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Alameda County Environmental Health YRC Worldwide Inc. 10990 Ross Avenus Overland Park, KS 56211-1210 Phone 913 606 6100



September 5, 2008

To Whom It May Concern:

Attached is the "Additional Site Assessment Report" for the Roadway Express, Inc. property located at 1708 Wood Street in Oakland, CA 94607, Fuel Leak Case No. RO 0000039. I declare, under penalty of perjury, that the information and/or recommendations contained in the attached report are true and correct to the best of my knowledge.

Roadway Express, Inc. is a subsidiary of YRC Worldwide, Inc., and as Supervisor of Environmental Services at YRC North American Transportation I have been charged by YRC Worldwide, Inc. to represent Roadway Express, Inc. regarding environmental matters.

Sincerely,

Ruben D. Byerley

Supervisor - Environmental Services

September 5, 2008

Mr. Paresh C. Khatri Hazardous Materials Specialist Alameda County Environmental Health 1131 Harbor Bay Parkway, 2nd Floor Alameda, California 94502

Subject: Additional Site Assessment Report

Roadway Express, Inc. 1708 Wood Street Oakland, California

Fuel Leak Case No. RO0000039

Burns & McDonnell Project No. 48791

Dear Mr. Khatri:

Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) has been retained by YRC North American Transportation (YRC) to perform additional site assessment of petroleum impacts to soil and groundwater at the Roadway Express, Inc. truck terminal, located at 1708 Wood Street, Oakland, CA (Site). Figure 1 shows the location of the Site. This report presents soil and groundwater results to further delineate the horizontal and vertical extent of petroleum hydrocarbon impacts, and further addresses the preferential pathways proximal to the abandoned-in-place underground storage tanks (USTs) and the area of the former USTs at the Site. Drilling and sampling activities were initiated in response to the Alameda County Environmental Health Service (ACEH) letter, dated March 18, 2008, included as Appendix A.

To further delineate the horizontal and vertical extent of petroleum hydrocarbon impacts related to the former USTs, 10 borings (designated BM-10 through BM-19) were advanced to depths ranging from 20 feet to 32 feet below ground surface (bgs). Additionally, two wells (MW-1 and MW-2), which were originally constructed without a sufficient sanitary seal, were destroyed.

1.0 Site Description and Location

The Site is currently operating as a trucking facility (Figure 2), which includes: a terminal, loading dock, warehouse, business office, and trailer storage around the perimeter. The Site is secured with a full perimeter fence and staffed by professional security guards.

The Site is situated between Wood Street to the west, 18th Street to the north, 17th Street to the south, and Campbell Street to the east. Across 18th Street is a community park and surrounding businesses are industrial complexes.

2.0 Regional and Site Geology

The Site is located approximately 1 mile east of the central-eastern portion of the San Francisco Bay, at an elevation of approximately 10 feet above mean sea level (MSL). The Site is near the current eastern extent of the San Francisco Bay, and in the recent geologic past, was part of the San Francisco Bay. The near-surface geology has largely been controlled by the changing morphology of the San Francisco Bay over geologic time. The closest surface-water bodies to the Site are the Oakland Outer Harbor, located approximately 1 mile west of the Site, and the Oakland Inner Harbor, located approximately 1.75 miles south of the Site.

The Site's lithology is characterized by dark gray, very soft, moist clay with intermittent layers of silty clay to a depth of approximately 15 feet (bgs). The bottom of this clay layer consists of a dark clay with organics and appears to be Bay Mud. Below this layer is soft, wet, silty sandy clay with organics, and medium to coarse sand, that extends from approximately 15 to 32 feet bgs. Below the sand is gray, very soft, wet clay of unknown thickness.

3.0 Hydrogeologic Stetting

Based on boring logs and groundwater measurements, it appears that there are two water zones separated by a semi-impermeable clay layer. Monitoring wells MW-3, MW-4, and MW-5 are all screened from 10 to 30 feet bgs. When these wells were installed, first encountered groundwater was at 13 to 15 feet bgs, however, static measured groundwater levels in these wells have consistently been at 4 to 5 feet bgs. This is indicative of an aquifer under semi-confined conditions.

Recent direct push borings have encountered a shallow groundwater zone at between 3 and 6 feet bgs and with very limited water recovery of approximately 1 to 2 liters over the entire day. Groundwater monitoring wells at the Site, screened in the deeper zone (from 10 to 30 feet bgs), were measured to have a recharge rate of approximately 0.5 gallons per minute, very different from the first encountered water zone which has a much slower recharge rate.

4.0 Site History and Underground Storage Tank Overview

According to an internal document review conducted by the consultant firm Marshall Miller & Associates (*Marshall Miller & Associates 2006*) between the years 1987 to 1996, three underground USTs were properly removed and two USTs were abandoned-in-place at the Site.

In March 1987, two USTs (one 10,000 gallon gasoline tank and one 2,000 gallon motor oil tank) were removed from the central-eastern area of the Site (Figure 3). During the tank removal, two other USTs were identified at the northwest corner of the property (one 2,000 gallon waste oil tank and one 10,000 gallon tank of unknown contents). The two USTs located in the northwest corner of the property were abandoned-in-place (filled with sand slurry and grout) by R.S. Eagan

& Co. At that time, R.S. Eagan & Co. installed two monitoring wells, MW-1 and MW-2, within the footprint of the central-eastern excavation.

In April 1996, the remaining 10,000 gallon diesel UST and all associated piping was removed from the central-eastern area of the Site. The excavated soil was properly disposed of and the area was backfilled with 300 tons of pea gravel.

In September 2000, One Environment installed three monitoring wells (MW-3, MW-4, and MW-5) around the location of the removed USTs in the central-eastern area of the Site.

5.0 Previous Investigations

In March 2007, Burns & McDonnell was retained by YRC to locate and sample the Site's monitoring wells. Monitoring wells MW-3, MW-4, and MW-5 were located and sampled for MTBE as requested by the ACEH.

In December 2007, Burns & McDonnell initiated subsurface characterization at the Site, which consisted of nine direct push borings, advanced to a maximum depth of 15 feet bgs. The purpose of this phase of investigation was to assess subsurface conditions due to a potential sale of the property. Six of the borings (BM-1 through BM-6) were in the central-eastern area of the Site, where the former fuel and waste oil USTs had been removed. Three borings (BM-7, BM-8, and BM-9) were advanced in the area near the corner of 18th Street and Wood Street, where the USTs that were abandoned-in-place are estimated to be located. Boring locations are illustrated on Figure 3 and Figure 4.

In the central-eastern portion of the Site where the USTs had been removed, petroleum-hydrocarbon impacts were seen in the shallow groundwater samples. The highest impacts in this area were seen in grab groundwater samples from boring BM-2. This boring was located below the former fueling island and was advanced through the pea gravel fill that was placed in the excavation after the tank was removed.

In the northwest corner of the Site where the two USTs were abandoned in place, petroleum-hydrocarbon constituents were seen in soil and grab groundwater samples from all three borings. Benzene, toluene, ethylbenzene, and xylenes (BTEX) were not detected in any of the groundwater samples and the only detected volatile organic compound (VOC) was limited to Methyl tert-butyl ether (MTBE), which was detected in BM-7 at a concentration of 2.3 micrograms per liter ($\mu g/L$).

The groundwater monitoring wells screened between 10 and 30 feet bgs (MW-3, MW-4, and MW-5) have not shown any petroleum-hydrocarbon constituents in the March or December 2007 sampling events. Monitoring well MW-2, which was screened between 0.5 and 9.2 feet bgs, was the only monitoring well at the Site that has recently shown any petroleum hydrocarbon constituents.

6.0 Preferential Pathway Study

In the ACEH letter dated May 29, 2008, more detail was requested as to the utilities present in the area and the potential for the migration of contaminants along the possible preferential pathways.

6.1 Local Utilities

Subsurface utilities were located during a perimeter Site walk and through communication with the local utility companies. A private utility locating company, Precision Locating, was retained to assist with utility identification and mapping.

A municipal water line runs down Wood Street to the northwest of the Site and approximately 20 feet along 18th Street. Markings made by East Bay Municipal Utility Distric, in response to a USA ticket indicate that the water line does not continue down 18th Street. Water service to the Site is located between the shop building and the main office building.

Storm drains in the area of the Site are tied into the sanitary sewer system and are marked as reclaimed sewer lines. There is a 10-inch diameter sewer line that runs down 18th Street, 18 feet into the street from the property fence line. At the southeast end of the Site, the swere line was measured at a depth of 4 feet below the road surface and a depth of 5 feet below the road surface at the northwest side of the Site. At the intersection of Wood and 18th Street the sewer encounters a junction and continues down Wood Street to the southwest at a depth of 8 feet below the road surface. The Site's sanitary sewer ties in to the city system at the northwest corner of the Site, along 18th Street.

A natural gas line runs along Wood Street, and is located approximately 5 feet outside of the perimeter fence. Gas service to the Site is located between the shop building and the main office building.

6.2 Potential Migration

At this time, it is unknown what fill material was used in the utility corridor areas around the Site. However, it is reasonable to assume that the material that was used was uncompacted artificial fill or aggregate. If this is the case, the material could act as a preferential pathway for the horizontal migration of petroleum impacts. It is unlikely that the utility trenching would be able to act as a conduit for vertical migration, since it lies in the heavy clayey material and the sandy material characteristic of the deeper water zone isn't encountered until 12 to 15 feet bgs.

The recent offsite borings, described later in this report, show that a measurable shallow water zone was not found outside of the property line. Therefore, it is unlikely that the impacted shallow groundwater extends into the street, encountering the subsurface utilities, and using them as a conduit. With the installation of shallow groundwater wells, we will be able to determine the flow direction of the shallow groundwater zone and determine if it is likely to encounter the utility trenching during periods of elevated groundwater.

Nearby utilities are shown on Figures 3 and 4. The depth of utilities are shown on cross sections B - B', C - C', and D - D', located in Appendix B.

7.0 Monitoring Well Destruction

The first Technical Comment of the March 18, 2008 ACEH letter(Appendix A), stated "Specifically, the sanitary seal for MW-2 may not be constructed in accordance with California Well Standards and may pose a potential preferential pathway for surface contaminants to the subsurface." Burns & McDonnell agreed with this evaluation and proposed to remove this monitoring well by over-drilling. A well destruction permit for MW-2, was issued by the Alameda County Public Works Agency (ACPWA), and is presented in Appendix C.

7.1 MW-2 Well Destruction

Two weeks prior to the removal of MW-2, Burns & McDonnell extracted approximately 500 gallons from MW-2, located in the backfill material put in place after the USTs were removed. Groundwater was removed form MW-2 with a vacuum truck, transported off Site, and disposed of at an appropriate disposal / recycling facility.

The concrete around the well box of MW-2 was broken-out and removed. The casing was over-drilled using a hollow-stem auger mounted on a GeoprobeTM 6620 GT track mounted rig. Once the target depth of 10 feet bgs was reached, it was possible to pull the casing out by hand. The casing was intact but showed signs of damage when it was originally installed, as if it was pushed in place through the pea gravel. The inside of the auger was then tremmie grouted with neat cement as it was pulled up. The borehole was left to settle overnight and was completed with concrete to match the surrounding surface.

7.2 MW-1 Well Destruction

Based on the *Environmental Disclosure Report* by Marshall Miller & Associates, 2006, it was reported that MW-1 was removed during the removal of the 10,000 gallon diesel UST in the central-eastern area, in April 1996. However, during this Site investigation, a well was discovered that had similar construction to MW-2; a 10 foot section of 4-inch diameter slotted screen set into pea gravel with no sanitary seal. The well was located adjacent to the extent of the excavation from the removal of the tanks. A blank metal cover had previously been welded over the top of the well box.

Mr. Paresh Khatri was contacted and informed of the discovery. He granted permission to proceed with removal of the well as it was not properly constructed and could pose a potential pathway for surface contaminants to the sub-surface. A second well destruction permit was issued by the ACPWA and is included in Appendix C.

During the removal of MW-2 it was found that the unconsolidated pea gravel surrounding the well caved in while the auger was being pulled up. Since this could cause unwanted subsurface voids and fact that there was no sand filter pack present it was decided that it would be more ideal to grout the well casing in place. This was confirmed with Mr. Paresh Khatri over the phone and was approved of by the ACPWA.

On August 7, 2008, the well box was broken-out and removed. MW-1 was tremmie grouted up to within 6 inches of the top of the casing with neat cement. The rest of the area was finished with concrete to match the surrounding surface.

8.0 Soil Borings

Prior to drilling, Burns & McDonnell obtained boring permits from the ACPWA; permits are presented in Appendix C. Underground Service Alert (USA) North was contacted and ticket number 287506 was assigned for the drilling activities. Additionally, Burns & McDonnell retained Precision Locating, a private utility locating service, to clear the final boring locations.

8.1 North-west corner

Four borings (BM-16 through BM-19) were advanced in the area surrounding the tanks that were reportedly abandoned-in-place in the northwest corner of the Site (Figure 4). One boring is located outside the fence line along 18th Street (BM-19), one to the northeast outside the fence line of the abandoned tank (BM-18), one at the corner of the shop building (BM-16), and one down gradient and near the property edge (BM-17).

8.2 18th Street (Central-eastern)

Previous investigations have not determined the horizontal and vertical extent of petroleum phase hydrocarbons in the central-eastern area of the Site. Since concentrations in shallow groundwater were detected along the fence line northeast of the former USTs, off-Site borings BM-13 and BM-14 were advanced on 18th Street. Boring BM-13 is located on the south side of 18th Street near the property line (northwest of BM-4) and BM-14 is located on the north side of 18th Street (Figure 3).

8.3 Central-eastern Former UST Area

Borings BM-10, BM-11, BM-12, and BM-15 were advanced around the former USTs; BM-10 to the northwest, BM-11 to the southeast, BM-12 between B-2 and B-6, and BM-15 upgradient and to the southeast (Figure 3).

9.0 Drilling and Sampling Activities

RSI Drilling, an experienced C-57 licensed drilling company, performed all drilling and well destruction activities. Drilling operations were supervised by a Burns & McDonnell experienced field geologist, under the oversight of a Burns & McDonnell California Professional Geologist. A GeoprobeTM 6620 GT track mounted rig was used to advance borings. All boring locations were hand cleared (hand auger) to a depth of five feet prior to advancement of the GeoprobeTM. No utilities were encountered during hand clearance or boring advancement.

9.1 Soil Sampling

Borings were advanced in four foot intervals. A soil sample was taken above first encountered groundwater. Once shallow groundwater, where encountered, had been sampled as described in Section 9.2 below, borings were advanced to total depths ranging from 20 feet to 32 feet bgs. A second soil sample was collected from the semi-impermeable clay layer at approximately 10 feet bgs. Deeper soil samples were collected from the sandy material associated with the deeper water zone.

During drilling activities, soil cuttings were retained for visual classification according to the Unified Soil Classification System, and VOC screening with a photoionization detector (PID). Lithologic description, PID readings (breathing zone, borehole, soil), and drilling observations were recorded on the associated boring log, and are presented as Appendix C.

9.2 Groundwater Sampling

Once first encountered groundwater was reached, a temporary casing was placed in the borehole. Clean polyethylene tubing was placed down the casing and grab groundwater samples were taken using a peristaltic pump.

In the central-eastern area, groundwater was first encountered at approximately 3 to 5 feet bgs. First encountered groundwater for the borings advanced along 18th Street and the northwest corner of the Site, was at approximately 12 to 20 feet bgs. While moisture was observed at shallower depths, it was concomitant with the soft, black to gray clay layers.

After shallow groundwater was sampled and the boring was advanced to the total depth, a new temporary casing was placed in the borehole and a deeper grab groundwater sample was collected.

10.0 Summary of Laboratory Results

Soil and groundwater samples were analyzed by Curtis & Tompkins, a California State-certified laboratory, for the following compounds using Environmental Protection Agency (EPA) Methods:

- Total Petroleum Hydrocarbons in the diesel range (TPH-d), gasoline range (TPH-g), and in the motor oil range (TPH-mo) by EPA Method 8015M;
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8021B;
- Methyl tert-butyl ether (MTBE) by EPA 8021B (confirmed by EPA Method 8260B if detected).

10.1 Groundwater Sample Results

Groundwater results from the central-eastern and northwestern areas showed that there were no detectable petroleum hydrocarbon impacts in the shallow or the deeper water zones. Some of the

samples had initial detections for TPHd and TPHmo, however after silica gel was used to remove biogenic interferences there, were no concentrations above the detection limits.

THPg, BTEX, and MTBE were not detected at or above the detection limits in any of the grab groundwater samples submitted for analysis.

A grab groundwater sample was taken from MW-2 prior to its destruction. Analytical results from this sample were below the detection limits for TPHd, TPHmo, TPHg, BTEX, and MTBE.

Copies of the certified analytical reports and Chain-of-Custody documentation are included as Appendix D. Table 1 summarizes the historical grab groundwater results.

10.2 Soil Sample Results

10.2.1 Central-Eastern Area

Soil samples from borings in the central-eastern area (BM-10 through MB-15) showed petroleum hydrocarbon impacts predominantly in the shallow soil samples. Concentrations of both TPHd and TPHmo were found to decrease to below the detection limits as depth increased past 15 feet bgs.

The highest impacts for TPHd were found in BM-11, BM-12, BM-14, and BM-15 at depths ranging from between 2.6 and 3.6 feet bgs. However these concentrations were all below the San Francisco Regional Water Quality Control Board (SFRWQCB) Environmental Screening Level (ESL) of 180 milligrams per kilogram (mg/Kg) for shallow soil in an industrial area where water is not a source of drinking water. The detections were also below the lower SFRWQCB ESL of 83 mg/Kg for shallow water in a residential area where water is a source of drinking water.

THPmo was detected at concentrations ranging from below detection limits to 860 mg/Kg (BM-11 at 2.6 feet bgs). All of the samples which had detectable concentration of TPHmo were from depths no greater than 11 feet bgs.

TPHg, BTEX, and MTBE were not detected at or above the detection limits in any of the soil samples.

Copies of the certified analytical reports and Chain-of-Custody documentation are included as Appendix E. Table 2 summarizes the soil sample results.

10.2.2 Northwest Corner

Soil boring samples in the area of the abandoned in place USTs (BM-16 through BM-19), showed TPHd concentrations ranging from below the detection limits to 7.6 mg/Kg (BM-19 at 7.8 feet bgs). Concentrations of TPHmo ranged from below the detection limits to 19 mg/Kg (BM-19 at 7.8 feet bgs).

Copies of the certified analytical reports and Chain-of-Custody documentation are included as Appendix E. Table 2 summarizes the soil sample results.

