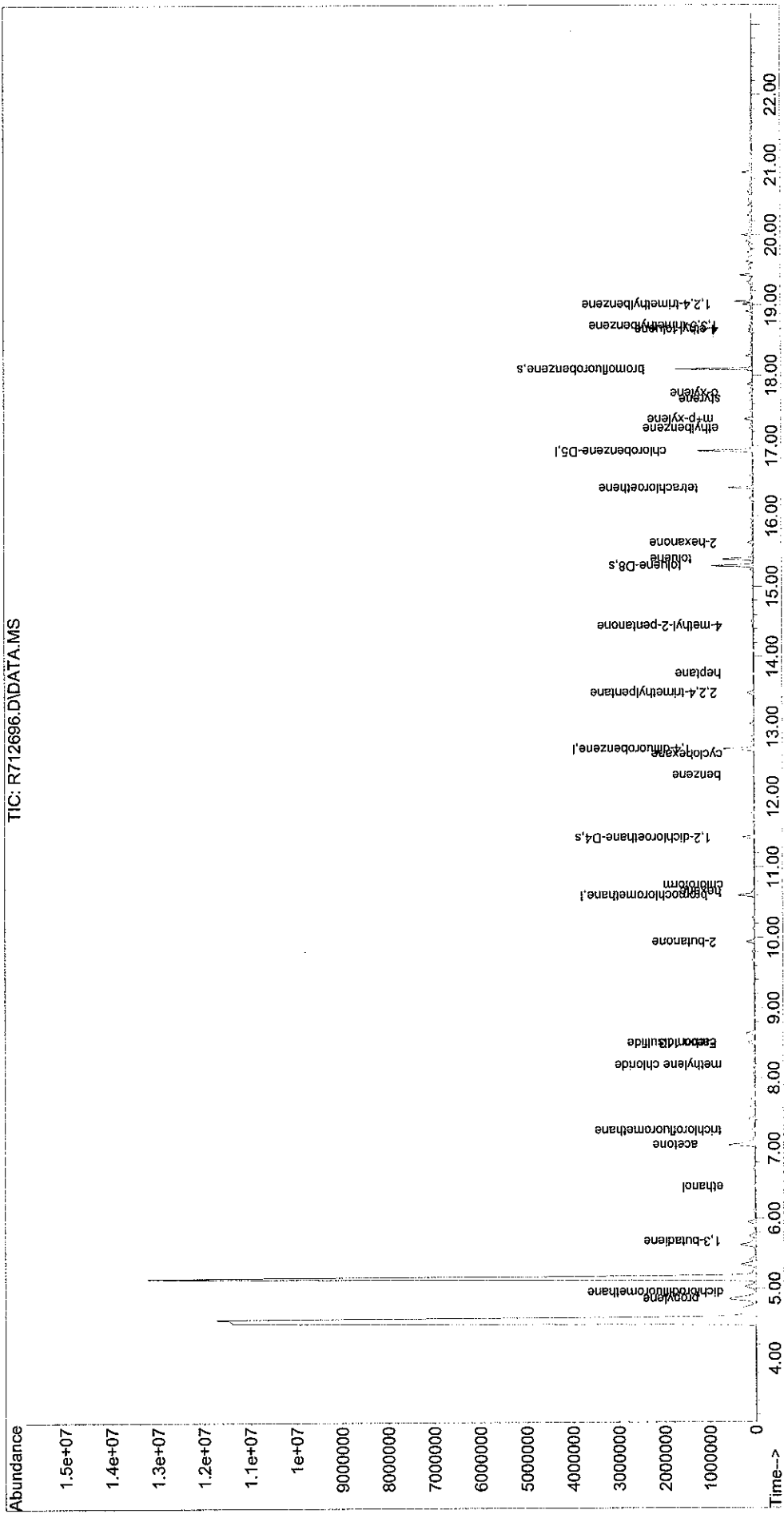
Quant Time: Sep 09 11:51:20 2010  
Quant Method : O:\Forensics\Data\Airlab7\2010\100908T\TALL100825.M  
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
QLast Update : Thu Aug 26 11:10:47 2010  
Response via : Initial Calibration



Sub List : TO15\_STD - .\..\..\n Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100908T\  
 Data File : R712696.D  
 Acq On : 9 Sep 2010 12:29 am  
 Operator : AIRLAB7:ry  
 Sample : 11013798-03d,3,110.4161,250  
 Misc : wg431444,ical5297  
 ALS Vial : 15 Sample Multiplier: 1

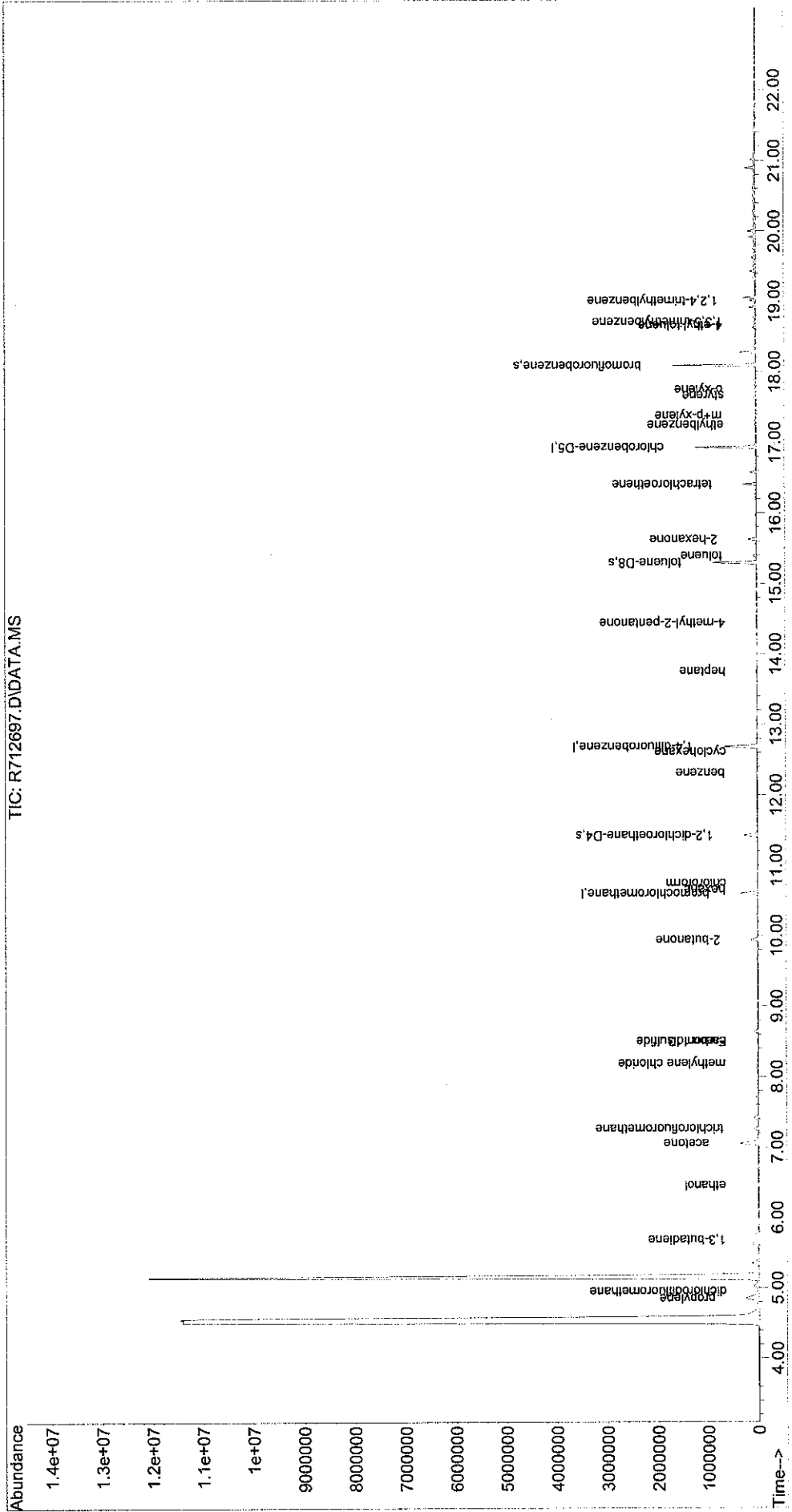
Quant Time: Sep 10 09:23:44 2010  
 Quant Method : O:\Forensics\Data\Airlab7\2010\100908T\TALL100825.M  
 Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
 QLast Update : Thu Aug 26 11:10:47 2010  
 Response via : Initial Calibration



Sub List : TO15\_STD -- .\..\..\n Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100908T\  
Data File : R712697.D  
Acq On : 9 Sep 2010 1:05 am  
Operator : AIRLAB7:ry  
Sample : 11013798-04d,3,108.7304,250  
Misc : wg431444,ical5297  
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Sep 10 09:24:22 2010  
Quant Method : O:\Forensics\Data\Airlab7\2010\100908T\TALL100825.M  
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
Quant Update : Thu Aug 26 11:10:47 2010  
Response via : Initial Calibration

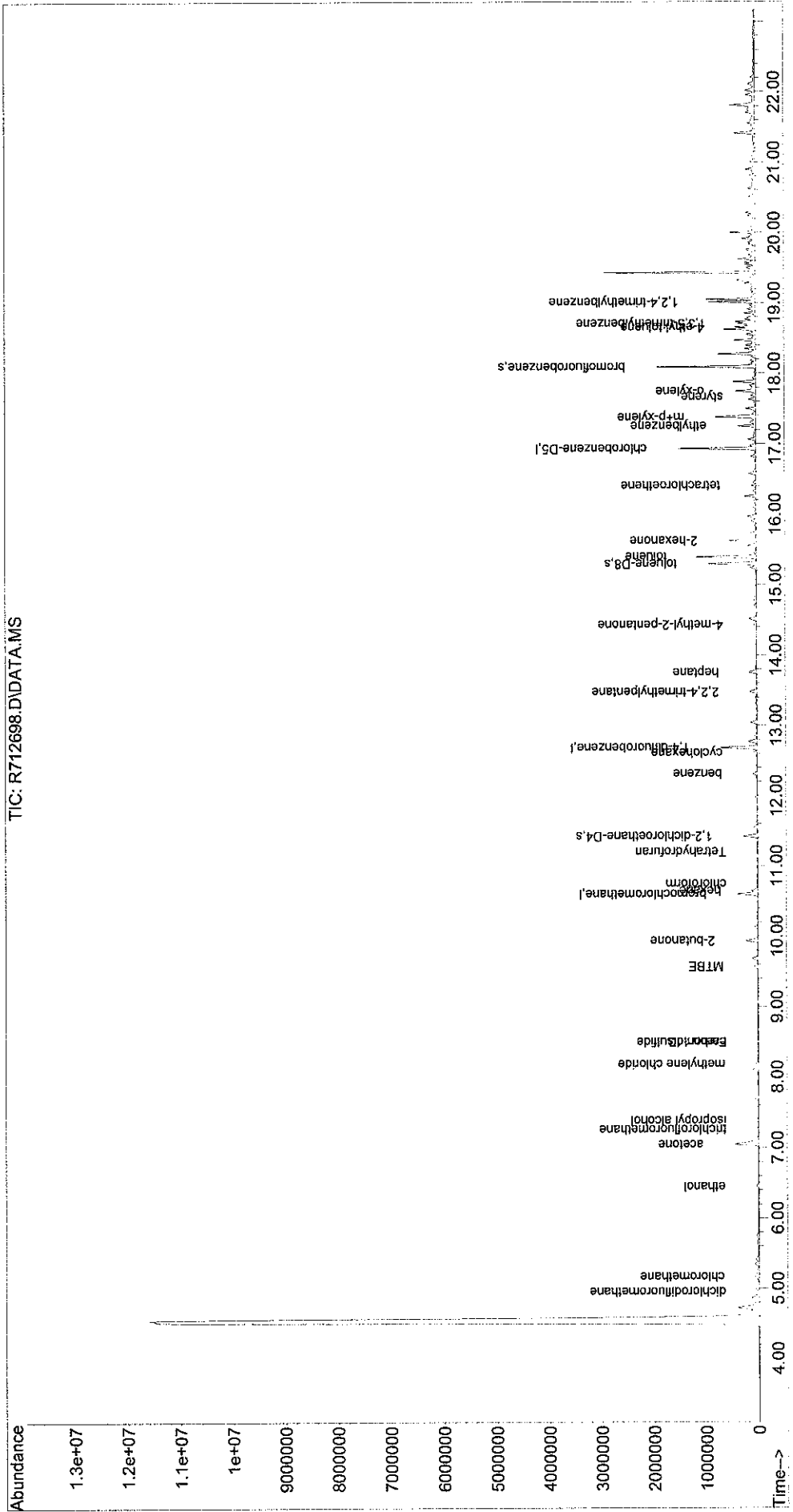




Sub List : TO15\_STD - .0000n Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100908T\  
Data File : R712698.D  
Acq On : 9 Sep 2010 1:41 am  
Operator : AIRLAB7:ry  
Sample : 11013798-05d,3,108.7304,250  
Misc : wg431444,ical5297  
ALS Vial : 1 Sample Multiplier: 1

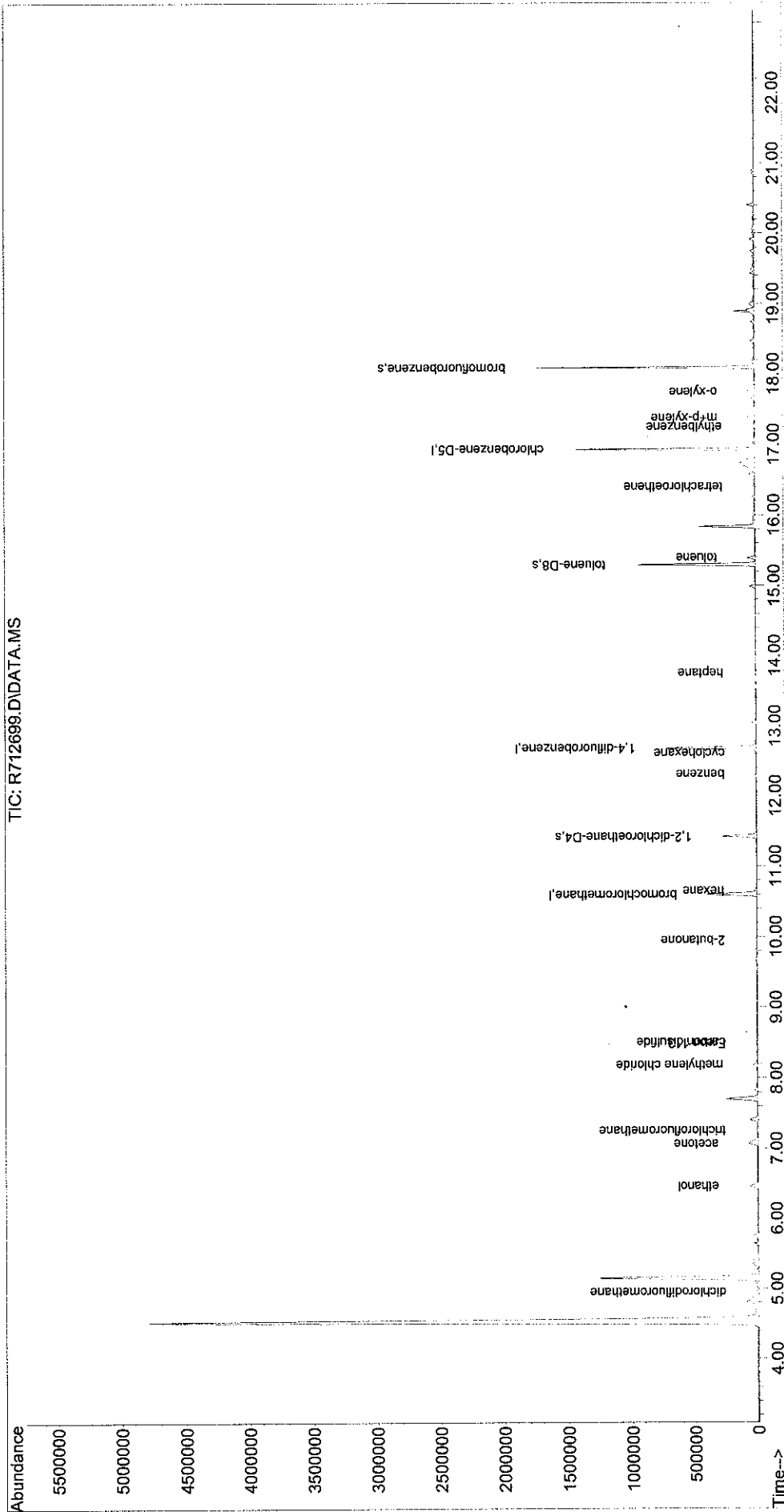
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Quant Update : Thu Aug 26 11:10:47 2010  
Response via : Initial Calibration



Sub List : TO15\_STD - .0000n Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100908T\  
Data File : R712699.D  
Acq On : 9 Sep 2010 2:16 am  
Operator : AIRLAB7:ry  
Sample : 11013798-06d,3,117.1591,250  
Misc : wg431444,ical5297  
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 09 12:01:51 2010  
Quant Method : O:\Forensics\Data\Airlab7\2010\100908T\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

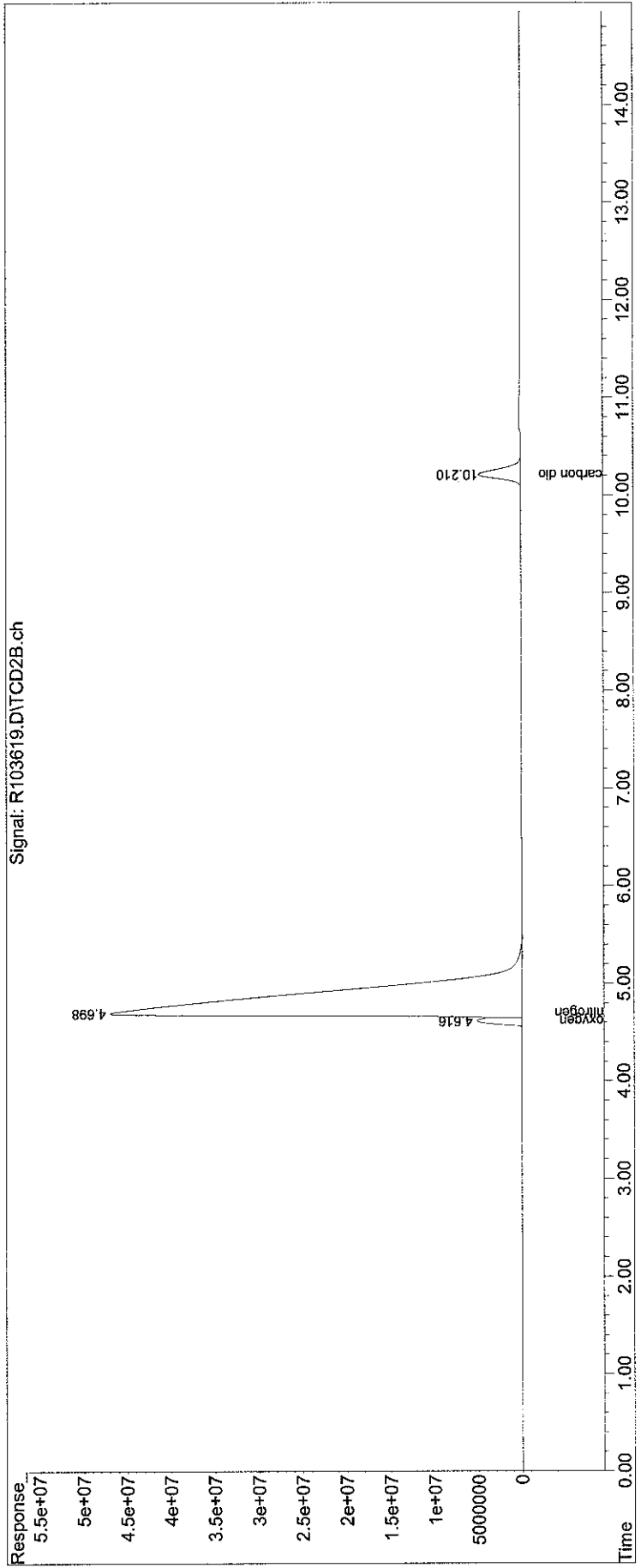


# Fixed Gases

Data Path : O:\Forensics\Data\airlab10\100914FG\  
 Data File : R103619.D  
 Signal(s) : TCD2B.ch  
 Acq On : 14 Sep 2010 11:12 am  
 Operator : airlab10:AR  
 Sample : L1013798-01,4,0.4223,1.0  
 Misc : WG432269,ICAL5222  
 ALS Vial : 2 Sample Multiplier: 1

Integration File: events.e  
 Quant Time: Sep 14 15:41:00 2010  
 Quant Method : O:\Forensics\Data\airlab10\100914FG\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 :

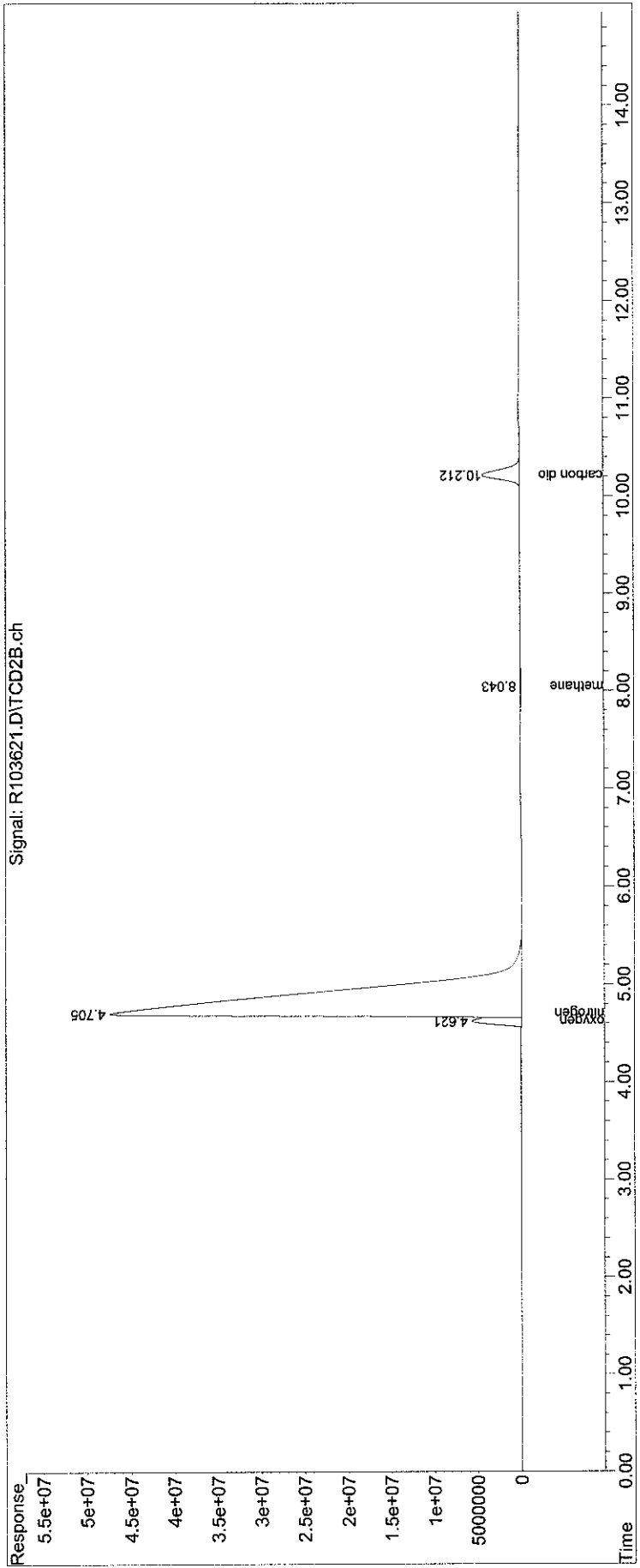


Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\100914FG\  
 Data File : R103621.D  
 Signal(s) : TCD2B.ch  
 Acq On : 14 Sep 2010 11:53 am  
 Operator : airlab10:AR  
 Sample : L1013798-02,4,0.4223,1.0  
 Misc : WG432269,ICAL5222  
 ALS Vial : 3 Sample Multiplier: 1

Integration File: events.e  
 Quant Time: Sep 14 15:19:24 2010  
 Quant Method : O:\Forensics\Data\airlab10\100914FG\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 :

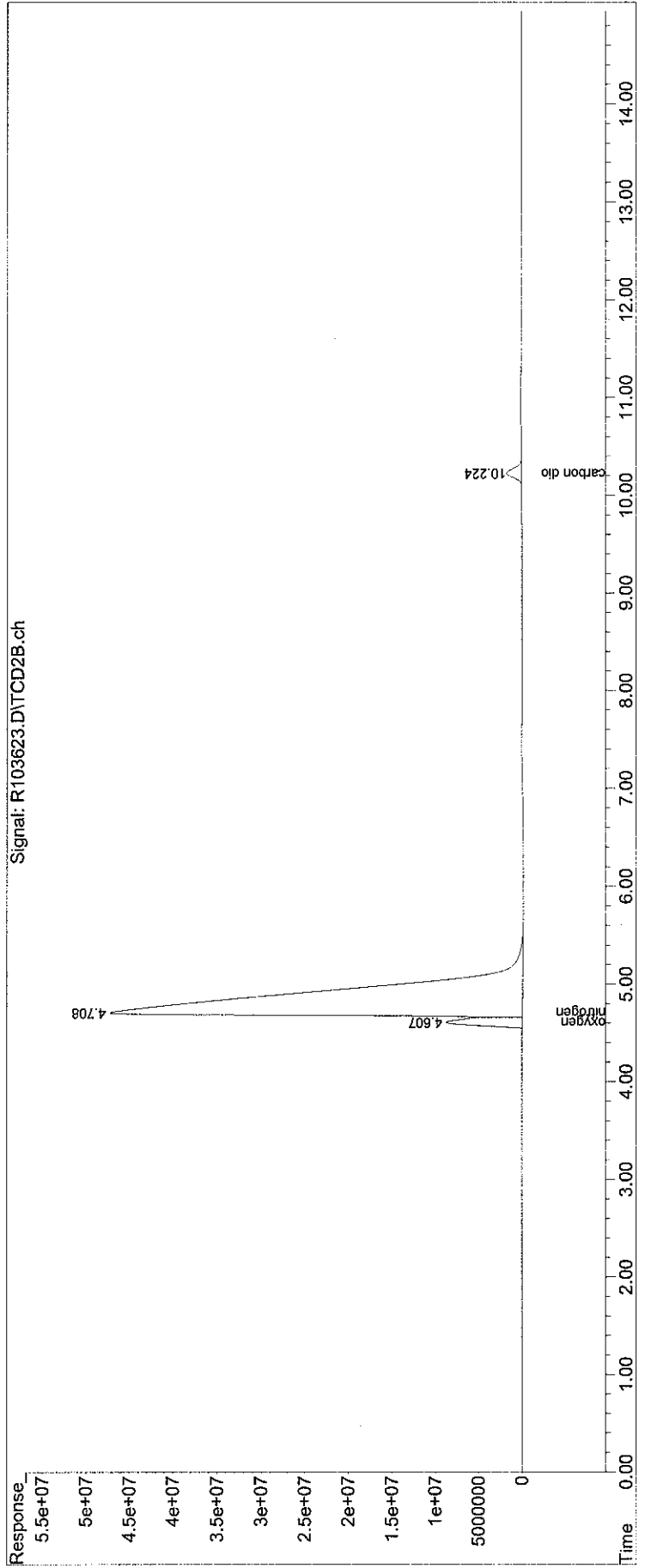


Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\100914FG\  
 Data File : R103623.D  
 Signal(s) : TCD2B.ch  
 Acq On : 14 Sep 2010 12:34 pm  
 Operator : airlab10:AR  
 Sample : L1013798-03,4,0.4426,1.0  
 Misc : WG432269,ICAL5222  
 ALS Vial : 4 Sample Multiplier: 1

Integration File: events.e  
 Quant Time: Sep 14 15:29:23 2010  
 Quant Method : O:\Forensics\Data\airlab10\100914FG\FG100730.M  
 Quant Title : Fixed Gas Analysis via Method 3C  
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 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. :  
 Signal Phase :  
 Signal Info :

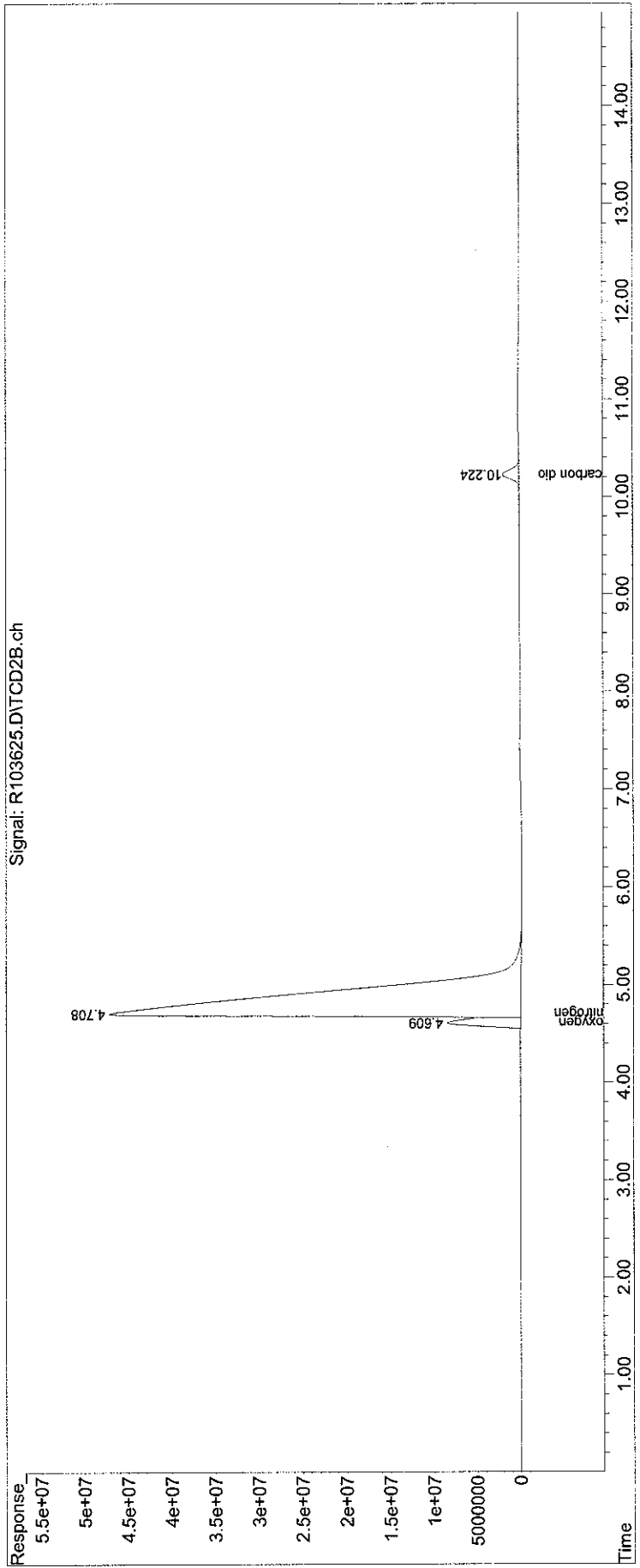


Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\100914FG\  
Data File : R103625.D  
Signal(s) : TCD2B.ch  
Acq On : 14 Sep 2010 1:15 pm  
Operator : airlab10:AR  
Sample : L1013798-04,4,0.4358,1.0  
Misc : WG432269,ICAL5222  
ALS Vial : 5 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Sep 14 15:30:30 2010  
Quant Method : O:\Forensics\Data\airlab10\100914FG\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 :

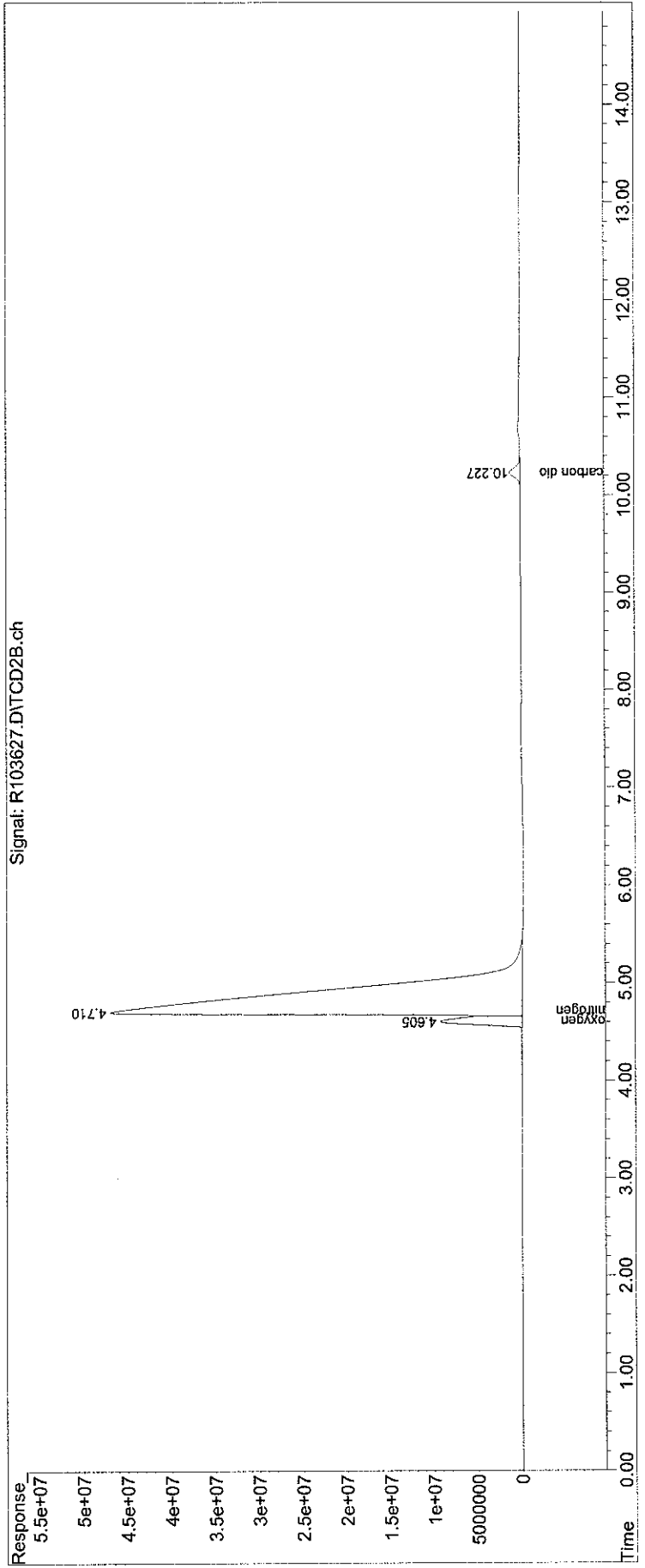


Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\100914FG\  
Data File : R103627.D  
Signal(s) : TCD2B.ch  
Acq On : 14 Sep 2010 1:57 pm  
Operator : airlab10:AR  
Sample : L1013798-05,4,0.4358,1.0  
Misc : WG432269,ICAL5222  
ALS Vial : 6 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Sep 14 15:31:38 2010  
Quant Method : O:\Forensics\Data\airlab10\100914FG\FG100730.M  
Quant Title : Fixed Gas Analysis via Method 3C  
Quant Update : Tue Aug 03 13:42:03 2010  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :



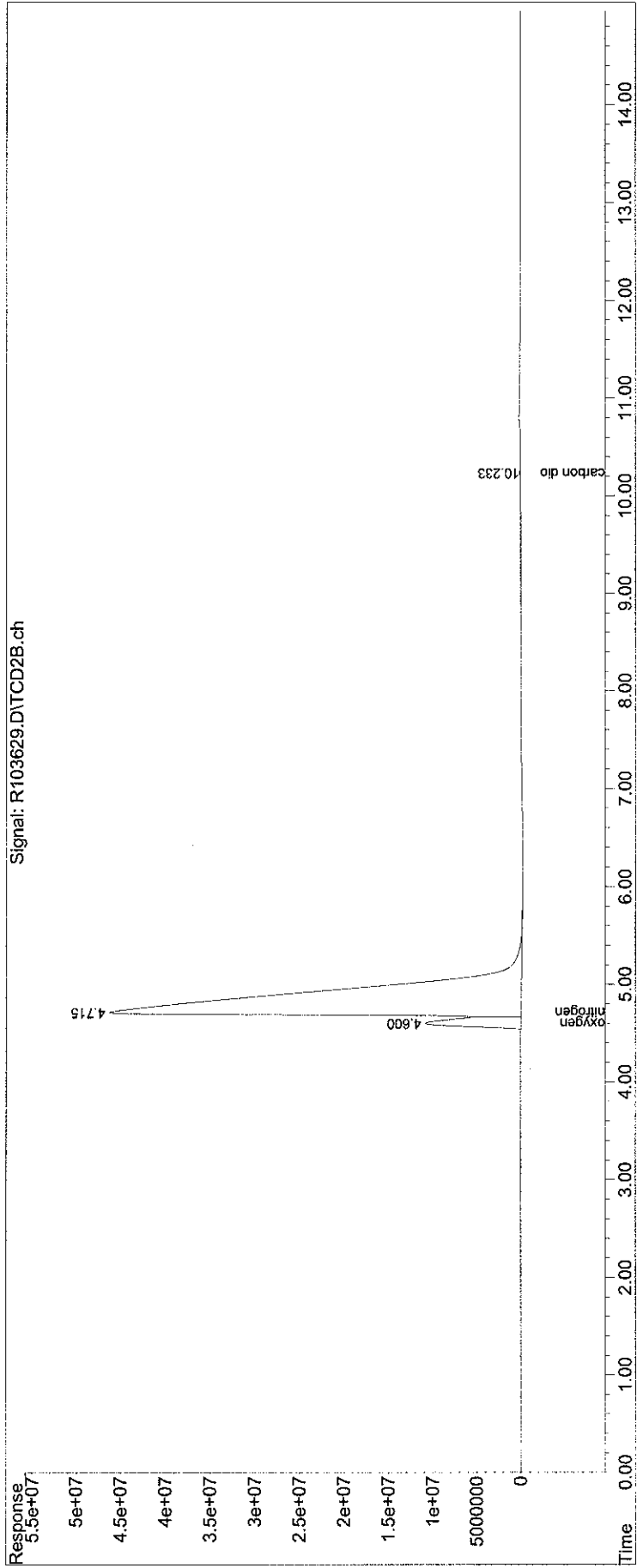


Quantitation Report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\100914FG\  
Data File : R103629.D  
Signal(s) : TCD2B.ch  
Acq On : 14 Sep 2010 2:38 pm  
Operator : airlab10:AR  
Sample : L1013798-06,4,0.4696,1.0  
Misc : WG432269,ICAL5222  
ALS Vial : 7 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Sep 14 15:32:43 2010  
Quant Method : O:\Forensics\Data\airlab10\100914FG\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 :

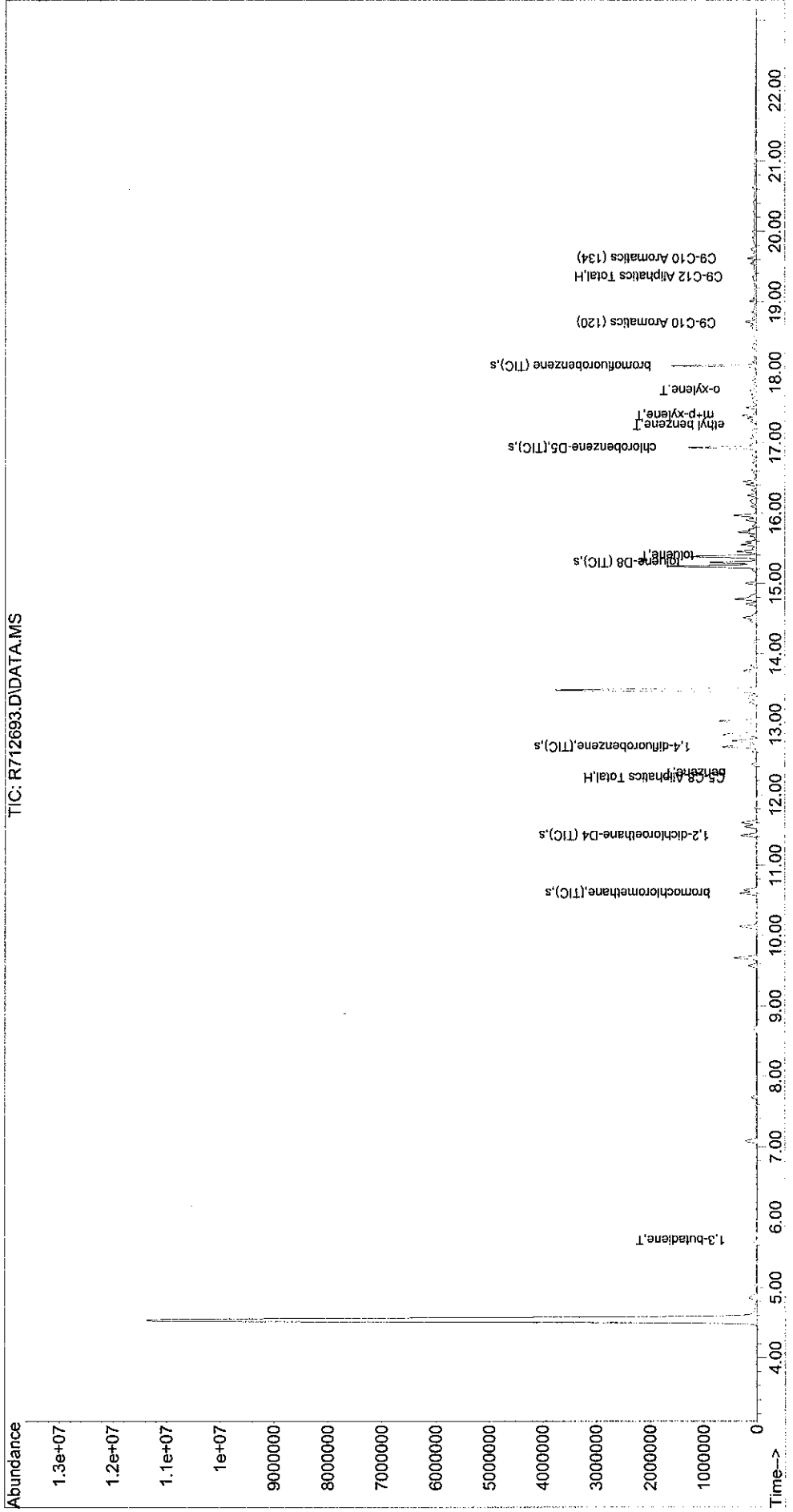


**APH**

Sub List : APH\_STD\_M - .0000 Report (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2010\100908A\  
Data File : R712693.D  
Acq On : 8 Sep 2010 10:44 pm  
Operator : AIRLAB7:ry  
Sample : 11013798-01d,3,10.5359,250  
Misc : wg431442  
ALS Vial : 13 Sample Multiplier: 1

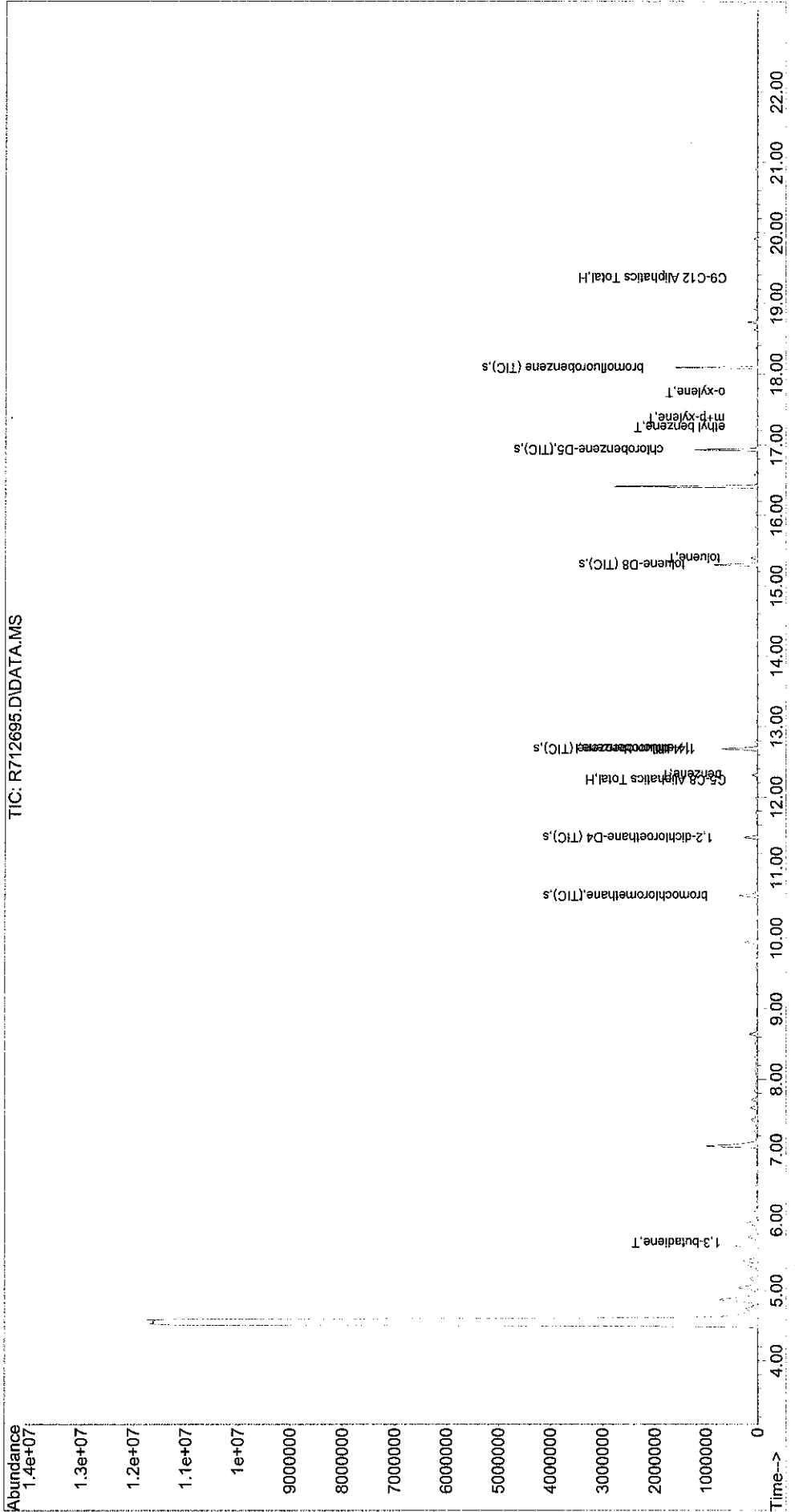
Quant Time: Sep 09 13:52:21 2010  
Quant Method : O:\Forensics\Data\AirLab7\2010\100908A\APH100907.M  
Quant Title : APH Analysis  
QLast Update : Tue Sep 07 16:21:34 2010  
Response via : Initial Calibration



Sub List : APH\_STD\_M - . Report (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2010\100908A\  
Data File : R712695.D  
Acq On : 8 Sep 2010 11:55 pm  
Operator : AIRLAB7:ry  
Sample : 11013798-02d,3,105.3589,250  
Misc : wg431442  
ALS Vial : 14 Sample Multiplier: 1

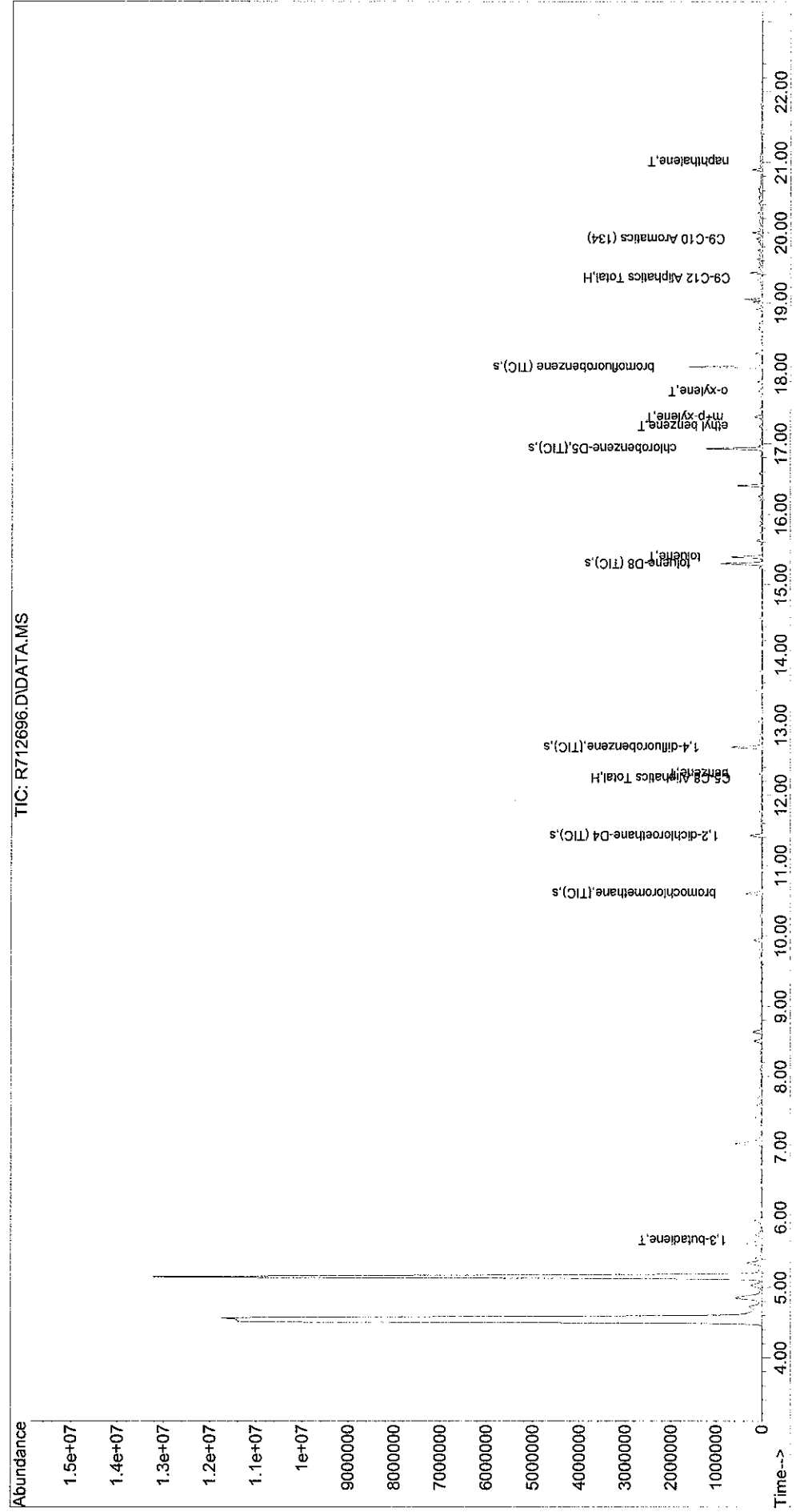
Quant Time: Sep 09 13:57:44 2010  
Quant Method : O:\Forensics\Data\AirLab7\2010\100908A\APH100907.M  
Quant Title : APH Analysis  
QLast Update : Tue Sep 07 16:21:34 2010  
Response via : Initial Calibration



Sub List : APH\_STD\_M - . Report (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2010\100908A\  
Data File : R712696.D  
Acq On : 9 Sep 2010 12:29 am  
Operator : AIRLAB7:ry  
Sample : 11013798-03d,3,110.4161,250  
Misc : wg431442  
ALS Vial : 15 Sample Multiplier: 1

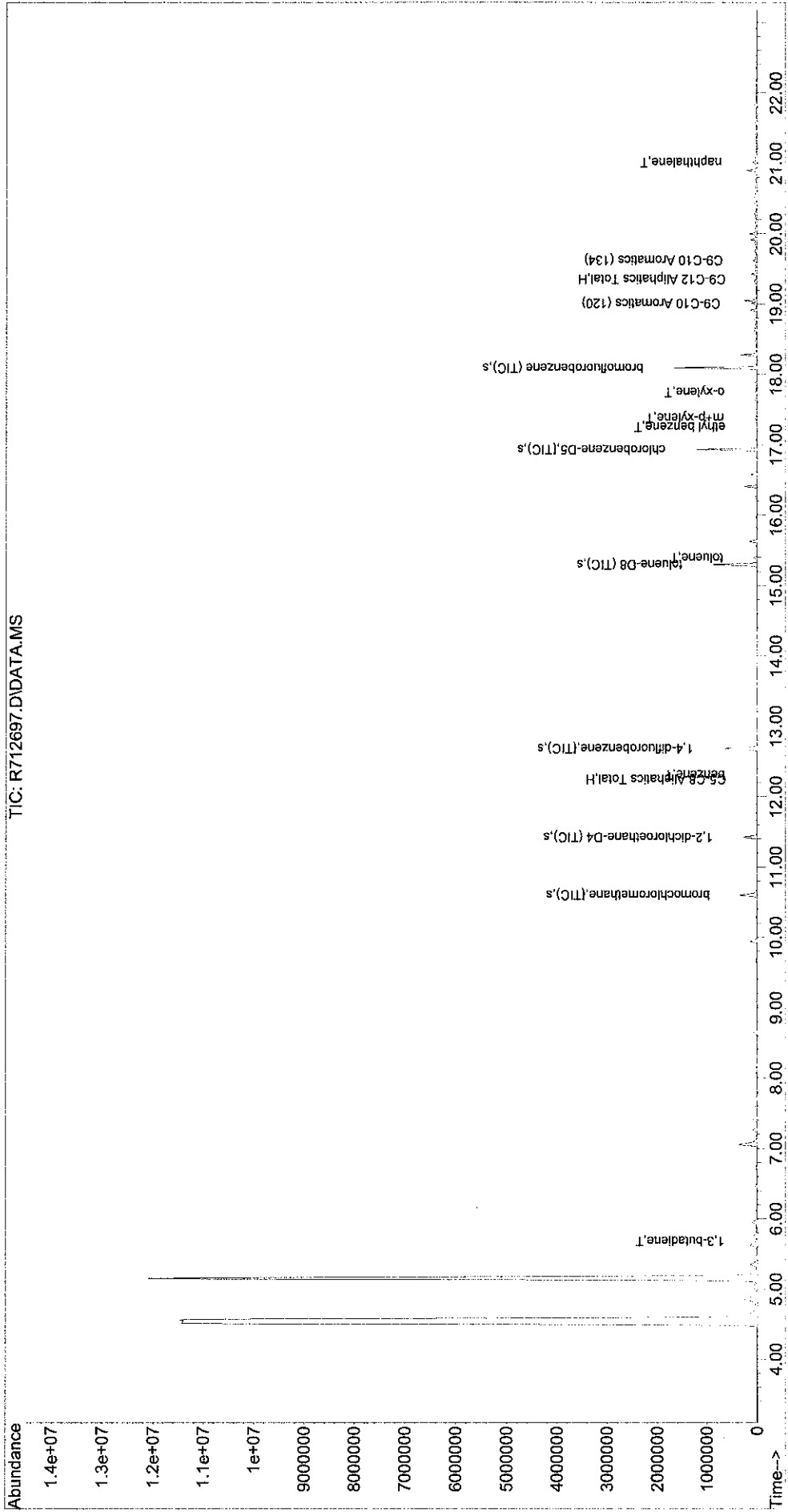
Quant Time: Sep 09 14:00:31 2010  
Quant Method : O:\Forensics\Data\AirLab7\2010\100908A\APH100907.M  
Quant Title : APH Analysis  
QLast Update : Tue Sep 07 16:21:34 2010  
Response via : Initial Calibration



Sub List : APH\_STD\_M - . Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100908A\  
Data File : R712697.D  
Acq On : 9 Sep 2010 1:05 am  
Operator : AIRLAB7:ry  
Sample : 11013798-04d,3,108.7304,250  
Misc : wg431442  
ALS Vial : 16 Sample Multiplier: 1

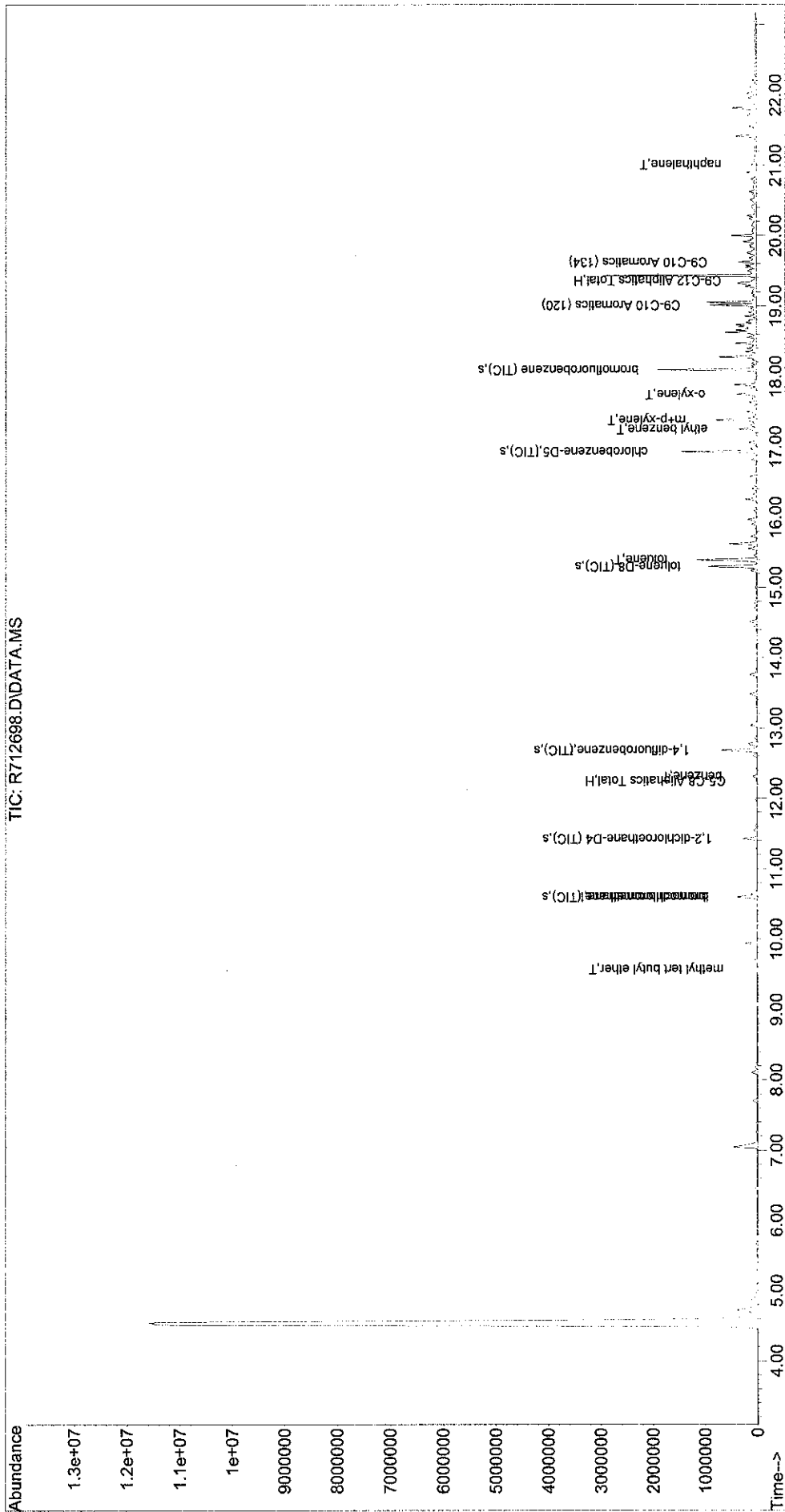
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Quant Title : APH Analysis  
QLast Update : Tue Sep 07 16:21:34 2010  
Response via : Initial Calibration



Sub List : APH\_STD\_M - .0000 Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2010\100908A\  
Data File : R712698.D  
Acq On : 9 Sep 2010 1:41 am  
Operator : AIRLAB7:ry  
Sample : 11013798-05d,3,108.7304,250  
Misc : wg431442  
ALS Vial : 1 Sample Multiplier: 1

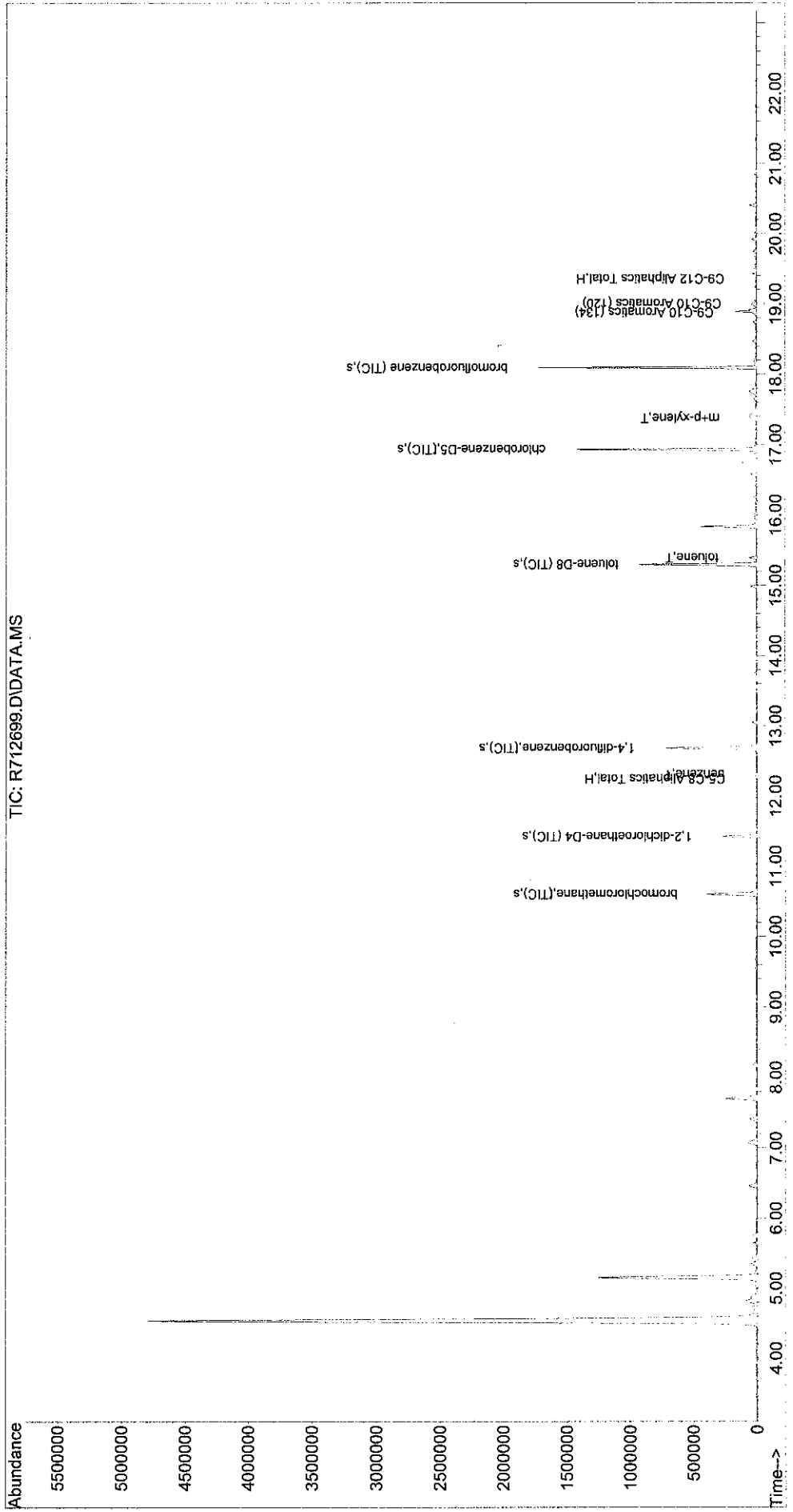
Quant Time: Sep 09 14:06:03 2010  
Quant Method : O:\Forensics\Data\Airlab7\2010\100908A\APH100907.M  
Quant Title : APH Analysis  
QLast Update : Tue Sep 07 16:21:34 2010  
Response via : Initial Calibration



Sub List : APH\_STD\_M - . Report (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2010\100908A\  
Data File : R712699.D  
Acq On : 9 Sep 2010 2:16 am  
Operator : AIRLAB7:ry  
Sample : 11013798--06d, 3, 117.1591, 250  
Misc : wg431442  
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 09 14:08:26 2010  
Quant Method : O:\Forensics\Data\AirLab7\2010\100908A\APH100907.M  
Quant Title : APH Analysis  
QLast Update : Tue Sep 07 16:21:34 2010  
Response via : Initial Calibration





January 20, 2011

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

**RE: Analytical Results Case Narrative  
Cumberland Farms Sanford  
Analytics #68660 Revision 1**

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 Selected Volatile Organic Compounds (VOCs) Compounds using EPA Method 8260B and Volatile Petroleum Hydrocarbons (VPH) using MADEP VPH Method 2004 Rev 1.1.

Revision 1: This report has been revised to change the sample name of 68660-1 from "B102-S4" to "B201-S4" as per the client's request.

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
- VOC Form 1 Sample Data Results for Samples and Method Blanks
  - Chromatograms
- VOC Form 3 MS/MSD and LCS Recoveries
- VPH Form I Data Sheet for Samples and Blanks
  - Chromatograms
- VPH Form 3 MS/MSD (LCS) Recoveries
  - Chromatograms
- Chain of Custody (COC) Forms
- Sample Receipt Checklist

### QC NON-CONFORMANCE SUMMARY

**Sample Receipt:**

No QC deviations.

**Volatile Organic Compounds (VOCs) by EPA 8260B:**

This narrative is specific to target analytes reported on the Form 1 data pages. Non-target (NT) analyte deviations were not addressed.


The laboratory control sample duplicate (LS12290C2) had low recovery for Vinyl chloride (74%). The laboratory control sample (LS12290C) was in control for all target analytes. Vinyl chloride was not detected in any samples for this SDG and results were reported without qualification.

**Volatile Petroleum Hydrocarbons (VPH):**

No results were reported below the quantitation limit for C9-C10 Aromatic Range.

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

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

**Report Number: 68660**

**Revision: Rev. 1**

**Re: Cumberland Farms Sanford (Project No: R101.06074.003)**


Enclosed are the results of the analyses on your sample(s). Samples were received on 16 December 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.

