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**Additional Site Investigation Report for the  
Former Hot Mix Asphalt Plant Area (AOC #1)  
ACEH Case #RO0002941 and  
Geotracker Global ID #SLT19719376  
Hanson Aggregates Radum Facility  
3000 Busch Road  
Pleasanton, Alameda County, California**

**December 21, 2007  
001-09567-04**

Prepared for  
Hanson Aggregates Northern California  
3000 Busch Road  
Pleasanton, California 94566

Prepared by  
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December 21, 2007

Mr. Jerry Wickham  
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**Subject: Additional Site Investigation Report for the Former Hot Mix Asphalt Plant Area (AOC #1), ACEH Case #RO0002941 and Geotracker Global ID #SLT19719376 Hanson Aggregates Radum Facility, 3000 Busch Road, Pleasanton, Alameda County, California**

Dear Mr. Wickham:

The enclosed “Additional Site Investigation Report for the Former Hot Mix Asphalt Plant Area (AOC #1), ACEH Case #RO0002941 and Geotracker Global ID #SLT19719376, Hanson Aggregates Radum Facility, 3000 Busch Road, Pleasanton, Alameda County, California” (“the SI Report”) was prepared by LFR Inc. (LFR) on behalf of Hanson Aggregates Northern California for the former hot mix asphalt plant area (area of concern [AOC] #1) of the Hanson Aggregates Radum Facility, 3000 Busch Road, Pleasanton, California (“the Site”). This report presents the findings of additional subsurface investigations conducted during October 2007 by LFR to further characterize the extent of contamination in AOC #1. The scope of work for the investigations conducted was described in a work plan that was submitted to Alameda County Environmental Health (ACEH) on May 16, 2007, and was approved by ACEH on June 22, 2007.

The investigations completed during October 2007 included advancing 12 temporary soil borings to collect depth-discrete soil samples and grab groundwater samples, and installing 7 new groundwater monitoring wells located approximately surrounding the Site. The monitoring wells were developed prior to being purged and sampled for the first time on October 22, 2007. The locations of all temporary soil borings and the locations and top of casings of the new wells were surveyed. Groundwater elevations in the new wells were calculated from depth-to-groundwater measurements taken on October 22, 2007. In addition, product samples were collected from a deep soil contamination interval previously encountered in the northern portion of the Site and from the paving oil containment structure for fingerprinting analyses by a specialty forensics analytical laboratory.

This report presents a description of the field investigations completed during October 2007, summaries of analytical data in tabular form and on updated site plans, a discussion of investigation results, and recommendations for additional activities and/or investigations. Also

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included in this report is an overview of the site history and known or suspected environmental conditions, and a summary of previous investigations conducted by LFR and other consultants.

As required, this report will be submitted electronically via the Alameda County Environmental Cleanup Oversight Program FTP website, and via the Regional Water Quality Control Board's Geotracker electronic submittal system.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge. If you have any questions or comments concerning this SI Report, please call me at (925) 426-4170 or Katrin Schliewen of LFR at (510) 652-4500.

Sincerely,



Lee W. Cover  
Environmental Manager  
Hanson Aggregates Northern California

Attachment

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## CERTIFICATIONS

LFR Inc. has prepared this Site Investigation Report on behalf of Hanson Aggregates Northern California in a manner consistent with the level of care and skill ordinarily exercised by professional geologists and environmental scientists. This report was prepared under the technical direction of the undersigned California Professional Geologist.



Expires Feb. 28, 2009

December 21, 2007

Katrin M. Schliewen, P.G.  
Senior Hydrogeologist  
California Professional Geologist No. 7808

Date



December 21, 2007

Ron Goloubow  
Senior Associate Geologist

Date

## EXECUTIVE SUMMARY

This Site Investigation Report presents the results and findings of additional subsurface investigations conducted by LFR Inc. (LFR) in the former hot mix asphalt plant area of the Hanson Aggregates Radum Facility (“the Site”) during October 2007. The primary objectives of the investigations were to further characterize the lateral and/or vertical extent of petroleum hydrocarbons in soil and groundwater and to install groundwater monitoring wells to establish the groundwater flow direction and gradient. The environmental investigations were conducted according to the scope of work described in the May 16, 2007 “Work Plan for Additional Site Characterization at the Hanson Aggregates Radum Facility, 3000 Busch Road, Pleasanton, California,” which was submitted to Alameda County Environmental Health (ACEH) and subsequently approved by ACEH on June 22, 2007, with certain modifications.

In October 2007, 12 temporary soil borings were advanced and 7 groundwater monitoring wells were installed at the Site. Based on the results of the soil and groundwater samples previously collected at the Site, the soil borings were located to collect soil and/or grab groundwater samples in the following three areas within the Site:

- southern portion and west of the former asphalt plant
- west of the former spray rack area
- deep soil contamination area in the northern portion of the Site

Depth-discrete soil and grab groundwater samples were collected from each of the three areas mentioned above for selected laboratory analyses. The analytical results of these samples were evaluated with respect to results from previous investigations conducted at the Site. All analytical results were compared to the Environmental Screening Levels for soil or groundwater beneath commercial/industrial land use areas published by the Regional Water Quality Control Board in November 2007.

Additional specialty analyses were conducted on soil samples collected from the “black product material” that comprises the deep soil contamination in the northern portion of the Site. These samples underwent a leachability analyses to assess whether compounds could be leached out of the soil under acid rain conditions. One soil sample containing the “black product material” from the deep soil contamination was collected for a forensic comparison to the black petroleum product currently within the former oil containment structure.

The results of the October 2007 investigation confirmed that the primary contaminants of concern detected in soil and groundwater at the Site are total petroleum hydrocarbons as diesel (TPHd), and to a lesser extent TPH as motor oil. Other organic compounds, including TPH as gasoline, volatile organic compounds, benzene, toluene, ethylbenzene, and total xylenes, semi-volatile organic compounds, and metals, have been detected only sporadically and inconsistently in isolated soil or groundwater

samples. Fuel oxygenates, lead scavengers, pesticides, and polychlorinated biphenyls have not been detected in any soil or groundwater samples collected at the Site.

In general, the results from LFR's October 2007 investigations confirm that TPH-affected soil is limited in extent both vertically and laterally and that groundwater quality has not been significantly affected at the Site. The southern portion of the Site, the area west of the former asphalt plant, and the area west of the former spray rack have been sufficiently characterized both vertically and laterally.

### ***Northern Portion of the Site - Deep Soil Contamination Area***

Results from investigations to characterize the nature and extent of the deep soil contamination generally indicate that a 2- to 4-foot-thick interval of the black, viscous product material encountered between approximately 28 and 38 feet below ground surface (bgs) is relatively old, was likely buried in place during historical mining operations, is limited in extent and relatively immobile, and is unlikely to further affect soil and groundwater beneath the Site. The results of the forensic analyses indicate that the source of the deep soil contamination is not likely associated with the product that is currently in the former paving oil containment structure. The deep soil contamination was identified as a degraded crude oil while the material in the former paving oil containment structure was identified as a relatively less degraded (i.e., younger) lubricating or hydraulic oil. Leachability tests performed on the soil samples collected from the deep soil contamination indicated that TPHd can be leached out of the soil; however, acidic water (i.e., acid rain) is unlikely to reach the deep soil contamination interval in quantities significant enough to leach TPHd out of the soil. Groundwater samples collected from directly beneath the black product indicate that groundwater beneath the deep soil contamination has not been affected. Measurements taken during the development and collection of samples from the wells showed that the pH of the groundwater ranged between approximately 6.5 and 7.4, indicating that the groundwater at the Site is relatively neutral.

### ***Groundwater Quality and Groundwater Flow Direction***

Groundwater samples were collected from six of the seven monitoring wells and no compounds were detected above laboratory reporting limits in any of the samples. These results indicate that groundwater beneath the Site has not significantly been affected by TPHd or other compounds. The local groundwater flow direction beneath the Site was to the west-northwest on October 22, 2007.

### ***Recommendations***

LFR does not recommend any additional characterization investigations for the Site. LFR does recommend the initiation of a periodic groundwater monitoring and reporting program that would include collecting samples for analysis from the seven groundwater monitoring wells on a quarterly basis for approximately one year. Groundwater samples should be analyzed for TPH and TPH-related compounds. If analytical results

of the samples collected from the wells as part of the periodic monitoring program continue to be below laboratory reporting limits, LFR would recommend that the wells should be properly abandoned.

LFR recommends that all debris and remaining concrete structures, in particular the former paving oil containment structure, be removed and properly disposed of. Under the assumption that the Site will in the future be transferred to Legacy Partners Commercial, Inc., to be developed for commercial/industrial land use, localized soil excavations are recommended to remove TPH-affected soils to a depth of approximately 8 feet bgs, to be protective of the human health of workers during construction and after land development. If appropriate, a deed restriction may be necessary to limit the use of shallow groundwater immediately beneath the Site.

## 1.0 INTRODUCTION

This Site Investigation Report presents the results and findings of additional subsurface investigations conducted by LFR Inc. (LFR) on behalf of Hanson Aggregates Northern California (“Hanson”) to further characterize the extent of affected soil and groundwater in the former hot mix asphalt plant area of the Hanson Aggregates Radum Facility located at 3000 Busch Road, Pleasanton, California (“the Site”; Figure 1). The former hot mix asphalt plant area has been designated as Area of Concern #1 (AOC #1; Figure 2). The scope of work for the investigations conducted at the Site was described in the “Work Plan for Additional Site Characterization at the Hanson Aggregates Radum Facility, 3000 Busch Road, Pleasanton, California,” submitted to Alameda County Environmental Health (ACEH) on May 16, 2007 (“the Work Plan”). The ACEH, as the regulatory agency overseeing the environmental characterization of the Site under ACEH case number #RO0002941 (Geotracker Global ID #SLT19719376), approved the Work Plan on June 22, 2007. In its approval letter, the ACEH modified the proposed scope of work by requesting that additional soil and grab groundwater samples be collected from specific locations and depths, increasing the list of laboratory analyses to be conducted on certain samples, and requesting that additional groundwater monitoring wells be installed.

In accordance with the scope of work in the Work Plan, as approved and modified by ACEH, LFR conducted investigations that included advancing temporary soil borings to collect soil and grab groundwater samples at locations throughout the Site and installing seven new groundwater monitoring wells at locations approximately along the periphery of the Site (Figure 3). As described below, additional characterization investigations, also based on the scope of work in the Work Plan, were conducted in the eastern portion of AOC #2 and in AOCs #3, #6, #7, and #8 (Figure 2) during July 2007. The results of these investigations were submitted to the ACEH under a separate cover on October 26, 2007 (LFR 2007c).

This report summarizes field activities performed at the Site during October 2007, and presents and discusses results from these field activities. This report is organized as follows.

- Section 2.0 presents a description of the Site including a site history and potential environmental impacts, a summary of previous environmental investigations conducted at the Site, and an overview of regulatory oversight to date.
- Section 3.0 describes the methodology of the investigations conducted.
- Section 4.0 presents the results of the environmental investigations conducted to further characterize the extent of contamination previously identified at the Site.
- Section 5.0 presents the results from the new groundwater monitoring wells, including water-quality and depth-to-groundwater data.
- Section 6.0 presents the conclusions and recommendations developed based on the results of the environmental investigations and well sampling.



- Section 7.0 defines LFR's professional limitations.
- Section 8.0 provides a reference list of primary documents related to environmental investigations conducted at the Site and the Radum property to date.

## 2.0 BACKGROUND

### 2.1 Site Description and History

The Radum property is located at 3000 Busch Road, Pleasanton, California, and consists of approximately 1,050 acres located partly within the city limits of Pleasanton and partly within an unincorporated area of Alameda County (Figures 1 and 2). Approximately two-thirds of the property consists of large ponds or lakes, namely Lake I, Lake H, and Cope Pond, created during historical aggregate mining operations (Figure 2). The remaining approximately 320 acres of the property (generally the southern third) consist of developable land. The Site is located in the southwestern portion of the property. As described in the Phase I Environmental Site Assessment (ESA) by ENV America Inc. ("ENV"; ENV 2006a), several buildings currently remain on the property, primarily within AOCs #2 and #3. These include the Hanson offices, a former heavy equipment maintenance shop and attached warehouses, temporary trailers, and a lube shed (AOC #3), and an idle truck maintenance shop currently occupied and used by the City of Pleasanton garbage company (AOC #2). Structures previously associated with the historical mining and aggregate product manufacturing, including the former hot mix asphalt and concrete batch plants, have been removed from the Site. Partial structures such as concrete foundations as well as miscellaneous debris remain within the former hot mix asphalt plant area in AOC #1 (Figure 3).

As described in ENV's Phase I ESA report, mining of sand and gravel in the Livermore-Amador Valley began prior to 1900. Mining operations for aggregate resources at the Site were begun in 1938 by Kaiser Sand and Gravel. Reportedly, as sections of the property were mined out, the former mining pits were used for storage and/or as disposal ponds for water (from dewatering of new pits) and fine-grained sediments (silt and sand) washed out of the aggregate material. In addition, some mining pits were likely backfilled with debris and mine waste, as is evident from debris encountered during drilling. Hanson purchased the property in 1991 and continued mining operations until 2001 when mining was discontinued due to lack of available aggregate materials. Within the former mining operations areas (e.g., the former hot mix asphalt and concrete batch plants), several former underground storage tanks (USTs) were used to store fuel products, including gasoline, diesel, or used or new motor oil.

The area that was the focus of the October 2007 investigations includes the former hot mix asphalt plant area and the irregularly shaped portion of the Hanson property located directly south of the neighboring Kiewit property (Figures 2 and 3). The historical hot mix asphalt process included the use of paving oil, lubricants, and diesel

fuel. The former plant area included a spray rack from which diesel was sprayed into the beds of trucks to prevent asphalt from sticking, overhead conveyors, a truck scale, and various concrete structures. Most of the former structures have been demolished; however, the following site features are currently present in the former hot mix asphalt plant area: the concrete base of the truck scale, the paving oil containment structure, and smaller concrete pads. Standing water and several inches of thick, viscous, black petroleum product can currently be observed in the paving oil containment structure. Based on the results of the soil and groundwater samples previously collected at the Site, the focus of the October 2007 investigation was in the following three areas within the Site:

- southern portion and west of the former asphalt plant
- west of the former spray rack area
- deep soil contamination area in the northern portion of the Site

Historical mining and aggregate processing operations at the Site have resulted in localized petroleum hydrocarbon-affected soil and groundwater beneath the Site.

## **2.2 Regional and Site Geology and Hydrogeology**

### **2.2.1 Regional Geology and Hydrogeology**

The regional geology and hydrogeology summarized in this section are based on information provided in the most recent Zone 7 Water Agency, Alameda County Flood Control and Water Conservation District (Zone 7) Annual Report for the Groundwater Management Program (Zone 7 2007). The Radum property is located in the Livermore-Amador Valley, an east-west trending valley surrounded by north-south trending faults and hills that are part of the Diablo Range. The Site lies within the Main Basin of the Livermore-Amador Valley Groundwater Basin and, more specifically, within the Amador Sub-Basin (Zone 7 2007).

The regional geology consists primarily of alluvial deposits (fan, stream, and lake) that range in thickness from a few feet at the margins to almost 800 feet in the west-central portions of the valley (Zone 7 2007). The alluvial deposits consist primarily of gravels and sands and are underlain by the Livermore Formation, which consists of relatively less permeable clayey gravels and sands, and silts and clays. Two major aquifer zones have been identified: the "Upper Aquifer Zone" and the "Lower Aquifer Zone." The Upper Aquifer Zone is generally unconfined and consists of unconsolidated coarse-grained alluvial sediments (primarily sandy gravel and sandy clayey gravel) encountered beneath surficial clays and between approximately 20 to 40 feet below ground surface (bgs) and 80 to 150 feet bgs. Permeable sediments encountered beneath the Upper Aquifer Zone and the underlying clay aquitard are grouped into the Lower Aquifer Zone, which is semi-confined to confined.

### 2.2.2 Site Geology and Hydrogeology

Subsurface investigations conducted by LFR and others at the Site have encountered unconsolidated sediments consisting predominantly of coarse-grained sediments (mostly gravels) and intervals of finer-grained sediments (clays and silts). Because of the historical aggregate mining activities throughout the property, some areas (including at the Site), likely contain fill material in addition to native sediment. The locations of the former mining pits are not well known or documented. In some soil borings advanced at the Site, particularly in the northern and western portions of the Site, approximately uniformly sized fine-grained gravel (“pea gravel”) and concrete and metal pieces were encountered at depths up to approximately 35 feet bgs, indicative of historical mining pits subsequently filled with sorted aggregate material and/or debris.

Groundwater beneath the Site has been encountered approximately between 45 and 65 feet bgs in temporary soil borings advanced by LFR and other consultants during previous and the current investigations. Depth to groundwater measured in the new groundwater monitoring wells was approximately 47 to 68 feet bgs. Based on groundwater elevations in the new monitoring wells, the local groundwater flow direction appears to be generally to the northwest at a gradient of approximately 0.015 foot per foot.

### 2.3 History of Previous Site Investigations Conducted at the Property

Several subsurface investigations have been conducted throughout the Radum property to date by various consultants, including Baseline Environmental Consulting (“Baseline”), Brown & Caldwell (B&C), ENV, and LFR. Baseline conducted investigations on behalf of Hanson during 1991 and 1995 associated with the removal of former USTs. B&C completed three investigations on behalf of Hanson during 2006 and 2007, including a Phase I ESA, a limited Phase II ESA, and an investigation associated with the removal of two former USTs approximately north of the idle truck maintenance shop in 2003. ENV completed several investigations on behalf of Legacy Partners Commercial, Inc. (“Legacy”) during 2006 and 2007, as part of Legacy’s due diligence work prior to entering into a purchase agreement with Hanson for most of the Radum property. These included a Phase I ESA and a Phase II ESA, and various additional subsurface investigations throughout the Radum property.

The following investigations specific to AOC #1 have been conducted to date. In May 2006, B&C completed a limited subsurface investigation on behalf of Hanson that included advancing approximately four temporary soil borings to collect depth-discrete soil samples (B&C 2006). During September and October 2006, ENV conducted an extensive Phase II investigation on behalf of Legacy that included advancing approximately 34 temporary soil borings to collect soil and/or grab groundwater samples and collecting soil samples from numerous test pits and surface sample locations (ENV 2006b). In November 2006, LFR, on behalf of Hanson, conducted a subsurface investigation that included advancing 24 temporary soil borings to depths ranging approximately from 10 to 60 feet bgs to collect soil and/or grab groundwater

samples (LFR 2006). Based on the results of LFR's November 2006 investigation, Hanson reported to the ACEH the presence of elevated concentrations of petroleum hydrocarbons in soil and groundwater beneath the former hot mix asphalt plant area. As a result, the ACEH opened a case number for the Radum property, which at the time included the Site.

Because of the large number of individual investigations conducted at the Site by various consultants, ACEH requested that a work plan be prepared presenting a comprehensive summary of potential or recognized environmental concerns (PECs or RECs) for the entire Radum property to identify data gaps and propose additional characterization investigations. On behalf of Hanson, LFR prepared the May 16, 2007, Work Plan (LFR 2007a). To facilitate the data review and to focus future investigations, LFR defined nine AOCs that encompassed one or more PECs or RECs. The PECs and RECs were defined by comparing analytical results to the Environmental Screening Levels (ESLs) for commercial/industrial land use areas developed by the Regional Water Quality Control Board (RWQCB 2007). Concentrations were considered elevated, and a PEC or REC was identified, based on whether analytical results exceeded the ESLs. The nine AOCs are shown on Figure 2 and are described below.

- AOC #1 Former Hot Mix Asphalt Plant Area
- AOC #2 Idle Truck Maintenance Area
- AOC #3 Heavy Equipment Maintenance and Wash Rack Area, and PEC Identified by Temporary Soil Boring EB-35
- AOC #4 Former Concrete Batch Plant Area
- AOC #5 Former Mining Operations Area
- AOC #6 Storm-Water Retention Pond
- AOC #7 PEC Identified by Temporary Soil Boring SS-31
- AOC #8 PEC Identified by Temporary Soil Boring SS-123
- AOC #9 Vulcan Materials Company Storm-Water Runoff Area

Environmental site histories and detailed site maps for each of the AOCs were presented in the Work Plan. During July 2007, as proposed in the Work Plan and approved by the ACEH, LFR conducted additional characterization investigations in AOCs #2, #3, #6, #7, and #8. Results and updated site maps for each of these AOCs were presented in the October 26, 2007, Site Investigation Report (LFR 2007c).

In this report, a review of the site history of the former hot mix asphalt plant area is presented with particular emphasis to areas where additional investigations were recommended by LFR and/or requested by ACEH. The detailed site plan for AOC #1 was updated to include sample locations and analytical results from the investigations completed during October 2007.

It should be noted that the RWQCB revised the ESLs in November 2007 (RWQCB 2007). All analytical results presented in this report, including from previous investigations conducted at the Site, are compared to the November 2007 ESLs. The revised ESLs are included in the summary tables. In general, the 2007 ESLs do not significantly change conclusions previously made based on the 2005 ESLs.

## 2.4 Regulatory Determinations

Based on its review of documentation and reports of environmental investigations conducted by various consultants on behalf of Hanson and Legacy, ACEH issued a letter to Hanson on March 16, 2007, requesting that a work plan be prepared to propose a scope of work for additional site-wide characterization investigations. ACEH requested that the work plan include:

- a detailed site history
- a description of current conditions and PECs or RECs
- an improved presentation of available analytical data
- copies of relevant reports or documents not previously provided to ACEH, in particular regarding environmental investigations conducted at the neighboring Kiewit property and case closure letters from regulatory agencies for former USTs
- a scope of work for additional characterization investigations

LFR prepared and submitted the May 16, 2007 Work Plan to ACEH, addressing ACEH's requests. In the Work Plan, LFR included a summary of the various PECs and RECs on a site-wide basis, a comprehensive summary of all available analytical data, individual site maps presenting analytical data and site features at appropriate scales, and a scope of work for additional characterization investigations (LFR 2007a). On June 20, 2007, a project planning meeting was held at the ACEH offices between ACEH, Hanson, and Legacy. LFR and Nuquest were present as consultants to Hanson, and ENV and AIG were present as consultants to Legacy. The meeting was held to discuss current site conditions, the Work Plan and proposed scope of work, and the anticipated property transfer for the majority of the Hanson property to Legacy. During this meeting, two areas were highlighted as being of primary environmental concern, namely the deep soil contamination in the northern portion of the former hot mix asphalt plant area and in the vicinity of former soil boring SS-123.

ACEH subsequently approved the Work Plan in a letter dated June 22, 2007, and provided technical comments consisting primarily of requests for advancing certain proposed soil borings deeper and conducting additional analyses on soil and/or groundwater samples collected from specific locations (ACEH 2007c). ACEH agreed with LFR that no additional investigations would be required in the western portion of AOC #2 or in AOCs #4, #5, or #9.

### 2.4.1 Property Transfer and New Case Number

In anticipation of the property transfer between Hanson and Legacy, the Radum property has been divided into two primary parcels, allowing the investigations and summary reports to be focused separately on the two portions of the Radum property.

It is LFR's understanding that Hanson has retained the portion of the property delineated by the Lot Line Adjustment, the approximately 15-acre area defined as Parcel 1, and the small, irregularly shaped area located south of the Kiewit property, and that the rest of the Site has been transferred to Legacy (Figure 2). In anticipation of the planned property transfer from Hanson to Legacy, Hanson requested that ACEH assign a separate Spills, Leaks, Investigations, and Cleanups (SLIC) case number to the portion of the property transferred to Legacy (LFR 2007b). ACEH approved this request (ACEH 2007d), and currently there exist two SLIC case numbers for the Site, defined as follows:

- ACEH SLIC case number RO0002941 and Geotracker Global ID SLT19719376 refer to the approximately 15-acre Parcel 1 and the small area south of the Kiewit property, including AOC #1 and the western portion AOC #2.
- ACEH SLIC case number RO0002952 and Geotracker Global ID SL0600101555 refer to the remainder of the Hanson Radum property, including the eastern portion of AOC #2 and AOCs #3 through #9.

## 2.5 Previous Investigation Conducted in the Former Asphalt Plant Area

The former hot mix asphalt plant was located approximately in the center of the Site (Figure 3). Historical operations included the use of paving oil, lubricants, and diesel fuel. Currently, partially demolished concrete structures remain at the Site, such as the foundations of the former truck scale and former paving oil containment structure. Oily water and several inches of almost-solid petroleum product are visible inside the former paving oil containment structure. Previous investigations conducted by LFR and other consultants (on behalf of Hanson) consisted of collecting soil and grab groundwater samples from temporary soil borings and test pits located throughout the Site that were advanced to depths ranging from near the ground surface to approximately 60 feet bgs. The primary contaminants of concern (COCs) detected in soil and groundwater were identified as total petroleum hydrocarbons as diesel (TPHd) and TPH as motor oil (TPHmo). Other compounds including TPH as gasoline (TPHg), a few petroleum hydrocarbon-related semi-volatile organic compounds (SVOCs), and several metals have also been detected sporadically and inconsistently in soil samples.

As described in the Work Plan and in the June 22, 2007 letter by the ACEH, certain areas of the Site were targeted as warranting additional lateral and/or vertical characterization. In particular, these were: the southern portion of the former asphalt plant, west of the former asphalt plant, west of the former spray rack area, the deep soil contamination in the northern portion of the Site, and groundwater beneath the

Site. Known site conditions for these areas targeted for additional investigations are briefly described in this section.

### 2.5.1 Southern Portion of the Former Asphalt Plant

Previous investigations conducted in the southern portion of the former asphalt plant area showed that the primary COC in this area is TPHd. TPHd was detected at concentrations above the ESL (83 milligrams per kilogram [mg/kg]) in soil samples collected between approximately 7.5 to 15 feet bgs from former sample locations AP4, B1, B3, B4, and EB13. Reported concentrations ranged from 320 to 7,300 mg/kg. TPHg was detected at a concentration above the ESL (83 mg/kg) in one soil sample, namely the 10-foot sample collected from former boring EB13. It should be noted that this was the only sample that contained TPHg at a concentration above the ESL in any sample collected from the entire Site to date.

Based on results from previous investigations, LFR recommended that the lateral extent of TPHd in soil be further characterized to the south by advancing a temporary soil boring to approximately 25 feet bgs located approximately 50 feet to the south of former boring EB13. The ACEH concurred, and requested that an additional soil boring be advanced deep enough to collect a grab groundwater sample from an additional soil boring located near former boring B4. In addition, the ACEH requested that another temporary soil boring be advanced at a location to the northeast, approximately between former borings B4 and EB29. This additional soil boring to the northeast would serve to assess whether TPHd and TPHmo detected in groundwater collected at the former boring EB29 location are associated with TPHd detected in soil samples from the southern portion of the former asphalt plant area.

### 2.5.2 West of the Former Asphalt Plant

The area approximately west and southwest of the former asphalt plant was described by ENV in their Phase I ESA report as an area of “contaminated soil along the southwest border of the Site between the Hanson property and the Kiewit [*sic*] property” (ENV 2006a). In the Work Plan, LFR stated that the “contaminated soil area” referred to by ENV is likely the area of contaminated soil excavated primarily from the Kiewit property during a self-directed soil remediation conducted in 2003 (TRC 2004). The RWQCB subsequently issued a “No Further Action” letter for this remediation effort (RWQCB 2004).

Previous investigations conducted in this area by ENV and LFR consisted of temporary soil borings and test pits advanced to approximately 18 feet bgs and one temporary soil boring advanced deep enough to collect a grab groundwater sample. The primary COCs detected were TPHd and TPHmo. TPHd was detected at concentrations above the ESL up to 4,100 mg/kg and TPHmo was detected at concentrations above the ESL up to 19,000 mg/kg in soil samples collected from former sample locations B5, B6, and CS2, at depths down to approximately 18 feet bgs. No compounds were detected

above their laboratory reporting limits in the grab groundwater sample collected from former boring EB16.

Based on results from previous investigations, LFR recommended that the vertical extent of TPH in soil be further characterized in this area by advancing one temporary soil boring to approximately 25 feet bgs. LFR noted that because of the nearby Hanson property line and bushes located to the west, the lateral extent of TPH in soil could not be reasonably characterized further to the west. The ACEH concurred, although requested that additional characterization to the north and to the south be conducted.

### **2.5.3 West of the Former Spray Rack Area**

Temporary soil borings and test pits were advanced approximately west of the former spray rack area. Analytical results for one soil sample collected from approximately 5 feet bgs from former boring EB30 contained TPHd at a concentration above the ESL (at 200 mg/kg). Based on results from previous investigations, LFR recommended that this area be further characterized to the west by collecting soil samples from two shallow temporary soil borings located approximately at the property line and to the west of former location EB30, and the ACEH concurred.

### **2.5.4 Deep Soil Contamination**

A petroleum hydrocarbon product described alternatively as a thick, heavy, black, and/or viscous free product was identified in soil (primarily visually) between approximately 30 and 40 feet bgs by ENV approximately in the northern half of the former asphalt plant area (ENV 2006b). ENV observed this product in seven temporary soil borings (EB14, EB21, EB23, EB24, EB25, EB26, and EB33). LFR subsequently confirmed the presence of this material in former soil boring B16 in a soil sample collected from approximately 30 to 31.5 feet bgs; however, the product material was not present in the sample collected from approximately 35 to 36.5 feet bgs from boring B16. Based on ENV's reports and LFR's field investigation results, LFR concluded that the interval of the product material is less than the 10-foot interval suggested by ENV (ENV 2006b). Analytical results from the one soil sample collected from the black product material, from approximately 33.5 feet bgs in former boring EB14, contained TPHd and TPHmo at concentrations of 7,800 and 8,700 mg/kg, respectively, both exceeding the ESLs (see Figure 1 of the Work Plan and Figure 4B).

The soil boring locations in which the deep soil contamination has been identified are highlighted on Figures 4A and 4B with orange circles. In the Work Plan, LFR concluded that the lateral extent to the southeast and the vertical extent of the deep soil contamination had not been sufficiently characterized. In addition, the potential source of the petroleum product had not been identified. LFR stated that the black product material potentially was emplaced during the historical mining operations conducted in this area of the Site, possibly placed into an open mine pit and buried as a means of disposal. However, thick, black product material currently found inside the concrete foundation of the former paving oil containment structure located approximately



southwest of the deep soil contamination area was also identified as a potential source of the deep soil contamination.

In the Work Plan, LFR recommended that three temporary soil borings be advanced in this area, two approximately through the deep soil contamination area to better characterize the vertical extent, and one approximately to the southeast to further characterize the lateral extent to the southeast. LFR proposed to collect depth-discrete soil samples from above, within, and beneath the black product interval, where present, and recommended collecting grab groundwater samples from each of the three new soil borings. In addition, LFR recommended collecting at least one depth-discrete soil sample from within the black product interval and one grab sample from the black product located in the former oil containment structure, to be analyzed by a specialty forensics laboratory. The forensics laboratory would run “fingerprinting analyses” to assess whether the source of the deep soil contamination could be attributed to the product material in the paving oil containment structure, and to determine the relative age of the product in the two samples.

The ACEH concurred with the proposed scope of work; although, the ACEH also requested that a groundwater monitoring well be installed beneath the deep soil contamination interval to determine whether groundwater had been affected in this area.

#### **2.5.5 Groundwater Contamination and Flow Direction**

Grab groundwater samples had previously been collected from seven temporary soil borings, four soil borings advanced by ENV (EB15, EB16, EB22, and EB29), and three soil borings advanced by LFR (B21, B22, and B23; Figure 4B). The grab groundwater samples were collected from first encountered groundwater, between approximately 50 and 60 feet bgs. TPHd and/or TPHmo were detected at concentrations that exceeded the ESLs in only two of seven grab groundwater samples (soil borings EB29 and B22). TPHd and TPHmo were detected in the grab groundwater sample collected from former boring EB29 located approximately 60 feet south of the deep soil contamination area at concentrations of 150 micrograms per liter ( $\mu\text{g}/\text{l}$ ) and 850  $\mu\text{g}/\text{l}$ , respectively. TPHd was detected in the grab groundwater sample collected from former boring B22 located approximately 40 feet northeast of the deep soil contamination at a concentration of 1,700  $\mu\text{g}/\text{l}$ . TPHd and TPHmo were not detected in any other grab groundwater samples.

Based on these results and considering the presence of the deep soil contamination discussed above, LFR concluded that the lateral extent of TPH in groundwater had not been sufficiently characterized to the east of boring B22 and to the south of boring EB29. In addition, the local groundwater flow direction and gradient beneath the Site were unknown. In addition to advancing three temporary soil borings deep enough to collect grab groundwater samples, LFR recommended that five groundwater monitoring wells be installed at locations approximately surrounding the former asphalt plant area. The ACEH concurred, but requested that a total of five temporary soil

borings be advanced deep enough to collect grab groundwater samples and that a total of seven groundwater monitoring wells be installed. The ACEH requested that one additional well be installed in the irregularly shaped area south of the Kiewit property and a second well be installed in the vicinity of former boring EB14 to monitor groundwater quality beneath the deep soil contamination (Figure 3).

## 2.6 Investigation Objectives and Scope of Work

The primary objectives of the subsurface investigations conducted at the Site during October 2007 were to further characterize the lateral and/or vertical extent of petroleum hydrocarbons in soil and groundwater, and to install new groundwater monitoring wells. The scope of work presented in the Work Plan was modified in accordance with technical comments from the ACEH. The final scope of work included the following:

### ***Southern Portion of the former asphalt plant***

- Advance three temporary soil borings (one to approximately 20 feet bgs and two to approximately 60 feet bgs) to collect depth-discrete soil samples and/or grab groundwater samples to further characterize the lateral and vertical extent of TPH in soil and groundwater in this area.

### ***West of the former asphalt plant***

- Advance three temporary soil borings to approximately 25 feet bgs to collect depth-discrete soil samples to further characterize the lateral and vertical extent of TPH in soil in this area.

### ***West of the former spray rack area***

- Advance two temporary soil borings to approximately 10 feet bgs to collect depth-discrete soil samples to further characterize the lateral extent of TPH in soil to the west.

### ***Deep Soil Contamination***

- Advance three temporary soil borings to approximately 60 feet bgs, or first encountered groundwater, to collect depth-discrete soil and grab groundwater samples to further characterize the lateral and vertical extent of the black product material previously identified in soil between approximately 30 and 40 feet bgs.

## **Groundwater**

- Install seven groundwater monitoring wells, located approximately around the former asphalt plant area, south of the Kiewit property, and beneath the deep soil contamination to assess groundwater quality and the local groundwater flow direction and gradient.

## **3.0 INVESTIGATION METHODOLOGY**

### **3.1 Pre-Field Activities**

#### **3.1.1 Permitting**

LFR applied for and received the appropriate soil boring drilling permit from Zone 7. Based on the drilling locations, no other permits were required for the proposed activities. A copy of the approved soil boring permit is included in Appendix A.

#### **3.1.2 Subsurface Utility Clearance**

LFR notified Underground Service Alert (USA) to identify any public underground utilities located in the vicinity of the proposed drilling locations; no utility alerts were received. LFR also subcontracted a private underground utility locator to clear all proposed drilling locations using geophysical location methods. All proposed drilling locations were cleared satisfactorily. Where soil conditions permitted, the upper 5 feet of soil borings were advanced using a hand-auger as an additional precaution against encountering underground utilities.

#### **3.1.3 Health and Safety Plan**

The existing site-specific Health and Safety Plan (HSP) previously prepared by LFR for subsurface investigations was updated to address health and safety concerns specific to the planned field activities. Daily health and safety tailgate meetings were conducted prior to beginning fieldwork, and fieldwork was monitored to ensure that appropriate health and safety procedures were followed during the field investigations.

In accordance with Hanson's standard facility operations, LFR and LFR's subcontractors also attended an on-site health and safety training conducted by a Hanson representative.

### **3.2 Temporary Soil Borings**

During the October 2007 investigation, LFR advanced 12 temporary soil borings to depths ranging approximately from 10 to 70 feet bgs, as described below. Soil boring locations B25 (and B25A) through B35 are shown on Figure 3.

### 3.2.1 Drilling and Lithologic Logging

LFR subcontracted Cascade Drilling, Inc., of Rancho Cordova, California, a state-certified drilling subcontractor, to advance the 12 temporary soil borings using 8-inch-diameter hollow-stem auger (HSA) drilling technology with a CME-75 drill rig. Drilling and soil and grab groundwater sampling activities were completed during October 4 through 10, 2007. During drilling, continuous soil cores were collected for lithologic evaluation and field screening. LFR collected depth-discrete soil samples for laboratory analyses from intervals where field screening and field observations indicated the possible presence of petroleum hydrocarbons or other contaminants in the soil. Where no indication of contamination was observed in the soil cores, LFR collected depth-discrete soil samples at approximately 5-foot intervals, from targeted depths, depending on the soil boring location.

Field boring logs were prepared by an LFR field geologist for each soil boring location. Lithologic descriptions based on the Unified Soil Classification System (American Society for Testing and Materials [ASTM] D2488-00) and field screening observations were recorded on the field boring logs. Soil boring logs were reviewed and edited by a California Professional Geologist, and were transcribed into report-quality graphic logs presented in Appendix B.

Soils encountered during drilling consisted predominantly of coarse-grained sediments (gravels and sands) with intervals of finer grained sediments (clays and silts). Soil cores were reviewed for visible or olfactory indications of the presence of petroleum hydrocarbons, and also were field screened using a portable photoionization detector (PID). Field observations and PID readings are noted on lithologic logs, and intervals selected for collecting soil samples for laboratory analyses were selected in part based on the results of the field screening and observations.

Downhole drilling and sampling equipment was appropriately cleaned with high-pressure hot water (steam cleaned) before use at each new drilling location. After soil and groundwater samples were collected, each borehole was abandoned by sealing it with a mixture of cement and bentonite ("grout") from the bottom up to the ground surface using a tremie pipe if groundwater was present or poured directly into the borehole if groundwater was not present. Waste soil generated during drilling was placed on plastic tarps on the ground surface near each temporary soil boring and will be disposed of as necessary during future land development activities.

### 3.2.2 Depth-Discrete Soil Sampling

Depth-discrete soil samples were selected for laboratory analyses based on the potential presence of contaminants, in particular petroleum hydrocarbons, as apparent from field screening using a PID or from visual/olfactory evaluation of the soil cores. Soil samples selected to be submitted for laboratory analyses were transferred from the core barrel to clean brass tube liners or glass jars, which then were sealed, properly labeled,

and stored in ice-chilled coolers for daily transport to the analytical laboratory under chain-of-custody protocol.

### **3.2.3 Grab Groundwater Sampling**

Five of the 12 temporary soil borings were advanced deep enough to collect grab groundwater samples. After drilling was completed, a temporary polyvinyl chloride (PVC) well screen and casing was placed through the HSA, which in turn was raised approximately 3 to 5 feet to allow groundwater to enter the borehole. Grab groundwater samples were collected using clean, disposable bailers lowered into the PVC casing and gently pouring the groundwater from the bailer into the appropriate clean, laboratory-supplied water sample containers. Sample containers were properly labeled and stored in ice-chilled coolers for daily transport to the analytical laboratory under chain-of-custody protocol.

## **3.3 Groundwater Monitoring Wells**

Seven new groundwater monitoring wells (MW-1 through MW-7) were installed during October 1 through 10, 2007 (Figure 3). Five of the new wells are located approximately surrounding the former asphalt plant area to create a groundwater monitoring network consisting of both upgradient and downgradient wells (prior to the well installation, the local groundwater flow direction was believed to be approximately to the east). Wells MW-1 and MW-2 are located approximately along the western edge of the Hanson property and wells MW-4, MW-5, and MW-6, are located approximately to the northeast, east, and southeast of the former asphalt plant area. Two of the wells were located to monitor water quality in specific locations, namely to monitor water quality beneath the deep soil contamination (well MW-3) and to monitor water quality near the soil remediation activities previously conducted on the Kiewit property (well MW-7).

### **3.3.1 Drilling and Monitoring Well Installation**

LFR subcontracted Spectrum Exploration of Stockton, California, a state-certified drilling subcontractor, to drill the soil borings and install the new groundwater monitoring wells. Each soil boring was drilled using an 8-inch-diameter HSA drill rig, similar to the soil boring drilling described above. The total depth for each boring was targeted to install a well screen to monitor the groundwater table through seasonal elevation changes in addition to monitoring the water quality of first encountered groundwater. Total depths for five of the seven wells ranged approximately from 55 to 65 feet bgs. One well was installed relatively shallower (MW-4; to approximately 48 feet bgs) and one relatively deeper (MW-5; to approximately 74 feet bgs), as described further below. With the exception of wells MW-4 and MW-5, which were installed with 5-foot-long well screens, 10- or 15-foot-long well screens were installed for each well. A summary of well construction details is included in Table 2.

Each monitoring well was constructed using 2-inch-diameter Schedule 40 PVC well casing and machine-slotted Schedule 40 PVC well screens with a 0.020-inch slot size. Well screen filter packs consisting of #3 clean silica sand were placed in the borehole annular space around each well screen interval and extended to approximately 2 feet above the top of the well screen. Bentonite pellets were placed in the annular space above the filter packs to create an approximately 2- to 3-foot-thick bentonite seal between the filter pack and the cement grout used to fill the remaining annular space to near ground surface.

Each monitoring well casing is equipped with a locking well cap. The surface completions consist of 4-inch square, aboveground, stove-pipe well boxes equipped with locking access lids, installed in concrete pads. Three steel bollards were installed surrounding each well to protect the well casing and box from damage.

Soil boring logs including well completion details are presented in Appendix B. Well completion details are summarized in Table 2.

#### ***Well MW-4***

Well MW-4, located furthest to the northeast (Figure 3), was installed with a relatively shallow well screen interval compared to the other wells because of field conditions encountered during drilling. During drilling, groundwater was first encountered at approximately 36 feet bgs, significantly higher than in other soil borings where groundwater typically was first encountered between approximately 48 and 65 feet bgs. Approximately 4 feet of groundwater was measured in the boring hole when drilling temporary was halted at 40 feet bgs. The sediments encountered from approximately 7.5 to 40 feet bgs consisted predominantly of gravels. The boring was advanced further through clay encountered between approximately 40 and 42 feet bgs below which were encountered sandy gravels and gravels. The boring was advanced to a total depth of approximately 48 feet bgs and after drilling was halted, approximately 4.5 feet of water remained in the borehole. Based on these field observations, monitoring well MW-4 was constructed with a 5-foot well screen from approximately 43 to 48 feet bgs. However, as is described in the following sections, only approximately 1 foot of water was found present in the well two weeks later when the well was developed and there was insufficient water present for sampling.

#### ***Well MW-5***

Well MW-5, located furthest east within the Site (Figure 3), was installed with a relatively deep well screen interval compared to the other wells because of field conditions encountered during drilling. The borehole for well MW-5 initially was drilled at a location approximately 65 feet north of the final well location. During drilling borehole MW-5A, clay was encountered from approximately 16 to 40 feet bgs, below which a gravelly sand was encountered to approximately 50 feet bgs, below which a lean clay again was encountered (with a minor sandy silt interval at approximately 60 to 60.5 feet bgs) to a depth of approximately 70.5 feet bgs (see the

log for well MW-5 in Appendix B). An increase in the moisture content of the sediments was encountered from approximately 46 feet bgs, however no groundwater entered the borehole, even after drilling was temporary halted after every 5-foot core run and the augers were raised to allow groundwater to enter the borehole. Groundwater was first encountered at a depth of approximately 70.5 feet bgs, approximately where gravelly sand was encountered beneath the lean clay. Borehole MW-5A was completed to approximately 75 feet bgs and no well was installed at this location, although a grab groundwater sample was collected from approximately 66 feet bgs prior to abandoning the boring.

A new borehole was drilled for well MW-5 at a location approximately 65 feet to the south of the MW-5A location (Figure 3). At a depth of where groundwater was first encountered in other locations at the Site, between approximately 45 and 55 feet bgs, the following lithology was encountered (see log in Appendix B for more details):

- gravelly sand from approximately from 45 to 51 feet bgs
- clay from approximately from 51 to 59 feet bgs
- silty sand and sandy silt from approximately from 59 to 69.5 feet bgs

Although sediments were moist, no groundwater entered the borehole. Gravelly sand was encountered below approximately 69.5 feet bgs and groundwater was encountered at approximately 70 feet bgs. The borehole was advanced to a total depth of approximately 75 feet and approximately 5 feet of water was measured in the borehole after drilling ceased. Because of the relatively less permeable sediment encountered to approximately 69.5 feet bgs, and because the depth to groundwater did not significantly rise after approximately two hours, well MW-5 was installed with a relatively short 5-foot screen from approximately 69 to 74 feet bgs.

### **3.3.2 Lithologic Logging**

Similarly to the temporary soil borings, soils encountered during drilling consisted predominantly of coarse-grained sediments (gravels and sands) with intervals of finer grained sediments (clays and silts). Soil cores were reviewed for visible or olfactory indications of the presence of petroleum hydrocarbons, and also were field screened using a PID; field observations and PID readings are noted on lithologic logs.

With the exception of the boring for well MW-3, no evidence of petroleum hydrocarbons was identified during drilling. Well MW-3 is located approximately within the deep soil contamination area. In this soil boring, strong petroleum hydrocarbon odor and flecks of black product were observed in the soil core from approximately between 31 and 32 feet bgs, at approximately 35 feet bgs, and also approximately between 36 and 37 feet bgs. Elevated PID readings up to 33 parts per million were measured at these depths.

### 3.3.3 Well Development

The new wells were developed approximately nine days after installation. LFR subcontracted Gregg Drilling and Testing, Inc., of Martinez, California, to conduct the well development under the direction of an LFR field geologist on October 18 and 19, 2007. The well development activities involved a combination of surging (using a surge block) and pumping (using a submersible pump and/or disposable bailer) each monitoring well to remove at least 10 well-casing volumes of groundwater and/or until the well dewatered, with the purpose of removing fine-grained sediment from the wells and improving their hydraulic efficiency. Water-quality parameters, including pH, temperature, and specific conductance, were recorded during well development activities. Depth to water before, during, and after well development was also measured. Copies of field forms are included in Appendix D.

At least 10 casing volumes were successfully removed during the development of wells MW-1, MW-2, MW-3, MW-5, MW-6, and MW-7, for a total of approximately 140 gallons of water. Water generated during well development activities was contained in 55-gallon steel drums temporarily stored on site pending wastewater removal coordination.

Well MW-4 did not contain sufficient water to conduct proper well development (approximately 1 foot of water was present). The well dewatered after removing the standing water and only partially recovered after approximately five hours. The well dewatered again during additional pumping and did not recover significantly.

### 3.3.4 Initial Groundwater Sampling

LFR collected samples from each new monitoring well (except well MW-4) on October 22, 2007, several days after well development was completed. Well purging and sampling was completed using clean, single-use disposable plastic bailers. Purge water was contained in a labeled 55-gallon drum on site. Each well (except well MW-4) was purged of approximately three casing volumes until water-quality parameters monitored during purging stabilized, or until the well(s) dewatered, in accordance with conventional groundwater monitoring well sampling methods. Water-quality parameters and purge volumes were recorded on field sheets, copies of which are included in Appendix D.

Well MW-4 did not contain a sufficient amount of water to properly purge the standing water out of the well (approximately 1 foot). The well dewatered during purging and did not sufficiently recover over approximately six hours. A grab sample was collected from the well; however, because the grab sample consisted of very turbid water that may not be representative of formation water, the grab sample was placed on hold and was not analyzed.



Depth to groundwater was measured in each well on October 22, 2007, prior to well purging. Water levels and calculated groundwater elevations are summarized in Table 2 and are presented on Figure 6.

Groundwater samples were collected in laboratory-provided sample containers and stored on ice in a cooler for transportation to the laboratory under chain-of-custody protocol. The following quality assurance and quality control (QA/QC) samples were collected: one duplicate groundwater sample was collected from well MW-3; one equipment blank sample was collected through a clean, disposable bailer using laboratory provided de-ionized water; and one laboratory-provided trip blank sample was included in the cooler with the groundwater samples.

### 3.4 Laboratory Analyses

All soil and groundwater samples selected for laboratory analyses were submitted to Curtis & Tompkins, Ltd. (C&T), a California-certified analytical laboratory located in Berkeley, California. All samples were analyzed for one or more of the following parameters:

- TPHd and TPHmo by U.S. Environmental Protection Agency (EPA) Method 8015 (after undergoing silica gel cleanup)
- TPHg by EPA Method 8015 (soil samples) or EPA Method 8260 (groundwater samples)
- VOCs, benzene, toluene, ethylbenzene, and total xylenes (BTEX), fuel oxygenates, and lead scavengers by EPA Method 8260
- SVOCs by EPA Method 8270
- pesticides by EPA Method 8081
- polychlorinated biphenyls (PCBs) by EPA Method 8082
- metals by EPA Method 6010 (CAM17 list or LUFT-5 list and arsenic, depending on sample location and purpose)

Table 1 presents a sample matrix that summarizes the laboratory analyses conducted for individual soil, groundwater, and product samples collected from the Site during the October 2007 investigations.

Analytical results are summarized in Tables 3 through 16 based on certified analytical reports included in Appendix C. A data validation discussion of QA/QC issues identified in the certified analytical reports is presented in Appendix E.

### 3.5 Field Documentation

Field activities were documented using the appropriate forms for HSP tailgate meetings, daily field reports, field boring logs, sample labels, and chain-of-custody forms. Forms will be kept on file at LFR and will be available upon request.

### 3.6 Soil Boring and Well Location Survey

LFR subcontracted Kier & Wright Civil Engineers & Surveyors, Inc., a licensed land surveyor to survey the location of temporary soil borings and groundwater monitoring wells, and the top of casing elevations of the new groundwater monitoring wells. Soil boring and well locations from the October 2007 field investigations presented on Figures 3 through 5 are based on the land survey results.

In addition, the locations of previous soil borings (B1 through B24) advanced at the Site during LFR's November 2006 investigation were also surveyed; however, the locations of former borings B13, B19, and B22 could no longer be identified in the field and so were not surveyed. With the exception of these three former soil borings, the locations of all soil borings drilled and of wells installed by LFR are accurately depicted on the site plans, reflecting the land survey results.

## 4.0 RESULTS OF ADDITIONAL CHARACTERIZATION INVESTIGATION

Results from the investigations conducted at the Site during October 2007 are discussed in this section. A summary of analytical results is presented in Tables 3 through 16, based on laboratory-certified analytical reports included in Appendix C. Analytical results for TPHd, TPHmo, and TPHg in soil and groundwater samples also are presented on Figures 4A, 4B, and 5. Analytical results were compared to the November 2007 ESLs for shallow or deep soils beneath commercial/industrial land use areas (RWQCB 2007). The ESLs are included in the summary tables. Compounds detected at concentrations that exceed the ESLs are highlighted in the tables and on the figures.

The results of the October 2007 investigations confirm that the primary COCs detected in soil and groundwater are TPHd and TPHmo. Other compounds, including TPHg, VOCs, BTEX, SVOCs, and metals were detected only sporadically in isolated soil or groundwater samples. Fuel oxygenates, lead scavengers, pesticides, and PCBs were not detected in any samples collected at the Site. Analytical results for samples collected from the soil borings are discussed below for each of the following areas of the Site: the southern portion of the former asphalt plant; west of the former asphalt plant; west of the former spray rack area; and the deep soil contamination. For the most part, only analytical results that exceeded ESL values are discussed below.

## 4.1 Southern Portion of the Former Asphalt Plant

Soil borings B28, B27, and B29 were advanced to further characterize the extent of TPH in the southern portion of the former asphalt plant area (Figures 3). Soil borings B28 and B29 were advanced to approximately 60 feet bgs and soil boring B30 was advanced to approximately 20 feet bgs. Depth-discrete soil samples were collected for laboratory analyses from approximately every five feet to approximately 30 feet bgs and approximately every 10 feet until groundwater was first encountered. In total, 21 depth-discrete soil samples were collected from borings B28 through B30 and grab groundwater samples were successfully collected from borings B28 and B29.

Analytical results for the soil and grab groundwater samples collected from these soil borings indicate that the only compound detected at concentrations at or above the ESL was TPHd. The exceedances were only detected in two of the nine soil samples and the one grab groundwater sample collected from boring B29. TPHd was detected at concentrations equal to the ESL (83 mg/kg) in the sample collected at approximately 27 feet bgs and at a concentration of 1,200 mg/kg in the 43-foot soil sample collected from boring B29 (Table 3). Soil samples collected from within approximately five feet above and below the 27- and the 43-foot soil samples did not contain TPHd at concentrations above the ESL. Soil boring B29 was located approximately adjacent to former boring B4 and test pit AP4, from which soil samples collected from approximately 10 and 15 feet bgs contained TPHd at concentrations above the ESL for TPHd. The soil samples from boring B29 indicated that the affected soil detected in samples collected from soil boring B4 and test pit AP4 is rather localized. No compounds were detected above ESLs in soil samples collected from borings B28 or B30.

The grab groundwater sample collected from soil boring B29 contained TPHd at a concentration of 350  $\mu\text{g}/\text{l}$ , which is greater than the ESL (100  $\mu\text{g}/\text{l}$ ; Table 11). The grab groundwater sample collected from boring B28 located approximately 130 feet to the northeast did not contain TPH compounds above laboratory reporting limits (Figure 4A and 4B). Based on these results, it appears that TPHd previously detected in the grab groundwater sample collected from former boring EB29 is not associated with the TPHd detected in soil samples collected from the southern portion of the former asphalt plant area. The TPHd detected in the groundwater sample from boring B29 may be associated with the elevated TPHd concentration detected in the soil sample collected approximately 43 feet bgs from the same boring, although the soil sample collected from approximately 48 feet bgs, just above the groundwater table, did not contain detectable TPH concentrations.

Based on these results, LFR does not recommend any additional investigations be conducted in the southern portion of the former asphalt plant because this area has been sufficiently characterized. The lateral and vertical extent of TPHd in soil appears to be localized and isolated and groundwater has not been significantly affected. Groundwater samples to be collected from the three groundwater monitoring wells located within approximately 200 feet to the northwest, southwest, and southeast

(MW-2, MW-7, and MW-6, respectively) will provide data to monitor the lateral extent of the low concentrations of TPHd in groundwater in this area.

## 4.2 West of the Former Asphalt Plant

Three temporary soil borings (B31 through B33) were advanced to approximately 25 feet bgs in the area west of the former asphalt plant (Figure 3). Depth-discrete soil samples were collected from approximately every five feet and analyzed for TPHd and TPHmo. TPHd was detected at concentrations above the ESLs in soil samples collected from approximately 5 and 15.5 feet bgs from boring B32 (Table 3). These were the only two soil samples to contain TPHd at concentrations above the ESL. The purpose of boring B32 was to further characterize the vertical extent of elevated TPHd and TPHmo concentrations previously detected in soil samples collected between approximately 5 and 18 feet bgs from former soil borings B5, B6, and test pit CS2. The soil sample collected from boring B32 from approximately 17 feet bgs contained only low concentrations of TPHd and TPHmo, significantly below the ESLs, and the soil sample collected from approximately 22 feet bgs did not contain detectable TPHd or TPHmo concentrations.

Soil samples collected from borings B31 and B33 did not contain TPHd or TPHmo at concentrations above their respective ESL values. Based on these results, the lateral and vertical extent of TPH in soil has been sufficiently characterized and LFR does not recommend any additional investigations be conducted in the area west of the former asphalt plant. The results from newly installed groundwater monitoring well MW-2 are discussed further in Section 5.0; results indicate that groundwater has not been affected in this area.

## 4.3 West of the Former Spray Rack Area

Two temporary soil borings (B34 and B35) were advanced to approximately 10 feet bgs in the area west of the former spray rack area (Figure 3). The purpose of these borings was to provide data to further characterize the lateral extent of TPHd previously detected in a soil sample collected from approximately 5 feet bgs from former boring EB30. The revised ESL values for TPHmo are such that the TPHmo concentration detected in the 5-foot sample from boring EB30 no longer exceeds the ESL of 2,500 mg/kg. Depth-discrete soil samples were collected from approximately every 5 feet from soil borings B34 and B35 and analyzed for TPHd and TPHmo. The soil sample collected from approximately 5 feet bgs from boring B35 was the only sample to contain TPH at concentrations above the ESL; TPHd was detected at a concentration of 370 mg/kg. The sample collected approximately 10.5 feet bgs from soil boring B35 contained TPHd and TPHmo at low concentrations significantly below the ESLs (Table 3 and Figures 4A and 4B).

Based on these results, the vertical extent of TPH in soil has been sufficiently characterized, as has the lateral extent to the southwest. TPHd was detected at concentrations above the ESL in the soil samples collected 5 feet bgs from borings

EB30 (200 mg/kg) and B35 (370 mg/kg). The lateral extent of TPHd in soil at approximately 5 feet bgs cannot be further characterized to the west due to the Hanson-Kiewit property boundary (Figures 3, 4A, and 4B). LFR does not recommend further investigations be conducted in this area. LFR anticipates that localized shallow soil excavation will be conducted as part of future land development activities. Confirmation soil sampling should be conducted following soil excavation to ensure that soil with elevated TPH concentrations is removed.

## 4.4 Deep Soil Contamination

Three temporary soil borings (B25 through B27) were advanced to further characterize the lateral and vertical extent of the deep soil contamination in the northern portion of the Site. The soil borings were advanced to approximately 60 or 65 feet bgs to collect depth-discrete soil samples at approximately 5-foot intervals through the deep soil contamination interval and to collect grab groundwater samples from beneath the deep soil contamination. The primary objectives of these three soil borings were to

- characterize the vertical extent of the black product material (soil borings B25 and B26)
- characterize the lateral extent of the deep soil contamination to the southeast (soil boring B27)
- collect a sample of groundwater from immediately beneath the black product

In addition, a sample of the black product that defines the deep soil contamination was collected for forensic analyses and comparison to the petroleum product currently in the former paving oil containment structure.

### 4.4.1 Vertical Extent of Deep Soil Contamination

Soil borings B25 and B26 were advanced within the area where black product previously was identified (soil borings highlighted by orange circles on Figures 4A and 4B).

At soil boring B25, two soil borings (B25 and B25A) were advanced within approximately 10 feet of each other. At soil boring B25, the first appearance of petroleum hydrocarbon-affected soil was an approximate 1-foot interval recovered from the continuous soil core run from approximately 35 to 40 feet bgs. The soil between approximately 35 and 36 feet bgs was described as silty gravel and only the interval from approximately 35.6 to 35.7 feet bgs was described as containing an “oily black substance” (see the boring log for B25 in Appendix B). No product was encountered in the soils recovered from approximately 30 to 31 feet bgs or 40 to 41 feet bgs in the same soil boring. Because of the poor core recovery from between approximately 30 and 40 feet bgs and because only a small amount of the black product was encountered where more was expected based on results from previous investigations, a second soil boring (B25A) was advanced adjacent to boring B25. Soil boring B25A was located

approximately 10 feet northeast of B25 and was intended to assess the presence of the black product between approximately 30 and 40 feet bgs. Soil boring B25A was advanced without coring to approximately 30 feet bgs, and a California split spoon sampler was used to core 18 inches at a time from approximately 30 feet bgs to the total depth of the boring at 40.5 feet bgs, to obtain better soil recovery during drilling. The soil from approximately 30 to 34.5 feet bgs was described as sandy gravel, and from approximately 34.5 to the bottom of the boring at 40.5 feet bgs as silty sand. A black, oily product and a petroleum odor were observed in the soils approximately between 33.2 and 35.5 feet bgs (an approximately 2.3-foot interval; see boring log for B25A in Appendix B).

At soil boring B26, a thick, black, oily material was encountered approximately between 31.5 and 32 feet bgs (an approximately 0.5-foot interval), in sediments described as silty gravel. In addition, petroleum odor and slightly elevated PID readings were observed in the soil core from boring B26 approximately between 26 and 34 feet bgs and a small amount of black, oily product material was observed in the silty gravel at approximately 28 feet bgs (boring log for B26 in Appendix B).

Depth-discrete soil samples were collected from borings B25 and B26 at approximately 5-foot intervals and analyzed for petroleum hydrocarbons and related compounds (Table 1). In soil borings B25, B25A, and B26, soil samples were collected specifically from intervals where the presence of petroleum product was evident from field screening results, including visual, odor, and elevated PID measurements. In particular, depth-discrete soil samples were collected from borings B25 and B25A at approximately 35.5 (sample B25-35.5) and 34.5 feet bgs (sample B25A-34.5), respectively, and from boring B26 at approximately 28, 32, and 33.5 feet bgs (samples B26-28, B26-32, and B26-33.5, respectively).

TPHd, TPHmo, TPHg, and/or SVOCs were detected at concentrations above the ESLs in four of the five soil samples collected from intervals where petroleum hydrocarbons appeared to be present in the cores. In soil borings B25 and B25A, the soil samples collected from approximately 35.5 and 34.5 feet bgs, respectively, contained TPHd at concentrations of 930 and 3,600 mg/kg, respectively (Table 3). Soil sample B25A-34.5 also contained TPHg (140 mg/kg; Table 3) and one SVOC (2-methylnaphthalene at a concentration of 7,200 mg/kg; Table 5). The soil samples collected from boring B26 at 28 and 32 feet bgs contained TPHd at concentrations of 2,500 and 5,700 mg/kg, respectively, and TPHmo at a concentration of 6,000 mg/kg (Table 3). The 33.5-foot soil sample collected from boring B26 did not contain elevated concentrations of TPHd or TPHmo; however, this sample did contain one SVOC at a concentration above the ESL (2-methylnaphthalene at a concentration of 52,000 mg/kg; Table 5).

#### **4.4.2 Leachability of Petroleum Product**

Five depth-discrete soil samples collected from borings B25, B25A, and B26 where black product material was identified in the soil cores were also analyzed for TPHd, TPHmo, and metals after the soil samples underwent a leaching extraction method. The

analytical laboratory processed these samples using the synthetic precipitation leaching procedure (SPLP). SPLP is a procedure that simulates the effects of acid rain that could leach out any contaminants from the soil. After SPLP, the leachate is analyzed using conventional water analyses, in this case, these five samples were analyzed for TPHd, TPHmo, and metals (Table 1).

TPHd was the only compound that was detected at a concentration above its ESL for groundwater. TPHd was detected in two of the five samples that underwent SPLP, namely samples B25A-34.5 (740  $\mu\text{g/l}$ ) and B26-33.5 (720  $\mu\text{g/l}$ ).

#### **4.4.3 Forensic Analyses of Petroleum Product**

One depth-discrete soil sample collected from the deep soil contamination interval encountered in soil boring B25A was collected for forensic analyses. Soil sample B25A-35 was collected from an approximate 2.3-foot-thick interval between approximately 33.2 and 35.5 feet bgs at boring B25A that contained black product material. Please note that the sample identification number was incorrectly labeled as B25A-34 on the chain of custody form for the sample that was sent to the forensic laboratory. Soil sample B25A-35 was sent to a specialty forensic laboratory for fingerprinting analyses, along with a grab sample (Oil-FP) from the black, oily product currently in the paving oil containment structure.

The results from the fingerprinting analyses are contained within a narrative report from ZymaX Forensics, a state-certified specialty laboratory located in San Luis Obispo, California (ZymaX). A copy of the narrative report is included in Appendix C. The soil and paving oil sample were analyzed for a full scan by gas chromatograph and mass spectrometer. The results were reviewed and interpreted by Dr. Alan Jeffrey at ZymaX. The summary report concluded that the petroleum hydrocarbons found in the soil sample (B25A-35) and in the paving oil sample (Oil-FP) are of significantly different origin and age. According to ZymaX, the Oil-FP sample is a heavy petroleum distillate such as lubricating oil or hydraulic oil while soil sample B25A-35 contains degraded crude oil. ZymaX concluded that the Oil-FP sample is less degraded and younger than the petroleum hydrocarbon in the soil sample.

The results of the forensics analyses support the conclusion that the petroleum hydrocarbon identified as the deep soil contamination is not a result of a recent release from the paving oil structure. The deep soil contamination is degraded and relatively old, identified as a heavy petroleum hydrocarbon such as crude oil likely emplaced into an open pit during the historical hot mix asphalt plant operations.

#### **4.4.4 Lateral Extent of Deep Soil Contamination**

Soil boring B27 was advanced to approximately 60 feet bgs and was located to further assess the lateral extent of the deep soil contamination southeast of the Site. No black product material or other evidence of petroleum product was observed during the drilling. Depth-discrete soil samples were collected from approximately five-foot

intervals and analyzed for TPH and petroleum-related compounds (Table 1). Analytical results for all soil samples except for the 32-foot sample were below laboratory reporting limits. The soil sample collected at approximately 32 feet bgs from soil boring B27 contained TPHd and TPHmo at concentrations slightly above their laboratory reporting limits and well below the ESLs. The lateral extent of the deep soil contamination has been sufficiently characterized and LFR does not recommend any additional investigations.

#### **4.4.5 Groundwater Beneath the Deep Soil Contamination**

The three soil borings B25, B26, and B27 were advanced deep enough to collect grab groundwater samples. Grab groundwater samples from borings B25 and B26 were collected from beneath the deep soil contamination from approximately 61 and 50 feet bgs, respectively. Grab groundwater samples were analyzed for a wide variety of compounds in addition to TPH and petroleum-related compounds (see Table 1 for a summary of the analyses). In each of these borings, depth-discrete soil samples were collected from below the deep soil contamination and above first encountered groundwater, and in each case, the soil samples did not contain any compounds above the ESLs (Table 3 and Figures 4A and 4B).

None of the three grab groundwater samples collected from borings B25, B26, and B27 contained any compounds at concentrations above the ESLs, with the exception of metals. Several metals were detected at elevated concentrations that exceeded the ESLs. However, the metals results were for total metals concentrations, not dissolved. Laboratory supplied sample containers were preserved with nitric acid and the samples for metals analyses were collected in the preserved sample containers. Because the samples were preserved, the laboratory could not filter the samples after collection. It is likely that dissolved metals concentrations are significantly below the total metals concentrations reported herein. The presence of metals in groundwater will be assessed in future groundwater monitoring events that are recommended for this Site.

## **5.0 RESULTS FROM NEW GROUNDWATER MONITORING WELLS**

As described in Section 3.0, seven groundwater monitoring wells were installed at the Site in October 2007 (Figure 3). After construction, the wells were allowed to set prior to well development. Several days after well development, the wells were purged and initial samples were collected on October 22, 2007. Well completion details are presented on the soil boring logs included in Appendix B and are summarized in Table 2. Analytical results are summarized in Tables 11 through 16. Analytical results for TPHd, TPHmo, and TPHg are presented on Figure 5 and groundwater elevations and contours are presented on Figure 6. A discussion of results from the new groundwater monitoring wells is presented below.



## 5.1 Depth to Groundwater and Groundwater Flow Direction

Depth to groundwater was measured in the seven new groundwater monitoring wells on October 22, 2007, prior to the wells being purged and sampled for the first time. Depth to groundwater ranged approximately from 47 to 57 feet bgs in six of the seven wells, and was approximately 68 feet bgs in well MW-5. The groundwater elevation in each well was calculated using the surveyed top of casing elevation; results are summarized on Table 2. Groundwater elevation data and contours are presented on Figure 6. The groundwater elevation in well MW-5 was not used in the contouring because the elevation was anomalously low compared to elevations in the other six wells. Well MW-5 may need additional time to equilibrate, or, based on the fact that the well had to be drilled significantly deeper than the other six wells because of the depth to groundwater in this location, this well may be monitoring somewhat deeper groundwater than the other wells newly installed at the Site.

The groundwater elevation contours indicate that the groundwater flow direction beneath the Site was approximately to the northwest on October 22, 2007, with a horizontal groundwater gradient of approximately 0.015 foot per foot. Additional groundwater elevation monitoring events will be necessary to characterize whether the local groundwater flow direction changes seasonally.

## 5.2 Groundwater Monitoring Well Analytical Results

Groundwater samples were collected from wells MW-1 through MW-7 (except for well MW-4 from which no groundwater sample could be collected) and analyzed for TPH and related compounds and for VOCs (Table 1). TPHd, TPHmo, and TPHg were not detected above laboratory reporting limits in any of the groundwater samples collected from the groundwater monitoring wells (Table 11). Toluene was the only compound detected in the groundwater samples collected from the seven wells. Toluene was detected at concentrations estimated below the laboratory limit ( $0.5 \mu\text{g/l}$ ) in the groundwater samples collected from wells MW-3 (both in the primary and the duplicate samples) and MW-5. These estimate concentrations were well below the ESL for toluene ( $40 \mu\text{g/l}$ ). No other compounds were detected.

It should be noted that the grab groundwater sample collected from the borehole for well MW-4 contained TPHmo at a concentration of  $250 \mu\text{g/l}$ , which is greater than the ESL ( $100 \mu\text{g/l}$ ). TPHd was also detected in this sample, but at a concentration of  $57 \mu\text{g/l}$ , which is below the ESL ( $100 \mu\text{g/l}$ ). As described above, no meaningful groundwater sample could be collected from the well; therefore, the grab groundwater sample result cannot be confirmed. Given the depth the grab groundwater was collected from the borehole (approximately 36 to 40 feet bgs), it is possible that the slightly elevated TPHmo concentration is related to the deep soil contamination in the northern portion of the Site. A grab groundwater sample collected from boring B22 located approximately between the MW-4 location and the deep soil contamination contained TPHd at a concentration above the ESL. However, results from grab groundwater samples collected from borings EB22, B26, and B27 located in the vicinity of the deep

soil contamination did not contain TPHd or TPHmo above the laboratory reporting limits. In addition, the groundwater sample collected from well MW-3 that was constructed with a well screen immediately beneath the deep soil contamination did not contain detectable TPHd or TPHmo concentrations.

The analytical results from the initial groundwater well sampling indicate that groundwater has not been significantly affected by petroleum hydrocarbons detected in a few isolated areas of the Site.

## **6.0 CONCLUSIONS AND RECOMMENDATIONS**

### **6.1 Conclusions**

The primary COCs detected in soil and groundwater samples collected during October 2007 and previous investigations are TPHd, and to a lesser extent TPHmo. Other compounds, including TPHg, VOCs, BTEX, SVOCs, and metals, have been detected only sporadically in isolated soil or groundwater samples. Fuel oxygenates, lead scavengers, pesticides, and PCBs have not been detected in any samples collected. Only detected concentrations above the 2007 ESLs are considered significant. In general, results from LFR's October 2007 investigations confirm that TPH-affected soil is limited in extent both vertically and laterally and that groundwater has not significantly been affected.

### **6.2 Southern Portion of the Former Asphalt Plant**

The southern portion and the area west of the former asphalt plant have been sufficiently characterized both laterally and vertically. The grab groundwater sample collected from boring B29 in the southern portion of the Site contained a low concentration of TPHd; however, nearby grab groundwater samples did not contain TPHd at concentrations above laboratory reporting limits and groundwater samples collected from three groundwater monitoring wells installed within approximately 200 feet of boring B29 did not contain TPHd at concentrations above laboratory reporting limits.

### **6.3 Area West of the Former Spray Rack Area**

The area west of the former spray rack area contains low concentrations of TPHd in soil at depths less than approximately 10 feet bgs. No additional soil boring northwest of boring B35 can practicably be advanced because of the nearby property boundary. The vertical extent of TPHd in soil in this area has been sufficiently characterized and groundwater does not appear to have been affected in this area.

## 6.4 Deep Soil Contamination

The results of the investigations into the nature and extent of the deep soil contamination in the northern portion of the Site support the conclusion that the black petroleum product encountered between approximately 30 and 40 feet bgs likely was emplaced in an open pit during historical mining operations, possibly as a means of disposal. Based on continuous core sampling, the soil interval containing the black product appears to be less than approximately 2.5 feet thick, and is variably encountered approximately between 28 and 38 feet bgs. The results from the fingerprinting analyses identified the black product as a degraded crude oil that likely has been in place for a significant amount of time. The grab sample from the viscous black product currently found in the former paving oil structure was identified by the fingerprinting analyses as a lubricating or hydraulic oil, significantly younger in age than the black product that defines the deep soil contamination; the source of the deep soil contamination does not appear to be the product found in the paving oil structure.

Leachability tests performed on the soil samples from the deep soil contamination indicate that TPHd can be leached out of the soil samples resulting in TPHd concentrations above the ESL in the leachate. However, groundwater samples collected from directly beneath the black product from temporary soil borings and from a groundwater monitoring well indicate that groundwater beneath the deep soil contamination has not been affected. Furthermore, the leachability analyses test the ability of acidic water (i.e., acid rain) to leach contaminants out of the soil; given the depth of the deep soil contamination (deeper than approximately 28 feet bgs), acidic rainwater is unlikely to reach the deep soil contamination interval in quantities significant enough to leach TPHd out of the old, viscous, black product material bound in the soil. The deep soil contamination appears to be relatively immobile.

Results from investigations to characterize the nature and extent of the deep soil contamination generally indicate that the black product material encountered between approximately 28 and 38 feet bgs is relatively old, was probably buried in place during historical mining operations, is limited in extent and relatively immobile, and is unlikely to further affect soil and groundwater beneath the Site.

## 6.5 Groundwater Quality

Groundwater samples were collected from six of the seven monitoring wells; no compounds were detected above laboratory reporting limits in any of these samples. Based on these results, groundwater does not appear to have been significantly affected by TPH detected in soil beneath the Site. Depth to groundwater was measured to be approximately 49 to 57 feet bgs on October 22, 2007, and the groundwater flow direction beneath the Site was to the west-northwest.

## 6.6 Recommendations

Results from investigations conducted by LFR during October 2007, evaluated in conjunction with results from previous investigations, indicate that the Site has been sufficiently characterized. LFR does not recommend any additional subsurface investigations be conducted at the Site.

LFR recommends that a periodic groundwater monitoring and reporting program be initiated for this Site. The groundwater monitoring program will include the collection and analysis of samples collected from the recently installed groundwater monitoring wells on a quarterly basis for one year. Groundwater samples should be analyzed only for those compounds detected previously at the Site, namely for TPHd, TPHmo, TPHg, and SVOCs. Because grab groundwater samples collected from beneath the deep soil contamination for metals analyses were preserved instead of filtered, only total metals concentrations in groundwater could be determined. LFR therefore recommends that the initial sampling event include the collection and analysis of dissolved metals concentrations (CAM17 list of metals) for the samples collected from three of the groundwater monitoring wells (e.g., wells MW-1, MW-3, and MW-4). If the compounds continue to be below (or near) the analytical reporting limits for the groundwater samples collected from the monitoring wells after approximately four consecutive quarterly monitoring events, the groundwater monitoring wells should be properly abandoned.

LFR recommends that all debris and remaining concrete structures, in particular the former paving oil containment structure in which several inches of black product remain, be removed and properly disposed of.

LFR understands that the Site may in the future undergo a property transfer to Legacy, similar to the property transfer agreement between Hanson and Legacy that was completed for the majority of the Radum property during 2007. It is assumed that under Legacy the Site eventually would be developed for commercial and light industrial land use. Prior to land development, shallow soils (approximately 8 feet bgs) containing TPHd or other compounds at elevated concentrations would need to be excavated and replaced by clean fill in order to be protective of the human health of workers both during construction and after land development. Confirmation sampling during the localized soil excavation activities would serve to confirm that all affected soil is properly removed from the Site. If appropriate, a deed restriction may be necessary to limit the use of shallow groundwater immediately beneath the Site.

## 7.0 LIMITATIONS

The opinions and recommendations presented in this report are based upon the scope of services, information obtained through the performance of the services, and the schedule as agreed upon by LFR and the party for whom this report was originally prepared. This report is an instrument of professional service and was prepared in accordance with the generally accepted standards and level of skill and care under similar conditions and circumstances established by the environmental consulting industry. No representation, warranty, or guarantee, express or implied, is intended or given. To the extent that LFR relied upon any information prepared by other parties not under contract to LFR, LFR makes no representation as to the accuracy or completeness of such information. This report is expressly for the sole and exclusive use of the party for whom this report was originally prepared for a particular purpose. Only the party for whom this report was originally prepared and/or other specifically named parties have the right to make use of and rely upon this report. Reuse of this report or any portion thereof for other than its intended purpose, or if modified, or if used by third parties, shall be at the user's sole risk.

Results of any investigations or testing and any findings presented in this report apply solely to conditions existing at the time when LFR's investigative work was performed. It must be recognized that any such investigative or testing activities are inherently limited and do not represent a conclusive or complete characterization. Conditions in other parts of the Site may vary from those at the locations where data were collected. LFR's ability to interpret investigation results is related to the availability of the data and the extent of the investigation activities. As such, 100% confidence in environmental investigation conclusions cannot reasonably be achieved.

LFR, therefore, does not provide any guarantees, certifications, or warranties regarding any conclusions regarding environmental contamination of any such property. Furthermore, nothing contained in this document shall relieve any other party of its responsibility to abide by contract documents and applicable laws, codes, regulations, or standards.

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**Table 1**  
**Sample Matrix for Samples Collected During October 2007**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

Sample Location	Sample ID	Date Sampled	Approximate top (feet bgs)	Approximate bottom (feet bgs)	Matrix	TPHd / TPHmo	TPHg	VOCs	BTEX	Fuel Ox	Lead Scav	SVOCs	Pest	PCBs	Metals <sup>1</sup>	SPLP TPHd/TPHmo	SPLP Metals <sup>1</sup>
<b>Depth-Discrete Soil Samples from Temporary Soil Borings</b>																	
<i>Deep Soil Contamination</i>																	
	B25-9	10/8/2007	8.5	9	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B25-12	10/8/2007	11.5	12	soil	-	-	-	-	-	-	-	-	-	-	-	-
	B25-16	10/8/2007	15.5	16	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B25-21	10/8/2007	20.5	21	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B25-26.5	10/8/2007	26	26.5	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B25-31	10/8/2007	30.5	31	soil	x	x	-	x	x	x	x	-	x	x	x	x
	B25-35.5	10/8/2007	35	35.5	soil	x	x	-	x	x	x	x	-	x	x	x	x
	B25-36	10/8/2007	35.5	36	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B25-47	10/8/2007	46.5	47	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B25A-34.5	10/8/2007	34	34.5	soil	x	x	-	x	x	x	x	-	x	x	x	x
	B25A-35	10/8/2007	34.5	35	soil	-	-	-	-	-	-	-	-	-	-	-	-
	B26-6	10/9/2007	5.5	6	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B26-16.5	10/9/2007	16	16.5	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B26-22.5	10/9/2007	22	22.5	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B26-28	10/9/2007	27.5	28	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B26-32	10/9/2007	31.5	32	soil	x	x	-	x	x	x	x	-	x	x	x	x
	B26-33.5	10/9/2007	33	33.5	soil	x	x	-	x	x	x	x	-	x	x	x	x
	B26-38	10/9/2007	37.5	38	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B26-42.5	10/9/2007	42	42.5	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B26-47	10/9/2007	46.5	47	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B27-7	10/9/2007	6.5	7	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B27-16	10/9/2007	15.5	16	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B27-22	10/9/2007	21.5	22	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B27-27.5	10/9/2007	27	27.5	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B27-32	10/9/2007	31.5	32	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B27-37.5	10/9/2007	37	37.5	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B27-42	10/9/2007	41	41.5	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B27-46.5	10/9/2007	46	46.5	soil	x	x	-	x	x	x	-	-	-	-	-	-
<i>South of Former Hot Mix Asphalt Plant</i>																	
	B28-5	10/4/2007	4.5	5	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B28-8	10/4/2007	7.5	8	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B28-13	10/4/2007	12.5	13	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B28-18	10/4/2007	17.5	18	soil	x	x	-	x	x	x	-	-	-	-	-	-

**Table 1**  
**Sample Matrix for Samples Collected During October 2007**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

Sample Location	Sample ID	Date Sampled	Approximate Sample Interval top (feet bgs)	Approximate Sample Interval bottom (feet bgs)	Matrix	TPHd / TPHmo	TPHg	VOCs	BTEX	Fuel Ox	Lead Scav	SVOCs	Pest	PCBs	Metals <sup>1</sup>	SPLP TPHd/TPHmo	SPLP Metals <sup>1</sup>
	B28-22.5	10/4/2007	22	22.5	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B28-27.5	10/4/2007	27	27.5	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B28-37	10/4/2007	36.5	37	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B28-47.5	10/4/2007	47	47.5	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B28-59	10/4/2007	58.5	59	soil	-	-	-	-	-	-	-	-	-	-	-	-
	B29-5	10/5/2007	4.5	5	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B29-6	10/5/2007	5.5	6	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B29-11	10/5/2007	10.5	11	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B29-16	10/5/2007	15.5	16	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B29-23	10/5/2007	22.5	23	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B29-27	10/5/2007	26.5	27	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B29-33	10/5/2007	32.5	33	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B29-37	10/5/2007	36.5	37	soil	-	-	-	-	-	-	-	-	-	-	-	-
	B29-43	10/5/2007	42.5	43	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B29-48	10/5/2007	47.5	48	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B29-57.5	10/5/2007	57	57.5	soil	-	-	-	-	-	-	-	-	-	-	-	-
	B30-5	10/4/2007	4.5	5	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B30-8	10/4/2007	7.5	8	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B30-15	10/4/2007	14.5	15	soil	x	x	-	x	x	x	-	-	-	-	-	-
	B30-17.5	10/4/2007	17	17.5	soil	x	x	-	x	x	x	-	-	-	-	-	-
<i>West of Former Hot Mix Asphalt Plant</i>																	
	B31-5	10/5/2007	4.5	5	soil	x	-	-	-	-	-	-	-	-	-	-	-
	B31-8.5	10/5/2007	8	8.5	soil	x	-	-	-	-	-	-	-	-	-	-	-
	B31-12	10/5/2007	11.5	12	soil	x	-	-	-	-	-	-	-	-	-	-	-
	B31-16.5	10/5/2007	15.5	16	soil	x	-	-	-	-	-	-	-	-	-	-	-
	B31-22	10/5/2007	21.5	22	soil	x	-	-	-	-	-	-	-	-	-	-	-
	B32-5	10/9/2007	4.5	5	soil	x	-	-	-	-	-	-	-	-	-	-	-
	B32-7.5	10/9/2007	7	7.5	soil	x	-	-	-	-	-	-	-	-	-	-	-
	B32-15.5	10/9/2007	15	15.5	soil	x	-	-	-	-	-	-	-	-	-	-	-
	B32-17	10/9/2007	16.5	17	soil	x	-	-	-	-	-	-	-	-	-	-	-
	B32-22	10/9/2007	21.5	22	soil	x	-	-	-	-	-	-	-	-	-	-	-
	B33-5	10/8/2007	4.5	5	soil	x	-	-	-	-	-	-	-	-	-	-	-

**Table 1**  
**Sample Matrix for Samples Collected During October 2007**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

Sample Location	Sample ID	Date Sampled	Approximate Sample Interval top (feet bgs)	Approximate Sample Interval bottom (feet bgs)	Matrix	TPHd / TPHmo	TPHg	VOCs	BTEX	Fuel Ox	Lead Scav	SVOCs	Pest	PCBs	Metals <sup>1</sup>	SPLP TPHd/TPHmo	SPLP Metals <sup>1</sup>
	B33-6.5	10/8/2007	6	6.5	soil	x	-	-	-	-	-	-	-	-	-	-	-
	B33-12.5	10/8/2007	12	12.5	soil	x	-	-	-	-	-	-	-	-	-	-	-
	B33-18	10/8/2007	17.5	18	soil	x	-	-	-	-	-	-	-	-	-	-	-
	B33-22	10/8/2007	21.5	22	soil	x	-	-	-	-	-	-	-	-	-	-	-
<i>West of Former Spray Rack Area</i>																	
	B34-5	10/10/2007	4.5	5	soil	x	-	-	-	-	-	-	-	-	-	-	-
	B34-7	10/10/2007	6.5	7	soil	x	-	-	-	-	-	-	-	-	-	-	-
	B34-11.5	10/10/2007	11	11.5	soil	x	-	-	-	-	-	-	-	-	-	-	-
	B35-5	10/10/2007	4.5	5	soil	x	-	-	-	-	-	-	-	-	-	-	-
	B35-10.5	10/10/2007	10	10.5	soil	x	-	-	-	-	-	-	-	-	-	-	-
<b>Grab Groundwater Samples from Temporary Soil Borings</b>																	
<i>Deep Soil Contamination</i>																	
	B-25-GGW	10/8/2007	61	64	water	x	x	x	x	x	x	x	x	x	x	x	-
	B-26-GGW	10/9/2007	50	53	water	x	x	x	x	x	x	x	x	x	x	x	-
	B-27-GGW	10/9/2007	50	53	water	x	x	x	x	x	x	x	x	x	x	x	-
<i>South of Former Hot Mix Asphalt Plant</i>																	
	B-28-GGW	10/4/2007	47.5	50.5	water	x	x	x	x	x	x	-	-	-	-	-	-
	B-29-GGW	10/5/2007	56	59	water	x	x	x	x	x	x	-	-	-	-	-	-
<b>Miscellaneous Samples</b>																	
<i>Product Material from Paving Oil Containment Structure</i>																	
	OIL-FP	10/8/2007	grab	grab	product <sup>2</sup>	x	x	x	x	x	x	x	x	x	x	x	-
<i>Soil Borings for Groundwater Monitoring Wells <sup>3</sup></i>																	
	MW-3-35	10/4/2007	34.5	35	soil	-	-	-	-	-	-	-	-	-	-	-	-
	MW-4-GGW	10/5/2007	36	40	water	x	x	x	x	x	x	-	-	-	-	-	-
	MW-5A-GGW	10/8/2007	65.8	69	water	x	x	x	x	x	x	-	-	-	-	-	-
<i>Groundwater Monitoring Wells</i>																	
	MW-1-102207	10/22/2007	45	60	water	x	x	x	x	x	x	-	-	-	-	-	-
	MW-2-102207	10/22/2007	45	60	water	x	x	x	x	x	x	-	-	-	-	-	-
	MW-3-102207	10/22/2007	45	60	water	x	x	x	x	x	x	-	-	-	-	-	-
	MW-3-102207-D	10/22/2007	45	60	water	x	x	x	x	x	x	-	-	-	-	-	-
	MW-4-102207	10/22/2007	43	48	water	-	-	-	-	-	-	-	-	-	-	-	-
	MW-5-102207	10/22/2007	69	74	water	x	x	x	x	x	x	-	-	-	-	-	-
	MW-6-102207	10/22/2007	45	55	water	x	x	x	x	x	x	-	-	-	-	-	-
	MW-7-102207	10/22/2007	50	65	water	x	x	x	x	x	x	-	-	-	-	-	-

**Table 1**  
**Sample Matrix for Samples Collected During October 2007**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

Sample Location	Sample ID	Date Sampled	Approximate Sample Interval top (feet bgs)	Approximate Sample Interval bottom (feet bgs)	Matrix	TPHd / TPHmo	TPHg	VOCs	BTEX	Fuel Ox	Lead Scav	SVOCs	Pest	PCBs	Metals <sup>1</sup>	SPLP TPHd/ TPHmo	SPLP Metals <sup>1</sup>
<i>Quality Assurance and Quality Control Samples <sup>4</sup></i>																	
	TB-100407	10/4/2007	na	na	water	-	-	X	-	-	-	-	-	-	-	-	-
	TB-100507	10/5/2007	na	na	water	-	-	X	-	-	-	-	-	-	-	-	-
	TB-100807	10/8/2007	na	na	water	-	-	X	-	-	-	-	-	-	-	-	-
	TB-100907	10/9/2007	na	na	water	-	-	X	-	-	-	-	-	-	-	-	-
	TB-101007	10/10/2007	na	na	water	-	-	X	-	-	-	-	-	-	-	-	-
	TB-102207	10/22/2007	na	na	water	-	-	X	-	-	-	-	-	-	-	-	-
	FB-102207	10/22/2007	na	na	water	X	X	X	X	X	X	-	-	-	-	-	-

**Notes:**

feet bgs = feet below ground surface

"x" = analyzed

"-" = not analyzed

na = not applicable

x box indicates that at least one compound was detected at a concentration above the ESL.

<sup>1</sup> LUFT5 metals and arsenic were analyzed in soil samples; CAM17 metals were analyzed in groundwater samples and in the product sample.

<sup>2</sup> A grab sample was collected from the petroleum product material found in the former paving oil containment structure remaining at the Site. The sample was analyzed as a soil by the laboratory.

<sup>3</sup> Depth-discrete soil and grab groundwater samples were collected during drilling from selected boreholes for the new groundwater monitoring wells.

<sup>4</sup> Trip blank (TB) and field blank (FB) samples were collected on days that groundwater samples were collected for VOC analyses.

TPHd = total petroleum hydrocarbons as diesel by EPA Method 8015 (after silica gel cleanup)

TPHmo = total petroleum hydrocarbons as motor oil by EPA Method 8015 (after silica gel cleanup)

TPHg = total petroleum hydrocarbons as gasoline by EPA Method 8015 (soil) and 8260 (water)

VOCs = volatile organic compounds by EPA Method 8260

BTEX = benzene, toluene, ethylbenzene, and total xylenes by EPA Method 8260

Fuel Ox = fuel oxygenates by EPA Method 8260

Lead Scav = lead scavengers by EPA Method 8260

SVOCs = semi-volatile organic compounds by EPA Method 8270

Pest = organochlorine pesticides by EPA Method 8081

PCBs = polychlorinated biphenyls by EPA Method 8082

Metals = LUFT 5 metals and arsenic in soil samples, CAM 17 metals in groundwater samples and in the product sample (EPA 6010B)

SPLP = synthetic precipitation leaching procedure

ESLs = Environmental Screening Levels by San Francisco Bay Regional Water Quality Control Board, November 2007, for Shallow or Deep Soils, or for Groundwater, beneath Industrial/Commercial Land Use Areas where Groundwater is a Current or Potential Source of Drinking Water.

**Table 2**  
**Groundwater Monitoring Well Construction Details**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

Monitoring Well ID	Installation Date	Boring Hole Diameter (inches)	Casing Diameter (inches)	Approximate Total Well Depth (feet bgs)	Approximate Screened Interval (feet bgs)	Top of Casing Elevation <sup>1</sup> (feet msl)	Depth to Groundwater Measured on 10/22/07 (feet TOC)	Groundwater Elevation Measured on 10/22/07 (feet msl)
MW-1	10/3/07	8.0	2.0	60	45 - 60	374.67	57.22	317.45
MW-2	10/2/07	8.0	2.0	60	45 - 60	376.33	55.24	321.09
MW-3	10/4/07	8.0	2.0	60	45 - 60	374.95	54.32	320.63
MW-4	10/5/07	8.0	2.0	48	43 - 48	372.94	47.37	325.57
MW-5	10/9/07	8.0	2.0	74	69 - 74	374.35	68.40	305.95
MW-6	10/10/07	8.0	2.0	55	45 - 55	375.03	49.19	325.84
MW-7	10/1/07	8.0	2.0	65	50 - 65	377.68	57.04	320.64

**Notes:**

ID = identification; monitoring well identification number

feet bgs = feet below ground surface

feet msl = feet relative to mean sea level

feet TOC = feet below top of casing

<sup>1</sup> Top of casing elevation and land survey conducted by Kim & Wright Civil Engineers & Surveyors, Inc.

**Table 3**  
**Petroleum Hydrocarbons and Associated Compounds Detected in Soil Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

*(Concentrations reported in milligrams per kilogram [mg/kg] or micrograms per kilogram [ug/kg], as noted)*

Sample Location	Sample ID	Date Sampled	Sample Interval		Matrix	Total Petroleum Hydrocarbons			BTEX compounds					Fuel Oxygenates					Lead Scavengers		
			top (feet bgs)	bottom (feet bgs)		TPHd (mg/kg)	TPHmo (mg/kg)	TPHg (mg/kg)	B (ug/kg)	T (ug/kg)	E (ug/kg)	m,p-X (ug/kg)	o-X (ug/kg)	MTBE (ug/kg)	TAME (ug/kg)	DIPE (ug/kg)	ETBE (ug/kg)	TBA (ug/kg)	EDB (ug/kg)	EDC (ug/kg)	
<b>Depth-Discrete Soil Samples from Temporary Soil Borings</b>																					
<i>Deep Soil Contamination</i>																					
	B25-9	10/8/2007	8.5	9	soil	< 1	< 5	< 0.98	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 96	< 4.8	< 4.8
	B25-12	10/8/2007	11.5	12	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B25-16	10/8/2007	15.5	16	soil	< 0.99	< 5	< 0.98	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 91	< 4.5	< 4.5
	B25-21	10/8/2007	20.5	21	soil	< 1	< 5	< 1.1	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 100	< 5	< 5
	B25-26.5	10/8/2007	26	26.5	soil	< 1	< 5	< 0.97	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 93	< 4.6	< 4.6
	B25-31	10/8/2007	30.5	31	soil	< 1	< 5	< 0.98	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 91	< 4.5	< 4.5
	B25-35.5	10/8/2007	35	35.5	soil	<b>930 Y</b>	<b>1,600</b>	< 0.94	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 93	< 4.6	< 4.6
	B25-36	10/8/2007	35.5	36	soil	< 0.99	< 5	< 1	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 93	< 4.6	< 4.6
	B25-47	10/8/2007	46.5	47	soil	< 0.99	< 5	< 0.97	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 96	< 4.8	< 4.8
	B25A-34.5	10/8/2007	34	34.5	soil	<b>3,600</b>	<b>3,200</b>	<b>140 Y</b>	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 500	< 25	< 25
	B25A-35	10/8/2007	34.5	35	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B26-6	10/9/2007	5.5	6	soil	<b>2.2 Y</b>	<b>15</b>	< 1	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 91	< 4.5	< 4.5
	B26-16.5	10/9/2007	16	16.5	soil	< 1	< 5	< 0.99	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 96	< 4.8	< 4.8
	B26-22.5	10/9/2007	22	22.5	soil	< 0.99	< 5	< 1	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 94	< 4.7	< 4.7
	B26-28	10/9/2007	27.5	28	soil	<b>2,500 Y</b>	<b>6,000</b>	< 0.97	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 98	< 4.9	< 4.9
	B26-32	10/9/2007	31.5	32	soil	<b>5,700</b>	<b>6,000</b>	<b>35 Y</b>	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 500	< 25	< 25
	B26-33.5	10/9/2007	33	33.5	soil	<b>3.5 Y</b>	< 5	< 1	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 93	< 4.6	< 4.6
	B26-38	10/9/2007	37.5	38	soil	< 0.99	< 5	< 0.97	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 91	< 4.5	< 4.5
	B26-42.5	10/9/2007	42	42.5	soil	< 1	< 5	< 0.97	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 100	< 5	< 5
	B26-47	10/9/2007	46.5	47	soil	< 1	< 5	< 0.96	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 91	< 4.5	< 4.5
	B27-7	10/9/2007	6.5	7	soil	< 0.99	< 5	< 0.95	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 96	< 4.8	< 4.8
	B27-16	10/9/2007	15.5	16	soil	< 0.99	< 5	< 1	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 91	< 4.5	< 4.5
	B27-22	10/9/2007	21.5	22	soil	< 1	< 5	< 1.1	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 98	< 4.9	< 4.9
	B27-27.5	10/9/2007	27	27.5	soil	< 1	< 5	< 0.93	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 100	< 5	< 5
	B27-32	10/9/2007	31.5	32	soil	<b>1.4 Y</b>	<b>7.5</b>	< 0.95	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 91	< 4.5	< 4.5
	B27-37.5	10/9/2007	37	37.5	soil	< 1	< 5	< 0.98	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 96	< 4.8	< 4.8
	B27-42	10/9/2007	41	41.5	soil	< 0.99	< 5	< 1	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 94	< 4.7	< 4.7
	B27-46.5	10/9/2007	46	46.5	soil	< 1	< 5	< 0.93	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 94	< 4.7	< 4.7
<i>South of Former Hot Mix Asphalt Plant</i>																					
	B28-5	10/4/2007	4.5	5	soil	<b>1.3 Y</b>	<b>14</b>	< 1	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 96	< 4.8	< 4.8
	B28-8	10/4/2007	7.5	8	soil	<b>2.3 Y</b>	<b>13</b>	< 0.94	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 93	< 4.6	< 4.6
	B28-13	10/4/2007	12.5	13	soil	<b>2.7 Y</b>	<b>13</b>	< 0.99	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 91	< 4.5	< 4.5
	B28-18	10/4/2007	17.5	18	soil	< 1	< 5	< 1	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 93	< 4.6	< 4.6
	B28-22.5	10/4/2007	22	22.5	soil	< 1	< 5	< 0.99	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 98	< 4.9	< 4.9
	B28-27.5	10/4/2007	27	27.5	soil	< 1	< 5	< 0.99	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 89	< 4.5	< 4.5
	B28-37	10/4/2007	36.5	37	soil	< 1	< 5	< 0.94	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 94	< 4.7	< 4.7
	B28-47.5	10/4/2007	47	47.5	soil	< 1	< 5	< 0.98	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 100	< 5	< 5
	B28-59	10/4/2007	58.5	59	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B29-5	10/5/2007	4.5	5	soil	<b>48 Y</b>	<b>160</b>	< 0.99	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 94	< 4.7	< 4.7
	B29-6	10/5/2007	5.5	6	soil	<b>26 Y</b>	<b>120</b>	< 0.97	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 4.6	< 93	< 4.6	< 4.6

**Table 3**  
**Petroleum Hydrocarbons and Associated Compounds Detected in Soil Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

*(Concentrations reported in milligrams per kilogram [mg/kg] or micrograms per kilogram [ug/kg], as noted)*

Sample Location	Sample ID	Date Sampled	Sample Interval		Matrix	Total Petroleum Hydrocarbons			BTEX compounds					Fuel Oxygenates					Lead Scavengers			
			top (feet bgs)	bottom (feet bgs)		TPHd (mg/kg)	TPHmo (mg/kg)	TPHg (mg/kg)	B (ug/kg)	T (ug/kg)	E (ug/kg)	m,p-X (ug/kg)	o-X (ug/kg)	MTBE (ug/kg)	TAME (ug/kg)	DIPE (ug/kg)	ETBE (ug/kg)	TBA (ug/kg)	EDB (ug/kg)	EDC (ug/kg)		
	B29-11	10/5/2007	10.5	11	soil	74 Y	140	< 0.94	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 100	< 5	< 5	
	B29-16	10/5/2007	15.5	16	soil	17 Y	15	< 1	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 4.9	< 98	< 4.9	< 4.9	
	B29-23	10/5/2007	22.5	23	soil	47 Y	50	< 0.98	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 94	< 4.7	< 4.7		
	B29-27	10/5/2007	26.5	27	soil	83 Y	63	< 0.95	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 96	< 4.8	< 4.8		
	B29-33	10/5/2007	32.5	33	soil	63 Y	39	< 1	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 96	< 4.8	< 4.8		
	B29-37	10/5/2007	36.5	37	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	B29-43	10/5/2007	42.5	43	soil	1,200	120	20 Y	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 96	< 4.8	< 4.8		
	B29-48	10/5/2007	47.5	48	soil	< 0.99	< 5	< 0.99	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 91	< 4.5	< 4.5		
	B29-57.5	10/5/2007	57	57.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	B30-5	10/4/2007	4.5	5	soil	2.8 Y	13	< 0.97	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 94	< 4.7	< 4.7		
	B30-8	10/4/2007	7.5	8	soil	8.6 Y	65	< 1	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 4.8	< 96	< 4.8	< 4.8		
	B30-15	10/4/2007	14.5	15	soil	< 1	< 5	< 0.97	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7	< 94	< 4.7	< 4.7		
	B30-17.5	10/4/2007	17	17.5	soil	< 1	< 5	< 0.97	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 4.5	< 89	< 4.5	< 4.5		
<i>West of Former Hot Mix Asphalt Plant</i>																						
	B31-5	10/5/2007	4.5	5	soil	50 Y	250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	B31-8.5	10/5/2007	8	8.5	soil	23	5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	B31-12	10/5/2007	11.5	12	soil	< 0.99	< 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	B31-16.5	10/5/2007	15.5	16	soil	1 Y	< 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	B31-22	10/5/2007	21.5	22	soil	< 1	< 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	B32-5	10/9/2007	4.5	5	soil	540 Y	2,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	B32-7.5	10/9/2007	7	7.5	soil	8.6 Y	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	B32-15.5	10/9/2007	15	15.5	soil	670 Y	1,700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	B32-17	10/9/2007	16.5	17	soil	7.9 Y	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	B32-22	10/9/2007	21.5	22	soil	< 1	< 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	B33-5	10/8/2007	4.5	5	soil	35 Y	190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	B33-6.5	10/8/2007	6	6.5	soil	1.1 Y	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	B33-12.5	10/8/2007	12	12.5	soil	< 1	< 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	B33-18	10/8/2007	17.5	18	soil	< 0.99	< 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	B33-22	10/8/2007	21.5	22	soil	< 1	< 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<i>West of Former Spray Rack Area</i>																						
	B34-5	10/10/2007	4.5	5	soil	37 Y	670	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	B34-7	10/10/2007	6.5	7	soil	2.3 Y	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	B34-11.5	10/10/2007	11	11.5	soil	< 0.99	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	B35-5	10/10/2007	4.5	5	soil	370 Y	1,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	B35-10.5	10/10/2007	10	10.5	soil	12 Y	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Miscellaneous Samples</b>																						
<i>Product Material from Paving Oil Containment Structure</i>																						
	OIL-FP	10/8/2007	grab	grab	product	26,000 Y	450,000	< 25	< 130	< 130	< 130	< 130	< 130	< 130	< 130	< 130	< 130	< 2500	< 130	< 130		
<i>Soil Borings for Groundwater Monitoring Wells</i>																						
	MW-3-35	10/4/2007	34.5	35	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>ESLs</b>																						
					shallow soils	83	2,500	83	44	2,900	3,300	2,300	2,300	23	-	-	-	-	0.001*	0.33	4.5	
					deep soils	83	5,000	83	44	2,900	3,300	2,300	2,300	23	-	-	-	-	-	0.33	4.5	

**Table 3**  
**Petroleum Hydrocarbons and Associated Compounds Detected in Soil Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

*(Concentrations reported in milligrams per kilogram [mg/kg] or micrograms per kilogram [ug/kg], as noted)*

Sample Location	Sample ID	Date Sampled	Sample Interval		Matrix	Total Petroleum Hydrocarbons			BTEX compounds					Fuel Oxygenates					Lead Scavengers	
			top (feet bgs)	bottom (feet bgs)		TPHd (mg/kg)	TPHmo (mg/kg)	TPHg (mg/kg)	B (ug/kg)	T (ug/kg)	E (ug/kg)	m,p-X (ug/kg)	o-X (ug/kg)	MTBE (ug/kg)	TAME (ug/kg)	DIPE (ug/kg)	ETBE (ug/kg)	TBA (ug/kg)	EDB (ug/kg)	EDC (ug/kg)

**Notes:**

feet bgs = feet below ground surface

mg/kg = milligrams per kilogram

ug/kg = micrograms per kilogram

TPHd = total petroleum hydrocarbons as diesel

TPHmo = total petroleum hydrocarbons as motor oil

TPHg = total petroleum hydrocarbons as gasoline

BTEX = benzene, toluene, ethylbenzene, and total xylenes

**bold** indicates that the compound was detected above the laboratory reporting limit.

**83 Y** boxed values exceed the respective ESL.

"<" = not detected above the laboratory report given

"-" = sample not analyzed or no ESL exists

Y = sample exhibits chromatographic pattern which does not resemble standard

ESLs = Environmental Screening Levels by San Francisco Bay Regional Water Quality Control Board, November 2007, for Shallow or Deep Soils (as noted) beneath Industrial/Commercial Land Use Areas where Groundwater is a Current or Potential Source of Drinking Water.

\* = No ESL for tert-butyl alcohol exists for shallow soil beneath commercial land use, the ESL for shallow soil beneath residential land use is included in this table.

B = benzene

T = toluene

E = ethylbenzene

m,p-X = m,p-xylenes

o-X = o-xylenes

MTBE = methyl tert-butyl ether

TAME = tert-amyl methyl ether (methyl tert-amyl ether)

DIPE = diisopropyl ether (isopropyl ether)

ETBE = ethyl tert-butyl ether

TBA = tert-butyl alcohol

EDB = 1,2-dibromoethane (ethylene dibromide)

EDC = 1,2-dichloroethane



**Table 4**  
**Volatile Organic Compounds Detected in Soil Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

Sample Location	Sample ID	Date Sampled	Sample Interval		Matrix	VOCs *
			top (feet bgs)	bottom (feet bgs)		
<i>Depth-Discrete Soil Samples from Temporary Soil Borings</i>						
<i>Deep Soil Contamination</i>						
	B25-9	10/8/2007	8.5	9	soil	-
	B25-12	10/8/2007	11.5	12	soil	-
	B25-16	10/8/2007	15.5	16	soil	-
	B25-21	10/8/2007	20.5	21	soil	-
	B25-26.5	10/8/2007	26	26.5	soil	-
	B25-31	10/8/2007	30.5	31	soil	-
	B25-35.5	10/8/2007	35	35.5	soil	-
	B25-36	10/8/2007	35.5	36	soil	-
	B25-47	10/8/2007	46.5	47	soil	-
	B25A-34.5	10/8/2007	34	34.5	soil	-
	B25A-35	10/8/2007	34.5	35	soil	-
	B26-6	10/9/2007	5.5	6	soil	-
	B26-16.5	10/9/2007	16	16.5	soil	-
	B26-22.5	10/9/2007	22	22.5	soil	-
	B26-28	10/9/2007	27.5	28	soil	-
	B26-32	10/9/2007	31.5	32	soil	-
	B26-33.5	10/9/2007	33	33.5	soil	-
	B26-38	10/9/2007	37.5	38	soil	-
	B26-42.5	10/9/2007	42	42.5	soil	-
	B26-47	10/9/2007	46.5	47	soil	-
	B27-7	10/9/2007	6.5	7	soil	-
	B27-16	10/9/2007	15.5	16	soil	-
	B27-22	10/9/2007	21.5	22	soil	-
	B27-27.5	10/9/2007	27	27.5	soil	-
	B27-32	10/9/2007	31.5	32	soil	-
	B27-37.5	10/9/2007	37	37.5	soil	-
	B27-42	10/9/2007	41	41.5	soil	-
	B27-46.5	10/9/2007	46	46.5	soil	-
<i>South of Former Hot Mix Asphalt Plant</i>						
	B28-5	10/4/2007	4.5	5	soil	-
	B28-8	10/4/2007	7.5	8	soil	-
	B28-13	10/4/2007	12.5	13	soil	-
	B28-18	10/4/2007	17.5	18	soil	-
	B28-22.5	10/4/2007	22	22.5	soil	-
	B28-27.5	10/4/2007	27	27.5	soil	-
	B28-37	10/4/2007	36.5	37	soil	-
	B28-47.5	10/4/2007	47	47.5	soil	-
	B28-59	10/4/2007	58.5	59	soil	-
	B29-5	10/5/2007	4.5	5	soil	-
	B29-6	10/5/2007	5.5	6	soil	-
	B29-11	10/5/2007	10.5	11	soil	-
	B29-16	10/5/2007	15.5	16	soil	-
	B29-23	10/5/2007	22.5	23	soil	-
	B29-27	10/5/2007	26.5	27	soil	-
	B29-33	10/5/2007	32.5	33	soil	-
	B29-37	10/5/2007	36.5	37	soil	-
	B29-43	10/5/2007	42.5	43	soil	-

**Table 4**  
**Volatile Organic Compounds Detected in Soil Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

Sample Location	Sample ID	Date Sampled	Sample Interval		Matrix	VOCs *
			top (feet bgs)	bottom (feet bgs)		
	B29-48	10/5/2007	47.5	48	soil	-
	B29-57.5	10/5/2007	57	57.5	soil	-
	B30-5	10/4/2007	4.5	5	soil	-
	B30-8	10/4/2007	7.5	8	soil	-
	B30-15	10/4/2007	14.5	15	soil	-
	B30-17.5	10/4/2007	17	17.5	soil	-
<i>West of Former Hot Mix Asphalt Plant</i>						
	B31-5	10/5/2007	4.5	5	soil	-
	B31-8.5	10/5/2007	8	8.5	soil	-
	B31-12	10/5/2007	11.5	12	soil	-
	B31-16.5	10/5/2007	15.5	16	soil	-
	B31-22	10/5/2007	21.5	22	soil	-
	B32-5	10/9/2007	4.5	5	soil	-
	B32-7.5	10/9/2007	7	7.5	soil	-
	B32-15.5	10/9/2007	15	15.5	soil	-
	B32-17	10/9/2007	16.5	17	soil	-
	B32-22	10/9/2007	21.5	22	soil	-
	B33-5	10/8/2007	4.5	5	soil	-
	B33-6.5	10/8/2007	6	6.5	soil	-
	B33-12.5	10/8/2007	12	12.5	soil	-
	B33-18	10/8/2007	17.5	18	soil	-
	B33-22	10/8/2007	21.5	22	soil	-
<i>West of Former Spray Rack Area</i>						
	B34-5	10/10/2007	4.5	5	soil	-
	B34-7	10/10/2007	6.5	7	soil	-
	B34-11.5	10/10/2007	11	11.5	soil	-
	B35-5	10/10/2007	4.5	5	soil	-
	B35-10.5	10/10/2007	10	10.5	soil	-
<b>Miscellaneous Samples</b>						
<i>Product from Surface Structures</i>						
	OIL-FP	10/8/2007	grab	grab	product	ND
<i>Soil Borings for Groundwater Monitoring Wells</i>						
	MW-3-35	10/4/2007	34.5	35	soil	-
ESLs					shallow or deep soils	various

**Notes:**

\* No VOCs were detected above their respective laboratory limits in any of these samples.

VOCs = volatile organic compounds

feet bgs = feet below ground surface

"-" = sample not analyzed

ND = not detected

ESLs = Environmental Screening Levels by San Francisco Bay Regional Water Quality Control Board, November 2007, for Shallow or Deep Soils (as noted) beneath Industrial/Commercial Land Use Areas where Groundwater is a Current or Potential Source of Drinking Water.

**Table 5**  
**Semi-Volatile Organic Compounds Detected in Soil Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

*(Concentrations reported in micrograms per kilogram [ug/kg])*

Sample Location	Sample ID	Date Sampled	Sample Interval		Matrix	SVOCs *	
			top (feet bgs)	bottom (feet bgs)		2-Methylnaphthalene (ug/kg)	Phenanthrene (ug/kg)
<i>Depth-Discrete Soil Samples from Temporary Soil Borings</i>							
<i>Deep Soil Contamination</i>							
	B25-9	10/8/2007	8.5	9	soil	-	-
	B25-12	10/8/2007	11.5	12	soil	-	-
	B25-16	10/8/2007	15.5	16	soil	-	-
	B25-21	10/8/2007	20.5	21	soil	-	-
	B25-26.5	10/8/2007	26	26.5	soil	-	-
	B25-31	10/8/2007	30.5	31	soil	< 67	< 67
	B25-35.5	10/8/2007	35	35.5	soil	< 1,300	< 1,300
	B25-36	10/8/2007	35.5	36	soil	-	-
	B25-47	10/8/2007	46.5	47	soil	-	-
	B25A-34.5	10/8/2007	34	34.5	soil	<b>7,200</b>	<b>4,700</b>
	B25A-35	10/8/2007	34.5	35	soil	-	-
	B26-6	10/9/2007	5.5	6	soil	-	-
	B26-16.5	10/9/2007	16	16.5	soil	-	-
	B26-22.5	10/9/2007	22	22.5	soil	-	-
	B26-28	10/9/2007	27.5	28	soil	-	-
	B26-32	10/9/2007	31.5	32	soil	<b>52,000</b>	<b>18,000</b>
	B26-33.5	10/9/2007	33	33.5	soil	< 66	< 66
	B26-38	10/9/2007	37.5	38	soil	-	-
	B26-42.5	10/9/2007	42	42.5	soil	-	-
	B26-47	10/9/2007	46.5	47	soil	-	-
	B27-7	10/9/2007	6.5	7	soil	-	-
	B27-16	10/9/2007	15.5	16	soil	-	-
	B27-22	10/9/2007	21.5	22	soil	-	-
	B27-27.5	10/9/2007	27	27.5	soil	-	-
	B27-32	10/9/2007	31.5	32	soil	-	-
	B27-37.5	10/9/2007	37	37.5	soil	-	-
	B27-42	10/9/2007	41	41.5	soil	-	-
	B27-46.5	10/9/2007	46	46.5	soil	-	-
<i>South of Former Hot Mix Asphalt Plant</i>							
	B28-5	10/4/2007	4.5	5	soil	-	-
	B28-8	10/4/2007	7.5	8	soil	-	-
	B28-13	10/4/2007	12.5	13	soil	-	-
	B28-18	10/4/2007	17.5	18	soil	-	-
	B28-22.5	10/4/2007	22	22.5	soil	-	-
	B28-27.5	10/4/2007	27	27.5	soil	-	-
	B28-37	10/4/2007	36.5	37	soil	-	-
	B28-47.5	10/4/2007	47	47.5	soil	-	-
	B28-59	10/4/2007	58.5	59	soil	-	-
	B29-5	10/5/2007	4.5	5	soil	-	-
	B29-6	10/5/2007	5.5	6	soil	-	-
	B29-11	10/5/2007	10.5	11	soil	-	-
	B29-16	10/5/2007	15.5	16	soil	-	-
	B29-23	10/5/2007	22.5	23	soil	-	-
	B29-27	10/5/2007	26.5	27	soil	-	-
	B29-33	10/5/2007	32.5	33	soil	-	-
	B29-37	10/5/2007	36.5	37	soil	-	-

**Table 5**  
**Semi-Volatile Organic Compounds Detected in Soil Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

(Concentrations reported in micrograms per kilogram [ug/kg])

Sample Location	Sample ID	Date Sampled	Sample Interval		Matrix	SVOCs *	
			top (feet bgs)	bottom (feet bgs)		2-Methylnaphthalene (ug/kg)	Phenanthrene (ug/kg)
	B29-43	10/5/2007	42.5	43	soil	-	-
	B29-48	10/5/2007	47.5	48	soil	-	-
	B29-57.5	10/5/2007	57	57.5	soil	-	-
	B30-5	10/4/2007	4.5	5	soil	-	-
	B30-8	10/4/2007	7.5	8	soil	-	-
	B30-15	10/4/2007	14.5	15	soil	-	-
	B30-17.5	10/4/2007	17	17.5	soil	-	-
<i>West of Former Hot Mix Asphalt Plant</i>							
	B31-5	10/5/2007	4.5	5	soil	-	-
	B31-8.5	10/5/2007	8	8.5	soil	-	-
	B31-12	10/5/2007	11.5	12	soil	-	-
	B31-16.5	10/5/2007	15.5	16	soil	-	-
	B31-22	10/5/2007	21.5	22	soil	-	-
	B32-5	10/9/2007	4.5	5	soil	-	-
	B32-7.5	10/9/2007	7	7.5	soil	-	-
	B32-15.5	10/9/2007	15	15.5	soil	-	-
	B32-17	10/9/2007	16.5	17	soil	-	-
	B32-22	10/9/2007	21.5	22	soil	-	-
	B33-5	10/8/2007	4.5	5	soil	-	-
	B33-6.5	10/8/2007	6	6.5	soil	-	-
	B33-12.5	10/8/2007	12	12.5	soil	-	-
	B33-18	10/8/2007	17.5	18	soil	-	-
	B33-22	10/8/2007	21.5	22	soil	-	-
<i>West of Former Spray Rack Area</i>							
	B34-5	10/10/2007	4.5	5	soil	-	-
	B34-7	10/10/2007	6.5	7	soil	-	-
	B34-11.5	10/10/2007	11	11.5	soil	-	-
	B35-5	10/10/2007	4.5	5	soil	-	-
	B35-10.5	10/10/2007	10	10.5	soil	-	-
<b>Miscellaneous Samples</b>							
<i>Product from Surface Structures</i>							
	OIL-FP	10/8/2007	grab	grab	product	< 80,000	< 80,000
<i>Soil Borings for Groundwater Monitoring Wells</i>							
	MW-3-35	10/4/2007	34.5	35	soil	-	-
ESLs					shallow soils	1,200	40,000
					deep soils	1,200	490,000

**Notes:**

\* No other SVOCs were detected above their respective laboratory limits in any of these samples.

SVOCs = semi-volatile organic compounds

feet bgs = feet below ground surface

ug/kg = micrograms per kilogram

"-" = sample not analyzed

**bold** indicates that the compound was detected above the laboratory reporting limit.

"<" = not detected above the laboratory report given

ESLs = Environmental Screening Levels by San Francisco Bay Regional Water Quality Control Board, November 2007, for Shallow or Deep Soils (as noted) beneath Industrial/Commercial Land Use Areas where Groundwater is a Current or Potential Source of Drinking Water.

**Table 6**  
**Organochlorine Pesticides Detected in Soil Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

Sample Location	Sample ID	Date Sampled	Sample Interval		Matrix	Organochlorine Pesticides *
			top (feet bgs)	bottom (feet bgs)		
<i>Depth-Discrete Soil Samples from Temporary Soil Borings</i>						
<i>Deep Soil Contamination</i>						
	B25-9	10/8/2007	8.5	9	soil	-
	B25-12	10/8/2007	11.5	12	soil	-
	B25-16	10/8/2007	15.5	16	soil	-
	B25-21	10/8/2007	20.5	21	soil	-
	B25-26.5	10/8/2007	26	26.5	soil	-
	B25-31	10/8/2007	30.5	31	soil	-
	B25-35.5	10/8/2007	35	35.5	soil	-
	B25-36	10/8/2007	35.5	36	soil	-
	B25-47	10/8/2007	46.5	47	soil	-
	B25A-34.5	10/8/2007	34	34.5	soil	-
	B25A-35	10/8/2007	34.5	35	soil	-
	B26-6	10/9/2007	5.5	6	soil	-
	B26-16.5	10/9/2007	16	16.5	soil	-
	B26-22.5	10/9/2007	22	22.5	soil	-
	B26-28	10/9/2007	27.5	28	soil	-
	B26-32	10/9/2007	31.5	32	soil	-
	B26-33.5	10/9/2007	33	33.5	soil	-
	B26-38	10/9/2007	37.5	38	soil	-
	B26-42.5	10/9/2007	42	42.5	soil	-
	B26-47	10/9/2007	46.5	47	soil	-
	B27-7	10/9/2007	6.5	7	soil	-
	B27-16	10/9/2007	15.5	16	soil	-
	B27-22	10/9/2007	21.5	22	soil	-
	B27-27.5	10/9/2007	27	27.5	soil	-
	B27-32	10/9/2007	31.5	32	soil	-
	B27-37.5	10/9/2007	37	37.5	soil	-
	B27-42	10/9/2007	41	41.5	soil	-
	B27-46.5	10/9/2007	46	46.5	soil	-
<i>South of Former Hot Mix Asphalt Plant</i>						
	B28-5	10/4/2007	4.5	5	soil	-
	B28-8	10/4/2007	7.5	8	soil	-
	B28-13	10/4/2007	12.5	13	soil	-
	B28-18	10/4/2007	17.5	18	soil	-
	B28-22.5	10/4/2007	22	22.5	soil	-
	B28-27.5	10/4/2007	27	27.5	soil	-
	B28-37	10/4/2007	36.5	37	soil	-
	B28-47.5	10/4/2007	47	47.5	soil	-
	B28-59	10/4/2007	58.5	59	soil	-
	B29-5	10/5/2007	4.5	5	soil	-
	B29-6	10/5/2007	5.5	6	soil	-
	B29-11	10/5/2007	10.5	11	soil	-
	B29-16	10/5/2007	15.5	16	soil	-
	B29-23	10/5/2007	22.5	23	soil	-
	B29-27	10/5/2007	26.5	27	soil	-
	B29-33	10/5/2007	32.5	33	soil	-
	B29-37	10/5/2007	36.5	37	soil	-
	B29-43	10/5/2007	42.5	43	soil	-
	B29-48	10/5/2007	47.5	48	soil	-
	B29-57.5	10/5/2007	57	57.5	soil	-

**Table 6**  
**Organochlorine Pesticides Detected in Soil Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

Sample Location	Sample ID	Date Sampled	Sample Interval		Matrix	Organochlorine Pesticides *
			top (feet bgs)	bottom (feet bgs)		
	B30-5	10/4/2007	4.5	5	soil	-
	B30-8	10/4/2007	7.5	8	soil	-
	B30-15	10/4/2007	14.5	15	soil	-
	B30-17.5	10/4/2007	17	17.5	soil	-
<i>West of Former Hot Mix Asphalt Plant</i>						
	B31-5	10/5/2007	4.5	5	soil	-
	B31-8.5	10/5/2007	8	8.5	soil	-
	B31-12	10/5/2007	11.5	12	soil	-
	B31-16.5	10/5/2007	15.5	16	soil	-
	B31-22	10/5/2007	21.5	22	soil	-
	B32-5	10/9/2007	4.5	5	soil	-
	B32-7.5	10/9/2007	7	7.5	soil	-
	B32-15.5	10/9/2007	15	15.5	soil	-
	B32-17	10/9/2007	16.5	17	soil	-
	B32-22	10/9/2007	21.5	22	soil	-
	B33-5	10/8/2007	4.5	5	soil	-
	B33-6.5	10/8/2007	6	6.5	soil	-
	B33-12.5	10/8/2007	12	12.5	soil	-
	B33-18	10/8/2007	17.5	18	soil	-
	B33-22	10/8/2007	21.5	22	soil	-
<i>West of Former Spray Rack Area</i>						
	B34-5	10/10/2007	4.5	5	soil	-
	B34-7	10/10/2007	6.5	7	soil	-
	B34-11.5	10/10/2007	11	11.5	soil	-
	B35-5	10/10/2007	4.5	5	soil	-
	B35-10.5	10/10/2007	10	10.5	soil	-
<b>Miscellaneous Samples</b>						
<i>Product from Surface Structures</i>						
	OIL-FP	10/8/2007	grab	grab	product	ND
<i>Soil Borings for Groundwater Monitoring Wells</i>						
	MW-3-35	10/4/2007	34.5	35	soil	-
ESLs					shallow or deep soils	various

**Notes:**

\* No organochlorine pesticides were detected above their respective laboratory limits in any of these samples.

feet bgs = feet below ground surface

"-" = sample not analyzed

ND = not detected

ESLs = Environmental Screening Levels by San Francisco Bay Regional Water Quality Control Board, November 2007, for Shallow or Deep Soils (as noted) beneath Industrial/Commercial Land Use Areas where Groundwater is a Current or Potential Source of Drinking Water.