11.0 Conclusions and Recommendations

Petroleum impacts appear to be predominantly in the shallow soil and groundwater. The limited detections of petroleum hydrocarbons that were found in soil samples decreased with depth. None of the groundwater sampled below the clayey Bay Mud layer showed any petroleum impacts. The borings advanced off-Site did not encounter a shallow groundwater zone, but did have detectable petroleum hydrocarbon concentrations in the shallow soil samples. Given the lack of groundwater in the shallow zone and the relatively shallow depth of the detections (3 feet bgs), it is possible that the soil impacts found in BM-14 are not related to the shallow impact found in the area of the removed USTs

With the removal of MW-1 and MW-2, the only monitoring wells located at the Site are screened in the deeper water zone below 15 feet bgs. The remaining three groundwater monitoring wells, screened between 10 and 30 feet bgs, are sufficient to adequately gauge and monitor groundwater in the deeper zone in the central-eastern portion of the site. In order to monitor the shallow water zone and to determine flow direction and gradient, Burns & McDonnell recommends the installation and monitoring of three new shallow groundwater monitoring wells surrounding the former central-eastern USTs.

The highest groundwater concentrations in the former UST area have been within, or immediately adjacent to the footprint of the previous excavations for the USTs. The material used to backfill after the tank removals was pea gravel and based on the observations of the recharge rate of MW-2, it is apparent that this material has a "bathtub" effect, retaining shallow groundwater and acting as a source for the shallow petroleum impacts. It is recommended that this area be excavated, the pea gravel removed, and clean backfill be placed and compacted into the excavation.

12.0 Certification

This report was prepared under the supervision of a California Professional Geologist. All statements, conclusions and recommendations are based solely upon published results from previous consultants, field observations by Burns & McDonnell and laboratory analysis performed by a California state-certified laboratory related to the work performed by Burns & McDonnell.

If you have any questions regarding this project please feel free to contact the undersigned at (650) 871-2926.

Sincerely,

Patrick Bratton Project Manager

Gary P. Messerotes, Seniør Geologist



Attachments:

Table 1 – Historical Grab Groundwater Summary

Table 2 – Historical Soil Sample Summary

Figure 1 – Site Location Map

Figure 2 – Site Map

Figure 3 – Soil Boring Location Map – Abandoned USTs Area

Figure 4 – Monitoring Well and Soil Boring Location Map – Former USTs Area

Figure 5 – TPH Concentrations in Soil & Groundwater – Abandoned USTs Area

Figure 6 – TPH Concentrations in Shallow Groundwater & Soil – Former USTs Area

Figure 7 – TPH Concentrations in Deep Groundwater & Soil – Former USTs Area

Appendix A – Alameda County Environmental Health Letter, March 18, 2008

Appendix B - Cross-Sections

Appendix C – Boring and Well Destruction Permits

Appendix C – Boring Logs

Appendix C – Laboratory Analytical Reports

TABLES

TABLE 1

Historical Grab Groundwater Summary Total Petroleum Hydrocarbons, Oil Grease, Motor Oil, BTEX, and MTBE USF Roadway Express Facility

1708 Wood Street Oakland, California

Sample ID	Date Sampled	TPH-Gasoline	TPH-Diesel	TPH-Motor Oil	Total Oil & Grease	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
Analytical Re	porting Units	μg/L	μg/L	μg/L	mg/L	μg/Kg	μg/Kg	μg/Kg	μg/Kg	μg/L
B-1	24-Jul-97	<50	<50		<0.5					
B-3	24-Jul-97	<50	500		0.54					
B-4	24-Jul-97	<50	560		<0.5					
B-5	24-Jul-97	<50	<50		<0.5					
B-6	24-Jul-97	<50	2,000		0.69					
B-7	24-Jul-97	840	120,000		8.8					
B-8	24-Jul-97	<50	2,000		0.61					
BM-2	10-Dec-07	260	28,000	1,500	<5.0					
BM-3	10-Dec-07	<50								
BM-4	10-Dec-07	<50	<620	9,900	<5.0					
BM-5	10-Dec-07	<50								
BM-6	10-Dec-07	<50								
BM-7	10-Dec-07	<50	120 Y		<5.0					
BM-8	10-Dec-07	54,000 Y	61,000		430					
BM-9	10-Dec-07	180 Y	1,200 Y		<5.0					
BM-10-S	4-Aug-08	<50	<50*	<300*		<0.50	<0.50	<0.50	<0.50	<2.0
BM-10-D	4-Aug-08	<50	<50	<300		<0.50	<0.50	<0.50	<0.50	<2.0
BM-11-S	4-Aug-08	<50	<50*	<300*		<0.50	<0.50	<0.50	<0.50	<2.0
BM-11-D	4-Aug-08	<50	<50*	<300		<0.50	<0.50	<0.50	<0.50	<2.0
BM-12-S	4-Aug-08	<50	<50*	<300*		<0.50	< 0.50	<0.50	<0.50	<2.0
BM-12-D	5-Aug-08	<50	<50*	<300		<0.50	<0.50	<0.50	<0.50	<2.0
BM-13-O	5-Aug-08	<50	<50*	<300		<0.50	<0.50	<0.50	<0.50	<2.0
BM-14-O	5-Aug-08	<50	<50	<300		<0.50	<0.50	<0.50	<0.50	<2.0
BM-15-S	5-Aug-08	<50	<50*	<300*		<0.50	<0.50	<0.50	<0.50	<2.0
BM-15-D	5-Aug-08	<50	<50*	<300		<0.50	<0.50	<0.50	<0.50	<2.0
BM-16-O	5-Aug-08	<50 b	<50 b	<300 b		<0.50 b	<0.50 b	<0.50 b	<0.50 b	<2.0 b
BM-17-O	6-Aug-08	<50	<50*	<300		<0.50	<0.50	<0.50	<0.50	<2.0
BM-18-O	6-Aug-08	<50	<50	<300		<0.50	<0.50	<0.50	<0.50	<2.0
BM-19-O	6-Aug-08	<50	<50	<300		<0.50	<0.50	<0.50	<0.50	<2.0
MW-2	4-Aug-08	<50	<50*	<300*		<0.50	<0.50	<0.50	<0.50	<2.0

Notes:

ND = Sample not detected above detection limit; unable to find detection limit in prior sampling reports

- < ## = Sample not detected above detection limit of ##
- --- = Not sampled/analyzed for this constituent due to limited recovery of groundwater/and or not scheduled

NS = Not sampled for constituent

- * = Result after silica gel clean-up procedure, EPA Method 3630C
- Y = Atypical pattern
- b = Sample analysed outside of hold time
- S = Shallow water zone
- D = Deeper water zone
- O = Singular water zone

TABLE 2

Historical Soil Sample Summary Total Petroleum Hydrocarbons, Motor Oil, BTEX, and MTBE USF Roadway Express Facility

1708 Wood Street Oakland, California

Sample ID	Date Sampled	Depth	TPH-Gasoline	TPH-Diesel	TPH-Motor Oil	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
Analytical Reporting Units		(Feet bgs)	mg/Kg	mg/Kg	mg/Kg	μg/Kg	μg/Kg	μg/Kg	μg/Kg	μg/Kg
B-1	24-Jul-97	4	<1	<1						
B-3	24-Jul-97	6	<1	240						
B-4	24-Jul-97	7	<1	<1						
B-5	24-Jul-97	3.5	<1	5.4						
B-6	24-Jul-97	5	<1	<1						
B-7	24-Jul-97	3	<1	<1						
B-8	24-Jul-97	2	<1	<1						
MW-3	6-Sep-00	5	ND	ND						
MW-3	6-Sep-00	10	ND	ND						
MW-4	6-Sep-00	5	ND	ND						
MW-4	6-Sep-00	10	ND	ND						
MW-5	6-Sep-00	5	ND	ND						
MW-5	6-Sep-00	10	ND	ND						
BM-2	10-Dec-07	5	<0.50	8.8 Y	86					
BM-2	10-Dec-07	13	<0.50	<5.0						
BM-6	10-Dec-07									
BM-7	10-Dec-07	6	<0.50	<5.0	86					[
BM-8	10-Dec-07	7	<0.50	<120	1,700					
BM-9	10-Dec-07	5	<0.50	<5.0	83					
BM-10	4-Aug-08	5	<0.93	4.5* Y	12*	<4.6	<4.6	<4.6	<4.6	<19
BM-10	4-Aug-08	24	<0.91	<0.99	<5.0	<4.5	<4.5	<4.5	<4.5	<18
BM-11	4-Aug-08	2.6	<0.94	30* Y	860* Y	<4.7	<4.7	<4.7	<4.7	<19
BM-11	4-Aug-08	11	<0.93	<1.0*	<5.0	<4.6	<4.6	<4.6	<4.6	<19
BM-11	4-Aug-08	20	<1.0	1.1* Y	<5.0	<4.6	<4.6	<4.6	<4.6	<18
BM-12	4-Aug-08	3	<0.98	65* Y	130*	<4.6	<4.6	<4.6	<4.6	<18
BM-12	5-Aug-08	9.6	<0.93	1.2* Y	10*	<4.7	<4.7	<4.7	<4.7	<19
BM-12	5-Aug-08	19.6	<0.98	<0.99	<5.0	<4.9	<4.9	<4.9	<4.9	<20
BM-13	5-Aug-08	3.6	<1.0	3.7* Y	13*	<5.2	<5.2	<5.2	<5.2	<21
BM-13	5-Aug-08	21	<1.1	<1.0	<5.0	<5.3	<5.3	<5.3	<5.3	<21
BM-14	5-Aug-08	3	<1.0	56* Y	90*	<5.0	<5.0	<5.0	<5.0	<20
BM-14	5-Aug-08 5-Aug-08	17.6	<0.99	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<20
BM-14	5-Aug-08 5-Aug-08	23.6	<0.95	<0.99	<5.0 <5.0	<4.8	<4.8	<4.8	<4.8	<19
BM-15	5-Aug-08 5-Aug-08	3.6	<1.0	45* Y	320*	<5.1	<5.1	<5.1	<5.1	<20
BM-15	5-Aug-08 5-Aug-08	11	<0.98	1.3* Y	11*	<4.9	<4.9	<4.9	<4.9	<20 <20
BM-15	5-Aug-08 5-Aug-08	19	<1.0	2.4* Y	13*	<5.2	<5.2	<5.2	<5.2	<21
BM-16	5-Aug-08 5-Aug-08	29	<0.99	<1.0*	<5.0	<5.2 <5.0	<5.2 <5.0	<5.2 <5.0	<5.2 <5.0	<20
				<1.0 2.4* Y						
BM-17 BM-17	6-Aug-08 6-Aug-08	10.6 23.2	<1.0 <0.97	2.4 f 3.1* Y	16* 15*	<5.0 <4.9	<5.0 <4.9	<5.0 <4.9	<5.0 <4.9	<20 <19
BM-17	6-Aug-08	25.2	<1.0	1.3* Y	8.2			<4.9 <5.2		<21
	_					<5.2	<5.2	<5.2 <4.9	<5.2	
BM-18 BM-18	6-Aug-08	2.6	<0.97	3.7* Y	16* -5.0*	<4.9	<4.9		<4.9	<19
	6-Aug-08	8.6	<1.0	<1.0*	<5.0*	<5.1	<5.1	<5.1	<5.1	<20
BM-18	6-Aug-08	12.6	<0.93	2.0* Y	13*	<4.7	<4.7	<4.7	<4.7	<19
BM-19	6-Aug-08	7.8	<0.98	7.6* Y	15*	<4.9	<4.9	<4.9	<4.9	<20
BM-19	6-Aug-08	11	<0.98	3.7* Y	19*	<4.9	<4.9	<4.9	<4.9	<20
BM-19	6-Aug-08	19	<0.97	<1.0* Y	<5.0	<4.9	<4.9	<4.9	<4.9	<19
BM-19	6-Aug-08	22	<0.94	<1.0	<5.0	<4.7	<4.7	<4.7	<4.7	<19

Notes:

ND = Sample not detected above detection limit; unable to find detection limit in prior sampling reports

Boring Locations are indicated on Figures 1 and 2

< ## = Sample not detected above detection limit of ##

^{--- =} Not sampled/analyzed for this constituent

^{* =} Result after silica gel clean-up procedure, EPA Method 3630C

Y = Sample exhibits chromatagraphic pattern that does not resemble the standard

FIGURES

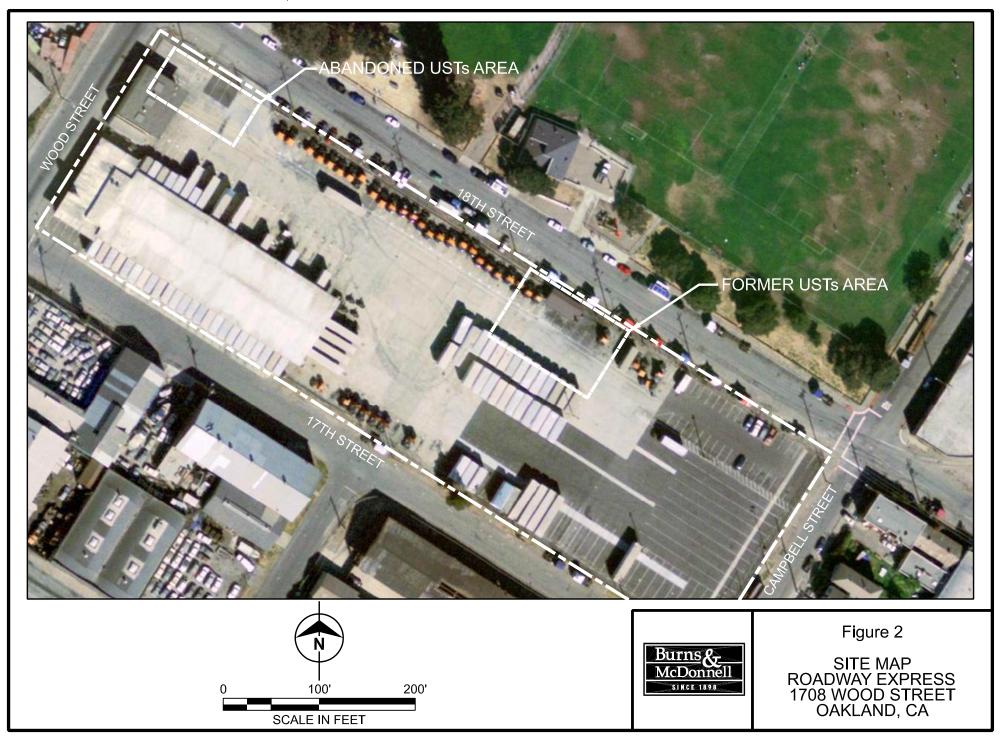


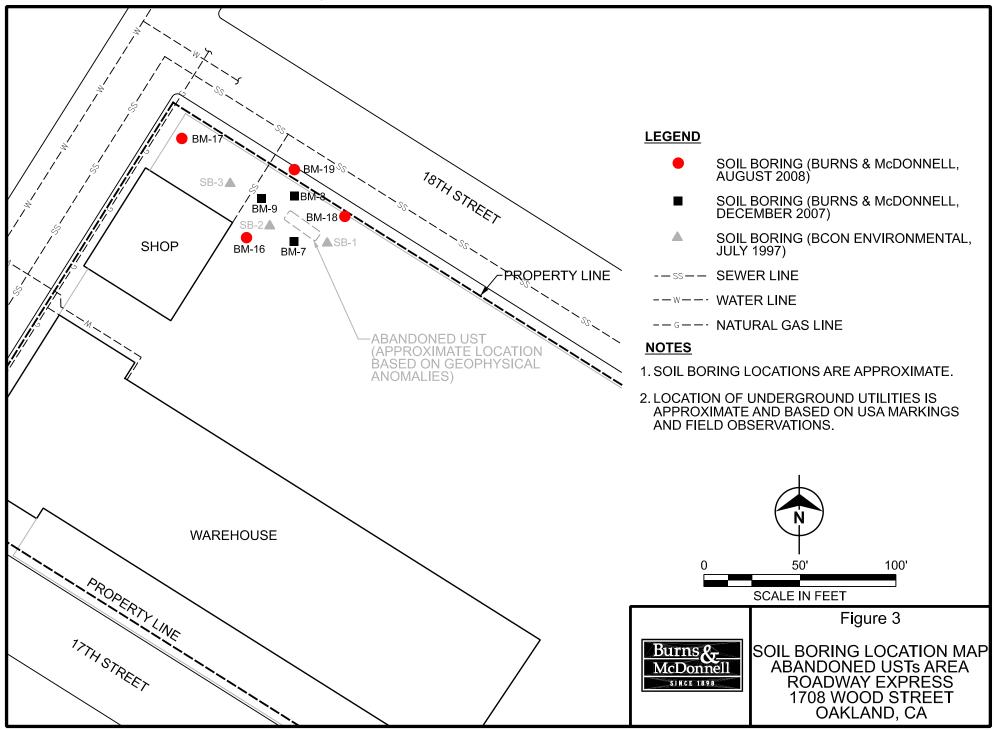
2400'