<u>Lab Number</u>	<u>Sample Date</u>	<u>Station Location</u>	<u>Analysis</u>	<u>Comments</u>
68660-1	12/15/10	B201-S4	EPA 8260B (Halocarbons only)	
	12/15/10	B201-S4	Volatile Petroleum Hydrocarbons	
68660-2	12/15/10	B204-S4	Electronic Data Deliverable	
	12/15/10	B204-S4	EPA 8260B (Halocarbons only)	
	12/15/10	B204-S4	Volatile Petroleum Hydrocarbons	

**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 Department 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 01/24/2011

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### Surrogate Compound Limits

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

## VOLATILE DATA SUMMARIES

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

January 4, 2011  
**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Cumberland Farms Sanford  
**Project Number:** R101.06074.003  
**Field Sample ID:** LAB QC

**Lab Sample ID:** MB12290C  
**Matrix:** Solid  
**Percent Solid:** 100  
**Dilution Factor:** 100  
**Collection Date:**  
**Lab Receipt Date:**  
**Analysis Date:** 12/29/10

**ANALYTICAL RESULTS VOLATILE ORGANICS**

COMPOUND	Quantitation Limit $\mu\text{g}/\text{kg}$	Result $\mu\text{g}/\text{kg}$
1,1-Dichloroethane	100	U
1,1-Dichloroethene	75	U
cis-1,2-Dichloroethene	100	U
trans-1,2-Dichloroethene	100	U
Trichloroethene	100	U
Vinyl Chloride	100	U
1,1,1-Trichloroethane	100	U
1,2-Dichloroethane	75	U
Tetrachloroethene	100	U
1,2-Dibromoethane	75	U
<b>Surrogate Standard Recovery</b>		
d4-1,2-Dichloroethane 91 %	d8-Toluene 102 %	Bromofluorobenzene 101 %
U=Undetected      J=Estimated      E=Exceeds Calibration Range      B=Detected in Blank		

**METHODOLOGY:** Sample analysis was conducted according to: Test Methods for Evaluating Solid Waste, SW-846 Method 8260B.

**COMMENTS:** Results are expressed on a dry weight basis.



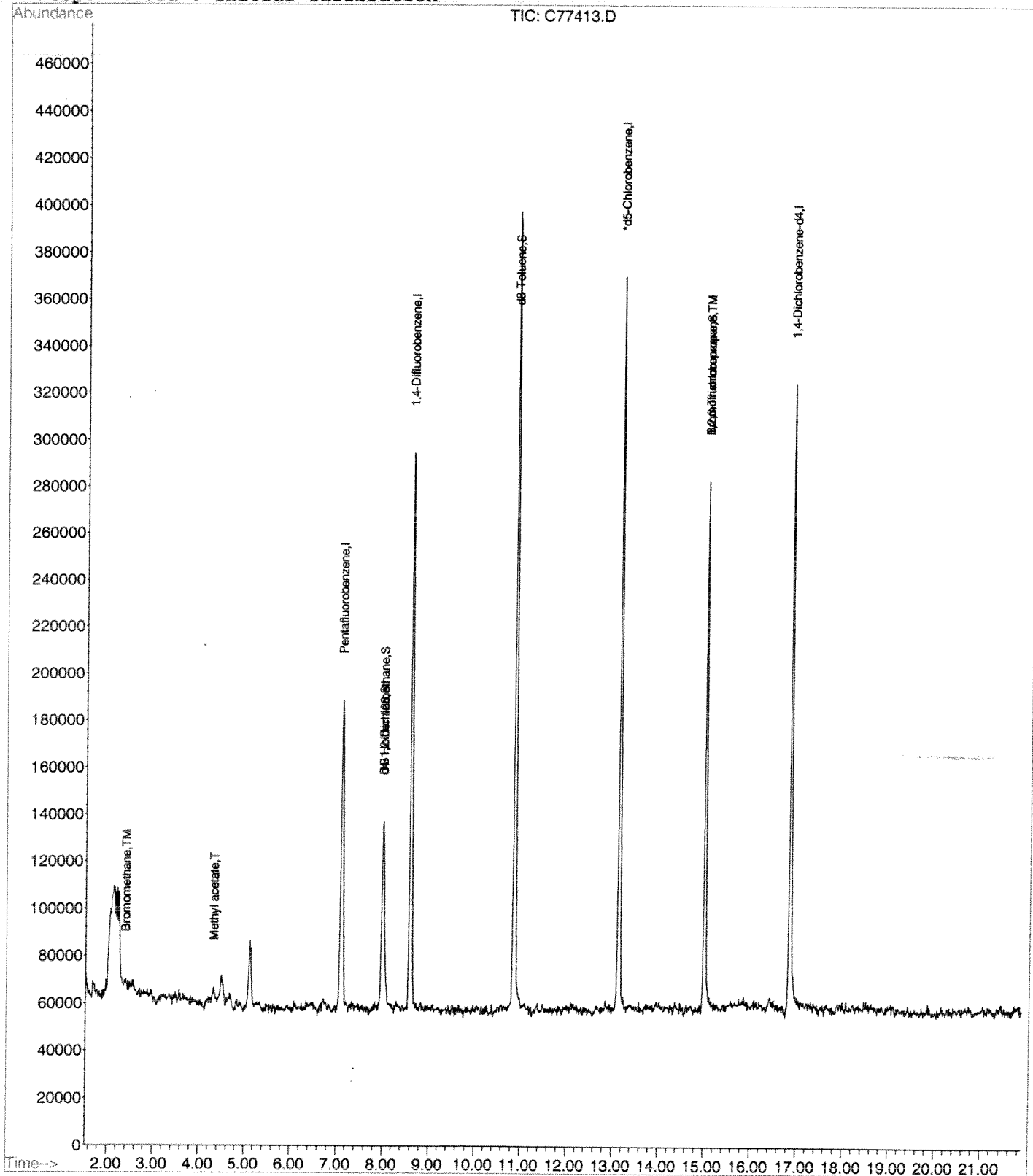
Quantitation Report

Data File : C:\HPCHEM\1\DATA\DATA\122910-C\C77413.D  
Acq On : 29 Dec 2010 2:05 pm  
Sample : MB12290C  
Misc : 50,10.00,SOIL  
MS Integration Params: rteint.p  
Quant Time: Dec 29 13:53 2010

Vial: 13  
Operator: TD  
Inst : Instr\_C  
Multiplr: 1.00

Quant Results File: V80810CA.RES

Method : C:\HPCHEM\1\METHODS\METHODS\METHODS\V80810CA.M (RTE Integrator)  
Title : 8260 Purgable Organics  
Last Update : Thu Dec 09 15:32:05 2010  
Response via : Initial Calibration



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

January 20, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Cumberland Farms Sanford  
**Project Number:** R101.06074.003  
**Field Sample ID:** B201-S4


**Lab Sample ID:** 68660-1  
**Matrix:** Solid  
**Percent Solid:** 94  
**Dilution Factor:** 100  
**Collection Date:** 12/15/10  
**Lab Receipt Date:** 12/16/10  
**Analysis Date:** 12/29/10

**ANALYTICAL RESULTS VOLATILE ORGANICS**

COMPOUND	Quantitation Limit $\mu\text{g}/\text{kg}$	Result $\mu\text{g}/\text{kg}$
1,1-Dichloroethane	100	U
1,1-Dichloroethene	75	U
cis-1,2-Dichloroethene	100	U
trans-1,2-Dichloroethene	100	U
Trichloroethene	100	U
Vinyl Chloride	100	U
1,1,1-Trichloroethane	100	U
1,2-Dichloroethane	75	U
Tetrachloroethene	100	U
1,2-Dibromoethane	75	U
<b>Surrogate Standard Recovery</b>		
d4-1,2-Dichloroethane	91 %	d8-Toluene 98 %
		Bromofluorobenzene 97 %
U=Undetected      J=Estimated      E=Exceeds Calibration Range      B=Detected in		

**METHODOLOGY:** Sample analysis was conducted according to: Test Methods for Evaluating Solid Waste, SW-846 Method 8260B.

**COMMENTS:** Results are expressed on a dry weight basis. Sample collection and analysis in accordance with SW-846 method 5035A.

Authorized signature 



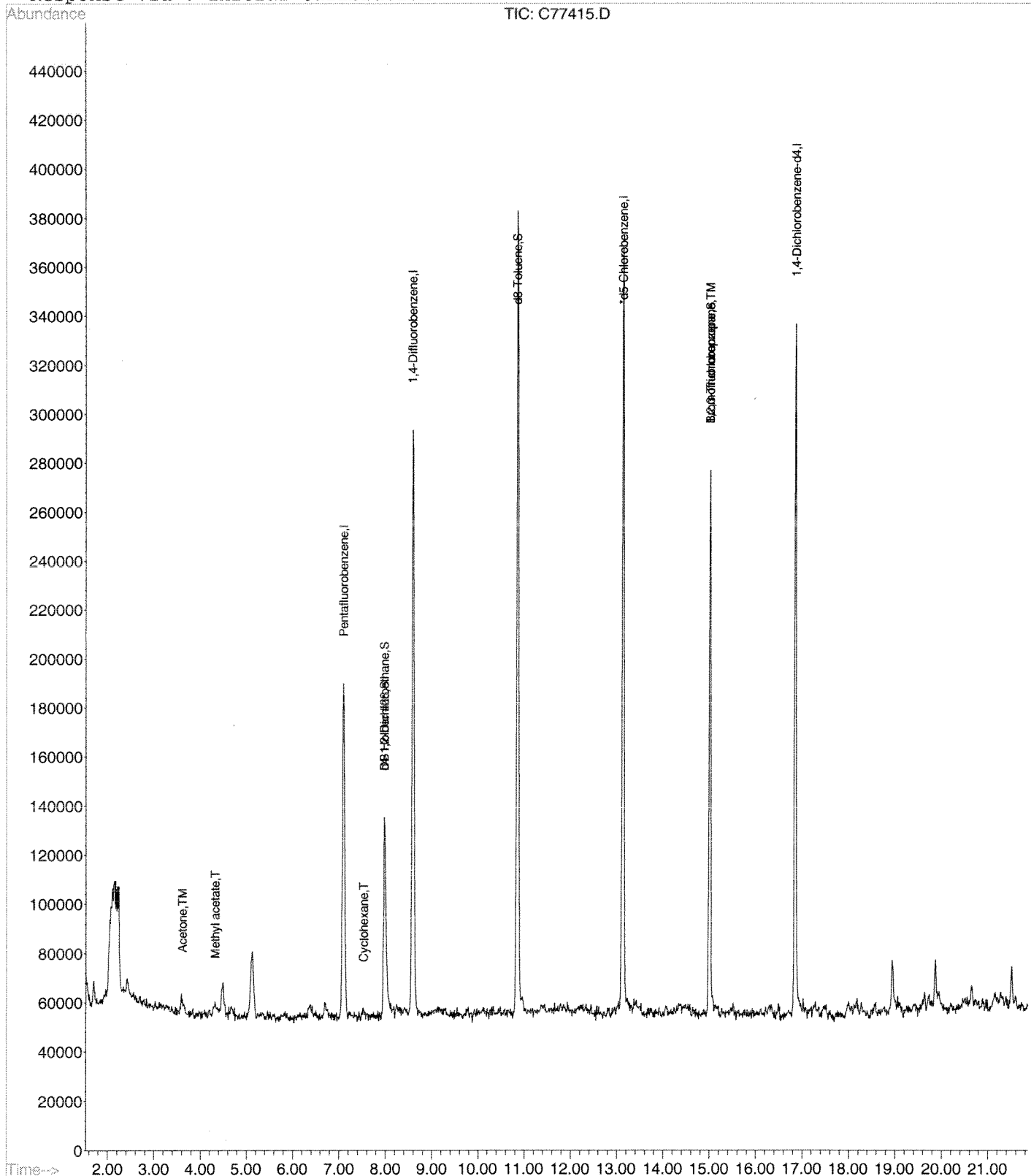
Quantitation Report

Data File : C:\HPCHEM\1\DATA\DATA\122910-C\C77415.D  
Acq On : 29 Dec 2010 3:32 pm  
Sample : 68660-1  
Misc : 50,10.64,SOIL  
MS Integration Params: rteint.p  
Quant Time: Dec 30 11:34 2010

Vial: 15  
Operator: TD  
Inst : Instr\_C  
Multiplr: 1.00

Quant Results File: V80810CA.RES

Method : C:\HPCHEM\1\METHODS\METHODS\METHODS\V80810CA.M (RTE Integrator)  
Title : 8260 Purgable Organics  
Last Update : Thu Dec 09 15:32:05 2010  
Response via : Initial Calibration



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

January 4, 2011  
**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Cumberland Farms Sanford  
**Project Number:** R101.06074.003  
**Field Sample ID:** B204-S4

**Lab Sample ID:** 68660-2  
**Matrix:** Solid  
**Percent Solid:** 96  
**Dilution Factor:** 153  
**Collection Date:** 12/15/10  
**Lab Receipt Date:** 12/16/10  
**Analysis Date:** 12/29/10

**ANALYTICAL RESULTS VOLATILE ORGANICS**

COMPOUND	Quantitation Limit $\mu\text{g}/\text{kg}$	Result $\mu\text{g}/\text{kg}$
1,1-Dichloroethane	153	U
1,1-Dichloroethene	115	U
cis-1,2-Dichloroethene	153	U
trans-1,2-Dichloroethene	153	U
Trichloroethene	153	U
Vinyl Chloride	153	U
1,1,1-Trichloroethane	153	U
1,2-Dichloroethane	115	U
Tetrachloroethene	153	U
1,2-Dibromoethane	115	U
<b>Surrogate Standard Recovery</b>		
d4-1,2-Dichloroethane 109 %	d8-Toluene 124 %	Bromofluorobenzene 121 %
U=Undetected	J=Estimated	E=Exceeds Calibration Range
B=Detected in Blank		

**METHODOLOGY:** Sample analysis was conducted according to: Test Methods for Evaluating Solid Waste, SW-846 Method 8260B.

**COMMENTS:** Results are expressed on a dry weight basis. Sample collection and analysis in accordance with SW-846 method 5035A.

Authorized signature 

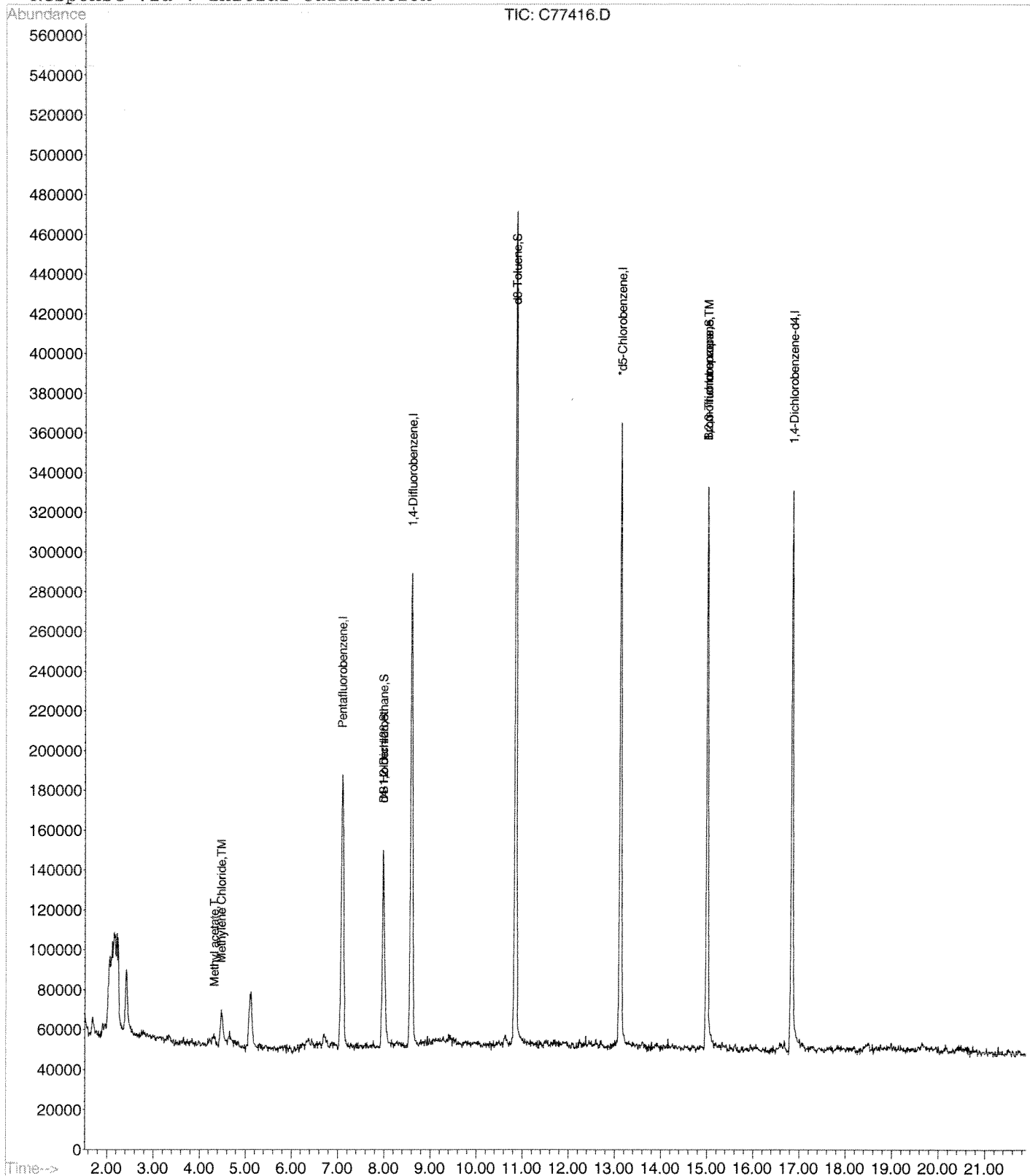
Quantitation Report

Data File : C:\HPCHEM\1\DATA\DATA\122910-C\C77416.D  
Acq On : 29 Dec 2010 4:09 pm  
Sample : 68660-2  
Misc : 50,6.82,SOIL  
MS Integration Params: rteint.p  
Quant Time: Dec 30 11:34 2010

Vial: 16  
Operator: TD  
Inst : Instr\_C  
Multiplr: 1.00

Quant Results File: V80810CA.RES

Method : C:\HPCHEM\1\METHODS\METHODS\METHODS\V80810CA.M (RTE Integrator)  
Title : 8260 Purgable Organics  
Last Update : Thu Dec 09 15:32:05 2010  
Response via : Initial Calibration



VOLATILE  
QC FORMS

VOLATILE ORGANIC SOIL  
LABORATORY CONTROL/LABORATORY CONTROL DUPLICATE  
PERCENT RECOVERY

Instrument ID: C  
GC Column: RTX-502.2  
Column ID: 0.25 mm  
Heated purge (Y/N): N

SDG: 68660  
Non-spiked sample: MB12290C  
Spike: LS12290C  
Spike duplicate: LS12290C

COMPOUND	LCS SPIKE	LCSD SPIKE	LOWER	UPPER	RPD	NON-SPIKE	SPIKE	SPIKE	SPIKE DUP		SPIKE DUP		RPD	
	ADDED (ug/kg)	ADDED (ug/kg)	LIMIT	LIMIT	LIMIT	RESULT (ug/kg)	RESULT (ug/kg)	% REC	#	RESULT (ug/kg)	% REC	#	RPD	#
Dichlorodifluoromethane	2000	2000	49	82	25	0	1070	54		1021	51		5	
Chloromethane	2000	2000	75	125	25	0	1583	79		1304	65	*	19	
Vinyl Chloride	2000	2000	75	125	25	0	1555	78		1485	74	*	5	
Bromomethane	2000	2000	75	125	25	0	2301	115		2321	116		1	
Chloroethane	2000	2000	75	125	25	0	1899	95		1957	98		3	
t-Butyl alcohol (TBA)	10000	10000	60	140	25	0	8979	90		9550	96		6	
Trichlorofluoromethane	2000	2000	75	125	25	0	1683	84		1659	83		1	
Diethyl ether	2000	2000	75	125	25	0	2139	107		2146	107		0	
1,1,2-Trichlorotrifluoroethane	2000	2000	75	125	25	0	1936	97		1968	98		2	
Acetone	5000	5000	75	125	25	0	5527	111		5529	111		0	
1,1-Dichloroethene	2000	2000	75	125	25	0	2128	106		2119	106		0	
Methyl iodide	2000	2000	75	125	25	0	2042	102		2270	114		11	
Di-isopropyl ether (DIPE)	2000	2000	75	125	25	0	2065	103		2050	102		1	
Methylene Chloride	2000	2000	75	125	25	0	2260	113		2262	113		0	
Carbon Disulfide	2000	2000	75	125	25	0	2157	108		2150	108		0	
Acrylonitrile	2000	2000	75	125	25	0	2107	105		2126	106		1	
Methyl-tert-butyl ether (MTBE)	2000	2000	75	125	25	0	2174	109		2179	109		0	
trans-1,2-Dichloroethene	2000	2000	75	125	25	0	2025	101		2072	104		2	
1,1-Dichloroethane	2000	2000	75	125	25	0	2179	109		2164	108		1	
Methyl ethyl ketone	5000	5000	60	140	25	0	5061	101		5136	103		1	
Ethyl t-butyl ether (ETBE)	2000	2000	75	125	25	0	2008	100		2038	102		2	
2,2-Dichloropropane	2000	2000	75	125	25	0	1933	97		2059	103		6	
cis-1,2-Dichloroethene	2000	2000	75	125	25	0	2018	101		2036	102		1	
t-Amyl methyl ether (TAME)	2000	2000	75	125	25	0	1914	96		1951	98		2	
Chloroform	2000	2000	75	125	25	0	1910	96		1929	96		1	
Bromochloromethane	2000	2000	75	125	25	0	2147	107		2201	110		2	
Tetrahydrofuran	2000	2000	60	140	25	0	1953	98		1975	99		1	
1,1,1-Trichloroethane	2000	2000	75	125	25	0	1945	97		1911	96		2	
1,1-Dichloropropene	2000	2000	75	125	25	0	2039	102		2032	102		0	
Carbon Tetrachloride	2000	2000	75	125	25	0	2232	112		2237	112		0	
1,2-Dichloroethane	2000	2000	75	125	25	0	1945	97		1987	99		2	
Benzene	2000	2000	75	125	25	0	2076	104		2056	103		1	
Trichloroethene	2000	2000	75	125	25	0	2134	107		2077	104		3	
1,2-Dichloropropane	2000	2000	75	125	25	0	2125	106		2118	106		0	
Methylmethacrylate	2000	2000	75	125	25	0	1914	96		1879	94		2	
Bromodichloromethane	2000	2000	75	125	25	0	2009	100		1924	96		4	
Dibromomethane	2000	2000	75	125	25	0	2090	104		2048	102		2	
2-Hexanone	5000	5000	75	125	25	0	4482	90		4534	91		1	
Methyl isobutyl ketone	5000	5000	75	125	25	0	4697	94		4694	94		0	
cis-1,3-Dichloropropene	2000	2000	75	125	25	0	2045	102		2033	102		1	
Toluene	2000	2000	75	125	25	0	2064	103		2034	102		1	
trans-1,3-Dichloropropene	2000	2000	75	125	25	0	1905	95		1913	96		0	
1,1,2-Trichloroethane	2000	2000	75	125	25	0	2049	102		2069	103		1	
1,3-Dichloropropane	2000	2000	75	125	25	0	1871	94		1900	95		2	
Tetrachloroethene	2000	2000	75	125	25	0	1713	86		1703	85		1	
Dibromochloromethane	2000	2000	75	125	25	0	1948	97		1947	97		0	
1,2-Dibromoethane	2000	2000	75	125	25	0	1905	95		1960	98		3	
Chlorobenzene	2000	2000	75	125	25	0	2059	103		2055	103		0	
1,1,1,2-Tetrachloroethane	2000	2000	75	125	25	0	2032	102		2006	100		1	
Ethylbenzene	2000	2000	75	125	25	0	2024	101		1986	99		2	
m,p-Xylene	4000	4000	75	125	25	0	3996	100		3934	98		2	
o-Xylene	2000	2000	75	125	25	0	2013	101		2004	100		0	
Styrene	2000	2000	75	125	25	0	2050	103		2064	103		1	

VOLATILE ORGANIC SOIL  
LABORATORY CONTROL/LABORATORY CONTROL DUPLICATE  
PERCENT RECOVERY

Instrument ID: C  
GC Column: RTX-502.2  
Column ID: 0.25 mm  
Heated purge (Y/N): N

SDG: 68660  
Non-spiked sample: MB12290C  
Spike: LS12290C  
Spike duplicate: LS12290C

COMPOUND	LCS SPIKE	LCSD SPIKE	LOWER	UPPER	RPD	NON-SPIKE	SPIKE	SPIKE	SPIKE DUP	SPIKE DUP		
	ADDED (ug/kg)	ADDED (ug/kg)	LIMIT	LIMIT	LIMIT	RESULT (ug/kg)	RESULT (ug/kg)	% REC	#	RESULT (ug/kg)	% REC	#
Bromoform	2000	2000	75	125	25	0	1902	95	1904	95	0	
Isopropylbenzene	2000	2000	75	125	25	0	2041	102	1990	100	3	
1,1,2,2-Tetrachloroethane	2000	2000	75	125	25	0	1838	92	1865	93	1	
1,2,3-Trichloropropane	2000	2000	75	125	25	0	2014	101	2060	103	2	
trans-1,4-Dichloro-2-butene	2000	2000	75	125	25	0	1959	98	1960	98	0	
n-Propylbenzene	2000	2000	75	125	25	0	2019	101	1998	100	1	
Bromobenzene	2000	2000	75	125	25	0	2024	101	1966	98	3	
1,3,5-Trimethylbenzene	2000	2000	75	125	25	0	2050	102	2028	101	1	
2-Chlorotoluene	2000	2000	75	125	25	0	2065	103	2095	105	1	
4-Chlorotoluene	2000	2000	75	125	25	0	2061	103	2011	101	2	
tert-butylbenzene	2000	2000	75	125	25	0	2011	101	1957	98	3	
1,2,4-Trimethylbenzene	2000	2000	75	125	25	0	1988	99	1953	98	2	
sec-butylbenzene	2000	2000	75	125	25	0	2038	102	1995	100	2	
p-isopropyltoluene	2000	2000	75	125	25	0	2004	100	1976	99	1	
1,3-Dichlorobenzene	2000	2000	75	125	25	0	1968	98	1980	99	1	
1,4-Dichlorobenzene	2000	2000	75	125	25	0	1989	99	1966	98	1	
n-butylbenzene	2000	2000	75	125	25	0	2037	102	2008	100	1	
1,2-Dichlorobenzene	2000	2000	75	125	25	0	1959	98	2011	101	3	
1,2-Dibromo-3-chloropropane	2000	2000	75	125	25	0	1836	92	1786	89	3	
1,2,4-Trichlorobenzene	2000	2000	75	125	25	0	1961	98	1906	95	3	
Hexachlorobutadiene	2000	2000	75	125	25	0	1922	96	1848	92	4	
Naphthalene	2000	2000	75	125	25	0	1874	94	1890	94	1	
1,2,3-Trichlorobenzene	2000	2000	75	125	25	0	1949	97	1879	94	4	

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

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

Comments: \_\_\_\_\_

VPH  
DATA SUMMARIES

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

December 30, 2010

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Cumberland Farms Sanford  
**Project Number:** R101.06074.003  
**Client Sample ID:** LabQC

**Lab Sample ID:** MBV122210K  
**Matrix:** Soil  
**Percent Solid:** NA  
**Dilution Factor:** 50  
**Collection Date:**  
**Lab Receipt Date:**  
**Analysis Date:** 12/22/10

VPH ANALYTICAL RESULTS				
RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics <sup>1</sup>	N/A	2500	µg/kg	U
Unadjusted C9-C12 Aliphatics <sup>1</sup>	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 Aliphatic Hydrocarbons <sup>1,2</sup>	N/A	2500	µg/kg	U
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	2500	µg/kg	U
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	N/A	500	µg/kg	U
Surrogate % Recovery (2,5-Dibromotoluene) PID				80
Surrogate % Recovery (2,5-Dibromotoluene) FID				78
Surrogate Acceptance Range				70-130%

<sup>1</sup>Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup>C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup>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 moisture corrected and dry weight basis.

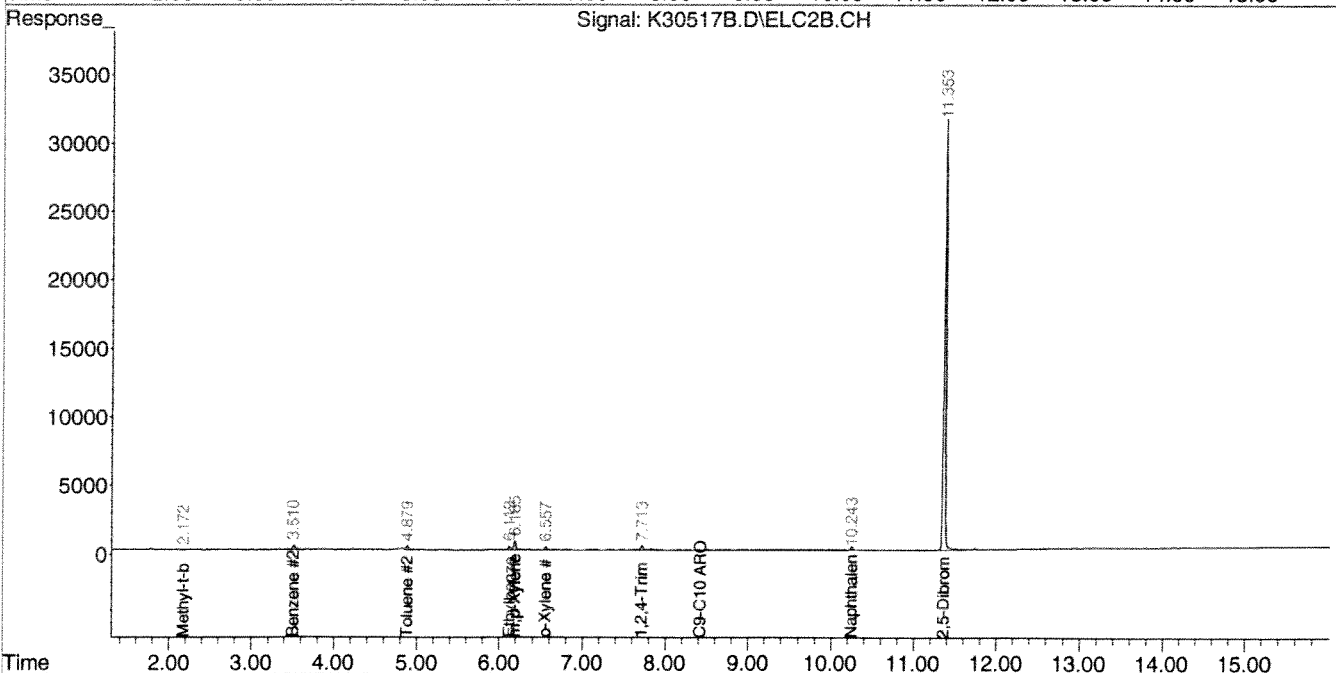
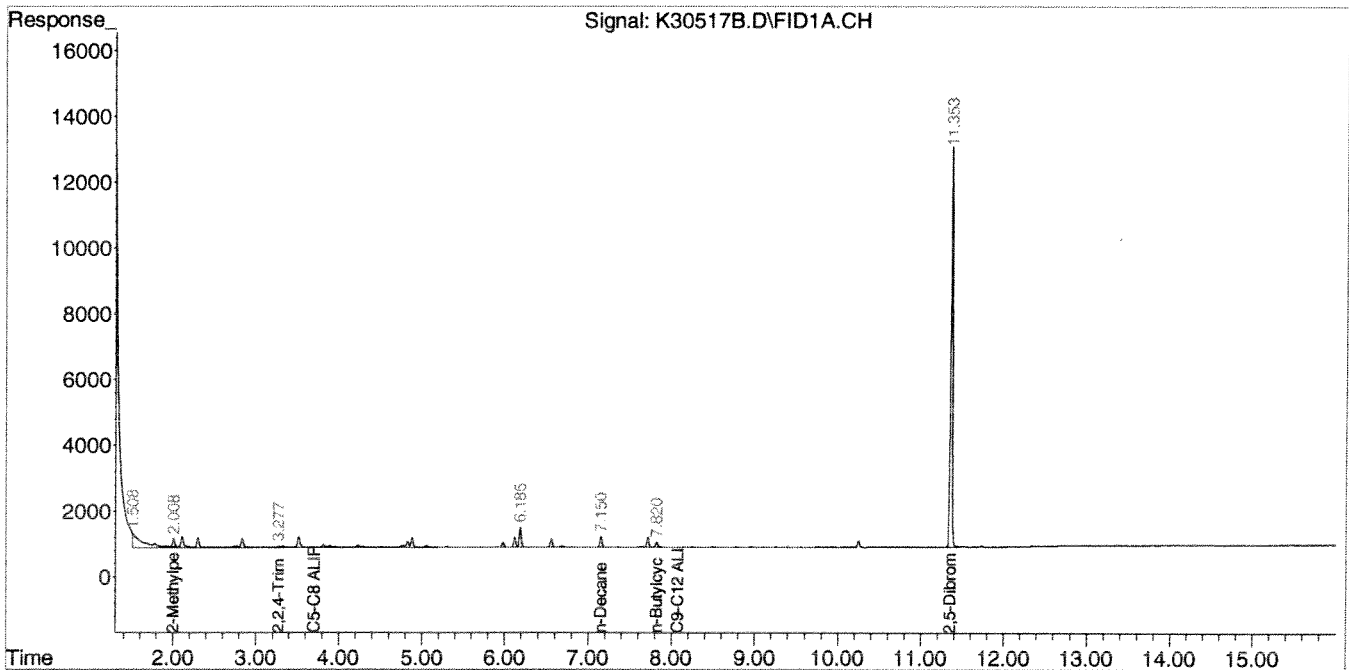
Authorized signature: *Marshall*



Data Path : C:\msdchem\1\DATA\122210-K\  
 Data File : K30517B.D  
 Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH  
 Acq On : 22 Dec 2010 12:51 pm  
 Operator : JJL  
 Sample : MBV122210K  
 Misc : 100,10.00,SOIL  
 ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Dec 22 13:10:36 2010  
 Quant Method : C:\msdchem\1\METHODS\VPH110810.M  
 Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004  
 QLast Update : Tue Nov 09 10:03:10 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 :



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

January 20, 2011

**CLIENT SAMPLE ID**

**Project Name:** Cumberland Farms Sanford  
**Project Number:** R101.06074.003  
**Client Sample ID:** B201-S4

**SAMPLE DATA**

**Lab Sample ID:** 68660-1  
**Matrix:** Solid  
**Percent Solid:** 94  
**Dilution Factor:** 61.55  
**Collection Date:** 12/15/10  
**Lab Receipt Date:** 12/16/10  
**Analysis Date:** 12/22/10

VPH ANALYTICAL RESULTS				
RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics <sup>1</sup>	N/A	3078	µg/kg	U
Unadjusted C9-C12 Aliphatics	N/A	3078	µg/kg	U
C5-C8 Aliphatics Hydrocarbons <sup>1,2</sup>	N/A	3078	µg/kg	U
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	3078	µg/kg	U
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	N/A	616	µg/kg	U
Surrogate % Recovery (2,5-Dibromotoluene) PID				97
Surrogate % Recovery (2,5-Dibromotoluene) FID				96
Surrogate Acceptance Range				70-130%

<sup>1</sup> Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range  
<sup>2</sup> C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup> C9-C12 Aliphatic Hydrocarbons exclude conc. of Target Analytes eluting in that range AND conc. of C9-C10 Aromatic Hydrocarbons.  
 \*Recovery is outside the laboratory acceptance criteria. 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

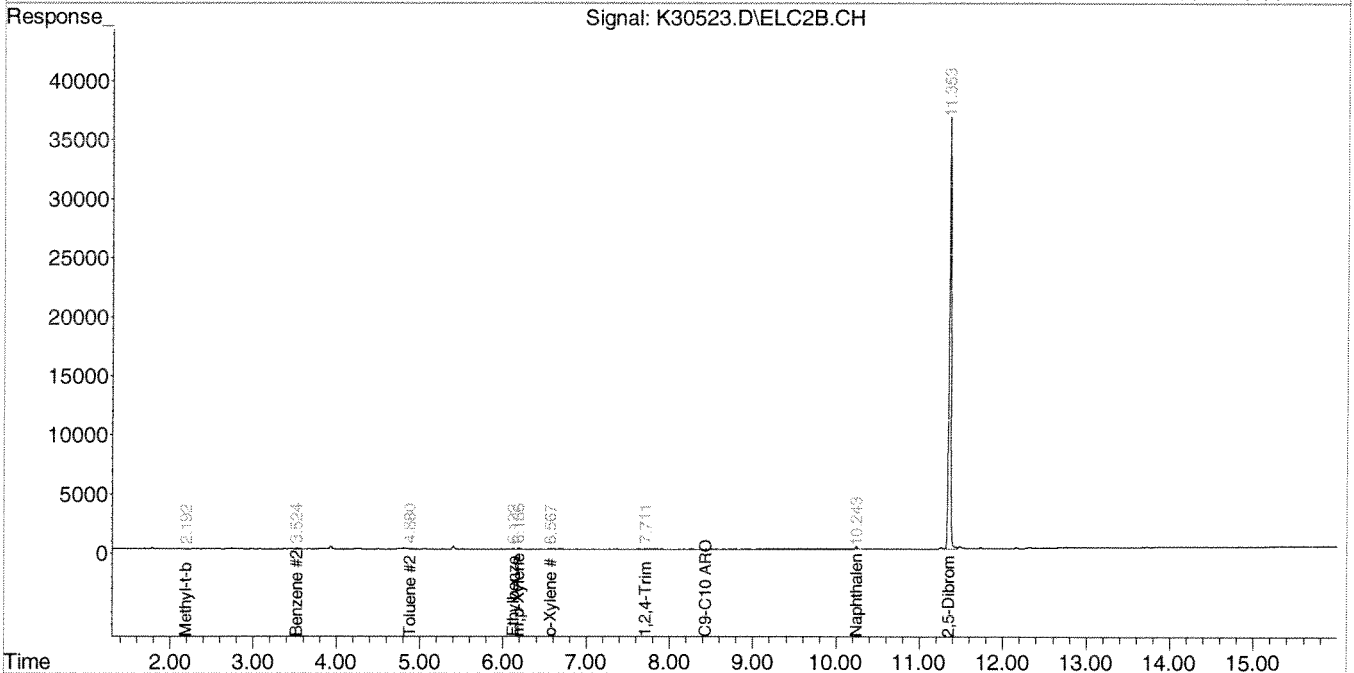
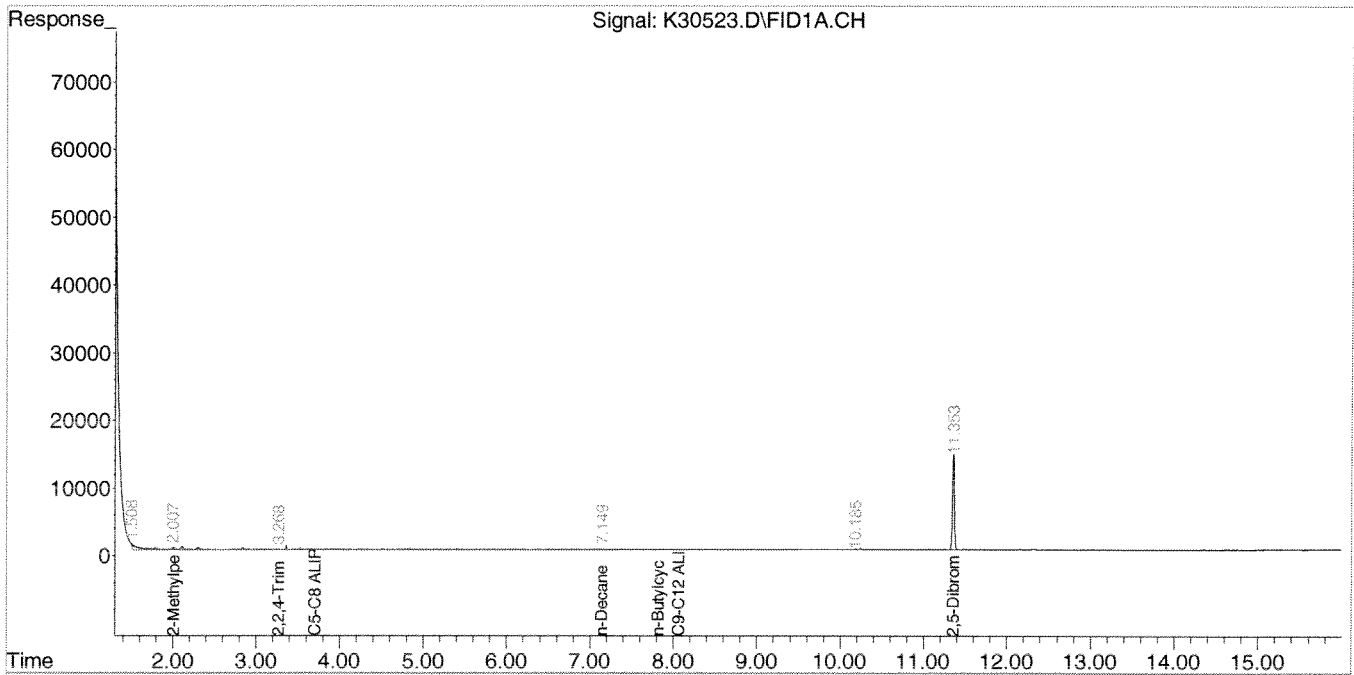
COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist. Results are expressed on a moisture corrected and dry weight basis.

Authorized signature: *M. Phelan*

Data Path : C:\msdchem\1\DATA\122210-K\  
 Data File : K30523.D  
 Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH  
 Acq On : 22 Dec 2010 3:29 pm  
 Operator : JJL  
 Sample : 68660-1  
 Misc : 100,9.15,SOIL  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Dec 23 10:29:01 2010  
 Quant Method : C:\msdchem\1\METHODS\VPH110810.M  
 Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004  
 QLast Update : Tue Nov 09 10:03:10 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 :



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

December 30, 2010

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Cumberland Farms Sanford  
**Project Number:** R101.06074.003  
**Client Sample ID:** B204-S4

**Lab Sample ID:** 68660-2  
**Matrix:** Solid  
**Percent Solid:** 96  
**Dilution Factor:** 63.27  
**Collection Date:** 12/15/10  
**Lab Receipt Date:** 12/16/10  
**Analysis Date:** 12/22/10

**VPH ANALYTICAL RESULTS**

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics <sup>1</sup>	N/A	3164	µg/kg	U
Unadjusted C9-C12 Aliphatics <sup>1</sup>	N/A	3164	µg/kg	U
Benzene	C5-C8	127	µg/kg	U
Ethylbenzene	C9-C12	127	µg/kg	U
Methyl-tert-butyl ether	C5-C8	127	µg/kg	U
Naphthalene	N/A	127	µg/kg	U
Toluene	C5-C8	127	µg/kg	U
m- & p-Xylenes	C9-C12	253	µg/kg	U
o-Xylene	C9-C12	127	µg/kg	U
C5-C8 Aliphatics Hydrocarbons <sup>1,2</sup>	N/A	3164	µg/kg	U
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	3164	µg/kg	U
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	N/A	633	µg/kg	U
Surrogate % Recovery (2,5-Dibromotoluene) PID				108
Surrogate % Recovery (2,5-Dibromotoluene) FID				106
Surrogate Acceptance Range				70-130%

<sup>1</sup>Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup>C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup>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

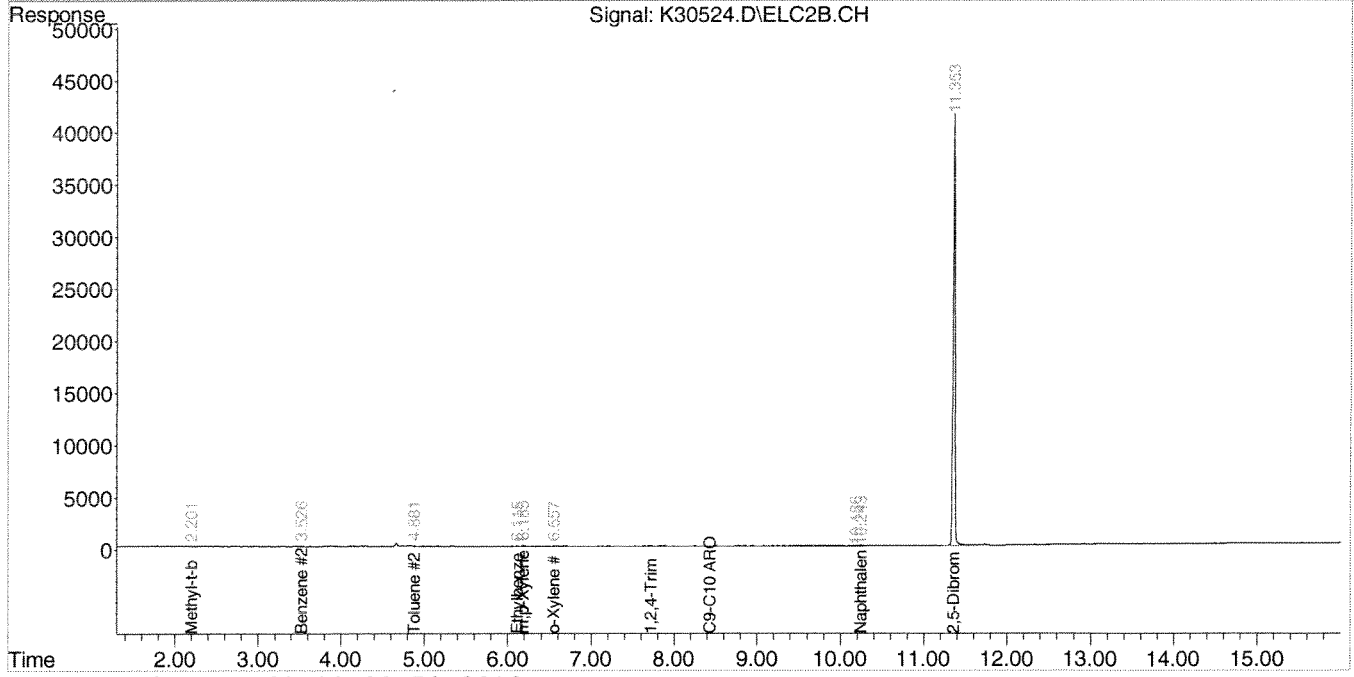
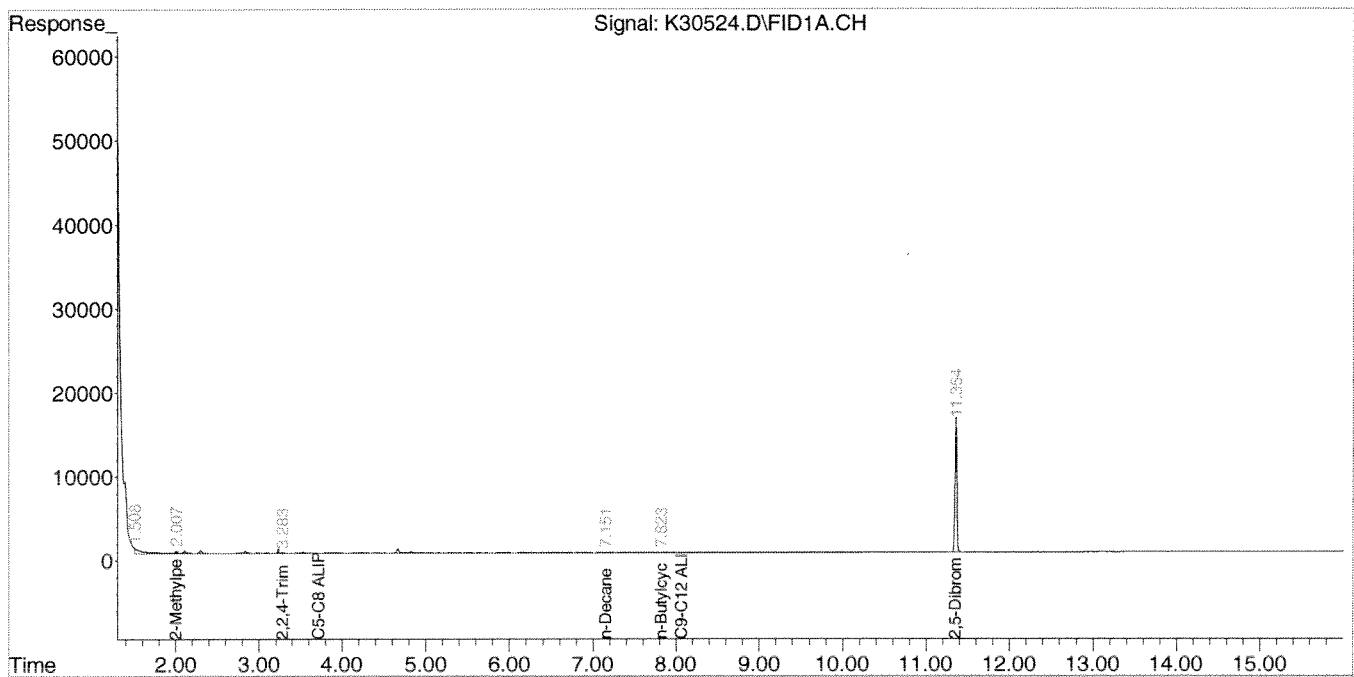
COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist.  
 Results are expressed on a moisture corrected and dry weight basis.

Authorized signature: *M. Phelan*

Data Path : C:\msdchem\1\DATA\122210-K\  
 Data File : K30524.D  
 Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH  
 Acq On : 22 Dec 2010 3:53 pm  
 Operator : JJL  
 Sample : 68660-2  
 Misc : 100,8.52,SOIL  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Dec 23 10:29:34 2010  
 Quant Method : C:\msdchem\1\METHODS\VPH110810.M  
 Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004  
 QLast Update : Tue Nov 09 10:03:10 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 :



VPH  
QC FORMS

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: 68660  
Non-spiked sample: MBV122210K  
Spike: LSV122210K  
Spike duplicate: LSV122210K2

COMPOUND	LCS SPIKE	LCSD SPIKE	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/kg)	SPIKE		SPIKE DUP		SPIKE DUP		RPD #
	ADDED (ug/kg)	ADDED (ug/kg)					% REC	#	RESULT (ug/kg)	% REC	#	RESULT (ug/kg)	
Pentane	5000	5000	70	130	25	0	4900	98		4622	92		6
2-Methylpentane	5000	5000	70	130	25	0	5031	101		4800	96		5
2,2,4-Trimethylpentane	5000	5000	70	130	25	0	4803	96		4521	90		6
n-Decane	5000	5000	70	130	25	0	6215	124		5893	118		5
n-Butylcyclohexane	5000	5000	70	130	25	0	5654	113		5398	108		5
Methyl-t-butylether #2	5000	5000	70	130	25	0	5169	103		5053	101		2
Benzene #2	5000	5000	70	130	25	0	5175	103		5033	101		3
Toluene #2	5000	5000	70	130	25	0	5005	100		4863	97		3
Ethylbenzene #2	5000	5000	70	130	25	0	5094	102		4952	99		3
m,p-Xylene #2	10000	10000	70	130	25	0	10169	102		9889	99		3
o-Xylene #2	5000	5000	70	130	25	0	5082	102		4953	99		3
1,2,4-Trimethylbenzene #2	5000	5000	70	130	25	0	5781	116		5576	112		4
Naphthalene #2	5000	5000	70	130	25	0	6057	121		6059	121		0
C5-C8 Aliphatics	15000	15000	70	130	25	0	14735	98		13943	93		6
C9-C12 Aliphatics	10000	10000	70	130	25	0	11869	119		11290	113		5
C9-C10 Aromatics #2	5000	5000	70	130	25	0	5781	116		5576	112		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: \_\_\_\_\_  
\_\_\_\_\_

## CHAIN OF CUSTODIES



# Chain Of Custody Form

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

Project#: R101.06074.003 Proj. Name: Cumberland Farms Sealed  
 Company: RANSOM Environmental Consultants, Inc.  
 Contact: Erik Phenix  
 Address: 400 Commercial Street Suite 404  
Portland, ME 04101  
 Phone: (207) 772-2891 PO# 2350 Quote #  
 Sampler (Signature): Erik Phenix

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

Samples were:  
 1) Shipped hand-delivered  
 2) Temp blank °C 1.02  
 3) Received in good condition Y or N  
 4) pH checked by: N/A  
 5) Labels checked by: 12/16/10

Station Identification	Sample Date	Sample Time	Analysis	Preservation							pH	Analytics Sample #
				Upret	4° C	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	HCL	Methanol	Other		
<u>B204-54</u>	<u>12/15/10</u>	<u>0825</u>	<u>VPH, Chlorinateds 8260*</u>	<input checked="" type="checkbox"/>								<u>08060-1</u>
<u>B204-54</u>	<u>12/15/10</u>	<u>1415</u>	<u>VPH, Chlorinateds 8260*</u>	<input checked="" type="checkbox"/>								<u>-2</u>
<u>12/16/10</u>												

Received By: [Signature] Date: 12/16/10 Time: 1230

Received By: [Signature] Date: 12/16/10 Time: 1410

Received By: [Signature] Date: 12/16/10 Time: 0910

Relinquished By: [Signature] Date: 12/16/10 Time: 1230

Relinquished By: [Signature] Date: 12/16/10 Time: 1410

Relinquished By: [Signature] Date: 12/16/10 Time: 0910

Matrix Key: C = Concrete, WF = 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

Report Type:  MCP\*,  TRCP\*,  DOD\*,  Standard  
 Level II\*,  Level III\*,  Level IV\*

State:  NH,  MA,  ME,  CT,  RI, Other: \_\_\_\_\_

Project Requirements: \*Fee may apply  
 State Standard: \_\_\_\_\_  
 (eg. S-1 or GW-1)  
 EDD Required: Y or N  
 Type: ME DEP

Comments / Instructions: Maine DEP Brownfields  
\*Chlorinated compounds including:  
Vinyl chloride  
1,1-Dichloroethene  
trans-1,2-Dichloroethene  
1,1-Dichloroethane  
cis-1,2-Dichloroethene  
1,2-Dichloroethane  
1,1,1-Trichloroethane  
Trichloroethene  
1,2-Dibromoethane  
Tetrachloroethene  
cc: nsabatine@ransomenv.com  
on Results

Email Results to: ephenix@ransonenv.com  
amartin@ransonenv.com

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

ANALYTICS SAMPLE RECEIPT CHECKLIST



AEL LAB#: 68660  
 CLIENT: Ransom Portland  
 PROJECT: Cumbarland Farms Sanfoet

COOLER NUMBER: 112  
 NUMBER OF COOLERS: 1  
 DATE RECEIVED: 12.16.10

**A: PRELIMINARY EXAMINATION:**

DATE COOLER OPENED: 12.16.10

1. Cooler received by(initials): LM

Date Received: 1

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

Shipped

3. Did cooler come with a shipping slip?

Y  N

3a. Enter carrier name and airbill number here: \_\_\_\_\_

4. Were custody seals on the outside of cooler?  
 How many & where: \_\_\_\_\_ Seal Date: \_\_\_\_\_

Y  N  
 Seal Name: \_\_\_\_\_

5. Did the custody seals arrive unbroken and intact upon arrival?

Y  N

6. COC#: \_\_\_\_\_

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: 1.0°C

**B. Log-In:** Date samples were logged in: 12.16.10

By: S HC

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 N/A

19. Was sufficient amount of sample sent for the tests indicated?

Y  N

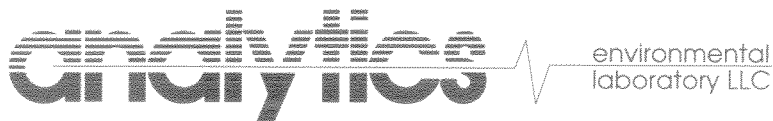
20. Were bubbles absent in VOA samples?

Y  N N/A

If NO, List Sample ID's and Lab #s: \_\_\_\_\_

21. Laboratory labeling verified by (initials): P

Date: 12/16/10



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

January 19, 2011

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

**RE: Analytical Results Case Narrative  
Cumberland Farms Sanford  
Analytics #68745 Revision 1**

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 Selected Volatile Organic Compounds (VOCs) Compounds using EPA Method 8260B and Volatile Petroleum Hydrocarbons (VPH) using MADEP VPH Method 2004 Rev 1.1.

Revision 1: This report has been revised to correct the VPH reporting limits for 68745-1 and 68745-5 original analyses. The dilution factor was entered incorrectly and has been corrected in this revision.

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
- VOC Form 1 Sample Data Results for Samples and Method Blanks
  - Chromatograms
- VOC Form 3 MS/MSD and LCS Recoveries
- VPH Form I Data Sheet for Samples and Blanks
  - Chromatograms
- VPH Form 3 MS/MSD (LCS) Recoveries
  - Chromatograms
- Chain of Custody (COC) Forms
- Sample Receipt Checklist

## QC NON-CONFORMANCE SUMMARY

**Sample Receipt:**

No QC deviations.

**Volatile Organic Compounds (VOCs) by EPA 8260B:**

This narrative is specific to target analytes reported on the Form 1 data pages. Non-target (NT) analyte deviations were not addressed.

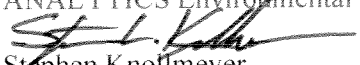
The continuing calibration standards (file#B77393SC & B7756SC) had high recovery for Bromoform. The laboratory control samples (L801031B3, L801031B4 & L801041B, L801041B2) had some analytes with recoveries outside the laboratory acceptance criteria. These analytes were not detected in any samples for this SDG and results were reported without qualification.

**Volatile Petroleum Hydrocarbons (VPH):**

No results were reported below the quantitation limit.

Due to an instrument problem the dilutions for samples 68745-1 and 68745-5 were analyzed over holding time. Both the undiluted and diluted analysis are contained in this final report. The results for the diluted analysis were reported with a comment to this affect.

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 Knoffmeyer  
Laboratory Director

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

**Report Number: 68745**

**Revision: Rev. 1**

**Re: Cumberland Farms Sanford (Project No: 101.06074)**

Enclosed are the results of the analyses on your sample(s). Samples were received on 23 December 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 Department 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

1/19/2011

**This report shall not be reproduced, except in full, without the written consent of Analytics Environmental Laboratory, LLC.**

**CLIENT: Ransom Environmental  
Consultants, Inc.**

**REPORT NUMBER: 68745**

**REV: Rev. 1**

**PROJECT: Cumberland Farms Sanford (Project No: 101.06074)**

---

<u>Lab Number</u>	<u>Sample Date</u>	<u>Station Location</u>	<u>Analysis</u>	<u>Comments</u>
68745-1	12/22/10	MW101	EPA 8260 Volatile Organics	
	12/22/10	MW101	Volatile Petroleum Hydrocarbons	
68745-2	12/22/10	MW102	EPA 8260 Volatile Organics	
	12/22/10	MW102	Volatile Petroleum Hydrocarbons	
68745-3	12/22/10	MW103	EPA 8260 Volatile Organics	
	12/22/10	MW103	Volatile Petroleum Hydrocarbons	
68745-4	12/22/10	MW201	EPA 8260 Volatile Organics	
	12/22/10	MW201	Volatile Petroleum Hydrocarbons	
68745-5	12/22/10	MW202	EPA 8260 Volatile Organics	
	12/22/10	MW202	Volatile Petroleum Hydrocarbons	
68745-6	12/22/10	Trip Blank	Electronic Data Deliverable	
	12/22/10	Trip Blank	EPA 8260 Volatile Organics	
	12/22/10	Trip Blank	Volatile Petroleum Hydrocarbons	

### Surrogate Compound Limits

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

## VOLATILE DATA SUMMARIES



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

January 10, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Cumberland Farms Sanford  
**Project Number:** 101.06074  
**Field Sample ID:** LAB QC

**Lab Sample ID:** B801031B2  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 1  
**Collection Date:**  
**Lab Receipt Date:**  
**Analysis Date:** 01/04/11

**ANALYTICAL RESULTS VOLATILE ORGANICS**

COMPOUND	Quantitation Limit $\mu\text{g/L}$	Result $\mu\text{g/L}$
1,1-Dichloroethane	1	U
1,1-Dichloroethene	1	U
cis-1,2-Dichloroethene	1	U
trans-1,2-Dichloroethene	1	U
Trichloroethene	1	U
Vinyl Chloride	1	U
1,1,1-Trichloroethane	1	U
1,2-Dichloroethane	1	U
Tetrachloroethene	1	U
1,2-Dibromoethane	1	U
<b>Surrogate Standard Recovery</b>		
d4-1,2-Dichloroethane 99 %	d8-Toluene 101 %	Bromofluorobenzene 101 %
U=Undetected      J=Estimated      E=Exceeds Calibration Range      B=Detected in		

**METHODOLOGY:** Sample analysis was conducted according to: Test Methods for Evaluating Solid Waste, SW-846 Method 8260B.

**COMMENTS:**

Authorized signature 

Mr. Erik Phenix  
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 Portland, ME 04101

January 10, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Cumberland Farms Sanford  
**Project Number:** 101.06074  
**Field Sample ID:** LAB QC

**Lab Sample ID:** B801041B  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 1  
**Collection Date:**  
**Lab Receipt Date:**  
**Analysis Date:** 01/04/11

**ANALYTICAL RESULTS VOLATILE ORGANICS**

COMPOUND	Quantitation Limit $\mu\text{g/L}$	Result $\mu\text{g/L}$
1,1-Dichloroethane	1	U
1,1-Dichloroethene	1	U
cis-1,2-Dichloroethene	1	U
trans-1,2-Dichloroethene	1	U
Trichloroethene	1	U
Vinyl Chloride	1	U
1,1,1-Trichloroethane	1	U
1,2-Dichloroethane	1	U
Tetrachloroethene	1	U
1,2-Dibromoethane	1	U

**Surrogate Standard Recovery**

d4-1,2-Dichloroethane 97 %      d8-Toluene 103 %      Bromofluorobenzene 99 %

U=Undetected      J=Estimated      E=Exceeds Calibration Range      B=Detected in

**METHODOLOGY:** Sample analysis was conducted according to: Test Methods for Evaluating Solid Waste, SW-846 Method 8260B.

**COMMENTS:**

Authorized signature 



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

January 10, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Cumberland Farms Sanford  
**Project Number:** 101.06074  
**Field Sample ID:** MW101

**Lab Sample ID:** 68745-1  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 1  
**Collection Date:** 12/22/10  
**Lab Receipt Date:** 12/23/10  
**Analysis Date:** 01/04/11

**ANALYTICAL RESULTS VOLATILE ORGANICS**

COMPOUND	Quantitation Limit $\mu\text{g/L}$	Result $\mu\text{g/L}$
1,1-Dichloroethane	1	U
1,1-Dichloroethene	1	U
cis-1,2-Dichloroethene	1	U
trans-1,2-Dichloroethene	1	U
Trichloroethene	1	U
Vinyl Chloride	1	U
1,1,1-Trichloroethane	1	U
1,2-Dichloroethane	1	U
Tetrachloroethene	1	U
1,2-Dibromoethane	1	U
<b>Surrogate Standard Recovery</b>		
d4-1,2-Dichloroethane	96 %	d8-Toluene 100 %
		Bromofluorobenzene 81 %
U=Undetected	J=Estimated	E=Exceeds Calibration Range
		B=Detected in

**METHODOLOGY:** Sample analysis was conducted according to: Test Methods for Evaluating Solid Waste, SW-846 Method 8260B.

**COMMENTS:**

Authorized signature



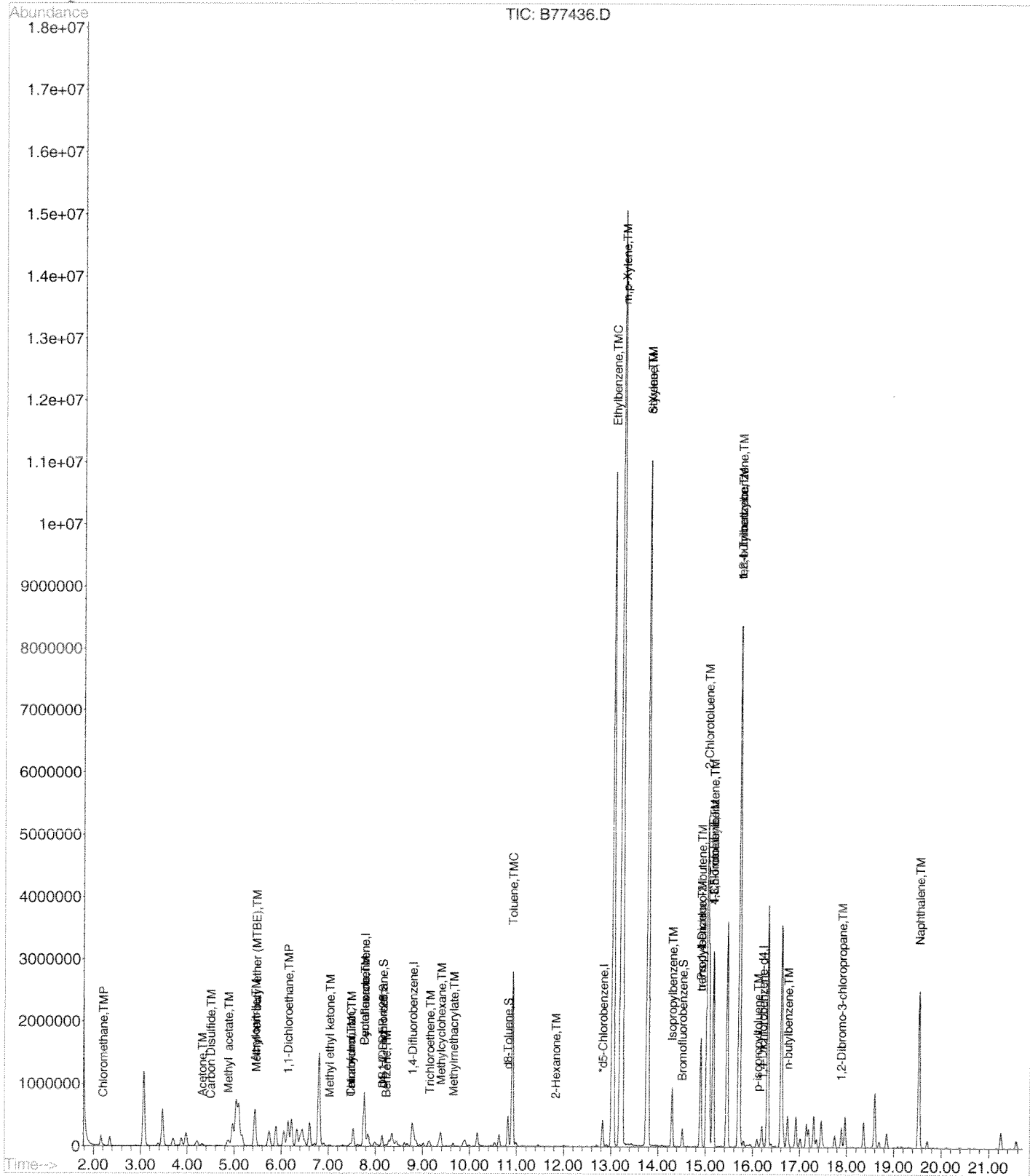
Quantitation Report

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Acq On : 4 Jan 2011 7:02 am  
Sample : 68745-1  
Misc : 5000  
MS Integration Params: rteint.p  
Quant Time: Jan 4 9:34 2011

Vial: 46  
Operator: TD  
Inst : Instrumen  
Multiplr: 1.00

Quant Results File: V812300B.RES

Method : C:\HPCHEM\1\METHODS\V812300B.M (RTE Integrator)  
Title : 8260 Purgable Organics  
Last Update : Thu Dec 30 17:20:41 2010  
Response via : Initial Calibration



Mr. Erik Phenix  
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January 10, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Cumberland Farms Sanford  
**Project Number:** 101.06074  
**Field Sample ID:** MW102

**Lab Sample ID:** 68745-2  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 1  
**Collection Date:** 12/22/10  
**Lab Receipt Date:** 12/23/10  
**Analysis Date:** 01/04/11

**ANALYTICAL RESULTS VOLATILE ORGANICS**

COMPOUND	Quantitation Limit $\mu\text{g/L}$	Result $\mu\text{g/L}$
1,1-Dichloroethane	1	U
1,1-Dichloroethene	1	U
cis-1,2-Dichloroethene	1	U
trans-1,2-Dichloroethene	1	U
Trichloroethene	1	U
Vinyl Chloride	1	U
1,1,1-Trichloroethane	1	U
1,2-Dichloroethane	1	U
Tetrachloroethene	1	U
1,2-Dibromoethane	1	U
<b>Surrogate Standard Recovery</b>		
d4-1,2-Dichloroethane 93 %	d8-Toluene 100 %	Bromofluorobenzene 98 %
U=Undetected	J=Estimated	E=Exceeds Calibration Range
		B=Detected in

**METHODOLOGY:** Sample analysis was conducted according to: Test Methods for Evaluating Solid Waste, SW-846 Method 8260B.