**Table 7**  
**Polychlorinated Biphenyls Detected in Soil Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

Sample Location	Sample ID	Date Sampled	Sample Interval		Matrix	PCBs *
			top (feet bgs)	bottom (feet bgs)		
<i>Depth-Discrete Soil Samples from Temporary Soil Borings</i>						
<i>Deep Soil Contamination</i>						
	B25-9	10/8/2007	8.5	9	soil	-
	B25-12	10/8/2007	11.5	12	soil	-
	B25-16	10/8/2007	15.5	16	soil	-
	B25-21	10/8/2007	20.5	21	soil	-
	B25-26.5	10/8/2007	26	26.5	soil	-
	B25-31	10/8/2007	30.5	31	soil	ND
	B25-35.5	10/8/2007	35	35.5	soil	ND
	B25-36	10/8/2007	35.5	36	soil	-
	B25-47	10/8/2007	46.5	47	soil	-
	B25A-34.5	10/8/2007	34	34.5	soil	ND
	B25A-35	10/8/2007	34.5	35	soil	-
	B26-6	10/9/2007	5.5	6	soil	-
	B26-16.5	10/9/2007	16	16.5	soil	-
	B26-22.5	10/9/2007	22	22.5	soil	-
	B26-28	10/9/2007	27.5	28	soil	-
	B26-32	10/9/2007	31.5	32	soil	ND
	B26-33.5	10/9/2007	33	33.5	soil	ND
	B26-38	10/9/2007	37.5	38	soil	-
	B26-42.5	10/9/2007	42	42.5	soil	-
	B26-47	10/9/2007	46.5	47	soil	-
	B27-7	10/9/2007	6.5	7	soil	-
	B27-16	10/9/2007	15.5	16	soil	-
	B27-22	10/9/2007	21.5	22	soil	-
	B27-27.5	10/9/2007	27	27.5	soil	-
	B27-32	10/9/2007	31.5	32	soil	-
	B27-37.5	10/9/2007	37	37.5	soil	-
	B27-42	10/9/2007	41	41.5	soil	-
	B27-46.5	10/9/2007	46	46.5	soil	-
<i>South of Former Hot Mix Asphalt Plant</i>						
	B28-5	10/4/2007	4.5	5	soil	-
	B28-8	10/4/2007	7.5	8	soil	-
	B28-13	10/4/2007	12.5	13	soil	-
	B28-18	10/4/2007	17.5	18	soil	-
	B28-22.5	10/4/2007	22	22.5	soil	-
	B28-27.5	10/4/2007	27	27.5	soil	-
	B28-37	10/4/2007	36.5	37	soil	-
	B28-47.5	10/4/2007	47	47.5	soil	-
	B28-59	10/4/2007	58.5	59	soil	-
	B29-5	10/5/2007	4.5	5	soil	-
	B29-6	10/5/2007	5.5	6	soil	-
	B29-11	10/5/2007	10.5	11	soil	-
	B29-16	10/5/2007	15.5	16	soil	-
	B29-23	10/5/2007	22.5	23	soil	-
	B29-27	10/5/2007	26.5	27	soil	-
	B29-33	10/5/2007	32.5	33	soil	-
	B29-37	10/5/2007	36.5	37	soil	-
	B29-43	10/5/2007	42.5	43	soil	-
	B29-48	10/5/2007	47.5	48	soil	-
	B29-57.5	10/5/2007	57	57.5	soil	-

**Table 7**  
**Polychlorinated Biphenyls Detected in Soil Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

Sample Location	Sample ID	Date Sampled	Sample Interval		Matrix	PCBs *
			top (feet bgs)	bottom (feet bgs)		
	B30-5	10/4/2007	4.5	5	soil	-
	B30-8	10/4/2007	7.5	8	soil	-
	B30-15	10/4/2007	14.5	15	soil	-
	B30-17.5	10/4/2007	17	17.5	soil	-
<i>West of Former Hot Mix Asphalt Plant</i>						
	B31-5	10/5/2007	4.5	5	soil	-
	B31-8.5	10/5/2007	8	8.5	soil	-
	B31-12	10/5/2007	11.5	12	soil	-
	B31-16.5	10/5/2007	15.5	16	soil	-
	B31-22	10/5/2007	21.5	22	soil	-
	B32-5	10/9/2007	4.5	5	soil	-
	B32-7.5	10/9/2007	7	7.5	soil	-
	B32-15.5	10/9/2007	15	15.5	soil	-
	B32-17	10/9/2007	16.5	17	soil	-
	B32-22	10/9/2007	21.5	22	soil	-
	B33-5	10/8/2007	4.5	5	soil	-
	B33-6.5	10/8/2007	6	6.5	soil	-
	B33-12.5	10/8/2007	12	12.5	soil	-
	B33-18	10/8/2007	17.5	18	soil	-
	B33-22	10/8/2007	21.5	22	soil	-
<i>West of Former Spray Rack Area</i>						
	B34-5	10/10/2007	4.5	5	soil	-
	B34-7	10/10/2007	6.5	7	soil	-
	B34-11.5	10/10/2007	11	11.5	soil	-
	B35-5	10/10/2007	4.5	5	soil	-
	B35-10.5	10/10/2007	10	10.5	soil	-
<b>Miscellaneous Samples</b>						
<i>Product from Surface Structures</i>						
	OIL-FP	10/8/2007	grab	grab	product	ND
<i>Soil Borings for Groundwater Monitoring Wells</i>						
	MW-3-35	10/4/2007	34.5	35	soil	-
ESLs					shallow or deep soils	various

**Notes:**

\* No PCBs were detected above their respective laboratory limits in any of these samples.

PCBs = polychlorinated biphenyls

feet bgs = feet below ground surface

"-" = sample not analyzed

ND = not detected

ESLs = Environmental Screening Levels by San Francisco Bay Regional Water Quality Control Board, November 2007, for Shallow or Deep Soils (as noted) beneath Industrial/Commercial Land Use Areas where Groundwater is a Current or Potential Source of Drinking Water.



**Table 8**  
**Metals Detected in Soil Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

*(Concentrations reported in milligrams per kilogram [mg/kg])*

Sample Location	Sample ID	Date Sampled	Sample Interval		Matrix	LUFT5 Metals and Arsenic (mg/kg)						CAM 17 Metals (mg/kg)									
			top (feet bgs)	bottom (feet bgs)		As	Cd	Cr	Ni	Pb	Zn	Ag	Ba	Be	Co	Cu	Hg	Mo	Sb	Se	Tl
<i>Depth-Discrete Soil Samples from Temporary Soil Borings</i>																					
<i>Deep Soil Contamination</i>																					
	B25-9	10/8/2007	8.5	9	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B25-12	10/8/2007	11.5	12	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B25-16	10/8/2007	15.5	16	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B25-21	10/8/2007	20.5	21	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B25-26.5	10/8/2007	26	26.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B25-31	10/8/2007	30.5	31	soil	<b>3.5</b>	<0.25	<b>26</b>	<b>44</b>	<b>4.3</b>	<b>40</b>	-	-	-	-	-	-	-	-	-	-
	B25-35.5	10/8/2007	35	35.5	soil	<b>3.3</b>	<0.25	<b>31</b>	<b>52</b>	<b>5.3</b>	<b>33</b>	-	-	-	-	-	-	-	-	-	-
	B25-36	10/8/2007	35.5	36	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B25-47	10/8/2007	46.5	47	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B25A-34.5	10/8/2007	34	34.5	soil	<b>2.3</b>	<0.25	<b>53</b>	<b>77</b>	<b>5.5</b>	<b>43</b>	-	-	-	-	-	-	-	-	-	-
	B25A-35	10/8/2007	34.5	35	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B26-6	10/9/2007	5.5	6	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B26-16.5	10/9/2007	16	16.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B26-22.5	10/9/2007	22	22.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B26-28	10/9/2007	27.5	28	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B26-32	10/9/2007	31.5	32	soil	<b>0.93</b>	<0.25	<b>13</b>	<b>19</b>	<b>2.3</b>	<b>15</b>	-	-	-	-	-	-	-	-	-	-
	B26-33.5	10/9/2007	33	33.5	soil	<b>7.3</b>	<0.25	<b>58</b>	<b>80</b>	<b>7.3</b>	<b>47</b>	-	-	-	-	-	-	-	-	-	-
	B26-38	10/9/2007	37.5	38	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B26-42.5	10/9/2007	42	42.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B26-47	10/9/2007	46.5	47	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B27-7	10/9/2007	6.5	7	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B27-16	10/9/2007	15.5	16	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B27-22	10/9/2007	21.5	22	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B27-27.5	10/9/2007	27	27.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B27-32	10/9/2007	31.5	32	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B27-37.5	10/9/2007	37	37.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B27-42	10/9/2007	41	41.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B27-46.5	10/9/2007	46	46.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>South of Former Hot Mix Asphalt Plant</i>																					
	B28-5	10/4/2007	4.5	5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B28-8	10/4/2007	7.5	8	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B28-13	10/4/2007	12.5	13	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B28-18	10/4/2007	17.5	18	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B28-22.5	10/4/2007	22	22.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B28-27.5	10/4/2007	27	27.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B28-37	10/4/2007	36.5	37	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B28-47.5	10/4/2007	47	47.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Table 8**  
**Metals Detected in Soil Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

*(Concentrations reported in milligrams per kilogram [mg/kg])*

Sample Location	Sample ID	Date Sampled	Sample Interval		Matrix	LUFT5 Metals and Arsenic (mg/kg)						CAM 17 Metals (mg/kg)									
			top (feet bgs)	bottom (feet bgs)		As	Cd	Cr	Ni	Pb	Zn	Ag	Ba	Be	Co	Cu	Hg	Mo	Sb	Se	Tl
	B28-59	10/4/2007	58.5	59	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B29-5	10/5/2007	4.5	5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B29-6	10/5/2007	5.5	6	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B29-11	10/5/2007	10.5	11	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B29-16	10/5/2007	15.5	16	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B29-23	10/5/2007	22.5	23	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B29-27	10/5/2007	26.5	27	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B29-33	10/5/2007	32.5	33	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B29-37	10/5/2007	36.5	37	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B29-43	10/5/2007	42.5	43	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B29-48	10/5/2007	47.5	48	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B29-57.5	10/5/2007	57	57.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B30-5	10/4/2007	4.5	5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B30-8	10/4/2007	7.5	8	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B30-15	10/4/2007	14.5	15	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B30-17.5	10/4/2007	17	17.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>West of Former Hot Mix Asphalt Plant</i>																					
	B31-5	10/5/2007	4.5	5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B31-8.5	10/5/2007	8	8.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B31-12	10/5/2007	11.5	12	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B31-16.5	10/5/2007	15.5	16	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B31-22	10/5/2007	21.5	22	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B32-5	10/9/2007	4.5	5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B32-7.5	10/9/2007	7	7.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B32-15.5	10/9/2007	15	15.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B32-17	10/9/2007	16.5	17	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B32-22	10/9/2007	21.5	22	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B33-5	10/8/2007	4.5	5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B33-6.5	10/8/2007	6	6.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B33-12.5	10/8/2007	12	12.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B33-18	10/8/2007	17.5	18	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B33-22	10/8/2007	21.5	22	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>West of Former Spray Rack Area</i>																					
	B34-5	10/10/2007	4.5	5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B34-7	10/10/2007	6.5	7	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B34-11.5	10/10/2007	11	11.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B35-5	10/10/2007	4.5	5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B35-10.5	10/10/2007	10	10.5	soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Table 8**  
**Metals Detected in Soil Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

(Concentrations reported in milligrams per kilogram [mg/kg])

Sample Location	Sample ID	Date Sampled	Sample Interval		Matrix	LUFT5 Metals and Arsenic (mg/kg)						CAM 17 Metals (mg/kg)										
			top (feet bgs)	bottom (feet bgs)		As	Cd	Cr	Ni	Pb	Zn	Ag	Ba	Be	Co	Cu	Hg	Mo	Sb	Se	Tl	V
<b>Miscellaneous Samples</b>																						
<i>Product from Surface Structures</i>																						
	OIL-FP	10/8/2007	grab	grab	product	<0.28	<0.25	<0.25	<b>8.8</b>	<0.25	<b>9.0</b>	<0.25	<b>0.25</b>	<0.1	<0.25	<b>0.36</b>	<0.02	<0.25	<0.5	<0.5	<0.5	<b>8.4</b>
<i>Soil Borings for Groundwater Monitoring Wells</i>																						
	MW-3-35	10/4/2007	34.5	35	soil																	
ESLs			shallow soils (less than 10 feet bgs)			1.5	7.4	750/8*	150	750	600	40	1,500	8	80	230	10	40	40	10	15	190
ESLs			deep soils (greater than 10 feet bgs)			14	39	5,000	260	750	5,000	3,600	2,600	98	94	5,000	33	3,600	280	3,600	57	710

**Notes:**

As = arsenic	Ag = Silver	Mo = Molybdenum
Cd = cadmium	Ba = Barium	Sb = Antimony
Cr = Chromium	Be = Beryllium	Se = Selenium
Ni = Nickel	Co = Cobalt	Tl = Thallium
Pb = Lead	Cu = Copper	V = Vanadium
Zn = Zinc	Hg = Mercury	

feet bgs = feet below ground surface

mg/kg = milligrams per kilogram

**bold** indicates that the compound was detected above the laboratory reporting limit

"<" = not detected above the laboratory report given

"-" = sample not analyzed or ESL not established

\* = No ESL exists for total chromium in shallow soil beneath commercial/industrial land use area; the ESLs for chromium III/chromium VI are provided in this table instead.

ESLs = Environmental Screening Levels by San Francisco Bay Regional Water Quality Control Board, November 2007, for Shallow or Deep Soils (as noted) beneath Industrial/Commercial Land Use Areas where Groundwater is a Current or Potential Source of Drinking Water.

**Table 9**  
**SPLP Total Petroleum Hydrocarbons Detected in Soil Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

Sample Location	Sample ID	Date Sampled	Sample Interval		Matrix	SPLP TPH	
			top (feet bgs)	bottom (feet bgs)		TPHd (ug/l)	TPHmo (ug/l)
<i>Depth-Discrete Soil Samples from Temporary Soil Borings</i>							
<i>Deep Soil Contamination</i>							
	B25-9	10/8/2007	8.5	9	soil	-	-
	B25-12	10/8/2007	11.5	12	soil	-	-
	B25-16	10/8/2007	15.5	16	soil	-	-
	B25-21	10/8/2007	20.5	21	soil	-	-
	B25-26.5	10/8/2007	26	26.5	soil	-	-
	B25-31	10/8/2007	30.5	31	soil	< 50	< 300
	B25-35.5	10/8/2007	35	35.5	soil	< 50	< 300
	B25-36	10/8/2007	35.5	36	soil	-	-
	B25-47	10/8/2007	46.5	47	soil	-	-
	B25A-34.5	10/8/2007	34	34.5	soil	<b>740</b>	< 300
	B25A-35	10/8/2007	34.5	35	soil	-	-
	B26-6	10/9/2007	5.5	6	soil	-	-
	B26-16.5	10/9/2007	16	16.5	soil	-	-
	B26-22.5	10/9/2007	22	22.5	soil	-	-
	B26-28	10/9/2007	27.5	28	soil	-	-
	B26-32	10/9/2007	31.5	32	soil	<b>720</b>	< 300
	B26-33.5	10/9/2007	33	33.5	soil	< 50	< 300
	B26-38	10/9/2007	37.5	38	soil	-	-
	B26-42.5	10/9/2007	42	42.5	soil	-	-
	B26-47	10/9/2007	46.5	47	soil	-	-
	B27-7	10/9/2007	6.5	7	soil	-	-
	B27-16	10/9/2007	15.5	16	soil	-	-
	B27-22	10/9/2007	21.5	22	soil	-	-
	B27-27.5	10/9/2007	27	27.5	soil	-	-
	B27-32	10/9/2007	31.5	32	soil	-	-
	B27-37.5	10/9/2007	37	37.5	soil	-	-
	B27-42	10/9/2007	41	41.5	soil	-	-
	B27-46.5	10/9/2007	46	46.5	soil	-	-
<i>South of Former Hot Mix Asphalt Plant</i>							
	B28-5	10/4/2007	4.5	5	soil	-	-
	B28-8	10/4/2007	7.5	8	soil	-	-
	B28-13	10/4/2007	12.5	13	soil	-	-
	B28-18	10/4/2007	17.5	18	soil	-	-
	B28-22.5	10/4/2007	22	22.5	soil	-	-
	B28-27.5	10/4/2007	27	27.5	soil	-	-
	B28-37	10/4/2007	36.5	37	soil	-	-
	B28-47.5	10/4/2007	47	47.5	soil	-	-
	B28-59	10/4/2007	58.5	59	soil	-	-
	B29-5	10/5/2007	4.5	5	soil	-	-
	B29-6	10/5/2007	5.5	6	soil	-	-
	B29-11	10/5/2007	10.5	11	soil	-	-
	B29-16	10/5/2007	15.5	16	soil	-	-
	B29-23	10/5/2007	22.5	23	soil	-	-
	B29-27	10/5/2007	26.5	27	soil	-	-
	B29-33	10/5/2007	32.5	33	soil	-	-
	B29-37	10/5/2007	36.5	37	soil	-	-
	B29-43	10/5/2007	42.5	43	soil	-	-
	B29-48	10/5/2007	47.5	48	soil	-	-
	B29-57.5	10/5/2007	57	57.5	soil	-	-

**Table 9**  
**SPLP Total Petroleum Hydrocarbons Detected in Soil Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

Sample Location	Sample ID	Date Sampled	Sample Interval		Matrix	SPLP TPH	
			top (feet bgs)	bottom (feet bgs)		TPHd (ug/l)	TPHmo (ug/l)
	B30-5	10/4/2007	4.5	5	soil	-	-
	B30-8	10/4/2007	7.5	8	soil	-	-
	B30-15	10/4/2007	14.5	15	soil	-	-
	B30-17.5	10/4/2007	17	17.5	soil	-	-
<i>West of Former Hot Mix Asphalt Plant</i>							
	B31-5	10/5/2007	4.5	5	soil	-	-
	B31-8.5	10/5/2007	8	8.5	soil	-	-
	B31-12	10/5/2007	11.5	12	soil	-	-
	B31-16.5	10/5/2007	15.5	16	soil	-	-
	B31-22	10/5/2007	21.5	22	soil	-	-
	B32-5	10/9/2007	4.5	5	soil	-	-
	B32-7.5	10/9/2007	7	7.5	soil	-	-
	B32-15.5	10/9/2007	15	15.5	soil	-	-
	B32-17	10/9/2007	16.5	17	soil	-	-
	B32-22	10/9/2007	21.5	22	soil	-	-
	B33-5	10/8/2007	4.5	5	soil	-	-
	B33-6.5	10/8/2007	6	6.5	soil	-	-
	B33-12.5	10/8/2007	12	12.5	soil	-	-
	B33-18	10/8/2007	17.5	18	soil	-	-
	B33-22	10/8/2007	21.5	22	soil	-	-
<i>West of Former Spray Rack Area</i>							
	B34-5	10/10/2007	4.5	5	soil	-	-
	B34-7	10/10/2007	6.5	7	soil	-	-
	B34-11.5	10/10/2007	11	11.5	soil	-	-
	B35-5	10/10/2007	4.5	5	soil	-	-
	B35-10.5	10/10/2007	10	10.5	soil	-	-
<b>Miscellaneous Samples</b>							
<i>Product from Surface Structures</i>							
	OIL-FP	10/8/2007	grab	grab	product	-	-
<i>Soil Borings for Groundwater Monitoring Wells</i>							
	MW-3-35	10/4/2007	34.5	35	soil	-	-
ESLs						100	100

**Notes:**

SPLP = synthetic precipitation leaching procedure

feet bgs = feet below ground surface

ug/l = micrograms per liter

"-" = sample not analyzed

**720** boxed values exceed the respective ESL.

**bold** indicates that the compound was detected above the laboratory reporting limit.

TPHd = total petroleum hydrocarbons as diesel

TPHmo = total petroleum hydrocarbons as motor oil

ESLs = Environmental Screening Levels by San Francisco Bay Regional Water Quality Control Board, November 2007, for Shallow or Deep Soils (as noted) beneath Industrial/Commercial Land Use Areas where Groundwater is a Current or Potential Source of Drinking Water.

**Table 10**  
**SPLP Metals Detected in Soil Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

*(Concentrations reported in micrograms per liter [ug/l])*

Sample Location	Sample ID	Date Sampled	Sample Interval		Matrix	LUFT5 Metals and Arsenic (ug/l)					
			top (feet bgs)	bottom (feet bgs)		As	Cd	Cr	Ni	Pb	Zn
<i>Depth-Discrete Soil Samples from Temporary Soil Borings</i>											
<i>Deep Soil Contamination</i>											
	B25-9	10/8/2007	8.5	9	soil	-	-	-	-	-	-
	B25-12	10/8/2007	11.5	12	soil	-	-	-	-	-	-
	B25-16	10/8/2007	15.5	16	soil	-	-	-	-	-	-
	B25-21	10/8/2007	20.5	21	soil	-	-	-	-	-	-
	B25-26.5	10/8/2007	26	26.5	soil	-	-	-	-	-	-
	B25-31	10/8/2007	30.5	31	soil	< 5	< 5	<b>6.9</b>	<b>6.4</b>	< 3.4	< 20
	B25-35.5	10/8/2007	35	35.5	soil	< 5	< 5	<b>19</b>	<b>18</b>	< 3.4	< 20
	B25-36	10/8/2007	35.5	36	soil	-	-	-	-	-	-
	B25-47	10/8/2007	46.5	47	soil	-	-	-	-	-	-
	B25A-34.5	10/8/2007	34	34.5	soil	<b>6.7</b>	< 5	<b>9.2</b>	<b>8.5</b>	<b>5.1</b>	< 20
	B25A-35	10/8/2007	34.5	35	soil	-	-	-	-	-	-
	B26-6	10/9/2007	5.5	6	soil	-	-	-	-	-	-
	B26-16.5	10/9/2007	16	16.5	soil	-	-	-	-	-	-
	B26-22.5	10/9/2007	22	22.5	soil	-	-	-	-	-	-
	B26-28	10/9/2007	27.5	28	soil	-	-	-	-	-	-
	B26-32	10/9/2007	31.5	32	soil	< 5	< 5	<b>20</b>	<b>21</b>	< 3.4	< 20
	B26-33.5	10/9/2007	33	33.5	soil	<b>6.2</b>	< 5	<b>23</b>	<b>23</b>	< 3.4	< 20
	B26-38	10/9/2007	37.5	38	soil	-	-	-	-	-	-
	B26-42.5	10/9/2007	42	42.5	soil	-	-	-	-	-	-
	B26-47	10/9/2007	46.5	47	soil	-	-	-	-	-	-
	B27-7	10/9/2007	6.5	7	soil	-	-	-	-	-	-
	B27-16	10/9/2007	15.5	16	soil	-	-	-	-	-	-
	B27-22	10/9/2007	21.5	22	soil	-	-	-	-	-	-
	B27-27.5	10/9/2007	27	27.5	soil	-	-	-	-	-	-
	B27-32	10/9/2007	31.5	32	soil	-	-	-	-	-	-
	B27-37.5	10/9/2007	37	37.5	soil	-	-	-	-	-	-
	B27-42	10/9/2007	41	41.5	soil	-	-	-	-	-	-
	B27-46.5	10/9/2007	46	46.5	soil	-	-	-	-	-	-
<i>South of Former Hot Mix Asphalt Plant</i>											
	B28-5	10/4/2007	4.5	5	soil	-	-	-	-	-	-
	B28-8	10/4/2007	7.5	8	soil	-	-	-	-	-	-
	B28-13	10/4/2007	12.5	13	soil	-	-	-	-	-	-
	B28-18	10/4/2007	17.5	18	soil	-	-	-	-	-	-
	B28-22.5	10/4/2007	22	22.5	soil	-	-	-	-	-	-
	B28-27.5	10/4/2007	27	27.5	soil	-	-	-	-	-	-
	B28-37	10/4/2007	36.5	37	soil	-	-	-	-	-	-
	B28-47.5	10/4/2007	47	47.5	soil	-	-	-	-	-	-
	B28-59	10/4/2007	58.5	59	soil	-	-	-	-	-	-
	B29-5	10/5/2007	4.5	5	soil	-	-	-	-	-	-
	B29-6	10/5/2007	5.5	6	soil	-	-	-	-	-	-
	B29-11	10/5/2007	10.5	11	soil	-	-	-	-	-	-
	B29-16	10/5/2007	15.5	16	soil	-	-	-	-	-	-
	B29-23	10/5/2007	22.5	23	soil	-	-	-	-	-	-
	B29-27	10/5/2007	26.5	27	soil	-	-	-	-	-	-
	B29-33	10/5/2007	32.5	33	soil	-	-	-	-	-	-
	B29-37	10/5/2007	36.5	37	soil	-	-	-	-	-	-
	B29-43	10/5/2007	42.5	43	soil	-	-	-	-	-	-
	B29-48	10/5/2007	47.5	48	soil	-	-	-	-	-	-

**Table 10**  
**SPLP Metals Detected in Soil Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

(Concentrations reported in micrograms per liter [ug/l])

Sample Location	Sample ID	Date Sampled	Sample Interval		Matrix	LUFT5 Metals and Arsenic (ug/l)					
			top (feet bgs)	bottom (feet bgs)		As	Cd	Cr	Ni	Pb	Zn
	B29-57.5	10/5/2007	57	57.5	soil	-	-	-	-	-	-
	B30-5	10/4/2007	4.5	5	soil	-	-	-	-	-	-
	B30-8	10/4/2007	7.5	8	soil	-	-	-	-	-	-
	B30-15	10/4/2007	14.5	15	soil	-	-	-	-	-	-
	B30-17.5	10/4/2007	17	17.5	soil	-	-	-	-	-	-
<i>West of Former Hot Mix Asphalt Plant</i>											
	B31-5	10/5/2007	4.5	5	soil	-	-	-	-	-	-
	B31-8.5	10/5/2007	8	8.5	soil	-	-	-	-	-	-
	B31-12	10/5/2007	11.5	12	soil	-	-	-	-	-	-
	B31-16.5	10/5/2007	15.5	16	soil	-	-	-	-	-	-
	B31-22	10/5/2007	21.5	22	soil	-	-	-	-	-	-
	B32-5	10/9/2007	4.5	5	soil	-	-	-	-	-	-
	B32-7.5	10/9/2007	7	7.5	soil	-	-	-	-	-	-
	B32-15.5	10/9/2007	15	15.5	soil	-	-	-	-	-	-
	B32-17	10/9/2007	16.5	17	soil	-	-	-	-	-	-
	B32-22	10/9/2007	21.5	22	soil	-	-	-	-	-	-
	B33-5	10/8/2007	4.5	5	soil	-	-	-	-	-	-
	B33-6.5	10/8/2007	6	6.5	soil	-	-	-	-	-	-
	B33-12.5	10/8/2007	12	12.5	soil	-	-	-	-	-	-
	B33-18	10/8/2007	17.5	18	soil	-	-	-	-	-	-
	B33-22	10/8/2007	21.5	22	soil	-	-	-	-	-	-
<i>West of Former Spray Rack Area</i>											
	B34-5	10/10/2007	4.5	5	soil	-	-	-	-	-	-
	B34-7	10/10/2007	6.5	7	soil	-	-	-	-	-	-
	B34-11.5	10/10/2007	11	11.5	soil	-	-	-	-	-	-
	B35-5	10/10/2007	4.5	5	soil	-	-	-	-	-	-
	B35-10.5	10/10/2007	10	10.5	soil	-	-	-	-	-	-
<b>Miscellaneous Samples</b>											
<i>Product from Surface Structures</i>											
	OIL-FP	10/8/2007	grab	grab	product	-	-	-	-	-	-
<i>Soil Borings for Groundwater Monitoring Wells</i>											
	MW-3-35	10/4/2007	34.5	35	soil	-	-	-	-	-	-
ESLs					groundwater	50	5	50	100	15	5,000

**Notes:**

SPLP = synthetic precipitation leaching procedure

feet bgs = feet below ground surface

ug/kg = micrograms per kilogram

ug/l = micrograms per liter

**bold** indicates that the compound was detected above the laboratory reporting limit

"<" = not detected above the laboratory report given

"-" = sample not analyzed or ESL not established

ESLs = Environmental Screening Levels by San Francisco Bay Regional Water Quality Control Board, November 2007, for Groundwater beneath Industrial/Commercial Land Use Areas where Groundwater is a Current or Potential Source of Drinking Water.

As = Arsenic  
Cd = Cadmium  
Cr = Chromium  
Ni = Nickel  
Pb = Lead  
Zn = Zinc

**Table 11**  
**Petroleum Hydrocarbons and Associated Compounds Detected in Groundwater Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

*(Concentrations reported in micrograms per liter [ug/l])*

Sample Location	Sample ID	Date Sampled	Approximate Sample Depth (feet bgs)	Matrix	Total Petroleum Hydrocarbons			BTEX compounds					Fuel Oxygenates					Lead Scavengers	
					TPHd (ug/l)	TPHmo (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	m,p-X (ug/l)	o-X (ug/l)	MTBE (ug/l)	TAME (ug/l)	DIPE (ug/l)	ETBE (ug/l)	TBA (ug/l)	EDB (ug/l)	EDC (ug/l)
<b>Grab Groundwater Samples from Temporary Soil Borings</b>																			
<i>Deep Soil Contamination</i>																			
	B25-GGW	10/8/2007	61 - 64	water	< 50	< 300	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
	B26-GGW	10/9/2007	50 - 53	water	< 50	< 300	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
	B27-GGW	10/9/2007	50 - 53	water	<b>52 Y</b>	< 300	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
<i>South of Former Hot Mix Asphalt Plant</i>																			
	B28-GGW	10/4/2007	47.5 - 50.5	water	< 50	< 300	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
	B29-GGW	10/5/2007	56 - 59	water	<b>350</b>	< 300	<b>28 J</b>	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
<b>Miscellaneous Samples</b>																			
<i>Soil Borings for Groundwater Monitoring Wells</i>																			
	MW-4-GGW	10/5/2007	36 - 40	water	<b>57 Y</b>	<b>250</b>	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
	MW-5A-GGW	10/8/2007	65.8 - 69	water	< 50	< 300	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
<i>Groundwater Monitoring Wells</i>																			
	MW-1-102207	10/22/2007	45 - 60	water	< 50	< 300	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
	MW-2-102207	10/22/2007	45 - 60	water	< 50	< 300	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
	MW-3-102207	10/22/2007	45 - 60	water	< 50	< 300	< 50	< 0.5	<b>0.3 J</b>	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
	MW-3-102207-D	10/22/2007	45 - 60	water	< 50	< 300	< 50	< 0.5	<b>0.3 J</b>	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
	MW-4-102207	10/22/2007	43 - 48	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	MW-5-102207	10/22/2007	69 - 74	water	< 50	< 300	< 50	< 0.5	<b>0.4 J</b>	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
	MW-6-102207	10/22/2007	45 - 55	water	< 50	< 300	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
	MW-7-102207	10/22/2007	50 - 65	water	< 50	< 300	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
<i>Quality Assurance and Quality Control Samples</i>																			
	TB-100407	10/4/2007	na	water	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	< 0.5	
	TB-100507	10/5/2007	na	water	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	< 0.5	
	TB-100807	10/8/2007	na	water	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	< 0.5	
	TB-100907	10/9/2007	na	water	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-	< 0.5	
	TB-101007	10/10/2007	na	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	TB-102207	10/22/2007	na	water	-	-	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	< 0.5	
	FB-102207	10/22/2007	na	water	< 50	< 300	< 50	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
ESLs				groundwater	100	100	100	1	40	30	20	20	5	-	-	-	-	0.05	



**Table 11**  
**Petroleum Hydrocarbons and Associated Compounds Detected in Groundwater Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

*(Concentrations reported in micrograms per liter [ug/l])*

Sample Location	Sample ID	Date Sampled	Approximate Sample Depth (feet bgs)	Matrix	Total Petroleum Hydrocarbons			BTEX compounds					Fuel Oxygenates					Lead Scavengers	
					TPHd (ug/l)	TPHmo (ug/l)	TPHg (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	m,p-X (ug/l)	o-X (ug/l)	MTBE (ug/l)	TAME (ug/l)	DIPE (ug/l)	ETBE (ug/l)	TBA (ug/l)	EDB (ug/l)	EDC (ug/l)

**Notes:**

feet bgs = feet below ground surface

ug/l = micrograms per liter

TPHd = total petroleum hydrocarbons as diesel

TPHmo = total petroleum hydrocarbons as motor oil

TPHg = total petroleum hydrocarbons as gasoline

BTEX = benzene, toluene, ethylbenzene, and total xylenes

**bold** indicates that the compound was detected above the laboratory reporting limit.

**350** boxed values exceed the respective ESL.

J = estimated value below laboratory reporting limit

Y = sample exhibits chromatographic pattern which does not resemble standard

"." = sample not analyzed or no ESL exists

"<" = not detected above the laboratory report given

ESLs = Environmental Screening Levels by San Francisco Bay Regional Water Quality Control Board, November 2007, for Groundwater beneath Industrial/Commercial Land Use Areas where Groundwater is a Current or Potential Source of Drinking Water.

B = benzene

T = toluene

E = ethylbenzene

m,p-X = m,p-xylenes

o-X = o-xylenes

MTBE = methyl tert-butyl ether

TAME = tert-amyl methyl ether (methyl tert-amyl ether)

DIPE = diisopropyl ether (isopropyl ether)

ETBE = ethyl tert-butyl ether

TBA = tert-butyl alcohol

EDB = 1,2-dibromoethane (ethylene dibromide)

EDC = 1,2-dichloroethane

**Table 12**  
**Volatile Organic Compounds Detected in Groundwater Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

*(Concentrations reported in micrograms per liter [ug/l])*

Sample Location	Sample ID	Date Sampled	Approximate Sample Depth (feet bgs)	Matrix	Volatile Organic Compounds *	
					Acetone (ug/l)	Methylene Chloride (ug/l)
<b>Grab Groundwater Samples from Temporary Soil Borings</b>						
<i>Deep Soil Contamination</i>						
	B25-GGW	10/8/2007	61 - 64	water	< 10	< 0.5
	B26-GGW	10/9/2007	50 - 53	water	< 10	< 0.5
	B27-GGW	10/9/2007	50 - 53	water	< 10	< 0.5
<i>South of Former Hot Mix Asphalt Plant</i>						
	B-28-GGW	10/4/2007	47.5 - 50.5	water	< 10	< 0.5
	B-29-GGW	10/5/2007	56 - 59	water	<b>7.0 J</b>	< 0.5
<b>Miscellaneous Samples</b>						
<i>Soil Borings for Groundwater Monitoring Wells</i>						
	MW-4-GGW	10/5/2007	36 - 40	water	<b>7.8 J</b>	< 0.5
	MW-5A-GGW	10/8/2007	65.8 - 69	water	< 10	< 0.5
<i>Groundwater Monitoring Wells</i>						
	MW-1-102207	10/22/2007	45 - 60	water	< 10	< 5.0
	MW-2-102207	10/22/2007	45 - 60	water	< 10	< 5.0
	MW-3-102207	10/22/2007	45 - 60	water	< 10	< 5.0
	MW-3-102207-D	10/22/2007	45 - 60	water	< 10	< 5.0
	MW-4-102207	10/22/2007	43 - 48	water	-	-
	MW-5-102207	10/22/2007	69 - 74	water	< 10	< 5.0
	MW-6-102207	10/22/2007	45 - 55	water	< 10	< 5.0
	MW-7-102207	10/22/2007	50 - 65	water	< 10	< 5.0
<i>Quality Assurance and Quality Control Samples</i>						
	TB-100407	10/4/2007	na	water	< 10	< 0.5
	TB-100507	10/5/2007	na	water	< 10	< 0.5
	TB-100807	10/8/2007	na	water	< 10	< 0.5
	TB-100907	10/9/2007	na	water	< 10	< 0.5
	TB-101007	10/10/2007	na	water	-	-
	TB-102207	10/22/2007	na	water	< 10	< 5.0
	FB-102207	10/22/2007	na	water	<b>10</b>	<b>11</b>
ESLs				groundwater	2,500	5

**Notes:**

\* No other VOCs were detected above their respective laboratory limits in these samples.

feet bgs = feet below ground surface

ug/l = micrograms per liter

**bold** indicates that the compound was detected above the laboratory reporting limit.

J = estimated value below laboratory reporting limit

"<" = not detected above the laboratory report given

"-" = ESL not established

**11**

boxed values exceed the respective ESL.

ESLs = Environmental Screening Levels by San Francisco Bay Regional Water Quality Control Board, November 2007, for Groundwater beneath Industrial/Commercial Land Use Areas where Groundwater is a Current or Potential Source of Drinking Water.

**Table 13**  
**Metals Detected in Groundwater Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

(Concentrations reported in micrograms per liter [ug/l])

Sample Location	Sample ID	Date Sampled	Approximate Sample Depth (feet bgs)	Matrix	Total Metals (ug/l) <sup>1</sup>																
					Ag	As	Ba	Be	Cd	Co	Cr	Cu	Hg	Mo	Ni	Pb	Sb	Se	Tl	V	Zn
<b>Grab Groundwater Samples from Temporary Soil Borings</b>																					
<i>Deep Soil Contamination</i>																					
	B25-GGW	10/8/2007	61 - 64	water	< 5	< 6.1	1,700	< 2	< 5	29	12	28	< 0.2	< 5	55	6.9	< 10	< 10	< 10	24	31
	B26-GGW	10/9/2007	50 - 53	water	< 5	100	2,700	5.3	< 5	180	850	480	< 0.2	6.1	1,400	100	< 10	< 10	< 10	460	700
	B27-GGW	10/9/2007	50 - 53	water	< 5	56	2,400	3.6	< 5	130	520	290	< 0.2	< 5	780	61	< 10	< 10	< 10	280	400
<i>South of Former Hot Mix Asphalt Plant</i>																					
	B28-GGW	10/4/2007	47.5 - 50.5	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B29-GGW	10/5/2007	56 - 59	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Miscellaneous Samples</b>																					
<i>Soil Borings for Groundwater Monitoring Wells</i>																					
	MW-4-GGW	10/5/2007	36 - 40	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW-5A-GGW	10/8/2007	65.8 - 69	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Groundwater Monitoring Wells</i>																					
	MW-1-102207	10/22/2007	45 - 60	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW-2-102207	10/22/2007	45 - 60	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW-3-102207	10/22/2007	45 - 60	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW-3-102207-D	10/22/2007	45 - 60	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW-4-102207	10/22/2007	43 - 48	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW-5-102207	10/22/2007	69 - 74	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW-6-102207	10/22/2007	45 - 55	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW-7-102207	10/22/2007	50 - 65	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Quality Assurance and Quality Control Samples</i>																					
	TB-100407	10/4/2007	na	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TB-100507	10/5/2007	na	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TB-100807	10/8/2007	na	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TB-100907	10/9/2007	na	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TB-101007	10/10/2007	na	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TB-102207	10/22/2007	na	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	FB-102207	10/22/2007	na	water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESLs				groundwater	35	50	1,000	4	5	140	50	1,000	2	35	100	15	6	50	2	15	5,000

**Table 13**  
**Metals Detected in Groundwater Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

(Concentrations reported in micrograms per liter [ug/l])

Sample Location	Sample ID	Date Sampled	Approximate Sample Depth (feet bgs)	Matrix	Total Metals (ug/l) <sup>1</sup>													
					Ag	As	Ba	Be	Cd	Co	Cr	Cu	Hg	Mo	Ni	Pb	Sb	Se

**Notes:**

feet bgs = feet below ground surface

ug/l = micrograms per liter

"-" = sample not analyzed

"<" = not detected above the laboratory report given

na = not applicable

**bold** indicates that the compound was detected above the laboratory reporting limit.

**100** boxed values exceed the respective ESL.

<sup>1</sup> = Total metal concentrations were analyzed instead of dissolved metal concentrations due to a field oversight and use of incorrect laboratory-supplied sample containers. Dissolved metal concentrations likely would be significantly lower.

Ag = Silver

Cr = Chromium

Sb = Antimony

As = Arsenic

Cu = Copper

Se = Selenium

Ba = Barium

Hg = Mercury

Tl = Thallium

Be = Beryllium

Mo = Molybdenum

V = Vanadium

Cd = Cadmium

Ni = Nickel

Zn = Zinc

Co = Cobalt

Pb = Lead

ESLs = Environmental Screening Levels by San Francisco Bay Regional Water Quality Control Board, November 2007, for Groundwater beneath Industrial/Commercial Land Use Areas where Groundwater is a Current or Potential Source of Drinking Water.

**Table 14**  
**Semi-Volatile Organic Compounds Detected in Groundwater Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

Sample Location	Sample ID	Date Sampled	Approximate Sample Depth (feet bgs)	Matrix	SVOCs * Di-n-butylphthalate (ug/l)
<b>Grab Groundwater Samples from Temporary Soil Borings</b>					
<i>Deep Soil Contamination</i>					
	B25-GGW	10/8/2007	61 - 64	water	< 9.4
	B26-GGW	10/9/2007	50 - 53	water	< 9.4
	B27-GGW	10/9/2007	50 - 53	water	<b>2.8 J</b>
<i>South of Former Hot Mix Asphalt Plant</i>					
	B28-GGW	10/4/2007	47.5 - 50.5	water	-
	B29-GGW	10/5/2007	56 - 59	water	-
<b>Miscellaneous Samples</b>					
<i>Soil Borings for Groundwater Monitoring Wells</i>					
	MW-4-GGW	10/5/2007	36 - 40	water	-
	MW-5A-GGW	10/8/2007	65.8 - 69	water	-
<i>Groundwater Monitoring Wells</i>					
	MW-1-102207	10/22/2007	45 - 60	water	-
	MW-2-102207	10/22/2007	45 - 60	water	-
	MW-3-102207	10/22/2007	45 - 60	water	-
	MW-3-102207-D	10/22/2007	45 - 60	water	-
	MW-4-102207	10/22/2007	43 - 48	water	-
	MW-5-102207	10/22/2007	69 - 74	water	-
	MW-6-102207	10/22/2007	45 - 55	water	-
	MW-7-102207	10/22/2007	50 - 65	water	-
<i>Quality Assurance and Quality Control Samples</i>					
	TB-100407	10/4/2007	na	water	-
	TB-100507	10/5/2007	na	water	-
	TB-100807	10/8/2007	na	water	-
	TB-100907	10/9/2007	na	water	-
	TB-101007	10/10/2007	na	water	-
	TB-102207	10/22/2007	na	water	-
	FB-102207	10/22/2007	na	water	-
ESLs				groundwater	-

**Notes:**

\* No other SVOCs were detected above their respective laboratory limits in any of these samples.

SVOCs = semi-volatile organic compounds

feet bgs = feet below ground surface

ug/l = micrograms per liter

"-" = sample not analyzed or no ESLs exist

J = estimated value below laboratory reporting limit

na = not applicable

**bold** indicates that the compound was detected above the laboratory reporting limit.

"<" = not detected above the laboratory report given

ESLs = Environmental Screening Levels by San Francisco Bay Regional Water Quality Control Board, November 2007, for Groundwater beneath Industrial/Commercial Land Use Areas where Groundwater is a Current or Potential Source of Drinking Water.

**Table 15**  
**Organochlorine Pesticides Detected in Groundwater Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

Sample Location	Sample ID	Date Sampled	Approximate Sample Depth (feet bgs)	Matrix	Organochlorine Pesticides *
<b>Grab Groundwater Samples from Temporary Soil Borings</b>					
<i>Deep Soil Contamination</i>					
	B25-GGW	10/8/2007	61 - 64	water	ND
	B26-GGW	10/9/2007	50 - 53	water	ND
	B27-GGW	10/9/2007	50 - 53	water	ND
<i>South of Former Hot Mix Asphalt Plant</i>					
	B28-GGW	10/4/2007	47.5 - 50.5	water	-
	B29-GGW	10/5/2007	56 - 59	water	-
<b>Miscellaneous Samples</b>					
<i>Soil Borings for Groundwater Monitoring Wells</i>					
	MW-4-GGW	10/5/2007	36 - 40	water	-
	MW-5A-GGW	10/8/2007	65.8 - 69	water	-
<i>Groundwater Monitoring Wells</i>					
	MW-1-102207	10/22/2007	45 - 60	water	-
	MW-2-102207	10/22/2007	45 - 60	water	-
	MW-3-102207	10/22/2007	45 - 60	water	-
	MW-3-102207-D	10/22/2007	45 - 60	water	-
	MW-4-102207	10/22/2007	43 - 48	water	-
	MW-5-102207	10/22/2007	69 - 74	water	-
	MW-6-102207	10/22/2007	45 - 55	water	-
	MW-7-102207	10/22/2007	50 - 65	water	-
<i>Quality Assurance and Quality Control Samples</i>					
	TB-100407	10/4/2007	na	water	-
	TB-100507	10/5/2007	na	water	-
	TB-100807	10/8/2007	na	water	-
	TB-100907	10/9/2007	na	water	-
	TB-101007	10/10/2007	na	water	-
	TB-102207	10/22/2007	na	water	-
	FB-102207	10/22/2007	na	water	-
ESLs				groundwater	various

**Notes:**

\* No organochlorine pesticides were detected above their respective laboratory limits in any of these samples.

feet bgs = feet below ground surface

"-" = sample not analyzed

ND = not detected

na = not applicable

ESLs = Environmental Screening Levels by San Francisco Bay Regional Water Quality Control Board, November 2007, for Groundwater beneath Industrial/Commercial Land Use Areas where Groundwater is a Current or Potential Source of Drinking Water.

**Table 16**  
**Polychlorinated Biphenyls Detected in Groundwater Samples**  
**Former Hot Mix Asphalt Plant Area**  
**Hanson Radum Facility, 3000 Busch Road, Pleasanton, California**

Sample Location	Sample ID	Date Sampled	Approximate Sample Depth (feet bgs)	Matrix	PCBs *
<b>Grab Groundwater Samples from Temporary Soil Borings</b>					
<i>Deep Soil Contamination</i>					
	B25-GGW	10/8/2007	61 - 64	water	ND
	B26-GGW	10/9/2007	50 - 53	water	ND
	B27-GGW	10/9/2007	50 - 53	water	ND
<i>Southern Portion of Plant</i>					
	B28-GGW	10/4/2007	47.5 - 50.5	water	-
	B29-GGW	10/5/2007	56 - 59	water	-
<b>Miscellaneous Samples</b>					
<i>Soil Borings for Groundwater Monitoring Wells</i>					
	MW-4-GGW	10/5/2007	36 - 40	water	-
	MW-5A-GGW	10/8/2007	65.8 - 69	water	-
<i>Groundwater Monitoring Wells</i>					
	MW-1-102207	10/22/2007	45 - 60	water	-
	MW-2-102207	10/22/2007	45 - 60	water	-
	MW-3-102207	10/22/2007	45 - 60	water	-
	MW-3-102207-D	10/22/2007	45 - 60	water	-
	MW-4-102207	10/22/2007	43 - 48	water	-
	MW-5-102207	10/22/2007	69 - 74	water	-
	MW-6-102207	10/22/2007	45 - 55	water	-
	MW-7-102207	10/22/2007	50 - 65	water	-
<i>Quality Assurance and Quality Control Samples</i>					
	TB-100407	10/4/2007	na	water	-
	TB-100507	10/5/2007	na	water	-
	TB-100807	10/8/2007	na	water	-
	TB-100907	10/9/2007	na	water	-
	TB-101007	10/10/2007	na	water	-
	TB-102207	10/22/2007	na	water	-
	FB-102207	10/22/2007	na	water	-
ESLs				groundwater	various

**Notes:**

\* No PCBs were detected above their respective laboratory limits in any of these samples.

PCBs = polychlorinated biphenyls

feet bgs = feet below ground surface

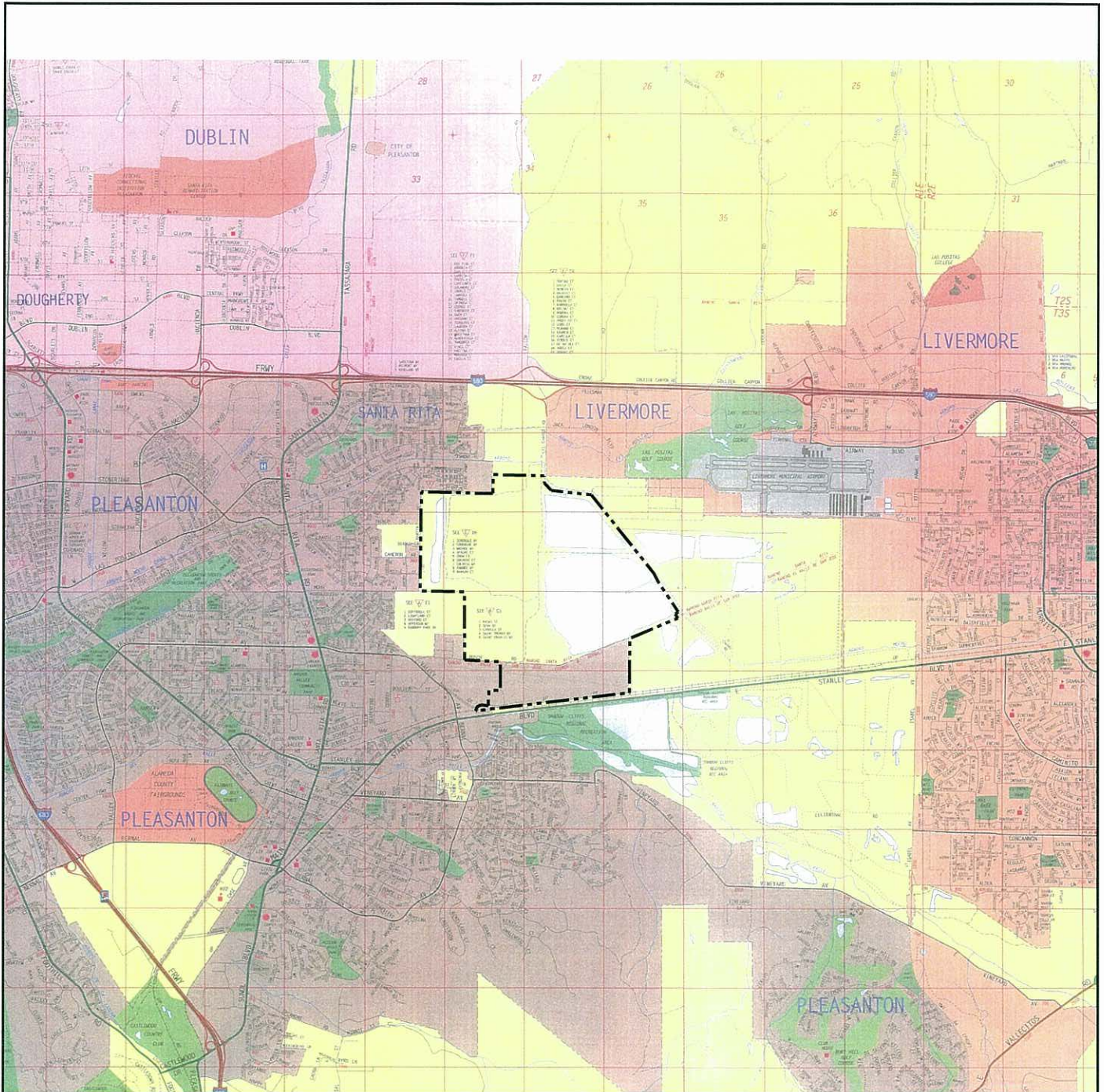
"-" = sample not analyzed

ND = not detected

na = not applicable

ESLs = Environmental Screening Levels by San Francisco Bay Regional Water Quality Control Board, November 2007, for Groundwater beneath Industrial/Commercial Land Use Areas where Groundwater is a Current or Potential Source of Drinking Water.





Source: Thomas Guide

**EXPLANATION**

----- Approximate Property Boundary



0 5000 FEET  
APPROXIMATE SCALE

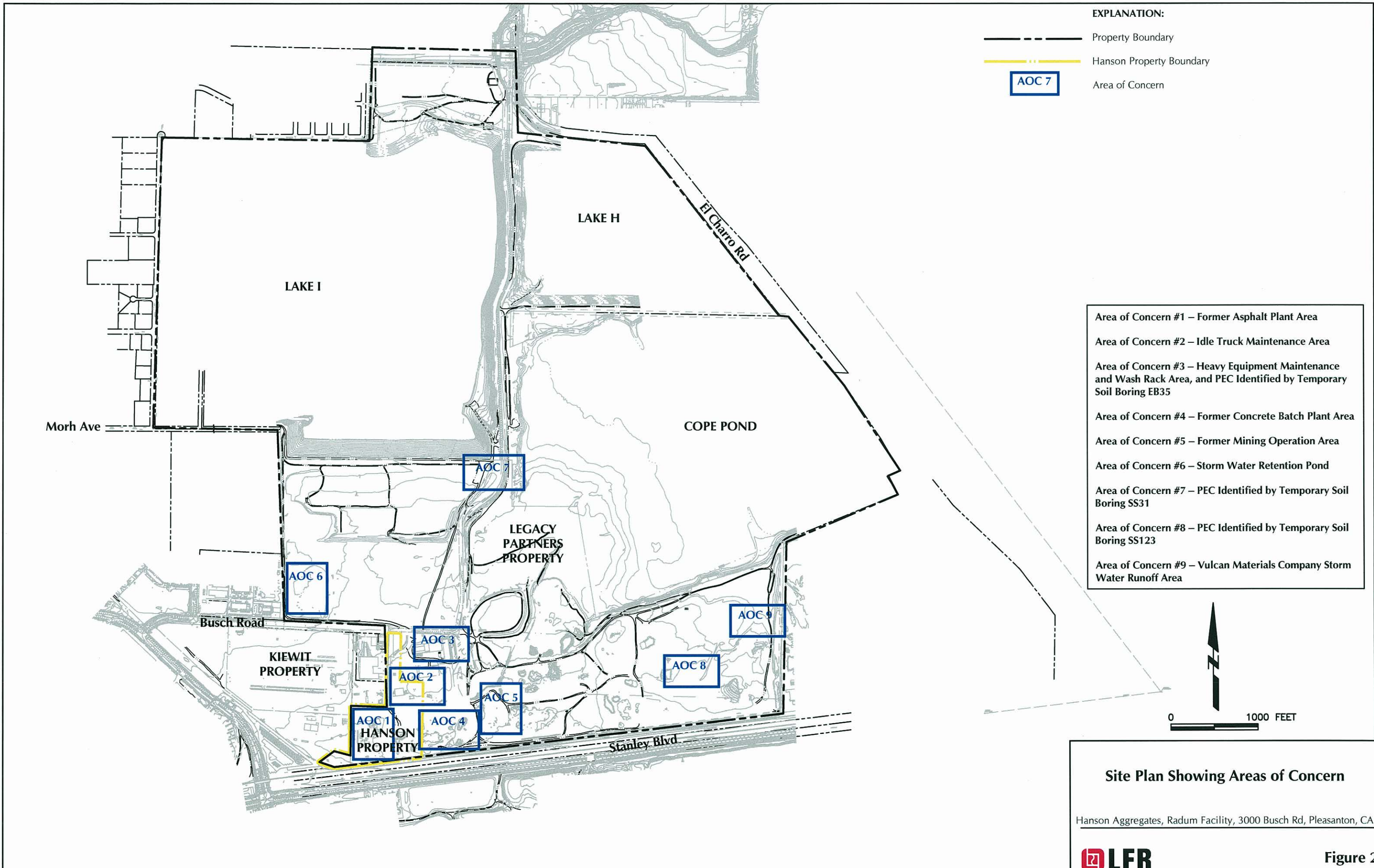
**Site Location Map**

Hanson Aggregates, Radum Facility, 3000 Busch Rd, Pleasanton, CA



**Figure 1**









**EXPLANATION:**

- MW-1 Groundwater Monitoring Well Location (LFR Oct 2007)
- B25, B30 Temporary Soil Boring Location (LFR Oct 2007)
- Temporary Soil Boring Location (LFR)
- Temporary Soil Boring Location (ENV or B&C)
- Temporary Soil Boring and Grab Groundwater Sample Location (LFR)
- Temporary Soil Boring and Grab Groundwater Sample Location (ENV or B&C)
- Test Pit Soil Sample Location (ENV)
- Surface Sample Location (ENV, LFR, or B&C)
- Groundwater Well Location (Existing or Previous, Monitoring or Supply; ENV or B&C)
- Hanson Property Boundary

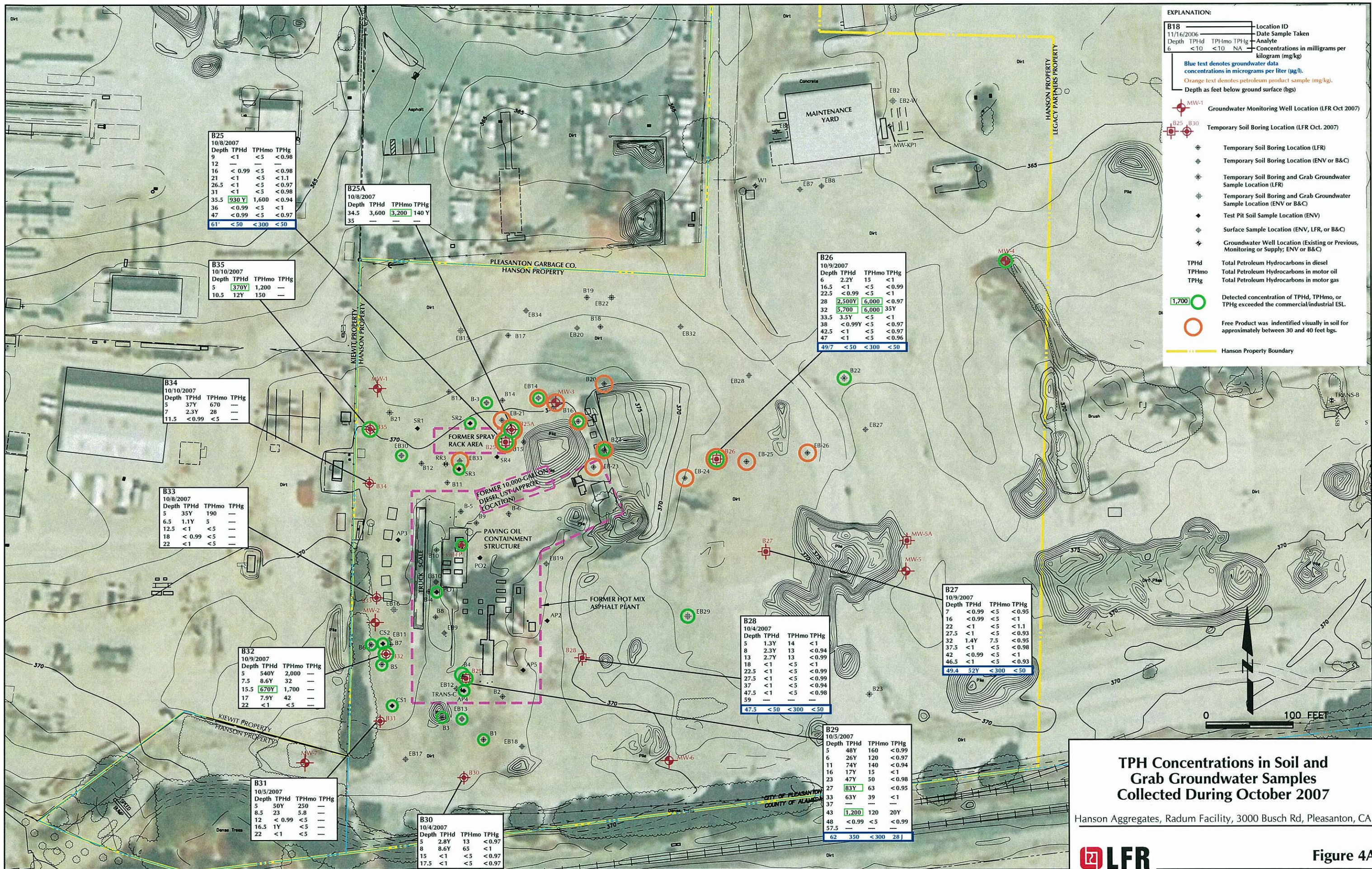
**Former Hot Mix Asphalt Plant Area  
Site Plan and Sample Locations**

Hanson Aggregates, Radum Facility, 3000 Busch Rd, Pleasanton, CA



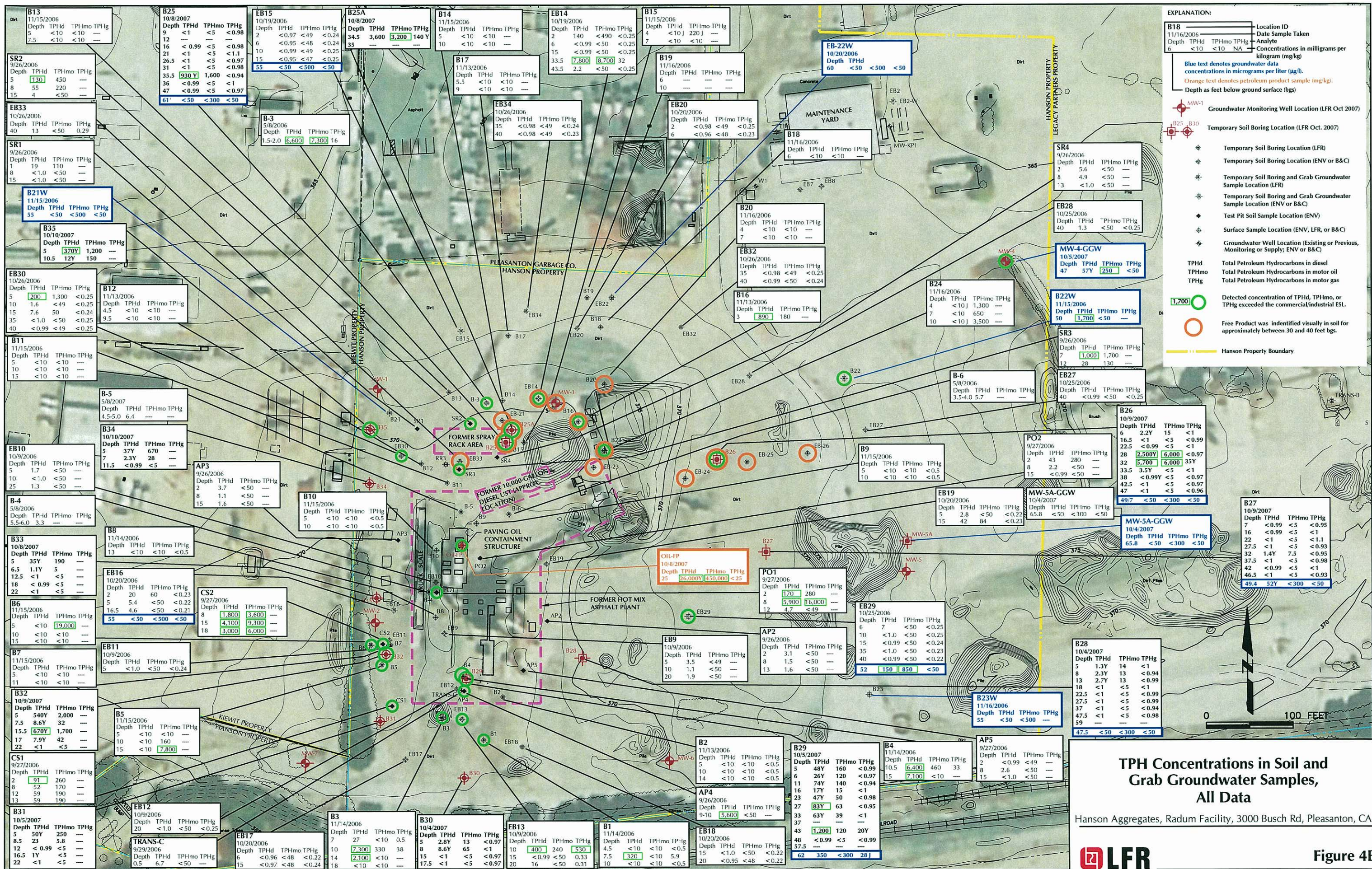
**Figure 3**





**TPH Concentrations in Soil and Grab Groundwater Samples Collected During October 2007**  
 Hanson Aggregates, Radum Facility, 3000 Busch Rd, Pleasanton, CA



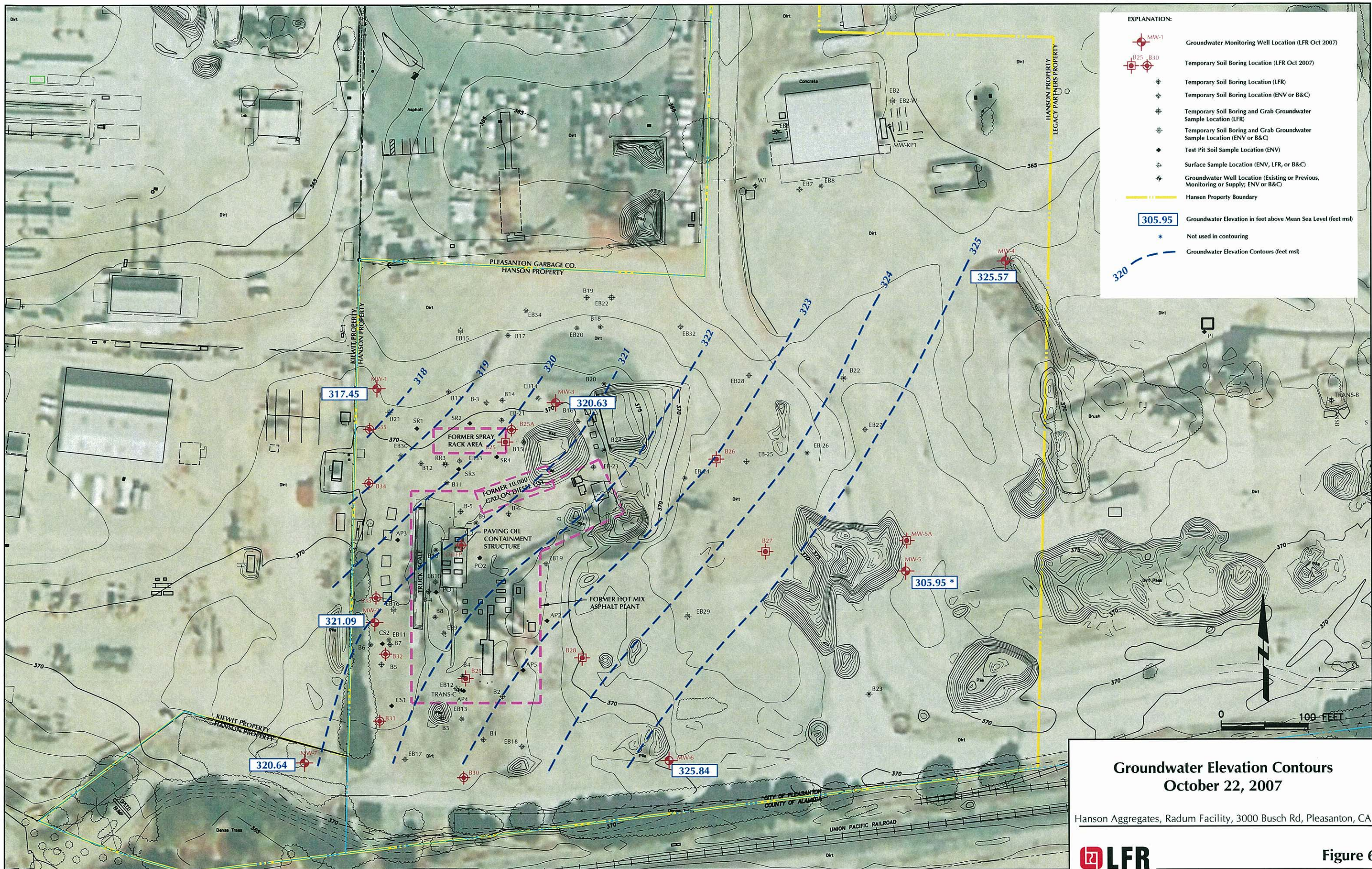






**TPH Concentrations in Groundwater Monitoring Well Samples October 22, 2007**  
 Hanson Aggregates, Radum Facility, 3000 Busch Rd, Pleasanton, CA





**EXPLANATION:**

- MW-1 Groundwater Monitoring Well Location (LFR Oct 2007)
- B25, B30 Temporary Soil Boring Location (LFR Oct 2007)
- Temporary Soil Boring Location (LFR)
- Temporary Soil Boring Location (ENV or B&C)
- Temporary Soil Boring and Grab Groundwater Sample Location (LFR)
- Temporary Soil Boring and Grab Groundwater Sample Location (ENV or B&C)
- Test Pit Soil Sample Location (ENV)
- Surface Sample Location (ENV, LFR, or B&C)
- Groundwater Well Location (Existing or Previous, Monitoring or Supply; ENV or B&C)
- Hansen Property Boundary
- 305.95 Groundwater Elevation in feet above Mean Sea Level (feet msl)
- \* Not used in contouring
- Groundwater Elevation Contours (feet msl)

**Groundwater Elevation Contours  
October 22, 2007**

Hanson Aggregates, Radum Facility, 3000 Busch Rd, Pleasanton, CA



**APPENDIX A**

**Soil Boring Permit**



# ZONE 7 WATER AGENCY

100 NORTH CANYONS PARKWAY, LIVERMORE, CALIFORNIA 94551 VOICE (925) 454-5000 FAX (925) 245-9306  
E-MAIL [whong@zone7water.com](mailto:whong@zone7water.com)

## DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT Former HOT MIX ASPHALT PLANT, HANSON RADIUM  
3000 BUSCH ROAD, PLEASANTON, CA

California Coordinates Source \_\_\_\_\_ ft. Accuracy \_\_\_\_\_ ft.  
CCN \_\_\_\_\_ ft. CCE \_\_\_\_\_ ft.  
APN \_\_\_\_\_

CLIENT  
Name HANSON AGGREGATES NORTHERN CALIFORNIA  
Address 3000 BUSCH ROAD Phone (925) 426-4170  
City PLEASANTON Zip 94566-0808

APPLICANT  
Name LFR, INC. (LARRY LAPUYADE)  
Email larry.lapuyade@lfr.com Fax (510) 652-4500  
Address 1900 POWELL ST. 12TH FL. Phone (510) 596-9638  
City EMERYVILLE Zip 94608

TYPE OF PROJECT:  
Well Construction  Geotechnical Investigation   
Well Destruction  Contamination Investigation   
Cathodic Protection  Other \_\_\_\_\_

PROPOSED WELL USE:  
Domestic  Irrigation   
Municipal  Remediation   
Industrial  Groundwater Monitoring   
Dewatering  Other \_\_\_\_\_

DRILLING METHOD:  
Mud Rotary  Air Rotary  Hollow Stem Auger  (HSA)  
Cable Tool  Direct Push  Other Sonic

DRILLING COMPANY Spectrum Drilling (HSA) & CASCADE DRILLING (SONIC & HSA)  
DRILLER'S LICENSE NO. 717510 & 512268

WELL SPECIFICATIONS:  
Drill Hole Diameter 6-8 in. Maximum  
Casing Diameter 2 in. Depth 70 ft.  
Surface Seal Depth 56 ft. Number 7

SOIL BORINGS:  
Number of Borings 11 Maximum  
Hole Diameter 6-8 in. Depth 70 ft.

ESTIMATED STARTING DATE 9-26-07  
ESTIMATED COMPLETION DATE 10-31-07

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Larry Lapuyade Date 9/17/07

ATTACH SITE PLAN OR SKETCH LARRY LAPUYADE

PERMIT NUMBER 27161  
WELL NUMBER 3S/1E-15F5, 15G1, 15F5, 15K2, 15K3,  
APN 946-1250-019-01 & 15L5 to 15L7

PERMIT CONDITIONS  
(Circled Permit Requirements Apply)

- (A) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
  2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
  3. Permit is void if project not begun within 90 days of approval date.

- B. WATER SUPPLY WELLS
1. Minimum surface seal diameter is four inches greater than the well casing diameter.
  2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.
  3. Grout placed by tremie.
  4. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
  5. A sample port is required on the discharge pipe near the wellhead.

- (C) GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal diameter is four inches greater than the well or piezometer casing diameter.
  2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
  3. Grout placed by tremie.

- D. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

- E. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

- F. WELL DESTRUCTION. See attached.

- (G) SPECIAL CONDITIONS. Submit to Zone 7 within 60 days after completion of permitted work the well installation report including all soil and water laboratory analysis results.

Approved Wyman Hong Date 9/25/07  
Wyman Hong



## **APPENDIX B**

### **Soil Boring Logs and Well Completion Details**

PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant Area  
 CLIENT Hanson Aggregates Northern California

**WELL NUMBER MW-1**

PROJECT LOCATION 3000 Busch Rd, Pleasanton, California

DRILLING CONTRACTOR Spectrum Exploration

PROJECT NUMBER 001-09567-04

DRILLING METHOD Hollow Stem Auger

LOCATION Northwest of Former Asphalt Plant Area

STAMP (IF APPLICABLE) AND/OR NOTES

SAMPLING METHOD 5' Continuous Soil Core

GROUND ELEVATION 371.83 ft MSL HOLE DIAMETER 8 inches

TOP OF CASING ELEVATION 374.67 ft HOLE DEPTH 60.0 ft

FIRST ENCOUNTERED WATER 51.0 ft / Elev 320.8 ft

STABILIZED WATER ---

LOGGED BY Larry Lapuyade DATE 10/3/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	ELEVATIONS (feet)	PID (ppm)	WELL DIAGRAM	DEPTH (feet)
5			GC		5.0	CLAYEY GRAVEL (GC), light olive brown (2.5Y 5/4), dry, well graded subrounded to subangular fine to coarse gravel up to 2" diameter, 60% gravel, 40% fines, low plasticity, logged from cuttings to 5 feet.	366.8	0.0		5
			GP		5.8	GRAVEL (GP), light olive brown (2.5Y 5/4), moist, poorly graded fine to coarse gravel up to 1/2" diameter, 95% gravel, 5% fines (pea gravel).	366.0	0.0		
			SP		6.7	SAND WITH GRAVEL (SP), olive brown (2.5Y 4/4), moist, 55% medium sand, 45% fine to coarse subangular gravel (up to 3 1/4" diameter).	365.1	0.0		
10			GC		11.2	CLAYEY GRAVEL (GC), olive brown (2.5Y 4/4), moist, subangular gravel up to 2 1/4" diameter, poorly graded.	360.6	0.0		
			GP		13.5	GRAVEL WITH SAND (GP), olive brown, (2.5Y 4/4), moist, medium to coarse sand, subangular to subrounded gravel up to 2" diameter.	358.3	0.0		
15			GC		16.0	CLAYEY GRAVEL (GC), olive brown (2.5Y 4/4), moist, subangular gravel up to 3" diameter, poorly graded, low to medium plasticity ("sticky") fines.	355.8	0.0		
20			GM		20.0	SILTY GRAVEL (GM), olive brown (2.5Y 4/4), moist, subangular to subrounded gravel up to 1/2" diameter, poorly graded (pea gravel), trace fine sand.	351.8	0.0	20	

**COMMENTS**

(Continued Next Page)

BORING+WELL 2007 001-09567-02 HANSON RADUM2.GPJ LFR SEPT.2006.GDT 12/21/07

APPROVED BY: Kohl PG 7808 DATE: 12-21-07



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	ELEVATIONS (feet)	PID (ppm)	WELL DIAGRAM	DEPTH (feet)		
25			GM			SILTY GRAVEL (GM), olive brown (2.5Y 4/4), moist, subangular to subrounded gravel up to 1/2" diameter, poorly graded (pea gravel), trace fine sand.	0.0 0.0 0.0			25		
						-increasing fines content at 26.5 feet.	0.0 0.0					
30			SP		28.5	SAND WITH GRAVEL (SP), olive brown (2.5Y 4/3), moist, subangular to subrounded gravel up to 3/4" diameter, poorly graded, 80% fine grained sand, 20% gravel.	343.3				30	
			GM		30.5	SILTY GRAVEL (GM), olive brown (2.5Y 4/4), moist, subangular to subrounded gravel up to 1/2" diameter, poorly graded (pea gravel), 85% gravel, 15% fines.	341.3	0.0				
			SM		31.5	SILTY SAND (SM), olive brown (2.5Y 4/4), moist, medium grained sand.	340.3	0.0				
			GM		32.5	SILTY GRAVEL (GM), olive brown (2.5Y 4/4), moist, subangular to subrounded gravel up to 1/2" diameter (pea gravel), 60% gravel, 40% fines, wet at 35 feet.	339.3	0.0				
35			ML		35.3	SILT (ML), greenish gray (5/1 10Y), moist, low plasticity to non-plastic fines.	336.5					35
			CL		35.5	LEAN CLAY (CL), black (2.5/1N), moist, hard, low to medium plasticity.	336.3	0.0				
			SC		36.7	CLAYEY SAND (SC), dark olive gray (5Y 3/2), moist, 85% medium grained sand, 15% fines.	335.1	0.0				
			GP-GC		38.5	GRAVEL WITH CLAY AND SAND (GP-GC), dark olive gray (5Y 3/2), moist, subrounded to subangular gravel up to 2 1/4" diameter, minor clay, 60% poorly graded gravel, 30% medium grained sand, 10% fines.	333.3					
40			CL		41.5	LEAN CLAY (CL), dark olive brown (2.5Y 3/3), moist, low to medium plasticity, hard, trace gravel.	330.3	0.0				40
			SP		42.2	SAND WITH GRAVEL (SP), olive brown (2.5Y 4/4), moist, subangular to subrounded gravel up to 2 1/2" in diameter, poorly graded, medium to coarse grained sand, trace fines.	329.6	0.0				
45						-wet, gravel up to 3 1/4" diameter at 45 feet.	0.0 0.0			45		
			SM		47.8	SILTY SAND (SM), dark brown (10YR 3/3), moist, 80% fine grained sand, 20% fines.	324.1	0.0				
50			GC		49.0	CLAYEY GRAVEL (GC), dark olive brown (2.5Y 3/3), moist, subrounded to subangular gravel up to 2 1/2" diameter, poorly graded, medium to coarse grained sand, trace fines.	322.8	0.0		50		

**COMMENTS**

(Continued Next Page)

BORING+WELL\_2007\_001-09567-02\_HANSON RADUM2.GPJ\_LFR SEPT 2006.GDT\_12/21/07

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	ELEVATIONS (feet)	PID (ppm)	WELL DIAGRAM	DEPTH (feet)
55			GC		51.07	2 1/2" diameter, 60% gravel, 35% fines, 5% medium grained sand.	320.8	0.0		55
			SP		51.5	SAND (SP), olive brown (2.5Y 4/4), wet, 95% medium grained sand, 5% fines, trace gravel.	320.3			
60			GP		57.6	SANDY GRAVEL (GP), olive brown (2.5Y 4/4), wet, subangular to subrounded up to 2 1/2" diameter, 80% gravel, 15% medium to coarse sand, 5% fines.	314.2	0.0		60
			SM		60.0	SILTY SAND (SM), olive brown (2.5 Y 4/4), wet, fine grained sand, trace gravel. -increasing gravel content at 59 feet.	311.8			
						Bottom of boring at approximately 60 feet bgs. Well MW-1 installed in borehole.				

**COMMENTS**

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



BORING+WELL\_2007\_001-09567-02 HANSON RADUM2.GPJ\_LFR SEPT 2006.GDT 12/21/07

PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant Area  
 CLIENT Hanson Aggregates Northern California

**WELL NUMBER MW-2**

PROJECT LOCATION 3000 Busch Rd, Pleasanton, California

DRILLING CONTRACTOR Spectrum Exploration

PROJECT NUMBER 001-09567-04

DRILLING METHOD Hollow Stem Auger

LOCATION West of Former Asphalt Plant Area

STAMP (IF APPLICABLE) AND/OR NOTES

SAMPLING METHOD 5' Continuous Soil Core

GROUND ELEVATION 373.61 ft MSL HOLE DIAMETER 8 inches

TOP OF CASING ELEVATION 376.33 ft HOLE DEPTH 60.0 ft

FIRST ENCOUNTERED WATER 48.0 ft / Elev 325.6 ft

STABILIZED WATER ---

LOGGED BY Larry Lapuyade DATE 10/2/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	ELEVATIONS (feet)	PID (ppm)	WELL DIAGRAM	DEPTH (feet)
5			GC		0.0 - 6.5	CLAYEY GRAVEL (GC), light olive brown (2.5Y 5/4), dry, subangular to subrounded gravel up to 2" diameter, 70% gravel, 30% fines, logged from cuttings to 5 feet.	373.61 373.61 373.61 373.61	0.0 0.0 0.0 0.0		5
			ML		6.5 - 8.5	SANDY SILT (ML), olive brown (2.5Y 4/4), dry, low plasticity to non-plastic, 80% fines, 20% fine grained sand, concrete debris up to 2 1/2" diameter at 6.5 feet.	367.1 367.1	0.0 0.0		
10			CL		8.5 - 10.2	LEAN CLAY (CL), very dark brown (10YR 5/2), moist, firm, medium plasticity.	365.1 365.1	0.0 0.0		
			GM		10.2 - 11.2	SILTY GRAVEL (GM), olive brown (2.5Y 4/4), moist, subrounded to subangular gravel up to 1 3/4" diameter.	363.4 362.4	0.0 0.0		
			CL		11.2 - 16.0	LEAN CLAY (CL), very dark brown (10YR 2/3), moist, firm, low plasticity.	362.4 362.4	0.0 0.0		
15			CL		16.0 - 20.0	SAND WITH GRAVEL (SP), olive brown (2.5Y 4/4), moist, fine grained sand, subangular to subrounded gravel up to 1 1/2" diameter. -gravel up to 2 1/2" diameter at 17 feet.	357.6 357.6	0.0 0.0	15	
20			SP		20.0 - 20.0		353.6 353.6	0.0 0.0	20	

**COMMENTS**

(Continued Next Page)

BORING+WELL\_2007\_001-09567-02\_HANSON RADUM2.GPJ\_LFR SEPT 2006.GDT\_12/21/07

APPROVED BY:  PG 7808 DATE: 12-21-07



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	ELEVATIONS (feet)	PID (ppm)	WELL DIAGRAM	DEPTH (feet)	
25						SAND WITH GRAVEL (SP), olive brown (2.5Y 4/4), moist, medium to coarse grained sand, gravel up to 1" diameter, subangular to subrounded, increasing gravel size with depth up to 2 1/2" diameter.	0.0 0.0		<p>8" Dia. Borehole</p> <p>2" Dia. SCH40 PVC Blank Casing</p> <p>Grout</p> <p>Bentonite Seal</p> <p>#3 Filter Sand</p> <p>2" Dia. SCH40 Machine Slotted PVC (0.020")</p>	25	
			SP			-gravel up to 3" diameter at 25 feet.	0.0			25	
30						-wet at 30 feet.	0.0			30	
					32.0		341.6	0.0			
			SM			SILTY SAND (SM), olive brown (2.5Y 4/4), moist, 60% fine grained sand, 40% fines.	0.0				
					34.0		339.6	0.0			
35						GRAVEL WITH SAND (GP), olive brown (2.5Y 4/4), wet, subangular to subrounded gravel up to 2" diameter, medium to coarse grained sand.	0.0				35
			GP				0.0				
40						-increased gravel content and size up to 3" diameter at 40 feet.	0.0				40
					44.0		329.6	0.0			
45						SAND WITH GRAVEL (SP), olive brown, (2.5Y 4/4), wet, fine to medium grained sand, subangular to subrounded gravel up to 2" diameter.	0.0			45	
			SP				0.0				
					47.0		326.6	0.0			
			CL		47.5	LEAN CLAY (CL), light olive brown (2.5Y 5/6), moist, hard, medium plasticity, trace gravel up to 2" diameter.	326.1	0.0			
			SP-SC			SAND WITH CLAY AND GRAVEL (SP-SC), olive brown (2.5Y 4/4), wet, subangular to subrounded gravel up to 2 1/2" diameter, 60% fine to coarse		0.0			
50					50.0		323.6			50	

**COMMENTS**

(Continued Next Page)

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



BORING+WELL. 2007 001-09567-02 HANSON RADUM2.GPJ LFR SEPT.2006.GDT 12/21/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	ELEVATIONS (feet)	PID (ppm)	WELL DIAGRAM	DEPTH (feet)
			SP-SC			grained sand, 30% gravel, 10% fines. SAND WITH CLAY AND GRAVEL (SP-SC), olive brown (2.5Y 4/4), wet, subangular to subrounded gravel up to 2 1/2" diameter, 60% fine to coarse grained sand, 30% gravel, 10% fines.		0.0	<p>8" Dia. Borehole</p> <p>2" Dia. SCH40 Machine Slotted PVC (0.020")</p> <p>#3 Filter Sand</p> <p>4" long Threaded End Cap</p>	
55			SC		54.0	CLAYEY SAND (SC), olive (5Y 4/4), moist, moderate subrounded to subangular gravel up to 2" diameter, 55% fine to coarse grained sand, 35% fines, 10% gravel.	319.6	0.0		55
60					60.0	-color change to dark yellowish brown (10YR 3/6), fine grained sand, decreasing gravel content at 57.5 feet.	313.6	0.0		60
						Bottom of boring at approximately 60 feet bgs. Well MW-2 installed in borehole.				

**COMMENTS**

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



BORING+WELL\_2007\_001-095687-02 HANSON RADUM2.GPJ\_LFR SEPT 2006.GDT\_12/21/07

PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant Area  
 CLIENT Hanson Aggregates Northern California

**WELL NUMBER MW-3**

PROJECT LOCATION 3000 Busch Rd, Pleasanton, California

DRILLING CONTRACTOR Spectrum Exploration

PROJECT NUMBER 001-09567-04

DRILLING METHOD Hollow Stem Auger

LOCATION North of Former Asphalt Plant Area

STAMP (IF APPLICABLE) AND/OR NOTES

SAMPLING METHOD 5' Continuous Soil Core

GROUND ELEVATION 372.27 ft MSL HOLE DIAMETER 8 inches

TOP OF CASING ELEVATION 374.95 ft HOLE DEPTH 60.0 ft

∇ FIRST ENCOUNTERED WATER 50.0 ft / Elev 322.3 ft

STABILIZED WATER ---

LOGGED BY Larry Lapuyade DATE 10/3/07 - 10/4/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	ELEVATIONS (feet)	PID (ppm)	WELL DIAGRAM	DEPTH (feet)
5			GM		5.0	SILTY GRAVEL (GM), light olive gray (5Y 6/2), dry, subangular to subrounded gravel up to 3/4" diameter, 75% gravel, 25% fines, logged from cuttings below 2 feet. -dry black petroleum hydrocarbon product with strong hydrocarbon odor at 1 to 1.5 feet.	367.3 0.0	0.0	<p>Concrete</p> <p>8" Dia. Borehole</p> <p>2" Dia. SCH40 PVC Blank Casing</p> <p>Grout</p>	5
10			GP			GRAVEL (GP), light brownish gray (2.5Y 6/2), dry, subangular to subrounded gravel up to 1/2" diameter (pea gravel), 90% gravel, 5% sand, 5% fines.	0.0 0.0	0.0		10
15			GM		13.5	SILTY GRAVEL (GM), light brownish gray (2.5Y 6/2), dry, subangular to subrounded gravel up to 1/2" diameter (pea gravel), 75% gravel, 20% fines, 5% sand.	358.8 0.0	0.0		15
20					20.0		352.3 0.0	0.0		20

COMMENTS *(Continued Next Page)*

BORING+WELL 2007 001-09567-02 HANSON RADUM2.GPJ LFR SEPT 2006.GDT 12/21/07

APPROVED BY: *[Signature]* PA 7808 DATE: 12-21-07





DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	ELEVATIONS (feet)	PID (ppm)	WELL DIAGRAM	DEPTH (feet)
25			GM			SILTY GRAVEL (GM), light brownish gray (2.5Y 6/2), moist, subangular to subrounded gravel up to 1/2" diameter (pea gravel), 75% gravel, 20% fines, 5% sand.	0.0 0.0 0.0 0.0 0.0 0.0			25
30			GP-GC		29.0	GRAVEL WITH CLAY (GP-GC), olive brown (2.5Y 4/4), moist, subangular to subrounded gravel up to 1/2" diameter (pea gravel), 90% gravel, 10% fines.  -color change to greenish black (2.5/10Y), strong petroleum hydrocarbon odor, flecks of black oily wet product at 31 to 32 feet.	343.3 25			30
35			GC		34.0	CLAYEY GRAVEL (GC), dark greenish gray (10Y 4/1), moist, subangular to subrounded gravel, poorly graded, black oily material coating the gravel, strong petroleum hydrocarbon odor.	338.3			35
40			CL		36.0	LEAN CLAY (CL), dark greenish gray (10Y 4/1), moist, hard, medium plasticity, very thin layers of petroleum hydrocarbon product (<1/32" thick) between 36 and 37 feet. -color change to black (2.5/N) at 37 feet. -color change to olive brown (2.5Y 4/4) at 38 feet.  -very hard consistency at 40 feet.	336.3 0.8			40
45			GC		44.0	CLAYEY GRAVEL (GC), grayish brown (2.5Y 5/2), moist, subrounded to subangular gravel up to 1 3/4" in diameter.	328.3			45
			CL		46.0	LEAN CLAY (CL), olive brown (2.5Y 4/4), moist, low to medium plasticity, very hard consistency.	326.3			
			GC		47.0	CLAYEY GRAVEL (GC), grayish brown, (2.5Y 5/2), moist, subrounded to subangular gravel up to 3 1/2" diameter.	325.3			
			GP		49.0	GRAVEL WITH SAND (GP), yellowish brown (10YR 5/8), wet, subangular to subrounded gravel	323.3			
50					50.0		322.3			50

**COMMENTS**

(Continued Next Page)

BORING-WELL 2007 001-09567-02 HANSON RADUM2.GPJ LFR SEPT 2006.GDT 12/21/07

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	ELEVATIONS (feet)	PID (ppm)	WELL DIAGRAM	DEPTH (feet)	
55			GP		51.0	up to 2 1/2" diameter. GRAVEL WITH SAND (GP), yellowish brown (10YR 5/8), wet, subangular to subrounded gravel up to 2 1/2" diameter.	321.3	0.0		55	
			SP			SAND WITH GRAVEL (SP), light olive brown (2.5Y 5/6), wet, medium to coarse grained sand, subangular gravel up to 2 1/2" diameter.		0.0			
			GC		54.0	CLAYEY GRAVEL (GC), olive brown (2.5Y 4/4), wet, subangular to subrounded gravel up to 3" diameter, 45% gravel, 45% medium plasticity fines, 10% sand.	318.3	0.0			
			SM		57.5	SILTY SAND (SM), olive brown (2.5Y 4/4), wet, fine to medium grained sand, 80% sand, 20% fines.	314.8	0.0			
			CL		59.0	CLAY (CL), olive brown (2.5Y 4/4), moist, medium plasticity, hard.	313.3	0.0			
60					60.0	CLAY (CL), olive brown (2.5Y 4/4), moist, medium plasticity, hard.	312.3	0.0		60	
						Bottom of boring at approximately 60 feet bgs. Well MW-3 installed in borehole.					

**COMMENTS**

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



BORING-WELL\_2007\_001-09567-02 HANSON RADUM2.GPJ LFR SEPT 2006.GDT 12/21/07

PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant Area  
 CLIENT Hanson Aggregates Northern California

**WELL NUMBER MW-4**

PROJECT LOCATION 3000 Busch Rd, Pleasanton, California

DRILLING CONTRACTOR Spectrum Exploration

PROJECT NUMBER 001-09567-04

DRILLING METHOD Hollow Stem Auger

LOCATION Northeast of Former Asphalt Plant Area

STAMP (IF APPLICABLE) AND/OR NOTES

SAMPLING METHOD 5' Continuous Soil Core

GROUND ELEVATION 370.12 ft MSL HOLE DIAMETER 8 inches

TOP OF CASING ELEVATION 372.94 ft HOLE DEPTH 48.0 ft

FIRST ENCOUNTERED WATER 36.0 ft / Elev 334.1 ft

STABILIZED WATER ---

LOGGED BY Larry Lapuyade DATE 10/4/07 - 10/5/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	ELEVATIONS (feet)	PID (ppm)	WELL DIAGRAM	DEPTH (feet)
5			GC		5.0	CLAYEY GRAVEL (GC), olive-brown (2.5Y 4/4), dry, subangular to subrounded gravel up to 1 1/4" in diameter, low to medium plasticity, logged from cuttings below 2 feet.	365.1 0.0			5
			GP		6.0	GRAVEL WITH SAND (GP), olive brown (2.5Y 4/4), dry, subangular gravel up to 2" in diameter, 60% gravel, 35% fine grained sand, 5% fines.	364.1	0.0		
			CL		7.6	LEAN CLAY (CL), olive brown, (2.5Y 4/4), moist, hard, medium plasticity, gravel up to 1/2" diameter below 7 feet.	362.5	0.0		
10			GP-GC			GRAVEL WITH CLAY (GP-GC), olive brown (2.5Y 4/4), dry, subangular gravel up to 3/8" diameter, poorly graded, 90% gravel, 10% fines.  -increasing moisture and sand content at 10 feet.	0.0	0.0		10
15			GP-GC				0.0	0.0		15
20							0.0	0.0		20

**COMMENTS**

(Continued Next Page)

APPROVED BY: *[Signature]* PG 7808

DATE: 12-21-07



BORING+WELL\_2007\_001-09567-02\_HANSON RADUM2.GPJ\_LFR SEPT 2006.GDT\_12/21/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	ELEVATIONS (feet)	PID (ppm)	WELL DIAGRAM	DEPTH (feet)
25			GP-C		23.0	-decreased sand content at 20 feet.	347.1		<p>8" Dia. Borehole</p> <p>2" Dia. SCH40 PVC Blank Casing</p> <p>Grout</p> <p>Bentonite Seal</p> <p>#3 Filter Sand</p> <p>2" Dia. SCH40 Machine Slotted PVC (0.020")</p> <p>4" long Threaded End Cap</p>	25
30			GC			CLAYEY GRAVEL (GC), olive brown (2.5Y 4/4), moist, subangular to subrounded gravel up to 1" diameter, 85% gravel, 15% fines.		0.0		30
35			GC					0.0		35
40	MW-4-GGW		CL		40.2	-measured 4 feet of water in borehole at 40 feet. -collect grab groundwater sample MW-4-GGW.	329.9	0.0		40
			CL		42.2	LEAN CLAY (CL), dark olive brown (2.5Y 3/3), moist, soft to firm, medium plasticity.	327.9	0.0		
45			GP			GRAVEL WITH SAND (GP), olive brown (2.5Y 4/4), wet, subangular to subrounded gravel up to 2 1/4" diameter, 50% gravel, 45% medium to coarse grained sand, 5% fines.		0.0		45
			GP			-decreasing sand content at 45 feet.		0.0		
								0.0		
					48.0	Drill rig broke at 48 feet. 4.5 feet of water measured in borehole. Bottom of boring at approximately 48 feet. Well MW-4 installed in borehole.	322.1			

**COMMENTS**

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



BORING+WELL\_2007\_001-09567-02 HANSON RADUM2.GPJ\_LFR SEPT 2006.GDT\_12/21/07

PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant Area  
 CLIENT Hanson Aggregates Northern California

**WELL NUMBER MW-5**

PROJECT LOCATION 3000 Busch Rd, Pleasanton, California

DRILLING CONTRACTOR Spectrum Exploration

PROJECT NUMBER 001-09567-04

DRILLING METHOD Hollow Stem Auger

LOCATION East of Former Asphalt Plant Area

STAMP (IF APPLICABLE) AND/OR NOTES

SAMPLING METHOD 5' Continuous Soil Core

GROUND ELEVATION 371.53 ft MSL HOLE DIAMETER 8 inches

TOP OF CASING ELEVATION 374.35 ft HOLE DEPTH 75.0 ft

FIRST ENCOUNTERED WATER 70.0 ft / Elev 301.5 ft

STABILIZED WATER ---

LOGGED BY Larry Lapuyade DATE 10/8/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	ELEVATIONS (feet)	PID (ppm)	WELL DIAGRAM	DEPTH (feet)
5			GC		5.0	CLAYEY GRAVEL (GC), light olive brown (2.5Y 5/4), dry, subrounded to subangular gravel up to 3/4" diameter, 80% gravel, 20% fines, logged from cuttings to 5 feet.	366.5		<p>Concrete</p> <p>8" Dia. Borehole</p> <p>2" Dia. SCH40 PVC Blank Casing</p> <p>Grout</p>	5
			GM		5.5	SILTY GRAVEL (GM), olive brown (2.5Y 4/4), dry, subrounded to subangular gravel up to 1 1/2" diameter.	366.0	0.0		
			ML		6.5	SANDY SILT (ML), dark yellowish brown (10YR 3/4), dry, fine grained sand.	365.0	0.0		
			GM			SILTY GRAVEL (GM), light olive brown (2.5Y 5/3), dry, subangular gravel up to 2" diameter, 75% gravel, 15% silt, 10% sand.		0.0		
10			GP		9.0	GRAVEL (GP), light olive brown (2.5Y 5/3), dry, subrounded to subangular gravel up to 3/8" diameter, poorly graded, 90% gravel, 5% sand, 5% fines (pea gravel).	362.5			
					11.8		359.7	0.0		
			GC			CLAYEY GRAVEL (GC), olive brown (2.5Y 3/3), moist, subrounded to subangular gravel up to 3/8" diameter, poorly graded, 70% gravel, 30% fines.		0.0		
15			CL		15.5	LEAN CLAY (CL), black (5Y 2.5/2), moist, firm to hard, medium plasticity.	356.0	0.0		
			SP-SM		16.0	SAND WITH SILT AND GRAVEL (SP-SM), dark olive brown (2.5Y 3/3), moist, subrounded to subangular gravel up to 2" diameter, 60% fine to coarse sand, 30% gravel, 10% fines.	355.5	0.0		
20					20.0		351.5	0.0		

**COMMENTS**

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BORING+WELL 2007 001-09567-02 HANSON RADUM.GPJ LFR SEPT 2006.GDT 12/21/07

APPROVED BY:

*Larry Lapuyade* PG 7208

DATE: 12-21-07



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	ELEVATIONS (feet)	PID (ppm)	WELL DIAGRAM	DEPTH (feet)
25			SP-SM		20.5	SAND WITH SILT AND GRAVEL (SP-SM), dark olive brown (2.5Y 3/3), moist, subrounded to subangular gravel up to 2" diameter, 60% fine to coarse sand, 30% gravel, 10% fines.	351.0	0.0	<p>8" Dia. Borehole</p> <p>2" Dia. SCH40 PVC Blank Casing</p> <p>Grout</p>	25
			SP		22.5	SAND WITH GRAVEL (SP), dark olive brown (2.5Y 3/3), moist, 75% fine to coarse grained sand, 20% gravel, 5% fines.	349.0	0.0		
			CL		24.0	CLAY (CL), olive brown (2.5Y 4/4), moist, hard, medium plasticity.	347.5	0.0		
			SP-SM		25.3	SAND WITH SILT (SP-SM), dark olive brown (2.5Y 3/3), moist, 80% fine to medium grained sand, 10% gravel, 10% fines.	346.3	0.0		
			SP		26.0	SAND WITH GRAVEL (SP), dark olive brown (2.5Y 3/3), moist, medium to coarse grained sand, subangular to subrounded gravel up to 2" diameter, well graded, 75% sand, 25% gravel.	345.5	0.0		
			CL		26.3	LEAN CLAY (CL), dark olive brown (2.5Y 3/3), moist, soft to medium plasticity, trace gravel.	345.3	0.0		
						SAND WITH GRAVEL (SP), dark olive brown (2.5Y 3/3), moist, medium to coarse grained sand, subangular to subrounded gravel up to 1" diameter, 85% sand, 15% gravel.		0.0		
						-increased gravel content and size up to 4" diameter, 60% sand, 40% gravel at 30 feet.		0.0		
								0.0		
								0.0		
30			SP							30
35			SC		34.0	CLAYEY SAND (SC), olive brown (2.5Y 4/4), wet, fine grained sand.	337.5			35
					35.3	SAND WITH GRAVEL (SP), olive brown (2.5Y 3/3), wet, fine to coarse grained sand, subangular to subrounded gravel up to 3 1/2" diameter, 70% sand, 30% gravel.	336.3	0.0		
40			SP					0.0		40
								0.0		
								0.0		
45			SC		41.9	-increased gravel content at 41 feet.	329.6	0.0		45
					43.5	CLAYEY SAND (SC), olive brown (2.5Y 4/4), moist, medium grained sand, 60% sand, 30% clay, 10% gravel.	328.0	0.0		
						SAND WITH CLAY AND GRAVEL (SP-SC), light olive brown (2.5Y 5/4), wet, coarse grained sand, subangular to subrounded gravel up to 2" diameter.		0.0		
50			SP-SC					0.0		50
								0.0		
						-increased fines content, moist at 46 feet.		0.0		
							321.5			

COMMENTS

(Continued Next Page)

BORING+WELL\_2007\_001-09567-02\_HANSON RADUM2.GPJ\_LFR SEPT 2006.GDT\_12/21/07

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	ELEVATIONS (feet)	PID (ppm)	WELL DIAGRAM	DEPTH (feet)
55			SP-SC		51.0	SAND WITH CLAY AND GRAVEL (SP-SC), light olive brown (2.5Y 5/4), moist, coarse grained sand, subangular to subrounded gravel up to 2" diameter, increased fines content. LEAN CLAY (CL), dark yellowish brown (10YR 3/6), moist, hard, medium plasticity.	320.5	0.0	<p>8" Dia. Borehole</p> <p>2" Dia. SCH40 PVC Blank Casing</p> <p>Grout</p> <p>Bentonite Seal</p> <p>#3 Filter Sand</p> <p>2" Dia. SCH40 Machine Slotted PVC (0.020")</p> <p>4" long Threaded End Cap</p>	55
60			CL		58.8	SILTY SAND (SM), dark yellowish brown (10YR 3/6), moist fine grained sand. LEAN CLAY (CL), dark yellowish brown (10YR 3/6), moist, hard, medium plasticity. -hard consistency at 60 feet.	312.7 312.3	0.0		60
65			CL		69.4	-soft consistency at 64.5 feet. -firm consistency at 65 feet.	302.1 301.8	0.0		65
70			ML		69.7	SANDY SILT (ML), dark yellowish brown (10YR 3/6), moist, fine grained sand.	302.1 301.8	0.0		70
75			SP		75.0	SAND WITH GRAVEL (SP), dark yellowish brown (10YR 3/6), moist to wet, fine to coarse grained sand, subrounded to subangular gravel up to 1 1/4" diameter. -color change to olive brown (2.5Y 4/4), wet, gravel up to 2 1/4" diameter at 70 feet.	296.5	0.0		75
						Bottom of boring at approximately 75 feet bgs. Well MW-5 installed in borehole.				

**COMMENTS**

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



BORING+WELL 2007 001-09587-02 HANSON RADUM2.GPJ LFR SEPT 2006.GDT 12/21/07

PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant Area  
 CLIENT Hanson Aggregates Northern California

**BORING NUMBER MW-5(A)**

PROJECT LOCATION 3000 Busch Rd, Pleasanton, California

DRILLING CONTRACTOR Spectrum Exploration

PROJECT NUMBER 001-09567-04

DRILLING METHOD Hollow Stem Auger

LOCATION East of Former Asphalt Plant Area

STAMP (IF APPLICABLE) AND/OR NOTES

SAMPLING METHOD 5' Continuous Soil Core

GROUND ELEVATION N/A HOLE DIAMETER 8 inches

TOP OF CASING ELEVATION N/A HOLE DEPTH 75.0 ft

FIRST ENCOUNTERED WATER 70.5 ft

STABILIZED WATER ---

LOGGED BY Larry Lapuyade DATE 10/8/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
			GC		1.5	CLAYEY GRAVEL (GC), olive brown (2.5Y 4/4), dry, subangular to subrounded gravel up to 3/4" diameter, 80% gravel, 20% clay.	0.0	
			CL			LEAN CLAY (CL), dark brown, (10YR 3/3), moist, hard, medium plasticity.  -trace gravel at 3 to 4 feet.	0.0	
5			CL				0.0	5
			GP		8.0	GRAVEL WITH SAND (GP), olive (5Y 4/4), moist, subangular to subrounded gravel up to 1/2" diameter, poorly graded, 60% gravel, 40% medium to coarse grained sand.	0.0	
			GP			-increased gravel size up to 1" diameter and increased gravel content to 85% gravel at 10 feet.	0.0	
10			GP				0.0	10
			GP		13.5	GRAVEL (GP), olive (5Y 4/4), dry, subangular to subrounded gravel up to 2 1/4" diameter, well graded.	0.0	
15			GP				0.0	15
			CL		16.0	LEAN CLAY (CL), dark brown (10YR 3/3), moist, hard, low to medium plasticity.	0.0	
			CL				0.0	
20			CL		20.0		0.0	20

**COMMENTS**

(Continued Next Page)

APPROVED BY:

DATE: 12-21-07



BORING+WELL\_2007\_001-09567-02\_HANSON RADUM2.GPJ\_LFR SEPT 2006.GDT\_12/21/07



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
25						LEAN CLAY (CL), dark brown (10YR 3/3), moist, hard, low to medium plasticity.	0.0 0.0 0.0	25
30			CL				0.0 0.0 0.0 0.0	30
35							0.0 0.0 0.0	35
40					39.0	-trace gravel up to 3.5" diameter at 38 feet. SAND WITH GRAVEL (SP), light olive brown (2.5Y 5/4), wet, subangular to subrounded gravel up to 3" diameter, well graded, 65% medium to coarse grained sand, 30% gravel, 5% fines.	0.0 0.0 0.0	40
45			SP				0.0 0.0 0.0	45
50						-decreased moisture content at 46 feet.	0.0 0.0 0.0	50








**COMMENTS**

(Continued Next Page)

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



BORING+WELL. 2007 001-09567-02 HANSON RADUM2.GPJ LFR SEPT 2006.GDT 12/21/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
55			CL		50.3	LEAN CLAY (CL), yellowish brown (10YR 5/8), moist, hard, medium plasticity.	0.0 0.0 0.0 0.0	55
60			ML		60.0	SANDY SILT (ML), dark yellowish brown (10YR 3/6), moist, fine grained sand.	0.0	60
65			CL		60.5	LEAN CLAY (CL), yellowish brown (10YR 5/8), moist, hard, medium plasticity.	0.0 0.0 0.0	65
70	MW-5A-GGW		CL		67.5	SANDY LEAN CLAY (CL), dark yellowish brown (10YR 4/6), moist, firm, medium plasticity, fine grained sand.	0.0	
			CL		68.0	LEAN CLAY (CL), yellowish brown (10YR 5/8), moist, hard, medium plasticity.	0.0	70
75			SP		70.57	SAND WITH GRAVEL (SP), dark yellowish brown (10YR 4/6), wet, fine to coarse grained sand, subangular to subrounded gravel up to 2 1/2" diameter.	0.0 0.0 0.0	75
					75.0	Bottom of boring at approximately 75 feet bgs. Borehole abandoned after collecting grab groundwater sample MW-5A-GGW.		

**COMMENTS**

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



BORING+WELL\_2007\_001-09567-02 HANSON RADUM2.GPJ LFR SEPT 2006.GDT 12/21/07

PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant Area  
 CLIENT Hanson Aggregates Northern California

**WELL NUMBER MW-6**  
 PAGE 1 OF 3

PROJECT LOCATION 3000 Busch Rd, Pleasanton, California

DRILLING CONTRACTOR Spectrum Exploration

PROJECT NUMBER 001-09567-04

DRILLING METHOD Hollow Stem Auger

LOCATION Southeast of Former Asphalt Plant Area

STAMP (IF APPLICABLE) AND/OR NOTES

SAMPLING METHOD 5' Continuous Soil Core

GROUND ELEVATION 372.06 ft MSL HOLE DIAMETER 8 inches

TOP OF CASING ELEVATION 375.03 ft HOLE DEPTH 60.0 ft

∇ FIRST ENCOUNTERED WATER 52.0 ft / Elev 320.1 ft

STABILIZED WATER ---

LOGGED BY Larry Lapuyade DATE 10/9/07 - 10/10/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	ELEVATIONS (feet)	PID (ppm)	WELL DIAGRAM	DEPTH (feet)
5			SM			SILTY SAND (SM), light olive brown (2.5Y 5/3), dry, fine to coarse grained sand, well graded.	0.0 0.0			5
					-trace gravel and moist at 5 feet.		0.0			
			SC		6.0		366.1			
					6.5	CLAYEY SAND WITH GRAVEL (SC), dark yellowish brown (10YR 3/6), moist, fine to medium grained sand, gravel up to 2" diameter, 60% sand, 20% gravel, 20% fines.	365.6	0.0		
			SM							
10					8.5	SILTY SAND (SM), dark olive brown (2.5Y 3/3), moist, fine to medium grained sand, gravel up to 1 1/2" diameter, 60% sand, 25% fines, 15% gravel.	363.6			
			CL			CLAY (CL), dark olive brown (2.5Y 3.3), moist, soft to firm consistency, low to medium plasticity.		0.0		
							0.0			
							0.0			
							0.0			
15			SM		14.7	SILTY SAND (SM), dark olive brown (2.5Y 3/3), moist, fine grained sand, 65% sand, 35% fines.	357.4			
					15.0	SAND WITH GRAVEL (SM), dark brown (10YR 3/3), moist, 50% fine to coarse sand, 45% subangular to subrounded gravel up to 3" diameter, 5% fines.	357.1			
			SM							
20					20.0		352.1			

COMMENTS

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BORING+WELL 2007 001-09567-02 HANSON RADUM2.GPJ LFR SEPT 2006.GDT 12/21/07

APPROVED BY: [Signature] PG 7808 DATE: 12-21-07



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	ELEVATIONS (feet)	PID (ppm)	WELL DIAGRAM	DEPTH (feet)
25						SAND WITH GRAVEL (SM), color change to dark olive brown (2.5Y 3/3), moist, 50% fine to coarse sand, 45% subangular to subrounded gravel up to 3" diameter, 5% fines.				25
			SM			-increased moisture content to wet at 25 feet.			8" Dia. Borehole	
30										30
					31.0	-color change to light olive brown (2.5Y 5/4), wet, decreased gravel size up to 2" diameter at 30 feet.	341.1		2" Dia. SCH40 PVC Blank Casing	
			GM			SILTY GRAVEL (GM), light olive brown (2.5Y 5/4), wet, subangular to subrounded gravel up to 2" diameter, 85% gravel, 15% fines.			Grout	
35										35
					39.0		333.1			
			GP			GRAVEL (GP), light olive brown (2.5Y 5/4), wet, subangular to subrounded gravel up to 2" diameter, 95% gravel, 5% fines.				
40										40
					42.0		330.1			
			GC			CLAYEY GRAVEL (GC), light olive brown (2.5Y 5/4), wet, subangular to subrounded gravel up to 1" diameter, 75% gravel, 25% fines.			Bentonite Seal	
45						-trace sand content at 44 feet.			#3 Filter Sand	
					45.3		326.8			45
			SC		45.8	CLAYEY SAND WITH GRAVEL (SC), dark yellowish brown (10YR 4/6), wet, fine to medium grained sand, subrounded to subangular gravel up to 2" diameter, 60% sand, 20% gravel, 20% fines.	326.3	0.0		
			GC			CLAYEY GRAVEL WITH SAND (GC), dark yellowish brown (10YR 4/6), wet, subangular to subrounded gravel up to 2" diameter, 70% gravel, 15% medium to coarse grained sand, 15% fines.		0.0		
50								0.0	2" Dia. SCH40 Machine Slotted PVC (0.020")	50


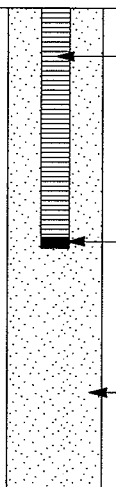

**COMMENTS**

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BORING+WELL 2007 001-09567-02 HANSON RADUM2.GPJ LFR SEPT 2006.GDT 12/21/07

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	ELEVATIONS (feet)	PID (ppm)	WELL DIAGRAM	DEPTH (feet)	
			GC		52.97	-increasing fines content at 50 feet.	319.8	0.0	 <p>2" Dia. SCH40 Machine Slotted PVC (0.020")</p> <p>4" long Threaded End Cap</p> <p>#3 Filter Sand</p>		
55			CL			LEAN CLAY (CL), dark yellowish brown (10YR 3/6), moist, hard, medium plasticity.				55	
60					60.0		312.1			60	
						Bottom of boring at approximately 60 feet bgs. Well MW-6 installed in borehole.					

**COMMENTS**

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant Area  
 CLIENT Hanson Aggregates Northern California

**WELL NUMBER MW-7**

PROJECT LOCATION 3000 Busch Rd, Pleasanton, California

DRILLING CONTRACTOR Spectrum Exploration

PROJECT NUMBER 001-09567-04

DRILLING METHOD Hollow Stem Auger

LOCATION South of Kiewit Property

STAMP (IF APPLICABLE) AND/OR NOTES

SAMPLING METHOD 5' Continuous Soil Core

GROUND ELEVATION 375.12 ft MSL HOLE DIAMETER 8 inches

TOP OF CASING ELEVATION 377.68 ft HOLE DEPTH 65.0 ft

FIRST ENCOUNTERED WATER 55.0 ft / Elev 320.1 ft

STABILIZED WATER ---

LOGGED BY Larry Lapuyade DATE 10/1/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	ELEVATIONS (feet)	PID (ppm)	WELL DIAGRAM	DEPTH (feet)
5			GM		0.3 0.8	Asphalt. SILTY GRAVEL (GM), light olive brown (2.5Y 5/3), dry, subangular gravel up to 2" diameter, 70% gravel, 30% fines.	374.9 374.4	0.0		
			SM		5.0	SILTY SAND (SM), light olive brown (2.5Y 5/3), dry, fine grained sand, moderate gravel, 75% sand, 15% fines, 10% gravel. -concrete debris in shoe at 1 foot. Logged from cuttings to 5 feet.		0.1		
10			CL			LEAN CLAY (CL), dark yellowish brown (10YR 3/4), moist, hard, medium plasticity.  -gravel up to 2 1/2" diameter at 9.5 to 10 feet. -color change to very dark gray (2.5Y 3/1) and trace gravel at 9.8 feet.		0.1 0.7 0.5 0.8		5
15						-increased gravel content, gravel up to 2 3/4" diameter at 14 feet.		0.4		10
20			SM		17.3	-color change to dark brown (10YR 3/3) at 17 feet. SILTY SAND WITH GRAVEL (SM), dark brown (10YR 2/3), moist, fine grained sand, gravel up to 2" diameter, 45% sand, 30% fines, 25% gravel.	357.8	1.3		15
							355.1	0.1 0.3		20

**COMMENTS**

(Continued Next Page)

0.7 ft: Concrete in shoe; removed sampler and drilled to 5' bgs; logged cuttings

BORING-WELL\_2007\_001-09567-02\_HANSON RADUM2.GPJ\_LFR SEPT 2006.GDT\_12/21/07

APPROVED BY: PG 7808

DATE: 12-21-07



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	ELEVATIONS (feet)	PID (ppm)	WELL DIAGRAM	DEPTH (feet)
			SM			SILTY SAND WITH GRAVEL (SM), color change to olive brown (2.5Y 4/4), moist, fine grained sand, gravel up to 2" diameter, 45% sand, 30% fines, 25% gravel.	0.1 0.0		<p>8" Dia. Borehole</p> <p>2" Dia. SCH40 PVC Blank Casing</p> <p>Grout</p> <p>Bentonite Seal</p> <p>#3 Filter Sand</p>	
25					24.0	GRAVEL WITH SAND (GP), olive brown (2.5Y 4/4), moist, fine to coarse grained sand, subangular to subrounded gravel up to 2 1/4" diameter.	351.1	0.0 0.1 0.0		25
30			GP				0.0 0.0 0.0	30		
35							0.0 0.0 0.0	35		
			GC		37.5	CLAYEY GRAVEL (GC), olive brown (2.5Y 4/4), moist, subangular to subrounded gravel up to 2 1/2" diameter, non-plastic to low plasticity.	337.6	0.0 0.0		40
40					39.0	SAND WITH GRAVEL (SP), olive brown (2.5Y 4/4), moist, fine to coarse grained sand, subangular to subrounded gravel up to 2 1/2" diameter.	336.1	0.0 0.0		45
45			SP				0.0 0.0 0.0	50		
50					50.0		325.1			

COMMENTS

(Continued Next Page)

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



BORING+WELL 2007 001-09567-02 HANSON RADUM2.GPJ LFR SEPT 2006.GDT 12/21/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	ELEVATIONS (feet)	PID (ppm)	WELL DIAGRAM	DEPTH (feet)
			SP			SAND WITH GRAVEL (SP), olive brown (2.5Y 4/4), moist, fine to coarse grained sand, subangular to subrounded gravel up to 2 1/2" diameter.		0.0	<p>8" Dia. Borehole</p> <p>#3 Filter Sand</p> <p>2" Dia. SCH40 Machine Slotted PVC (0.020")</p>	
55			GC		54.0	CLAYEY GRAVEL (GC), dark yellowish brown (10YR 3/4), wet, subangular to subrounded gravel up to 3" diameter, 75% gravel, 25% fines.	321.1	0.0		55
			SP-SC		56.5	SAND WITH CLAY (SP-SC), dark yellowish brown (10YR 3/4), wet, subangular gravel up to 1 3/4" diameter, 70% fine to medium grained sand, 20% fines, 10% gravel.	318.6	0.0		
60			ML		59.0	SILT (ML), yellowish brown (10YR 5/6), moist, trace gravel.	316.1	0.0		60
			CL		61.0	LEAN CLAY (CL), yellowish brown (10YR 5/6), moist, firm, medium plasticity.	314.1	0.0		
			CL		63.0		312.1	0.0		
			CL		63.8	SANDY CLAY (CL), dark yellowish brown (10YR 4/6), moist, firm to hard, medium plasticity, 80% fines, 20% sand.	311.3	0.0		
65			GC		65.0	CLAYEY GRAVEL (GC), dark yellowish brown (10YR 4/6), moist, subangular to subrounded gravel up to 2" diameter, 80% gravel, 20% fines. Bottom of boring at approximately 65 feet. Well MW-7 installed in borehole.	310.1		4" long Threaded End Cap	65

**COMMENTS**

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_





PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant  
 CLIENT Hanson Aggregates Northern California

**BORING NUMBER B25**

PAGE 1 OF 3

PROJECT LOCATION 3000 Busch Road, Pleasanton, California

DRILLING CONTRACTOR Cascade Drilling

PROJECT NUMBER 001-09567-04

DRILLING METHOD Hollow Stem Auger

LOCATION Western portion of deep soil contamination

STAMP (IF APPLICABLE) AND/OR NOTES

SAMPLING METHOD 5' Continuous core sampler

GROUND ELEVATION Not available HOLE DIAMETER 8 inches

TOP OF CASING ELEVATION N/A HOLE DEPTH 65.0 ft

▽ FIRST ENCOUNTERED WATER 50.0 ft

▼ STABILIZED WATER 61.0 ft

LOGGED BY M. Sullivan DATE 10/8/07

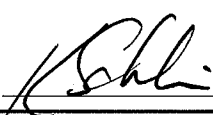
DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
5			GM			SILTY GRAVEL (GM), brown (10YR 5/3), moist, 80% rounded gravel up to 0.5" dia., 20% soft, non-plastic fines.	0.4	5
	B25-9		ML		6.0	GRAVELLY SILT (ML), very dark brown (10YR 2/2), moist, 60% soft, non-plastic fines, 40% subangular gravel up to 1.0" dia.  -color change to brown (10YR 5/3), subrounded gravel up to 3.0" dia. at 7.5 feet.	0.1	
10					9.5			10
	B25-12						0.1	
15			GM			SILTY GRAVEL (GM), brown (10YR 5/3), moist, 70% subangular, fine grained gravel, 30% soft non-plastic fines, trace sand.		15
	B25-16						0.2	
20								20

**COMMENTS**

(Continued Next Page)

BORING+WELL 2007 001-09567-04.GPJ LFR SEPT 2008.GDT 12/21/07

APPROVED BY:

 P67-7808 DATE: 12-21-07



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
25	B25-21					SILTY GRAVEL (GM), brown (10YR 5/3), moist, 70% subangular, fine grained gravel, 30% soft non-plastic fines, trace sand.	0.1	25
			GM			-wet at 25 feet.		
30	B25-26.5						0.1	30
					30.8		0.6	
	B25-31					GRAVELLY SILT (ML), dark greenish gray (5GY 4/1), moist, soft, non-plastic, odor.		
35	B25-35.5 B25-36		ML			-1" thick black oily material in soil at 35.6 feet.		35
40					40.5			40
						SILTY GRAVEL (GM), very dark brown (10YR 2/2), moist, 60% subangular to subrounded gravel, 40% non-plastic fines, trace medium grained sand.		
45	B25-47		GM			-rig chatter increases at 47 feet. -rig chatter stops at 48 feet.		45
50					∇	Depth to water in sediments at approximately 50 feet during drilling.		50

**COMMENTS**

(Continued Next Page)

BORING+WELL 2007 001-09567-04.GPJ LFR SEPT 2006.GDT 12/21/07

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
55						SILTY GRAVEL (GM), very dark brown (10YR 2/2), wet, 60% subangular to subrounded gravel, 40% non-plastic fines, trace medium grained sand.		55
60			GM					60
65	B25-GGW		SM		60.5 ▼ 65.0	SILTY SAND (SM), brown (10YR 5/3), wet, 60% fine to medium grained sand, 40% firm, low plasticity fines, no odor. Depth to water measured at 61 feet with solinst after drilling.		65
						Bottom of boring at approximately 65 feet bgs. Borehole abandoned after samples were collected.		