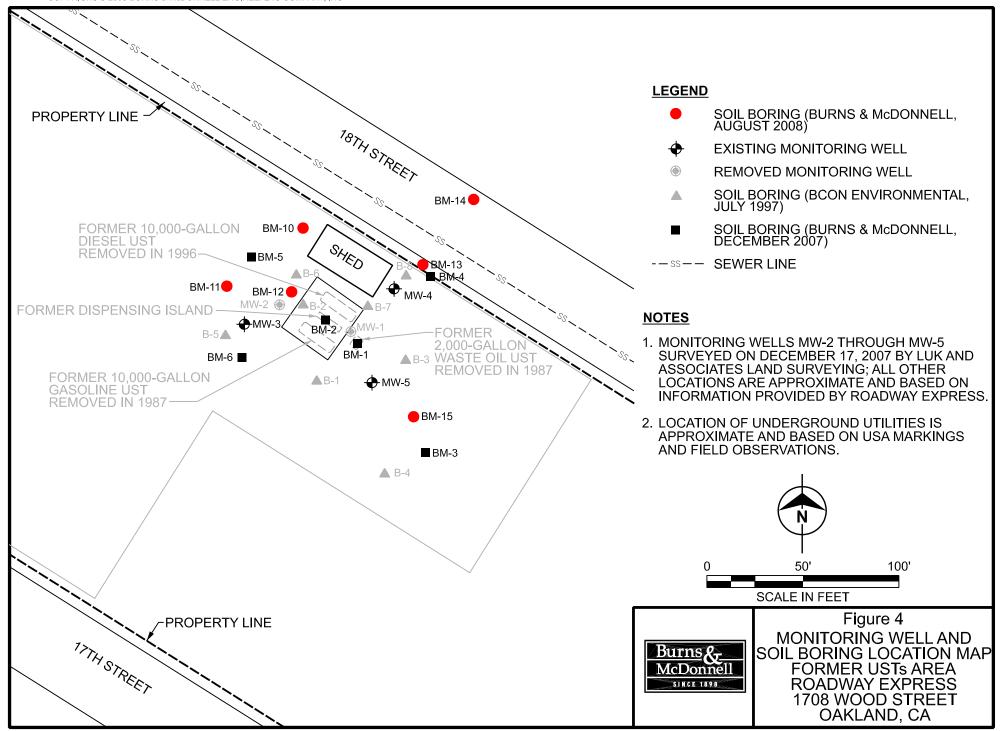
SINCE 1898

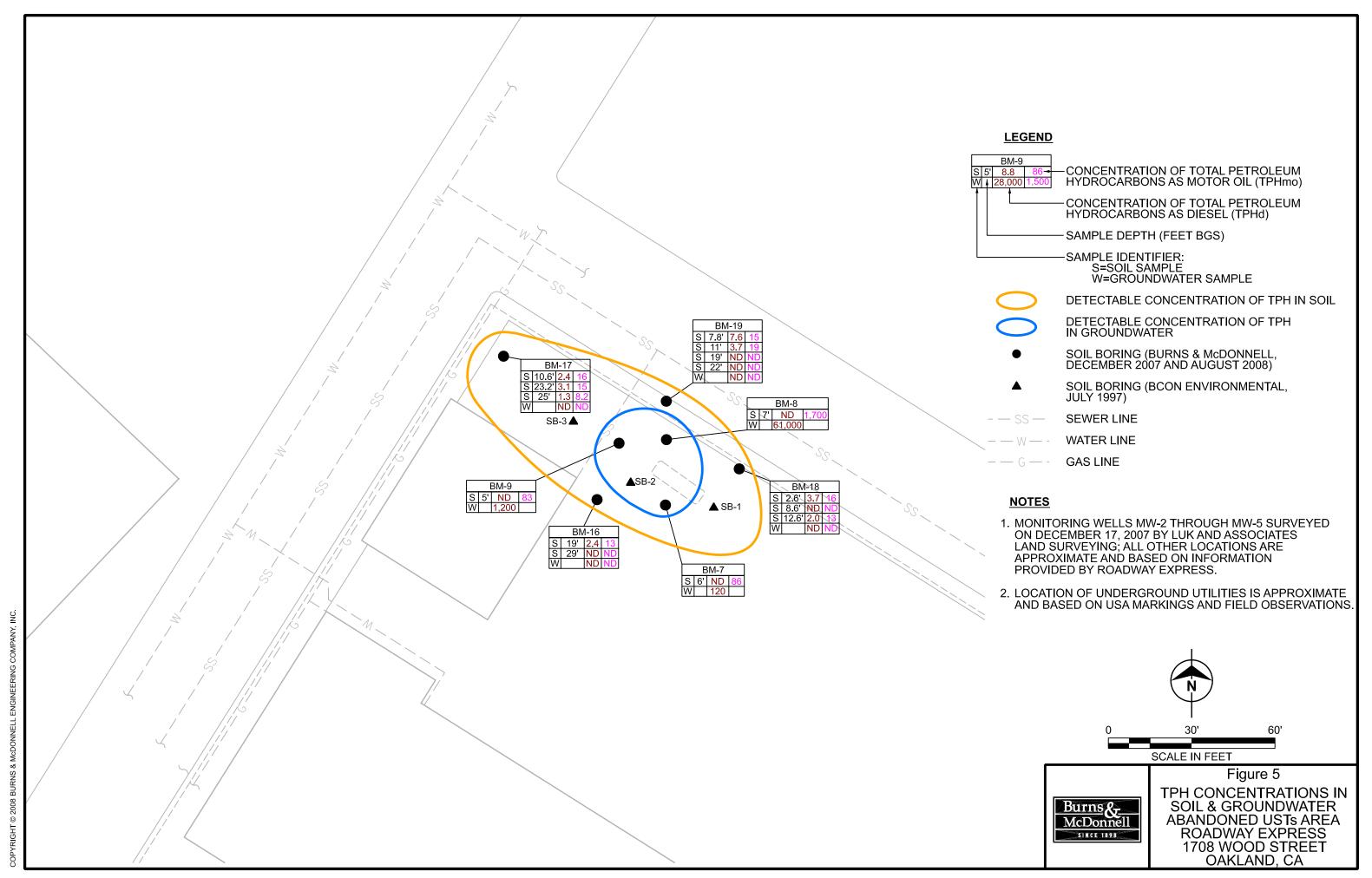
1200'

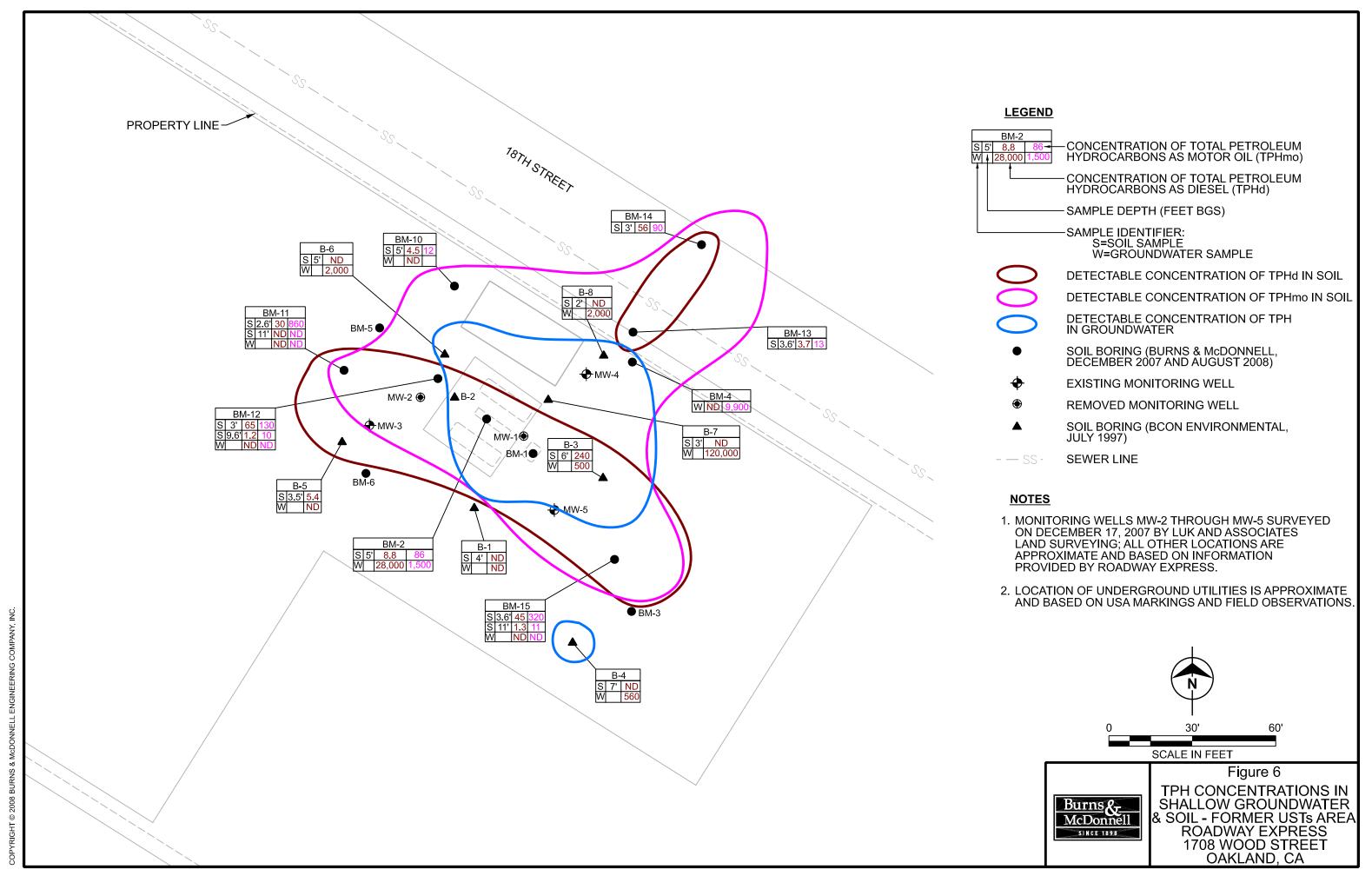
SCALE IN FEET

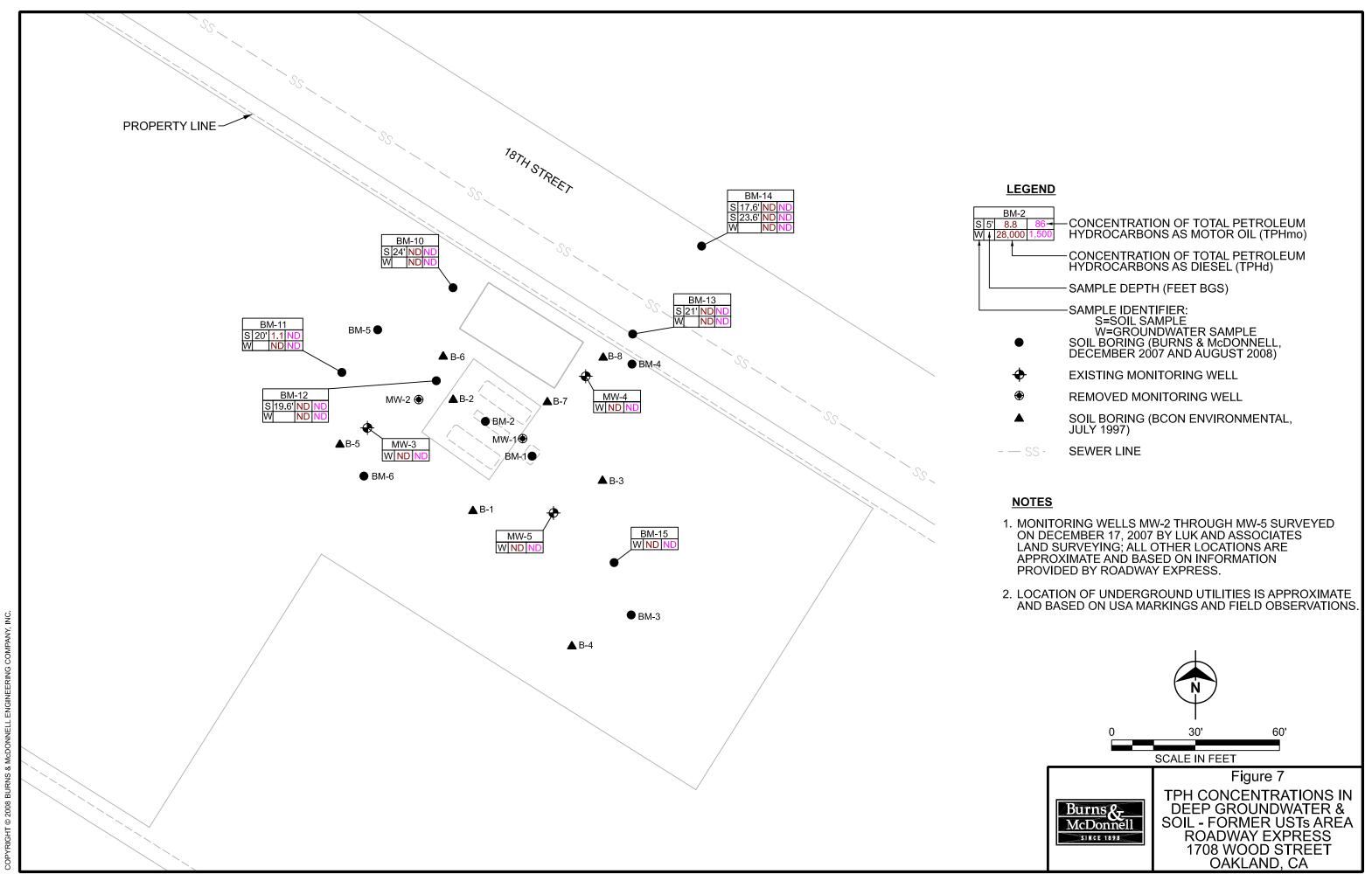












APPENDIX A

ALAMEDA COUNTY ENVIRONMENTAL HEALTH LETTER, MARCH 18, 2008

ALAMEDA COUNTY

HEALTH CARE SERVICES

AGENCY



DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES

ENVIRONMENTAL PROTECTION 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577 (510) 567-6700 FAX (510) 337-9335

March 18, 2008

Mr. Robert E. Zimmermann Roadway Express Inc. P.O. Box 471 Akron, OH 44309-0471

Subject: Fuel Leak Case No. RO0000039 and Geotracker Global ID T0600102107,

Roadway Express, 1708 Wood Street, Oakland, CA 94607

Dear Mr. Zimmermann:

This letter is sent in response to our meeting with Mr. Ruben Byerley and your environmental consultants Mr. Patrick Bratton and Mr. Gary Messerotes with Burns & McDonnell, on Tuesday, March 18, 2008 at our office. The meeting was to discuss the findings summarized in the document entitled, "Site Investigation" [Report], dated February 5, 2008, which was prepared by Burns & McDonnell, and discuss the next appropriate course of action for the site. Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above-referenced site including the recently submitted above-mentioned Report. The report details the installation of six direct push borings in the vicinity of the central eastern portion of the site where the former fuel and waste oil USTs had been removed and the installation of 3 boring surrounding the abandoned-in-place USTs, located in the northwest portion of the site. Elevated concentrations of total petroleum hydrocarbons (TPH) as diesel (d), motor oil (mo) and total oil and grease (TOG) were detected in several "grab" groundwater samples collected from the site.

ACEH generally concurs with Burns & McDonnell's recommendation to prepare a work plan and requests that you address the following technical comments and send us the technical reports described below.

TECHNICAL COMMENTS

Monitoring Wells and Hydrogeologic Setting — Monitoring well MW-2 is installed to a depth of approximately 9.2 feet bgs with a screened interval from 0.5 feet to 9.2 feet bgs. Monitoring wells MW-3, MW-4, and MW-5 are installed to a depth of 30 feet below the ground surface (bgs) with a screened interval from 10 feet to 30 feet bgs. Depth to groundwater at the site ranges from approximately 3.66 feet bgs to 5.45 feet bgs. Since groundwater elevation is above the screened interval for monitoring wells MW-3, MW-4, and MW-5 and petroleum hydrocarbons have a specific gravity that is lower than water (therefore, float on water); concentrations of contaminants may not be representative of actual site conditions. Therefore, the monitoring wells MW-3, MW-4, and MW-5 appear to be incorrectly constructed, which may affect the contaminant concentrations detected in groundwater. Another concern is regarding the shallow screened interval of groundwater monitoring well

MW-2, which is reported to be from 0.5 feet to 9.2 feet bgs. Specifically, the sanitary seal for MW-2 may not be constructed in accordance with California Well Standards and may pose a potential preferential pathway for surface contaminants to the subsurface. Please evaluate and discuss the effect that groundwater elevations rising above monitoring well screens have on hydrocarbon concentrations for each monitoring well at the site as well as the shallow screen interval and construction of MW-2. It may be advantageous to collect depth discrete groundwater samples or install multi-level monitoring wells, monitoring well clusters, or systems capable of monitoring multiple depths. Please address the above-mentioned concerns and include your analysis in the work plan requested below.

2. Preferential Pathway Study – The purpose of the preferential pathway study is to locate potential migration pathways and conduits and determine the probability of the NAPL and/or plume encountering preferential pathways and conduits that could spread contamination. We request that you perform a preferential pathway study that details the potential migration pathways and potential conduits (wells, utilities, pipelines, etc.) for vertical and lateral migration that may be present in the vicinity of the site.

Discuss your analysis and interpretation of the results of the preferential pathway study and report your results in the soil and groundwater investigation work plan requested below. The results of your study shall contain all information required by California Code of Regulations, Title 23, Division 3, Chapter 16, §2654(b).

a. Utility Survey

An evaluation of all utility lines and trenches (including sewers, storm drains, pipelines, trench backfill, etc.) within and near the site and plume area(s) is required as part of your study. Please include maps and cross-sections illustrating the location and depth of all utility lines and trenches within and near the site and plume areas(s) as part of your study.

b. Well Survey

The preferential pathway study shall include a detailed well survey of all wells (monitoring and production wells: active, inactive, standby, decommissioned (sealed with concrete), abandoned (improperly decommissioned or lost); and dewatering, drainage, and cathodic protection wells) within a ¼ mile radius of the subject site. As part of your detailed well survey, please perform a background study of the historical land uses of the site and properties in the vicinity of the site. Use the results of your background study to determine the existence of unrecorded/unknown (abandoned) wells, which can act as contaminant migration pathways at or from your site. Please review and submit copies of historical maps, such as Sanborn maps, aerial photographs, etc., when conducting the background study.

3. <u>Soil and Groundwater Characterization</u> – The vertical and lateral extent of the hydrocarbon plume in groundwater appears uncharacterized at this time. The groundwater flow direction has been reported in September 1999 to be in a southeasterly direction. However, more recent calculations indicate a northwesterly groundwater flow direction.

Elevated concentrations of petroleum hydrocarbons have been detected in "grab" groundwater samples collected at the site. Analytical results from "grab" groundwater

samples collected from boring BM-8 and BM-9, located in the northwest portion of the site, detected 61,000 μ g/L TPH-d and 1,200 μ g/L TPH-d, respectively. In the central portion of the site, 28,000 μ g/L TPH-d was detected in a "grab" groundwater sample collected from BM-2. A lower concentration of TPH-d (120 μ g/L) was detected in a groundwater sample collected from monitoring well MW-2. In summary, the analytical results, compounded with a significantly varied groundwater flow direction, have made it difficult to determine whether the hydrocarbon plume is adequately assessed. Please address the above-mentioned concerns and submit a work plan.

4. GeoTracker Compliance - A review of the case file and the State Water Resources Control Board's (SWRCB) GeoTracker website indicate that electronic copies of analytical data have not been submitted, rendering the site to non-compliance status. Pursuant to California Code of Regulations, Title 23, Division 3, Chapter 16, Article 12, Sections 2729 and 2729.1, beginning September 1, 2001, all analytical data, including monitoring well samples, submitted in a report to a regulatory agency as part of the UST or LUST program, must be transmitted electronically to the SWRCB GeoTracker system via the internet. Additionally, beginning January 1, 2002, all permanent monitoring points utilized to collect groundwater samples (i.e. monitoring wells) and submitted in a report to a regulatory agency, must be surveyed (top of casing) to mean sea level and latitude and longitude to sub-meter accuracy using NAD 83. A California licensed surveyor may be required to perform this work. Additionally, pursuant to California Code of Regulations, Title 23, Division 3, Chapter 30, Articles 1 and 2, Sections 3893, 3894, and 3895, beginning July 1, 2005, the successful submittal of electronic information (i.e. report in PDF format) shall replace the requirement for the submittal of a paper copy. Please complete the surveying and upload all applicable electronic submittal types such as the analytical data (EDF), survey data (GEO_XY and GEO Z), and PDF reports from July 1, 2005 to current to GeoTracker. Electronic reporting is described below.

REQUEST FOR INFORMATION

ACEH's case file for the subject site contains only the electronic reports as listed on our website (http://www.acgov.org/aceh/lop/ust.htm). You are requested to submit copies of all other reports related to environmental investigations for this property (including Phase I and Phase II reports) by April 30, 2008.