**COMMENTS:**

Authorized signature 

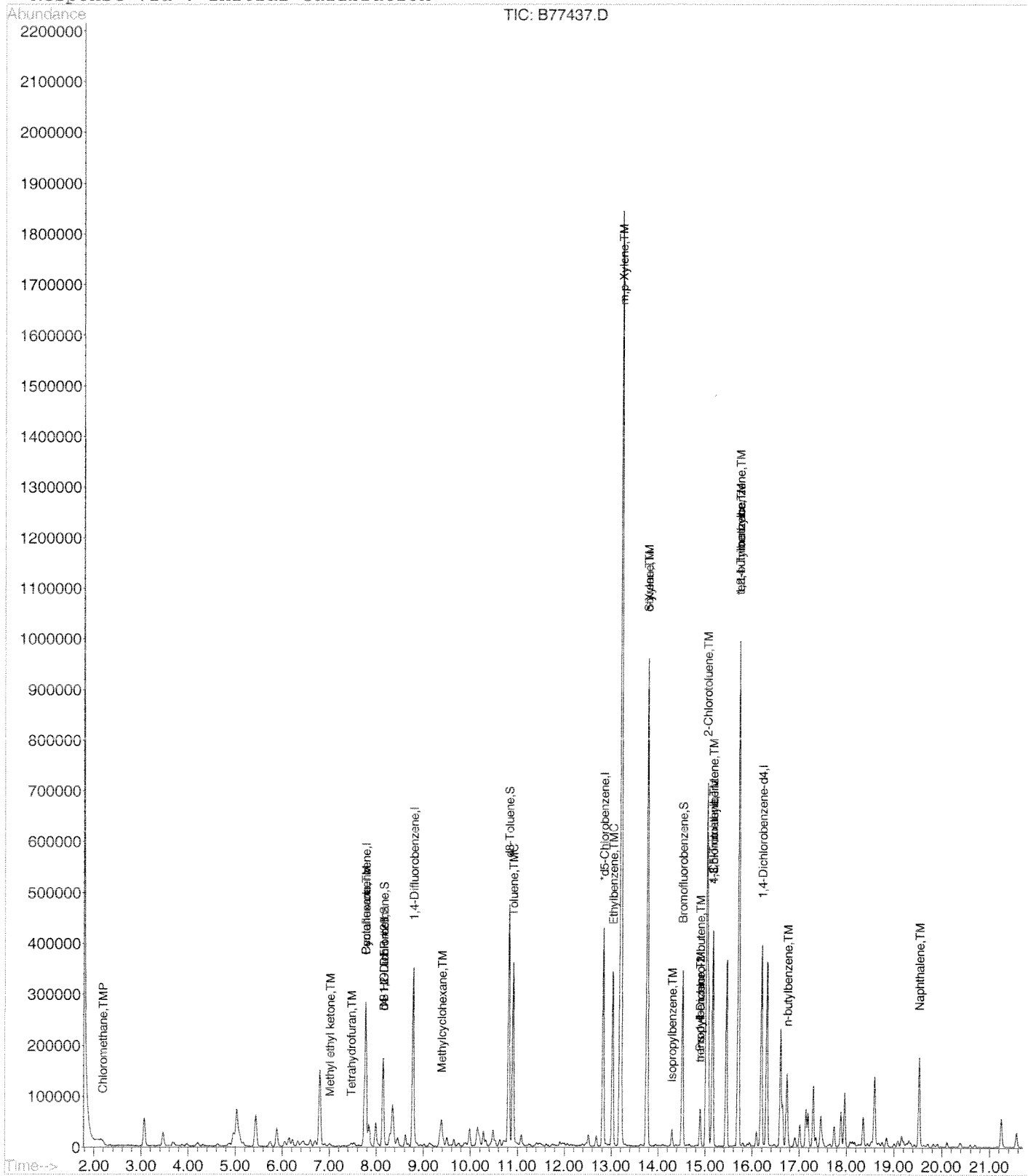
Quantitation Report

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Acq On : 4 Jan 2011 7:31 am  
Sample : 68745-2  
Misc : 5000  
MS Integration Params: rteint.p  
Quant Time: Jan 4 9:34 2011

Vial: 47  
Operator: TD  
Inst : Instrumen  
Multiplr: 1.00

Quant Results File: V812300B.RES

Method : C:\HPCHEM\1\METHODS\V812300B.M (RTE Integrator)  
Title : 8260 Purgable Organics  
Last Update : Thu Dec 30 17:20:41 2010  
Response via : Initial Calibration



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

January 10, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Cumberland Farms Sanford  
**Project Number:** 101.06074  
**Field Sample ID:** MW103

**Lab Sample ID:** 68745-3  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 1  
**Collection Date:** 12/22/10  
**Lab Receipt Date:** 12/23/10  
**Analysis Date:** 01/04/11

**ANALYTICAL RESULTS VOLATILE ORGANICS**

COMPOUND	Quantitation Limit $\mu\text{g/L}$	Result $\mu\text{g/L}$
1,1-Dichloroethane	1	U
1,1-Dichloroethene	1	U
cis-1,2-Dichloroethene	1	U
trans-1,2-Dichloroethene	1	U
Trichloroethene	1	U
Vinyl Chloride	1	U
1,1,1-Trichloroethane	1	U
1,2-Dichloroethane	1	U
Tetrachloroethene	1	<b>1.1</b>
1,2-Dibromoethane	1	U

**Surrogate Standard Recovery**

d4-1,2-Dichloroethane 97 %      d8-Toluene 103 %      Bromofluorobenzene 100 %

U=Undetected      J=Estimated      E=Exceeds Calibration Range      B=Detected in

**METHODOLOGY:** Sample analysis was conducted according to: Test Methods for Evaluating Solid Waste, SW-846 Method 8260B.

**COMMENTS:**

Authorized signature 



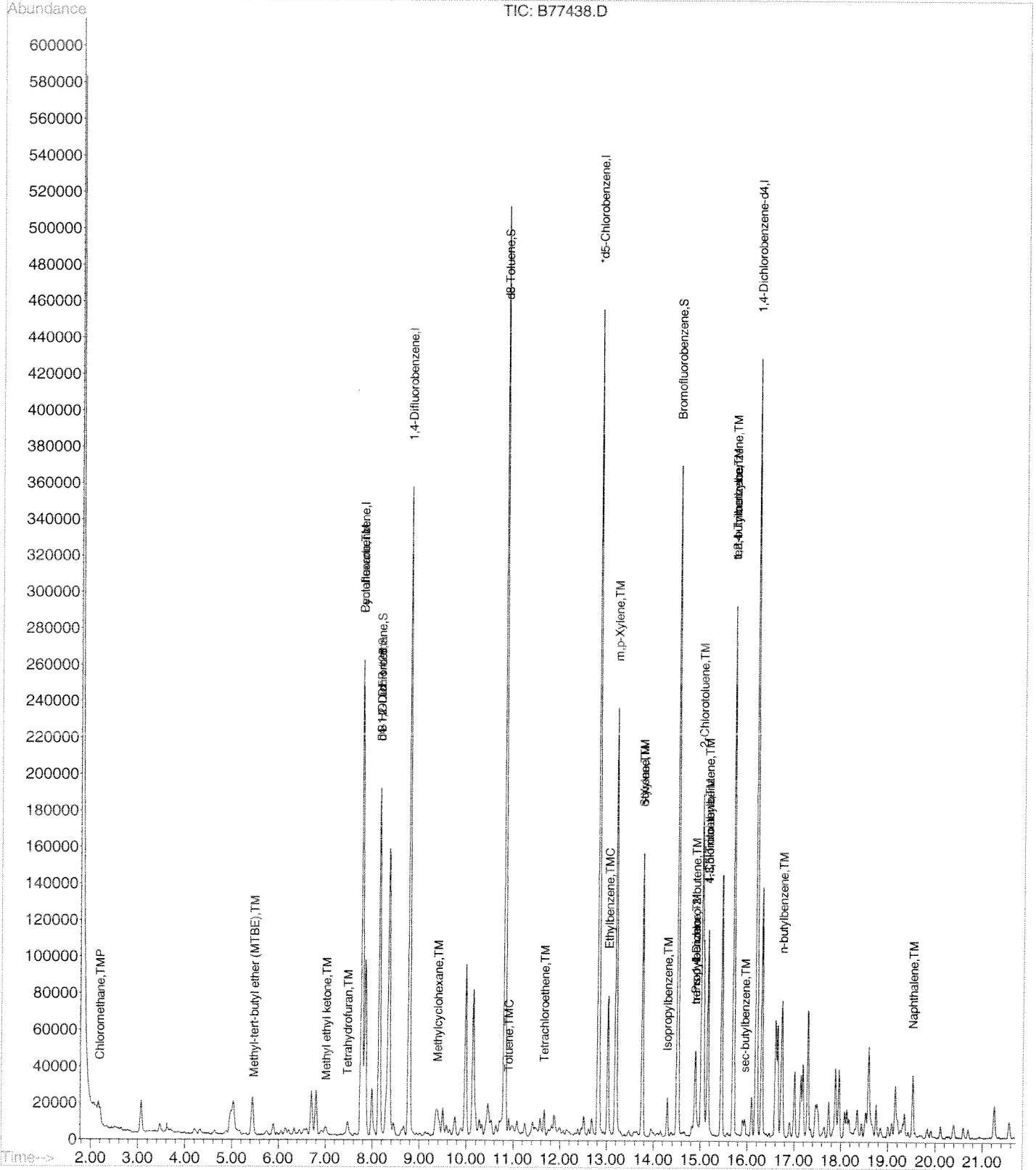
Quantitation Report

Data File : C:\HPCHEM\1\DATA\010311-B\B77438.D  
Acq On : 4 Jan 2011 8:00 am  
Sample : 68745-3  
Misc : 5000  
MS Integration Params: rteint.p  
Quant Time: Jan 4 9:34 2011

Vial: 48  
Operator: TD  
Inst : Instrumen  
Multiplr: 1.00

Quant Results File: V812300B.RES

Method : C:\HPCHEM\1\METHODS\V812300B.M (RTE Integrator)  
Title : 8260 Purgable Organics  
Last Update : Thu Dec 30 17:20:41 2010  
Response via : Initial Calibration



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January 10, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Cumberland Farms Sanford  
**Project Number:** 101.06074  
**Field Sample ID:** MW201

**Lab Sample ID:** 68745-4  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 1  
**Collection Date:** 12/22/10  
**Lab Receipt Date:** 12/23/10  
**Analysis Date:** 01/04/11

**ANALYTICAL RESULTS VOLATILE ORGANICS**

COMPOUND	Quantitation Limit $\mu\text{g/L}$	Result $\mu\text{g/L}$
1,1-Dichloroethane	1	U
1,1-Dichloroethene	1	U
cis-1,2-Dichloroethene	1	U
trans-1,2-Dichloroethene	1	U
Trichloroethene	1	U
Vinyl Chloride	1	U
1,1,1-Trichloroethane	1	U
1,2-Dichloroethane	1	U
Tetrachloroethene	1	U
1,2-Dibromoethane	1	U

**Surrogate Standard Recovery**

d4-1,2-Dichloroethane 97 %      d8-Toluene 101 %      Bromofluorobenzene 101 %

U=Undetected      J=Estimated      E=Exceeds Calibration Range      B=Detected in

**METHODOLOGY:** Sample analysis was conducted according to: Test Methods for Evaluating Solid Waste, SW-846 Method 8260B.

**COMMENTS:**

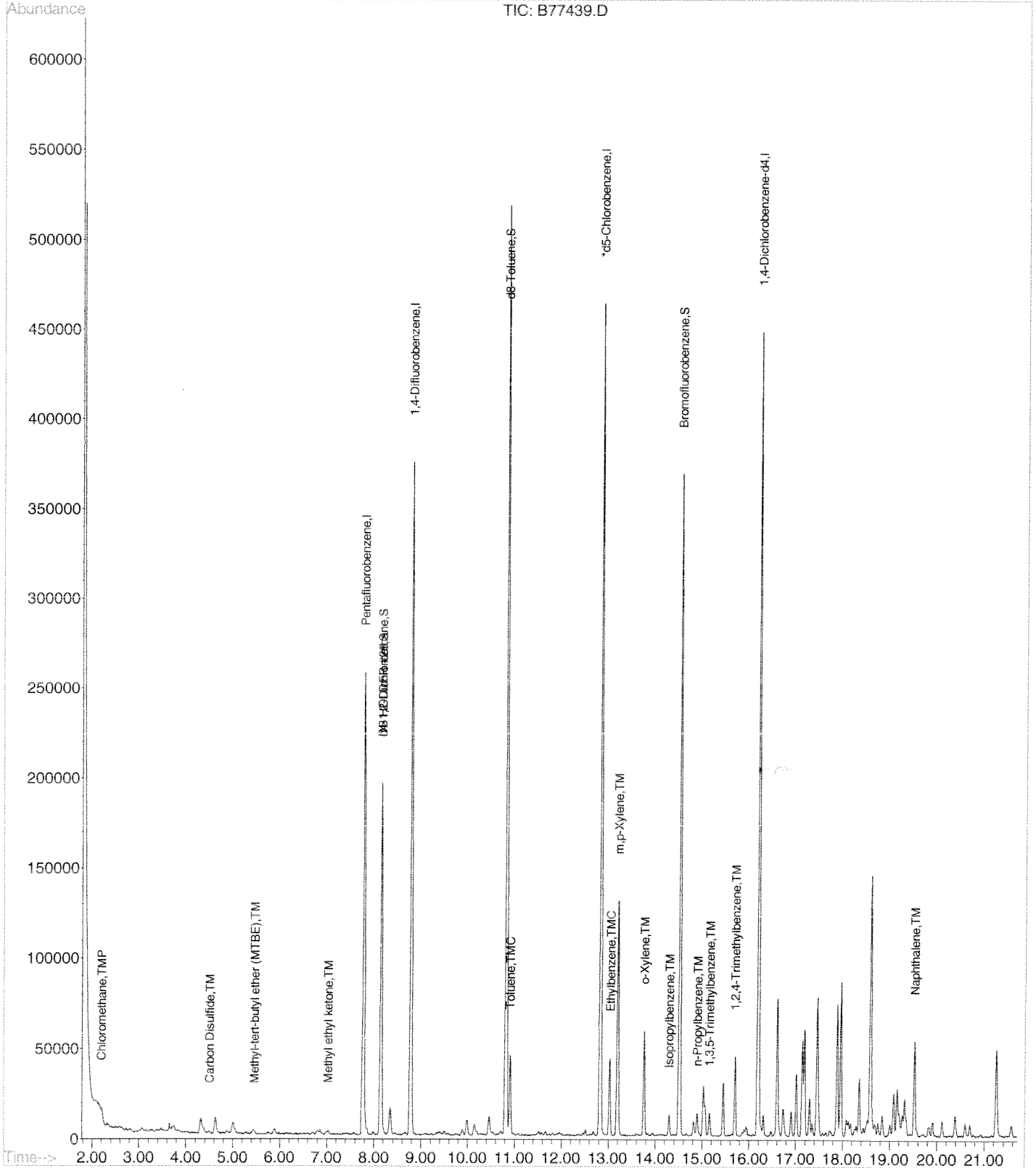
Authorized signature *M. Phillips*

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Acq On : 4 Jan 2011 8:25 am  
Sample : 68745-4  
Misc : 5000  
MS Integration Params: rteint.p  
Quant Time: Jan 4 9:34 2011

Vial: 49  
Operator: TD  
Inst : Instrumen  
Multiplr: 1.00

Quant Results File: V812300B.RES

Method : C:\HPCHEM\1\METHODS\V812300B.M (RTE Integrator)  
Title : 8260 Purgable Organics  
Last Update : Thu Dec 30 17:20:41 2010  
Response via : Initial Calibration



Mr. Erik Phenix  
 Ransom Environmental Consultants, Inc.  
 400 Commercial Street Suite 404  
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January 10, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Cumberland Farms Sanford  
**Project Number:** 101.06074  
**Field Sample ID:** MW202

**Lab Sample ID:** 68745-5  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 1  
**Collection Date:** 12/22/10  
**Lab Receipt Date:** 12/23/10  
**Analysis Date:** 01/04/11

**ANALYTICAL RESULTS VOLATILE ORGANICS**

COMPOUND	Quantitation Limit $\mu\text{g/L}$	Result $\mu\text{g/L}$
1,1-Dichloroethane	1	U
1,1-Dichloroethene	1	U
cis-1,2-Dichloroethene	1	U
trans-1,2-Dichloroethene	1	U
Trichloroethene	1	U
Vinyl Chloride	1	U
1,1,1-Trichloroethane	1	U
1,2-Dichloroethane	1	U
Tetrachloroethene	1	U
1,2-Dibromoethane	1	U
<b>Surrogate Standard Recovery</b>		
d4-1,2-Dichloroethane 96 %	d8-Toluene 96 %	Bromofluorobenzene 84 %
U=Undetected	J=Estimated	E=Exceeds Calibration Range
		B=Detected in

**METHODOLOGY:** Sample analysis was conducted according to: Test Methods for Evaluating Solid Waste, SW-846 Method 8260B.

**COMMENTS:**

Authorized signature *M. J. Bull*

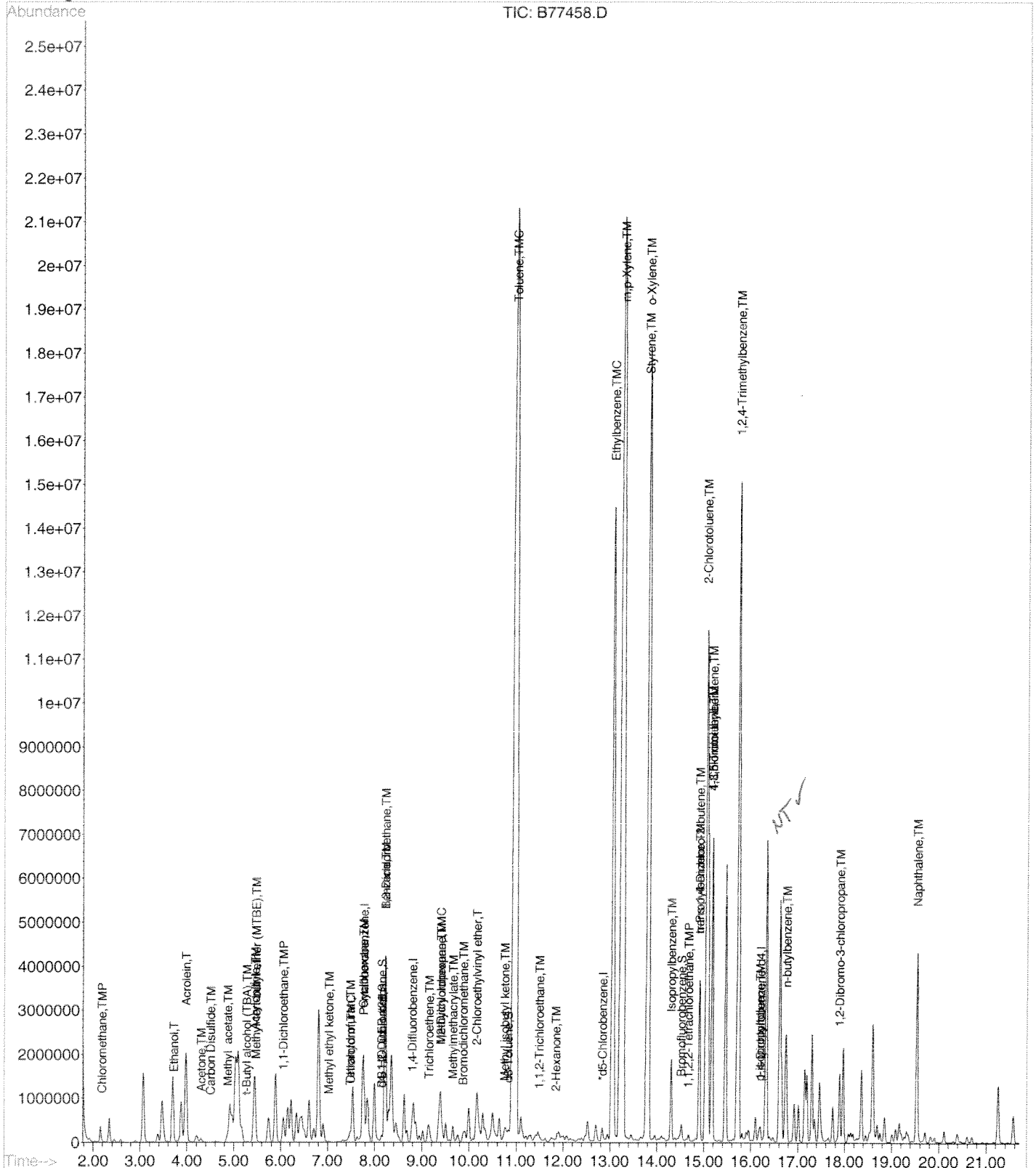
Quantitation Report

Data File : C:\HPCHEM\1\DATA\010411-B\B77458.D  
Acq On : 4 Jan 2011 6:53 pm  
Sample : 68745-5  
Misc : 5000  
MS Integration Params: rteint.p  
Quant Time: Jan 5 7:53 2011

Vial: 19  
Operator: TD  
Inst : Instrumen  
Multiplr: 1.00

Quant Results File: V812300B.RES

Method : C:\HPCHEM\1\METHODS\V812300B.M (RTE Integrator)  
Title : 8260 Purgable Organics  
Last Update : Thu Dec 30 17:20:41 2010  
Response via : Initial Calibration



Mr. Erik Phenix  
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 Portland, ME 04101

January 10, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Cumberland Farms Sanford  
**Project Number:** 101.06074  
**Field Sample ID:** Trip Blank

**Lab Sample ID:** 68745-6  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 1  
**Collection Date:** 12/22/10  
**Lab Receipt Date:** 12/23/10  
**Analysis Date:** 01/04/11

**ANALYTICAL RESULTS VOLATILE ORGANICS**

COMPOUND	Quantitation Limit µg/L	Result µg/L
1,1-Dichloroethane	1	U
1,1-Dichloroethene	1	U
cis-1,2-Dichloroethene	1	U
trans-1,2-Dichloroethene	1	U
Trichloroethene	1	U
Vinyl Chloride	1	U
1,1,1-Trichloroethane	1	U
1,2-Dichloroethane	1	U
Tetrachloroethene	1	U
1,2-Dibromoethane	1	U
<b>Surrogate Standard Recovery</b>		
d4-1,2-Dichloroethane 99 %	d8-Toluene 101 %	Bromofluorobenzene 101 %
U=Undetected	J=Estimated	E=Exceeds Calibration Range
		B=Detected in

**METHODOLOGY:** Sample analysis was conducted according to: Test Methods for Evaluating Solid Waste, SW-846 Method 8260B.

**COMMENTS:**

Authorized signature 

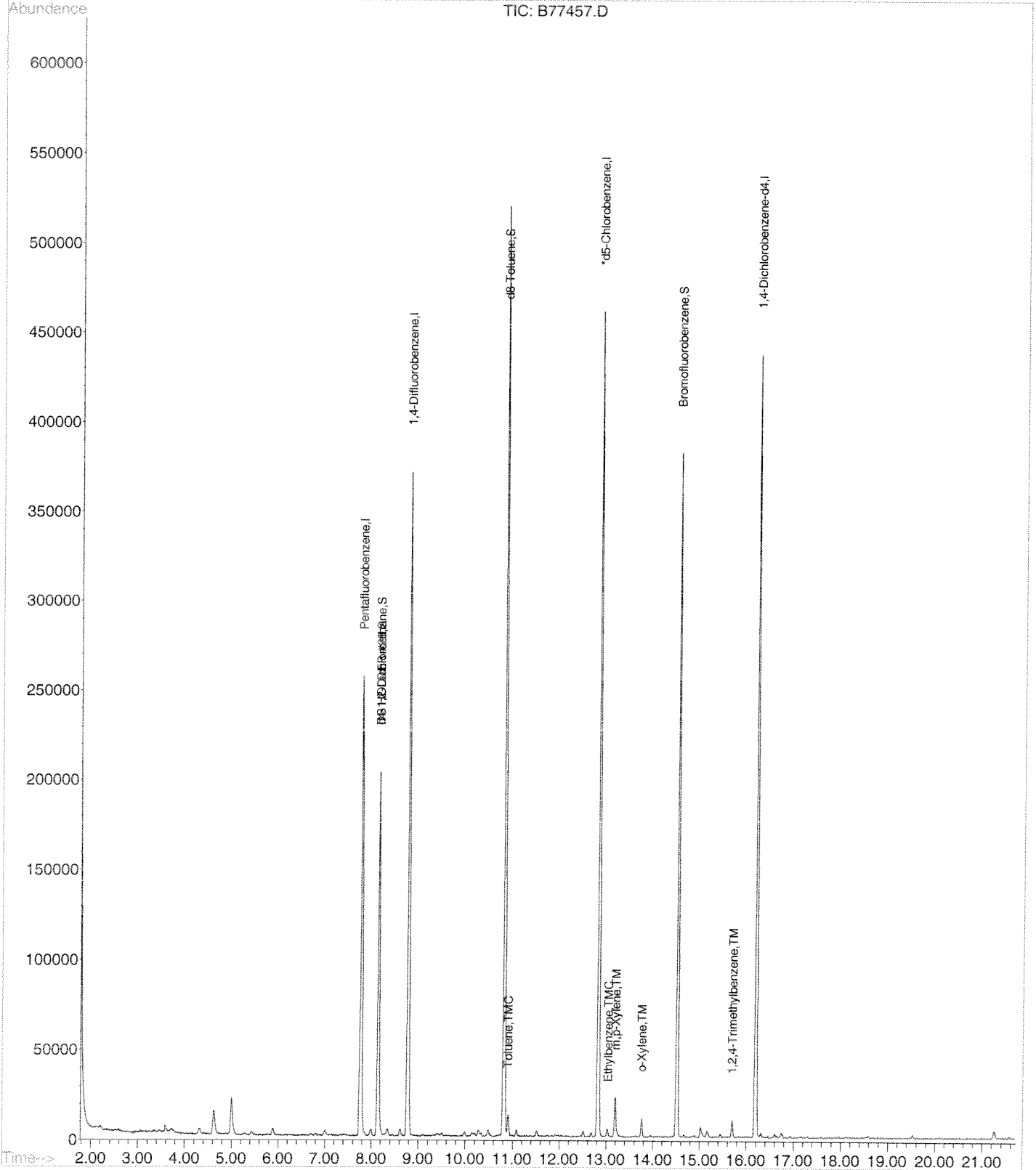
Quantitation Report

Data File : C:\HPCHEM\1\DATA\010411-B\B77457.D  
Acq On : 4 Jan 2011 6:24 pm  
Sample : 68745-6  
Misc : 5000  
MS Integration Params: rteint.p  
Quant Time: Jan 5 7:53 2011

Vial: 18  
Operator: TD  
Inst : Instrumen  
Multiplr: 1.00

Quant Results File: V812300B.RES

Method : C:\HPCHEM\1\METHODS\V812300B.M (RTE Integrator)  
Title : 8260 Purgable Organics  
Last Update : Thu Dec 30 17:20:41 2010  
Response via : Initial Calibration



VOLATILE  
QC FORMS



VOLATILE ORGANIC AQUEOUS  
LABORATORY CONTROL SAMPLE  
LABORATORY CONTROL SAMPLE DUPLICATE  
PERCENT RECOVERY

Instrument ID: B  
GC Column: RTX-502.2  
Column ID: 0.25 mm  
Heated purge (Y/N): N

SDG: 68745  
Non-spiked sample: B801031B2  
Spike: L801031B3  
Spike duplicate: L801031B4

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	#
Dichlorodifluoromethane	20	80	120	15	0.0	20	101		17	87		15	
Chloromethane	20	80	120	15	0.1	18	87		16	78	*	11	
Vinyl Chloride	20	80	120	15	0.0	23	116		20	101		14	
Bromomethane	20	80	120	15	-0.5	24	122	*	22	110		10	
Chloroethane	20	80	120	15	-0.5	24	124	*	21	108		14	
t-Butyl alcohol (TBA)	100	70	130	15	0.0	100	100		97	97		3	
Trichlorofluoromethane	20	80	120	15	0.0	19	94		17	83		13	
Diethyl ether	20	80	120	15	0.0	20	101		19	95		6	
1,1,2-Trichlorotrifluoroethane	20	80	120	15	0.0	18	90		16	79	*	12	
Acetone	100	70	130	15	-4.1	116	120		111	115		5	
1,1-Dichloroethene	20	80	120	15	0.0	19	96		17	85		12	
Methyl iodide	20	70	130	15	0.5	23	110		22	107		3	
Di-isopropyl ether (DIPE)	20	80	120	15	0.0	17	86		16	82		5	
Methylene Chloride	20	80	120	15	-0.1	22	109		20	103		6	
Carbon Disulfide	20	70	130	15	0.1	19	94		17	85		9	
Acrylonitrile	20	70	130	15	0.0	20	98		19	96		3	
Methyl-tert-butyl ether (MTBE)	40	80	120	15	0.0	38	95		36	90		5	
trans-1,2-Dichloroethene	20	80	120	15	0.0	18	88		16	79	*	10	
1,1-Dichloroethane	20	80	120	15	0.0	20	99		18	92		8	
Vinyl acetate	20	70	130	15	0.0	11	55	*	12	58	*	4	
Methyl ethyl ketone	100	70	130	15	0.1	94	94		91	91		4	
Ethyl t-butyl ether (ETBE)	20	80	120	15	0.0	19	93		18	88		6	
2,2-Dichloropropane	20	80	120	15	0.0	19	97		17	84		14	
cis-1,2-Dichloroethene	20	80	120	15	0.0	23	115		21	106		8	
t-Amyl methyl ether (TAME)	20	80	120	15	0.0	18	92		17	87		5	
Chloroform	20	80	120	15	0.0	21	105		20	98		7	
Bromochloromethane	20	80	120	15	0.0	21	107		20	100		6	
Tetrahydrofuran	20	70	130	15	0.0	22	110		21	107		2	
1,1,1-Trichloroethane	20	80	120	15	0.0	21	107		19	93		13	
1,1-Dichloropropene	20	80	120	15	0.0	19	96		17	85		12	
Carbon Tetrachloride	20	80	120	15	0.0	22	111		20	99		11	
1,2-Dichloroethane	20	80	120	15	0.0	20	99		19	93		6	
Benzene	20	80	120	15	0.1	19	94		17	86		9	
Trichloroethene	20	80	120	15	0.0	21	105		19	96		9	
1,2-Dichloropropane	20	80	120	15	0.0	21	103		19	94		9	
Methylmethacrylate	20	70	130	15	-0.3	22	111		21	107		3	
Bromodichloromethane	20	80	120	15	0.0	23	115		21	106		9	
Dibromomethane	20	80	120	15	0.0	21	106		20	101		5	
1,4-Dioxane	500	70	130	15	0.0	511	102		497	99		3	
2-Hexanone	100	70	130	15	0.1	105	105		102	102		3	
Methyl isobutyl ketone	100	70	130	15	0.1	105	105		100	100		5	
cis-1,3-Dichloropropene	20	80	120	15	0.0	22	109		20	101		8	
Toluene	20	80	120	15	0.4	21	103		19	92		10	
trans-1,3-Dichloropropene	20	80	120	15	0.0	22	108		20	98		10	
1,1,2-Trichloroethane	20	80	120	15	0.0	21	104		19	97		8	
1,3-Dichloropropane	20	80	120	15	0.0	20	100		19	96		5	
Tetrachloroethene	20	80	120	15	0.0	25	123	*	22	110		11	
Dibromochloromethane	20	80	120	15	0.0	23	115		22	109		6	
1,2-Dibromoethane	20	80	120	15	0.0	22	111		21	105		6	
Chlorobenzene	20	80	120	15	0.0	21	106		20	97		9	
1,1,1,2-Tetrachloroethane	20	80	120	15	0.0	23	113		21	106		7	

VOLATILE ORGANIC AQUEOUS  
LABORATORY CONTROL SAMPLE  
LABORATORY CONTROL SAMPLE DUPLICATE  
PERCENT RECOVERY

Instrument ID: B  
GC Column: RTX-502.2  
Column ID: 0.25 mm  
Heated purge (Y/N): N

SDG: 68745  
Non-spiked sample: B801031B2  
Spike: L801031B3  
Spike duplicate: L801031B4

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	#
Ethylbenzene	20	80	120	15	0.2	21	103		19	93		10	
m,p-Xylene	40	80	120	15	0.6	44	108		40	99		8	
o-Xylene	20	80	120	15	0.2	22	110		21	102		7	
Styrene	20	80	120	15	0.0	22	112		21	104		8	
Bromoform	20	80	120	15	0.0	25	127	*	24	122	*	4	
Isopropylbenzene	20	80	120	15	0.1	22	109		20	100		8	
1,1,2,2-Tetrachloroethane	20	80	120	15	0.0	20	100		19	97		3	
1,2,3-Trichloropropane	20	80	120	15	0.0	20	100		19	96		4	
trans-1,4-Dichloro-2-butene	20	80	120	15	0.0	22	108		21	107		1	
n-Propylbenzene	20	80	120	15	0.1	19	93		18	87		6	
Bromobenzene	20	80	120	15	0.0	22	109		21	104		5	
1,3,5-Trimethylbenzene	20	80	120	15	0.1	22	107		19	96		11	
2-Chlorotoluene	20	80	120	15	0.1	21	103		19	95		8	
4-Chlorotoluene	20	80	120	15	0.1	20	99		18	91		8	
tert-butylbenzene	20	80	120	15	0.0	20	102		19	95		7	
1,2,4-Trimethylbenzene	20	80	120	15	0.2	21	104		20	97		7	
sec-butylbenzene	20	80	120	15	0.1	20	100		19	93		8	
p-isopropyltoluene	20	80	120	15	0.1	21	102		19	95		7	
1,3-Dichlorobenzene	20	80	120	15	0.1	21	104		19	96		8	
1,4-Dichlorobenzene	20	80	120	15	0.1	20	102		19	92		10	
n-butylbenzene	20	80	120	15	0.1	19	95		17	85		11	
1,2-Dichlorobenzene	20	80	120	15	0.1	21	102		19	94		8	
1,2-Dibromo-3-chloropropane	20	80	120	15	0.0	21	105		19	97		8	
1,2,4-Trichlorobenzene	20	80	120	15	0.1	20	102		19	95		7	
Hexachlorobutadiene	20	80	120	15	0.4	20	99		18	89		11	
Naphthalene	20	80	120	15	0.1	22	110		20	102		8	
1,2,3-Trichlorobenzene	20	80	120	15	0.1	21	103		19	95		8	
1,3,5-Trichlorobenzene	20	80	120	15	0.1	21	104		19	94		10	

# 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 ORGANIC AQUEOUS  
LABORATORY CONTROL SAMPLE  
LABORATORY CONTROL SAMPLE DUPLICATE  
PERCENT RECOVERY

Instrument ID: B  
GC Column: RTX-502.2  
Column ID: 0.25 mm  
Heated purge (Y/N): N

SDG: 68745  
Non-spiked sample: B801041B  
Spike: L801041B  
Spike duplicate: L801041B2

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	#
Dichlorodifluoromethane	20	80	120	15	0.0	21	106		19	95		10	
Chloromethane	20	80	120	15	0.1	18	91		17	84		8	
Vinyl Chloride	20	80	120	15	0.0	23	115		21	106		8	
Bromomethane	20	80	120	15	-0.2	24	121	*	23	117		3	
Chloroethane	20	80	120	15	-0.5	25	129	*	17	89		38	*
t-Butyl alcohol (TBA)	100	70	130	15	0.0	97	97		111	111		14	
Trichlorofluoromethane	20	80	120	15	0.0	19	94		17	87		7	
Diethyl ether	20	80	120	15	0.0	20	101		20	101		0	
1,1,2-Trichlorotrifluoroethane	20	80	120	15	0.0	20	99		18	90		9	
Acetone	100	70	130	15	-4.4	116	120		124	128		7	
1,1-Dichloroethene	20	80	120	15	0.0	20	102		19	94		8	
Methyl iodide	20	70	130	15	0.7	25	121		25	121		0	
Di-isopropyl ether (DIPE)	20	80	120	15	0.0	18	91		17	85		6	
Methylene Chloride	20	80	120	15	-0.6	22	112		21	109		3	
Carbon Disulfide	20	70	130	15	0.1	21	105		19	97		8	
Acrylonitrile	20	70	130	15	0.0	20	100		21	106		6	
Methyl-tert-butyl ether (MTBE)	40	80	120	15	0.0	39	98		39	98		0	
trans-1,2-Dichloroethene	20	80	120	15	0.0	18	90		17	87		4	
1,1-Dichloroethane	20	80	120	15	0.0	21	104		19	97		6	
Vinyl acetate	20	70	130	15	0.0	17	87		18	91		4	
Methyl ethyl ketone	100	70	130	15	0.1	96	96		102	101		6	
Ethyl t-butyl ether (ETBE)	20	80	120	15	0.0	19	97		19	94		4	
2,2-Dichloropropane	20	80	120	15	0.0	22	112		21	103		9	
cis-1,2-Dichloroethene	20	80	120	15	0.0	24	120		23	114		5	
t-Amyl methyl ether (TAME)	20	80	120	15	0.0	19	96		19	93		3	
Chloroform	20	80	120	15	0.0	21	107		20	101		6	
Bromochloromethane	20	80	120	15	0.0	22	111		21	107		3	
Tetrahydrofuran	20	70	130	15	-0.4	22	113		24	124		9	
1,1,1-Trichloroethane	20	80	120	15	0.0	22	110		20	102		7	
1,1-Dichloropropene	20	80	120	15	0.0	20	101		18	89		12	
Carbon Tetrachloride	20	80	120	15	0.0	24	119		22	108		9	
1,2-Dichloroethane	20	80	120	15	0.0	20	102		20	99		3	
Benzene	20	80	120	15	0.0	20	98		18	92		6	
Trichloroethene	20	80	120	15	0.0	21	107		21	103		4	
1,2-Dichloropropane	20	80	120	15	0.0	21	104		21	104		0	
Methylmethacrylate	20	70	130	15	-0.3	22	112		24	119		7	
Bromodichloromethane	20	80	120	15	0.0	24	118		23	116		1	
Dibromomethane	20	80	120	15	0.0	22	108		22	109		1	
1,4-Dioxane	500	70	130	15	0.0	506	101		568	114		11	
2-Hexanone	100	70	130	15	0.1	106	106		113	113		6	
Methyl isobutyl ketone	100	70	130	15	0.1	106	106		112	112		6	
cis-1,3-Dichloropropene	20	80	120	15	0.0	22	110		22	112		2	
Toluene	20	80	120	15	0.1	21	103		20	100		3	
trans-1,3-Dichloropropene	20	80	120	15	0.0	22	109		22	111		2	
1,1,2-Trichloroethane	20	80	120	15	0.0	21	104		21	107		2	
1,3-Dichloropropane	20	80	120	15	0.0	21	104		21	104		0	
Tetrachloroethene	20	80	120	15	0.0	23	113		21	105		8	
Dibromochloromethane	20	80	120	15	0.0	24	118		24	121	*	2	
1,2-Dibromoethane	20	80	120	15	0.0	22	112		23	117		5	
Chlorobenzene	20	80	120	15	0.0	22	108		21	105		3	
1,1,1,2-Tetrachloroethane	20	80	120	15	0.0	23	113		23	114		1	

VOLATILE ORGANIC AQUEOUS  
LABORATORY CONTROL SAMPLE  
LABORATORY CONTROL SAMPLE DUPLICATE  
PERCENT RECOVERY

Instrument ID: B  
GC Column: RTX-502.2  
Column ID: 0.25 mm  
Heated purge (Y/N): N

SDG: 68745  
Non-spiked sample: B801041B  
Spike: L801041B  
Spike duplicate: L801041B2

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	#
Ethylbenzene	20	80	120	15	0.2	21	102		20	100		2	
m,p-Xylene	40	80	120	15	0.6	44	108		43	105		3	
o-Xylene	20	80	120	15	0.3	22	111		22	109		2	
Styrene	20	80	120	15	0.0	23	113		22	111		1	
Bromoforn	20	80	120	15	0.1	26	128	*	27	136	*	6	
Isopropylbenzene	20	80	120	15	0.1	22	110		21	106		3	
1,1,2,2-Tetrachloroethane	20	80	120	15	0.0	20	101		22	110		9	
1,2,3-Trichloropropane	20	80	120	15	0.0	20	100		22	108		8	
trans-1,4-Dichloro-2-butene	20	80	120	15	0.0	22	111		24	119		7	
n-Propylbenzene	20	80	120	15	0.1	20	98		19	97		1	
Bromobenzene	20	80	120	15	0.0	22	109		22	111		1	
1,3,5-Trimethylbenzene	20	80	120	15	0.1	22	108		21	105		3	
2-Chlorotoluene	20	80	120	15	0.1	20	99		20	101		3	
4-Chlorotoluene	20	80	120	15	0.1	20	100		20	99		1	
tert-butylbenzene	20	80	120	15	0.0	22	108		21	107		1	
1,2,4-Trimethylbenzene	20	80	120	15	0.3	21	105		21	102		3	
sec-butylbenzene	20	80	120	15	0.1	20	102		20	101		1	
p-isopropyltoluene	20	80	120	15	0.1	21	104		21	105		1	
1,3-Dichlorobenzene	20	80	120	15	0.0	21	107		21	106		1	
1,4-Dichlorobenzene	20	80	120	15	0.1	21	104		20	100		4	
n-butylbenzene	20	80	120	15	0.1	21	104		20	98		5	
1,2-Dichlorobenzene	20	80	120	15	0.1	21	106		21	105		1	
1,2-Dibromo-3-chloropropane	20	80	120	15	0.0	21	104		22	111		7	
1,2,4-Trichlorobenzene	20	80	120	15	0.1	21	107		21	106		1	
Hexachlorobutadiene	20	80	120	15	0.4	22	107		21	102		4	
Naphthalene	20	80	120	15	0.1	22	107		23	114		6	
1,2,3-Trichlorobenzene	20	80	120	15	0.1	21	103		22	110		6	
1,3,5-Trichlorobenzene	20	80	120	15	0.1	22	109		22	110		1	

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

\* Values outside QC limits

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

Comments: \_\_\_\_\_  
\_\_\_\_\_

VPH  
DATA SUMMARIES

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

January 10, 2011

**CLIENT SAMPLE ID**  
**Project Name:** Cumberland Farms Sanford  
**Project Number:** 101.06074  
**Client Sample ID:** LabQC

**SAMPLE DATA**

**Lab Sample ID:** BV010511K2  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 1  
**Collection Date:**  
**Lab Receipt Date:**  
**Analysis Date:** 01/05/11

VPH ANALYTICAL RESULTS				
RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics	N/A	50	µg/L	U
Unadjusted C9-C12 Aliphatics	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 Aliphatic Hydrocarbons <sup>1,2</sup>	N/A	50	µg/L	U
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	50	µg/L	U
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	N/A	20	µg/L	U
Surrogate % Recovery (2,5-Dibromotoluene) PID				86
Surrogate % Recovery (2,5-Dibromotoluene) FID				83
Surrogate Acceptance Range				70-130%

<sup>1</sup> Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup> C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup> 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.

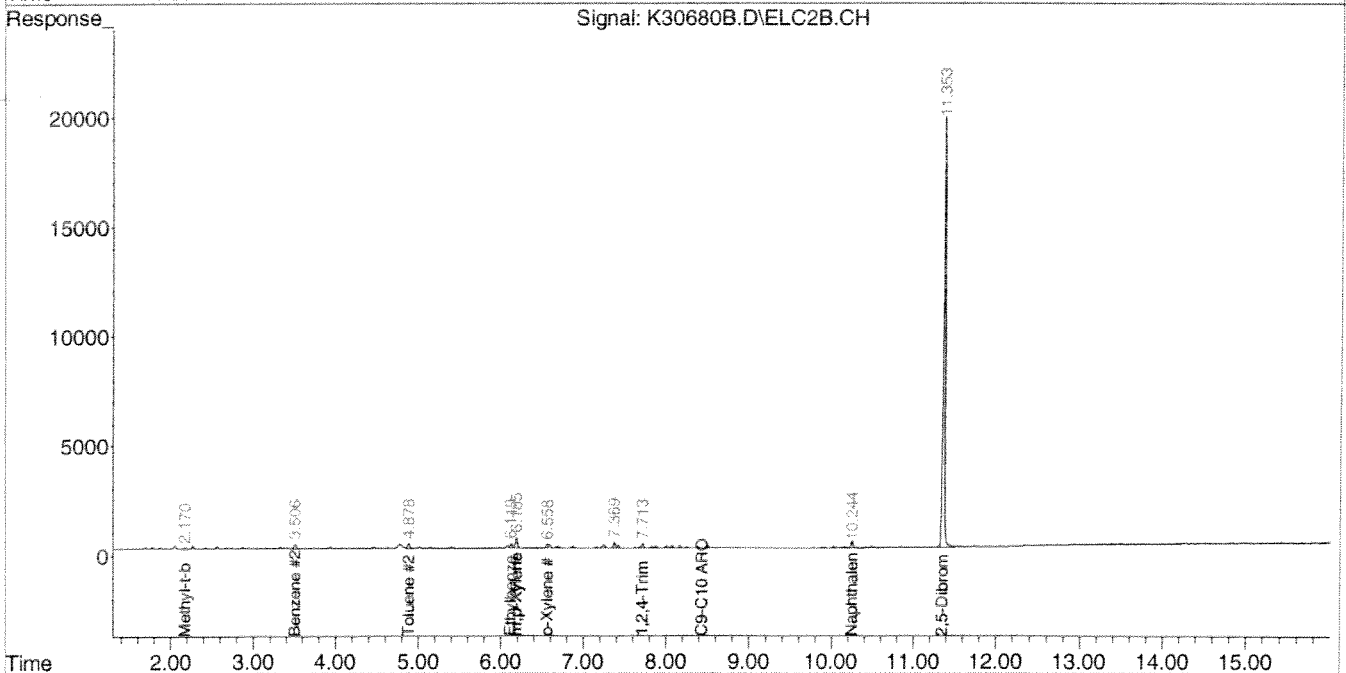
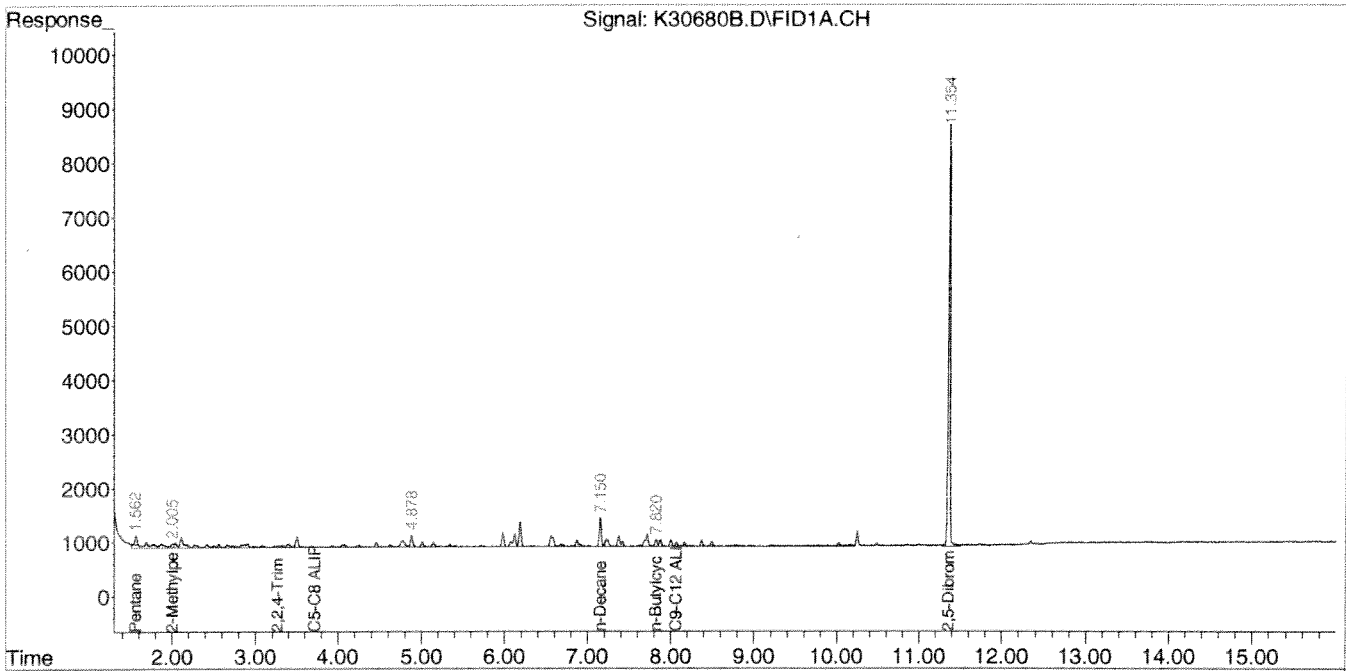
COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist.

Authorized signature: *M. Bull*

Data Path : C:\msdchem\1\DATA\010411-K\  
 Data File : K30680B.D  
 Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH  
 Acq On : 05 Jan 2011 2:10 pm  
 Operator : JJL  
 Sample : BV010511K2  
 Misc : 5000  
 ALS Vial : 38 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Jan 06 09:35:42 2011  
 Quant Method : C:\msdchem\1\METHODS\VPH010411A.M  
 Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004  
 QLast Update : Thu Jan 06 09:09:37 2011  
 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 :



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

January 12, 2011

**CLIENT SAMPLE ID**

**Project Name:** Cumberland Farms Sanford  
**Project Number:** 101.06074  
**Client Sample ID:** LabQC

**SAMPLE DATA**

**Lab Sample ID:** BV010711K  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 1  
**Collection Date:**  
**Lab Receipt Date:**  
**Analysis Date:** 01/07/11

**VPH ANALYTICAL RESULTS**

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics <sup>1</sup>	N/A	50	µg/L	U
Unadjusted C9-C12 Aliphatics <sup>1</sup>	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 <sup>1,2</sup>	N/A	50	µg/L	U
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	50	µg/L	U
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	N/A	20	µg/L	U
Surrogate % Recovery (2,5-Dibromotoluene) PID				82
Surrogate % Recovery (2,5-Dibromotoluene) FID				82
Surrogate Acceptance Range				70-130%

<sup>1</sup>Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup>C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup>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. No results were reported below the RL.

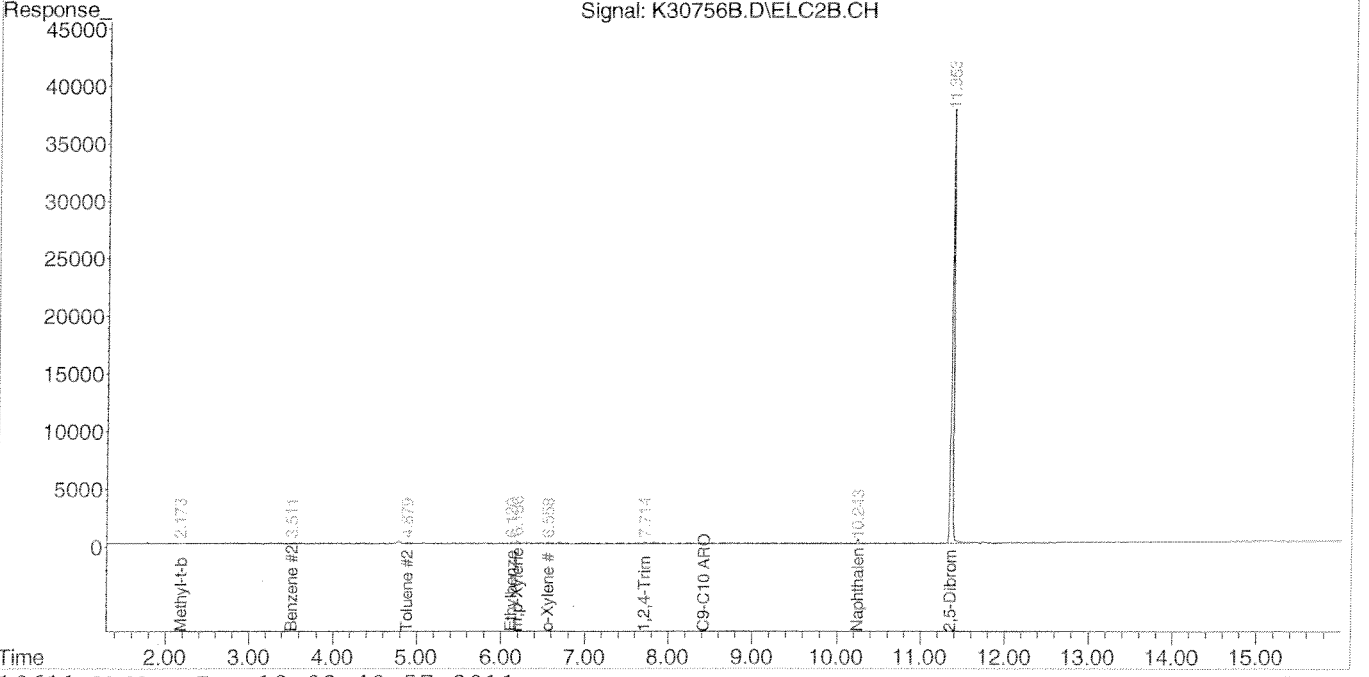
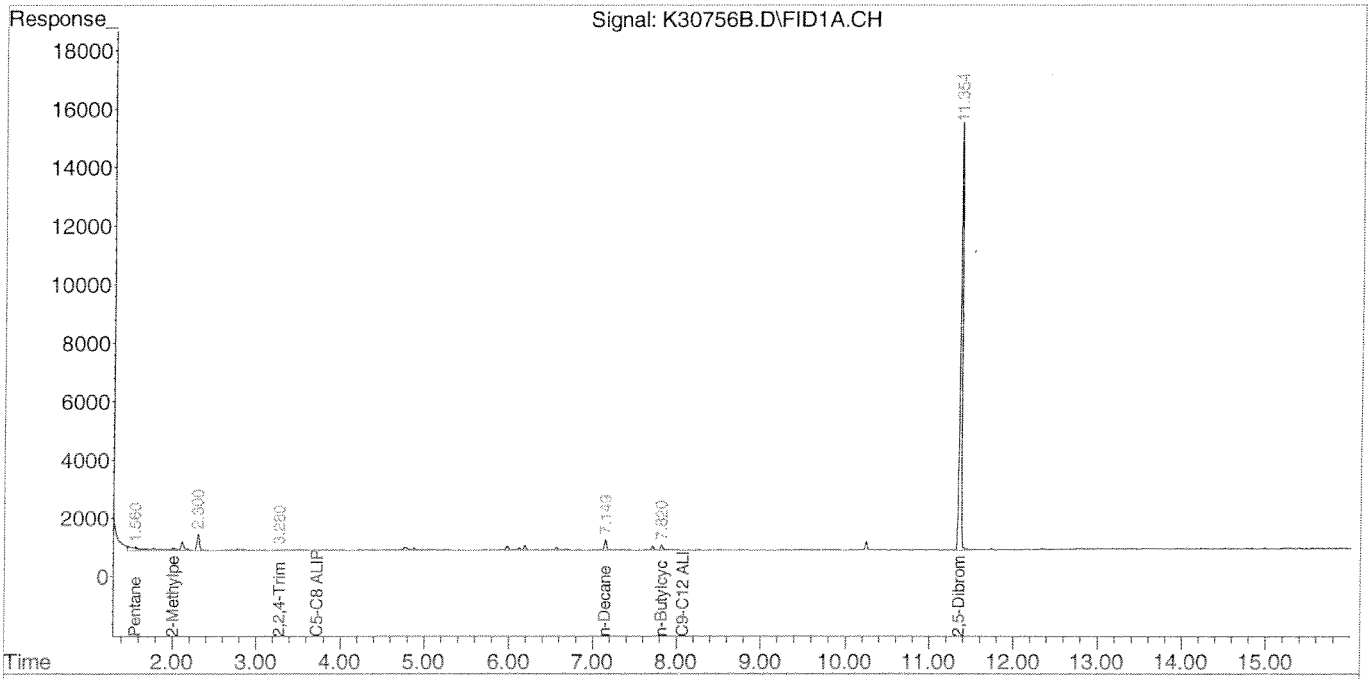
Authorized signature: 



Data Path : C:\msdchem\1\DATA\010711-K\  
 Data File : K30756B.D  
 Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH  
 Acq On : 07 Jan 2011 1:47 pm  
 Operator : JJJ  
 Sample : BV010711K  
 Misc : 5000  
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Jan 07 14:05:22 2011  
 Quant Method : C:\msdchem\1\METHODS\VPH010611.M  
 Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004  
 QLast Update : Thu Jan 06 23:33:51 2011  
 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 :



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

January 19, 2011

**CLIENT SAMPLE ID**  
**Project Name:** Cumberland Farms Sanford  
**Project Number:** 101.06074  
**Client Sample ID:** MW101

**SAMPLE DATA**

**Lab Sample ID:** 68745-1  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 10  
**Collection Date:** 12/22/10  
**Lab Receipt Date:** 12/23/10  
**Analysis Date:** 01/05/11

VPH ANALYTICAL RESULTS				
RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics <sup>1</sup>	N/A	500	µg/L	<b>1260</b>
Unadjusted C9-C12 Aliphatics	N/A	500	µg/L	<b>11900 E</b>
Benzene	C5-C8	20	µg/L	U
Ethylbenzene	C9-C12	20	µg/L	<b>1170</b>
Methyl-tert-butyl ether	C5-C8	20	µg/L	U
Naphthalene	N/A	20	µg/L	<b>214</b>
Toluene	C5-C8	20	µg/L	<b>135</b>
m- & p-Xylenes	C9-C12	40	µg/L	<b>3160</b>
o-Xylene	C9-C12	20	µg/L	<b>1340</b>
C5-C8 Aliphatics Hydrocarbons <sup>1,2</sup>	N/A	500	µg/L	<b>1120</b>
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	500	µg/L	<b>2690 E</b>
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	N/A	100	µg/L	<b>3560</b>
Surrogate % Recovery (2,5-Dibromotoluene) PID				70
Surrogate % Recovery (2,5-Dibromotoluene) FID				65*
Surrogate Acceptance Range				70-130%

<sup>1</sup>Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup>C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup>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.

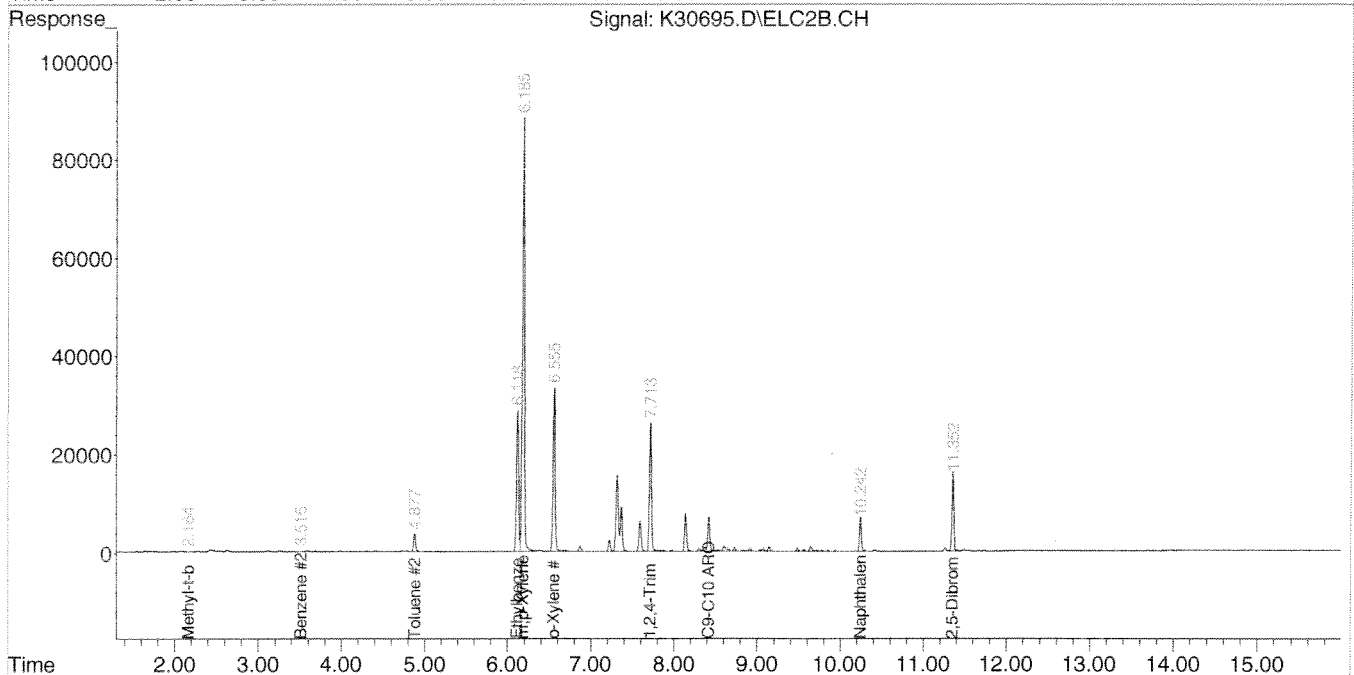
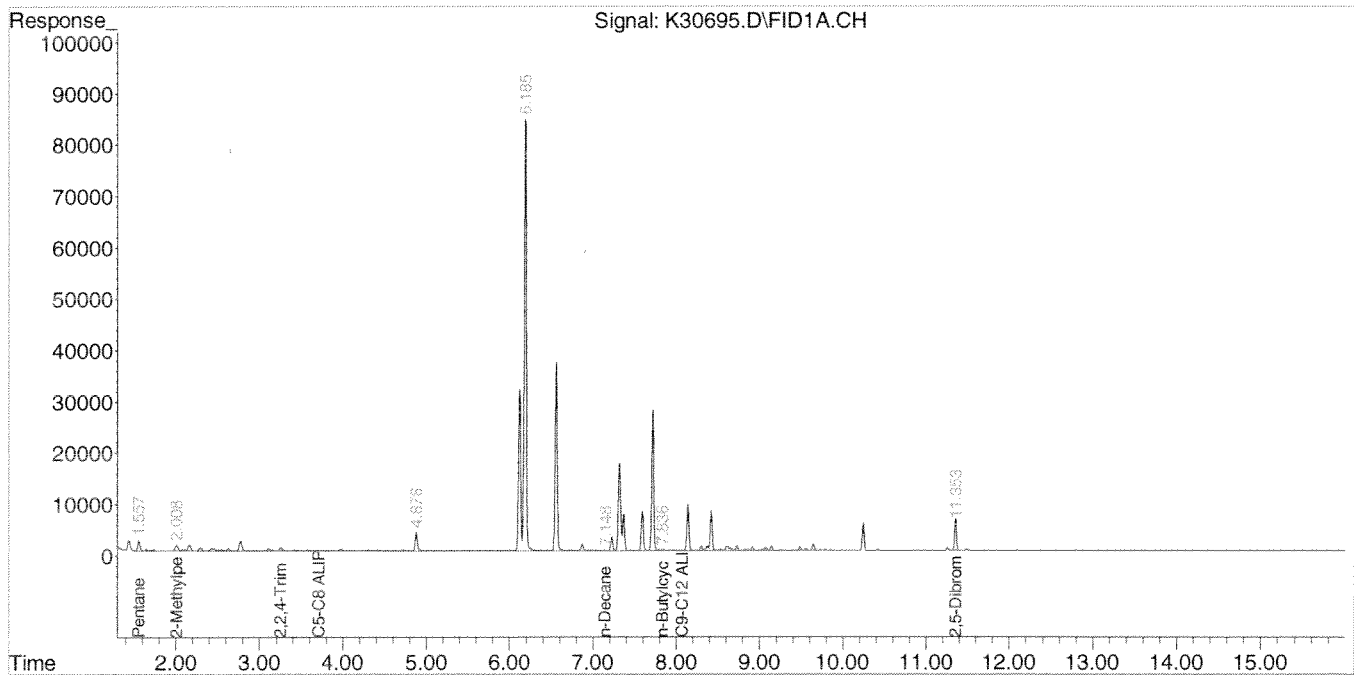
COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist.  
 \* Surrogate recovery outside of laboratory acceptance criteria. Sample was reanalyzed with similar results. No results are reported below the RL.

Authorized signature: 

Data Path : C:\msdchem\1\DATA\010411-K\  
 Data File : K30695.D  
 Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH  
 Acq On : 05 Jan 2011 9:05 pm  
 Operator : JJL  
 Sample : 68745-1,10X  
 Misc : 500  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Jan 06 10:01:41 2011  
 Quant Method : C:\msdchem\1\METHODS\VPH010411A.M  
 Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004  
 QLast Update : Thu Jan 06 09:09:37 2011  
 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 :



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

January 12, 2011

**CLIENT SAMPLE ID**

**Project Name:** Cumberland Farms Sanford  
**Project Number:** 101.06074  
**Client Sample ID:** MW101

**SAMPLE DATA**

**Lab Sample ID:** 68745-1 DL  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 20  
**Collection Date:** 12/22/10  
**Lab Receipt Date:** 12/23/10  
**Analysis Date:** 01/07/11

**VPH ANALYTICAL RESULTS**

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics <sup>1</sup>	N/A	1000	µg/L	1680
Unadjusted C9-C12 Aliphatics <sup>1</sup>	N/A	1000	µg/L	20600
Benzene	C5-C8	40	µg/L	U
Ethylbenzene	C9-C12	40	µg/L	1570
Methyl-tert-butyl ether	C5-C8	40	µg/L	U
Naphthalene	N/A	40	µg/L	378
Toluene	C5-C8	40	µg/L	184
m- & p-Xylenes	C9-C12	80	µg/L	4140
o-Xylene	C9-C12	40	µg/L	1780
C5-C8 Aliphatic Hydrocarbons <sup>1,2</sup>	N/A	1000	µg/L	1500
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	1000	µg/L	8350
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	N/A	400	µg/L	4810
Surrogate % Recovery (2,5-Dibromotoluene) PID				99
Surrogate % Recovery (2,5-Dibromotoluene) FID				110
Surrogate Acceptance Range				70-130%

<sup>1</sup>Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup>C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup>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.