**COMMENTS**

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



BORING+WELL\_2007\_001-09567-04.GPJ LFR SEPT 2006.GDT 12/21/07

PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant  
 CLIENT Hanson Aggregates Northern California

**BORING NUMBER B25A**

PROJECT LOCATION 3000 Busch Road, Pleasanton, California

DRILLING CONTRACTOR Cascade Drilling

PROJECT NUMBER 001-09567-04

DRILLING METHOD Hollow Stem Auger

LOCATION Adjacent to soil boring B25

STAMP (IF APPLICABLE) AND/OR NOTES

SAMPLING METHOD California Modified Split-spoon sampler driven with 140-lb hammer

GROUND ELEVATION Not available HOLE DIAMETER 8 inches

TOP OF CASING ELEVATION N/A HOLE DEPTH 40.5 ft

FIRST ENCOUNTERED WATER ---

STABILIZED WATER ---

LOGGED BY M. Sullivan DATE 10/8/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	BLOW COUNTS (per 6 inches)	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
5							Advance to 30 feet without coring or logging.		5
10									10
15									15
20									20

**COMMENTS**

(Continued Next Page)

APPROVED BY: [Signature] PG. 780g DATE: 12-21-07



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	BLOW COUNTS (per 6 inches)	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
25									25
30						30.0			30
		X	3	GP		34.5	GRAVEL (GP), dark greenish gray, oily product observed from 33.2 to 34.5 feet.		
		X	5						
		X	7						
	B25A-34.5	X	4	SM		34.5	SILTY SAND WITH GRAVEL (SM), oily product observed from 34.5 to 35.5 feet, strong odor. -color change to very dark brown, no oily product below 35.5 feet.	2.5	
		X	4						
	B25A-35	X	4	SM		40.5	Bottom of boring at approximately 40.5 feet bgs. Borehole abandoned after samples were collected.		
		X	4						
		X	4						
		X	9						
		X	4	SM		40.5		1.2	
		X	4						
		X	5	SM		40.5		0.4	
		X	5						
		X	6	SM		40.5			
		X	4						

**COMMENTS**

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



BORING+WELL\_2007\_001-095667-04.GPJ LFR SEPT 2006.GDT 12/21/07

PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant  
 CLIENT Hanson Aggregates Northern California

**BORING NUMBER B26**

PROJECT LOCATION 3000 Busch Road, Pleasanton, California

DRILLING CONTRACTOR Cascade Drilling

PROJECT NUMBER 001-09567-04

DRILLING METHOD Hollow Stem Auger

LOCATION Eastern portion of deep soil contamination

STAMP (IF APPLICABLE) AND/OR NOTES

SAMPLING METHOD 5' Continuous core sampler, California Modified Split-spoon sampler driven with 140-lb hammer

GROUND ELEVATION Not available HOLE DIAMETER 8 inches

TOP OF CASING ELEVATION N/A HOLE DEPTH 65.0 ft

▽ FIRST ENCOUNTERED WATER 45.0 ft

▼ STABILIZED WATER 49.7 ft

LOGGED BY M. Sullivan DATE 10/9/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	BLOW COUNTS (per 6 inches)	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
5				GP		5.5	Hand auger to 5 feet. GRAVEL (GP), brown (10YR 5/3), fine to coarse grained, angular gravel. 0.5" dia. rounded gravel below 1 foot.		5
10	B26-6			SM		6.0	SILTY SAND (SM), brown (10YR 3/3), moist, loose, 60% fine to medium grained sand, 40% soft non-plastic fines, no odor. -gravels falling out of sampler.		10
15						15.0	No recovery.		15
20	B26-16.5		5 12	GM			Split-spoon sampler used from 15 to 16.5 feet. GRAVEL WITH SAND (GM), brown (10YR 5/3), moist, loose, 80% subangular gravel up to 0.5" dia., 20% fine to medium grained sand.	0.0	20

**COMMENTS**

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APPROVED BY:  PER 7808

DATE: 12-21-07



BORING+WELL\_2007\_001-09567-04.GPJ LFR SEPT 2006.GDT 12/21/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	BLOW COUNTS (per 6 inches)	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
25	B26-22.5			GM			GRAVEL WITH SAND (GM), brown (10YR 5/3), moist, loose, 80% subangular gravel up to 0.5" dia., 20% fine to medium grained sand.	0.0	25
30	B26-28			GM		26.0	SILTY GRAVEL (GM), dark greenish gray (10GY 4/1), moist, soft, 80% angular to subangular gravel (0.5" dia.), 20% low plasticity fines, strong odor.  -trace oily product observed in gravel at 28 feet.	2.8	30
35	B26-32					31.5	-very thick oily product from 31.5 to 32 feet.	10.8	
	B26-33.5			ML		32.0	SILT (ML), dark greenish gray (10GY 4/1), moist, soft, low plasticity, odor.	5.0	35
40	B26-38			ML		37.0	-wet at 36 feet.  SANDY SILT (ML), very dark brown (10YR 2/2), moist, 60% soft to firm, non-plastic fines, 40% fine to coarse grained sand, loose, coarsens with depth, trace gravel (up to 2" dia.), no odor.	0.0	40
45	B26-42.5					41.0	SILTY SAND (SM), brown (10YR 5/3), moist, loose, 70% fine to coarse grained sand, 20% non-plastic fines, trace gravel, no odor.	0.1	
	B26-47			SM			▽ Depth to water in sediment at approximately 45 feet at time of drilling. -wet, 10% subrounded gravel up to 3" dia. at 45 feet.  -dry in sampler shoe at approximately 47 feet.	0.1	45
50							▽ Depth to water measured at 49.7 feet in borehole at end of drilling.		50

**COMMENTS**

(Continued Next Page)

BORING+WELL 2007 001-09567-04.GPJ LFR SEPT 2006.GDT 12/21/07

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	BLOW COUNTS (per 6 inches)	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
55	B26-GGW			SM		52.3	SILTY SAND (SM), brown (10YR 5/3), wet, loose, 70% fine to coarse grained sand, 20% non-plastic fines, trace gravel, no odor.	0.0	55
60				ML			SANDY SILT (ML), brown (10YR 5/3), moist, 70% soft to firm, non-plastic fines, 30% fine grained sand, becoming hard with depth, no odor.	0.0	60
65						65.0	Bottom of boring at approximately 65 feet bgs. Temporary well casing placed in borehole with filter sand for groundwater sampling. Borehole abandoned after samples were collected.	0.0	65

**COMMENTS**

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_





PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant  
 CLIENT Hanson Aggregates Northern California

**BORING NUMBER B27**

PROJECT LOCATION 3000 Busch Road, Pleasanton, California

DRILLING CONTRACTOR Cascade Drilling

PROJECT NUMBER 001-09567-04

DRILLING METHOD Hollow Stem Auger

LOCATION Southeast of deep soil contamination

STAMP (IF APPLICABLE) AND/OR NOTES

SAMPLING METHOD 5' Continuous core sampler

GROUND ELEVATION Not available HOLE DIAMETER 8 inches

TOP OF CASING ELEVATION N/A HOLE DEPTH 60.0 ft

▽ FIRST ENCOUNTERED WATER 40.0 ft

▼ STABILIZED WATER 49.4 ft

LOGGED BY M. Sullivan DATE 10/9/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
5						Hand auger to 5 feet. GRAVEL WITH SAND (GP), brown (10YR 5/3), moist, loose, 70% subrounded gravel up to 1" dia., 30% fine to coarse grained sand.	0.0	5
10	B27-7		GP				0.0	10
15						Poor recovery, gravel sloughing out of core.	0.0	15
20	B27-16		SM		15.8	SILTY SAND (SM), moist, loose, 60% fine to coarse grained sand, 30% soft non-plastic fines, 10% subrounded gravel up to 0.5" dia., no odor.	0.0	20

**COMMENTS**

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BORING-WELL 2007 001-09567-04.GPJ LFR SEPT 2006.GDT 12/21/07

APPROVED BY:  PG 7808 DATE: 12-21-07



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
25	B27-22		SM		20.5	GRAVEL WITH SILT AND SAND (GP-GM), wet, loose, 70% angular to subangular gravel up to 0.5" dia., 20% fine to coarse grained sand, 10% non-plastic fines, no odor.	0.1	25
			GP-GM		23.5	SILTY GRAVEL WITH SAND (GM), moist, 50% gravel, 30% sand, 20% fines.		
30	B27-27.5		GM			-trace gravel 2" dia. below 30 feet.	0.0	30
35	B27-32		GM				0.0	35
40	B27-37.5		GM			-chattering in rig at 36 feet.	0.1	40
45	B27-42		GP		39.0	GRAVEL WITH SAND (GP), brown (10YR 5/3), 60% rounded gravel up to 3" dia., 40% fine to coarse grained sand, coarse gravels causing poor recovery. Depth to water in sediments at approximately 40 feet at time of drilling. -wet to saturated at 40 feet.	0.2	45
50	B27-46.5		GP				0.2	50
						▼ Depth to water measured at approximately 49.4 feet in borehole at end of drilling.		

**COMMENTS**

(Continued Next Page)

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



BORING+WELL\_2007\_001-09567-04.GPJ LFR SEPT 2006.GDT 12/21/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
55	B27-GGW		GP		51.0	GRAVEL WITH SAND (GP), brown (10YR 5/3), 60% rounded gravel up to 3" dia., 40% fine to coarse grained sand.		
60			CL		60.0	LEAN CLAY (CL), brown (10YR 5/3), moist, firm, low plasticity, no odor.	0.1	55
						Bottom of boring at approximately 60 feet bgs. Temporary well set from 50 to 60 feet. Borehole abandoned after samples were collected.		60

**COMMENTS**

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant  
 CLIENT Hanson Aggregates Northern California

**BORING NUMBER B28**

PROJECT LOCATION 3000 Busch Road, Pleasanton, California  
 PROJECT NUMBER 001-09567-04  
 LOCATION Southeast of Former Asphalt Plant Area  
 SAMPLING METHOD 5' Continuous core sampler  
 GROUND ELEVATION Not available HOLE DIAMETER 8 inches  
 TOP OF CASING ELEVATION N/A HOLE DEPTH 60.0 ft  
 FIRST ENCOUNTERED WATER 25.5 ft  
 STABILIZED WATER 47.5 ft  
 LOGGED BY M. Sullivan DATE 10/4/07

DRILLING CONTRACTOR Cascade Drilling

DRILLING METHOD Hollow Stem Auger

STAMP (IF APPLICABLE) AND/OR NOTES

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
			ML		4.0	Hand auger to 5 feet. GRAVELLY SILT (ML), brown (10YR 5/3), moist, soft, non-plastic, subangular gravel up to 2" dia., no odor.	0.2	
5	B28-5							5
			GM			SILTY GRAVEL (GM), brown (10YR 5/3), moist, 70% gravel up to 3.0" dia., 30% non-plastic fines.	0.0	
10	B28-8							10
15	B28-13				14.0	GRAVELLY SILT (ML), brown (10YR 5/3), moist, 70% gravel up to 3" dia., 30% non-plastic fines, trace fine grained sand.	0.2	15
			ML					
20	B28-18				19.0	SAND WITH GRAVEL (SP), brown (10YR 5/3), moist, 55% fine to coarse grained sand, 45% angular to subangular gravel up to 0.5" dia., chert and quartz.	0.0	20
			SP					

**COMMENTS**

(Continued Next Page)

BORING+WELL\_2007\_001-09567-04.GPJ LFR SEPT 2006.GDT 12/21/07

APPROVED BY: K. Sch... PG 7807 DATE: 12-21-07



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
25	B28-22.5					SAND WITH GRAVEL (SP), brown (10YR 5/3), moist, 55% fine to coarse grained sand, 45% angular to subangular gravel up to 0.5" dia., chert and quartz.	0.0	25
30	B28-27.5				▽	Depth to water in sediment at approximately 25.5 feet at time of drilling.	0.1	30
35			SP			Depth to water in sediment at approximately 35 feet at time of drilling.	0.0	35
40	B28-37						0.0	40
45						-cobbles greater than 4" dia. at 41.5 feet.		45
50	B28-47.5 B28-GGW				▽	-trace yellowish brown color at 46.5 feet. Depth to water measured at 47.5 feet in borehole at end of drilling.		50
			ML		49.0	SANDY SILT WITH GRAVEL (ML), fine to coarse grained sand.		

**COMMENTS**

(Continued Next Page)

BORING+WELL 2007 001-09567-04.GPJ LFR SEPT 2006.GDT 12/21/07

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
55			ML		55.0	SANDY SILT WITH GRAVEL (ML), fine to coarse grained sand.  Depth to water in sediment at approximately 53.5 feet at time of drilling.		55
					56.5			
					57.0	SAND WITH GRAVEL (SP).		
	B28-59		ML		57.0	SILT WITH SAND (ML), moist, firm to hard, non-plastic, 85% fines, 15% fine grained sand, no odor.		
60					60.0	Bottom of boring at approximately 60 feet bgs. Borehole abandoned after samples were collected.		60

**COMMENTS**

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant  
 CLIENT Hanson Aggregates Northern California

**BORING NUMBER B29**

PAGE 1 OF 3

PROJECT LOCATION 3000 Busch Road, Pleasanton, California

DRILLING CONTRACTOR Cascade Drilling

PROJECT NUMBER 001-09567-04

DRILLING METHOD Hollow Stem Auger

LOCATION Southern portion of Former Asphalt Plant Area

STAMP (IF APPLICABLE) AND/OR NOTES

SAMPLING METHOD 5' Continuous core sampler

GROUND ELEVATION Not available HOLE DIAMETER 8 inches

TOP OF CASING ELEVATION N/A HOLE DEPTH 60.0 ft

FIRST ENCOUNTERED WATER 56.0 ft

STABILIZED WATER ---

LOGGED BY M. Sullivan DATE 10/5/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
5	B29-5		SP			Hand auger to 5 feet. SAND WITH GRAVEL (SP), brown (10YR 5/3), loose, 70% fine to coarse grained sand, 30% subangular to subrounded gravel up to 3" dia., trace fines.		5
	B29-6					Slab of concrete at 6 feet.		
10			SM		8.0	SILTY SAND (SM), brown (10YR 5/3), moist, 70% fine to coarse grained sand, 30% low to non-plastic fines.		10
	B29-11				10.5	SAND WITH GRAVEL (SP), moist, fine to coarse grained sand, coarse gravel up to 3" dia.		
15	B29-16		SP					15
20								20

**COMMENTS**

(Continued Next Page)

BORING-WELL 2007 001-09567-04.GPJ LFR SEPT 2006.GDT 12/21/07

APPROVED BY: *Kohl* PO 7807 DATE: 12-21-07



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
25	B29-23		SP		24.0	SAND WITH GRAVEL (SP), moist, fine to coarse grained sand, coarse gravel up to 3" dia.  -cobbles blocking core at 23 feet.		25
30	B29-27		SP			SAND WITH GRAVEL (SP), moist, fine to coarse grained sand, coarse grained sand up to 3" dia. -cobbles blocking core at 26.5 feet.		30
35	B29-33		SP		34.0	-cobbles blocking core at 33 feet.		35
40	B29-37		SP		37.5		15.1	
			GP		39.0	GRAVEL (GP).		
45	B29-43		SP			SAND WITH GRAVEL (SP), very dark bluish gray (5B 3/1), moist, 70% fine to coarse grained sand, 30% subrounded gravel up to 3.5" dia., strong odor.		40
50	B29-48		SP-SM		47.0	SAND WITH SILT AND GRAVEL (SP-SM), brown (10YR 3/1), wet, 50% fine to coarse grained sand, 40% subangular to subrounded gravel up to 3" dia., 10% low plastic fines.	1.6	45
								50

**COMMENTS**

(Continued Next Page)

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



BORING-WELL 2007 001-09567-04.GPJ LFR SEPT 2006.GDT 12/21/07



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
55			SP-SM			SAND WITH SILT AND GRAVEL (SP-SM), brown (10YR 3/1), wet, 50% fine to coarse grained sand, 40% subangular to subrounded gravel up to 3" dia., 10% low plastic fines.		55
	B29-GGW B29-57.5				57.5	∇ Depth to water in sediments at approximately 56 feet at time of drilling.		
60			ML		60.0	SILT (ML), wet, soft, 90% non-plastic fines, 10% fine grained sand, no odor.		60
						Bottom of boring at approximately 60 feet bgs. Borehole abandoned after samples were collected.		

**COMMENTS**

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant  
 CLIENT Hanson Aggregates Northern California

**BORING NUMBER B30**  
 PAGE 1 OF 1

PROJECT LOCATION 3000 Busch Road, Pleasanton, California

DRILLING CONTRACTOR Cascade Drilling

PROJECT NUMBER 001-09567-04

DRILLING METHOD Hollow Stem Auger

LOCATION South of Former Asphalt Plant Area

STAMP (IF APPLICABLE) AND/OR NOTES

SAMPLING METHOD 5' Continuous core sampler

GROUND ELEVATION Not available HOLE DIAMETER 8 inches

TOP OF CASING ELEVATION N/A HOLE DEPTH 20.0 ft

FIRST ENCOUNTERED WATER ---

STABILIZED WATER ---

LOGGED BY M. Sullivan DATE 10/4/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
5	B30-5	■	SP			Hand auger to 5 feet. SAND (SP), brown (10YR 5/3), moist, fine to coarse grained sand.  -trace gravel up to 2" dia. at 3.5 feet.	0.0	5
10	B30-8	■	ML		7.0	SANDY SILT (ML), black (N 2/1), moist, 70% soft to firm non-plastic fines, 30% fine grained sand, friable, no odor.	0.0	10
15	B30-15	■	ML			-color change to very dark greenish gray (5BG 3/1), low plasticity fines below 12 feet.	0.0	15
20	B30-17.5	■	SM		15.5	SILTY SAND (SM), moist, 85% fine to coarse grained sand, 15% non-plastic fines, no odor.	0.0	20
					20.0	Bottom of boring at approximately 20 feet bgs. Borehole abandoned after samples were collected.		20

**COMMENTS**

APPROVED BY: *K. Gohl* per TB08 DATE: 12-21-07



BORING=WELL. 2007 001-09567-04.GPJ LFR SEPT 2006.GDT 12/21/07

PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant  
 CLIENT Hanson Aggregates Northern California

**BORING NUMBER B31**

PROJECT LOCATION 3000 Busch Road, Pleasanton, California

DRILLING CONTRACTOR Cascade Drilling

PROJECT NUMBER 001-09567-04

DRILLING METHOD Hollow Stem Auger

LOCATION Southwest of Former Asphalt Plant Area

STAMP (IF APPLICABLE) AND/OR NOTES

SAMPLING METHOD 5' Continuous core sampler

GROUND ELEVATION Not available HOLE DIAMETER 8 inches

TOP OF CASING ELEVATION N/A HOLE DEPTH 25.0 ft

FIRST ENCOUNTERED WATER ---

STABILIZED WATER ---

LOGGED BY M. Sullivan DATE 10/5/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
5	B31-5		ML		Hand auger to 5 feet. SANDY SILT (ML), pale brown (10YR 6/3), dry, 70% soft non-plastic fines, 30% fine grained sand.			5
					7.0			
	B31-8.5		SP		8.0	SAND WITH GRAVEL (SP), brown (10YR 5/3), moist, 80% medium to coarse grained sand, 20% subrounded gravel up to 0.5" dia.	8.8	
10			ML			SILT WITH SAND (ML), dark gray (5Y 4/1), moist, 80% soft fines, 20% fine grained sand, faint odor.		10
	B31-12				11.5			
			SP			SAND WITH GRAVEL (SP), moist, 70% fine to coarse grained sand, 30% subrounded gravel, coarser grained with depth.	1.2	
15					13.5			
	B31-16.5		GP			GRAVEL WITH SAND (GP), moist, 70% subrounded gravel, 30% fine to coarse grained sand.	0.4	15
20								20

**COMMENTS**



(Continued Next Page)

BORING+WELL 2007 001-09567-04.GPJ LFR SEPT 2006.GDT 12/21/07

APPROVED BY: Kohl PG 7808

DATE: 12-21-07



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
25	B31-22		GP		25.0	GRAVEL WITH SAND (GP), moist, 70% subrounded gravel, 30% fine to coarse grained sand.		25
						Bottom of boring at approximately 25 feet bgs. Borehole abandoned after samples were collected.		

**COMMENTS**

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



BORING+WELL\_2007\_001-09567-04.GPJ\_LFR SEPT 2006.GDT 12/21/07

PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant  
 CLIENT Hanson Aggregates Northern California

**BORING NUMBER B32**

PROJECT LOCATION 3000 Busch Road, Pleasanton, California

DRILLING CONTRACTOR Cascade Drilling

PROJECT NUMBER 001-09567-04

DRILLING METHOD Hollow Stem Auger

LOCATION Pleasanton, CA

STAMP (IF APPLICABLE) AND/OR NOTES

SAMPLING METHOD 5' Continuous core sampler

GROUND ELEVATION Not available HOLE DIAMETER 8 inches

TOP OF CASING ELEVATION N/A HOLE DEPTH 25.0 ft

FIRST ENCOUNTERED WATER ---

STABILIZED WATER ---

LOGGED BY M. Sullivan DATE 10/9/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
5	B32-5		ML		5.0	Hand auger to 5 feet. SILT WITH GRAVEL (ML), moist, 75% non-plastic fines, 25% subrounded gravel up to 2.0" dia., no odor.	0.0	5
10	B32-7.5		ML		7.5		0.0	10
15	B32-15.5		GM		10.5	-trace wood debris in shoe at 10.5 feet. Log from cuttings. Rig chattering. SILTY GRAVEL (GM), very dark greenish gray (10GY 3/1), moist, 60% subrounded gravel up to 0.5" dia., 40% non-plastic fines, strong odor.	1.8	15
15	B32-17		SP		15.0	Concrete debris at 15 to 16 feet, metal debris caught in drill bit at 15.5 feet.	2.8	15
20			SP		16.0	SAND WITH GRAVEL (SP), brown (10YR 5/3), moist, loose, 60% fine to coarse grained sand, 40% subrounded gravel up to 3" dia.	0.8	20

**COMMENTS**

(Continued Next Page)

BORING-WELL 2007 001-09567-04.GPJ LFR SEPT 2006.GDT 12/21/07

APPROVED BY: DATE: 12-21-07



DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
25	B32-22		SP		25.0	SAND WITH GRAVEL (SP), brown (10YR 5/3), moist, loose, 60% fine to coarse grained sand, 40% subrounded gravel up to 3" dia.	0.3	25
						Bottom of boring at approximately 25 feet bgs. Borehole abandoned after samples were collected.		

**COMMENTS**

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant  
 CLIENT Hanson Aggregates Northern California

**BORING NUMBER B32A**

PROJECT LOCATION 3000 Busch Road, Pleasanton, California

DRILLING CONTRACTOR Cascade Drilling

PROJECT NUMBER 001-09567-04

DRILLING METHOD Hollow Stem Auger

LOCATION West of Former Asphalt Plant Area

STAMP (IF APPLICABLE) AND/OR NOTES

SAMPLING METHOD 5' Continuous core sampler

GROUND ELEVATION Not available HOLE DIAMETER 8 inches

TOP OF CASING ELEVATION N/A HOLE DEPTH 6.0 ft

FIRST ENCOUNTERED WATER ---

STABILIZED WATER ---

LOGGED BY M. Sullivan DATE 10/9/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	DEPTH (feet)
5	B32A-5		ML		5	Hand auger to 5 feet. GRAVELLY SILT (ML), brown (10YR 5/3), wood debris.	5
					6.0	-concrete layer, replaced two bits, move hole. Refusal at approximately 6 feet bgs. Borehole abandoned after sample was collected.	

**COMMENTS**

APPROVED BY: K. Kohl: PG 7208 DATE: 12-21-07



PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant  
 CLIENT Hanson Aggregates Northern California

**BORING NUMBER B33**

PROJECT LOCATION 3000 Busch Road, Pleasanton, California

DRILLING CONTRACTOR Cascade Drilling

PROJECT NUMBER 001-09567-04

DRILLING METHOD Hollow Stem Auger

LOCATION West of Former Asphalt Plant Area

STAMP (IF APPLICABLE) AND/OR NOTES

SAMPLING METHOD 5' Continuous core sampler

GROUND ELEVATION Not available HOLE DIAMETER 8 inches

TOP OF CASING ELEVATION N/A HOLE DEPTH 25.0 ft

FIRST ENCOUNTERED WATER ---

STABILIZED WATER ---

LOGGED BY M. Sullivan DATE 10/8/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
5	B33-5		ML		5.0	Hand auger to 5 feet. SANDY SILT (ML), brown (10YR 5/3), moist, 70% soft, non-plastic fines, 30% fine grained sand, trace subrounded gravel (0.5" dia.).	0.0	5
	B33-6.5				5.5 6.3	Concrete debris (8" thick), rig chatter.	0.3	
10						SILT WITH SAND (ML), very dark brown (10YR 2/2), moist, 85% fines, 15% fine grained sand.		10
	B33-12.5		ML				0.1	
15								15
	B33-18		SM		16.5	SILTY SAND (SM), very dark brown (10YR 2/2), moist, 70% fine to medium grained sand, 30% non-plastic fines, no odor.	0.2	
20						-trace rounded gravel up to 3" dia.		20

COMMENTS (Continued Next Page)

BORING+WELL 2007 001-09567-04.GPJ LFR SEPT 2006.GDT 12/21/07



APPROVED BY:  PG 7808 DATE: 12-21-07





PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant  
 CLIENT Hanson Aggregates Northern California

**BORING NUMBER B33**

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
25	B33-22		SM		25.0	SILTY SAND (SM), very dark brown (10YR 2/2), moist, 70% fine to coarse grained sand, 30% non-plastic fines, trace subrounded to subangular gravel up to 3.0" dia., increasing fines with depth.	0.1	25
						Bottom of boring at approximately 25 feet bgs. Borehole abandoned after samples were collected.		

**COMMENTS**

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant  
 CLIENT Hanson Aggregates Northern California

**BORING NUMBER B34**

PROJECT LOCATION 3000 Busch Road, Pleasanton, California

DRILLING CONTRACTOR Cascade Drilling

PROJECT NUMBER 001-09567-04

DRILLING METHOD Hollow Stem Auger

LOCATION Pleasanton, CA

STAMP (IF APPLICABLE) AND/OR NOTES

SAMPLING METHOD 5' Continuous core sampler, California Modified Split-spoon sampler driven with 140-lb hammer

GROUND ELEVATION Not available HOLE DIAMETER 8 inches

TOP OF CASING ELEVATION N/A HOLE DEPTH 11.5 ft

FIRST ENCOUNTERED WATER ---

STABILIZED WATER ---

LOGGED BY M. Sullivan DATE 10/10/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	BLOW COUNTS (per 6 inches)	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PI D (ppm)	DEPTH (feet)
5	B34-5			SP		5.0	SAND WITH GRAVEL (SP), brown (10YR 5/3), moist, loose, 60% fine to coarse grained sand, 40% subangular gravel up to 0.5" dia.	0.0	5
	B34-7			SM		6.5	Concrete debris at 5 to 6.5 feet, storm drain, dry, appears abandoned, advance new hole approximately 5 feet away and continue logging.	0.0	
				SM		9.0	SILTY SAND WITH GRAVEL (SM), brown (10YR 5/3), moist, 60% fine to coarse grained sand, 30% soft non-plastic fines.	0.0	
10				GP		10.5	GRAVEL (GP), well sorted, subangular, no fines.	0.0	10
	B34-11.5		4 4 5	SM		11.5	SILTY SAND (SM), brown (10YR 5/3), moist, 60% fine to coarse grained sand, 30% non-plastic fines, 10% subangular gravel.	0.0	
							Bottom of boring at approximately 11.5 feet bgs. Borehole abandoned after samples were collected.		

**COMMENTS**

APPROVED BY: *Lohl* PG 7808

DATE: 12-21-07



PROJECT NAME Hanson Radum, Former Hot Mix Asphalt Plant  
 CLIENT Hanson Aggregates Northern California

**BORING NUMBER B35**  
 PAGE 1 OF 1

PROJECT LOCATION 3000 Busch Road, Pleasanton, California

DRILLING CONTRACTOR Cascade Drilling

PROJECT NUMBER 001-09567-04

DRILLING METHOD Hollow Stem Auger

LOCATION Pleasanton, CA

STAMP (IF APPLICABLE) AND/OR NOTES

SAMPLING METHOD 5' Continuous core sampler; California Modified driven with 140-lb hammer

GROUND ELEVATION Not available HOLE DIAMETER 8 inches

TOP OF CASING ELEVATION N/A HOLE DEPTH 11.5 ft

FIRST ENCOUNTERED WATER ---

STABILIZED WATER ---

LOGGED BY M. Sullivan DATE 10/10/07

DEPTH (feet)	SAMPLE TYPE NUMBER	SAMPLE RECOVERY	BLOW COUNTS (per 6 inches)	U.S.C.S.	GRAPHIC LOG	DEPTHS (feet)	LITHOLOGIC DESCRIPTION	PID (ppm)	DEPTH (feet)
5	B35-5			SP		Hand auger to 5 feet. SAND WITH GRAVEL (SP), brown (10YR 5/3), moist, loose, 60% fine to coarse grained sand, 40% subangular to subrounded gravel up to 2" dia.  -slight odor in sand at 4.5 feet.	0.0	5	
10	B35-10.5		4 5 8	GP		10.5 11.5	GRAVEL (GP).  Bottom of boring at approximately 11.5 feet bgs. Borehole abandoned after samples were collected.		10

**COMMENTS**

APPROVED BY:  PG 7808 DATE: 12-21-07



BORING+WELL\_2007\_001-09567-04.GPJ LFR SEPT 2006.GDT\_12/21/07

## **APPENDIX C**

### **Laboratory Certified Analytical Reports and Forensics Narrative Report**



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 198113
ANALYTICAL REPORT

LFR Levine Fricke
1900 Powell Street
Emeryville, CA 94608

Project : 001-09567-04
Location : Hanson Radium
Level : II

Table with 2 columns: Sample ID and Lab ID. Lists various sample IDs (MW-3-35, B28-5, etc.) and their corresponding Lab IDs (198113-001, 198113-002, etc.).

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: [Handwritten Signature]
Project Manager

Date: 10/19/2007

Signature: [Handwritten Signature]
Operations Manager

Date: 10/22/2007

### CASE NARRATIVE

Laboratory number: 198113  
Client: LFR Levine Fricke  
Project: 001-09567-04  
Location: Hanson Radum  
Request Date: 10/04/07  
Samples Received: 10/04/07

This hardcopy data package contains sample and QC results for twelve soil samples and two water samples, requested for the above referenced project on 10/04/07. The samples were received cold and intact. All data were e-mailed to Katrin Schliewen on 10/11/07.

**TPH-Purgeables and/or BTXE by GC (EPA 8015B):**

No analytical problems were encountered.

**TPH-Extractables by GC (EPA 8015B) Water:**

No analytical problems were encountered.

**TPH-Extractables by GC (EPA 8015B) Soil:**

No analytical problems were encountered.

**Volatile Organics by GC/MS (EPA 8260B) Water:**

1,2,3-trichlorobenzene was detected above the RL in the method blank for batch 130219; this analyte was not detected in the sample at or above the RL. No other analytical problems were encountered.

**Volatile Organics by GC/MS (EPA 8260B) Soil:**

High surrogate recoveries were observed for dibromofluoromethane in B30-15 (lab # 198113-015) and B30-17.5 (lab # 198113-016); no target analytes were detected in these samples. No other analytical problems were encountered.







### Total Volatile Hydrocarbons

Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	130295
Units:	mg/Kg	Sampled:	10/04/07
Basis:	as received	Received:	10/04/07
Diln Fac:	1.000		

Field ID: B30-5	Lab ID: 198113-013
Type: SAMPLE	Analyzed: 10/09/07

Analyte	Result	RL
Gasoline C7-C12	ND	0.97

Surrogate	%REC	Limits
Trifluorotoluene (FID)	99	71-132
Bromofluorobenzene (FID)	100	69-145

Field ID: B30-8	Lab ID: 198113-014
Type: SAMPLE	Analyzed: 10/09/07

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	96	71-132
Bromofluorobenzene (FID)	102	69-145

Field ID: B30-15	Lab ID: 198113-015
Type: SAMPLE	Analyzed: 10/09/07

Analyte	Result	RL
Gasoline C7-C12	ND	0.97

Surrogate	%REC	Limits
Trifluorotoluene (FID)	99	71-132
Bromofluorobenzene (FID)	107	69-145

Field ID: B30-17.5	Lab ID: 198113-016
Type: SAMPLE	Analyzed: 10/09/07

Analyte	Result	RL
Gasoline C7-C12	ND	0.97

Surrogate	%REC	Limits
Trifluorotoluene (FID)	100	71-132
Bromofluorobenzene (FID)	107	69-145

ND= Not Detected  
 RL= Reporting Limit

Total Volatile Hydrocarbons			
Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	130295
Units:	mg/Kg	Sampled:	10/04/07
Basis:	as received	Received:	10/04/07
Diln Fac:	1.000		

Type: BLANK Analyzed: 10/08/07  
 Lab ID: QC409502

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	101	71-132
Bromofluorobenzene (FID)	106	69-145

## Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8015B
Type:	LCS	Basis:	as received
Lab ID:	QC409504	Diln Fac:	1.000
Matrix:	Soil	Batch#:	130295
Units:	mg/Kg	Analyzed:	10/08/07

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	10.00	9.037	90	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	106	71-132
Bromofluorobenzene (FID)	102	69-145

## Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	198113	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8015B
Field ID:	B28-5	Diln Fac:	1.000
MSS Lab ID:	198113-002	Batch#:	130295
Matrix:	Soil	Sampled:	10/04/07
Units:	mg/Kg	Received:	10/04/07
Basis:	as received	Analyzed:	10/09/07

Type: MS Lab ID: QC409505

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.1628	9.804	8.014	80	43-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	115	71-132
Bromofluorobenzene (FID)	106	69-145

Type: MSD Lab ID: QC409506

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.10	8.062	78	43-120	2	25

Surrogate	%REC	Limits
Trifluorotoluene (FID)	109	71-132
Bromofluorobenzene (FID)	104	69-145

RPD= Relative Percent Difference

Total Extractable Hydrocarbons			
Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8015B
Field ID:	B28-GGW	Batch#:	130305
Matrix:	Water	Sampled:	10/04/07
Units:	ug/L	Received:	10/04/07
Diln Fac:	1.000	Prepared:	10/08/07

Type: SAMPLE Analyzed: 10/10/07  
 Lab ID: 198113-011 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	77	61-133

Type: BLANK Analyzed: 10/09/07  
 Lab ID: QC409547 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	92	61-133

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	130305
Units:	ug/L	Prepared:	10/08/07
Diln Fac:	1.000	Analyzed:	10/09/07

Type: BS Cleanup Method: EPA 3630C  
 Lab ID: QC409548

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,872	75	58-128

Surrogate	%REC	Limits
Hexacosane	85	61-133

Type: BSD Cleanup Method: EPA 3630C  
 Lab ID: QC409549

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,070	83	58-128	10	29

Surrogate	%REC	Limits
Hexacosane	92	61-133

RPD= Relative Percent Difference



Total Extractable Hydrocarbons			
Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	10/04/07
Units:	mg/Kg	Received:	10/04/07
Basis:	as received	Prepared:	10/10/07
Diln Fac:	1.000	Analyzed:	10/11/07
Batch#:	130371		

Field ID: B28-22.5  
Type: SAMPLE

Lab ID: 198113-006  
Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	61	46-128

Field ID: B28-27.5  
Type: SAMPLE

Lab ID: 198113-007  
Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	68	46-128

Field ID: B28-37  
Type: SAMPLE

Lab ID: 198113-008  
Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	75	46-128

Field ID: B28-47.5  
Type: SAMPLE

Lab ID: 198113-009  
Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	70	46-128

Y= Sample exhibits chromatographic pattern which does not resemble standard  
ND= Not Detected  
RL= Reporting Limit





Total Extractable Hydrocarbons			
Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	10/04/07
Units:	mg/Kg	Received:	10/04/07
Basis:	as received	Prepared:	10/10/07
Diln Fac:	1.000	Analyzed:	10/11/07
Batch#:	130371		

Type: BLANK  
 Lab ID: QC409813

Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	70	46-128

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-04	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC409814	Batch#:	130371
Matrix:	Soil	Prepared:	10/10/07
Units:	mg/Kg	Analyzed:	10/11/07
Basis:	as received		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.91	34.68	69	55-131

Surrogate	%REC	Limits
Hexacosane	68	46-128

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-04	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	130371
MSS Lab ID:	198103-007	Sampled:	10/01/07
Matrix:	Soil	Received:	10/03/07
Units:	mg/Kg	Prepared:	10/10/07
Basis:	as received	Analyzed:	10/11/07
Diln Fac:	1.000		

Type: MS Lab ID: QC409815

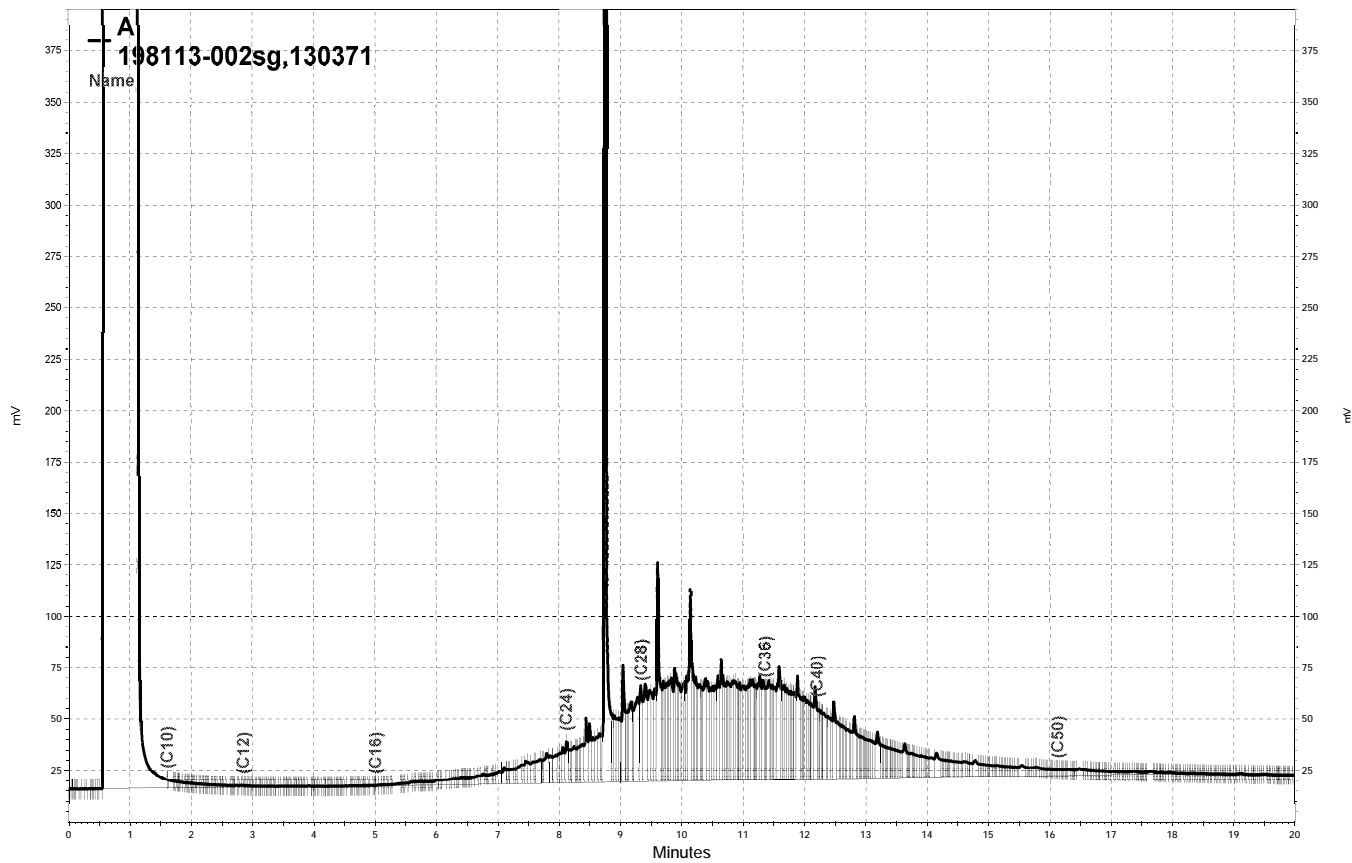
Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	12.70	50.09	54.72	84	31-150

Surrogate	%REC	Limits
Hexacosane	83	46-128

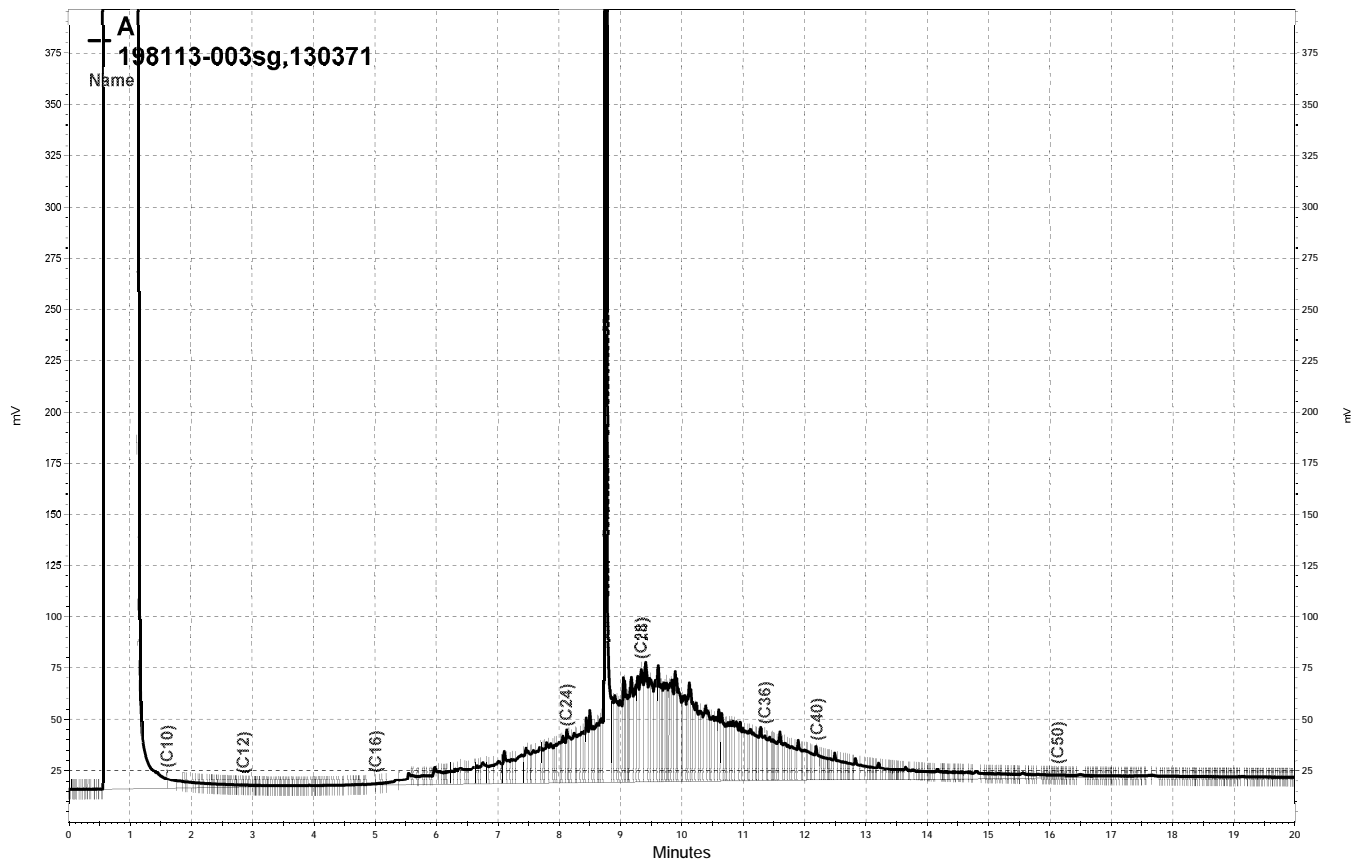
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Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.27	59.13	92	31-150	7	42

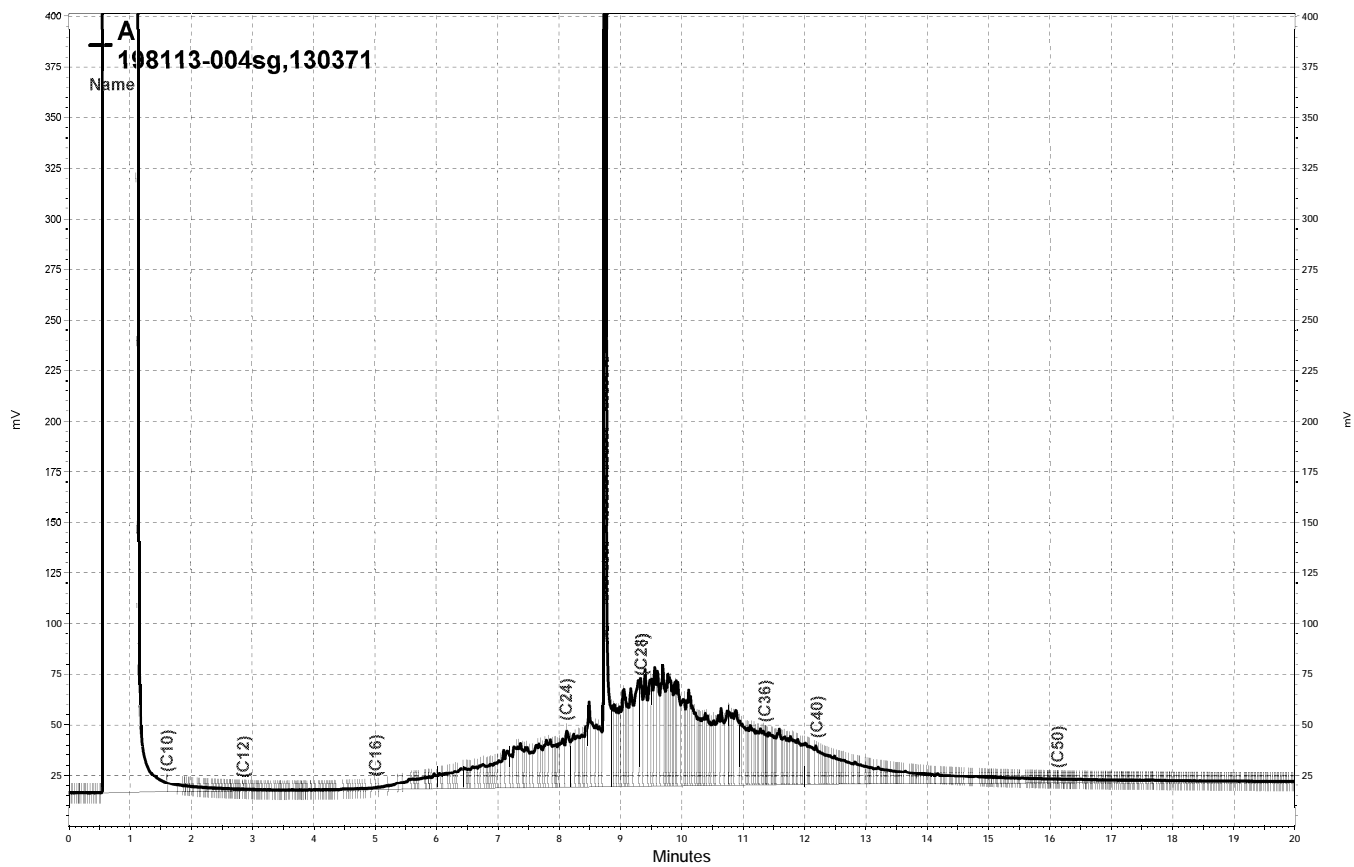
Surrogate	%REC	Limits
Hexacosane	91	46-128



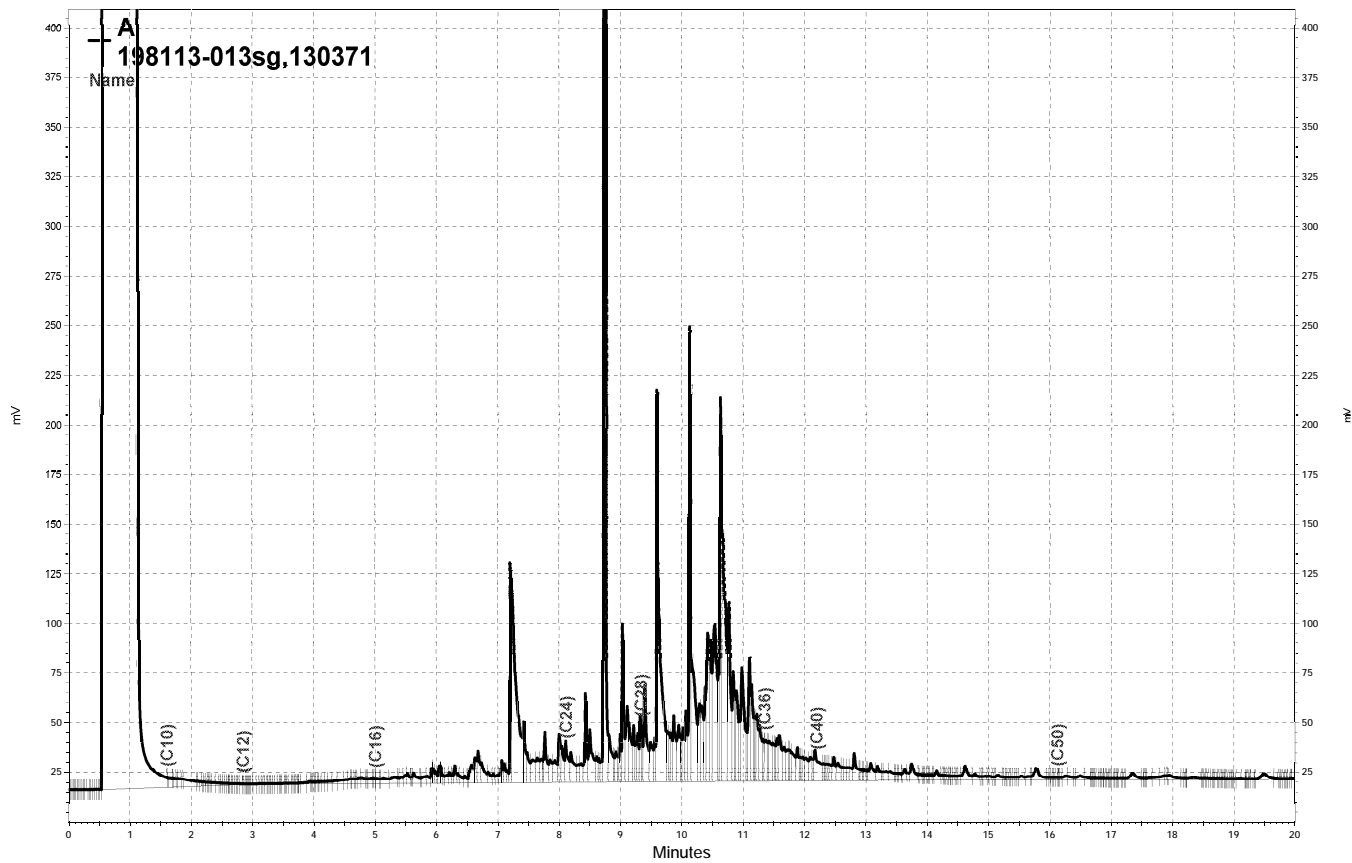
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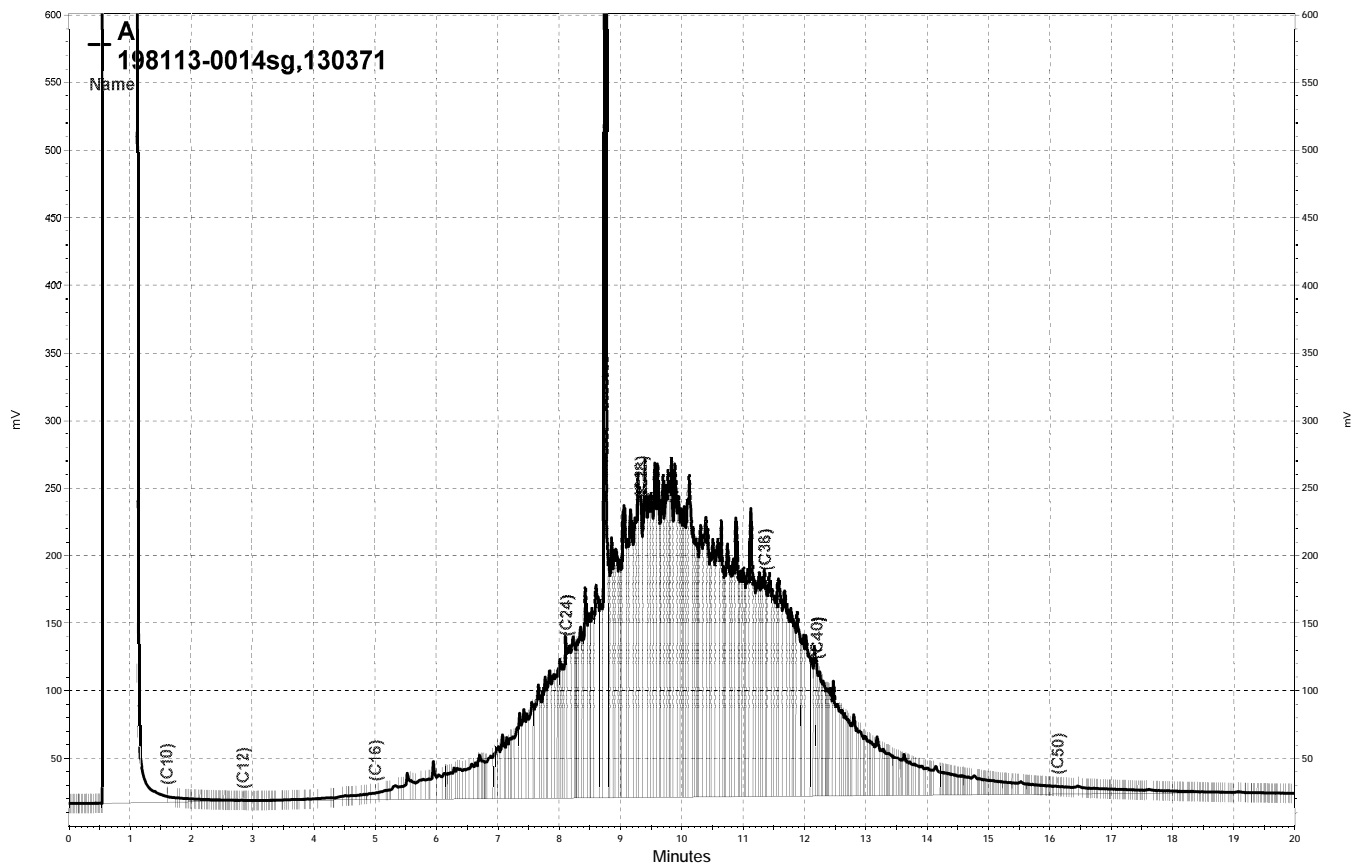


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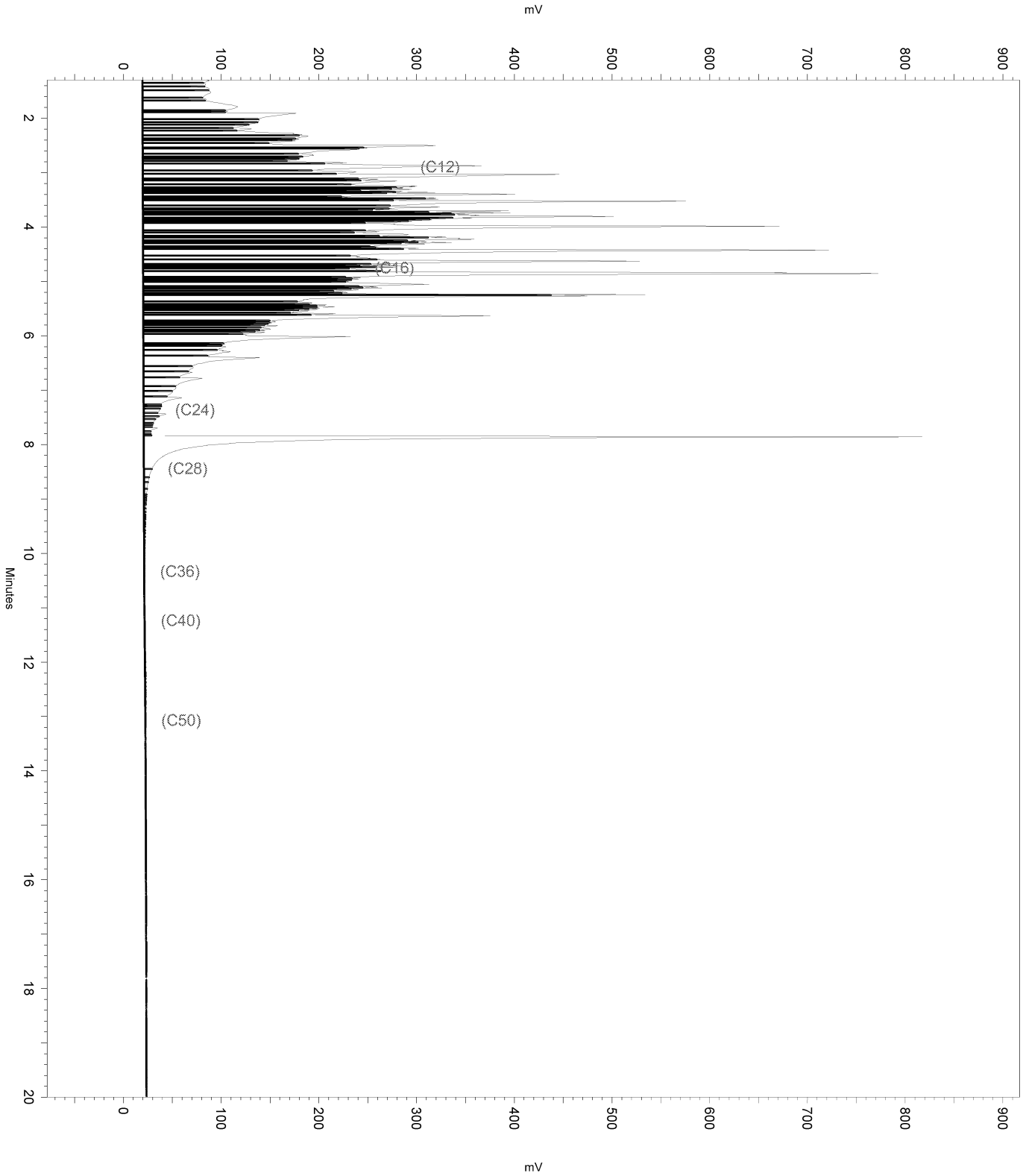
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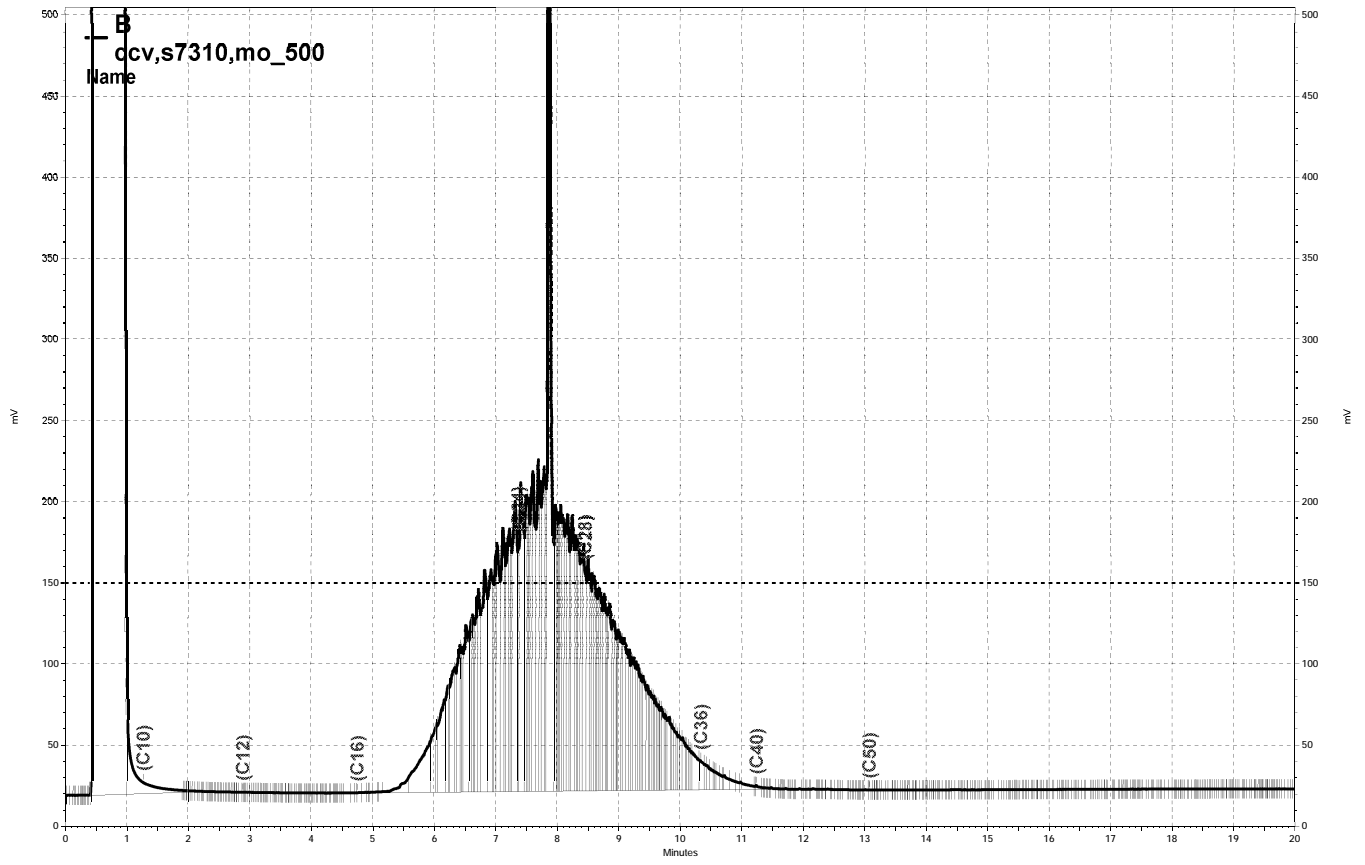




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Run Date: 10/10/2007 2:54:34 PM  
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Instrument: GC15B Vial: 16 Operator: Teh 3. Analyst (lims2k3\teh3)  
Sample Amount: 1





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Gasoline by GC/MS			
Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B28-GGW	Batch#:	130425
Lab ID:	198113-011	Sampled:	10/04/07
Matrix:	Water	Received:	10/04/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
Freon 12	ND	1.0
tert-Butyl Alcohol (TBA)	ND	10
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	0.5
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5

ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B28-GGW	Batch#:	130425
Lab ID:	198113-011	Sampled:	10/04/07
Matrix:	Water	Received:	10/04/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Analyte	Result	RL
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-122
1,2-Dichloroethane-d4	83	74-137
Toluene-d8	96	80-120
Bromofluorobenzene	102	80-120

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Gasoline by GC/MS</b>			
Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410035	Batch#:	130425
Matrix:	Water	Analyzed:	10/11/07
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Gasoline C7-C12	ND	50
Freon 12	ND	1.0
tert-Butyl Alcohol (TBA)	ND	10
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	0.5
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Gasoline by GC/MS</b>			
Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410035	Batch#:	130425
Matrix:	Water	Analyzed:	10/11/07
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	90	80-122
1,2-Dichloroethane-d4	79	74-137
Toluene-d8	95	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Gasoline by GC/MS</b>			
Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	130425
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Type: BS Lab ID: QC410036

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	110.9	89	59-149
Isopropyl Ether (DIPE)	25.00	21.66	87	59-120
Ethyl tert-Butyl Ether (ETBE)	25.00	22.48	90	65-134
Methyl tert-Amyl Ether (TAME)	25.00	23.18	93	67-132
1,1-Dichloroethene	25.00	25.87	103	80-133
Benzene	25.00	25.51	102	80-120
Trichloroethene	25.00	25.67	103	80-120
Toluene	25.00	25.59	102	80-122
Chlorobenzene	25.00	24.87	99	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-122
1,2-Dichloroethane-d4	83	74-137
Toluene-d8	97	80-120
Bromofluorobenzene	91	80-120

Type: BSD Lab ID: QC410037

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	110.6	88	59-149	0	20
Isopropyl Ether (DIPE)	25.00	21.28	85	59-120	2	20
Ethyl tert-Butyl Ether (ETBE)	25.00	22.23	89	65-134	1	20
Methyl tert-Amyl Ether (TAME)	25.00	22.81	91	67-132	2	20
1,1-Dichloroethene	25.00	25.06	100	80-133	3	20
Benzene	25.00	25.03	100	80-120	2	20
Trichloroethene	25.00	25.07	100	80-120	2	20
Toluene	25.00	25.19	101	80-122	2	20
Chlorobenzene	25.00	24.88	100	80-120	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	91	80-122
1,2-Dichloroethane-d4	81	74-137
Toluene-d8	96	80-120
Bromofluorobenzene	92	80-120



## Batch QC Report

Gasoline by GC/MS			
Lab #:	198113	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	130425
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Type: BS Lab ID: QC410038

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,172	117	70-130

Surrogate	%REC	Limits
Dibromofluoromethane	89	80-122
1,2-Dichloroethane-d4	80	74-137
Toluene-d8	97	80-120
Bromofluorobenzene	93	80-120

Type: BSD Lab ID: QC410039

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	1,166	117	70-130	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	88	80-122
1,2-Dichloroethane-d4	75	74-137
Toluene-d8	95	80-120
Bromofluorobenzene	93	80-120

RPD= Relative Percent Difference

Volatile Organics			
Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	TB-100407	Batch#:	130219
Lab ID:	198113-012	Sampled:	10/04/07
Matrix:	Water	Received:	10/04/07
Units:	ug/L	Analyzed:	10/05/07
Diln Fac:	1.000		

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Bromomethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5

ND= Not Detected  
 RL= Reporting Limit

Volatile Organics			
Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	TB-100407	Batch#:	130219
Lab ID:	198113-012	Sampled:	10/04/07
Matrix:	Water	Received:	10/04/07
Units:	ug/L	Analyzed:	10/05/07
Diln Fac:	1.000		

Analyte	Result	RL
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-122
1,2-Dichloroethane-d4	114	74-137
Toluene-d8	97	80-120
Bromofluorobenzene	105	80-120

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Volatile Organics</b>			
Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC409210	Batch#:	130219
Matrix:	Water	Analyzed:	10/05/07
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	10
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Bromomethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	0.5
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5

b= See narrative  
 ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Volatile Organics</b>			
Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC409210	Batch#:	130219
Matrix:	Water	Analyzed:	10/05/07
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	1.0 b	0.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	95	80-122
1,2-Dichloroethane-d4	111	74-137
Toluene-d8	97	80-120
Bromofluorobenzene	102	80-120

b= See narrative  
 ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

Volatile Organics			
Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	130219
Units:	ug/L	Analyzed:	10/05/07
Diln Fac:	1.000		

Type: BS Lab ID: QC409211

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	113.1	91	59-149
Isopropyl Ether (DIPE)	25.00	21.87	87	59-120
Ethyl tert-Butyl Ether (ETBE)	25.00	21.45	86	65-134
Methyl tert-Amyl Ether (TAME)	25.00	19.82	79	67-132
1,1-Dichloroethene	25.00	24.59	98	80-133
Benzene	25.00	23.66	95	80-120
Trichloroethene	25.00	24.11	96	80-120
Toluene	25.00	23.58	94	80-122
Chlorobenzene	25.00	26.84	107	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-122
1,2-Dichloroethane-d4	108	74-137
Toluene-d8	95	80-120
Bromofluorobenzene	104	80-120

Type: BSD Lab ID: QC409212

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	132.1	106	59-149	15	20
Isopropyl Ether (DIPE)	25.00	23.17	93	59-120	6	20
Ethyl tert-Butyl Ether (ETBE)	25.00	23.18	93	65-134	8	20
Methyl tert-Amyl Ether (TAME)	25.00	22.16	89	67-132	11	20
1,1-Dichloroethene	25.00	25.19	101	80-133	2	20
Benzene	25.00	24.86	99	80-120	5	20
Trichloroethene	25.00	25.51	102	80-120	6	20
Toluene	25.00	24.87	99	80-122	5	20
Chlorobenzene	25.00	27.20	109	80-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-122
1,2-Dichloroethane-d4	111	74-137
Toluene-d8	96	80-120
Bromofluorobenzene	103	80-120

RPD= Relative Percent Difference

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198113	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B28-5	Diln Fac:	0.9615
Lab ID:	198113-002	Batch#:	130224
Matrix:	Soil	Sampled:	10/04/07
Units:	ug/Kg	Received:	10/04/07
Basis:	as received	Analyzed:	10/05/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	96
MTBE	ND	4.8
Isopropyl Ether (DIPE)	ND	4.8
Ethyl tert-Butyl Ether (ETBE)	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Methyl tert-Amyl Ether (TAME)	ND	4.8
Toluene	ND	4.8
1,2-Dibromoethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	109	80-124
1,2-Dichloroethane-d4	104	79-136
Toluene-d8	101	80-120
Bromofluorobenzene	99	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198113	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B28-8	Diln Fac:	0.9259
Lab ID:	198113-003	Batch#:	130224
Matrix:	Soil	Sampled:	10/04/07
Units:	ug/Kg	Received:	10/04/07
Basis:	as received	Analyzed:	10/05/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	93
MTBE	ND	4.6
Isopropyl Ether (DIPE)	ND	4.6
Ethyl tert-Butyl Ether (ETBE)	ND	4.6
1,2-Dichloroethane	ND	4.6
Benzene	ND	4.6
Methyl tert-Amyl Ether (TAME)	ND	4.6
Toluene	ND	4.6
1,2-Dibromoethane	ND	4.6
Ethylbenzene	ND	4.6
m,p-Xylenes	ND	4.6
o-Xylene	ND	4.6

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	110	80-124
1,2-Dichloroethane-d4	99	79-136
Toluene-d8	99	80-120
Bromofluorobenzene	97	80-122

ND= Not Detected  
 RL= Reporting Limit



<b>BTXE &amp; Oxygenates</b>			
Lab #:	198113	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B28-13	Diln Fac:	0.9091
Lab ID:	198113-004	Batch#:	130224
Matrix:	Soil	Sampled:	10/04/07
Units:	ug/Kg	Received:	10/04/07
Basis:	as received	Analyzed:	10/05/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	91
MTBE	ND	4.5
Isopropyl Ether (DIPE)	ND	4.5
Ethyl tert-Butyl Ether (ETBE)	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Methyl tert-Amyl Ether (TAME)	ND	4.5
Toluene	ND	4.5
1,2-Dibromoethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	111	80-124
1,2-Dichloroethane-d4	102	79-136
Toluene-d8	99	80-120
Bromofluorobenzene	98	80-122

ND= Not Detected  
 RL= Reporting Limit

BTXE & Oxygenates			
Lab #:	198113	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B28-18	Diln Fac:	0.9259
Lab ID:	198113-005	Batch#:	130224
Matrix:	Soil	Sampled:	10/04/07
Units:	ug/Kg	Received:	10/04/07
Basis:	as received	Analyzed:	10/05/07

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	93
MTBE	ND	4.6
Isopropyl Ether (DIPE)	ND	4.6
Ethyl tert-Butyl Ether (ETBE)	ND	4.6
1,2-Dichloroethane	ND	4.6
Benzene	ND	4.6
Methyl tert-Amyl Ether (TAME)	ND	4.6
Toluene	ND	4.6
1,2-Dibromoethane	ND	4.6
Ethylbenzene	ND	4.6
m,p-Xylenes	ND	4.6
o-Xylene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	113	80-124
1,2-Dichloroethane-d4	100	79-136
Toluene-d8	99	80-120
Bromofluorobenzene	94	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198113	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B28-22.5	Diln Fac:	0.9804
Lab ID:	198113-006	Batch#:	130224
Matrix:	Soil	Sampled:	10/04/07
Units:	ug/Kg	Received:	10/04/07
Basis:	as received	Analyzed:	10/05/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	98
MTBE	ND	4.9
Isopropyl Ether (DIPE)	ND	4.9
Ethyl tert-Butyl Ether (ETBE)	ND	4.9
1,2-Dichloroethane	ND	4.9
Benzene	ND	4.9
Methyl tert-Amyl Ether (TAME)	ND	4.9
Toluene	ND	4.9
1,2-Dibromoethane	ND	4.9
Ethylbenzene	ND	4.9
m,p-Xylenes	ND	4.9
o-Xylene	ND	4.9

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	115	80-124
1,2-Dichloroethane-d4	103	79-136
Toluene-d8	99	80-120
Bromofluorobenzene	96	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198113	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B28-27.5	Diln Fac:	0.8929
Lab ID:	198113-007	Batch#:	130224
Matrix:	Soil	Sampled:	10/04/07
Units:	ug/Kg	Received:	10/04/07
Basis:	as received	Analyzed:	10/05/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	89
MTBE	ND	4.5
Isopropyl Ether (DIPE)	ND	4.5
Ethyl tert-Butyl Ether (ETBE)	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Methyl tert-Amyl Ether (TAME)	ND	4.5
Toluene	ND	4.5
1,2-Dibromoethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	116	80-124
1,2-Dichloroethane-d4	104	79-136
Toluene-d8	99	80-120
Bromofluorobenzene	94	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198113	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B28-37	Diln Fac:	0.9434
Lab ID:	198113-008	Batch#:	130224
Matrix:	Soil	Sampled:	10/04/07
Units:	ug/Kg	Received:	10/04/07
Basis:	as received	Analyzed:	10/05/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	94
MTBE	ND	4.7
Isopropyl Ether (DIPE)	ND	4.7
Ethyl tert-Butyl Ether (ETBE)	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Methyl tert-Amyl Ether (TAME)	ND	4.7
Toluene	ND	4.7
1,2-Dibromoethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	117	80-124
1,2-Dichloroethane-d4	104	79-136
Toluene-d8	100	80-120
Bromofluorobenzene	96	80-122

ND= Not Detected  
 RL= Reporting Limit

BTXE & Oxygenates			
Lab #:	198113	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B28-47.5	Diln Fac:	1.000
Lab ID:	198113-009	Batch#:	130224
Matrix:	Soil	Sampled:	10/04/07
Units:	ug/Kg	Received:	10/04/07
Basis:	as received	Analyzed:	10/05/07

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	119	80-124
1,2-Dichloroethane-d4	105	79-136
Toluene-d8	100	80-120
Bromofluorobenzene	96	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198113	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B30-5	Diln Fac:	0.9434
Lab ID:	198113-013	Batch#:	130224
Matrix:	Soil	Sampled:	10/04/07
Units:	ug/Kg	Received:	10/04/07
Basis:	as received	Analyzed:	10/05/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	94
MTBE	ND	4.7
Isopropyl Ether (DIPE)	ND	4.7
Ethyl tert-Butyl Ether (ETBE)	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Methyl tert-Amyl Ether (TAME)	ND	4.7
Toluene	ND	4.7
1,2-Dibromoethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	122	80-124
1,2-Dichloroethane-d4	106	79-136
Toluene-d8	100	80-120
Bromofluorobenzene	94	80-122

ND= Not Detected  
 RL= Reporting Limit

BTXE & Oxygenates			
Lab #:	198113	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B30-8	Diln Fac:	0.9615
Lab ID:	198113-014	Batch#:	130224
Matrix:	Soil	Sampled:	10/04/07
Units:	ug/Kg	Received:	10/04/07
Basis:	as received	Analyzed:	10/05/07

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	96
MTBE	ND	4.8
Isopropyl Ether (DIPE)	ND	4.8
Ethyl tert-Butyl Ether (ETBE)	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Methyl tert-Amyl Ether (TAME)	ND	4.8
Toluene	ND	4.8
1,2-Dibromoethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	121	80-124
1,2-Dichloroethane-d4	110	79-136
Toluene-d8	100	80-120
Bromofluorobenzene	93	80-122

ND= Not Detected  
 RL= Reporting Limit



<b>BTXE &amp; Oxygenates</b>			
Lab #:	198113	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B30-15	Diln Fac:	0.9434
Lab ID:	198113-015	Batch#:	130224
Matrix:	Soil	Sampled:	10/04/07
Units:	ug/Kg	Received:	10/04/07
Basis:	as received	Analyzed:	10/05/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	94
MTBE	ND	4.7
Isopropyl Ether (DIPE)	ND	4.7
Ethyl tert-Butyl Ether (ETBE)	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Methyl tert-Amyl Ether (TAME)	ND	4.7
Toluene	ND	4.7
1,2-Dibromoethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	125 *	80-124
1,2-Dichloroethane-d4	110	79-136
Toluene-d8	98	80-120
Bromofluorobenzene	95	80-122

\*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198113	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B30-17.5	Diln Fac:	0.8929
Lab ID:	198113-016	Batch#:	130224
Matrix:	Soil	Sampled:	10/04/07
Units:	ug/Kg	Received:	10/04/07
Basis:	as received	Analyzed:	10/05/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	89
MTBE	ND	4.5
Isopropyl Ether (DIPE)	ND	4.5
Ethyl tert-Butyl Ether (ETBE)	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Methyl tert-Amyl Ether (TAME)	ND	4.5
Toluene	ND	4.5
1,2-Dibromoethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	128 *	80-124
1,2-Dichloroethane-d4	107	79-136
Toluene-d8	100	80-120
Bromofluorobenzene	94	80-122

\*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198113	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	LCS	Basis:	as received
Lab ID:	QC409230	Diln Fac:	1.000
Matrix:	Soil	Batch#:	130224
Units:	ug/Kg	Analyzed:	10/05/07

<b>Analyte</b>	<b>Spiked</b>	<b>Result</b>	<b>%REC</b>	<b>Limits</b>
tert-Butyl Alcohol (TBA)	125.0	104.5	84	58-133
MTBE	25.00	23.61	94	66-120
Isopropyl Ether (DIPE)	25.00	22.86	91	57-120
Ethyl tert-Butyl Ether (ETBE)	25.00	23.67	95	65-120
1,2-Dichloroethane	25.00	26.24	105	69-124
Benzene	25.00	25.93	104	77-121
Methyl tert-Amyl Ether (TAME)	25.00	24.18	97	71-120
Toluene	25.00	25.45	102	79-122
1,2-Dibromoethane	25.00	26.57	106	77-120
Ethylbenzene	25.00	26.49	106	80-127
m,p-Xylenes	50.00	53.47	107	80-126
o-Xylene	25.00	25.63	103	80-124

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	95	80-124
1,2-Dichloroethane-d4	97	79-136
Toluene-d8	99	80-120
Bromofluorobenzene	95	80-122

**Batch QC Report**

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Basis:	as received
Lab ID:	QC409231	Diln Fac:	1.000
Matrix:	Soil	Batch#:	130224
Units:	ug/Kg	Analyzed:	10/05/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	107	80-124
1,2-Dichloroethane-d4	98	79-136
Toluene-d8	95	80-120
Bromofluorobenzene	97	80-122

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198113	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B30-5	Diln Fac:	0.9615
MSS Lab ID:	198113-013	Batch#:	130224
Matrix:	Soil	Sampled:	10/04/07
Units:	ug/Kg	Received:	10/04/07
Basis:	as received	Analyzed:	10/05/07

Type: MS Lab ID: QC409287

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<5.699	240.4	156.4	65	41-131
MTBE	<0.4256	48.08	38.52	80	52-120
Isopropyl Ether (DIPE)	<0.2918	48.08	40.76	85	46-120
Ethyl tert-Butyl Ether (ETBE)	<0.3679	48.08	40.12	83	52-123
1,2-Dichloroethane	<0.3523	48.08	42.02	87	53-120
Benzene	<0.2875	48.08	43.54	91	57-123
Methyl tert-Amyl Ether (TAME)	<0.2380	48.08	40.56	84	57-120
Toluene	<0.3897	48.08	42.86	89	53-126
1,2-Dibromoethane	<0.2194	48.08	39.94	83	50-120
Ethylbenzene	<0.3804	48.08	41.55	86	51-130
m,p-Xylenes	<0.8742	96.15	85.14	89	49-128
o-Xylene	<0.4839	48.08	40.57	84	49-126

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-124
1,2-Dichloroethane-d4	106	79-136
Toluene-d8	108	80-120
Bromofluorobenzene	92	80-122

Type: MSD Lab ID: QC409288

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	240.4	169.1	70	41-131	8	38
MTBE	48.08	39.89	83	52-120	4	27
Isopropyl Ether (DIPE)	48.08	42.71	89	46-120	5	27
Ethyl tert-Butyl Ether (ETBE)	48.08	41.78	87	52-123	4	27
1,2-Dichloroethane	48.08	42.84	89	53-120	2	27
Benzene	48.08	45.05	94	57-123	3	25
Methyl tert-Amyl Ether (TAME)	48.08	41.94	87	57-120	3	26
Toluene	48.08	44.77	93	53-126	4	27
1,2-Dibromoethane	48.08	42.81	89	50-120	7	26
Ethylbenzene	48.08	44.14	92	51-130	6	28
m,p-Xylenes	96.15	89.87	93	49-128	5	28
o-Xylene	48.08	43.56	91	49-126	7	28

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-124
1,2-Dichloroethane-d4	102	79-136
Toluene-d8	106	80-120
Bromofluorobenzene	95	80-122

RPD= Relative Percent Difference



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 198144  
ANALYTICAL REPORT

LFR Levine Fricke  
1900 Powell Street  
Emeryville, CA 94608

Project : 001-09567-01  
Location : Hanson Radium  
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
MW-4-GGW	198144-001
B29-5	198144-002
B29-6	198144-003
B29-11	198144-004
B29-16	198144-005
B29-23	198144-006
B29-27	198144-007
B29-33	198144-008
B29-37	198144-009
B29-43	198144-010
B29-48	198144-011
B29-57.5	198144-012
B29-GGW	198144-013
B31-5	198144-014
B31-8.5	198144-015
B31-12	198144-016
B31-16	198144-017
B31-22	198144-018
TB100507	198144-019

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature:   
Project Manager

Date: 10/22/2007

Signature:   
Operations Manager

Date: 10/24/2007

## CASE NARRATIVE

Laboratory number: 198144  
Client: LFR Levine Fricke  
Project: 001-09567-01  
Location: Hanson Radum  
Request Date: 10/05/07  
Samples Received: 10/05/07

This hardcopy data package contains sample and QC results for fourteen soil samples and three water samples, requested for the above referenced project on 10/05/07. The samples were received on ice and intact, directly from the field. All data were e-mailed to Katrin Schliewen on 10/17/07.

**TPH-Purgeables and/or BTXE by GC (EPA 8015B):**

No analytical problems were encountered.

**TPH-Extractables by GC (EPA 8015B) Water:**

No analytical problems were encountered.

**TPH-Extractables by GC (EPA 8015B) Soil:**

Matrix spikes were not reported for batch 130457 because the parent sample required re-extraction. B31-5 (lab # 198144-014) was diluted due to the dark and viscous nature of the sample extract. No other analytical problems were encountered.

**Volatile Organics by GC/MS (EPA 8260B) Water:**

Low recoveries were observed for trichloroethene in the MS/MSD for batch 130284; the parent sample was not a project sample, the BS/BSD were within limits, and the associated RPD was within limits. 1,2,3-trichlorobenzene was detected between the MDL and the RL in the method blank for batch 130284; this analyte was not detected in the sample at or above the RL. MW-4-GGW (lab # 198144-001) had pH greater than 2. No other analytical problems were encountered.

**Volatile Organics by GC/MS (EPA 8260B) Soil:**

No analytical problems were encountered.

### Total Volatile Hydrocarbons

Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	130395
Units:	mg/Kg	Sampled:	10/05/07
Basis:	as received	Received:	10/05/07
Diln Fac:	1.000		

Field ID:	B29-5	Lab ID:	198144-002
Type:	SAMPLE	Analyzed:	10/10/07

Analyte	Result	RL
Gasoline C7-C12	ND	0.99

Surrogate	%REC	Limits
Trifluorotoluene (FID)	99	71-132
Bromofluorobenzene (FID)	102	69-145

Field ID:	B29-6	Lab ID:	198144-003
Type:	SAMPLE	Analyzed:	10/10/07

Analyte	Result	RL
Gasoline C7-C12	ND	0.97

Surrogate	%REC	Limits
Trifluorotoluene (FID)	102	71-132
Bromofluorobenzene (FID)	104	69-145

Field ID:	B29-11	Lab ID:	198144-004
Type:	SAMPLE	Analyzed:	10/10/07

Analyte	Result	RL
Gasoline C7-C12	ND	0.94

Surrogate	%REC	Limits
Trifluorotoluene (FID)	105	71-132
Bromofluorobenzene (FID)	109	69-145

Field ID:	B29-16	Lab ID:	198144-005
Type:	SAMPLE	Analyzed:	10/10/07

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	105	71-132
Bromofluorobenzene (FID)	109	69-145

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit





### Total Volatile Hydrocarbons

Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	130395
Units:	mg/Kg	Sampled:	10/05/07
Basis:	as received	Received:	10/05/07
Diln Fac:	1.000		

Field ID:	B29-48	Lab ID:	198144-011
Type:	SAMPLE	Analyzed:	10/11/07

Analyte	Result	RL
Gasoline C7-C12	ND	0.99

Surrogate	%REC	Limits
Trifluorotoluene (FID)	105	71-132
Bromofluorobenzene (FID)	106	69-145

Type:	BLANK	Analyzed:	10/10/07
Lab ID:	QC409917		

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	97	71-132
Bromofluorobenzene (FID)	99	69-145

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8015B
Type:	LCS	Basis:	as received
Lab ID:	QC409918	Diln Fac:	1.000
Matrix:	Soil	Batch#:	130395
Units:	mg/Kg	Analyzed:	10/10/07

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	5.000	5.263	105	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	100	71-132
Bromofluorobenzene (FID)	100	69-145

## Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	198144	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8015B
Field ID:	B29-5	Diln Fac:	1.000
MSS Lab ID:	198144-002	Batch#:	130395
Matrix:	Soil	Sampled:	10/05/07
Units:	mg/Kg	Received:	10/05/07
Basis:	as received	Analyzed:	10/10/07

Type: MS Lab ID: QC409919

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.2430	9.804	7.760	77	43-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	110	71-132
Bromofluorobenzene (FID)	104	69-145

Type: MSD Lab ID: QC409920

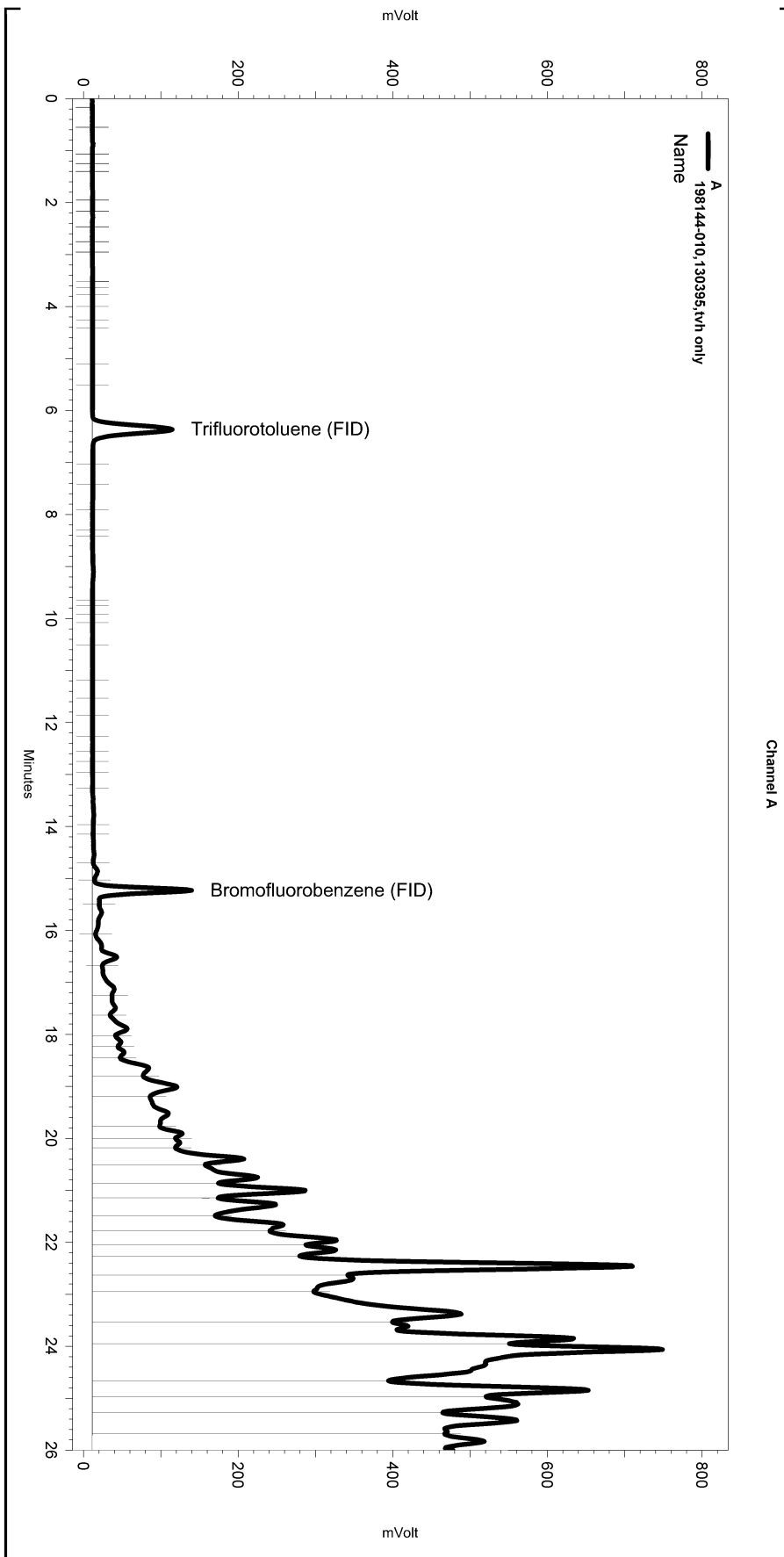
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.20	7.782	74	43-120	4	25

Surrogate	%REC	Limits
Trifluorotoluene (FID)	109	71-132
Bromofluorobenzene (FID)	103	69-145

RPD= Relative Percent Difference

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 Sample Name: 198144-010,130395,tvh only  
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 Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\TVHBTX270.met

Software Version 3.1.7  
 Run Date: 10/10/2007 3:03:00 PM  
 Analysis Date: 10/11/2007 7:15:00 AM  
 Sample Amount: 1 Multiplier: 1  
 Vial & pH or Core ID: {Data Description}



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---< A >---

No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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Yes	Threshold	0	0	50

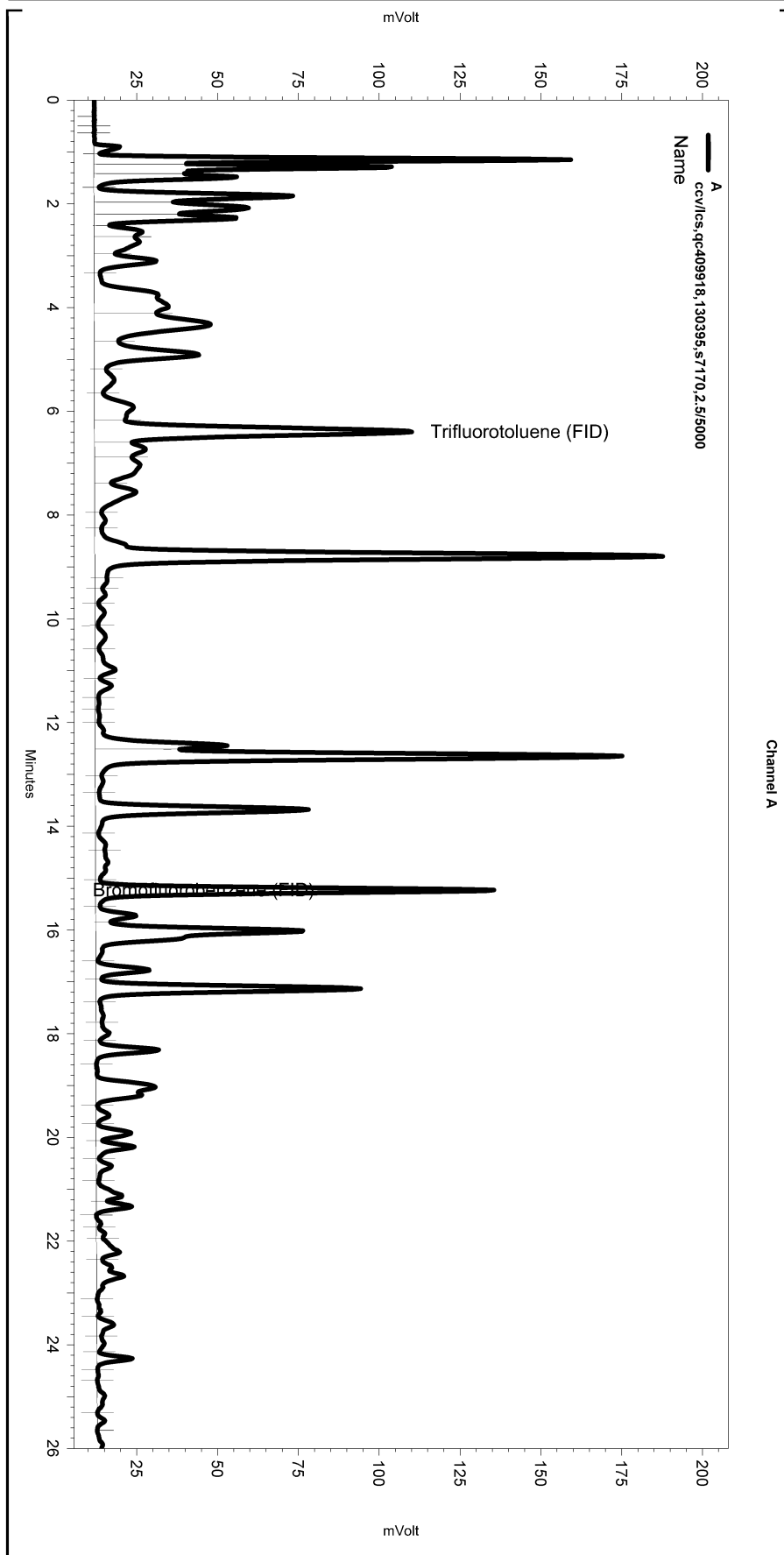
Manual Integration Fixes

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Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Lowest Point Horizontal Baseline	0	26.017	0

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Software Version 3.1.7  
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 Analysis Date: 10/11/2007 7:14:42 AM  
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 Vial & pH or Core ID: {Data Description}



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No items selected for this section

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No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\283\_004

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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**Total Extractable Hydrocarbons**

Lab #:	198144	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-01	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	10/05/07
Units:	ug/L	Received:	10/05/07
Diln Fac:	1.000	Prepared:	10/08/07
Batch#:	130305		

Field ID:	MW-4-GGW	Analyzed:	10/10/07
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	198144-001		

Analyte	Result	RL
Diesel C10-C24	57 Y	40
Motor Oil C24-C36	250	240

Surrogate	%REC	Limits
Hexacosane	119	61-133

Field ID:	B29-GGW	Analyzed:	10/10/07
Type:	SAMPLE	Cleanup Method:	EPA 3630C
Lab ID:	198144-013		

Analyte	Result	RL
Diesel C10-C24	350	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	83	61-133

Type:	BLANK	Analyzed:	10/09/07
Lab ID:	QC409547	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	92	61-133

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-01	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	130305
Units:	ug/L	Prepared:	10/08/07
Diln Fac:	1.000	Analyzed:	10/09/07

Type: BS Cleanup Method: EPA 3630C  
 Lab ID: QC409548

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,872	75	58-128

Surrogate	%REC	Limits
Hexacosane	85	61-133

Type: BSD Cleanup Method: EPA 3630C  
 Lab ID: QC409549

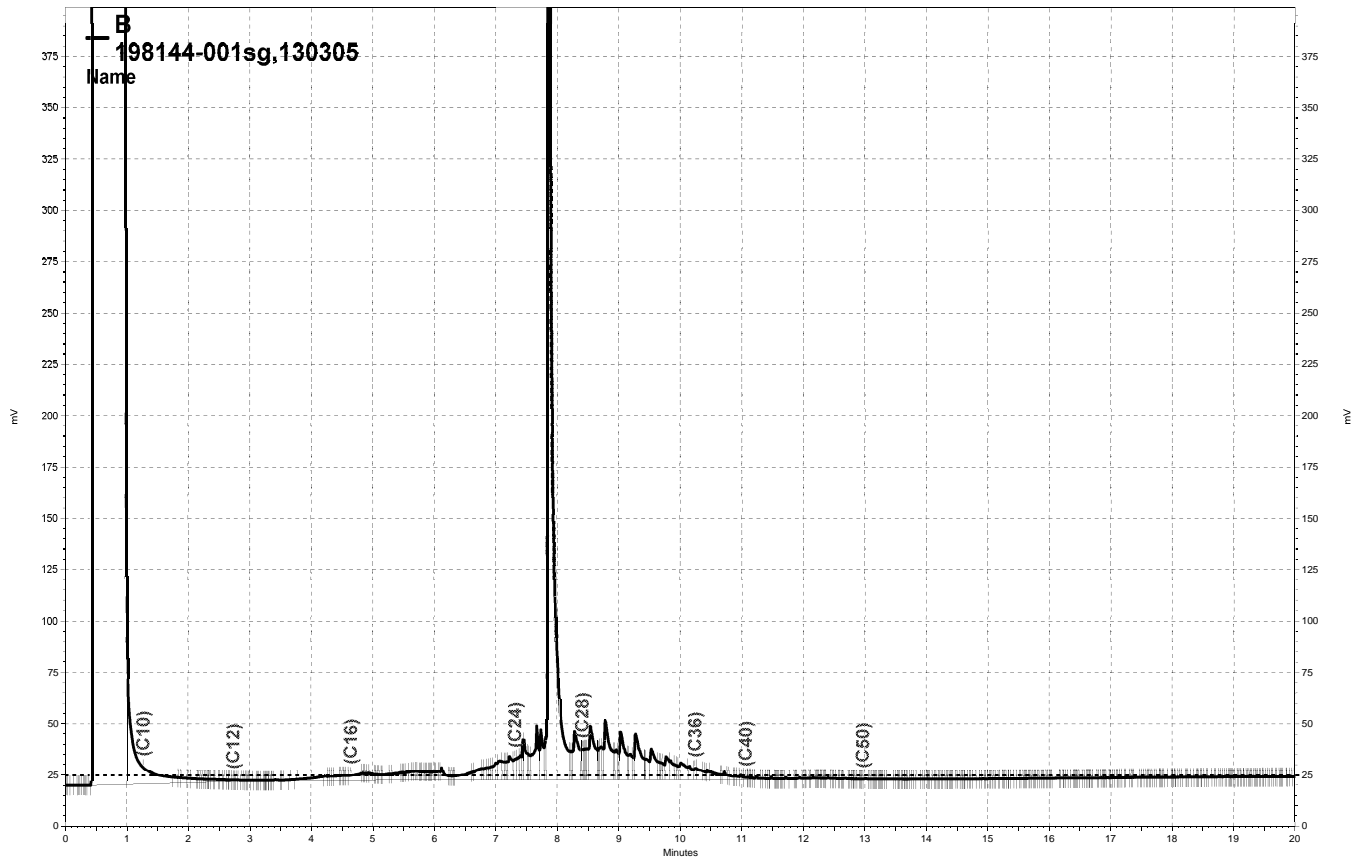
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Diesel C10-C24	2,500	2,070	83	58-128	10	29

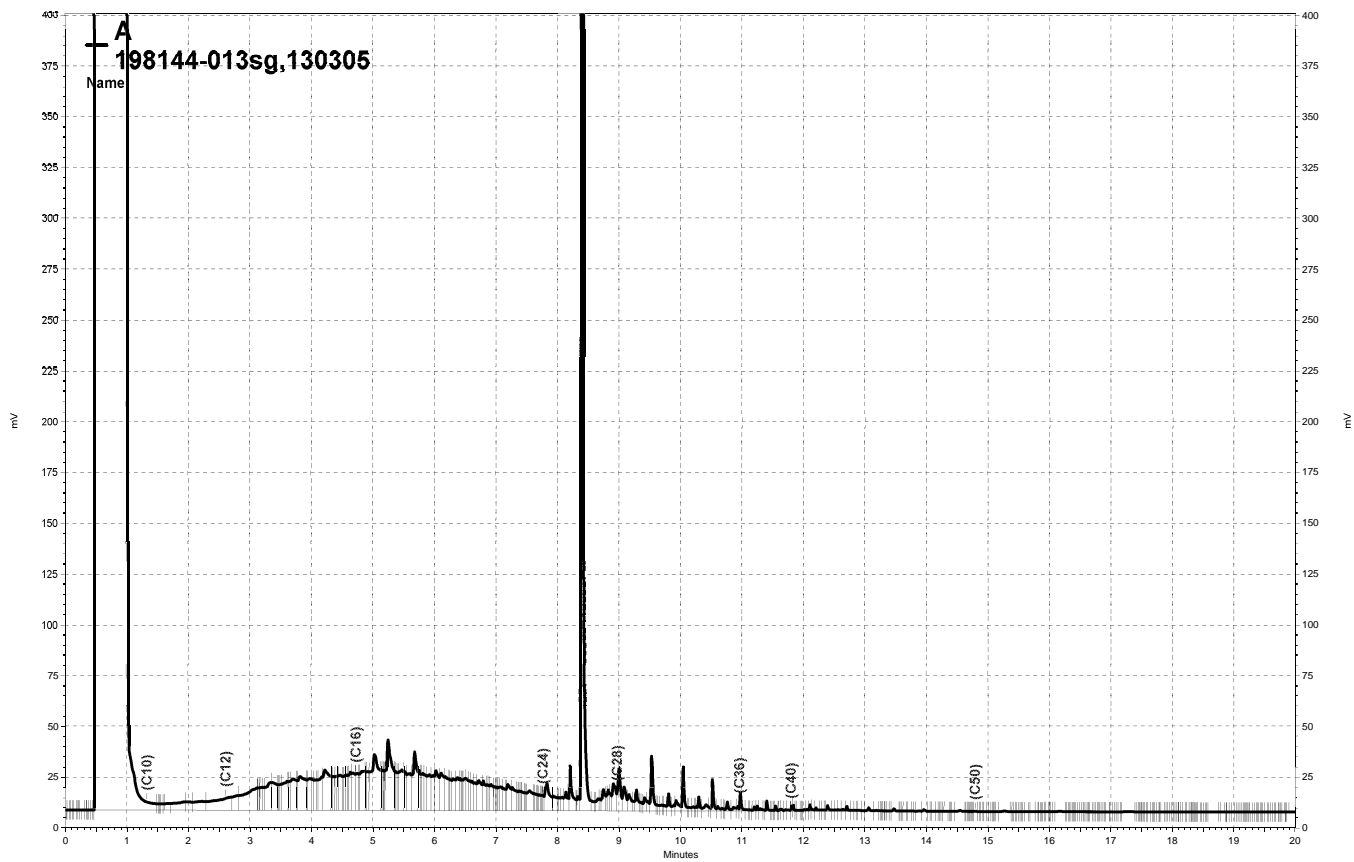
Surrogate	%REC	Limits
Hexacosane	92	61-133

RPD= Relative Percent Difference

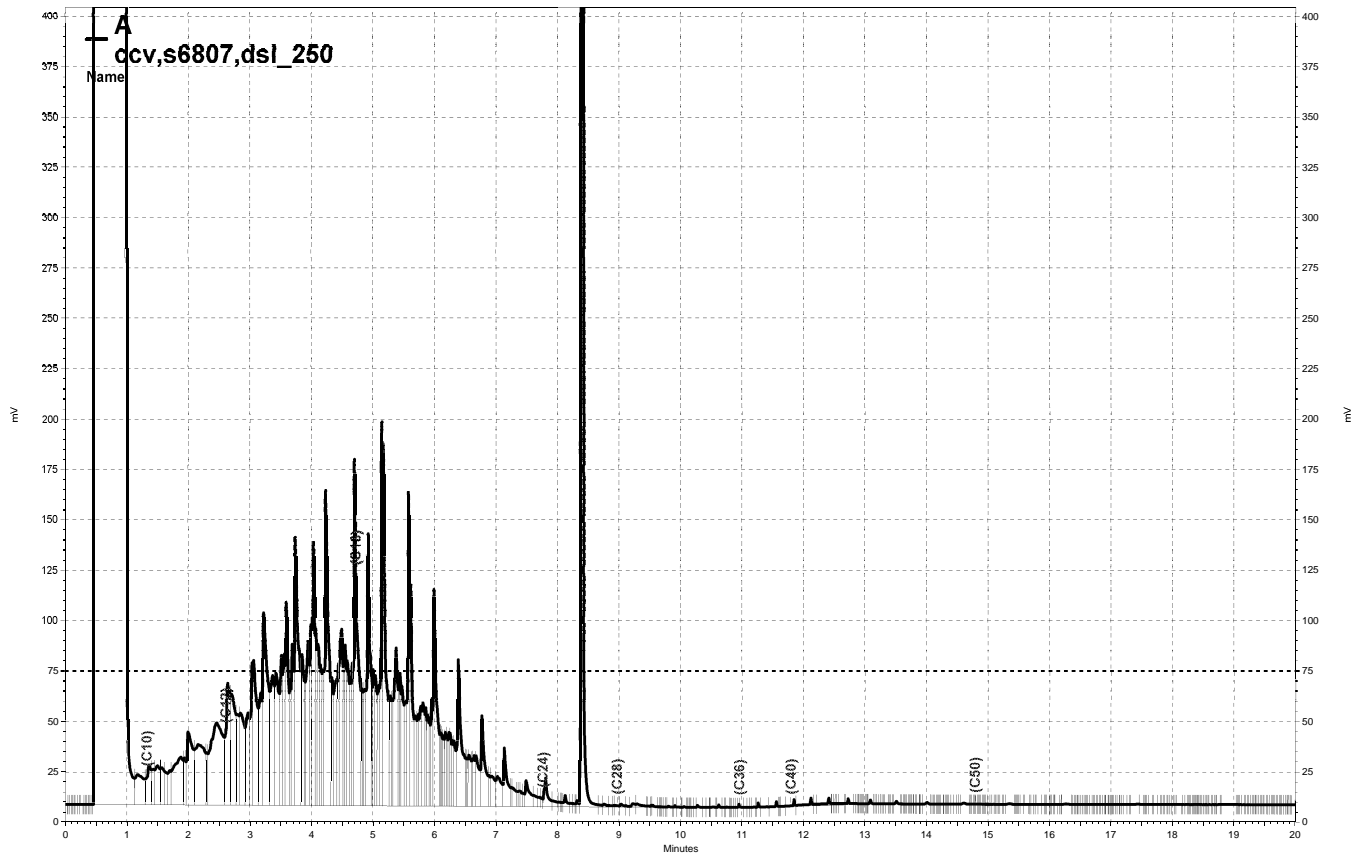




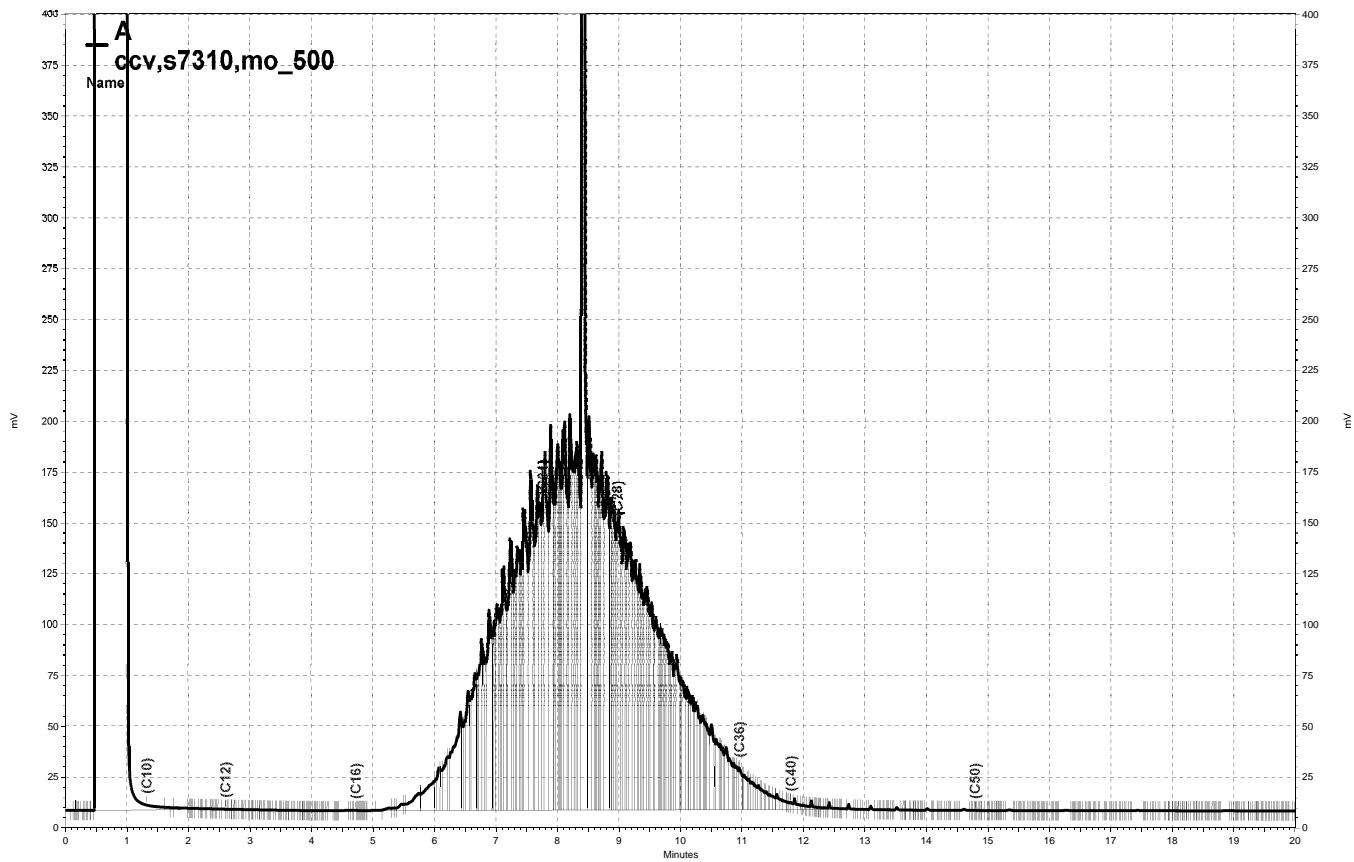
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Total Extractable Hydrocarbons			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-01	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	10/05/07
Units:	mg/Kg	Received:	10/05/07
Basis:	as received		

Type:	BLANK	Prepared:	10/13/07
Lab ID:	QC410400	Analyzed:	10/16/07
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	130512		

Analyte	Result	RL
Diesel C10-C24	ND	0.99
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	88	46-128

Type:	BLANK	Prepared:	10/16/07
Lab ID:	QC410611	Analyzed:	10/17/07
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	130560		

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	97	46-128

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-01	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC410133	Batch#:	130444
Matrix:	Soil	Prepared:	10/11/07
Units:	mg/Kg	Analyzed:	10/15/07
Basis:	as received		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.83	42.51	85	55-131

Surrogate	%REC	Limits
Hexacosane	89	46-128

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-01	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	130444
MSS Lab ID:	197998-001	Sampled:	10/01/07
Matrix:	Soil	Received:	10/01/07
Units:	mg/Kg	Prepared:	10/11/07
Basis:	as received	Analyzed:	10/14/07
Diln Fac:	1.000		

Type: MS Cleanup Method: EPA 3630C  
 Lab ID: QC410134

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	1.750	49.94	41.72	80	31-150

Surrogate	%REC	Limits
Hexacosane	90	46-128

Type: MSD Cleanup Method: EPA 3630C  
 Lab ID: QC410135

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.84	47.34	91	31-150	13	42

Surrogate	%REC	Limits
Hexacosane	98	46-128

RPD= Relative Percent Difference

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-01	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC410179	Batch#:	130457
Matrix:	Soil	Prepared:	10/11/07
Units:	mg/Kg	Analyzed:	10/14/07
Basis:	as received		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.96	39.81	80	55-131

Surrogate	%REC	Limits
Hexacosane	77	46-128

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-01	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC410401	Batch#:	130512
Matrix:	Soil	Prepared:	10/13/07
Units:	mg/Kg	Analyzed:	10/15/07
Basis:	as received		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.77	36.17	73	55-131

Surrogate	%REC	Limits
Hexacosane	77	46-128

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-01	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	130512
MSS Lab ID:	198070-001	Sampled:	10/02/07
Matrix:	Soil	Received:	10/03/07
Units:	mg/Kg	Prepared:	10/13/07
Basis:	as received	Analyzed:	10/16/07
Diln Fac:	1.000		

Type: MS Cleanup Method: EPA 3630C  
 Lab ID: QC410402

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	0.5333	49.99	46.40	92	31-150

Surrogate	%REC	Limits
Hexacosane	102	46-128

Type: MSD Cleanup Method: EPA 3630C  
 Lab ID: QC410403

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.60	41.26	82	31-150	11	42

Surrogate	%REC	Limits
Hexacosane	89	46-128

RPD= Relative Percent Difference

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-01	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC410612	Batch#:	130560
Matrix:	Soil	Prepared:	10/16/07
Units:	mg/Kg	Analyzed:	10/17/07
Basis:	as received		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.89	42.98	86	55-131

Surrogate	%REC	Limits
Hexacosane	94	46-128

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-01	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	130560
MSS Lab ID:	198288-011	Sampled:	10/11/07
Matrix:	Soil	Received:	10/11/07
Units:	mg/Kg	Prepared:	10/16/07
Basis:	as received	Analyzed:	10/17/07
Diln Fac:	1.000		

Type: MS Cleanup Method: EPA 3630C  
 Lab ID: QC410613

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	0.1905	49.95	44.32	88	31-150