TECHNICAL REPORT REQUEST

Please submit a Work Plan, FS/CAP, and technical reports to Alameda County Environmental Health (Attention: Paresh Khatri), according to the following schedule:

- April 30, 2008 Quarterly Monitoring Report (1st Quarter 2008,)
- May 6, 2008 Soil and Water Investigation Work Plan (including Preferential Pathway evaluation)
- July 30, 2008 Quarterly Monitoring Report (2nd Quarter 2008)

Mr. Zimmermann RO0000039 March 18, 2008, Page 4

- October 30, 2008 Quarterly Monitoring Report (3rd Quarter 2008)
- January 30, 2009 Quarterly Monitoring Report (4th Quarter 2008)

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program ftp site are provided on the attached "Electronic Report Upload (ftp) Instructions." Please do not submit reports as attachments to electronic mail.

Submission of reports to the Alameda County ftp site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. Submission of reports to the Geotracker website does not fulfill the requirement to submit documents to the Alameda County ftp site. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitor wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, electronic submittal of a complete copy of all necessary reports was required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/cleanup/electronic reporting).

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "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." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to

Mr. Zimmermann RO0000039 March 18, 2008, Page 5

present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

If you have any questions, please call me at (510) 777-2478 or send me an electronic mail message at Paresh.Khatri@acgov.org.

Sincerely,

Paresh C. Khatri

Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Ruben Byerley, YRC North American Transportation, Inc., 10990 Roe Avenue, Overland Park, KS 66211

Gary Messerotes, Burns & McDonnell, 393 East Grand Avenue, Suite J,

South San Francisco, CA 94080
Patrick Bratton, Burns & McDonnell, 393 East Grand Avenue, Suite J,

'atrick Bratton, Burns & McDonnell, 393 East Grand Avenue, Suite J,
South San Francisco, CA 94080

Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA 94612-2032

Donna Drogos, ACEH

Paresh Khatri, ACEH

File

APPENDIX B

CROSS-SECTIONS

LEGEND

CONCENTRATION OF TOTAL PETROLEUM
HYDROCARBONS AS MOTOR OIL IN SOIL

CONCENTRATION OF TOTAL PETROLEUM
HYDROCARBONS AS DIESEL IN SOIL

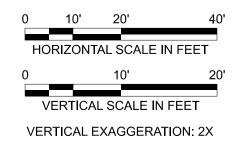
SAMPLE IDENTIFIER:
S=SOIL SAMPLE
W=GROUNDWATER SAMPLE

- NOT DETECTED AT OR ABOVE DETECTION LIMITS
- GROUNDWATER LEVEL MEASURED DURING DRILLING
 GROUNDWATER WELL SCREENED INTERVAL
 SIMPLIFIED LITHOLOGY:



NOTES

- 1. SOIL CONCENTRATION UNITS ARE MILLIGRAMS PER KILOGRAM (mg/Kg)
- 2. GROUNDWATER CONCENTRATION UNITS ARE MICROGRAMS PER LITER (µg/L)
- 3. GROUND SURFACE SHOWN FLAT FOR PRESENTATION PURPOSES.





Figure

CROSS SECTION D-D' & TPH CONCENTRATIONS ROADWAY EXPRESS 1708 WOOD STREET OAKLAND, CA

APPENDIX C BORING AND WELL DESTRUCTION PERMITS

Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street Hayward, CA 94544-1395 Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 07/31/2008 By jamesy

Permit Numbers: W2008-0518 Permits Valid from 08/04/2008 to 08/05/2008

City of Project Site: Oakland Application Id: 1217541590903

Site Location: 1708 Wood Street **Project Start Date:** 08/04/2008 Completion Date: 08/05/2008

Requested Inspection: 08/04/2008

Scheduled Inspection: 08/04/2008 at 1:00 PM (Contact your inspector, Vicky Hamlin at (510) 670-5443, to confirm.)

Applicant: Burns & McDonnel, Inc - Patrick Bratton Phone: 650-871-2926

393 East Grand Ave, Suite J, South San Francisco, CA 94080

Property Owner: YRC North America c/o ruben Byerley Phone: 913-234-8940

10990 Roe Ave, Oakland Park, KS 62211 Client: ** same as Property Owner **

> **Total Due:** \$230.00 \$230,00

Receipt Number: WR2008-0265 **Total Amount Paid:**

Payer Name : Burns & McDonnell **PAID IN FULL** Paid By: CHECK

Works Requesting Permits:

Borehole(s) for Geo Probes-Sampling 24 to 72 hours only - 10 Boreholes

Driller: RSI, Inc - Lic #: 802334 - Method: DP Work Total: \$230.00

Specifications

Permit	Issued Dt	Expire Dt	#	Hole Diam	Max Depth
Number			Boreholes		
W2008-	07/31/2008	11/02/2008	10	3.00 in.	25.00 ft
0518					

Specific Work Permit Conditions

- 1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.
- 2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.
- 3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
- 4. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
- 5. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or

Alameda County Public Works Agency - Water Resources Well Permit

waterways or be allowed to move off the property where work is being completed.

- 6. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
- 7. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.
- 8. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.



399 Elmhurst Street Hayward, CA 94544-1395 Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 08/06/2008 By jamesy Permit Numbers: W2008-0527
Permits Valid from 08/07/2008 to 08/08/2008

Application Id: 1218045131719 City of Project Site:Oakland

Site Location: Roadway Express

1708 Wood Street

Project Start Date: 08/07/2008 Completion Date:08/08/2008

Requested Inspection: 08/07/2008

Scheduled Inspection: 08/07/2008 at 12:30 PM (Contact your inspector, Vicky Hamlin at (510) 670-5443, to confirm.)

Applicant: Burns & McDonnell - Patrick Bratton Phone: 650-871-2926

393 East Grand Ave Suite J, South San Francisco, CA 94080

Property Owner: Ruben Byerley Phone: --

10990 Roe Ave, Overland Park, KS 66211

Client: ** same as Property Owner **
Contact: Simon Barber Phone: 415-505-2884
Cell: 415-505-2884

Total Due: \$345.00
Receipt Number: WR2008-0273 Total Amount Paid: \$345.00

Payer Name : Patrick Bratton Paid By: VISA PAID IN FULL

Works Requesting Permits:

Well Destruction-Monitoring - 1 Wells

Driller: RSI - Lic #: 802334 - Method: press Work Total: \$345.00

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth	State Well #	Orig. Permit #	DWR#
W2008- 0527	08/06/2008	11/05/2008	MW-1	4.00 in.	4.00 in.	0.00 ft	8.50 ft			

Specific Work Permit Conditions

- 1. Drilling Permit(s) can be voided/ cancelled only in writing. It is the applicant's responsibility to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.
- 2. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.
- 3. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.
- 4. Applicant shall submit the copies of the approved encroachment permit to this office within 60 days.

- 5. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
- 6. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.
- 7. Remove the Christy box or similar structure.

Destroy well by grouting neat cement with a tremie pipe or pressure grouting (25 psi for 5min.) to the bottom of the well and by filling with neat cement to three (3-5) feet below surface grade. Allow the sealing material to spill over the top of the casing to fill any annular space between casing and soil.

After the seal has set, backfill the remaining hole with concrete or compacted material to match existing conditions.

8. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.



399 Elmhurst Street Hayward, CA 94544-1395 Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 07/31/2008 By jamesy

Permit Numbers: W2008-0519

Permits Valid from 08/04/2008 to 08/07/2008

City of Project Site: Oakland Application Id: 1217541982064

Site Location: 1708 Wood Street **Project Start Date:** 08/07/2008 Completion Date: 08/07/2008

Requested Inspection: 08/07/2008

Scheduled Inspection: 08/07/2008 at 10:30 AM (Contact your inspector, Vicky Hamlin at (510) 670-5443, to confirm.)

Extension Start Date: 08/04/2008 Extension End Date: 08/07/2008 **Extension Count:** Extended By: vickyh1

Applicant: Burns & McDonnell - Patrick Bratton Phone: 650-871-2926

393 East Grand Ave., Suite J., South San Francisco, CA 94080

Property Owner: Phone: 913-234-8940 YRC North America c/o Ruben Byerley

10990 Roe Ave, Overland Park, KS 66211

Client: ** same as Property Owner **

> Total Due: \$345.00

Receipt Number: WR2008-0266 **Total Amount Paid:** PAID IN FULL

Payer Name : Burns & McDonnell Paid By: CHECK

Works Requesting Permits:

Well Destruction-Monitoring - 1 Wells

Driller: RSI, Inc - Lic #: 802334 - Method: press Work Total: \$345.00

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth	State Well #	Orig. Permit #	DWR #
W2008- 0519	07/31/2008	11/05/2008	MW-2	8.00 in.	4.00 in.	0.00 ft	10.00 ft	N/A	N/A	N/A

Specific Work Permit Conditions

- 1. Drilling Permit(s) can be voided/ cancelled only in writing. It is the applicant's responsibility to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.
- 2. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.
- 3. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.
- 4. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and

all expense, cost and liability in connection with or resulting from the exercise of this Permit including, but not limited to, property damage, personal injury and wrongful death.

- 5. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
- 6. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.
- 7. Remove the Christy box or similar structure.

Destroy well by grouting neat cement with a tremie pipe or pressure grouting (25 psi for 5min.) to the bottom of the well and by filling with neat cement to three (3-5) feet below surface grade. Allow the sealing material to spill over the top of the casing to fill any annular space between casing and soil.

After the seal has set, backfill the remaining hole with concrete or compacted material to match existing conditions.

8. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.

APPENDIX D

BORING LOGS

Reviewed B	v :

		- In .		<u> </u>	TD : (1						9	151
	Burns		ect Name /RCW Roadway Expre	see Oakland	Project N 4879		r				Boring/Wel BM-10	Number
	&	Grou	ind Elevation	Location		-					Page	
McI	Doni	ıell		1708	Wood Stre	et						1 of 2
	itoring E RAE 20	quipment									Total Foota	ge
	Orilling N		Borehole Size	Casing T	ype/Diam.		Scree	n Type	/Slot	Тъ	epth to Water	Top of Casing Elevation
<u> </u>				Odding i	урс/Віатт.	'	00100	птурс	, Clot	+	-	Top of Gasing Elevation
	Direct F	usn	3"								3	
Drilling	Compar	ny:	RSI Drilling				Driller(s):	Mai	uricio Sar	chez		
Drilling	Rig:		Geoprobe 6620 GT				Type of Sampler:	Ge	oprobe			
Date:			8/4/08				Logged by:	S. I	Barber			
						ļ	logged by:					
Depth (feet)	nscs		Lithologic Description		Class	Blow		Run/ Time	Sample Desig.	ample	PID (ppm)	Well Diagram
BGL						Cour	IL	Tillie	Desig.	Se	BZ/BH/S	
	Concrete	CONCRE	TE			ı						
	SP	SAND - da	ark gray to black, me	dium to	P St. A. P.						0/0/0	
-		coarse-gra	ained, moist. <5 % v dry, sand and rare gr	vhite,				0833				
		medium, c	ury, sand and rate gr	een stalling								
_	1	bricks	and gravel 1cm to 2d	m								$ \bar{\Delta} $
_	CL	BAY MUD)									
5-	_						100%		BM-10-1S		0/0/0	
							10070	0905				
	SP	SAND - tv	vo inch sand lens, bla	ack medium								
_	PT		eavy organics, brown	, weed like	11, 11,							
					1 71 7							
_	_				<u> </u>							
					77 77							
					\(\lambda \) \(
_	CL	BAY MUD)			•	80%	0000			0/0/0	
								0938				
	1											
0/4												
°												
j 10-	1											
800												
- L												
3												
AND												
- AK	1											
Ž.												
	_											
5												
BURING/WELL YRC OAKLAND.GPJ BURNS&MC.GDJ 8/14/08												
n R7=	Breathin	n Zone Ri	H=Bore Hole S=Sa	mnle	V//////				I	Щ		

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$-\mathbf{B}$	urns	Project Name	oldor d	Project I							ll Number	
	&	YRCW Roadway Express O Ground Elevation	Location	4879	91					BM-10 Page		
	Ooni			Vood Stre	et					l ago	2 of 2	
Depth			1						Ф	PID (ppm)		
(feet) BGL	nscs	Lithologic Description		Class	Blow Count	Recov.	Run/ Time	Sample Desig.	Sample	РІВ (рріп)	Well Diagram	
BGL		2 000			Count			2 00.g.	ί	BZ/BH/S		
	CL											
15-												
-	SP	SAND - black, moist, medium, sub	ongular							0/0/0		
	01	to subrounded, homogenous	arigulai				0948			2.2.2		
		-										
+		SAND - green Gley 1 4/10 GY, sor	ne clav	<i>[[][]</i>								
		g. co., c., c.,										
\dashv												
	sc	SANDY CLAY - Gley 1 4/10 GY to	black,									
		same sand with clay										
20-												
20	SP	SAND - same sand, 10YR 5/4, yell brown	owish			100%	0952			0/0/0		
		biowii					0002					
\perp												
\dashv												
\dashv												
╛						100%		BM-10-2S		0/0/0		
							0955					
25—												
25	CL	CLAY - 10YR 6/6 with black smear red staining (bioturbation)	rs, some									
		red stairing (bioturbation)										
4												
				<i>\\\\\\</i>								
\dashv												
				<i>\\\\\\</i>								
7		END OF BORING		<i>\\\\\\</i>		100%						
			/				1000					
\neg												
				1		1	1	1	- 1		1	

Reviewed B	v :

В	urn &-	,	ect Name ⁄RCW Roadway Expre		Project N 4879		1				Boring/Well BM-11	Number
McI	&	Grou	und Elevation	Location		_1					Page	4
Air Moni	itoring E	Equipment		1708	Wood Stre	eı					Total Footag	1 of 2 ge
	RAE 20				· · · · · · · · · · · · · · · · · · ·				101 1	T 5	24	T (0 : 51 #
	rilling M		Borehole Size	Casing 1	ype/Diam.		Scree	n Type	Slot	+ 0	epth to Water	Top of Casing Elevation
	Direct F		3"								3	
Drilling (Compai	ny:	RSI Drilling				Driller(s):	Ма	uricio Sar	chez		
Drilling F	Rig:		Geoprobe 6620 GT				Type of Sampler:	Ge	oprobe SI	eeve		
Date:			8/4/08				Logged by:	S. I	Barber			
Depth (feet)	nscs		Lithologic Description		Class	Blow Cour		Run/ Time	Sample Desig.	amble	PID (ppm)	Well Diagram
BGL		FEOONODE			2-80000807-800098-	Cour	"	Tillic	Desig.	Š	BZ/BH/S	
_	FILL	FILL - ang sand, sim	ular gravel, black wi Jular gravel, black wi Jilar to asphalt	th coarse				1405				
_		DAYANIS					100%	1420	BM-11-1S		0/0/0	Ā
_	CL	BAY MUL	O - with organics									
5— —								1455			0/0/0	
_	SP	fine to me	ery dark gray to black dium, subangular, w clay lenses <1cm	x, 2.5Y 3/1, et; with some			100%	1500				
10-	CL	BAY MUD) - peat									
_	SP	homogen	lack to very dark gray ous; some clays	v, medium,	<i>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</i>				BM-11-2S		0/0/0	
_	CL	BAY MUD)- peat				100%	1502				
10- - -	Breathin		H=Bore Hole S=Sa									

Reviewed B	v :

-B	urns	Project Name	Project N						Boring/Wel	l Number
	&	YRCW Roadway Express Oakland Ground Elevation Local		71					BM-11 Page	
McI	Donr	iell	708 Wood Stre	et						2 of 2
				Dlaw		D.un/	Commis	e	PID (ppm)	
Depth (feet) BGL	nscs	Lithologic Description	Class	Blow Count	Recov.	Run/ Time	Sample Desig.	Samp		Well Diagram
DOL	CL		///////					-	BZ/BH/S	
	SP	SAND - green to black, Gley 2 3/10 GY,								
15-	1	medium to coarse, angular to subangular homogenous, wet	,		100%					_
						1503				
	1									_
l _!										
										-
⊣	SP	same sand but brown 10YR 4/4								-
00										
20-	1					4505	BM-11-3S		0/0/0	_
						1505				
l _!										_
_	.									_
I →					100%				0/0/0	_
	SC	SANDY CLAY - 10Y 4/4, firm, some	V///			1510				
	CL	¬ moisture, sand very fine grain								
7		CLAY- firm, some moisture \END OF BORING	_/,							_
		LEND OF BORING	-/							
_										
										_
→	†									
l [⊣]]									
_J										_
										_
		g Zone BH=Bore Hole S=Sample	1			<u> </u>				

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to the treat	<i>y</i> ·	

		Droid	ect Name	<u> </u>	Droject N	Jumbo	r				Boring/Wel	l Numbor	
	3urn		יכנ ואמוזופ RCW Roadway Expre	ss Oakland	Project N 4879		:1				BM-12	i Number	
	&	Grou	ind Elevation	Location	1						Page		
Mcl	Doni	nell		1708	Wood Stre	et						1 of 2	2
	itoring E RAE 20	Equipment									Total Foota	ige	
	Orilling N		Borehole Size	Casing T	ype/Diam.		Scree	n Type	/Slot		Depth to Water	r Top of Casing Ele	vation
	Direct F		3"		<i>ypo,</i> 2.a		30.00			╁	3	. Top or dueing in	
			3										
Drilling	Compa	ny:	RSI Drilling				Driller(s):	Mai	uricio Sar	chez			
Drilling	Rig:		Geoprobe 6620 GT				Type of Sampler:	Ge	oprobe S	eeve			
Date:			8/4/08				Logged by:	S. I	Barber				
Donth	(0									Φ	DID (nnm)		
Depth (feet)	nscs		Lithologic Description		Class	Blov Cour		Run/ Time	Sample Desig.	ample	PID (ppm)	Well Diagram	
BGL						Ooui	"			S	BZ/BH/S		
	Concrete Fill	T	TE rk brown sand and cl	av				1600					
				~)									
_	1												
_	1												
_	SP	SAND - bl	lack, medium to coar	se,	X				BM-12-1S		0/0/0	$ \overline{\Delta} $	
		subangula	ar, homogenous, son	ne moisture									
_													
	SC	SANDY C	LAY - very dark gray	to black,	17777								
		very fine g	grained, very soft	•									
5-	1												•
	CL	DAY MUD) dorle brown vones	·ot			,	1621 (8/4	4)				
_		BAT WILL)- dark brown, very w	eı									
								 202 (8/	5)		0/0/0		
								,					
-	1	hea	avy organics										
			,g										
	CL	BAY MUD 4/10 NG,) - very dark gray gre	en, gley 2			100%	1207					
		-, 10 NO,	oon, wot										
<u> </u>	1								BM-12-2S		0/0/0		
8/14/								1225					
10	SP	SAND - ve	ery dark gray to black ,medium, homogeno	k, wet to									
5 10-		Salurated	,mediam, nomogeno	rus, suite siil									
NAN A													
	1												
49.5 4.9													
PAN													
SA -	1						100%	1201			0/0/0		•
XX.	SP	SAND - a	reenish gray, mediun	n dense									
<u> </u>	ļ	wet; rare		., 451100,									-
BORING/WELL YRC OAKLAND.GPJ BURNS&MC.GDT 8/14/08													
S S													
BZ=	Breathin	g Zone Bl	H=Bore Hole S=Sa	mple				•					