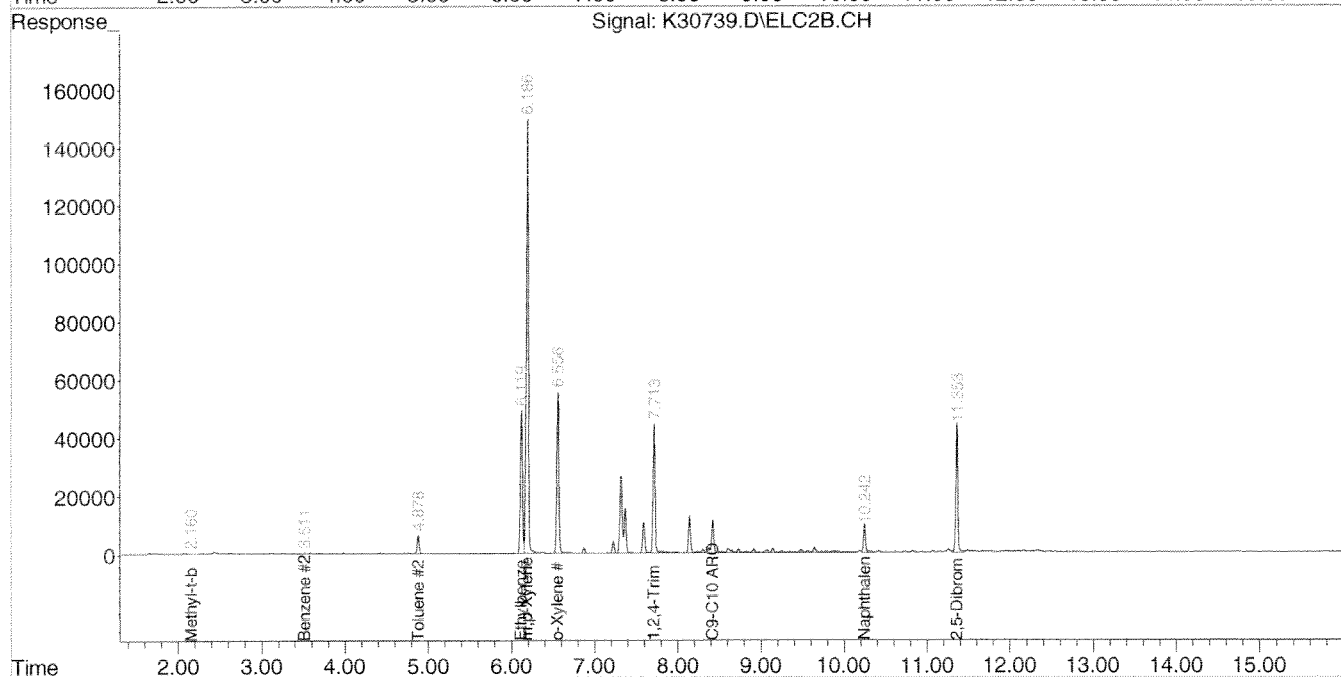
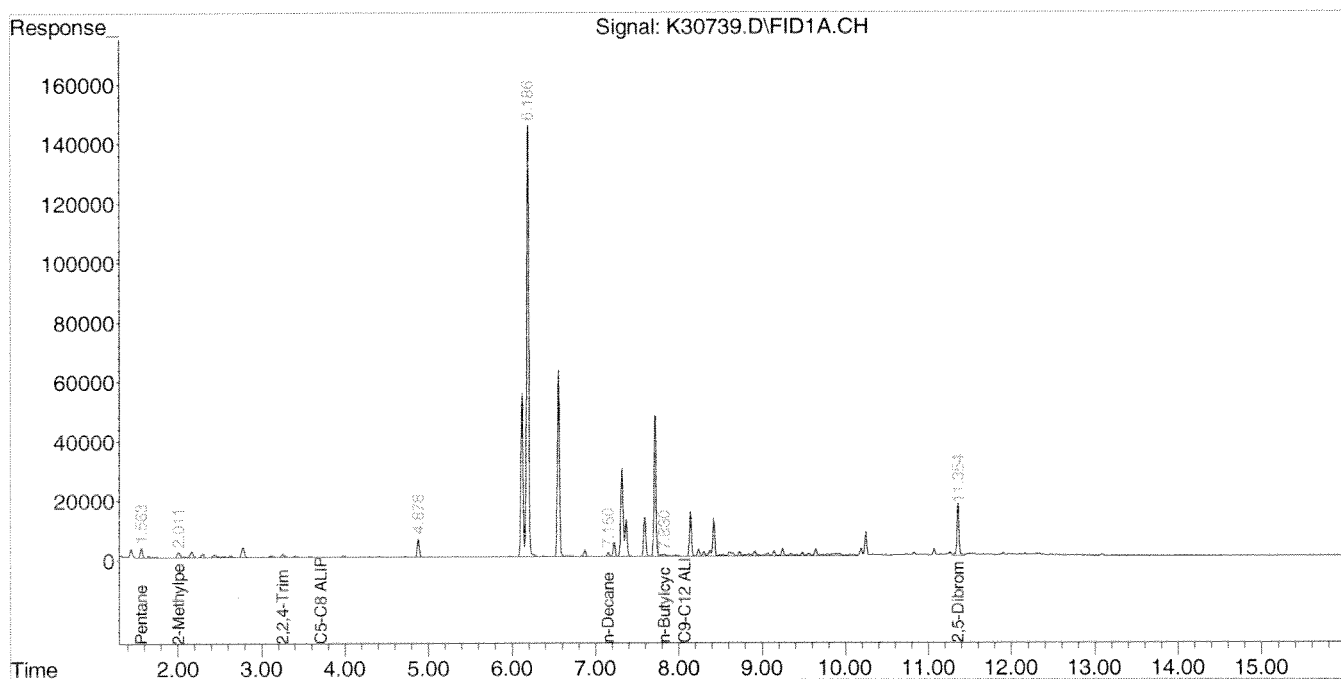
COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist. No results were reported below the RL. Sample was analyzed over holding time due to instrument problems.

Authorized signature:

Data Path : C:\msdchem\1\DATA\010611-K\  
 Data File : K30739.D  
 Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH  
 Acq On : 07 Jan 2011 5:40 am  
 Operator : AR  
 Sample : 68745-1,20X  
 Misc : 250  
 ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Jan 07 09:23:53 2011  
 Quant Method : C:\msdchem\1\METHODS\VPH010611.M  
 Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004  
 QLast Update : Thu Jan 06 23:33:51 2011  
 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 :



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January 12, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Cumberland Farms Sanford  
**Project Number:** 101.06074  
**Client Sample ID:** MW102

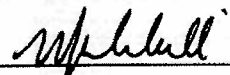
**Lab Sample ID:** 68745-2  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 1  
**Collection Date:** 12/22/10  
**Lab Receipt Date:** 12/23/10  
**Analysis Date:** 01/05/11

VPH ANALYTICAL RESULTS				
RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics <sup>1</sup>	N/A	50	µg/L	246
Unadjusted C9-C12 Aliphatics <sup>1</sup>	N/A	50	µg/L	525
Benzene	C5-C8	2	µg/L	U
Ethylbenzene	C9-C12	2	µg/L	10
Methyl-tert-butyl ether	C5-C8	2	µg/L	U
Naphthalene	N/A	2	µg/L	5
Toluene	C5-C8	2	µg/L	15
m- & p-Xylenes	C9-C12	4	µg/L	88
o-Xylene	C9-C12	2	µg/L	39
C5-C8 Aliphatic Hydrocarbons <sup>1,2</sup>	N/A	50	µg/L	232
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	50	µg/L	136
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	N/A	20	µg/L	251
Surrogate % Recovery (2,5-Dibromotoluene) PID				73
Surrogate % Recovery (2,5-Dibromotoluene) FID				80
Surrogate Acceptance Range				70-130%

<sup>1</sup>Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup>C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup>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.

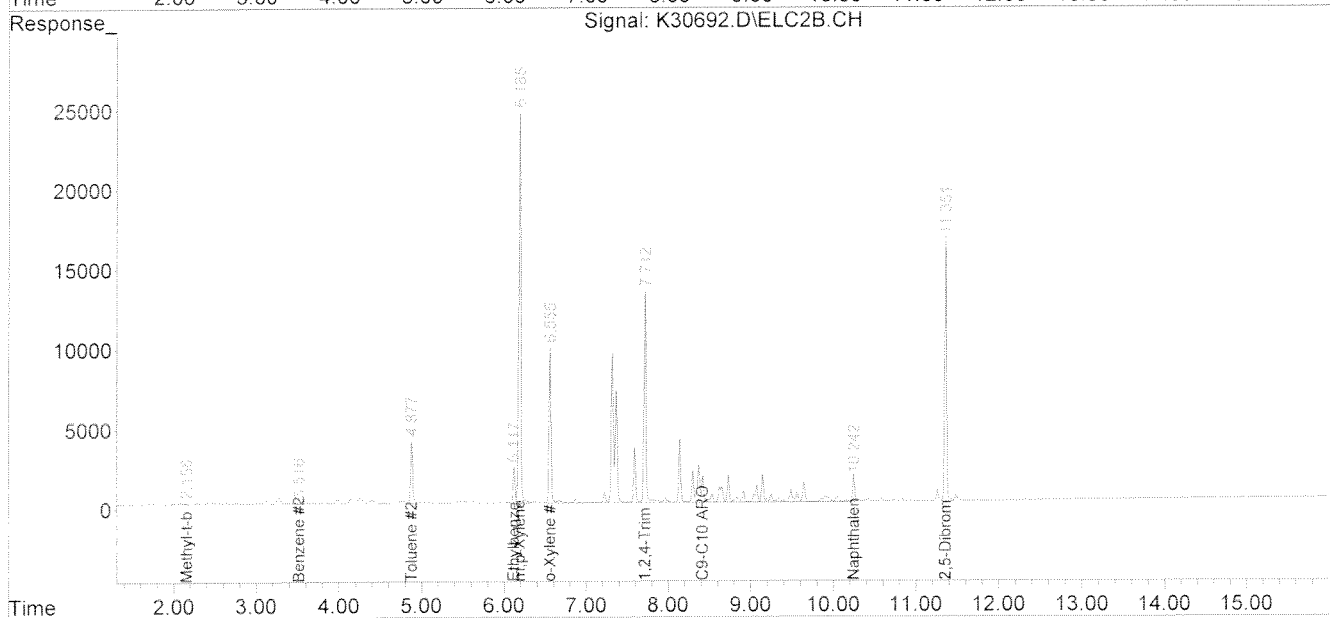
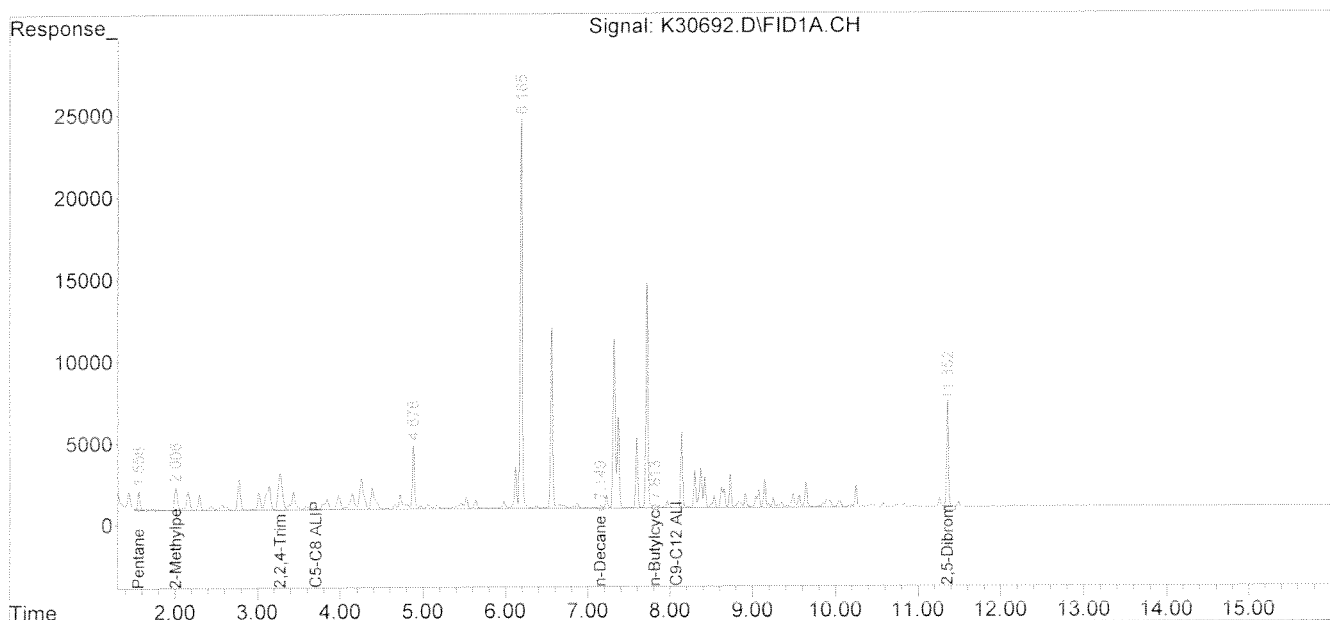
COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist. No results were reported below the RL.

Authorized signature: 

Data Path : C:\msdchem\1\DATA\010411-K\  
 Data File : K30692.D  
 Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH  
 Acq On : 05 Jan 2011 7:51 pm  
 Operator : JJL  
 Sample : 68745-2  
 Misc : 5000  
 ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Jan 06 09:56:16 2011  
 Quant Method : C:\msdchem\1\METHODS\VPH010411A.M  
 Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004  
 QLast Update : Thu Jan 06 09:09:37 2011  
 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 :



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January 12, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Cumberland Farms Sanford  
**Project Number:** 101.06074  
**Client Sample ID:** MW103

**Lab Sample ID:** 68745-3  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 1  
**Collection Date:** 12/22/10  
**Lab Receipt Date:** 12/23/10  
**Analysis Date:** 01/05/11

VPH ANALYTICAL RESULTS				
RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics <sup>1</sup>	N/A	50	µg/L	93
Unadjusted C9-C12 Aliphatics <sup>1</sup>	N/A	50	µg/L	132
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	4
o-Xylene	C9-C12	2	µg/L	4
C5-C8 Aliphatics Hydrocarbons <sup>1,2</sup>	N/A	50	µg/L	93
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	50	µg/L	U
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	N/A	20	µg/L	84
Surrogate % Recovery (2,5-Dibromotoluene) PID				70
Surrogate % Recovery (2,5-Dibromotoluene) FID				66*
Surrogate Acceptance Range				70-130%

<sup>1</sup>Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup>C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup>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.  
 \* Surrogate recovery outside of laboratory acceptance criteria. Sample was reanalyzed with similar results. No results are reported below the RL.

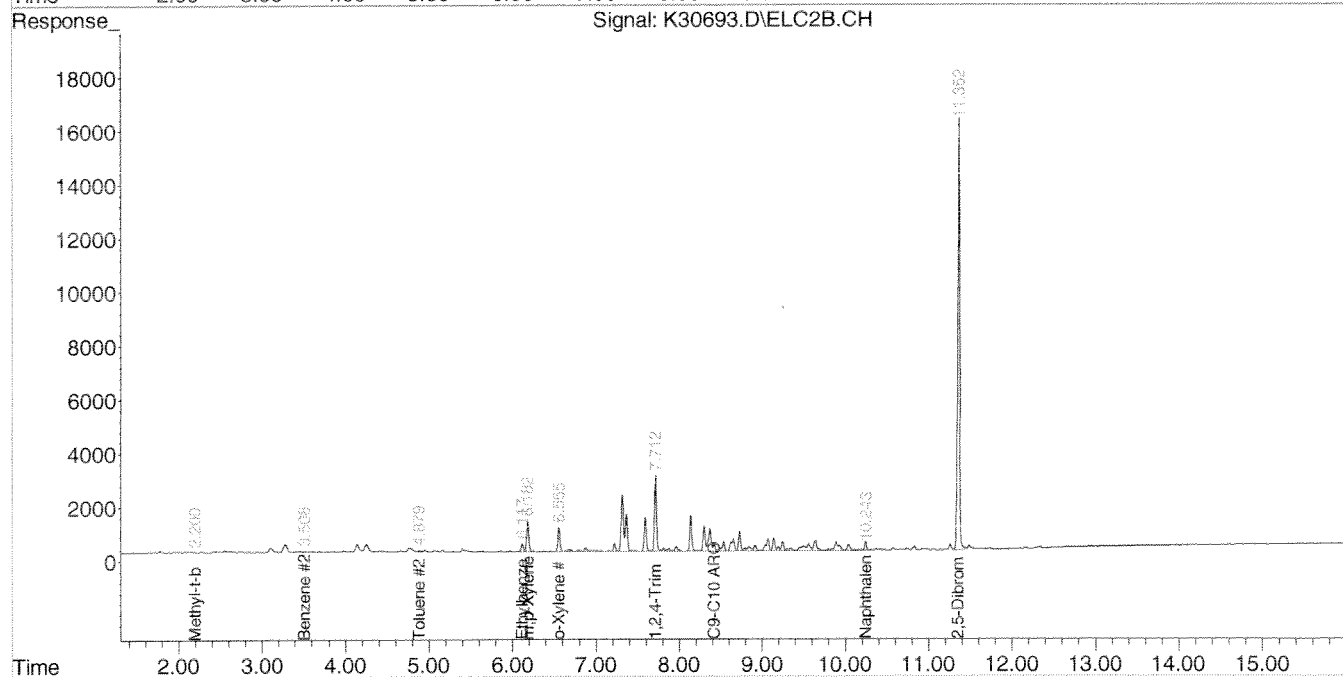
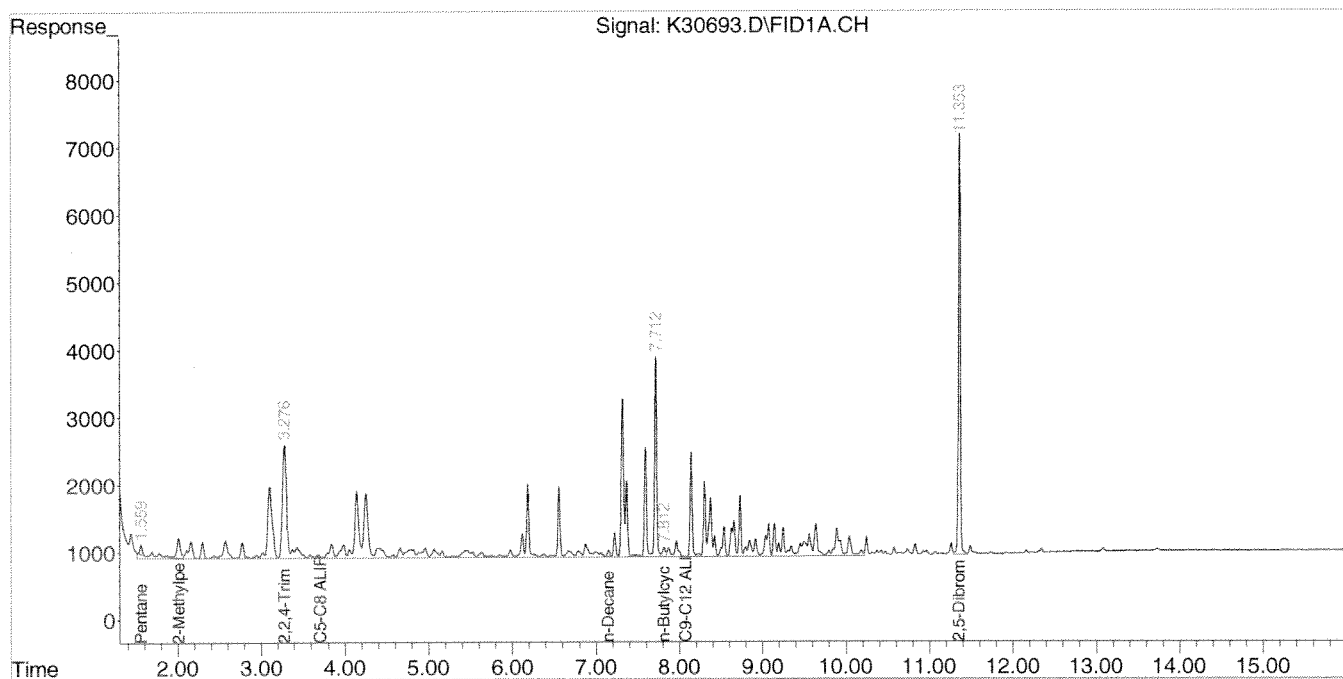
Authorized signature: *M. Sullivan*



Data Path : C:\msdchem\1\DATA\010411-K\  
 Data File : K30693.D  
 Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH  
 Acq On : 05 Jan 2011 8:16 pm  
 Operator : JJL  
 Sample : 68745-3  
 Misc : 5000  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Jan 06 10:00:52 2011  
 Quant Method : C:\msdchem\1\METHODS\VPH010411A.M  
 Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004  
 QLast Update : Thu Jan 06 09:09:37 2011  
 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 :



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January 12, 2011

**CLIENT SAMPLE ID**

**Project Name:** Cumberland Farms Sanford  
**Project Number:** 101.06074  
**Client Sample ID:** MW201

**SAMPLE DATA**

**Lab Sample ID:** 68745-4  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 1  
**Collection Date:** 12/22/10  
**Lab Receipt Date:** 12/23/10  
**Analysis Date:** 01/05/11

**VPH ANALYTICAL RESULTS**

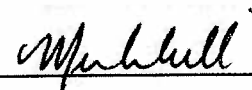
RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics <sup>1</sup>	N/A	50	µg/L	U
Unadjusted C9-C12 Aliphatics <sup>1</sup>	N/A	50	µg/L	81
Benzene	C5-C8	2	µg/L	U
Ethylbenzene	C9-C12	2	µg/L	U
Methyl-tert-butyl ether	C5-C8	2	µg/L	U
Naphthalene	N/A	2	µg/L	2
Toluene	C5-C8	2	µg/L	3
m- & p-Xylenes	C9-C12	4	µg/L	U
o-Xylene	C9-C12	2	µg/L	U
C5-C8 Aliphatic Hydrocarbons <sup>1,2</sup>	N/A	50	µg/L	U
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	50	µg/L	U
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	N/A	20	µg/L	50
Surrogate % Recovery (2,5-Dibromotoluene) PID				71
Surrogate % Recovery (2,5-Dibromotoluene) FID				67*
Surrogate Acceptance Range				70-130%

<sup>1</sup>Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup>C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup>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.  
 \* Surrogate recovery outside of laboratory acceptance criteria. Sample was reanalyzed with similar results. No results are reported below the RL.

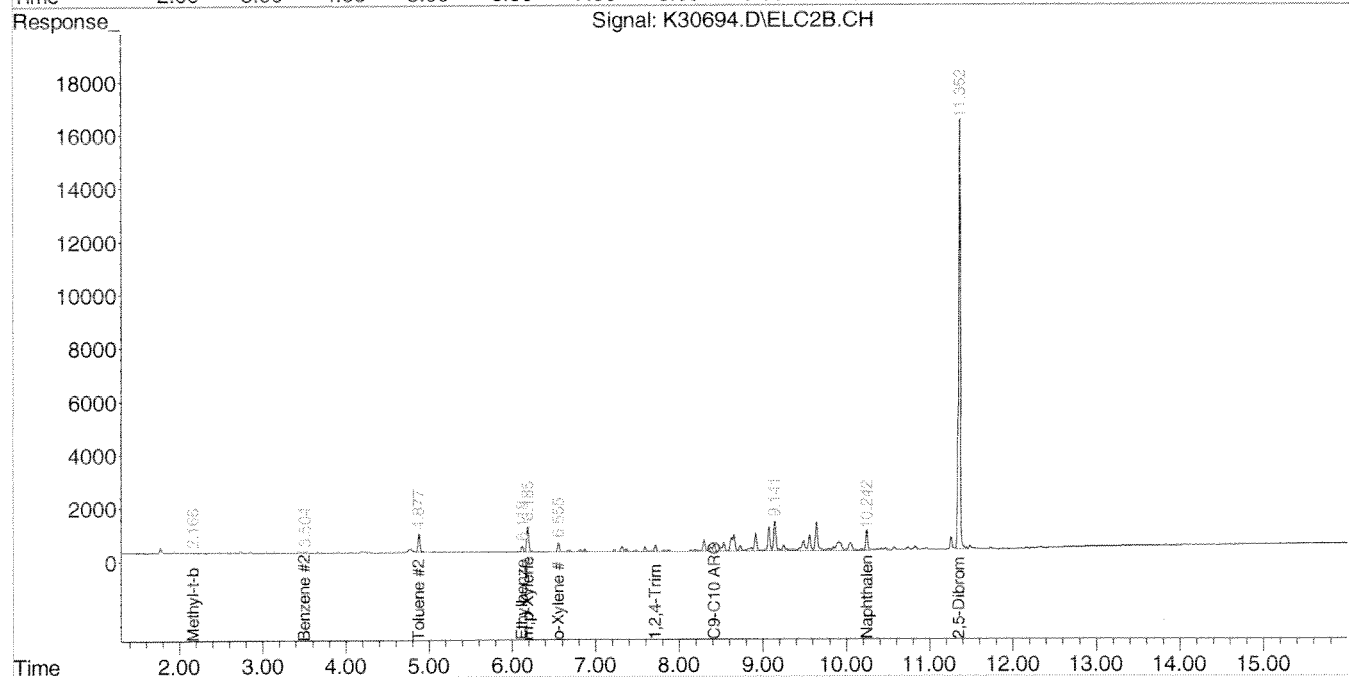
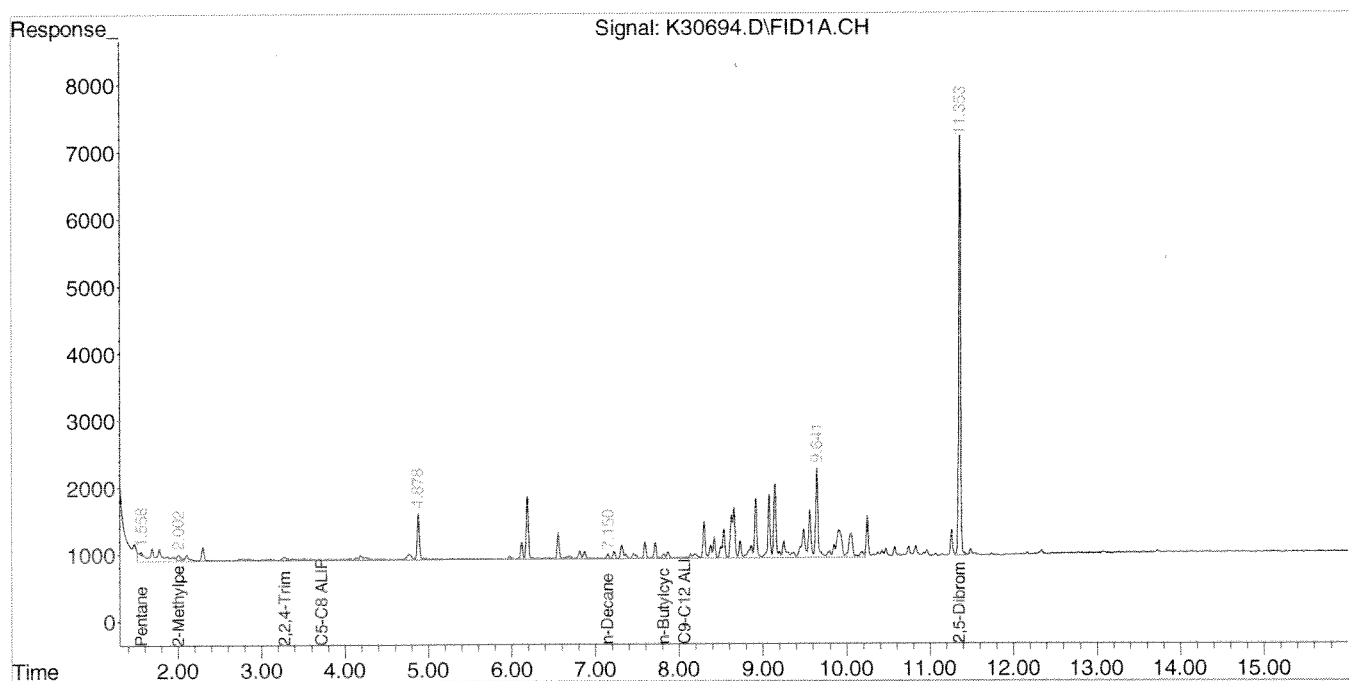
Authorized signature: \_\_\_\_\_



Data Path : C:\msdchem\1\DATA\010411-K\  
 Data File : K30694.D  
 Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH  
 Acq On : 05 Jan 2011 8:41 pm  
 Operator : JJL  
 Sample : 68745-4  
 Misc : 5000  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Jan 06 10:01:16 2011  
 Quant Method : C:\msdchem\1\METHODS\VPH010411A.M  
 Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004  
 QLast Update : Thu Jan 06 09:09:37 2011  
 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 :



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January 19, 2011

**CLIENT SAMPLE ID**

**Project Name:** Cumberland Farms Sanford  
**Project Number:** 101.06074  
**Client Sample ID:** MW202

**SAMPLE DATA**

**Lab Sample ID:** 68745-5  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 20  
**Collection Date:** 12/22/10  
**Lab Receipt Date:** 12/23/10  
**Analysis Date:** 01/05/11

**VPH ANALYTICAL RESULTS**

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics <sup>1</sup>	N/A	1000	µg/L	<b>76100 E</b>
Unadjusted C9-C12 Aliphatics <sup>1</sup>	N/A	1000	µg/L	<b>138000 E</b>
Benzene	C5-C8	40	µg/L	<b>598</b>
Ethylbenzene	C9-C12	40	µg/L	<b>5830</b>
Methyl-tert-butyl ether	C5-C8	40	µg/L	<b>71</b>
Naphthalene	N/A	40	µg/L	<b>1850</b>
Toluene	C5-C8	40	µg/L	<b>20700 E</b>
m- & p-Xylenes	C9-C12	80	µg/L	<b>24900 E</b>
o-Xylene	C9-C12	40	µg/L	<b>10200 E</b>
C5-C8 Aliphatics Hydrocarbons <sup>1,2</sup>	N/A	1000	µg/L	<b>54700 E</b>
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	1000	µg/L	<b>36900 E</b>
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	N/A	200	µg/L	<b>60300 E</b>
Surrogate % Recovery (2,5-Dibromotoluene) PID				85
Surrogate % Recovery (2,5-Dibromotoluene) FID				80
Surrogate Acceptance Range				70-130%

<sup>1</sup>Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.  
<sup>2</sup>C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range  
<sup>3</sup>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.

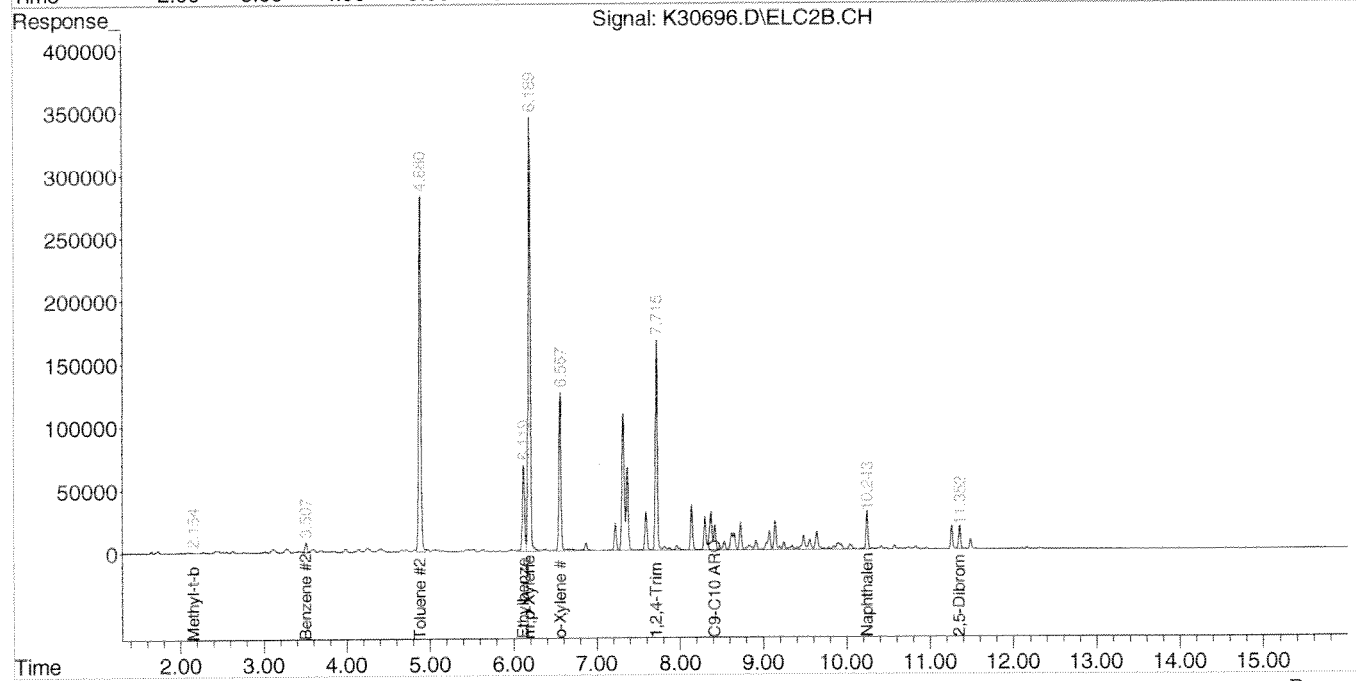
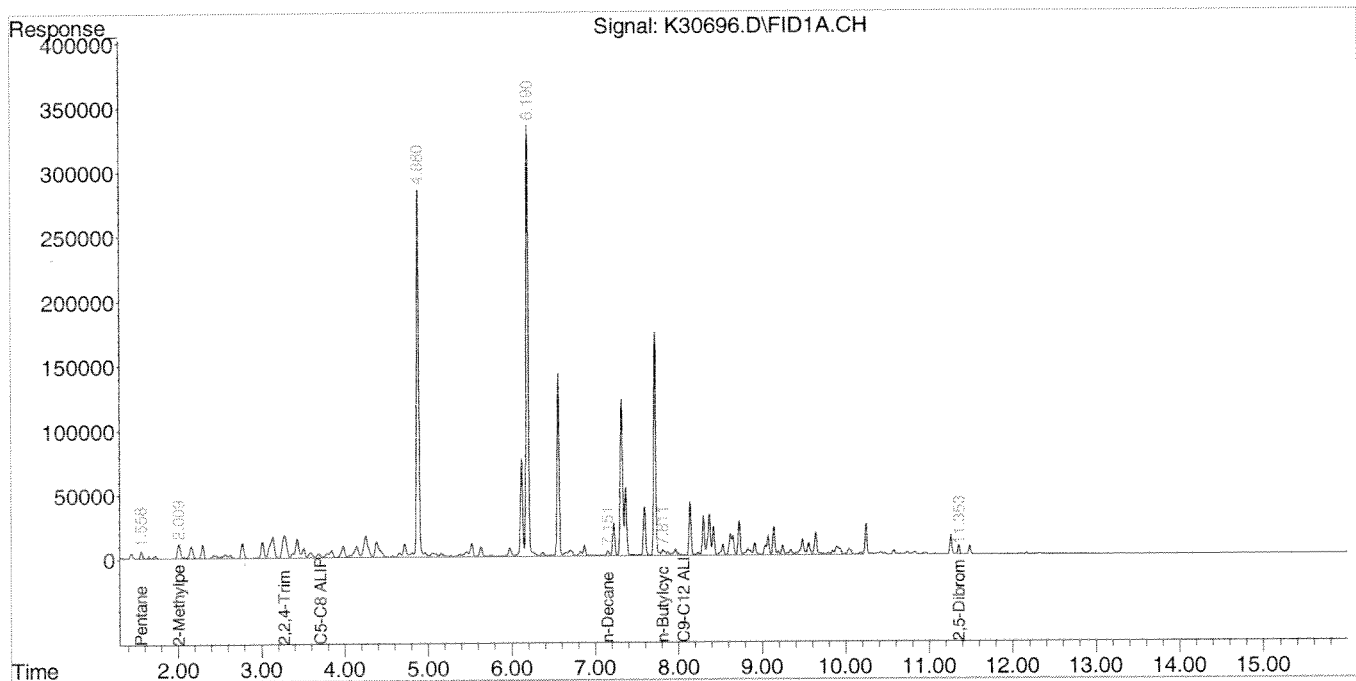
COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist.

Authorized signature: 

Data Path : C:\msdchem\1\DATA\010411-K\  
 Data File : K30696.D  
 Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH  
 Acq On : 05 Jan 2011 9:30 pm  
 Operator : JJL  
 Sample : 68745-5,20X  
 Misc : 250  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Jan 06 10:02:06 2011  
 Quant Method : C:\msdchem\1\METHODS\VPH010411A.M  
 Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004  
 QLast Update : Thu Jan 06 09:09:37 2011  
 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 :



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January 12, 2011

**CLIENT SAMPLE ID**

**Project Name:** Cumberland Farms Sanford  
**Project Number:** 101.06074  
**Client Sample ID:** MW202

**SAMPLE DATA**

**Lab Sample ID:** 68745-5 DL  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 100  
**Collection Date:** 12/22/10  
**Lab Receipt Date:** 12/23/10  
**Analysis Date:** 01/06/11

**VPH ANALYTICAL RESULTS**

RANGE/TARGET ANALYTE	Elution Range	RL	Units	Result
Unadjusted C5-C8 Aliphatics <sup>1</sup>	N/A	5000	µg/L	<b>32100</b>
Unadjusted C9-C12 Aliphatics <sup>1</sup>	N/A	5000	µg/L	<b>47700</b>
Benzene	C5-C8	200	µg/L	<b>431</b>
Ethylbenzene	C9-C12	200	µg/L	<b>2950</b>
Methyl-tert-butyl ether	C5-C8	200	µg/L	U
Naphthalene	N/A	200	µg/L	<b>766</b>
Toluene	C5-C8	200	µg/L	<b>15800</b>
m- & p-Xylenes	C9-C12	400	µg/L	<b>13000</b>
o-Xylene	C9-C12	200	µg/L	<b>5610</b>
C5-C8 Aliphatic Hydrocarbons <sup>1,2</sup>	N/A	5000	µg/L	<b>15800</b>
C9-C12 Aliphatic Hydrocarbons <sup>1,3</sup>	N/A	5000	µg/L	<b>10900</b>
C9-C10 Aromatic Hydrocarbons <sup>1</sup>	N/A	2000	µg/L	<b>15300</b>
Surrogate % Recovery (2,5-Dibromotoluene) PID				79
Surrogate % Recovery (2,5-Dibromotoluene) FID				89
Surrogate Acceptance Range				70-130%

<sup>1</sup>Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.

<sup>2</sup>C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

<sup>3</sup>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.

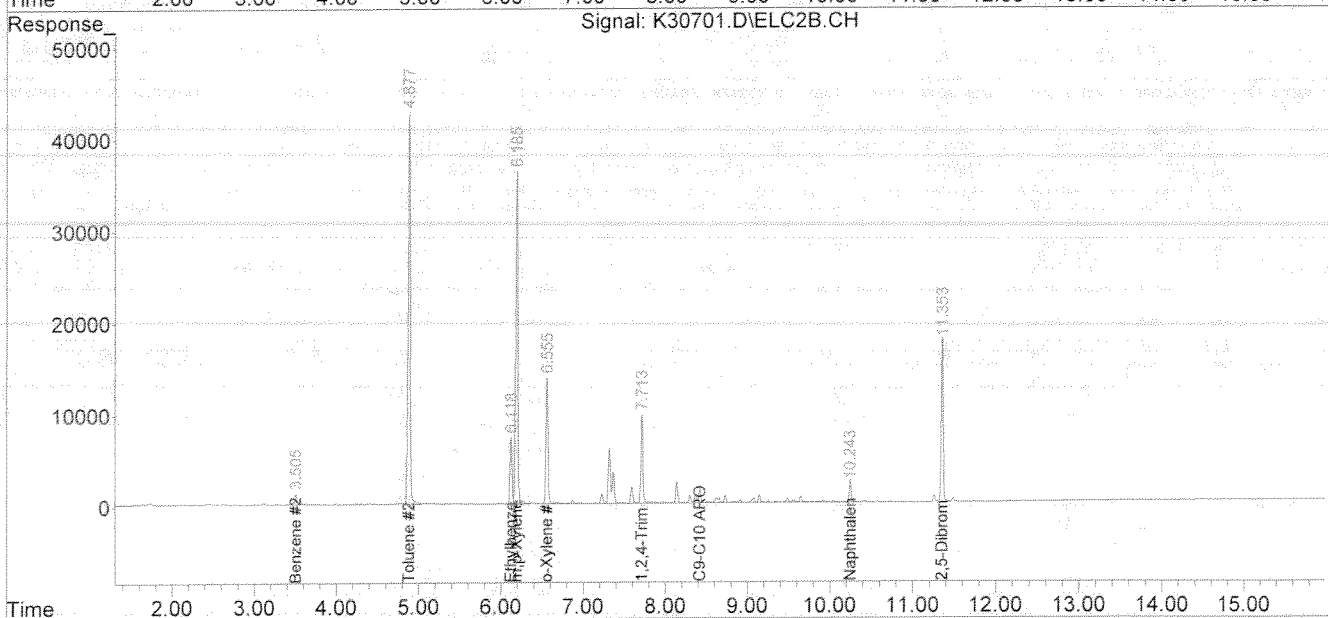
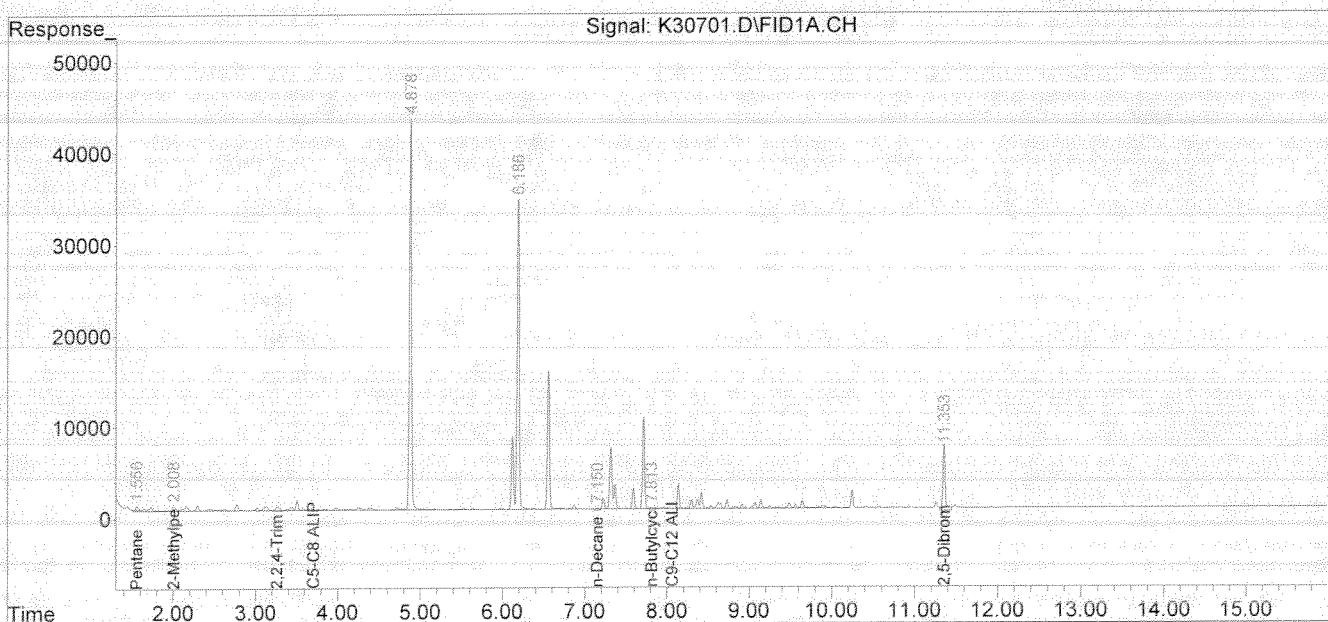
COMMENTS: Samples were received in accordance with method criteria unless noted on the sample receipt checklist. No results were reported below the RL. Sample was analyzed two days over holding time due to instrument problems.

Authorized signature: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\010411-K\  
 Data File : K30701.D  
 Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH  
 Acq On : 06 Jan 2011 1:10 am  
 Operator : JJL  
 Sample : 68745-5,100X  
 Misc : 50  
 ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Jan 06 10:02:44 2011  
 Quant Method : C:\msdchem\1\METHODS\VPH010411A.M  
 Quant Title : Volatile Petroleum Hydrocarbons (VPH) MA DEP 2004  
 QLast Update : Thu Jan 06 09:09:37 2011  
 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 :



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: 68745

Non-spiked sample: BV010511K2

Spike: LV010411K3,ICV

Spike duplicate: LV010411K4

COMPOUND	SPIKE ADDED	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/L)	SPIKE		SPIKE DUP		SPIKE DUP		RPD	
						RESULT (ug/L)	% REC	RESULT (ug/L)	% REC	RESULT (ug/L)	% REC		
Pentane	100	70	130	25	0.0	105	105	93	93			12	
2-Methylpentane	100	70	130	25	0.0	102	102	90	90			13	
2,2,4-Trimethylpentane	100	70	130	25	0.0	100	100	94	94			6	
n-Decane	100	70	130	25	0.0	102	102	107	107			4	
n-Butylcyclohexane	100	70	130	25	0.0	96	96	90	90			6	
Methyl-t-butylether #2	100	70	130	25	0.0	96	96	85	85			12	
Benzene #2	100	70	130	25	0.0	101	101	88	88			13	
Toluene #2	100	70	130	25	0.0	99	99	87	87			13	
Ethylbenzene #2	100	70	130	25	0.0	99	99	88	88			12	
m,p-Xylene #2	200	70	130	25	0.0	202	101	179	90			12	
o-Xylene #2	100	70	130	25	0.0	99	99	88	88			12	
1,2,4-Trimethylbenzene #2	100	70	130	25	0.0	103	103	92	92			12	
Naphthalene #2	100	70	130	25	0.0	107	107	85	85			23	
C5-C8 Aliphatics	300	70	130	25	0.0	307	102	277	92			10	
C9-C12 Aliphatics	200	70	130	25	0.0	198	99	197	98			1	
C9-C10 Aromatics #2	100	70	130	25	0.0	103	103	92	92			12	

# 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  
LABORATORY CONTROL SAMPLE

Instrument ID: K

SDG: 68745

GC Column: RTX-502.2

Non-spiked sample: BV010611K

Column ID: 0.25 mm

Spike: LV010611K,ICV

COMPOUND	SPIKE ADDED	LOWER LIMIT	UPPER LIMIT	NON-SPIKE RESULT (ug/L)	SPIKE RESULT (ug/L)	SPIKE % REC	#
Pentane	100	70	130	0.0	107	107	
2-Methylpentane	100	70	130	0.0	100	100	
2,2,4-Trimethylpentane	100	70	130	0.0	97	97	
n-Decane	100	70	130	0.0	112	112	
n-Butylcyclohexane	100	70	130	0.0	103	103	
Methyl-t-butylether #2	100	70	130	0.0	97	97	
Benzene #2	100	70	130	0.0	99	99	
Toluene #2	100	70	130	0.0	98	98	
Ethylbenzene #2	100	70	130	0.0	99	99	
m,p-Xylene #2	200	70	130	0.0	199	99	
o-Xylene #2	100	70	130	0.0	97	97	
1,2,4-Trimethylbenzene #2	100	70	130	0.0	100	100	
Naphthalene #2	100	70	130	0.0	106	106	
C5-C8 Aliphatics	300	70	130	0.0	303	101	
C9-C12 Aliphatics	200	70	130	0.0	214	107	
C9-C10 Aromatics #2	100	70	130	0.0	100	100	

# 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



ANALYTICS SAMPLE RECEIPT CHECKLIST



AEL LAB#: 68745  
 CLIENT: RANSON  
 PROJECT: CUMB. FARMS

COOLER NUMBER: 12  
 NUMBER OF COOLERS: 1  
 DATE RECEIVED: 12/23/10

**A: PRELIMINARY EXAMINATION:**

DATE COOLER OPENED: 12/23/10  
 Date Received: 12/23/10

1. Cooler received by(initials): JG

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

Shipped

3. Did cooler come with a shipping slip?

Y N

3a. Enter carrier name and airbill number here: \_\_\_\_\_

4. Were custody seals on the outside of cooler?

Y N

How many & where: \_\_\_\_\_ Seal Date: \_\_\_\_\_ Seal Name: \_\_\_\_\_

5. Did the custody seals arrive unbroken and intact upon arrival?

Y N/A

6. COC#: \_\_\_\_\_

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: 40

**B. Log-In:** Date samples were logged in: 12/23/10

By: JG

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~~

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: \_\_\_\_\_

21. Laboratory labeling verified by (initials): JGB

Date: JGB 12/23/10



## ANALYTICAL REPORT

Lab Number:	L1020553
Client:	Ransom Environmental 400 Commercial Street Suite 404 Portland, ME 04101-4660
ATTN:	Erik Phenix
Phone:	(207) 772-2891
Project Name:	CUMBERLAND FARMS-SANFORD
Project Number:	R101.06074.003
Report Date:	01/25/11

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

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.

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



**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>
L1020553-01	SV102	SANFORD, ME	12/22/10 09:07
L1020553-02	SV103	SANFORD, ME	12/22/10 09:53
L1020553-03	SV104	SANFORD, ME	12/22/10 10:11
L1020553-04	SV105	SANFORD, ME	12/22/10 11:46
L1020553-05	SV201	SANFORD, ME	12/22/10 08:13
L1020553-06	SV202	SANFORD, ME	12/22/10 11:13
L1020553-07	SV203	SANFORD, ME	12/22/10 12:09
L1020553-08	SV204	SANFORD, ME	12/22/10 12:16
L1020553-09	SV205	SANFORD, ME	12/22/10 10:56
L1020553-10	SV301	SANFORD, ME	12/22/10 08:27
L1020553-11	SV302	SANFORD, ME	12/22/10 11:00
L1020553-12	SV303	SANFORD, ME	12/22/10 12:36
L1020553-13	SV304	SANFORD, ME	12/22/10 12:45
L1020553-14	SV401	SANFORD, ME	12/22/10 08:49
L1020553-15	SV402	SANFORD, ME	12/22/10 10:47
L1020553-16	SV403	SANFORD, ME	12/22/10 12:23
L1020553-17	MARTINEZ BASEMENT	SANFORD, ME	12/22/10 11:25

Project Name: CUMBERLAND FARMS-SANFORD

Lab Number: L1020553

Project Number: R101.06074.003

Report Date: 01/25/11

**MADEP MCP Response Action Analytical Report Certification**

**This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.**

<b>An affirmative response to questions A through F is required for "Presumptive Certainty" status</b>		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	YES
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
<b>A response to questions G, H and I is required for "Presumptive Certainty" status</b>		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES
<b>For any questions answered "No", please refer to the case narrative section on the following page(s).</b>		

**Please note that sample matrix information is located in the Sample Results section of this report.**





**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

### 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.

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#### Report Submission

This report replaces the report issued on January 7, 2011. The report has been amended to include the TO-15 SIM analysis for L1020553-17 (Martinez Basement).

#### MCP Related Narratives

Canisters were released from the laboratory on December 13, 15 and 20, 2010.

The canister certification data is provided as an addendum.

#### Volatile Organics in Air

L1020553-01 through -04, -06 through -08, and -10: 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-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

### Case Narrative (continued)

L1020553-05, -09 through -16 and WG450120-5 Duplicate have elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the samples.

The WG450419-3 LCS, associated with L1020553-12 and -15, recovery for Tetrachloroethene (131%) is outside the 70%-130% acceptance limit. The LCS was within overall method allowances, therefore the analysis proceeded.

#### Fixed Gas

L1020553-01 through -17: Prior to sample analysis, the canisters were pressurized with UHP Nitrogen in order to facilitate the transfer of sample to the Gas Chromatograph. The addition of Nitrogen resulted in a dilution of the sample. The reporting limits have been elevated accordingly.

#### Petroleum Hydrocarbons in Air

L1020553-01 through -04, -06 through -08, -10, -11, -13, and -16: 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.

L1020553-05 and WG450119-5 Duplicate have elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample. The sample was re-analyzed on dilution in order to quantitate the sample within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial analysis. The re-analysis was performed only for the compound that exceeded the calibration range.

L1020553-09, -10, -12 through -16 and WG450418-5 Duplicate have elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

The WG450261-5 Laboratory Duplicate RPD, performed on L1020553-16, is above the acceptance criteria for

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

**Case Narrative (continued)**

C5-C8 Aliphatics, adjusted (95%); however, the sample and duplicate results are less than five times the reporting limit. Therefore, the RPD is valid.

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: 01/25/11

**AIR**

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-01  
 Client ID: SV102  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 01/04/11 01:49  
 Analyst: BS

Date Collected: 12/22/10 09:07  
 Date Received: 12/23/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.416	--	ND	1.06	--		2.082
1,1-Dichloroethene	ND	0.416	--	ND	1.65	--		2.082
trans-1,2-Dichloroethene	ND	0.416	--	ND	1.65	--		2.082
1,1-Dichloroethane	ND	0.416	--	ND	1.68	--		2.082
cis-1,2-Dichloroethene	ND	0.416	--	ND	1.65	--		2.082
1,2-Dichloroethane	ND	0.416	--	ND	1.68	--		2.082
1,1,1-Trichloroethane	ND	0.416	--	ND	2.27	--		2.082
Trichloroethene	ND	0.416	--	ND	2.24	--		2.082
1,2-Dibromoethane	ND	0.416	--	ND	3.20	--		2.082
Tetrachloroethene	3.51	0.416	--	23.8	2.82	--		2.082

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	127		60-140
Bromochloromethane	116		60-140
chlorobenzene-d5	125		60-140



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-02  
 Client ID: SV103  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 01/04/11 02:25  
 Analyst: BS

Date Collected: 12/22/10 09:53  
 Date Received: 12/23/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.469	--	ND	1.20	--		2.344
1,1-Dichloroethene	ND	0.469	--	ND	1.86	--		2.344
trans-1,2-Dichloroethene	ND	0.469	--	ND	1.86	--		2.344
1,1-Dichloroethane	ND	0.469	--	ND	1.90	--		2.344
cis-1,2-Dichloroethene	ND	0.469	--	ND	1.86	--		2.344
1,2-Dichloroethane	ND	0.469	--	ND	1.90	--		2.344
1,1,1-Trichloroethane	ND	0.469	--	ND	2.56	--		2.344
Trichloroethene	ND	0.469	--	ND	2.52	--		2.344
1,2-Dibromoethane	ND	0.469	--	ND	3.60	--		2.344
Tetrachloroethene	16.5	0.469	--	112	3.18	--		2.344

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	117		60-140
Bromochloromethane	108		60-140
chlorobenzene-d5	119		60-140



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-03  
 Client ID: SV104  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 01/04/11 03:01  
 Analyst: BS

Date Collected: 12/22/10 10:11  
 Date Received: 12/23/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.486	--	ND	1.24	--		2.428
1,1-Dichloroethene	ND	0.486	--	ND	1.92	--		2.428
trans-1,2-Dichloroethene	ND	0.486	--	ND	1.92	--		2.428
1,1-Dichloroethane	ND	0.486	--	ND	1.96	--		2.428
cis-1,2-Dichloroethene	ND	0.486	--	ND	1.92	--		2.428
1,2-Dichloroethane	ND	0.486	--	ND	1.96	--		2.428
1,1,1-Trichloroethane	ND	0.486	--	ND	2.65	--		2.428
Trichloroethene	ND	0.486	--	ND	2.61	--		2.428
1,2-Dibromoethane	ND	0.486	--	ND	3.73	--		2.428
Tetrachloroethene	4.15	0.486	--	28.1	3.29	--		2.428

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	129		60-140
Bromochloromethane	111		60-140
chlorobenzene-d5	125		60-140



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-04  
 Client ID: SV105  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 01/04/11 03:36  
 Analyst: BS

Date Collected: 12/22/10 11:46  
 Date Received: 12/23/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.478	--	ND	1.22	--		2.388
1,1-Dichloroethene	ND	0.478	--	ND	1.89	--		2.388
trans-1,2-Dichloroethene	ND	0.478	--	ND	1.89	--		2.388
1,1-Dichloroethane	ND	0.478	--	ND	1.93	--		2.388
cis-1,2-Dichloroethene	ND	0.478	--	ND	1.89	--		2.388
1,2-Dichloroethane	ND	0.478	--	ND	1.93	--		2.388
1,1,1-Trichloroethane	ND	0.478	--	ND	2.60	--		2.388
Trichloroethene	ND	0.478	--	ND	2.56	--		2.388
1,2-Dibromoethane	ND	0.478	--	ND	3.67	--		2.388
Tetrachloroethene	ND	0.478	--	ND	3.24	--		2.388

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	125		60-140
Bromochloromethane	111		60-140
chlorobenzene-d5	119		60-140





**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-05  
 Client ID: SV201  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 01/04/11 04:11  
 Analyst: BS

Date Collected: 12/22/10 08:13  
 Date Received: 12/23/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	2.00	--	ND	5.11	--		10
1,1-Dichloroethene	ND	2.00	--	ND	7.92	--		10
trans-1,2-Dichloroethene	ND	2.00	--	ND	7.92	--		10
1,1-Dichloroethane	ND	2.00	--	ND	8.09	--		10
cis-1,2-Dichloroethene	ND	2.00	--	ND	7.92	--		10
1,2-Dichloroethane	ND	2.00	--	ND	8.09	--		10
1,1,1-Trichloroethane	ND	2.00	--	ND	10.9	--		10
Trichloroethene	ND	2.00	--	ND	10.7	--		10
1,2-Dibromoethane	ND	2.00	--	ND	15.4	--		10
Tetrachloroethene	8.44	2.00	--	57.2	13.6	--		10

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	133		60-140
Bromochloromethane	115		60-140
chlorobenzene-d5	119		60-140



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

**Lab ID:** L1020553-06  
**Client ID:** SV202  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 48,TO-15  
**Analytical Date:** 01/04/11 05:21  
**Analyst:** BS

**Date Collected:** 12/22/10 11:13  
**Date Received:** 12/23/10  
**Field Prep:** Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.430	--	ND	1.10	--		2.148
1,1-Dichloroethene	ND	0.430	--	ND	1.70	--		2.148
trans-1,2-Dichloroethene	ND	0.430	--	ND	1.70	--		2.148
1,1-Dichloroethane	ND	0.430	--	ND	1.74	--		2.148
cis-1,2-Dichloroethene	ND	0.430	--	ND	1.70	--		2.148
1,2-Dichloroethane	ND	0.430	--	ND	1.74	--		2.148
1,1,1-Trichloroethane	ND	0.430	--	ND	2.34	--		2.148
Trichloroethene	0.500	0.430	--	2.69	2.31	--		2.148
1,2-Dibromoethane	ND	0.430	--	ND	3.30	--		2.148
Tetrachloroethene	2.27	0.430	--	15.4	2.91	--		2.148

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	128		60-140
Bromochloromethane	114		60-140
chlorobenzene-d5	121		60-140



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-07  
 Client ID: SV203  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 01/04/11 05:57  
 Analyst: BS

Date Collected: 12/22/10 12:09  
 Date Received: 12/23/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.480	--	ND	1.22	--		2.398
1,1-Dichloroethene	ND	0.480	--	ND	1.90	--		2.398
trans-1,2-Dichloroethene	ND	0.480	--	ND	1.90	--		2.398
1,1-Dichloroethane	ND	0.480	--	ND	1.94	--		2.398
cis-1,2-Dichloroethene	ND	0.480	--	ND	1.90	--		2.398
1,2-Dichloroethane	ND	0.480	--	ND	1.94	--		2.398
1,1,1-Trichloroethane	ND	0.480	--	ND	2.61	--		2.398
Trichloroethene	ND	0.480	--	ND	2.58	--		2.398
1,2-Dibromoethane	ND	0.480	--	ND	3.68	--		2.398
Tetrachloroethene	5.91	0.480	--	40.0	3.25	--		2.398

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	121		60-140
Bromochloromethane	108		60-140
chlorobenzene-d5	116		60-140



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-08  
 Client ID: SV204  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 01/04/11 06:32  
 Analyst: BS

Date Collected: 12/22/10 12:16  
 Date Received: 12/23/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.425	--	ND	1.08	--		2.125
1,1-Dichloroethene	ND	0.425	--	ND	1.68	--		2.125
trans-1,2-Dichloroethene	ND	0.425	--	ND	1.68	--		2.125
1,1-Dichloroethane	ND	0.425	--	ND	1.72	--		2.125
cis-1,2-Dichloroethene	0.508	0.425	--	2.01	1.68	--		2.125
1,2-Dichloroethane	ND	0.425	--	ND	1.72	--		2.125
1,1,1-Trichloroethane	ND	0.425	--	ND	2.32	--		2.125
Trichloroethene	ND	0.425	--	ND	2.28	--		2.125
1,2-Dibromoethane	ND	0.425	--	ND	3.26	--		2.125
Tetrachloroethene	3.74	0.425	--	25.4	2.88	--		2.125

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	133		60-140
Bromochloromethane	112		60-140
chlorobenzene-d5	123		60-140



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

**Lab ID:** L1020553-09  
**Client ID:** SV205  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 48,TO-15  
**Analytical Date:** 01/04/11 07:07  
**Analyst:** BS

**Date Collected:** 12/22/10 10:56  
**Date Received:** 12/23/10  
**Field Prep:** Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.400	--	ND	1.02	--		2
1,1-Dichloroethene	ND	0.400	--	ND	1.58	--		2
trans-1,2-Dichloroethene	ND	0.400	--	ND	1.58	--		2
1,1-Dichloroethane	ND	0.400	--	ND	1.62	--		2
cis-1,2-Dichloroethene	ND	0.400	--	ND	1.58	--		2
1,2-Dichloroethane	ND	0.400	--	ND	1.62	--		2
1,1,1-Trichloroethane	ND	0.400	--	ND	2.18	--		2
Trichloroethene	ND	0.400	--	ND	2.15	--		2
1,2-Dibromoethane	ND	0.400	--	ND	3.07	--		2
Tetrachloroethene	4.21	0.400	--	28.5	2.71	--		2

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	117		60-140
Bromochloromethane	106		60-140
chlorobenzene-d5	115		60-140



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

**Lab ID:** L1020553-10  
**Client ID:** SV301  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 48,TO-15  
**Analytical Date:** 01/04/11 07:42  
**Analyst:** BS

**Date Collected:** 12/22/10 08:27  
**Date Received:** 12/23/10  
**Field Prep:** Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	2.41	--	ND	6.16	--		12.05
1,1-Dichloroethene	ND	2.41	--	ND	9.55	--		12.05
trans-1,2-Dichloroethene	ND	2.41	--	ND	9.55	--		12.05
1,1-Dichloroethane	ND	2.41	--	ND	9.75	--		12.05
cis-1,2-Dichloroethene	ND	2.41	--	ND	9.55	--		12.05
1,2-Dichloroethane	ND	2.41	--	ND	9.75	--		12.05
1,1,1-Trichloroethane	ND	2.41	--	ND	13.1	--		12.05
Trichloroethene	ND	2.41	--	ND	12.9	--		12.05
1,2-Dibromoethane	ND	2.41	--	ND	18.5	--		12.05
Tetrachloroethene	4.71	2.41	--	31.9	16.3	--		12.05

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	125		60-140
Bromochloromethane	110		60-140
chlorobenzene-d5	120		60-140



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-11 D  
 Client ID: SV302  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 01/04/11 22:00  
 Analyst: BS

Date Collected: 12/22/10 11:00  
 Date Received: 12/23/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	0.514	--	ND	1.31	--		2.571
1,1-Dichloroethene	ND	0.514	--	ND	2.04	--		2.571
trans-1,2-Dichloroethene	ND	0.514	--	ND	2.04	--		2.571
1,1-Dichloroethane	ND	0.514	--	ND	2.08	--		2.571
cis-1,2-Dichloroethene	ND	0.514	--	ND	2.04	--		2.571
1,2-Dichloroethane	ND	0.514	--	ND	2.08	--		2.571
1,1,1-Trichloroethane	ND	0.514	--	ND	2.80	--		2.571
Trichloroethene	ND	0.514	--	ND	2.76	--		2.571
1,2-Dibromoethane	ND	0.514	--	ND	3.95	--		2.571
Tetrachloroethene	9.88	0.514	--	66.9	3.48	--		2.571

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	89		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	88		60-140



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-12 D  
 Client ID: SV303  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 01/06/11 03:02  
 Analyst: RY

Date Collected: 12/22/10 12:36  
 Date Received: 12/23/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	8.55	--	ND	21.8	--		42.73
1,1-Dichloroethene	ND	8.55	--	ND	33.8	--		42.73
trans-1,2-Dichloroethene	ND	8.55	--	ND	33.8	--		42.73
1,1-Dichloroethane	ND	8.55	--	ND	34.6	--		42.73
cis-1,2-Dichloroethene	ND	8.55	--	ND	33.8	--		42.73
1,2-Dichloroethane	ND	8.55	--	ND	34.6	--		42.73
1,1,1-Trichloroethane	ND	8.55	--	ND	46.6	--		42.73
Trichloroethene	ND	8.55	--	ND	45.9	--		42.73
1,2-Dibromoethane	ND	8.55	--	ND	65.6	--		42.73
Tetrachloroethene	9.02	8.55	--	61.1	57.9	--		42.73

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	130		60-140
Bromochloromethane	117		60-140
chlorobenzene-d5	127		60-140





**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-13 D  
 Client ID: SV304  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 01/04/11 23:04  
 Analyst: BS

Date Collected: 12/22/10 12:45  
 Date Received: 12/23/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	2.35	--	ND	5.99	--		11.73
1,1-Dichloroethene	ND	2.35	--	ND	9.29	--		11.73
trans-1,2-Dichloroethene	ND	2.35	--	ND	9.29	--		11.73
1,1-Dichloroethane	ND	2.35	--	ND	9.49	--		11.73
cis-1,2-Dichloroethene	ND	2.35	--	ND	9.29	--		11.73
1,2-Dichloroethane	ND	2.35	--	ND	9.49	--		11.73
1,1,1-Trichloroethane	ND	2.35	--	ND	12.8	--		11.73
Trichloroethene	ND	2.35	--	ND	12.6	--		11.73
1,2-Dibromoethane	ND	2.35	--	ND	18.0	--		11.73
Tetrachloroethene	8.70	2.35	--	59.0	15.9	--		11.73