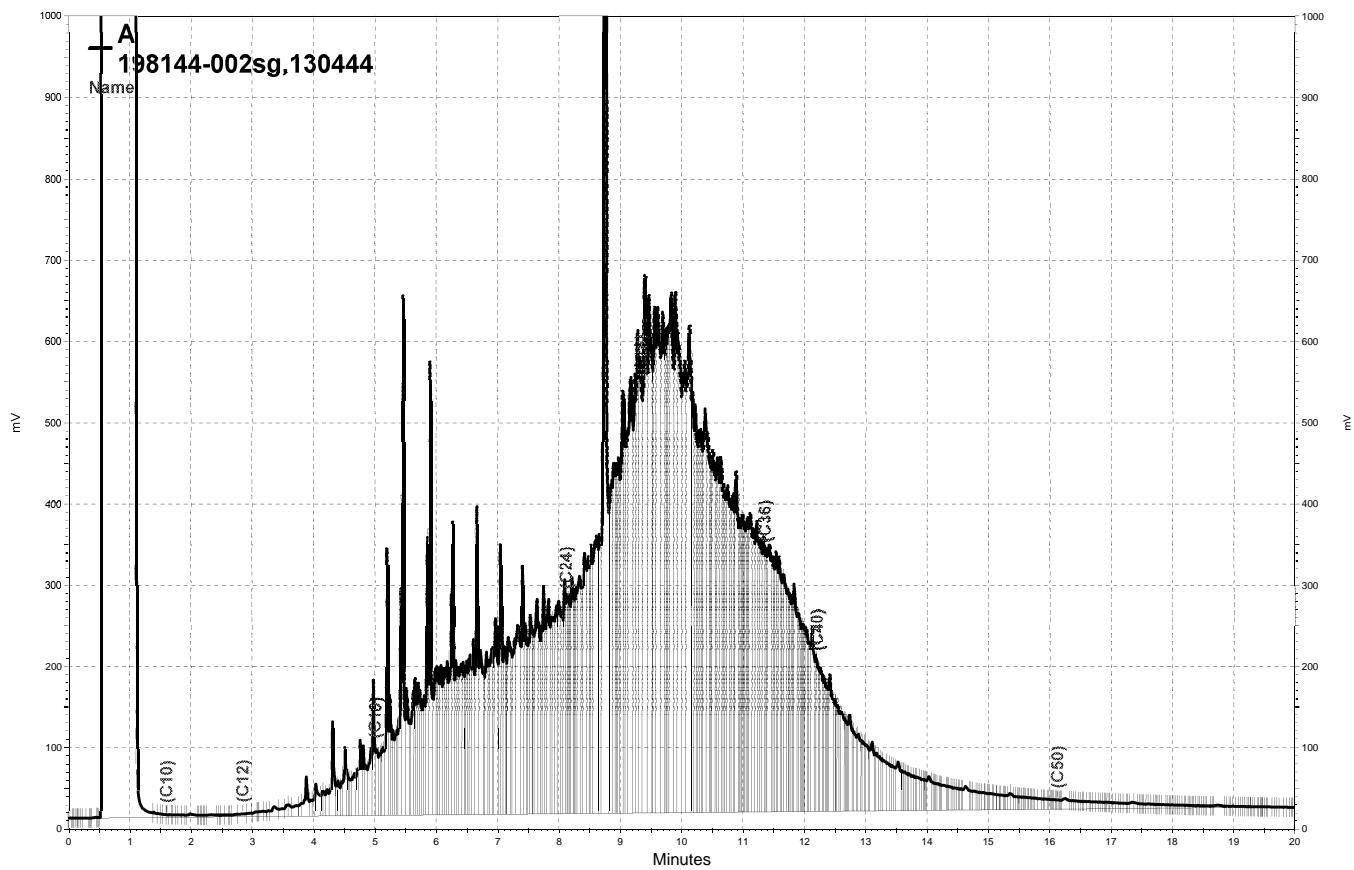
Surrogate	%REC	Limits
Hexacosane	95	46-128

Type: MSD Cleanup Method: EPA 3630C  
 Lab ID: QC410614

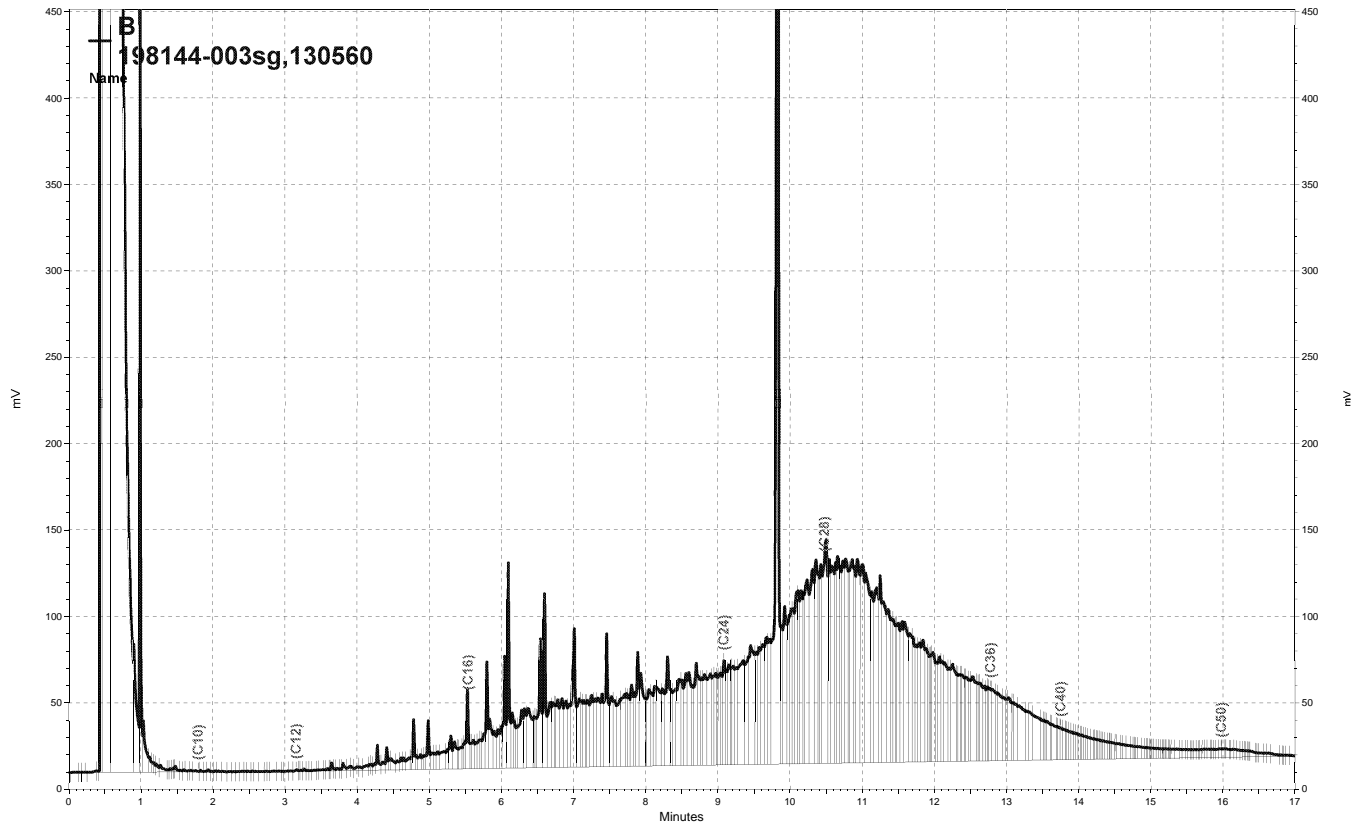
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.84	40.22	80	31-150	9	42

Surrogate	%REC	Limits
Hexacosane	86	46-128

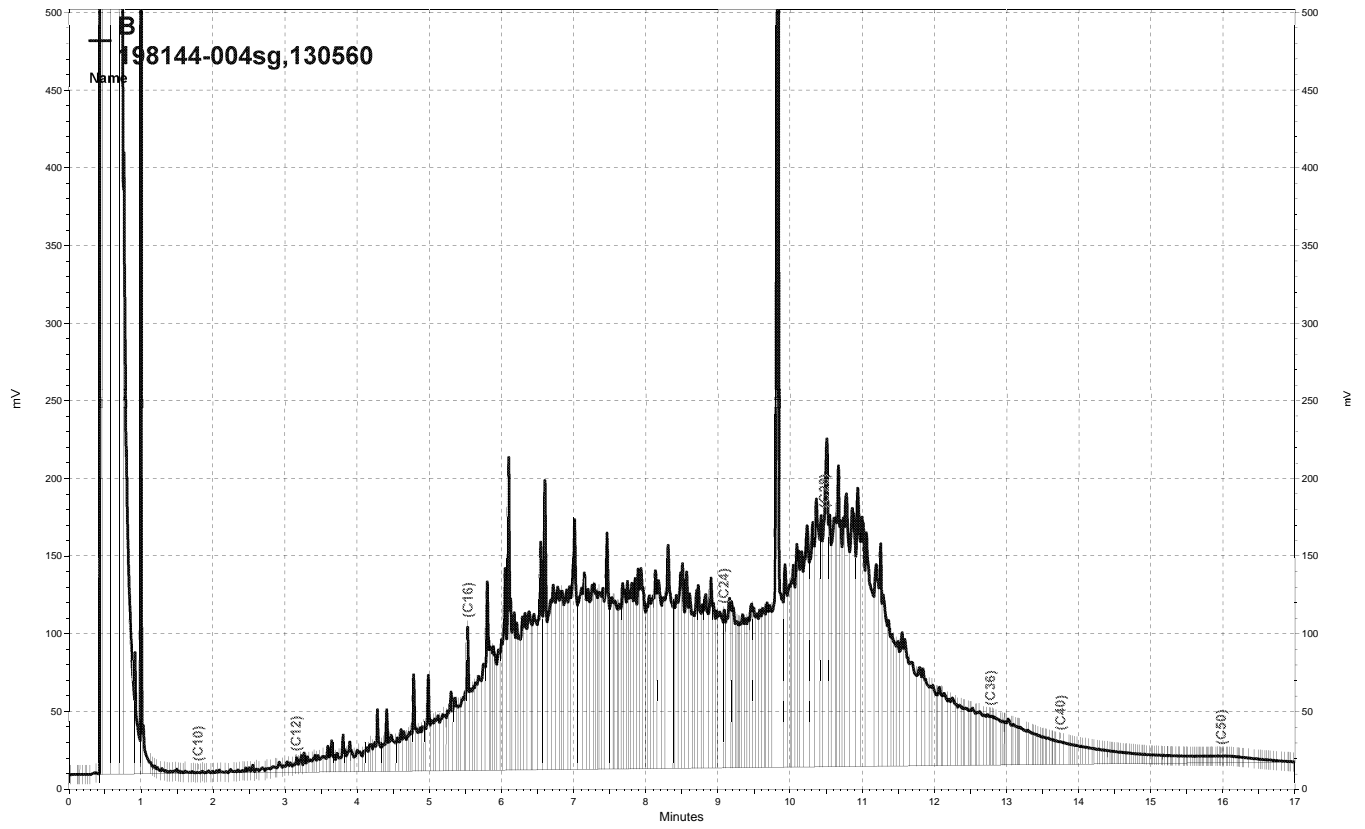




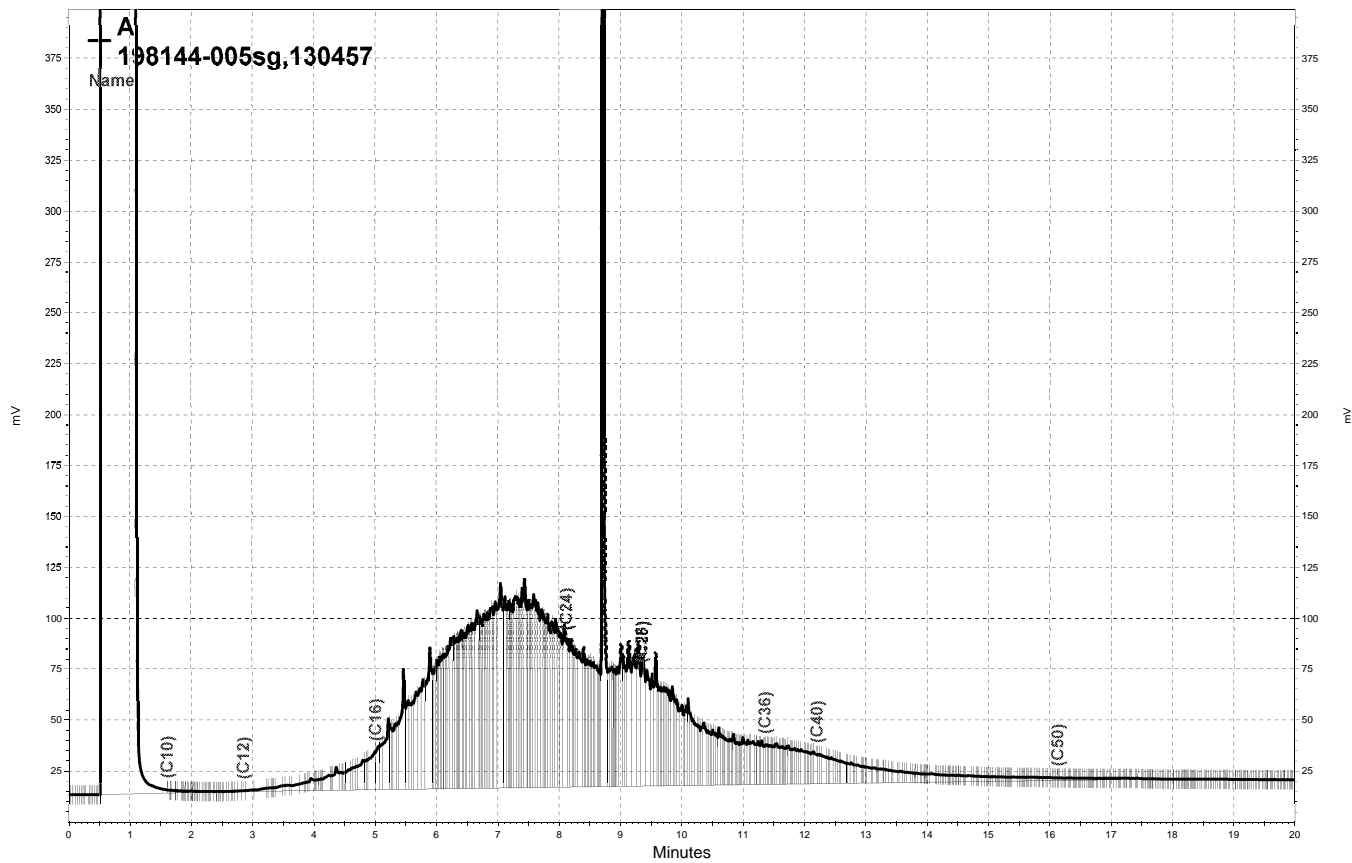
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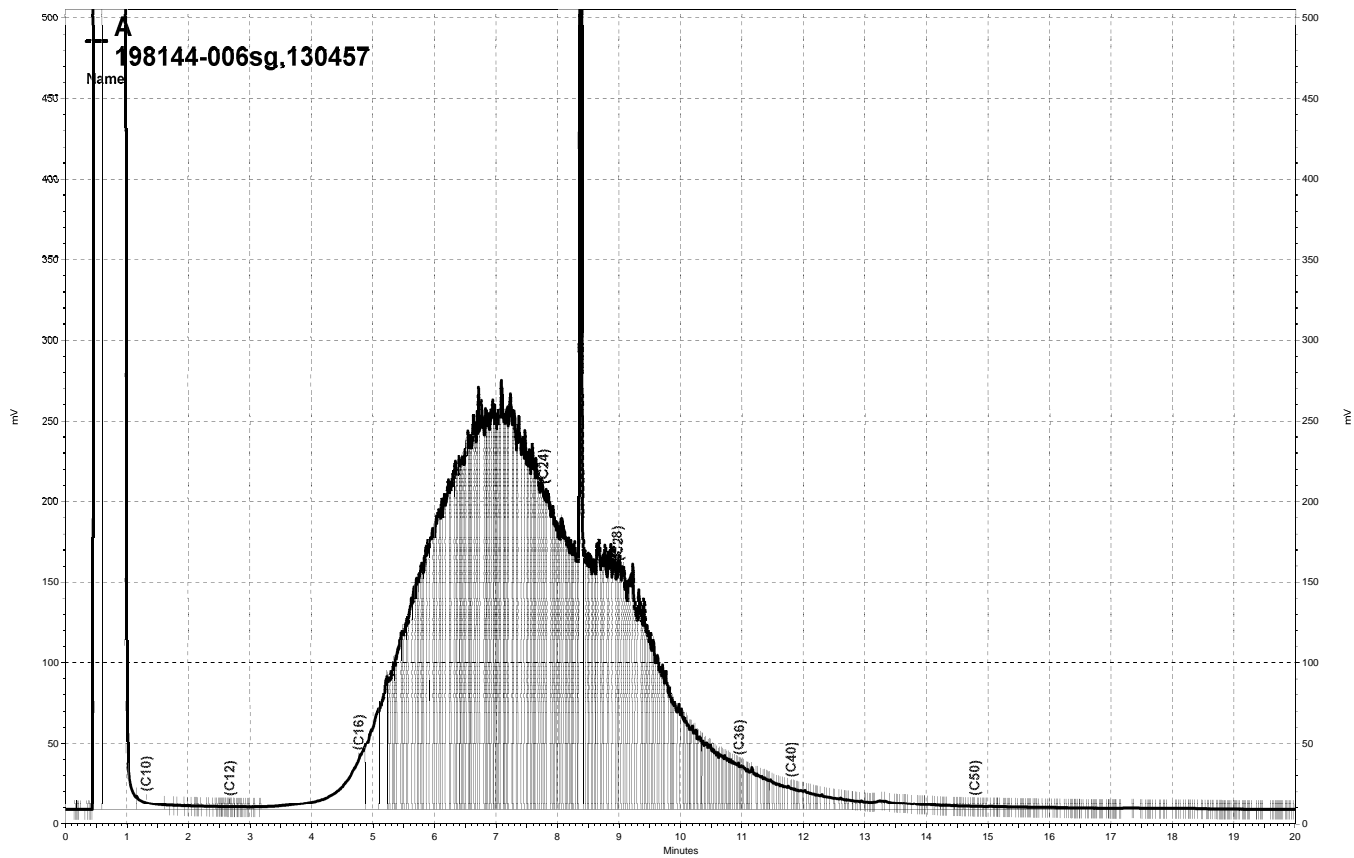
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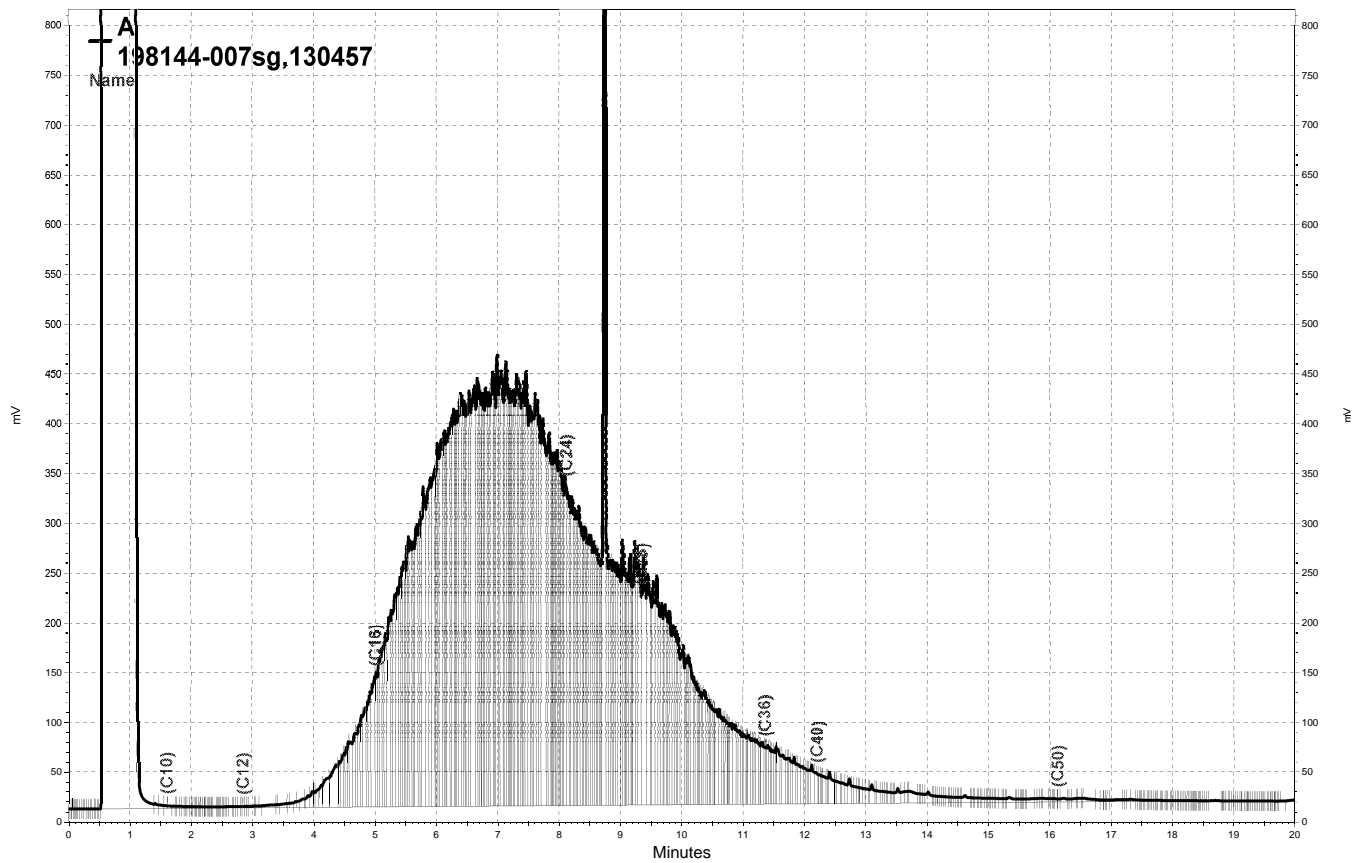
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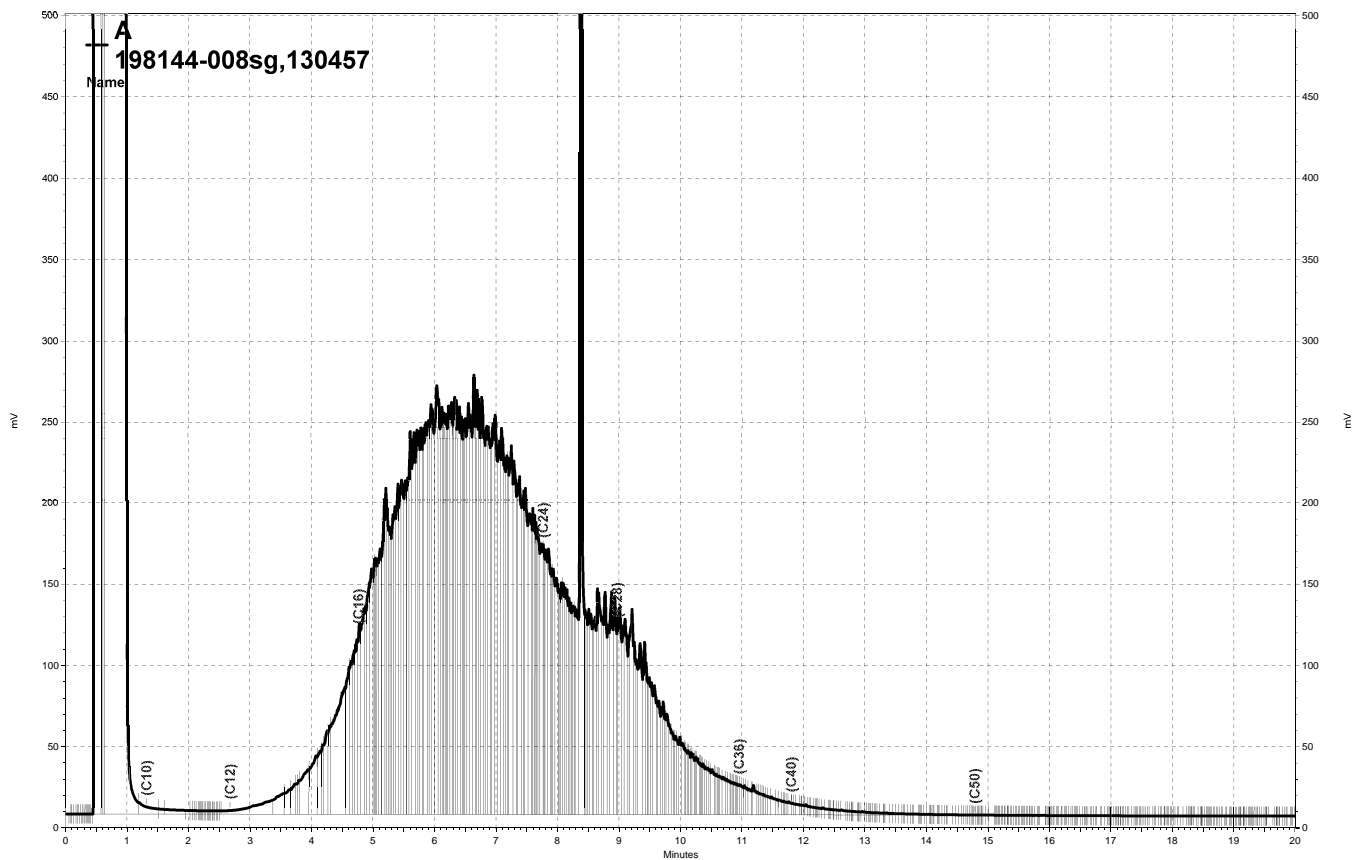
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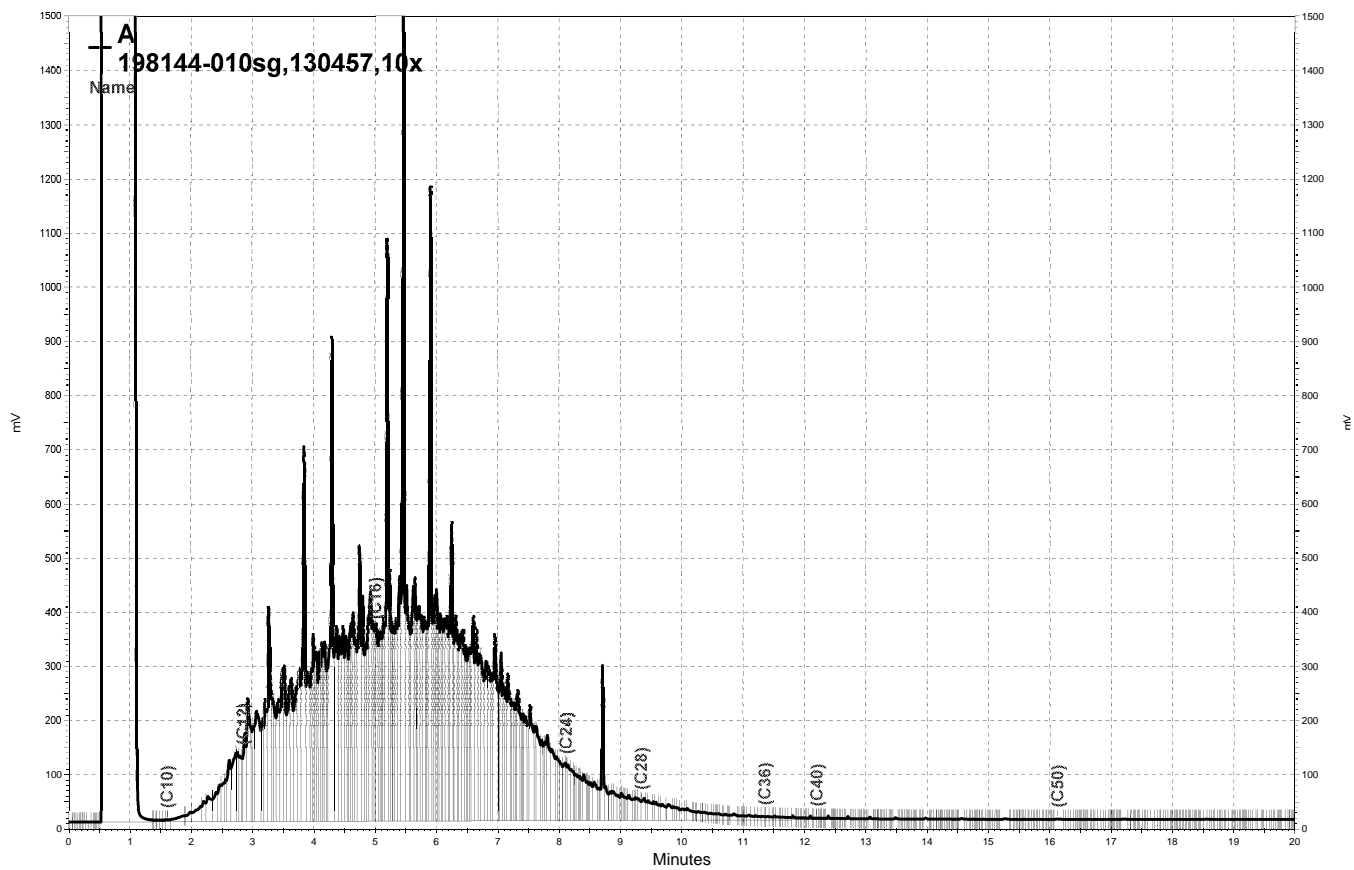
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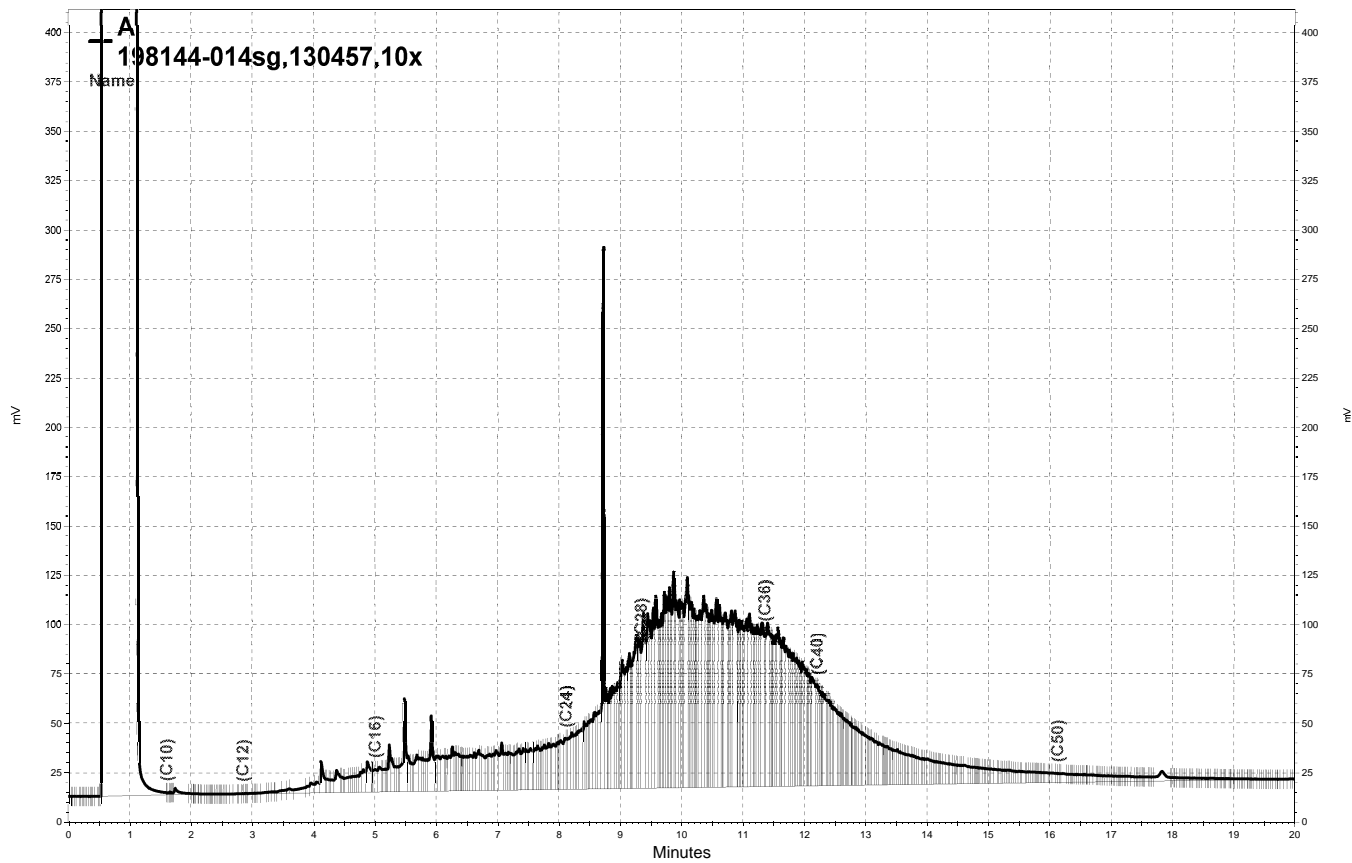


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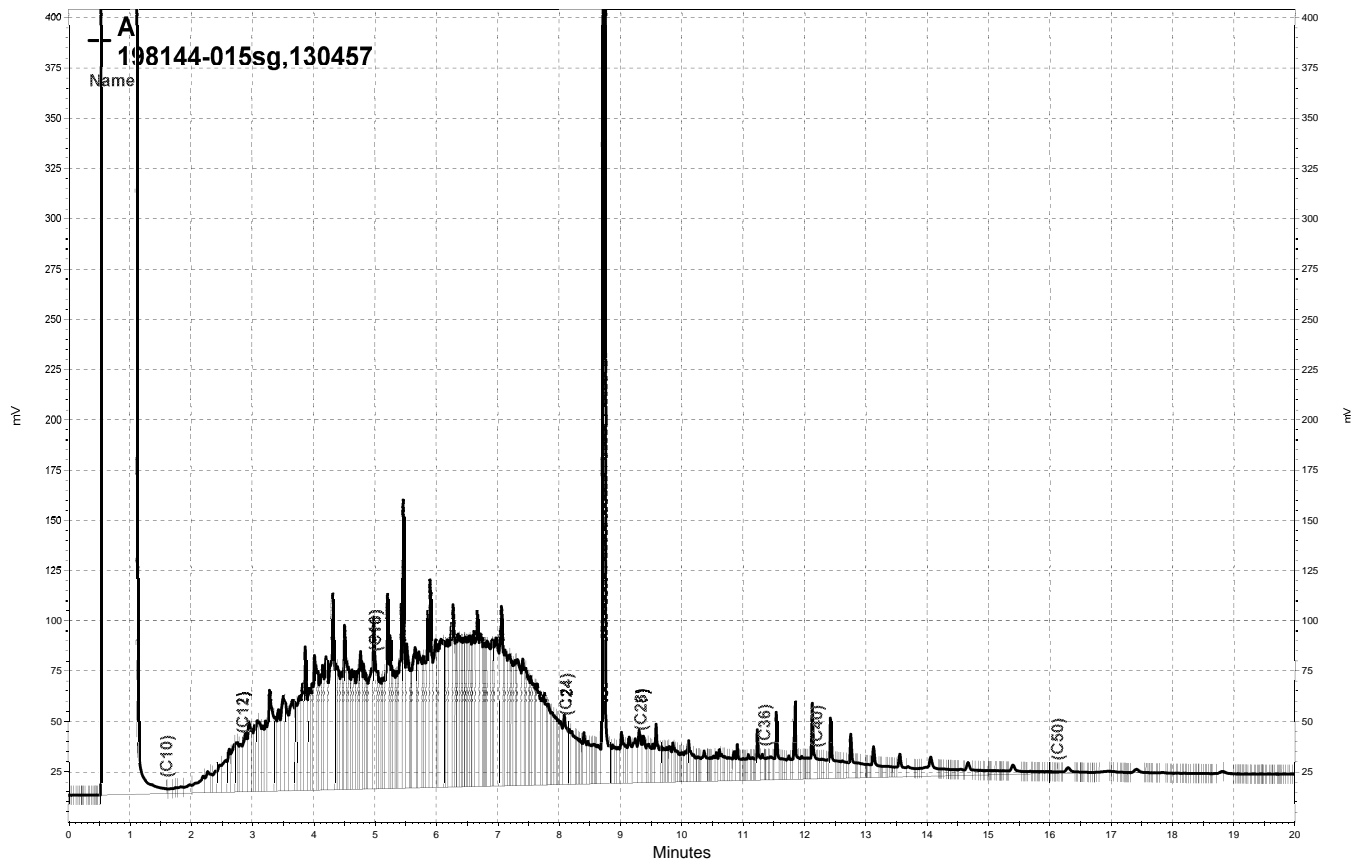


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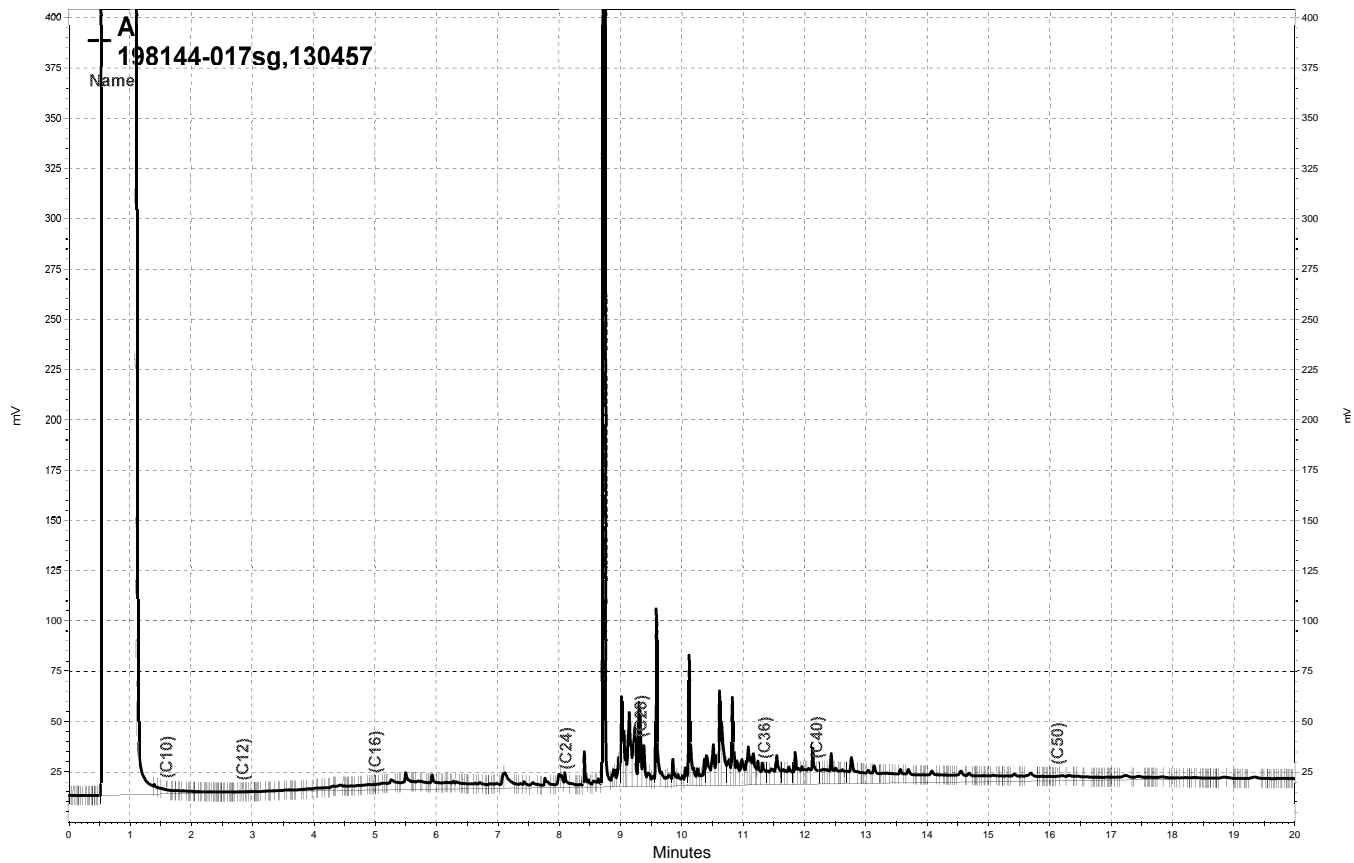




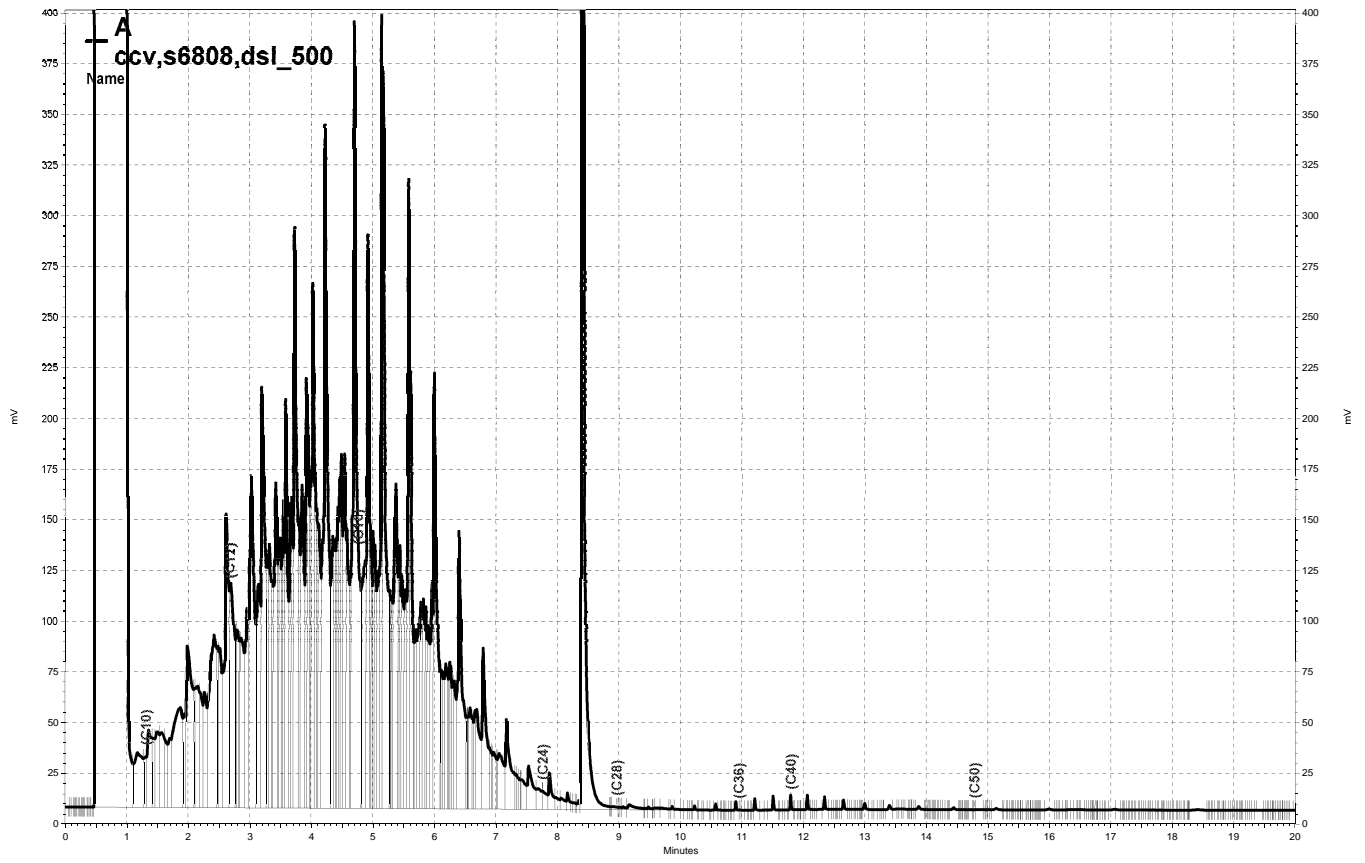
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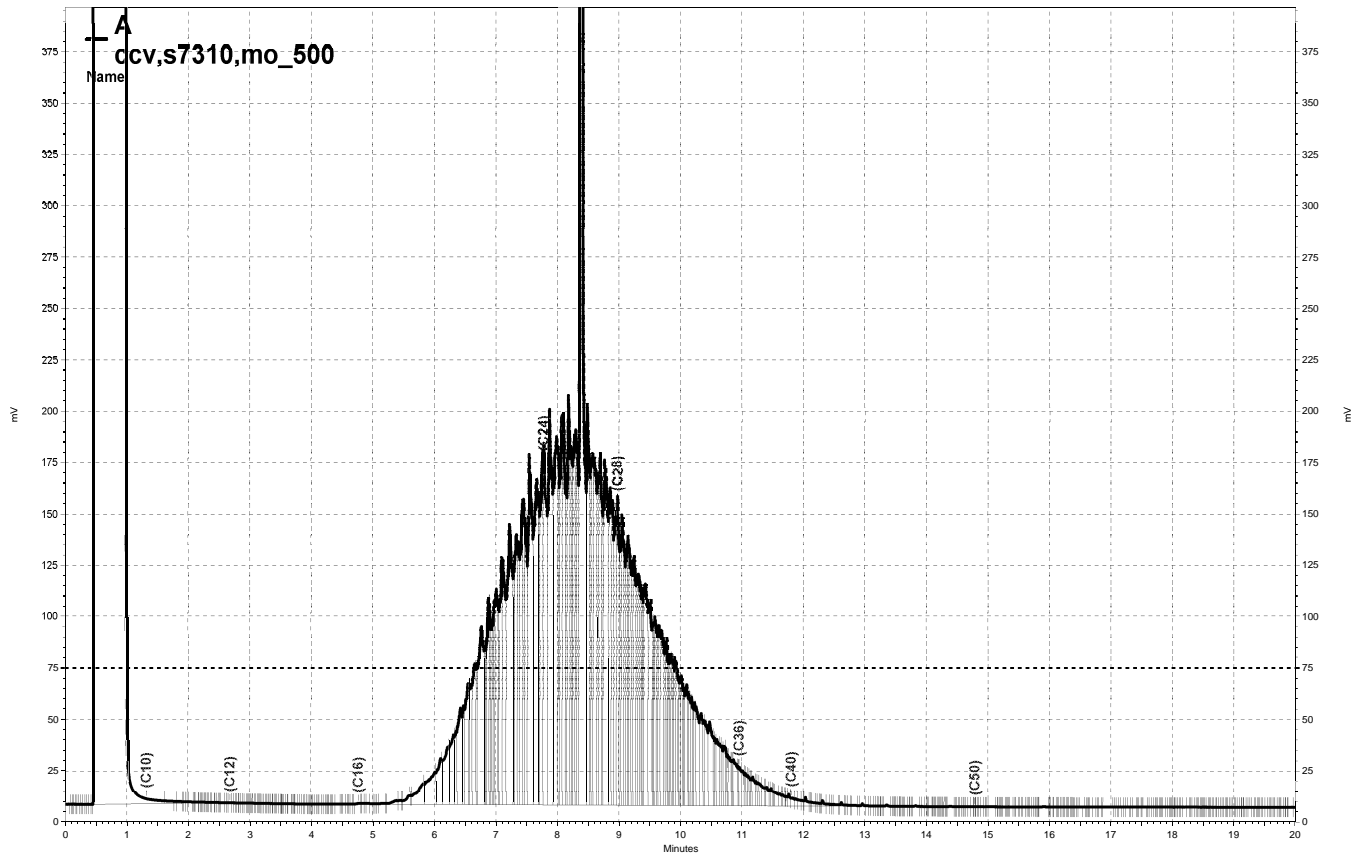
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**Purgeable Organics by GC/MS**

Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Field ID:	TB100507	Batch#:	130284
Lab ID:	198144-019	Sampled:	10/05/07
Matrix:	Water	Received:	10/05/07
Units:	ug/L	Analyzed:	10/08/07
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected

RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Field ID:	TB100507	Batch#:	130284
Lab ID:	198144-019	Sampled:	10/05/07
Matrix:	Water	Received:	10/05/07
Units:	ug/L	Analyzed:	10/08/07
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-122
1,2-Dichloroethane-d4	118	74-137
Toluene-d8	100	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected

RL= Reporting Limit

## Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC409462	Batch#:	130284
Matrix:	Water	Analyzed:	10/08/07
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5

J= Estimated value  
 ND= Not Detected  
 RL= Reporting Limit



**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC409462	Batch#:	130284
Matrix:	Water	Analyzed:	10/08/07
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	0.3 J	0.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	104	80-122
1,2-Dichloroethane-d4	115	74-137
Toluene-d8	97	80-120
Bromofluorobenzene	101	80-120

J= Estimated value  
 ND= Not Detected  
 RL= Reporting Limit



**Batch QC Report**

Purgeable Organics by GC/MS			
Lab #:	198144	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	130284
MSS Lab ID:	198132-007	Sampled:	10/04/07
Matrix:	Water	Received:	10/05/07
Units:	ug/L	Analyzed:	10/08/07
Diln Fac:	2.000		

Type: MS Lab ID: QC409562

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	2.411	50.00	55.85	107	80-141
Benzene	<0.5000	50.00	49.43	99	80-123
Trichloroethene	104.8	50.00	125.8	42 *	73-129
Toluene	<0.2675	50.00	51.54	103	80-124
Chlorobenzene	<0.3139	50.00	47.42	95	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-122
1,2-Dichloroethane-d4	124	74-137
Toluene-d8	103	80-120
Bromofluorobenzene	110	80-120

Type: MSD Lab ID: QC409563

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	50.00	55.19	106	80-141	1	20
Benzene	50.00	48.93	98	80-123	1	20
Trichloroethene	50.00	126.4	43 *	73-129	0	20
Toluene	50.00	51.19	102	80-124	1	20
Chlorobenzene	50.00	47.92	96	80-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-122
1,2-Dichloroethane-d4	125	74-137
Toluene-d8	103	80-120
Bromofluorobenzene	106	80-120

\*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

Gasoline by GC/MS			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Field ID:	MW-4-GGW	Batch#:	130463
Lab ID:	198144-001	Sampled:	10/05/07
Matrix:	Water	Received:	10/05/07
Units:	ug/L	Analyzed:	10/12/07
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	7.8 J	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5

J= Estimated value  
 ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Field ID:	MW-4-GGW	Batch#:	130463
Lab ID:	198144-001	Sampled:	10/05/07
Matrix:	Water	Received:	10/05/07
Units:	ug/L	Analyzed:	10/12/07
Diln Fac:	1.000		

Analyte	Result	RL
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-122
1,2-Dichloroethane-d4	105	74-137
Toluene-d8	99	80-120
Bromofluorobenzene	107	80-120

J= Estimated value  
 ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Field ID:	B29-GGW	Batch#:	130425
Lab ID:	198144-013	Sampled:	10/05/07
Matrix:	Water	Received:	10/05/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	28 J	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	7.0 J	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5

J= Estimated value  
 ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Field ID:	B29-GGW	Batch#:	130425
Lab ID:	198144-013	Sampled:	10/05/07
Matrix:	Water	Received:	10/05/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Analyte	Result	RL
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-122
1,2-Dichloroethane-d4	93	74-137
Toluene-d8	97	80-120
Bromofluorobenzene	107	80-120

J= Estimated value  
 ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Gasoline by GC/MS</b>			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410035	Batch#:	130425
Matrix:	Water	Analyzed:	10/11/07
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5

ND= Not Detected  
 RL= Reporting Limit



## Batch QC Report

Gasoline by GC/MS			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410035	Batch#:	130425
Matrix:	Water	Analyzed:	10/11/07
Units:	ug/L		

Analyte	Result	RL
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	90	80-122
1,2-Dichloroethane-d4	79	74-137
Toluene-d8	95	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Gasoline by GC/MS</b>			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	130425
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Type: BS Lab ID: QC410036

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	110.9	89	59-149
Isopropyl Ether (DIPE)	25.00	21.66	87	59-120
Ethyl tert-Butyl Ether (ETBE)	25.00	22.48	90	65-134
Methyl tert-Amyl Ether (TAME)	25.00	23.18	93	67-132
1,1-Dichloroethene	25.00	25.87	103	80-133
Benzene	25.00	25.51	102	80-120
Trichloroethene	25.00	25.67	103	80-120
Toluene	25.00	25.59	102	80-122
Chlorobenzene	25.00	24.87	99	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-122
1,2-Dichloroethane-d4	83	74-137
Toluene-d8	97	80-120
Bromofluorobenzene	91	80-120

Type: BSD Lab ID: QC410037

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	110.6	88	59-149	0	20
Isopropyl Ether (DIPE)	25.00	21.28	85	59-120	2	20
Ethyl tert-Butyl Ether (ETBE)	25.00	22.23	89	65-134	1	20
Methyl tert-Amyl Ether (TAME)	25.00	22.81	91	67-132	2	20
1,1-Dichloroethene	25.00	25.06	100	80-133	3	20
Benzene	25.00	25.03	100	80-120	2	20
Trichloroethene	25.00	25.07	100	80-120	2	20
Toluene	25.00	25.19	101	80-122	2	20
Chlorobenzene	25.00	24.88	100	80-120	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	91	80-122
1,2-Dichloroethane-d4	81	74-137
Toluene-d8	96	80-120
Bromofluorobenzene	92	80-120

## Batch QC Report

Gasoline by GC/MS			
Lab #:	198144	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	130425
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Type: BS Lab ID: QC410038

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,172	117	80-120
1,1-Dichloroethene		NA		
Benzene		NA		
Trichloroethene		NA		
Toluene		NA		
Chlorobenzene		NA		

Surrogate	%REC	Limits
Dibromofluoromethane	89	80-122
1,2-Dichloroethane-d4	80	74-137
Toluene-d8	97	80-120
Bromofluorobenzene	93	80-120

Type: BSD Lab ID: QC410039

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	1,166	117	80-120	1	20
1,1-Dichloroethene		NA				
Benzene		NA				
Trichloroethene		NA				
Toluene		NA				
Chlorobenzene		NA				

Surrogate	%REC	Limits
Dibromofluoromethane	88	80-122
1,2-Dichloroethane-d4	75	74-137
Toluene-d8	95	80-120
Bromofluorobenzene	93	80-120

NA= Not Analyzed

RPD= Relative Percent Difference

## Batch QC Report

Gasoline by GC/MS			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410196	Batch#:	130463
Matrix:	Water	Analyzed:	10/12/07
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.5
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Gasoline by GC/MS			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410196	Batch#:	130463
Matrix:	Water	Analyzed:	10/12/07
Units:	ug/L		

Analyte	Result	RL
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-122
1,2-Dichloroethane-d4	90	74-137
Toluene-d8	95	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Gasoline by GC/MS</b>			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	130463
Units:	ug/L	Analyzed:	10/12/07
Diln Fac:	1.000		

Type: BS Lab ID: QC410197

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	106.9	85	59-149
Isopropyl Ether (DIPE)	25.00	22.85	91	59-120
Ethyl tert-Butyl Ether (ETBE)	25.00	24.01	96	65-134
Methyl tert-Amyl Ether (TAME)	25.00	24.19	97	67-132
1,1-Dichloroethene	25.00	26.06	104	80-133
Benzene	25.00	25.66	103	80-120
Trichloroethene	25.00	26.70	107	80-120
Toluene	25.00	25.94	104	80-122
Chlorobenzene	25.00	25.24	101	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-122
1,2-Dichloroethane-d4	100	74-137
Toluene-d8	99	80-120
Bromofluorobenzene	90	80-120

Type: BSD Lab ID: QC410198

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	117.5	94	59-149	10	20
Isopropyl Ether (DIPE)	25.00	22.48	90	59-120	2	20
Ethyl tert-Butyl Ether (ETBE)	25.00	23.87	95	65-134	1	20
Methyl tert-Amyl Ether (TAME)	25.00	24.10	96	67-132	0	20
1,1-Dichloroethene	25.00	25.01	100	80-133	4	20
Benzene	25.00	25.21	101	80-120	2	20
Trichloroethene	25.00	26.01	104	80-120	3	20
Toluene	25.00	25.02	100	80-122	4	20
Chlorobenzene	25.00	24.83	99	80-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-122
1,2-Dichloroethane-d4	99	74-137
Toluene-d8	98	80-120
Bromofluorobenzene	91	80-120

RPD= Relative Percent Difference



Data File: \\Gomsserver\DD\chem\MSVOA11.i\101107,b\KJB13.D

Date : 11-OCT-2007 16:43

Client ID: DYNA P&T

Sample Info: S,198144-013

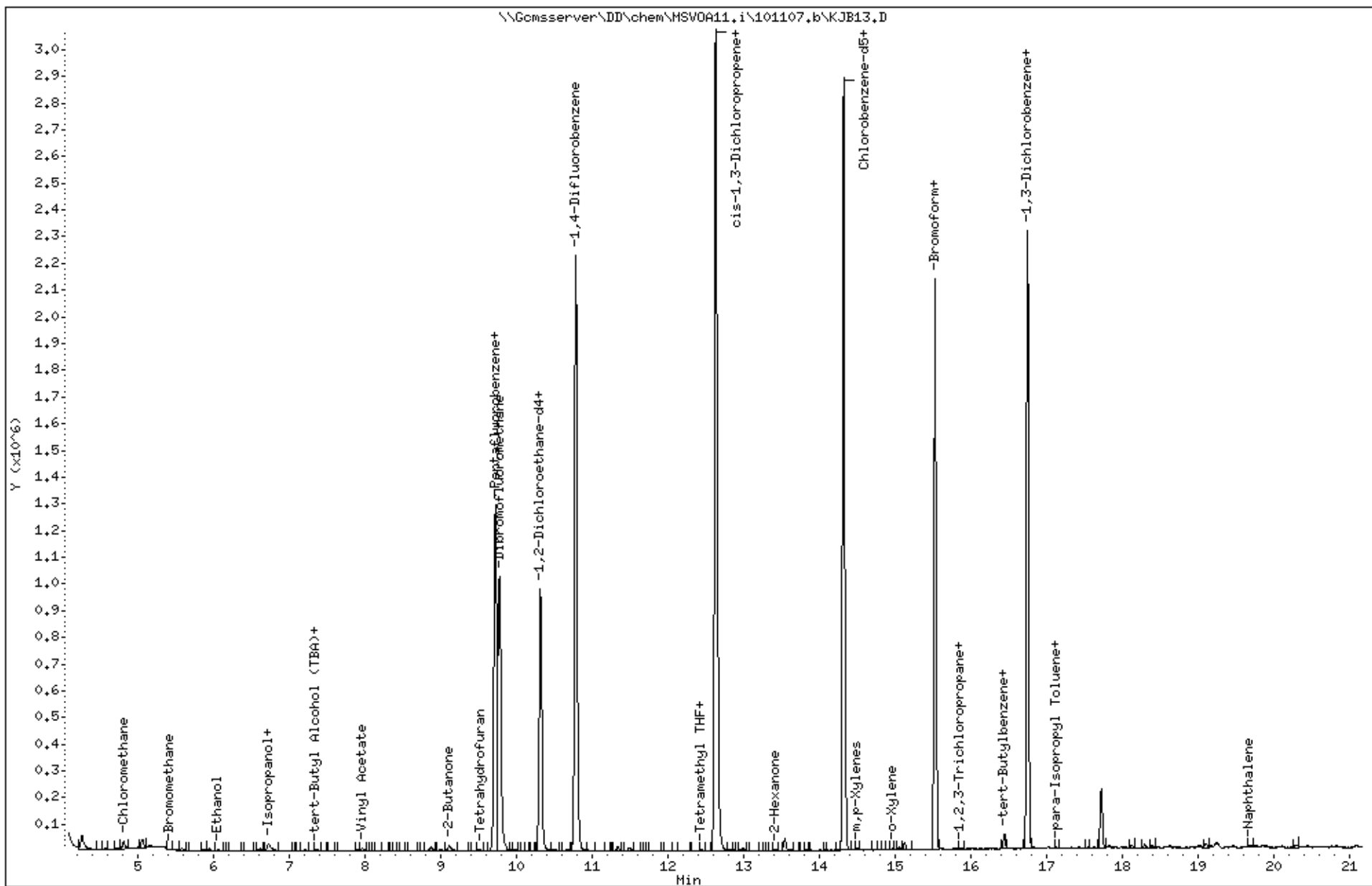
Purge Volume: 5.0

Column phase: RTX Volatiles

Instrument: MSVOA11.i

Operator: VOC

Column diameter: 0.32





Date : 11-OCT-2007 12:27

Client ID: DYNA P&T

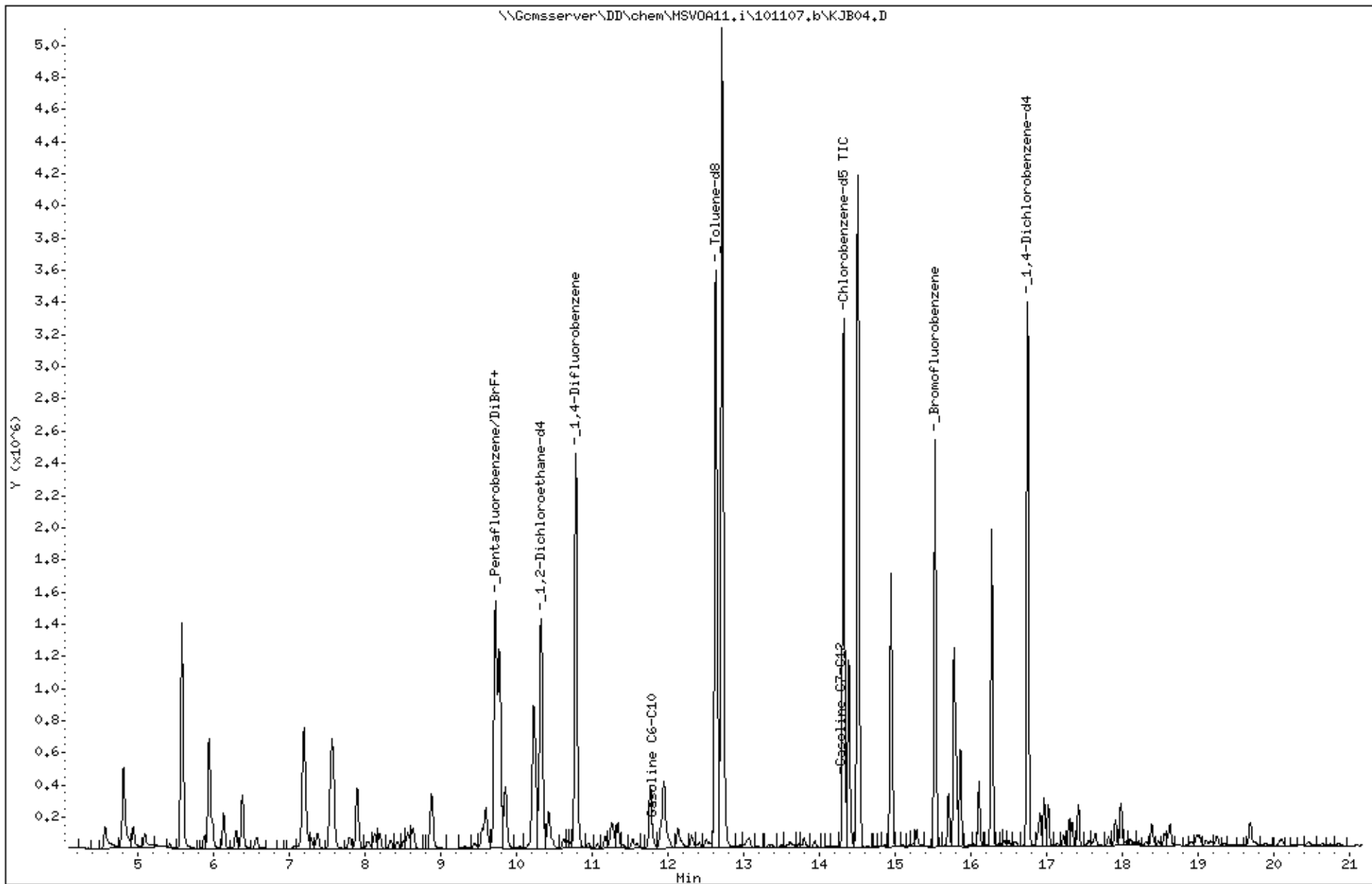
Sample Info: CCV,S6608,0.01/100

Instrument: MSV0A11.i

Operator: VOC

Column diameter: 2.00

Column phase:



<b>BTXE &amp; Oxygenates</b>			
Lab #:	198144	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Field ID:	B29-5	Diln Fac:	0.9434
Lab ID:	198144-002	Batch#:	130287
Matrix:	Soil	Sampled:	10/05/07
Units:	ug/Kg	Received:	10/05/07
Basis:	as received	Analyzed:	10/08/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	94
MTBE	ND	4.7
Isopropyl Ether (DIPE)	ND	4.7
Ethyl tert-Butyl Ether (ETBE)	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Methyl tert-Amyl Ether (TAME)	ND	4.7
Toluene	ND	4.7
1,2-Dibromoethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	97	80-124
1,2-Dichloroethane-d4	97	79-136
Toluene-d8	94	80-120
Bromofluorobenzene	110	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198144	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Field ID:	B29-6	Diln Fac:	0.9259
Lab ID:	198144-003	Batch#:	130287
Matrix:	Soil	Sampled:	10/05/07
Units:	ug/Kg	Received:	10/05/07
Basis:	as received	Analyzed:	10/08/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	93
MTBE	ND	4.6
Isopropyl Ether (DIPE)	ND	4.6
Ethyl tert-Butyl Ether (ETBE)	ND	4.6
1,2-Dichloroethane	ND	4.6
Benzene	ND	4.6
Methyl tert-Amyl Ether (TAME)	ND	4.6
Toluene	ND	4.6
1,2-Dibromoethane	ND	4.6
Ethylbenzene	ND	4.6
m,p-Xylenes	ND	4.6
o-Xylene	ND	4.6

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	91	80-124
1,2-Dichloroethane-d4	94	79-136
Toluene-d8	96	80-120
Bromofluorobenzene	117	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198144	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Field ID:	B29-11	Diln Fac:	1.000
Lab ID:	198144-004	Batch#:	130287
Matrix:	Soil	Sampled:	10/05/07
Units:	ug/Kg	Received:	10/05/07
Basis:	as received	Analyzed:	10/08/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	94	80-124
1,2-Dichloroethane-d4	96	79-136
Toluene-d8	95	80-120
Bromofluorobenzene	112	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198144	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Field ID:	B29-16	Diln Fac:	0.9804
Lab ID:	198144-005	Batch#:	130287
Matrix:	Soil	Sampled:	10/05/07
Units:	ug/Kg	Received:	10/05/07
Basis:	as received	Analyzed:	10/08/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	98
MTBE	ND	4.9
Isopropyl Ether (DIPE)	ND	4.9
Ethyl tert-Butyl Ether (ETBE)	ND	4.9
1,2-Dichloroethane	ND	4.9
Benzene	ND	4.9
Methyl tert-Amyl Ether (TAME)	ND	4.9
Toluene	ND	4.9
1,2-Dibromoethane	ND	4.9
Ethylbenzene	ND	4.9
m,p-Xylenes	ND	4.9
o-Xylene	ND	4.9

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	96	80-124
1,2-Dichloroethane-d4	96	79-136
Toluene-d8	94	80-120
Bromofluorobenzene	113	80-122

ND= Not Detected  
 RL= Reporting Limit

BTXE & Oxygenates			
Lab #:	198144	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Field ID:	B29-23	Diln Fac:	0.9434
Lab ID:	198144-006	Batch#:	130287
Matrix:	Soil	Sampled:	10/05/07
Units:	ug/Kg	Received:	10/05/07
Basis:	as received	Analyzed:	10/08/07

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	94
MTBE	ND	4.7
Isopropyl Ether (DIPE)	ND	4.7
Ethyl tert-Butyl Ether (ETBE)	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Methyl tert-Amyl Ether (TAME)	ND	4.7
Toluene	ND	4.7
1,2-Dibromoethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-124
1,2-Dichloroethane-d4	97	79-136
Toluene-d8	95	80-120
Bromofluorobenzene	113	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198144	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Field ID:	B29-27	Diln Fac:	0.9615
Lab ID:	198144-007	Batch#:	130287
Matrix:	Soil	Sampled:	10/05/07
Units:	ug/Kg	Received:	10/05/07
Basis:	as received	Analyzed:	10/08/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	96
MTBE	ND	4.8
Isopropyl Ether (DIPE)	ND	4.8
Ethyl tert-Butyl Ether (ETBE)	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Methyl tert-Amyl Ether (TAME)	ND	4.8
Toluene	ND	4.8
1,2-Dibromoethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	95	80-124
1,2-Dichloroethane-d4	98	79-136
Toluene-d8	95	80-120
Bromofluorobenzene	112	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198144	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Field ID:	B29-33	Diln Fac:	0.9615
Lab ID:	198144-008	Batch#:	130287
Matrix:	Soil	Sampled:	10/05/07
Units:	ug/Kg	Received:	10/05/07
Basis:	as received	Analyzed:	10/08/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	96
MTBE	ND	4.8
Isopropyl Ether (DIPE)	ND	4.8
Ethyl tert-Butyl Ether (ETBE)	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Methyl tert-Amyl Ether (TAME)	ND	4.8
Toluene	ND	4.8
1,2-Dibromoethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	97	80-124
1,2-Dichloroethane-d4	99	79-136
Toluene-d8	95	80-120
Bromofluorobenzene	111	80-122

ND= Not Detected  
 RL= Reporting Limit



<b>BTXE &amp; Oxygenates</b>			
Lab #:	198144	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Field ID:	B29-43	Diln Fac:	0.9615
Lab ID:	198144-010	Batch#:	130287
Matrix:	Soil	Sampled:	10/05/07
Units:	ug/Kg	Received:	10/05/07
Basis:	as received	Analyzed:	10/08/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	96
MTBE	ND	4.8
Isopropyl Ether (DIPE)	ND	4.8
Ethyl tert-Butyl Ether (ETBE)	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Methyl tert-Amyl Ether (TAME)	ND	4.8
Toluene	ND	4.8
1,2-Dibromoethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	96	80-124
1,2-Dichloroethane-d4	103	79-136
Toluene-d8	94	80-120
Bromofluorobenzene	108	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198144	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Field ID:	B29-48	Diln Fac:	0.9091
Lab ID:	198144-011	Batch#:	130287
Matrix:	Soil	Sampled:	10/05/07
Units:	ug/Kg	Received:	10/05/07
Basis:	as received	Analyzed:	10/08/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	91
MTBE	ND	4.5
Isopropyl Ether (DIPE)	ND	4.5
Ethyl tert-Butyl Ether (ETBE)	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Methyl tert-Amyl Ether (TAME)	ND	4.5
Toluene	ND	4.5
1,2-Dibromoethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	84	80-124
1,2-Dichloroethane-d4	96	79-136
Toluene-d8	91	80-120
Bromofluorobenzene	92	80-122

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198144	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Type:	LCS	Basis:	as received
Lab ID:	QC409473	Diln Fac:	1.000
Matrix:	Soil	Batch#:	130287
Units:	ug/Kg	Analyzed:	10/08/07

<b>Analyte</b>	<b>Spiked</b>	<b>Result</b>	<b>%REC</b>	<b>Limits</b>
tert-Butyl Alcohol (TBA)	125.0	97.64	78	58-133
MTBE	25.00	19.92	80	66-120
Isopropyl Ether (DIPE)	25.00	19.19	77	57-120
Ethyl tert-Butyl Ether (ETBE)	25.00	19.79	79	65-120
1,2-Dichloroethane	25.00	22.48	90	69-124
Benzene	25.00	25.38	102	77-121
Methyl tert-Amyl Ether (TAME)	25.00	22.02	88	71-120
Toluene	25.00	25.54	102	79-122
1,2-Dibromoethane	25.00	23.68	95	77-120
Ethylbenzene	25.00	28.55	114	80-127
m,p-Xylenes	50.00	56.35	113	80-126
o-Xylene	25.00	26.73	107	80-124

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	91	80-124
1,2-Dichloroethane-d4	94	79-136
Toluene-d8	94	80-120
Bromofluorobenzene	102	80-122

**Batch QC Report**

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Type:	BLANK	Basis:	as received
Lab ID:	QC409474	Diln Fac:	1.000
Matrix:	Soil	Batch#:	130287
Units:	ug/Kg	Analyzed:	10/08/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	92	80-124
1,2-Dichloroethane-d4	96	79-136
Toluene-d8	94	80-120
Bromofluorobenzene	108	80-122

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198144	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-01	Analysis:	EPA 8260B
Field ID:	B29-5	Diln Fac:	0.9434
MSS Lab ID:	198144-002	Batch#:	130287
Matrix:	Soil	Sampled:	10/05/07
Units:	ug/Kg	Received:	10/05/07
Basis:	as received	Analyzed:	10/08/07

Type: MS Lab ID: QC409517

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<2.302	235.8	152.8	65	41-131
MTBE	<0.2480	47.17	32.71	69	52-120
Isopropyl Ether (DIPE)	<0.2568	47.17	30.36	64	46-120
Ethyl tert-Butyl Ether (ETBE)	<0.2220	47.17	31.94	68	52-123
1,2-Dichloroethane	<0.3655	47.17	37.17	79	53-120
Benzene	<0.2990	47.17	38.93	83	57-123
Methyl tert-Amyl Ether (TAME)	<0.2008	47.17	37.28	79	57-120
Toluene	<0.3016	47.17	37.56	80	53-126
1,2-Dibromoethane	<0.2841	47.17	36.64	78	50-120
Ethylbenzene	<0.3596	47.17	41.49	88	51-130
m,p-Xylenes	<0.7045	94.34	84.45	90	49-128
o-Xylene	<0.2894	47.17	41.62	88	49-126

Surrogate	%REC	Limits
Dibromofluoromethane	88	80-124
1,2-Dichloroethane-d4	95	79-136
Toluene-d8	92	80-120
Bromofluorobenzene	94	80-122

Type: MSD Lab ID: QC409518

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	235.8	169.6	72	41-131	10	38
MTBE	47.17	35.80	76	52-120	9	27
Isopropyl Ether (DIPE)	47.17	32.98	70	46-120	8	27
Ethyl tert-Butyl Ether (ETBE)	47.17	34.98	74	52-123	9	27
1,2-Dichloroethane	47.17	39.45	84	53-120	6	27
Benzene	47.17	40.40	86	57-123	4	25
Methyl tert-Amyl Ether (TAME)	47.17	40.68	86	57-120	9	26
Toluene	47.17	39.71	84	53-126	6	27
1,2-Dibromoethane	47.17	38.24	81	50-120	4	26
Ethylbenzene	47.17	43.07	91	51-130	4	28
m,p-Xylenes	94.34	88.02	93	49-128	4	28
o-Xylene	47.17	42.76	91	49-126	3	28

Surrogate	%REC	Limits
Dibromofluoromethane	89	80-124
1,2-Dichloroethane-d4	96	79-136
Toluene-d8	93	80-120
Bromofluorobenzene	95	80-122

RPD= Relative Percent Difference



Laboratory Job Number 198204  
ANALYTICAL REPORT

LFR Levine Fricke  
1900 Powell Street  
Emeryville, CA 94608

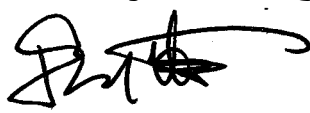
Project : 001-09567-04  
Location : Hanson Radium  
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
OIL-FP	198204-001
B25-9	198204-002
B25-12	198204-003
B25-16	198204-004
B25-21	198204-005
B25-26.5	198204-006
B25-31	198204-007
B25-36	198204-008
B25-47	198204-009
B25-GGW	198204-010
B25A-34.5	198204-011
B25A-35	198204-012
MW-5A-GGW	198204-013
B33-5	198204-014
B33-6.5	198204-015
B33-12.5	198204-016
B33-18	198204-017
B33-22	198204-018
B25-35.5	198204-019
TB-100807	198204-020

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature:   
Project Manager

Date: 10/29/2007

Signature:   
Operations Manager

Date: 10/30/2007

## CASE NARRATIVE

Laboratory number: 198204  
Client: LFR Levine Fricke  
Project: 001-09567-04  
Location: Hanson Radum  
Request Date: 10/09/07  
Samples Received: 10/09/07

This hardcopy data package contains sample and QC results for fourteen soil samples, three water samples, and one oily sludge sample, requested for the above referenced project on 10/09/07. The samples were received cold and intact. All data were e-mailed to Katrin Schliewen on 10/18/07.

### TPH-Purgeables and/or BTXE by GC (EPA 8015B):

High surrogate recovery was observed for bromofluorobenzene (FID) in B25A-34.5 (lab # 198204-011); the corresponding trifluorotoluene (FID) surrogate recovery was within limits. High surrogate recoveries were observed for trifluorotoluene (FID) in the MS/MSD for batch 130483; the corresponding bromofluorobenzene (FID) surrogate recoveries were within limits. No other analytical problems were encountered.

### TPH-Extractables by GC (EPA 8015B) Water:

No analytical problems were encountered.

### TPH-Extractables by GC (EPA 8015B) Soil:

Matrix spikes were not reported for batch 130514 due to loss of the MSD during the extraction process. B25-35.5 (lab # 198204-019), B25A-34.5 (lab # 198204-011), and B33-5 (lab # 198204-014) were diluted due to the dark, viscous nature of the sample extracts. No other analytical problems were encountered.

### TPH-Extractables by GC (EPA 8015B) Miscell.:

OIL-FP (lab # 198204-001) was diluted due to the dark and viscous nature of the sample extract. No other analytical problems were encountered.

### TPH-Extractables by GC (EPA 8015B) SPLP Leachate:

No analytical problems were encountered.

### Volatile Organics by GC/MS (EPA 8260B) Water:

High recovery was observed for chlorobenzene in the MSD for batch 130418; the parent sample was not a project sample, the LCS was within limits, the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated sample. No other analytical problems were encountered.

### Volatile Organics by GC/MS (EPA 8260B) Soil:

High surrogate recoveries were observed for dibromofluoromethane in B25-36 (lab # 198204-008), B25-47 (lab # 198204-009), and B25-35.5 (lab # 198204-019); no target analytes were detected in these samples. No other

## CASE NARRATIVE

Laboratory number: 198204  
Client: LFR Levine Fricke  
Project: 001-09567-04  
Location: Hanson Radum  
Request Date: 10/09/07  
Samples Received: 10/09/07

### Volatile Organics by GC/MS (EPA 8260B) Soil:

analytical problems were encountered.

### Volatile Organics by GC/MS (EPA 8260B) Miscell.:

OIL-FP (lab # 198204-001) was diluted due to the dark, viscous nature of the sample. No other analytical problems were encountered.

### Semivolatile Organics by GC/MS (EPA 8270C) Water:

Bis(2-ethylhexyl)phthalate was detected above the RL in the method blank for batch 130437; this analyte was not detected in the sample at or above the RL. No other analytical problems were encountered.

### Semivolatile Organics by GC/MS (EPA 8270C) Soil:

Matrix spikes were not reported for this analysis because the parent sample required a dilution that would have diluted out the spikes. B25A-34.5 (lab # 198204-011) and B25-35.5 (lab # 198204-019) were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

### Semivolatile Organics by GC/MS (EPA 8270C) Miscell.:

OIL-FP (lab # 198204-001) was diluted due to the dark and viscous nature of the sample extract. No other analytical problems were encountered.

### Pesticides (EPA 8081A) Water:

Low recovery was observed for aldrin in the MS for batch 130441; the parent sample was not a project sample, the low recovery was confirmed by re-analysis, and the LCS was within limits. High recovery was observed for gamma-BHC in the MSD for batch 130441; the high recovery was confirmed by re-analysis, the LCS was within limits, and this analyte was not detected at or above the RL in the associated sample. High RPD was observed for aldrin and gamma-BHC in the MS/MSD for batch 130441; the high RPD was confirmed by re-analysis, and these analytes were not detected at or above the RL in the associated sample. No other analytical problems were encountered.

### Pesticides (EPA 8081A) Miscell.:

High recovery was observed for dieldrin in the BS for batch 130462; the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated sample. OIL-FP (lab # 198204-001) was diluted due to the dark, viscous nature of the sample extract. No other analytical problems were encountered.



### CASE NARRATIVE

Laboratory number: 198204  
Client: LFR Levine Fricke  
Project: 001-09567-04  
Location: Hanson Radum  
Request Date: 10/09/07  
Samples Received: 10/09/07

**Polychlorinated Biphenyls (PCBs) (EPA 8082) Water:**

No analytical problems were encountered.

**Polychlorinated Biphenyls (PCBs) (EPA 8082) Soil:**

Low surrogate recovery was observed for decachlorobiphenyl in B25A-34.5 (lab # 198204-011); the corresponding TCMX surrogate recovery was within limits. No other analytical problems were encountered.

**Polychlorinated Biphenyls (PCBs) (EPA 8082) Miscell.:**

No analytical problems were encountered.

**Metals (EPA 6010B and EPA 7470A) Water:**

No analytical problems were encountered.

**Metals (EPA 6010B) Soil:**

No analytical problems were encountered.

**Metals (EPA 6010B and EPA 7471A) Miscell.:**

No analytical problems were encountered.

**Metals (EPA 6010B) SPLP Leachate:**

No analytical problems were encountered.



Total Volatile Hydrocarbons			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	130483
Units:	mg/Kg	Sampled:	10/08/07
Basis:	as received	Received:	10/09/07

Field ID: B25-31 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/12/07  
 Lab ID: 198204-007

Analyte	Result	RL
Gasoline C7-C12	ND	0.98

Surrogate	%REC	Limits
Trifluorotoluene (FID)	95	71-132
Bromofluorobenzene (FID)	87	69-145

Field ID: B25-36 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/13/07  
 Lab ID: 198204-008

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	93	71-132
Bromofluorobenzene (FID)	87	69-145

Field ID: B25-47 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/13/07  
 Lab ID: 198204-009

Analyte	Result	RL
Gasoline C7-C12	ND	0.97

Surrogate	%REC	Limits
Trifluorotoluene (FID)	94	71-132
Bromofluorobenzene (FID)	86	69-145

Field ID: B25A-34.5 Diln Fac: 10.00  
 Type: SAMPLE Analyzed: 10/12/07  
 Lab ID: 198204-011

Analyte	Result	RL
Gasoline C7-C12	140 Y	10

Surrogate	%REC	Limits
Trifluorotoluene (FID)	89	71-132
Bromofluorobenzene (FID)	159 *	69-145

\*= Value outside of QC limits; see narrative  
 Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

Total Volatile Hydrocarbons			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	130483
Units:	mg/Kg	Sampled:	10/08/07
Basis:	as received	Received:	10/09/07

Field ID: B25-35.5 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/13/07  
 Lab ID: 198204-019

Analyte	Result	RL
Gasoline C7-C12	ND	0.94

Surrogate	%REC	Limits
Trifluorotoluene (FID)	96	71-132
Bromofluorobenzene (FID)	91	69-145

Type: BLANK Diln Fac: 1.000  
 Lab ID: QC410297 Analyzed: 10/12/07

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	89	71-132
Bromofluorobenzene (FID)	84	69-145

\*= Value outside of QC limits; see narrative  
 Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8015B
Type:	LCS	Basis:	as received
Lab ID:	QC410298	Diln Fac:	1.000
Matrix:	Soil	Batch#:	130483
Units:	mg/Kg	Analyzed:	10/12/07

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	5.000	4.453	89	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	120	71-132
Bromofluorobenzene (FID)	95	69-145

## Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	198287-008	Batch#:	130483
Matrix:	Soil	Sampled:	10/11/07
Units:	mg/Kg	Received:	10/11/07
Basis:	as received	Analyzed:	10/12/07

Type: MS Lab ID: QC410299

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	<0.07822	9.901	8.317	84	43-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	142 *	71-132
Bromofluorobenzene (FID)	102	69-145

Type: MSD Lab ID: QC410300

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.20	8.213	80	43-120	4	25

Surrogate	%REC	Limits
Trifluorotoluene (FID)	138 *	71-132
Bromofluorobenzene (FID)	98	69-145

\*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference







**Total Extractable Hydrocarbons**

Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	10/08/07
Units:	ug/L	Received:	10/09/07
Diln Fac:	1.000	Prepared:	10/13/07
Batch#:	130507		

Field ID: B25-GGW Analyzed: 10/16/07  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 198204-010

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	90	61-133

Field ID: MW-5A-GGW Analyzed: 10/16/07  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 198204-013

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	87	61-133

Type: BLANK Analyzed: 10/15/07  
 Lab ID: QC410390 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	101	61-133

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	130507
Units:	ug/L	Prepared:	10/13/07
Diln Fac:	1.000	Analyzed:	10/15/07

Type: BS Cleanup Method: EPA 3630C  
 Lab ID: QC410391

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,693	68	58-128

Surrogate	%REC	Limits
Hexacosane	95	61-133

Type: BSD Cleanup Method: EPA 3630C  
 Lab ID: QC410392

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,004	80	58-128	17	29

Surrogate	%REC	Limits
Hexacosane	107	61-133

RPD= Relative Percent Difference



Total Extractable Hydrocarbons			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	10/08/07
Units:	mg/Kg	Received:	10/09/07
Basis:	as received	Prepared:	10/13/07
Batch#:	130514		

Field ID: B25-31 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/17/07  
 Lab ID: 198204-007 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	97	46-128

Field ID: B25-36 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/17/07  
 Lab ID: 198204-008 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	0.99
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	84	46-128

Field ID: B25-47 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/17/07  
 Lab ID: 198204-009 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	0.99
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	69	46-128

Field ID: B25A-34.5 Diln Fac: 10.00  
 Type: SAMPLE Analyzed: 10/17/07  
 Lab ID: 198204-011 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	3,600	10
Motor Oil C24-C36	3,200	50

Surrogate	%REC	Limits
Hexacosane	DO	46-128

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit

Total Extractable Hydrocarbons			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	10/08/07
Units:	mg/Kg	Received:	10/09/07
Basis:	as received	Prepared:	10/13/07
Batch#:	130514		

Field ID: B33-5 Diln Fac: 3.000  
 Type: SAMPLE Analyzed: 10/17/07  
 Lab ID: 198204-014 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	35 Y	3.0
Motor Oil C24-C36	190	15

Surrogate	%REC	Limits
Hexacosane	92	46-128

Field ID: B33-6.5 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/17/07  
 Lab ID: 198204-015 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	1.1 Y	1.0
Motor Oil C24-C36	5.0	5.0

Surrogate	%REC	Limits
Hexacosane	96	46-128

Field ID: B33-12.5 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/17/07  
 Lab ID: 198204-016 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	72	46-128

Field ID: B33-18 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/17/07  
 Lab ID: 198204-017 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	0.99
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	91	46-128

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit

Total Extractable Hydrocarbons			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	10/08/07
Units:	mg/Kg	Received:	10/09/07
Basis:	as received	Prepared:	10/13/07
Batch#:	130514		

Field ID: B33-22 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/17/07  
 Lab ID: 198204-018 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	115	46-128

Field ID: B25-35.5 Diln Fac: 10.00  
 Type: SAMPLE Analyzed: 10/17/07  
 Lab ID: 198204-019 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	930 Y	9.9
Motor Oil C24-C36	1,600	50

Surrogate	%REC	Limits
Hexacosane	DO	46-128

Type: BLANK Analyzed: 10/16/07  
 Lab ID: QC410408 Cleanup Method: EPA 3630C  
 Diln Fac: 1.000

Analyte	Result	RL
Diesel C10-C24	ND	0.99
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	77	46-128

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit

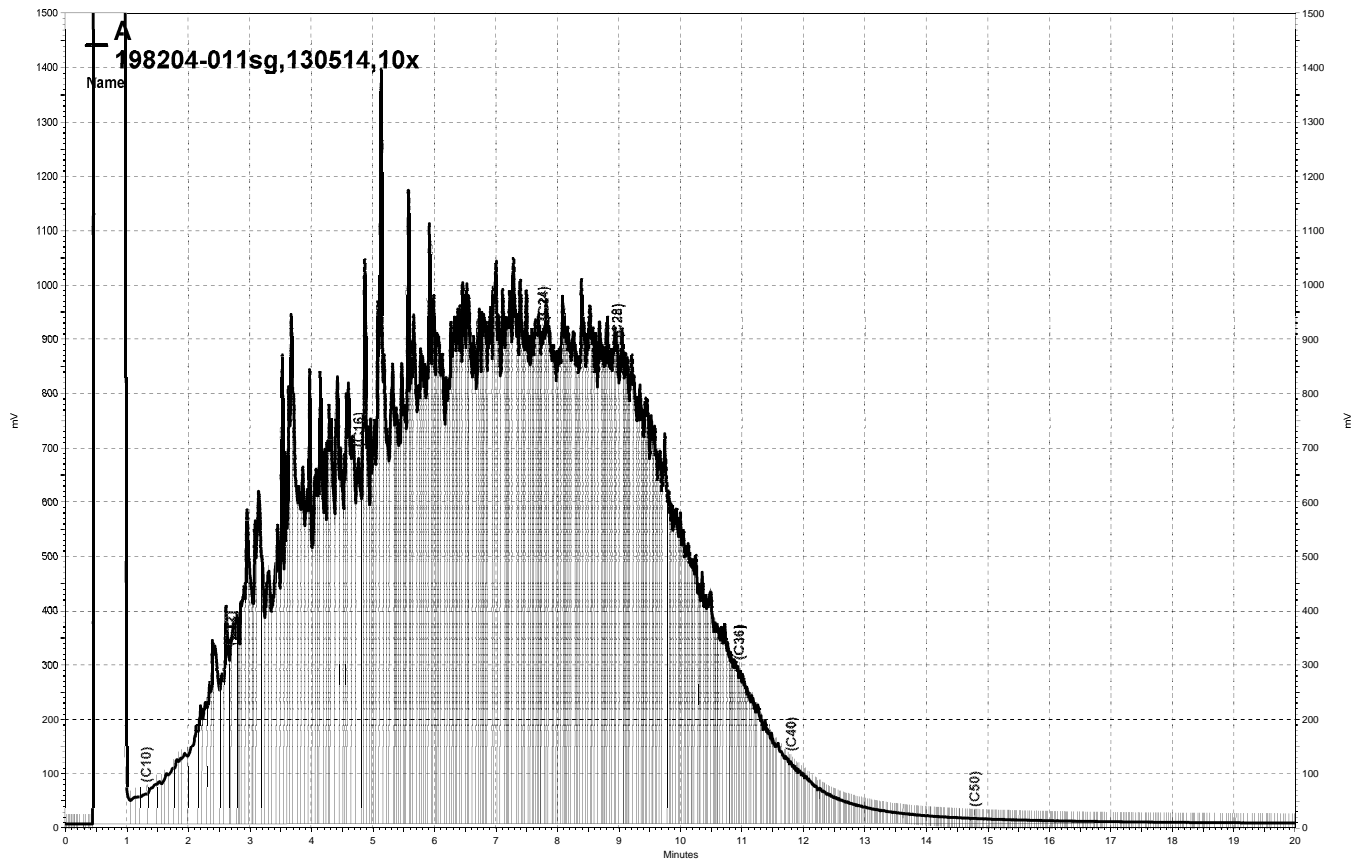
## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-04	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC410409	Batch#:	130514
Matrix:	Soil	Prepared:	10/13/07
Units:	mg/Kg	Analyzed:	10/16/07
Basis:	as received		

Cleanup Method: EPA 3630C

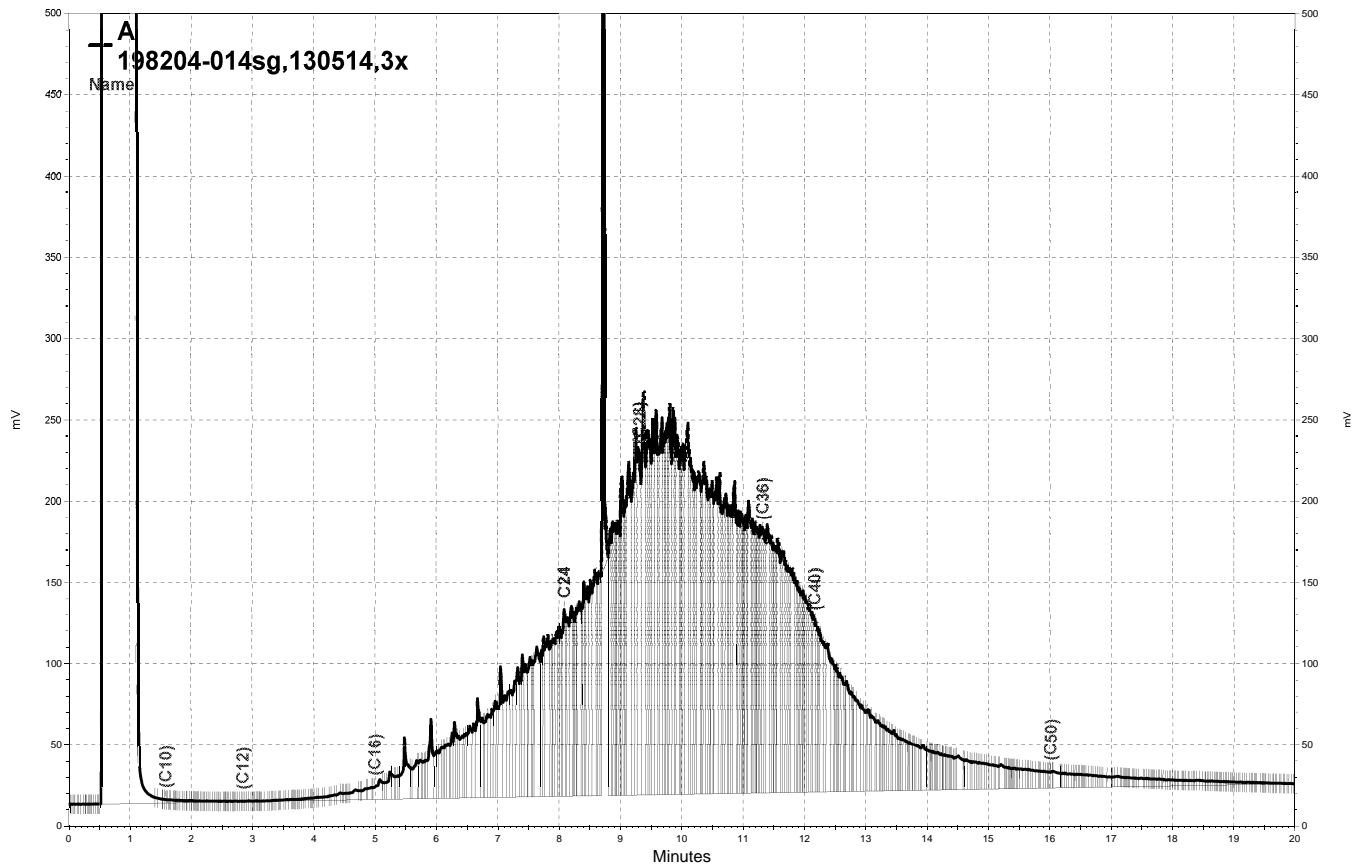
Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.83	45.08	90	55-131

Surrogate	%REC	Limits
Hexacosane	90	46-128

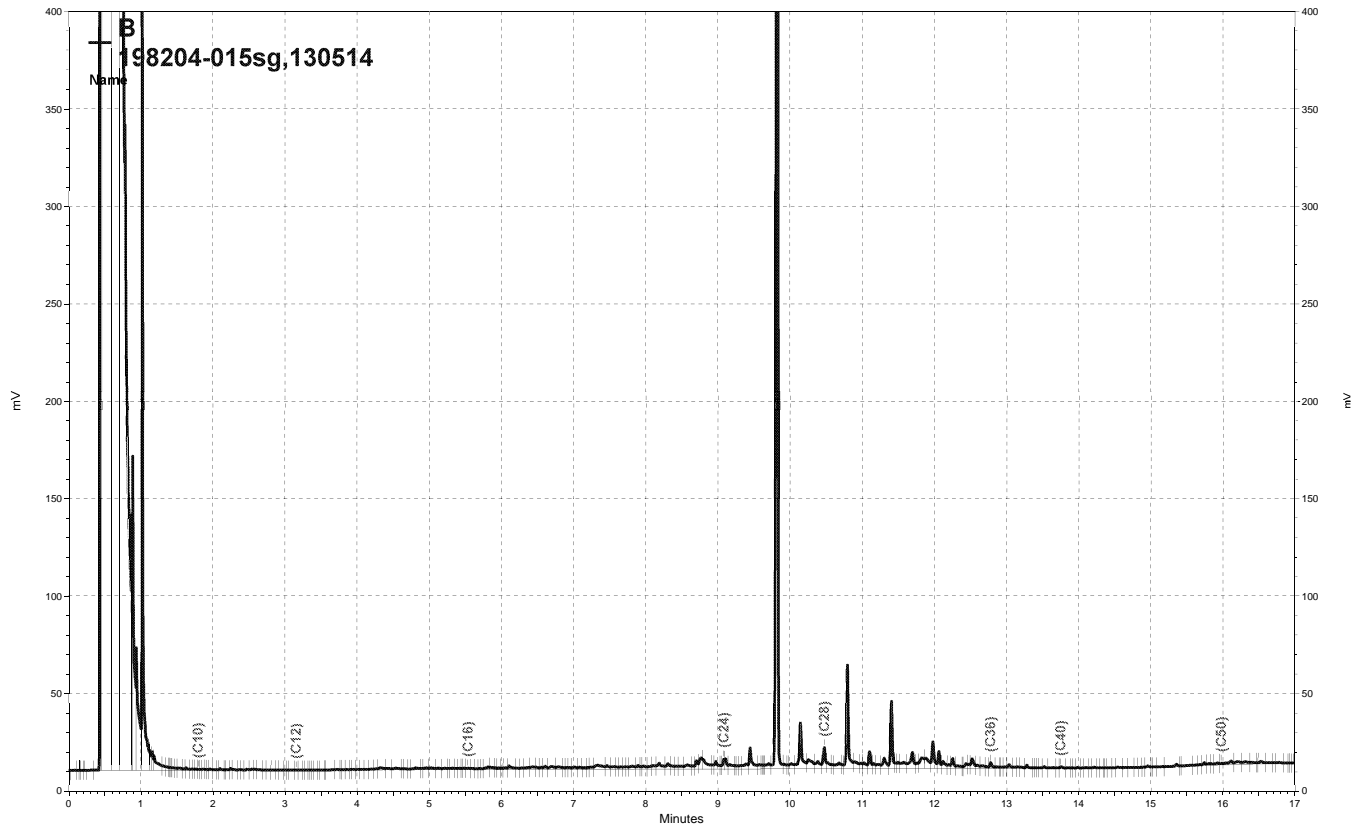


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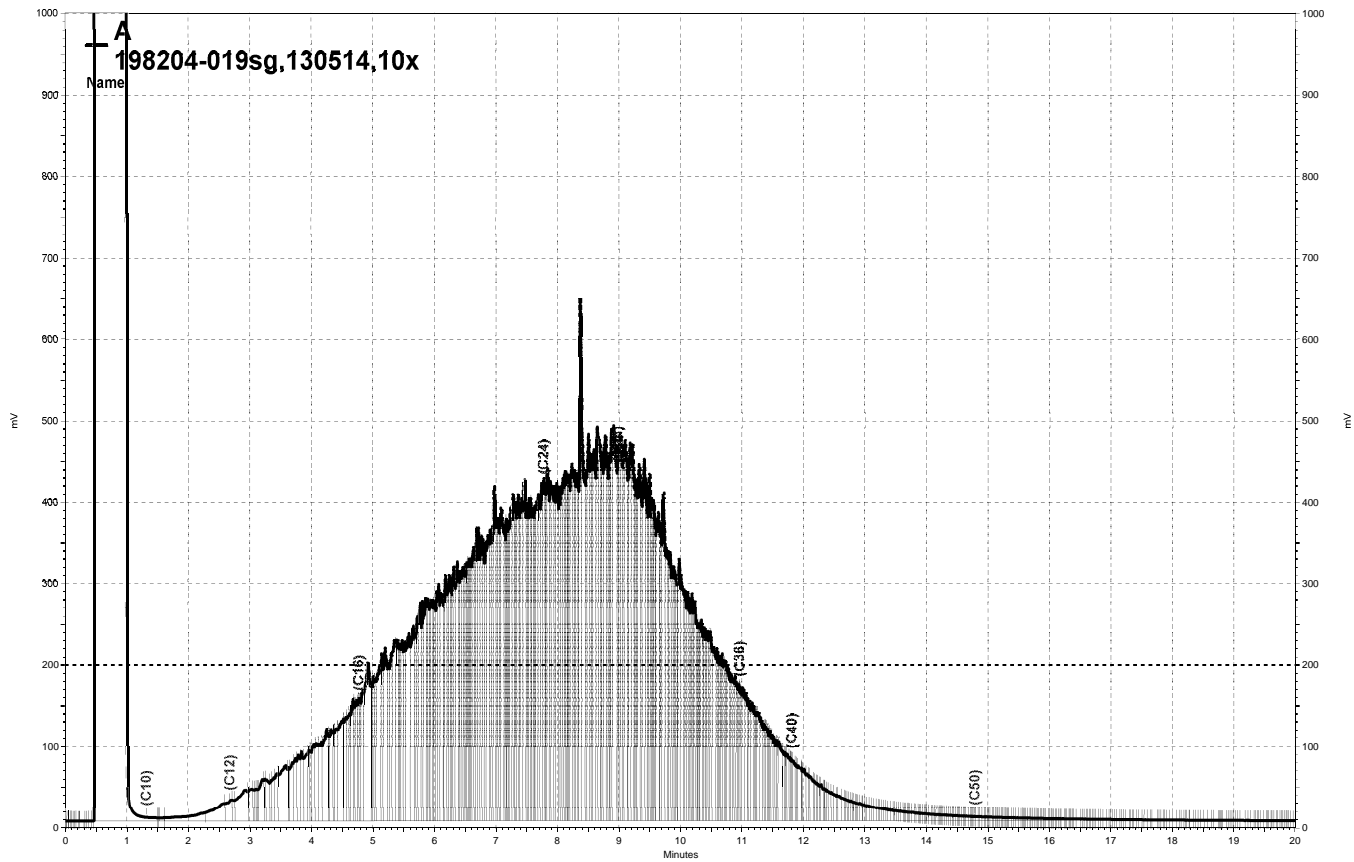




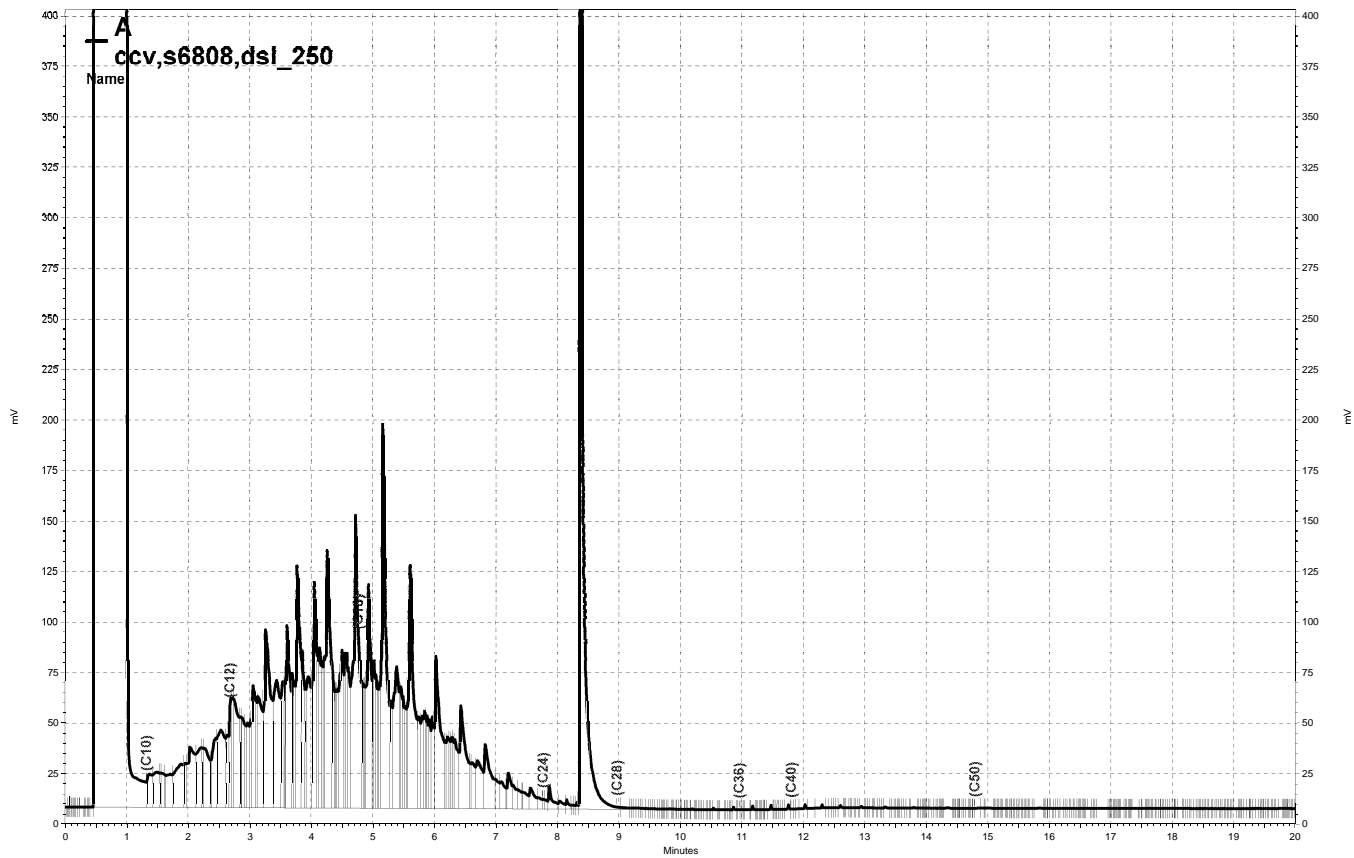
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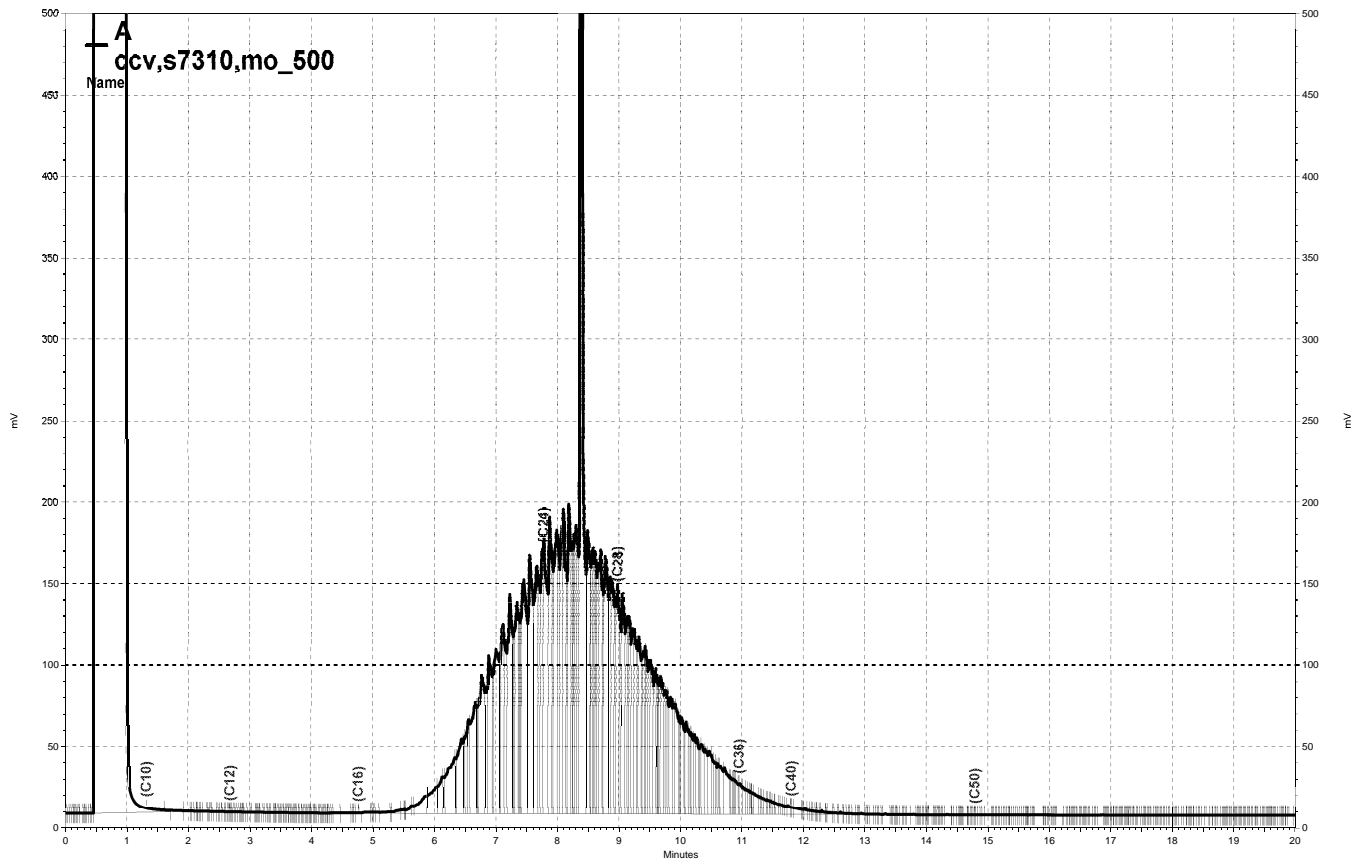
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**Total Extractable Hydrocarbons**

Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3580
Project#:	001-09567-04	Analysis:	EPA 8015B
Field ID:	OIL-FP	Batch#:	130469
Matrix:	Miscell.	Sampled:	10/08/07
Units:	mg/Kg	Received:	10/09/07
Basis:	as received	Prepared:	10/12/07

Type:	SAMPLE	Analyzed:	10/15/07
Lab ID:	198204-001	Cleanup Method:	EPA 3630C
Diln Fac:	10.00		

Analyte	Result	RL
Diesel C10-C24	26,000 Y	4,000
Motor Oil C24-C36	450,000	20,000

Surrogate	%REC	Limits
Hexacosane	DO	46-128

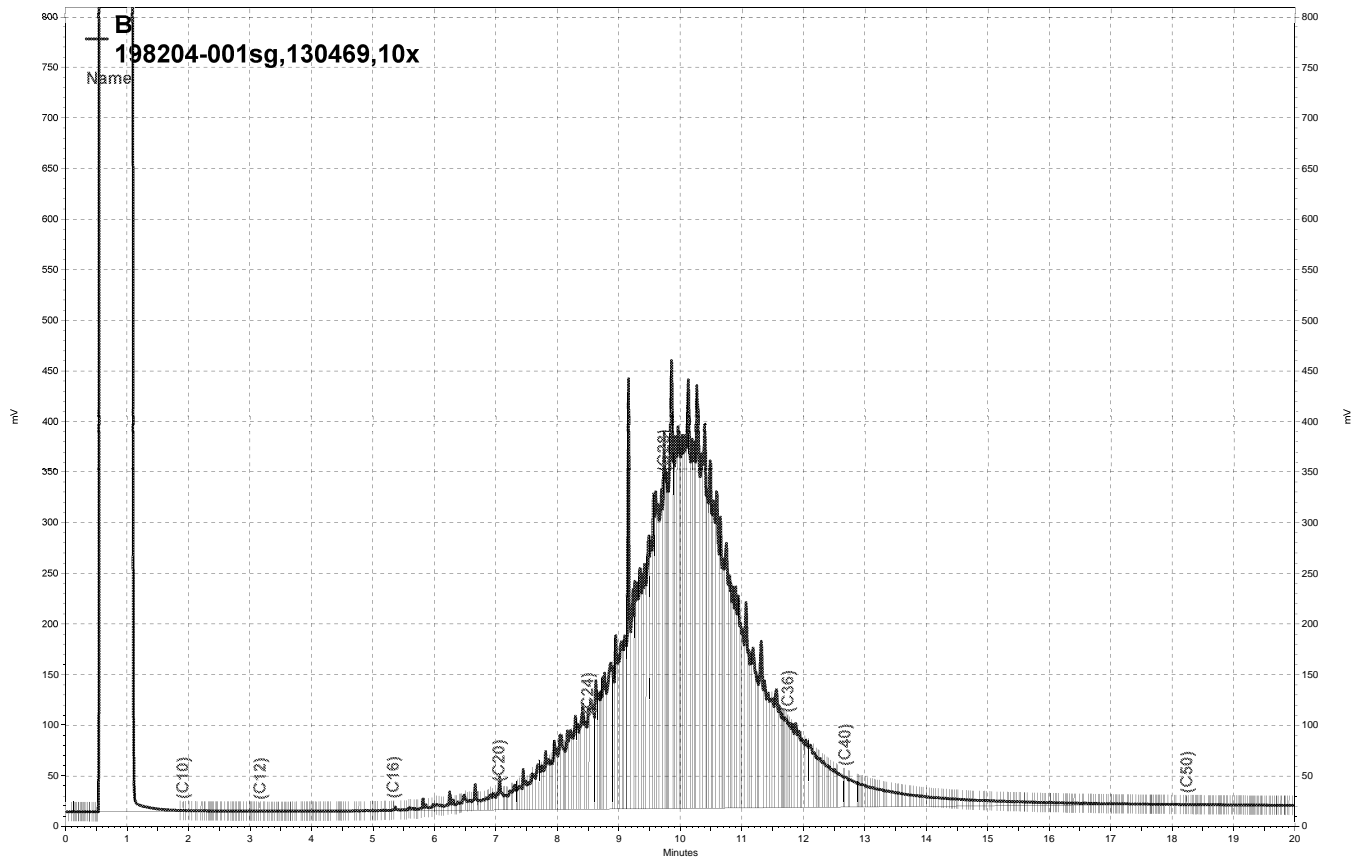
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Lab ID:	QC410230	Cleanup Method:	EPA 3630C
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	ND	400
Motor Oil C24-C36	ND	2,000

Surrogate	%REC	Limits
Hexacosane	97	46-128

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit

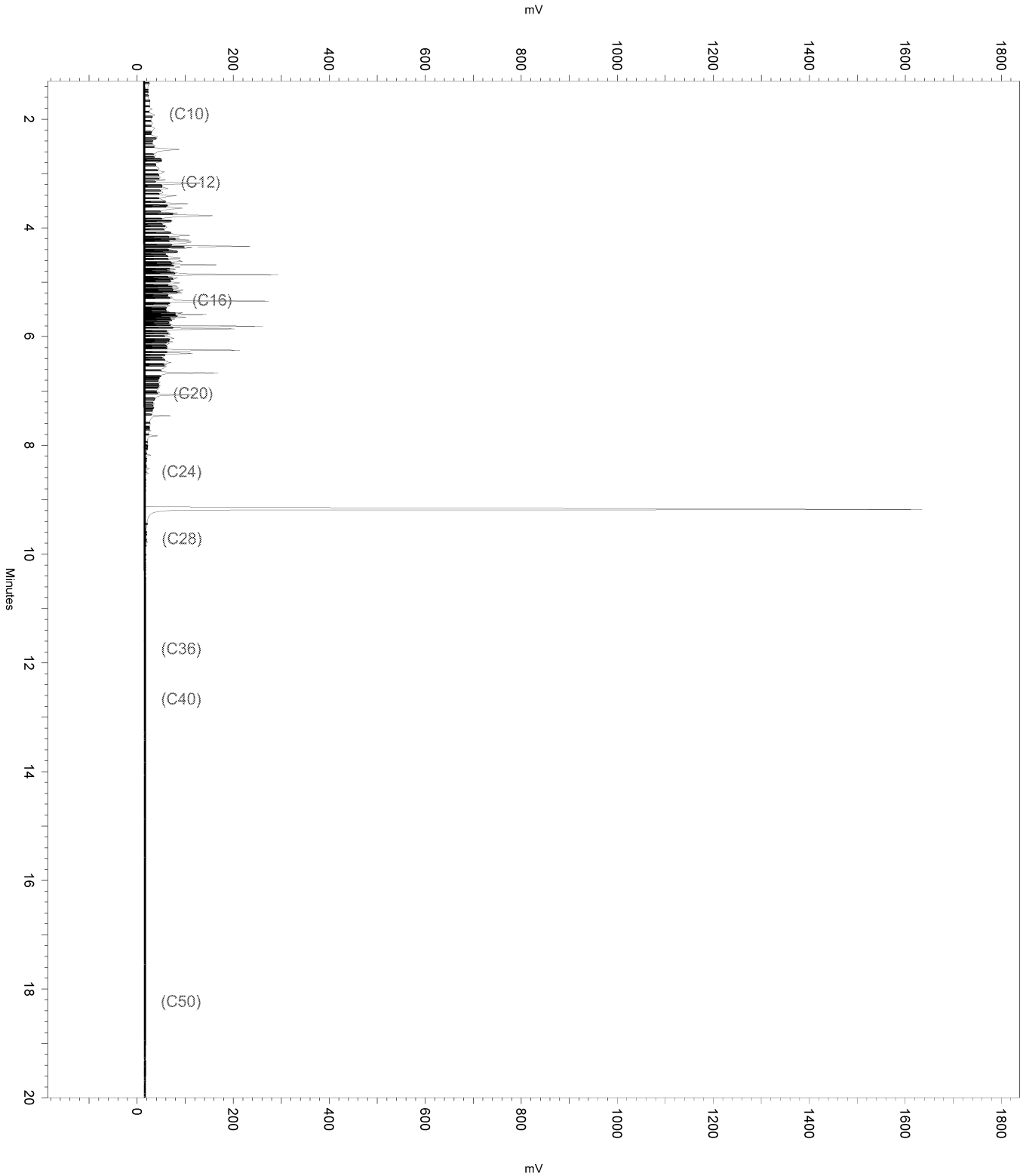


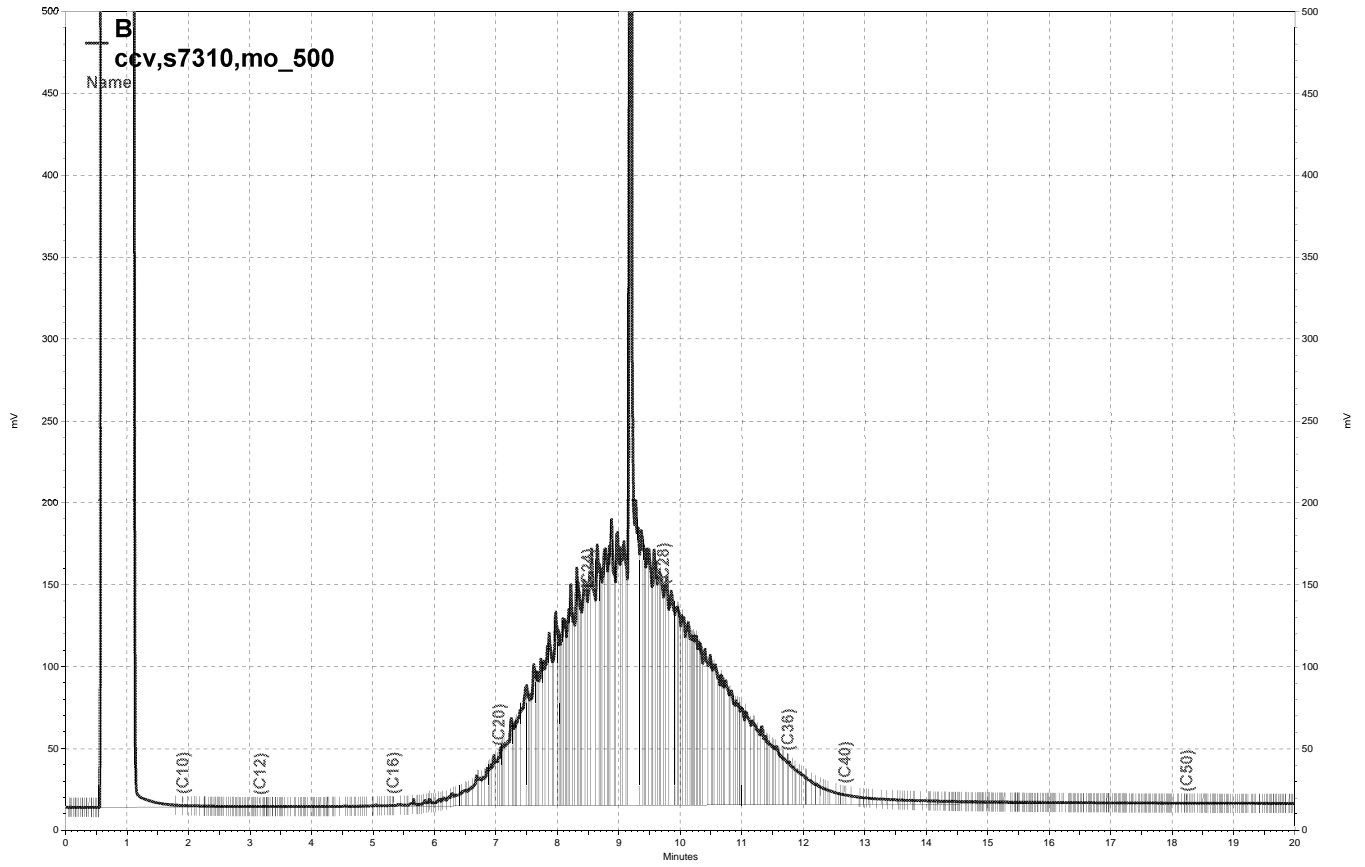


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Analysis Date: 10/15/2007 9:45:50 AM  
Instrument: GC14B Vial: 56 Operator: Teh 1. Analyst (lims2k3\teh1)  
Sample Amount: 0