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$-\mathbf{B}$	urns	Project Name YRCW Roadway Express Oak		Project N 4879						Boring/Wel	l Number
	&	Ground Elevation	Location	1070	-					Page	
McI	Onr	nell	1708 W	ood Stre	et						2 of 2
Depth	က္လ	Lithologic		0.	Blow		Run/	Sample	Be	PID (ppm)	
Depth (feet) BGL	nscs	Lithologic Description		Class	Count	Recov.	Time	Sample Desig.	Sam	BZ/BH/S	Well Diagram
	SP		i.	4.445.44					+	БД/ВП/З	
15-			:							0/0/0	_
	SP	SAND - Saturated, brown, 2.5 HY 4.	·/3,				1212				
		medium grained, homogenous									_
	SP	same sand but not saturated									
		carrie carra par rior cataratea									
I _											_
			:								
			[
-											_
			ļ								
	SC	SANDY CLAY - dark brown, 2.5 YN	5/4	7,77.7							_
		SANDT CLAT - dark blown, 2.5 TN	5/4								
20-								DM40.00		0.000	_
		END OF BORING					1232	BM12-3S		0/0/0	
-											_
-											_
											_
											_
-											_
-											_
											_
5											
											_
											_
											_
											_
B7=F	Breathing	g Zone BH=Bore Hole S=Sample									
DZ-L	Di Cati III IÇ	2 - Silo Di l' Boic Hole G-Gample									

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to the treat	<i>y</i> ·	

	`	Droid	ect Name	···· <u></u>	Project N	dumbo	r				Boring/Well N	lumbor	
	3urn:		ect Name YRCW Roadway Expre	ss Oakland	4879		1				BM-13	Number	
	&	Grou	und Elevation	Location							Page		
MC.	Doni	nell Equipment		1708	Wood Stre	et						1 of 2	
	i RAE 20										Total Footage	=	
	Orilling M		Borehole Size	Casing T	ype/Diam.		Scree	n Type	/Slot		epth to Water	Top of Casing Elevat	ion
	Direct F		3"		, , , , , , , , , , , , , , , , , , ,						25		
										<u> </u>			
Drilling	Compar	ny:	RSI Drilling				Driller(s):	Mau	uricio Sar	cnez			
Drilling	Rig:		Geoprobe 6620 GT				Type of Sampler:	Ge	oprobe S	eeve			
Date:			8/5/08				Logged by:	S. E	Barber				
Depth	S									<u>o</u>	PID (ppm)		
(feet) BGL	nscs		Lithologic Description		Class	Blow Cour		Run/ Time	Sample Desig.	Samp		Well Diagram	
	ASPHAL	T ASPHALT	Г							0,	BZ/BH/S		
ĺ								0845					
	FILL	FILL - roa	id base, gravel and sa	and									
_	SP	SANDY	CLAY - 10YR 3/2, mo	ist									-
	SC	heteroger	nous, sand, silt, rare v	ery fine sand									
-	-	(fill?)									0/0/0		-
	CL	BAY MUF	O - dark gray green w	ith organics									
		mild odor	, firm; some moisture	!									_
									BM-13-1S				
_	+							0910					-
5-													
5	PT	PEAT- he	avy organics		<u> </u>			0920			0/0/0		
					<u> </u>								
-	+												-
					<u>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</u>								
_					1, 11, 1								_
					<u> </u>		30%	0930			0/0/0		
					1/ 1/1/ 1								
-	†				<u> </u>								-
					<u> </u>								
_	1				<u> </u>								_
					11, 11,						0/0/0		
					1/ 1// 1								
10-	†				<u> </u>								-
					V 71V 7	,							
_	_				<u> </u>								_
					<u> </u>								
					7 77 7								
_	1				<u>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</u>		60%	0022			0/0/0		-
					1, 11, 1			0933					
_	SP	SAND - 6	dark grayish brown, 2	0.5 V 3/2	<u>\\ 1, \\ 1, \\ 1.</u>								-
1	J GF	medium,	subangular, homoger	nous, moist									
10- - -													

BZ=Breathing Zone BH=Bore Hole S=Sample

&	YRCW Roadway Express Oaklan	nd 4879							
	Ground Elevation Loc	cation	71					BM-13 Page	
) onr	nell	1708 Wood Stre	et						2 of 2
တ္သ	Lithologic	01	Blow	D	Run/	Sample	ble	PID (ppm)	Mall Diagram
) NSO	Description	Class	Count	Recov.	Time	Desig.	Sam	BZ/BH/S	Well Diagram
SP		83338					Н	BEIBLIFO	
			1						
SP	same sand; but green with some fines		}						
	(clay), Gley 2 3/10 G		1	60%	0934			0/0/0	
			1		0001				
			1						
			1						
			1						
			1						
			1						
SP	same sand; brown, rare wood								
,									
			}						
			}	95%	0937			0/0/0	
			1		0001				
	same sand; with organics, straining		1			BM-13-2S		0/0/0	
	(bioturbated), a bit coarser]						
			1						
			1						
			1						
.			İ						
			}						
			}	100%				0/0/0	
			}		0940				
									$\bar{\Sigma}$
SP	SAND - Saturated, coarse to medium s	and,							
SP	SAND - medium, wet								
SC	SANDY CLAY - tan, soft 2.5Y 5/3, one	inch							
SF	SAND - same as above	—/							
,			1						
			1						
SP	- FND OF ROPING - cande heaving			100%				0/0/0	
	LIND OF BORING - Salius Heavilly			10070	0948			2.00	
,									
,									
.									
	SDSN SP SP SP SP	SP same sand; but green with some fines (clay), Gley 2 3/10 G SP same sand; with organics, straining (bioturbated), a bit coarser SP subangular, homogenous SP SAND - medium, wet SC SANDY CLAY - tan, soft 2.5Y 5/3, one lens SAND - same as above	SP same sand; but green with some fines (clay), Gley 2 3/10 G SP same sand; brown, rare wood SP same sand; with organics, straining (bioturbated), a bit coarser SP same sand; with organics, straining (bioturbated), a bit coarser SP SAND - Saturated, coarse to medium sand, subangular, homogenous SP SAND - medium, wet SC SANDY CLAY - tan, soft 2.5Y 5/3, one inch lens SAND - same as above	SP Same sand; but green with some fines (clay), Gley 2 3/10 G SP same sand; brown, rare wood SP same sand; with organics, straining (bioturbated), a bit coarser SP SAND - Saturated, coarse to medium sand, subangular, homogenous SAND - medium, wet SC SANDY CLAY - tan, soft 2.5Y 5/3, one inch lens SAND - same as above	SP same sand; but green with some fines (clay), Gley 2 3/10 G	SP Same sand; but green with some fines (clay), Gley 2 3/10 G SP same sand; brown, rare wood SP same sand; with organics, straining (bioturbated), a bit coarser 100% SP SAND - Saturated, coarse to medium sand, subangular, homogenous SP SAND - medium, wet SC SANDY CLAY - tan, soft 2.5Y 5/3, one inch lens SAND - same as above SP CEND OF BORING - sands heaving 100% Recov. Run/ Rime 60% 0934 95% 0937	SP Same sand; brown, rare wood SP Same sand; brown, rare wood SP Same sand; but green with some fines (clay), Gley 2 3/10 G SP Same sand; brown, rare wood SP Same sand; brown, rare wood SP Same sand; with organics, straining (bioturbated), a bit coarser SP Sand Saturated, coarse to medium sand, subangular, homogenous SP SAND - medium, wet SC SAND - medium, wet SAND - same as above SP SAND - Sands heaving 100% SP SAND - same as above SP SAND - Sands heaving 100% SP SAND -	SP SAND - Saturated, coarse to medium sand, subangular, homogenous SAND - medium, wet SAND - same as above SAND - same as above	Lithologic Description Class Blow Count Recov. Run/ Time Sample Series PID (ppm) Bazianis Blow Count Recov. Run/ Time Sample Series Series Recov. Run/ Time Sample Series Series Run/ Desig. Series Recov. Run/ Desig. Series Run/ Desig. Seri

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to the treat	<i>y</i> ·	

		Drois	ect Name	<u> </u>	Droinet N	lumbo	r			_	Boring/Well N	Number
	3urn:		ક્લા Name /RCW Roadway Expre	ss Oakland	Project N 4879		:I				BM-14	Number
	&	Grou	und Elevation	Location	1070	•					Page	
Mcl	Doni	ıell		1708	Wood Stre	et						1 of 2
	nitoring E i RAE 20	quipment									Total Footage	e
	Orilling M		Borehole Size	Casing T	ype/Diam.		Scree	n Type	/Slot	Г	Depth to Water	Top of Casing Elevation
	Direct F		3") - · · · · · · · · · · · · · · · · · ·						13	
Drilling	Compar	ny:	RSI Drilling				Driller(s):	Mai	uricio Sar	chez	:	
Drilling	Rig:		Geoprobe 6620 GT				Type of Sampler:	Ge	oprobe SI	eeve		
Date:			8/5/08				Logged by:	S. I	Barber			
Depth										0	DID (nnm)	
(feet)	nscs		Lithologic Description		Class	Blov Cour	Recov.	Run/ Time	Sample Desig.	ample	PID (ppm)	Well Diagram
BGL						Ooui				Ø	BZ/BH/S	
1 '	ASPHAL	T ASPHALT						1020				
	FILL	FILL - san	nd, silt, clay, odor, loc	se, some								
-	+	moisture										
_												
-	CL	BAY MUD) - black green gray v	vith organics					BM-14-1S		0/0/0	
			3 3 3 3 7	.								
	1											
5-	+										0/0/0	
								1000				
-	1											
-	-											
-	PT	one inch borganics,	olack organic layer, b	rown peat,			40%	1044			0/0/0	
		organics,	Clay					1011				
	+											
9/ 14/(
10												
10-	1											
NAN ANA												
	+											
2 2 4												
Z												
Y -]						60%	1047			0/0/0	
ξ.								.54,				
<u> </u>	SP	SAND - h	lack Gley 1 2.5/N, m	edium	<i>\\\\\\</i>						Z	<u>Z</u>
BURING/WELL YRC OAKLAND, GPJ BURNS&MC, GDJ 8/14/08		homogen	ous; with <10% organ	nics								
200												
BZ=	Breathin	a Zone Bl	H=Bore Hole S=Sa	mple			-					

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to the treat	<i>y</i> ·	

В	urns	Project Name YRCW Roadway Express Oakl	and	Project I 4879						Boring/We BM-14	
	&		and ocation	40/8	7.1					Page	
McL		nell		Vood Stre	et					1.95	2 of 2
Depth (feet)	USCS	Lithologic Description		Class	Blow	Recov.	Run/	Sample	Sample	PID (ppm)	Well Diagram
(feet) BGL		Description		Class	Count	Necov.	Time	Desig.	San	BZ/BH/S	Well Diagram
	SP										
15—											
	SC	SANDY CLAY - greenish gray, Gley 2	2 3/5	/////							
\dashv		BG, soft				70%				0/0/0	
							1049				
4	SC	SANDY CLAY - firm									
}	SC	SAND - green, medium, dense									
\exists						80%	1052	BM-14-2S		0/0/0	
	0.0										
	SC	same sand but brown, 2.5Y 5/7, wet									
20-	SC	SAND - Saturated, sand as above, loc	ose								
\dashv											
\dashv											
4	SC	SANDY CLAY - 2.5 Y 5/4, very firm,	some			100%		BM-14-3S		0/0/0	
	00	organics; orange stains	Some			10070	1055				
	SC	END OF BORING		2 4. 5. 2. 2							
╡											
\dashv											
\dashv											
4											
									П		

Reviewed B	v :

— F	Burns		ct Name		Project I		er				Boring/Well N	Number
	&	Y	RCW Roadway Expre	ess Oakland Location	4879	91					BM-15 Page	
McI	Donr		nu Elevation		Wood Stre	et						1 of 2
Air Mon	itoring E	quipment									Total Footage	
	RAE 200		1				T -			1 _	30	T
	Orilling M	lethod	Borehole Size	Casing 1	Гуре/Diam	-	Scree	n Type	/Slot	De	epth to Water	Top of Casing Elevation
	Direct P	Push	3"								24	
Drilling	Compan	ny:	RSI Drilling				Driller(s):	Mai	uricio Sar	nchez		
Drilling	Rig:		Geoprobe 6620 GT				Type of Sampler:	Ge	oprobe S	leeve		
Date:		8	8/5/08				Logged by:	S. I	Barber			
Depth (feet) BGL	nscs		Lithologic Description		Class	Blov Cou		Run/ Time	Sample Desig.	Sample	PID (ppm)	Well Diagram
С	ONCRE		TE - one inch					4004			0/0/0	
	GRAVEL	GRAVEL -	- wet					1334				
_	SC	SANDY C	LAY - dark gray to b	lack, soft								_
												_
_	1											_
							200/		BM-15-1S		0/0/0	
_	SP	CAND 10	OYR 3/1, very dark g	rov modium			30%	1340	DW-13-10		0/0/0	_
	35	subangula	ir, homogenous sand	d. Alternating								
_		one inch c	lay and sand beds to	o 6.6 ft bgs								
5-												_
_	1											_
					7777777							
_	CL	CLAY - da	ark gray 10 YR 4/1,	soft								_
	PT	DEAT do	rk gray with organic									
	F 1	PEAT-U	irk gray with organics	5	<u>// // // //</u>							
_	CL	CLAY - ve	ry dark gray, soft wit	th organics;			60%	1344			0/0/0	_
		raic sailus	•									
_	1											_
10-	_											_
_	CL	CLAY - da firm	ırk gray brown, orgaı	nics, odor,			80%	1355	BM-152S		0/0/0	_
	SC		SAND - black, mediu	ım to coarse.				.555				
-	SM	homogeno	ous with organics	,								_
_	SC SM	SAND - gr homogeno	ay to black, medium ous	to coarse,								_
		same sand	d, green, Gley 2 4/10) G								

BZ=Breathing Zone BH=Bore Hole

S=Sample

В	urns	Project Name YRCW Roadway Express Oakland	Project I						Boring/We BM-15	Il Number
	&	Ground Elevation Location	48/9	7 1					Page	
$\overline{Mc\Gamma}$	Onr	nell 1708	Wood Stre	et						2 of 2
Denth	USCS		Class	Blow	Descri	Run/	Sample	Sample	PID (ppm)	W-II Dia
(feet) BGL	nsc	Lithologic Description	Class	Count	Recov.	Time	Sample Desig.	San	BZ/BH/S	Well Diagram
	SC SM									
	SIVI									
15-	OL	Organic layer, 2 inches thick, black								
	SC SM	SANDY CLAY - green with brown patches, firm. Sand is fine to medium grained, rare			90%	1401			0/0/0	
		organics								
\dashv										
	SC SM	SAND - 2.5 YR 4/4, medium to coarse,								
	SM	homogenous, subangular to subrounded, dense. oxidation staining								
		· · · · · · · · · · · · · · · · · · ·								
7										
20-					90%				0/0/0	
					30 /0	1405				
\dashv										
										∇
7										\ <u>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</u>
25-										
\dashv					100%				0/0/0	
						1421				
_										
7		Saturated								
		Gaturateu								
30-		¬END OF BORING - sands are heaving /			100%				0/0/0	
		LIND OF DOTAINO - Sailus are fleavilly			.0070	1423				

Reviewed B	v :

Air Monitoring E Mini RAE 200 Drilling M Direct F Drilling Compar Drilling Rig: Date: Depth (feet) (S) BGL	Ground E Equipment 00 Method Push Ty: RSI	Borehole Size 3" Drilling probe 6620 GT	Location 1708	Wood Stree		Scree	n Type	/Slot	De	Page 1 Total Footage 32 epth to Water	
Air Monitoring E Mini RAE 200 Drilling M Direct F Drilling Compar Drilling Rig: Date:	Equipment 000 lethod le	3" Drilling oprobe 6620 GT	'			Scree	n Type.	/Slot	De	Total Footage)
Mini RAE 200 Drilling M Direct F Drilling Compar Drilling Rig: Date:	oo lethod E	3" Drilling oprobe 6620 GT	Casing T	ype/Diam.		Scree	n Type	/Slot	De	32	
Direct F Drilling Compar Drilling Rig: Date: Depth	Push ny: RSI Geo	3" Drilling oprobe 6620 GT	Casing T	ype/Diam.		Scree	n Type	/Slot	De	epth to Water	Top of Casing Eleva
Drilling Compar Drilling Rig: Date: Depth	ny: RSI Geo	Drilling probe 6620 GT									
Drilling Rig: Date: Depth	Geo	probe 6620 GT								22	
Date:					ļ.	Driller(s):	Mai	uricio San	chez		
Depth ທ (feet) ທ	8/5/0	08				Type of Sampler:	Ge	oprobe SI	eeve		
Depth SO					- 1	Logged by:	S. E	Barber			
(feet) S		Lithologic			Blow	, _	Run/	Sample	ble	PID (ppm)	=.
DGL		Description		Class	Coun		Time	Sample Desig.	Sam	BZ/BH/S	Well Diagram
CONCRE	ECONCRETE			P 4 P 6			1548			0/0/0	
FILL	FILL - black, g	gravel, sand, fine	s, odor				1040				
CL	CLAY - black,	green, moist, so	ft								
SP		ΓΥ SAND - very f	ne black								
SC	sand, odor										
5- _{SP}	CLAYEY SILT	Γ - gray, odor, we	t: with trace			100%				0/0/0	
SC	sands	g.u,, cuc.,	.,				1600				
CL	CLAY - gray to	o black, soft, son	ne moisture			90%				0/0/0	
							1609				
10-											
SP	Orgainics - 2 i	inch organinc bed	d with brown	<i>\\\\\\</i>		100%				0/0/0	
CL	medium sand CLAY - as abo			111111			1612				
	52 ac ab										
10											
BZ=Breathin											