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	88		60-140
Bromochloromethane	88		60-140
chlorobenzene-d5	85		60-140



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-14 D  
 Client ID: SV401  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 01/04/11 23:36  
 Analyst: BS

Date Collected: 12/22/10 08:49  
 Date Received: 12/23/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	4.15	--	ND	10.6	--		20.75
1,1-Dichloroethene	ND	4.15	--	ND	16.4	--		20.75
trans-1,2-Dichloroethene	ND	4.15	--	ND	16.4	--		20.75
1,1-Dichloroethane	ND	4.15	--	ND	16.8	--		20.75
cis-1,2-Dichloroethene	ND	4.15	--	ND	16.4	--		20.75
1,2-Dichloroethane	ND	4.15	--	ND	16.8	--		20.75
1,1,1-Trichloroethane	ND	4.15	--	ND	22.6	--		20.75
Trichloroethene	ND	4.15	--	ND	22.3	--		20.75
1,2-Dibromoethane	ND	4.15	--	ND	31.9	--		20.75
Tetrachloroethene	5.02	4.15	--	34.0	28.1	--		20.75

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	85		60-140
Bromochloromethane	85		60-140
chlorobenzene-d5	81		60-140



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-15 D  
 Client ID: SV402  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 01/06/11 04:12  
 Analyst: RY

Date Collected: 12/22/10 10:47  
 Date Received: 12/23/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	4.55	--	ND	11.6	--		22.76
1,1-Dichloroethene	ND	4.55	--	ND	18.0	--		22.76
trans-1,2-Dichloroethene	ND	4.55	--	ND	18.0	--		22.76
1,1-Dichloroethane	ND	4.55	--	ND	18.4	--		22.76
cis-1,2-Dichloroethene	ND	4.55	--	ND	18.0	--		22.76
1,2-Dichloroethane	ND	4.55	--	ND	18.4	--		22.76
1,1,1-Trichloroethane	ND	4.55	--	ND	24.8	--		22.76
Trichloroethene	ND	4.55	--	ND	24.4	--		22.76
1,2-Dibromoethane	ND	4.55	--	ND	34.9	--		22.76
Tetrachloroethene	ND	4.55	--	ND	30.8	--		22.76

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	126		60-140
Bromochloromethane	110		60-140
chlorobenzene-d5	120		60-140



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-16 D  
 Client ID: SV403  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 01/05/11 10:17  
 Analyst: BS

Date Collected: 12/22/10 12:23  
 Date Received: 12/23/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
Vinyl chloride	ND	4.23	--	ND	10.8	--		21.17
1,1-Dichloroethene	ND	4.23	--	ND	16.8	--		21.17
trans-1,2-Dichloroethene	ND	4.23	--	ND	16.8	--		21.17
1,1-Dichloroethane	ND	4.23	--	ND	17.1	--		21.17
cis-1,2-Dichloroethene	ND	4.23	--	ND	16.8	--		21.17
1,2-Dichloroethane	ND	4.23	--	ND	17.1	--		21.17
1,1,1-Trichloroethane	ND	4.23	--	ND	23.1	--		21.17
Trichloroethene	ND	4.23	--	ND	22.7	--		21.17
1,2-Dibromoethane	ND	4.23	--	ND	32.5	--		21.17
Tetrachloroethene	ND	4.23	--	ND	28.7	--		21.17

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	69		60-140
Bromochloromethane	71		60-140
chlorobenzene-d5	63		60-140



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-17  
 Client ID: MARTINEZ BASEMENT  
 Sample Location: SANFORD, ME  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 01/04/11 20:17  
 Analyst: BS

Date Collected: 12/22/10 11:25  
 Date Received: 12/23/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								
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

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	103		60-140
Bromochloromethane	109		60-140
chlorobenzene-d5	97		60-140



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-17  
 Client ID: MARTINEZ BASEMENT  
 Sample Location: SANFORD, ME  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 01/04/11 20:17  
 Analyst: BS

Date Collected: 12/22/10 11:25  
 Date Received: 12/23/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	0.032	0.020	--	0.217	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	103		60-140
bromochloromethane	111		60-140
chlorobenzene-d5	99		60-140



Project Name: CUMBERLAND FARMS-SANFORD

Lab Number: L1020553

Project Number: R101.06074.003

Report Date: 01/25/11

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 01/03/11 14:28

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab for sample(s): 01-10 Batch: WG450120-4								
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



Project Name: CUMBERLAND FARMS-SANFORD

Lab Number: L1020553

Project Number: R101.06074.003

Report Date: 01/25/11

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 01/04/11 14:54

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab for sample(s): 11,13-14,16-17 Batch: WG450262-4								
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





Project Name: CUMBERLAND FARMS-SANFORD

Lab Number: L1020553

Project Number: R101.06074.003

Report Date: 01/25/11

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 01/05/11 18:41

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab for sample(s): 12,15 Batch: WG450419-4								
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



Project Name: CUMBERLAND FARMS-SANFORD

Lab Number: L1020553

Project Number: R101.06074.003

Report Date: 01/25/11

### Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 01/04/11 14:54

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 17 Batch: WG452707-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1



## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	LCS		LCSD		%Recovery		RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual	%Recovery	Limits			
Volatile Organics in Air (Low Level) - Mansfield Lab Associated sample(s): 01-10 Batch: WG450120-3									
Vinyl chloride	78	-	-	-	70-130	-	-	-	-
1,1-Dichloroethene	98	-	-	-	70-130	-	-	-	-
trans-1,2-Dichloroethene	83	-	-	-	70-130	-	-	-	-
1,1-Dichloroethane	84	-	-	-	70-130	-	-	-	-
cis-1,2-Dichloroethene	88	-	-	-	70-130	-	-	-	-
1,2-Dichloroethane	96	-	-	-	70-130	-	-	-	-
1,1,1-Trichloroethane	109	-	-	-	70-130	-	-	-	-
Trichloroethene	103	-	-	-	70-130	-	-	-	-
1,2-Dibromoethane	83	-	-	-	70-130	-	-	-	-
Tetrachloroethene	126	-	-	-	70-130	-	-	-	-

### Lab Control Sample Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	LCS		LCSD		%Recovery Limits		RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual	%Recovery	Limits			
Volatile Organics in Air (Low Level) - Mansfield Lab Associated sample(s): 11,13-14,16-17 Batch: WG450262-3									
Vinyl chloride	72	-	-	-	70-130	-	-	-	-
1,1-Dichloroethene	92	-	-	-	70-130	-	-	-	-
trans-1,2-Dichloroethene	78	-	-	-	70-130	-	-	-	-
1,1-Dichloroethane	78	-	-	-	70-130	-	-	-	-
cis-1,2-Dichloroethene	82	-	-	-	70-130	-	-	-	-
1,2-Dichloroethane	92	-	-	-	70-130	-	-	-	-
1,1,1-Trichloroethane	102	-	-	-	70-130	-	-	-	-
Trichloroethene	100	-	-	-	70-130	-	-	-	-
1,2-Dibromoethane	86	-	-	-	70-130	-	-	-	-
Tetrachloroethene	129	-	-	-	70-130	-	-	-	-



## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Volatile Organics in Air (Low Level) - Mansfield Lab Associated sample(s): 12,15 Batch: WG450419-3

Vinyl chloride	78		-		70-130	-		
1,1-Dichloroethene	99		-		70-130	-		
trans-1,2-Dichloroethene	88		-		70-130	-		
1,1-Dichloroethane	85		-		70-130	-		
cis-1,2-Dichloroethene	89		-		70-130	-		
1,2-Dichloroethane	99		-		70-130	-		
1,1,1-Trichloroethane	108		-		70-130	-		
Benzene	79		-		70-130	-		
Trichloroethene	102		-		70-130	-		
1,2-Dibromoethane	81		-		70-130	-		
Tetrachloroethene	131	Q	-		70-130	-		



## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	LCS		LCSD		%Recovery		RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual	Limits	Limits			
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 17 Batch: WG452707-3									
Vinyl chloride	70	-	-	-	70-130	-	-	-	25
1,1-Dichloroethene	91	-	-	-	70-130	-	-	-	25
trans-1,2-Dichloroethene	80	-	-	-	70-130	-	-	-	25
1,1-Dichloroethane	78	-	-	-	70-130	-	-	-	25
cis-1,2-Dichloroethene	83	-	-	-	70-130	-	-	-	25
1,2-Dichloroethane	92	-	-	-	70-130	-	-	-	25
1,1,1-Trichloroethane	102	-	-	-	70-130	-	-	-	25
Trichloroethene	104	-	-	-	70-130	-	-	-	25
1,2-Dibromoethane	83	-	-	-	70-130	-	-	-	25
Tetrachloroethene	113	-	-	-	70-130	-	-	-	25



## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
<b>Volatile Organics in Air (Low Level) - Mansfield Lab</b> Associated sample(s): 01-10 QC Batch ID: WG450120-5 QC Sample: L1020553-05 Client ID: SV201						
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	8.44	9.36	ppbV	10		25

## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics in Air (Low Level) - Mansfield Lab Associated sample(s): 11,13-14,16-17 QC Batch ID: WG450262-5 QC Sample: L1020553-16 Client ID: SV403					
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	ND	ND	ppbV	NC	25





## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
<b>Volatile Organics in Air (Low Level) - Mansfield Lab</b> Associated sample(s): 12,15 QC Batch ID: WG450419-5 QC Sample: L1020553-15 Client ID: SV402					
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	ND	ND	ppbV	NC	25

## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
<b>Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 17 QC Batch ID: WG452707-5 QC Sample: L1100010-32 Client ID: DUP Sample</b>					
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	0.953	0.804	ppbV	17	25

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

**Lab ID:** L1020553-01      D  
**Client ID:** SV102  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 01/05/11 19:28  
**Analyst:** RY

**Date Collected:** 12/22/10 09:07  
**Date Received:** 12/23/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	15.2		%	2.08	--	2.082
Carbon Dioxide	1.37		%	0.208	--	2.082
Methane	ND		%	0.208	--	2.082

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

**Lab ID:** L1020553-02      D  
**Client ID:** SV103  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 01/05/11 20:08  
**Analyst:** RY

**Date Collected:** 12/22/10 09:53  
**Date Received:** 12/23/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	15.4		%	2.34	--	2.344
Carbon Dioxide	1.90		%	0.234	--	2.344
Methane	ND		%	0.234	--	2.344

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

**Lab ID:** L1020553-03      D  
**Client ID:** SV104  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 01/05/11 20:47  
**Analyst:** RY

**Date Collected:** 12/22/10 10:11  
**Date Received:** 12/23/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	14.6		%	2.43	--	2.428
Carbon Dioxide	1.77		%	0.243	--	2.428
Methane	ND		%	0.243	--	2.428

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

**Lab ID:** L1020553-04      D  
**Client ID:** SV105  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 01/05/11 21:27  
**Analyst:** RY

**Date Collected:** 12/22/10 11:46  
**Date Received:** 12/23/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	16.2		%	2.39	--	2.388
Carbon Dioxide	0.511		%	0.239	--	2.388
Methane	ND		%	0.239	--	2.388

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

**Lab ID:** L1020553-05      D  
**Client ID:** SV201  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 01/05/11 22:06  
**Analyst:** RY

**Date Collected:** 12/22/10 08:13  
**Date Received:** 12/23/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	14.3		%	1.44	--	1.443
Carbon Dioxide	2.23		%	0.144	--	1.443
Methane	ND		%	0.144	--	1.443

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

**Lab ID:** L1020553-06      D  
**Client ID:** SV202  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 01/05/11 22:46  
**Analyst:** RY

**Date Collected:** 12/22/10 11:13  
**Date Received:** 12/23/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	16.8		%	2.15	--	2.148
Carbon Dioxide	0.580		%	0.215	--	2.148
Methane	ND		%	0.215	--	2.148



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

**Lab ID:** L1020553-07      D  
**Client ID:** SV203  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 01/05/11 23:26  
**Analyst:** RY

**Date Collected:** 12/22/10 12:09  
**Date Received:** 12/23/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	15.9		%	2.40	--	2.399
Carbon Dioxide	0.890		%	0.240	--	2.399
Methane	ND		%	0.240	--	2.399

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

**Lab ID:** L1020553-08      D  
**Client ID:** SV204  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 01/06/11 00:06  
**Analyst:** RY

**Date Collected:** 12/22/10 12:16  
**Date Received:** 12/23/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	15.7		%	2.12	--	2.125
Carbon Dioxide	1.25		%	0.212	--	2.125
Methane	ND		%	0.212	--	2.125

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

**Lab ID:** L1020553-09      D  
**Client ID:** SV205  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 01/06/11 00:46  
**Analyst:** RY

**Date Collected:** 12/22/10 10:56  
**Date Received:** 12/23/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	17.3		%	1.59	--	1.591
Carbon Dioxide	0.929		%	0.159	--	1.591
Methane	ND		%	0.159	--	1.591

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

**Lab ID:** L1020553-10      D  
**Client ID:** SV301  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 01/06/11 01:26  
**Analyst:** RY

**Date Collected:** 12/22/10 08:27  
**Date Received:** 12/23/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	12.9		%	2.41	--	2.41
Carbon Dioxide	2.43		%	0.241	--	2.41
Methane	ND		%	0.241	--	2.41

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-11 D  
 Client ID: SV302  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 51,3C  
 Analytical Date: 01/06/11 12:45  
 Analyst: RY

Date Collected: 12/22/10 11:00  
 Date Received: 12/23/10  
 Field Prep: Not Specified  
 Extraction Method:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	13.5		%	2.57	--	2.571
Carbon Dioxide	2.49		%	0.257	--	2.571
Methane	ND		%	0.257	--	2.571

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

**Lab ID:** L1020553-12      D  
**Client ID:** SV303  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 01/06/11 13:24  
**Analyst:** RY

**Date Collected:** 12/22/10 12:36  
**Date Received:** 12/23/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	15.8		%	2.13	--	2.132
Carbon Dioxide	2.21		%	0.213	--	2.132
Methane	ND		%	0.213	--	2.132

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

**Lab ID:** L1020553-13      D  
**Client ID:** SV304  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 01/06/11 14:04  
**Analyst:** RY

**Date Collected:** 12/22/10 12:45  
**Date Received:** 12/23/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	14.4		%	2.35	--	2.346
Carbon Dioxide	2.10		%	0.235	--	2.346
Methane	ND		%	0.235	--	2.346

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

**Lab ID:** L1020553-14      D  
**Client ID:** SV401  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 01/06/11 14:43  
**Analyst:** RY

**Date Collected:** 12/22/10 08:49  
**Date Received:** 12/23/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	14.0		%	2.07	--	2.075
Carbon Dioxide	1.51		%	0.207	--	2.075
Methane	ND		%	0.207	--	2.075



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

**Lab ID:** L1020553-15      D  
**Client ID:** SV402  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 01/06/11 15:21  
**Analyst:** RY

**Date Collected:** 12/22/10 10:47  
**Date Received:** 12/23/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	15.6		%	2.28	--	2.276
Carbon Dioxide	1.29		%	0.228	--	2.276
Methane	ND		%	0.228	--	2.276

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

**Lab ID:** L1020553-16      D  
**Client ID:** SV403  
**Sample Location:** SANFORD, ME  
**Matrix:** Soil\_Vapor  
**Analytical Method:** 51,3C  
**Analytical Date:** 01/06/11 16:00  
**Analyst:** RY

**Date Collected:** 12/22/10 12:23  
**Date Received:** 12/23/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	15.0		%	2.12	--	2.117
Carbon Dioxide	0.817		%	0.212	--	2.117
Methane	ND		%	0.212	--	2.117

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

**Lab ID:** L1020553-17 D  
**Client ID:** MARTINEZ BASEMENT  
**Sample Location:** SANFORD, ME  
**Matrix:** Air  
**Analytical Method:** 51,3C  
**Analytical Date:** 01/06/11 16:40  
**Analyst:** RY

**Date Collected:** 12/22/10 11:25  
**Date Received:** 12/23/10  
**Field Prep:** Not Specified  
**Extraction Method:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Fixed Gases by GC - Mansfield Lab</b>						
Oxygen	17.7		%	1.89	--	1.888
Carbon Dioxide	ND		%	0.189	--	1.888
Methane	ND		%	0.189	--	1.888

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 51,3C

Analytical Date: 01/05/11 19:02

Analyst: RY

<b>Parameter</b>	<b>Result</b>	<b>Qualifier</b>	<b>Units</b>	<b>RL</b>	<b>MDL</b>
Fixed Gases by GC - Mansfield Lab for sample(s): 01-10 Batch: WG450420-2					
Oxygen	ND		%	1.00	--
Carbon Dioxide	ND		%	0.100	--
Methane	ND		%	0.100	--

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 51,3C

Analytical Date: 01/06/11 12:02

Analyst: RY

<b>Parameter</b>	<b>Result</b>	<b>Qualifier</b>	<b>Units</b>	<b>RL</b>	<b>MDL</b>
Fixed Gases by GC - Mansfield Lab for sample(s): 11-17 Batch: WG450513-2					
Oxygen	ND		%	1.00	--
Carbon Dioxide	ND		%	0.100	--
Methane	ND		%	0.100	--

### Lab Control Sample Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-10 Batch: WG450420-1

Oxygen	89		-		80-120	-		
Carbon Dioxide	102		-		80-120	-		
Methane	106		-		80-120	-		

Fixed Gases by GC - Mansfield Lab Associated sample(s): 11-17 Batch: WG450513-1

Oxygen	90		-		80-120	-		
Carbon Dioxide	102		-		80-120	-		
Methane	105		-		80-120	-		



## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG450420-10 QC Sample: L1020553-08 Client ID: SV204</b>						
Oxygen	15.7	15.8	%	1		5
Carbon Dioxide	1.25	1.25	%	0		5
Methane	ND	ND	%	NC		5
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG450420-11 QC Sample: L1020553-09 Client ID: SV205</b>						
Oxygen	17.3	17.3	%	0		5
Carbon Dioxide	0.929	0.930	%	0		5
Methane	ND	ND	%	NC		5
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG450420-12 QC Sample: L1020553-10 Client ID: SV301</b>						
Oxygen	12.9	12.7	%	2		5
Carbon Dioxide	2.43	2.42	%	0		5
Methane	ND	ND	%	NC		5
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG450420-3 QC Sample: L1020553-01 Client ID: SV102</b>						
Oxygen	15.2	15.6	%	3		5
Carbon Dioxide	1.37	1.37	%	0		5
Methane	ND	ND	%	NC		5



## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG450420-4 QC Sample: L1020553-02 Client ID: SV103</b>					
Oxygen	15.4	15.9	%	3	5
Carbon Dioxide	1.90	1.90	%	0	5
Methane	ND	ND	%	NC	5
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG450420-5 QC Sample: L1020553-03 Client ID: SV104</b>					
Oxygen	14.6	14.7	%	1	5
Carbon Dioxide	1.77	1.76	%	1	5
Methane	ND	ND	%	NC	5
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG450420-6 QC Sample: L1020553-04 Client ID: SV105</b>					
Oxygen	16.2	16.0	%	1	5
Carbon Dioxide	0.511	0.513	%	0	5
Methane	ND	ND	%	NC	5
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG450420-7 QC Sample: L1020553-05 Client ID: SV201</b>					
Oxygen	14.3	14.3	%	0	5
Carbon Dioxide	2.23	2.23	%	0	5
Methane	ND	ND	%	NC	5





## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG450420-8 QC Sample: L1020553-06 Client ID: SV202</b>					
Oxygen	16.8	16.8	%	0	5
Carbon Dioxide	0.580	0.580	%	0	5
Methane	ND	ND	%	NC	5
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG450420-9 QC Sample: L1020553-07 Client ID: SV203</b>					
Oxygen	15.9	15.8	%	1	5
Carbon Dioxide	0.890	0.892	%	0	5
Methane	ND	ND	%	NC	5
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 11-17 QC Batch ID: WG450513-3 QC Sample: L1020553-11 Client ID: SV302</b>					
Oxygen	13.5	13.8	%	2	5
Carbon Dioxide	2.49	2.50	%	0	5
Methane	ND	ND	%	NC	5
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 11-17 QC Batch ID: WG450513-4 QC Sample: L1020553-12 Client ID: SV303</b>					
Oxygen	15.8	15.0	%	5	5
Carbon Dioxide	2.21	2.22	%	0	5
Methane	ND	ND	%	NC	5



## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 11-17 QC Batch ID: WG450513-5 QC Sample: L1020553-13 Client ID: SV304</b>					
Oxygen	14.4	14.5	%	1	5
Carbon Dioxide	2.10	2.10	%	0	5
Methane	ND	ND	%	NC	5
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 11-17 QC Batch ID: WG450513-6 QC Sample: L1020553-14 Client ID: SV401</b>					
Oxygen	14.0	13.8	%	1	5
Carbon Dioxide	1.51	1.51	%	0	5
Methane	ND	ND	%	NC	5
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 11-17 QC Batch ID: WG450513-7 QC Sample: L1020553-15 Client ID: SV402</b>					
Oxygen	15.6	15.9	%	2	5
Carbon Dioxide	1.29	1.30	%	1	5
Methane	ND	ND	%	NC	5
<b>Fixed Gases by GC - Mansfield Lab Associated sample(s): 11-17 QC Batch ID: WG450513-8 QC Sample: L1020553-16 Client ID: SV403</b>					
Oxygen	15.0	15.4	%	3	5
Carbon Dioxide	0.817	0.817	%	0	5
Methane	ND	ND	%	NC	5



### Lab Duplicate Analysis Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Fixed Gases by GC - Mansfield Lab Associated sample(s): 11-17 QC Batch ID: WG450513-9 QC Sample: L1020553-17 Client ID: MARTINEZ BASEMENT					
Oxygen	17.7	17.9	%	1	5
Carbon Dioxide	ND	ND	%	NC	5
Methane	ND	ND	%	NC	5



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-01  
 Client ID: SV102  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 01/04/11 01:49  
 Analyst: BS

Date Collected: 12/22/10 09:07  
 Date Received: 12/23/10  
 Field Prep: Not Specified

**Quality Control Information**

Sample Type: 100 ml/minute 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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	ND		ug/m3	4.2	--	2.1
Methyl tert butyl ether	ND		ug/m3	4.2	--	2.1
Benzene	ND		ug/m3	4.2	--	2.1
Toluene	ND		ug/m3	4.2	--	2.1
C5-C8 Aliphatics, Adjusted	88		ug/m3	25	--	2.1
Ethylbenzene	ND		ug/m3	4.2	--	2.1
p/m-Xylene	ND		ug/m3	8.4	--	2.1
o-Xylene	ND		ug/m3	4.2	--	2.1
Naphthalene	ND		ug/m3	4.2	--	2.1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	29	--	2.1
C9-C10 Aromatics Total	ND		ug/m3	21	--	2.1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	116		50-200
Bromochloromethane	118		50-200
Chlorobenzene-d5	120		50-200



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-02  
 Client ID: SV103  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 01/04/11 02:25  
 Analyst: BS

Date Collected: 12/22/10 09:53  
 Date Received: 12/23/10  
 Field Prep: Not Specified

**Quality Control Information**

Sample Type: 100 ml/minute 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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	ND		ug/m3	4.6	--	2.3
Methyl tert butyl ether	ND		ug/m3	4.6	--	2.3
Benzene	ND		ug/m3	4.6	--	2.3
Toluene	ND		ug/m3	4.6	--	2.3
C5-C8 Aliphatics, Adjusted	94		ug/m3	28	--	2.3
Ethylbenzene	ND		ug/m3	4.6	--	2.3
p/m-Xylene	ND		ug/m3	9.2	--	2.3
o-Xylene	ND		ug/m3	4.6	--	2.3
Naphthalene	ND		ug/m3	4.6	--	2.3
C9-C12 Aliphatics, Adjusted	ND		ug/m3	32	--	2.3
C9-C10 Aromatics Total	ND		ug/m3	23	--	2.3

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	107		50-200
Bromochloromethane	109		50-200
Chlorobenzene-d5	115		50-200



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-03  
 Client ID: SV104  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 01/04/11 03:01  
 Analyst: BS

Date Collected: 12/22/10 10:11  
 Date Received: 12/23/10  
 Field Prep: Not Specified

**Quality Control Information**

Sample Type: 100 ml/minute 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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	ND		ug/m3	4.8	--	2.4
Methyl tert butyl ether	ND		ug/m3	4.8	--	2.4
Benzene	ND		ug/m3	4.8	--	2.4
Toluene	ND		ug/m3	4.8	--	2.4
C5-C8 Aliphatics, Adjusted	57		ug/m3	29	--	2.4
Ethylbenzene	ND		ug/m3	4.8	--	2.4
p/m-Xylene	ND		ug/m3	9.6	--	2.4
o-Xylene	ND		ug/m3	4.8	--	2.4
Naphthalene	ND		ug/m3	4.8	--	2.4
C9-C12 Aliphatics, Adjusted	ND		ug/m3	34	--	2.4
C9-C10 Aromatics Total	ND		ug/m3	24	--	2.4

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	118		50-200
Bromochloromethane	118		50-200
Chlorobenzene-d5	121		50-200



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-04  
 Client ID: SV105  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 01/04/11 03:36  
 Analyst: BS

Date Collected: 12/22/10 11:46  
 Date Received: 12/23/10  
 Field Prep: Not Specified

**Quality Control Information**

Sample Type: 100 ml/minute 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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	ND		ug/m3	4.8	--	2.4
Methyl tert butyl ether	ND		ug/m3	4.8	--	2.4
Benzene	ND		ug/m3	4.8	--	2.4
Toluene	ND		ug/m3	4.8	--	2.4
C5-C8 Aliphatics, Adjusted	ND		ug/m3	29	--	2.4
Ethylbenzene	ND		ug/m3	4.8	--	2.4
p/m-Xylene	ND		ug/m3	9.6	--	2.4
o-Xylene	ND		ug/m3	4.8	--	2.4
Naphthalene	ND		ug/m3	4.8	--	2.4
C9-C12 Aliphatics, Adjusted	ND		ug/m3	34	--	2.4
C9-C10 Aromatics Total	ND		ug/m3	24	--	2.4

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	114		50-200
Bromochloromethane	116		50-200
Chlorobenzene-d5	115		50-200



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-05  
 Client ID: SV201  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 01/04/11 04:11  
 Analyst: BS

Date Collected: 12/22/10 08:13  
 Date Received: 12/23/10  
 Field Prep: Not Specified

**Quality Control Information**

Sample Type: 30 Minute Composite  
 Sample Container Type: Canister - 2.7 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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	ND		ug/m3	20	--	10
Methyl tert butyl ether	ND		ug/m3	20	--	10
Benzene	ND		ug/m3	20	--	10
Toluene	ND		ug/m3	20	--	10
C5-C8 Aliphatics, Adjusted	87000	E	ug/m3	120	--	10
Ethylbenzene	ND		ug/m3	20	--	10
p/m-Xylene	ND		ug/m3	40	--	10
o-Xylene	ND		ug/m3	20	--	10
Naphthalene	ND		ug/m3	20	--	10
C9-C12 Aliphatics, Adjusted	ND		ug/m3	140	--	10
C9-C10 Aromatics Total	ND		ug/m3	100	--	10

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	121		50-200
Bromochloromethane	119		50-200
Chlorobenzene-d5	114		50-200





**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-05 D2  
 Client ID: SV201  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 01/04/11 20:52  
 Analyst: BS

Date Collected: 12/22/10 08:13  
 Date Received: 12/23/10  
 Field Prep: Not Specified

**Quality Control Information**

Sample Type: 30 Minute Composite  
 Sample Container Type: Canister - 2.7 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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
C5-C8 Aliphatics, Adjusted	150000		ug/m3	350	--	29

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	112		50-200
Bromochloromethane	111		50-200
Chlorobenzene-d5	94		50-200

**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-06  
 Client ID: SV202  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 01/04/11 05:21  
 Analyst: BS

Date Collected: 12/22/10 11:13  
 Date Received: 12/23/10  
 Field Prep: Not Specified

**Quality Control Information**

Sample Type: 100 ml/minute 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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	ND		ug/m3	4.2	--	2.1
Methyl tert butyl ether	ND		ug/m3	4.2	--	2.1
Benzene	ND		ug/m3	4.2	--	2.1
Toluene	24		ug/m3	4.2	--	2.1
C5-C8 Aliphatics, Adjusted	390		ug/m3	25	--	2.1
Ethylbenzene	ND		ug/m3	4.2	--	2.1
p/m-Xylene	ND		ug/m3	8.4	--	2.1
o-Xylene	ND		ug/m3	4.2	--	2.1
Naphthalene	ND		ug/m3	4.2	--	2.1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	29	--	2.1
C9-C10 Aromatics Total	ND		ug/m3	21	--	2.1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	117		50-200
Bromochloromethane	119		50-200
Chlorobenzene-d5	117		50-200



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-07  
 Client ID: SV203  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 01/04/11 05:57  
 Analyst: BS

Date Collected: 12/22/10 12:09  
 Date Received: 12/23/10  
 Field Prep: Not Specified

**Quality Control Information**

Sample Type: 100 ml/minute 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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	ND		ug/m3	4.8	--	2.4
Methyl tert butyl ether	ND		ug/m3	4.8	--	2.4
Benzene	ND		ug/m3	4.8	--	2.4
Toluene	ND		ug/m3	4.8	--	2.4
C5-C8 Aliphatics, Adjusted	90		ug/m3	29	--	2.4
Ethylbenzene	ND		ug/m3	4.8	--	2.4
p/m-Xylene	ND		ug/m3	9.6	--	2.4
o-Xylene	ND		ug/m3	4.8	--	2.4
Naphthalene	ND		ug/m3	4.8	--	2.4
C9-C12 Aliphatics, Adjusted	88		ug/m3	34	--	2.4
C9-C10 Aromatics Total	ND		ug/m3	24	--	2.4

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	111		50-200
Bromochloromethane	113		50-200
Chlorobenzene-d5	112		50-200



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-08  
 Client ID: SV204  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 01/04/11 06:32  
 Analyst: BS

Date Collected: 12/22/10 12:16  
 Date Received: 12/23/10  
 Field Prep: Not Specified

**Quality Control Information**

Sample Type: 100 ml/minute 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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	ND		ug/m3	4.2	--	2.1
Methyl tert butyl ether	ND		ug/m3	4.2	--	2.1
Benzene	ND		ug/m3	4.2	--	2.1
Toluene	ND		ug/m3	4.2	--	2.1
C5-C8 Aliphatics, Adjusted	130		ug/m3	25	--	2.1
Ethylbenzene	ND		ug/m3	4.2	--	2.1
p/m-Xylene	ND		ug/m3	8.4	--	2.1
o-Xylene	ND		ug/m3	4.2	--	2.1
Naphthalene	ND		ug/m3	4.2	--	2.1
C9-C12 Aliphatics, Adjusted	40		ug/m3	29	--	2.1
C9-C10 Aromatics Total	ND		ug/m3	21	--	2.1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	122		50-200
Bromochloromethane	121		50-200
Chlorobenzene-d5	119		50-200



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-09  
 Client ID: SV205  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 01/04/11 07:07  
 Analyst: BS

Date Collected: 12/22/10 10:56  
 Date Received: 12/23/10  
 Field Prep: Not Specified

**Quality Control Information**

Sample Type: 30 Minute Composite  
 Sample Container Type: Canister - 2.7 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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	ND		ug/m3	4.0	--	2
Methyl tert butyl ether	ND		ug/m3	4.0	--	2
Benzene	ND		ug/m3	4.0	--	2
Toluene	9.0		ug/m3	4.0	--	2
C5-C8 Aliphatics, Adjusted	1800		ug/m3	24	--	2
Ethylbenzene	ND		ug/m3	4.0	--	2
p/m-Xylene	9.1		ug/m3	8.0	--	2
o-Xylene	4.1		ug/m3	4.0	--	2
Naphthalene	ND		ug/m3	4.0	--	2
C9-C12 Aliphatics, Adjusted	170		ug/m3	28	--	2
C9-C10 Aromatics Total	100		ug/m3	20	--	2

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	108		50-200
Bromochloromethane	110		50-200
Chlorobenzene-d5	111		50-200



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-10  
 Client ID: SV301  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 01/04/11 07:42  
 Analyst: BS

Date Collected: 12/22/10 08:27  
 Date Received: 12/23/10  
 Field Prep: Not Specified

**Quality Control Information**

Sample Type: 100 ml/minute 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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	ND		ug/m3	24	--	12
Methyl tert butyl ether	ND		ug/m3	24	--	12
Benzene	ND		ug/m3	24	--	12
Toluene	ND		ug/m3	24	--	12
C5-C8 Aliphatics, Adjusted	37000		ug/m3	140	--	12
Ethylbenzene	ND		ug/m3	24	--	12
p/m-Xylene	ND		ug/m3	48	--	12
o-Xylene	ND		ug/m3	24	--	12
Naphthalene	ND		ug/m3	24	--	12
C9-C12 Aliphatics, Adjusted	340		ug/m3	170	--	12
C9-C10 Aromatics Total	440		ug/m3	120	--	12

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	115		50-200
Bromochloromethane	116		50-200
Chlorobenzene-d5	116		50-200



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-11 D  
 Client ID: SV302  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 01/04/11 22:00  
 Analyst: BS

Date Collected: 12/22/10 11:00  
 Date Received: 12/23/10  
 Field Prep: Not Specified

**Quality Control Information**

Sample Type: 100 ml/minute 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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	ND		ug/m3	5.2	--	2.6
Methyl tert butyl ether	ND		ug/m3	5.2	--	2.6
Benzene	ND		ug/m3	5.2	--	2.6
Toluene	ND		ug/m3	5.2	--	2.6
C5-C8 Aliphatics, Adjusted	150		ug/m3	31	--	2.6
Ethylbenzene	ND		ug/m3	5.2	--	2.6
p/m-Xylene	ND		ug/m3	10	--	2.6
o-Xylene	ND		ug/m3	5.2	--	2.6
Naphthalene	ND		ug/m3	5.2	--	2.6
C9-C12 Aliphatics, Adjusted	ND		ug/m3	36	--	2.6
C9-C10 Aromatics Total	ND		ug/m3	26	--	2.6

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	93		50-200
Bromochloromethane	99		50-200
Chlorobenzene-d5	92		50-200



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-12 D  
 Client ID: SV303  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 01/06/11 03:02  
 Analyst: RY

Date Collected: 12/22/10 12:36  
 Date Received: 12/23/10  
 Field Prep: Not Specified

**Quality Control Information**

Sample Type: 100 ml/minute 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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	ND		ug/m3	86	--	43
Methyl tert butyl ether	ND		ug/m3	86	--	43
Benzene	ND		ug/m3	86	--	43
Toluene	ND		ug/m3	86	--	43
C5-C8 Aliphatics, Adjusted	ND		ug/m3	520	--	43
Ethylbenzene	ND		ug/m3	86	--	43
p/m-Xylene	ND		ug/m3	170	--	43
o-Xylene	ND		ug/m3	86	--	43
Naphthalene	ND		ug/m3	86	--	43
C9-C12 Aliphatics, Adjusted	ND		ug/m3	600	--	43
C9-C10 Aromatics Total	ND		ug/m3	430	--	43

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	112		50-200
Bromochloromethane	110		50-200
Chlorobenzene-d5	115		50-200





**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-13 D  
 Client ID: SV304  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 01/04/11 23:04  
 Analyst: BS

Date Collected: 12/22/10 12:45  
 Date Received: 12/23/10  
 Field Prep: Not Specified

**Quality Control Information**

Sample Type: 100 ml/minute 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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	ND		ug/m3	24	--	12
Methyl tert butyl ether	ND		ug/m3	24	--	12
Benzene	ND		ug/m3	24	--	12
Toluene	ND		ug/m3	24	--	12
C5-C8 Aliphatics, Adjusted	13000		ug/m3	140	--	12
Ethylbenzene	ND		ug/m3	24	--	12
p/m-Xylene	ND		ug/m3	48	--	12
o-Xylene	ND		ug/m3	24	--	12
Naphthalene	ND		ug/m3	24	--	12
C9-C12 Aliphatics, Adjusted	ND		ug/m3	170	--	12
C9-C10 Aromatics Total	ND		ug/m3	120	--	12

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	92		50-200
Bromochloromethane	96		50-200
Chlorobenzene-d5	88		50-200



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-14 D  
 Client ID: SV401  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 01/06/11 03:38  
 Analyst: RY

Date Collected: 12/22/10 08:49  
 Date Received: 12/23/10  
 Field Prep: Not Specified

**Quality Control Information**

Sample Type: 100 ml/minute 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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	ND		ug/m3	84	--	42
Methyl tert butyl ether	ND		ug/m3	84	--	42
Benzene	ND		ug/m3	84	--	42
Toluene	ND		ug/m3	84	--	42
C5-C8 Aliphatics, Adjusted	190000		ug/m3	500	--	42
Ethylbenzene	ND		ug/m3	84	--	42
p/m-Xylene	ND		ug/m3	170	--	42
o-Xylene	ND		ug/m3	84	--	42
Naphthalene	ND		ug/m3	84	--	42
C9-C12 Aliphatics, Adjusted	ND		ug/m3	590	--	42
C9-C10 Aromatics Total	ND		ug/m3	420	--	42

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	102		50-200
Bromochloromethane	104		50-200
Chlorobenzene-d5	111		50-200



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-15 D  
 Client ID: SV402  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 01/06/11 04:12  
 Analyst: RY

Date Collected: 12/22/10 10:47  
 Date Received: 12/23/10  
 Field Prep: Not Specified

**Quality Control Information**

Sample Type: 100 ml/minute 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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	ND		ug/m3	46	--	23
Methyl tert butyl ether	ND		ug/m3	46	--	23
Benzene	ND		ug/m3	46	--	23
Toluene	ND		ug/m3	46	--	23
C5-C8 Aliphatics, Adjusted	390		ug/m3	280	--	23
Ethylbenzene	ND		ug/m3	46	--	23
p/m-Xylene	ND		ug/m3	92	--	23
o-Xylene	ND		ug/m3	46	--	23
Naphthalene	ND		ug/m3	46	--	23
C9-C12 Aliphatics, Adjusted	ND		ug/m3	320	--	23
C9-C10 Aromatics Total	ND		ug/m3	230	--	23

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	108		50-200
Bromochloromethane	105		50-200
Chlorobenzene-d5	107		50-200



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-16 D  
 Client ID: SV403  
 Sample Location: SANFORD, ME  
 Matrix: Soil\_Vapor  
 Analytical Method: 96,APH  
 Analytical Date: 01/05/11 10:17  
 Analyst: BS

Date Collected: 12/22/10 12:23  
 Date Received: 12/23/10  
 Field Prep: Not Specified

**Quality Control Information**

Sample Type: 100 ml/minute 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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
1,3-Butadiene	ND		ug/m3	42	--	21
Methyl tert butyl ether	ND		ug/m3	42	--	21
Benzene	ND		ug/m3	42	--	21
Toluene	ND		ug/m3	42	--	21
C5-C8 Aliphatics, Adjusted	ND		ug/m3	250	--	21
Ethylbenzene	ND		ug/m3	42	--	21
p/m-Xylene	ND		ug/m3	84	--	21
o-Xylene	ND		ug/m3	42	--	21
Naphthalene	ND		ug/m3	42	--	21
C9-C12 Aliphatics, Adjusted	ND		ug/m3	290	--	21
C9-C10 Aromatics Total	ND		ug/m3	210	--	21

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	73		50-200
Bromochloromethane	77		50-200
Chlorobenzene-d5	66		50-200



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11**SAMPLE RESULTS**

Lab ID: L1020553-17  
 Client ID: MARTINEZ BASEMENT  
 Sample Location: SANFORD, ME  
 Matrix: Air  
 Analytical Method: 96,APH  
 Analytical Date: 01/04/11 20:17  
 Analyst: BS

Date Collected: 12/22/10 11:25  
 Date Received: 12/23/10  
 Field Prep: Not Specified

**Quality Control Information**

Sample Type: 30 Minute Composite  
 Sample Container Type: Canister - 2.7 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

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
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	16		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

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	108		50-200
Bromochloromethane	120		50-200
Chlorobenzene-d5	101		50-200



Project Name: CUMBERLAND FARMS-SANFORD

Lab Number: L1020553

Project Number: R101.06074.003

Report Date: 01/25/11

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
 Analytical Date: 01/03/11 14:28  
 Analyst: BS

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-10 Batch: WG450119-4					
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	--

Project Name: CUMBERLAND FARMS-SANFORD

Lab Number: L1020553

Project Number: R101.06074.003

Report Date: 01/25/11

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 96,APH  
 Analytical Date: 01/04/11 14:54  
 Analyst: BS

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 05 Batch: WG450119-9					
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	--

Project Name: CUMBERLAND FARMS-SANFORD

Lab Number: L1020553

Project Number: R101.06074.003

Report Date: 01/25/11

**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 96,APH  
 Analytical Date: 01/04/11 14:54  
 Analyst: BS

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 11,13,16-17 Batch: WG450261-4					
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	--



**Project Name:** CUMBERLAND FARMS-SANFORD**Lab Number:** L1020553**Project Number:** R101.06074.003**Report Date:** 01/25/11

**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 96,APH  
 Analytical Date: 01/05/11 18:41  
 Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 12,14-15 Batch: WG450418-4					
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-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-10 Batch: WG450119-3

1,3-Butadiene	96		-		70-130	-		
Methyl tert butyl ether	94		-		70-130	-		
Benzene	94		-		70-130	-		
Toluene	96		-		70-130	-		
C5-C8 Aliphatics, Adjusted	92		-		70-130	-		
Ethylbenzene	96		-		70-130	-		
p/m-Xylene	96		-		70-130	-		
o-Xylene	98		-		70-130	-		
Naphthalene	84		-		50-150	-		
C9-C12 Aliphatics, Adjusted	94		-		70-130	-		
C9-C10 Aromatics Total	80		-		70-130	-		



## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	LCS		LCSD		%Recovery		RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual	%Recovery	Limits			
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 05 Batch: WG450119-8									
1,3-Butadiene	87	-	-	-	70-130	-	-	-	-
Methyl tert butyl ether	84	-	-	-	70-130	-	-	-	-
Benzene	89	-	-	-	70-130	-	-	-	-
Toluene	95	-	-	-	70-130	-	-	-	-
C5-C8 Aliphatics, Adjusted	90	-	-	-	70-130	-	-	-	-
Ethylbenzene	93	-	-	-	70-130	-	-	-	-
p/m-Xylene	93	-	-	-	70-130	-	-	-	-
o-Xylene	95	-	-	-	70-130	-	-	-	-
Naphthalene	108	-	-	-	50-150	-	-	-	-
C9-C12 Aliphatics, Adjusted	99	-	-	-	70-130	-	-	-	-
C9-C10 Aromatics Total	81	-	-	-	70-130	-	-	-	-



### Lab Control Sample Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	LCS		LCSD		%Recovery		RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual	%Recovery	Limits			
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 11,13,16-17 Batch: WG450261-3									
1,3-Butadiene	87	-	-	-	70-130	-	-	-	-
Methyl tert butyl ether	84	-	-	-	70-130	-	-	-	-
Benzene	89	-	-	-	70-130	-	-	-	-
Toluene	95	-	-	-	70-130	-	-	-	-
C5-C8 Aliphatics, Adjusted	90	-	-	-	70-130	-	-	-	-
Ethylbenzene	93	-	-	-	70-130	-	-	-	-
p/m-Xylene	93	-	-	-	70-130	-	-	-	-
o-Xylene	95	-	-	-	70-130	-	-	-	-
Naphthalene	108	-	-	-	50-150	-	-	-	-
C9-C12 Aliphatics, Adjusted	99	-	-	-	70-130	-	-	-	-
C9-C10 Aromatics Total	81	-	-	-	70-130	-	-	-	-



### Lab Control Sample Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 12,14-15 Batch: WG450418-3

1,3-Butadiene	98		-		70-130	-		
Methyl tert butyl ether	86		-		70-130	-		
Benzene	95		-		70-130	-		
Toluene	98		-		70-130	-		
C5-C8 Aliphatics, Adjusted	93		-		70-130	-		
Ethylbenzene	97		-		70-130	-		
p/m-Xylene	95		-		70-130	-		
o-Xylene	97		-		70-130	-		
Naphthalene	84		-		50-150	-		
C9-C12 Aliphatics, Adjusted	93		-		70-130	-		
C9-C10 Aromatics Total	78		-		70-130	-		



## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
<b>Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG450119-5 QC Sample: L1020553-05 Client ID: SV201</b>						
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	87000E	91000	ug/m3	4	E	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	ND	ND	ug/m3	NC		30
C9-C10 Aromatics Total	ND	ND	ug/m3	NC		30
<b>Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG450119-5 QC Sample: L1020553-05 Client ID: SV201</b>						
C5-C8 Aliphatics, Adjusted	150000	140000	ug/m3	10		30



## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 11,13,16-17 QC Batch ID: WG450261-5 QC Sample: L1020553-16 Client ID: SV403					
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	ND	650	ug/m3	NC	Q 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	ND	ND	ug/m3	NC	30
C9-C10 Aromatics Total	ND	ND	ug/m3	NC	30



## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 12,14-15 QC Batch ID: WG450418-5 QC Sample: L1020553-15 Client ID: SV402					
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	390	370	ug/m3	5	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	ND	ND	ug/m3	NC	30
C9-C10 Aromatics Total	ND	ND	ug/m3	NC	30



Project Name: CUMBERLAND FARMS-SANFORD

Serial\_No:01251116:41

Lab Number: L1020553

Project Number: R101.06074.003

Report Date: 01/25/11

### 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
L1020553-01	SV102	0046	#90 SV		-	-	100	106	6
L1020553-01	SV102	802	1.0L Can	I1019753	-28.7	-4.3	-	-	-
L1020553-02	SV103	0368	#16 AMB		-	-	100	108	8
L1020553-02	SV103	803	1.0L Can	I1019753	-28.7	-3.1	-	-	-
L1020553-03	SV104	0182	#90 SV		-	-	100	105	5
L1020553-03	SV104	564	1.0L Can	I1019753	-28.6	-3.4	-	-	-
L1020553-04	SV105	0075	#90 SV		-	-	100	112	11
L1020553-04	SV105	716	1.0L Can	I1019753	-28.6	-2.8	-	-	-
L1020553-05	SV201	0441	#30 SV		-	-	66	74	11
L1020553-05	SV201	448	2.7L Can	L1019640	-28.2	1.1	-	-	-
L1020553-06	SV202	0467	#16 SV		-	-	100	113	12
L1020553-06	SV202	713	1.0L Can	I1019753	-28.6	0.1	-	-	-
L1020553-07	SV203	0217	#90 SV		-	-	100	108	8
L1020553-07	SV203	1512	1.0L Can	I1019753	-28.6	-3.6	-	-	-
L1020553-08	SV204	0209	#90 AMB		-	-	100	115	14
L1020553-08	SV204	700	1.0L Can	I1019753	-28.6	-1.7	-	-	-
L1020553-09	SV205	0119	#90 AMB		-	-	66	66	0



Project Name: CUMBERLAND FARMS-SANFORD

Serial\_No:01251116:41

Lab Number: L1020553

Project Number: R101.06074.003

Report Date: 01/25/11

### 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
L1020553-09	SV205	336	2.7L Can	L1019640	-28.5	-1.3	-	-	-
L1020553-10	SV301	0480	#90 SV		-	-	100	110	10
L1020553-10	SV301	867	1.0L Can	I1019753	-28.6	-2.9	-	-	-
L1020553-11	SV302	0477	#90 SV		-	-	100	108	8
L1020553-11	SV302	669	1.0L Can	I1019753	-28.6	-4.2	-	-	-
L1020553-12	SV303	0450	#90 SV		-	-	100	113	12
L1020553-12	SV303	819	1.0L Can	I1019753	-28.7	1.4	-	-	-
L1020553-13	SV304	0353	#90 SV		-	-	100	100	0
L1020553-13	SV304	718	1.0L Can	I1019753	-28.6	-2.4	-	-	-
L1020553-14	SV401	0283	#90 SV		-	-	100	107	7
L1020553-14	SV401	735	1.0L Can	I1019753	-28.6	-1.3	-	-	-
L1020553-15	SV402	0390	#90 SV		-	-	100	100	0
L1020553-15	SV402	569	1.0L Can	I1019753	-28.7	-0.8	-	-	-
L1020553-16	SV403	0400	#90 SV		-	-	100	109	9
L1020553-16	SV403	1511	1.0L Can	I1019753	-28.6	-4.2	-	-	-
L1020553-17	MARTINEZ BASEMENT	0408	#90 AMB		-	-	72	83	14
L1020553-17	MARTINEZ BASEMENT	1768	2.7L Can	L1019983	-29.2	-5.0	-	-	-



# **Air Volatiles Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1019640**Project Number:** CANISTER QC BAT**Report Date:** 01/25/11**Air Canister Certification Results**

Lab ID: L1019640-01  
 Client ID: CAN 158 SHELF 8  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 12/11/10 20:14  
 Analyst: RY

Date Collected: 12/08/10 00:00  
 Date Received: 12/08/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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:** L1019640**Project Number:** CANISTER QC BAT**Report Date:** 01/25/11**Air Canister Certification Results**

Lab ID: L1019640-01

Date Collected: 12/08/10 00:00

Client ID: CAN 158 SHELF 8

Date Received: 12/08/10

Sample Location:

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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:** L1019640**Project Number:** CANISTER QC BAT**Report Date:** 01/25/11**Air Canister Certification Results**

Lab ID: L1019640-01

Date Collected: 12/08/10 00:00

Client ID: CAN 158 SHELF 8

Date Received: 12/08/10

Sample Location:

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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**Lab Number:** L1019640**Project Number:** CANISTER QC BAT**Report Date:** 01/25/11**Air Canister Certification Results**

Lab ID: L1019640-01

Date Collected: 12/08/10 00:00

Client ID: CAN 158 SHELF 8

Date Received: 12/08/10

Sample Location:

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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-Trimethylbenzene	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:** L1019640**Project Number:** CANISTER QC BAT**Report Date:** 01/25/11**Air Canister Certification Results**

Lab ID: L1019640-01

Date Collected: 12/08/10 00:00

Client ID: CAN 158 SHELF 8

Date Received: 12/08/10

Sample Location:

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	83		60-140
Bromochloromethane	84		60-140
chlorobenzene-d5	77		60-140





**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1019753**Project Number:** CANISTER QC BAT**Report Date:** 01/25/11**Air Canister Certification Results**

Lab ID: L1019753-01  
 Client ID: CAN 830 SHELF 15  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 12/15/10 17:00  
 Analyst: BS

Date Collected: 12/09/10 00:00  
 Date Received: 12/09/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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:** L1019753**Project Number:** CANISTER QC BAT**Report Date:** 01/25/11**Air Canister Certification Results**

Lab ID: L1019753-01

Date Collected: 12/09/10 00:00

Client ID: CAN 830 SHELF 15

Date Received: 12/09/10

Sample Location:

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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:** L1019753**Project Number:** CANISTER QC BAT**Report Date:** 01/25/11**Air Canister Certification Results**

Lab ID: L1019753-01

Date Collected: 12/09/10 00:00

Client ID: CAN 830 SHELF 15

Date Received: 12/09/10

Sample Location:

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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**Lab Number:** L1019753**Project Number:** CANISTER QC BAT**Report Date:** 01/25/11**Air Canister Certification Results**

Lab ID: L1019753-01

Date Collected: 12/09/10 00:00

Client ID: CAN 830 SHELF 15

Date Received: 12/09/10

Sample Location:

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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-Trimethylbenzene	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:** L1019753**Project Number:** CANISTER QC BAT**Report Date:** 01/25/11**Air Canister Certification Results**

Lab ID: L1019753-01

Date Collected: 12/09/10 00:00

Client ID: CAN 830 SHELF 15

Date Received: 12/09/10

Sample Location:

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	77		60-140
Bromochloromethane	85		60-140
chlorobenzene-d5	95		60-140



**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1019983**Project Number:** CANISTER QC BAT**Report Date:** 01/25/11**Air Canister Certification Results**

Lab ID: L1019983-01  
 Client ID: CAN 263 SHELF 2  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 12/16/10 15:10  
 Analyst: RY

Date Collected: 12/14/10 00:00  
 Date Received: 12/14/10  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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:** L1019983**Project Number:** CANISTER QC BAT**Report Date:** 01/25/11**Air Canister Certification Results**

Lab ID: L1019983-01

Date Collected: 12/14/10 00:00

Client ID: CAN 263 SHELF 2

Date Received: 12/14/10

Sample Location:

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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:** L1019983**Project Number:** CANISTER QC BAT**Report Date:** 01/25/11**Air Canister Certification Results**

Lab ID: L1019983-01

Date Collected: 12/14/10 00:00

Client ID: CAN 263 SHELF 2

Date Received: 12/14/10

Sample Location:

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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**Lab Number:** L1019983**Project Number:** CANISTER QC BAT**Report Date:** 01/25/11**Air Canister Certification Results**

Lab ID: L1019983-01

Date Collected: 12/14/10 00:00

Client ID: CAN 263 SHELF 2

Date Received: 12/14/10

Sample Location:

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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-Trimethylbenzene	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:** L1019983**Project Number:** CANISTER QC BAT**Report Date:** 01/25/11**Air Canister Certification Results**

Lab ID: L1019983-01

Date Collected: 12/14/10 00:00

Client ID: CAN 263 SHELF 2

Date Received: 12/14/10

Sample Location:

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air (Low Level) - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	107		60-140
Bromochloromethane	94		60-140
chlorobenzene-d5	92		60-140



# **AIR Petro Can Certification**

**Project Name:** BATCH CANISTER CERTIFICATION**Lab Number:** L1019640**Project Number:** CANISTER QC BAT**Report Date:** 01/25/11**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1019640-01  
**Client ID:** CAN 158 SHELF 8  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 12/13/10 13:41  
**Analyst:** BS

**Date Collected:** 12/08/10 00:00  
**Date Received:** 12/08/10  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
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:** BATCH CANISTER CERTIFICATION**Lab Number:** L1019753**Project Number:** CANISTER QC BAT**Report Date:** 01/25/11**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1019753-01  
**Client ID:** CAN 830 SHELF 15  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 12/13/10 21:52  
**Analyst:** BS

**Date Collected:** 12/09/10 00:00  
**Date Received:** 12/09/10  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
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:** BATCH CANISTER CERTIFICATION**Lab Number:** L1019983**Project Number:** CANISTER QC BAT**Report Date:** 01/25/11**AIR CAN CERTIFICATION RESULTS**

**Lab ID:** L1019983-01  
**Client ID:** CAN 263 SHELF 2  
**Sample Location:** Not Specified  
**Matrix:** Air  
**Analytical Method:** 96,APH  
**Analytical Date:** 12/16/10 15:10  
**Analyst:** RY

**Date Collected:** 12/14/10 00:00  
**Date Received:** 12/14/10  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Petroleum Hydrocarbons in Air - Mansfield Lab</b>						
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-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

### 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(*)
L1020553-01A	Canister - 1 Liter	N/A	NA		Y	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1020553-02A	Canister - 1 Liter	N/A	NA		Y	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1020553-03A	Canister - 1 Liter	N/A	NA		Y	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1020553-04A	Canister - 1 Liter	N/A	NA		Y	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1020553-05A	Canister - 2.7 Liter	N/A	NA		Y	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1020553-06A	Canister - 1 Liter	N/A	NA		Y	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1020553-07A	Canister - 1 Liter	N/A	NA		Y	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1020553-08A	Canister - 1 Liter	N/A	NA		Y	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1020553-09A	Canister - 2.7 Liter	N/A	NA		Y	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1020553-10A	Canister - 1 Liter	N/A	NA		Y	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1020553-11A	Canister - 1 Liter	N/A	NA		Y	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1020553-12A	Canister - 1 Liter	N/A	NA		Y	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1020553-13A	Canister - 1 Liter	N/A	NA		Y	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1020553-14A	Canister - 1 Liter	N/A	NA		Y	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1020553-15A	Canister - 1 Liter	N/A	NA		Y	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1020553-16A	Canister - 1 Liter	N/A	NA		Y	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30)
L1020553-17A	Canister - 2.7 Liter	N/A	NA		Y	Present/Intact	APH-10(30),FIXGAS(30),TO15-LL(30),TO15-SIM(30)

\*Values in parentheses indicate holding time in days



**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

## 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-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

*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.

**Project Name:** CUMBERLAND FARMS-SANFORD  
**Project Number:** R101.06074.003

**Lab Number:** L1020553  
**Report Date:** 01/25/11

## 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 2

Date Recd In Lab: \_\_\_\_\_

ALPHA Job #: L1020553

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

**Client Information**

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

Email: phenix@ransomenv.com  
krnath@ransomenv.com

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments:  
Maine DEP Vapor Intrusion Program

**Project Information**

Project Name: Cumberland Farms  
 Project Location: Sanford, ME  
 Project #: 101.06074.003  
 Project Manager: Eril Phenix  
 ALPHA Quote #: \_\_\_\_\_  
 Turn-Around 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 Maine DEP Portland  
40 Fete Emvta, 312 Canal Rd, Maine  
 Regulatory Requirements/Report Limits

**ANALYSIS**

State/Fed	Program	Criteria
<u>ME/DEP</u>	<u>Vapor Intrusion</u>	<u>Guidance</u>

**All Columns Below Must Be Filled Out**

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION				Sample Matrix*	Sampler's Initials	Can Size	I.D. Can	I.D. Flow Controller	Sample Comments (i.e. PID)								
		Date	Start Time	End Time	Vacuum														
20553	SV102	12/24/10	900	907	-27	-5	SV	APR	1	802	46	X	X	X	X	X	X	X	X
	SV103	12/24/10	945	953	-28	-5	SV	APR	1	803	368	X	X	X	X	X	X	X	X
	SV104	12/24/10	1002	1011	-28	-4.78	SV	APR	1	564	182	X	X	X	X	X	X	X	X
	SV105	12/24/10	1139	1146	-28	-5	SV	APR	1	716	75	X	X	X	X	X	X	X	X
	SV201	12/24/10	748	813	-30	-5	SV	APR	2.7	448	441	X	X	X	X	X	X	X	X
	SV202	12/24/10	1109	1113	-23	-5	SV	APR	1	713	467	X	X	X	X	X	X	X	X
	SV203	12/24/10	1158	1209	-27	-5	SV	APR	1	1512	217	X	X	X	X	X	X	X	X
	SV204	12/24/10	1209	1216	-28	-3.9	SV	PME	1	700	209	X	X	X	X	X	X	X	X
	SV205	12/24/10	1026	1056	-30	-5	SV	PME	2.7	336	119	X	X	X	X	X	X	X	X
	SV301	12/24/10	819	827	-30	-5	SV	PME	1	867	480	X	X	X	X	X	X	X	X

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

Relinquished By: \_\_\_\_\_ Date/Time: 12/24/10 9:34

Received By: \_\_\_\_\_ Date/Time: 12/23/10 09:35

Container Type: \_\_\_\_\_

12/23/10 8:50

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.