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Total Extractable Hydrocarbons			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8015B
Units:	ug/L	Sampled:	10/08/07
Diln Fac:	1.000	Received:	10/09/07
Batch#:	130507	Prepared:	10/13/07

Field ID: B25-31 Matrix: SPLP Leachate  
 Type: SAMPLE Analyzed: 10/16/07  
 Lab ID: 198204-007 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	83	61-133

Field ID: B25A-34.5 Matrix: SPLP Leachate  
 Type: SAMPLE Analyzed: 10/16/07  
 Lab ID: 198204-011 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	740	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	90	61-133

Field ID: B25-35.5 Matrix: SPLP Leachate  
 Type: SAMPLE Analyzed: 10/16/07  
 Lab ID: 198204-019 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	103	61-133

Type: BLANK Analyzed: 10/15/07  
 Lab ID: QC410390 Cleanup Method: EPA 3630C  
 Matrix: Water

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	101	61-133

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	130507
Units:	ug/L	Prepared:	10/13/07
Diln Fac:	1.000	Analyzed:	10/15/07

Type: BS  
Lab ID: QC410391

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,693	68	58-128

Surrogate	%REC	Limits
Hexacosane	95	61-133

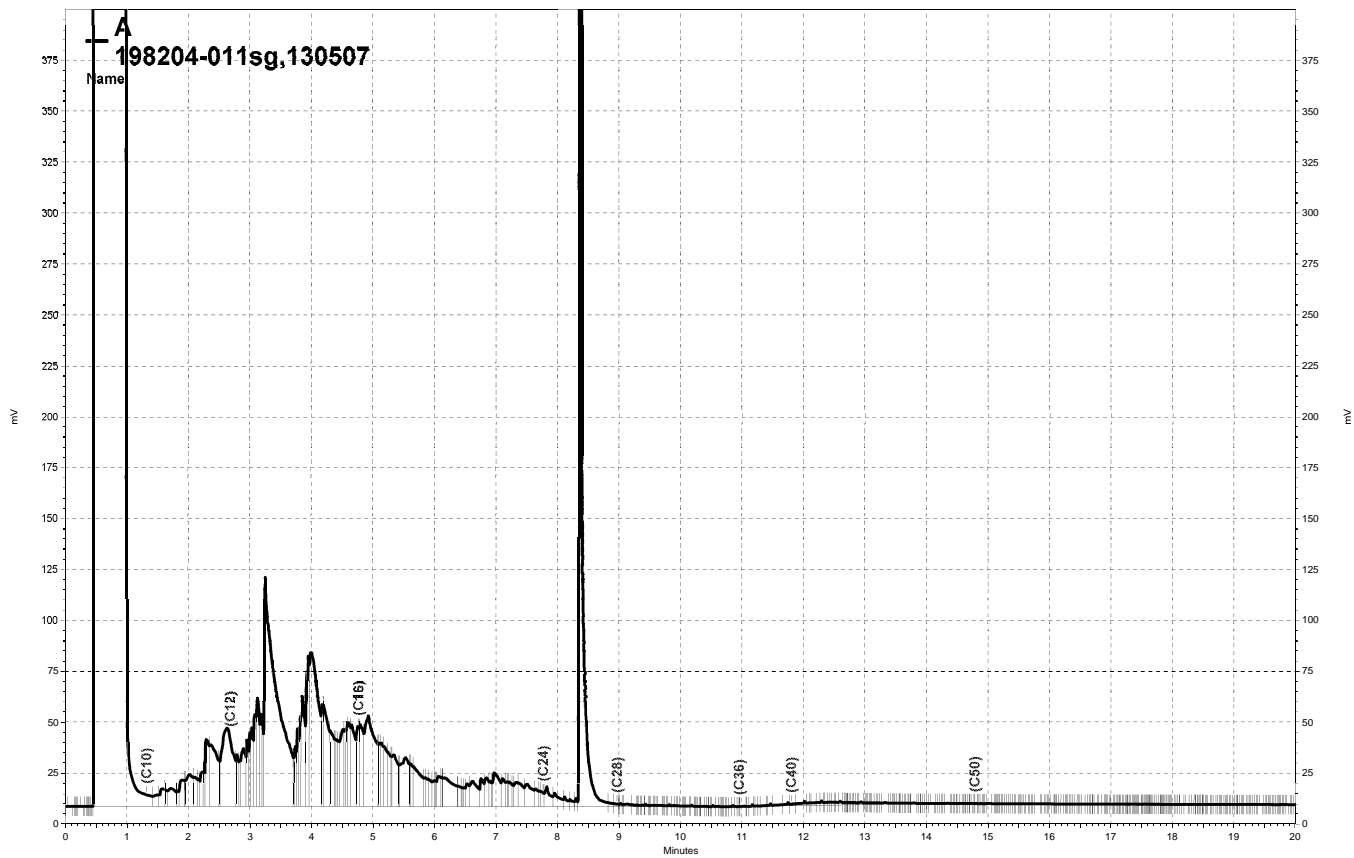
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Lab ID: QC410392

Cleanup Method: EPA 3630C

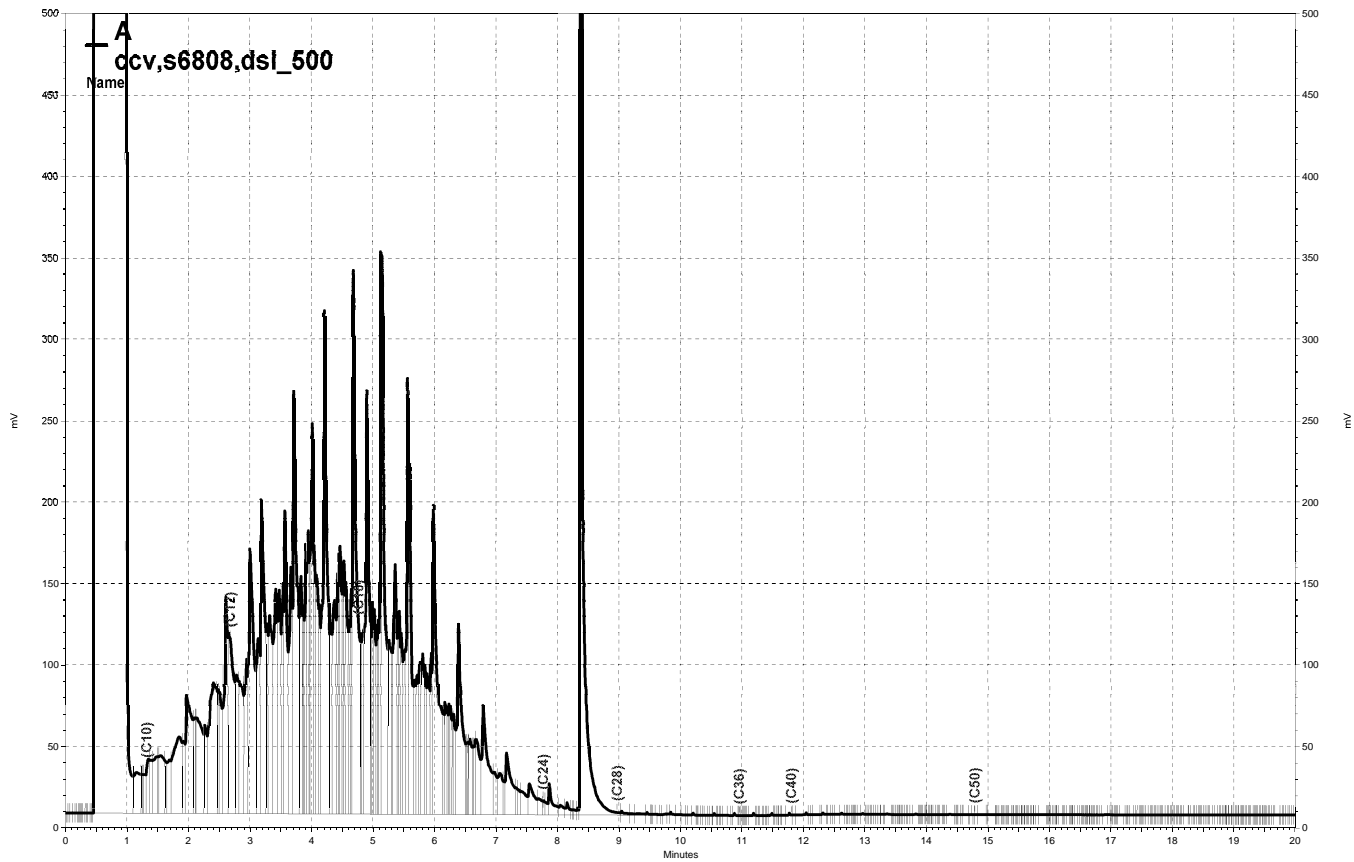
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,004	80	58-128	17	29

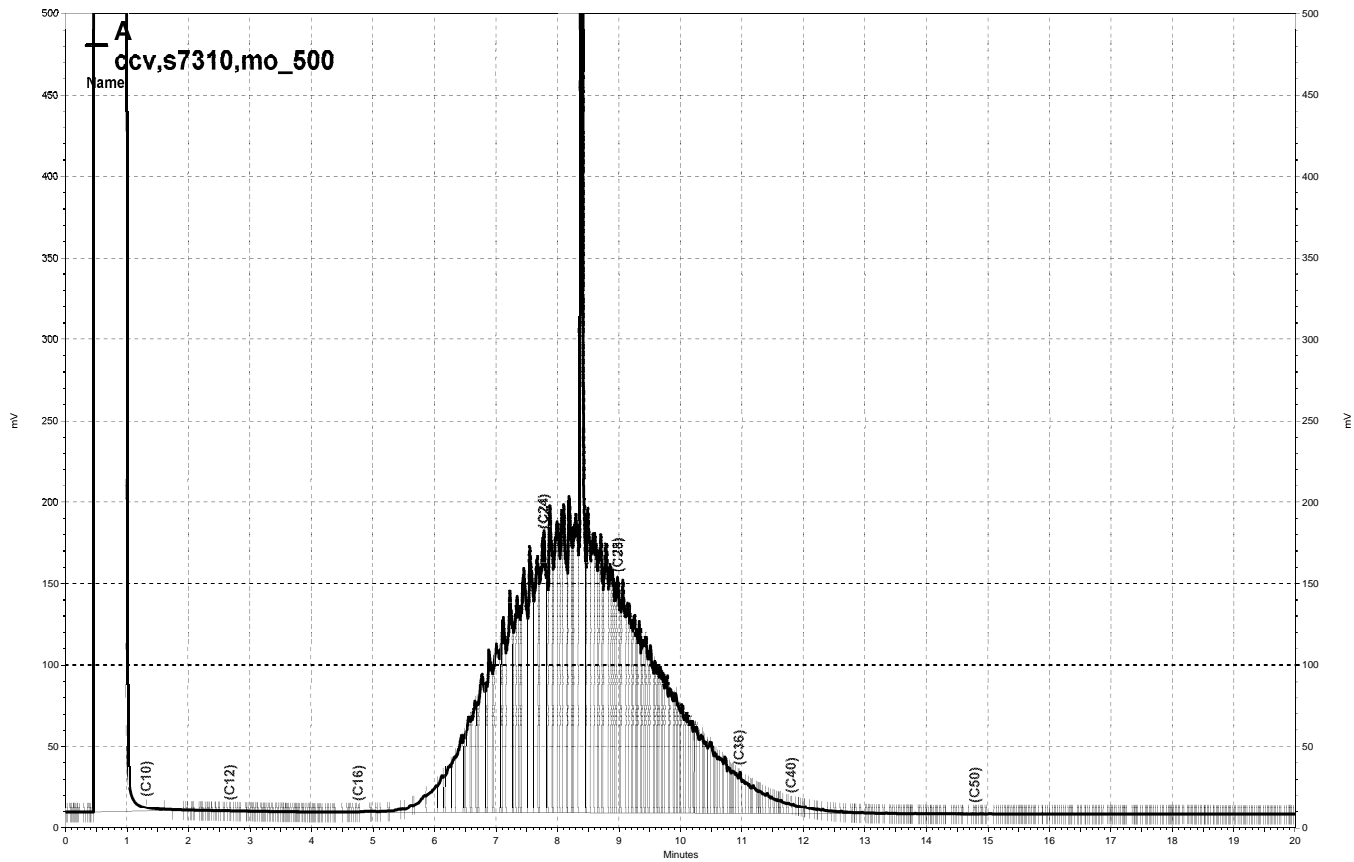
Surrogate	%REC	Limits
Hexacosane	107	61-133



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**Purgeable Organics by GC/MS**

Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	TB-100807	Batch#:	130418
Lab ID:	198204-020	Sampled:	10/08/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected

RL= Reporting Limit



### Purgeable Organics by GC/MS

Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	TB-100807	Batch#:	130418
Lab ID:	198204-020	Sampled:	10/08/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-122
1,2-Dichloroethane-d4	103	74-137
Toluene-d8	97	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC409998	Batch#:	130418
Matrix:	Water	Analyzed:	10/11/07
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	0.5
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC409998	Batch#:	130418
Matrix:	Water	Analyzed:	10/11/07
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	94	80-122
1,2-Dichloroethane-d4	100	74-137
Toluene-d8	96	80-120
Bromofluorobenzene	101	80-120

ND= Not Detected

RL= Reporting Limit

## Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC409999	Batch#:	130418
Matrix:	Water	Analyzed:	10/11/07
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	24.33	97	80-133
Benzene	25.00	23.96	96	80-120
Trichloroethene	25.00	24.35	97	80-120
Toluene	25.00	24.16	97	80-122
Chlorobenzene	25.00	26.09	104	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-122
1,2-Dichloroethane-d4	99	74-137
Toluene-d8	97	80-120
Bromofluorobenzene	100	80-120

**Batch QC Report**

Purgeable Organics by GC/MS			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	130418
MSS Lab ID:	198262-002	Sampled:	10/08/07
Matrix:	Water	Received:	10/10/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Type: MS Lab ID: QC410096

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	0.3777	25.00	26.65	105	80-141
Benzene	<0.1121	25.00	25.92	104	80-123
Trichloroethene	4.645	25.00	29.55	100	73-129
Toluene	<0.1078	25.00	24.69	99	80-124
Chlorobenzene	<0.04080	25.00	26.78	107	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-122
1,2-Dichloroethane-d4	111	74-137
Toluene-d8	98	80-120
Bromofluorobenzene	104	80-120

Type: MSD Lab ID: QC410097

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	27.78	110	80-141	4	20
Benzene	25.00	28.27	113	80-123	9	20
Trichloroethene	25.00	33.23	114	73-129	12	20
Toluene	25.00	27.57	110	80-124	11	20
Chlorobenzene	25.00	31.02	124 *	80-120	15	20

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-122
1,2-Dichloroethane-d4	114	74-137
Toluene-d8	98	80-120
Bromofluorobenzene	104	80-120

\*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

Gasoline by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B25-GGW	Batch#:	130425
Lab ID:	198204-010	Sampled:	10/08/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	0.5
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5

ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B25-GGW	Batch#:	130425
Lab ID:	198204-010	Sampled:	10/08/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Analyte	Result	RL
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-122
1,2-Dichloroethane-d4	103	74-137
Toluene-d8	99	80-120
Bromofluorobenzene	108	80-120

ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	MW-5A-GGW	Batch#:	130425
Lab ID:	198204-013	Sampled:	10/08/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	0.5
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5

ND= Not Detected  
 RL= Reporting Limit



Gasoline by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	MW-5A-GGW	Batch#:	130425
Lab ID:	198204-013	Sampled:	10/08/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Analyte	Result	RL
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-122
1,2-Dichloroethane-d4	105	74-137
Toluene-d8	99	80-120
Bromofluorobenzene	110	80-120

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Gasoline by GC/MS</b>			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410035	Batch#:	130425
Matrix:	Water	Analyzed:	10/11/07
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	0.5
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Gasoline by GC/MS</b>			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410035	Batch#:	130425
Matrix:	Water	Analyzed:	10/11/07
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	90	80-122
1,2-Dichloroethane-d4	79	74-137
Toluene-d8	95	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Gasoline by GC/MS</b>			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	130425
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Type: BS Lab ID: QC410036

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	110.9	89	59-149
Isopropyl Ether (DIPE)	25.00	21.66	87	59-120
Ethyl tert-Butyl Ether (ETBE)	25.00	22.48	90	65-134
Methyl tert-Amyl Ether (TAME)	25.00	23.18	93	67-132
1,1-Dichloroethene	25.00	25.87	103	80-133
Benzene	25.00	25.51	102	80-120
Trichloroethene	25.00	25.67	103	80-120
Toluene	25.00	25.59	102	80-122
Chlorobenzene	25.00	24.87	99	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-122
1,2-Dichloroethane-d4	83	74-137
Toluene-d8	97	80-120
Bromofluorobenzene	91	80-120

Type: BSD Lab ID: QC410037

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	110.6	88	59-149	0	20
Isopropyl Ether (DIPE)	25.00	21.28	85	59-120	2	20
Ethyl tert-Butyl Ether (ETBE)	25.00	22.23	89	65-134	1	20
Methyl tert-Amyl Ether (TAME)	25.00	22.81	91	67-132	2	20
1,1-Dichloroethene	25.00	25.06	100	80-133	3	20
Benzene	25.00	25.03	100	80-120	2	20
Trichloroethene	25.00	25.07	100	80-120	2	20
Toluene	25.00	25.19	101	80-122	2	20
Chlorobenzene	25.00	24.88	100	80-120	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	91	80-122
1,2-Dichloroethane-d4	81	74-137
Toluene-d8	96	80-120
Bromofluorobenzene	92	80-120

## Batch QC Report

Gasoline by GC/MS			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	130425
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Type: BS Lab ID: QC410038

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,172	117	70-130

Surrogate	%REC	Limits
Dibromofluoromethane	89	80-122
1,2-Dichloroethane-d4	80	74-137
Toluene-d8	97	80-120
Bromofluorobenzene	93	80-120

Type: BSD Lab ID: QC410039

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	1,166	117	70-130	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	88	80-122
1,2-Dichloroethane-d4	75	74-137
Toluene-d8	95	80-120
Bromofluorobenzene	93	80-120

RPD= Relative Percent Difference

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B25-9	Diln Fac:	0.9615
Lab ID:	198204-002	Batch#:	130379
Matrix:	Soil	Sampled:	10/08/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	96
MTBE	ND	4.8
Isopropyl Ether (DIPE)	ND	4.8
Ethyl tert-Butyl Ether (ETBE)	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Methyl tert-Amyl Ether (TAME)	ND	4.8
Toluene	ND	4.8
1,2-Dibromoethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	119	80-124
1,2-Dichloroethane-d4	114	79-136
Toluene-d8	99	80-120
Bromofluorobenzene	95	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B25-16	Diln Fac:	0.9091
Lab ID:	198204-004	Batch#:	130379
Matrix:	Soil	Sampled:	10/08/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	91
MTBE	ND	4.5
Isopropyl Ether (DIPE)	ND	4.5
Ethyl tert-Butyl Ether (ETBE)	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Methyl tert-Amyl Ether (TAME)	ND	4.5
Toluene	ND	4.5
1,2-Dibromoethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	120	80-124
1,2-Dichloroethane-d4	116	79-136
Toluene-d8	100	80-120
Bromofluorobenzene	95	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B25-21	Diln Fac:	1.000
Lab ID:	198204-005	Batch#:	130379
Matrix:	Soil	Sampled:	10/08/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	118	80-124
1,2-Dichloroethane-d4	115	79-136
Toluene-d8	99	80-120
Bromofluorobenzene	95	80-122

ND= Not Detected  
 RL= Reporting Limit



<b>BTXE &amp; Oxygenates</b>			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B25-26.5	Diln Fac:	0.9259
Lab ID:	198204-006	Batch#:	130379
Matrix:	Soil	Sampled:	10/08/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	93
MTBE	ND	4.6
Isopropyl Ether (DIPE)	ND	4.6
Ethyl tert-Butyl Ether (ETBE)	ND	4.6
1,2-Dichloroethane	ND	4.6
Benzene	ND	4.6
Methyl tert-Amyl Ether (TAME)	ND	4.6
Toluene	ND	4.6
1,2-Dibromoethane	ND	4.6
Ethylbenzene	ND	4.6
m,p-Xylenes	ND	4.6
o-Xylene	ND	4.6

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	122	80-124
1,2-Dichloroethane-d4	113	79-136
Toluene-d8	98	80-120
Bromofluorobenzene	92	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B25-31	Diln Fac:	0.9091
Lab ID:	198204-007	Batch#:	130379
Matrix:	Soil	Sampled:	10/08/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	91
MTBE	ND	4.5
Isopropyl Ether (DIPE)	ND	4.5
Ethyl tert-Butyl Ether (ETBE)	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Methyl tert-Amyl Ether (TAME)	ND	4.5
Toluene	ND	4.5
1,2-Dibromoethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	121	80-124
1,2-Dichloroethane-d4	117	79-136
Toluene-d8	99	80-120
Bromofluorobenzene	94	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B25-36	Diln Fac:	0.9259
Lab ID:	198204-008	Batch#:	130379
Matrix:	Soil	Sampled:	10/08/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	93
MTBE	ND	4.6
Isopropyl Ether (DIPE)	ND	4.6
Ethyl tert-Butyl Ether (ETBE)	ND	4.6
1,2-Dichloroethane	ND	4.6
Benzene	ND	4.6
Methyl tert-Amyl Ether (TAME)	ND	4.6
Toluene	ND	4.6
1,2-Dibromoethane	ND	4.6
Ethylbenzene	ND	4.6
m,p-Xylenes	ND	4.6
o-Xylene	ND	4.6

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	125 *	80-124
1,2-Dichloroethane-d4	120	79-136
Toluene-d8	99	80-120
Bromofluorobenzene	95	80-122

\*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B25-47	Diln Fac:	0.9615
Lab ID:	198204-009	Batch#:	130379
Matrix:	Soil	Sampled:	10/08/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	96
MTBE	ND	4.8
Isopropyl Ether (DIPE)	ND	4.8
Ethyl tert-Butyl Ether (ETBE)	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Methyl tert-Amyl Ether (TAME)	ND	4.8
Toluene	ND	4.8
1,2-Dibromoethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	126 *	80-124
1,2-Dichloroethane-d4	115	79-136
Toluene-d8	98	80-120
Bromofluorobenzene	95	80-122

\*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

BTXE & Oxygenates			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B25A-34.5	Diln Fac:	5.000
Lab ID:	198204-011	Batch#:	130379
Matrix:	Soil	Sampled:	10/08/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	500
MTBE	ND	25
Isopropyl Ether (DIPE)	ND	25
Ethyl tert-Butyl Ether (ETBE)	ND	25
1,2-Dichloroethane	ND	25
Benzene	ND	25
Methyl tert-Amyl Ether (TAME)	ND	25
Toluene	ND	25
1,2-Dibromoethane	ND	25
Ethylbenzene	ND	25
m,p-Xylenes	ND	25
o-Xylene	ND	25

Surrogate	%REC	Limits
Dibromofluoromethane	113	80-124
1,2-Dichloroethane-d4	104	79-136
Toluene-d8	105	80-120
Bromofluorobenzene	122	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B25-35.5	Diln Fac:	0.9259
Lab ID:	198204-019	Batch#:	130379
Matrix:	Soil	Sampled:	10/08/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	93
MTBE	ND	4.6
Isopropyl Ether (DIPE)	ND	4.6
Ethyl tert-Butyl Ether (ETBE)	ND	4.6
1,2-Dichloroethane	ND	4.6
Benzene	ND	4.6
Methyl tert-Amyl Ether (TAME)	ND	4.6
Toluene	ND	4.6
1,2-Dibromoethane	ND	4.6
Ethylbenzene	ND	4.6
m,p-Xylenes	ND	4.6
o-Xylene	ND	4.6

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	125 *	80-124
1,2-Dichloroethane-d4	117	79-136
Toluene-d8	99	80-120
Bromofluorobenzene	92	80-122

\*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

## Batch QC Report

BTXE & Oxygenates			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Basis:	as received
Lab ID:	QC409845	Diln Fac:	1.000
Matrix:	Soil	Batch#:	130379
Units:	ug/Kg	Analyzed:	10/10/07

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	113	80-124
1,2-Dichloroethane-d4	108	79-136
Toluene-d8	99	80-120
Bromofluorobenzene	97	80-122

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	LCS	Basis:	as received
Lab ID:	QC409846	Diln Fac:	1.000
Matrix:	Soil	Batch#:	130379
Units:	ug/Kg	Analyzed:	10/10/07

<b>Analyte</b>	<b>Spiked</b>	<b>Result</b>	<b>%REC</b>	<b>Limits</b>
tert-Butyl Alcohol (TBA)	125.0	104.2	83	58-133
MTBE	25.00	21.12	84	66-120
Isopropyl Ether (DIPE)	25.00	20.56	82	57-120
Ethyl tert-Butyl Ether (ETBE)	25.00	21.41	86	65-120
1,2-Dichloroethane	25.00	27.33	109	69-124
Benzene	25.00	25.66	103	77-121
Methyl tert-Amyl Ether (TAME)	25.00	22.22	89	71-120
Toluene	25.00	25.52	102	79-122
1,2-Dibromoethane	25.00	27.06	108	77-120
Ethylbenzene	25.00	25.79	103	80-127
m,p-Xylenes	50.00	49.03	98	80-126
o-Xylene	25.00	24.72	99	80-124

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	100	80-124
1,2-Dichloroethane-d4	105	79-136
Toluene-d8	102	80-120
Bromofluorobenzene	95	80-122



**Batch QC Report**

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B27-46.5	Diln Fac:	0.9434
MSS Lab ID:	198227-019	Batch#:	130379
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

Type: MS Lab ID: QC409904

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<15.33	235.8	206.0	87	41-131
MTBE	<0.3346	47.17	36.22	77	52-120
Isopropyl Ether (DIPE)	<0.2925	47.17	36.61	78	46-120
Ethyl tert-Butyl Ether (ETBE)	<0.2887	47.17	38.30	81	52-123
1,2-Dichloroethane	<0.5216	47.17	49.41	105	53-120
Benzene	<0.4345	47.17	49.36	105	57-123
Methyl tert-Amyl Ether (TAME)	<0.2884	47.17	39.74	84	57-120
Toluene	<0.4703	47.17	49.24	104	53-126
1,2-Dibromoethane	<0.4190	47.17	50.85	108	50-120
Ethylbenzene	<0.5614	47.17	48.59	103	51-130
m,p-Xylenes	<1.257	94.34	91.16	97	49-128
o-Xylene	<0.5575	47.17	47.11	100	49-126

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-124
1,2-Dichloroethane-d4	106	79-136
Toluene-d8	102	80-120
Bromofluorobenzene	95	80-122

Type: MSD Lab ID: QC409905

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	235.8	193.2	82	41-131	6	38
MTBE	47.17	34.65	73	52-120	4	27
Isopropyl Ether (DIPE)	47.17	35.40	75	46-120	3	27
Ethyl tert-Butyl Ether (ETBE)	47.17	36.33	77	52-123	5	27
1,2-Dichloroethane	47.17	48.51	103	53-120	2	27
Benzene	47.17	49.76	105	57-123	1	25
Methyl tert-Amyl Ether (TAME)	47.17	38.06	81	57-120	4	26
Toluene	47.17	49.62	105	53-126	1	27
1,2-Dibromoethane	47.17	49.42	105	50-120	3	26
Ethylbenzene	47.17	49.32	105	51-130	1	28
m,p-Xylenes	94.34	91.75	97	49-128	1	28
o-Xylene	47.17	47.61	101	49-126	1	28

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-124
1,2-Dichloroethane-d4	102	79-136
Toluene-d8	102	80-120
Bromofluorobenzene	97	80-122

RPD= Relative Percent Difference

Gasoline by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	OIL-FP	Batch#:	130524
Lab ID:	198204-001	Sampled:	10/08/07
Matrix:	Miscell.	Received:	10/09/07
Basis:	as received	Analyzed:	10/15/07
Diln Fac:	25.00		

Analyte	Result	RL	Units
Gasoline C7-C12	ND	25	mg/Kg
Freon 12	ND	250	ug/Kg
tert-Butyl Alcohol (TBA)	ND	2,500	ug/Kg
Chloromethane	ND	250	ug/Kg
Isopropyl Ether (DIPE)	ND	130	ug/Kg
Vinyl Chloride	ND	250	ug/Kg
Bromomethane	ND	250	ug/Kg
Ethyl tert-Butyl Ether (ETBE)	ND	130	ug/Kg
Chloroethane	ND	250	ug/Kg
Methyl tert-Amyl Ether (TAME)	ND	130	ug/Kg
Trichlorofluoromethane	ND	130	ug/Kg
Acetone	ND	500	ug/Kg
Freon 113	ND	130	ug/Kg
1,1-Dichloroethene	ND	130	ug/Kg
Methylene Chloride	ND	500	ug/Kg
Carbon Disulfide	ND	130	ug/Kg
MTBE	ND	130	ug/Kg
trans-1,2-Dichloroethene	ND	130	ug/Kg
Vinyl Acetate	ND	1,300	ug/Kg
1,1-Dichloroethane	ND	130	ug/Kg
2-Butanone	ND	250	ug/Kg
cis-1,2-Dichloroethene	ND	130	ug/Kg
2,2-Dichloropropane	ND	130	ug/Kg
Chloroform	ND	130	ug/Kg
Bromochloromethane	ND	130	ug/Kg
1,1,1-Trichloroethane	ND	130	ug/Kg
1,1-Dichloropropene	ND	130	ug/Kg
Carbon Tetrachloride	ND	130	ug/Kg
1,2-Dichloroethane	ND	130	ug/Kg
Benzene	ND	130	ug/Kg
Trichloroethene	ND	130	ug/Kg
1,2-Dichloropropane	ND	130	ug/Kg
Bromodichloromethane	ND	130	ug/Kg
Dibromomethane	ND	130	ug/Kg
4-Methyl-2-Pentanone	ND	250	ug/Kg
cis-1,3-Dichloropropene	ND	130	ug/Kg
Toluene	ND	130	ug/Kg
trans-1,3-Dichloropropene	ND	130	ug/Kg
1,1,2-Trichloroethane	ND	130	ug/Kg
2-Hexanone	ND	250	ug/Kg
1,3-Dichloropropane	ND	130	ug/Kg
Tetrachloroethene	ND	130	ug/Kg
Dibromochloromethane	ND	130	ug/Kg
1,2-Dibromoethane	ND	130	ug/Kg
Chlorobenzene	ND	130	ug/Kg
1,1,1,2-Tetrachloroethane	ND	130	ug/Kg
Ethylbenzene	ND	130	ug/Kg
m,p-Xylenes	ND	130	ug/Kg
o-Xylene	ND	130	ug/Kg
Styrene	ND	130	ug/Kg
Bromoform	ND	130	ug/Kg
Isopropylbenzene	ND	130	ug/Kg
1,1,2,2-Tetrachloroethane	ND	130	ug/Kg
1,2,3-Trichloropropane	ND	130	ug/Kg

ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	OIL-FP	Batch#:	130524
Lab ID:	198204-001	Sampled:	10/08/07
Matrix:	Miscell.	Received:	10/09/07
Basis:	as received	Analyzed:	10/15/07
Diln Fac:	25.00		

Analyte	Result	RL	Units
Propylbenzene	ND	130	ug/Kg
Bromobenzene	ND	130	ug/Kg
1,3,5-Trimethylbenzene	ND	130	ug/Kg
2-Chlorotoluene	ND	130	ug/Kg
4-Chlorotoluene	ND	130	ug/Kg
tert-Butylbenzene	ND	130	ug/Kg
1,2,4-Trimethylbenzene	ND	130	ug/Kg
sec-Butylbenzene	ND	130	ug/Kg
para-Isopropyl Toluene	ND	130	ug/Kg
1,3-Dichlorobenzene	ND	130	ug/Kg
1,4-Dichlorobenzene	ND	130	ug/Kg
n-Butylbenzene	ND	130	ug/Kg
1,2-Dichlorobenzene	ND	130	ug/Kg
1,2-Dibromo-3-Chloropropane	ND	130	ug/Kg
1,2,4-Trichlorobenzene	ND	130	ug/Kg
Hexachlorobutadiene	ND	130	ug/Kg
Naphthalene	ND	130	ug/Kg
1,2,3-Trichlorobenzene	ND	130	ug/Kg

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-124
1,2-Dichloroethane-d4	105	79-136
Toluene-d8	101	80-120
Bromofluorobenzene	100	80-122
Trifluorotoluene (MeOH)	89	55-146

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Gasoline by GC/MS</b>			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410451	Batch#:	130524
Matrix:	Water	Analyzed:	10/15/07
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Gasoline C7-C12	ND	1,000
Freon 12	ND	10
tert-Butyl Alcohol (TBA)	ND	100
Chloromethane	ND	10
Isopropyl Ether (DIPE)	ND	5.0
Vinyl Chloride	ND	10
Bromomethane	ND	10
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Chloroethane	ND	10
Methyl tert-Amyl Ether (TAME)	ND	5.0
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Gasoline by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410451	Batch#:	130524
Matrix:	Water	Analyzed:	10/15/07
Units:	ug/L		

Analyte	Result	RL
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-124
1,2-Dichloroethane-d4	101	79-136
Toluene-d8	98	80-120
Bromofluorobenzene	103	80-122

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Gasoline by GC/MS</b>			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	130524
Units:	ug/L	Analyzed:	10/15/07
Diln Fac:	1.000		

Type: BS Lab ID: QC410452

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	150.0	180.4	120	58-133
Isopropyl Ether (DIPE)	30.00	29.35	98	57-120
Ethyl tert-Butyl Ether (ETBE)	30.00	31.14	104	65-120
Methyl tert-Amyl Ether (TAME)	30.00	30.77	103	71-120
1,1-Dichloroethene	30.00	32.16	107	74-131
Benzene	30.00	31.90	106	77-121
Trichloroethene	30.00	32.82	109	77-121
Toluene	30.00	31.80	106	79-122
Chlorobenzene	30.00	30.39	101	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-124
1,2-Dichloroethane-d4	118	79-136
Toluene-d8	102	80-120
Bromofluorobenzene	88	80-122

Type: BSD Lab ID: QC410453

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	150.0	194.4	130	58-133	7	27
Isopropyl Ether (DIPE)	30.00	28.99	97	57-120	1	20
Ethyl tert-Butyl Ether (ETBE)	30.00	31.15	104	65-120	0	20
Methyl tert-Amyl Ether (TAME)	30.00	30.65	102	71-120	0	20
1,1-Dichloroethene	30.00	32.85	109	74-131	2	20
Benzene	30.00	31.12	104	77-121	2	20
Trichloroethene	30.00	32.48	108	77-121	1	20
Toluene	30.00	31.13	104	79-122	2	20
Chlorobenzene	30.00	30.18	101	80-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-124
1,2-Dichloroethane-d4	109	79-136
Toluene-d8	100	80-120
Bromofluorobenzene	88	80-122

RPD= Relative Percent Difference

## Batch QC Report

Gasoline by GC/MS			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	130524
Units:	ug/L	Analyzed:	10/15/07
Diln Fac:	1.000		

Type: BS Lab ID: QC410454

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,074	107	70-130

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-124
1,2-Dichloroethane-d4	97	79-136
Toluene-d8	98	80-120
Bromofluorobenzene	94	80-122

Type: BSD Lab ID: QC410455

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	1,066	107	70-130	1	30

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-124
1,2-Dichloroethane-d4	94	79-136
Toluene-d8	98	80-120
Bromofluorobenzene	93	80-122

RPD= Relative Percent Difference

Semivolatile Organics by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8270C
Field ID:	B25-GGW	Batch#:	130437
Lab ID:	198204-010	Sampled:	10/08/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Prepared:	10/11/07
Diln Fac:	1.000	Analyzed:	10/12/07

Analyte	Result	RL
N-Nitrosodimethylamine	ND	9.4
Phenol	ND	9.4
bis(2-Chloroethyl)ether	ND	9.4
2-Chlorophenol	ND	9.4
1,3-Dichlorobenzene	ND	9.4
1,4-Dichlorobenzene	ND	9.4
Benzyl alcohol	ND	9.4
1,2-Dichlorobenzene	ND	9.4
2-Methylphenol	ND	9.4
bis(2-Chloroisopropyl) ether	ND	9.4
4-Methylphenol	ND	9.4
N-Nitroso-di-n-propylamine	ND	9.4
Hexachloroethane	ND	9.4
Nitrobenzene	ND	9.4
Isophorone	ND	9.4
2-Nitrophenol	ND	19
2,4-Dimethylphenol	ND	9.4
Benzoic acid	ND	47
bis(2-Chloroethoxy)methane	ND	9.4
2,4-Dichlorophenol	ND	9.4
1,2,4-Trichlorobenzene	ND	9.4
Naphthalene	ND	9.4
4-Chloroaniline	ND	9.4
Hexachlorobutadiene	ND	9.4
4-Chloro-3-methylphenol	ND	9.4
2-Methylnaphthalene	ND	9.4
Hexachlorocyclopentadiene	ND	19
2,4,6-Trichlorophenol	ND	9.4
2,4,5-Trichlorophenol	ND	9.4
2-Chloronaphthalene	ND	9.4
2-Nitroaniline	ND	19
Dimethylphthalate	ND	9.4
Acenaphthylene	ND	9.4
2,6-Dinitrotoluene	ND	9.4
3-Nitroaniline	ND	19
Acenaphthene	ND	9.4
2,4-Dinitrophenol	ND	19
4-Nitrophenol	ND	19
Dibenzofuran	ND	9.4
2,4-Dinitrotoluene	ND	9.4
Diethylphthalate	ND	9.4
Fluorene	ND	9.4
4-Chlorophenyl-phenylether	ND	9.4
4-Nitroaniline	ND	19
4,6-Dinitro-2-methylphenol	ND	19
N-Nitrosodiphenylamine	ND	9.4
Azobenzene	ND	9.4
4-Bromophenyl-phenylether	ND	9.4
Hexachlorobenzene	ND	9.4
Pentachlorophenol	ND	19
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Di-n-butylphthalate	ND	9.4
Fluoranthene	ND	9.4

ND= Not Detected  
 RL= Reporting Limit



### Semivolatile Organics by GC/MS

Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8270C
Field ID:	B25-GGW	Batch#:	130437
Lab ID:	198204-010	Sampled:	10/08/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Prepared:	10/11/07
Diln Fac:	1.000	Analyzed:	10/12/07

Analyte	Result	RL
Pyrene	ND	9.4
Butylbenzylphthalate	ND	9.4
3,3'-Dichlorobenzidine	ND	19
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
bis(2-Ethylhexyl)phthalate	ND	9.4
Di-n-octylphthalate	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%REC	Limits
2-Fluorophenol	48	40-120
Phenol-d5	42	42-120
2,4,6-Tribromophenol	43	43-120
Nitrobenzene-d5	74	50-120
2-Fluorobiphenyl	72	51-120
Terphenyl-d14	30	25-120

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Semivolatile Organics by GC/MS</b>			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410107	Batch#:	130437
Matrix:	Water	Prepared:	10/11/07
Units:	ug/L	Analyzed:	10/12/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
N-Nitrosodimethylamine	ND	10
Phenol	ND	10
bis(2-Chloroethyl)ether	ND	10
2-Chlorophenol	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
Benzyl alcohol	ND	10
1,2-Dichlorobenzene	ND	10
2-Methylphenol	ND	10
bis(2-Chloroisopropyl) ether	ND	10
4-Methylphenol	ND	10
N-Nitroso-di-n-propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
2-Nitrophenol	ND	20
2,4-Dimethylphenol	ND	10
Benzoic acid	ND	50
bis(2-Chloroethoxy)methane	ND	10
2,4-Dichlorophenol	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	ND	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
4-Chloro-3-methylphenol	ND	10
2-Methylnaphthalene	ND	10
Hexachlorocyclopentadiene	ND	20
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	10
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	20
Dimethylphthalate	ND	10
Acenaphthylene	ND	10
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	20
Acenaphthene	ND	10
2,4-Dinitrophenol	ND	20
4-Nitrophenol	ND	20
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
Fluorene	ND	10
4-Chlorophenyl-phenylether	ND	10
4-Nitroaniline	ND	20
4,6-Dinitro-2-methylphenol	ND	20
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
Pentachlorophenol	ND	20
Phenanthrene	ND	10
Anthracene	ND	10
Di-n-butylphthalate	ND	10

b= See narrative  
 ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Semivolatile Organics by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410107	Batch#:	130437
Matrix:	Water	Prepared:	10/11/07
Units:	ug/L	Analyzed:	10/12/07

Analyte	Result	RL
Fluoranthene	ND	10
Pyrene	ND	10
Butylbenzylphthalate	ND	10
3,3'-Dichlorobenzidine	ND	20
Benzo(a)anthracene	ND	10
Chrysene	ND	10
bis(2-Ethylhexyl)phthalate	12 b	10
Di-n-octylphthalate	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10

Surrogate	%REC	Limits
2-Fluorophenol	71	40-120
Phenol-d5	67	42-120
2,4,6-Tribromophenol	63	43-120
Nitrobenzene-d5	67	50-120
2-Fluorobiphenyl	65	51-120
Terphenyl-d14	64	25-120

b= See narrative  
 ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

Semivolatile Organics by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8270C
Matrix:	Water	Batch#:	130437
Units:	ug/L	Prepared:	10/11/07
Diln Fac:	1.000	Analyzed:	10/12/07

Type: BS Lab ID: QC410108

Analyte	Spiked	Result	%REC	Limits
Phenol	80.00	60.27	75	49-120
2-Chlorophenol	80.00	60.79	76	55-120
1,4-Dichlorobenzene	40.00	28.71	72	47-120
N-Nitroso-di-n-propylamine	40.00	29.89	75	46-120
1,2,4-Trichlorobenzene	40.00	28.82	72	52-120
4-Chloro-3-methylphenol	80.00	58.02	73	57-120
Acenaphthene	40.00	32.06	80	56-120
4-Nitrophenol	80.00	55.92	70	49-120
2,4-Dinitrotoluene	40.00	32.18	80	56-120
Pentachlorophenol	80.00	71.18	89	48-120
Pyrene	40.00	29.14	73	53-120

Surrogate	%REC	Limits
2-Fluorophenol	84	40-120
Phenol-d5	81	42-120
2,4,6-Tribromophenol	91	43-120
Nitrobenzene-d5	79	50-120
2-Fluorobiphenyl	81	51-120
Terphenyl-d14	74	25-120

Type: BSD Lab ID: QC410109

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Phenol	80.00	56.39	70	49-120	7	23
2-Chlorophenol	80.00	57.78	72	55-120	5	23
1,4-Dichlorobenzene	40.00	27.01	68	47-120	6	32
N-Nitroso-di-n-propylamine	40.00	28.16	70	46-120	6	25
1,2,4-Trichlorobenzene	40.00	27.81	70	52-120	4	28
4-Chloro-3-methylphenol	80.00	55.20	69	57-120	5	22
Acenaphthene	40.00	30.65	77	56-120	5	24
4-Nitrophenol	80.00	54.90	69	49-120	2	25
2,4-Dinitrotoluene	40.00	30.90	77	56-120	4	28
Pentachlorophenol	80.00	68.46	86	48-120	4	26
Pyrene	40.00	28.26	71	53-120	3	28

Surrogate	%REC	Limits
2-Fluorophenol	82	40-120
Phenol-d5	76	42-120
2,4,6-Tribromophenol	86	43-120
Nitrobenzene-d5	75	50-120
2-Fluorobiphenyl	78	51-120
Terphenyl-d14	71	25-120

RPD= Relative Percent Difference

Semivolatile Organics by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8270C
Field ID:	B25-31	Batch#:	130409
Lab ID:	198204-007	Sampled:	10/08/07
Matrix:	Soil	Received:	10/09/07
Units:	ug/Kg	Prepared:	10/10/07
Basis:	as received	Analyzed:	10/11/07
Diln Fac:	1.000		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	340
Phenol	ND	340
bis(2-Chloroethyl)ether	ND	340
2-Chlorophenol	ND	340
1,3-Dichlorobenzene	ND	340
1,4-Dichlorobenzene	ND	340
Benzyl alcohol	ND	340
1,2-Dichlorobenzene	ND	340
2-Methylphenol	ND	340
bis(2-Chloroisopropyl) ether	ND	340
4-Methylphenol	ND	340
N-Nitroso-di-n-propylamine	ND	340
Hexachloroethane	ND	340
Nitrobenzene	ND	340
Isophorone	ND	340
2-Nitrophenol	ND	670
2,4-Dimethylphenol	ND	340
Benzoic acid	ND	1,700
bis(2-Chloroethoxy)methane	ND	340
2,4-Dichlorophenol	ND	340
1,2,4-Trichlorobenzene	ND	340
Naphthalene	ND	67
4-Chloroaniline	ND	340
Hexachlorobutadiene	ND	340
4-Chloro-3-methylphenol	ND	340
2-Methylnaphthalene	ND	67
Hexachlorocyclopentadiene	ND	670
2,4,6-Trichlorophenol	ND	340
2,4,5-Trichlorophenol	ND	340
2-Chloronaphthalene	ND	340
2-Nitroaniline	ND	670
Dimethylphthalate	ND	340
Acenaphthylene	ND	67
2,6-Dinitrotoluene	ND	340
3-Nitroaniline	ND	670
Acenaphthene	ND	67
2,4-Dinitrophenol	ND	670
4-Nitrophenol	ND	670
Dibenzofuran	ND	340
2,4-Dinitrotoluene	ND	340
Diethylphthalate	ND	340
Fluorene	ND	67
4-Chlorophenyl-phenylether	ND	340
4-Nitroaniline	ND	670
4,6-Dinitro-2-methylphenol	ND	670
N-Nitrosodiphenylamine	ND	340
Azobenzene	ND	340
4-Bromophenyl-phenylether	ND	340
Hexachlorobenzene	ND	340
Pentachlorophenol	ND	670
Phenanthrene	ND	67
Anthracene	ND	67
Di-n-butylphthalate	ND	340

ND= Not Detected  
 RL= Reporting Limit

Semivolatile Organics by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8270C
Field ID:	B25-31	Batch#:	130409
Lab ID:	198204-007	Sampled:	10/08/07
Matrix:	Soil	Received:	10/09/07
Units:	ug/Kg	Prepared:	10/10/07
Basis:	as received	Analyzed:	10/11/07
Diln Fac:	1.000		

Analyte	Result	RL
Fluoranthene	ND	67
Pyrene	ND	67
Butylbenzylphthalate	ND	340
3,3'-Dichlorobenzidine	ND	670
Benzo(a)anthracene	ND	67
Chrysene	ND	67
bis(2-Ethylhexyl)phthalate	ND	340
Di-n-octylphthalate	ND	340
Benzo(b)fluoranthene	ND	67
Benzo(k)fluoranthene	ND	67
Benzo(a)pyrene	ND	67
Indeno(1,2,3-cd)pyrene	ND	67
Dibenz(a,h)anthracene	ND	67
Benzo(g,h,i)perylene	ND	67

Surrogate	%REC	Limits
2-Fluorophenol	58	33-120
Phenol-d5	62	35-120
2,4,6-Tribromophenol	90	25-120
Nitrobenzene-d5	70	38-120
2-Fluorobiphenyl	76	44-120
Terphenyl-d14	74	40-120

ND= Not Detected  
 RL= Reporting Limit

Semivolatile Organics by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8270C
Field ID:	B25A-34.5	Batch#:	130409
Lab ID:	198204-011	Sampled:	10/08/07
Matrix:	Soil	Received:	10/09/07
Units:	ug/Kg	Prepared:	10/10/07
Basis:	as received	Analyzed:	10/11/07
Diln Fac:	50.00		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	17,000
Phenol	ND	17,000
bis(2-Chloroethyl)ether	ND	17,000
2-Chlorophenol	ND	17,000
1,3-Dichlorobenzene	ND	17,000
1,4-Dichlorobenzene	ND	17,000
Benzyl alcohol	ND	17,000
1,2-Dichlorobenzene	ND	17,000
2-Methylphenol	ND	17,000
bis(2-Chloroisopropyl) ether	ND	17,000
4-Methylphenol	ND	17,000
N-Nitroso-di-n-propylamine	ND	17,000
Hexachloroethane	ND	17,000
Nitrobenzene	ND	17,000
Isophorone	ND	17,000
2-Nitrophenol	ND	33,000
2,4-Dimethylphenol	ND	17,000
Benzoic acid	ND	84,000
bis(2-Chloroethoxy)methane	ND	17,000
2,4-Dichlorophenol	ND	17,000
1,2,4-Trichlorobenzene	ND	17,000
Naphthalene	ND	3,300
4-Chloroaniline	ND	17,000
Hexachlorobutadiene	ND	17,000
4-Chloro-3-methylphenol	ND	17,000
2-Methylnaphthalene	7,200	3,300
Hexachlorocyclopentadiene	ND	33,000
2,4,6-Trichlorophenol	ND	17,000
2,4,5-Trichlorophenol	ND	17,000
2-Chloronaphthalene	ND	17,000
2-Nitroaniline	ND	33,000
Dimethylphthalate	ND	17,000
Acenaphthylene	ND	3,300
2,6-Dinitrotoluene	ND	17,000
3-Nitroaniline	ND	33,000
Acenaphthene	ND	3,300
2,4-Dinitrophenol	ND	33,000
4-Nitrophenol	ND	33,000
Dibenzofuran	ND	17,000
2,4-Dinitrotoluene	ND	17,000
Diethylphthalate	ND	17,000
Fluorene	ND	3,300
4-Chlorophenyl-phenylether	ND	17,000
4-Nitroaniline	ND	33,000
4,6-Dinitro-2-methylphenol	ND	33,000
N-Nitrosodiphenylamine	ND	17,000
Azobenzene	ND	17,000
4-Bromophenyl-phenylether	ND	17,000
Hexachlorobenzene	ND	17,000
Pentachlorophenol	ND	33,000
Phenanthrene	4,700	3,300
Anthracene	ND	3,300

DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit

Semivolatile Organics by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8270C
Field ID:	B25A-34.5	Batch#:	130409
Lab ID:	198204-011	Sampled:	10/08/07
Matrix:	Soil	Received:	10/09/07
Units:	ug/Kg	Prepared:	10/10/07
Basis:	as received	Analyzed:	10/11/07
Diln Fac:	50.00		

Analyte	Result	RL
Di-n-butylphthalate	ND	17,000
Fluoranthene	ND	3,300
Pyrene	ND	3,300
Butylbenzylphthalate	ND	17,000
3,3'-Dichlorobenzidine	ND	33,000
Benzo(a)anthracene	ND	3,300
Chrysene	ND	3,300
bis(2-Ethylhexyl)phthalate	ND	17,000
Di-n-octylphthalate	ND	17,000
Benzo(b)fluoranthene	ND	3,300
Benzo(k)fluoranthene	ND	3,300
Benzo(a)pyrene	ND	3,300
Indeno(1,2,3-cd)pyrene	ND	3,300
Dibenz(a,h)anthracene	ND	3,300
Benzo(g,h,i)perylene	ND	3,300

Surrogate	%REC	Limits
2-Fluorophenol	DO	33-120
Phenol-d5	DO	35-120
2,4,6-Tribromophenol	DO	25-120
Nitrobenzene-d5	DO	38-120
2-Fluorobiphenyl	DO	44-120
Terphenyl-d14	DO	40-120

DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit



Semivolatile Organics by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8270C
Field ID:	B25-35.5	Batch#:	130409
Lab ID:	198204-019	Sampled:	10/08/07
Matrix:	Soil	Received:	10/09/07
Units:	ug/Kg	Prepared:	10/10/07
Basis:	as received	Analyzed:	10/11/07
Diln Fac:	20.00		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	6,600
Phenol	ND	6,600
bis(2-Chloroethyl)ether	ND	6,600
2-Chlorophenol	ND	6,600
1,3-Dichlorobenzene	ND	6,600
1,4-Dichlorobenzene	ND	6,600
Benzyl alcohol	ND	6,600
1,2-Dichlorobenzene	ND	6,600
2-Methylphenol	ND	6,600
bis(2-Chloroisopropyl) ether	ND	6,600
4-Methylphenol	ND	6,600
N-Nitroso-di-n-propylamine	ND	6,600
Hexachloroethane	ND	6,600
Nitrobenzene	ND	6,600
Isophorone	ND	6,600
2-Nitrophenol	ND	13,000
2,4-Dimethylphenol	ND	6,600
Benzoic acid	ND	33,000
bis(2-Chloroethoxy)methane	ND	6,600
2,4-Dichlorophenol	ND	6,600
1,2,4-Trichlorobenzene	ND	6,600
Naphthalene	ND	1,300
4-Chloroaniline	ND	6,600
Hexachlorobutadiene	ND	6,600
4-Chloro-3-methylphenol	ND	6,600
2-Methylnaphthalene	ND	1,300
Hexachlorocyclopentadiene	ND	13,000
2,4,6-Trichlorophenol	ND	6,600
2,4,5-Trichlorophenol	ND	6,600
2-Chloronaphthalene	ND	6,600
2-Nitroaniline	ND	13,000
Dimethylphthalate	ND	6,600
Acenaphthylene	ND	1,300
2,6-Dinitrotoluene	ND	6,600
3-Nitroaniline	ND	13,000
Acenaphthene	ND	1,300
2,4-Dinitrophenol	ND	13,000
4-Nitrophenol	ND	13,000
Dibenzofuran	ND	6,600
2,4-Dinitrotoluene	ND	6,600
Diethylphthalate	ND	6,600
Fluorene	ND	1,300
4-Chlorophenyl-phenylether	ND	6,600
4-Nitroaniline	ND	13,000
4,6-Dinitro-2-methylphenol	ND	13,000
N-Nitrosodiphenylamine	ND	6,600
Azobenzene	ND	6,600
4-Bromophenyl-phenylether	ND	6,600
Hexachlorobenzene	ND	6,600
Pentachlorophenol	ND	13,000
Phenanthrene	ND	1,300
Anthracene	ND	1,300

DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit

Semivolatile Organics by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8270C
Field ID:	B25-35.5	Batch#:	130409
Lab ID:	198204-019	Sampled:	10/08/07
Matrix:	Soil	Received:	10/09/07
Units:	ug/Kg	Prepared:	10/10/07
Basis:	as received	Analyzed:	10/11/07
Diln Fac:	20.00		

Analyte	Result	RL
Di-n-butylphthalate	ND	6,600
Fluoranthene	ND	1,300
Pyrene	ND	1,300
Butylbenzylphthalate	ND	6,600
3,3'-Dichlorobenzidine	ND	13,000
Benzo(a)anthracene	ND	1,300
Chrysene	ND	1,300
bis(2-Ethylhexyl)phthalate	ND	6,600
Di-n-octylphthalate	ND	6,600
Benzo(b)fluoranthene	ND	1,300
Benzo(k)fluoranthene	ND	1,300
Benzo(a)pyrene	ND	1,300
Indeno(1,2,3-cd)pyrene	ND	1,300
Dibenz(a,h)anthracene	ND	1,300
Benzo(g,h,i)perylene	ND	1,300

Surrogate	%REC	Limits
2-Fluorophenol	DO	33-120
Phenol-d5	DO	35-120
2,4,6-Tribromophenol	DO	25-120
Nitrobenzene-d5	DO	38-120
2-Fluorobiphenyl	DO	44-120
Terphenyl-d14	DO	40-120

DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Semivolatile Organics by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC409958	Batch#:	130409
Matrix:	Soil	Prepared:	10/10/07
Units:	ug/Kg	Analyzed:	10/11/07
Basis:	as received		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	670
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1,700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	67
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	67
Hexachlorocyclopentadiene	ND	670
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	670
Dimethylphthalate	ND	330
Acenaphthylene	ND	67
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	670
Acenaphthene	ND	67
2,4-Dinitrophenol	ND	670
4-Nitrophenol	ND	670
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	67
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	670
4,6-Dinitro-2-methylphenol	ND	670
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	670
Phenanthrene	ND	67
Anthracene	ND	67
Di-n-butylphthalate	ND	330

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Semivolatile Organics by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC409958	Batch#:	130409
Matrix:	Soil	Prepared:	10/10/07
Units:	ug/Kg	Analyzed:	10/11/07
Basis:	as received		

Analyte	Result	RL
Fluoranthene	ND	67
Pyrene	ND	67
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	670
Benzo(a)anthracene	ND	67
Chrysene	ND	67
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	67
Benzo(k)fluoranthene	ND	67
Benzo(a)pyrene	ND	67
Indeno(1,2,3-cd)pyrene	ND	67
Dibenz(a,h)anthracene	ND	67
Benzo(g,h,i)perylene	ND	67

Surrogate	%REC	Limits
2-Fluorophenol	53	33-120
Phenol-d5	58	35-120
2,4,6-Tribromophenol	53	25-120
Nitrobenzene-d5	69	38-120
2-Fluorobiphenyl	78	44-120
Terphenyl-d14	68	40-120

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Semivolatile Organics by GC/MS</b>			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8270C
Type:	LCS	Basis:	as received
Lab ID:	QC409959	Diln Fac:	1.000
Matrix:	Soil	Batch#:	130409
Units:	ug/Kg	Prepared:	10/10/07

<b>Analyte</b>	<b>Spiked</b>	<b>Result</b>	<b>%REC</b>	<b>Limits</b>	<b>Analyzed</b>
Phenol	2,695	2,172	81	38-120	10/12/07
2-Chlorophenol	2,695	2,134	79	41-120	10/12/07
1,4-Dichlorobenzene	1,347	1,066	79	47-120	10/12/07
N-Nitroso-di-n-propylamine	1,347	1,075	80	29-120	10/12/07
1,2,4-Trichlorobenzene	1,347	1,069	79	46-120	10/12/07
4-Chloro-3-methylphenol	2,695	2,266	84	44-120	10/12/07
Acenaphthene	1,347	1,217	90	43-120	10/12/07
4-Nitrophenol	2,695	2,266	84	31-120	10/12/07
2,4-Dinitrotoluene	1,347	1,242	92	44-120	10/12/07
Pentachlorophenol	2,695	2,100	78	21-120	10/12/07
Pyrene	1,347	1,213	90	42-120	10/12/07

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>	<b>Analyzed</b>
2-Fluorophenol	90	33-120	10/12/07
Phenol-d5	87	35-120	10/12/07
2,4,6-Tribromophenol	72	25-120	10/11/07
Nitrobenzene-d5	85	38-120	10/12/07
2-Fluorobiphenyl	91	44-120	10/12/07
Terphenyl-d14	93	40-120	10/12/07

Semivolatile Organics by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3580
Project#:	001-09567-04	Analysis:	EPA 8270C
Field ID:	OIL-FP	Batch#:	130470
Lab ID:	198204-001	Sampled:	10/08/07
Matrix:	Miscell.	Received:	10/09/07
Units:	ug/Kg	Prepared:	10/12/07
Basis:	as received	Analyzed:	10/15/07
Diln Fac:	2.000		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	400,000
Phenol	ND	400,000
bis(2-Chloroethyl)ether	ND	400,000
2-Chlorophenol	ND	400,000
1,3-Dichlorobenzene	ND	400,000
1,4-Dichlorobenzene	ND	400,000
Benzyl alcohol	ND	400,000
1,2-Dichlorobenzene	ND	400,000
2-Methylphenol	ND	400,000
bis(2-Chloroisopropyl) ether	ND	400,000
4-Methylphenol	ND	400,000
N-Nitroso-di-n-propylamine	ND	400,000
Hexachloroethane	ND	400,000
Nitrobenzene	ND	400,000
Isophorone	ND	400,000
2-Nitrophenol	ND	800,000
2,4-Dimethylphenol	ND	400,000
Benzoic acid	ND	2,000,000
bis(2-Chloroethoxy)methane	ND	400,000
2,4-Dichlorophenol	ND	400,000
1,2,4-Trichlorobenzene	ND	400,000
Naphthalene	ND	80,000
4-Chloroaniline	ND	400,000
Hexachlorobutadiene	ND	400,000
4-Chloro-3-methylphenol	ND	400,000
2-Methylnaphthalene	ND	80,000
Hexachlorocyclopentadiene	ND	2,000,000
2,4,6-Trichlorophenol	ND	400,000
2,4,5-Trichlorophenol	ND	400,000
2-Chloronaphthalene	ND	400,000
2-Nitroaniline	ND	800,000
Dimethylphthalate	ND	400,000
Acenaphthylene	ND	80,000
2,6-Dinitrotoluene	ND	400,000
3-Nitroaniline	ND	800,000
Acenaphthene	ND	80,000
2,4-Dinitrophenol	ND	2,000,000
4-Nitrophenol	ND	800,000
Dibenzofuran	ND	400,000
2,4-Dinitrotoluene	ND	400,000
Diethylphthalate	ND	400,000
Fluorene	ND	80,000
4-Chlorophenyl-phenylether	ND	400,000
4-Nitroaniline	ND	800,000
4,6-Dinitro-2-methylphenol	ND	2,000,000
N-Nitrosodiphenylamine	ND	400,000
Azobenzene	ND	400,000
4-Bromophenyl-phenylether	ND	400,000
Hexachlorobenzene	ND	400,000
Pentachlorophenol	ND	800,000
Phenanthrene	ND	80,000
Anthracene	ND	80,000
Di-n-butylphthalate	ND	400,000

ND= Not Detected  
 RL= Reporting Limit

**Semivolatile Organics by GC/MS**

Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3580
Project#:	001-09567-04	Analysis:	EPA 8270C
Field ID:	OIL-FP	Batch#:	130470
Lab ID:	198204-001	Sampled:	10/08/07
Matrix:	Miscell.	Received:	10/09/07
Units:	ug/Kg	Prepared:	10/12/07
Basis:	as received	Analyzed:	10/15/07
Diln Fac:	2.000		

Analyte	Result	RL
Fluoranthene	ND	80,000
Pyrene	ND	80,000
Butylbenzylphthalate	ND	400,000
3,3'-Dichlorobenzidine	ND	800,000
Benzo(a)anthracene	ND	80,000
Chrysene	ND	80,000
bis(2-Ethylhexyl)phthalate	ND	400,000
Di-n-octylphthalate	ND	400,000
Benzo(b)fluoranthene	ND	80,000
Benzo(k)fluoranthene	ND	80,000
Benzo(a)pyrene	ND	80,000
Indeno(1,2,3-cd)pyrene	ND	80,000
Dibenz(a,h)anthracene	ND	80,000
Benzo(g,h,i)perylene	ND	80,000

Surrogate	%REC	Limits
2-Fluorophenol	94	33-120
Phenol-d5	86	35-120
2,4,6-Tribromophenol	84	25-120
Nitrobenzene-d5	86	38-120
2-Fluorobiphenyl	91	44-120
Terphenyl-d14	87	40-120

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Semivolatile Organics by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3580
Project#:	001-09567-04	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410233	Batch#:	130470
Matrix:	Miscell.	Prepared:	10/12/07
Units:	ug/Kg	Analyzed:	10/12/07
Basis:	as received		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	200,000
Phenol	ND	200,000
bis(2-Chloroethyl)ether	ND	200,000
2-Chlorophenol	ND	200,000
1,3-Dichlorobenzene	ND	200,000
1,4-Dichlorobenzene	ND	200,000
Benzyl alcohol	ND	200,000
1,2-Dichlorobenzene	ND	200,000
2-Methylphenol	ND	200,000
bis(2-Chloroisopropyl) ether	ND	200,000
4-Methylphenol	ND	200,000
N-Nitroso-di-n-propylamine	ND	200,000
Hexachloroethane	ND	200,000
Nitrobenzene	ND	200,000
Isophorone	ND	200,000
2-Nitrophenol	ND	400,000
2,4-Dimethylphenol	ND	200,000
Benzoic acid	ND	1,000,000
bis(2-Chloroethoxy)methane	ND	200,000
2,4-Dichlorophenol	ND	200,000
1,2,4-Trichlorobenzene	ND	200,000
Naphthalene	ND	40,000
4-Chloroaniline	ND	200,000
Hexachlorobutadiene	ND	200,000
4-Chloro-3-methylphenol	ND	200,000
2-Methylnaphthalene	ND	40,000
Hexachlorocyclopentadiene	ND	1,000,000
2,4,6-Trichlorophenol	ND	200,000
2,4,5-Trichlorophenol	ND	200,000
2-Chloronaphthalene	ND	200,000
2-Nitroaniline	ND	400,000
Dimethylphthalate	ND	200,000
Acenaphthylene	ND	40,000
2,6-Dinitrotoluene	ND	200,000
3-Nitroaniline	ND	400,000
Acenaphthene	ND	40,000
2,4-Dinitrophenol	ND	1,000,000
4-Nitrophenol	ND	400,000
Dibenzofuran	ND	200,000
2,4-Dinitrotoluene	ND	200,000
Diethylphthalate	ND	200,000
Fluorene	ND	40,000
4-Chlorophenyl-phenylether	ND	200,000
4-Nitroaniline	ND	400,000
4,6-Dinitro-2-methylphenol	ND	1,000,000
N-Nitrosodiphenylamine	ND	200,000
Azobenzene	ND	200,000
4-Bromophenyl-phenylether	ND	200,000
Hexachlorobenzene	ND	200,000
Pentachlorophenol	ND	400,000
Phenanthrene	ND	40,000
Anthracene	ND	40,000
Di-n-butylphthalate	ND	200,000

ND= Not Detected  
 RL= Reporting Limit



## Batch QC Report

Semivolatile Organics by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3580
Project#:	001-09567-04	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410233	Batch#:	130470
Matrix:	Miscell.	Prepared:	10/12/07
Units:	ug/Kg	Analyzed:	10/12/07
Basis:	as received		

Analyte	Result	RL
Fluoranthene	ND	40,000
Pyrene	ND	40,000
Butylbenzylphthalate	ND	200,000
3,3'-Dichlorobenzidine	ND	400,000
Benzo(a)anthracene	ND	40,000
Chrysene	ND	40,000
bis(2-Ethylhexyl)phthalate	ND	200,000
Di-n-octylphthalate	ND	200,000
Benzo(b)fluoranthene	ND	40,000
Benzo(k)fluoranthene	ND	40,000
Benzo(a)pyrene	ND	40,000
Indeno(1,2,3-cd)pyrene	ND	40,000
Dibenz(a,h)anthracene	ND	40,000
Benzo(g,h,i)perylene	ND	40,000

Surrogate	%REC	Limits
2-Fluorophenol	97	33-120
Phenol-d5	91	35-120
2,4,6-Tribromophenol	60	25-120
Nitrobenzene-d5	96	38-120
2-Fluorobiphenyl	99	44-120
Terphenyl-d14	85	40-120

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

Semivolatile Organics by GC/MS			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3580
Project#:	001-09567-04	Analysis:	EPA 8270C
Matrix:	Miscell.	Batch#:	130470
Units:	ug/Kg	Prepared:	10/12/07
Basis:	as received	Analyzed:	10/12/07
Diln Fac:	1.000		

Type: BS Lab ID: QC410234

Analyte	Spiked	Result	%REC	Limits
Phenol	400,000	345,900	86	38-120
2-Chlorophenol	400,000	337,900	84	41-120
1,4-Dichlorobenzene	200,000	188,900	94	47-120
N-Nitroso-di-n-propylamine	200,000	169,000	85	29-120
1,2,4-Trichlorobenzene	200,000	183,300	92	46-120
4-Chloro-3-methylphenol	400,000	351,300	88	44-120
Acenaphthene	200,000	183,200	92	43-120
4-Nitrophenol	400,000	290,400	73	31-120
2,4-Dinitrotoluene	200,000	178,400	89	44-120
Pentachlorophenol	400,000	305,000	76	21-120
Pyrene	200,000	169,700	85	42-120

Surrogate	%REC	Limits
2-Fluorophenol	89	33-120
Phenol-d5	88	35-120
2,4,6-Tribromophenol	87	25-120
Nitrobenzene-d5	93	38-120
2-Fluorobiphenyl	95	44-120
Terphenyl-d14	82	40-120

Type: BSD Lab ID: QC410235

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Phenol	400,000	324,900	81	38-120	6	20
2-Chlorophenol	400,000	320,000	80	41-120	5	20
1,4-Dichlorobenzene	200,000	180,900	90	47-120	4	20
N-Nitroso-di-n-propylamine	200,000	161,400	81	29-120	5	23
1,2,4-Trichlorobenzene	200,000	170,600	85	46-120	7	20
4-Chloro-3-methylphenol	400,000	333,000	83	44-120	5	20
Acenaphthene	200,000	170,000	85	43-120	7	20
4-Nitrophenol	400,000	272,300	68	31-120	6	28
2,4-Dinitrotoluene	200,000	161,500	81	44-120	10	20
Pentachlorophenol	400,000	271,500	68	21-120	12	27
Pyrene	200,000	153,500	77	42-120	10	21

Surrogate	%REC	Limits
2-Fluorophenol	85	33-120
Phenol-d5	84	35-120
2,4,6-Tribromophenol	79	25-120
Nitrobenzene-d5	86	38-120
2-Fluorobiphenyl	88	44-120
Terphenyl-d14	76	40-120

RPD= Relative Percent Difference

### Organochlorine Pesticides

Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8081A
Field ID:	B25-GGW	Batch#:	130441
Lab ID:	198204-010	Sampled:	10/08/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Prepared:	10/11/07
Diln Fac:	1.000	Analyzed:	10/18/07

Analyte	Result	RL
alpha-BHC	ND	0.05
beta-BHC	ND	0.05
gamma-BHC	ND	0.05
delta-BHC	ND	0.05
Heptachlor	ND	0.05
Aldrin	ND	0.05
Heptachlor epoxide	ND	0.05
Endosulfan I	ND	0.05
Dieldrin	ND	0.09
4,4'-DDE	ND	0.09
Endrin	ND	0.09
Endosulfan II	ND	0.09
Endosulfan sulfate	ND	0.09
4,4'-DDD	ND	0.09
Endrin aldehyde	ND	0.09
4,4'-DDT	ND	0.09
alpha-Chlordane	ND	0.05
gamma-Chlordane	ND	0.05
Methoxychlor	ND	0.5
Toxaphene	ND	0.9

Surrogate	%REC	Limits
TCMX	85	43-120
Decachlorobiphenyl	98	39-135

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Organochlorine Pesticides</b>			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410122	Batch#:	130441
Matrix:	Water	Prepared:	10/11/07
Units:	ug/L	Analyzed:	10/18/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
alpha-BHC	ND	0.05
beta-BHC	ND	0.05
gamma-BHC	ND	0.05
delta-BHC	ND	0.05
Heptachlor	ND	0.05
Aldrin	ND	0.05
Heptachlor epoxide	ND	0.05
Endosulfan I	ND	0.05
Dieldrin	ND	0.1
4,4'-DDE	ND	0.1
Endrin	ND	0.1
Endosulfan II	ND	0.1
Endosulfan sulfate	ND	0.1
4,4'-DDD	ND	0.1
Endrin aldehyde	ND	0.1
4,4'-DDT	ND	0.1
alpha-Chlordane	ND	0.05
gamma-Chlordane	ND	0.05
Methoxychlor	ND	0.5
Toxaphene	ND	1.0

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
TCMX	74	43-120
Decachlorobiphenyl	100	39-135

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Organochlorine Pesticides			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8081A
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC410123	Batch#:	130441
Matrix:	Water	Prepared:	10/11/07
Units:	ug/L	Analyzed:	10/18/07

Analyte	Spiked	Result	%REC	Limits
gamma-BHC	0.2000	0.2017	101	64-126
Heptachlor	0.2000	0.1756	88	50-124
Aldrin	0.2000	0.1711	86	48-123
Dieldrin	0.4000	0.4302 #	108	59-131
Endrin	0.4000	0.3849	96	54-129
4,4'-DDT	0.4000	0.3890	97	39-140

Surrogate	%REC	Limits
TCMX	78	43-120
Decachlorobiphenyl	97	39-135

#= CCV drift outside limits; average CCV drift within limits per method requirements

**Batch QC Report**

<b>Organochlorine Pesticides</b>			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8081A
Field ID:	ZZZZZZZZZZ	Batch#:	130441
MSS Lab ID:	198177-007	Sampled:	10/08/07
Matrix:	Water	Received:	10/08/07
Units:	ug/L	Prepared:	10/11/07
Diln Fac:	5.000	Analyzed:	10/23/07

Type: MS Lab ID: QC410124

Analyte	MSS Result	Spiked	Result	%REC	Limits
gamma-BHC	<0.02856	0.1887	0.1819	96	68-120
Heptachlor	<0.02994	0.1887	0.1393 #	74	56-120
Aldrin	<0.02069	0.1887	0.08893	47 *	61-120
Dieldrin	<0.04260	0.3774	0.2584	68	59-121
Endrin	<0.06588	0.3774	0.3073	81	65-120
4,4'-DDT	<0.05429	0.3774	0.2626 #	70	42-126

Surrogate	%REC	Limits
TCMX	90	43-120
Decachlorobiphenyl	88	39-135

Type: MSD Lab ID: QC410125

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
gamma-BHC	0.1887	0.2612	138 *	68-120	36 *	30
Heptachlor	0.1887	0.1636 #	87	56-120	16	33
Aldrin	0.1887	0.1449	77	61-120	48 *	30
Dieldrin	0.3774	0.3148	83	59-121	20	32
Endrin	0.3774	0.3675	97	65-120	18	36
4,4'-DDT	0.3774	0.3148 #	83	42-126	18	40

Surrogate	%REC	Limits
TCMX	101	43-120
Decachlorobiphenyl	104	39-135

#= CCV drift outside limits; average CCV drift within limits per method requirements

\*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

Organochlorine Pesticides			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3580
Project#:	001-09567-04	Analysis:	EPA 8081A
Field ID:	OIL-FP	Batch#:	130462
Lab ID:	198204-001	Sampled:	10/08/07
Matrix:	Miscell.	Received:	10/09/07
Units:	ug/Kg	Prepared:	10/12/07
Basis:	as received	Analyzed:	10/18/07
Diln Fac:	50.00		

Cleanup Method: EPA 3620B

Analyte	Result	RL
alpha-BHC	ND	5,100
beta-BHC	ND	5,100
gamma-BHC	ND	5,100
delta-BHC	ND	5,100
Heptachlor	ND	5,100
Aldrin	ND	5,100
Heptachlor epoxide	ND	5,100
Endosulfan I	ND	5,100
Dieldrin	ND	9,900
4,4'-DDE	ND	9,900
Endrin	ND	9,900
Endosulfan II	ND	9,900
Endosulfan sulfate	ND	9,900
4,4'-DDD	ND	9,900
Endrin aldehyde	ND	9,900
4,4'-DDT	ND	9,900
alpha-Chlordane	ND	5,100
gamma-Chlordane	ND	5,100
Methoxychlor	ND	51,000
Toxaphene	ND	180,000

Surrogate	%REC	Limits
TCMX	DO	54-120
Decachlorobiphenyl	DO	49-142

DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Organochlorine Pesticides</b>			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3580
Project#:	001-09567-04	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410193	Batch#:	130462
Matrix:	Miscell.	Prepared:	10/12/07
Units:	ug/Kg	Analyzed:	10/18/07
Basis:	as received		

Cleanup Method: EPA 3620B

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
alpha-BHC	ND	100
beta-BHC	ND	100
gamma-BHC	ND	100
delta-BHC	ND	100
Heptachlor	ND	100
Aldrin	ND	100
Heptachlor epoxide	ND	100
Endosulfan I	ND	100
Dieldrin	ND	200
4,4'-DDE	ND	200
Endrin	ND	200
Endosulfan II	ND	200
Endosulfan sulfate	ND	200
4,4'-DDD	ND	200
Endrin aldehyde	ND	200
4,4'-DDT	ND	200
alpha-Chlordane	ND	100
gamma-Chlordane	ND	100
Methoxychlor	ND	1,000
Toxaphene	ND	3,600

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
TCMX	98	54-120
Decachlorobiphenyl	113	49-142

ND= Not Detected

RL= Reporting Limit



**Batch QC Report**

Organochlorine Pesticides			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3580
Project#:	001-09567-04	Analysis:	EPA 8081A
Matrix:	Miscell.	Batch#:	130462
Units:	ug/Kg	Prepared:	10/12/07
Basis:	as received	Analyzed:	10/18/07
Diln Fac:	1.000		

Type: BS  
 Lab ID: QC410194

Cleanup Method: EPA 3620B

Analyte	Spiked	Result	%REC	Limits
gamma-BHC	800.0	890.8	111	44-120
Heptachlor	800.0	845.9	106	44-120
Aldrin	800.0	844.0	106	47-120
Dieldrin	1,600	1,947 #	122 *	50-120
Endrin	1,600	1,747	109	27-128
4,4'-DDT	1,600	1,774	111	42-128

Surrogate	%REC	Limits
TCMX	111	54-120
Decachlorobiphenyl	120	49-142

Type: BSD  
 Lab ID: QC410195

Cleanup Method: EPA 3620B

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
gamma-BHC	800.0	833.6	104	44-120	7	20
Heptachlor	800.0	804.5	101	44-120	5	20
Aldrin	800.0	804.3	101	47-120	5	20
Dieldrin	1,600	1,813 #	113	50-120	7	20
Endrin	1,600	1,668	104	27-128	5	20
4,4'-DDT	1,600	1,689	106	42-128	5	20

Surrogate	%REC	Limits
TCMX	108	54-120
Decachlorobiphenyl	107	49-142

#= CCV drift outside limits; average CCV drift within limits per method requirements

\*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference



## Batch QC Report

Polychlorinated Biphenyls (PCBs)			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8082
Matrix:	Water	Batch#:	130439
Units:	ug/L	Prepared:	10/11/07
Diln Fac:	1.000	Analyzed:	10/12/07

Type: BS  
Lab ID: QC410115

Cleanup Method: EPA 3665A

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	5.000	5.642	113	71-140
Aroclor-1260	5.000	4.886	98	68-150

Surrogate	%REC	Limits
TCMX	94	54-128
Decachlorobiphenyl	85	25-122

Type: BSD  
Lab ID: QC410116

Cleanup Method: EPA 3665A

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	5.000	5.818	116	71-140	3	21
Aroclor-1260	5.000	5.213	104	68-150	6	27

Surrogate	%REC	Limits
TCMX	90	54-128
Decachlorobiphenyl	86	25-122

RPD= Relative Percent Difference



Polychlorinated Biphenyls (PCBs)			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	130515
Units:	ug/Kg	Sampled:	10/08/07
Basis:	as received	Received:	10/09/07
Diln Fac:	1.000	Prepared:	10/13/07

Field ID: B25-35.5 Analyzed: 10/16/07  
 Type: SAMPLE Cleanup Method: EPA 3665A  
 Lab ID: 198204-019

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	74	66-140
Decachlorobiphenyl	59	51-152

Type: BLANK Analyzed: 10/15/07  
 Lab ID: QC410412 Cleanup Method: EPA 3665A

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	96	66-140
Decachlorobiphenyl	106	51-152

\*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

## Batch QC Report

Polychlorinated Biphenyls (PCBs)			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC410413	Batch#:	130515
Matrix:	Soil	Prepared:	10/13/07
Units:	ug/Kg	Analyzed:	10/15/07
Basis:	as received		

Cleanup Method: EPA 3665A

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	168.0	173.9	103	69-142
Aroclor-1260	168.0	202.2	120	69-155

Surrogate	%REC	Limits
TCMX	100	66-140
Decachlorobiphenyl	112	51-152









**California Title 26 Metals**

Lab #:	198204	Project#:	001-09567-04
Client:	LFR Levine Fricke	Location:	Hanson Radium
Field ID:	B25-GGW	Diln Fac:	1.000
Lab ID:	198204-010	Sampled:	10/08/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L		

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	10	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Arsenic	ND	6.1	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Barium	1,700	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Beryllium	ND	2.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Cadmium	ND	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Chromium	12	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Cobalt	29	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Copper	28	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Lead	6.9	3.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Mercury	ND	0.20	130433	10/11/07	10/11/07	METHOD	EPA 7470A
Molybdenum	ND	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Nickel	55	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Selenium	ND	10	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Silver	ND	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Thallium	ND	10	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Vanadium	24	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Zinc	31	20	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

California Title 26 Metals			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3010A
Project#:	001-09567-04	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC409859	Batch#:	130383
Matrix:	Water	Prepared:	10/10/07
Units:	ug/L	Analyzed:	10/10/07

Analyte	Result	RL
Antimony	ND	10
Arsenic	ND	6.1
Barium	ND	5.0
Beryllium	ND	2.0
Cadmium	ND	5.0
Chromium	ND	5.0
Cobalt	ND	5.0
Copper	ND	5.0
Lead	ND	3.0
Molybdenum	ND	5.0
Nickel	ND	5.0
Selenium	ND	10
Silver	ND	5.0
Thallium	ND	10
Vanadium	ND	5.0
Zinc	ND	20

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

California Title 26 Metals			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3010A
Project#:	001-09567-04	Analysis:	EPA 6010B
Matrix:	Water	Batch#:	130383
Units:	ug/L	Prepared:	10/10/07
Diln Fac:	1.000	Analyzed:	10/10/07

Type: BS Lab ID: QC409860

Analyte	Spiked	Result	%REC	Limits
Antimony	500.0	463.5	93	80-120
Arsenic	100.0	104.7	105	80-120
Barium	2,000	1,939	97	80-120
Beryllium	50.00	52.43	105	80-120
Cadmium	50.00	50.24	100	80-120
Chromium	200.0	192.8	96	80-120
Cobalt	500.0	471.8	94	80-120
Copper	250.0	236.4	95	80-120
Lead	100.0	93.34	93	80-120
Molybdenum	400.0	400.0	100	80-120
Nickel	500.0	486.2	97	80-120
Selenium	100.0	101.5	102	80-120
Silver	50.00	47.33	95	80-120
Thallium	100.0	105.5	106	80-120
Vanadium	500.0	482.8	97	80-120
Zinc	500.0	505.1	101	80-120

Type: BSD Lab ID: QC409861

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	500.0	466.4	93	80-120	1	20
Arsenic	100.0	104.3	104	80-120	0	20
Barium	2,000	1,895	95	80-120	2	20
Beryllium	50.00	51.40	103	80-120	2	20
Cadmium	50.00	49.35	99	80-120	2	20
Chromium	200.0	189.2	95	80-120	2	20
Cobalt	500.0	466.8	93	80-120	1	20
Copper	250.0	232.7	93	80-120	2	20
Lead	100.0	93.84	94	80-120	1	20
Molybdenum	400.0	398.2	100	80-120	0	20
Nickel	500.0	475.0	95	80-120	2	20
Selenium	100.0	99.85	100	80-120	2	20
Silver	50.00	46.63	93	80-120	1	20
Thallium	100.0	105.8	106	80-120	0	20
Vanadium	500.0	476.2	95	80-120	1	20
Zinc	500.0	488.8	98	80-120	3	20

**Batch QC Report**

California Title 26 Metals			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3010A
Project#:	001-09567-04	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#:	130383
MSS Lab ID:	198195-002	Sampled:	10/08/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Prepared:	10/10/07
Diln Fac:	1.000	Analyzed:	10/10/07

Type: MS Lab ID: QC409862

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<1.074	500.0	467.8	94	80-120
Arsenic	<2.042	100.0	103.5	104	80-127
Barium	264.4	2,000	2,158	95	80-120
Beryllium	0.1546	50.00	51.79	103	80-120
Cadmium	<0.1091	50.00	48.20	96	80-120
Chromium	7.700	200.0	193.0	93	80-120
Cobalt	2.740	500.0	453.3	90	80-120
Copper	10.49	250.0	246.1	94	80-120
Lead	<0.6892	100.0	93.51	94	76-120
Molybdenum	76.84	400.0	481.4	101	80-120
Nickel	12.18	500.0	465.6	91	80-120
Selenium	<1.469	100.0	100.4	100	80-128
Silver	<0.7459	50.00	47.42	95	73-122
Thallium	<1.616	100.0	100.8	101	78-120
Vanadium	7.169	500.0	481.3	95	80-120
Zinc	13.48	500.0	484.6	94	80-123

Type: MSD Lab ID: QC409863

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	500.0	465.2	93	80-120	1	20
Arsenic	100.0	104.1	104	80-127	1	20
Barium	2,000	2,167	95	80-120	0	20
Beryllium	50.00	51.88	103	80-120	0	20
Cadmium	50.00	48.75	97	80-120	1	20
Chromium	200.0	196.2	94	80-120	2	20
Cobalt	500.0	458.6	91	80-120	1	20
Copper	250.0	249.9	96	80-120	2	20
Lead	100.0	93.02	93	76-120	1	20
Molybdenum	400.0	480.1	101	80-120	0	20
Nickel	500.0	472.0	92	80-120	1	20
Selenium	100.0	103.0	103	80-128	3	20
Silver	50.00	47.97	96	73-122	1	20
Thallium	100.0	104.6	105	78-120	4	20
Vanadium	500.0	484.2	95	80-120	1	20
Zinc	500.0	494.5	96	80-123	2	20

RPD= Relative Percent Difference

## Batch QC Report

California Title 26 Metals			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	METHOD
Project#:	001-09567-04	Analysis:	EPA 7470A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	130433
Lab ID:	QC410070	Prepared:	10/11/07
Matrix:	Water	Analyzed:	10/11/07
Units:	ug/L		

Result	RL
ND	0.20

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

California Title 26 Metals			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	METHOD
Project#:	001-09567-04	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	130433
Matrix:	Water	Prepared:	10/11/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC410071	5.000	4.790	96	80-120		
BSD	QC410072	5.000	4.690	94	80-120	2	20

RPD= Relative Percent Difference

## Batch QC Report

California Title 26 Metals			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	METHOD
Project#:	001-09567-04	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	130433
Field ID:	ZZZZZZZZZZ	Sampled:	10/03/07
MSS Lab ID:	198073-001	Received:	10/03/07
Matrix:	Water	Prepared:	10/11/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC410074	<0.04502	5.000	5.200	104	79-125		
MSD	QC410075		5.000	5.490	110	79-125	5	20

RPD= Relative Percent Difference



## Batch QC Report

California Title 26 Metals			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	METHOD
Project#:	001-09567-04	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	130433
Field ID:	ZZZZZZZZZZ	Sampled:	10/08/07
MSS Lab ID:	198262-002	Received:	10/10/07
Matrix:	Water	Prepared:	10/11/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC410080	<0.04502	5.000	4.800	96	79-125		
MSD	QC410081		5.000	4.930	99	79-125	3	20

RPD= Relative Percent Difference

Arsenic			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3050B
Project#:	001-09567-04	Analysis:	EPA 6010B
Analyte:	Arsenic	Batch#:	130412
Matrix:	Soil	Sampled:	10/08/07
Units:	mg/Kg	Received:	10/09/07
Basis:	as received	Prepared:	10/10/07
Diln Fac:	1.000		

Field ID	Type	Lab ID	Result	RL	Analyzed
B25-31	SAMPLE	198204-007	3.5	0.27	10/11/07
B25A-34.5	SAMPLE	198204-011	2.3	0.28	10/11/07
B25-35.5	SAMPLE	198204-019	3.3	0.26	10/11/07
	BLANK	QC409968	ND	0.29	10/10/07

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Arsenic</b>			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3050B
Project#:	001-09567-04	Analysis:	EPA 6010B
Analyte:	Arsenic	Batch#:	130412
Field ID:	ZZZZZZZZZZ	Sampled:	10/02/07
MSS Lab ID:	198032-007	Received:	10/02/07
Units:	mg/Kg	Prepared:	10/10/07
Basis:	as received	Analyzed:	10/10/07
Diln Fac:	1.000		

Type	Lab ID	Matrix	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC409969	Soil		50.00	52.32	105	80-120		
BSD	QC409970	Soil		50.00	50.22	100	80-120	4	20
MS	QC409971	Miscell.	4.024	50.00	54.13	100	72-120		
MSD	QC409972	Miscell.		48.54	51.61	98	72-120	2	20

RPD= Relative Percent Difference



## Batch QC Report

California LUFT Metals			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3050B
Project#:	001-09567-04	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	130412
Units:	mg/Kg	Prepared:	10/10/07
Basis:	as received	Analyzed:	10/10/07
Diln Fac:	1.000		

Type: BS Lab ID: QC409969

Analyte	Spiked	Result	%REC	Limits
Cadmium	10.00	10.01	100	80-120
Chromium	100.0	96.45	96	80-120
Lead	100.0	98.07	98	80-120
Nickel	25.00	23.98	96	80-120
Zinc	25.00	24.90	100	80-120

Type: BSD Lab ID: QC409970

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	10.00	9.567	96	80-120	5	20
Chromium	100.0	92.47	92	80-120	4	20
Lead	100.0	93.44	93	80-120	5	20
Nickel	25.00	23.16	93	80-120	3	20
Zinc	25.00	23.81	95	80-120	4	20

RPD= Relative Percent Difference

**Batch QC Report**

<b>California LUFT Metals</b>			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3050B
Project#:	001-09567-04	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#:	130412
MSS Lab ID:	198032-007	Sampled:	10/02/07
Matrix:	Miscell.	Received:	10/02/07
Units:	mg/Kg	Prepared:	10/10/07
Basis:	as received	Analyzed:	10/10/07
Diln Fac:	1.000		

Type: MS Lab ID: QC409971

Analyte	MSS Result	Spiked	Result	%REC	Limits
Cadmium	0.02692	10.00	9.116	91	74-120
Chromium	11.39	100.0	102.0	91	65-120
Lead	6.785	100.0	96.36	90	53-123
Nickel	8.231	25.00	30.68	90	43-142
Zinc	5.585	25.00	28.77	93	42-147

Type: MSD Lab ID: QC409972

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	9.709	8.980	92	74-120	1	20
Chromium	97.09	99.54	91	65-120	0	20
Lead	97.09	93.52	89	53-123	0	28
Nickel	24.27	30.43	91	43-142	1	26
Zinc	24.27	28.32	94	42-147	1	27

RPD= Relative Percent Difference

**California Title 26 Metals**

Lab #:	198204	Project#:	001-09567-04
Client:	LFR Levine Fricke	Location:	Hanson Radium
Field ID:	OIL-FP	Diln Fac:	1.000
Lab ID:	198204-001	Sampled:	10/08/07
Matrix:	Miscell.	Received:	10/09/07
Units:	mg/Kg	Prepared:	10/10/07
Basis:	as received		

Analyte	Result	RL	Batch#	Analyzed	Prep	Analysis
Antimony	ND	0.50	130412	10/11/07	EPA 3050B	EPA 6010B
Arsenic	ND	0.28	130412	10/11/07	EPA 3050B	EPA 6010B
Barium	0.25	0.25	130412	10/11/07	EPA 3050B	EPA 6010B
Beryllium	ND	0.10	130412	10/11/07	EPA 3050B	EPA 6010B
Cadmium	ND	0.25	130412	10/11/07	EPA 3050B	EPA 6010B
Chromium	ND	0.25	130412	10/11/07	EPA 3050B	EPA 6010B
Cobalt	ND	0.25	130412	10/11/07	EPA 3050B	EPA 6010B
Copper	0.36	0.28	130412	10/11/07	EPA 3050B	EPA 6010B
Lead	ND	0.25	130412	10/11/07	EPA 3050B	EPA 6010B
Mercury	ND	0.020	130392	10/10/07	METHOD	EPA 7471A
Molybdenum	ND	0.25	130412	10/11/07	EPA 3050B	EPA 6010B
Nickel	8.8	0.25	130412	10/11/07	EPA 3050B	EPA 6010B
Selenium	ND	0.50	130412	10/11/07	EPA 3050B	EPA 6010B
Silver	ND	0.25	130412	10/11/07	EPA 3050B	EPA 6010B
Thallium	ND	0.50	130412	10/11/07	EPA 3050B	EPA 6010B
Vanadium	8.4	0.25	130412	10/11/07	EPA 3050B	EPA 6010B
Zinc	9.0	1.0	130412	10/11/07	EPA 3050B	EPA 6010B

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

California Title 26 Metals			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	METHOD
Project#:	001-09567-04	Analysis:	EPA 7471A
Analyte:	Mercury	Basis:	as received
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC409898	Batch#:	130392
Matrix:	Soil	Prepared:	10/10/07
Units:	mg/Kg	Analyzed:	10/10/07

Result	RL
ND	0.020

ND= Not Detected  
 RL= Reporting Limit



## Batch QC Report

California Title 26 Metals			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	METHOD
Project#:	001-09567-04	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Matrix:	Soil	Batch#:	130392
Units:	mg/Kg	Prepared:	10/10/07
Basis:	as received	Analyzed:	10/10/07

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC409899	0.5000	0.5370	107	80-120		
BSD	QC409900	0.5000	0.5250	105	80-120	2	20

RPD= Relative Percent Difference

## Batch QC Report

California Title 26 Metals			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	METHOD
Project#:	001-09567-04	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	130392
MSS Lab ID:	198135-001	Sampled:	10/04/07
Matrix:	Soil	Received:	10/05/07
Units:	mg/Kg	Prepared:	10/10/07
Basis:	as received	Analyzed:	10/10/07

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC409902	0.4034	0.5000	0.8470	89	70-143		
MSD	QC409903		0.5000	0.8200	83	70-143	3	22

RPD= Relative Percent Difference

## Batch QC Report

California Title 26 Metals			
Lab #:	198204	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3050B
Project#:	001-09567-04	Analysis:	EPA 6010B
Type:	BLANK	Basis:	as received
Lab ID:	QC409968	Diln Fac:	1.000
Matrix:	Soil	Batch#:	130412
Units:	mg/Kg	Prepared:	10/10/07

Analyte	Result	RL	Analyzed
Antimony	ND	0.50	10/10/07
Arsenic	ND	0.29	10/10/07
Barium	ND	0.25	10/10/07
Beryllium	ND	0.10	10/10/07
Cadmium	ND	0.25	10/10/07
Chromium	ND	0.25	10/10/07
Cobalt	ND	0.25	10/10/07
Copper	ND	0.29	10/10/07
Lead	ND	0.25	10/10/07
Molybdenum	ND	0.25	10/10/07
Nickel	ND	0.25	10/10/07
Selenium	ND	0.50	10/10/07
Silver	ND	0.25	10/11/07
Thallium	ND	0.50	10/10/07
Vanadium	ND	0.25	10/10/07
Zinc	ND	1.0	10/10/07

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

California Title 26 Metals			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3050B
Project#:	001-09567-04	Analysis:	EPA 6010B
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Batch#:	130412
Basis:	as received	Prepared:	10/10/07

Type: BS Lab ID: QC409969

Analyte	Spiked	Result	%REC	Limits	Analyzed
Antimony	100.0	93.11	93	80-120	10/10/07
Arsenic	50.00	52.32	105	80-120	10/10/07
Barium	100.0	99.20	99	80-120	10/10/07
Beryllium	2.500	2.574	103	80-120	10/10/07
Cadmium	10.00	10.01	100	80-120	10/10/07
Chromium	100.0	96.45	96	80-120	10/10/07
Cobalt	25.00	23.97	96	80-120	10/10/07
Copper	12.50	11.80	94	80-120	10/10/07
Lead	100.0	98.07	98	80-120	10/10/07
Molybdenum	20.00	20.40	102	80-120	10/10/07
Nickel	25.00	23.98	96	80-120	10/10/07
Selenium	50.00	51.29	103	80-120	10/10/07
Silver	10.00	9.185	92	80-120	10/11/07
Thallium	50.00	49.92	100	80-120	10/10/07
Vanadium	25.00	23.98	96	80-120	10/10/07
Zinc	25.00	24.90	100	80-120	10/10/07

Type: BSD Lab ID: QC409970

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	Analyzed
Antimony	100.0	90.50	91	80-120	3	20	10/10/07
Arsenic	50.00	50.22	100	80-120	4	20	10/10/07
Barium	100.0	95.15	95	80-120	4	20	10/10/07
Beryllium	2.500	2.462	98	80-120	4	20	10/10/07
Cadmium	10.00	9.567	96	80-120	5	20	10/10/07
Chromium	100.0	92.47	92	80-120	4	20	10/10/07
Cobalt	25.00	23.20	93	80-120	3	20	10/10/07
Copper	12.50	11.45	92	80-120	3	20	10/10/07
Lead	100.0	93.44	93	80-120	5	20	10/10/07
Molybdenum	20.00	19.72	99	80-120	3	20	10/10/07
Nickel	25.00	23.16	93	80-120	3	20	10/10/07
Selenium	50.00	49.22	98	80-120	4	20	10/10/07
Silver	10.00	9.031	90	80-120	2	20	10/11/07
Thallium	50.00	49.08	98	80-120	2	20	10/10/07
Vanadium	25.00	23.01	92	80-120	4	20	10/10/07
Zinc	25.00	23.81	95	80-120	4	20	10/10/07

RPD= Relative Percent Difference

**Batch QC Report**

California Title 26 Metals			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3050B
Project#:	001-09567-04	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	198032-007	Batch#:	130412
Matrix:	Miscell.	Sampled:	10/02/07
Units:	mg/Kg	Received:	10/02/07
Basis:	as received	Prepared:	10/10/07

Type: MS Lab ID: QC409971

Analyte	MSS Result	Spiked	Result	%REC	Limits	Analyzed
Antimony	0.7109	100.0	73.71	73	1-122	10/10/07
Arsenic	4.024	50.00	54.13	100	72-120	10/10/07
Barium	35.73	100.0	129.7	94	49-139	10/10/07
Beryllium	0.07782	2.500	2.530	98	80-120	10/10/07
Cadmium	0.02692	10.00	9.116	91	74-120	10/10/07
Chromium	11.39	100.0	102.0	91	65-120	10/10/07
Cobalt	0.7641	25.00	22.87	88	60-120	10/10/07
Copper	12.93	12.50	25.69	102	47-146	10/10/07
Lead	6.785	100.0	96.36	90	53-123	10/10/07
Molybdenum	0.9985	20.00	19.69	93	66-120	10/10/07
Nickel	8.231	25.00	30.68	90	43-142	10/10/07
Selenium	<0.04246	50.00	45.18	90	71-120	10/10/07
Silver	1.110	10.00	9.291	82	66-120	10/11/07
Thallium	<0.07712	50.00	45.39	91	62-120	10/10/07
Vanadium	7.736	25.00	31.03	93	52-139	10/10/07
Zinc	5.585	25.00	28.77	93	42-147	10/10/07

Type: MSD Lab ID: QC409972

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	Analyzed
Antimony	97.09	72.08	74	1-122	1	30	10/10/07
Arsenic	48.54	51.61	98	72-120	2	20	10/10/07
Barium	97.09	129.8	97	49-139	2	23	10/10/07
Beryllium	2.427	2.454	98	80-120	0	20	10/10/07
Cadmium	9.709	8.980	92	74-120	1	20	10/10/07
Chromium	97.09	99.54	91	65-120	0	20	10/10/07
Cobalt	24.27	22.22	88	60-120	0	24	10/10/07
Copper	12.14	24.67	97	47-146	3	21	10/10/07
Lead	97.09	93.52	89	53-123	0	28	10/10/07
Molybdenum	19.42	19.16	94	66-120	0	20	10/10/07
Nickel	24.27	30.43	91	43-142	1	26	10/10/07
Selenium	48.54	43.65	90	71-120	0	20	10/10/07
Silver	9.709	9.118	82	66-120	1	20	10/11/07
Thallium	48.54	44.34	91	62-120	1	20	10/10/07
Vanadium	24.27	30.67	94	52-139	1	20	10/10/07
Zinc	24.27	28.32	94	42-147	1	27	10/10/07

RPD= Relative Percent Difference

Arsenic			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3010A
Project#:	001-09567-04	Analysis:	EPA 6010B
Analyte:	Arsenic	Sampled:	10/08/07
Matrix:	SPLP Leachate	Received:	10/09/07
Units:	ug/L	Prepared:	10/13/07
Diln Fac:	1.000	Analyzed:	10/15/07
Batch#:	130506		

Field ID	Type	Lab ID	Result	RL
B25-31	SAMPLE	198204-007	ND	5.0
B25A-34.5	SAMPLE	198204-011	6.7	5.0
B25-35.5	SAMPLE	198204-019	ND	5.0
	BLANK	QC410385	ND	5.0

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Arsenic</b>			
Lab #:	198204	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3010A
Project#:	001-09567-04	Analysis:	EPA 6010B
Analyte:	Arsenic	Batch#:	130506
Field ID:	B25-31	Sampled:	10/08/07
MSS Lab ID:	198204-007	Received:	10/09/07
Matrix:	SPLP Leachate	Prepared:	10/13/07
Units:	ug/L	Analyzed:	10/15/07
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC410386		1,000	1,052	105	80-120		
BSD	QC410387		1,000	1,047	105	80-120	1	20
MS	QC410388	2.952	1,000	1,046	104	80-127		
MSD	QC410389		1,000	1,103	110	80-127	5	20

RPD= Relative Percent Difference











Laboratory Job Number 198227
ANALYTICAL REPORT

LFR Levine Fricke
1900 Powell Street
Emeryville, CA 94608

Project : 001-09567-04
Location : Hanson Radium
Level : II

Table with 4 columns: Sample ID, Lab ID, Sample ID, Lab ID. Lists various sample and lab identifiers such as TB100907, B26-6, B27-22, etc.

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: [Handwritten Signature]
Project Manager

Date: 10/29/2007

Signature: [Handwritten Signature]
Operations Manager

Date: 10/30/2007

## CASE NARRATIVE

Laboratory number: 198227  
Client: LFR Levine Fricke  
Project: 001-09567-04  
Location: Hanson Radum  
Request Date: 10/09/07  
Samples Received: 10/09/07

This hardcopy data package contains sample and QC results for twenty two soil samples and three water samples, requested for the above referenced project on 10/09/07. The samples were received intact. The water samples arrived at 8.5 degrees C while the soils arrived at 6 degrees C. All data were e-mailed to Katrin Schliewen on 10/18/07.

### TPH-Purgeables and/or BTXE by GC (EPA 8015B):

High surrogate recoveries were observed for trifluorotoluene (FID) in the MS/MSD of B26-6 (lab # 198227-002); the corresponding bromofluorobenzene (FID) surrogate recoveries were within limits. No other analytical problems were encountered.

### TPH-Extractables by GC (EPA 8015B) Water:

No analytical problems were encountered.

### TPH-Extractables by GC (EPA 8015B) Soil:

Matrix spikes were not reported for batch 130514 because the MSD was lost during the extraction process. B-26-30.0 (lab # 198227-005), B-26-33.5 (lab # 198227-006), and B-32-5.0 (lab # 198227-021) were diluted due to high levels of hydrocarbons. No other analytical problems were encountered.

### TPH-Extractables by GC (EPA 8015B) SPLP Leachate:

No analytical problems were encountered.

### Volatile Organics by GC/MS (EPA 8260B) Water:

No analytical problems were encountered.

### Volatile Organics by GC/MS (EPA 8260B) Soil:

Low surrogate recoveries were observed for dibromofluoromethane in the MS/MSD for batch 130460; the parent sample was not a project sample. High surrogate recovery was also observed for dibromofluoromethane in B26-32 (lab # 198227-006); no target analytes were detected in the sample. No other analytical problems were encountered.

### Semivolatile Organics by GC/MS (EPA 8270C) Water:

Low surrogate recoveries were observed for 2,4,6-tribromophenol and 2-fluorophenol in B27-GGW (lab # 198227-020). Bis(2-ethylhexyl)phthalate was detected above the RL in the method blank for batch 130437; this analyte was not detected in the sample at or above the RL. B-27-GGW (lab # 198227-020) has higher reporting limits as a result of different volumes extracted. This sample had to be re-extracted due to failing surrogates. The results were

## CASE NARRATIVE

Laboratory number: 198227  
Client: LFR Levine Fricke  
Project: 001-09567-04  
Location: Hanson Radum  
Request Date: 10/09/07  
Samples Received: 10/09/07

### Semivolatile Organics by GC/MS (EPA 8270C) Water:

reviewed and estimated down to the MDL. No other analytical problems were encountered.

### Semivolatile Organics by GC/MS (EPA 8270C) Soil:

Matrix spikes were not reported for this analysis because the parent sample required a dilution that would have diluted out the spikes. B26-32 (lab # 198227-006) was diluted due to the dark and viscous nature of the sample extract. No other analytical problems were encountered.

### Pesticides (EPA 8081A):

Low recovery was observed for aldrin in the MS for batch 130441; the parent sample was not a project sample, the low recovery was confirmed by re-analysis, and the LCS was within limits. High recovery was observed for gamma-BHC in the MSD for batch 130441; the high recovery was confirmed by re-analysis, the LCS was within limits, and this analyte was not detected at or above the RL in the associated samples. High RPD was observed for aldrin and gamma-BHC in the MS/MSD for batch 130441; the high RPD was confirmed by re-analysis, and these analytes were not detected at or above the RL in the associated samples. No other analytical problems were encountered.

### Polychlorinated Biphenyls (PCBs) (EPA 8082) Water:

No analytical problems were encountered.

### Polychlorinated Biphenyls (PCBs) (EPA 8082) Soil:

B-26-33.5 (lab # 198227-006) was diluted due to the dark, viscous nature of the sample extract. No other analytical problems were encountered.

### Metals (EPA 6010B and EPA 7470A) Water:

No analytical problems were encountered.

### Metals (EPA 6010B) Soil:

No analytical problems were encountered.

### Metals (EPA 6010B) SPLP Leachate:

No analytical problems were encountered.