В	urns	Project Name YRCW Roadway Express Oakland	Project I						Boring/Well	Number
	&	Ground Elevation Location	4073	71					Page	
МсГ		nell 1708	Wood Stre	et					1.35	2 of 3
Depth	nscs	Lithologic	Class	Blow	Doory	Run/	Sample	Sample	PID (ppm)	Well Diagram
Depth (feet) BGL	NSO	Description	Class	Count	Recov.	Time	Desig.	Sam	BZ/BH/S	Well Diagram
15—	CL	SAND - medium, two inch lens, homogenous, moisture								_
_	SP SM	SANDY SILT - gray, moist, very soft								- -
_	SP SM	SANDY SILT - gray soft, wet, very fine grained			100%	1620	BM-16-1S		0/0/0	-
20	SP	SAND - meidum, gray, wet; with silt								
20-	SP SM	SILTY SAND - medium, wet; some clay								-
	SP	SAND - medium, wet, 1 inch bed								_
_	SP SM	SANDY SILT - gray, wet, very soft								Σ -
_	SP	SAND - Saturated, medium, sub-angular to sub-rounded								-
	CL	CLAY - green, firm								-
25-	SP	SAND - medium, green, some fines								-
_	SC	SANDY CLAY - 5 Y 3/1 organics								_
_	CL	CLAY - greenish gray, firm			100%	1620			0/0/0	-
30-	_ <u>s</u> c	SANDY CLAY - 5Y 3/1			100%	1630	BM-16-2S		0/0/0	- -
	0.5	OAND 4 inch								
	SP SC	SAND - 1 inch medium to coarse sand bed SANDY CLAY - as above	/////							
	Breathin		<i>\(\f\/\/\)</i>		I		L			

Reviewed B	v :

	Burns &	Project Name		Project N					Boring/We	ll Number
	S.	YRCW Roadway Express O		4879	1				BM-16	
N ()		Ground Elevation	Location						Page	
Mc	Doni		1708 V	Vood Stre	et	ı				3 of 3
Depth	တ္လ	Lithologic			Blow		Pun/	Sample S	PID (ppm)	
Depth (feet) BGL	nscs	Lithologic Description		Class	Count	Recov.	Run/ Time	Sample Desig.		Well Diagram
BGL								0)	BZ/BH/S	
	SP SM	SILTY SAND - greenish gray, wet								
_										_
		END OF BORING								_
-	1									_
_										_
-	1									_
-	1									_
-	1									_
-	+									_
-	+									_
-	4									_
_	4									_
_	4									_
										_
14/08										
./8										
.GD	1									_
MC										
SNS 8										
BUR -										_
<u>G</u>										
D.G										
[E										_
OAk										_
RC										
WEI										_
BORING/WELL YRC OAKLAND.GPJ BURNS&MC.GDT 8/14/08										
30R										
B7=	=Breathin	g Zone BH=Bore Hole S=Sample								

Reviewed B	v:	
to the treat	<i>y</i> ·	

-B	urns	Pro	oject Name	0 . 1	Project N		er				Boring/Well I	Number	
	&	Gr	YRCW Roadway Expre	Location	4879)1					BM-17 Page		
McI	Doni	nell_		1708 \	Nood Stre	et						1 of 2	
	itoring E RAE 200	quipment 00									Total Footage 28	е	
D	rilling M	lethod	Borehole Size	Casing T	ype/Diam		Scree	n Type	/Slot	D	epth to Water	Top of Casing Elevation	ı
	Direct P	Push	3"								24		
Drilling (Compar	ny:	RSI Drilling				Driller(s):	Maı	uricio San	chez			
Drilling I	Rig:		Geoprobe 6620 GT				Type of Sampler:	Ge	oprobe SI	eeve			
Date:			8/6/08				Logged by:	S. E	Barber				
Depth (feet) BGL	nscs		Lithologic Description		Class	Blov	nt Recov.	Run/ Time	Sample Desig.	Sample	PID (ppm) BZ/BH/S	Well Diagram	
C		ECONCR			2 V 2 V 2								
	FILL		ravel, sand, fines. Ra metal, plastic, etc	ndom									
_			motal, plastic, etc										_
	CL	CLAY	black, dark gray, very	soft rare									
	02	sands	black, dark gray, very	oon, raic				0745			0/0/0		_
-													-
_													_
5-	Shell Layer /	Shell La	yer - 2 inch zone SILT - gray, moist, no	water									
5_	SP SM	SANDI	SILT - gray, moist, no	water									
_													-
-													_
	DT												
_	PT	PEAI-	black, with brown orga	anics	77 77		50%				0/0/0		_
	SP SM	SANDY	SILT - gray, moist, no	water			30 /6	0800					
l _													_
10													
10-								0802	DUP-1				_
							70%		DUP-1S, BM-17-		0/0/0		
_	SP /	CANID	modium ansinged been	logopo: io				3002					-
	SP	-∖∖subangı		logenous,									
_	SM		SILT - as above medium grained home	ogenous.									_
	SP SM	subangı	ılar SILT - gray, moisture	-									
-		0, 11401	e.e. gray, molecule										_
R7=	Breathing	a 70ne	BH=Bore Hole S=Sa	ample									

	urns	Project Name YRCW Roadway Express Oaklar		oject N 4879	lumber					Boring/We BM-17	II Number
	&	Ground Elevation Loc	ation	40/9	ı					Page	
ЛсΓ	Onr	nell	1708 Woo	d Stree	et						2 of 2
epth feet) BGL	nscs	Lithologic Description	С	lass	Blow Count	Recov.	Run/ Time	Sample Desig.	Sample	PID (ppm)	Well Diagram
3GL	SP	·	12.32	7- 1-1-				_	0)	BZ/BH/S	
15—	SM	organics									
	SP SP	SAND - medium grained, subangular, homogenous	/								
_	SM	SANDY SILT- gray, moisture				70%	0804			0/0/0	
	Shell Layer	Shell Layer, two centimeter zone									
20-						80%	0807			0/0/0	
_		organic rich zone									
_	SP SM	SANDY SILT - as above						BM-17-2S		0/0/0	
	SP	SAND - medium grained, subangular, homogenous					0810			333	
	SP	Saturated - sands as above, with coarse sand									$\bar{\Delta}$
25 - _	SP SM	SANDY SILT - gray, moisture						BM-173S		0/0/0	
_	SP / SP	SAND - half inch sand lens SANDY SILT - gray, moisture		1.6							
	PT	PEAT	\(\frac{\frac{1}{1}}{1}\)								
	PT/	END OF BORING	<u> </u>	<u>\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ </u>							
-											
				1							

Reviewed B	v :

		Proje	ect Name	· · · · · · ·	Project N	dumbo	r				Boring/Well 1	Numbor
	Burn		ст магте ′RCW Roadway Expre	ss Oakland	4879		l				BM-18	Number
	&	Grou	ind Elevation	Location	1 .0.0	•					Page	
McI	<u> Doni</u>	nell		1708	Wood Stre	et						1 of 3
	itoring E RAE 20	quipment									Total Footage	e
	Orilling N		Borehole Size	Casing T	ype/Diam.		Scree	n Type	/Slot	Тг	Depth to Water	Top of Casing Elevation
			3"	Odding i	урс/Віаті.			Пурс	0.00	+-		Top or casing Elevation
	Direct F	Pusn	3								12.6	
Drilling	Compa	ny:	RSI Drilling				Driller(s):	Maı	uricio Sar	chez		
Drilling	Rig:		Geoprobe 6620 GT				Type of Sampler:	Ge	oprobe S	eeve		
Date:			8/6/08				Logged by:	S F	Barber			
						!	Logged by.	0.1		П		
Depth (feet)	nscs		Lithologic		Class	Blow		Run/	Sample Desig.	mple	PID (ppm)	Well Diagram
BGL	β		Description			Coun	nt	Time	Desig.	Sa	BZ/BH/S	Č
С	ONCRE	TECONCRE	TE									
_	SP	SANDVS	ILT - black and gray	medium	p 4 p	•					0/8/151	
	SM	sand, very	soft; some clay. She	een, strong				0949				
		odor										
-	1											
									BM-18-1S			
_	_							0950				
_												
5-												
]	SP SC	SANDY C	CLAY - Gley 2 Y5/100 sture, organics	SY, very soft,								
		Joine moi	otare, organico									
_	1											
-											0/0/0	
_	<u> </u>											
							100%	4000	BM-18-2S		0/0/0	
- 90/	SP		ILT - Gley 2 2.5/10G	Y, gray, with				1003				
0	SC	organics										
10-												
BURING/WELL TRU CARLAND, GPJ BURNSAMU., GDJ 8/14/08	1	no organi:	~									
5		no organio										
		Shell laye	r - 2 cm shell zone									
<u> </u>												
Z Z	SP	SAND - m	nedium, gray, subang	ular, wet			70%		BM-18-3S		0/0/0	<u>Z</u>
_ [SP	SANDY S	ILT- as above		1.0000		.0%	1005				
5	SM	OAND I S	1- 43 ADOVE									
Ž												
BZ=	Breathin	a Zone Bl	H=Bore Hole S=Sa	mple	r est de l'itel		1					

Reviewed B	v:	
to the treat	<i>y</i> ·	

$-\mathbf{B}$	urns	Project Name	Project I						Boring/We	ell Number
	&	Ground Elevation Location	4879 I	71					BM-18 Page	
/cI	Ooni	1708	Wood Stre	et					131	2 of 3
			0:	Blow		Run/	Sample	ple	PID (ppm))A/- !! 5:
epth feet) BGL	nscs	Lithologic Description	Class	Count	Recov.	Time	Sample Desig.	Sam	BZ/BH/S	Well Diagram
	SP							\forall	-	
	SM									
15-										
	SP	SAND - medium, subangular,								
		homogenous, wet								
_	SP SC	SANDY CLAY - very dark greenish gray, Gley 2 3/3, dense, stiff; with organics			70%	1005			0/0/0	
		C.O., 2 0.0, defice, buil, with organics								
_										
_										
_										
20-									0/0/0	
						1007				
_										
_	SP	CLAYEY SAND - Gley 2 3/2, medium,			90%	4040			0/0/0	
	SC	homogenous, moist				1010				
_					90%				0/0/0	
					30 /0	1010				
25—										
<u> </u>										
_										
_										
_										
						1012			0/0/0	
_	CL	CLAY - Gley 2 3/3 soft								
30-										
-										
			<i>\\\\\\\</i>							

Reviewed B	v :

	$\mathrm{B} \iota$	irns	Project Name		Project I						Boring/Wel	l Number		
	Burns Project Name YRCW Roadway Express Oakland Ground Elevation Location			48791						BM-18 Page				
Mc	D	onr	iell		Vood Stre	et					, age	3	of	3
				ı						υ	PID (ppm)			
Dept (feet BGL)	USCS	Lithologic Description		Class	Blow Count	Recov.	Run/ Time	Sample Desig.	ampl			Well Diagra	am
BGL			· r··		,,,,,,,,,				<u> </u>	S	BZ/BH/S			
		CL						1016			0/0/0			
		SP	SAND - greenish gray, Gley 2 3/3, homogenous, moisture	medium,										
	+	SP	END OF BORING											-
		$\overline{}$	<u> </u>											
	٦													_
	\perp													_
	\dashv													_
	7													-
	_													_
	\dashv													_
	7													_
	╝													_
	4													_
	\dashv													_
														_
4/08														
T 8/1														
.GD	4													_
88MO														
JRNS														
J BL	\dashv													_
D.GP														
LAN														
OAK	\neg													_
YRC														
	\perp													_
G/WE														
BORINGWELL YRC OAKLAND.GPJ BURNS&MC.GDT 8/14/08														
<u>В</u>	7=Rr	eathing	Zone BH=Bore Hole S=Sample	2										

Reviewed B	v :

В	urn		ect Name /RCW Roadway Expre	oog Ookland	Project N 4879		er				Boring/Well N BM-19	Number
	&	Grou	ind Elevation	Location	40/9	1					Page	
McI	Ooni	nell		1708	Wood Stree	et						1 of 2
	itoring E RAE 20	Equipment									Total Footage	e
	rilling M		Borehole Size	Casing T	ype/Diam.		Scree	n Type	/Slot	Тг	Depth to Water	Top of Casing Elevation
	Direct F		3"	Odding 1	урс/Біатт.		Ocice	птурс	70101	+-	13	Top of Casing Lievation
Drilling (Compar	ny:	RSI Drilling				Driller(s):	Mai	uricio Sar	chez		
Drilling F	Rig:		Geoprobe 6620 GT				Type of Sampler:	Ge	oprobe S	eeve		
Date:			8/6/08				Logged by:	S. I	Barber			
Depth	S		Lithologic			Blov	v	Run/	Sample	ole	PID (ppm)	
(feet) BGL	nscs		Description		Class	Cour	nt Recov.	Time	Sample Desig.	Samp	BZ/BH/S	Well Diagram
		TECONCRE	TF		20 5 M (2)						BZ/BH/S	
1	FILL	FILL - gra	vel, sand									
	SP	SAND - g moisture	ray, medium, subang	gular, some								
		moisture										
	SP	SANDYS	SILT - Gley 2 3/2, ver	v soft moist								
_	SM	0,41010	0.0y 2 0/2, VCI	, 551, 1110151								
											0/0/0	
_												
_												
5—												
_												
_	CL SP		ack, organics; some	sand.			80%	1115	BM-19-1S		0/0/0	
	SM	\sheen? SANDY S	ILT - same as above	:				1110				
10-												
							70%	1125	BM-19-2S		0/0/0	
		two centin	neter layer of shells									
	SP	SAND - g	ray, medium, subang	gular,								
_		homogen	ous									
	 -											
	SP	Saturated	zone								Z	7
	SP	SAND - as	s above								-7	_
10-												
		g Zone Bl	H=Bore Hole S=Sa									

Reviewed B	v:	
to the treat	<i>y</i> ·	

В	urns	Project Name YRCW Roadway Express C		Project I 4879						Boring/We BM-19	ll Number
	&	Ground Elevation	Location	40/8	<u>, i</u>					Page	
McI	<u> Donr</u>	iell	1708 W	ood Stre	et						2 of 2
Depth (feet) BGL	nscs	Lithologic Description		Class	Blow Count	Recov.	Run/ Time	Sample Desig.	Sample	PID (ppm) BZ/BH/S	Well Diagram
15—	SP					80%	1122			0/0/0	
_	CL	CLAY - Gley 2 3/3 gray, with orgar SAND - medium grey sub angular, homogenous, wet				90%	1129	BM-19-3S		0/0/0	
20-		Saturated									
_	CL	CLAY - gray, soft; some silt				100%	1132	BM-19-4S		0/0/0	
_		END OF BORING									
_											
_											
_											
_											

APPENDIX E LABORATORY ANALYTICAL REPORTS



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

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

Laboratory Job Number 205158 ANALYTICAL REPORT

Burns & McDonnell Project : 48791

393 East Grand Avenue Location: YRC-Oakland

South San Francisco, CA 94080 Level : II

Sample ID	<u>Lab ID</u>
BM-10_1W	205158-001
BM-10_2W	205158-002
MW-2	205158-003
BM-11_1W	205158-004
BM-11_2W	205158-005
TRIP BLANKS-1	205158-006
BM-12_1W	205158-007
BM-121W	205158-008
BM-131W	205158-009
BM-141W	205158-010
BM-122W	205158-011
BM-151W	205158-012
BM-152W	205158-013
BM-161W	205158-014
TRIP BLANKS-2	205158-015
BM-171W	205158-016
DUP1W	205158-017
BM-181W	205158-018
BM-191W	205158-019
TRIP BLANKS	205158-020
BM-161W	205158-021

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:

Droject Manager

Date: <u>08/28/2008</u>

Signature:

Senior Program Manager

Date: <u>08/28/2008</u>



CASE NARRATIVE

Laboratory number: 205158

Client: Burns & McDonnell

Project: **48791**

Location: YRC-Oakland

Request Date: 08/07/08, 08/20/08

Samples Received: 08/07/08

This hardcopy data package contains sample and QC results for twenty water samples, requested for the above referenced project on 08/07/08 and 08/20/08. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B):

High surrogate recoveries were observed for trifluorotoluene (FID) in the MS/MSD for batch 141479; the corresponding bromofluorobenzene (FID) surrogate recoveries were within limits, and the parent sample was not a project sample. 205158-014 was analyzed outside of hold time; affected data was qualified with "b". This analysis was requested past hold. BM-10_1W (lab # 205158-001) had pH greater than 2. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

205158-021 was prepared outside of hold time; affected data was qualified with "b". This analysis was requested past hold. No other analytical problems were encountered.



Curtis & Tompkins Laboratories Analytical Report									
Lab #: Client: Project#:	205158 Burns & McDonnell 48791	Location: Prep:	YRC-Oakland EPA 5030B						
Matrix: Units:	Water ug/L	Diln Fac: Received:	1.000 08/07/08						

Field ID: BM-10_1W Batch#: 141395
Type: SAMPLE Sampled: 08/04/08
Lab ID: 205158-001 Analyzed: 08/13/08

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	105	69-140	EPA 8015B	
Bromofluorobenzene (FID)	115	73-144	EPA 8015B	
Trifluorotoluene (PID)	83	60-146	EPA 8021B	
Bromofluorobenzene (PID)	93	65-143	EPA 8021B	

Field ID: BM-10_2W Batch#: 141395
Type: SAMPLE Sampled: 08/04/08
Lab ID: 205158-002 Analyzed: 08/14/08

Analyte	Result	RL	Analysis	
Gasoline C7-C12	ND	50	EPA 8015B	
MTBE	ND	2.0	EPA 8021B	
Benzene	ND	0.50	EPA 8021B	
Toluene	ND	0.50	EPA 8021B	
Ethylbenzene	ND	0.50	EPA 8021B	
m,p-Xylenes	ND	0.50	EPA 8021B	
o-Xylene	ND	0.50	EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	94	69-140	EPA 8015B	
Bromofluorobenzene (FID)	102	73-144	EPA 8015B	
Trifluorotoluene (PID)	74	60-146	EPA 8021B	
Bromofluorobenzene (PID)	84	65-143	EPA 8021B	

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

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Curtis & Tompkins Laboratories Analytical Report					
Lab #: Client: Project#:	205158 Burns & McDonnell 48791	Location: Prep:	YRC-Oakland EPA 5030B		
Matrix: Units:	Water ug/L	Diln Fac: Received:	1.000 08/07/08		

 Field ID:
 MW-2
 Batch#:
 141395

 Type:
 SAMPLE
 Sampled:
 08/04/08

 Lab ID:
 205158-003
 Analyzed:
 08/14/08

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	90	69-140	EPA 8015B	
Bromofluorobenzene (FID)	96	73-144	EPA 8015B	
Trifluorotoluene (PID)	66	60-146	EPA 8021B	
Bromofluorobenzene (PID)	73	65-143	EPA 8021B	

Field ID: BM-11_1W Batch#: 141395
Type: SAMPLE Sampled: 08/04/08
Lab ID: 205158-004 Analyzed: 08/14/08

Analyte	Result	RL	Analysis	
Gasoline C7-C12	ND	50	EPA 8015B	
MTBE	ND	2.0	EPA 8021B	
Benzene	ND	0.50	EPA 8021B	
Toluene	ND	0.50	EPA 8021B	
Ethylbenzene	ND	0.50	EPA 8021B	
m,p-Xylenes	ND	0.50	EPA 8021B	
o-Xylene	ND	0.50	EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	110	69-140	EPA 8015B	
Bromofluorobenzene (FID)	118	73-144	EPA 8015B	
Trifluorotoluene (PID)	89	60-146	EPA 8021B	
Bromofluorobenzene (PID)	97	65-143	EPA 8021B	