# AIR ANALYSIS

Date Rec'd in Lab:

ALPHA Job #: L1020553

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

**Client Information**

Client: Ransom Environmental  
 Address: 400 Commercial St.  
Suite 404, Postland, ME 04101  
 Phone: 207-772-2891  
 Fax: 207-772-3248

Email: ephenix@ransomenv.com  
amash@ransomenv.com

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments:  
Make DEP Vapor Infusion Program

**Project Information**

Project Name: Cambeled Farms  
 Project Location: Sanford, ME  
 Project #: 101, 06074, 003  
 Project Manager: Eric Phoenix  
 ALPHA Quote #:  
 Turn-Around Time

**Report Information - Data Deliverables**

FAX  
 XADEX  
 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: Maire DEP  
40 Rte Fenwick, 322 Lane Rd. Maire  
 Regulatory Requirements/Report Limits  
 State/Fed Program Criteria  
ME DEP Vapor  
Infusion Guidance

**All Columns Below Must Be Filled Out**

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION				Sample Matrix*	Sampler's Initials	Can Size	1 D Can	1 D - Flow Controller	ANALYSIS				Sample Comments (i.e. PID)
		Date	Start Time	End Time	Vacuum						Initial Vacuum	Final Vacuum	TO-14A by TO-15	TO-15	
20553 11	SV302	2/22/10	1054	1100	-29	-5	SV	APM	709	477	X	X	X		
12	SV303	2/22/10	1230	1236	-30	-5	SV	APM	819	450	X	X	X		
13	SV304	2/22/10	1236	1245	-30	-4.5	SV	PME	718	353	X	X	X		
14	SV401	2/22/10	841	849	-28.6	-5	SV	PME	735	283	X	X	X		
15	SV402	2/22/10	1037	1047	-30	-5	SV	APM	569	390	X	X	X		
16	SV403	2/22/10	1217	1223	-24	-5	SV	APM	1511	400	X	X	X		
17	MARTINEZ BASEMENT	2/22/10	1101	1125	-28	-4.5	AA	PME	2.7	768	408	X	X	X	

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

Relinquished By: \_\_\_\_\_  
 Date/Time: \_\_\_\_\_

Received By: \_\_\_\_\_  
 Date/Time: \_\_\_\_\_

Container Type: \_\_\_\_\_

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

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

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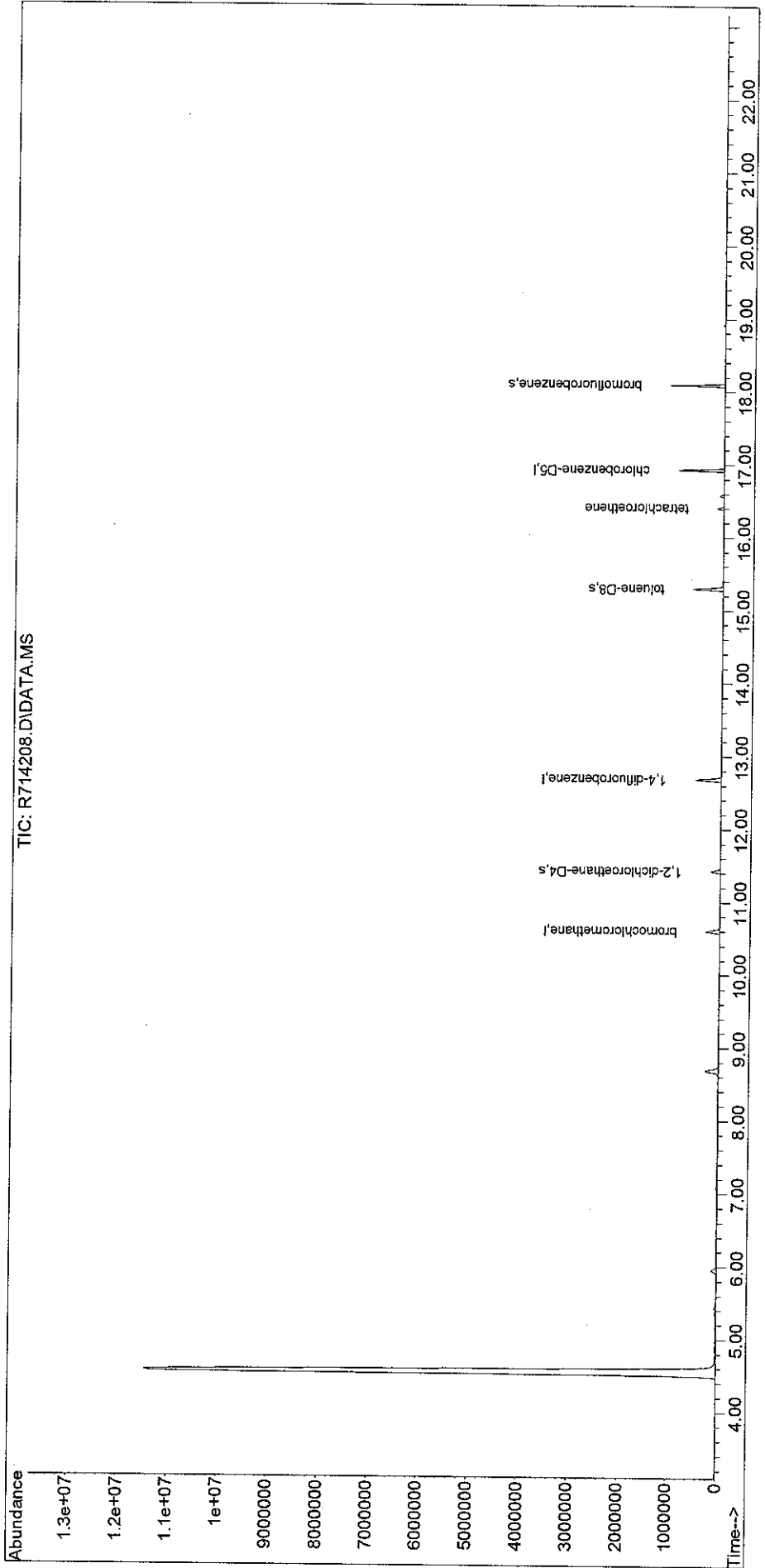
**TO-15**

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

Data Path : O:\Forensics\Data\AirLab7\2011\110103T\  
Data File : R714208.D  
Acq On : 4 Jan 2011 1:49 am  
Operator : AIRLAB7:bs  
Sample : L1020553-01,3,120.098,250  
Misc : WG450120,ICAL5536  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 04 09:58:41 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110103T\TALL101209.M  
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
QLast Update : Fri Dec 10 10:47:23 2010  
Response via : Initial Calibration

TIC: R714208.D\DATA.MS

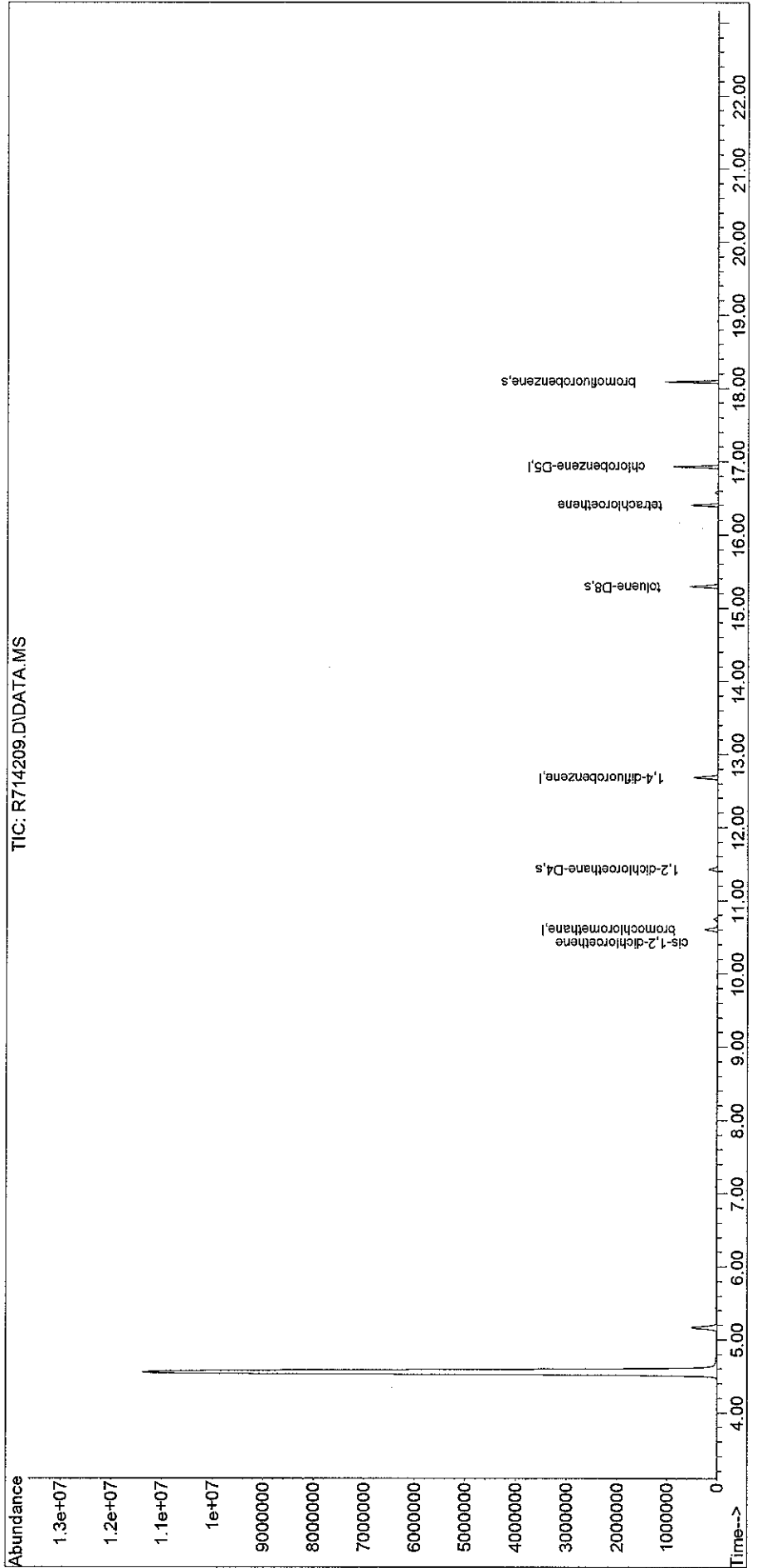




Sub List : 9\_Chlorinateds+EDB - .t (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2011\110103T\  
Data File : R714209.D  
Acq On : 4 Jan 2011 2:25 am  
Operator : AIRLAB7:bs  
Sample : L1020553-02,3,106.6775,250  
Misc : WG450120,ICAL5536  
ALS Vial : 6 Sample Multiplier: 1

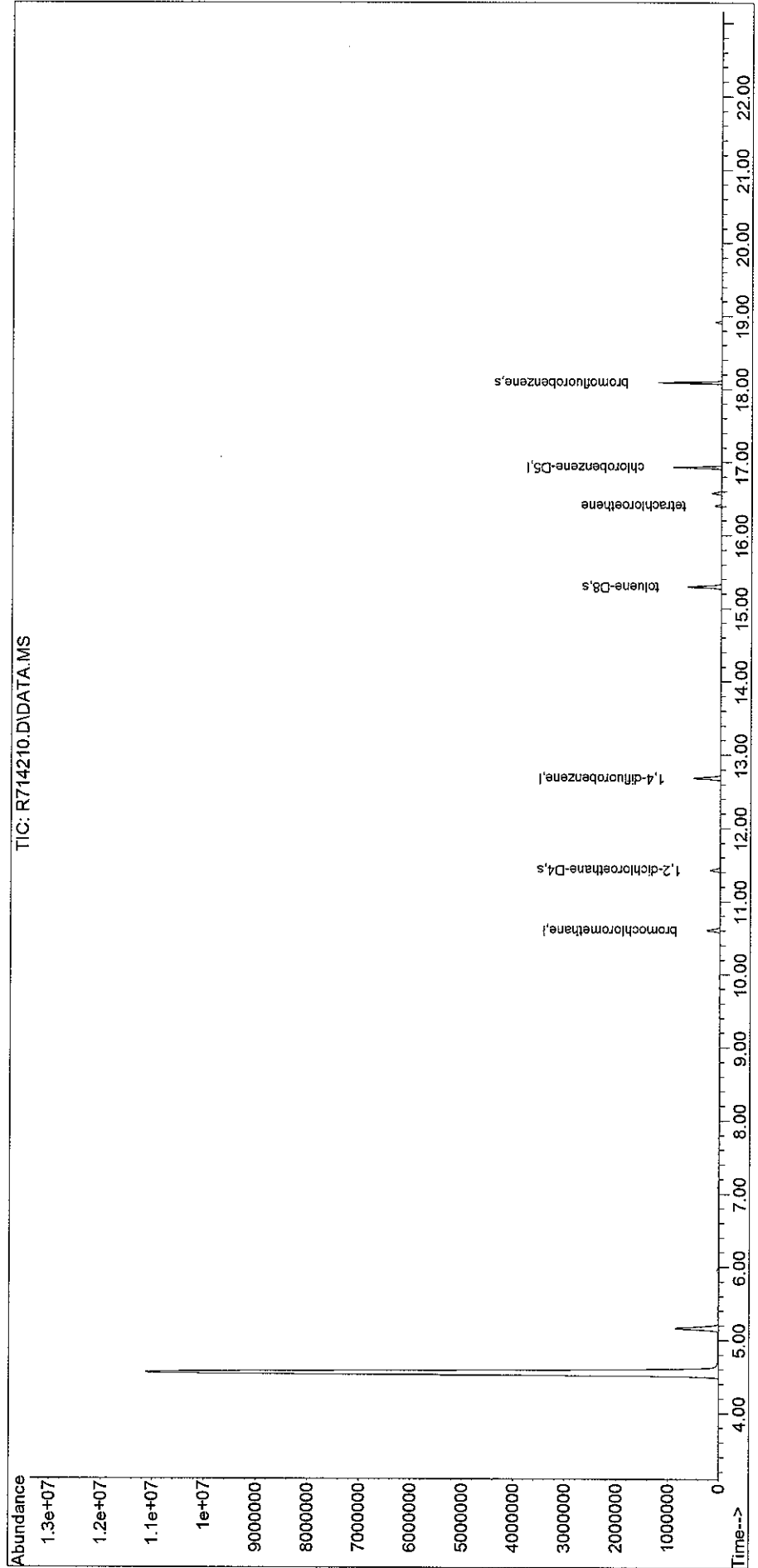
Quant Time: Jan 04 09:58:45 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110103T\TALL101209.M  
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
QLast Update : Fri Dec 10 10:47:23 2010  
Response via : Initial Calibration



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

Data Path : O:\Forensics\Data\AirLab7\2011\110103T\  
Data File : R714210.D  
Acq On : 4 Jan 2011 3:01 am  
Operator : AIRLAB7:bs  
Sample : L1020553-03,3,102.9412,250  
Misc : WG450120,ICAL5536  
ALS Vial : 7 Sample Multiplier: 1

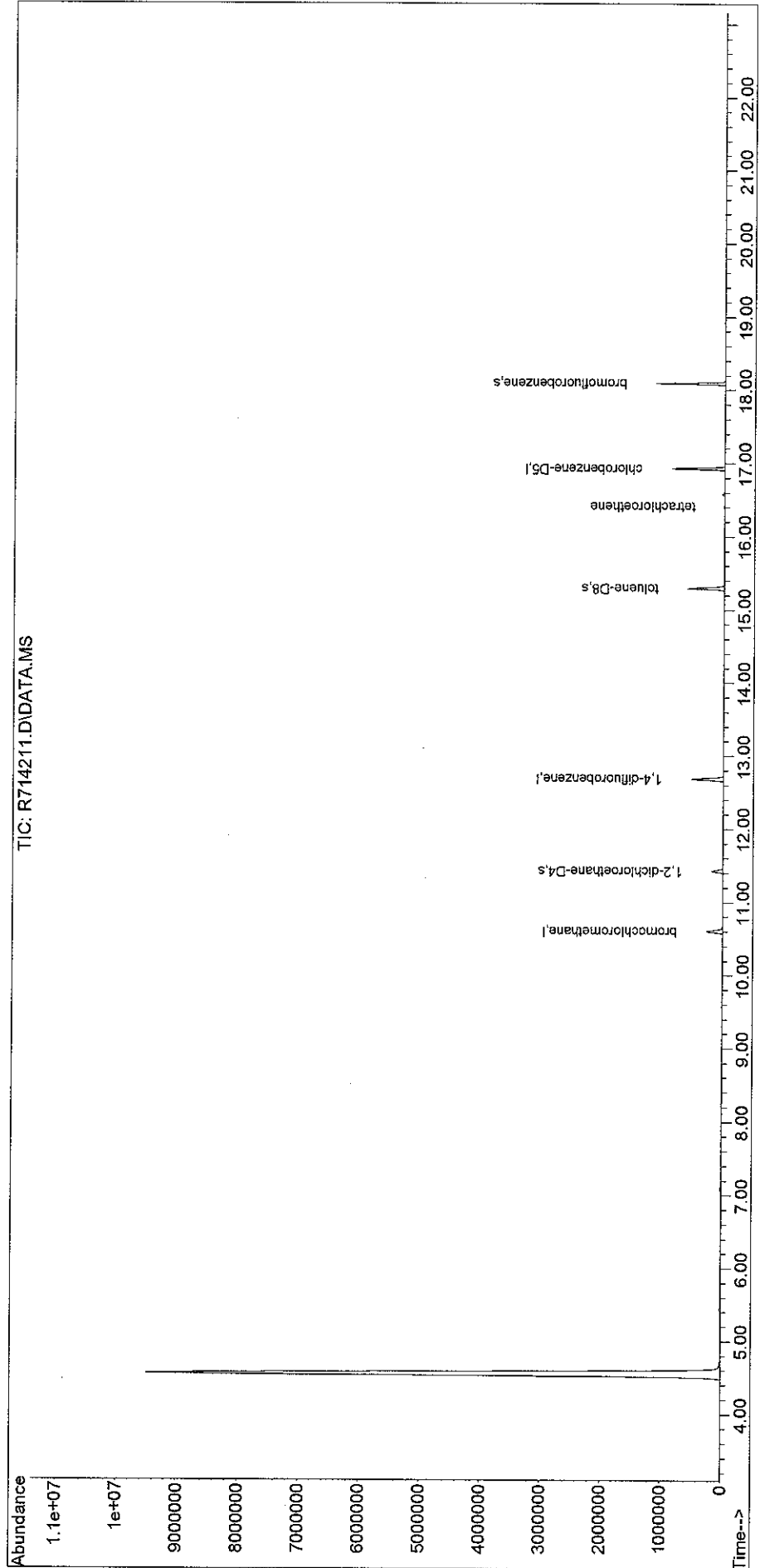
Quant Time: Jan 04 09:58:49 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110103T\TALL101209.M  
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
QLast Update : Fri Dec 10 10:47:23 2010  
Response via : Initial Calibration



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

Data Path : O:\Forensics\Data\Airlab7\2011\110103T\  
Data File : R714211.D  
Acq On : 4 Jan 2011 3:36 am  
Operator : AIRLAB7:bs  
Sample : L1020553-04,3,104.7078,250  
Misc : WG450120,ICAL5536  
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 04 09:58:53 2011  
Quant Method : O:\Forensics\Data\Airlab7\2011\110103T\TALL101209.M  
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
QLast Update : Fri Dec 10 10:47:23 2010  
Response via : Initial Calibration

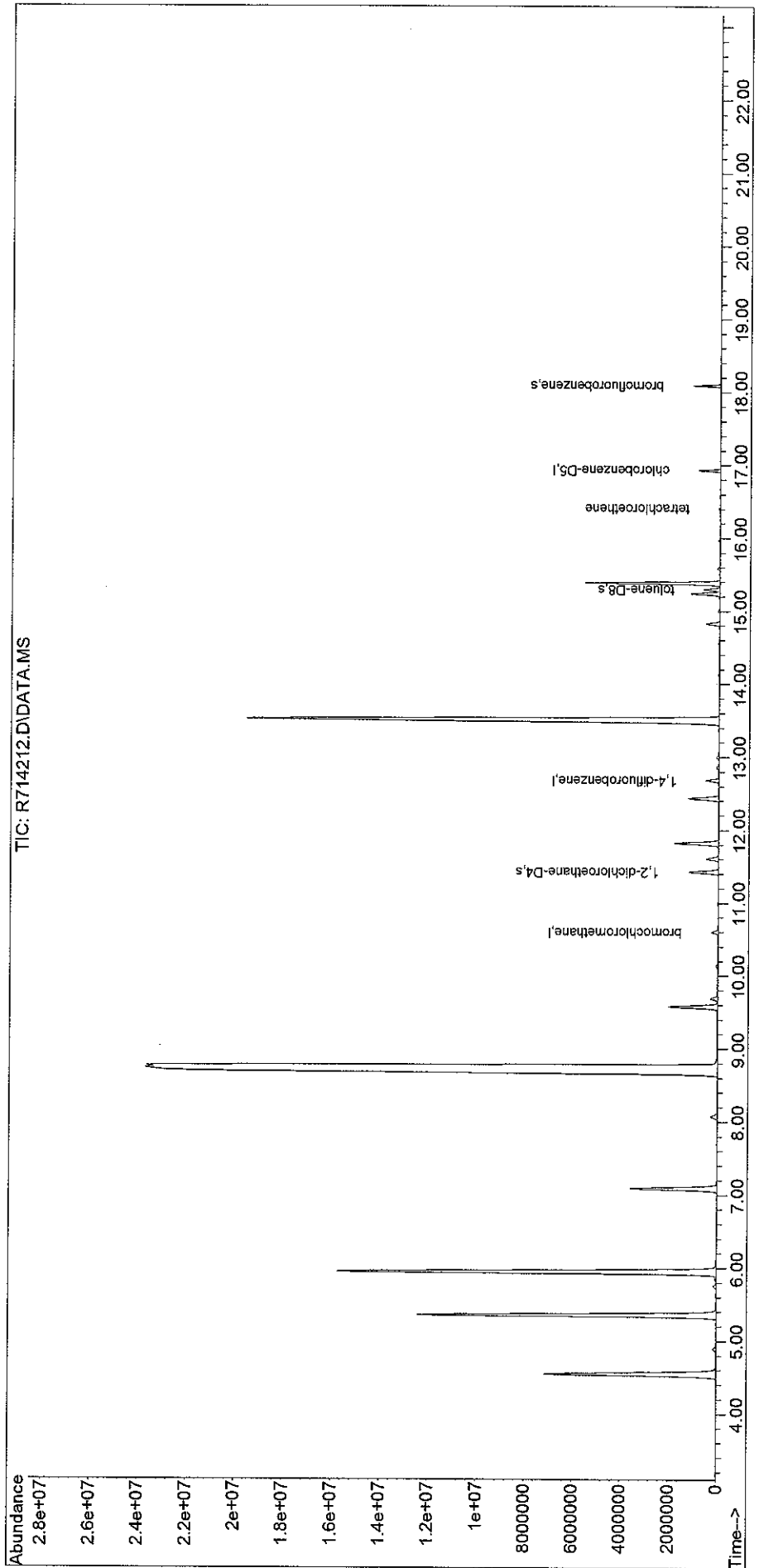


Sub List : 9\_Chlorinateds+EDB - .t (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2011\110103T\  
Data File : R714212.D  
Acq On : 4 Jan 2011 4:11 am  
Operator : AIRLAB7:bs  
Sample : L1020553-05,3,25,250  
Misc : WG450120,ICAL5536  
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jan 04 10:02:14 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110103T\TALL101209.M  
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
QLast Update : Fri Dec 10 10:47:23 2010  
Response via : Initial Calibration

TIC: R714212.D\DATA.MS

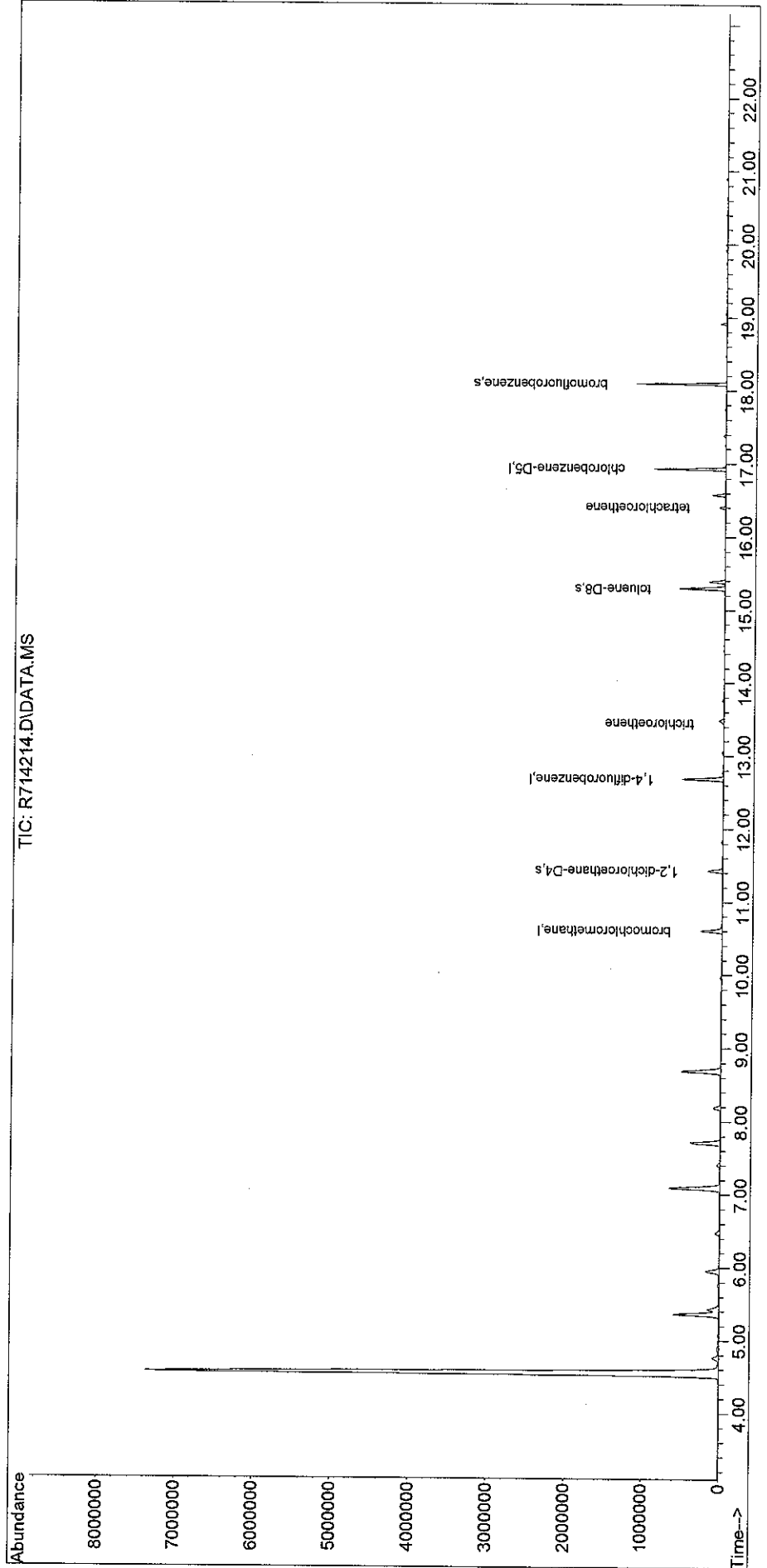


Sub List : 9\_Chlorinateds+EDB - .t (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2011\110103T\  
Data File : R714214.D  
Acq On : 4 Jan 2011 5:21 am  
Operator : AIRLAB7:bs  
Sample : L1020553-06,3,116.3934,250  
Misc : WG450120,ICAL5536  
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 04 09:59:05 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110103T\TALL101209.M  
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
QLast Update : Fri Dec 10 10:47:23 2010  
Response via : Initial Calibration

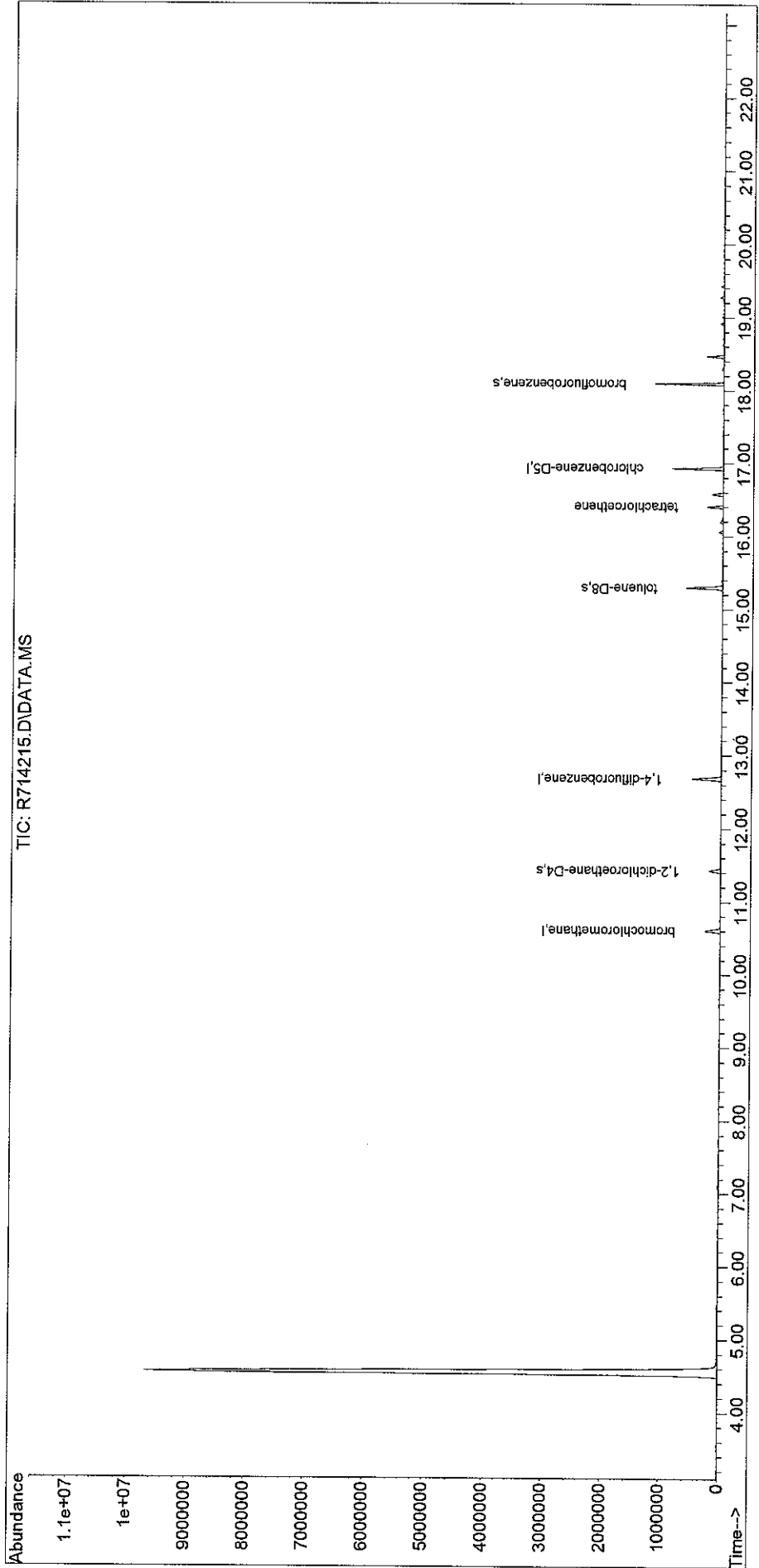
TIC: R714214.D\DATA.MS



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

Data Path : O:\Forensics\Data\Airlab7\2011\110103T\  
Data File : R714215.D  
Acq On : 4 Jan 2011 5:57 am  
Operator : AIRLAB7:bs  
Sample : L1020553-07,3,104.2345,250  
Misc : WG450120,ICAL5536  
ALS Vial : 11 Sample Multiplier: 1

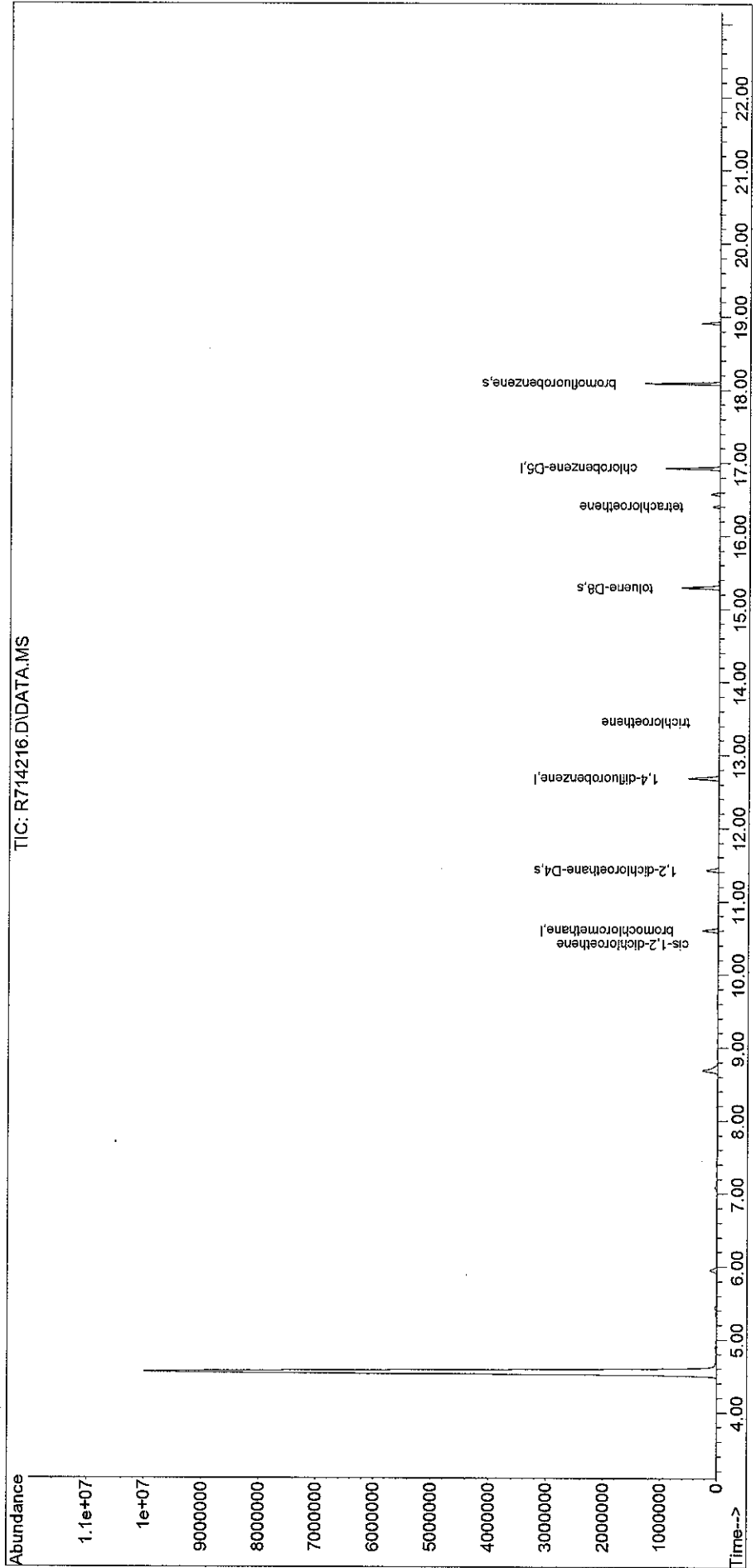
Quant Time: Jan 04 09:59:09 2011  
Quant Method : O:\Forensics\Data\Airlab7\2011\110103T\TALL101209.M  
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
QLast Update : Fri Dec 10 10:47:23 2010  
Response via : Initial Calibration



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

Data Path : O:\Forensics\Data\Airlab7\2011\110103T\  
Data File : R714216.D  
Acq On : 4 Jan 2011 6:32 am  
Operator : AIRLAB7:bs  
Sample : L1020553-08,3,117.6471,250  
Misc : WG450120,ICAL5536  
ALS Vial : 12 Sample Multiplier: 1

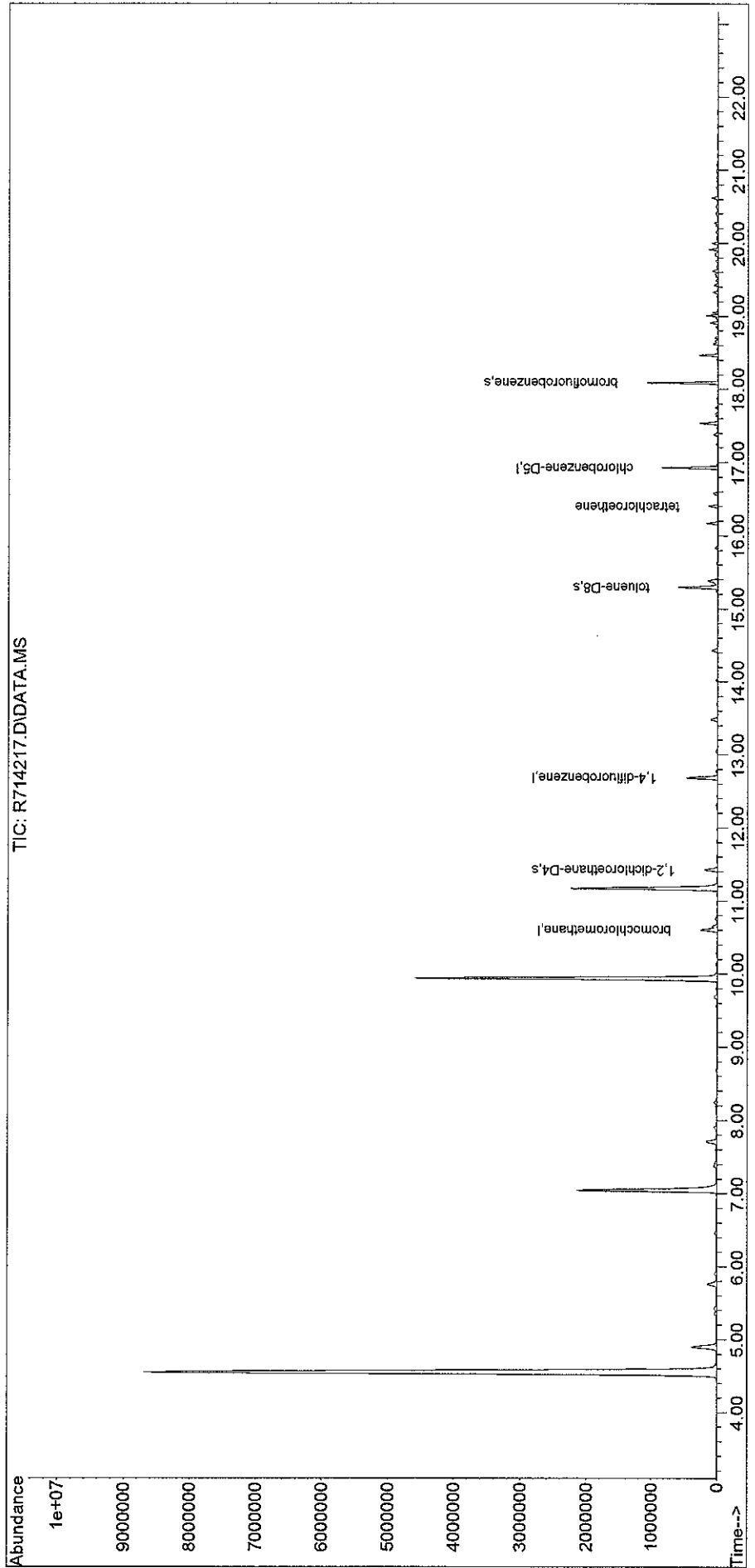
Quant Time: Jan 04 09:59:15 2011  
Quant Method : O:\Forensics\Data\Airlab7\2011\110103T\TALL101209.M  
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
QLast Update : Fri Dec 10 10:47:23 2010  
Response via : Initial Calibration



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

Data Path : O:\Forensics\Data\AirLab7\2011\110103T\  
Data File : R714217.D  
Acq On : 4 Jan 2011 7:07 am  
Operator : AIRLAB7:bs  
Sample : L1020553-09,3,125,250  
Misc : WG450120,ICAL5536  
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 04 09:59:20 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110103T\TALL101209.M  
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
QLast Update : Fri Dec 10 10:47:23 2010  
Response via : Initial Calibration

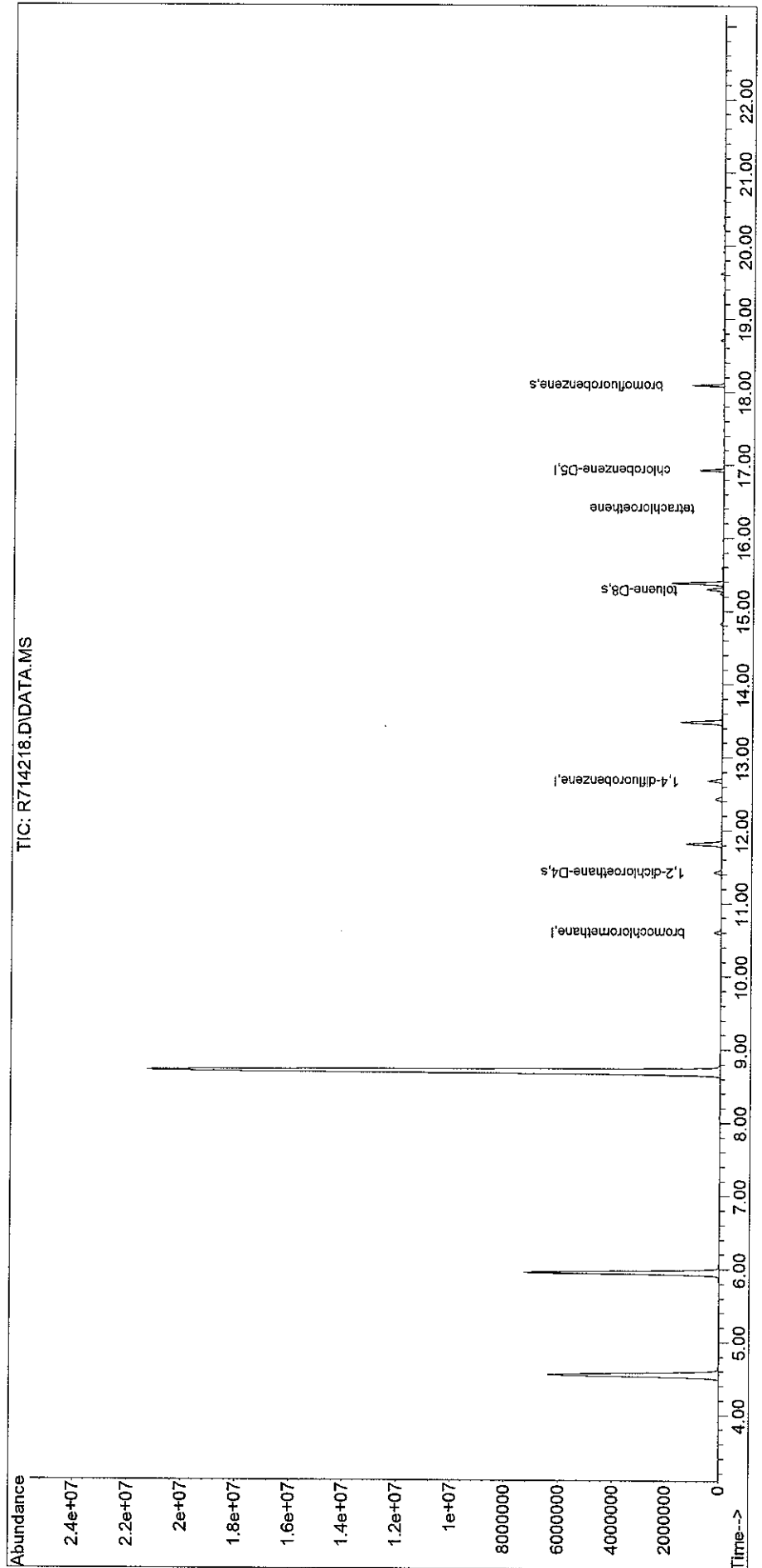




Sub List : 9\_Chlorinateds+EDB - .t (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2011\110103T\  
Data File : R714218.D  
Acq On : 4 Jan 2011 7:42 am  
Operator : AIRLAB7:bs  
Sample : L1020553-10,3,20.7516,250  
Misc : WG450120,ICAL5536  
ALS Vial : 14 Sample Multiplier: 1

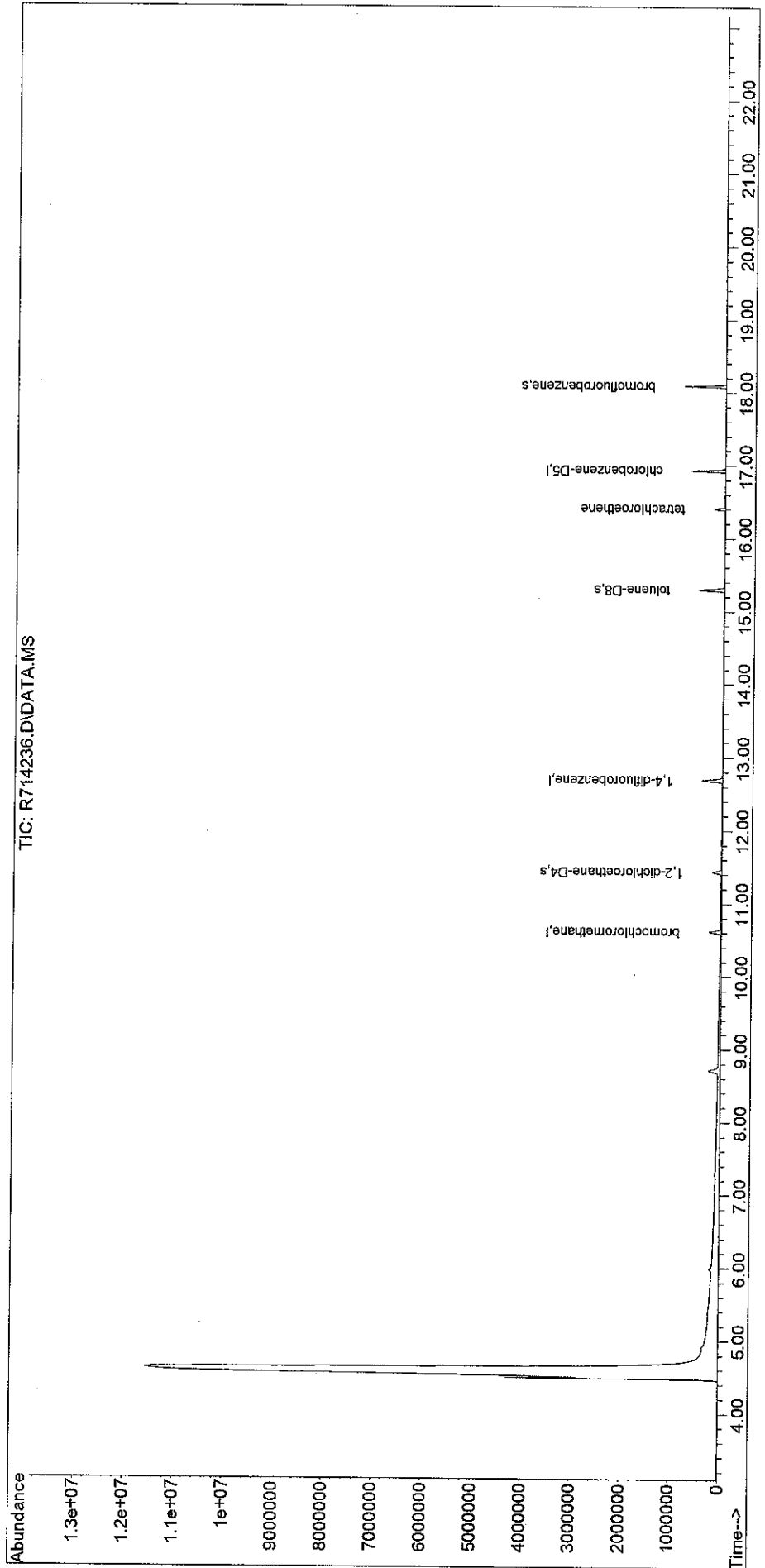
Quant Time: Jan 04 09:59:24 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110103T\TALL101209.M  
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
QLast Update : Fri Dec 10 10:47:23 2010  
Response via : Initial Calibration



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

Data Path : O:\Forensics\Data\AirLab7\2011\110104T\  
Data File : R714236.D  
Acq On : 4 Jan 2011 10:00 pm  
Operator : AIRLAB7:bs  
Sample : L1020553-11D,3,97.2222,250  
Misc : WG450262,ICAL5536  
ALS Vial : 7 Sample Multiplier: 1

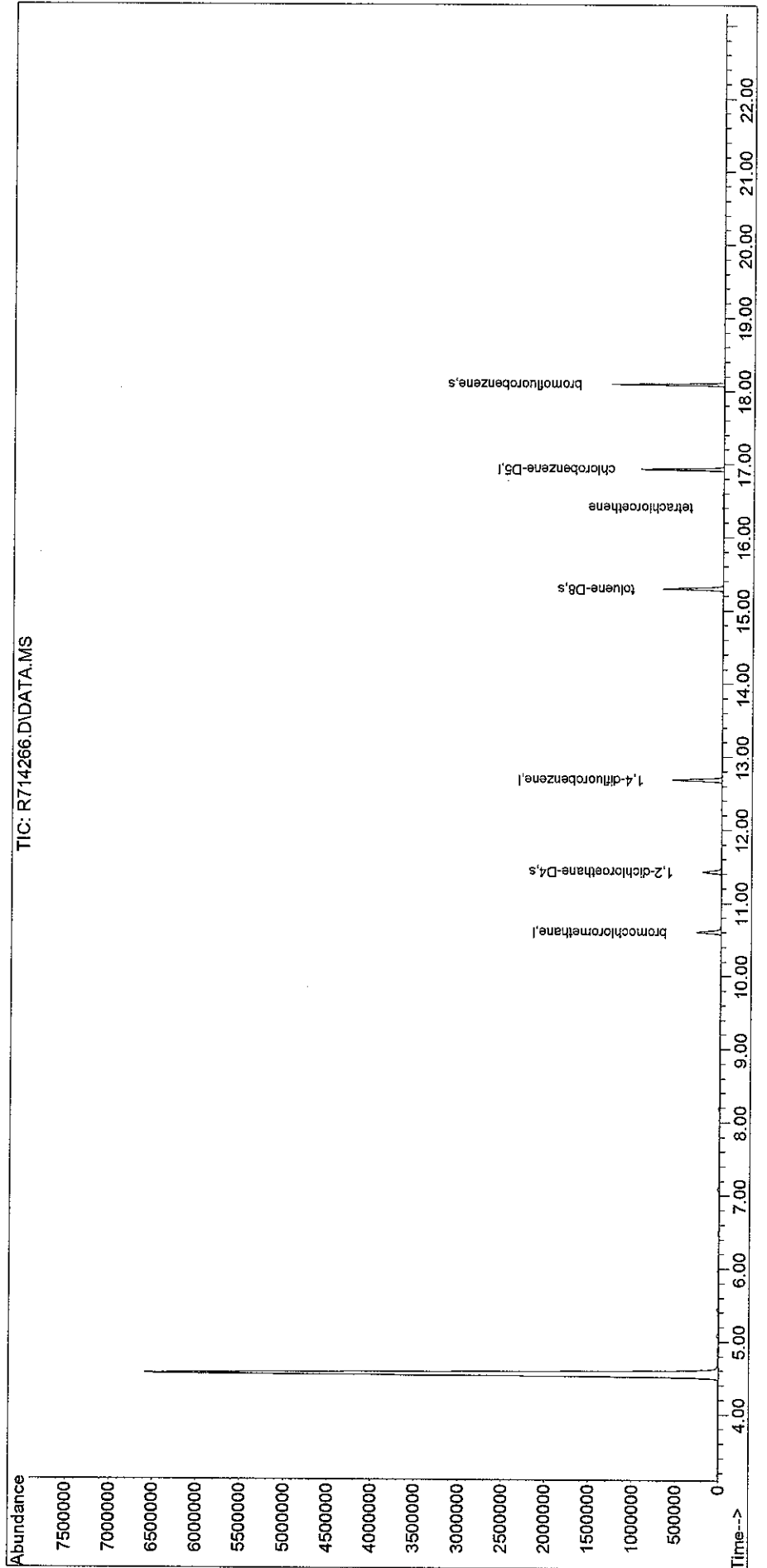
Quant Time: Jan 05 10:21:48 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110104T\TALL101209.M  
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
QLast Update : Fri Dec 10 10:47:23 2010  
Response via : Initial Calibration



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

Data Path : O:\Forensics\Data\Airlab7\2011\110105T\  
Data File : R714266.D  
Acq On : 6 Jan 2011 3:02 am  
Operator : AIRLAB7:RY  
Sample : L1020553-12D,3,5.8512,250  
Misc : WG450419,ICAL5536  
ALS Vial : 1 Sample Multiplier: 1

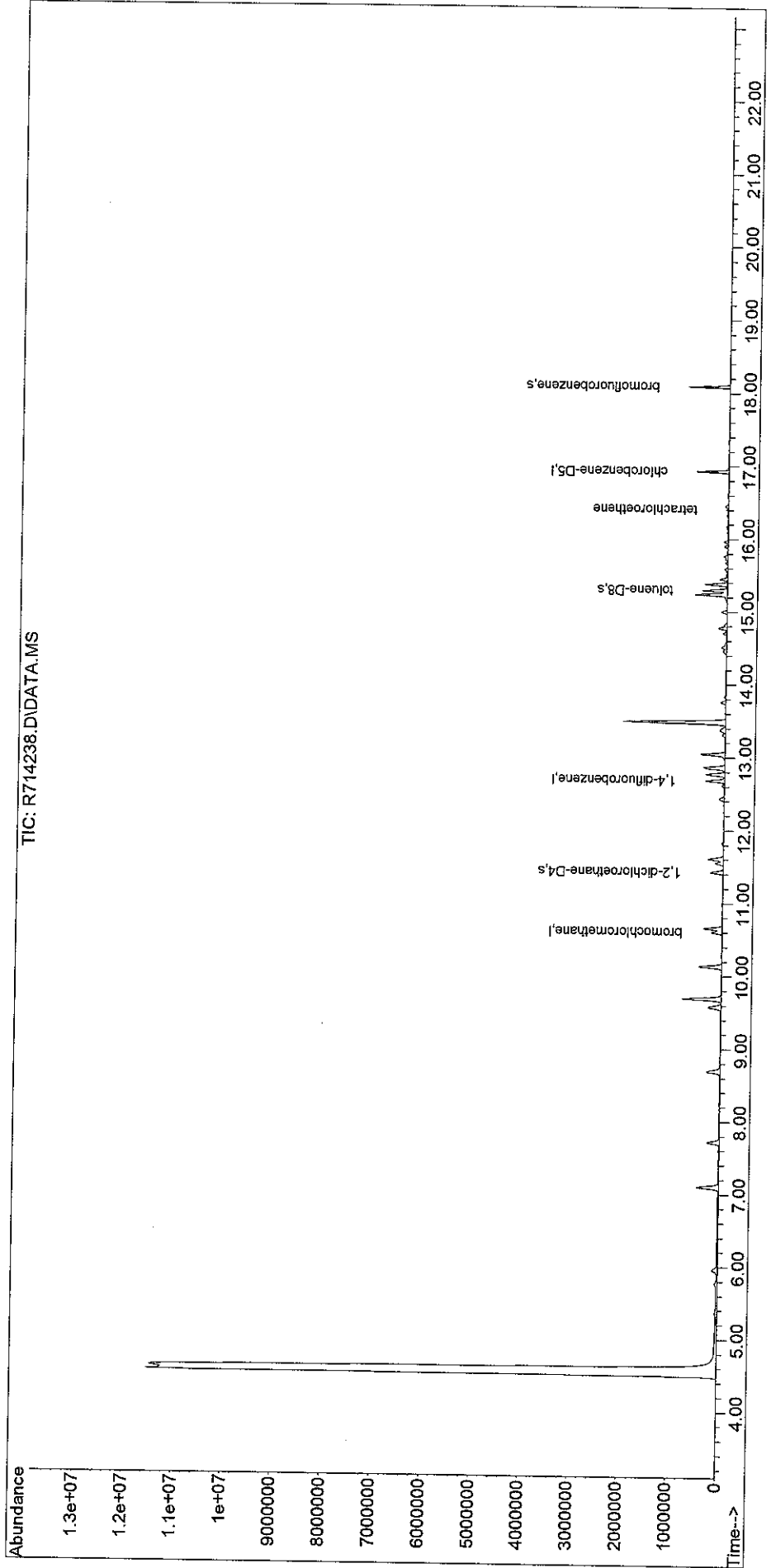
Quant Time: Jan 06 10:12:42 2011  
Quant Method : O:\Forensics\Data\Airlab7\2011\110105T\TALL101209.M  
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
QLast Update : Fri Dec 10 10:47:23 2010  
Response via : Initial Calibration



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

Data Path : O:\Forensics\Data\AirLab7\2011\110104T\  
Data File : R714238.D  
Acq On : 4 Jan 2011 11:04 pm  
Operator : AIRLAB7:bs  
Sample : L1020553-13D,3,21.3115,250  
Misc : WG450262,ICAL5536  
ALS Vial : 9 Sample Multiplier: 1

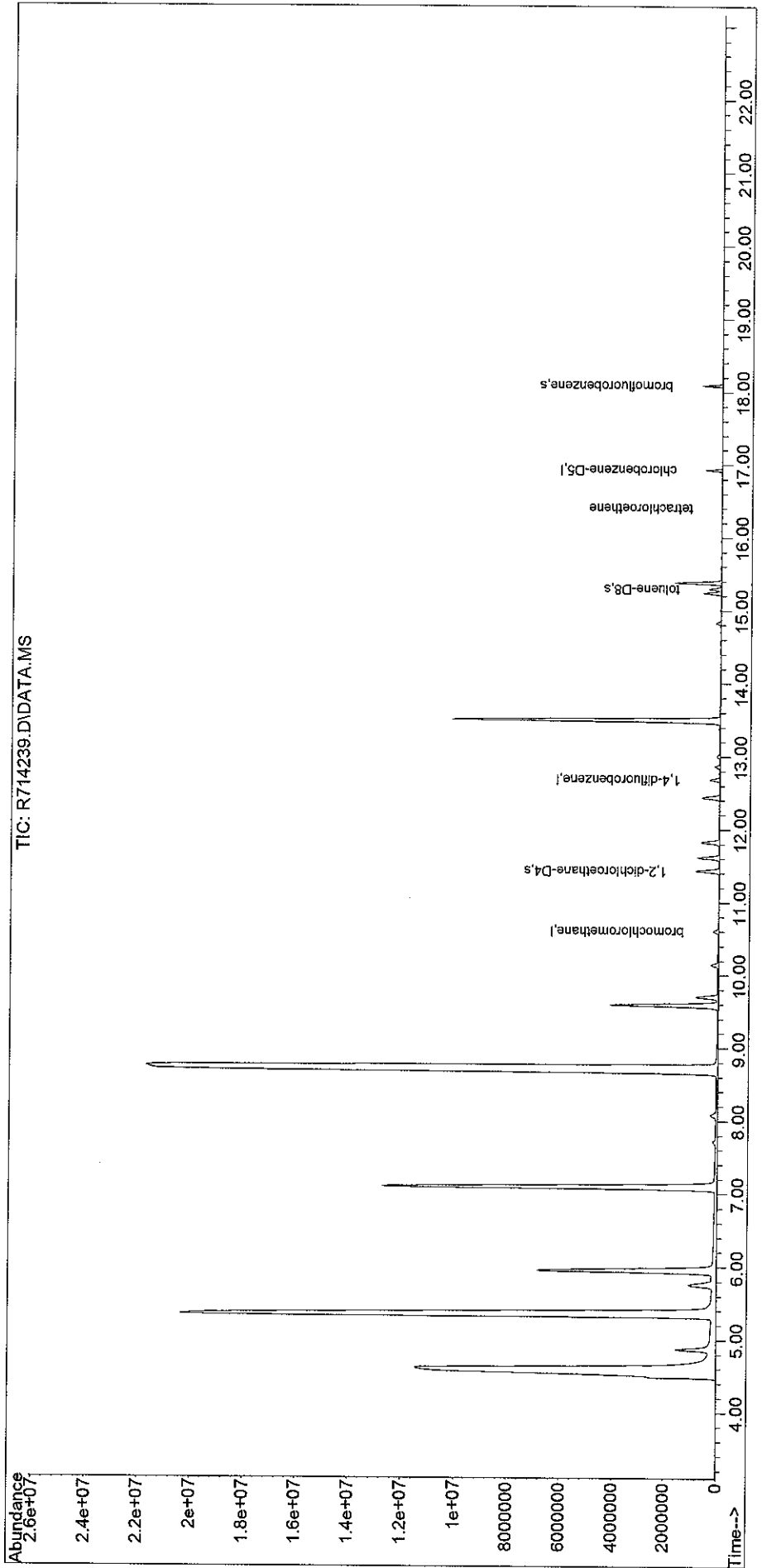
Quant Time: Jan 05 10:21:58 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110104T\TALL101209.M  
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
QLast Update : Fri Dec 10 10:47:23 2010  
Response via : Initial Calibration



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

Data Path : O:\Forensics\Data\AirLab7\2011\110104T\  
Data File : R714239.D  
Acq On : 4 Jan 2011 11:36 pm  
Operator : AIRLAB7:bs  
Sample : L1020553-14D,3,12.0492,250  
Misc : WG450262,ICAL5536  
ALS Vial : 10 Sample Multiplier: 1

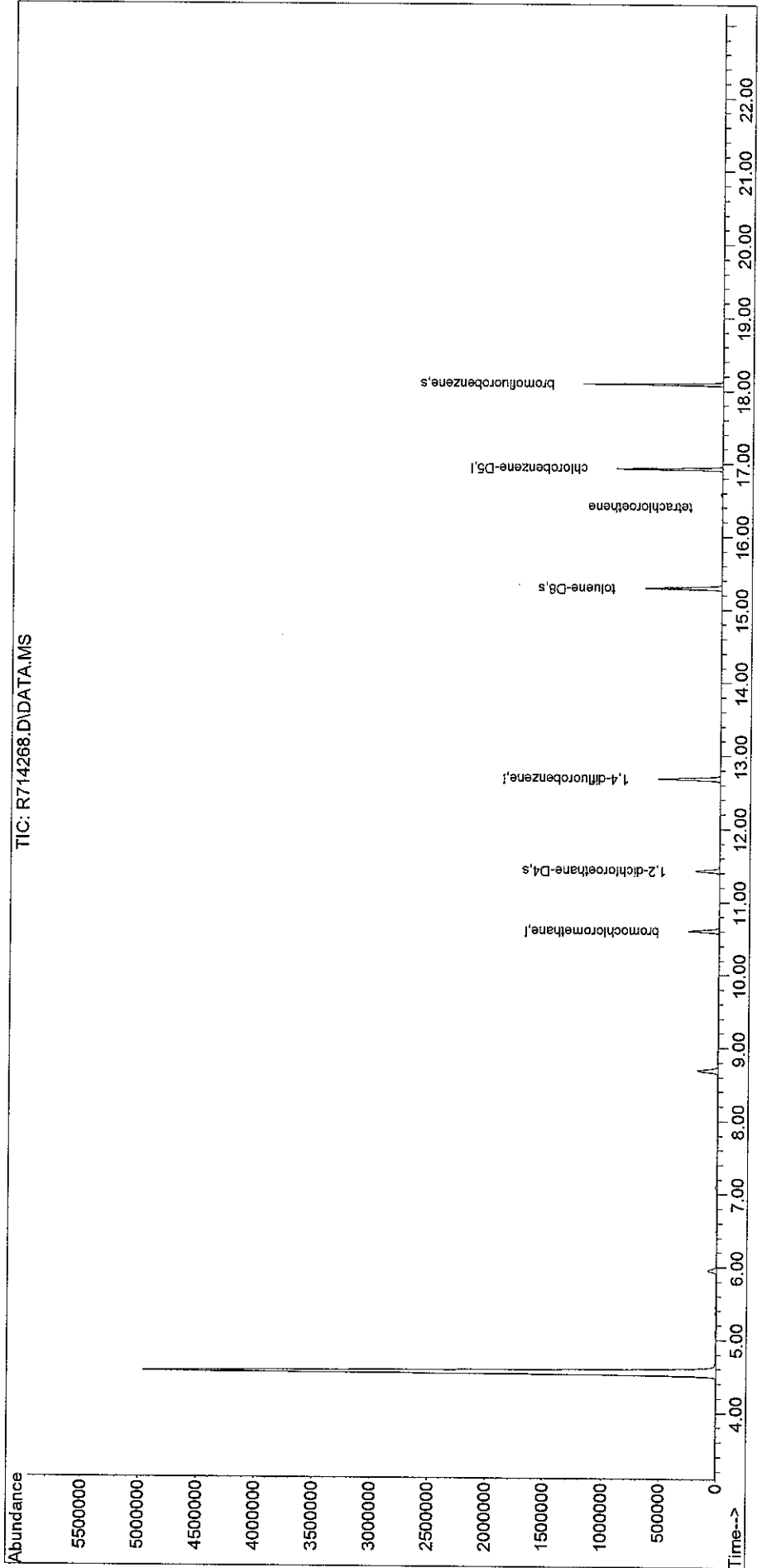
Quant Time: Jan 05 10:47:27 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110104T\TALL101209.M  
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
QLast Update : Fri Dec 10 10:47:23 2010  
Response via : Initial Calibration



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

Data Path : O:\Forensics\Data\Airlab7\2011\110105T\  
Data File : R714268.D  
Acq On : 6 Jan 2011 4:12 am  
Operator : AIRLAB7:RY  
Sample : L1020553-15D,3,10.9836,250  
Misc : WG450419,ICAL5536  
ALS Vial : 3 Sample Multiplier: 1

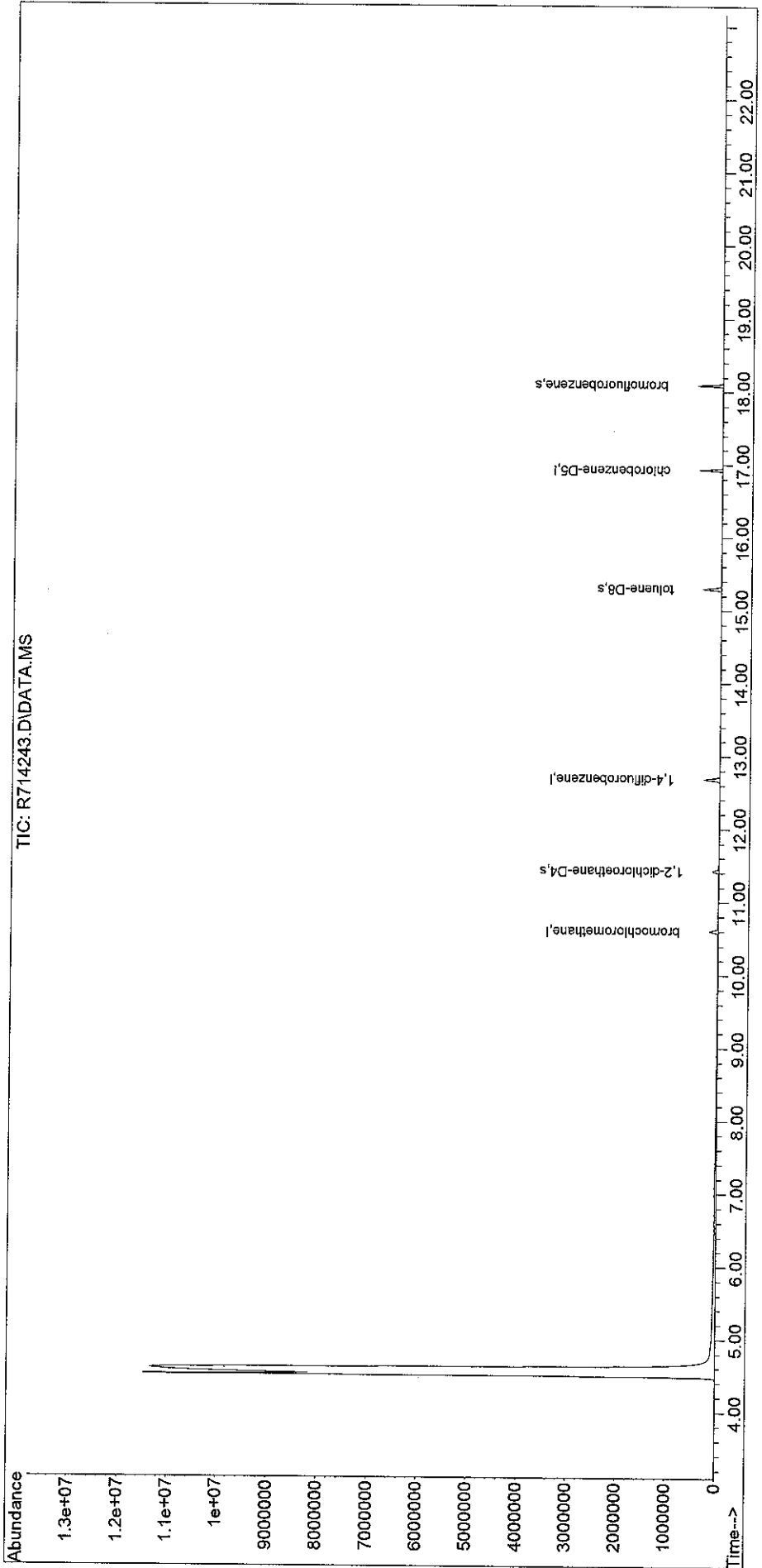
Quant Time: Jan 06 10:12:47 2011  
Quant Method : O:\Forensics\Data\Airlab7\2011\110105T\TALL101209.M  
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
Quant Update : Fri Dec 10 10:47:23 2010  
Response via : Initial Calibration



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

Data Path : O:\Forensics\Data\AirLab7\2011\110104T\  
Data File : R714243.D  
Acq On : 5 Jan 2011 10:17 am  
Operator : AIRLAB7:bs  
Sample : L1020553-16D,3,11.80782,250  
Misc : WG450262,ICAL5536  
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 05 10:47:50 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110104T\TALL101209.M  
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
QLast Update : Fri Dec 10 10:47:23 2010  
Response via : Initial Calibration

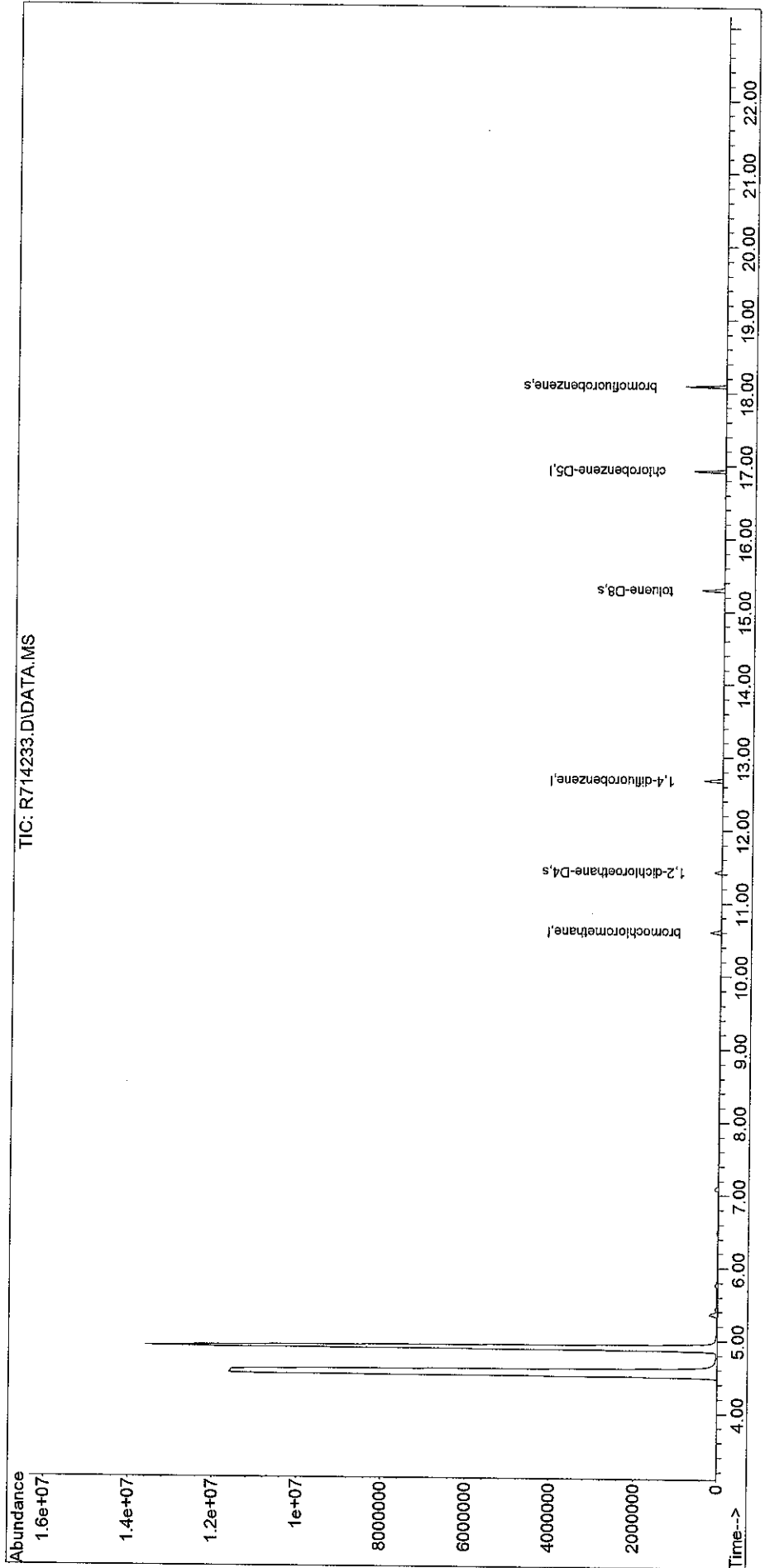


Sub List : 9\_Chlorinateds+EDB - .t (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2011\110104T\  
Data File : R714233.D  
Acq On : 4 Jan 2011 8:17 pm  
Operator : AIRLAB7:bs  
Sample : L1020553-17,3,250,250  
Misc : WG450262,ICAL5536  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 05 10:21:43 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110104T\TALL101209.M  
Quant Title : TO-14A/TO-15 SIM/Full Scan Analysis  
Qlast Update : Fri Dec 10 10:47:23 2010  
Response via : Initial Calibration