Total Volatile Hydrocarbons			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	130430
Units:	mg/Kg	Sampled:	10/09/07
Basis:	as received	Received:	10/09/07

Field ID: B26-32 Diln Fac: 5.000  
 Type: SAMPLE Analyzed: 10/11/07  
 Lab ID: 198227-006

Analyte	Result	RL
Gasoline C7-C12	35 Y	5.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	86	71-132
Bromofluorobenzene (FID)	99	69-145

Field ID: B26-33.5 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/11/07  
 Lab ID: 198227-007

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	103	71-132
Bromofluorobenzene (FID)	97	69-145

Field ID: B26-38 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/11/07  
 Lab ID: 198227-008

Analyte	Result	RL
Gasoline C7-C12	ND	0.97

Surrogate	%REC	Limits
Trifluorotoluene (FID)	94	71-132
Bromofluorobenzene (FID)	89	69-145

Field ID: B26-42.5 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/11/07  
 Lab ID: 198227-009

Analyte	Result	RL
Gasoline C7-C12	ND	0.97

Surrogate	%REC	Limits
Trifluorotoluene (FID)	96	71-132
Bromofluorobenzene (FID)	92	69-145

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

Total Volatile Hydrocarbons			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	130430
Units:	mg/Kg	Sampled:	10/09/07
Basis:	as received	Received:	10/09/07

Field ID: B26-47 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/11/07  
 Lab ID: 198227-010

Analyte	Result	RL
Gasoline C7-C12	ND	0.96

Surrogate	%REC	Limits
Trifluorotoluene (FID)	100	71-132
Bromofluorobenzene (FID)	93	69-145

Field ID: B27-7 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/11/07  
 Lab ID: 198227-012

Analyte	Result	RL
Gasoline C7-C12	ND	0.95

Surrogate	%REC	Limits
Trifluorotoluene (FID)	99	71-132
Bromofluorobenzene (FID)	94	69-145

Field ID: B27-16 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/11/07  
 Lab ID: 198227-013

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	92	71-132
Bromofluorobenzene (FID)	86	69-145

Field ID: B27-22 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/12/07  
 Lab ID: 198227-014

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Trifluorotoluene (FID)	91	71-132
Bromofluorobenzene (FID)	85	69-145

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit



Total Volatile Hydrocarbons			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	130430
Units:	mg/Kg	Sampled:	10/09/07
Basis:	as received	Received:	10/09/07

Field ID: B27-27.5 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/12/07  
 Lab ID: 198227-015

Analyte	Result	RL
Gasoline C7-C12	ND	0.93

Surrogate	%REC	Limits
Trifluorotoluene (FID)	84	71-132
Bromofluorobenzene (FID)	79	69-145

Field ID: B27-32 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/12/07  
 Lab ID: 198227-016

Analyte	Result	RL
Gasoline C7-C12	ND	0.95

Surrogate	%REC	Limits
Trifluorotoluene (FID)	92	71-132
Bromofluorobenzene (FID)	87	69-145

Field ID: B27-37.5 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/12/07  
 Lab ID: 198227-017

Analyte	Result	RL
Gasoline C7-C12	ND	0.98

Surrogate	%REC	Limits
Trifluorotoluene (FID)	88	71-132
Bromofluorobenzene (FID)	85	69-145

Field ID: B27-41.5 Diln Fac: 1.000  
 Type: SAMPLE Analyzed: 10/12/07  
 Lab ID: 198227-018

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	90	71-132
Bromofluorobenzene (FID)	85	69-145

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

Total Volatile Hydrocarbons			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	130430
Units:	mg/Kg	Sampled:	10/09/07
Basis:	as received	Received:	10/09/07

Field ID:	B27-46.5	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	10/12/07
Lab ID:	198227-019		

Analyte	Result	RL
Gasoline C7-C12	ND	0.93

Surrogate	%REC	Limits
Trifluorotoluene (FID)	100	71-132
Bromofluorobenzene (FID)	95	69-145

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410050	Analyzed:	10/11/07

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	92	71-132
Bromofluorobenzene (FID)	85	69-145

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8015B
Type:	LCS	Basis:	as received
Lab ID:	QC410051	Diln Fac:	1.000
Matrix:	Soil	Batch#:	130430
Units:	mg/Kg	Analyzed:	10/11/07

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	5.000	4.394	88	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	118	71-132
Bromofluorobenzene (FID)	94	69-145

## Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8015B
Field ID:	B26-6	Diln Fac:	1.000
MSS Lab ID:	198227-002	Batch#:	130430
Matrix:	Soil	Sampled:	10/09/07
Units:	mg/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/11/07

Type: MS Lab ID: QC410052

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.1042	10.00	8.274	82	43-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	139 *	71-132
Bromofluorobenzene (FID)	97	69-145

Type: MSD Lab ID: QC410053

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	9.709	7.776	79	43-120	3	25

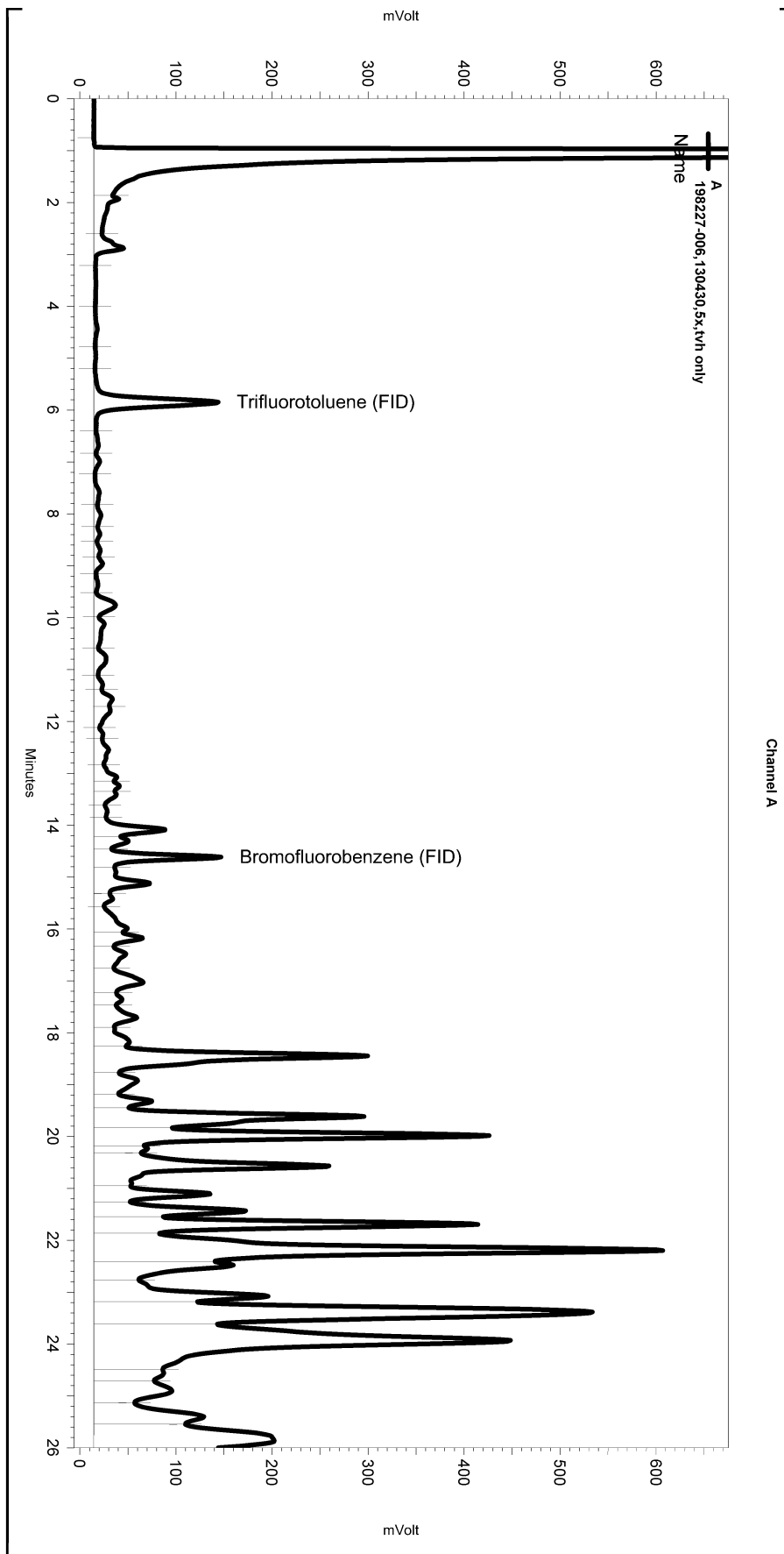
Surrogate	%REC	Limits
Trifluorotoluene (FID)	134 *	71-132
Bromofluorobenzene (FID)	96	69-145

\*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

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Software Version 3.1.7  
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 Vial & pH or Core ID: a



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Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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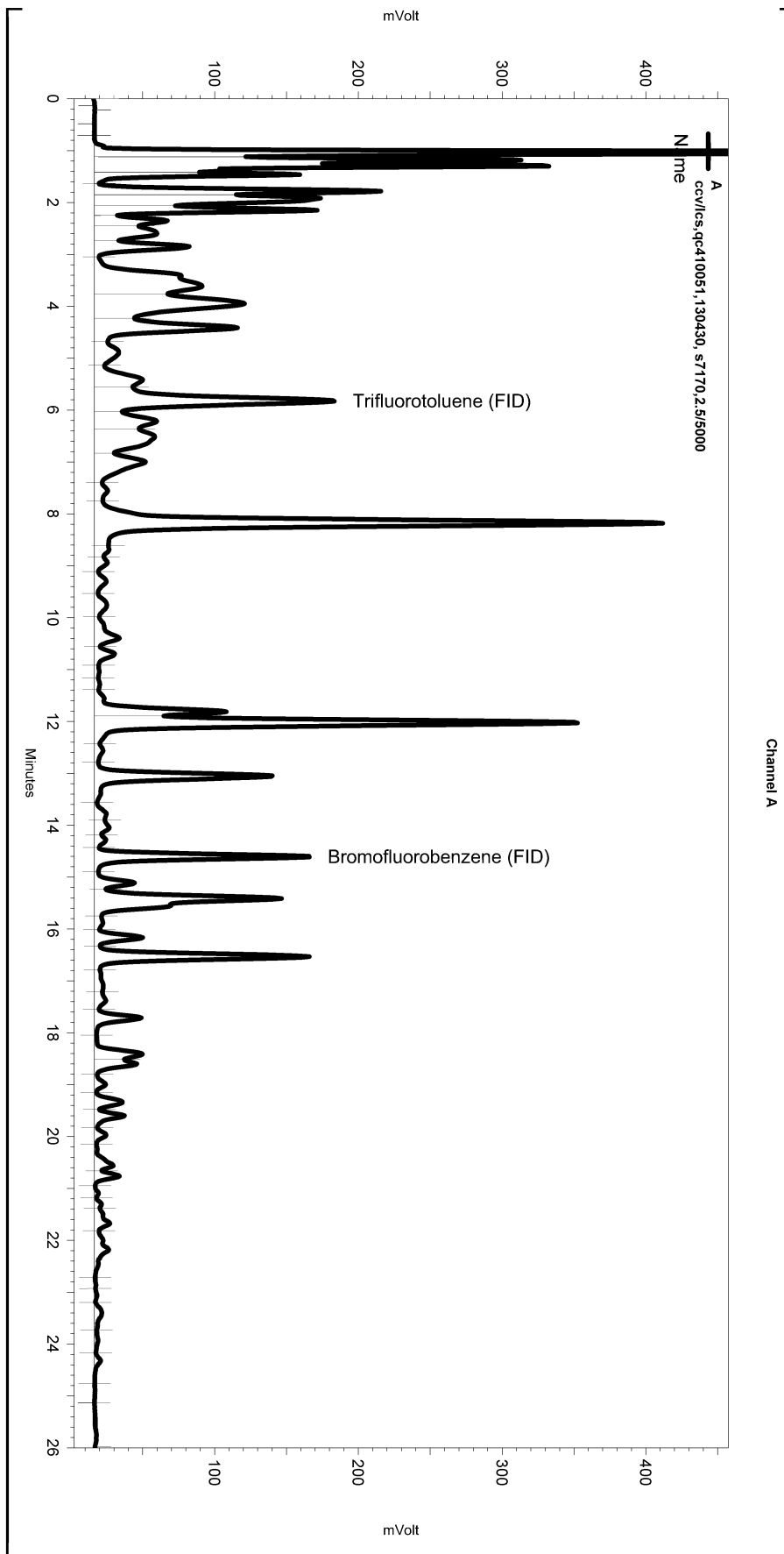
Manual Integration Fixes

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 Method Name: \\Lims\gdrive\ezchrom\Projects\GC04\Method\tvhbtxe260 Surrfun.met

Software Version 3.1.7  
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 Analysis Date: 10/12/2007 7:55:06 AM  
 Sample Amount: 1 Multiplier: 1  
 Vial & pH or Core ID: {Data Description}



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No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\284\_02

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
None				

Total Extractable Hydrocarbons			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	10/09/07
Units:	ug/L	Received:	10/09/07
Diln Fac:	1.000	Prepared:	10/11/07
Batch#:	130435		

Field ID: B26-GGW Analyzed: 10/13/07  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 198227-011

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	89	61-133

Field ID: B27-GGW Analyzed: 10/13/07  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 198227-020

Analyte	Result	RL
Diesel C10-C24	52 Y	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	91	61-133

Type: BLANK Analyzed: 10/12/07  
 Lab ID: QC410090 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	88	61-133

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC410091	Batch#:	130435
Matrix:	Water	Prepared:	10/11/07
Units:	ug/L	Analyzed:	10/12/07

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,823	73	58-128

Surrogate	%REC	Limits
Hexacosane	90	61-133



Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	130435
MSS Lab ID:	198077-001	Sampled:	10/03/07
Matrix:	Water	Received:	10/03/07
Units:	ug/L	Prepared:	10/11/07
Diln Fac:	1.000	Analyzed:	10/12/07

Type: MS Cleanup Method: EPA 3630C  
 Lab ID: QC410092

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	<19.31	2,500	2,114	85	58-129

Surrogate	%REC	Limits
Hexacosane	83	61-133

Type: MSD Cleanup Method: EPA 3630C  
 Lab ID: QC410093

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,336	93	58-129	10	27

Surrogate	%REC	Limits
Hexacosane	93	61-133

RPD= Relative Percent Difference

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	130435
MSS Lab ID:	198119-008	Sampled:	10/04/07
Matrix:	Water	Received:	10/04/07
Units:	ug/L	Prepared:	10/11/07
Diln Fac:	1.000	Analyzed:	10/12/07

Type: MS Cleanup Method: EPA 3630C  
 Lab ID: QC410094

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	20.71	2,500	2,187	87	58-129

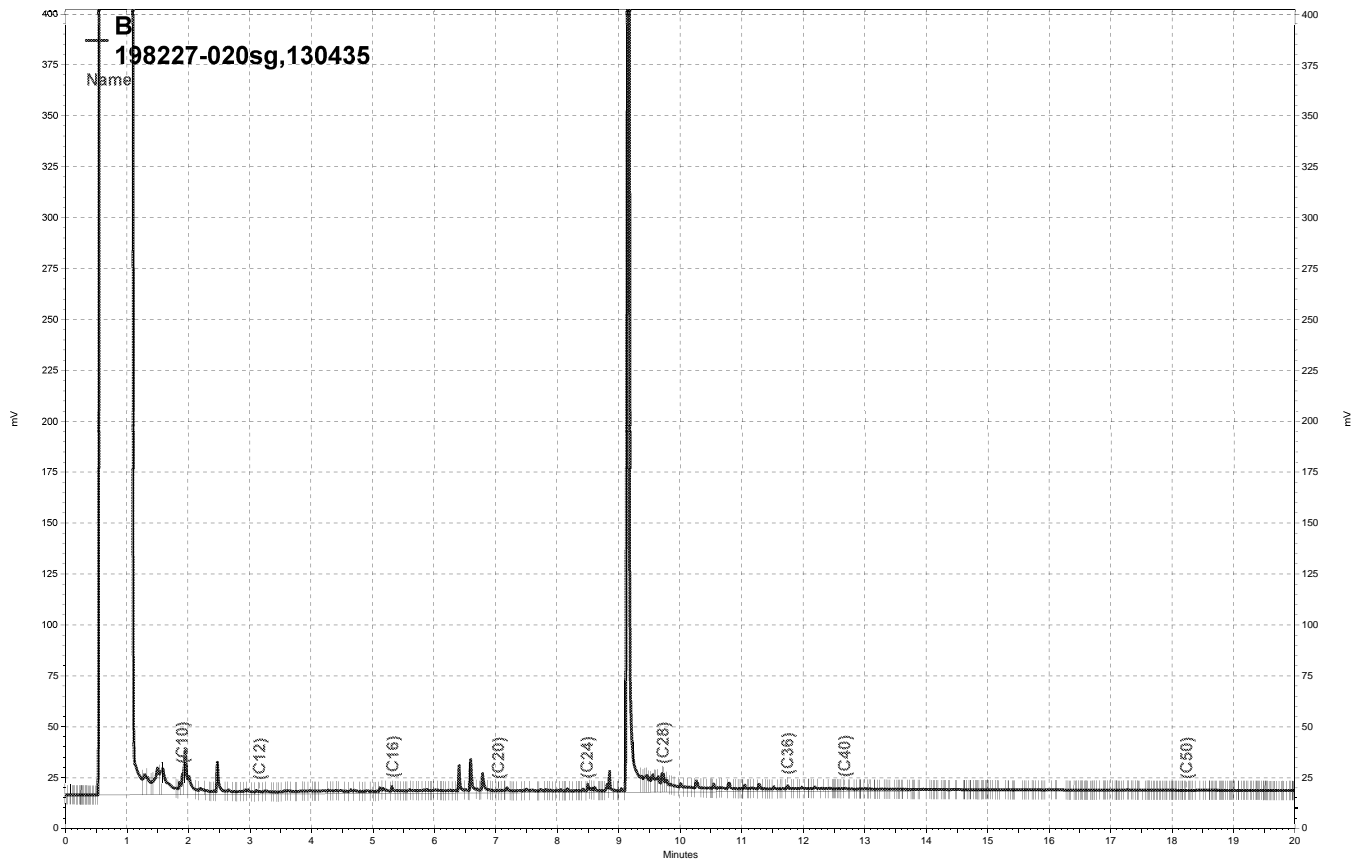
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Hexacosane	108	61-133

Type: MSD Cleanup Method: EPA 3630C  
 Lab ID: QC410095

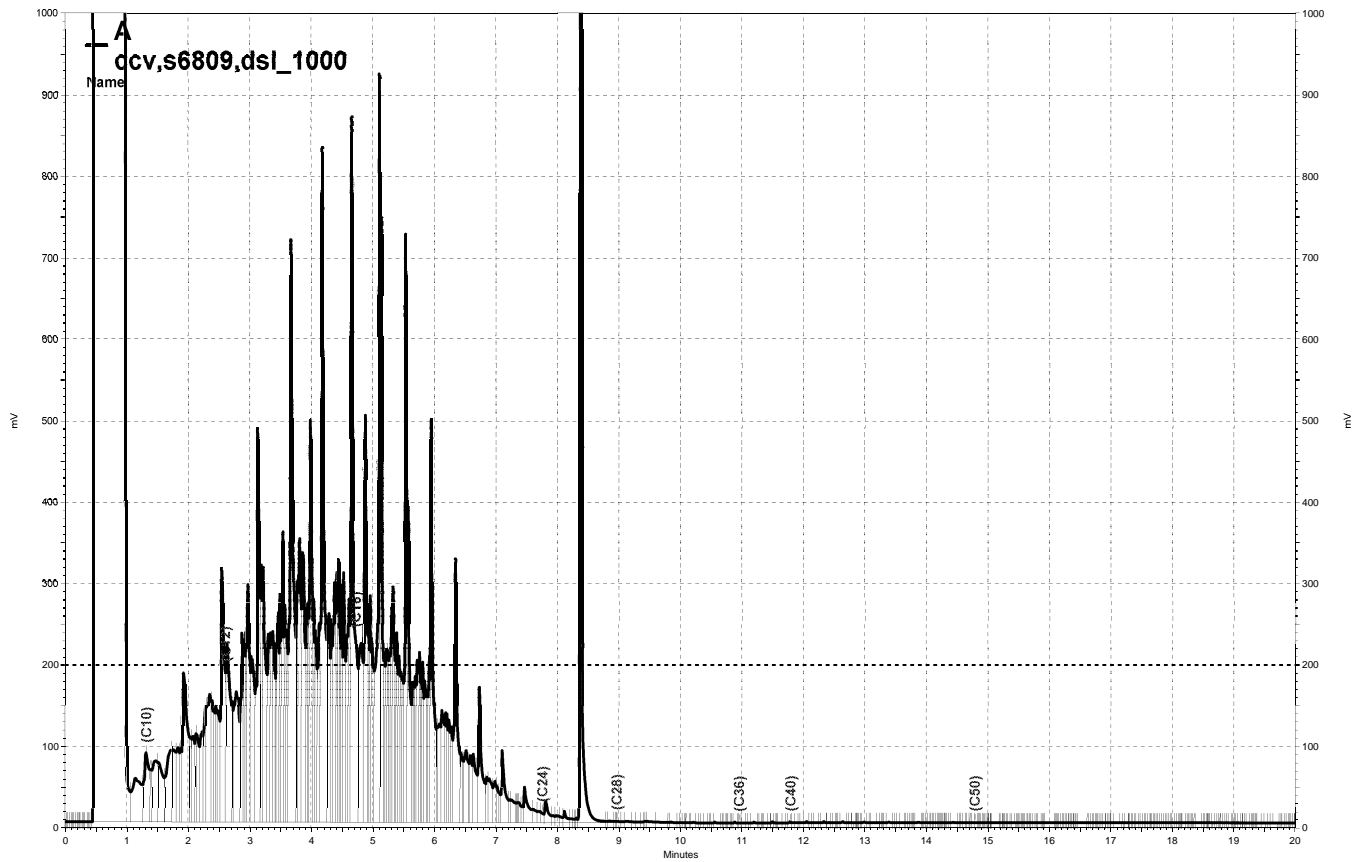
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,160	86	58-129	1	27

Surrogate	%REC	Limits
Hexacosane	105	61-133

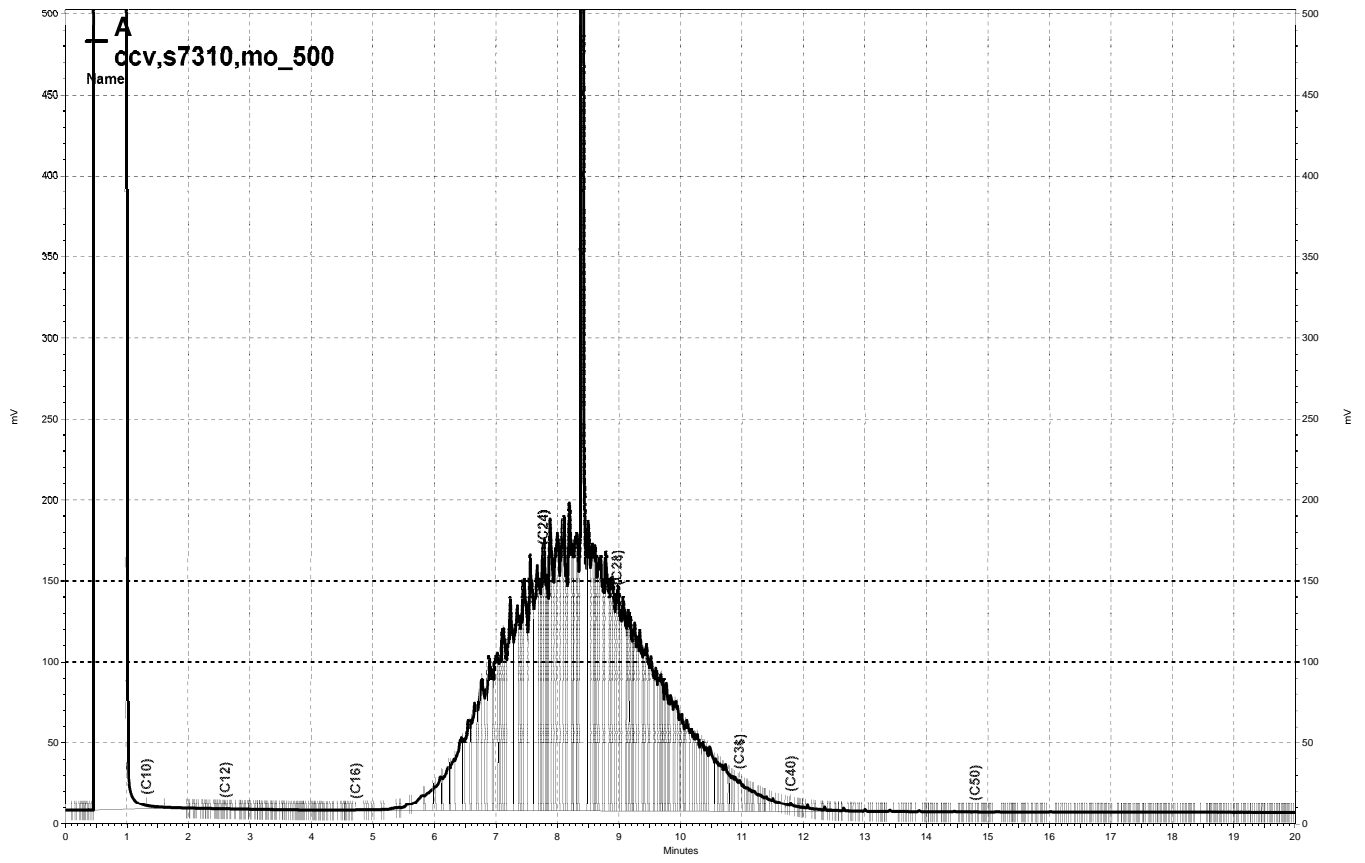
RPD= Relative Percent Difference



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Total Extractable Hydrocarbons			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	10/09/07
Units:	mg/Kg	Received:	10/09/07
Basis:	as received		

Field ID:	B26-32	Batch#:	130514
Type:	SAMPLE	Prepared:	10/13/07
Lab ID:	198227-006	Analyzed:	10/17/07
Diln Fac:	50.00	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	5,700	50
Motor Oil C24-C36	6,000	250

Surrogate	%REC	Limits
Hexacosane	DO	46-128

Field ID:	B26-33.5	Batch#:	130526
Type:	SAMPLE	Prepared:	10/15/07
Lab ID:	198227-007	Analyzed:	10/17/07
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	3.5 Y	0.99
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	68	46-128

Field ID:	B26-38	Batch#:	130526
Type:	SAMPLE	Prepared:	10/15/07
Lab ID:	198227-008	Analyzed:	10/17/07
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	0.99
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	80	46-128

Field ID:	B26-42.5	Batch#:	130526
Type:	SAMPLE	Prepared:	10/15/07
Lab ID:	198227-009	Analyzed:	10/17/07
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	97	46-128

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit











## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-04	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC410409	Batch#:	130514
Matrix:	Soil	Prepared:	10/13/07
Units:	mg/Kg	Analyzed:	10/16/07
Basis:	as received		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.83	45.08	90	55-131

Surrogate	%REC	Limits
Hexacosane	90	46-128

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-04	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC410461	Batch#:	130526
Matrix:	Soil	Prepared:	10/15/07
Units:	mg/Kg	Analyzed:	10/16/07
Basis:	as received		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.91	33.07	66	55-131

Surrogate	%REC	Limits
Hexacosane	65	46-128

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-04	Analysis:	EPA 8015B
Field ID:	B-34-11.5	Batch#:	130526
MSS Lab ID:	198238-002	Sampled:	10/10/07
Matrix:	Soil	Received:	10/10/07
Units:	mg/Kg	Prepared:	10/15/07
Basis:	as received	Analyzed:	10/16/07
Diln Fac:	1.000		

Type: MS Cleanup Method: EPA 3630C  
 Lab ID: QC410462

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	0.7129	49.91	48.51	96	31-150

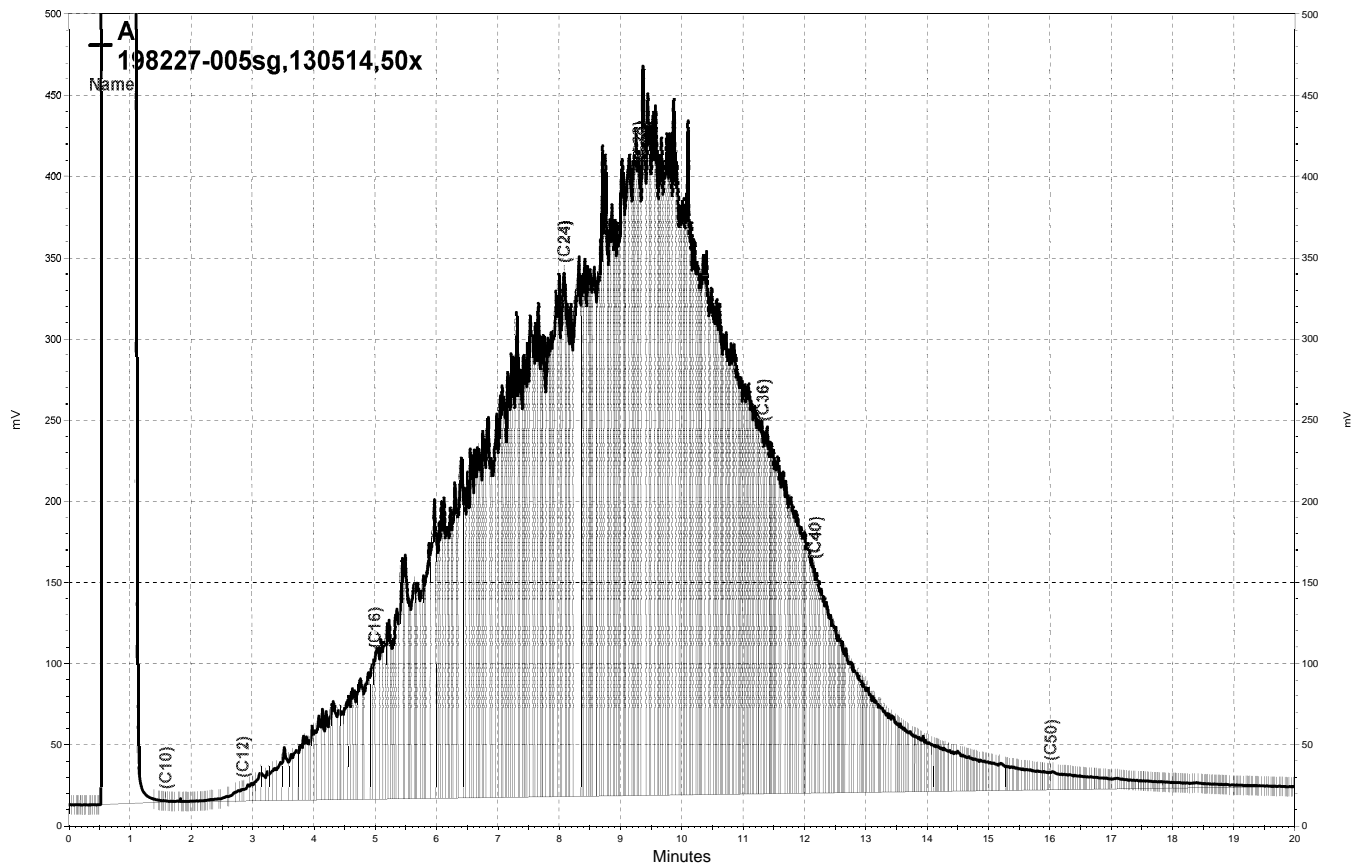
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Hexacosane	107	46-128

Type: MSD Cleanup Method: EPA 3630C  
 Lab ID: QC410463

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.89	36.63	72	31-150	28	42

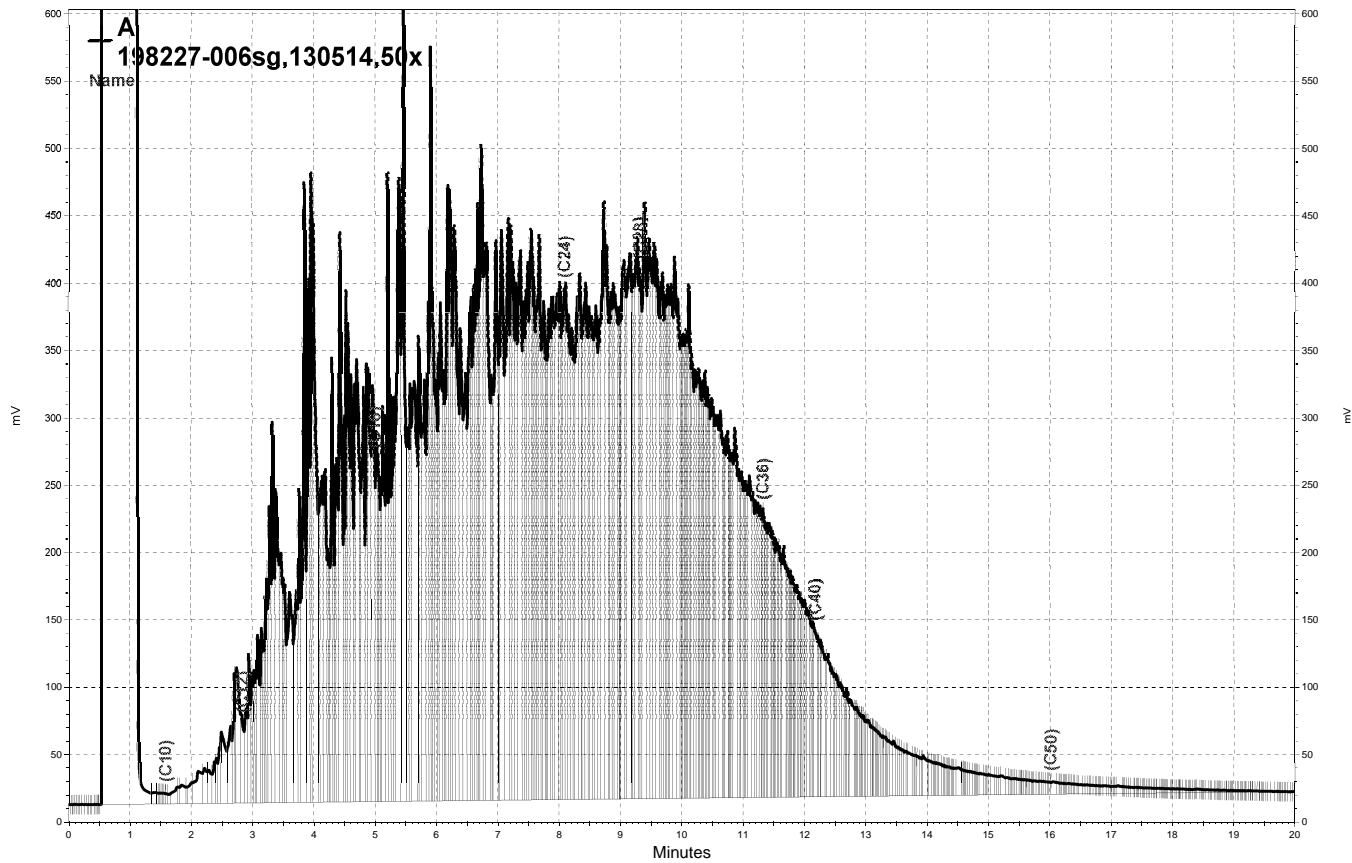
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Hexacosane	79	46-128





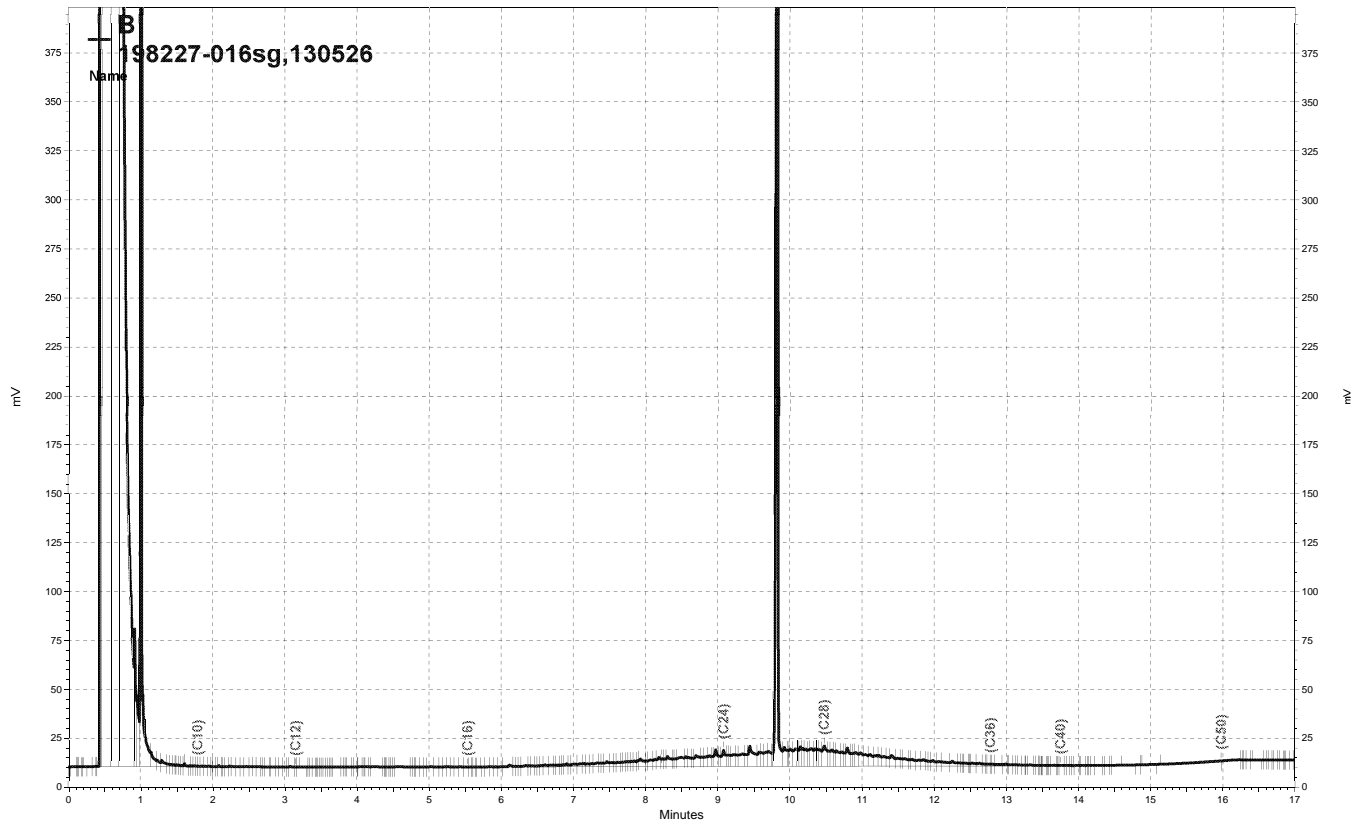
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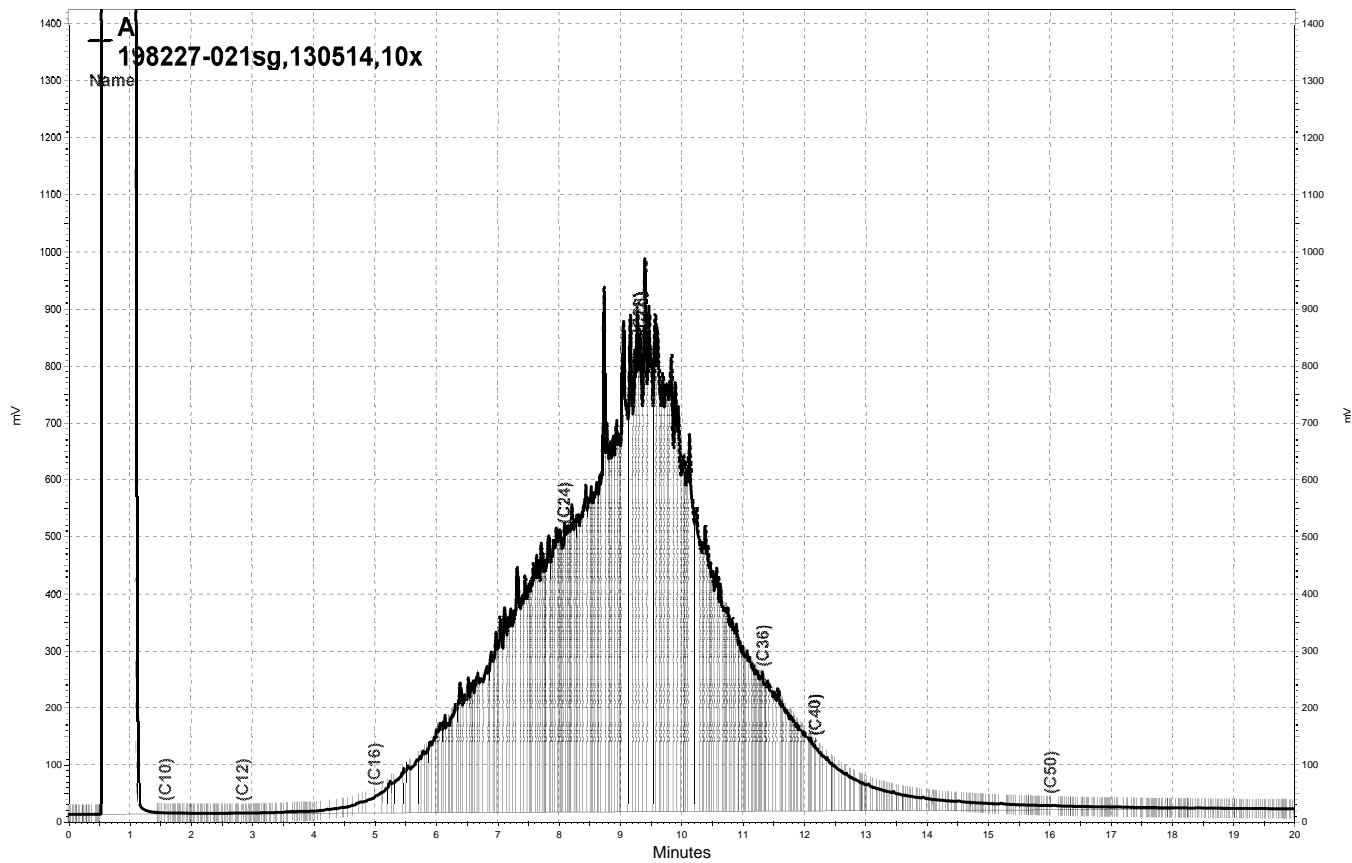


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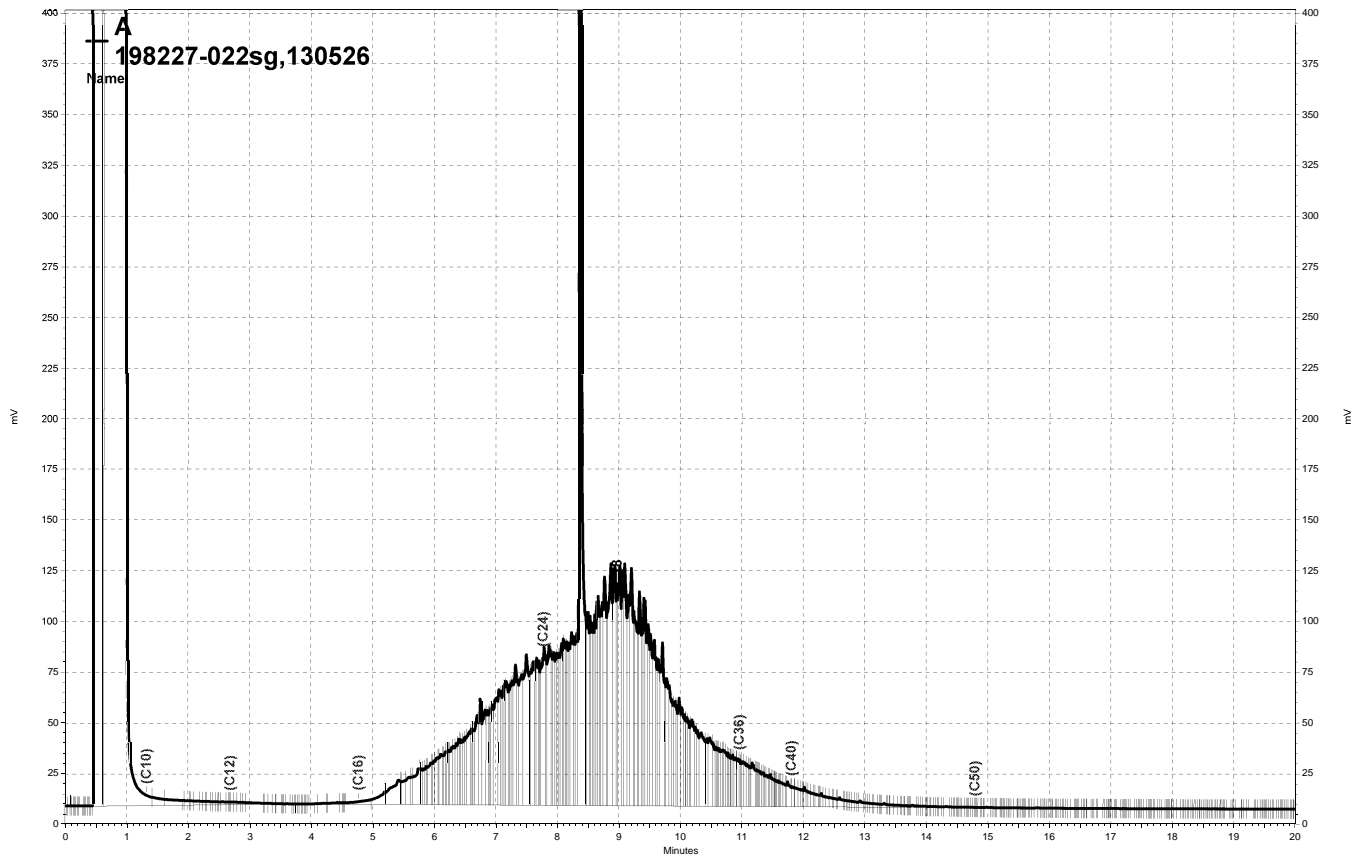




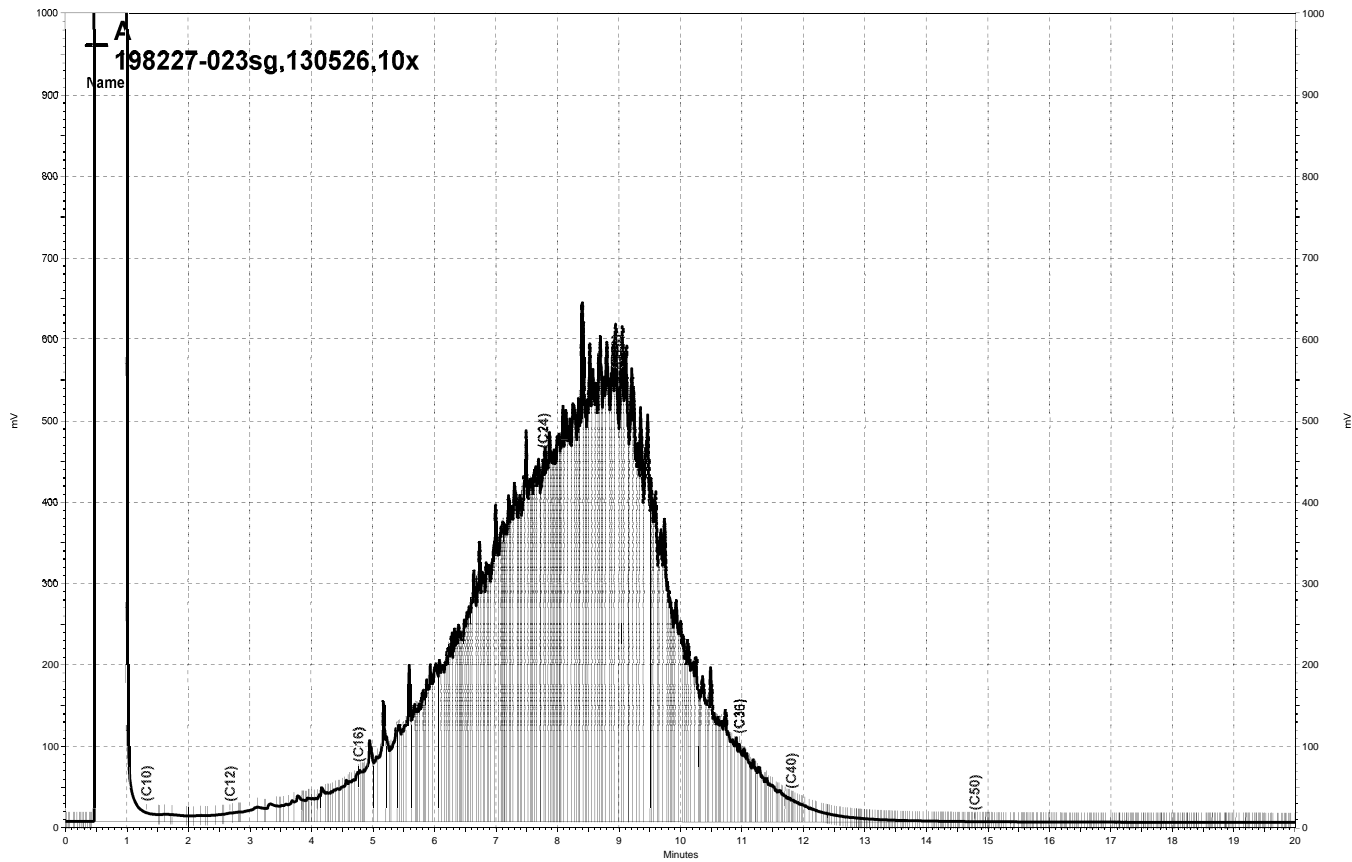
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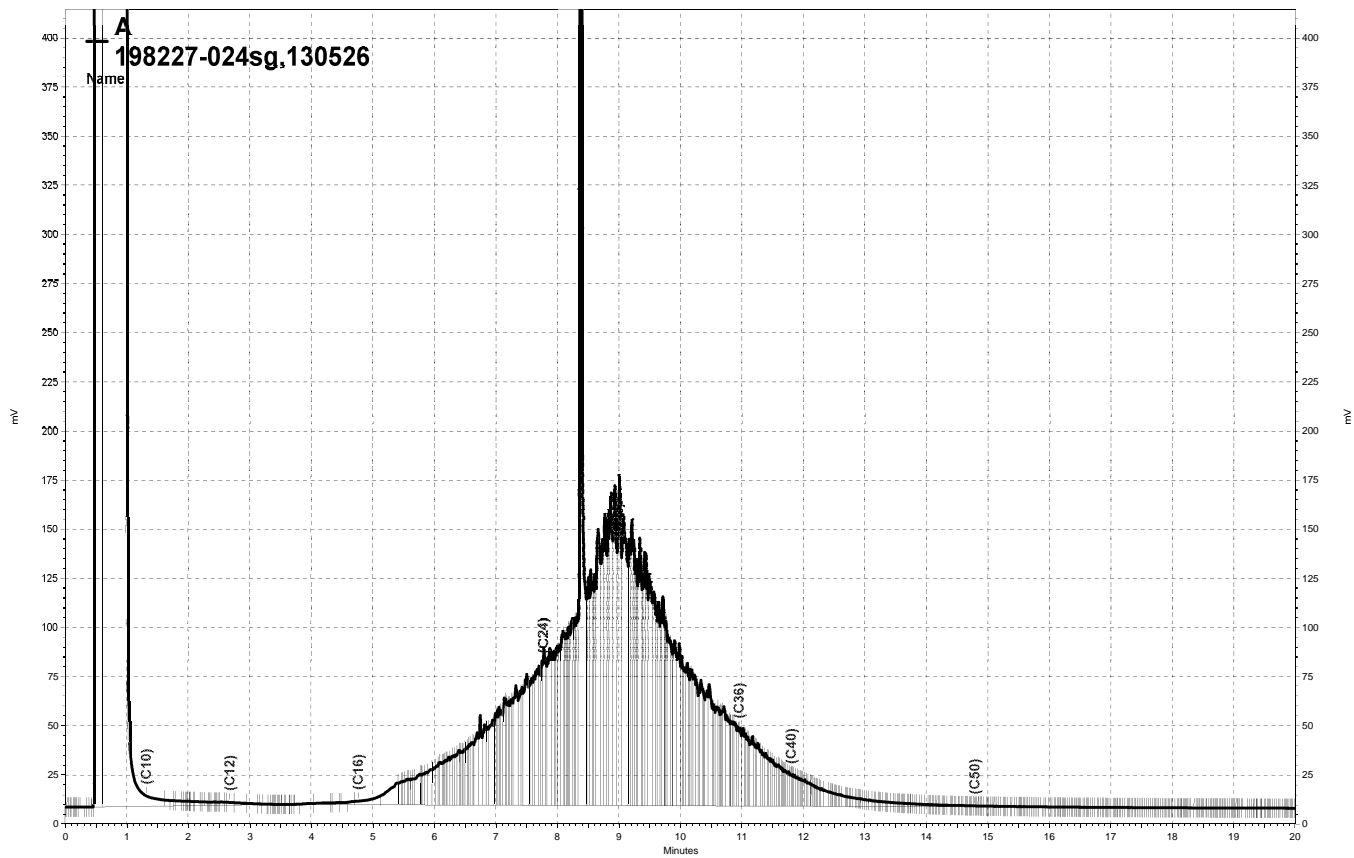
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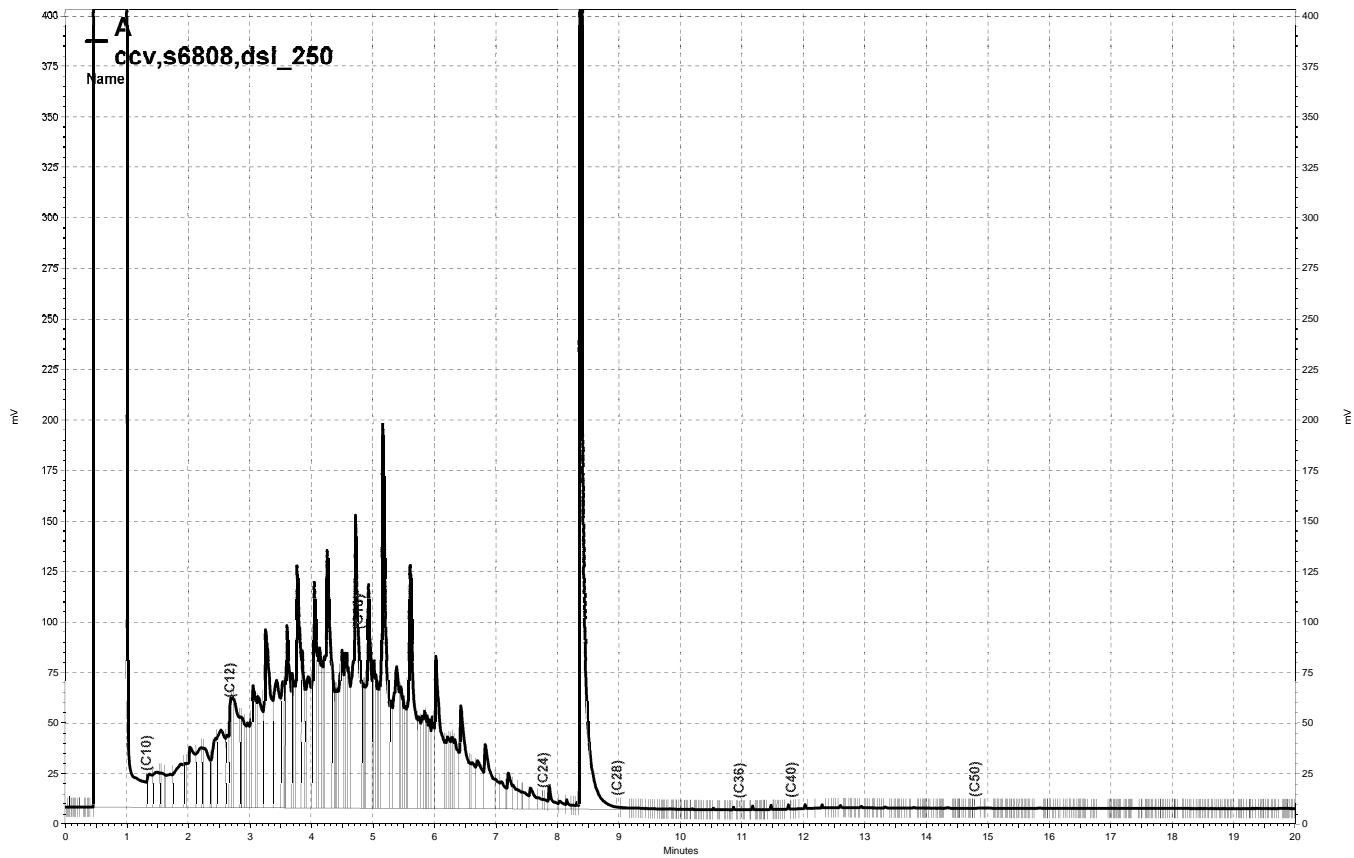
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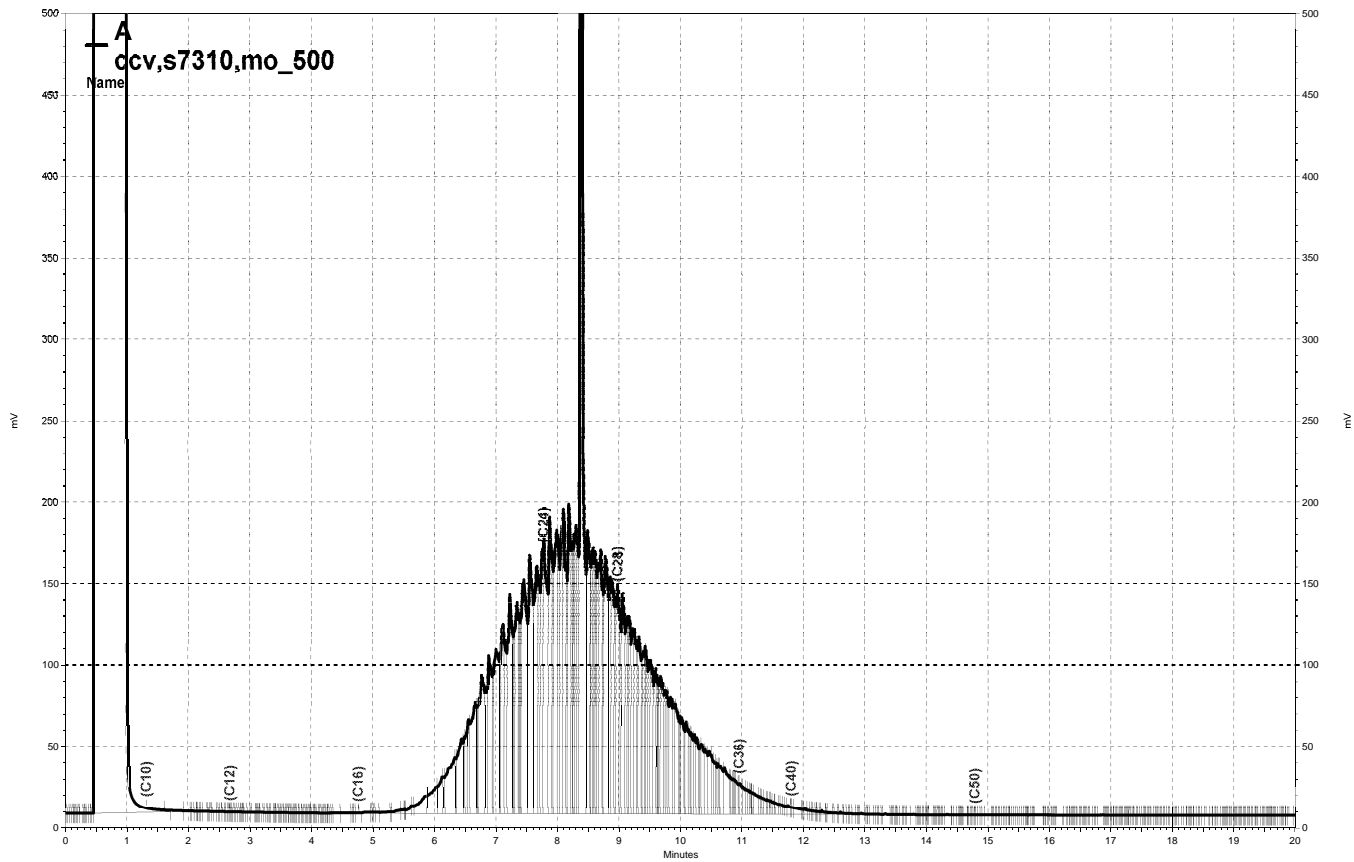


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Total Extractable Hydrocarbons			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8015B
Units:	ug/L	Sampled:	10/09/07
Diln Fac:	1.000	Received:	10/09/07
Batch#:	130507	Prepared:	10/13/07

Field ID: B26-32 Matrix: SPLP Leachate  
 Type: SAMPLE Analyzed: 10/16/07  
 Lab ID: 198227-006 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	720	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	86	61-133

Field ID: B26-33.5 Matrix: SPLP Leachate  
 Type: SAMPLE Analyzed: 10/16/07  
 Lab ID: 198227-007 Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	100	61-133

Type: BLANK Analyzed: 10/15/07  
 Lab ID: QC410390 Cleanup Method: EPA 3630C  
 Matrix: Water

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	101	61-133

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	130507
Units:	ug/L	Prepared:	10/13/07
Diln Fac:	1.000	Analyzed:	10/15/07

Type: BS Cleanup Method: EPA 3630C  
 Lab ID: QC410391

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,693	68	58-128

Surrogate	%REC	Limits
Hexacosane	95	61-133

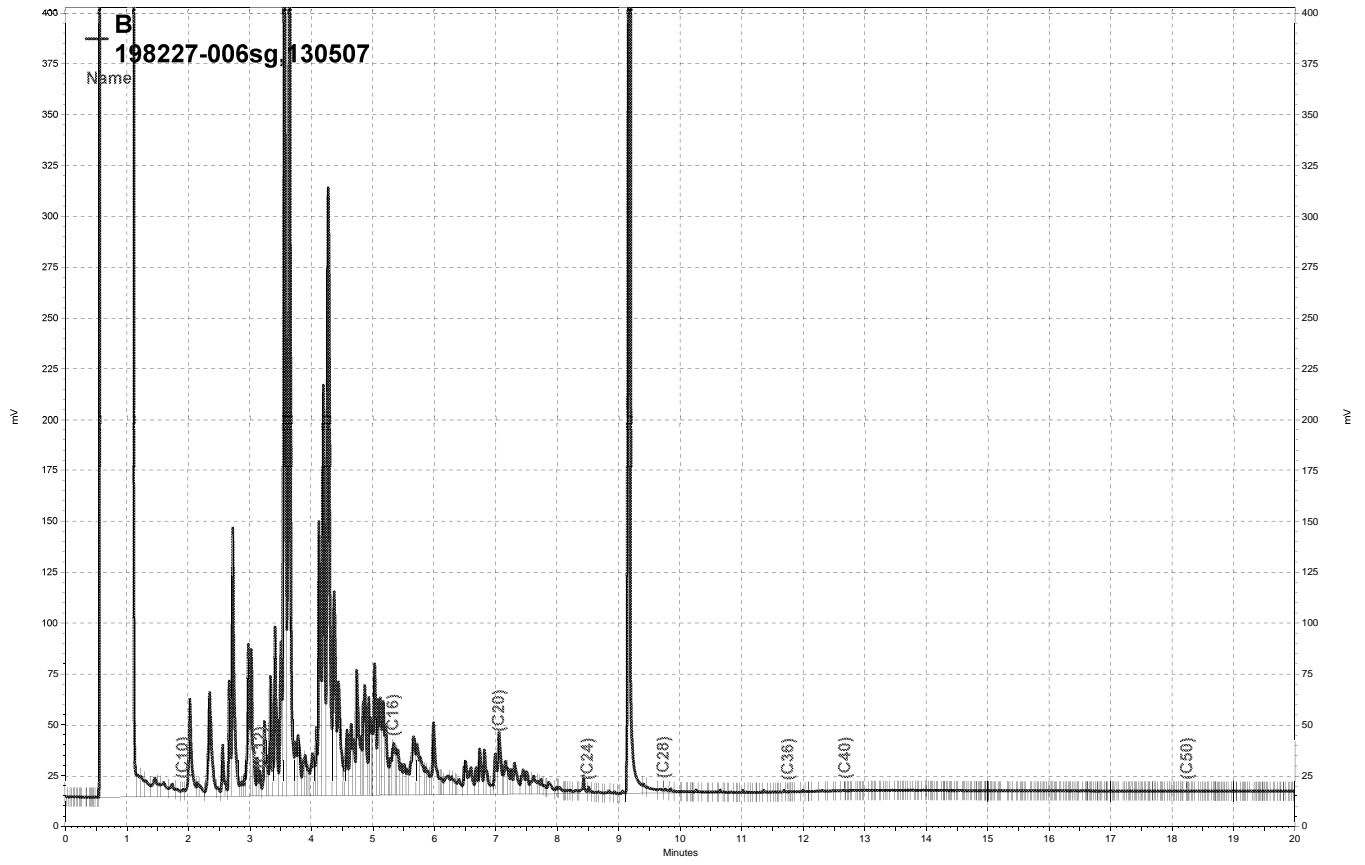
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 Lab ID: QC410392

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,004	80	58-128	17	29

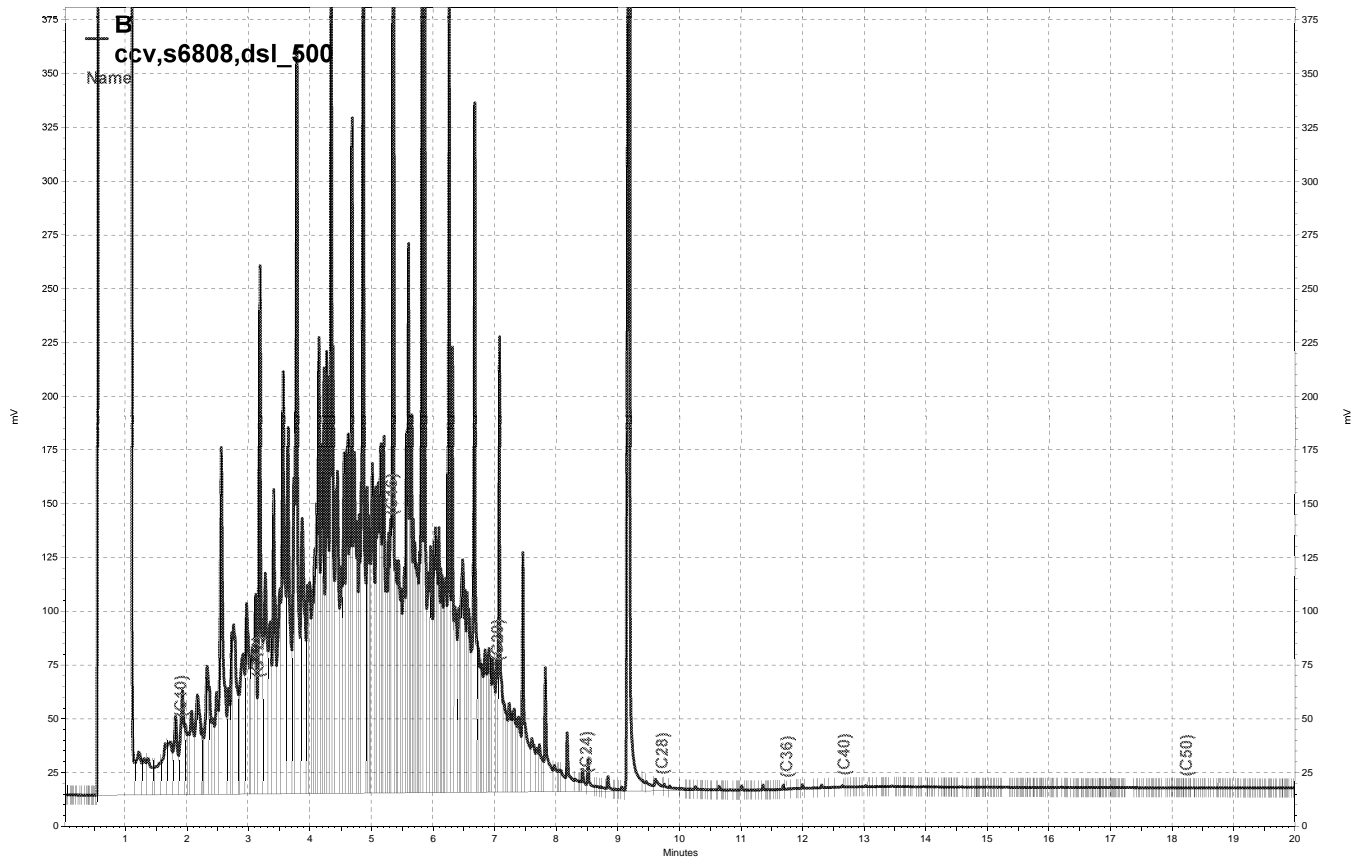
  

Surrogate	%REC	Limits
Hexacosane	107	61-133

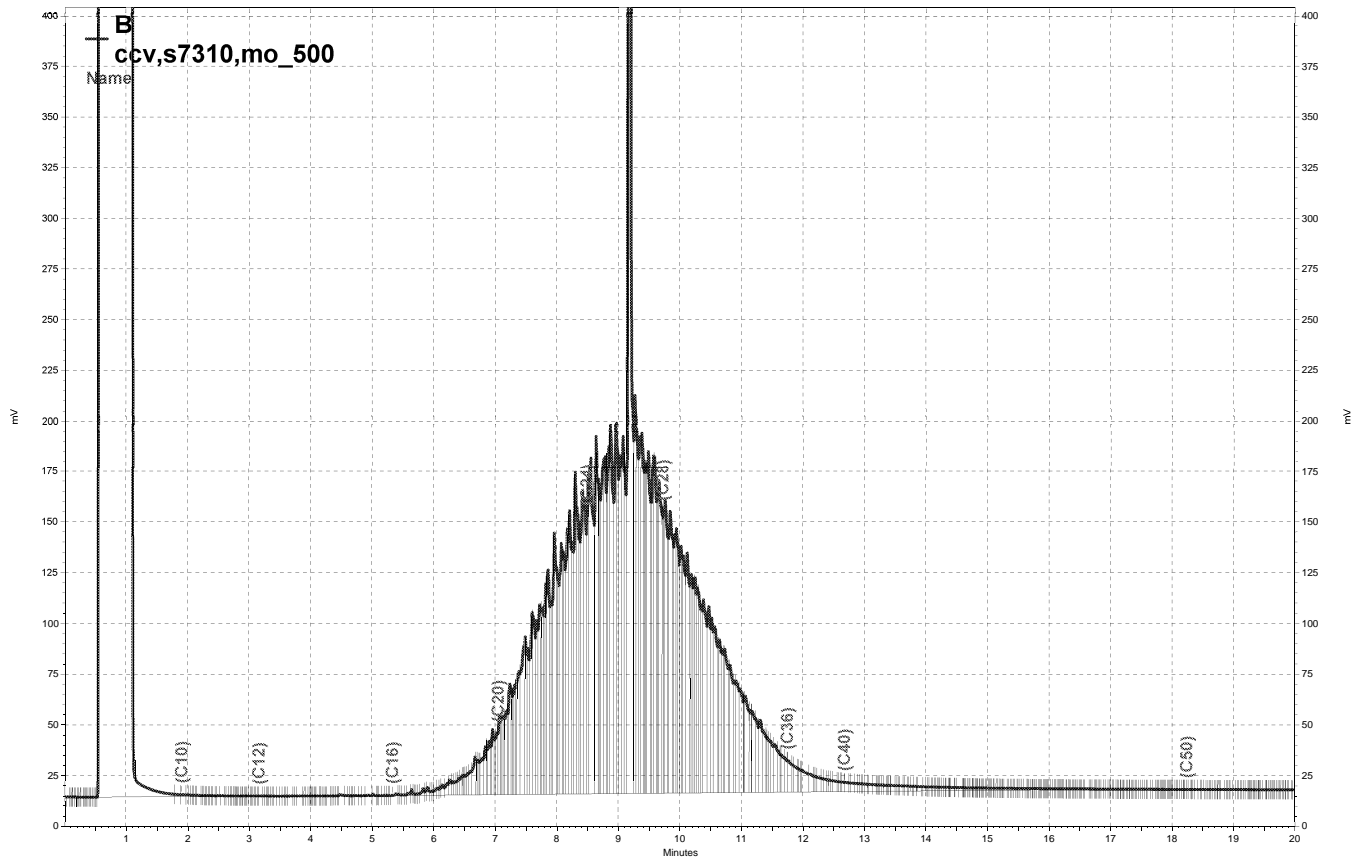
RPD= Relative Percent Difference



\\Lims\gdrive\ezchrom\Projects\GC14B\Data\287b063, B



\\Lims\gdrive\ezchrom\Projects\GC14B\Data\287b052, B



\\Lims\gdrive\ezchrom\Projects\GC14B\Data\287b053, B

**Purgeable Organics by GC/MS**

Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	TB100907	Batch#:	130458
Lab ID:	198227-001	Sampled:	10/09/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Analyzed:	10/12/07
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected

RL= Reporting Limit

### Purgeable Organics by GC/MS

Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	TB100907	Batch#:	130458
Lab ID:	198227-001	Sampled:	10/09/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Analyzed:	10/12/07
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-122
1,2-Dichloroethane-d4	109	74-137
Toluene-d8	97	80-120
Bromofluorobenzene	103	80-120

ND= Not Detected

RL= Reporting Limit



## Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410183	Batch#:	130458
Matrix:	Water	Analyzed:	10/12/07
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	0.5
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

<b>Purgeable Organics by GC/MS</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410183	Batch#:	130458
Matrix:	Water	Analyzed:	10/12/07
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	98	80-122
1,2-Dichloroethane-d4	107	74-137
Toluene-d8	97	80-120
Bromofluorobenzene	107	80-120

ND= Not Detected

RL= Reporting Limit



Gasoline by GC/MS			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B26-GGW	Batch#:	130425
Lab ID:	198227-011	Sampled:	10/09/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	0.5
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5

ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B26-GGW	Batch#:	130425
Lab ID:	198227-011	Sampled:	10/09/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Analyte	Result	RL
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-122
1,2-Dichloroethane-d4	100	74-137
Toluene-d8	98	80-120
Bromofluorobenzene	108	80-120

ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B27-GGW	Batch#:	130425
Lab ID:	198227-020	Sampled:	10/09/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	0.5
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5

ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B27-GGW	Batch#:	130425
Lab ID:	198227-020	Sampled:	10/09/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Analyte	Result	RL
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-122
1,2-Dichloroethane-d4	101	74-137
Toluene-d8	99	80-120
Bromofluorobenzene	107	80-120

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Gasoline by GC/MS</b>			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410035	Batch#:	130425
Matrix:	Water	Analyzed:	10/11/07
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Isopropyl Ether (DIPE)	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Methyl tert-Amyl Ether (TAME)	ND	0.5
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	0.5
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5

ND= Not Detected  
 RL= Reporting Limit



## Batch QC Report

Gasoline by GC/MS			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410035	Batch#:	130425
Matrix:	Water	Analyzed:	10/11/07
Units:	ug/L		

Analyte	Result	RL
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	0.5
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	90	80-122
1,2-Dichloroethane-d4	79	74-137
Toluene-d8	95	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Gasoline by GC/MS</b>			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	130425
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Type: BS Lab ID: QC410036

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	110.9	89	59-149
Isopropyl Ether (DIPE)	25.00	21.66	87	59-120
Ethyl tert-Butyl Ether (ETBE)	25.00	22.48	90	65-134
Methyl tert-Amyl Ether (TAME)	25.00	23.18	93	67-132
1,1-Dichloroethene	25.00	25.87	103	80-133
Benzene	25.00	25.51	102	80-120
Trichloroethene	25.00	25.67	103	80-120
Toluene	25.00	25.59	102	80-122
Chlorobenzene	25.00	24.87	99	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-122
1,2-Dichloroethane-d4	83	74-137
Toluene-d8	97	80-120
Bromofluorobenzene	91	80-120

Type: BSD Lab ID: QC410037

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	110.6	88	59-149	0	20
Isopropyl Ether (DIPE)	25.00	21.28	85	59-120	2	20
Ethyl tert-Butyl Ether (ETBE)	25.00	22.23	89	65-134	1	20
Methyl tert-Amyl Ether (TAME)	25.00	22.81	91	67-132	2	20
1,1-Dichloroethene	25.00	25.06	100	80-133	3	20
Benzene	25.00	25.03	100	80-120	2	20
Trichloroethene	25.00	25.07	100	80-120	2	20
Toluene	25.00	25.19	101	80-122	2	20
Chlorobenzene	25.00	24.88	100	80-120	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	91	80-122
1,2-Dichloroethane-d4	81	74-137
Toluene-d8	96	80-120
Bromofluorobenzene	92	80-120

## Batch QC Report

Gasoline by GC/MS			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	130425
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Type: BS Lab ID: QC410038

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,172	117	70-130

Surrogate	%REC	Limits
Dibromofluoromethane	89	80-122
1,2-Dichloroethane-d4	80	74-137
Toluene-d8	97	80-120
Bromofluorobenzene	93	80-120

Type: BSD Lab ID: QC410039

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	1,166	117	70-130	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	88	80-122
1,2-Dichloroethane-d4	75	74-137
Toluene-d8	95	80-120
Bromofluorobenzene	93	80-120

RPD= Relative Percent Difference

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B26-6	Diln Fac:	0.9091
Lab ID:	198227-002	Batch#:	130377
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	91
MTBE	ND	4.5
Isopropyl Ether (DIPE)	ND	4.5
Ethyl tert-Butyl Ether (ETBE)	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Methyl tert-Amyl Ether (TAME)	ND	4.5
Toluene	ND	4.5
1,2-Dibromoethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	97	80-124
1,2-Dichloroethane-d4	94	79-136
Toluene-d8	97	80-120
Bromofluorobenzene	96	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B26-16.5	Diln Fac:	0.9615
Lab ID:	198227-003	Batch#:	130377
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	96
MTBE	ND	4.8
Isopropyl Ether (DIPE)	ND	4.8
Ethyl tert-Butyl Ether (ETBE)	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Methyl tert-Amyl Ether (TAME)	ND	4.8
Toluene	ND	4.8
1,2-Dibromoethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	100	80-124
1,2-Dichloroethane-d4	95	79-136
Toluene-d8	96	80-120
Bromofluorobenzene	96	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B26-22.5	Diln Fac:	0.9434
Lab ID:	198227-004	Batch#:	130377
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	94
MTBE	ND	4.7
Isopropyl Ether (DIPE)	ND	4.7
Ethyl tert-Butyl Ether (ETBE)	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Methyl tert-Amyl Ether (TAME)	ND	4.7
Toluene	ND	4.7
1,2-Dibromoethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	101	80-124
1,2-Dichloroethane-d4	96	79-136
Toluene-d8	96	80-120
Bromofluorobenzene	95	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B26-28	Diln Fac:	0.9804
Lab ID:	198227-005	Batch#:	130377
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	98
MTBE	ND	4.9
Isopropyl Ether (DIPE)	ND	4.9
Ethyl tert-Butyl Ether (ETBE)	ND	4.9
1,2-Dichloroethane	ND	4.9
Benzene	ND	4.9
Methyl tert-Amyl Ether (TAME)	ND	4.9
Toluene	ND	4.9
1,2-Dibromoethane	ND	4.9
Ethylbenzene	ND	4.9
m,p-Xylenes	ND	4.9
o-Xylene	ND	4.9

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	99	80-124
1,2-Dichloroethane-d4	96	79-136
Toluene-d8	98	80-120
Bromofluorobenzene	95	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B26-32	Diln Fac:	5.000
Lab ID:	198227-006	Batch#:	130460
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/12/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	500
MTBE	ND	25
Isopropyl Ether (DIPE)	ND	25
Ethyl tert-Butyl Ether (ETBE)	ND	25
1,2-Dichloroethane	ND	25
Benzene	ND	25
Methyl tert-Amyl Ether (TAME)	ND	25
Toluene	ND	25
1,2-Dibromoethane	ND	25
Ethylbenzene	ND	25
m,p-Xylenes	ND	25
o-Xylene	ND	25

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	128 *	80-124
1,2-Dichloroethane-d4	111	79-136
Toluene-d8	106	80-120
Bromofluorobenzene	101	80-122

\*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit



<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B26-33.5	Diln Fac:	0.9259
Lab ID:	198227-007	Batch#:	130377
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	93
MTBE	ND	4.6
Isopropyl Ether (DIPE)	ND	4.6
Ethyl tert-Butyl Ether (ETBE)	ND	4.6
1,2-Dichloroethane	ND	4.6
Benzene	ND	4.6
Methyl tert-Amyl Ether (TAME)	ND	4.6
Toluene	ND	4.6
1,2-Dibromoethane	ND	4.6
Ethylbenzene	ND	4.6
m,p-Xylenes	ND	4.6
o-Xylene	ND	4.6

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	89	80-124
1,2-Dichloroethane-d4	89	79-136
Toluene-d8	98	80-120
Bromofluorobenzene	101	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B26-38	Diln Fac:	0.9091
Lab ID:	198227-008	Batch#:	130377
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	91
MTBE	ND	4.5
Isopropyl Ether (DIPE)	ND	4.5
Ethyl tert-Butyl Ether (ETBE)	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Methyl tert-Amyl Ether (TAME)	ND	4.5
Toluene	ND	4.5
1,2-Dibromoethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	93	80-124
1,2-Dichloroethane-d4	90	79-136
Toluene-d8	98	80-120
Bromofluorobenzene	98	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B26-42.5	Diln Fac:	1.000
Lab ID:	198227-009	Batch#:	130377
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	93	80-124
1,2-Dichloroethane-d4	88	79-136
Toluene-d8	94	80-120
Bromofluorobenzene	96	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B26-47	Diln Fac:	0.9091
Lab ID:	198227-010	Batch#:	130377
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	91
MTBE	ND	4.5
Isopropyl Ether (DIPE)	ND	4.5
Ethyl tert-Butyl Ether (ETBE)	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Methyl tert-Amyl Ether (TAME)	ND	4.5
Toluene	ND	4.5
1,2-Dibromoethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	94	80-124
1,2-Dichloroethane-d4	90	79-136
Toluene-d8	97	80-120
Bromofluorobenzene	97	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B27-7	Diln Fac:	0.9615
Lab ID:	198227-012	Batch#:	130377
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	96
MTBE	ND	4.8
Isopropyl Ether (DIPE)	ND	4.8
Ethyl tert-Butyl Ether (ETBE)	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Methyl tert-Amyl Ether (TAME)	ND	4.8
Toluene	ND	4.8
1,2-Dibromoethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	97	80-124
1,2-Dichloroethane-d4	91	79-136
Toluene-d8	95	80-120
Bromofluorobenzene	98	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B27-16	Diln Fac:	0.9091
Lab ID:	198227-013	Batch#:	130377
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	91
MTBE	ND	4.5
Isopropyl Ether (DIPE)	ND	4.5
Ethyl tert-Butyl Ether (ETBE)	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Methyl tert-Amyl Ether (TAME)	ND	4.5
Toluene	ND	4.5
1,2-Dibromoethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	99	80-124
1,2-Dichloroethane-d4	93	79-136
Toluene-d8	96	80-120
Bromofluorobenzene	97	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B27-22	Diln Fac:	0.9804
Lab ID:	198227-014	Batch#:	130377
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	98
MTBE	ND	4.9
Isopropyl Ether (DIPE)	ND	4.9
Ethyl tert-Butyl Ether (ETBE)	ND	4.9
1,2-Dichloroethane	ND	4.9
Benzene	ND	4.9
Methyl tert-Amyl Ether (TAME)	ND	4.9
Toluene	ND	4.9
1,2-Dibromoethane	ND	4.9
Ethylbenzene	ND	4.9
m,p-Xylenes	ND	4.9
o-Xylene	ND	4.9

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	100	80-124
1,2-Dichloroethane-d4	92	79-136
Toluene-d8	95	80-120
Bromofluorobenzene	97	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B27-27.5	Diln Fac:	1.000
Lab ID:	198227-015	Batch#:	130379
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	114	80-124
1,2-Dichloroethane-d4	106	79-136
Toluene-d8	98	80-120
Bromofluorobenzene	95	80-122

ND= Not Detected  
 RL= Reporting Limit



<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B27-32	Diln Fac:	0.9091
Lab ID:	198227-016	Batch#:	130379
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	91
MTBE	ND	4.5
Isopropyl Ether (DIPE)	ND	4.5
Ethyl tert-Butyl Ether (ETBE)	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Methyl tert-Amyl Ether (TAME)	ND	4.5
Toluene	ND	4.5
1,2-Dibromoethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	109	80-124
1,2-Dichloroethane-d4	104	79-136
Toluene-d8	103	80-120
Bromofluorobenzene	101	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B27-37.5	Diln Fac:	0.9615
Lab ID:	198227-017	Batch#:	130379
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	96
MTBE	ND	4.8
Isopropyl Ether (DIPE)	ND	4.8
Ethyl tert-Butyl Ether (ETBE)	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Methyl tert-Amyl Ether (TAME)	ND	4.8
Toluene	ND	4.8
1,2-Dibromoethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	113	80-124
1,2-Dichloroethane-d4	102	79-136
Toluene-d8	98	80-120
Bromofluorobenzene	95	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B27-41.5	Diln Fac:	0.9434
Lab ID:	198227-018	Batch#:	130379
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	94
MTBE	ND	4.7
Isopropyl Ether (DIPE)	ND	4.7
Ethyl tert-Butyl Ether (ETBE)	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Methyl tert-Amyl Ether (TAME)	ND	4.7
Toluene	ND	4.7
1,2-Dibromoethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	117	80-124
1,2-Dichloroethane-d4	112	79-136
Toluene-d8	98	80-120
Bromofluorobenzene	95	80-122

ND= Not Detected  
 RL= Reporting Limit

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B27-46.5	Diln Fac:	0.9434
Lab ID:	198227-019	Batch#:	130379
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	94
MTBE	ND	4.7
Isopropyl Ether (DIPE)	ND	4.7
Ethyl tert-Butyl Ether (ETBE)	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Methyl tert-Amyl Ether (TAME)	ND	4.7
Toluene	ND	4.7
1,2-Dibromoethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	118	80-124
1,2-Dichloroethane-d4	117	79-136
Toluene-d8	98	80-120
Bromofluorobenzene	95	80-122

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	LCS	Basis:	as received
Lab ID:	QC409836	Diln Fac:	1.000
Matrix:	Soil	Batch#:	130377
Units:	ug/Kg	Analyzed:	10/10/07

<b>Analyte</b>	<b>Spiked</b>	<b>Result</b>	<b>%REC</b>	<b>Limits</b>
tert-Butyl Alcohol (TBA)	125.0	114.7	92	58-133
MTBE	25.00	22.56	90	66-120
Isopropyl Ether (DIPE)	25.00	21.74	87	57-120
Ethyl tert-Butyl Ether (ETBE)	25.00	22.35	89	65-120
1,2-Dichloroethane	25.00	23.46	94	69-124
Benzene	25.00	24.14	97	77-121
Methyl tert-Amyl Ether (TAME)	25.00	23.29	93	71-120
Toluene	25.00	24.65	99	79-122
1,2-Dibromoethane	25.00	25.53	102	77-120
Ethylbenzene	25.00	25.07	100	80-127
m,p-Xylenes	50.00	51.20	102	80-126
o-Xylene	25.00	24.84	99	80-124

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	92	80-124
1,2-Dichloroethane-d4	93	79-136
Toluene-d8	97	80-120
Bromofluorobenzene	97	80-122

**Batch QC Report**

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Basis:	as received
Lab ID:	QC409837	Diln Fac:	1.000
Matrix:	Soil	Batch#:	130377
Units:	ug/Kg	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	96	80-124
1,2-Dichloroethane-d4	95	79-136
Toluene-d8	93	80-120
Bromofluorobenzene	99	80-122

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Basis:	as received
Lab ID:	QC409845	Diln Fac:	1.000
Matrix:	Soil	Batch#:	130379
Units:	ug/Kg	Analyzed:	10/10/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	113	80-124
1,2-Dichloroethane-d4	108	79-136
Toluene-d8	99	80-120
Bromofluorobenzene	97	80-122

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	LCS	Basis:	as received
Lab ID:	QC409846	Diln Fac:	1.000
Matrix:	Soil	Batch#:	130379
Units:	ug/Kg	Analyzed:	10/10/07

<b>Analyte</b>	<b>Spiked</b>	<b>Result</b>	<b>%REC</b>	<b>Limits</b>
tert-Butyl Alcohol (TBA)	125.0	104.2	83	58-133
MTBE	25.00	21.12	84	66-120
Isopropyl Ether (DIPE)	25.00	20.56	82	57-120
Ethyl tert-Butyl Ether (ETBE)	25.00	21.41	86	65-120
1,2-Dichloroethane	25.00	27.33	109	69-124
Benzene	25.00	25.66	103	77-121
Methyl tert-Amyl Ether (TAME)	25.00	22.22	89	71-120
Toluene	25.00	25.52	102	79-122
1,2-Dibromoethane	25.00	27.06	108	77-120
Ethylbenzene	25.00	25.79	103	80-127
m,p-Xylenes	50.00	49.03	98	80-126
o-Xylene	25.00	24.72	99	80-124

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	100	80-124
1,2-Dichloroethane-d4	105	79-136
Toluene-d8	102	80-120
Bromofluorobenzene	95	80-122



**Batch QC Report**

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B26-6	Diln Fac:	0.9091
MSS Lab ID:	198227-002	Batch#:	130377
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

Type: MS Lab ID: QC409874

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<5.492	227.3	213.7	94	41-131
MTBE	<0.4101	45.45	39.31	86	52-120
Isopropyl Ether (DIPE)	<0.2812	45.45	39.69	87	46-120
Ethyl tert-Butyl Ether (ETBE)	<0.3546	45.45	41.26	91	52-123
1,2-Dichloroethane	<0.3394	45.45	42.62	94	53-120
Benzene	<0.2771	45.45	44.90	99	57-123
Methyl tert-Amyl Ether (TAME)	<0.2293	45.45	43.54	96	57-120
Toluene	<0.3755	45.45	46.09	101	53-126
1,2-Dibromoethane	<0.2114	45.45	44.87	99	50-120
Ethylbenzene	<0.3665	45.45	45.86	101	51-130
m,p-Xylenes	<0.8424	90.91	93.73	103	49-128
o-Xylene	<0.4663	45.45	46.26	102	49-126

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-124
1,2-Dichloroethane-d4	93	79-136
Toluene-d8	100	80-120
Bromofluorobenzene	96	80-122

Type: MSD Lab ID: QC409875

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	227.3	178.7	79	41-131	18	38
MTBE	45.45	32.38	71	52-120	19	27
Isopropyl Ether (DIPE)	45.45	32.99	73	46-120	18	27
Ethyl tert-Butyl Ether (ETBE)	45.45	34.25	75	52-123	19	27
1,2-Dichloroethane	45.45	37.09	82	53-120	14	27
Benzene	45.45	40.18	88	57-123	11	25
Methyl tert-Amyl Ether (TAME)	45.45	35.72	79	57-120	20	26
Toluene	45.45	41.27	91	53-126	11	27
1,2-Dibromoethane	45.45	39.35	87	50-120	13	26
Ethylbenzene	45.45	41.31	91	51-130	10	28
m,p-Xylenes	90.91	84.19	93	49-128	11	28
o-Xylene	45.45	41.94	92	49-126	10	28

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-124
1,2-Dichloroethane-d4	92	79-136
Toluene-d8	98	80-120
Bromofluorobenzene	98	80-122

RPD= Relative Percent Difference

**Batch QC Report**

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	B27-46.5	Diln Fac:	0.9434
MSS Lab ID:	198227-019	Batch#:	130379
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Analyzed:	10/10/07

Type: MS Lab ID: QC409904

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<15.33	235.8	206.0	87	41-131
MTBE	<0.3346	47.17	36.22	77	52-120
Isopropyl Ether (DIPE)	<0.2925	47.17	36.61	78	46-120
Ethyl tert-Butyl Ether (ETBE)	<0.2887	47.17	38.30	81	52-123
1,2-Dichloroethane	<0.5216	47.17	49.41	105	53-120
Benzene	<0.4345	47.17	49.36	105	57-123
Methyl tert-Amyl Ether (TAME)	<0.2884	47.17	39.74	84	57-120
Toluene	<0.4703	47.17	49.24	104	53-126
1,2-Dibromoethane	<0.4190	47.17	50.85	108	50-120
Ethylbenzene	<0.5614	47.17	48.59	103	51-130
m,p-Xylenes	<1.257	94.34	91.16	97	49-128
o-Xylene	<0.5575	47.17	47.11	100	49-126

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-124
1,2-Dichloroethane-d4	106	79-136
Toluene-d8	102	80-120
Bromofluorobenzene	95	80-122

Type: MSD Lab ID: QC409905

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	235.8	193.2	82	41-131	6	38
MTBE	47.17	34.65	73	52-120	4	27
Isopropyl Ether (DIPE)	47.17	35.40	75	46-120	3	27
Ethyl tert-Butyl Ether (ETBE)	47.17	36.33	77	52-123	5	27
1,2-Dichloroethane	47.17	48.51	103	53-120	2	27
Benzene	47.17	49.76	105	57-123	1	25
Methyl tert-Amyl Ether (TAME)	47.17	38.06	81	57-120	4	26
Toluene	47.17	49.62	105	53-126	1	27
1,2-Dibromoethane	47.17	49.42	105	50-120	3	26
Ethylbenzene	47.17	49.32	105	51-130	1	28
m,p-Xylenes	94.34	91.75	97	49-128	1	28
o-Xylene	47.17	47.61	101	49-126	1	28

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-124
1,2-Dichloroethane-d4	102	79-136
Toluene-d8	102	80-120
Bromofluorobenzene	97	80-122

RPD= Relative Percent Difference

**Batch QC Report**

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Basis:	as received
Lab ID:	QC410188	Diln Fac:	1.000
Matrix:	Soil	Batch#:	130460
Units:	ug/Kg	Analyzed:	10/12/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	116	80-124
1,2-Dichloroethane-d4	106	79-136
Toluene-d8	97	80-120
Bromofluorobenzene	94	80-122

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	LCS	Basis:	as received
Lab ID:	QC410189	Diln Fac:	1.000
Matrix:	Soil	Batch#:	130460
Units:	ug/Kg	Analyzed:	10/12/07

<b>Analyte</b>	<b>Spiked</b>	<b>Result</b>	<b>%REC</b>	<b>Limits</b>
tert-Butyl Alcohol (TBA)	125.0	109.1	87	58-133
MTBE	25.00	21.98	88	66-120
Isopropyl Ether (DIPE)	25.00	22.93	92	57-120
Ethyl tert-Butyl Ether (ETBE)	25.00	22.67	91	65-120
1,2-Dichloroethane	25.00	25.49	102	69-124
Benzene	25.00	26.73	107	77-121
Methyl tert-Amyl Ether (TAME)	25.00	23.19	93	71-120
Toluene	25.00	26.50	106	79-122
1,2-Dibromoethane	25.00	25.34	101	77-120
Ethylbenzene	25.00	26.92	108	80-127
m,p-Xylenes	50.00	54.76	110	80-126
o-Xylene	25.00	25.57	102	80-124

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	97	80-124
1,2-Dichloroethane-d4	101	79-136
Toluene-d8	102	80-120
Bromofluorobenzene	93	80-122

**Batch QC Report**

<b>BTXE &amp; Oxygenates</b>			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Diln Fac:	0.9804
MSS Lab ID:	198338-002	Batch#:	130460
Matrix:	Soil	Sampled:	10/12/07
Units:	ug/Kg	Received:	10/12/07
Basis:	as received	Analyzed:	10/12/07

Type: MS Lab ID: QC410334

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<5.922	245.1	142.7	58	41-131
MTBE	<0.4423	49.02	32.21	66	52-120
Isopropyl Ether (DIPE)	<0.3032	49.02	35.24	72	46-120
Ethyl tert-Butyl Ether (ETBE)	<0.3824	49.02	34.03	69	52-123
1,2-Dichloroethane	<0.3661	49.02	45.33	92	53-120
Benzene	<0.2988	49.02	48.28	98	57-123
Methyl tert-Amyl Ether (TAME)	<0.2473	49.02	34.19	70	57-120
Toluene	<0.4049	49.02	46.51	95	53-126
1,2-Dibromoethane	<0.2280	49.02	41.12	84	50-120
Ethylbenzene	<0.3953	49.02	44.61	91	51-130
m,p-Xylenes	<0.9084	98.04	90.79	93	49-128
o-Xylene	<0.5029	49.02	43.19	88	49-126

Surrogate	%REC	Limits
Dibromofluoromethane	16 *	80-124
1,2-Dichloroethane-d4	117	79-136
Toluene-d8	107	80-120
Bromofluorobenzene	91	80-122

Type: MSD Lab ID: QC410335

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	245.1	130.4	53	41-131	9	38
MTBE	49.02	31.83	65	52-120	1	27
Isopropyl Ether (DIPE)	49.02	36.23	74	46-120	3	27
Ethyl tert-Butyl Ether (ETBE)	49.02	34.43	70	52-123	1	27
1,2-Dichloroethane	49.02	39.21	80	53-120	14	27
Benzene	49.02	44.26	90	57-123	9	25
Methyl tert-Amyl Ether (TAME)	49.02	33.46	68	57-120	2	26
Toluene	49.02	42.18	86	53-126	10	27
1,2-Dibromoethane	49.02	35.18	72	50-120	16	26
Ethylbenzene	49.02	42.34	86	51-130	5	28
m,p-Xylenes	98.04	85.00	87	49-128	7	28
o-Xylene	49.02	40.15	82	49-126	7	28

Surrogate	%REC	Limits
Dibromofluoromethane	19 *	80-124
1,2-Dichloroethane-d4	108	79-136
Toluene-d8	104	80-120
Bromofluorobenzene	91	80-122

\*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

### Semivolatile Organics by GC/MS

Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8270C
Field ID:	B26-GGW	Batch#:	130437
Lab ID:	198227-011	Sampled:	10/09/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Prepared:	10/11/07
Diln Fac:	1.000	Analyzed:	10/12/07

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	9.4	1.2
Phenol	ND	9.4	1.6
bis(2-Chloroethyl)ether	ND	9.4	1.3
2-Chlorophenol	ND	9.4	1.3
1,3-Dichlorobenzene	ND	9.4	0.81
1,4-Dichlorobenzene	ND	9.4	0.80
Benzyl alcohol	ND	9.4	2.0
1,2-Dichlorobenzene	ND	9.4	0.82
2-Methylphenol	ND	9.4	1.8
bis(2-Chloroisopropyl) ether	ND	9.4	1.6
4-Methylphenol	ND	9.4	1.8
N-Nitroso-di-n-propylamine	ND	9.4	1.2
Hexachloroethane	ND	9.4	0.91
Nitrobenzene	ND	9.4	0.92
Isophorone	ND	9.4	0.74
2-Nitrophenol	ND	19	1.2
2,4-Dimethylphenol	ND	9.4	1.9
Benzoic acid	ND	47	3.3
bis(2-Chloroethoxy)methane	ND	9.4	0.76
2,4-Dichlorophenol	ND	9.4	1.2
1,2,4-Trichlorobenzene	ND	9.4	0.85
Naphthalene	ND	9.4	0.83
4-Chloroaniline	ND	9.4	3.3
Hexachlorobutadiene	ND	9.4	0.74
4-Chloro-3-methylphenol	ND	9.4	1.5
2-Methylnaphthalene	ND	9.4	0.87
Hexachlorocyclopentadiene	ND	19	0.80
2,4,6-Trichlorophenol	ND	9.4	1.3
2,4,5-Trichlorophenol	ND	9.4	1.4
2-Chloronaphthalene	ND	9.4	0.98
2-Nitroaniline	ND	19	2.7
Dimethylphthalate	ND	9.4	0.72
Acenaphthylene	ND	9.4	0.90
2,6-Dinitrotoluene	ND	9.4	0.72
3-Nitroaniline	ND	19	2.6
Acenaphthene	ND	9.4	0.82
2,4-Dinitrophenol	ND	19	7.5
4-Nitrophenol	ND	19	1.5
Dibenzofuran	ND	9.4	1.9
2,4-Dinitrotoluene	ND	9.4	0.71
Diethylphthalate	ND	9.4	0.82
Fluorene	ND	9.4	0.84
4-Chlorophenyl-phenylether	ND	9.4	0.79
4-Nitroaniline	ND	19	1.9
4,6-Dinitro-2-methylphenol	ND	19	0.47
N-Nitrosodiphenylamine	ND	9.4	0.95
Azobenzene	ND	9.4	1.1
4-Bromophenyl-phenylether	ND	9.4	0.57
Hexachlorobenzene	ND	9.4	0.59
Pentachlorophenol	ND	19	0.89
Phenanthrene	ND	9.4	0.69
Anthracene	ND	9.4	0.62
Di-n-butylphthalate	ND	9.4	0.84

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

Semivolatile Organics by GC/MS			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8270C
Field ID:	B26-GGW	Batch#:	130437
Lab ID:	198227-011	Sampled:	10/09/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Prepared:	10/11/07
Diln Fac:	1.000	Analyzed:	10/12/07

Analyte	Result	RL	MDL
Fluoranthene	ND	9.4	0.70
Pyrene	ND	9.4	0.75
Butylbenzylphthalate	ND	9.4	0.77
3,3'-Dichlorobenzidine	ND	19	1.1
Benzo(a)anthracene	ND	9.4	0.58
Chrysene	ND	9.4	0.66
bis(2-Ethylhexyl)phthalate	ND	9.4	0.80
Di-n-octylphthalate	ND	9.4	0.70
Benzo(b)fluoranthene	ND	9.4	0.62
Benzo(k)fluoranthene	ND	9.4	0.63
Benzo(a)pyrene	ND	9.4	0.58
Indeno(1,2,3-cd)pyrene	ND	9.4	0.58
Dibenz(a,h)anthracene	ND	9.4	0.61
Benzo(g,h,i)perylene	ND	9.4	0.64

Surrogate	%REC	Limits
2-Fluorophenol	85	40-120
Phenol-d5	78	42-120
2,4,6-Tribromophenol	82	43-120
Nitrobenzene-d5	81	50-120
2-Fluorobiphenyl	82	51-120
Terphenyl-d14	49	25-120

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

**Semivolatle Organics by GC/MS**

Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8270C
Field ID:	B27-GGW	Batch#:	130574
Lab ID:	198227-020	Sampled:	10/09/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Prepared:	10/16/07
Diln Fac:	1.000	Analyzed:	10/17/07

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	20	0.81
Phenol	ND	20	1.8
bis(2-Chloroethyl)ether	ND	20	0.88
2-Chlorophenol	ND	20	1.7
1,3-Dichlorobenzene	ND	20	0.72
1,4-Dichlorobenzene	ND	20	0.92
Benzyl alcohol	ND	20	2.2
1,2-Dichlorobenzene	ND	20	0.84
2-Methylphenol	ND	20	1.7
bis(2-Chloroisopropyl) ether	ND	20	1.2
4-Methylphenol	ND	20	1.9
N-Nitroso-di-n-propylamine	ND	20	0.92
Hexachloroethane	ND	20	0.87
Nitrobenzene	ND	20	1.1
Isophorone	ND	20	1.1
2-Nitrophenol	ND	40	2.4
2,4-Dimethylphenol	ND	20	3.4
Benzoic acid	ND	100	6.3
bis(2-Chloroethoxy)methane	ND	20	1.1
2,4-Dichlorophenol	ND	20	2.3
1,2,4-Trichlorobenzene	ND	20	0.98
Naphthalene	ND	20	0.90
4-Chloroaniline	ND	20	6.3
Hexachlorobutadiene	ND	20	1.3
4-Chloro-3-methylphenol	ND	20	2.1
2-Methylnaphthalene	ND	20	0.94
Hexachlorocyclopentadiene	ND	40	1.2
2,4,6-Trichlorophenol	ND	20	1.4
2,4,5-Trichlorophenol	ND	20	1.6
2-Chloronaphthalene	ND	20	0.94
2-Nitroaniline	ND	40	1.5
Dimethylphthalate	ND	20	0.75
Acenaphthylene	ND	20	0.74
2,6-Dinitrotoluene	ND	20	0.72
3-Nitroaniline	ND	40	4.1
Acenaphthene	ND	20	0.84
2,4-Dinitrophenol	ND	40	2.5
4-Nitrophenol	ND	40	0.95
Dibenzofuran	ND	20	1.9
2,4-Dinitrotoluene	ND	20	0.55
Diethylphthalate	ND	20	0.95
Fluorene	ND	20	0.80
4-Chlorophenyl-phenylether	ND	20	0.82
4-Nitroaniline	ND	40	1.7
4,6-Dinitro-2-methylphenol	ND	40	2.7
N-Nitrosodiphenylamine	ND	20	1.4
Azobenzene	ND	20	0.91
4-Bromophenyl-phenylether	ND	20	1.3
Hexachlorobenzene	ND	20	1.2
Pentachlorophenol	ND	40	1.9
Phenanthrene	ND	20	1.1

\*= Value outside of QC limits; see narrative

J= Estimated value

ND= Not Detected

RL= Reporting Limit

MDL= Method Detection Limit



Semivolatile Organics by GC/MS			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8270C
Field ID:	B27-GGW	Batch#:	130574
Lab ID:	198227-020	Sampled:	10/09/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Prepared:	10/16/07
Diln Fac:	1.000	Analyzed:	10/17/07

Analyte	Result	RL	MDL
Anthracene	ND	20	0.82
Di-n-butylphthalate	2.8 J	20	1.2
Fluoranthene	ND	20	1.6
Pyrene	ND	20	2.4
Butylbenzylphthalate	ND	20	2.4
3,3'-Dichlorobenzidine	ND	40	1.8
Benzo(a)anthracene	ND	20	2.0
Chrysene	ND	20	1.9
bis(2-Ethylhexyl)phthalate	ND	20	2.4
Di-n-octylphthalate	ND	20	2.8
Benzo(b)fluoranthene	ND	20	2.5
Benzo(k)fluoranthene	ND	20	2.9
Benzo(a)pyrene	ND	20	2.5
Indeno(1,2,3-cd)pyrene	ND	20	0.38
Dibenz(a,h)anthracene	ND	20	0.30
Benzo(g,h,i)perylene	ND	20	0.45

Surrogate	%REC	Limits
2-Fluorophenol	36 *	40-120
Phenol-d5	43	42-120
2,4,6-Tribromophenol	36 *	43-120
Nitrobenzene-d5	71	50-120
2-Fluorobiphenyl	69	51-120
Terphenyl-d14	32	25-120

\*= Value outside of QC limits; see narrative  
 J= Estimated value  
 ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

**Batch QC Report**

<b>Semivolatile Organics by GC/MS</b>			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410107	Batch#:	130437
Matrix:	Water	Prepared:	10/11/07
Units:	ug/L	Analyzed:	10/12/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>
N-Nitrosodimethylamine	ND	10	1.2
Phenol	ND	10	1.7
bis(2-Chloroethyl)ether	ND	10	1.4
2-Chlorophenol	ND	10	1.4
1,3-Dichlorobenzene	ND	10	0.85
1,4-Dichlorobenzene	ND	10	0.85
Benzyl alcohol	ND	10	2.1
1,2-Dichlorobenzene	ND	10	0.87
2-Methylphenol	ND	10	1.9
bis(2-Chloroisopropyl) ether	ND	10	1.7
4-Methylphenol	ND	10	1.9
N-Nitroso-di-n-propylamine	ND	10	1.2
Hexachloroethane	ND	10	0.97
Nitrobenzene	ND	10	0.97
Isophorone	ND	10	0.78
2-Nitrophenol	ND	20	1.2
2,4-Dimethylphenol	ND	10	2.0
Benzoic acid	ND	50	3.5
bis(2-Chloroethoxy)methane	ND	10	0.81
2,4-Dichlorophenol	ND	10	1.2
1,2,4-Trichlorobenzene	ND	10	0.90
Naphthalene	ND	10	0.88
4-Chloroaniline	ND	10	3.5
Hexachlorobutadiene	ND	10	0.78
4-Chloro-3-methylphenol	ND	10	1.6
2-Methylnaphthalene	ND	10	0.92
Hexachlorocyclopentadiene	ND	20	0.85
2,4,6-Trichlorophenol	ND	10	1.4
2,4,5-Trichlorophenol	ND	10	1.4
2-Chloronaphthalene	ND	10	1.0
2-Nitroaniline	ND	20	2.9
Dimethylphthalate	ND	10	0.76
Acenaphthylene	ND	10	0.96
2,6-Dinitrotoluene	ND	10	0.77
3-Nitroaniline	ND	20	2.8
Acenaphthene	ND	10	0.87
2,4-Dinitrophenol	ND	20	8.0
4-Nitrophenol	ND	20	1.6
Dibenzofuran	ND	10	2.0
2,4-Dinitrotoluene	ND	10	0.76
Diethylphthalate	ND	10	0.87
Fluorene	ND	10	0.89
4-Chlorophenyl-phenylether	ND	10	0.84
4-Nitroaniline	ND	20	2.1
4,6-Dinitro-2-methylphenol	ND	20	0.50
N-Nitrosodiphenylamine	ND	10	1.0
Azobenzene	ND	10	1.1
4-Bromophenyl-phenylether	ND	10	0.61
Hexachlorobenzene	ND	10	0.62
Pentachlorophenol	ND	20	0.95
Phenanthrene	ND	10	0.73
Anthracene	ND	10	0.66

b= See narrative  
 ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

**Batch QC Report**

Semivolatile Organics by GC/MS			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410107	Batch#:	130437
Matrix:	Water	Prepared:	10/11/07
Units:	ug/L	Analyzed:	10/12/07

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	10	0.89
Fluoranthene	ND	10	0.74
Pyrene	ND	10	0.80
Butylbenzylphthalate	ND	10	0.82
3,3'-Dichlorobenzidine	ND	20	1.1
Benzo(a)anthracene	ND	10	0.61
Chrysene	ND	10	0.69
bis(2-Ethylhexyl)phthalate	12 b	10	0.84
Di-n-octylphthalate	ND	10	0.74
Benzo(b)fluoranthene	ND	10	0.66
Benzo(k)fluoranthene	ND	10	0.66
Benzo(a)pyrene	ND	10	0.61
Indeno(1,2,3-cd)pyrene	ND	10	0.62
Dibenz(a,h)anthracene	ND	10	0.64
Benzo(g,h,i)perylene	ND	10	0.68

Surrogate	%REC	Limits
2-Fluorophenol	71	40-120
Phenol-d5	67	42-120
2,4,6-Tribromophenol	63	43-120
Nitrobenzene-d5	67	50-120
2-Fluorobiphenyl	65	51-120
Terphenyl-d14	64	25-120

b= See narrative  
 ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit  
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**Batch QC Report**

Semivolatile Organics by GC/MS			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8270C
Matrix:	Water	Batch#:	130437
Units:	ug/L	Prepared:	10/11/07
Diln Fac:	1.000	Analyzed:	10/12/07

Type: BS Lab ID: QC410108

Analyte	Spiked	Result	%REC	Limits
Phenol	80.00	60.27	75	49-120
2-Chlorophenol	80.00	60.79	76	55-120
1,4-Dichlorobenzene	40.00	28.71	72	47-120
N-Nitroso-di-n-propylamine	40.00	29.89	75	46-120
1,2,4-Trichlorobenzene	40.00	28.82	72	52-120
4-Chloro-3-methylphenol	80.00	58.02	73	57-120
Acenaphthene	40.00	32.06	80	56-120
4-Nitrophenol	80.00	55.92	70	49-120
2,4-Dinitrotoluene	40.00	32.18	80	56-120
Pentachlorophenol	80.00	71.18	89	48-120
Pyrene	40.00	29.14	73	53-120

Surrogate	%REC	Limits
2-Fluorophenol	84	40-120
Phenol-d5	81	42-120
2,4,6-Tribromophenol	91	43-120
Nitrobenzene-d5	79	50-120
2-Fluorobiphenyl	81	51-120
Terphenyl-d14	74	25-120

Type: BSD Lab ID: QC410109

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Phenol	80.00	56.39	70	49-120	7	23
2-Chlorophenol	80.00	57.78	72	55-120	5	23
1,4-Dichlorobenzene	40.00	27.01	68	47-120	6	32
N-Nitroso-di-n-propylamine	40.00	28.16	70	46-120	6	25
1,2,4-Trichlorobenzene	40.00	27.81	70	52-120	4	28
4-Chloro-3-methylphenol	80.00	55.20	69	57-120	5	22
Acenaphthene	40.00	30.65	77	56-120	5	24
4-Nitrophenol	80.00	54.90	69	49-120	2	25
2,4-Dinitrotoluene	40.00	30.90	77	56-120	4	28
Pentachlorophenol	80.00	68.46	86	48-120	4	26
Pyrene	40.00	28.26	71	53-120	3	28

Surrogate	%REC	Limits
2-Fluorophenol	82	40-120
Phenol-d5	76	42-120
2,4,6-Tribromophenol	86	43-120
Nitrobenzene-d5	75	50-120
2-Fluorobiphenyl	78	51-120
Terphenyl-d14	71	25-120

RPD= Relative Percent Difference

**Batch QC Report**

<b>Semivolatile Organics by GC/MS</b>			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410679	Batch#:	130574
Matrix:	Water	Prepared:	10/16/07
Units:	ug/L	Analyzed:	10/17/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>
N-Nitrosodimethylamine	ND	10	1.2
Phenol	ND	10	1.2
bis(2-Chloroethyl)ether	ND	10	0.58
2-Chlorophenol	ND	10	1.2
1,3-Dichlorobenzene	ND	10	0.63
1,4-Dichlorobenzene	ND	10	0.57
Benzyl alcohol	ND	10	1.8
1,2-Dichlorobenzene	ND	10	0.64
2-Methylphenol	ND	10	1.2
bis(2-Chloroisopropyl) ether	ND	10	0.55
4-Methylphenol	ND	10	1.0
N-Nitroso-di-n-propylamine	ND	10	1.0
Hexachloroethane	ND	10	0.68
Nitrobenzene	ND	10	0.58
Isophorone	ND	10	0.45
2-Nitrophenol	ND	20	2.0
2,4-Dimethylphenol	ND	10	2.2
Benzoic acid	ND	50	3.7
bis(2-Chloroethoxy)methane	ND	10	0.58
2,4-Dichlorophenol	ND	10	1.2
1,2,4-Trichlorobenzene	ND	10	0.78
Naphthalene	ND	10	0.76
4-Chloroaniline	ND	10	2.8
Hexachlorobutadiene	ND	10	0.72
4-Chloro-3-methylphenol	ND	10	0.88
2-Methylnaphthalene	ND	10	0.73
Hexachlorocyclopentadiene	ND	20	0.64
2,4,6-Trichlorophenol	ND	10	0.91
2,4,5-Trichlorophenol	ND	10	0.78
2-Chloronaphthalene	ND	10	0.64
2-Nitroaniline	ND	20	1.4
Dimethylphthalate	ND	10	0.50
Acenaphthylene	ND	10	0.68
2,6-Dinitrotoluene	ND	10	0.51
3-Nitroaniline	ND	20	1.8
Acenaphthene	ND	10	0.59
2,4-Dinitrophenol	ND	20	1.9
4-Nitrophenol	ND	20	0.36
Dibenzofuran	ND	10	1.3
2,4-Dinitrotoluene	ND	10	0.50
Diethylphthalate	ND	10	0.49
Fluorene	ND	10	0.62
4-Chlorophenyl-phenylether	ND	10	0.52
4-Nitroaniline	ND	20	1.5
4,6-Dinitro-2-methylphenol	ND	20	2.7
N-Nitrosodiphenylamine	ND	10	0.84
Azobenzene	ND	10	0.57
4-Bromophenyl-phenylether	ND	10	0.55
Hexachlorobenzene	ND	10	0.46
Pentachlorophenol	ND	20	0.65
Phenanthrene	ND	10	0.51
Anthracene	ND	10	0.53
Di-n-butylphthalate	ND	10	0.55

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

## Batch QC Report

Semivolatile Organics by GC/MS			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410679	Batch#:	130574
Matrix:	Water	Prepared:	10/16/07
Units:	ug/L	Analyzed:	10/17/07

Analyte	Result	RL	MDL
Fluoranthene	ND	10	0.47
Pyrene	ND	10	0.83
Butylbenzylphthalate	ND	10	0.75
3,3'-Dichlorobenzidine	ND	20	0.70
Benzo(a)anthracene	ND	10	0.42
Chrysene	ND	10	0.68
bis(2-Ethylhexyl)phthalate	ND	10	0.59
Di-n-octylphthalate	ND	10	0.51
Benzo(b)fluoranthene	ND	10	0.49
Benzo(k)fluoranthene	ND	10	0.66
Benzo(a)pyrene	ND	10	0.50
Indeno(1,2,3-cd)pyrene	ND	10	0.54
Dibenz(a,h)anthracene	ND	10	0.59
Benzo(g,h,i)perylene	ND	10	0.57

Surrogate	%REC	Limits
2-Fluorophenol	79	40-120
Phenol-d5	88	42-120
2,4,6-Tribromophenol	62	43-120
Nitrobenzene-d5	84	50-120
2-Fluorobiphenyl	85	51-120
Terphenyl-d14	79	25-120

ND= Not Detected  
 RL= Reporting Limit  
 MDL= Method Detection Limit

**Batch QC Report**

<b>Semivolatile Organics by GC/MS</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8270C
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC410680	Batch#:	130574
Matrix:	Water	Prepared:	10/16/07
Units:	ug/L	Analyzed:	10/17/07

<b>Analyte</b>	<b>Spiked</b>	<b>Result</b>	<b>%REC</b>	<b>Limits</b>
Phenol	80.00	49.16	61	49-120
2-Chlorophenol	80.00	47.62	60	55-120
1,4-Dichlorobenzene	40.00	26.15	65	47-120
N-Nitroso-di-n-propylamine	40.00	27.69	69	46-120
1,2,4-Trichlorobenzene	40.00	25.78	64	52-120
4-Chloro-3-methylphenol	80.00	49.06	61	57-120
Acenaphthene	40.00	24.84	62	56-120
4-Nitrophenol	80.00	40.36	50	49-120
2,4-Dinitrotoluene	40.00	25.13	63	56-120
Pentachlorophenol	80.00	55.60	70	48-120
Pyrene	40.00	22.96	57	53-120

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
2-Fluorophenol	59	40-120
Phenol-d5	66	42-120
2,4,6-Tribromophenol	58	43-120
Nitrobenzene-d5	63	50-120
2-Fluorobiphenyl	63	51-120
Terphenyl-d14	58	25-120

**Batch QC Report**

Semivolatile Organics by GC/MS			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8270C
Field ID:	ZZZZZZZZZZ	Batch#:	130574
MSS Lab ID:	198285-008	Sampled:	10/10/07
Matrix:	Water	Received:	10/11/07
Units:	ug/L	Prepared:	10/16/07

Type: MS Analyzed: 10/18/07  
 Lab ID: QC410681

Analyte	MSS Result	Spiked	Result	%REC	Limits	Diln Fac
Phenol	<1.117	77.67	64.82	83	49-120	1.000
2-Chlorophenol	<1.144	77.67	66.73	86	53-120	1.000
1,4-Dichlorobenzene	<0.5560	38.83	32.57	84	45-120	1.000
N-Nitroso-di-n-propylamine	<0.9847	38.83	29.10	75	52-120	1.000
1,2,4-Trichlorobenzene	<0.7620	38.83	32.27	83	52-120	1.000
4-Chloro-3-methylphenol	<0.8584	77.67	67.17	86	56-120	1.000
Acenaphthene	<0.5711	38.83	34.63	89	54-120	1.000
4-Nitrophenol	<0.3498	77.67	68.95	89	52-120	1.000
2,4-Dinitrotoluene	<0.4870	38.83	37.46	96	60-120	1.000
Pentachlorophenol	<0.6338	77.67	88.69	114	58-120	1.000
Pyrene	<0.8062	38.83	31.50	81	57-120	1.000

Surrogate	%REC	Limits	Diln Fac
2-Fluorophenol	98	40-120	1.000
Phenol-d5	89	42-120	1.000
2,4,6-Tribromophenol	99	43-120	2.000
Nitrobenzene-d5	90	50-120	1.000
2-Fluorobiphenyl	91	51-120	1.000
Terphenyl-d14	66	25-120	1.000

Type: MSD Diln Fac: 1.000  
 Lab ID: QC410682 Analyzed: 10/17/07

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Phenol	77.67	62.46	80	49-120	4	26
2-Chlorophenol	77.67	59.73	77	53-120	11	26
1,4-Dichlorobenzene	38.83	31.15	80	45-120	4	29
N-Nitroso-di-n-propylamine	38.83	34.30	88	52-120	16	26
1,2,4-Trichlorobenzene	38.83	31.98	82	52-120	1	28
4-Chloro-3-methylphenol	77.67	61.95	80	56-120	8	27
Acenaphthene	38.83	30.36	78	54-120	13	26
4-Nitrophenol	77.67	53.82	69	52-120	25	28
2,4-Dinitrotoluene	38.83	30.71	79	60-120	20	26
Pentachlorophenol	77.67	69.47	89	58-120	24	29
Pyrene	38.83	26.90	69	57-120	16	26

Surrogate	%REC	Limits
2-Fluorophenol	79	40-120
Phenol-d5	87	42-120
2,4,6-Tribromophenol	74	43-120
Nitrobenzene-d5	83	50-120
2-Fluorobiphenyl	79	51-120
Terphenyl-d14	59	25-120

RPD= Relative Percent Difference



Semivolatile Organics by GC/MS			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8270C
Field ID:	B26-32	Batch#:	130517
Lab ID:	198227-006	Sampled:	10/09/07
Matrix:	Soil	Received:	10/09/07
Units:	ug/Kg	Prepared:	10/14/07
Basis:	as received	Analyzed:	10/15/07
Diln Fac:	25.00		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	83,000
Phenol	ND	83,000
bis(2-Chloroethyl)ether	ND	83,000
2-Chlorophenol	ND	83,000
1,3-Dichlorobenzene	ND	83,000
1,4-Dichlorobenzene	ND	83,000
Benzyl alcohol	ND	83,000
1,2-Dichlorobenzene	ND	83,000
2-Methylphenol	ND	83,000
bis(2-Chloroisopropyl) ether	ND	83,000
4-Methylphenol	ND	83,000
N-Nitroso-di-n-propylamine	ND	83,000
Hexachloroethane	ND	83,000
Nitrobenzene	ND	83,000
Isophorone	ND	83,000
2-Nitrophenol	ND	170,000
2,4-Dimethylphenol	ND	83,000
Benzoic acid	ND	410,000
bis(2-Chloroethoxy)methane	ND	83,000
2,4-Dichlorophenol	ND	83,000
1,2,4-Trichlorobenzene	ND	83,000
Naphthalene	ND	17,000
4-Chloroaniline	ND	83,000
Hexachlorobutadiene	ND	83,000
4-Chloro-3-methylphenol	ND	83,000
2-Methylnaphthalene	52,000	17,000
Hexachlorocyclopentadiene	ND	170,000
2,4,6-Trichlorophenol	ND	83,000
2,4,5-Trichlorophenol	ND	83,000
2-Chloronaphthalene	ND	83,000
2-Nitroaniline	ND	170,000
Dimethylphthalate	ND	83,000
Acenaphthylene	ND	17,000
2,6-Dinitrotoluene	ND	83,000
3-Nitroaniline	ND	170,000
Acenaphthene	ND	17,000
2,4-Dinitrophenol	ND	170,000
4-Nitrophenol	ND	170,000
Dibenzofuran	ND	83,000
2,4-Dinitrotoluene	ND	83,000
Diethylphthalate	ND	83,000
Fluorene	ND	17,000
4-Chlorophenyl-phenylether	ND	83,000
4-Nitroaniline	ND	170,000
4,6-Dinitro-2-methylphenol	ND	170,000
N-Nitrosodiphenylamine	ND	83,000
Azobenzene	ND	83,000
4-Bromophenyl-phenylether	ND	83,000
Hexachlorobenzene	ND	83,000
Pentachlorophenol	ND	170,000
Phenanthrene	18,000	17,000
Anthracene	ND	17,000

DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit

### Semivolatile Organics by GC/MS

Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8270C
Field ID:	B26-32	Batch#:	130517
Lab ID:	198227-006	Sampled:	10/09/07
Matrix:	Soil	Received:	10/09/07
Units:	ug/Kg	Prepared:	10/14/07
Basis:	as received	Analyzed:	10/15/07
Diln Fac:	25.00		

Analyte	Result	RL
Di-n-butylphthalate	ND	83,000
Fluoranthene	ND	17,000
Pyrene	ND	17,000
Butylbenzylphthalate	ND	83,000
3,3'-Dichlorobenzidine	ND	170,000
Benzo(a)anthracene	ND	17,000
Chrysene	ND	17,000
bis(2-Ethylhexyl)phthalate	ND	83,000
Di-n-octylphthalate	ND	83,000
Benzo(b)fluoranthene	ND	17,000
Benzo(k)fluoranthene	ND	17,000
Benzo(a)pyrene	ND	17,000
Indeno(1,2,3-cd)pyrene	ND	17,000
Dibenz(a,h)anthracene	ND	17,000
Benzo(g,h,i)perylene	ND	17,000

Surrogate	%REC	Limits
2-Fluorophenol	DO	33-120
Phenol-d5	DO	35-120
2,4,6-Tribromophenol	DO	25-120
Nitrobenzene-d5	DO	38-120
2-Fluorobiphenyl	DO	44-120
Terphenyl-d14	DO	40-120

DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit

Semivolatile Organics by GC/MS			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8270C
Field ID:	B26-33.5	Batch#:	130517
Lab ID:	198227-007	Sampled:	10/09/07
Matrix:	Soil	Received:	10/09/07
Units:	ug/Kg	Prepared:	10/14/07
Basis:	as received	Analyzed:	10/15/07
Diln Fac:	1.000		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	660
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1,600
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	66
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	66
Hexachlorocyclopentadiene	ND	660
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	660
Dimethylphthalate	ND	330
Acenaphthylene	ND	66
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	660
Acenaphthene	ND	66
2,4-Dinitrophenol	ND	660
4-Nitrophenol	ND	660
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	66
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	660
4,6-Dinitro-2-methylphenol	ND	660
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	660
Phenanthrene	ND	66
Anthracene	ND	66
Di-n-butylphthalate	ND	330

ND= Not Detected  
 RL= Reporting Limit

**Semivolatile Organics by GC/MS**

Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8270C
Field ID:	B26-33.5	Batch#:	130517
Lab ID:	198227-007	Sampled:	10/09/07
Matrix:	Soil	Received:	10/09/07
Units:	ug/Kg	Prepared:	10/14/07
Basis:	as received	Analyzed:	10/15/07
Diln Fac:	1.000		

Analyte	Result	RL
Fluoranthene	ND	66
Pyrene	ND	66
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	660
Benzo(a)anthracene	ND	66
Chrysene	ND	66
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	66
Benzo(k)fluoranthene	ND	66
Benzo(a)pyrene	ND	66
Indeno(1,2,3-cd)pyrene	ND	66
Dibenz(a,h)anthracene	ND	66
Benzo(g,h,i)perylene	ND	66

Surrogate	%REC	Limits
2-Fluorophenol	74	33-120
Phenol-d5	67	35-120
2,4,6-Tribromophenol	84	25-120
Nitrobenzene-d5	66	38-120
2-Fluorobiphenyl	69	44-120
Terphenyl-d14	67	40-120

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Semivolatile Organics by GC/MS			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410423	Batch#:	130517
Matrix:	Soil	Prepared:	10/14/07
Units:	ug/Kg	Analyzed:	10/15/07
Basis:	as received		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	660
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1,600
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	66
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	66
Hexachlorocyclopentadiene	ND	660
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	660
Dimethylphthalate	ND	330
Acenaphthylene	ND	66
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	660
Acenaphthene	ND	66
2,4-Dinitrophenol	ND	660
4-Nitrophenol	ND	660
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	66
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	660
4,6-Dinitro-2-methylphenol	ND	660
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	660
Phenanthrene	ND	66
Anthracene	ND	66
Di-n-butylphthalate	ND	330

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Semivolatile Organics by GC/MS</b>			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410423	Batch#:	130517
Matrix:	Soil	Prepared:	10/14/07
Units:	ug/Kg	Analyzed:	10/15/07
Basis:	as received		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Fluoranthene	ND	66
Pyrene	ND	66
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	660
Benzo(a)anthracene	ND	66
Chrysene	ND	66
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	66
Benzo(k)fluoranthene	ND	66
Benzo(a)pyrene	ND	66
Indeno(1,2,3-cd)pyrene	ND	66
Dibenz(a,h)anthracene	ND	66
Benzo(g,h,i)perylene	ND	66

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
2-Fluorophenol	96	33-120
Phenol-d5	86	35-120
2,4,6-Tribromophenol	93	25-120
Nitrobenzene-d5	85	38-120
2-Fluorobiphenyl	91	44-120
Terphenyl-d14	87	40-120

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Semivolatile Organics by GC/MS</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8270C
Type:	LCS	Basis:	as received
Lab ID:	QC410424	Batch#:	130517
Matrix:	Soil	Prepared:	10/14/07
Units:	ug/Kg	Analyzed:	10/15/07

<b>Analyte</b>	<b>Spiked</b>	<b>Result</b>	<b>%REC</b>	<b>Limits</b>	<b>Diln Fac</b>
Phenol	2,634	2,027	77	38-120	1.000
2-Chlorophenol	2,634	2,118	80	41-120	1.000
1,4-Dichlorobenzene	1,317	1,145	87	47-120	1.000
N-Nitroso-di-n-propylamine	1,317	942.5	72	29-120	1.000
1,2,4-Trichlorobenzene	1,317	1,148	87	46-120	1.000
4-Chloro-3-methylphenol	2,634	2,256	86	44-120	1.000
Acenaphthene	1,317	1,176	89	43-120	1.000
4-Nitrophenol	2,634	2,188	83	31-120	1.000
2,4-Dinitrotoluene	1,317	1,298	99	44-120	1.000
Pentachlorophenol	2,634	2,518	96	21-120	1.000
Pyrene	1,317	1,107	84	42-120	1.000

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>	<b>Diln Fac</b>
2-Fluorophenol	91	33-120	1.000
Phenol-d5	81	35-120	1.000
2,4,6-Tribromophenol	88	25-120	2.000
Nitrobenzene-d5	84	38-120	1.000
2-Fluorobiphenyl	88	44-120	1.000
Terphenyl-d14	89	40-120	1.000

### Organochlorine Pesticides

Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8081A
Field ID:	B26-GGW	Batch#:	130441
Lab ID:	198227-011	Sampled:	10/09/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Prepared:	10/11/07
Diln Fac:	1.000	Analyzed:	10/18/07

Analyte	Result	RL
alpha-BHC	ND	0.05
beta-BHC	ND	0.05
gamma-BHC	ND	0.05
delta-BHC	ND	0.05
Heptachlor	ND	0.05
Aldrin	ND	0.05
Heptachlor epoxide	ND	0.05
Endosulfan I	ND	0.05
Dieldrin	ND	0.09
4,4'-DDE	ND	0.09
Endrin	ND	0.09
Endosulfan II	ND	0.09
Endosulfan sulfate	ND	0.09
4,4'-DDD	ND	0.09
Endrin aldehyde	ND	0.09
4,4'-DDT	ND	0.09
alpha-Chlordane	ND	0.05
gamma-Chlordane	ND	0.05
Methoxychlor	ND	0.5
Toxaphene	ND	0.9

Surrogate	%REC	Limits
TCMX	110	43-120
Decachlorobiphenyl	98	39-135

ND= Not Detected  
 RL= Reporting Limit



### Organochlorine Pesticides

Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8081A
Field ID:	B27-GGW	Batch#:	130441
Lab ID:	198227-020	Sampled:	10/09/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Prepared:	10/11/07
Diln Fac:	1.000	Analyzed:	10/18/07

Analyte	Result	RL
alpha-BHC	ND	0.05
beta-BHC	ND	0.05
gamma-BHC	ND	0.05
delta-BHC	ND	0.05
Heptachlor	ND	0.05
Aldrin	ND	0.05
Heptachlor epoxide	ND	0.05
Endosulfan I	ND	0.05
Dieldrin	ND	0.09
4,4'-DDE	ND	0.09
Endrin	ND	0.09
Endosulfan II	ND	0.09
Endosulfan sulfate	ND	0.09
4,4'-DDD	ND	0.09
Endrin aldehyde	ND	0.09
4,4'-DDT	ND	0.09
alpha-Chlordane	ND	0.05
gamma-Chlordane	ND	0.05
Methoxychlor	ND	0.5
Toxaphene	ND	0.9

Surrogate	%REC	Limits
TCMX	102	43-120
Decachlorobiphenyl	97	39-135

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Organochlorine Pesticides</b>			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC410122	Batch#:	130441
Matrix:	Water	Prepared:	10/11/07
Units:	ug/L	Analyzed:	10/18/07

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
alpha-BHC	ND	0.05
beta-BHC	ND	0.05
gamma-BHC	ND	0.05
delta-BHC	ND	0.05
Heptachlor	ND	0.05
Aldrin	ND	0.05
Heptachlor epoxide	ND	0.05
Endosulfan I	ND	0.05
Dieldrin	ND	0.1
4,4'-DDE	ND	0.1
Endrin	ND	0.1
Endosulfan II	ND	0.1
Endosulfan sulfate	ND	0.1
4,4'-DDD	ND	0.1
Endrin aldehyde	ND	0.1
4,4'-DDT	ND	0.1
alpha-Chlordane	ND	0.05
gamma-Chlordane	ND	0.05
Methoxychlor	ND	0.5
Toxaphene	ND	1.0

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
TCMX	74	43-120
Decachlorobiphenyl	100	39-135

ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Organochlorine Pesticides</b>			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8081A
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC410123	Batch#:	130441
Matrix:	Water	Prepared:	10/11/07
Units:	ug/L	Analyzed:	10/18/07

<b>Analyte</b>	<b>Spiked</b>	<b>Result</b>	<b>%REC</b>	<b>Limits</b>
gamma-BHC	0.2000	0.2017	101	64-126
Heptachlor	0.2000	0.1756	88	50-124
Aldrin	0.2000	0.1711	86	48-123
Dieldrin	0.4000	0.4302 #	108	59-131
Endrin	0.4000	0.3849	96	54-129
4,4'-DDT	0.4000	0.3890	97	39-140

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
TCMX	78	43-120
Decachlorobiphenyl	97	39-135