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

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Curtis & Tompkins Laboratories Analytical Report					
Lab #: Client: Project#:	205158 Burns & McDonnell 48791	Location: Prep:	YRC-Oakland EPA 5030B		
Matrix: Units:	Water ug/L	Diln Fac: Received:	1.000 08/07/08		

Field ID: BM-11_2W Batch#: 141395
Type: SAMPLE Sampled: 08/04/08
Lab ID: 205158-005 Analyzed: 08/14/08

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	104	69-140	EPA 8015B	
Bromofluorobenzene (FID)	115	73-144	EPA 8015B	
Trifluorotoluene (PID)	82	60-146	EPA 8021B	
Bromofluorobenzene (PID)	91	65-143	EPA 8021B	

Field ID: TRIP BLANKS-1 Batch#: 141395
Type: SAMPLE Sampled: 08/04/08
Lab ID: 205158-006 Analyzed: 08/14/08

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	104	69-140	EPA 8015B	
Bromofluorobenzene (FID)	110	73-144	EPA 8015B	
Trifluorotoluene (PID)	84	60-146	EPA 8021B	
Bromofluorobenzene (PID)	86	65-143	EPA 8021B	

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

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Curtis & Tompkins Laboratories Analytical Report					
Lab #: Client: Project#:	205158 Burns & McDonnell 48791	Location: Prep:	YRC-Oakland EPA 5030B		
Matrix: Units:	Water ug/L	Diln Fac: Received:	1.000 08/07/08		

141395 08/04/08 08/14/08 Batch#: Sampled: Analyzed: Field ID: BM-12_1W SAMPLE Type: Lab ID: 205158-007

Analyte	Result	RL	Analysis	
Gasoline C7-C12	ND	50	EPA 8015B	
MTBE	ND	2.0	EPA 8021B	
Benzene	ND	0.50	EPA 8021B	
Toluene	ND	0.50	EPA 8021B	
Ethylbenzene	ND	0.50	EPA 8021B	
m,p-Xylenes	ND	0.50	EPA 8021B	
o-Xylene	ND	0.50	EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	107	69-140	EPA 8015B	
Bromofluorobenzene (FID)	115	73-144	EPA 8015B	
Trifluorotoluene (PID)	82	60-146	EPA 8021B	
Bromofluorobenzene (PID)	91	65-143	EPA 8021B	

Field ID: Type: Lab ID: BM-13_-1W SAMPLE 205158-009 Batch#: 141395 Batch#: 141395 Sampled: 08/05/08 Analyzed: 08/14/08

Analyte	Result	RL	Analysis	
Gasoline C7-C12	ND	50	EPA 8015B	
MTBE	ND	2.0	EPA 8021B	
Benzene	ND	0.50	EPA 8021B	
Toluene	ND	0.50	EPA 8021B	
Ethylbenzene	ND	0.50	EPA 8021B	
m,p-Xylenes	ND	0.50	EPA 8021B	
o-Xylene	ND	0.50	EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	112	69-140	EPA 8015B	
Bromofluorobenzene (FID)	120	73-144	EPA 8015B	
Trifluorotoluene (PID)	87	60-146	EPA 8021B	
Bromofluorobenzene (PID)	92	65-143	EPA 8021B	

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

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Curtis & Tompkins Laboratories Analytical Report					
Lab #: Client: Project#:	205158 Burns & McDonnell 48791	Location: Prep:	YRC-Oakland EPA 5030B		
Matrix: Units:	Water ug/L	Diln Fac: Received:	1.000 08/07/08		

Field ID: BM-14_-1W Batch#: 141395
Type: SAMPLE Sampled: 08/05/08
Lab ID: 205158-010 Analyzed: 08/14/08

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	104	69-140	EPA 8015B	
Bromofluorobenzene (FID)	117	73-144	EPA 8015B	
Trifluorotoluene (PID)	78	60-146	EPA 8021B	
Bromofluorobenzene (PID)	98	65-143	EPA 8021B	

Field ID: BM-12_-2W Batch#: 141395
Type: SAMPLE Sampled: 08/05/08
Lab ID: 205158-011 Analyzed: 08/14/08

Analyte	Result	RL	Analysis	
Gasoline C7-C12	ND	50	EPA 8015B	
MTBE	ND	2.0	EPA 8021B	
Benzene	ND	0.50	EPA 8021B	
Toluene	ND	0.50	EPA 8021B	
Ethylbenzene	ND	0.50	EPA 8021B	
m,p-Xylenes	ND	0.50	EPA 8021B	
o-Xylene	ND	0.50	EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	93	69-140	EPA 8015B	
Bromofluorobenzene (FID)	100	73-144	EPA 8015B	
Trifluorotoluene (PID)	73	60-146	EPA 8021B	
Bromofluorobenzene (PID)	82	65-143	EPA 8021B	

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

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Curtis & Tompkins Laboratories Analytical Report					
Lab #: Client: Project#:	205158 Burns & McDonnell 48791	Location: Prep:	YRC-Oakland EPA 5030B		
Matrix: Units:	Water ug/L	Diln Fac: Received:	1.000 08/07/08		

Field ID: BM-15_-1W Batch#: 141395
Type: SAMPLE Sampled: 08/05/08
Lab ID: 205158-012 Analyzed: 08/14/08

Analyte	Result	RL	Analysis	
Gasoline C7-C12	ND	50	EPA 8015B	
MTBE	ND	2.0	EPA 8021B	
Benzene	ND	0.50	EPA 8021B	
Toluene	ND	0.50	EPA 8021B	
Ethylbenzene	ND	0.50	EPA 8021B	
m,p-Xylenes	ND	0.50	EPA 8021B	
o-Xylene	ND	0.50	EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	110	69-140	EPA 8015B	
Bromofluorobenzene (FID)	117	73-144	EPA 8015B	
Trifluorotoluene (PID)	88	60-146	EPA 8021B	
Bromofluorobenzene (PID)	94	65-143	EPA 8021B	

Field ID: BM-15_-2W Batch#: 141395
Type: SAMPLE Sampled: 08/05/08
Lab ID: 205158-013 Analyzed: 08/14/08

Analyte	Result	RL	Analysis	
Gasoline C7-C12	ND	50	EPA 8015B	
MTBE	ND	2.0	EPA 8021B	
Benzene	ND	0.50	EPA 8021B	
Toluene	ND	0.50	EPA 8021B	
Ethylbenzene	ND	0.50	EPA 8021B	
m,p-Xylenes	ND	0.50	EPA 8021B	
o-Xylene	ND	0.50	EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	96	69-140	EPA 8015B	
Bromofluorobenzene (FID)	103	73-144	EPA 8015B	
Trifluorotoluene (PID)	78	60-146	EPA 8021B	
Bromofluorobenzene (PID)	84	65-143	EPA 8021B	

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

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	Curtis & Tompkins Laboratories Analytical Report				
Lab #: Client: Project#:	205158 Burns & McDonnell 48791	Location: Prep:	YRC-Oakland EPA 5030B		
Matrix: Units:	Water ug/L	Diln Fac: Received:	1.000 08/07/08		

Field ID: BM-16_-1W Batch#: 141724
Type: SAMPLE Sampled: 08/05/08
Lab ID: 205158-014 Analyzed: 08/22/08

Analyte	Result	RL	Analysis	
Gasoline C7-C12	ND b	50	EPA 8015B	
MTBE	ND b	2.0	EPA 8021B	
Benzene	ND b	0.50	EPA 8021B	
Toluene	ND b	0.50	EPA 8021B	
Ethylbenzene	ND b	0.50	EPA 8021B	
m,p-Xylenes	ND b	0.50	EPA 8021B	
o-Xylene	ND b	0.50	EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	99 b	69-140	EPA 8015B	
Bromofluorobenzene (FID)	114 b	73-144	EPA 8015B	
Trifluorotoluene (PID)	95 b	60-146	EPA 8021B	
Bromofluorobenzene (PID)	105 b	65-143	EPA 8021B	

Field ID: TRIP BLANKS-2 Batch#: 141395
Type: SAMPLE Sampled: 08/05/08
Lab ID: 205158-015 Analyzed: 08/14/08

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	102	69-140	EPA 8015B	
Bromofluorobenzene (FID)	111	73-144	EPA 8015B	
Trifluorotoluene (PID)	84	60-146	EPA 8021B	
Bromofluorobenzene (PID)	84	65-143	EPA 8021B	

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

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	Curtis & Tompkins Laboratories Analytical Report				
Lab #: Client: Project#:	205158 Burns & McDonnell 48791	Location: Prep:	YRC-Oakland EPA 5030B		
Matrix: Units:	Water ug/L	Diln Fac: Received:	1.000 08/07/08		

Field ID: BM-17_-1W Batch#: 141395
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205158-016 Analyzed: 08/14/08

Analyte	Result	RL	Analysis	
Gasoline C7-C12	ND	50	EPA 8015B	
MTBE	ND	2.0	EPA 8021B	
Benzene	ND	0.50	EPA 8021B	
Toluene	ND	0.50	EPA 8021B	
Ethylbenzene	ND	0.50	EPA 8021B	
m,p-Xylenes	ND	0.50	EPA 8021B	
o-Xylene	ND	0.50	EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	106	69-140	EPA 8015B	
Bromofluorobenzene (FID)	113	73-144	EPA 8015B	
Trifluorotoluene (PID)	87	60-146	EPA 8021B	
Bromofluorobenzene (PID)	92	65-143	EPA 8021B	

Field ID: DUP_-1W Batch#: 141395
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205158-017 Analyzed: 08/14/08

Analyte	Result	RL	Analysis	
Gasoline C7-C12	ND	50	EPA 8015B	
MTBE	ND	2.0	EPA 8021B	
Benzene	ND	0.50	EPA 8021B	
Toluene	ND	0.50	EPA 8021B	
Ethylbenzene	ND	0.50	EPA 8021B	
m,p-Xylenes	ND	0.50	EPA 8021B	
o-Xylene	ND	0.50	EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	104	69-140	EPA 8015B	
Bromofluorobenzene (FID)	109	73-144	EPA 8015B	
Trifluorotoluene (PID)	85	60-146	EPA 8021B	
Bromofluorobenzene (PID)	90	65-143	EPA 8021B	

b= See narrative NA= Not Analyzed ND= Not Detected RL= Reporting Limit Page 8 of 11

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	Curtis & Tompkins Laboratories Analytical Report				
Lab #: Client: Project#:	205158 Burns & McDonnell 48791	Location: Prep:	YRC-Oakland EPA 5030B		
Matrix: Units:	Water ug/L	Diln Fac: Received:	1.000 08/07/08		

Field ID: BM-18_-1W Batch#: 141395
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205158-018 Analyzed: 08/14/08

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	106	69-140	EPA 8015B	
Bromofluorobenzene (FID)	115	73-144	EPA 8015B	
Trifluorotoluene (PID)	87	60-146	EPA 8021B	
Bromofluorobenzene (PID)	96	65-143	EPA 8021B	

Field ID: BM-19_-1W Batch#: 141395
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205158-019 Analyzed: 08/14/08

Analyte	Result	RL	Analysis	
Gasoline C7-C12	ND	50	EPA 8015B	
MTBE	ND	2.0	EPA 8021B	
Benzene	ND	0.50	EPA 8021B	
Toluene	ND	0.50	EPA 8021B	
Ethylbenzene	ND	0.50	EPA 8021B	
m,p-Xylenes	ND	0.50	EPA 8021B	
o-Xylene	ND	0.50	EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	97	69-140	EPA 8015B	
Bromofluorobenzene (FID)	105	73-144	EPA 8015B	
Trifluorotoluene (PID)	83	60-146	EPA 8021B	
Bromofluorobenzene (PID)	86	65-143	EPA 8021B	

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

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Curtis & Tompkins Laboratories Analytical Report					
Lab #: Client: Project#:	205158 Burns & McDonnell 48791	Location: Prep:	YRC-Oakland EPA 5030B		
Matrix: Units:	Water ug/L	Diln Fac: Received:	1.000 08/07/08		

205158-020 08/06/08 Field ID: TRIP BLANKS Lan ID: Sampled: SAMPLE Type:

Analyte	Result	RL	Batch# Analyzed	Analysis
Gasoline C7-C12	ND	50	141395 08/14/08	EPA 8015B
MTBE	ND	2.0	141395 08/14/08	EPA 8021B
Benzene	ND	0.50	141395 08/14/08	EPA 8021B
Toluene	ND	0.50	141479 08/15/08	EPA 8021B
Ethylbenzene	ND	0.50	141395 08/14/08	EPA 8021B
m,p-Xylenes	ND	0.50	141395 08/14/08	EPA 8021B
o-Xylene	ND	0.50	141395 08/14/08	EPA 8021B

Surrogate	%REC	Limits	Batch#	Analyzed	Analysis
Trifluorotoluene (FID)	100	69-140	141395	08/14/08	EPA 8015B
Bromofluorobenzene (FID)	108	73-144	141395	08/14/08	EPA 8015B
Trifluorotoluene (PID)	75	60-146	141395	08/14/08	EPA 8021B
Bromofluorobenzene (PID)	86	65-143	141395	08/14/08	EPA 8021B

BLANK Batch#: Type: Lab ID: 141395 вассия: Analyzed: QC455408 08/14/08

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	104	69-140	EPA 8015B	
Bromofluorobenzene (FID)	107	73-144	EPA 8015B	
Trifluorotoluene (PID)	83	60-146	EPA 8021B	
Bromofluorobenzene (PID)	92	65-143	EPA 8021B	

Type: Lab ID: Batch#: Analyzed: 08/15/08 Analysis: EPA 8021E BLANK QC455787 141479 EPA 8021B

Analyte	Result	RL	
Toluene	ND	0.50	

Surrogate	Result	%REC	Limits
Trifluorotoluene (FID)	NA		
Bromofluorobenzene (FID)	NA		
Trifluorotoluene (PID)		80	60-146
Bromofluorobenzene (PID)		85	65-143

b= See narrative NA= Not Analyzed

ND= Not Detected

RL= Reporting Limit



	Curtis & Tompkins Laboratories Analytical Report					
Lab #: Client: Project#:	205158 Burns & McDonnell 48791	Location: Prep:	YRC-Oakland EPA 5030B			
Matrix: Units:	Water ug/L	Diln Fac: Received:	1.000 08/07/08			

Type: BLANK Lab ID: QC456909 141724 08/22/08 Batcn#: Analyzed: Batch#:

Analyte	Result	RL	Analysis	
Gasoline C7-C12	ND	50	EPA 8015B	
MTBE	ND	2.0	EPA 8021B	
Benzene	ND	0.50	EPA 8021B	
Toluene	ND	0.50	EPA 8021B	
Ethylbenzene	ND	0.50	EPA 8021B	
m,p-Xylenes	ND	0.50	EPA 8021B	
o-Xylene	ND	0.50	EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	100	69-140	EPA 8015B	
Bromofluorobenzene (FID)	102	73-144	EPA 8015B	
Trifluorotoluene (PID)	96	60-146	EPA 8021B	
Bromofluorobenzene (PID)	101	65-143	EPA 8021B	

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



	Curtis & Tompkins	Laboratories Anal	ytical Report
Lab #:	205158	Location:	YRC-Oakland
Client:	Burns & McDonnell	Prep:	EPA 5030B
Project#:	48791	Analysis:	EPA 8021B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC455409	Batch#:	141395
Matrix:	Water	Analyzed:	08/13/08
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
MTBE	20.00	19.05	95	70-129
Benzene	20.00	20.19	101	80-120
Toluene	20.00	21.42	107	80-120
Ethylbenzene	20.00	21.97	110	80-120
m,p-Xylenes	20.00	21.32	107	80-120
o-Xylene	20.00	20.29	101	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	80	60-146
Bromofluorobenzene (PID)	93	65-143

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	Curtis & Tompkins I	aboratories Anal	ytical Report	
Lab #:	205158	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 5030B	
Project#:	48791	Analysis:	EPA 8015B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC455410	Batch#:	141395	
Matrix:	Water	Analyzed:	08/13/08	
Units:	ug/L			

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	1,960	98	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	128	69-140
Bromofluorobenzene (FID)	117	73-144

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	Curtis & Tompkins I	Laboratories Anal	ytical Report	
Lab #:	205158	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 5030B	
Project#:	48791	Analysis:	EPA 8015B	
Field ID:	BM-10_1W	Batch#:	141395	
MSS Lab ID:	205158-001	Sampled:	08/04/08	
Matrix:	Water	Received:	08/07/08	
Units:	ug/L	Analyzed:	08/13/08	
Diln Fac:	1.000			

Type: MS

Lab ID: QC455411

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	27.49	2,000	1,874	92	67-120

Surrogate	%REC	Limits	
Trifluorotoluene (FID)	129	69-140	
Bromofluorobenzene (FID)	120	73-144	

Type: MSD Lab ID: QC455412

Analyte	Spiked	Result	%REC	Limits	RPD I	Lim
Gasoline C7-C12	2,000	1,975	97	67-120		20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	131	69-140
Bromofluorobenzene (FID)	119	73-144

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	Curtis & Tompkins I	Laboratories Anal	ytical Report	
Lab #:	205158	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 5030B	
Project#:	48791	Analysis:	EPA 8015B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC455788	Batch#:	141479	
Matrix:	Water	Analyzed:	08/15/08	
Units:	ug/L			

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,118	112	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	131	69-140
Bromofluorobenzene (FID)	117	73-144



	Curtis & Tompkins I	aboratories Anal	ytical Report	
Lab #:	205158	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 5030B	
Project#:	48791	Analysis:	EPA 8015B	
Field ID:	ZZZZZZZZZZ	Batch#:	141479	
MSS Lab ID:	205253-014	Sampled:	08/12/08	
Matrix:	Water	Received:	08/12/08	
Units:	ug/L	Analyzed:	08/15/08	
Diln Fac:	1.000			

Type: MS

Lab ID: QC455789

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	20.42	2,000	2,153	107	67-120

Surrogate	%REC	imits	
Trifluorotoluene (FID)	142 *	9-140	
Bromofluorobenzene (FID)	117	3-144	

Type: MSD Lab ID: QC455790

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2.087	103	67-120	3	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	141 *	69-140
Bromofluorobenzene (FID)	116	73-144

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^{*=} Value outside of QC limits; see narrative RPD= Relative Percent Difference



	Curtis & Tompkins I	aboratories Anal	ytical Report	
Lab #:	205158	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 5030B	
Project#:	48791	Analysis:	EPA 8021B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC455923	Batch#:	141479	
Matrix:	Water	Analyzed:	08/15/08	
Units:	ug/L			

Analyte	Spiked	Result	%REC	Limits
Toluene	10.00	9.311	93	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	88	60-146
Bromofluorobenzene (PID)	92	65-143

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	Curtis & Tompkins I	Laboratories Anal	ytical Report	
Lab #:	205158	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 5030B	
Project#:	48791	Analysis:	EPA 8021B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC456067	Batch#:	141542	
Matrix:	Water	Analyzed:	08/18/08	
Units:	ug/L			

Analyte	Spiked	Result	%REC	Limits
Toluene	10.00	9.384	94	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	70	60-146
Bromofluorobenzene (PID)	72	65-143