TIC: R714233.D\DATA.MS





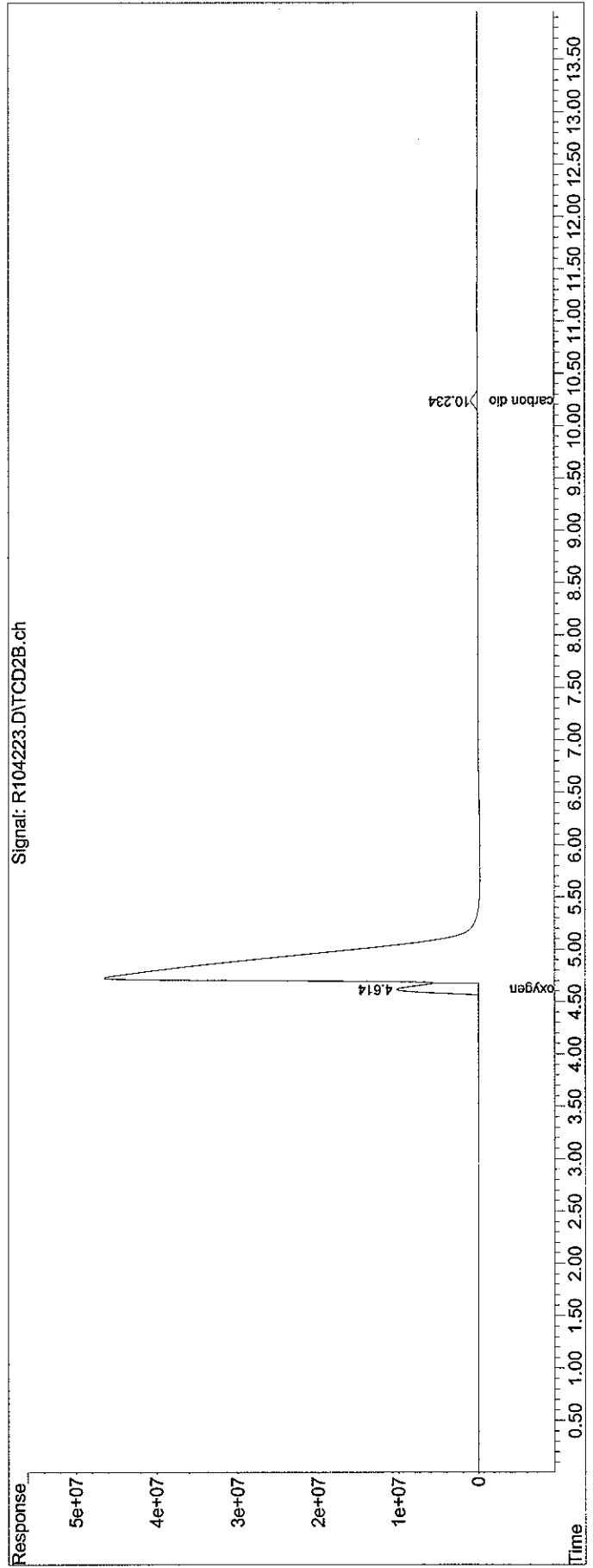
# Fixed Gases

Sub List : CO2,O2,CH4 - .report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\110105FG\  
Data File : R104223.D  
Signal(s) : TCD2B.ch  
Acq On : 5 Jan 2011 7:28 pm  
Operator : airlab10:RY  
Sample : L1020553-01D,4,0.4804,1  
Misc : WG450420,ICAL5222  
ALS Vial : 1 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Jan 06 10:21:02 2011  
Quant Method : O:\Forensics\Data\airlab10\110105FG\FG100730.M  
Quant Title : Fixed Gas Analysis via Method 3C  
QLast Update : Sat Oct 30 10:36:20 2010  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :

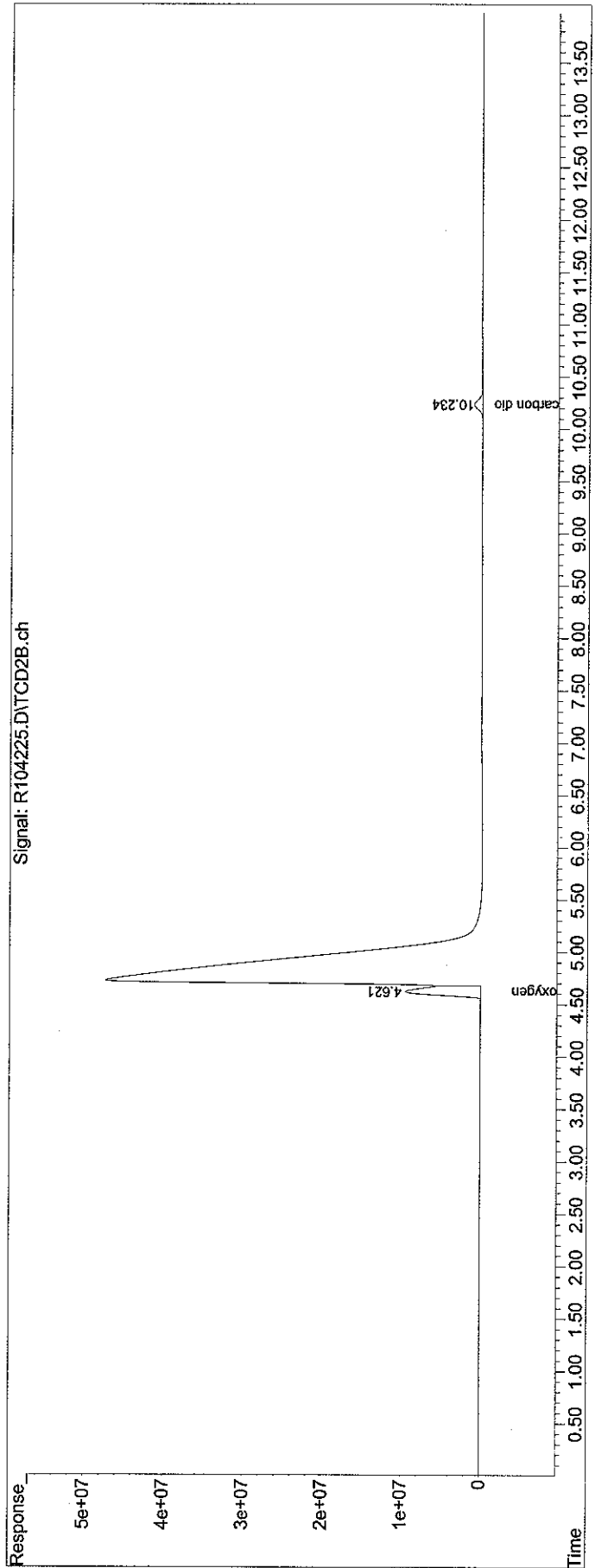


Sub List : CO2,O2,CH4 - .report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\110105FG\  
Data File : R104225.D  
Signal(s) : TCD2B.ch  
Acq On : 5 Jan 2011 8:08 pm  
Operator : airlab10:RY  
Sample : L1020553-02D,4,0.4267,1  
Misc : WG450420,ICAL5222  
ALS Vial : 3 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Jan 06 10:22:28 2011  
Quant Method : O:\Forensics\Data\airlab10\110105FG\FG100730.M  
Quant Title : Fixed Gas Analysis via Method 3C  
Quant Update : Sat Oct 30 10:36:20 2010  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :

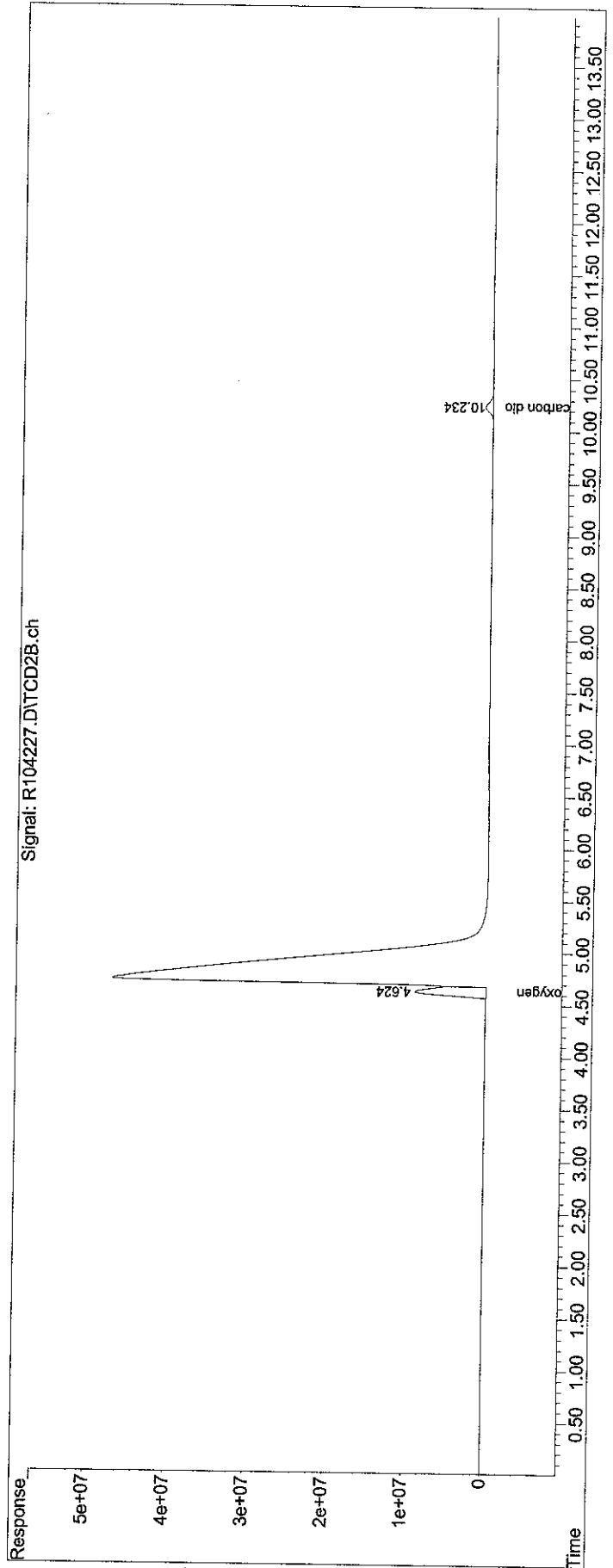


Sub List : CO2,O2,CH4 - .report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\110105FG\  
Data File : R104227.D  
Signal(s) : TCD2B.ch  
Acq On : 5 Jan 2011 8:47 pm  
Operator : airlab10:RY  
Sample : L1020553-03D,4,0.4118,1  
Misc : WG450420,ICAL5222  
ALS Vial : 4 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Jan 06 10:23:41 2011  
Quant Method : O:\Forensics\Data\airlab10\110105FG\FG100730.M  
Quant Title : Fixed Gas Analysis via Method 3C  
Quant Update : Sat Oct 30 10:36:20 2010  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :

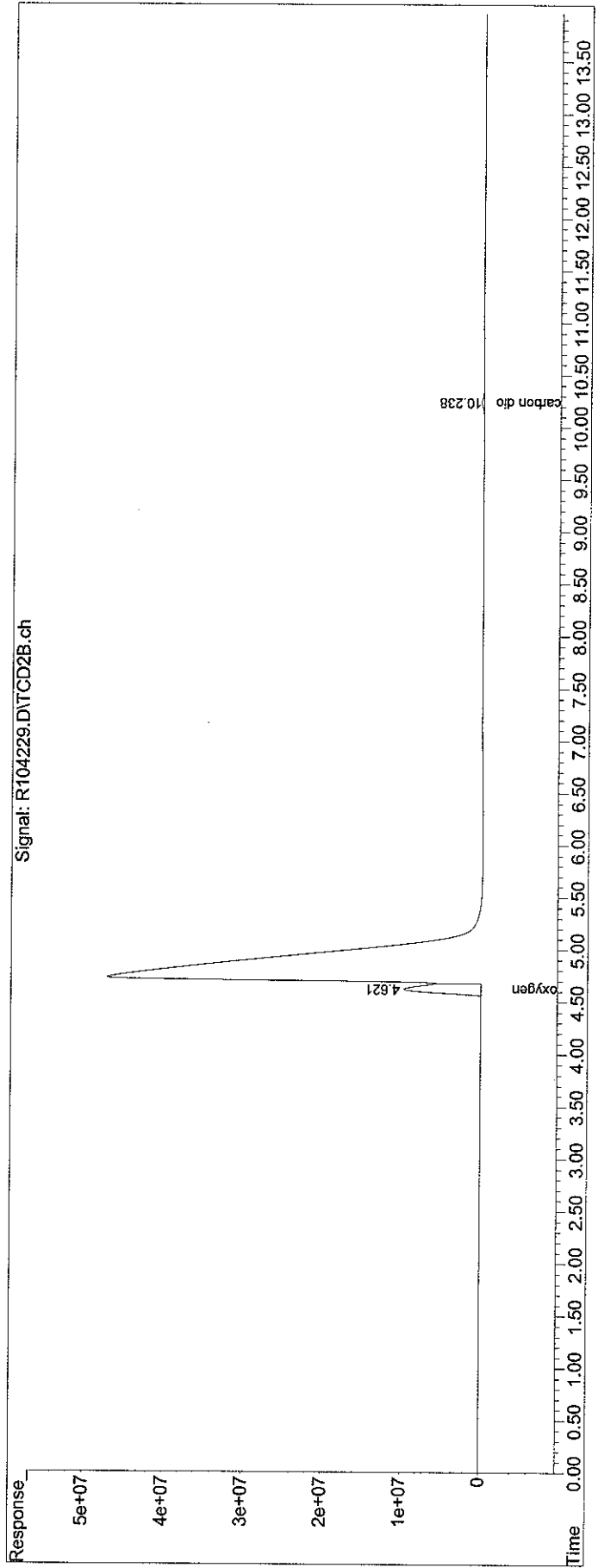


Sub List : CO2,O2,CH4 - .report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\110105FG\  
Data File : R104229.D  
Signal(s) : TCD2B.ch  
Acq On : 5 Jan 2011 9:27 pm  
Operator : airlab10:RY  
Sample : L1020553-04D,4,0.4188,1  
Misc : WG450420,ICAL5222  
ALS Vial : 6 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Jan 06 10:24:56 2011  
Quant Method : O:\Forensics\Data\airlab10\110105FG\FG100730.M  
Quant Title : Fixed Gas Analysis via Method 3C  
QLast Update : Sat Oct 30 10:36:20 2010  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :

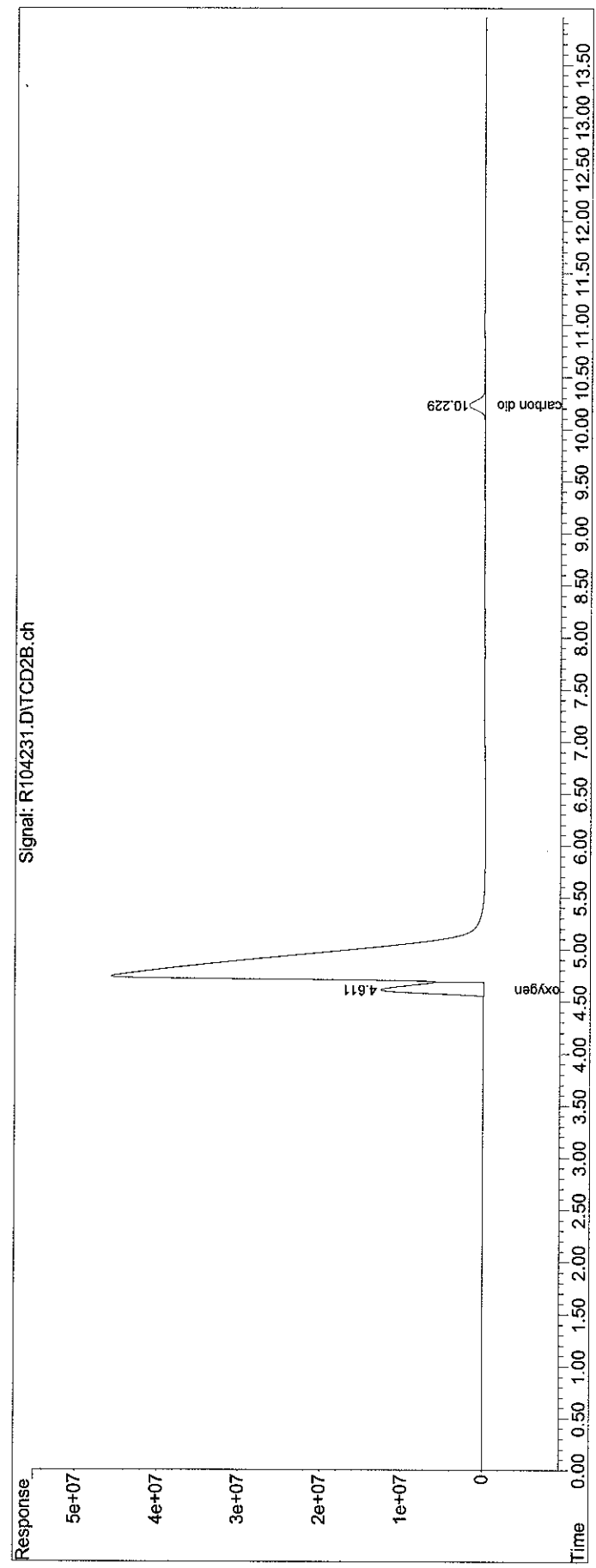


Sub List : CO2,O2,CH4 - .report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\110105FG\  
Data File : R104231.D  
Signal(s) : TCD2B.ch  
Acq On : 5 Jan 2011 10:06 pm  
Operator : airlab10:RY  
Sample : L1020553-05D,4,0.6931,1  
Misc : WG450420,ICAL5222  
ALS Vial : 7 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Jan 06 10:26:09 2011  
Quant Method : O:\Forensics\Data\airlab10\110105FG\FG100730.M  
Quant Title : Fixed Gas Analysis via Method 3C  
QLast Update : Sat Oct 30 10:36:20 2010  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :

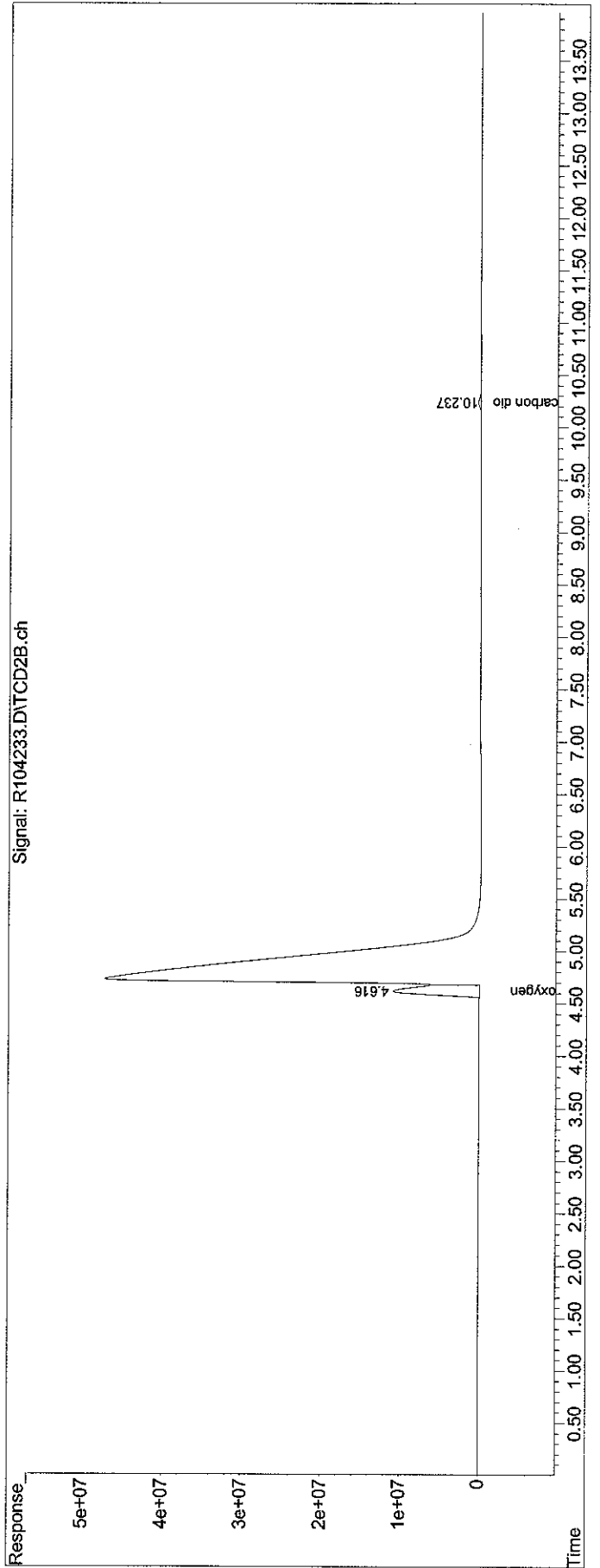


Sub List : CO2,O2,CH4 - .report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\110105FG\  
Data File : R104233.D  
Signal(s) : TCD2B.ch  
Acq On : 5 Jan 2011 10:46 pm  
Operator : airlab10:RY  
Sample : L1020553-06D,4,0.4656,1  
Misc : WG450420,ICAL5222  
ALS Vial : 9 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Jan 06 10:27:23 2011  
Quant Method : O:\Forensics\Data\airlab10\110105FG\FG100730.M  
Quant Title : Fixed Gas Analysis via Method 3C  
QLast Update : Sat Oct 30 10:36:20 2010  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :

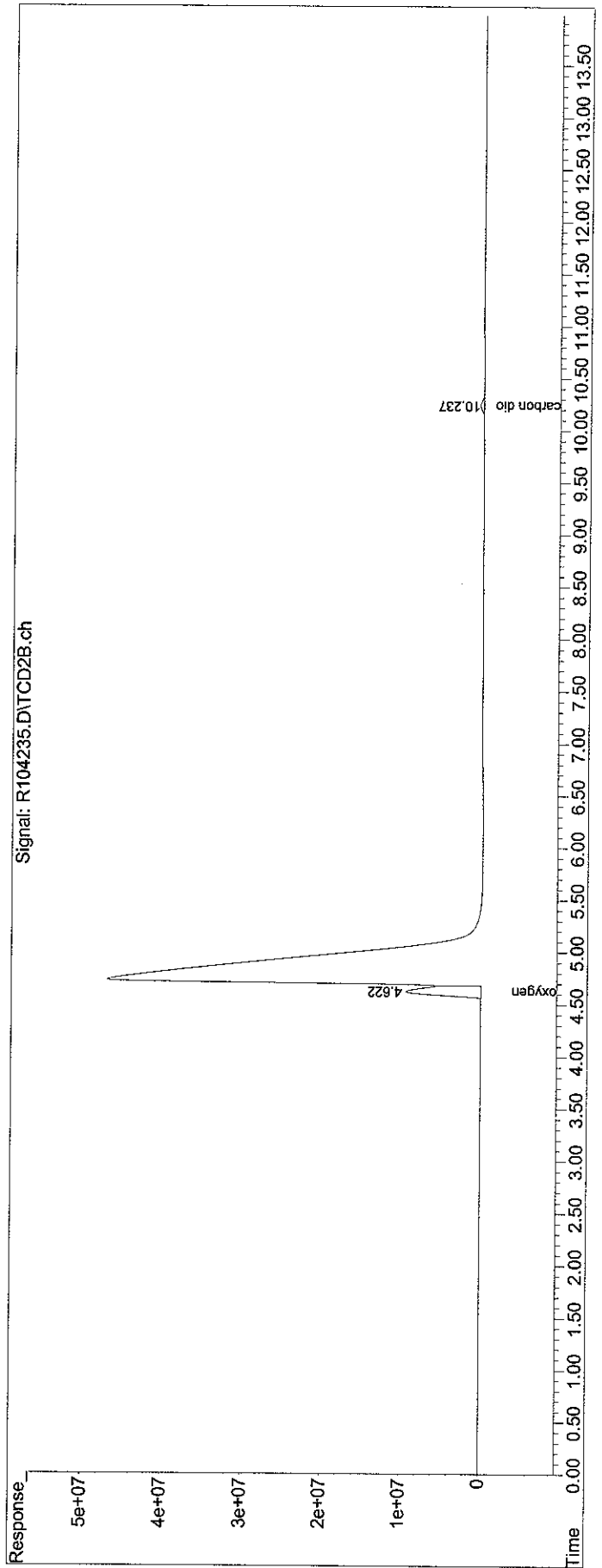


Sub List : CO2,O2,CH4 - .report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\110105FG\  
Data File : R104235.D  
Signal(s) : TCD2B.ch  
Acq On : 5 Jan 2011 11:26 pm  
Operator : airlab10:RY  
Sample : L1020553-07D,4,0.4169,1  
Misc : WG450420,ICAL5222  
ALS Vial : 10 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Jan 06 10:28:36 2011  
Quant Method : O:\Forensics\Data\airlab10\110105FG\FG100730.M  
Quant Title : Fixed Gas Analysis via Method 3C  
QLast Update : Sat Oct 30 10:36:20 2010  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :



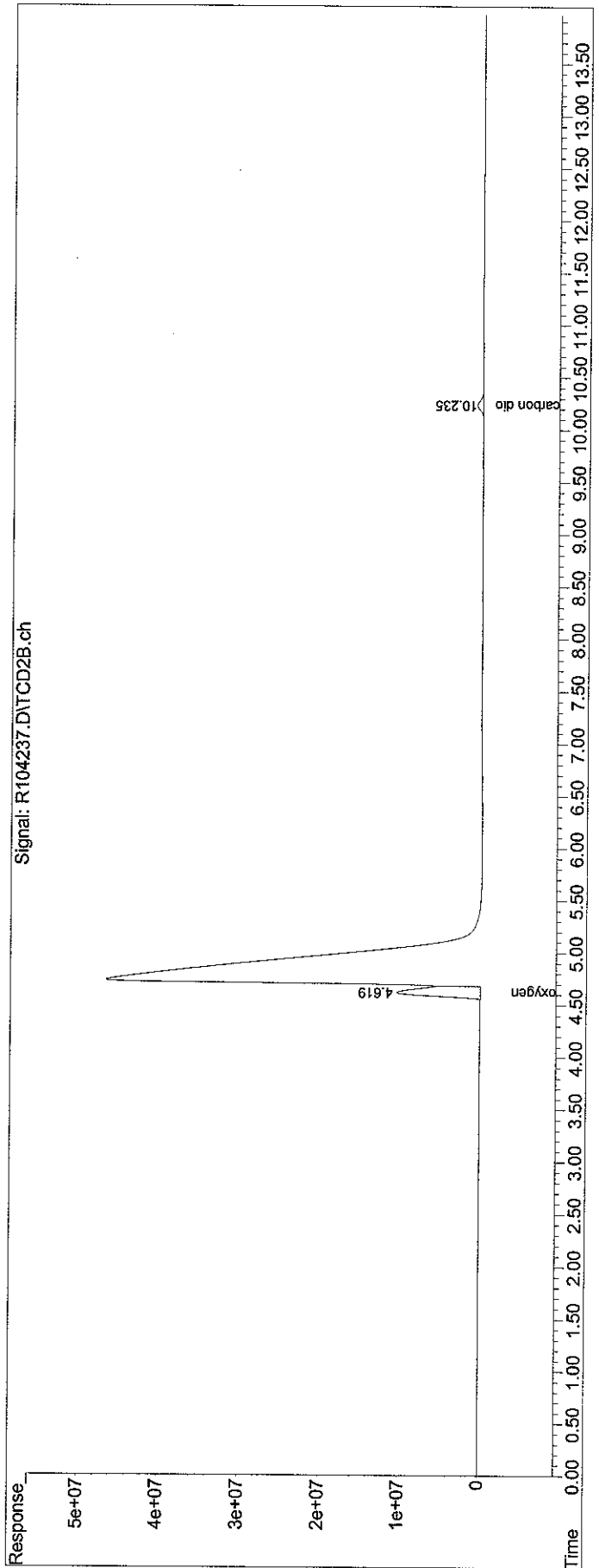


Sub List : CO2,O2,CH4 - .report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\110105FG\  
Data File : R104237.D  
Signal(s) : TCD2B.ch  
Acq On : 6 Jan 2011 12:06 am  
Operator : airlab10:RY  
Sample : L1020553-08D,4,0.4706,1  
Misc : WG450420,ICAL5222  
ALS Vial : 12 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Jan 06 10:29:56 2011  
Quant Method : O:\Forensics\Data\airlab10\110105FG\FG100730.M  
Quant Title : Fixed Gas Analysis via Method 3C  
QLast Update : Sat Oct 30 10:36:20 2010  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :

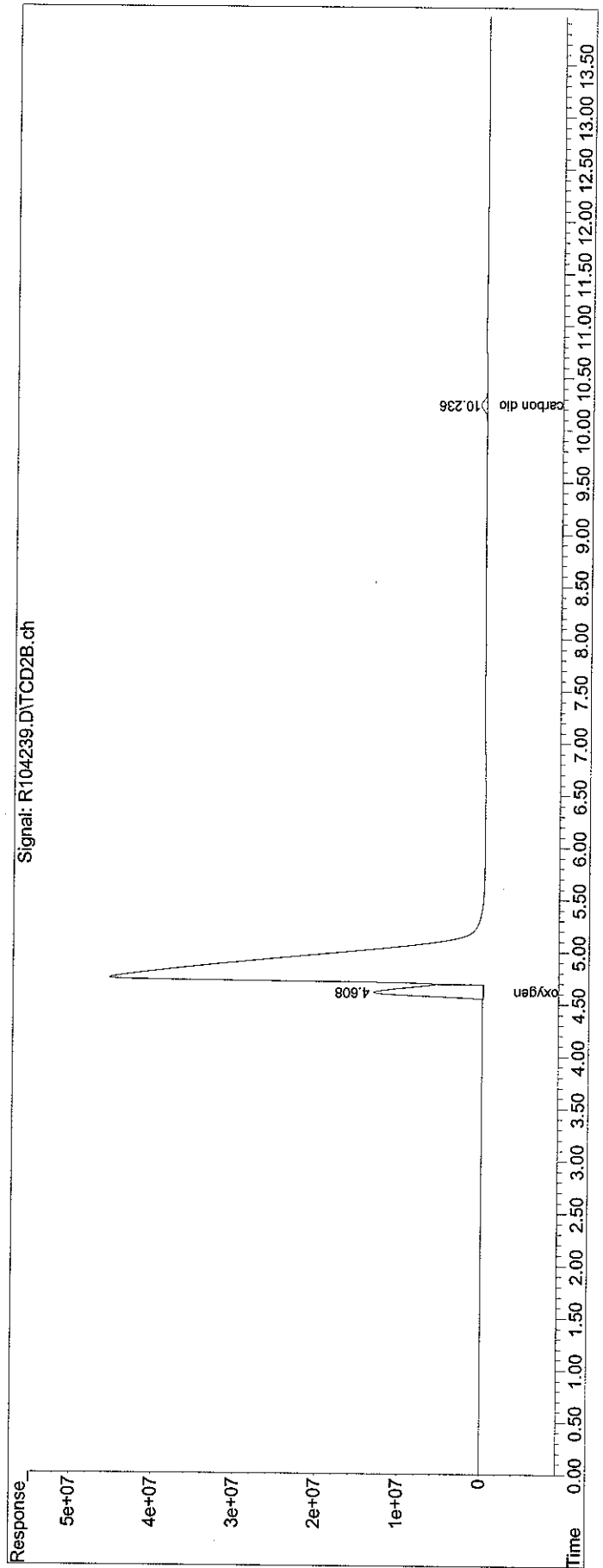


Sub List : CO2,O2,CH4 - .report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\110105FG\  
Data File : R104239.D  
Signal(s) : TCD2B.ch  
Acq On : 6 Jan 2011 12:46 am  
Operator : airlab10:RY  
Sample : L1020553-09D,4,0.6287,1  
Misc : WG450420,ICAL5222  
ALS Vial : 22 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Jan 06 10:32:25 2011  
Quant Method : O:\Forensics\Data\airlab10\110105FG\FG100730.M  
Quant Title : Fixed Gas Analysis via Method 3C  
QLast Update : Sat Oct 30 10:36:20 2010  
Response via : Initial Calibration  
Integrator: ChemStation

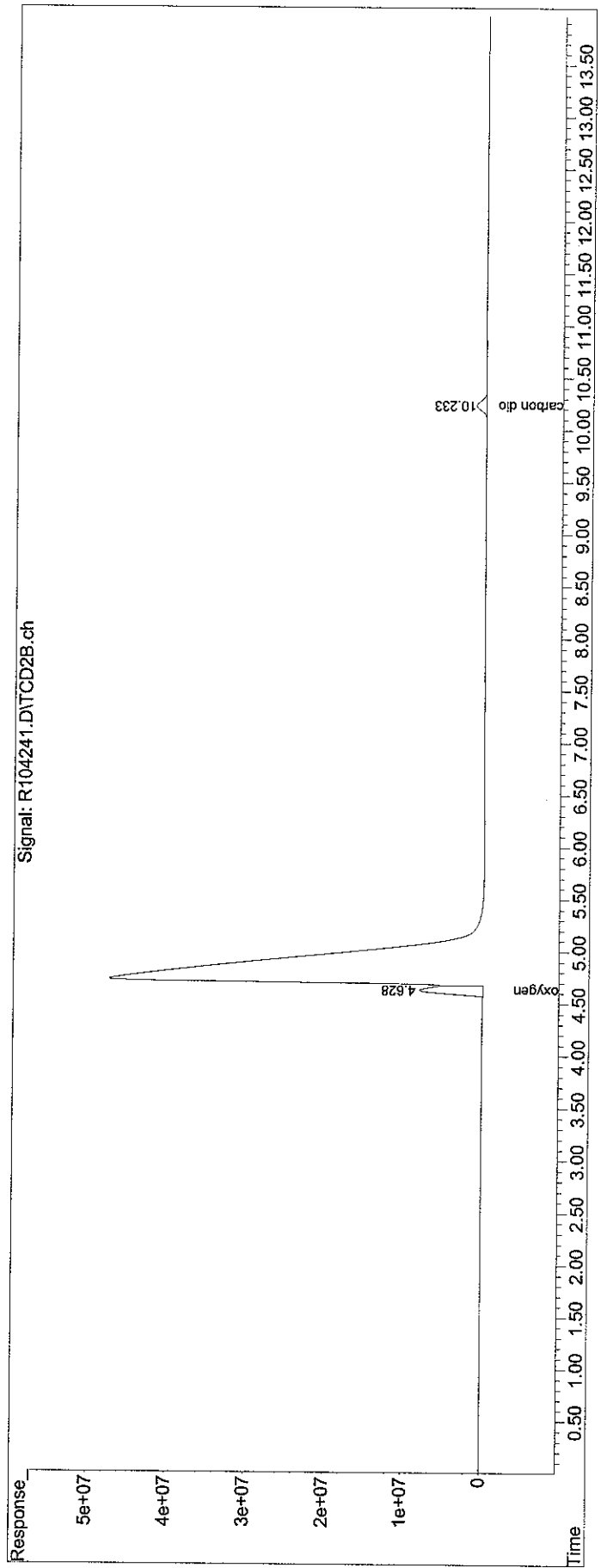
Volume Inj. :  
Signal Phase :  
Signal Info :



Data Path : O:\Forensics\Data\airlab10\110105FG\  
Data File : R104241.D  
Signal(s) : TCD2B.ch  
Acq On : 6 Jan 2011 1:26 am  
Operator : airlab10:RY  
Sample : L1020553-10D,4,0.4150,1  
Misc : WG450420,ICAL5222  
ALS Vial : 24 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Jan 06 10:34:09 2011  
Quant Method : O:\Forensics\Data\airlab10\110105FG\FG100730.M  
Quant Title : Fixed Gas Analysis via Method 3C  
QLast Update : Sat Oct 30 10:36:20 2010  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :

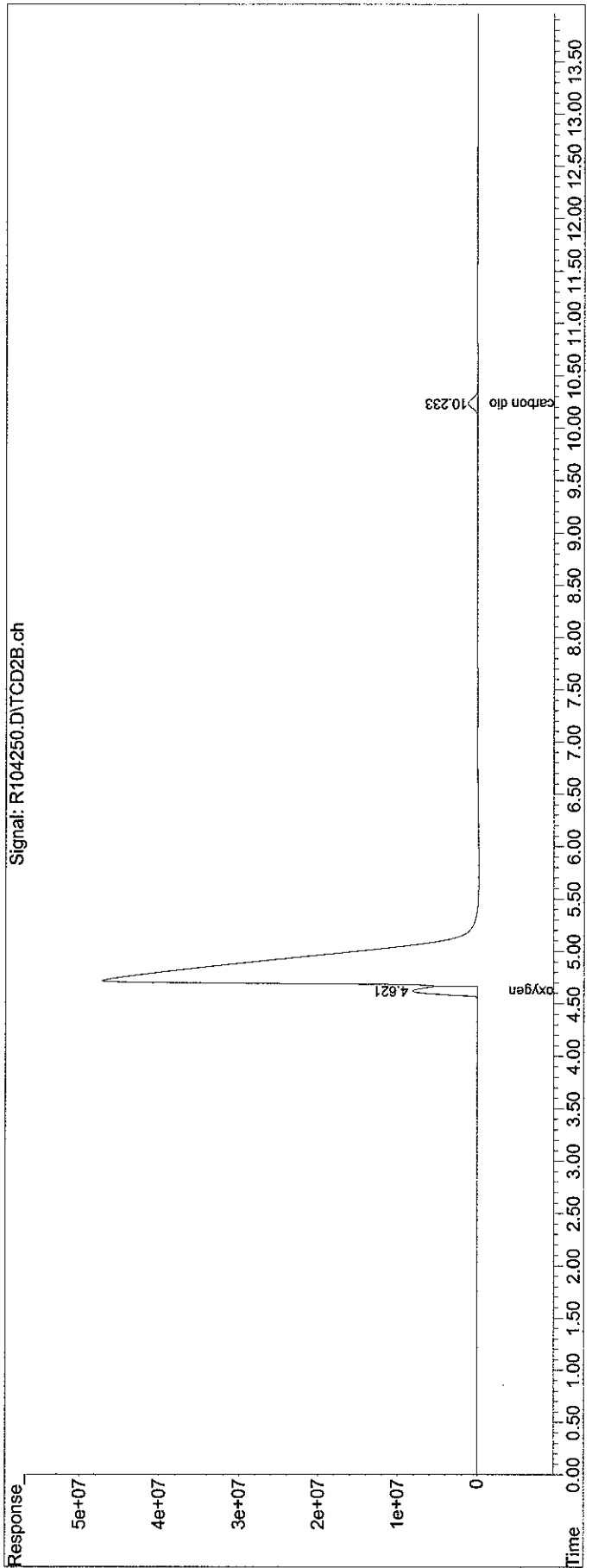


Sub List : CO2,O2,CH4 - .report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\110106FG\  
Data File : R104250.D  
Signal(s) : TCD2B.ch  
Acq On : 6 Jan 2011 12:45 pm  
Operator : airlab10:RY  
Sample : L1020553-11D,4,0.3889,1  
Misc : WG450513,ICAL5222  
ALS Vial : 1 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Jan 06 14:41:22 2011  
Quant Method : O:\Forensics\Data\airlab10\110106FG\FG100730.M  
Quant Title : Fixed Gas Analysis via Method 3C  
QLast Update : Sat Oct 30 10:36:20 2010  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :

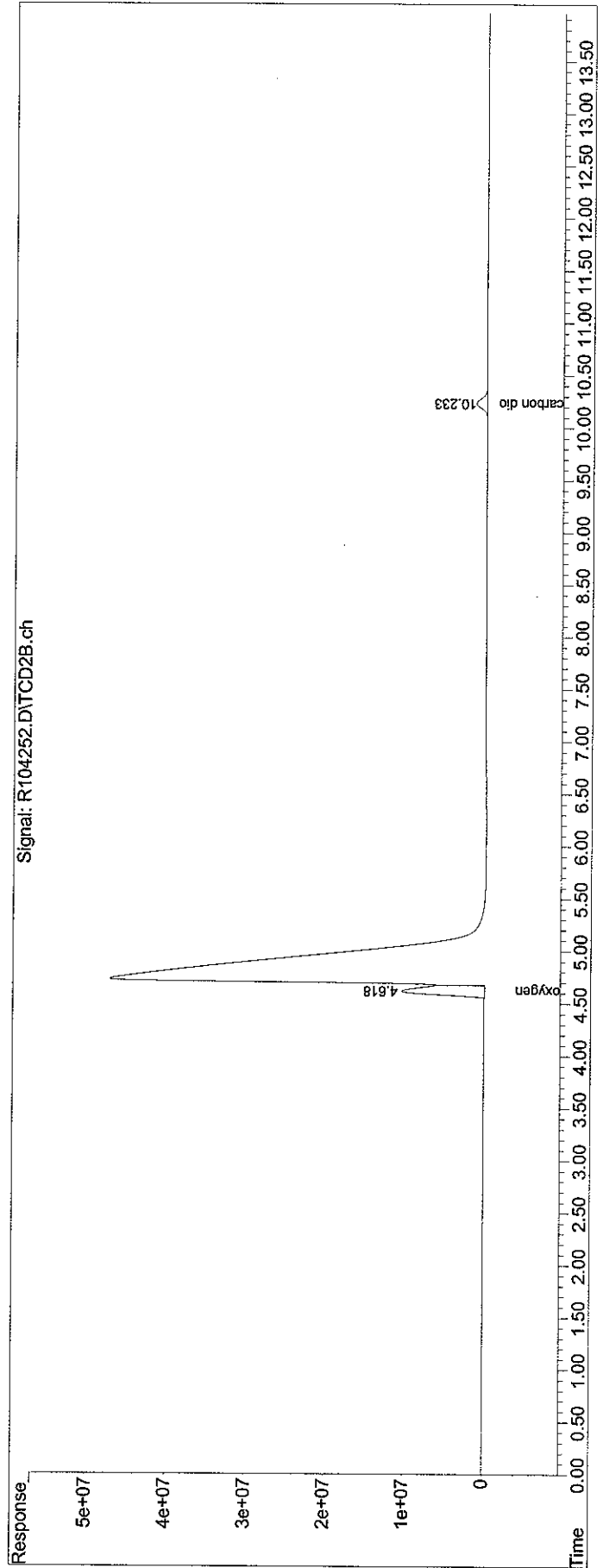


Sub List : CO2,O2,CH4 - .report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\110106FG\  
Data File : R104252.D  
Signal(s) : TCD2B.ch  
Acq On : 6 Jan 2011 1:24 pm  
Operator : airlab10:RY  
Sample : L1020553-12D,4,0.4691,1  
Misc : WG450513,ICAL5222  
ALS Vial : 3 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Jan 06 14:42:45 2011  
Quant Method : O:\Forensics\Data\airlab10\110106FG\FG100730.M  
Quant Title : Fixed Gas Analysis via Method 3C  
QLast Update : Sat Oct 30 10:36:20 2010  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :

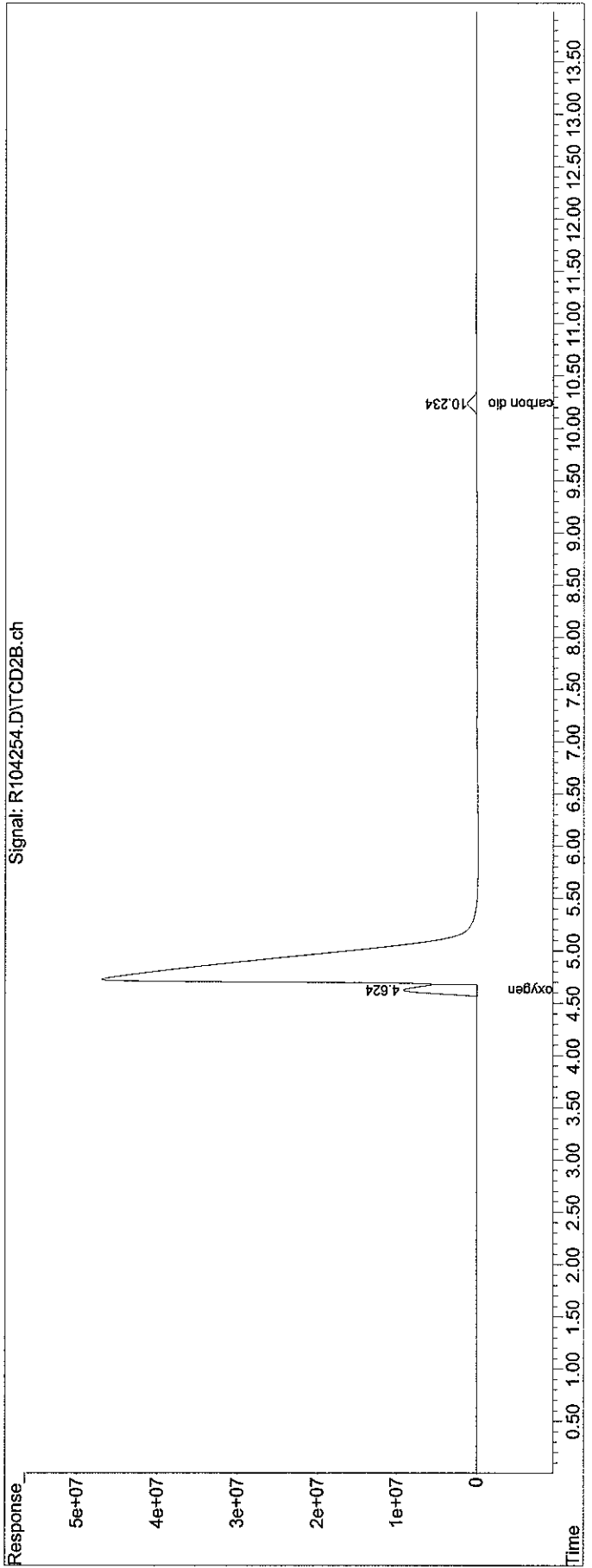


Sub List : CO2,O2,CH4 - .report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\110106FG\  
 Data File : R104254.D  
 Signal(s) : TCD2B.ch  
 Acq On : 6 Jan 2011 2:04 pm  
 Operator : airlab10:RY  
 Sample : L1020553-13D,4,0.4262,1  
 Misc : WG450513,ICAL5222  
 ALS Vial : 4 Sample Multiplier: 1

Integration File: events.e  
 Quant Time: Jan 06 14:44:11 2011  
 Quant Method : O:\Forensics\Data\airlab10\110106FG\FG100730.M  
 Quant Title : Fixed Gas Analysis via Method 3C  
 QLast Update : Sat Oct 30 10:36:20 2010  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. :  
 Signal Phase :  
 Signal Info :

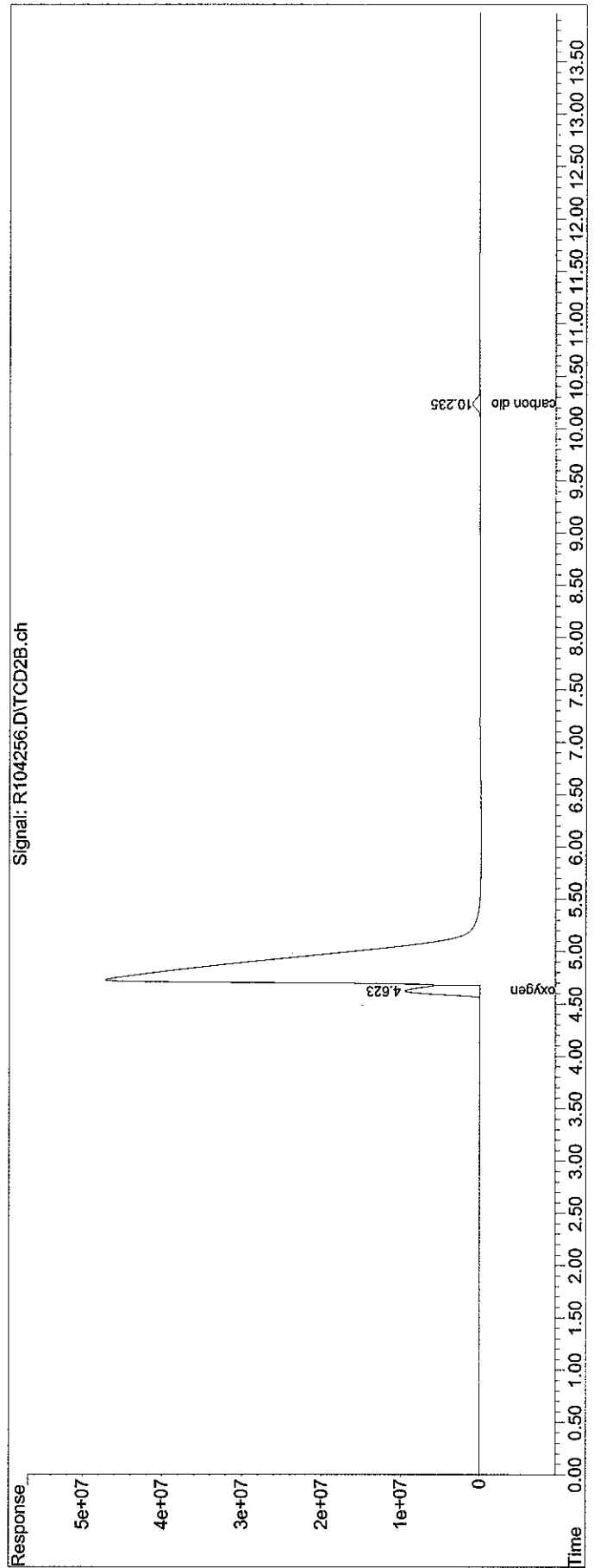


Sub List : CO2,O2,CH4 - .report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\110106FG\  
Data File : R104256.D  
Signal(s) : TCD2B.ch  
Acq On : 6 Jan 2011 2:43 pm  
Operator : airlab10:RY  
Sample : L1020553-14D,4,0.4820,1  
Misc : WG450513,ICAL5222  
ALS Vial : 6 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Jan 06 15:08:10 2011  
Quant Method : O:\Forensics\Data\airlab10\110106FG\FG100730.M  
Quant Title : Fixed Gas Analysis via Method 3C  
QLast Update : Sat Oct 30 10:36:20 2010  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :

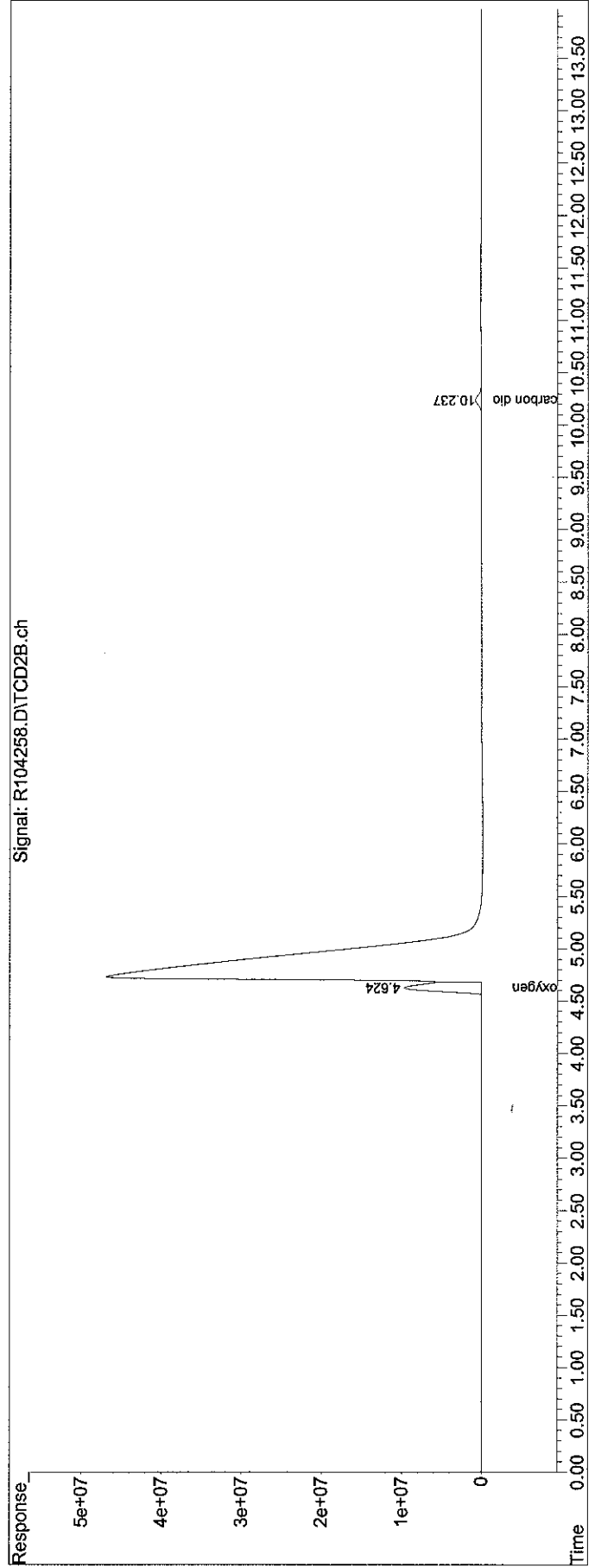


Sub List : CO2,O2,CH4 - .report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\110106FG\  
Data File : R104258.D  
Signal(s) : TCD2B.ch  
Acq On : 6 Jan 2011 3:21 pm  
Operator : airlab10:RY  
Sample : L1020553-15D,4,0.4393,1  
Misc : WG450513,ICAL5222  
ALS Vial : 7 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Jan 06 15:36:49 2011  
Quant Method : O:\Forensics\Data\airlab10\110106FG\FG100730.M  
Quant Title : Fixed Gas Analysis via Method 3C  
QLast Update : Sat Oct 30 10:36:20 2010  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :



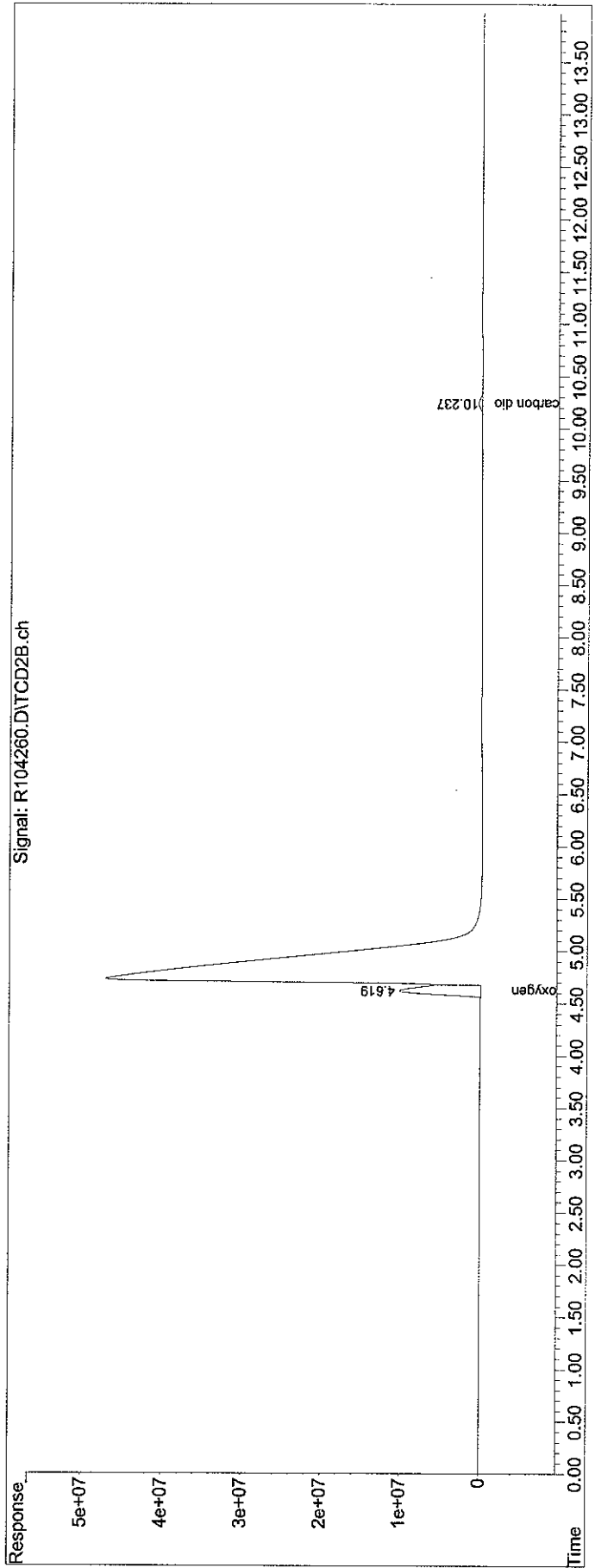


Sub List : CO2,O2,CH4 - .report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\110106FG\  
Data File : R104260.D  
Signal(s) : TCD2B.ch  
Acq On : 6 Jan 2011 4:00 pm  
Operator : airlab10:RY  
Sample : L1020553-16D,4,0.4723,1  
Misc : WG450513,ICAL5222  
ALS Vial : 9 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Jan 06 16:45:39 2011  
Quant Method : O:\Forensics\Data\airlab10\110106FG\FG100730.M  
Quant Title : Fixed Gas Analysis via Method 3C  
QLast Update : Sat Oct 30 10:36:20 2010  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :

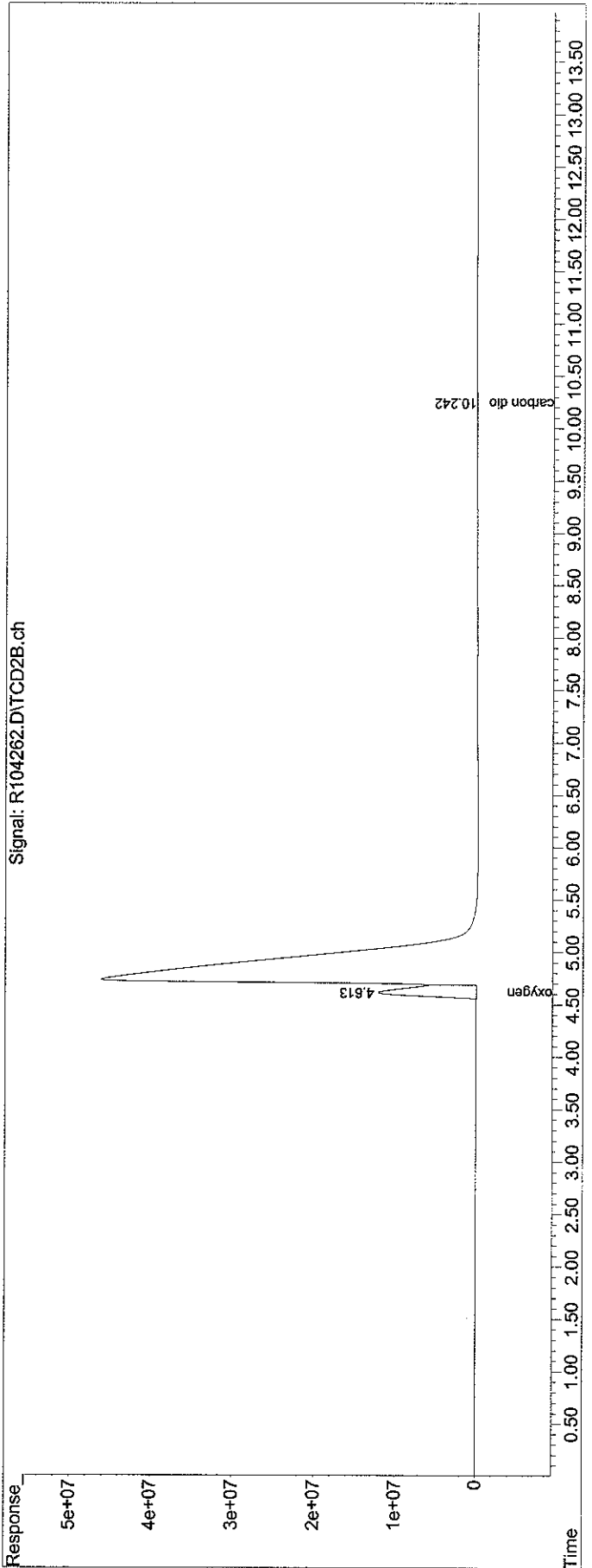


Sub List : CO2,O2,CH4 - .report (QT Reviewed)

Data Path : O:\Forensics\Data\airlab10\110106FG\  
Data File : R104262.D  
Signal(s) : TCD2B.ch  
Acq On : 6 Jan 2011 4:40 pm  
Operator : airlab10:RY  
Sample : L1020553-17D,4,0.5297,1  
Misc : WG450513,ICAL5222  
ALS Vial : 10 Sample Multiplier: 1

Integration File: events.e  
Quant Time: Jan 06 17:01:13 2011  
Quant Method : O:\Forensics\Data\airlab10\110106FG\FG100730.M  
Quant Title : Fixed Gas Analysis via Method 3C  
QLast Update : Sat Oct 30 10:36:20 2010  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :



**APH**

Sub List : APH\_STD\_M - .ion Report (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2011\110103A\

Data File : R714208.D

Acq On : 4 Jan 2011 1:49 am

Operator : AIRLAB7:bs

Sample : L1020553-01,3,120.098,250

Misc : WG450119,ICAL5560

ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 04 10:07:42 2011

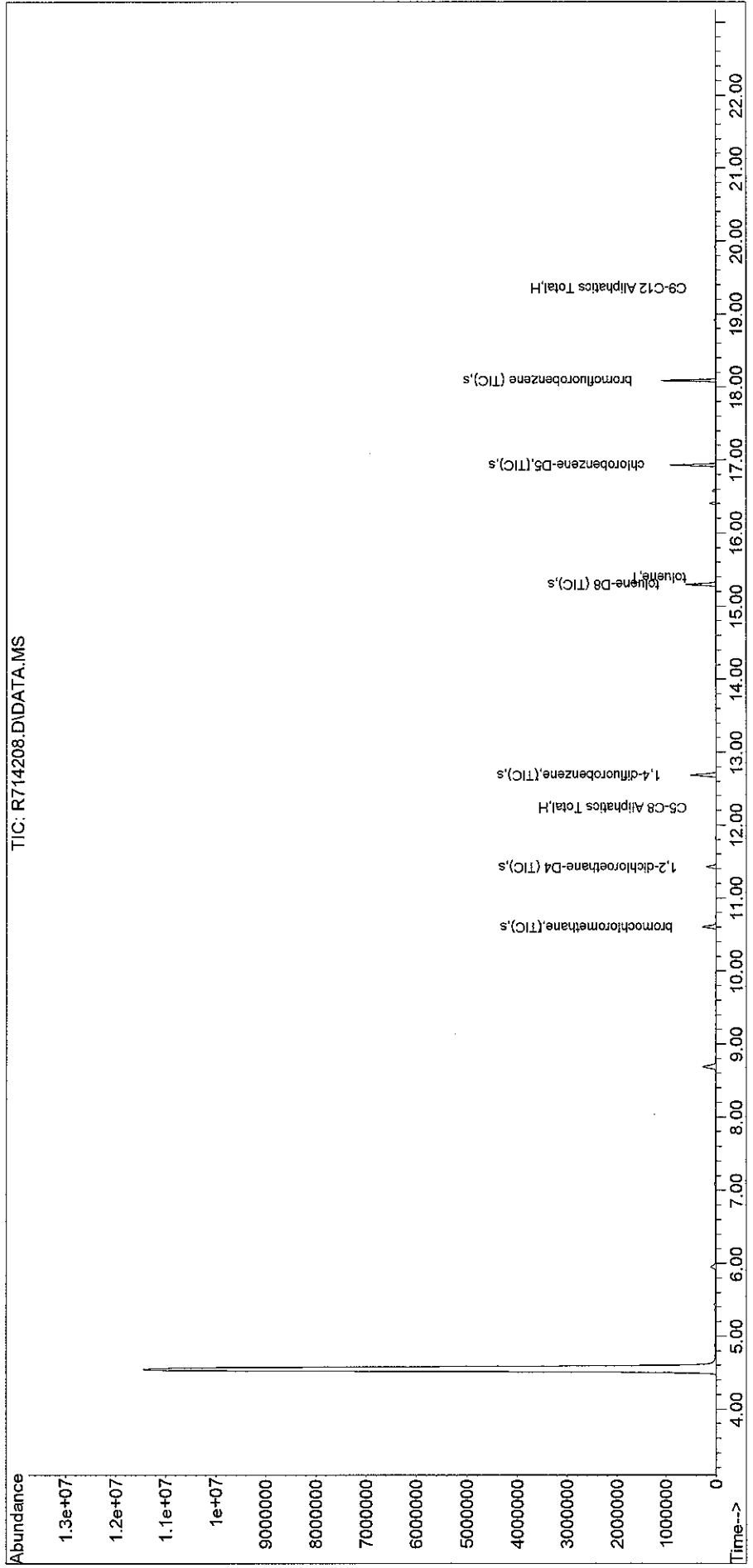
Quant Method : O:\Forensics\Data\AirLab7\2011\110103A\APH101229.M

Quant Title : APH Analysis

QLast Update : Thu Dec 30 10:02:10 2010

Response via : Initial Calibration

TIC: R714208.D\DATA.MS

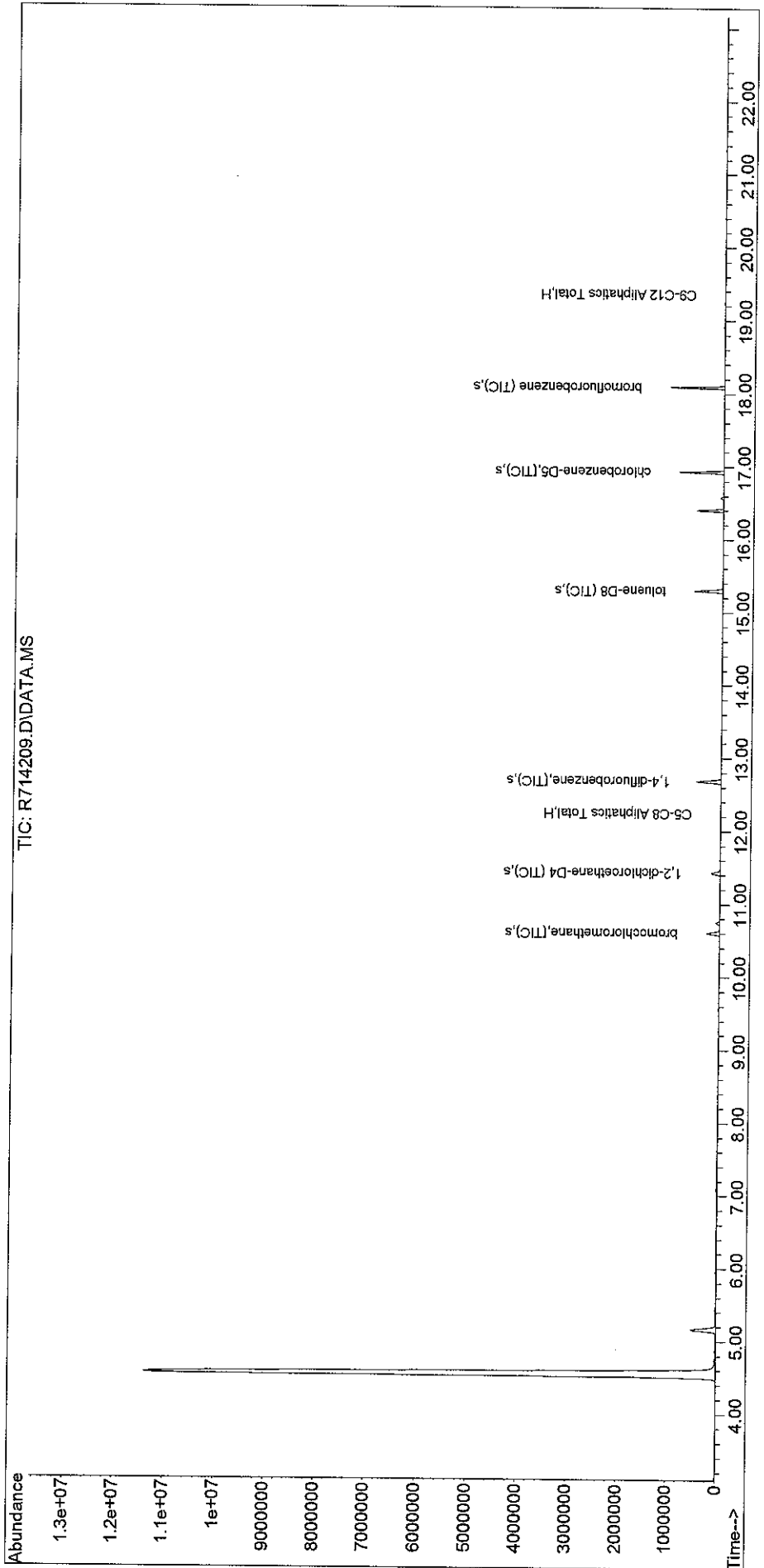


Sub List : APH\_STD\_M - .ion Report (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2011\110103A\  
Data File : R714209.D