#= CCV drift outside limits; average CCV drift within limits per method requirements

**Batch QC Report**

<b>Organochlorine Pesticides</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8081A
Field ID:	ZZZZZZZZZZ	Batch#:	130441
MSS Lab ID:	198177-007	Sampled:	10/08/07
Matrix:	Water	Received:	10/08/07
Units:	ug/L	Prepared:	10/11/07
Diln Fac:	5.000	Analyzed:	10/23/07

Type: MS Lab ID: QC410124

Analyte	MSS Result	Spiked	Result	%REC	Limits
gamma-BHC	<0.02856	0.1887	0.1819	96	68-120
Heptachlor	<0.02994	0.1887	0.1393 #	74	56-120
Aldrin	<0.02069	0.1887	0.08893	47 *	61-120
Dieldrin	<0.04260	0.3774	0.2584	68	59-121
Endrin	<0.06588	0.3774	0.3073	81	65-120
4,4'-DDT	<0.05429	0.3774	0.2626 #	70	42-126

Surrogate	%REC	Limits
TCMX	90	43-120
Decachlorobiphenyl	88	39-135

Type: MSD Lab ID: QC410125

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
gamma-BHC	0.1887	0.2612	138 *	68-120	36 *	30
Heptachlor	0.1887	0.1636 #	87	56-120	16	33
Aldrin	0.1887	0.1449	77	61-120	48 *	30
Dieldrin	0.3774	0.3148	83	59-121	20	32
Endrin	0.3774	0.3675	97	65-120	18	36
4,4'-DDT	0.3774	0.3148 #	83	42-126	18	40

Surrogate	%REC	Limits
TCMX	101	43-120
Decachlorobiphenyl	104	39-135

#= CCV drift outside limits; average CCV drift within limits per method requirements

\*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

Polychlorinated Biphenyls (PCBs)			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8082
Matrix:	Water	Sampled:	10/09/07
Units:	ug/L	Received:	10/09/07
Diln Fac:	1.000	Prepared:	10/11/07
Batch#:	130439	Analyzed:	10/12/07

Field ID: B26-GGW  
Type: SAMPLE

Lab ID: 198227-011  
Cleanup Method: EPA 3665A

Analyte	Result	RL
Aroclor-1016	ND	0.50
Aroclor-1221	ND	1.0
Aroclor-1232	ND	0.50
Aroclor-1242	ND	0.50
Aroclor-1248	ND	0.50
Aroclor-1254	ND	0.50
Aroclor-1260	ND	0.50

Surrogate	%REC	Limits
TCMX	89	54-128
Decachlorobiphenyl	89	25-122

Field ID: B27-GGW  
Type: SAMPLE

Lab ID: 198227-020  
Cleanup Method: EPA 3665A

Analyte	Result	RL
Aroclor-1016	ND	0.50
Aroclor-1221	ND	1.0
Aroclor-1232	ND	0.50
Aroclor-1242	ND	0.50
Aroclor-1248	ND	0.50
Aroclor-1254	ND	0.50
Aroclor-1260	ND	0.50

Surrogate	%REC	Limits
TCMX	94	54-128
Decachlorobiphenyl	98	25-122

Type: BLANK  
Lab ID: QC410114

Cleanup Method: EPA 3665A

Analyte	Result	RL
Aroclor-1016	ND	0.50
Aroclor-1221	ND	1.0
Aroclor-1232	ND	0.50
Aroclor-1242	ND	0.50
Aroclor-1248	ND	0.50
Aroclor-1254	ND	0.50
Aroclor-1260	ND	0.50

Surrogate	%REC	Limits
TCMX	94	54-128
Decachlorobiphenyl	108	25-122

ND= Not Detected  
RL= Reporting Limit

## Batch QC Report

Polychlorinated Biphenyls (PCBs)			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8082
Matrix:	Water	Batch#:	130439
Units:	ug/L	Prepared:	10/11/07
Diln Fac:	1.000	Analyzed:	10/12/07

Type: BS  
Lab ID: QC410115

Cleanup Method: EPA 3665A

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	5.000	5.642	113	71-140
Aroclor-1260	5.000	4.886	98	68-150

Surrogate	%REC	Limits
TCMX	94	54-128
Decachlorobiphenyl	85	25-122

Type: BSD  
Lab ID: QC410116

Cleanup Method: EPA 3665A

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	5.000	5.818	116	71-140	3	21
Aroclor-1260	5.000	5.213	104	68-150	6	27

Surrogate	%REC	Limits
TCMX	90	54-128
Decachlorobiphenyl	86	25-122

RPD= Relative Percent Difference

**Polychlorinated Biphenyls (PCBs)**

Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Prepared:	10/13/07
Batch#:	130515		

Field ID:	B26-32	Diln Fac:	50.00
Type:	SAMPLE	Analyzed:	10/16/07
Lab ID:	198227-006	Cleanup Method:	EPA 3665A

Analyte	Result	RL
Aroclor-1016	ND	420
Aroclor-1221	ND	830
Aroclor-1232	ND	420
Aroclor-1242	ND	420
Aroclor-1248	ND	420
Aroclor-1254	ND	420
Aroclor-1260	ND	420

Surrogate	%REC	Limits
TCMX	DO	66-140
Decachlorobiphenyl	DO	51-152

Field ID:	B26-33.5	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	10/16/07
Lab ID:	198227-007	Cleanup Method:	EPA 3665A

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	93	66-140
Decachlorobiphenyl	110	51-152

DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit

**Polychlorinated Biphenyls (PCBs)**

Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	10/09/07
Units:	ug/Kg	Received:	10/09/07
Basis:	as received	Prepared:	10/13/07
Batch#:	130515		

Type:	BLANK	Analyzed:	10/15/07
Lab ID:	QC410412	Cleanup Method:	EPA 3665A
Diln Fac:	1.000		

Analyte	Result	RL
Aroclor-1016	ND	12
Aroclor-1221	ND	24
Aroclor-1232	ND	12
Aroclor-1242	ND	12
Aroclor-1248	ND	12
Aroclor-1254	ND	12
Aroclor-1260	ND	12

Surrogate	%REC	Limits
TCMX	96	66-140
Decachlorobiphenyl	106	51-152

DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit



## Batch QC Report

Polychlorinated Biphenyls (PCBs)			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3550B
Project#:	001-09567-04	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC410413	Batch#:	130515
Matrix:	Soil	Prepared:	10/13/07
Units:	ug/Kg	Analyzed:	10/15/07
Basis:	as received		

Cleanup Method: EPA 3665A

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	168.0	173.9	103	69-142
Aroclor-1260	168.0	202.2	120	69-155

Surrogate	%REC	Limits
TCMX	100	66-140
Decachlorobiphenyl	112	51-152



**California Title 26 Metals**

Lab #:	198227	Project#:	001-09567-04
Client:	LFR Levine Fricke	Location:	Hanson Radium
Field ID:	B26-GGW	Diln Fac:	1.000
Lab ID:	198227-011	Sampled:	10/09/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L		

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	10	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Arsenic	100	6.1	130383	10/10/07	10/11/07	EPA 3010A	EPA 6010B
Barium	2,700	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Beryllium	5.3	2.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Cadmium	ND	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Chromium	850	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Cobalt	180	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Copper	480	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Lead	100	3.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Mercury	ND	0.20	130433	10/11/07	10/11/07	METHOD	EPA 7470A
Molybdenum	6.1	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Nickel	1,400	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Selenium	ND	10	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Silver	ND	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Thallium	ND	10	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Vanadium	460	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Zinc	700	20	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B

ND= Not Detected  
 RL= Reporting Limit

**California Title 26 Metals**

Lab #:	198227	Project#:	001-09567-04
Client:	LFR Levine Fricke	Location:	Hanson Radium
Field ID:	B27-GGW	Diln Fac:	1.000
Lab ID:	198227-020	Sampled:	10/09/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L		

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	10	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Arsenic	56	6.1	130383	10/10/07	10/11/07	EPA 3010A	EPA 6010B
Barium	2,400	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Beryllium	3.6	2.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Cadmium	ND	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Chromium	520	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Cobalt	130	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Copper	290	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Lead	61	3.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Mercury	ND	0.20	130433	10/11/07	10/11/07	METHOD	EPA 7470A
Molybdenum	ND	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Nickel	780	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Selenium	ND	10	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Silver	ND	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Thallium	ND	10	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Vanadium	280	5.0	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B
Zinc	400	20	130383	10/10/07	10/10/07	EPA 3010A	EPA 6010B

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

California Title 26 Metals			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3010A
Project#:	001-09567-04	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC409859	Batch#:	130383
Matrix:	Water	Prepared:	10/10/07
Units:	ug/L	Analyzed:	10/10/07

Analyte	Result	RL
Antimony	ND	10
Arsenic	ND	6.1
Barium	ND	5.0
Beryllium	ND	2.0
Cadmium	ND	5.0
Chromium	ND	5.0
Cobalt	ND	5.0
Copper	ND	5.0
Lead	ND	3.0
Molybdenum	ND	5.0
Nickel	ND	5.0
Selenium	ND	10
Silver	ND	5.0
Thallium	ND	10
Vanadium	ND	5.0
Zinc	ND	20

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**

California Title 26 Metals			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3010A
Project#:	001-09567-04	Analysis:	EPA 6010B
Matrix:	Water	Batch#:	130383
Units:	ug/L	Prepared:	10/10/07
Diln Fac:	1.000	Analyzed:	10/10/07

Type: BS Lab ID: QC409860

Analyte	Spiked	Result	%REC	Limits
Antimony	500.0	463.5	93	80-120
Arsenic	100.0	104.7	105	80-120
Barium	2,000	1,939	97	80-120
Beryllium	50.00	52.43	105	80-120
Cadmium	50.00	50.24	100	80-120
Chromium	200.0	192.8	96	80-120
Cobalt	500.0	471.8	94	80-120
Copper	250.0	236.4	95	80-120
Lead	100.0	93.34	93	80-120
Molybdenum	400.0	400.0	100	80-120
Nickel	500.0	486.2	97	80-120
Selenium	100.0	101.5	102	80-120
Silver	50.00	47.33	95	80-120
Thallium	100.0	105.5	106	80-120
Vanadium	500.0	482.8	97	80-120
Zinc	500.0	505.1	101	80-120

Type: BSD Lab ID: QC409861

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	500.0	466.4	93	80-120	1	20
Arsenic	100.0	104.3	104	80-120	0	20
Barium	2,000	1,895	95	80-120	2	20
Beryllium	50.00	51.40	103	80-120	2	20
Cadmium	50.00	49.35	99	80-120	2	20
Chromium	200.0	189.2	95	80-120	2	20
Cobalt	500.0	466.8	93	80-120	1	20
Copper	250.0	232.7	93	80-120	2	20
Lead	100.0	93.84	94	80-120	1	20
Molybdenum	400.0	398.2	100	80-120	0	20
Nickel	500.0	475.0	95	80-120	2	20
Selenium	100.0	99.85	100	80-120	2	20
Silver	50.00	46.63	93	80-120	1	20
Thallium	100.0	105.8	106	80-120	0	20
Vanadium	500.0	476.2	95	80-120	1	20
Zinc	500.0	488.8	98	80-120	3	20

**Batch QC Report**

California Title 26 Metals			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3010A
Project#:	001-09567-04	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#:	130383
MSS Lab ID:	198195-002	Sampled:	10/08/07
Matrix:	Water	Received:	10/09/07
Units:	ug/L	Prepared:	10/10/07
Diln Fac:	1.000	Analyzed:	10/10/07

Type: MS Lab ID: QC409862

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<1.074	500.0	467.8	94	80-120
Arsenic	<2.042	100.0	103.5	104	80-127
Barium	264.4	2,000	2,158	95	80-120
Beryllium	0.1546	50.00	51.79	103	80-120
Cadmium	<0.1091	50.00	48.20	96	80-120
Chromium	7.700	200.0	193.0	93	80-120
Cobalt	2.740	500.0	453.3	90	80-120
Copper	10.49	250.0	246.1	94	80-120
Lead	<0.6892	100.0	93.51	94	76-120
Molybdenum	76.84	400.0	481.4	101	80-120
Nickel	12.18	500.0	465.6	91	80-120
Selenium	<1.469	100.0	100.4	100	80-128
Silver	<0.7459	50.00	47.42	95	73-122
Thallium	<1.616	100.0	100.8	101	78-120
Vanadium	7.169	500.0	481.3	95	80-120
Zinc	13.48	500.0	484.6	94	80-123

Type: MSD Lab ID: QC409863

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	500.0	465.2	93	80-120	1	20
Arsenic	100.0	104.1	104	80-127	1	20
Barium	2,000	2,167	95	80-120	0	20
Beryllium	50.00	51.88	103	80-120	0	20
Cadmium	50.00	48.75	97	80-120	1	20
Chromium	200.0	196.2	94	80-120	2	20
Cobalt	500.0	458.6	91	80-120	1	20
Copper	250.0	249.9	96	80-120	2	20
Lead	100.0	93.02	93	76-120	1	20
Molybdenum	400.0	480.1	101	80-120	0	20
Nickel	500.0	472.0	92	80-120	1	20
Selenium	100.0	103.0	103	80-128	3	20
Silver	50.00	47.97	96	73-122	1	20
Thallium	100.0	104.6	105	78-120	4	20
Vanadium	500.0	484.2	95	80-120	1	20
Zinc	500.0	494.5	96	80-123	2	20

RPD= Relative Percent Difference

## Batch QC Report

California Title 26 Metals			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	METHOD
Project#:	001-09567-04	Analysis:	EPA 7470A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	130433
Lab ID:	QC410070	Prepared:	10/11/07
Matrix:	Water	Analyzed:	10/11/07
Units:	ug/L		

Result	RL
ND	0.20

ND= Not Detected  
 RL= Reporting Limit



## Batch QC Report

California Title 26 Metals			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	METHOD
Project#:	001-09567-04	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	130433
Matrix:	Water	Prepared:	10/11/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC410071	5.000	4.790	96	80-120		
BSD	QC410072	5.000	4.690	94	80-120	2	20

RPD= Relative Percent Difference

## Batch QC Report

California Title 26 Metals			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	METHOD
Project#:	001-09567-04	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	130433
Field ID:	ZZZZZZZZZZ	Sampled:	10/03/07
MSS Lab ID:	198073-001	Received:	10/03/07
Matrix:	Water	Prepared:	10/11/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC410074	<0.04502	5.000	5.200	104	79-125		
MSD	QC410075		5.000	5.490	110	79-125	5	20

RPD= Relative Percent Difference

## Batch QC Report

California Title 26 Metals			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	METHOD
Project#:	001-09567-04	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	130433
Field ID:	ZZZZZZZZZZ	Sampled:	10/08/07
MSS Lab ID:	198262-002	Received:	10/10/07
Matrix:	Water	Prepared:	10/11/07
Units:	ug/L	Analyzed:	10/11/07
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC410080	<0.04502	5.000	4.800	96	79-125		
MSD	QC410081		5.000	4.930	99	79-125	3	20

RPD= Relative Percent Difference

Arsenic			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3050B
Project#:	001-09567-04	Analysis:	EPA 6010B
Analyte:	Arsenic	Batch#:	130413
Matrix:	Soil	Sampled:	10/09/07
Units:	mg/Kg	Received:	10/09/07
Basis:	as received	Prepared:	10/10/07
Diln Fac:	1.000	Analyzed:	10/11/07

Field ID	Type	Lab ID	Result	RL
B26-32	SAMPLE	198227-006	0.93	0.25
B26-33.5	SAMPLE	198227-007	7.3	0.25
	BLANK	QC409975	ND	0.25

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Arsenic			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3050B
Project#:	001-09567-04	Analysis:	EPA 6010B
Analyte:	Arsenic	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	130413
MSS Lab ID:	198257-001	Sampled:	10/10/07
Matrix:	Soil	Received:	10/10/07
Units:	mg/Kg	Prepared:	10/10/07
Basis:	as received	Analyzed:	10/11/07

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC409976		50.00	50.44	101	80-120		
BSD	QC409977		50.00	51.12	102	80-120	1	20
MS	QC409978	4.196	44.64	50.42	104	72-120		
MSD	QC409979		44.64	50.41	104	72-120	0	20

RPD= Relative Percent Difference

### California LUFT Metals

Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3050B
Project#:	001-09567-04	Analysis:	EPA 6010B
Matrix:	Soil	Sampled:	10/09/07
Units:	mg/Kg	Received:	10/09/07
Basis:	as received	Prepared:	10/10/07
Diln Fac:	1.000	Analyzed:	10/11/07
Batch#:	130413		

Field ID: B26-32                                      Lab ID: 198227-006  
 Type: SAMPLE

Analyte	Result	RL
Cadmium	ND	0.25
Chromium	13	0.25
Lead	2.3	0.25
Nickel	19	0.25
Zinc	15	1.0

Field ID: B26-33.5                                      Lab ID: 198227-007  
 Type: SAMPLE

Analyte	Result	RL
Cadmium	ND	0.25
Chromium	58	0.25
Lead	7.3	0.25
Nickel	80	0.25
Zinc	47	1.0

Type: BLANK    Lab ID: QC409975

Analyte	Result	RL
Cadmium	ND	0.25
Chromium	ND	0.25
Lead	ND	0.25
Nickel	ND	0.25
Zinc	ND	1.0

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

California LUFT Metals			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3050B
Project#:	001-09567-04	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	130413
Units:	mg/Kg	Prepared:	10/10/07
Basis:	as received	Analyzed:	10/11/07
Diln Fac:	1.000		

Type: BS Lab ID: QC409976

Analyte	Spiked	Result	%REC	Limits
Cadmium	10.00	9.809	98	80-120
Chromium	100.0	94.41	94	80-120
Lead	100.0	93.54	94	80-120
Nickel	25.00	23.53	94	80-120
Zinc	25.00	23.74	95	80-120

Type: BSD Lab ID: QC409977

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	10.00	10.07	101	80-120	3	20
Chromium	100.0	96.29	96	80-120	2	20
Lead	100.0	96.50	97	80-120	3	20
Nickel	25.00	24.07	96	80-120	2	20
Zinc	25.00	24.26	97	80-120	2	20

RPD= Relative Percent Difference

**Batch QC Report**

<b>California LUFT Metals</b>			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3050B
Project#:	001-09567-04	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#:	130413
MSS Lab ID:	198257-001	Sampled:	10/10/07
Matrix:	Soil	Received:	10/10/07
Units:	mg/Kg	Prepared:	10/10/07
Basis:	as received	Analyzed:	10/11/07
Diln Fac:	1.000		

Type: MS Lab ID: QC409978

Analyte	MSS Result	Spiked	Result	%REC	Limits
Cadmium	0.07861	8.929	8.636	96	74-120
Chromium	28.72	89.29	109.5	91	65-120
Lead	20.74	89.29	101.0	90	53-123
Nickel	30.85	22.32	48.44	79	43-142
Zinc	39.89	22.32	65.01	113	42-147

Type: MSD Lab ID: QC409979

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	8.929	8.719	97	74-120	1	20
Chromium	89.29	110.1	91	65-120	1	20
Lead	89.29	108.2	98	53-123	7	28
Nickel	22.32	48.15	78	43-142	1	26
Zinc	22.32	64.59	111	42-147	1	27

RPD= Relative Percent Difference



Arsenic			
Lab #:	198227	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3010A
Project#:	001-09567-04	Analysis:	EPA 6010B
Analyte:	Arsenic	Sampled:	10/09/07
Matrix:	SPLP Leachate	Received:	10/09/07
Units:	ug/L	Prepared:	10/13/07
Diln Fac:	1.000	Analyzed:	10/15/07
Batch#:	130506		

Field ID	Type	Lab ID	Result	RL
B26-32	SAMPLE	198227-006	ND	5.0
B26-33.5	SAMPLE	198227-007	6.2	5.0
	BLANK	QC410385	ND	5.0

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Arsenic			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3010A
Project#:	001-09567-04	Analysis:	EPA 6010B
Analyte:	Arsenic	Batch#:	130506
Field ID:	B-25-35.0	Sampled:	10/08/07
MSS Lab ID:	198204-007	Received:	10/09/07
Matrix:	SPLP Leachate	Prepared:	10/13/07
Units:	ug/L	Analyzed:	10/15/07
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC410386		1,000	1,052	105	80-120		
BSD	QC410387		1,000	1,047	105	80-120	1	20
MS	QC410388	2.952	1,000	1,046	104	80-127		
MSD	QC410389		1,000	1,103	110	80-127	5	20

RPD= Relative Percent Difference



## Batch QC Report

California LUFT Metals			
Lab #:	198227	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3010A
Project#:	001-09567-04	Analysis:	EPA 6010B
Matrix:	SPLP Leachate	Batch#:	130506
Units:	ug/L	Prepared:	10/13/07
Diln Fac:	1.000	Analyzed:	10/15/07

Type: BS Lab ID: QC410386

Analyte	Spiked	Result	%REC	Limits
Cadmium	200.0	206.1	103	80-120
Chromium	2,000	1,963	98	80-120
Lead	2,000	1,966	98	80-120
Nickel	500.0	490.5	98	80-120
Zinc	500.0	494.9	99	80-120

Type: BSD Lab ID: QC410387

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	200.0	206.3	103	80-120	0	20
Chromium	2,000	1,959	98	80-120	0	20
Lead	2,000	1,964	98	80-120	0	20
Nickel	500.0	488.1	98	80-120	0	20
Zinc	500.0	494.0	99	80-120	0	20

RPD= Relative Percent Difference





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2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 198238  
ANALYTICAL REPORT

LFR Levine Fricke  
1900 Powell Street  
Emeryville, CA 94608

Project : 001-09567-04  
Location : Hanson Radium  
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
B34-5	198238-001
B34-11.5	198238-002
B35-5	198238-003
B35-10.5	198238-004
TB-101007	198238-005
B34-7	198238-006

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature:   
Project Manager

Date: 10/24/2007

Signature:   
Operations Manager

Date: 10/25/2007

### CASE NARRATIVE

Laboratory number: 198238  
Client: LFR Levine Fricke  
Project: 001-09567-04  
Location: Hanson Radum  
Request Date: 10/10/07  
Samples Received: 10/10/07

This hardcopy data package contains sample and QC results for five soil samples, requested for the above referenced project on 10/10/07. The samples were received on ice and intact, directly from the field. All data were e-mailed to Katrin Schliewen on 10/17/07.

**TPH-Extractables by GC (EPA 8015B):**

B34-5 (lab # 198238-001) was diluted due to the dark and viscous nature of the sample extract. No other analytical problems were encountered.

Total Extractable Hydrocarbons			
Lab #:	198238	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	10/10/07
Units:	mg/Kg	Received:	10/10/07
Basis:	as received		

Field ID:	B34-5	Batch#:	130526
Type:	SAMPLE	Prepared:	10/15/07
Lab ID:	198238-001	Analyzed:	10/16/07
Diln Fac:	10.00	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	37 Y	10
Motor Oil C24-C36	670	50

Surrogate	%REC	Limits
Hexacosane	DO	46-128

Field ID:	B34-11.5	Batch#:	130526
Type:	SAMPLE	Prepared:	10/15/07
Lab ID:	198238-002	Analyzed:	10/16/07
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	0.99
Motor Oil C24-C36	5.0	5.0

Surrogate	%REC	Limits
Hexacosane	86	46-128

Field ID:	B35-5	Batch#:	130526
Type:	SAMPLE	Prepared:	10/15/07
Lab ID:	198238-003	Analyzed:	10/17/07
Diln Fac:	5.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	370 Y	5.0
Motor Oil C24-C36	1,200	25

Surrogate	%REC	Limits
Hexacosane	54	46-128

Field ID:	B35-10.5	Batch#:	130526
Type:	SAMPLE	Prepared:	10/15/07
Lab ID:	198238-004	Analyzed:	10/17/07
Diln Fac:	3.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	12 Y	3.0
Motor Oil C24-C36	150	15

Surrogate	%REC	Limits
Hexacosane	63	46-128

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit



Total Extractable Hydrocarbons			
Lab #:	198238	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	10/10/07
Units:	mg/Kg	Received:	10/10/07
Basis:	as received		

Field ID:	B34-7	Batch#:	130560
Type:	SAMPLE	Prepared:	10/16/07
Lab ID:	198238-006	Analyzed:	10/16/07
Diln Fac:	1.000	Cleanup Method:	EPA 3630C

Analyte	Result	RL
Diesel C10-C24	2.3 Y	1.0
Motor Oil C24-C36	28	5.0

Surrogate	%REC	Limits
Hexacosane	95	46-128

Type:	BLANK	Prepared:	10/15/07
Lab ID:	QC410460	Analyzed:	10/16/07
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	130526		

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	97	46-128

Type:	BLANK	Prepared:	10/16/07
Lab ID:	QC410611	Analyzed:	10/17/07
Diln Fac:	1.000	Cleanup Method:	EPA 3630C
Batch#:	130560		

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

Surrogate	%REC	Limits
Hexacosane	97	46-128

Y= Sample exhibits chromatographic pattern which does not resemble standard  
 DO= Diluted Out  
 ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198238	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-04	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC410461	Batch#:	130526
Matrix:	Soil	Prepared:	10/15/07
Units:	mg/Kg	Analyzed:	10/16/07
Basis:	as received		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.91	33.07	66	55-131

Surrogate	%REC	Limits
Hexacosane	65	46-128

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198238	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-04	Analysis:	EPA 8015B
Field ID:	B34-11.5	Batch#:	130526
MSS Lab ID:	198238-002	Sampled:	10/10/07
Matrix:	Soil	Received:	10/10/07
Units:	mg/Kg	Prepared:	10/15/07
Basis:	as received	Analyzed:	10/16/07
Diln Fac:	1.000		

Type: MS Cleanup Method: EPA 3630C  
 Lab ID: QC410462

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	0.7129	49.91	48.51	96	31-150

Surrogate	%REC	Limits
Hexacosane	107	46-128

Type: MSD Cleanup Method: EPA 3630C  
 Lab ID: QC410463

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.89	36.63	72	31-150	28	42

Surrogate	%REC	Limits
Hexacosane	79	46-128

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198238	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-04	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC410612	Batch#:	130560
Matrix:	Soil	Prepared:	10/16/07
Units:	mg/Kg	Analyzed:	10/17/07
Basis:	as received		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.89	42.98	86	55-131

Surrogate	%REC	Limits
Hexacosane	94	46-128

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198238	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	SHAKER TABLE
Project#:	001-09567-04	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	130560
MSS Lab ID:	198288-011	Sampled:	10/11/07
Matrix:	Soil	Received:	10/11/07
Units:	mg/Kg	Prepared:	10/16/07
Basis:	as received	Analyzed:	10/17/07
Diln Fac:	1.000		

Type: MS Cleanup Method: EPA 3630C  
 Lab ID: QC410613

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	0.1905	49.95	44.32	88	31-150

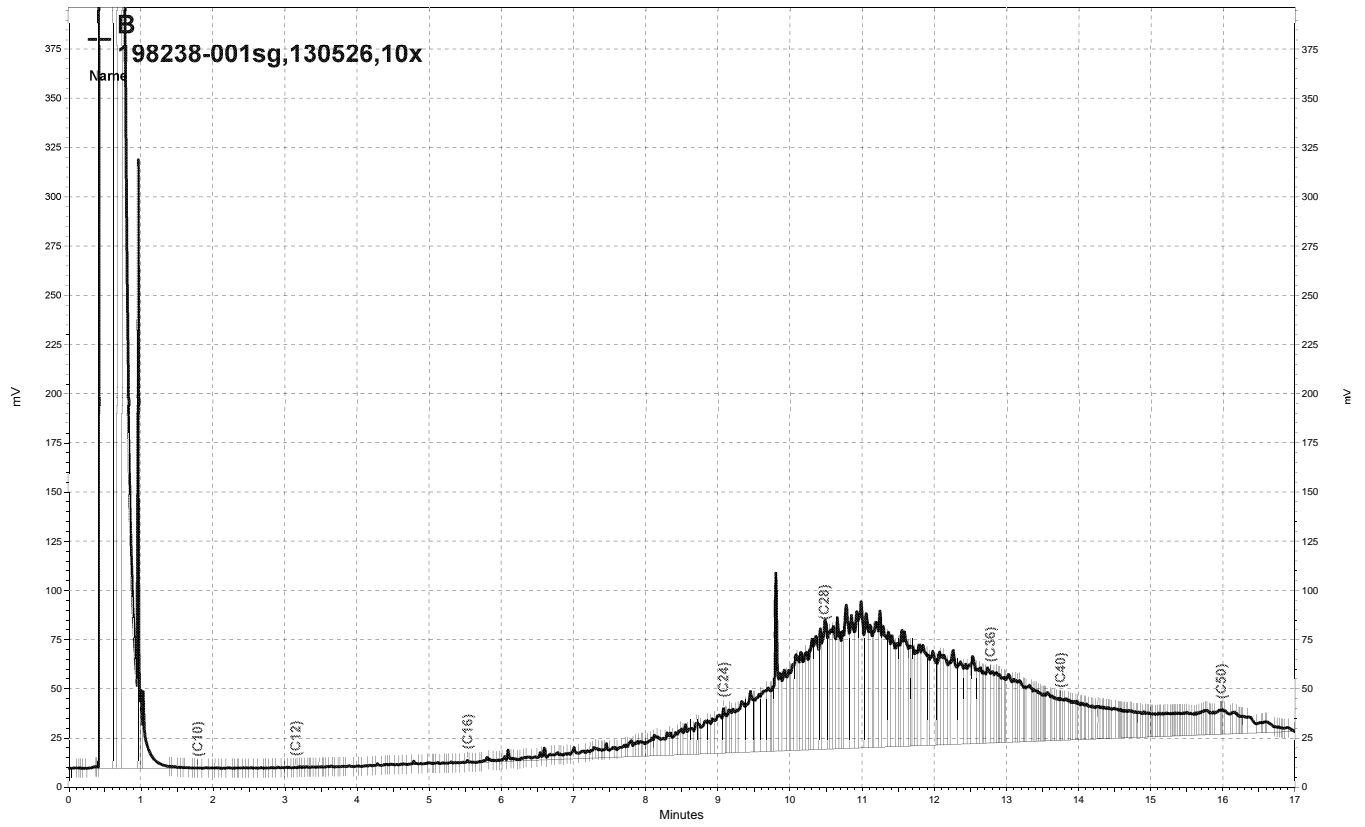
Surrogate	%REC	Limits
Hexacosane	95	46-128

Type: MSD Cleanup Method: EPA 3630C  
 Lab ID: QC410614

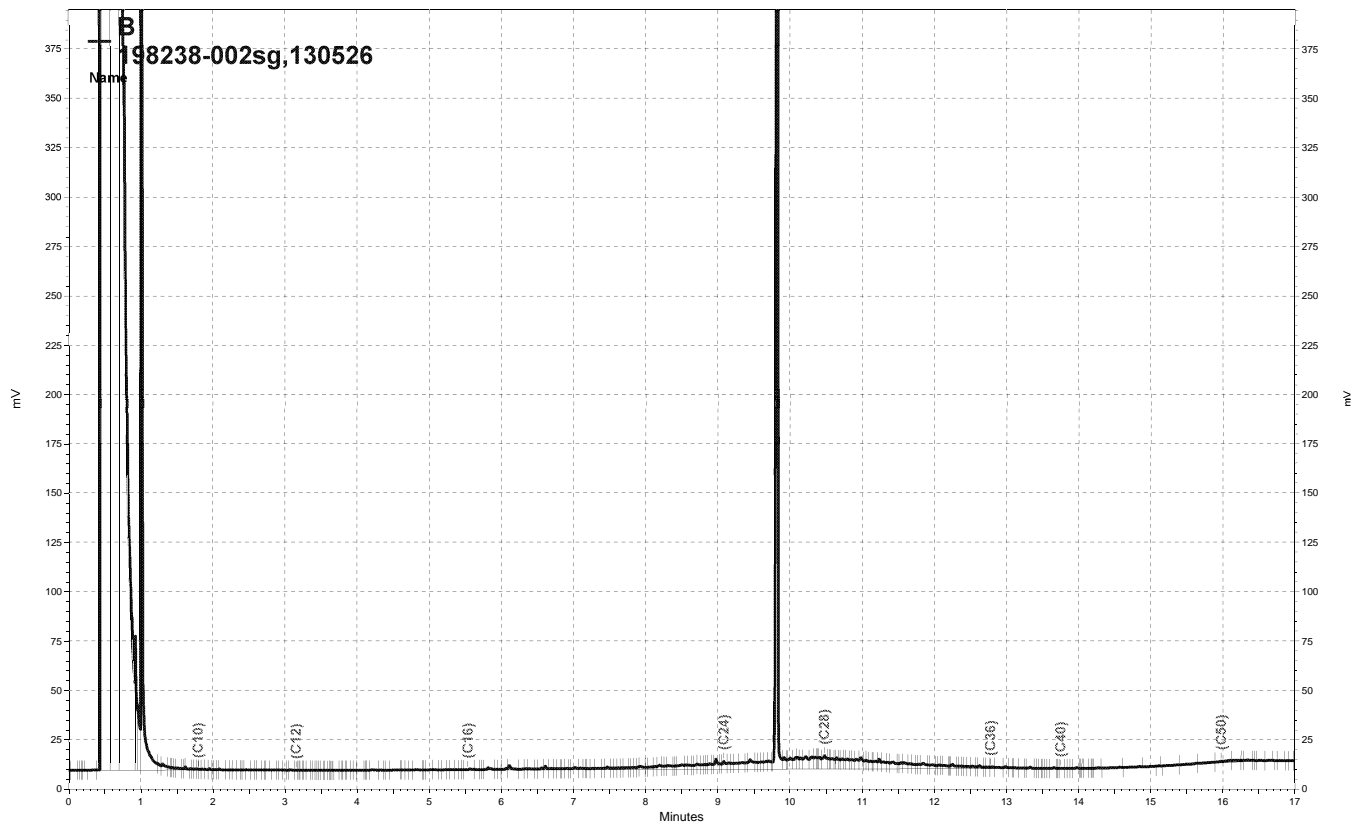
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.84	40.22	80	31-150	9	42

Surrogate	%REC	Limits
Hexacosane	86	46-128

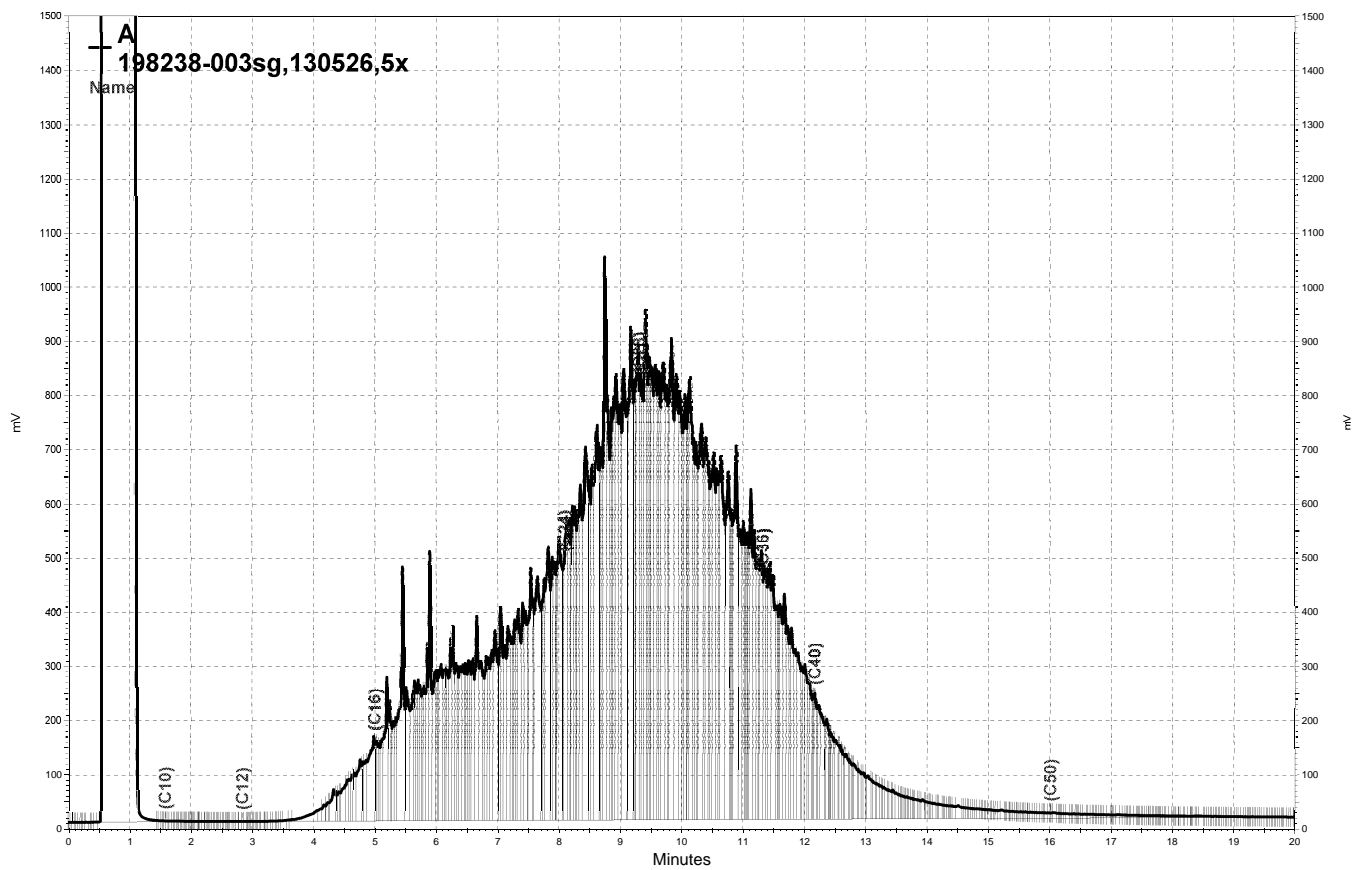
RPD= Relative Percent Difference



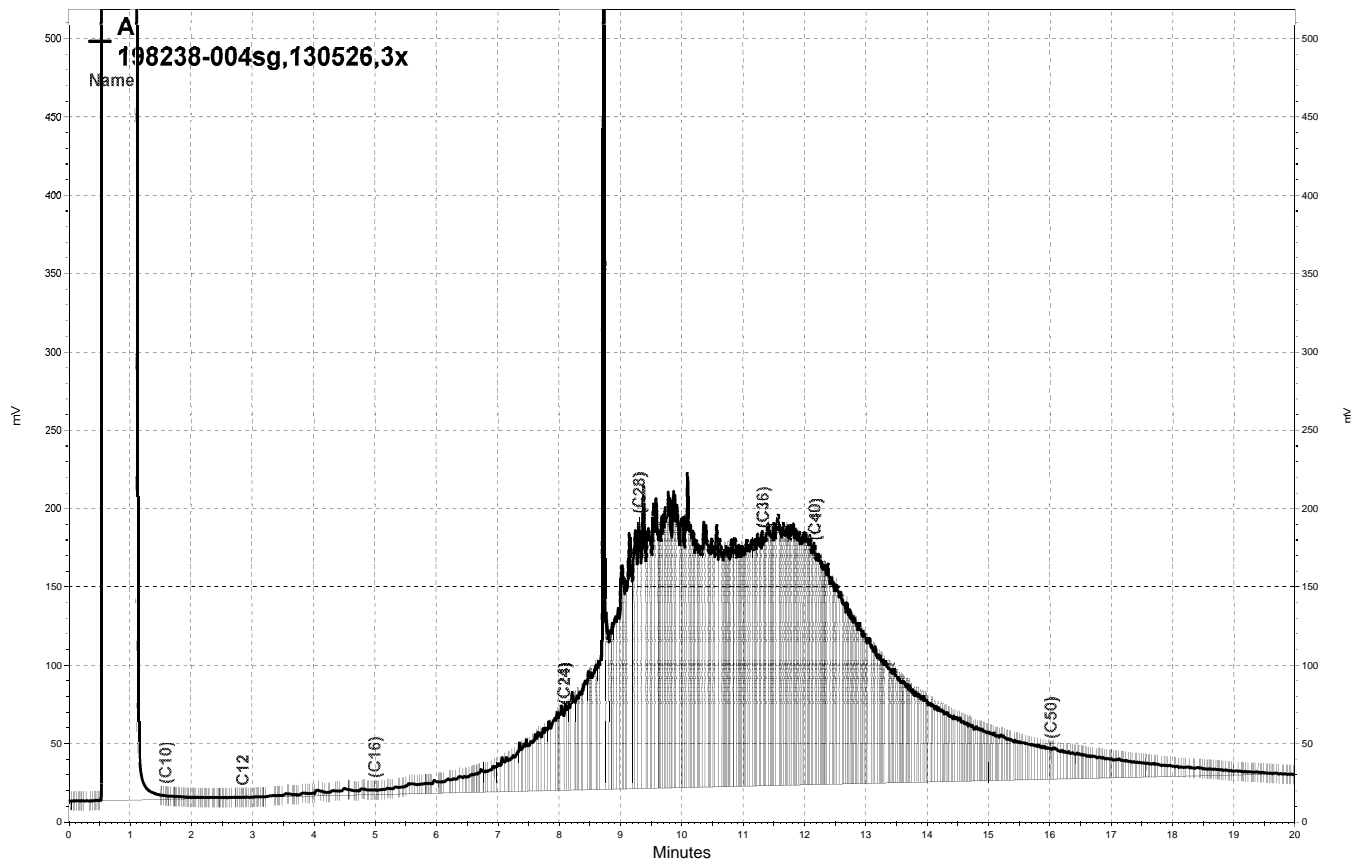
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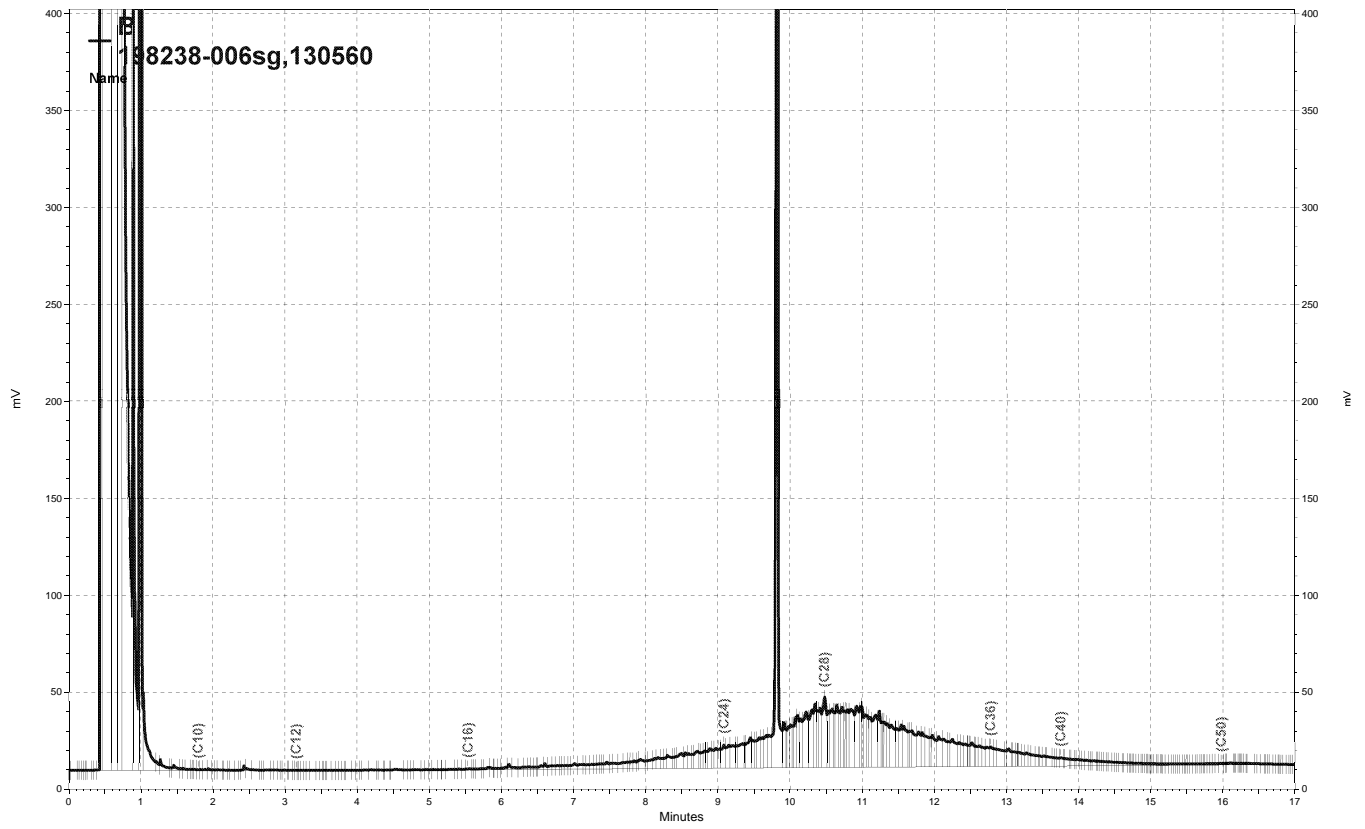
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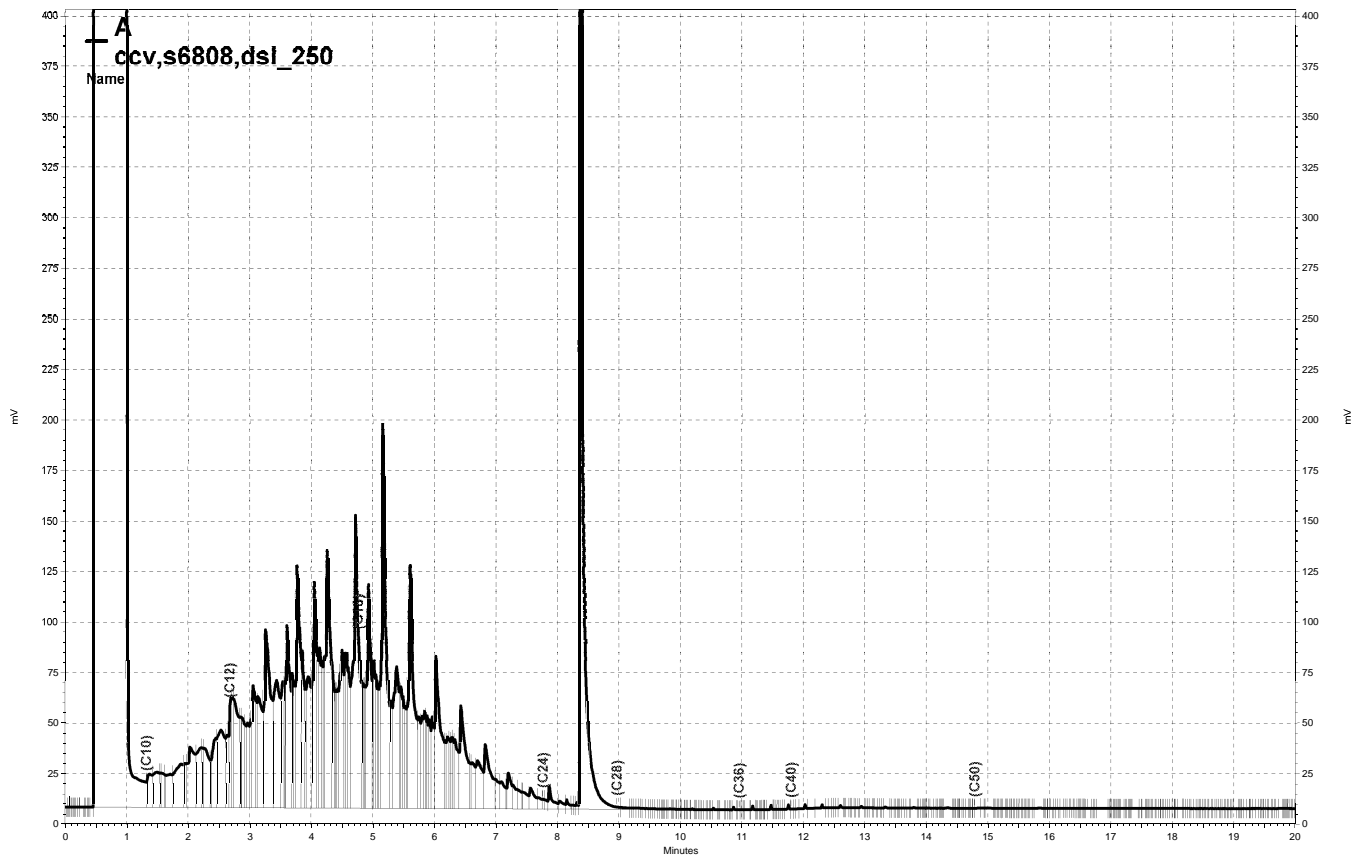




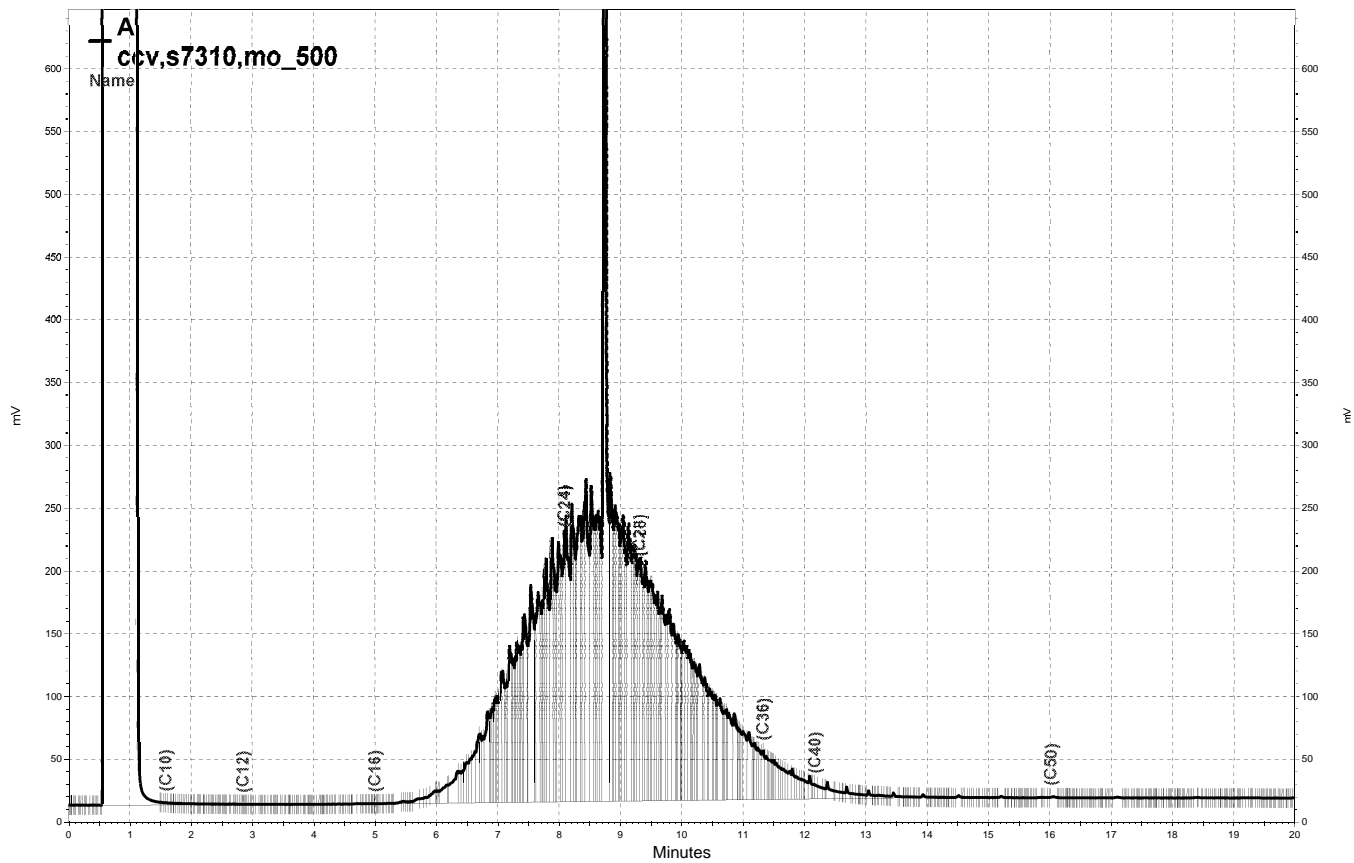
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2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 198608
ANALYTICAL REPORT

LFR Levine Fricke
1900 Powell Street
Emeryville, CA 94608

Project : 001-09567-04
Location : Hanson Radium
Level : II

Table with 2 columns: Sample ID and Lab ID. Rows include TB-102207, FB-102207, MW-5-102207, MW-6-102207, MW-7-102207, MW-1-102207, MW-2-102207, MW-3-102207, MW-3-102207-D, and MW-4-102207.

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: [Handwritten Signature]
Project Manager

Date: 11/09/2007

Signature: [Handwritten Signature]
Operations Manager

Date: 11/12/2007

### CASE NARRATIVE

Laboratory number: 198608  
Client: LFR Levine Fricke  
Project: 001-09567-04  
Location: Hanson Radum  
Request Date: 10/22/07  
Samples Received: 10/22/07

This hardcopy data package contains sample and QC results for nine water samples, requested for the above referenced project on 10/22/07. The samples were received cold and intact. All data were e-mailed to Katrin Schliewen on 11/01/07.

**TPH-Extractables by GC (EPA 8015B):**

No analytical problems were encountered.

**Volatile Organics by GC/MS (EPA 8260B):**

Low surrogate recoveries were observed for dibromofluoromethane in the method blank/BS/BSB for batch 131144. Methylene chloride was detected above the RL in FB-102207 (lab # 198608-002); this analyte is a common laboratory contaminant. TB-102207 (lab # 198608-001) was analyzed with more than 1 mL of headspace in the VOA vial. No other analytical problems were encountered.

Total Extractable Hydrocarbons			
Lab #:	198608	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	10/22/07
Units:	ug/L	Received:	10/22/07
Diln Fac:	1.000	Prepared:	10/29/07
Batch#:	131081		

Field ID: FB-102207 Analyzed: 11/01/07  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 198608-002

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	87	61-133

Field ID: MW-5-102207 Analyzed: 11/01/07  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 198608-003

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	86	61-133

Field ID: MW-6-102207 Analyzed: 10/31/07  
 Type: SAMPLE Cleanup Method: EPA 3630C  
 Lab ID: 198608-004

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	80	61-133

ND= Not Detected  
 RL= Reporting Limit

### Total Extractable Hydrocarbons

Lab #:	198608	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	10/22/07
Units:	ug/L	Received:	10/22/07
Diln Fac:	1.000	Prepared:	10/29/07
Batch#:	131081		

Field ID: MW-7-102207      Analyzed: 10/31/07  
 Type: SAMPLE      Cleanup Method: EPA 3630C  
 Lab ID: 198608-005

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	88	61-133

Field ID: MW-1-102207      Analyzed: 10/31/07  
 Type: SAMPLE      Cleanup Method: EPA 3630C  
 Lab ID: 198608-006

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	87	61-133

Field ID: MW-2-102207      Analyzed: 11/01/07  
 Type: SAMPLE      Cleanup Method: EPA 3630C  
 Lab ID: 198608-007

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	110	61-133

ND= Not Detected  
 RL= Reporting Limit



Total Extractable Hydrocarbons			
Lab #:	198608	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	10/22/07
Units:	ug/L	Received:	10/22/07
Diln Fac:	1.000	Prepared:	10/29/07
Batch#:	131081		

Field ID: MW-3-102207      Analyzed: 10/31/07  
 Type: SAMPLE      Cleanup Method: EPA 3630C  
 Lab ID: 198608-008

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	92	61-133

Field ID: MW-3-102207-D      Analyzed: 10/31/07  
 Type: SAMPLE      Cleanup Method: EPA 3630C  
 Lab ID: 198608-009

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	102	61-133

Type: BLANK      Analyzed: 10/31/07  
 Lab ID: QC412788      Cleanup Method: EPA 3630C

Analyte	Result	RL
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits
Hexacosane	100	61-133

ND= Not Detected  
 RL= Reporting Limit

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	198608	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 3520C
Project#:	001-09567-04	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	131081
Units:	ug/L	Prepared:	10/29/07
Diln Fac:	1.000	Analyzed:	10/31/07

Type: BS Cleanup Method: EPA 3630C  
 Lab ID: QC412789

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,014	81	58-128

Surrogate	%REC	Limits
Hexacosane	103	61-133

Type: BSD Cleanup Method: EPA 3630C  
 Lab ID: QC412790

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,092	84	58-128	4	29

Surrogate	%REC	Limits
Hexacosane	107	61-133

RPD= Relative Percent Difference

Gasoline by GC/MS			
Lab #:	198608	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	TB-102207	Diln Fac:	1.000
Lab ID:	198608-001	Sampled:	10/22/07
Matrix:	Water	Received:	10/22/07
Units:	ug/L	Analyzed:	10/31/07

Analyte	Result	RL	Batch#
Gasoline C7-C12	ND	50	131144
Freon 12	ND	1.0	131139
tert-Butyl Alcohol (TBA)	ND	10	131139
Chloromethane	ND	1.0	131139
Isopropyl Ether (DIPE)	ND	0.5	131139
Vinyl Chloride	ND	0.5	131139
Bromomethane	ND	1.0	131139
Ethyl tert-Butyl Ether (ETBE)	ND	0.5	131139
Chloroethane	ND	1.0	131139
Methyl tert-Amyl Ether (TAME)	ND	0.5	131139
Trichlorofluoromethane	ND	1.0	131139
Acetone	ND	10	131139
Freon 113	ND	5.0	131139
1,1-Dichloroethene	ND	0.5	131139
Methylene Chloride	ND	5.0	131139
Carbon Disulfide	ND	0.5	131139
MTBE	ND	0.5	131139
trans-1,2-Dichloroethene	ND	0.5	131139
Vinyl Acetate	ND	10	131139
1,1-Dichloroethane	ND	0.5	131139
2-Butanone	ND	10	131139
cis-1,2-Dichloroethene	ND	0.5	131139
2,2-Dichloropropane	ND	0.5	131139
Chloroform	ND	0.5	131139
Bromochloromethane	ND	0.5	131139
1,1,1-Trichloroethane	ND	0.5	131139
1,1-Dichloropropene	ND	0.5	131139
Carbon Tetrachloride	ND	0.5	131139
1,2-Dichloroethane	ND	0.5	131139
Benzene	ND	0.5	131139
Trichloroethene	ND	0.5	131139
1,2-Dichloropropane	ND	0.5	131139
Bromodichloromethane	ND	0.5	131139
Dibromomethane	ND	0.5	131139
4-Methyl-2-Pentanone	ND	10	131139
cis-1,3-Dichloropropene	ND	0.5	131139
Toluene	ND	0.5	131139
trans-1,3-Dichloropropene	ND	0.5	131139
1,1,2-Trichloroethane	ND	0.5	131139
2-Hexanone	ND	10	131139
1,3-Dichloropropane	ND	0.5	131139
Tetrachloroethene	ND	0.5	131139
Dibromochloromethane	ND	0.5	131139
1,2-Dibromoethane	ND	0.5	131139
Chlorobenzene	ND	0.5	131139
1,1,1,2-Tetrachloroethane	ND	0.5	131139
Ethylbenzene	ND	0.5	131139
m,p-Xylenes	ND	0.5	131139
o-Xylene	ND	0.5	131139
Styrene	ND	0.5	131139
Bromoform	ND	1.0	131139
Isopropylbenzene	ND	0.5	131139
1,1,2,2-Tetrachloroethane	ND	0.5	131139
1,2,3-Trichloropropane	ND	0.5	131139
Propylbenzene	ND	0.5	131139

ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198608	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	TB-102207	Diln Fac:	1.000
Lab ID:	198608-001	Sampled:	10/22/07
Matrix:	Water	Received:	10/22/07
Units:	ug/L	Analyzed:	10/31/07

Analyte	Result	RL	Batch#
Bromobenzene	ND	0.5	131139
1,3,5-Trimethylbenzene	ND	0.5	131139
2-Chlorotoluene	ND	0.5	131139
4-Chlorotoluene	ND	0.5	131139
tert-Butylbenzene	ND	0.5	131139
1,2,4-Trimethylbenzene	ND	0.5	131139
sec-Butylbenzene	ND	0.5	131139
para-Isopropyl Toluene	ND	0.5	131139
1,3-Dichlorobenzene	ND	0.5	131139
1,4-Dichlorobenzene	ND	0.5	131139
n-Butylbenzene	ND	0.5	131139
1,2-Dichlorobenzene	ND	0.5	131139
1,2-Dibromo-3-Chloropropane	ND	2.0	131139
1,2,4-Trichlorobenzene	ND	0.5	131139
Hexachlorobutadiene	ND	2.0	131139
Naphthalene	ND	2.0	131139
1,2,3-Trichlorobenzene	ND	0.5	131139

Surrogate	%REC	Limits	Batch#
Dibromofluoromethane	105	80-122	131139
1,2-Dichloroethane-d4	114	74-137	131139
Toluene-d8	96	80-120	131139
Bromofluorobenzene	107	80-120	131139

Gasoline by GC/MS			
Lab #:	198608	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	FB-102207	Diln Fac:	1.000
Lab ID:	198608-002	Sampled:	10/22/07
Matrix:	Water	Received:	10/22/07
Units:	ug/L	Analyzed:	10/31/07

Analyte	Result	RL	Batch#
Gasoline C7-C12	ND	50	131144
Freon 12	ND	1.0	131139
tert-Butyl Alcohol (TBA)	ND	10	131139
Chloromethane	ND	1.0	131139
Isopropyl Ether (DIPE)	ND	0.5	131139
Vinyl Chloride	ND	0.5	131139
Bromomethane	ND	1.0	131139
Ethyl tert-Butyl Ether (ETBE)	ND	0.5	131139
Chloroethane	ND	1.0	131139
Methyl tert-Amyl Ether (TAME)	ND	0.5	131139
Trichlorofluoromethane	ND	1.0	131139
Acetone	10	10	131139
Freon 113	ND	5.0	131139
1,1-Dichloroethene	ND	0.5	131139
Methylene Chloride	11	5.0	131139
Carbon Disulfide	ND	0.5	131139
MTBE	ND	0.5	131139
trans-1,2-Dichloroethene	ND	0.5	131139
Vinyl Acetate	ND	10	131139
1,1-Dichloroethane	ND	0.5	131139
2-Butanone	ND	10	131139
cis-1,2-Dichloroethene	ND	0.5	131139
2,2-Dichloropropane	ND	0.5	131139
Chloroform	ND	0.5	131139
Bromochloromethane	ND	0.5	131139
1,1,1-Trichloroethane	ND	0.5	131139
1,1-Dichloropropene	ND	0.5	131139
Carbon Tetrachloride	ND	0.5	131139
1,2-Dichloroethane	ND	0.5	131139
Benzene	ND	0.5	131139
Trichloroethene	ND	0.5	131139
1,2-Dichloropropane	ND	0.5	131139
Bromodichloromethane	ND	0.5	131139
Dibromomethane	ND	0.5	131139
4-Methyl-2-Pentanone	ND	10	131139
cis-1,3-Dichloropropene	ND	0.5	131139
Toluene	ND	0.5	131139
trans-1,3-Dichloropropene	ND	0.5	131139
1,1,2-Trichloroethane	ND	0.5	131139
2-Hexanone	ND	10	131139
1,3-Dichloropropane	ND	0.5	131139
Tetrachloroethene	ND	0.5	131139
Dibromochloromethane	ND	0.5	131139
1,2-Dibromoethane	ND	0.5	131139
Chlorobenzene	ND	0.5	131139
1,1,1,2-Tetrachloroethane	ND	0.5	131139
Ethylbenzene	ND	0.5	131139
m,p-Xylenes	ND	0.5	131139
o-Xylene	ND	0.5	131139
Styrene	ND	0.5	131139
Bromoform	ND	1.0	131139
Isopropylbenzene	ND	0.5	131139
1,1,2,2-Tetrachloroethane	ND	0.5	131139
1,2,3-Trichloropropane	ND	0.5	131139
Propylbenzene	ND	0.5	131139

ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198608	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	FB-102207	Diln Fac:	1.000
Lab ID:	198608-002	Sampled:	10/22/07
Matrix:	Water	Received:	10/22/07
Units:	ug/L	Analyzed:	10/31/07

Analyte	Result	RL	Batch#
Bromobenzene	ND	0.5	131139
1,3,5-Trimethylbenzene	ND	0.5	131139
2-Chlorotoluene	ND	0.5	131139
4-Chlorotoluene	ND	0.5	131139
tert-Butylbenzene	ND	0.5	131139
1,2,4-Trimethylbenzene	ND	0.5	131139
sec-Butylbenzene	ND	0.5	131139
para-Isopropyl Toluene	ND	0.5	131139
1,3-Dichlorobenzene	ND	0.5	131139
1,4-Dichlorobenzene	ND	0.5	131139
n-Butylbenzene	ND	0.5	131139
1,2-Dichlorobenzene	ND	0.5	131139
1,2-Dibromo-3-Chloropropane	ND	2.0	131139
1,2,4-Trichlorobenzene	ND	0.5	131139
Hexachlorobutadiene	ND	2.0	131139
Naphthalene	ND	2.0	131139
1,2,3-Trichlorobenzene	ND	0.5	131139

Surrogate	%REC	Limits	Batch#
Dibromofluoromethane	105	80-122	131139
1,2-Dichloroethane-d4	115	74-137	131139
Toluene-d8	97	80-120	131139
Bromofluorobenzene	103	80-120	131139

ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198608	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	MW-5-102207	Diln Fac:	1.000
Lab ID:	198608-003	Sampled:	10/22/07
Matrix:	Water	Received:	10/22/07
Units:	ug/L	Analyzed:	10/31/07

Analyte	Result	RL	Batch#
Gasoline C7-C12	ND	50	131144
Freon 12	ND	1.0	131139
tert-Butyl Alcohol (TBA)	ND	10	131139
Chloromethane	ND	1.0	131139
Isopropyl Ether (DIPE)	ND	0.5	131139
Vinyl Chloride	ND	0.5	131139
Bromomethane	ND	1.0	131139
Ethyl tert-Butyl Ether (ETBE)	ND	0.5	131139
Chloroethane	ND	1.0	131139
Methyl tert-Amyl Ether (TAME)	ND	0.5	131139
Trichlorofluoromethane	ND	1.0	131139
Acetone	ND	10	131139
Freon 113	ND	5.0	131139
1,1-Dichloroethene	ND	0.5	131139
Methylene Chloride	ND	5.0	131139
Carbon Disulfide	ND	0.5	131139
MTBE	ND	0.5	131139
trans-1,2-Dichloroethene	ND	0.5	131139
Vinyl Acetate	ND	10	131139
1,1-Dichloroethane	ND	0.5	131139
2-Butanone	ND	10	131139
cis-1,2-Dichloroethene	ND	0.5	131139
2,2-Dichloropropane	ND	0.5	131139
Chloroform	ND	0.5	131139
Bromochloromethane	ND	0.5	131139
1,1,1-Trichloroethane	ND	0.5	131139
1,1-Dichloropropene	ND	0.5	131139
Carbon Tetrachloride	ND	0.5	131139
1,2-Dichloroethane	ND	0.5	131139
Benzene	ND	0.5	131139
Trichloroethene	ND	0.5	131139
1,2-Dichloropropane	ND	0.5	131139
Bromodichloromethane	ND	0.5	131139
Dibromomethane	ND	0.5	131139
4-Methyl-2-Pentanone	ND	10	131139
cis-1,3-Dichloropropene	ND	0.5	131139
Toluene	0.4 J	0.5	131139
trans-1,3-Dichloropropene	ND	0.5	131139
1,1,2-Trichloroethane	ND	0.5	131139
2-Hexanone	ND	10	131139
1,3-Dichloropropane	ND	0.5	131139
Tetrachloroethene	ND	0.5	131139
Dibromochloromethane	ND	0.5	131139
1,2-Dibromoethane	ND	0.5	131139
Chlorobenzene	ND	0.5	131139
1,1,1,2-Tetrachloroethane	ND	0.5	131139
Ethylbenzene	ND	0.5	131139
m,p-Xylenes	ND	0.5	131139
o-Xylene	ND	0.5	131139
Styrene	ND	0.5	131139
Bromoform	ND	1.0	131139
Isopropylbenzene	ND	0.5	131139
1,1,2,2-Tetrachloroethane	ND	0.5	131139
1,2,3-Trichloropropane	ND	0.5	131139

J= Estimated value  
 ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198608	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	MW-5-102207	Diln Fac:	1.000
Lab ID:	198608-003	Sampled:	10/22/07
Matrix:	Water	Received:	10/22/07
Units:	ug/L	Analyzed:	10/31/07

Analyte	Result	RL	Batch#
Propylbenzene	ND	0.5	131139
Bromobenzene	ND	0.5	131139
1,3,5-Trimethylbenzene	ND	0.5	131139
2-Chlorotoluene	ND	0.5	131139
4-Chlorotoluene	ND	0.5	131139
tert-Butylbenzene	ND	0.5	131139
1,2,4-Trimethylbenzene	ND	0.5	131139
sec-Butylbenzene	ND	0.5	131139
para-Isopropyl Toluene	ND	0.5	131139
1,3-Dichlorobenzene	ND	0.5	131139
1,4-Dichlorobenzene	ND	0.5	131139
n-Butylbenzene	ND	0.5	131139
1,2-Dichlorobenzene	ND	0.5	131139
1,2-Dibromo-3-Chloropropane	ND	2.0	131139
1,2,4-Trichlorobenzene	ND	0.5	131139
Hexachlorobutadiene	ND	2.0	131139
Naphthalene	ND	2.0	131139
1,2,3-Trichlorobenzene	ND	0.5	131139

Surrogate	%REC	Limits	Batch#
Dibromofluoromethane	106	80-122	131139
1,2-Dichloroethane-d4	116	74-137	131139
Toluene-d8	97	80-120	131139
Bromofluorobenzene	104	80-120	131139

J= Estimated value  
 ND= Not Detected  
 RL= Reporting Limit



Gasoline by GC/MS			
Lab #:	198608	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	MW-6-102207	Diln Fac:	1.000
Lab ID:	198608-004	Sampled:	10/22/07
Matrix:	Water	Received:	10/22/07
Units:	ug/L	Analyzed:	10/31/07

Analyte	Result	RL	Batch#
Gasoline C7-C12	ND	50	131144
Freon 12	ND	1.0	131139
tert-Butyl Alcohol (TBA)	ND	10	131139
Chloromethane	ND	1.0	131139
Isopropyl Ether (DIPE)	ND	0.5	131139
Vinyl Chloride	ND	0.5	131139
Bromomethane	ND	1.0	131139
Ethyl tert-Butyl Ether (ETBE)	ND	0.5	131139
Chloroethane	ND	1.0	131139
Methyl tert-Amyl Ether (TAME)	ND	0.5	131139
Trichlorofluoromethane	ND	1.0	131139
Acetone	ND	10	131139
Freon 113	ND	5.0	131139
1,1-Dichloroethene	ND	0.5	131139
Methylene Chloride	ND	5.0	131139
Carbon Disulfide	ND	0.5	131139
MTBE	ND	0.5	131139
trans-1,2-Dichloroethene	ND	0.5	131139
Vinyl Acetate	ND	10	131139
1,1-Dichloroethane	ND	0.5	131139
2-Butanone	ND	10	131139
cis-1,2-Dichloroethene	ND	0.5	131139
2,2-Dichloropropane	ND	0.5	131139
Chloroform	ND	0.5	131139
Bromochloromethane	ND	0.5	131139
1,1,1-Trichloroethane	ND	0.5	131139
1,1-Dichloropropene	ND	0.5	131139
Carbon Tetrachloride	ND	0.5	131139
1,2-Dichloroethane	ND	0.5	131139
Benzene	ND	0.5	131139
Trichloroethene	ND	0.5	131139
1,2-Dichloropropane	ND	0.5	131139
Bromodichloromethane	ND	0.5	131139
Dibromomethane	ND	0.5	131139
4-Methyl-2-Pentanone	ND	10	131139
cis-1,3-Dichloropropene	ND	0.5	131139
Toluene	ND	0.5	131139
trans-1,3-Dichloropropene	ND	0.5	131139
1,1,2-Trichloroethane	ND	0.5	131139
2-Hexanone	ND	10	131139
1,3-Dichloropropane	ND	0.5	131139
Tetrachloroethene	ND	0.5	131139
Dibromochloromethane	ND	0.5	131139
1,2-Dibromoethane	ND	0.5	131139
Chlorobenzene	ND	0.5	131139
1,1,1,2-Tetrachloroethane	ND	0.5	131139
Ethylbenzene	ND	0.5	131139
m,p-Xylenes	ND	0.5	131139
o-Xylene	ND	0.5	131139
Styrene	ND	0.5	131139
Bromoform	ND	1.0	131139
Isopropylbenzene	ND	0.5	131139
1,1,2,2-Tetrachloroethane	ND	0.5	131139
1,2,3-Trichloropropane	ND	0.5	131139
Propylbenzene	ND	0.5	131139

ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198608	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	MW-6-102207	Diln Fac:	1.000
Lab ID:	198608-004	Sampled:	10/22/07
Matrix:	Water	Received:	10/22/07
Units:	ug/L	Analyzed:	10/31/07

Analyte	Result	RL	Batch#
Bromobenzene	ND	0.5	131139
1,3,5-Trimethylbenzene	ND	0.5	131139
2-Chlorotoluene	ND	0.5	131139
4-Chlorotoluene	ND	0.5	131139
tert-Butylbenzene	ND	0.5	131139
1,2,4-Trimethylbenzene	ND	0.5	131139
sec-Butylbenzene	ND	0.5	131139
para-Isopropyl Toluene	ND	0.5	131139
1,3-Dichlorobenzene	ND	0.5	131139
1,4-Dichlorobenzene	ND	0.5	131139
n-Butylbenzene	ND	0.5	131139
1,2-Dichlorobenzene	ND	0.5	131139
1,2-Dibromo-3-Chloropropane	ND	2.0	131139
1,2,4-Trichlorobenzene	ND	0.5	131139
Hexachlorobutadiene	ND	2.0	131139
Naphthalene	ND	2.0	131139
1,2,3-Trichlorobenzene	ND	0.5	131139

Surrogate	%REC	Limits	Batch#
Dibromofluoromethane	107	80-122	131139
1,2-Dichloroethane-d4	118	74-137	131139
Toluene-d8	96	80-120	131139
Bromofluorobenzene	105	80-120	131139

ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198608	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	MW-7-102207	Diln Fac:	1.000
Lab ID:	198608-005	Sampled:	10/22/07
Matrix:	Water	Received:	10/22/07
Units:	ug/L	Analyzed:	10/31/07

Analyte	Result	RL	Batch#
Gasoline C7-C12	ND	50	131144
Freon 12	ND	1.0	131139
tert-Butyl Alcohol (TBA)	ND	10	131139
Chloromethane	ND	1.0	131139
Isopropyl Ether (DIPE)	ND	0.5	131139
Vinyl Chloride	ND	0.5	131139
Bromomethane	ND	1.0	131139
Ethyl tert-Butyl Ether (ETBE)	ND	0.5	131139
Chloroethane	ND	1.0	131139
Methyl tert-Amyl Ether (TAME)	ND	0.5	131139
Trichlorofluoromethane	ND	1.0	131139
Acetone	ND	10	131139
Freon 113	ND	5.0	131139
1,1-Dichloroethene	ND	0.5	131139
Methylene Chloride	ND	5.0	131139
Carbon Disulfide	ND	0.5	131139
MTBE	ND	0.5	131139
trans-1,2-Dichloroethene	ND	0.5	131139
Vinyl Acetate	ND	10	131139
1,1-Dichloroethane	ND	0.5	131139
2-Butanone	ND	10	131139
cis-1,2-Dichloroethene	ND	0.5	131139
2,2-Dichloropropane	ND	0.5	131139
Chloroform	ND	0.5	131139
Bromochloromethane	ND	0.5	131139
1,1,1-Trichloroethane	ND	0.5	131139
1,1-Dichloropropene	ND	0.5	131139
Carbon Tetrachloride	ND	0.5	131139
1,2-Dichloroethane	ND	0.5	131139
Benzene	ND	0.5	131139
Trichloroethene	ND	0.5	131139
1,2-Dichloropropane	ND	0.5	131139
Bromodichloromethane	ND	0.5	131139
Dibromomethane	ND	0.5	131139
4-Methyl-2-Pentanone	ND	10	131139
cis-1,3-Dichloropropene	ND	0.5	131139
Toluene	ND	0.5	131139
trans-1,3-Dichloropropene	ND	0.5	131139
1,1,2-Trichloroethane	ND	0.5	131139
2-Hexanone	ND	10	131139
1,3-Dichloropropane	ND	0.5	131139
Tetrachloroethene	ND	0.5	131139
Dibromochloromethane	ND	0.5	131139
1,2-Dibromoethane	ND	0.5	131139
Chlorobenzene	ND	0.5	131139
1,1,1,2-Tetrachloroethane	ND	0.5	131139
Ethylbenzene	ND	0.5	131139
m,p-Xylenes	ND	0.5	131139
o-Xylene	ND	0.5	131139
Styrene	ND	0.5	131139
Bromoform	ND	1.0	131139
Isopropylbenzene	ND	0.5	131139
1,1,2,2-Tetrachloroethane	ND	0.5	131139
1,2,3-Trichloropropane	ND	0.5	131139
Propylbenzene	ND	0.5	131139

ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198608	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	MW-7-102207	Diln Fac:	1.000
Lab ID:	198608-005	Sampled:	10/22/07
Matrix:	Water	Received:	10/22/07
Units:	ug/L	Analyzed:	10/31/07

Analyte	Result	RL	Batch#
Bromobenzene	ND	0.5	131139
1,3,5-Trimethylbenzene	ND	0.5	131139
2-Chlorotoluene	ND	0.5	131139
4-Chlorotoluene	ND	0.5	131139
tert-Butylbenzene	ND	0.5	131139
1,2,4-Trimethylbenzene	ND	0.5	131139
sec-Butylbenzene	ND	0.5	131139
para-Isopropyl Toluene	ND	0.5	131139
1,3-Dichlorobenzene	ND	0.5	131139
1,4-Dichlorobenzene	ND	0.5	131139
n-Butylbenzene	ND	0.5	131139
1,2-Dichlorobenzene	ND	0.5	131139
1,2-Dibromo-3-Chloropropane	ND	2.0	131139
1,2,4-Trichlorobenzene	ND	0.5	131139
Hexachlorobutadiene	ND	2.0	131139
Naphthalene	ND	2.0	131139
1,2,3-Trichlorobenzene	ND	0.5	131139

Surrogate	%REC	Limits	Batch#
Dibromofluoromethane	108	80-122	131139
1,2-Dichloroethane-d4	117	74-137	131139
Toluene-d8	97	80-120	131139
Bromofluorobenzene	107	80-120	131139

ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198608	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	MW-1-102207	Diln Fac:	1.000
Lab ID:	198608-006	Sampled:	10/22/07
Matrix:	Water	Received:	10/22/07
Units:	ug/L	Analyzed:	10/31/07

Analyte	Result	RL	Batch#
Gasoline C7-C12	ND	50	131144
Freon 12	ND	1.0	131139
tert-Butyl Alcohol (TBA)	ND	10	131139
Chloromethane	ND	1.0	131139
Isopropyl Ether (DIPE)	ND	0.5	131139
Vinyl Chloride	ND	0.5	131139
Bromomethane	ND	1.0	131139
Ethyl tert-Butyl Ether (ETBE)	ND	0.5	131139
Chloroethane	ND	1.0	131139
Methyl tert-Amyl Ether (TAME)	ND	0.5	131139
Trichlorofluoromethane	ND	1.0	131139
Acetone	ND	10	131139
Freon 113	ND	5.0	131139
1,1-Dichloroethene	ND	0.5	131139
Methylene Chloride	ND	5.0	131139
Carbon Disulfide	ND	0.5	131139
MTBE	ND	0.5	131139
trans-1,2-Dichloroethene	ND	0.5	131139
Vinyl Acetate	ND	10	131139
1,1-Dichloroethane	ND	0.5	131139
2-Butanone	ND	10	131139
cis-1,2-Dichloroethene	ND	0.5	131139
2,2-Dichloropropane	ND	0.5	131139
Chloroform	ND	0.5	131139
Bromochloromethane	ND	0.5	131139
1,1,1-Trichloroethane	ND	0.5	131139
1,1-Dichloropropene	ND	0.5	131139
Carbon Tetrachloride	ND	0.5	131139
1,2-Dichloroethane	ND	0.5	131139
Benzene	ND	0.5	131139
Trichloroethene	ND	0.5	131139
1,2-Dichloropropane	ND	0.5	131139
Bromodichloromethane	ND	0.5	131139
Dibromomethane	ND	0.5	131139
4-Methyl-2-Pentanone	ND	10	131139
cis-1,3-Dichloropropene	ND	0.5	131139
Toluene	ND	0.5	131139
trans-1,3-Dichloropropene	ND	0.5	131139
1,1,2-Trichloroethane	ND	0.5	131139
2-Hexanone	ND	10	131139
1,3-Dichloropropane	ND	0.5	131139
Tetrachloroethene	ND	0.5	131139
Dibromochloromethane	ND	0.5	131139
1,2-Dibromoethane	ND	0.5	131139
Chlorobenzene	ND	0.5	131139
1,1,1,2-Tetrachloroethane	ND	0.5	131139
Ethylbenzene	ND	0.5	131139
m,p-Xylenes	ND	0.5	131139
o-Xylene	ND	0.5	131139
Styrene	ND	0.5	131139
Bromoform	ND	1.0	131139
Isopropylbenzene	ND	0.5	131139
1,1,2,2-Tetrachloroethane	ND	0.5	131139
1,2,3-Trichloropropane	ND	0.5	131139
Propylbenzene	ND	0.5	131139

ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198608	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	MW-1-102207	Diln Fac:	1.000
Lab ID:	198608-006	Sampled:	10/22/07
Matrix:	Water	Received:	10/22/07
Units:	ug/L	Analyzed:	10/31/07

Analyte	Result	RL	Batch#
Bromobenzene	ND	0.5	131139
1,3,5-Trimethylbenzene	ND	0.5	131139
2-Chlorotoluene	ND	0.5	131139
4-Chlorotoluene	ND	0.5	131139
tert-Butylbenzene	ND	0.5	131139
1,2,4-Trimethylbenzene	ND	0.5	131139
sec-Butylbenzene	ND	0.5	131139
para-Isopropyl Toluene	ND	0.5	131139
1,3-Dichlorobenzene	ND	0.5	131139
1,4-Dichlorobenzene	ND	0.5	131139
n-Butylbenzene	ND	0.5	131139
1,2-Dichlorobenzene	ND	0.5	131139
1,2-Dibromo-3-Chloropropane	ND	2.0	131139
1,2,4-Trichlorobenzene	ND	0.5	131139
Hexachlorobutadiene	ND	2.0	131139
Naphthalene	ND	2.0	131139
1,2,3-Trichlorobenzene	ND	0.5	131139

Surrogate	%REC	Limits	Batch#
Dibromofluoromethane	106	80-122	131139
1,2-Dichloroethane-d4	116	74-137	131139
Toluene-d8	96	80-120	131139
Bromofluorobenzene	108	80-120	131139

ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198608	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	MW-2-102207	Diln Fac:	1.000
Lab ID:	198608-007	Sampled:	10/22/07
Matrix:	Water	Received:	10/22/07
Units:	ug/L	Analyzed:	10/31/07

Analyte	Result	RL	Batch#
Gasoline C7-C12	ND	50	131144
Freon 12	ND	1.0	131139
tert-Butyl Alcohol (TBA)	ND	10	131139
Chloromethane	ND	1.0	131139
Isopropyl Ether (DIPE)	ND	0.5	131139
Vinyl Chloride	ND	0.5	131139
Bromomethane	ND	1.0	131139
Ethyl tert-Butyl Ether (ETBE)	ND	0.5	131139
Chloroethane	ND	1.0	131139
Methyl tert-Amyl Ether (TAME)	ND	0.5	131139
Trichlorofluoromethane	ND	1.0	131139
Acetone	ND	10	131139
Freon 113	ND	5.0	131139
1,1-Dichloroethene	ND	0.5	131139
Methylene Chloride	ND	5.0	131139
Carbon Disulfide	ND	0.5	131139
MTBE	ND	0.5	131139
trans-1,2-Dichloroethene	ND	0.5	131139
Vinyl Acetate	ND	10	131139
1,1-Dichloroethane	ND	0.5	131139
2-Butanone	ND	10	131139
cis-1,2-Dichloroethene	ND	0.5	131139
2,2-Dichloropropane	ND	0.5	131139
Chloroform	ND	0.5	131139
Bromochloromethane	ND	0.5	131139
1,1,1-Trichloroethane	ND	0.5	131139
1,1-Dichloropropene	ND	0.5	131139
Carbon Tetrachloride	ND	0.5	131139
1,2-Dichloroethane	ND	0.5	131139
Benzene	ND	0.5	131139
Trichloroethene	ND	0.5	131139
1,2-Dichloropropane	ND	0.5	131139
Bromodichloromethane	ND	0.5	131139
Dibromomethane	ND	0.5	131139
4-Methyl-2-Pentanone	ND	10	131139
cis-1,3-Dichloropropene	ND	0.5	131139
Toluene	ND	0.5	131139
trans-1,3-Dichloropropene	ND	0.5	131139
1,1,2-Trichloroethane	ND	0.5	131139
2-Hexanone	ND	10	131139
1,3-Dichloropropane	ND	0.5	131139
Tetrachloroethene	ND	0.5	131139
Dibromochloromethane	ND	0.5	131139
1,2-Dibromoethane	ND	0.5	131139
Chlorobenzene	ND	0.5	131139
1,1,1,2-Tetrachloroethane	ND	0.5	131139
Ethylbenzene	ND	0.5	131139
m,p-Xylenes	ND	0.5	131139
o-Xylene	ND	0.5	131139
Styrene	ND	0.5	131139
Bromoform	ND	1.0	131139
Isopropylbenzene	ND	0.5	131139
1,1,2,2-Tetrachloroethane	ND	0.5	131139
1,2,3-Trichloropropane	ND	0.5	131139
Propylbenzene	ND	0.5	131139

ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198608	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	MW-2-102207	Diln Fac:	1.000
Lab ID:	198608-007	Sampled:	10/22/07
Matrix:	Water	Received:	10/22/07
Units:	ug/L	Analyzed:	10/31/07

Analyte	Result	RL	Batch#
Bromobenzene	ND	0.5	131139
1,3,5-Trimethylbenzene	ND	0.5	131139
2-Chlorotoluene	ND	0.5	131139
4-Chlorotoluene	ND	0.5	131139
tert-Butylbenzene	ND	0.5	131139
1,2,4-Trimethylbenzene	ND	0.5	131139
sec-Butylbenzene	ND	0.5	131139
para-Isopropyl Toluene	ND	0.5	131139
1,3-Dichlorobenzene	ND	0.5	131139
1,4-Dichlorobenzene	ND	0.5	131139
n-Butylbenzene	ND	0.5	131139
1,2-Dichlorobenzene	ND	0.5	131139
1,2-Dibromo-3-Chloropropane	ND	2.0	131139
1,2,4-Trichlorobenzene	ND	0.5	131139
Hexachlorobutadiene	ND	2.0	131139
Naphthalene	ND	2.0	131139
1,2,3-Trichlorobenzene	ND	0.5	131139

Surrogate	%REC	Limits	Batch#
Dibromofluoromethane	109	80-122	131139
1,2-Dichloroethane-d4	122	74-137	131139
Toluene-d8	97	80-120	131139
Bromofluorobenzene	107	80-120	131139



Gasoline by GC/MS			
Lab #:	198608	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	MW-3-102207	Diln Fac:	1.000
Lab ID:	198608-008	Sampled:	10/22/07
Matrix:	Water	Received:	10/22/07
Units:	ug/L	Analyzed:	10/31/07

Analyte	Result	RL	Batch#
Gasoline C7-C12	ND	50	131144
Freon 12	ND	1.0	131139
tert-Butyl Alcohol (TBA)	ND	10	131139
Chloromethane	ND	1.0	131139
Isopropyl Ether (DIPE)	ND	0.5	131139
Vinyl Chloride	ND	0.5	131139
Bromomethane	ND	1.0	131139
Ethyl tert-Butyl Ether (ETBE)	ND	0.5	131139
Chloroethane	ND	1.0	131139
Methyl tert-Amyl Ether (TAME)	ND	0.5	131139
Trichlorofluoromethane	ND	1.0	131139
Acetone	ND	10	131139
Freon 113	ND	5.0	131139
1,1-Dichloroethene	ND	0.5	131139
Methylene Chloride	ND	5.0	131139
Carbon Disulfide	ND	0.5	131139
MTBE	ND	0.5	131139
trans-1,2-Dichloroethene	ND	0.5	131139
Vinyl Acetate	ND	10	131139
1,1-Dichloroethane	ND	0.5	131139
2-Butanone	ND	10	131139
cis-1,2-Dichloroethene	ND	0.5	131139
2,2-Dichloropropane	ND	0.5	131139
Chloroform	ND	0.5	131139
Bromochloromethane	ND	0.5	131139
1,1,1-Trichloroethane	ND	0.5	131139
1,1-Dichloropropene	ND	0.5	131139
Carbon Tetrachloride	ND	0.5	131139
1,2-Dichloroethane	ND	0.5	131139
Benzene	ND	0.5	131139
Trichloroethene	ND	0.5	131139
1,2-Dichloropropane	ND	0.5	131139
Bromodichloromethane	ND	0.5	131139
Dibromomethane	ND	0.5	131139
4-Methyl-2-Pentanone	ND	10	131139
cis-1,3-Dichloropropene	ND	0.5	131139
Toluene	0.3 J	0.5	131139
trans-1,3-Dichloropropene	ND	0.5	131139
1,1,2-Trichloroethane	ND	0.5	131139
2-Hexanone	ND	10	131139
1,3-Dichloropropane	ND	0.5	131139
Tetrachloroethene	ND	0.5	131139
Dibromochloromethane	ND	0.5	131139
1,2-Dibromoethane	ND	0.5	131139
Chlorobenzene	ND	0.5	131139
1,1,1,2-Tetrachloroethane	ND	0.5	131139
Ethylbenzene	ND	0.5	131139
m,p-Xylenes	ND	0.5	131139
o-Xylene	ND	0.5	131139
Styrene	ND	0.5	131139
Bromoform	ND	1.0	131139
Isopropylbenzene	ND	0.5	131139
1,1,2,2-Tetrachloroethane	ND	0.5	131139
1,2,3-Trichloropropane	ND	0.5	131139

J= Estimated value  
 ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198608	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	MW-3-102207	Diln Fac:	1.000
Lab ID:	198608-008	Sampled:	10/22/07
Matrix:	Water	Received:	10/22/07
Units:	ug/L	Analyzed:	10/31/07

Analyte	Result	RL	Batch#
Propylbenzene	ND	0.5	131139
Bromobenzene	ND	0.5	131139
1,3,5-Trimethylbenzene	ND	0.5	131139
2-Chlorotoluene	ND	0.5	131139
4-Chlorotoluene	ND	0.5	131139
tert-Butylbenzene	ND	0.5	131139
1,2,4-Trimethylbenzene	ND	0.5	131139
sec-Butylbenzene	ND	0.5	131139
para-Isopropyl Toluene	ND	0.5	131139
1,3-Dichlorobenzene	ND	0.5	131139
1,4-Dichlorobenzene	ND	0.5	131139
n-Butylbenzene	ND	0.5	131139
1,2-Dichlorobenzene	ND	0.5	131139
1,2-Dibromo-3-Chloropropane	ND	2.0	131139
1,2,4-Trichlorobenzene	ND	0.5	131139
Hexachlorobutadiene	ND	2.0	131139
Naphthalene	ND	2.0	131139
1,2,3-Trichlorobenzene	ND	0.5	131139

Surrogate	%REC	Limits	Batch#
Dibromofluoromethane	108	80-122	131139
1,2-Dichloroethane-d4	120	74-137	131139
Toluene-d8	99	80-120	131139
Bromofluorobenzene	107	80-120	131139

J= Estimated value  
 ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198608	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	MW-3-102207-D	Diln Fac:	1.000
Lab ID:	198608-009	Sampled:	10/22/07
Matrix:	Water	Received:	10/22/07
Units:	ug/L	Analyzed:	10/31/07

Analyte	Result	RL	Batch#
Gasoline C7-C12	ND	50	131144
Freon 12	ND	1.0	131139
tert-Butyl Alcohol (TBA)	ND	10	131139
Chloromethane	ND	1.0	131139
Isopropyl Ether (DIPE)	ND	0.5	131139
Vinyl Chloride	ND	0.5	131139
Bromomethane	ND	1.0	131139
Ethyl tert-Butyl Ether (ETBE)	ND	0.5	131139
Chloroethane	ND	1.0	131139
Methyl tert-Amyl Ether (TAME)	ND	0.5	131139
Trichlorofluoromethane	ND	1.0	131139
Acetone	ND	10	131139
Freon 113	ND	5.0	131139
1,1-Dichloroethene	ND	0.5	131139
Methylene Chloride	ND	5.0	131139
Carbon Disulfide	ND	0.5	131139
MTBE	ND	0.5	131139
trans-1,2-Dichloroethene	ND	0.5	131139
Vinyl Acetate	ND	10	131139
1,1-Dichloroethane	ND	0.5	131139
2-Butanone	ND	10	131139
cis-1,2-Dichloroethene	ND	0.5	131139
2,2-Dichloropropane	ND	0.5	131139
Chloroform	ND	0.5	131139
Bromochloromethane	ND	0.5	131139
1,1,1-Trichloroethane	ND	0.5	131139
1,1-Dichloropropene	ND	0.5	131139
Carbon Tetrachloride	ND	0.5	131139
1,2-Dichloroethane	ND	0.5	131139
Benzene	ND	0.5	131139
Trichloroethene	ND	0.5	131139
1,2-Dichloropropane	ND	0.5	131139
Bromodichloromethane	ND	0.5	131139
Dibromomethane	ND	0.5	131139
4-Methyl-2-Pentanone	ND	10	131139
cis-1,3-Dichloropropene	ND	0.5	131139
Toluene	0.3 J	0.5	131139
trans-1,3-Dichloropropene	ND	0.5	131139
1,1,2-Trichloroethane	ND	0.5	131139
2-Hexanone	ND	10	131139
1,3-Dichloropropane	ND	0.5	131139
Tetrachloroethene	ND	0.5	131139
Dibromochloromethane	ND	0.5	131139
1,2-Dibromoethane	ND	0.5	131139
Chlorobenzene	ND	0.5	131139
1,1,1,2-Tetrachloroethane	ND	0.5	131139
Ethylbenzene	ND	0.5	131139
m,p-Xylenes	ND	0.5	131139
o-Xylene	ND	0.5	131139
Styrene	ND	0.5	131139
Bromoform	ND	1.0	131139
Isopropylbenzene	ND	0.5	131139
1,1,2,2-Tetrachloroethane	ND	0.5	131139
1,2,3-Trichloropropane	ND	0.5	131139

J= Estimated value  
 ND= Not Detected  
 RL= Reporting Limit

Gasoline by GC/MS			
Lab #:	198608	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Field ID:	MW-3-102207-D	Diln Fac:	1.000
Lab ID:	198608-009	Sampled:	10/22/07
Matrix:	Water	Received:	10/22/07
Units:	ug/L	Analyzed:	10/31/07

Analyte	Result	RL	Batch#
Propylbenzene	ND	0.5	131139
Bromobenzene	ND	0.5	131139
1,3,5-Trimethylbenzene	ND	0.5	131139
2-Chlorotoluene	ND	0.5	131139
4-Chlorotoluene	ND	0.5	131139
tert-Butylbenzene	ND	0.5	131139
1,2,4-Trimethylbenzene	ND	0.5	131139
sec-Butylbenzene	ND	0.5	131139
para-Isopropyl Toluene	ND	0.5	131139
1,3-Dichlorobenzene	ND	0.5	131139
1,4-Dichlorobenzene	ND	0.5	131139
n-Butylbenzene	ND	0.5	131139
1,2-Dichlorobenzene	ND	0.5	131139
1,2-Dibromo-3-Chloropropane	ND	2.0	131139
1,2,4-Trichlorobenzene	ND	0.5	131139
Hexachlorobutadiene	ND	2.0	131139
Naphthalene	ND	2.0	131139
1,2,3-Trichlorobenzene	ND	0.5	131139

Surrogate	%REC	Limits	Batch#
Dibromofluoromethane	110	80-122	131139
1,2-Dichloroethane-d4	119	74-137	131139
Toluene-d8	98	80-120	131139
Bromofluorobenzene	106	80-120	131139

J= Estimated value  
 ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Gasoline by GC/MS</b>			
Lab #:	198608	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC413036	Batch#:	131139
Matrix:	Water	Analyzed:	10/31/07
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Gasoline C7-C12	NA	
Freon 12	ND	1.0
tert-Butyl Alcohol (TBA)	ND	10
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5

NA= Not Analyzed  
 ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Gasoline by GC/MS</b>			
Lab #:	198608	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC413036	Batch#:	131139
Matrix:	Water	Analyzed:	10/31/07
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

<b>Surrogate</b>	<b>%REC</b>	<b>Limits</b>
Dibromofluoromethane	107	80-122
1,2-Dichloroethane-d4	122	74-137
Toluene-d8	96	80-120
Bromofluorobenzene	105	80-120

NA= Not Analyzed  
 ND= Not Detected  
 RL= Reporting Limit

**Batch QC Report**

<b>Gasoline by GC/MS</b>			
Lab #:	198608	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	131139
Units:	ug/L	Analyzed:	10/31/07
Diln Fac:	1.000		

Type: BS Lab ID: QC413037

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	135.3	108	59-149
Isopropyl Ether (DIPE)	25.00	26.81	107	59-120
Ethyl tert-Butyl Ether (ETBE)	25.00	26.85	107	65-134
Methyl tert-Amyl Ether (TAME)	25.00	25.63	103	67-132
1,1-Dichloroethene	25.00	24.58	98	80-133
Benzene	25.00	23.88	96	80-120
Trichloroethene	25.00	26.76	107	80-120
Toluene	25.00	24.45	98	80-122
Chlorobenzene	25.00	24.05	96	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-122
1,2-Dichloroethane-d4	115	74-137
Toluene-d8	97	80-120
Bromofluorobenzene	102	80-120

Type: BSD Lab ID: QC413038

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	137.3	110	59-149	1	20
Isopropyl Ether (DIPE)	25.00	27.32	109	59-120	2	20
Ethyl tert-Butyl Ether (ETBE)	25.00	27.02	108	65-134	1	20
Methyl tert-Amyl Ether (TAME)	25.00	24.58	98	67-132	4	20
1,1-Dichloroethene	25.00	23.64	95	80-133	4	20
Benzene	25.00	23.45	94	80-120	2	20
Trichloroethene	25.00	26.83	107	80-120	0	20
Toluene	25.00	23.12	92	80-122	6	20
Chlorobenzene	25.00	23.47	94	80-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-122
1,2-Dichloroethane-d4	116	74-137
Toluene-d8	96	80-120
Bromofluorobenzene	101	80-120

**Batch QC Report**

<b>Gasoline by GC/MS</b>			
Lab #:	198608	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC413056	Batch#:	131144
Matrix:	Water	Analyzed:	10/31/07
Units:	ug/L		

<b>Analyte</b>	<b>Result</b>	<b>RL</b>
Gasoline C7-C12	ND	50
Freon 12	NA	
tert-Butyl Alcohol (TBA)	NA	
Chloromethane	NA	
Isopropyl Ether (DIPE)	NA	
Vinyl Chloride	NA	
Bromomethane	NA	
Ethyl tert-Butyl Ether (ETBE)	NA	
Chloroethane	NA	
Methyl tert-Amyl Ether (TAME)	NA	
Trichlorofluoromethane	NA	
Acetone	NA	
Freon 113	NA	
1,1-Dichloroethene	NA	
Methylene Chloride	NA	
Carbon Disulfide	NA	
MTBE	NA	
trans-1,2-Dichloroethene	NA	
Vinyl Acetate	NA	
1,1-Dichloroethane	NA	
2-Butanone	NA	
cis-1,2-Dichloroethene	NA	
2,2-Dichloropropane	NA	
Chloroform	NA	
Bromochloromethane	NA	
1,1,1-Trichloroethane	NA	
1,1-Dichloropropene	NA	
Carbon Tetrachloride	NA	
1,2-Dichloroethane	NA	
Benzene	NA	
Trichloroethene	NA	
1,2-Dichloropropane	NA	
Bromodichloromethane	NA	
Dibromomethane	NA	
4-Methyl-2-Pentanone	NA	
cis-1,3-Dichloropropene	NA	
Toluene	NA	
trans-1,3-Dichloropropene	NA	
1,1,2-Trichloroethane	NA	
2-Hexanone	NA	
1,3-Dichloropropane	NA	
Tetrachloroethene	NA	
Dibromochloromethane	NA	
1,2-Dibromoethane	NA	
Chlorobenzene	NA	
1,1,1,2-Tetrachloroethane	NA	
Ethylbenzene	NA	
m,p-Xylenes	NA	
o-Xylene	NA	
Styrene	NA	
Bromoform	NA	
Isopropylbenzene	NA	

\*= Value outside of QC limits; see narrative

NA= Not Analyzed

ND= Not Detected

RL= Reporting Limit



## Batch QC Report

Gasoline by GC/MS			
Lab #:	198608	Location:	Hanson Radum
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC413056	Batch#:	131144
Matrix:	Water	Analyzed:	10/31/07
Units:	ug/L		

Analyte	Result	RL
1,1,2,2-Tetrachloroethane	NA	
1,2,3-Trichloropropane	NA	
Propylbenzene	NA	
Bromobenzene	NA	
1,3,5-Trimethylbenzene	NA	
2-Chlorotoluene	NA	
4-Chlorotoluene	NA	
tert-Butylbenzene	NA	
1,2,4-Trimethylbenzene	NA	
sec-Butylbenzene	NA	
para-Isopropyl Toluene	NA	
1,3-Dichlorobenzene	NA	
1,4-Dichlorobenzene	NA	
n-Butylbenzene	NA	
1,2-Dichlorobenzene	NA	
1,2-Dibromo-3-Chloropropane	NA	
1,2,4-Trichlorobenzene	NA	
Hexachlorobutadiene	NA	
Naphthalene	NA	
1,2,3-Trichlorobenzene	NA	

Surrogate	%REC	Limits
Dibromofluoromethane	74 *	80-122
1,2-Dichloroethane-d4	78	74-137
Toluene-d8	84	80-120
Bromofluorobenzene	101	80-120

\*= Value outside of QC limits; see narrative

NA= Not Analyzed

ND= Not Detected

RL= Reporting Limit

## Batch QC Report

Gasoline by GC/MS			
Lab #:	198608	Location:	Hanson Radium
Client:	LFR Levine Fricke	Prep:	EPA 5030B
Project#:	001-09567-04	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	131144
Units:	ug/L	Analyzed:	10/31/07
Diln Fac:	1.000		

Type: BS Lab ID: QC413057

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,069	107	70-130

Surrogate	%REC	Limits
Dibromofluoromethane	74 *	80-122
1,2-Dichloroethane-d4	81	74-137
Toluene-d8	87	80-120
Bromofluorobenzene	95	80-120

Type: BSD Lab ID: QC413058

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	1,022	102	70-130	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	71 *	80-122
1,2-Dichloroethane-d4	76	74-137
Toluene-d8	87	80-120
Bromofluorobenzene	95	80-120

\*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference



**forensics**

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## Houson Radum

Report Prepared for:

LFR Levine-Fricke  
1900 Powell Street, 12<sup>th</sup> Floor  
Emeryville, CA 94608

Report Prepared By:  
Alan Jeffrey, PhD

ZymaX forensics 71 Zaca Ln San Luis Obispo CA 93401

23 October 2007

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METHODOLOGY	3
CHARACTERIZATION AND COMPARISON OF PRODUCT SAMPLES	4
CONCLUSIONS	5

## Introduction

One oily solid sample, labeled Oil-FP, and one soil sample labeled B-25a-34.0 were received at ZymaX on October 9, 2007 for characterization and comparison of the petroleum products in the samples. GC/MS Full Scan analysis was performed on dichloromethane extracts of the samples.

The complete laboratory data report is presented as an Appendix to this report.

## Methodology

### GC/MS Full Scan analysis

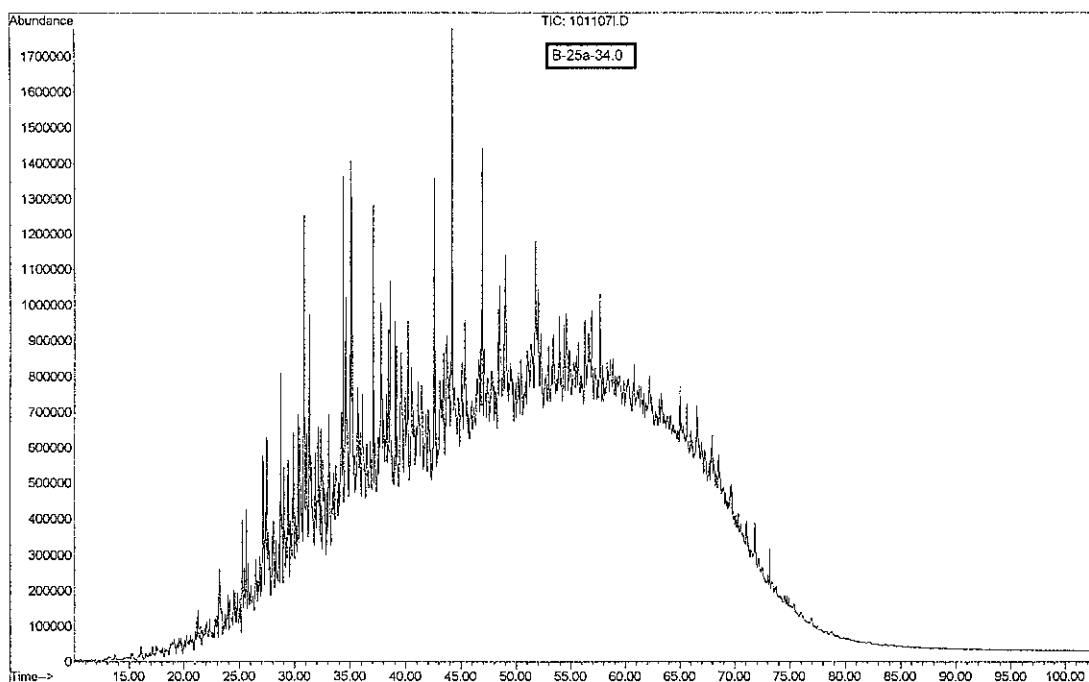
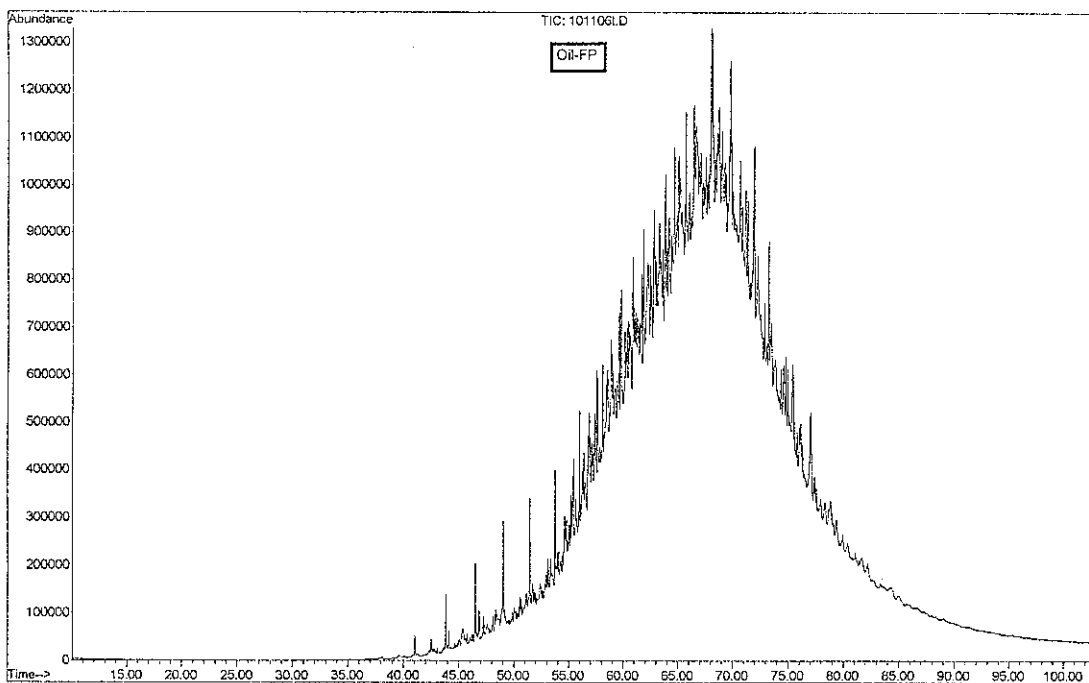
Water samples are extracted with methylene chloride solvent and the solvent extract concentrated. Soil samples are sonicated with methylene chloride solvent and the solvent extract concentrated. Extracts and products that are highly colored are cleaned by removing polar and asphaltene compounds in a silica gel column.

Extracts and product samples are directly injected into a GC equipped with a 60 meter DB1 column to separate the hydrocarbons, which are detected with a mass spectrometer (MS) in full scan mode, interfaced to the GC. Hydrocarbons in the range of C<sub>10</sub> to C<sub>40</sub> are identified. By scanning the ion fragments shown in the following table, chromatograms of a number of classes of hydrocarbons are generated. Aromatic hydrocarbons are identified by scanning over a large number of ion fragments, and the results are normalized in a bar diagram.

ION (M/Z)	COMPOUND CLASS
TIC	All Compounds
85	n-Alkanes
113	Iso-Alkanes and Isoprenoids
83	Alkylcyclohexanes
134	C <sub>4</sub> -benzenes
123	Bicyclanes
191	Terpanes
217	Steranes
253	Monoaromatic Steranes
231	Triaromatic Steranes
Bar Diagram	Aromatic Hydrocarbon Distribution

## Characterization and Comparison of Product Samples

The Total Ion Chromatograms (TIC) from the GC/MS analysis of the two samples are shown below. The TICs represent fingerprints of the hydrocarbons in the samples, and show that the hydrocarbon distributions in the two samples are quite different.



Oil-FP has a relatively narrow distribution from about 50 min to over 80 min retention time. This, and the patterns of the hydrocarbon classes, alkanes, alkylcyclohexanes, and aromatics, shown in the Appendix, are characteristic of a heavy petroleum distillate, such as lubricating oil or hydraulic oil. Soil sample B-25a-34.0 has a broader distribution from about 25 min to over 75 min retention time. A distribution like this is characteristic of crude oil, or a residual fuel such as #6 fuel oil. The absence of n-alkanes in B-25a-34.0 indicates that the product is degraded, and has been in the ground for a considerable period of time. The presence of n-alkanes, shown in the Appendix, in Oil-FP indicates that this was a more recent release.

## Conclusions

Oil-FP and soil sample B-25a-34.0 contain quite different petroleum hydrocarbons.

Oil-FP is a heavy petroleum distillate, such as lubricating oil or hydraulic oil. Soil sample B-25a-34.0 most likely contains degraded crude oil. Oil-FP is less degraded and represents a more recent release.

**APPENDIX**  
**Analytical Data**





REPORT OF ANALYTICAL RESULTS



Client: **Katrin Schliewen**  
**LFR Levine-Fricke**  
**1900 Powell Street, 12th Floor**  
**Emeryville, CA 94608**

Lab Number: **40717**  
 Collected: **10/08/07**  
 Received: **10/09/07**  
 Matrix: **Soil**

Project: **Houson Radum**  
 Project Number: **001-09567-04**  
 Collected by: **Michael Sullivan**

Sample Description: **See Attached Data**  
 Analyzed: **10/11/07**  
 Method: **GC/MS**

**GC/MS FULL SCAN**

ION (M/Z)	Mass Chromatograms	COMPOUND CLASS
-----------	--------------------	----------------

TIC		All compounds
85		n-Alkanes
113		Iso-Alkanes and Isoprenoids
83		Alkylcyclohexanes
134		C <sub>4</sub> -benzenes
123		Bicyclanes
191		Terpanes
217		Steranes
253		Monoaromatic steranes
231		Triaromatic steranes
Bar diagram		Aromatic Hydrocarbon Distribution

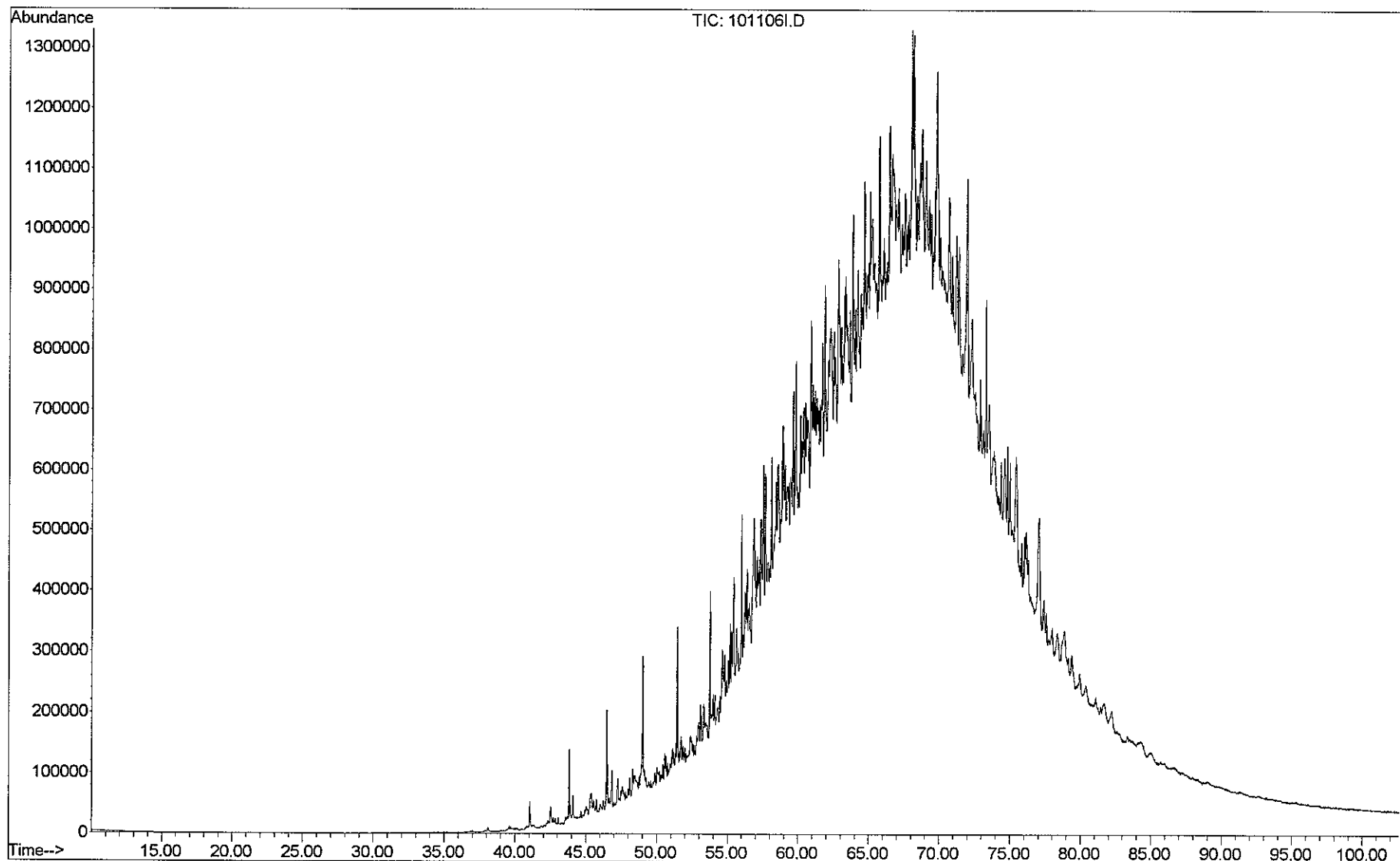
note: Chromatograms and data follow this cover page.