Acq On : 4 Jan 2011 2:25 am  
Operator : AIRLAB7:bs  
Sample : L1020553-02,3,106.6775,250  
Misc : WG450119,ICAL5560  
ALS Vial : 6 Sample Multiplier: 1

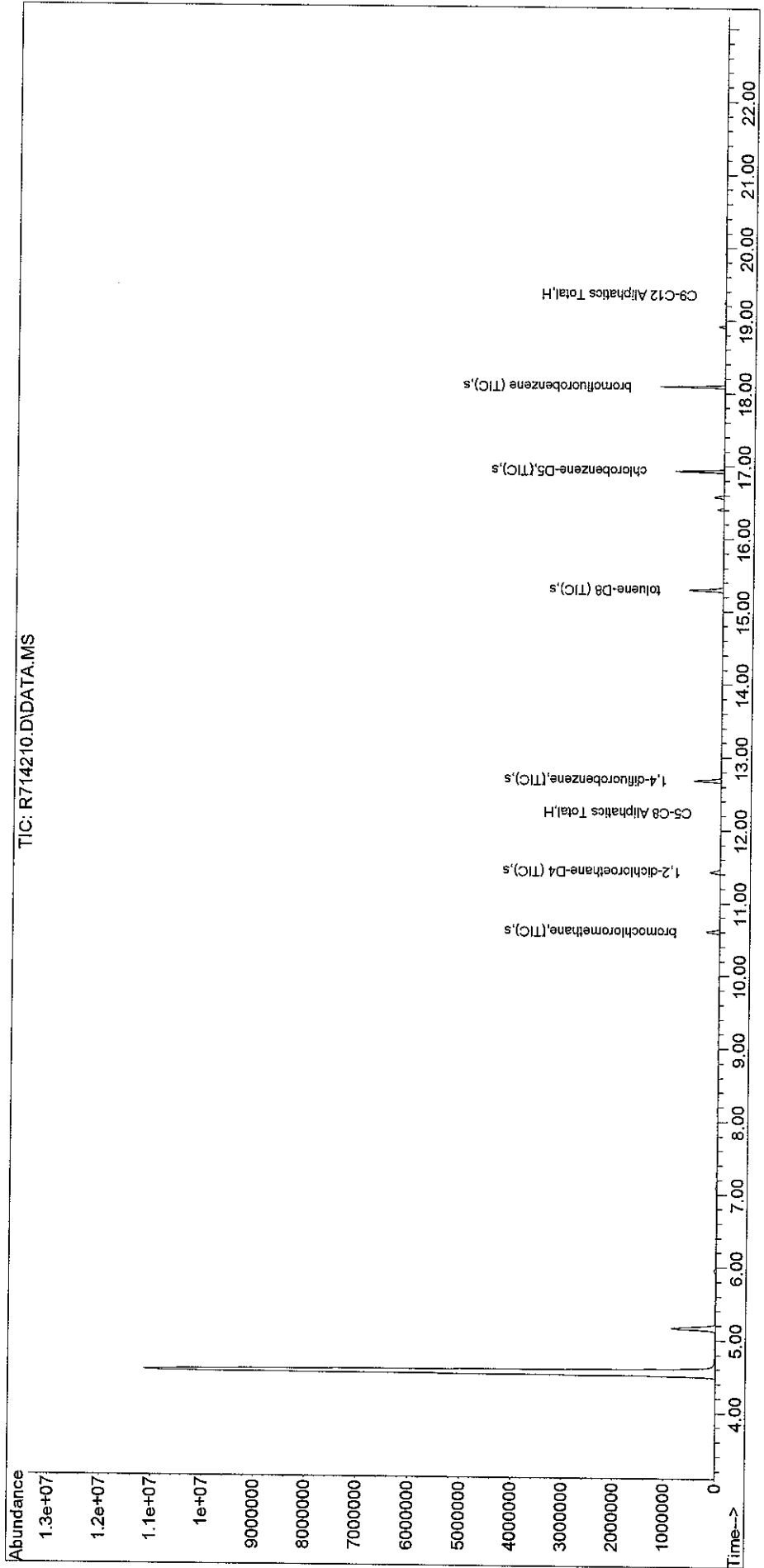
Quant Time: Jan 04 10:08:22 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110103A\APH101229.M  
Quant Title : APH Analysis  
QLast Update : Thu Dec 30 10:02:10 2010  
Response via : Initial Calibration



Sub List : APH STD\_M - .ion Report (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2011\110103A\  
Data File : R714210.D  
Acq On : 4 Jan 2011 3:01 am  
Operator : AIRLAB7:bs  
Sample : L1020553-03,3,102.9412,250  
Misc : WG450119,ICAL5560  
ALS Vial : 7 Sample Multiplier: 1

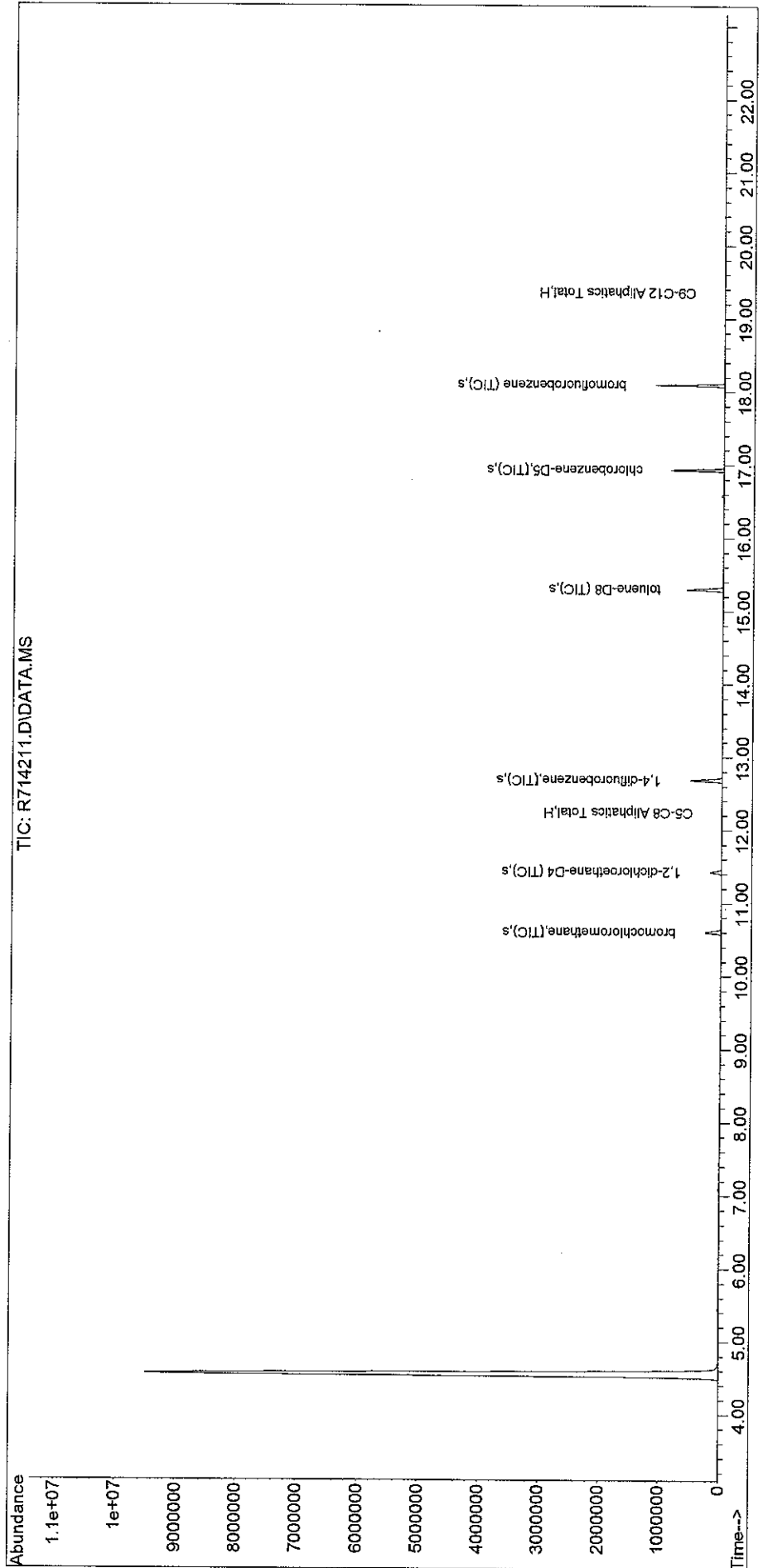
Quant Time: Jan 04 10:08:59 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110103A\APH101229.M  
Quant Title : APH Analysis  
QLast Update : Thu Dec 30 10:02:10 2010  
Response via : Initial Calibration



Sub List : APH\_STD\_M - .ion Report (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2011\110103A\  
Data File : R714211.D  
Acq On : 4 Jan 2011 3:36 am  
Operator : AIRLAB7:bs  
Sample : L1020553-04,3,104.7078,250  
Misc : WG450119,ICAL5560  
ALS Vial : 8 Sample Multiplier: 1

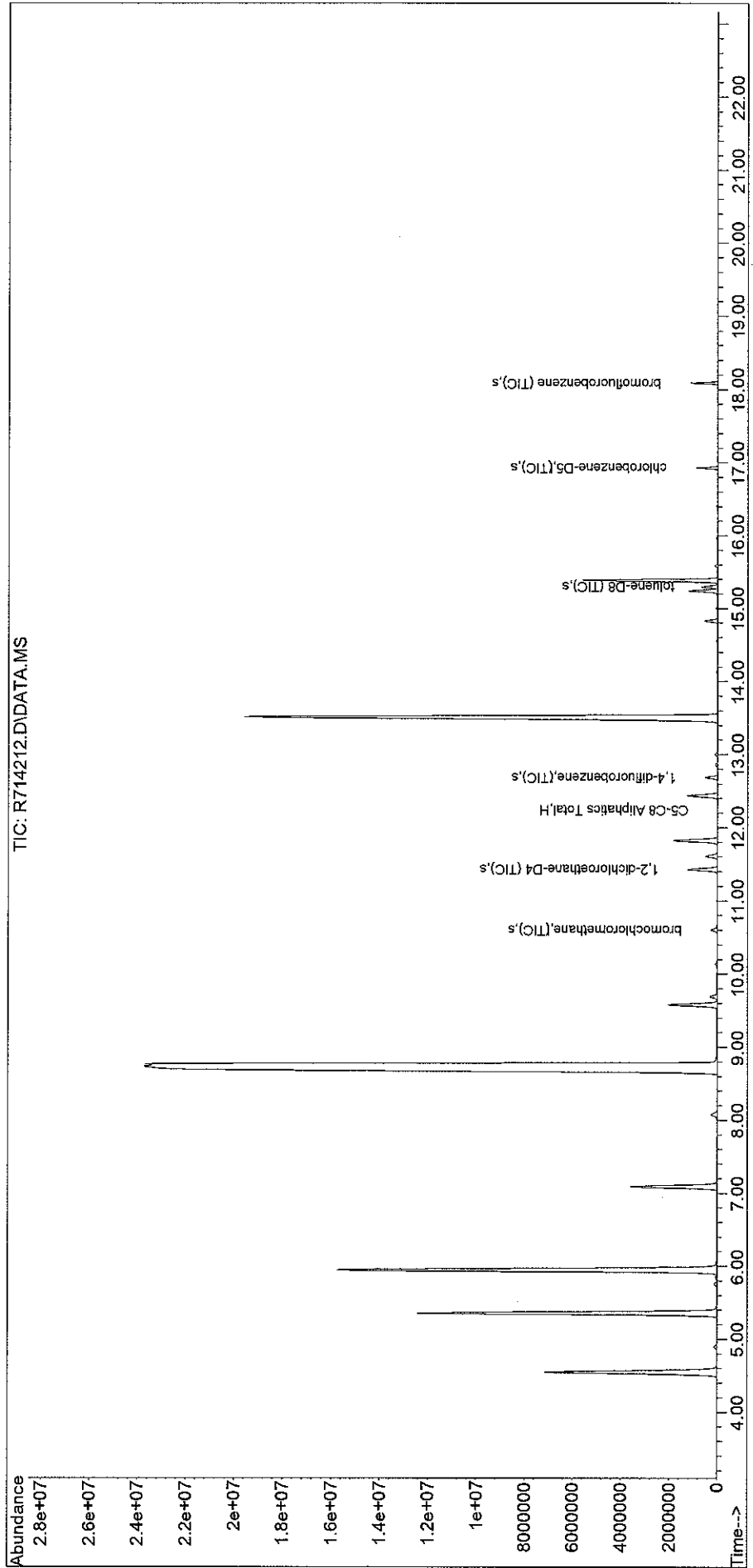
Quant Time: Jan 04 10:09:48 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110103A\APH101229.M  
Quant Title : APH Analysis  
QLast Update : Thu Dec 30 10:02:10 2010  
Response via : Initial Calibration



Sub List : APH\_STD\_M - .ion Report (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2011\110103A\  
Data File : R714212.D  
Acq On : 4 Jan 2011 4:11 am  
Operator : AIRLAB7:bs  
Sample : L1020553-05,3,25,250  
Misc : WG450119, ICAL5560  
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jan 04 10:10:21 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110103A\APH101229.M  
Quant Title : APH Analysis  
QLast Update : Thu Dec 30 10:02:10 2010  
Response via : Initial Calibration

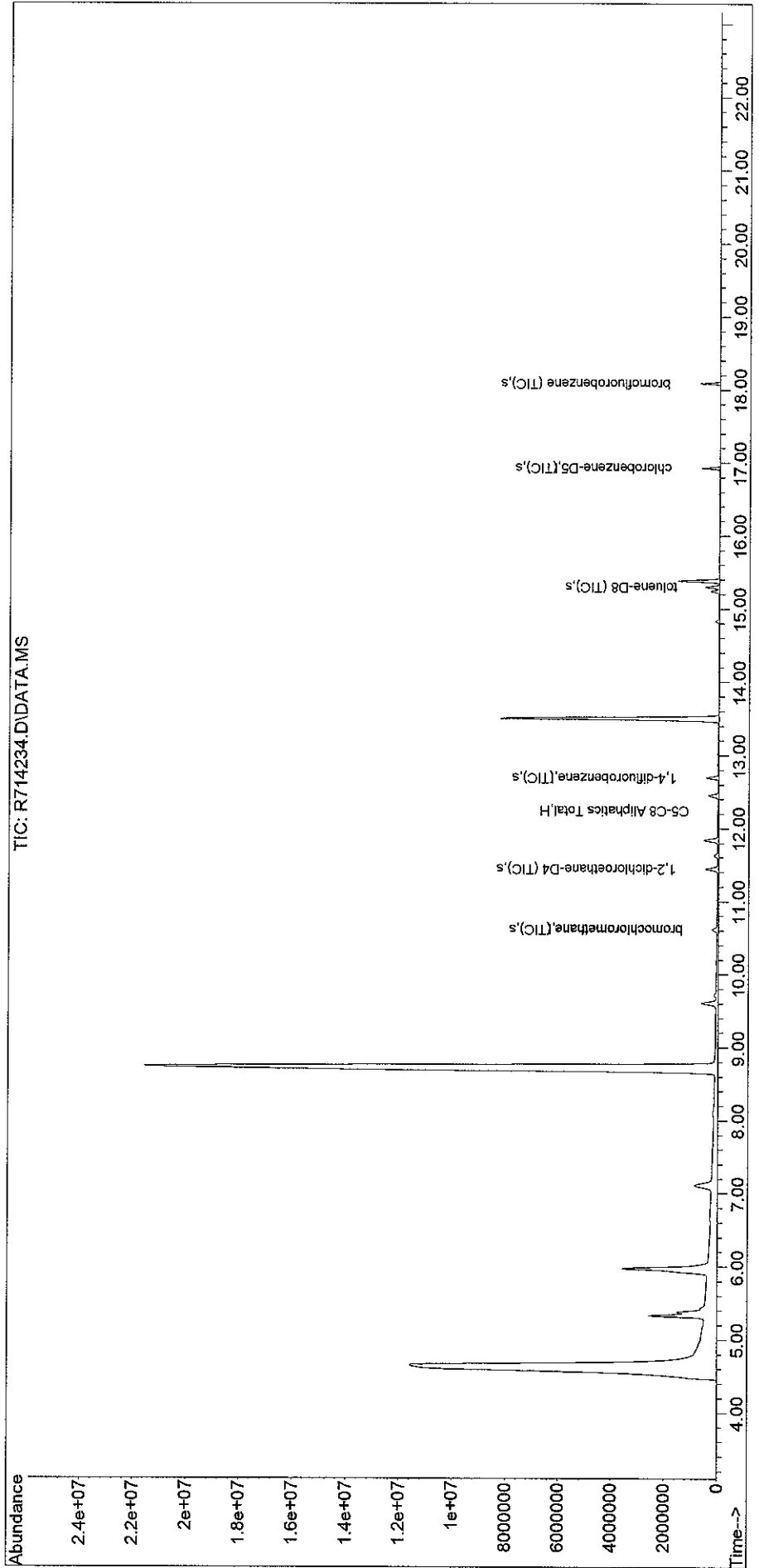




Sub List : APH\_STD\_M - .ion Report (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2011\110104A\  
Data File : R714234.D  
Acq On : 4 Jan 2011 8:52 pm  
Operator : AIRLAB7:bs  
Sample : L1020553-05D2,3,8.6457,250  
Misc : WG450119, ICAL5560  
ALS Vial : 6 Sample Multiplier: 1

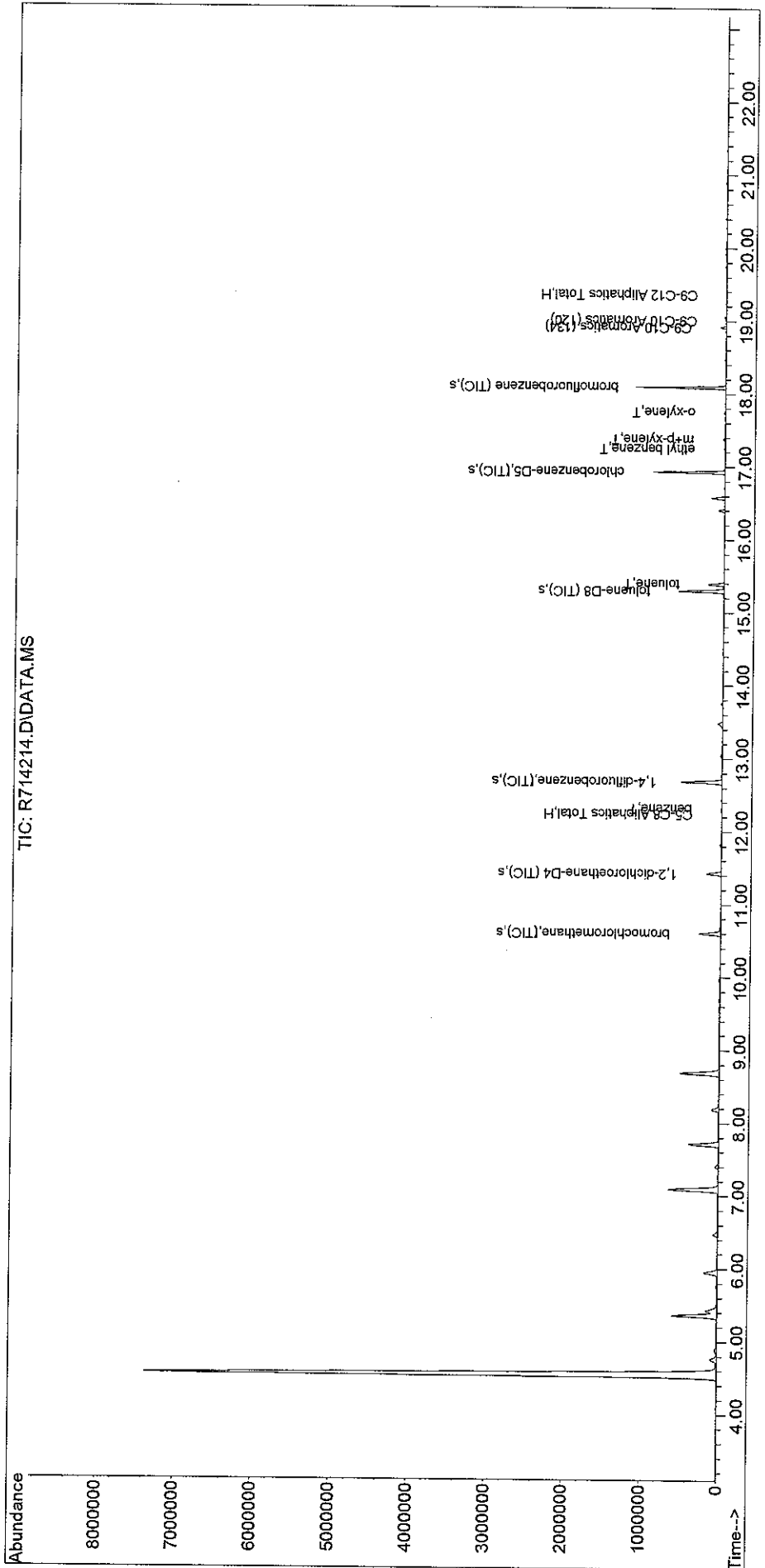
Quant Time: Jan 05 10:56:38 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110104A\APH101229.M  
Quant Title : APH Analysis  
QLast Update : Thu Dec 30 10:02:10 2010  
Response via : Initial Calibration



Sub List : APH\_STD\_M - .ion Report (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2011\110103A\  
Data File : R714214.D  
Acq On : 4 Jan 2011 5:21 am  
Operator : AIRLAB7:bs  
Sample : L1020553-06,3,116.3934,250  
Misc : WG450119,ICAL5560  
ALS Vial : 10 Sample Multiplier: 1

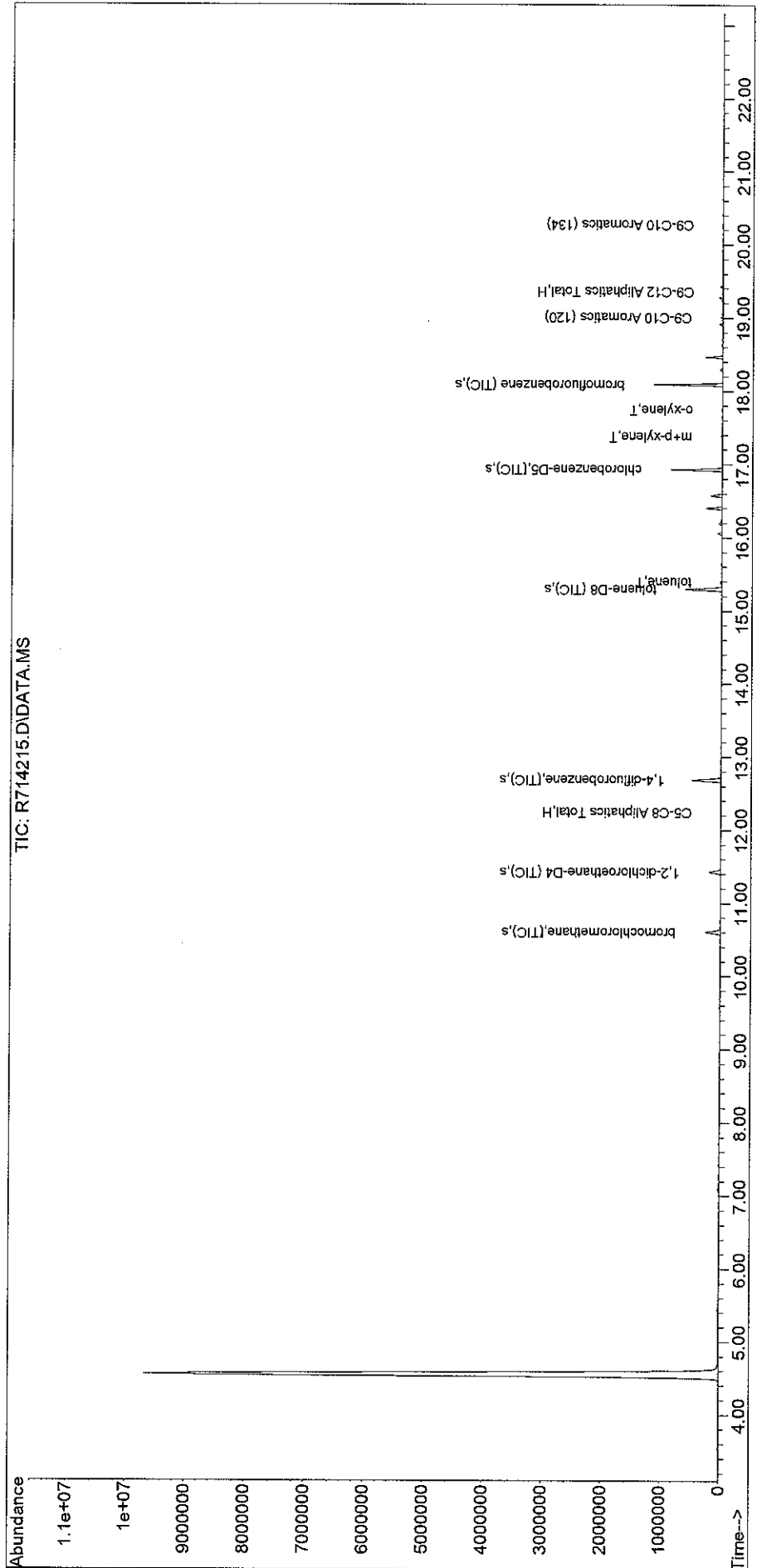
Quant Time: Jan 04 10:12:00 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110103A\APH101229.M  
Quant Title : APH Analysis  
QLast Update : Thu Dec 30 10:02:10 2010  
Response via : Initial Calibration



Sub List : APH\_STD\_M - .ion Report (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2011\110103A\  
Data File : R714215.D  
Acq On : 4 Jan 2011 5:57 am  
Operator : AIRLAB7:bs  
Sample : L1020553-07,3,104.2345,250  
Misc : WG450119,ICAL5560  
ALS Vial : 11 Sample Multiplier: 1

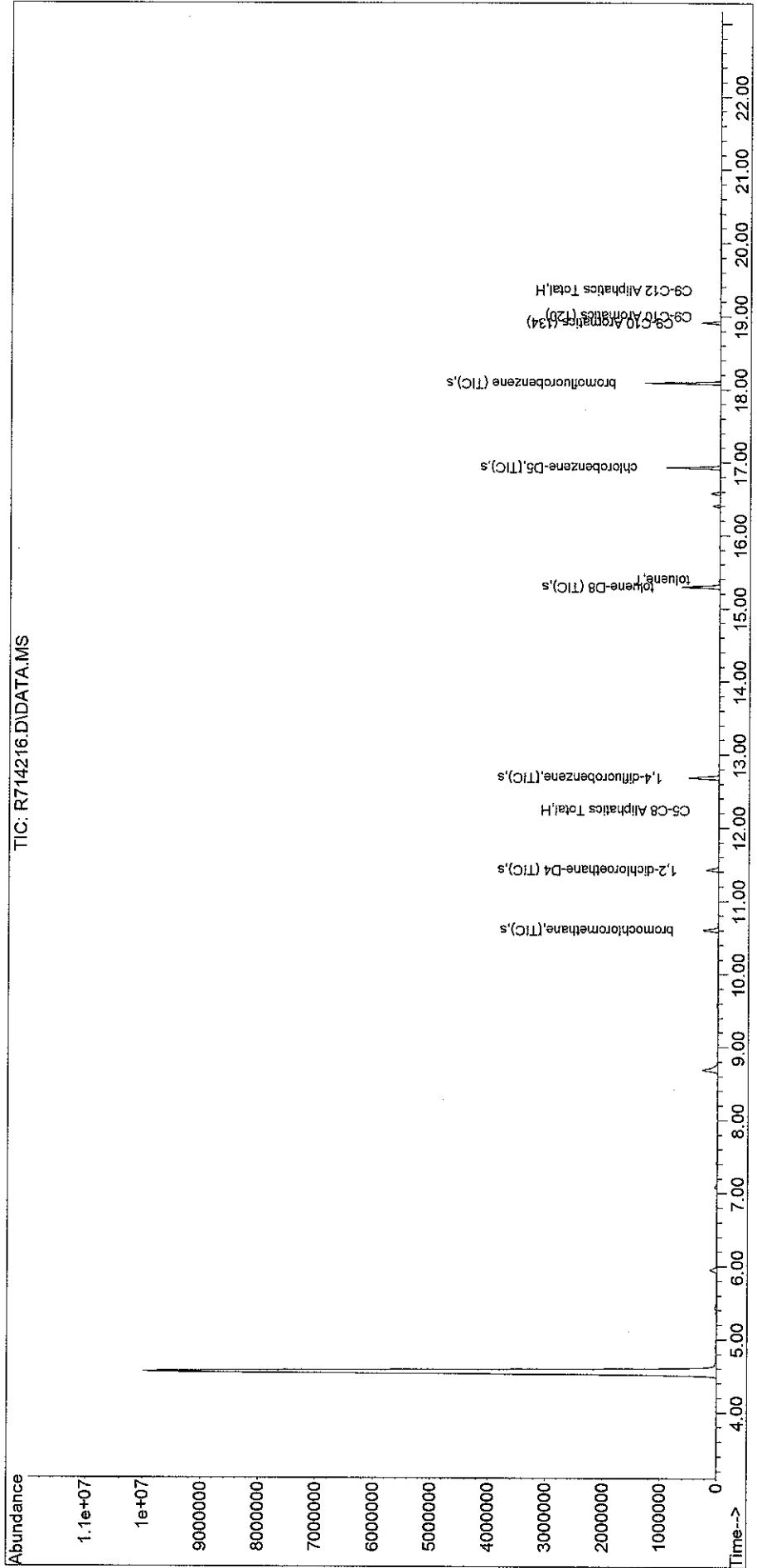
Quant Time: Jan 04 10:13:14 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110103A\APH101229.M  
Quant Title : APH Analysis  
QLast Update : Thu Dec 30 10:02:10 2010  
Response via : Initial Calibration



Sub List : APH STD\_M - .ion Report (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2011\110103A\  
Data File : R714216.D  
Acq On : 4 Jan 2011 6:32 am  
Operator : AIRLAB7:bs  
Sample : L1020553-08,3,117.6471,250  
Misc : WG450119,ICAL5560  
ALS Vial : 12 Sample Multiplier: 1

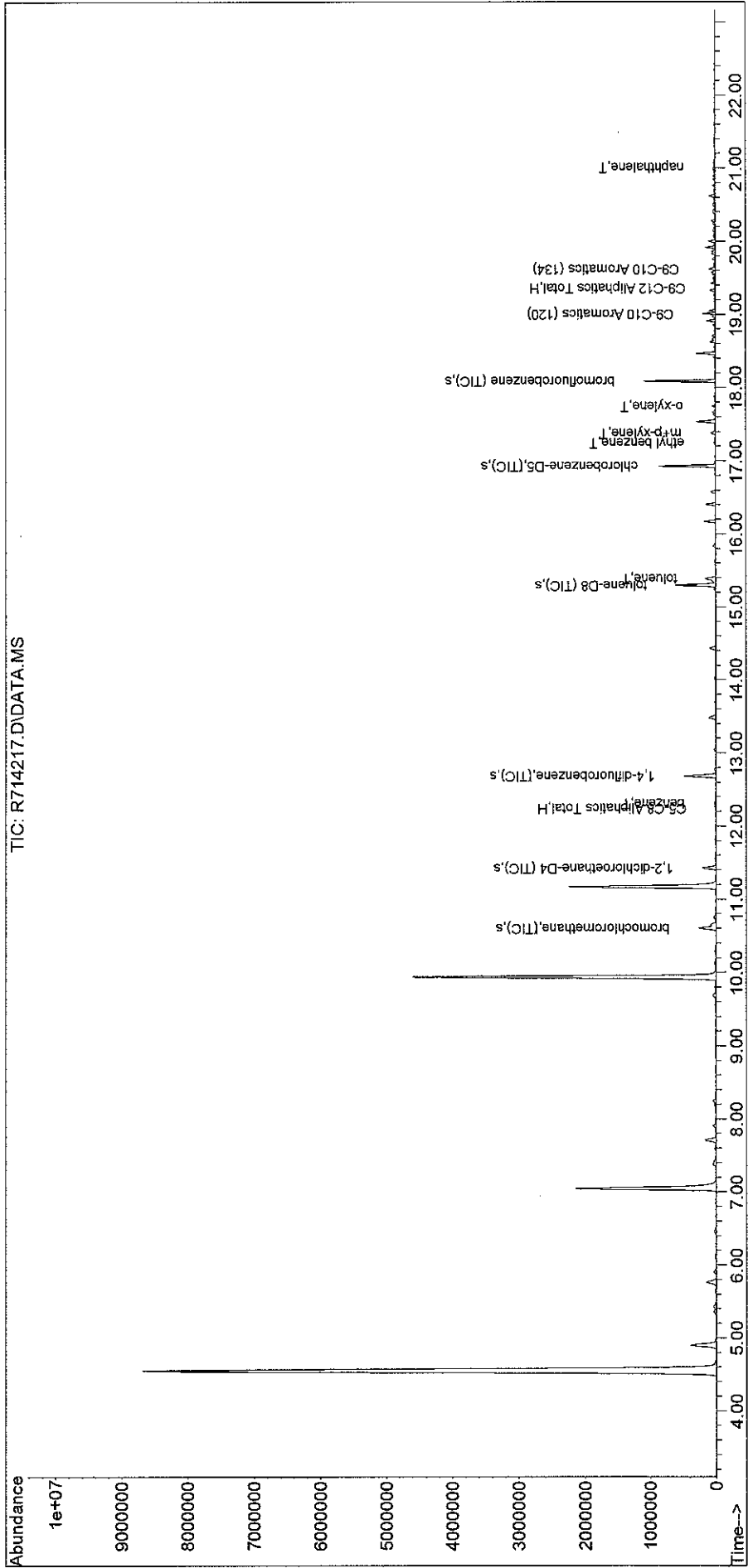
Quant Time: Jan 04 10:13:48 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110103A\APH101229.M  
Quant Title : APH Analysis  
QLast Update : Thu Dec 30 10:02:10 2010  
Response via : Initial Calibration



Sub List : APH\_STD\_M - .ion Report (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2011\110103A\  
Data File : R714217.D  
Acq On : 4 Jan 2011 7:07 am  
Operator : AIRLAB7:bs  
Sample : L1020553-09,3,125,250  
Misc : WG450119,ICAL5560  
ALS Vial : 13 Sample Multiplier: 1

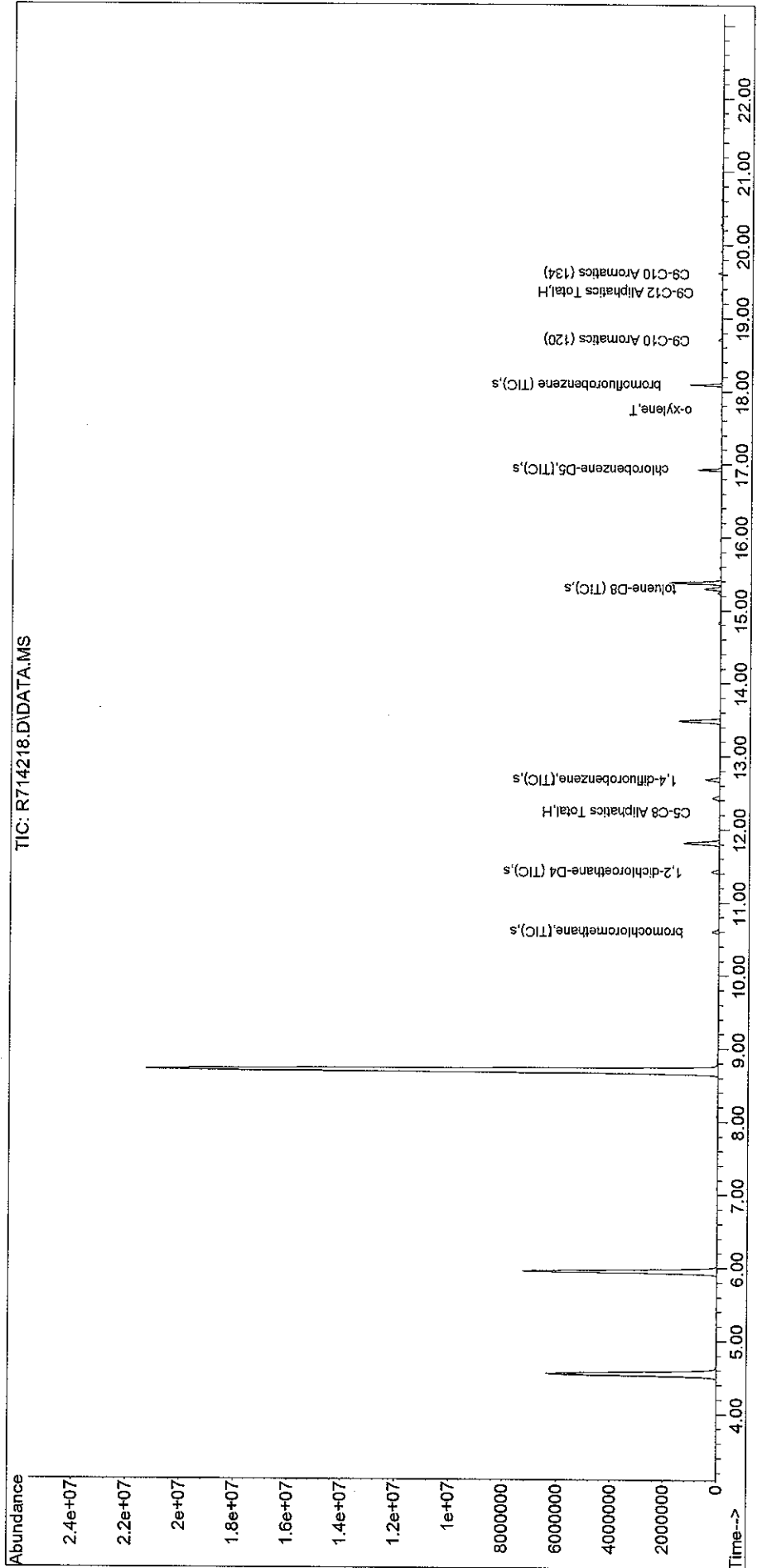
Quant Time: Jan 04 10:14:22 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110103A\APH101229.M  
Quant Title : APH Analysis  
QLast Update : Thu Dec 30 10:02:10 2010  
Response via : Initial Calibration



Sub List : APH\_STD\_M - .ion Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2011\110103A\  
Data File : R714218.D  
Acq On : 4 Jan 2011 7:42 am  
Operator : AIRLAB7:bs  
Sample : L1020553-10,3,20.7516,250  
Misc : WG450119,ICAL5560  
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 04 10:15:04 2011  
Quant Method : O:\Forensics\Data\Airlab7\2011\110103A\APH101229.M  
Quant Title : APH Analysis  
QLast Update : Thu Dec 30 10:02:10 2010  
Response via : Initial Calibration

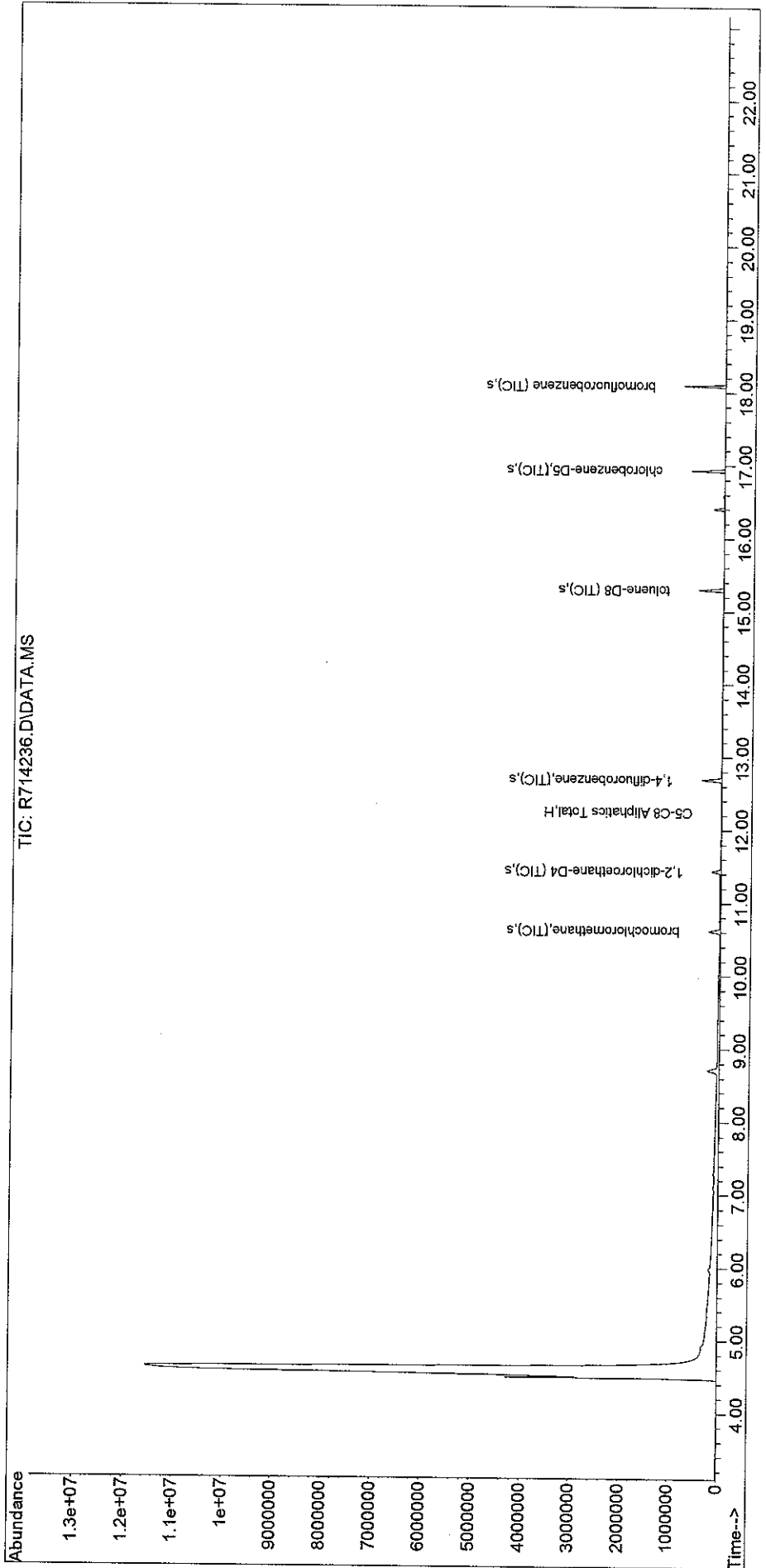


Sub List : APH\_STD\_M - .ion Report (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2011\110104A\  
Data File : R714236.D

Acq On : 4 Jan 2011 10:00 pm  
Operator : AIRLAB7:bs  
Sample : L1020553-11D,3,97.2222,250  
Misc : WG450261,ICAL5560  
ALS Vial : 7 Sample Multiplier: 1

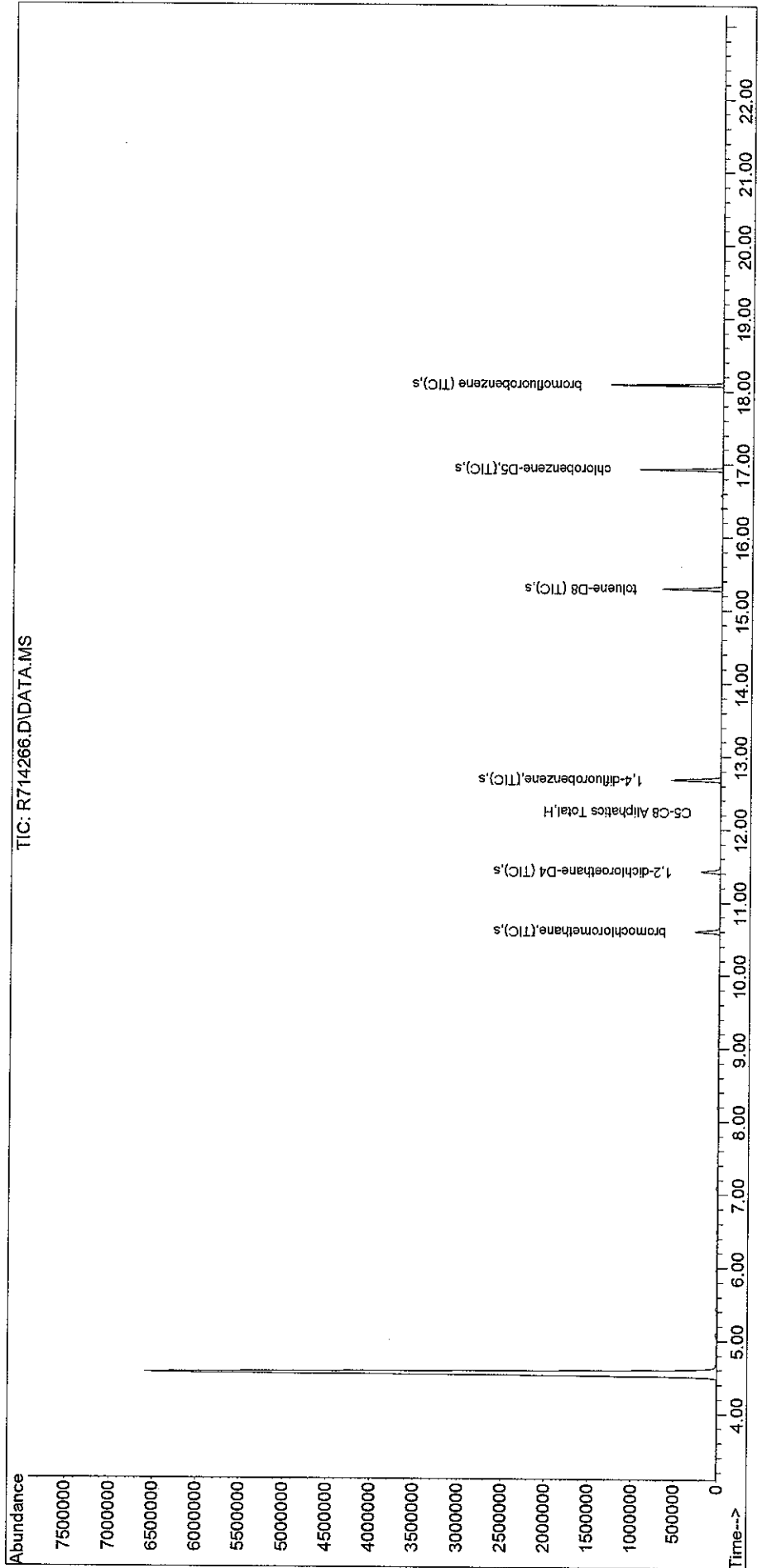
Quant Time: Jan 05 10:57:45 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110104A\APH101229.M  
Quant Title : APH Analysis  
QLast Update : Thu Dec 30 10:02:10 2010  
Response via : Initial Calibration



Sub List : APH\_STD\_M - .ion Report (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2011\110105A\  
Data File : R714266.D  
Acq On : 6 Jan 2011 3:02 am  
Operator : AIRLAB7:RY  
Sample : L1020553-12D,3,5.8512,250  
Misc : WG450419,ICAL5536  
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 06 10:08:13 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110105A\APH101229.M  
Quant Title : APH Analysis  
QLast Update : Thu Dec 30 10:02:10 2010  
Response via : Initial Calibration

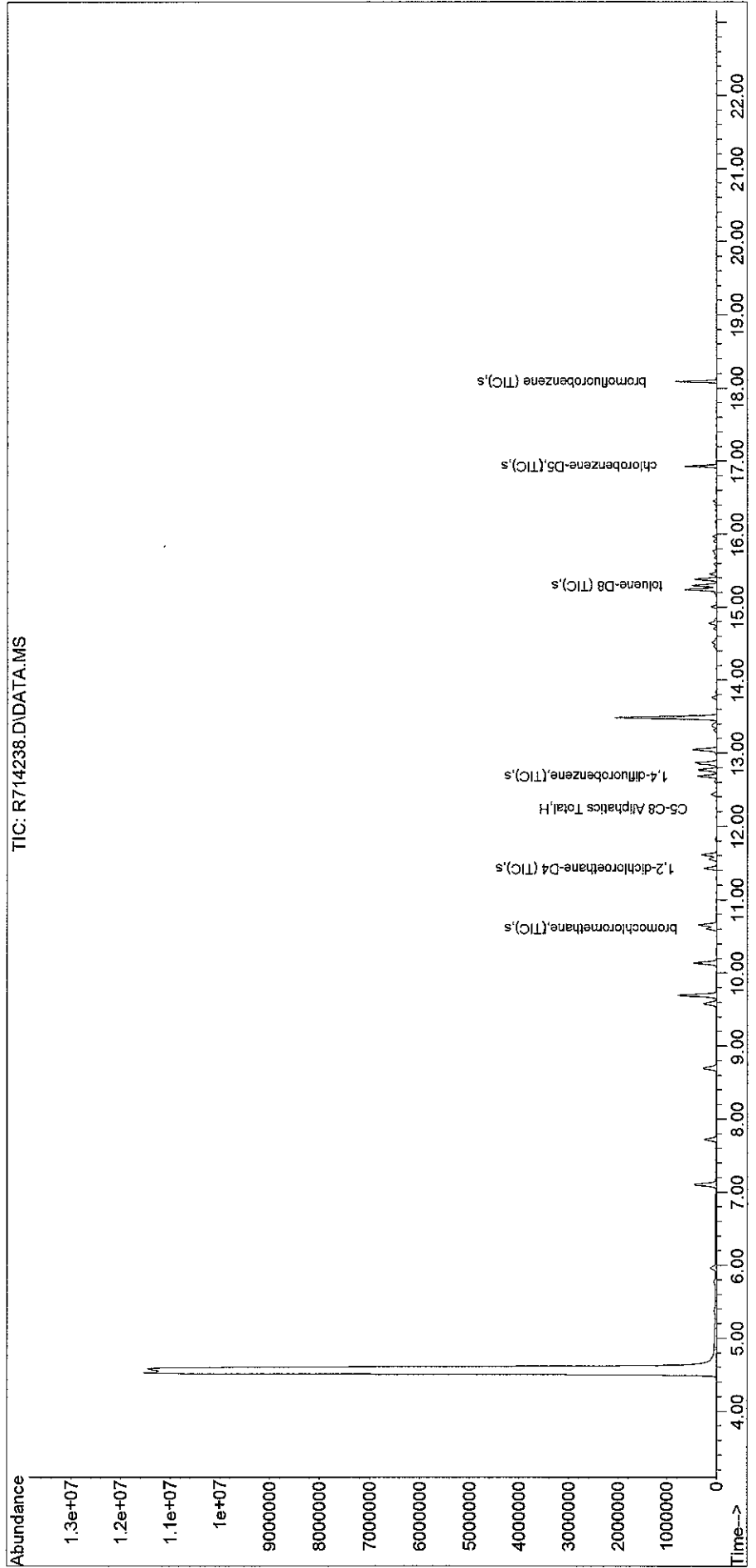




Sub List : APH\_STD\_M - .ion Report (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2011\110104A\  
Data File : R714238.D  
Acq On : 4 Jan 2011 11:04 pm  
Operator : AIRLAB7:bs  
Sample : L1020553-13D,3,21.3115,250  
Misc : WG450261,ICAL5560  
ALS Vial : 9 Sample Multiplier: 1

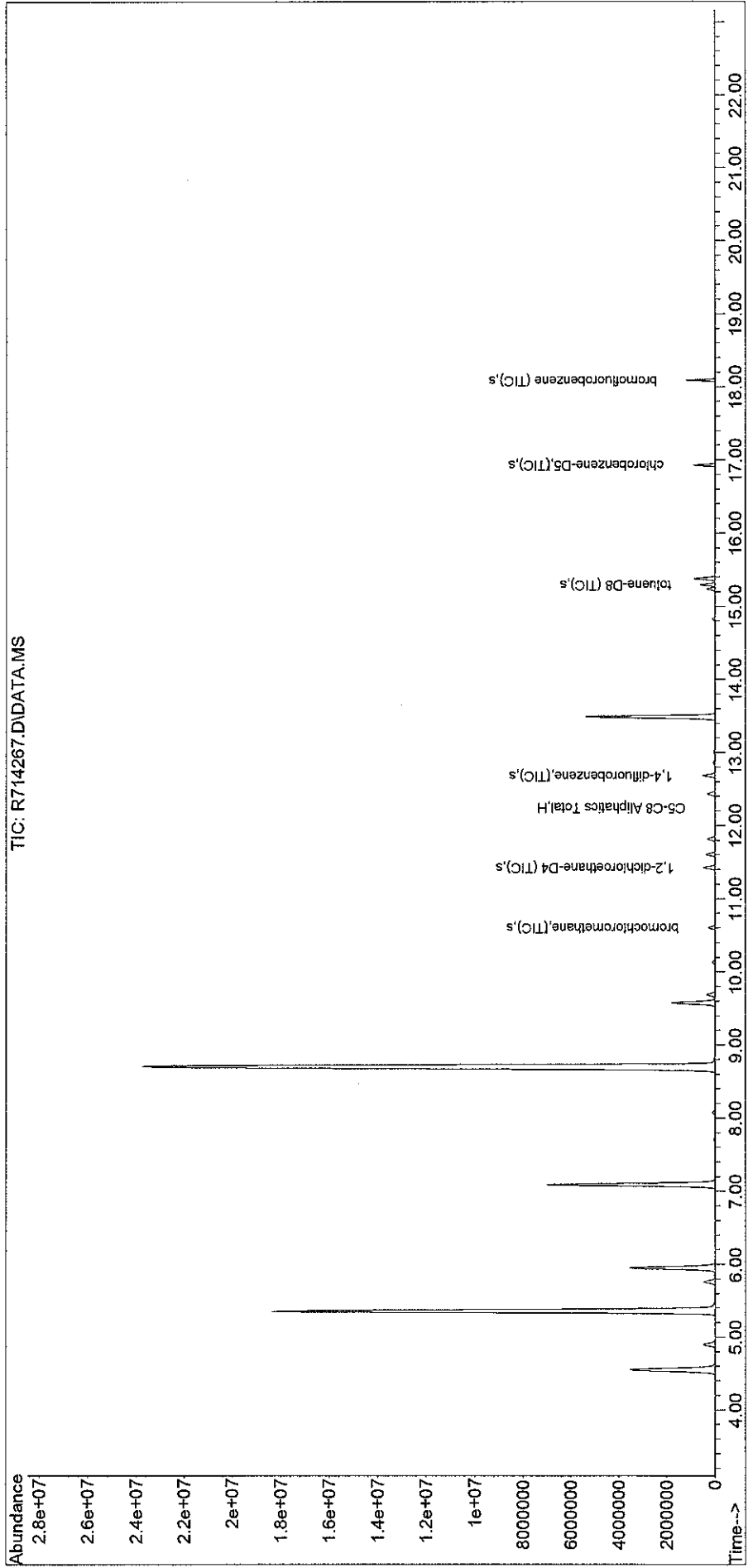
Quant Time: Jan 05 10:58:19 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110104A\APH101229.M  
Quant Title : APH Analysis  
QLast Update : Thu Dec 30 10:02:10 2010  
Response via : Initial Calibration



Sub List : APH\_STD\_M - .ion Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2011\110105A\  
Data File : R714267.D  
Acq On : 6 Jan 2011 3:38 am  
Operator : AIRLAB7:RY  
Sample : L1020553-14D,3,6.0123,250  
Misc : WG450419,ICAL5536  
ALS Vial : 2 Sample Multiplier: 1

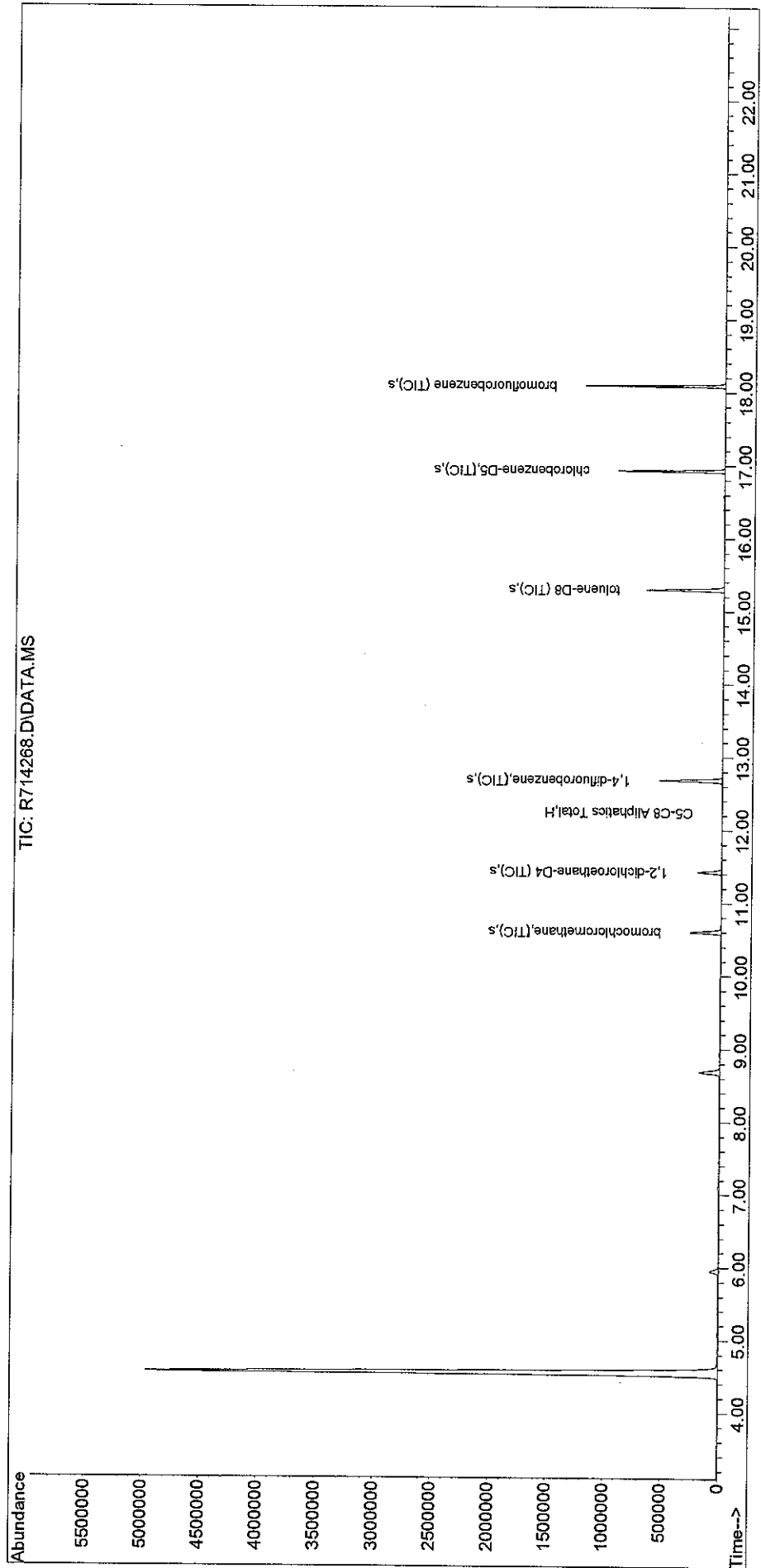
Quant Time: Jan 06 10:03:19 2011  
Quant Method : O:\Forensics\Data\Airlab7\2011\110105A\APH101229.M  
Quant Title : APH Analysis  
QLast Update : Thu Dec 30 10:02:10 2010  
Response via : Initial Calibration



Sub List : APH\_STD\_M - .ion Report (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2011\110105A\  
Data File : R714268.D  
Acq On : 6 Jan 2011 4:12 am  
Operator : AIRLAB7:RY  
Sample : L1020553-15D,3,10.9836,250  
Misc : WG450419,ICAL5536  
ALS Vial : 3 Sample Multiplier: 1

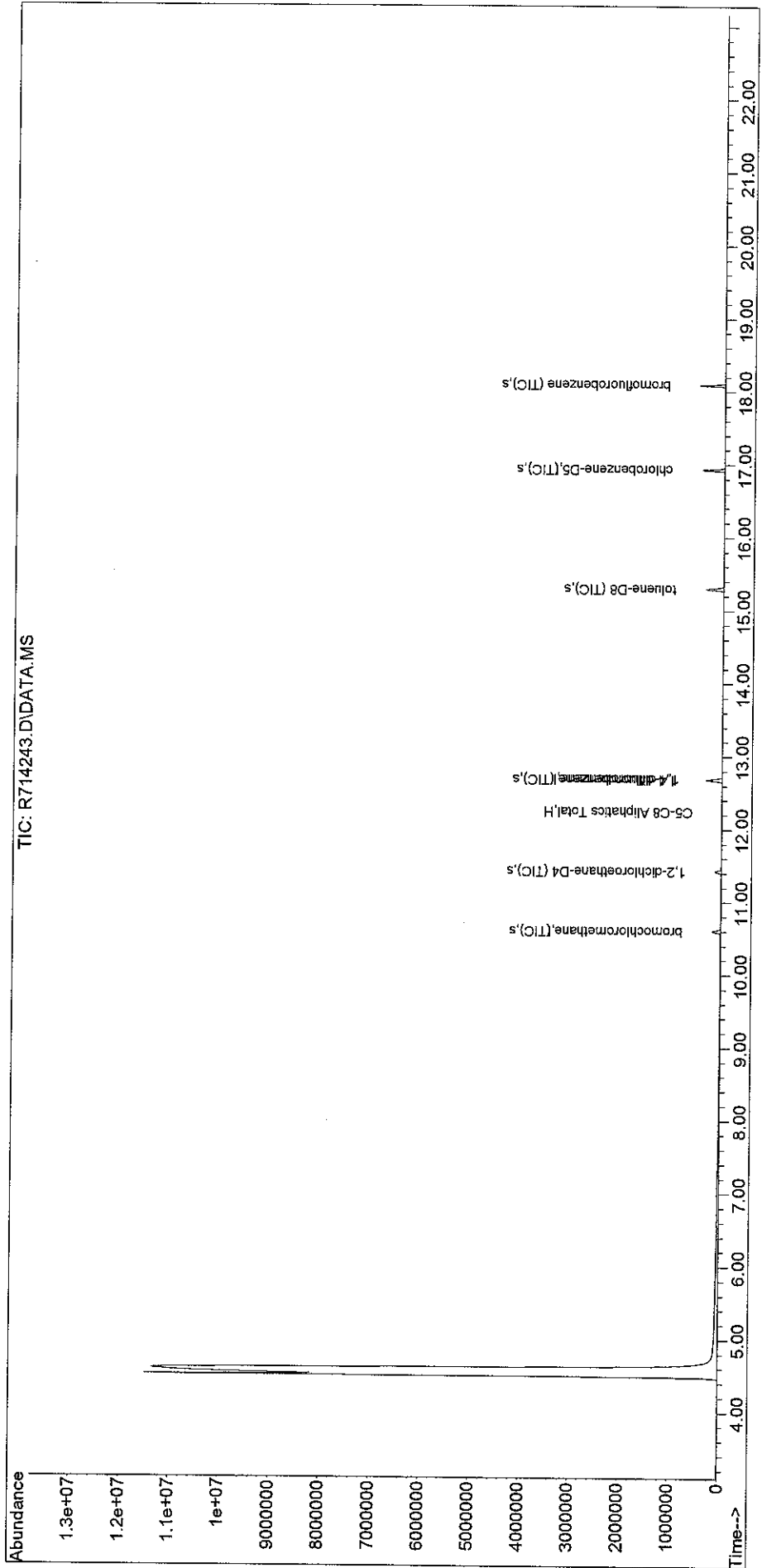
Quant Time: Jan 06 10:09:00 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110105A\APH101229.M  
Quant Title : APH Analysis  
QLast Update : Thu Dec 30 10:02:10 2010  
Response via : Initial Calibration



Sub List : APH\_STD\_M - .ion Report (QT Reviewed)

Data Path : O:\Forensics\Data\AirLab7\2011\110104A\  
Data File : R714243.D  
Acq On : 5 Jan 2011 10:17 am  
Operator : AIRLAB7:bs  
Sample : L1020553-16D2,3,11.80782,250  
Misc : WG450261,ICAL5560  
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 05 10:58:39 2011  
Quant Method : O:\Forensics\Data\AirLab7\2011\110104A\APH101229.M  
Quant Title : APH Analysis  
QLast Update : Thu Dec 30 10:02:10 2010  
Response via : Initial Calibration



Sub List : APH\_STD\_M - .ion Report (QT Reviewed)

Data Path : O:\Forensics\Data\Airlab7\2011\110104A\  
Data File : R714233.D  
Acq On : 4 Jan 2011 8:17 pm  
Operator : AIRLAB7:bs  
Sample : L1020553-17,3,250,250  
Misc : WG450261,ICAL5560  
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 05 10:55:57 2011  
Quant Method : O:\Forensics\Data\Airlab7\2011\110104A\APH101229.M  
Quant Title : APH Analysis  
QLast Update : Thu Dec 30 10:02:10 2010  
Response via : Initial Calibration

TIC: R714233.D\DATA.MS