Submitted by,  
 Zymax Forensics, a DPRA Company

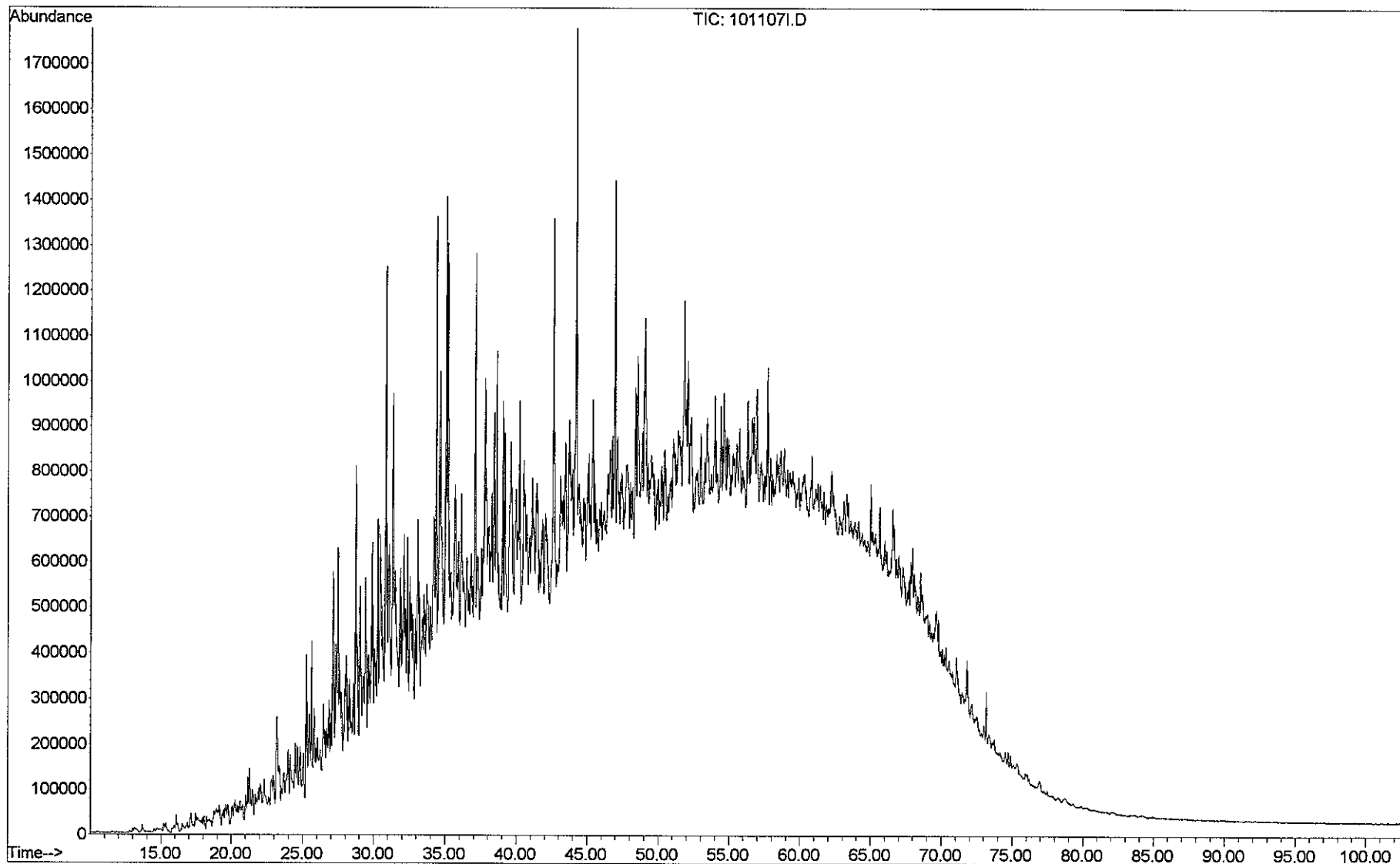
Shan-Tan Lu, Ph.D.  
 Director of Forensic Geochemistry

4-717.xls  
 STL

Sample Name: Oil-FP (40717-1) product  
Misc Info : Houson Radum, LFR (dilution)



Sample Name: B-25a-34.0 (40717-2) soil extract  
Misc Info : Houson Radum, LFR



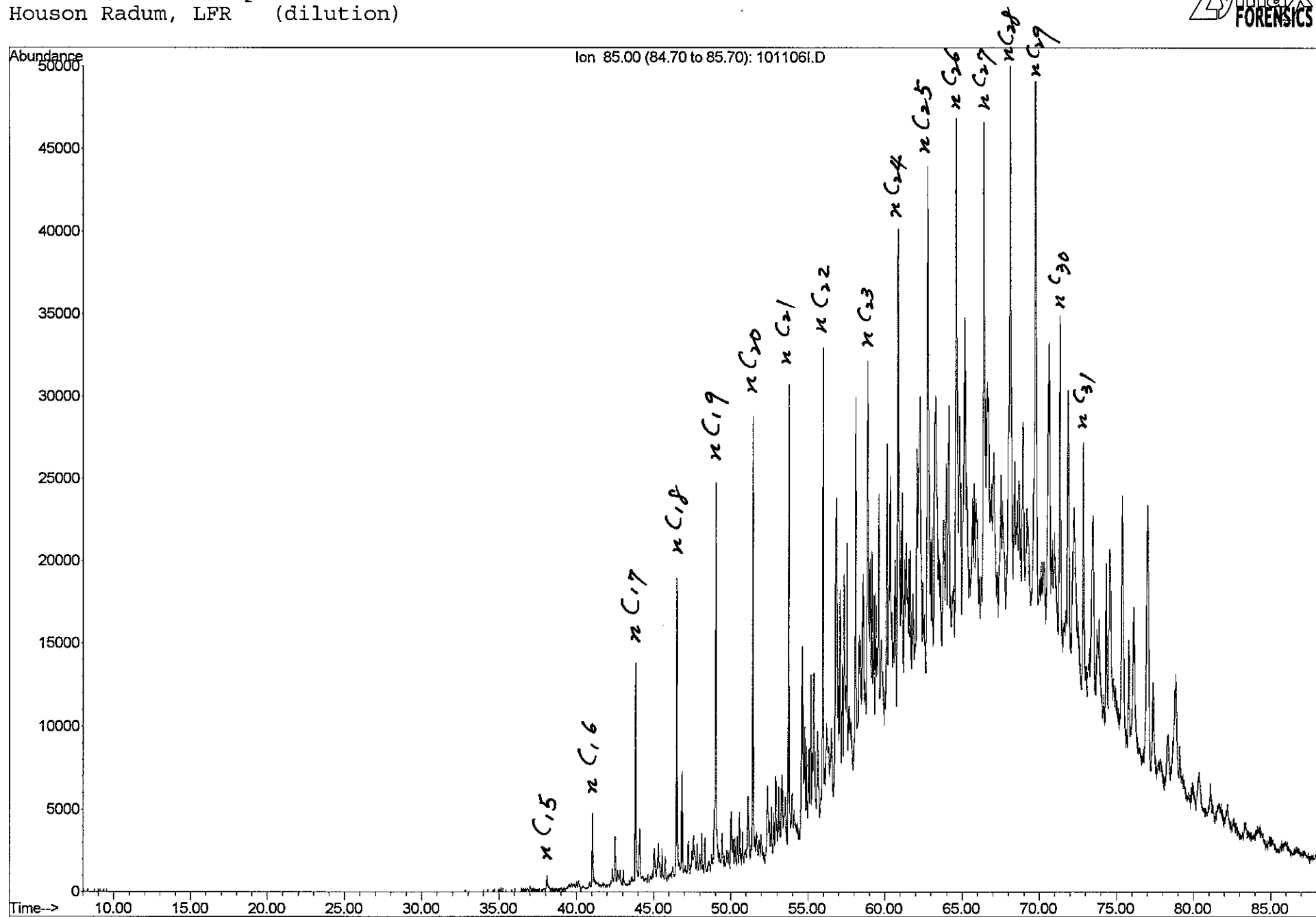
## Table

**Key to Chromatogram Symbol Identification  
for m/z 85 and m/z 113 Paraffins and Isoparaffins**

Symbol	Detail
i-10	iso-alkane with 10 carbon atoms
i-15	Farnesane (isoprenoid with 15 carbon atoms)
i-16	Isoprenoid with 16 carbon atoms
Pr	Pristane (isoprenoid with 19 carbon atoms)
Ph	Phytane (isoprenoid with 20 carbon atoms)
nC <sub>8</sub>	n-C <sub>8</sub> normal alkane
nC <sub>15</sub>	n-C <sub>15</sub> normal alkane
i-8	2,5-(2,4)-Dimethylhexane
i-8'	2,3,4-Trimethylpentane
i-8''	2,3-Dimethylhexane
CH- <i>n</i>	Alkylcyclohexane (where <i>n</i> indicates number of carbon atoms in the side chain)

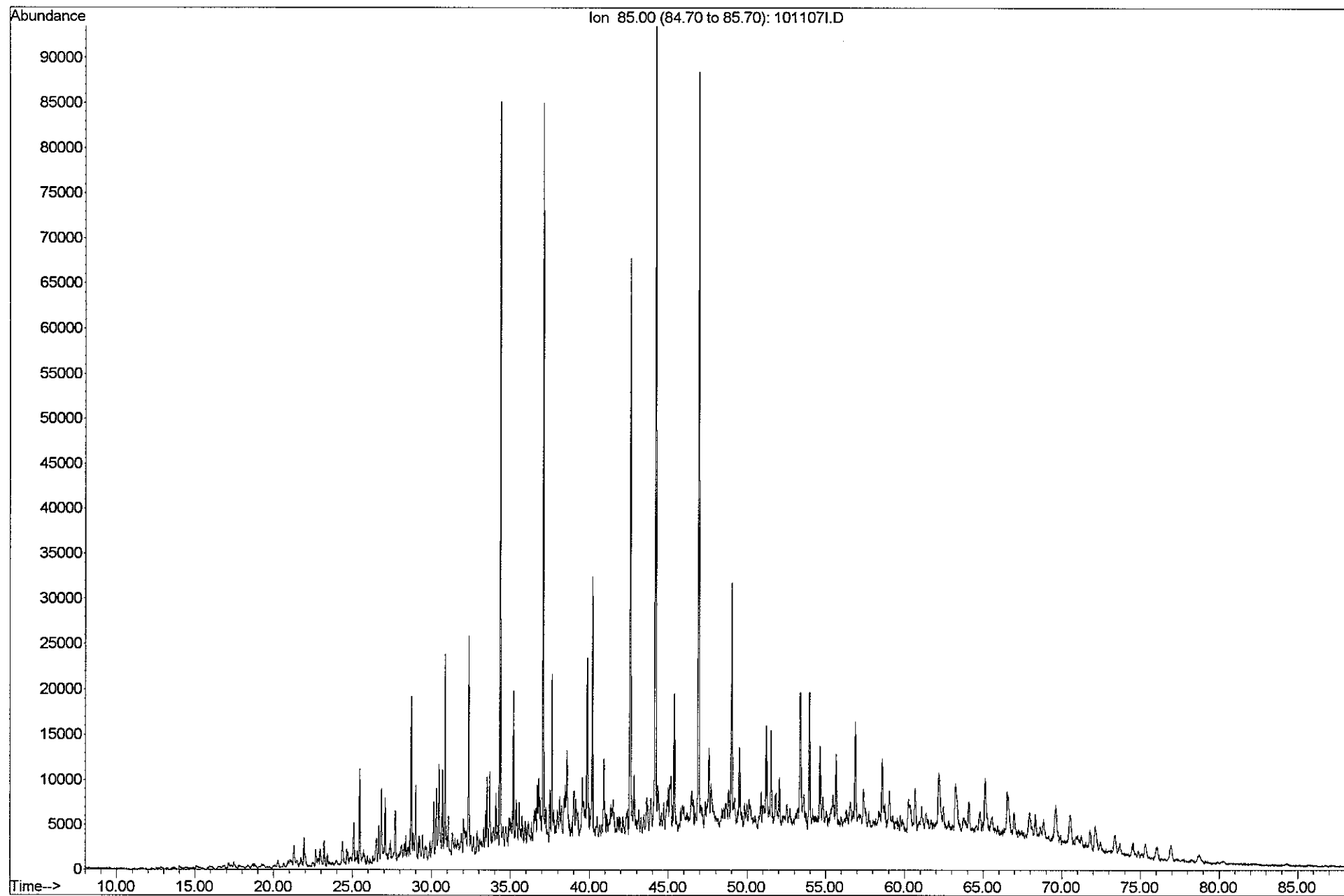
Oil-FP (40717-1) product  
Houson Radum, LFR (dilution)

ZymaX  
FORENSICS



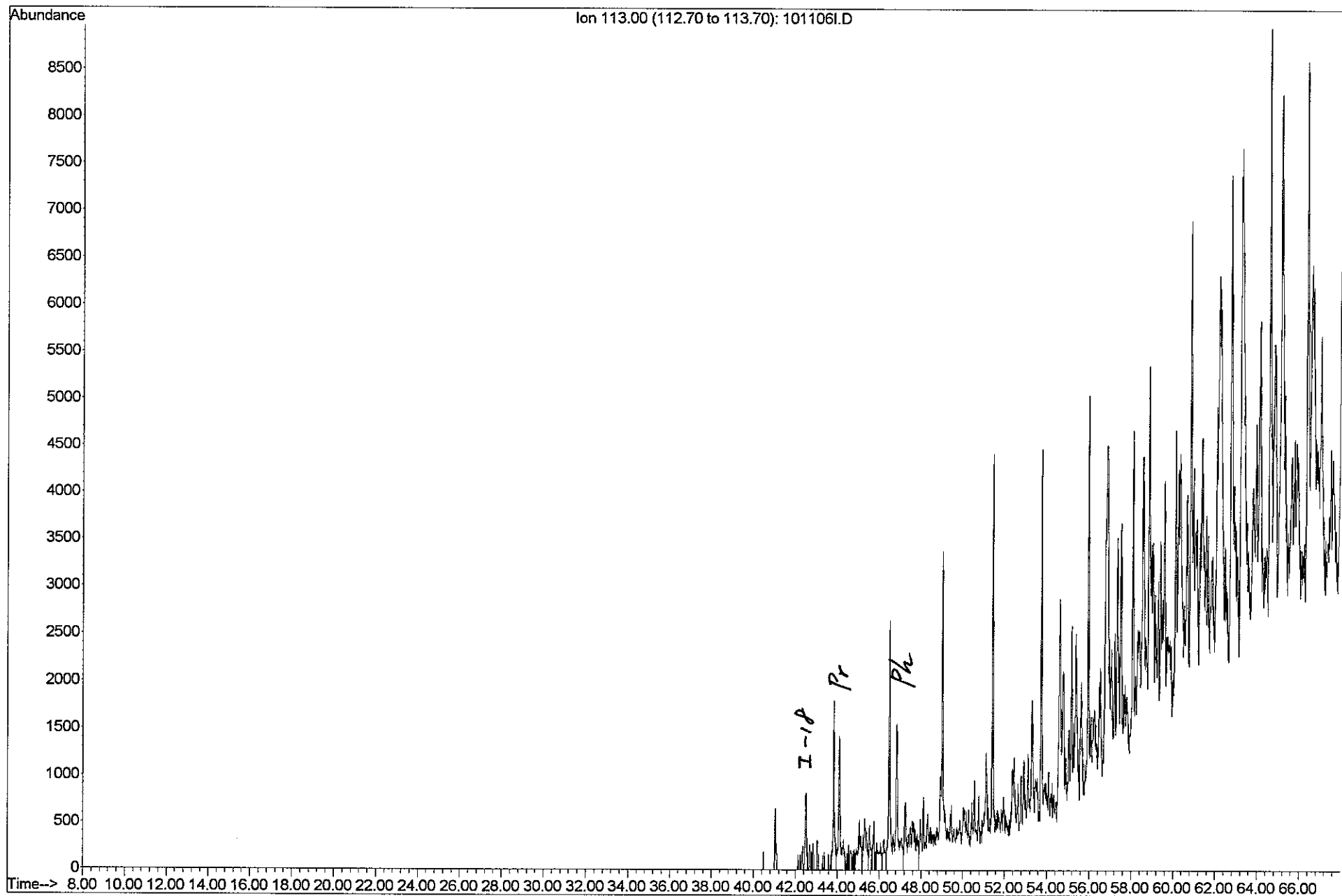
B-25a-34.0 (40717-2) soil extract  
Houson Radum, LFR

ZymaX  
FORENSICS

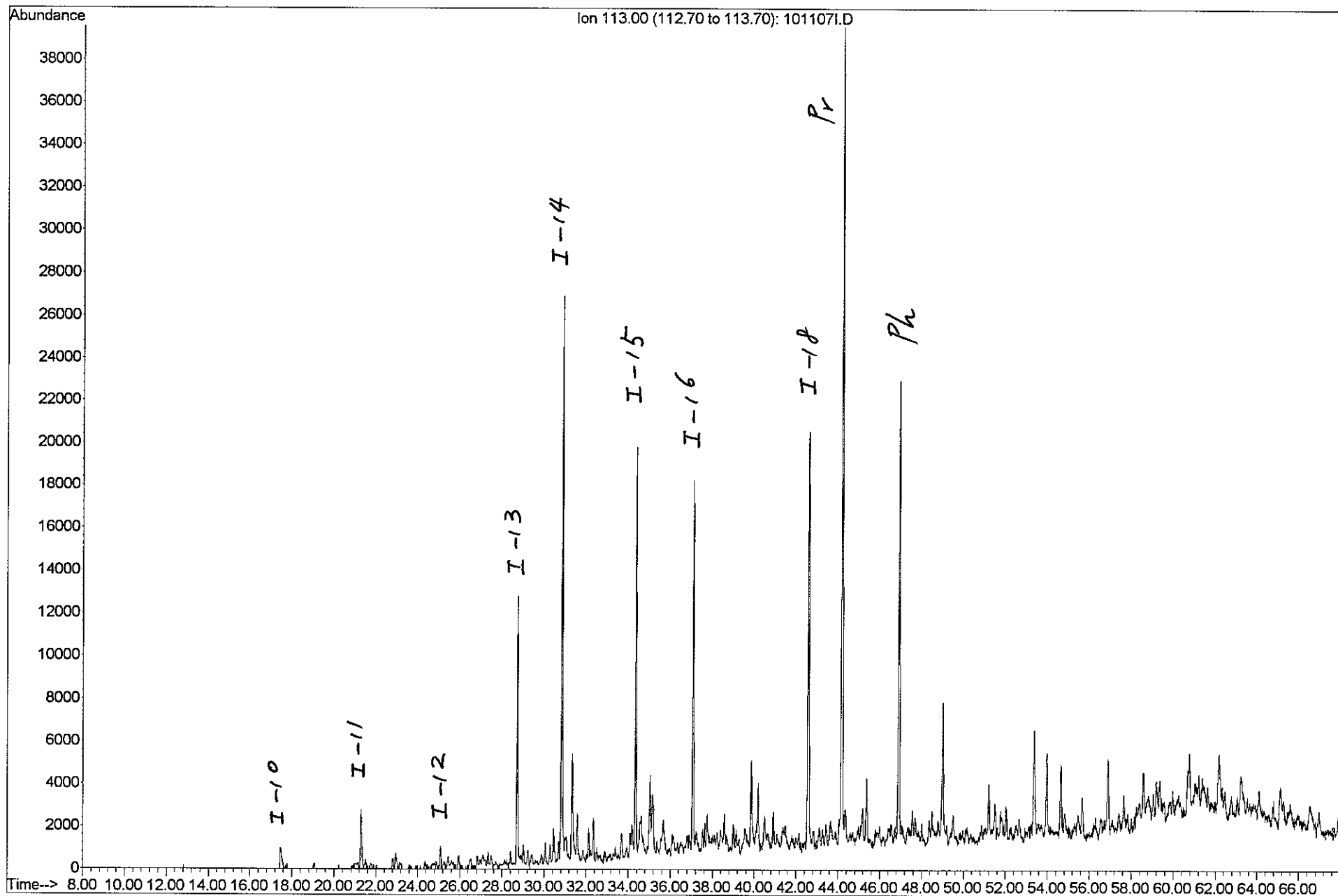


Oil-FP (40717-1) product  
Houson Radum, LFR (dilution)

ZymaX  
FORENSICS



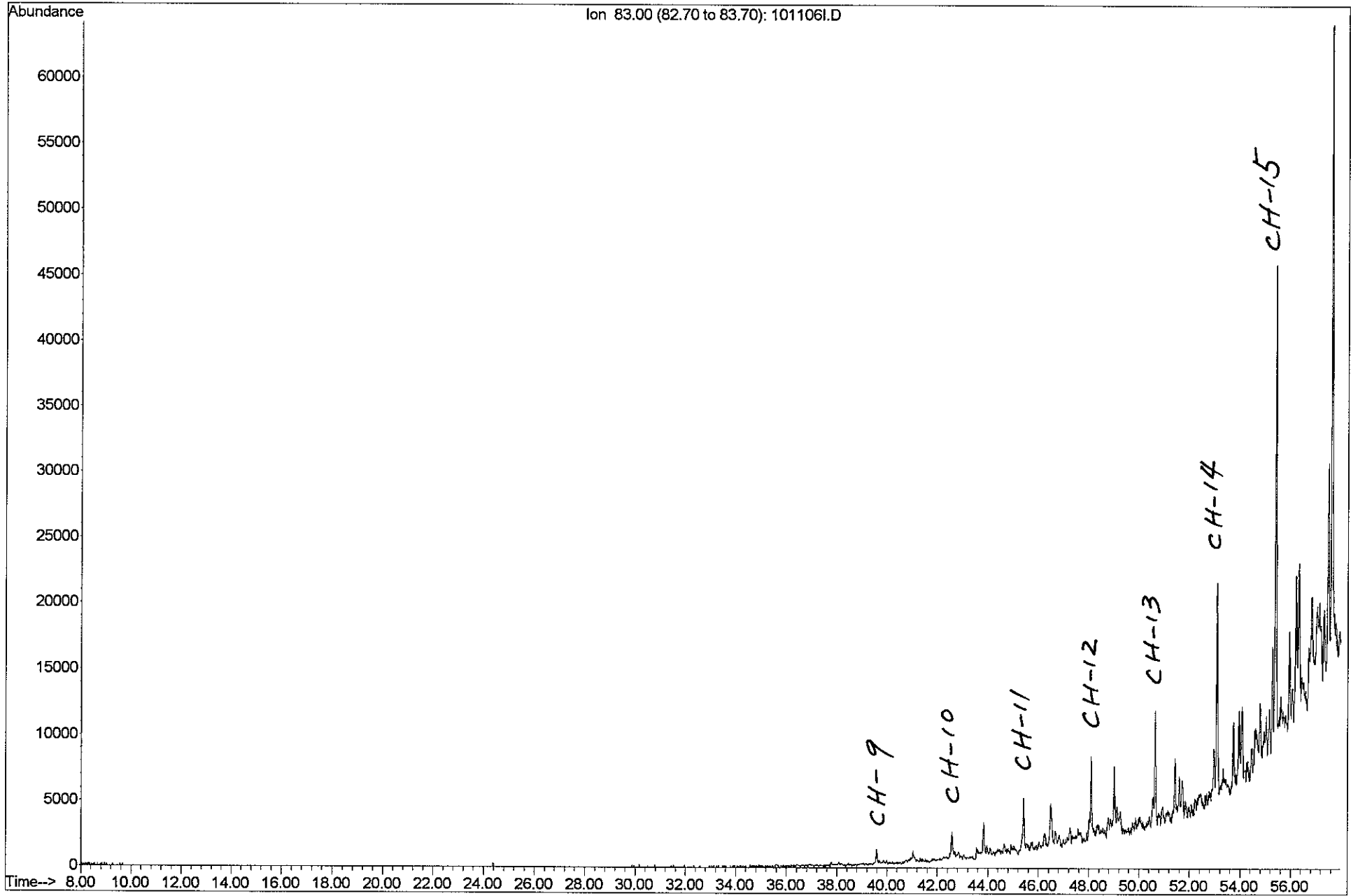


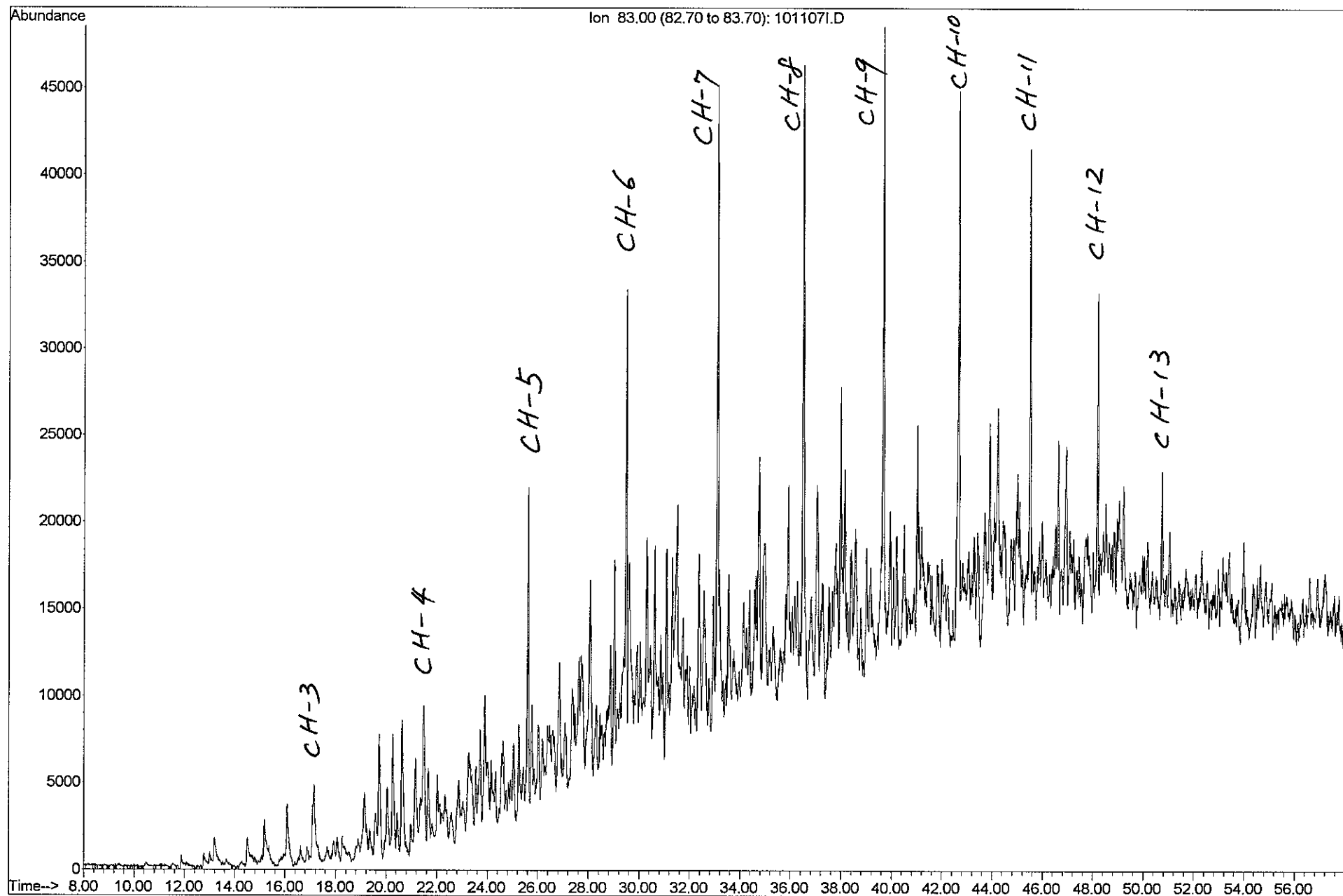


**Table****Key for Alkylcyclohexanes at m/z 83**

<b>Symbol</b>	<b>Detail</b>
CH-1:	Methylcyclohexane
CH-2:	Ethylcyclohexane
CH-3:	Propylcyclohexane
CH-4:	Butylcyclohexane
CH-5:	Pentylcyclohexane
CH-6:	Hexylcyclohexane
CH-7:	Heptylcyclohexane
CH-8:	Octylcyclohexane
CH-9:	Nonylcyclohexane
CH-10:	Decylcyclohexane
CH-11:	Undecylcyclohexane
CH-12:	Dodecylcyclohexane
CH-13:	Tridecylcyclohexane
CH-14:	Tetradecylcyclohexane

Oil-FP (40717-1) product  
Houson Radum, LFR (dilution)



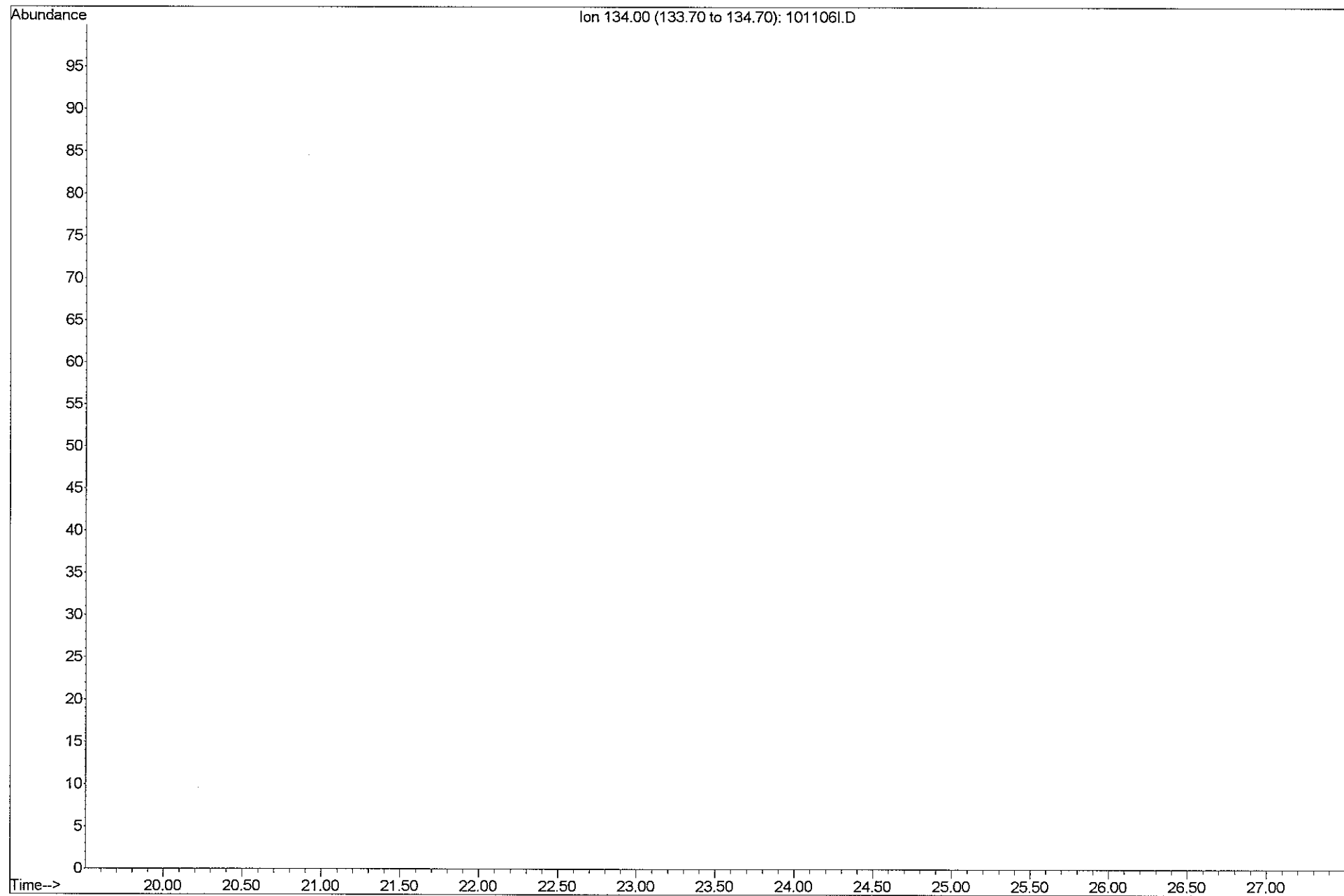


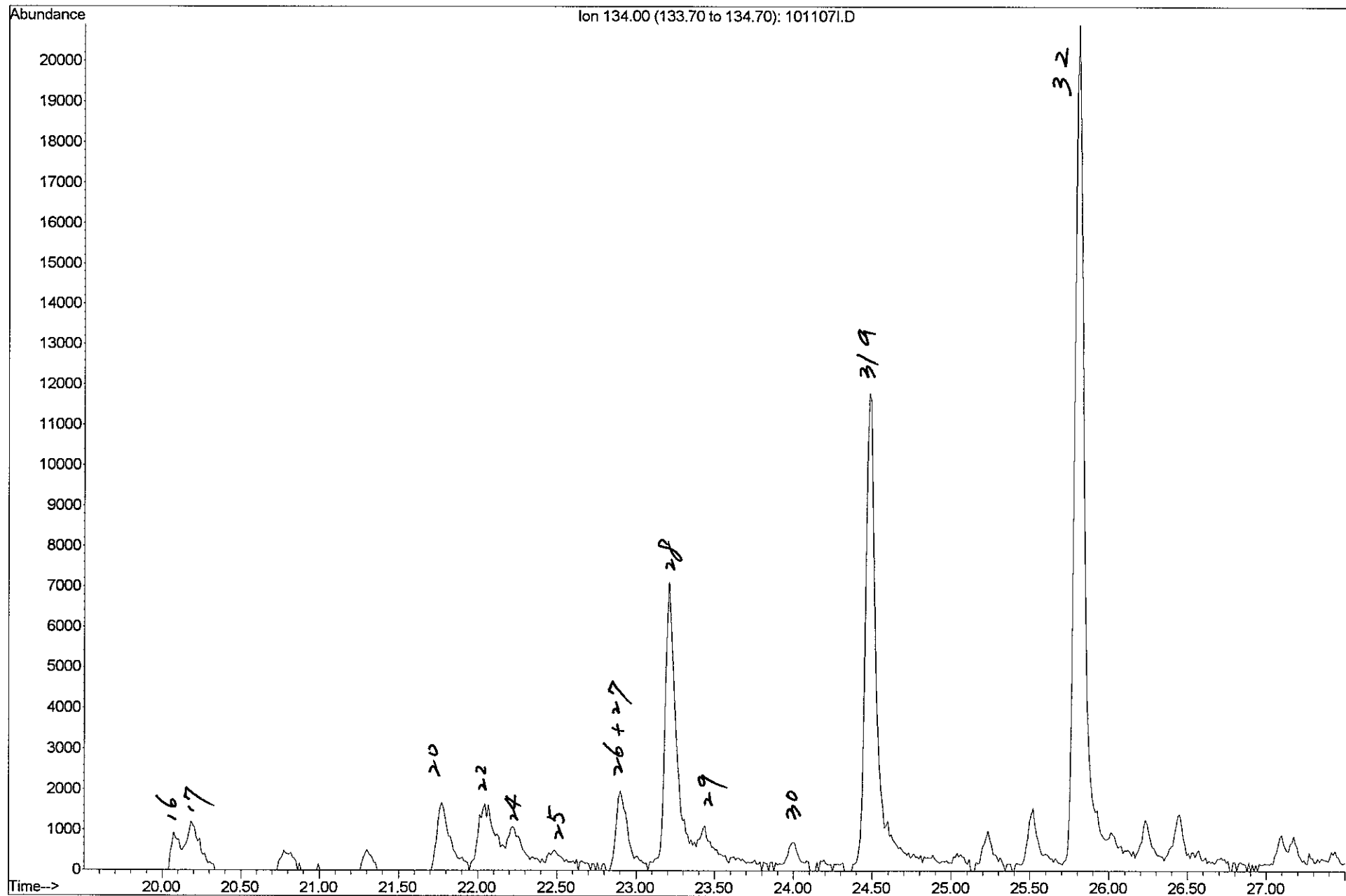
**Key for C<sub>4</sub>-Alkylbenzenes (m/z 134 mass chromatograms)**

#	Compound
16	Sec-Butylbenzene
17	1-Methyl-3-Isopropylbenzene
18	1-Methyl-4-Isopropylbenzene
19	1-Methyl-2-Isopropylbenzene
20	1,3-Diethylbenzene
21	1-Methyl-3-Propylbenzene
22	Butylbenzene
23	1,3-Dimethyl-5-Ethylbenzene
24	1,2-Diethylbenzene
25	1-Methyl-2-Propylbenzene
26	1,4-Dimethyl-2-Ethylbenzene
27	1,3-Dimethyl-4-Ethylbenzene
28	1,2-Dimethyl-4-Ethylbenzene
29	1,3-Dimethyl-2-Ethylbenzene
30	1,2-Dimethyl-3-Ethylbenzene
31a	1,2,4,5-Tetramethylbenzene
31	1,2,3,5-Tetramethylbenzene
32	1,2,3,4-Tetramethylbenzene

Oil-FP (40717-1) product  
Houson Radum, LFR (dilution)

ZymaX  
FORENSICS





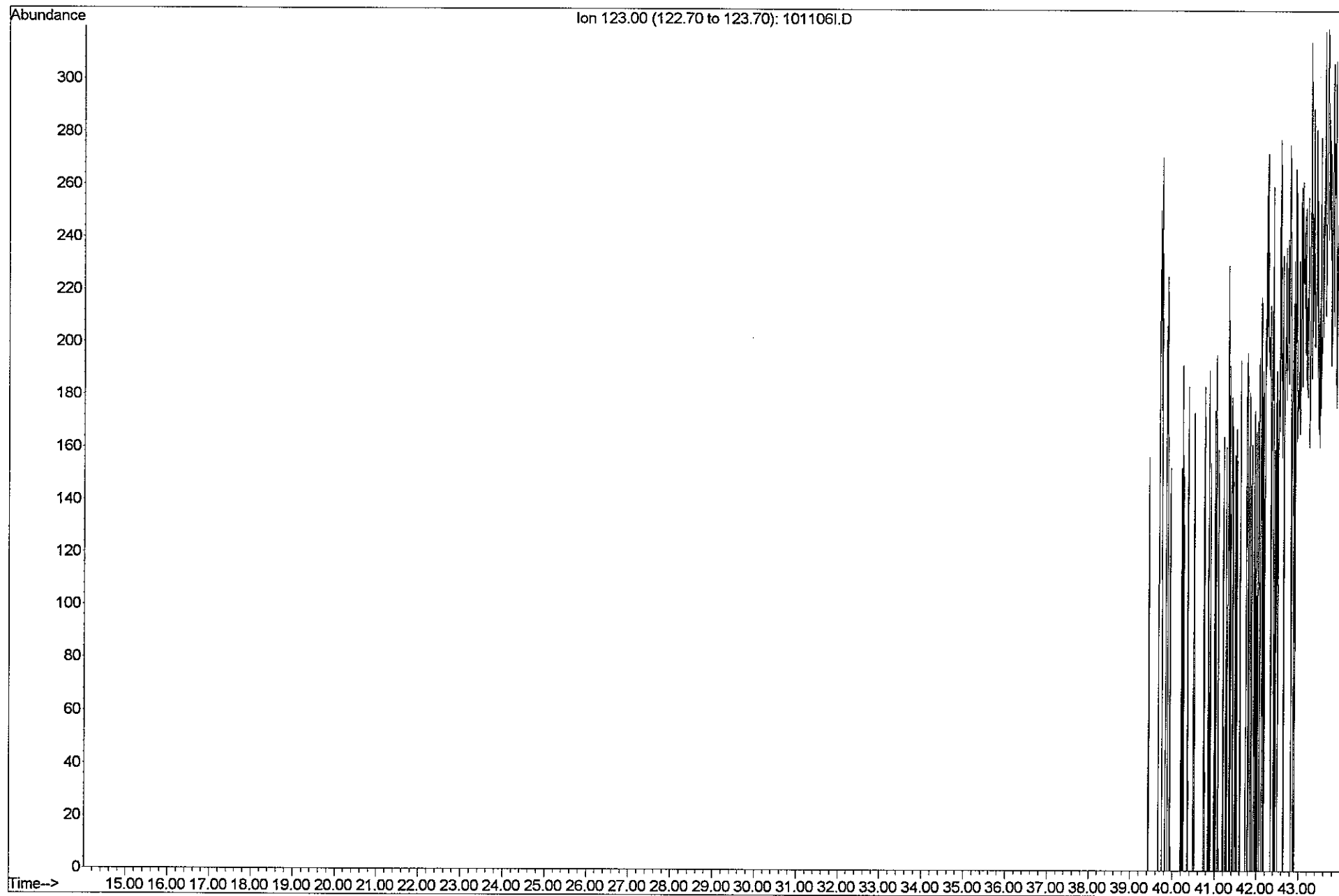
## Table

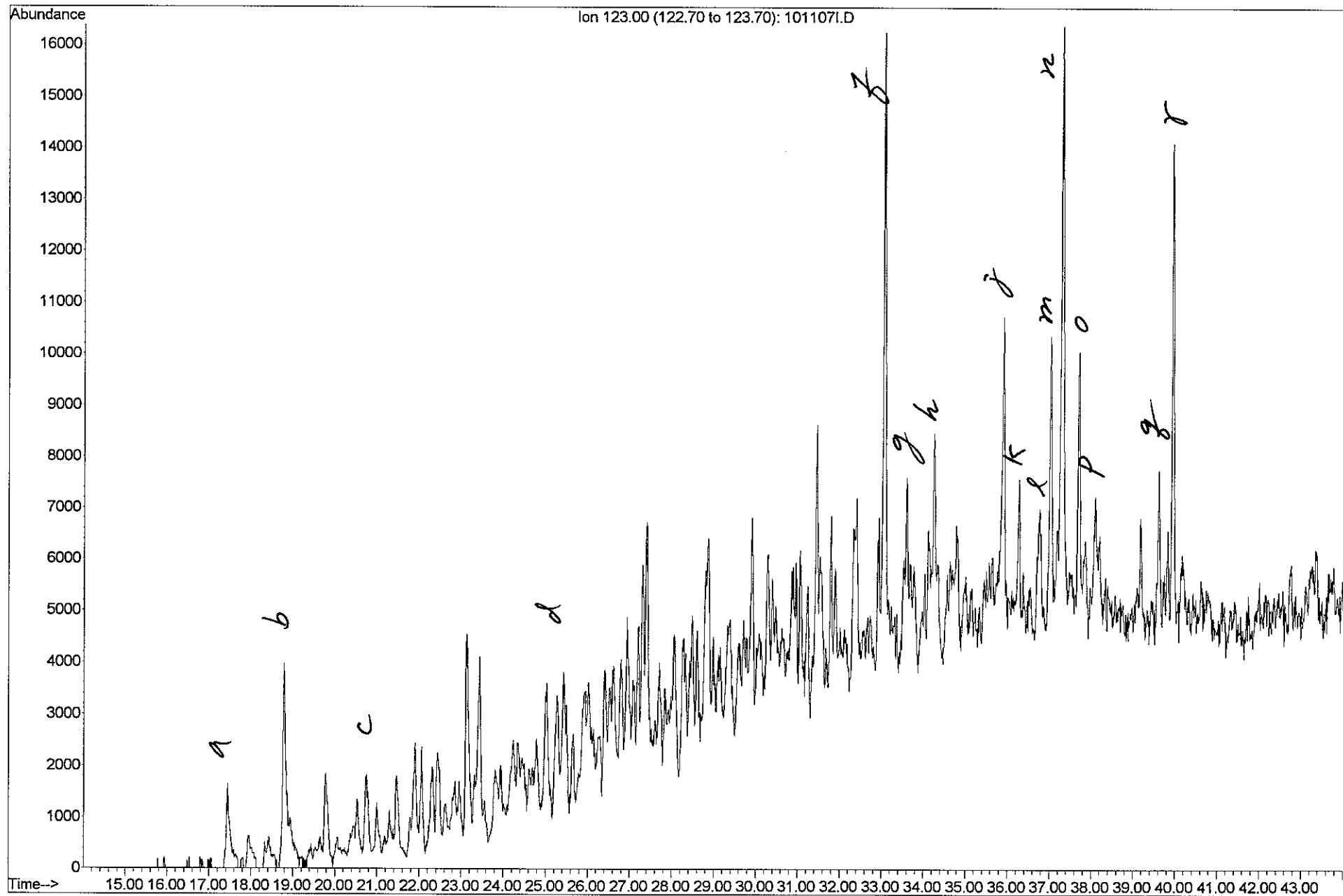
Key for identification of the Bicyclanes  
(m/z 123 mass chromatograms)

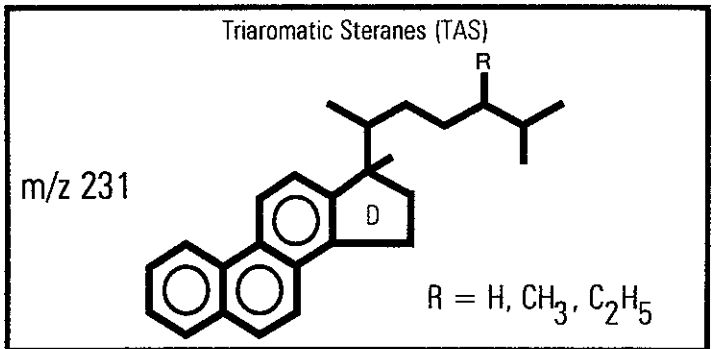
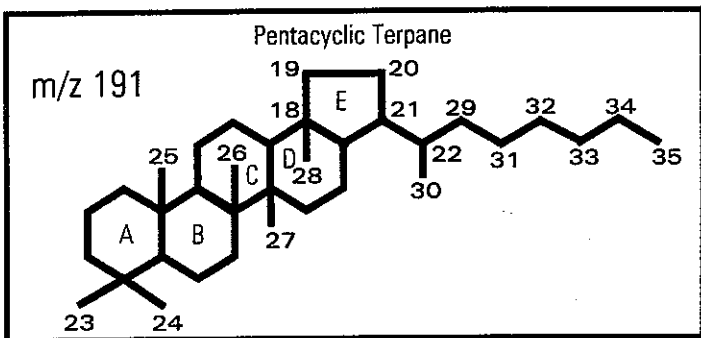
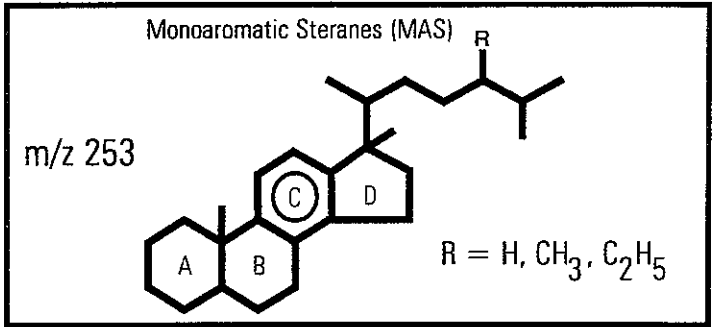
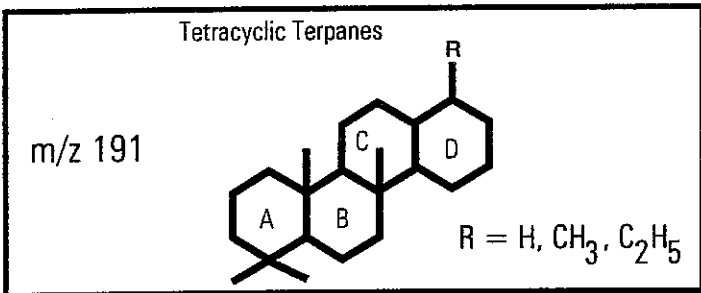
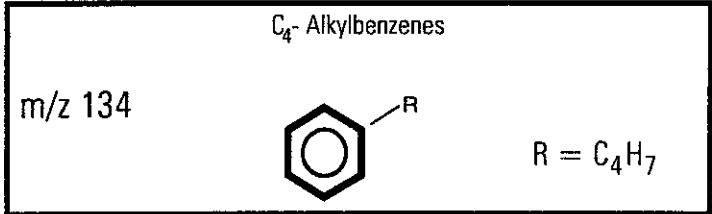
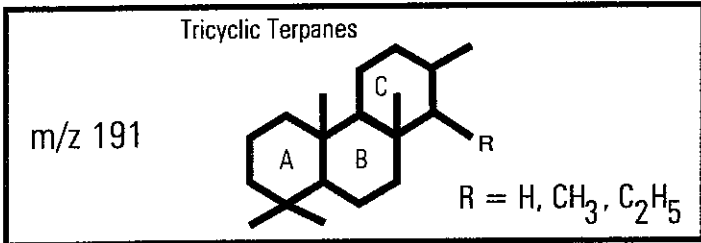
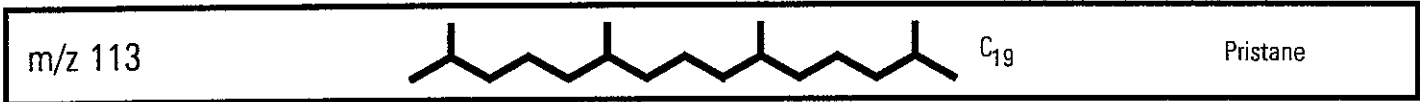
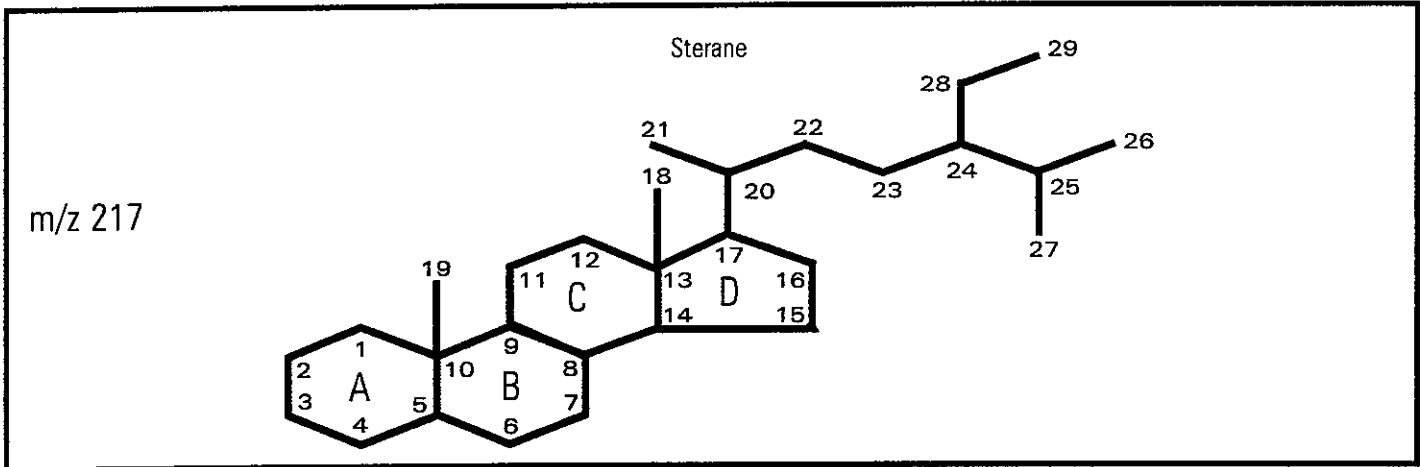
Peak No.	Identity	Formula	M.W.
a	2,2,3-Trimethylbicycloheptane	C <sub>10</sub> H <sub>18</sub>	138
b	C <sub>10</sub> bicycloalkane	C <sub>10</sub> H <sub>18</sub>	138
c	3,3,7-Trimethylbicycloheptane	C <sub>10</sub> H <sub>18</sub>	138
d	C <sub>11</sub> decalin	C <sub>11</sub> H <sub>20</sub>	152
f	Nordrimane	C <sub>14</sub> H <sub>26</sub>	194
g	Nordrimane	C <sub>14</sub> H <sub>26</sub>	194
h	Rearranged drimane	C <sub>15</sub> H <sub>28</sub>	208
j	Rearranged drimane	C <sub>15</sub> H <sub>28</sub>	208
k	Isomer of eudesmane	C <sub>15</sub> H <sub>28</sub>	208
l	4β(H) Eudesmane	C <sub>15</sub> H <sub>28</sub>	208
m	C <sub>15</sub> bicyclic sesquiterpane	C <sub>15</sub> H <sub>28</sub>	208
n	8β(H) Drimane	C <sub>15</sub> H <sub>28</sub>	208
o	C <sub>15</sub> bicyclic sesquiterpane	C <sub>15</sub> H <sub>28</sub>	208
p	C <sub>16</sub> bicyclic sesquiterpane	C <sub>16</sub> H <sub>30</sub>	222
q	C <sub>16</sub> bicyclic sesquiterpane	C <sub>16</sub> H <sub>30</sub>	222
r	8β(H) Homodrimane	C <sub>16</sub> H <sub>30</sub>	222



Oil-FP (40717-1) product  
Houson Radum, LFR (dilution)







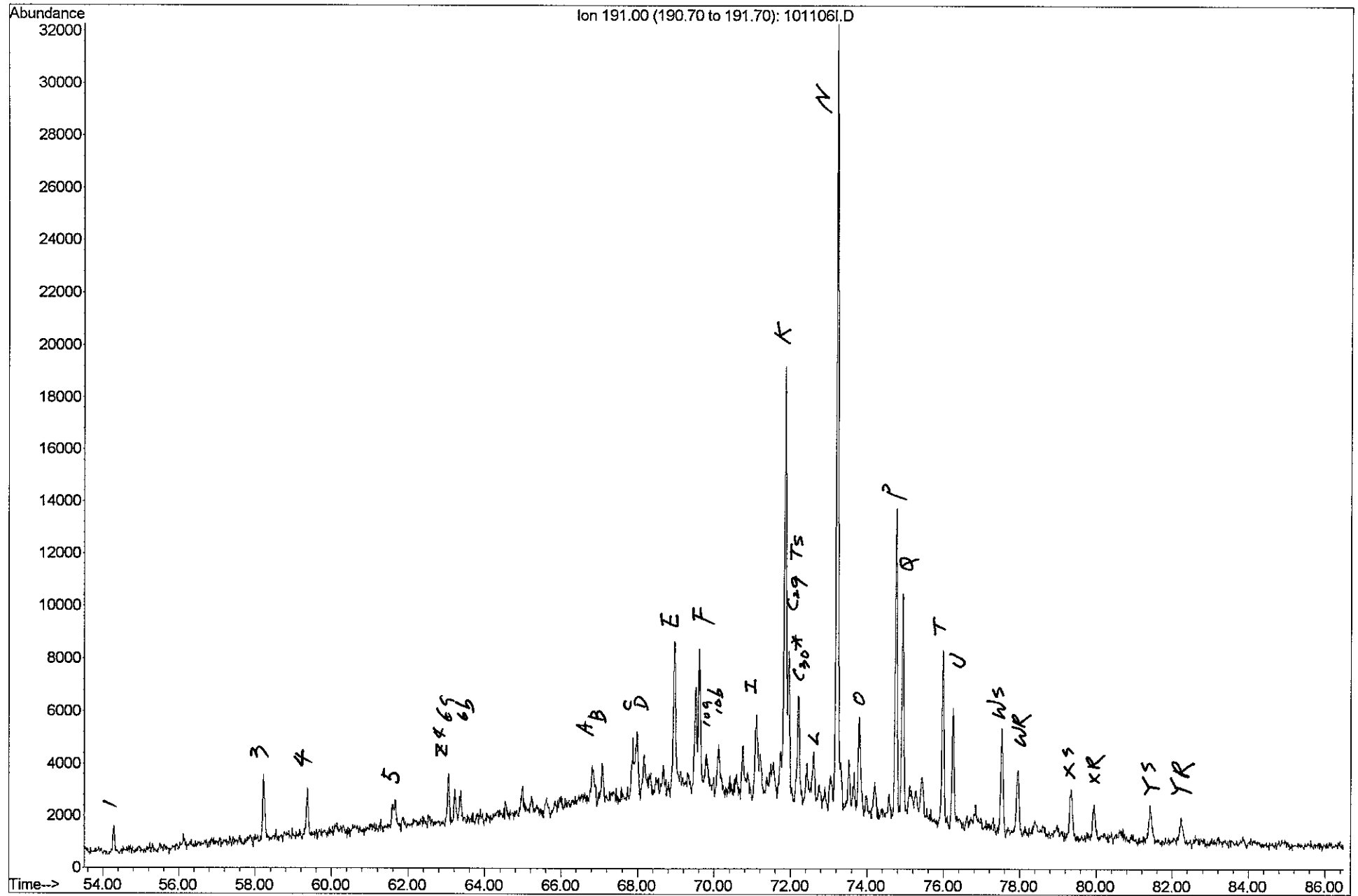
The compound structures of pristane, C<sub>4</sub>-alkylbenzenes, sterane; terpanes; monoaromatic and triaromatic steranes

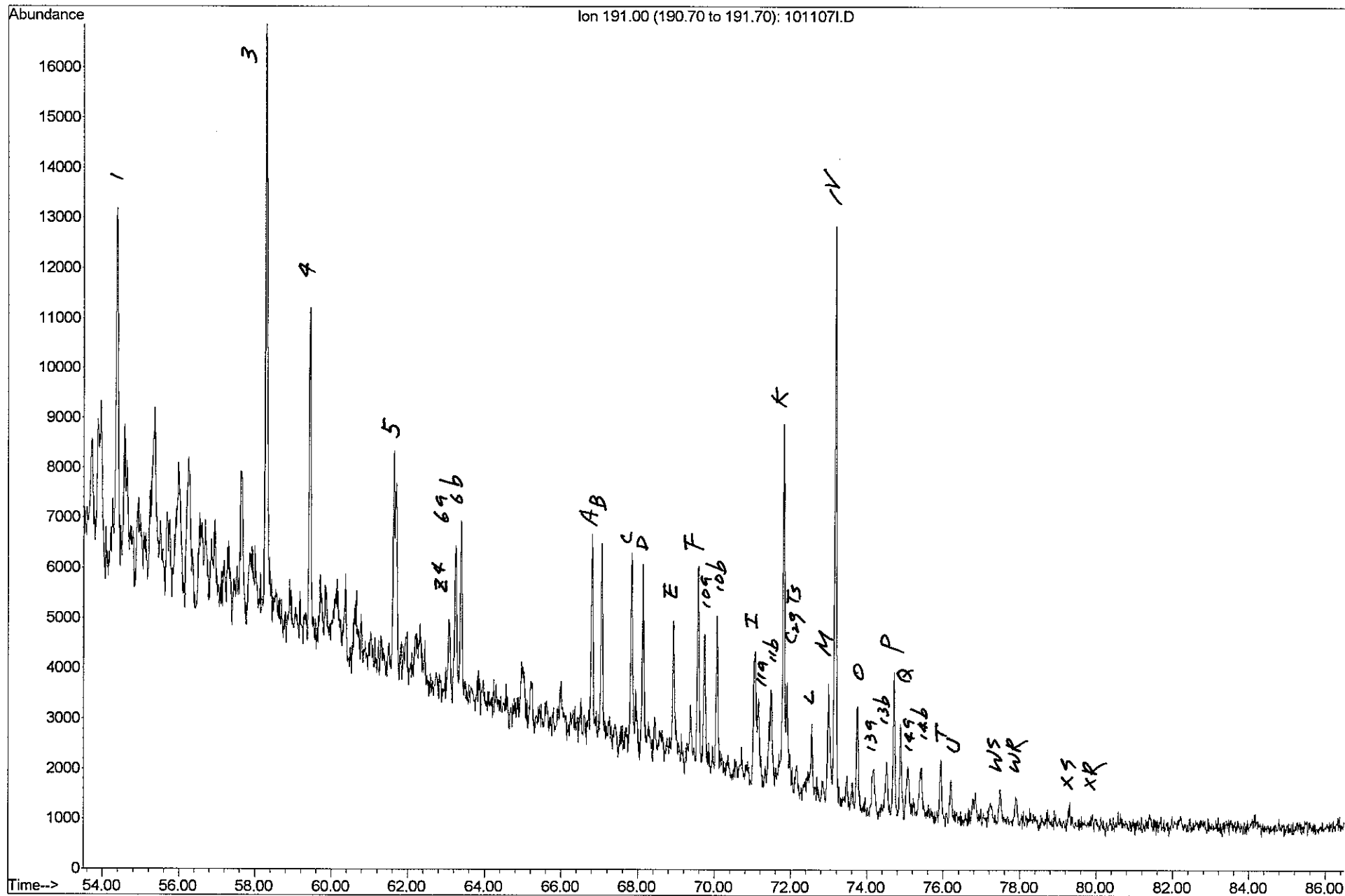
Key for Tricyclic, Tetracyclic, and Pentacyclic Terpanes  
Identification (m/z 191 mass chromatograms)

Code	Identity	Carbon #
0	C <sub>20</sub> -Tricyclic Terpene	20
1	C <sub>21</sub> -Tricyclic Terpene	21
2	C <sub>22</sub> -Tricyclic Terpene	22
3	C <sub>23</sub> -Tricyclic Terpene	23
4	C <sub>24</sub> -Tricyclic Terpene	24
5	C <sub>25</sub> -Tricyclic Terpene	25
Z4	C <sub>24</sub> -Tetracyclic Terpene	24
6a	C <sub>26</sub> -Tricyclic Terpene	26
6b	C <sub>26</sub> -Tricyclic Terpene	26
7	C <sub>27</sub> -Tricyclic Terpene	27
A	C <sub>28</sub> -Tricyclic Terpene #1	28
B	C <sub>28</sub> -Tricyclic Terpene #2	28
C	C <sub>29</sub> -Tricyclic Terpene #1	29
D	C <sub>29</sub> -Tricyclic Terpene #2	29
E	18 $\alpha$ -22,29,30-Trisnorneohopane (Ts)	27
F	17 $\alpha$ -22,29,30-Trisnorhopane (Tm)	27
G	17 $\beta$ -22,29,30-Trisnorhopane	27
H	17 $\alpha$ -23,28-Bisnorlupane	28
10a	C <sub>30</sub> -Tricyclic Terpene #1	30
10b	C <sub>30</sub> -Tricyclic Terpene #2	30
I	17 $\alpha$ -28,30-Bisnorhopane	28
11a	C <sub>31</sub> -Tricyclic Terpene #1	31
J	17 $\alpha$ -25-Norhopane	29
11b	C <sub>31</sub> -Tricyclic Terpene #2	31
K	17 $\alpha$ ,21 $\beta$ -30-Norhopane	29
C <sub>29</sub> Ts	18 $\alpha$ -30-Norneohopane	29
C <sub>30</sub> *	17 $\alpha$ -Diahopane	30
L	17 $\beta$ -21 $\alpha$ -30-Normoretane	29
Ma	18 $\alpha$ -Oleanane	30
Mb	18 $\beta$ -Oleanane	30
N	17 $\alpha$ ,21 $\beta$ -Hopane	30
O	17 $\beta$ ,21 $\alpha$ -Moretane	30
13a	C <sub>33</sub> -Tricyclic Terpene #1	33
13b	C <sub>33</sub> -Tricyclic Terpene #2	33
P	22S-17 $\alpha$ ,21 $\beta$ -30-Homohopane	31
Q	22R-17 $\alpha$ ,21 $\beta$ -30-Homohopane	31
R	Gammacerane	30
14a	C <sub>34</sub> -Tricyclic Terpene #1	34
S	17 $\beta$ ,21 $\alpha$ -Homomoretane	31
14b	C <sub>34</sub> -Tricyclic Terpene #2	34
T	22S-17 $\alpha$ ,21 $\beta$ -30-Bishomohopane	32
U	22R-17 $\alpha$ ,21 $\beta$ -30-Bishomohopane	32
15a	C <sub>35</sub> -Tricyclic Terpene #1	35
15b	C <sub>35</sub> -Tricyclic Terpene #2	35
V	17 $\beta$ ,21 $\alpha$ -C <sub>32</sub> -Bishomomoretane	32
WS	22S-17 $\alpha$ ,21 $\beta$ -30,31,32-Trishomohopane	33
WR	22R-17 $\alpha$ ,21 $\beta$ -30,31,32-Trishomohopane	33
16a	C <sub>36</sub> -Tricyclic Terpene #1	36
16b	C <sub>36</sub> -Tricyclic Terpene #2	36
XS	22S-17 $\alpha$ ,21 $\beta$ -30,31,32,33-Tetrahomohopane	34
XR	22R-17 $\alpha$ ,21 $\beta$ -30,31,32,33-Tetrahomohopane	34
YS	22S-17 $\alpha$ ,21 $\beta$ -30,31,32,33,34-Pentahomohopane	35
YR	22R-17 $\alpha$ ,21 $\beta$ -30,31,32,33,34-Pentahomohopane	35

Oil-FP (40717-1) product  
Houson Radum, LFR (dilution)

ZymaX  
FORENSICS





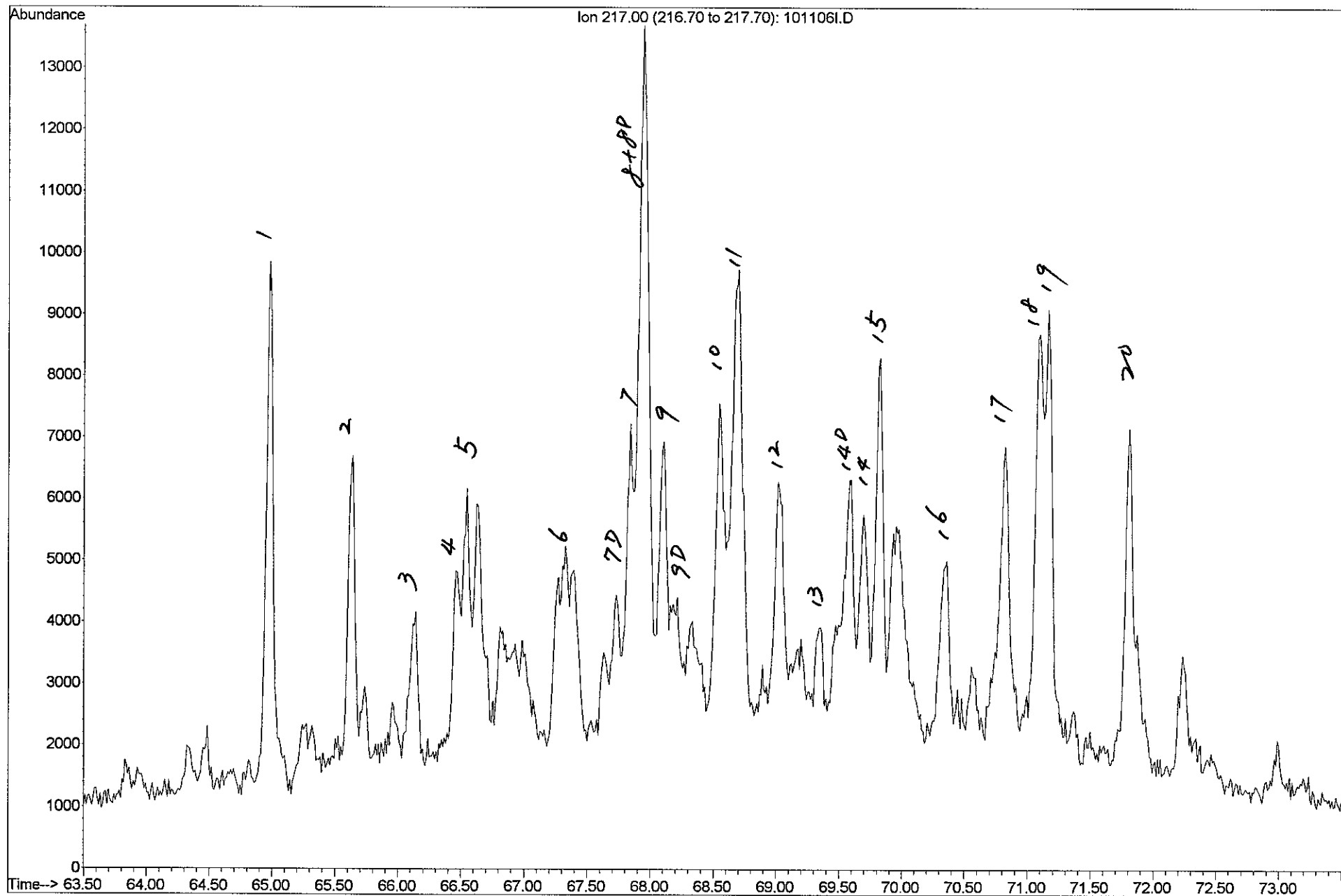
## Table

## Key for Steranes Identification (m/z 217 Mass Chromatogram)

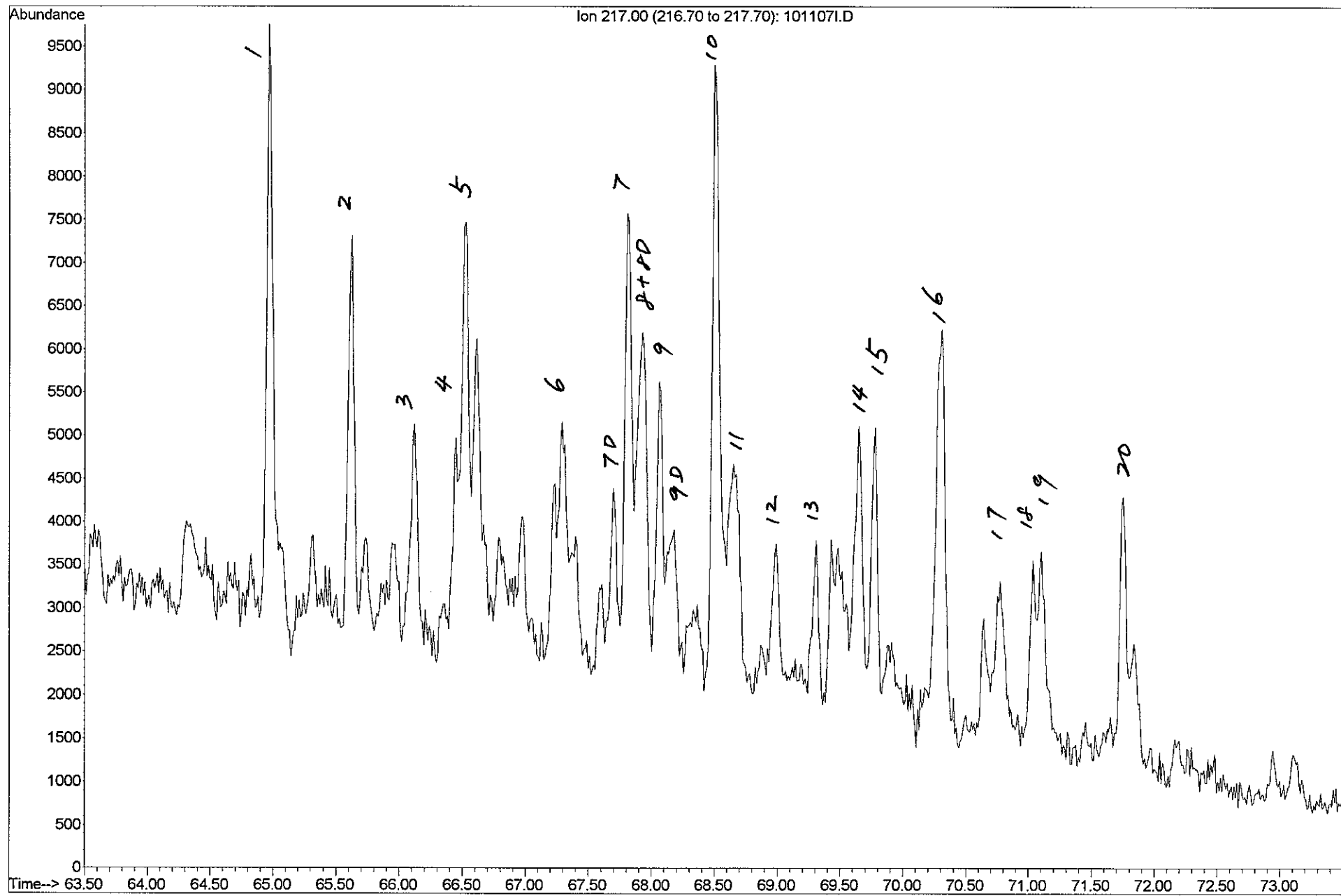
Code	Identity	Carbon #
1	13 $\beta$ ,17 $\alpha$ -diacholestane (20S)	27
2	13 $\beta$ ,17 $\alpha$ -diacholestane (20R)	27
3	13 $\alpha$ ,17 $\beta$ -diacholestane (20S)	27
4	13 $\alpha$ ,17 $\beta$ -diacholestane (20R)	27
5	24-methyl-13 $\beta$ ,17 $\alpha$ -diacholestane (20S)	28
6	24-methyl-13 $\beta$ ,17 $\alpha$ -diacholestane (20R)	28
7D	24-methyl-13 $\alpha$ ,17 $\beta$ -diacholestane (20S)	28
7	14 $\alpha$ ,17 $\alpha$ -cholestane (20S)	27
8D	24-ethyl-13 $\beta$ ,17 $\alpha$ -diacholestane (20S)	29
8	14 $\beta$ ,17 $\beta$ -cholestane (20R)	27
9	14 $\beta$ ,17 $\beta$ -cholestane (20S)	27
9D	24-methyl-13 $\alpha$ ,17 $\beta$ -diacholestane (20R)	28
10	14 $\alpha$ ,17 $\alpha$ -cholestane (20R)	27
11	24-ethyl-13 $\beta$ ,17 $\alpha$ -diacholestane (20R)	29
12	24-ethyl-13 $\alpha$ ,17 $\beta$ -diacholestane (20S)	29
13	24-methyl-14 $\alpha$ ,17 $\alpha$ -cholestane (20S)	28
14D	24-ethyl-13 $\alpha$ ,17 $\beta$ -diacholestane (20R)	29
14	24-methyl-14 $\beta$ ,17 $\beta$ -cholestane (20R)	28
15	24-methyl-14 $\beta$ ,17 $\beta$ -cholestane (20S)	28
16	24-methyl-14 $\alpha$ ,17 $\alpha$ -cholestane (20R)	28
17	24-ethyl-14 $\alpha$ -cholestane (20S)	29
18	24-ethyl-14 $\beta$ ,17 $\beta$ -cholestane (20R)	29
19	24-ethyl-14 $\beta$ ,17 $\beta$ -cholestane (20S)	29
20	24-ethyl-14 $\alpha$ ,17 $\alpha$ -cholestane (20R)	29
21A	24-n-Propylcholestane (20S)	30
21B	4-methyl-24-ethylcholestane (20S)	30
22A	4 $\alpha$ -methyl-24-ethyl-14 $\beta$ ,17 $\beta$ -cholestane(20S)	30
22B	24-n-propyl-14 $\beta$ ,17 $\beta$ -cholestane (20S)	30
23A	4 $\alpha$ -methyl-24-ethyl-14 $\beta$ ,17 $\beta$ -cholestane(20R)	30
23B	24-n-propyl-14 $\beta$ ,17 $\beta$ -cholestane (20R)	30
24A	4 $\alpha$ -methyl-24-ethylcholestane(20R)	30
24B	24-n-propylcholestane (20R)	30

Oil-FP (40717-1) product  
Houson Radum, LFR (dilution)

Zymax  
FORENSICS







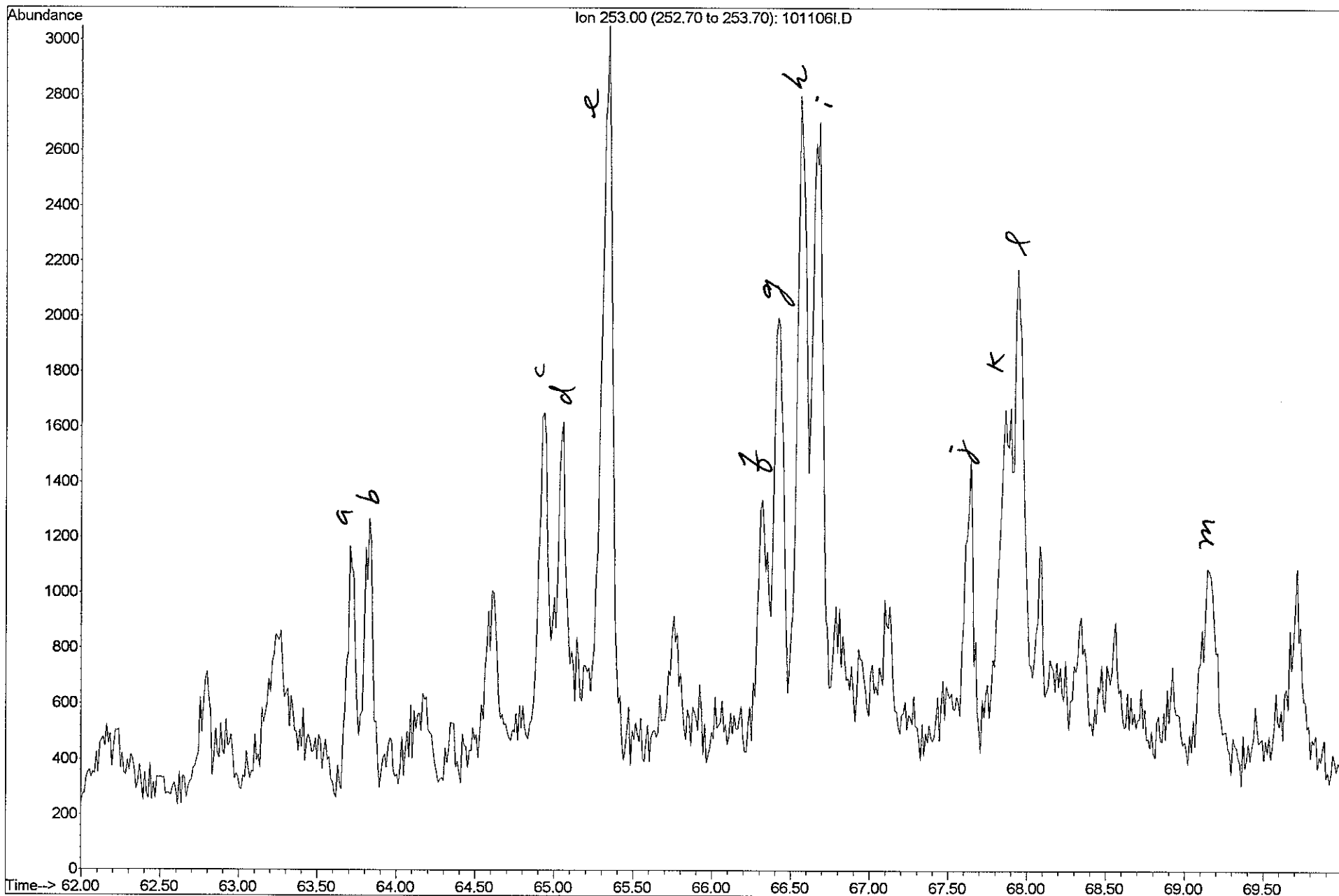
Table

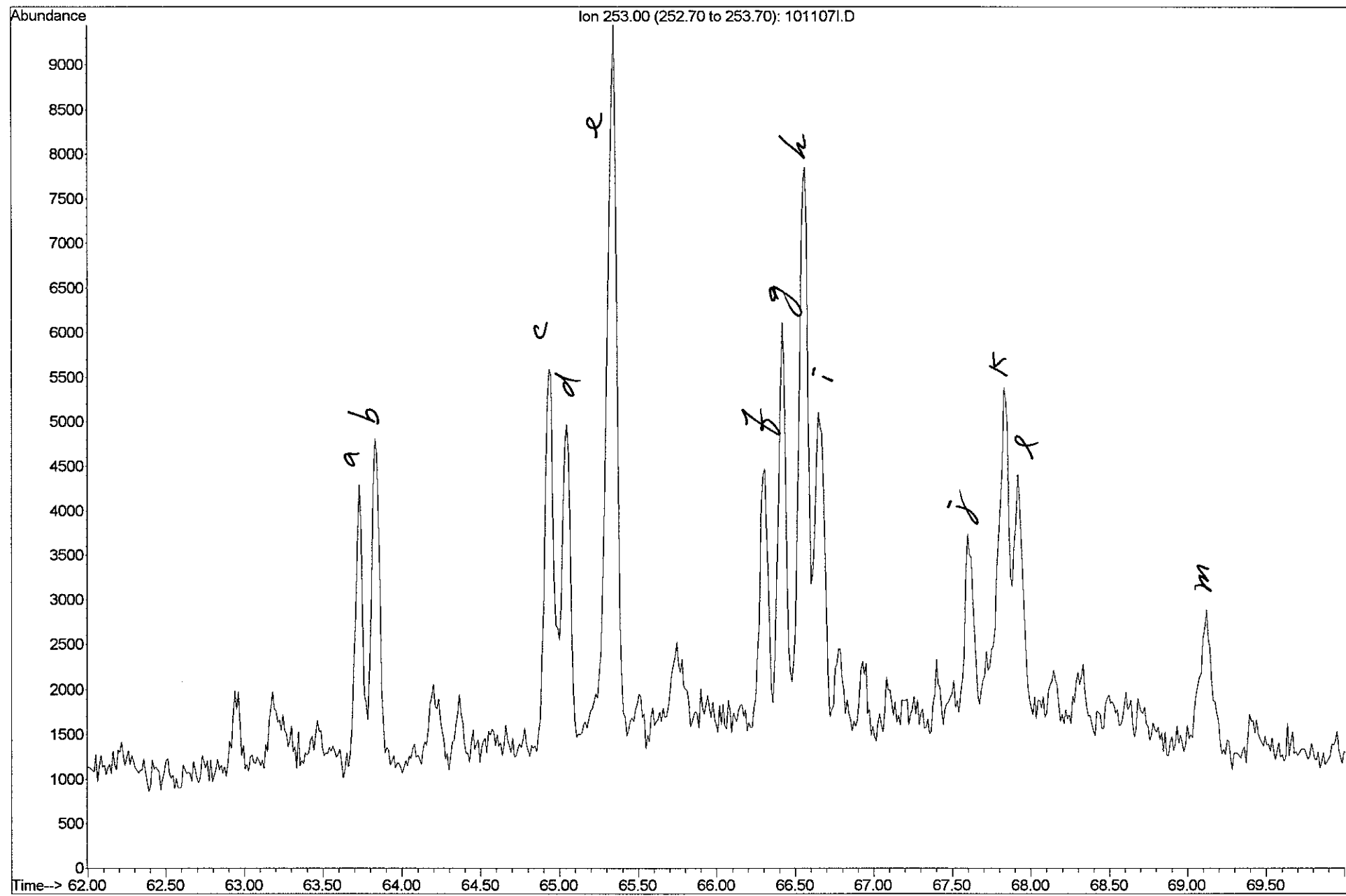
Key for Monoaromatic Steranes Identification  
(m/z 253 mass chromatogram)

Code	Identity	Elemental Composition
a	20S, 5 $\beta$ C <sub>27</sub> -Monoaromatic sterane	C <sub>27</sub> H <sub>42</sub>
b	20S, dia C <sub>27</sub> -Monoaromatic sterane	C <sub>27</sub> H <sub>42</sub>
c	20R, 5 $\beta$ C <sub>27</sub> -Monoaromatic sterane + 20R C <sub>27</sub> dia MAS	C <sub>27</sub> H <sub>42</sub>
d	20S, 5 $\alpha$ C <sub>27</sub> -Monoaromatic sterane	C <sub>27</sub> H <sub>42</sub>
e	20S, 5 $\beta$ C <sub>28</sub> -Monoaromatic sterane + 20S C <sub>28</sub> dia MAS	C <sub>28</sub> H <sub>44</sub>
f	20R, 5 $\alpha$ C <sub>27</sub> -Monoaromatic sterane	C <sub>27</sub> H <sub>42</sub>
g	20S, 5 $\alpha$ C <sub>28</sub> -Monoaromatic sterane	C <sub>28</sub> H <sub>44</sub>
h	20R, 5 $\beta$ C <sub>28</sub> -Monoaromatic sterane + 20R C <sub>28</sub> dia MAS	C <sub>28</sub> H <sub>44</sub>
i	20S, 5 $\beta$ C <sub>29</sub> -Monoaromatic sterane + 20S C <sub>29</sub> dia MAS	C <sub>29</sub> H <sub>46</sub>
j	20S, 5 $\alpha$ C <sub>29</sub> -Monoaromatic sterane	C <sub>29</sub> H <sub>46</sub>
k	20R, 5 $\alpha$ C <sub>28</sub> -Monoaromatic sterane	C <sub>28</sub> H <sub>44</sub>
l	20R, 5 $\beta$ C <sub>29</sub> -Monoaromatic sterane + 20R C <sub>29</sub> dia MAS	C <sub>29</sub> H <sub>46</sub>
m	20R, 5 $\alpha$ C <sub>29</sub> -Monoaromatic sterane	C <sub>29</sub> H <sub>46</sub>

Oil-FP (40717-1) product  
Houson Radum, LFR (dilution)

Zymax  
FORENSICS



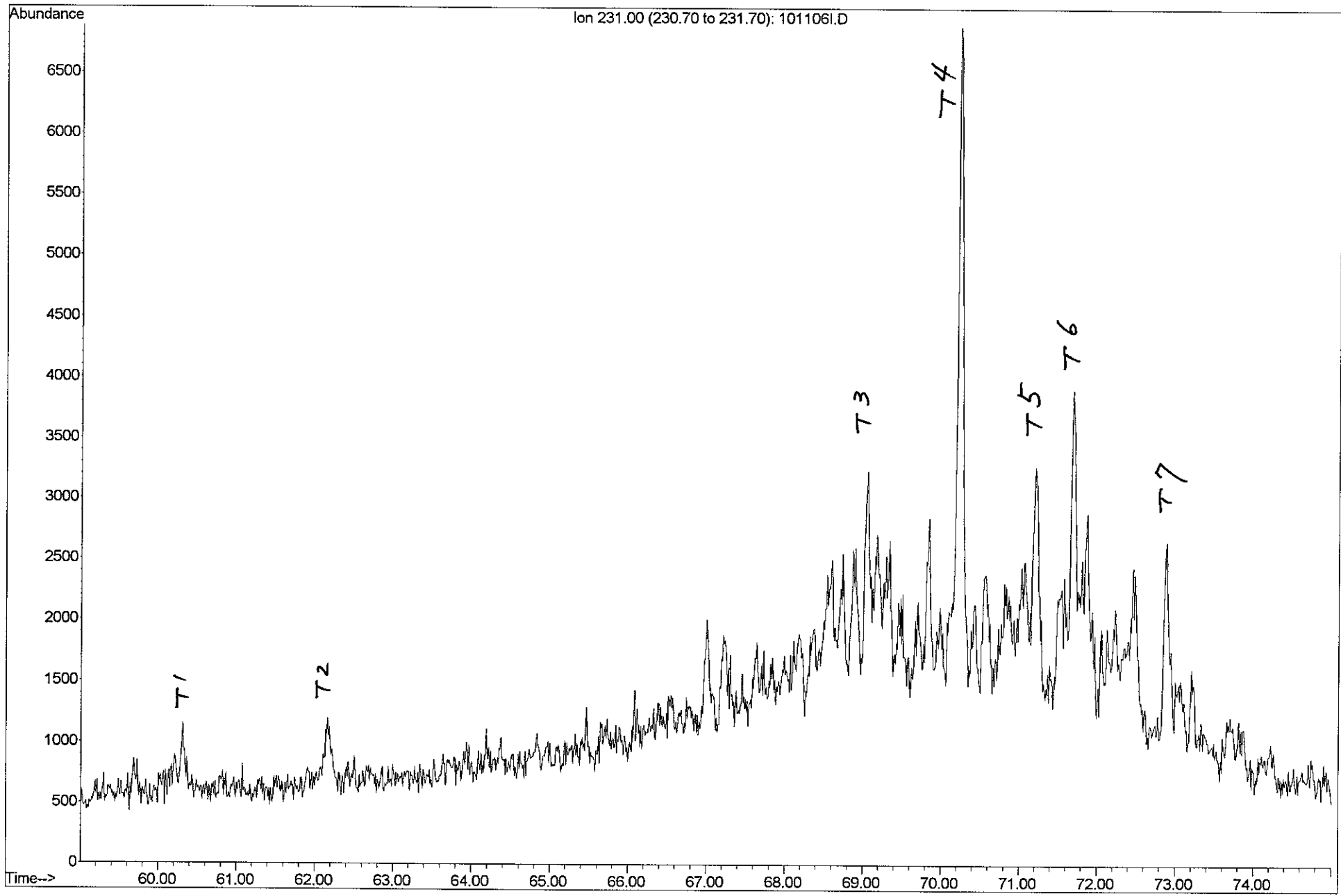


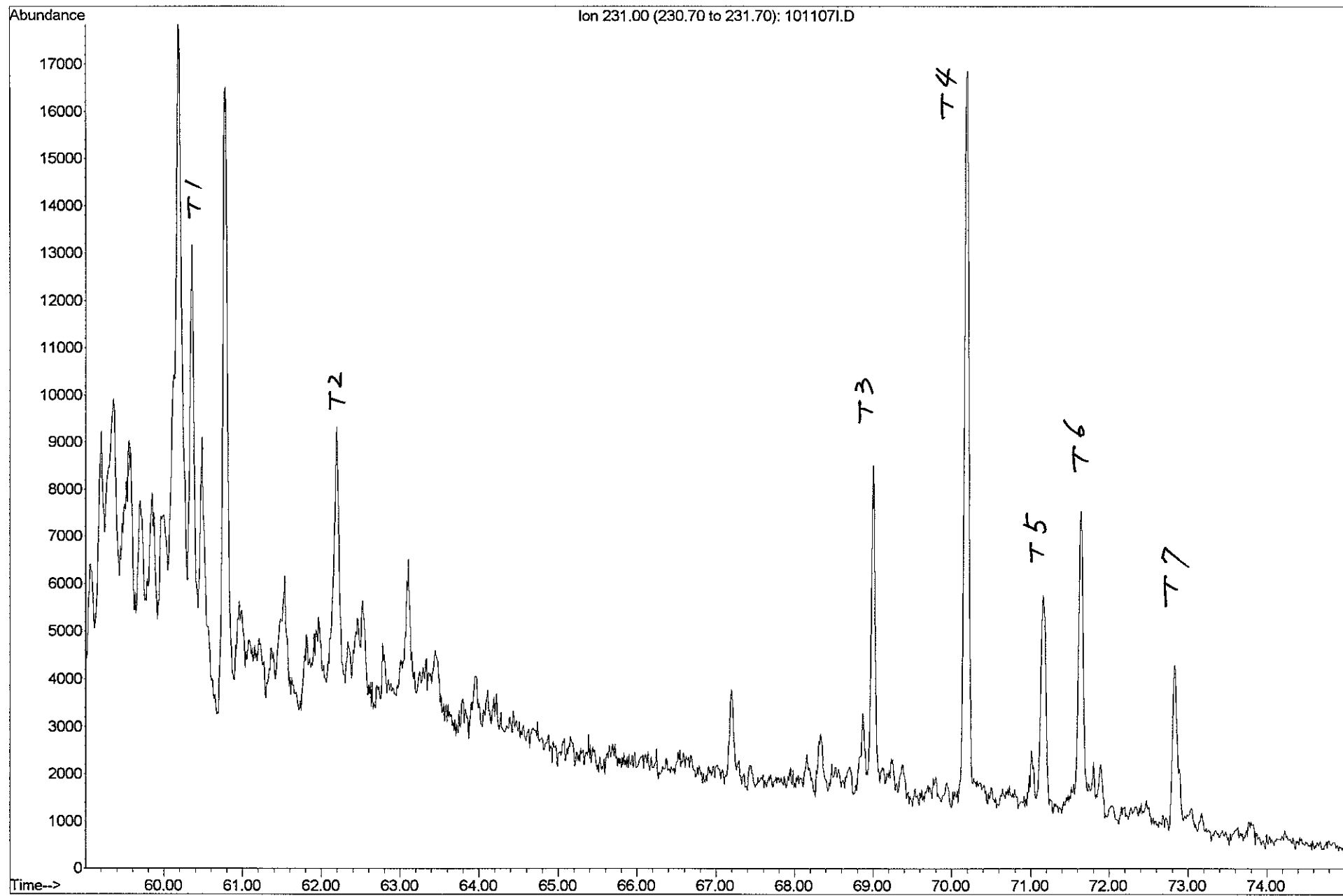
## Table

Key for Triaromatic Steranes Identification  
(m/z 231 chromatogram)

Code	Identity	Elemental Composition
T1	C <sub>20</sub> Triaromatic sterane	C <sub>20</sub> H <sub>20</sub>
T2	C <sub>21</sub> Triaromatic sterane	C <sub>21</sub> H <sub>22</sub>
T3	20S C <sub>26</sub> Triaromatic sterane	C <sub>26</sub> H <sub>32</sub>
T4	20R C <sub>26</sub> + 20S C <sub>27</sub> -Triaromatic steranes	C <sub>26</sub> H <sub>32</sub> + C <sub>27</sub> H <sub>34</sub>
T5	20S C <sub>28</sub> -Triaromatic sterane	C <sub>28</sub> H <sub>36</sub>
T6	20R C <sub>27</sub> -Triaromatic sterane	C <sub>27</sub> H <sub>34</sub>
T7	20R C <sub>28</sub> -Triaromatic sterane	C <sub>28</sub> H <sub>36</sub>

Oil-FP (40717-1) product  
Houson Radum, LFR (dilution)





## Table

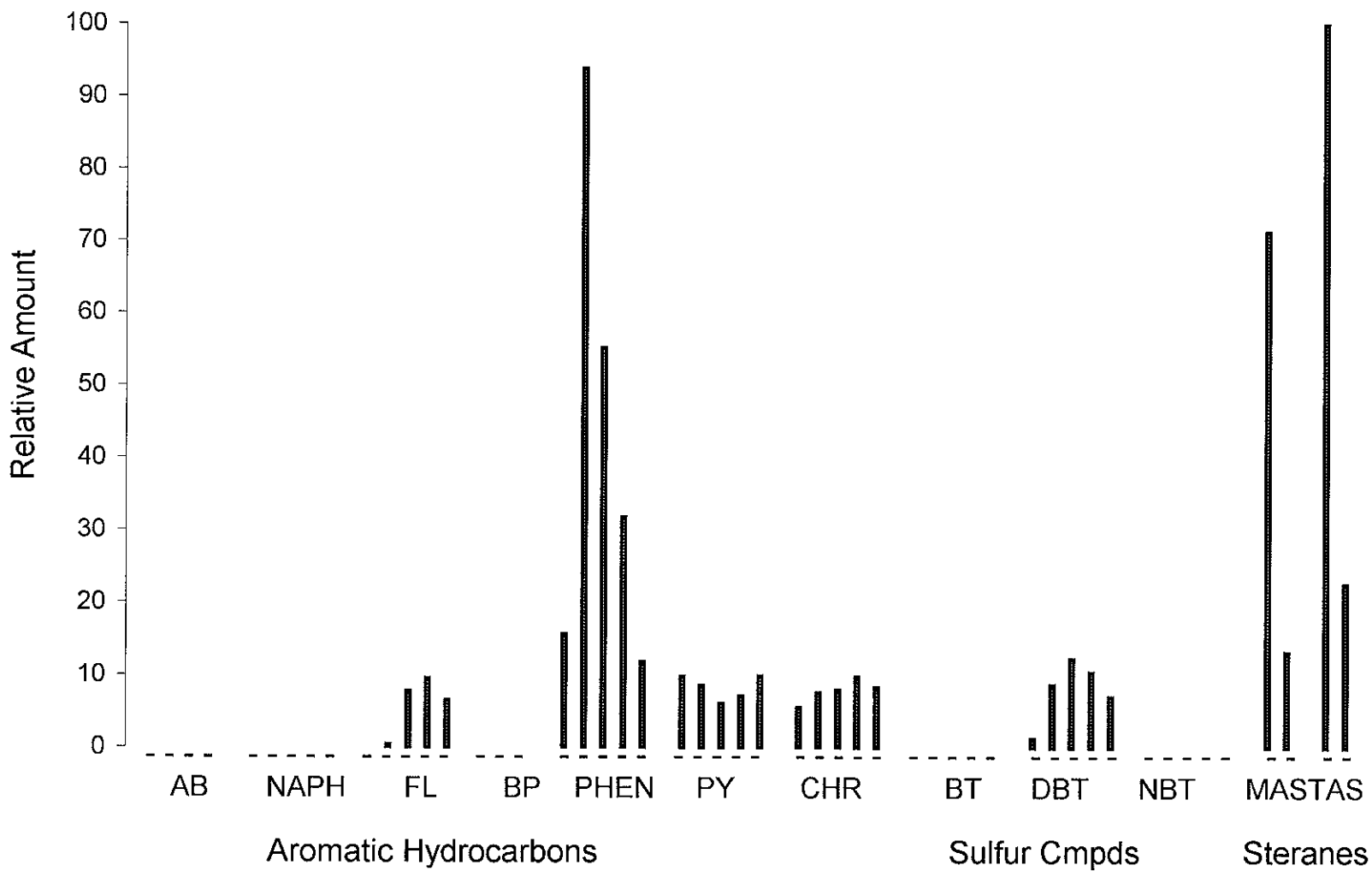
### Key for Identifying Aromatic Hydrocarbons

No.	m/z	Abbreviation	Compound
1	120	AB	C <sub>3</sub> -alkylbenzenes
2	134		C <sub>4</sub> -alkylbenzenes
3	148		C <sub>5</sub> -alkylbenzenes
4	162		C <sub>6</sub> -alkylbenzenes
5	128	NAPH	C <sub>0</sub> -naphthalene
6	142		C <sub>1</sub> -naphthalenes
7	156		C <sub>2</sub> -naphthalenes
8	170		C <sub>3</sub> -naphthalenes
9	184		C <sub>4</sub> -naphthalenes
10	166	FL	C <sub>0</sub> -fluorene
11	180		C <sub>1</sub> -fluorenes
12	194		C <sub>2</sub> -fluorenes
13	208		C <sub>3</sub> -fluorenes
14	222		C <sub>4</sub> -fluorenes
15	154	BP	C <sub>0</sub> -biphenyl
16	168		C <sub>1</sub> -biphenyls + dibenzofuran
17	182		C <sub>2</sub> -biphenyls + C <sub>1</sub> -dibenzofuran
18	178	PHEN	C <sub>0</sub> -phenanthrene
19	192		C <sub>1</sub> -phenanthrenes
20	206		C <sub>2</sub> -phenanthrenes
21	220		C <sub>3</sub> -phenanthrenes
22	234		C <sub>4</sub> -phenanthrenes
23	202	PY	C <sub>0</sub> -pyrene/fluoranthene
24	216		C <sub>1</sub> -pyrenes/fluoranthenes
25	230		C <sub>2</sub> -pyrenes/fluoranthenes
26	244		C <sub>3</sub> -pyrenes/fluoranthenes
27	258		C <sub>4</sub> -pyrenes/fluoranthenes
28	228	CHR	C <sub>0</sub> -chrysene
29	242		C <sub>1</sub> -chrysenes
30	256		C <sub>2</sub> -chrysenes
31	270		C <sub>3</sub> -chrysenes
32	284		C <sub>4</sub> -chrysenes
33	148	BT	C <sub>1</sub> -benzothiophenes
34	162		C <sub>2</sub> -benzothiophenes
35	176		C <sub>3</sub> -benzothiophenes
36	190		C <sub>4</sub> -benzothiophenes
37	204		C <sub>5</sub> -benzothiophenes
38	184	DBT	C <sub>0</sub> -dibenzothiophene
39	198		C <sub>1</sub> -dibenzothiophenes
40	212		C <sub>2</sub> -dibenzothiophenes
41	226		C <sub>3</sub> -dibenzothiophenes
42	240		C <sub>4</sub> -dibenzothiophenes
43	234	NBT	C <sub>0</sub> -naphthobenzothiophene
44	248		C <sub>1</sub> -naphthobenzothiophenes
45	262		C <sub>2</sub> -naphthobenzothiophenes
46	276		C <sub>3</sub> -naphthobenzothiophenes
47	290		C <sub>4</sub> -naphthobenzothiophenes
48	253	MAS	Monoaromatic steranes
49	267		Monoaromatic steranes
50	239		Monoaromatic steranes
51	231	TAS	Triaromatic steranes
52	245		Triaromatic steranes



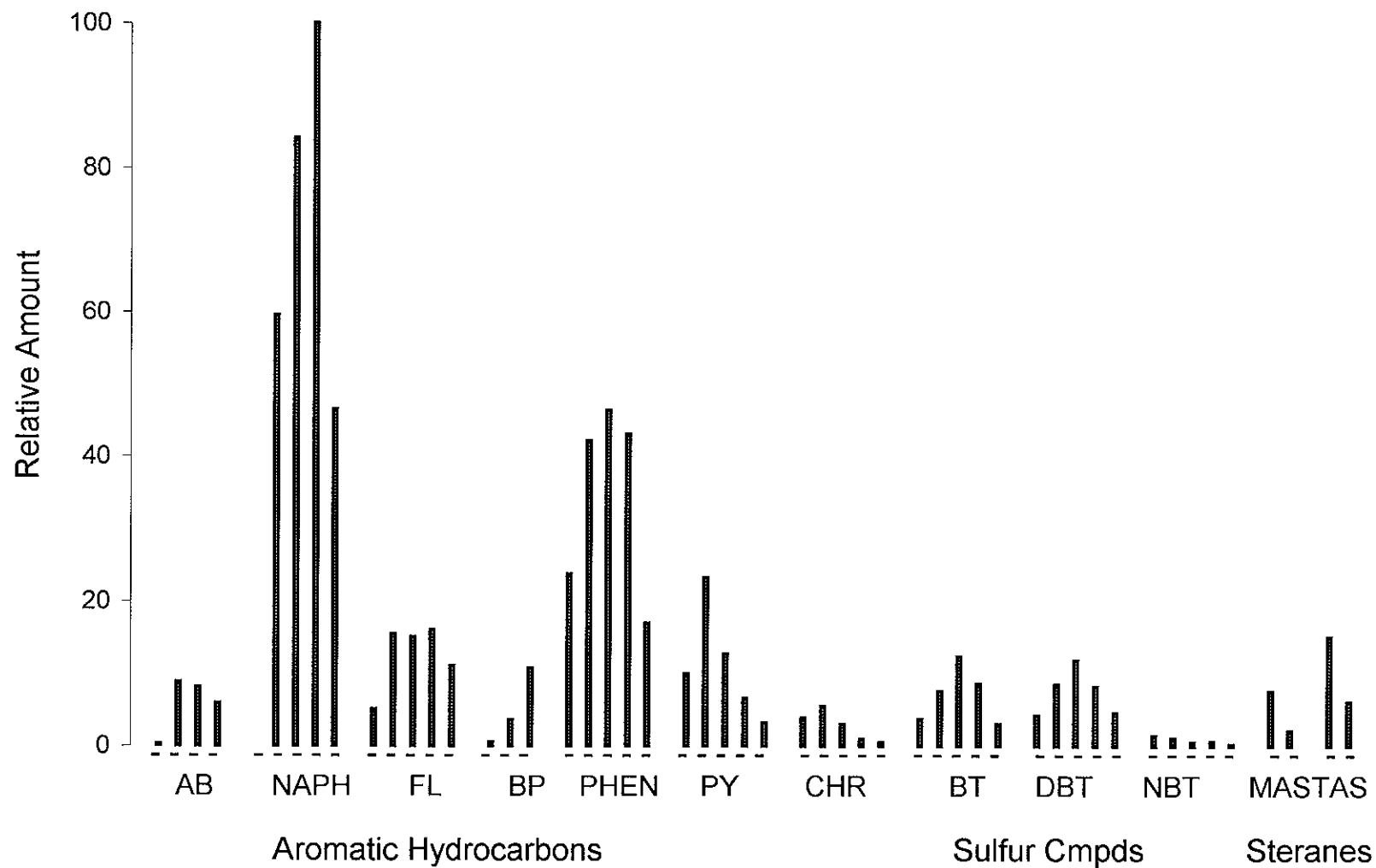
# Aromatic Hydrocarbon Distribution

## Oil-FP



# Aromatic Hydrocarbon Distribution

B-25a-34.0



**APPENDIX D**

**Groundwater Monitoring Well Sampling Field Sheets**













All measurements taken from:  Top of Casing  Protective Casing  Ground Level

Sample ID \_\_\_\_\_

Well Number MW-5  
 Date 10-19-07  
 Time Start: 9:35 End: 11:15  
 Client LFR  
 Project HANSON RADUM  
 Job Number LFR 001-09567-04  
 Installation Date 10-9-07  
 Well Diameter 2"

Borehole Diameter 8"  
 Screen Length 5'  
 Measured Depth (pre-development) 77.06  
 Measured Depth (post-development) \_\_\_\_\_  
 Static Water Level (ft.) 67.51  
 Standing Water Column (ft.) 9.55  
 One Well Volume (gal.) 1.62  
 One Annulus Vol. (gal.) \_\_\_\_\_

Qty. of Drilling Fluid Lost \_\_\_\_\_  
 Minimum Gal. to be Purged 16.2  
 Development Method SURGE-BAIL-PUMP  
 Purging Equipment SS BAILER, 2" PUMP  
 Water Level Equipment SOLINST  
 pH/EC Meter HORIBA U-10  
 Turbidity Meter HORIBA U-10  
 Other \_\_\_\_\_

### Field Parameters Measured

Time	Amount Purged (gal.)	Field Parameters Measured							Comments	Field Tech.
		pH	EC	Turbidity	D.O.	Temp.	SAL.	GPM / W.L.		
1041	16	7.67	0.657	>999	—	18.8	0.02	1.0 / -	BAILER 3 gal - SURGED 10 min	
1043	18	7.49	0.655	>999	—	19.1	0.02	1.0 / -	BAILER 4 gal.	
1045	20	7.44	0.653	>999	—	18.9	0.02	1.0 / -	SET PUMP ON BOTTOM	
1047	22	7.42	0.640	975	—	18.8	0.02	1.0 / -		
1052	27	7.34	0.640	884	—	18.7	0.02	1.0 / -		
1055	30	7.31	0.642	593	—	18.9	0.02	1.0 / -		
1100	35	7.28	0.637	415	—	18.9	0.02	1.0 / -		
FINAL FIELD PARAMETER MEASUREMENTS										





Project No. 021-09567 Date 10/22/07 Page 1 of 1  
 Project Name Hanson Radium Sampling Location MW-1  
 Sampler's Name SWW Sample No. MW-1-102207  FB  
 Sampling Plan By KMS C.O.C. No. \_\_\_\_\_  DUP  
 Purge Method:  Centrifugal Pump  Disposable Bailor  Hand Bail  Submersible Pump  Teflon Bailor  Other \_\_\_\_\_  
 Purge Water Storage Container Type 55 gal Drum Storage Location on site  
 Date Purge Water Disposed \_\_\_\_\_ Where Disposed \_\_\_\_\_

Analyses Requested EPA 8015 No. and Type of Bottles Used 2 1L Amies  
EPA 8260 300A w/Hcl  
 Lab Name CYT  
 Delivery By  Courier  Hand

5.43 (0.20)  
 1.09 + 57.22  
 80% DTW 58.31

Well No. MW-1 Depth of Water 57.22  
 Well Diameter: 2" Well Depth 62.65  
 2" (0.16 gal/feet)  5" (1.02 gal/feet) Water Column Height 5.43  
 4" (0.65 gal/feet)  6" (1.47 gal/feet) Well Volume 0.96 (1 gal)

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	Totalizer Reading	Temperature (C°)	pH (SU)	Cond (umhos)	Turb (NTU)	ORP	Remarks
910		57.22								Start purge
923			1	14.9/1.38	19.20	6.90	1275 1133	E3	199.8	
933			2		18.92	6.89	1214 1073	E3		
940			3		19.63	6.84	1203 1055	E3		
945			4		19.74	6.91	1208 1064	E3		
950		57.72								Sample

Continue remarks on reverse, if needed.

Project No. 601-09567 Date 10/22/07 Page 1 of       
 Project Name Hansen Radium Sampling Location MW-2  
 Sampler's Name EDW Sample No. MW-2-102207 ~~1000-770~~  FB  
 Sampling Plan By RMS C.O.C. No.       DUP       
 Purge Method:  Centrifugal Pump  Disposable Bailor  Hand Bail  Submersible Pump  Teflon Bailor  Other       
 Purge Water Storage Container Type 55 gal Drum Storage Location on site  
 Date Purge Water Disposed      Where Disposed     

Analyses Requested EPA 8015 No. and Type of Bottles Used 1 L Amber  
EPA 8260 3 00x w/Hel  
 Lab Name       
 Delivery By  Courier  Hand

Well No. MW-2 Depth of Water 55.24  
 Well Diameter: 2 Well Depth 62.26  
 2" (0.16 gal/feet)  5" (1.02 gal/feet) Water Column Height 7.02  
 4" (0.65 gal/feet)  6" (1.47 gal/feet) Well Volume 1.12

60.20  
7.02 + 55.24  
1.40 + 55.24  
w/c/w/ 80% DTW 56.64

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	Totalizer Reading	Temperature (C°)	pH (SU)	Cond (µmhos)	Turb (NTU)	Remarks
1444		55.24							start pump
1445			1		19.75	6.66	631	565	
1449			2		19.15	6.67	644	7000	
1452			3		18.43	6.75	643	7100	
1455		55.26							sample

Continue remarks on reverse, if needed.

Project No. 001-09567 Date 10/22/07 Page 1 of 1  
 Project Name Hanson Radium Sampling Location MW-3  
 Sampler's Name ENR Sample No. MW-3-102207  FB  
 Sampling Plan By RMS C.O.C. No. \_\_\_\_\_  DUP  
 Purge Method:  Centrifugal Pump  Disposable Bailor  Hand Bail  Submersible Pump  Teflon Bailor  Other \_\_\_\_\_  
 Purge Water Storage Container Type 55 gal Drum Storage Location \_\_\_\_\_  
 Date Purge Water Disposed \_\_\_\_\_ Where Disposed on site

Analyses Requested EPA 8015 No. and Type of Bottles Used 1L Amber  
EPA 8060 3 100a w/HCl

Lab Name \_\_\_\_\_  
 Delivery By  Courier  Hand

Well No. MW-3 Depth of Water 54.32  
 Well Diameter: 2 Well Depth 62.17  
 2" (0.16 gal/feet)  5" (1.02 gal/feet) Water Column Height 7.85  
 4" (0.65 gal/feet)  6" (1.47 gal/feet) Well Volume 1.25

7.85 (8.20)  
1.57 + 54.32  
80% DTW 55.89

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	Totalizer Reading	Temperature (C°)	pH (SU)	Cond (µmhos)	Turb (NTU)	Remarks
<del>1530</del>		<u>54.32</u>							
<u>1537</u>			<u>1.25</u>		<u>19.29</u>	<u>6.85</u>	<u>676</u>		<u>start purge</u>
<u>1542</u>			<u>2.50</u>		<u>18.28</u>	<u>6.88</u>	<u>603</u>		<u>E3</u>
<u>1547</u>			<u>3.75</u>		<u>18.29</u>	<u>6.93</u>	<u>681</u>		<u>E3</u>
<u>1550</u>									
<u>1555</u>		<u>54.29</u>							<u>sample duplicate</u>

Continue remarks on reverse, if needed.



Project No. 00-09567 Date 10/27/07 Page 1 of 1  
 Project Name Hanson Radius Sampling Location MW-5  
 Sampler's Name EDW Sample No. MW-5-102207  FB  
 Sampling Plan By KMS C.O.C. No. \_\_\_\_\_  DUP  
 Purge Method:  Centrifugal Pump  Disposable Bailer  Hand Bail  Submersible Pump  Teflon Bailer  Other \_\_\_\_\_  
 Purge Water Storage Container Type 55 gal Drum Storage Location on site  
 Date Purge Water Disposed \_\_\_\_\_ Where Disposed \_\_\_\_\_

Analyses Requested: EPA 8015  
EPA 8260

No. and Type of Bottles Used: 1L Amber  
3 Uoa w/HCl

Lab Name \_\_\_\_\_  
 Delivery By  Courier  Hand \_\_\_\_\_

Well No. MW-5 Depth of Water 68.40  
 Well Diameter: 2 Well Depth 77.33  
 2" (0.16 gal/foot)  5" (1.02 gal/foot) Water Column Height 8.93  
 4" (0.65 gal/foot)  6" (1.47 gal/foot) Well Volume 1.43

8.93 <sup>10:20</sup>  
~~6.8~~

1.794  
68.40

80% DTW 70.19

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	Totalizer Reading	Temperature (C°)	pH (SU)	Cond (µmhos/cm)	Turb (NTU)	Remarks
<u>1055</u> <u>1105</u>							<u>123/cm</u> <u>124/cm</u>		<u>FB-102207</u> <u>start purge</u>
<u>1118</u>		<u>69.40</u>	<u>4.5</u>	<u>7</u>	<u>19.54</u>	<u>7.33</u>	<u>696</u> <u>624</u>	<u>63</u>	
<u>1130</u>			<u>4.59</u>		<u>19.22</u>	<u>7.41</u>	<u>680</u> <u>606</u>	<u>63</u>	
<u>1138</u>			<u>6.65</u>		<u>18.62</u>	<u>7.38</u>	<u>673</u> <u>592</u>	<u>63</u>	
<u>1140</u>		<u>68.40</u>							<u>sample</u>

Continue remarks on reverse, if needed.



Project No. 091-09562 Date 10/28/07 Page 1 of 1  
 Project Name Hanson Radium Sampling Location MW-6  
 Sampler's Name FNW Sample No. MW-6-102207  FB  
 Sampling Plan By KMS C.O.C. No. \_\_\_\_\_  DUP  
 Purge Method:  Centrifugal Pump  Disposable Bailer  Hand Bail  Submersible Pump  Teflon Bailer  Other \_\_\_\_\_  
 Purge Water Storage Container Type 55 gal Drum Storage Location \_\_\_\_\_  
 Date Purge Water Disposed \_\_\_\_\_ Where Disposed \_\_\_\_\_

Analyses Requested: EPA 8015 No. and Type of Bottles Used: 1 L Amber  
EPA 8260 3 UOa w/HCl  
 Lab Name \_\_\_\_\_  
 Delivery By  Courier  Hand

Well No. MW-6 Depth of Water 49.19  
 Well Diameter: 2 Well Depth 57.73  
 2" (0.16 gal/foot)  5" (1.02 gal/foot) Water Column Height 8.54  
 4" (0.65 gal/foot)  6" (1.47 gal/foot) Well Volume 1.37

8.54 x 0.20  
 1.714919  
 80% DTW 50.90

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	Totalizer Reading	Temperature (C°)	pH (SU)	Cond (µmhos)	Turb (NTU)	Remarks
1215		49.19							
1221			1.5		18.44	7.02	599	E3	start purge
1229			3		17.98	6.96	605	E3	
1230			4.5		17.94	6.91	657	E3	
1238			6		17.65	6.96	636	E3	
1243			7.5		17.28	6.98	652	E3	
1245		50.64							

Continue remarks on reverse, if needed.

Project No. 001-0957 Date 10/22/07 Page 1 of 1  
 Project Name Hanson Radon Sampling Location MW-7  
 Sampler's Name ENW Sample No. MW-7-102207  FB  
 Sampling Plan By RMS C.O.C. No. \_\_\_\_\_  DUP  
 Purge Method:  Centrifugal Pump  Disposable Bailor  Hand Bail  Submersible Pump  Teflon Bailor  Other \_\_\_\_\_  
 Purge Water Storage Container Type 55 gal Drum Storage Location on site  
 Date Purge Water Disposed \_\_\_\_\_ Where Disposed \_\_\_\_\_

Analyses Requested EPA 8015 EPA 8060  
 No. and Type of Bottles Used 2 Amber 3 vial w/ HCl  
 Lab Name \_\_\_\_\_  
 Delivery By  Courier  Hand

10.57(0.20)  
 2.11 + 57.04  
 80% DTW 59.15

Well No. MW-7 Depth of Water 57.04  
 Well Diameter: 2 Well Depth 67.61  
 2" (0.16 gal/feet)  5" (1.02 gal/feet) Water Column Height 10.57  
 4" (0.65 gal/feet)  6" (1.47 gal/feet) Well Volume 1.69

Time	Inlet Depth	Depth to Water	Volume Purged (gal)	Totalizer Reading	Temperature (C°)	pH (SU)	Cond (µmhos)	Turb (NTU)	Remarks
1317		57.04							
1327			1.75		18.65	6.61	694	E3	Purge started
1334			2.5		18.44	6.60	687	E3	
1342			3.25		18.46	6.57	678	E3	
1345			5		18.30	6.53	670	E3	
1350		59.31							

Continue remarks on reverse, if needed.

**Curtis & Tompkins, Ltd.**

Analytical Laboratory Since 1878

2323 Fifth Street  
Berkeley, CA 94710  
(510) 486-0900 Phone  
(510) 486-0532 Fax

# CHAIN OF CUSTODY

**Analysis**

C & T LOGIN #: \_\_\_\_\_

Sampler: ENW

Project No.: 001-09567-04

Report To: Katrin Schliewen

Project Name: Hansen Rodium

Company: LTP, Inc

Project P.O.: 001-09567-04

Telephone: 510 652 4500

Turnaround Time: Standard

Fax: 510 652 2246

Lab No.	Sample ID.	Sampling Date Time	Matrix			# of Containers	Preservative			
			Soil	Water	Waste		HCL	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	ICE
	TB-102207	10/22/07 0900		X		1	X			
	TB-102207	10/22/07 1055		X		4	X			
	MW-5-102207	10/22/07 1140		X		4	X			
	MW-6-102207	10/22/07 1245		X		4	X			
	MW-7-102207	10/22/07 1350		X		4	X			
	MW-1-102207	10/22/07 0950		X		4	X			
	MW-2-102207	10/22/07 1455		X		4	X			
	MW-3-102207	10/22/07 1550		X		4	X			
	MW-3-102207-D	10/22/07 1555		X		4	X			
	MW-4-102207	10/22/07 1656		X		3	X			

TPhono Silica gel cleanup  
 TPHD/TPHDS with Silica (APA 8015)  
 VOCs including BTEX, Hg, Oxygenates,  
 Lead, Selenium, and TPH6  
 (LPA 4260)

RECEIVED BY: \_\_\_\_\_

DATE / TIME: 10/22/07 6:20

RELINQUISHED BY: \_\_\_\_\_

Enza Wray 10/22/07  
DATE / TIME

Notes: SAMPLE RECEIPT  
 Intact  Cold  
 On Ice  Ambient  
 Preservative Correct?  
 Yes  No  N/A

SIGNATURE

## **APPENDIX E**

### **Data Validation Summary**

## **Data Validation Summary**

LFR Inc. performed a level III data validation evaluation of the analytical data collected during the subsurface investigation completed at the former hot mix asphalt plant area at the Hanson Aggregates Radum facility in October 2007. The data validation evaluation was conducted in accordance with the United States Environmental Protection Agency (U.S. EPA) Data Validation Functional Guidelines for Evaluating Environmental Analyses, entitled "U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," dated October 1999. Soil, groundwater, and product samples were submitted to Curtis & Tompkins, Ltd., a California-certified analytical laboratory, located in Berkeley, California, for analysis. The sample delivery groups evaluated were 198113, 198144, 198204, 198227, 198238, and 198608.

The samples were analyzed variably using the following analytical methods:

- EPA method 8015B for total petroleum hydrocarbons (TPH) as gasoline (TPHg), TPH as diesel (TPHd), and TPH as motor oil (TPHmo)
- EPA method 8260B for volatile organic compounds (VOCs) such as benzene, toluene, ethyl benzene, xylenes (BTEX), fuel oxygenates, and lead scavengers
- EPA method 8270C for semi-volatile organic compounds (SVOCs)
- EPA method 8081A for organochlorine pesticides
- EPA method 8082 for polychlorinated biphenyls (PCBs)
- EPA method 6010B and 7470A for metals

The data were evaluated based on the following parameters according to the U.S. EPA Guidance for Level III data validation:

- data completeness
- holding times
- blanks
- system monitoring compound spike recoveries (surrogates)
- matrix spike/matrix spike duplicate recoveries (MS/MSDs)[?]
- blank spike/blank spike duplicate recoveries (BS/BSDs)
- laboratory control spike/laboratory control spike duplicate recoveries (LCS/LCSDs)

## **Surrogate Spikes**

For delivery group 198204, the result for TPHg in sample B-25A-34.5 is an approximate concentration because the percent recovery of the surrogate bromofluorobenzene exceeded its quality control (QC) limit.

Also in delivery group 198204, results for PCBs (namely Aroclor-1016, -1221, -1232, -1242, -1248, -1254, and -1260) in sample B-25A-34.5 are approximate because the surrogate spiked with the sample resulted in a recovery percentage that was below the laboratory's quality analysis (QA)/QC limit. No PCBs were detected in this sample.

For delivery sample group 198227, a number of SVOC results for sample B-27-GGW (including 2-chlorophenol, 2,4-dichlorophenol, 4-chloro-3-methylphenol, 2,4,6-trichlorophenol, 2,4,5-trichlorophenol, and pentachlorophenol) are considered approximate because recovery percentages for the two halogenated phenol surrogates (2-fluorophenol and 2,4,6-tribromophenol) were below the laboratory's QC limit range.

### ***Chromatographic Patterns for Gasoline and Diesel***

For a number of samples (see Table E-1), TPHd and/or TPHg results were flagged with Y qualifiers by the laboratory to denote that the samples' fuel chromatographic patterns did not resemble the standard patterns. Reasons why fuel chromatograms exhibit a dissimilar pattern to standards may include the following:

- The lack of sharp alkane peaks may be due to the refinery processing. Refinery processes can cause the aliphatic chain compounds to react with other hydrocarbons thereby reducing the number of sharp peaks.
- Weathering may have occurred. Lighter hydrocarbons tend to be more mobile in soil; therefore, their dispersion alters the profile of a fuel over time and/or due to field conditions.
- The composition of hydrocarbon mixtures is dependent on the temperatures that are applied to them by refineries during the distillation processes. Because of this, different fuel suppliers may produce fuel with varying compositions.

### ***Summary of Data Validation Evaluation of Data***

Based upon the data validation review of the project data, it appears that the data are valid and available for use for this site characterization investigation. As described above, several analytical results were qualified as approximate concentrations because of poor surrogate recoveries during laboratory analyses and a number of results were flagged with Y qualifiers because chromatograms did not match standards. No other analytical results required QA qualifiers.

Table E-1: Samples Qualified with Y Flags

Delivery Group	Matrix	Analysis	Sample ID
198113	Soil	TPHd	B28-5
198113	Soil	TPHd	B28-8
198113	Soil	TPHd	B28-13
198113	Soil	TPHd	B30-5
198113	Soil	TPHd	B30-8
198144	Water	TPHd	MW-4-GGW
198144	Soil	TPHd	B29-5
198144	Soil	TPHd	B29-6
198144	Soil	TPHd	B29-11
198144	Soil	TPHd	B29-16
198144	Soil	TPHd	B29-23
198144	Soil	TPHd	B29-27
198144	Soil	TPHd	B29-33
198144	Soil	TPHg	B29-43
198144	Soil	TPHd	B31-5
198144	Soil	TPHd	B31-16.5
198204	Soil	TPHd	B33-5
198204	Soil	TPHd	B33-6.5
198204	Soil	TPHd	B25-35.5
198204	Soil	TPHg	B25A-34.5
198204	Other	TPHd	OIL-FP
198227	Water	TPHd	B27-GGW
198227	Soil	TPHd	B26-6
198227	Soil	TPHd	B26-28
198227	Soil	TPHg	B26-33.5
198227	Soil	TPHd	B27-32
198227	Soil	TPHd	B32-5
198227	Soil	TPHd	B32-7.5
198227	Soil	TPHd	B32-15.5
198227	Soil	TPHd	B32-17
198238	Soil	TPHd	B34-5
198238	Soil	TPHd	B34-7
198238	Soil	TPHd	B35-5
198238	Soil	TPHd	B35-10.5