	Curtis & Tompkins I	aboratories Anal	ytical Report	
Lab #:	205158	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 5030B	
Project#:	48791	Analysis:	EPA 8015B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC456910	Batch#:	141724	
Matrix:	Water	Analyzed:	08/22/08	
Units:	ug/L			

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,036	104	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	120	69-140
Bromofluorobenzene (FID)	104	73-144



	Curtis & Tompkins I	aboratories Anal	ytical Report	
Lab #:	205158	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 5030B	
Project#:	48791	Analysis:	EPA 8021B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC456911	Batch#:	141724	
Matrix:	Water	Analyzed:	08/22/08	
Units:	ug/L			

Analyte	Spiked	Result	%REC	Limits
MTBE	10.00	8.989	90	70-129
Benzene	10.00	9.167	92	80-120
Toluene	10.00	9.462	95	80-120
Ethylbenzene	10.00	9.787	98	80-120
m,p-Xylenes	10.00	9.901	99	80-120
o-Xylene	10.00	9.830	98	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	99	60-146
Bromofluorobenzene (PID)	100	65-143



	Curtis & Tompkins I	Laboratories Anal	ytical Report	
Lab #:	205158	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 5030B	
Project#:	48791	Analysis:	EPA 8015B	
Field ID:	ZZZZZZZZZZ	Batch#:	141724	
MSS Lab ID:	205447-003	Sampled:	08/20/08	
Matrix:	Water	Received:	08/20/08	
Units:	ug/L	Analyzed:	08/22/08	
Diln Fac:	1.000			

Type: MS Lab ID: QC456950

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	13.64	2,000	1,802	89	67-120

Surrogate	%REC	Limits	
Trifluorotoluene (FID)	112	69-140	
Bromofluorobenzene (FID)	108	73-144	

Type: MSD Lab ID: QC456951

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,762	87	67-120	2	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	113	69-140
Bromofluorobenzene (FID)	109	73-144



Total Extractable Hydrocarbons							
Lab #:	205158	Location:	YRC-Oakland				
Client:	Burns & McDonnell	Prep:	EPA 3520C				
Project#:	48791	Analysis:	EPA 8015B				
Matrix:	Water	Diln Fac:	1.000				
Units:	ug/L	Received:	08/07/08				

BM-10_1W Field ID: 08/04/08 Sampled: Type: SAMPLE Prepared: 08/08/08 Lab ID: 205158-001 Cleanup Method: EPA 3630C

Batch#: 141238

Analyte	Result	RL	Analyzed	
Diesel C10-C24	1,500 Y	50	08/12/08	
Diesel C10-C24 (SGCU)	ND	50	08/15/08	
Motor Oil C24-C36	1,500	300	08/12/08	
Motor Oil C24-C36 (SGCU)	ND	300	08/15/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	84	63-130	08/15/08
Hexacosane	116	63-130	08/12/08

Field ID: BM-10_2W 08/04/08 Sampled: 08/13/08 Type: SAMPLE Prepared: Lab ID: 205158-002 Analyzed: 08/14/08

141401 Batch#:

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

Surrogate	%REC	Limits
Hexacosane	75	63-130

Field ID: MW-2Sampled: 08/04/08 SAMPLE 08/08/08 Prepared: Type: Lāb ID: 205158-003 Cleanup Method: EPA 3630C

Batch#: 141238

Analyte	Result	RL	Analyzed	
Diesel C10-C24	1,900 Y	50	08/12/08	
Diesel C10-C24 (SGCU)	ND	50	08/13/08	
Motor Oil C24-C36	1,300	300	08/12/08	
Motor Oil C24-C36 (SGCU)	ND	300	08/13/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	85	63-130	08/13/08
Hexacosane	116	63-130	08/12/08

Y= Sample exhibits chromatographic pattern which does not resemble standard

b= See narrative

ND= Not Detected RL= Reporting Limit SGCU= Silica gel cleanup



Total Extractable Hydrocarbons							
Lab #:	205158	Location:	YRC-Oakland				
Client:	Burns & McDonnell	Prep:	EPA 3520C				
Project#:	48791	Analysis:	EPA 8015B				
Matrix:	Water	Diln Fac:	1.000				
Units:	ug/L	Received:	08/07/08				

 $BM-11_1W$ Field ID: Sampled: 08/04/08 Prepared: 08/08/08 Type: SAMPLE Lab ID: 205158-004 Cleanup Method: EPA 3630C

Batch#: 141238

Analyte	Result	RL	Analyzed	
Diesel C10-C24	870 Y	50	08/12/08	
Diesel C10-C24 (SGCU)	ND	50	08/13/08	
Motor Oil C24-C36	1,100	300	08/12/08	
Motor Oil C24-C36 (SGCU)	ND	300	08/13/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	98	63-130	08/13/08
Hexacosane	109	63-130	08/12/08

BM-11_2W 08/04/08 Field ID: Sampled: Prepared: Type: SAMPLE 08/08/08 Lab ID: 205158-005 Cleanup Method: EPA 3630C

Batch#: 141238

Analyte	Result	RL	Analyzed	
Diesel C10-C24	430 Y	50	08/12/08	
Diesel C10-C24 (SGCU)	ND	50	08/13/08	
Motor Oil C24-C36	ND	300	08/12/08	
Motor Oil C24-C36 (SGCU)	ND	300	08/13/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	90	63-130	08/13/08
Hexacosane	109	63-130	08/12/08

08/04/08 BM-12_1W Field ID: Sampled: Prepared: Type: SAMPLE 08/08/08 Lab ID: 205158-007 Cleanup Method: EPA 3630C Batch#: 141238

Analyte	Result	RL	Analyzed	
Diesel C10-C24	1,200 Y	50	08/12/08	
Diesel C10-C24 (SGCU)	ND	50	08/13/08	
Motor Oil C24-C36	1,100	300	08/12/08	
Motor Oil C24-C36 (SGCU)	ND	300	08/13/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	86	63-130	08/13/08
Hexacosane	107	63-130	08/12/08

Y= Sample exhibits chromatographic pattern which does not resemble standard

b= See narrative ND= Not Detected

RL= Reporting Limit



	Total Extr	actable Hydrocar	bons	
Lab #:	205158	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 3520C	
Project#:	48791	Analysis:	EPA 8015B	
Matrix:	Water	Diln Fac:	1.000	
Units:	ug/L	Received:	08/07/08	

 $BM-12_{-}1W$ Field ID: Sampled: 08/05/08 SAMPLE 08/08/08 Type: Prepared: Lāb ID: 205158-008 Cleanup Method: EPA 3630C

Batch#: 141238

Analyte	Result	RL	Analyzed	
Diesel C10-C24	1,400 Y	50	08/12/08	
Diesel C10-C24 (SGCU)	ND	50	08/13/08	
Motor Oil C24-C36	1,300	300	08/12/08	
Motor Oil C24-C36 (SGCU)	ND	300	08/13/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	81	63-130	08/13/08
Hexacosane	112	63-130	08/12/08

BM-13_-1W 08/05/08 Field ID: Sampled: SAMPLE Prepared: Type: 08/08/08 Lab ID: 205158-009 Cleanup Method: EPA 3630C

Batch#: 141238

Analyte	Result	RL	Analyzed	
Diesel C10-C24	170 Y	50	08/12/08	
Diesel C10-C24 (SGCU)	ND	50	08/15/08	
Motor Oil C24-C36	ND	300	08/12/08	
Motor Oil C24-C36 (SGCU)	ND	300	08/15/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	81	63-130	08/15/08
Hexacosane	95	63-130	08/12/08

BM-14_-1W Sampled: 08/05/08 Field ID: Type: SAMPLE Prepared: 08/08/08 Lab ID: 205158-010 Analyzed: 08/12/08 Batch#: 141238

Result RLAnalyte Diesel C10-C24 ND 50 300 Motor Oil C24-C36 ND

Surrogate	%REC	Limits
Hexacosane	93	63-130

Y= Sample exhibits chromatographic pattern which does not resemble standard

b= See narrative ND= Not Detected

RL= Reporting Limit



	Total Ext	actable Hydrocar	bons	
Lab #:	205158	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 3520C	
Project#:	48791	Analysis:	EPA 8015B	
Matrix:	Water	Diln Fac:	1.000	
Units:	ug/L	Received:	08/07/08	

BM-12_-2W Sampled: Field ID: 08/05/08 Prepared: SAMPLE 08/08/08 Type: Lab ID: 205158-011 Cleanup Method: EPA 3630C

Batch#: 141238

Analyte	Result	RL	Analyzed	
Diesel C10-C24	240 Y	50	08/12/08	
Diesel C10-C24 (SGCU)	ND	50	08/13/08	
Motor Oil C24-C36	ND	300	08/12/08	
Motor Oil C24-C36 (SGCU)	ND	300	08/13/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	71	63-130	08/13/08
Hexacosane	98	63-130	08/12/08

BM-15_-1W 08/05/08 Field ID: Sampled: SAMPLE Prepared: Type: 08/08/08 Lab ID: 205158-012 Cleanup Method: EPA 3630C

Batch#: 141238

Analyte	Result	RL	Analyzed	
Diesel C10-C24	2,900 Y	50	08/12/08	
Diesel C10-C24 (SGCU)	ND	50	08/13/08	
Motor Oil C24-C36	2,600	300	08/12/08	
Motor Oil C24-C36 (SGCU)	ND	300	08/13/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	75	63-130	08/13/08
Hexacosane	109	63-130	08/12/08

08/05/08 Field ID: BM-15_-2W Sampled: Prepared: Type: SAMPLE 08/08/08 Lab ID: 205158-013 Cleanup Method: EPA 3630C

Batch#: 141238

Analyte	Result	RL	Analyzed	
Diesel C10-C24	80 Y	50	08/12/08	
Diesel C10-C24 (SGCU)	ND	50	08/15/08	
Motor Oil C24-C36	ND	300	08/12/08	
Motor Oil C24-C36 (SGCU)	ND	300	08/15/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	92	63-130	08/15/08
Hexacosane	94	63-130	08/12/08

Y= Sample exhibits chromatographic pattern which does not resemble standard

b= See narrative ND= Not Detected

RL= Reporting Limit



Total Extractable Hydrocarbons							
Lab #:	205158	Location:	YRC-Oakland				
Client:	Burns & McDonnell	Prep:	EPA 3520C				
Project#:	48791	Analysis:	EPA 8015B				
Matrix:	Water	Diln Fac:	1.000				
Units:	ug/L	Received:	08/07/08				

BM-17_-1W SAMPLE Field ID: Sampled: 08/06/08 Prepared: 08/08/08 Type: Lab ID: 205158-016 Cleanup Method: EPA 3630C

Batch#: 141238

Analyte	Result	RL	Analyzed	
Diesel C10-C24	70 Y	50	08/12/08	
Diesel C10-C24 (SGCU)	ND	50	08/15/08	
Motor Oil C24-C36	ND	300	08/12/08	
Motor Oil C24-C36 (SGCU)	ND	300	08/15/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	103	63-130	08/15/08
Hexacosane	102	63-130	08/12/08

08/06/08 Field ID: DUP_-1W Sampled: Prepared: SAMPLE 08/08/08 Type: Lab ID: 205158-017 Cleanup Method: EPA 3630C

Batch#: 141238

Analyte	Result	RL	Analyzed	
Diesel C10-C24	110 Y	50	08/12/08	
Diesel C10-C24 (SGCU)	ND	50	08/15/08	
Motor Oil C24-C36	ND	300	08/12/08	
Motor Oil C24-C36 (SGCU)	ND	300	08/15/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	94	63-130	08/15/08
Hexacosane	86	63-130	08/12/08

BM-18_-1W Sampled: 08/06/08 Field ID: Type: SAMPLE Prepared: 08/08/08 Lab ID: 205158-018 Analyzed: 08/12/08

Batch#: 141238

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

Surrogate	%REC	Limits
Hexacosane	99	63-130

Y= Sample exhibits chromatographic pattern which does not resemble standard

b= See narrative ND= Not Detected

RL= Reporting Limit



Total Extractable Hydrocarbons							
Lab #:	205158	Location:	YRC-Oakland				
Client:	Burns & McDonnell	Prep:	EPA 3520C				
Project#:	48791	Analysis:	EPA 8015B				
Matrix:	Water	Diln Fac:	1.000				
Units:	ug/L	Received:	08/07/08				

BM-19_-1W Field ID: Sampled: 08/06/08 SAMPLE 08/08/08 Type: Prepared: Lab ID: 205158-019 08/12/08 Analyzed:

Batch#: 141238

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

Surrogate	%REC	Limits
Hexacosane	84	63-130

BM-16_-1W SAMPLE Sampled: Field ID: 08/05/08 08/26/08 08/27/08 Prepared: Type: Lab ID: 205158-021 Analyzed:

Batch#: 141832

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

Surrogate %REC Limit
Surrogate

08/08/08 Type: BLANK Prepared: Lab ID: QC454750 Analyzed: 08/12/08 Batch#: Ĩ41238 Cleanup Method: EPA 3630C

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

S	Surrogate	%REC	Limits
Hexacosane	(SGCU)	89	63-130
Hexacosane		114	63-130

Y= Sample exhibits chromatographic pattern which does not resemble standard

b= See narrative ND= Not Detected

RL= Reporting Limit



Total Extractable Hydrocarbons				
Lab #:	205158	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 3520C	
Project#:	48791	Analysis:	EPA 8015B	
Matrix:	Water	Diln Fac:	1.000	
Units:	ug/L	Received:	08/07/08	

Type: Lab ID: Batch#: Prepared: Analyzed: BLANK 08/13/08 QC455434 141401 08/14/08 Cleanup Method: EPA 3630C

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

Surrogate	%REC	Limits
Hexacosane (SGCU)	94	63-130
Hexacosane	74	63-130

Type: Lab ID: 08/26/08 08/27/08 BLANK Prepared: QC457423 141832 Analyzed: Batch#:

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

Y= Sample exhibits chromatographic pattern which does not resemble standard b= See narrative ND= Not Detected

RL= Reporting Limit SGCU= Silica gel cleanup



Total Extractable Hydrocarbons					
Lab #:	205158	Location:	YRC-Oakland		
Client:	Burns & McDonnell	Prep:	EPA 3520C		
Project#:	48791	Analysis:	EPA 8015B		
Matrix:	Water	Batch#:	141238		
Units:	ug/L	Prepared:	08/08/08		
Diln Fac:	1.000	Analyzed:	08/12/08		

Type: BS Cleanup Method: EPA 3630C

Lab ID: QC454751

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24 (SGCU)	2,500	2,486	99	61-120

Surrogate	%REC	Limits
Hexacosane (SGCU)	113	63-130

Type: BSD Cleanup Method: EPA 3630C

Lab ID: QC454752

Analyte	Spiked	Result	%REC	Limits	RPD Li	.m.
Diesel C10-C24 (SGCU)	2,500	2,278	91	61-120	9 29	

Surrogate	%REC	Limits
Hexacosane (SGCU)	106	63-130

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Total Extractable Hydrocarbons					
Lab #:	205158	Location:	YRC-Oakland		
Client:	Burns & McDonnell	Prep:	EPA 3520C		
Project#:	48791	Analysis:	EPA 8015B		
Matrix:	Water	Batch#:	141401		
Units:	ug/L	Prepared:	08/13/08		
Diln Fac:	1.000	Analyzed:	08/14/08		

Type: BS Cleanup Method: EPA 3630C

Lab ID: QC455435

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24 (SGCU)	2,500	2,481	99	61-120

Surrogate	%REC	Limits
Hexacosane (SGCU)	108	63-130

Type: BSD Cleanup Method: EPA 3630C

Lab ID: QC455436

Analyte	Spiked	Result	%REC	Limits	RPD L	Lim
Diesel C10-C24 (SGCU)	2,500	2,307	92	61-120		29

Surrogate	%REC	Limits
Hexacosane (SGCU)	100	63-130

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Total Extractable Hydrocarbons					
Lab #:	205158	Location:	YRC-Oakland		
Client:	Burns & McDonnell	Prep:	EPA 3520C		
Project#:	48791	Analysis:	EPA 8015B		
Matrix:	Water	Batch#:	141832		
Units:	ug/L	Prepared:	08/26/08		
Diln Fac:	1.000	Analyzed:	08/27/08		

Type: BS Cleanup Method: EPA 3630C

Lab ID: QC457424

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24 (SGCU)	2,500	2,044	82	61-120

Surrogate	%REC	Limits
Hexacosane (SGCU)	99	63-130

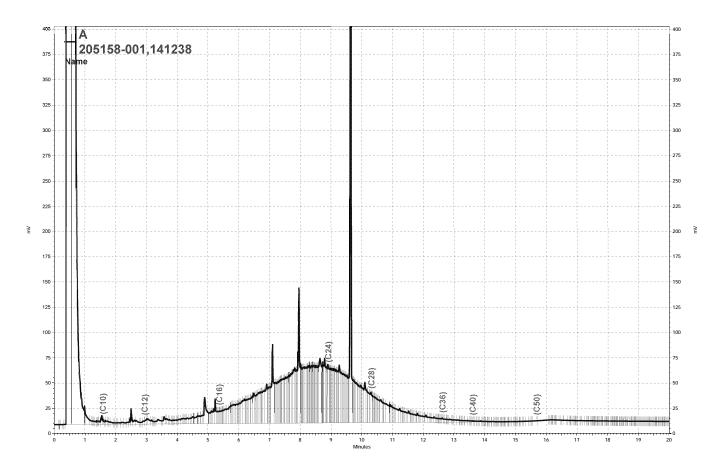
Type: BSD Cleanup Method: EPA 3630C

Lab ID: QC457425

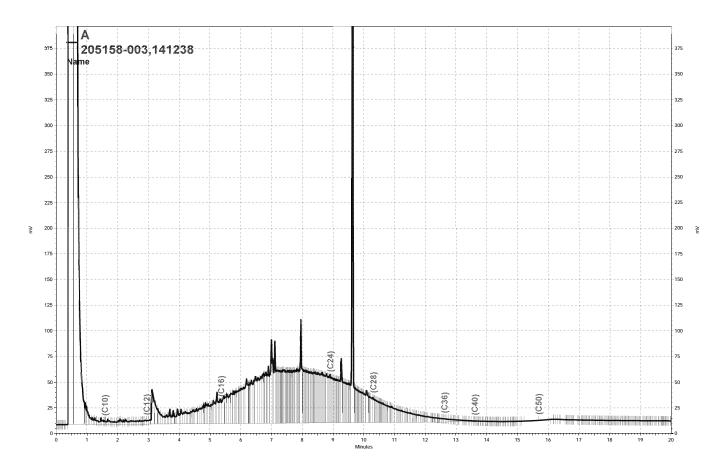
Analyte	Spiked	Result	%REC	Limits	RPD I	Lim
Diesel C10-C24 (SGCU)	2,500	1,926	77	61-120		29

Surrogate	%REC	Limits
Hexacosane (SGCU)	90	63-130

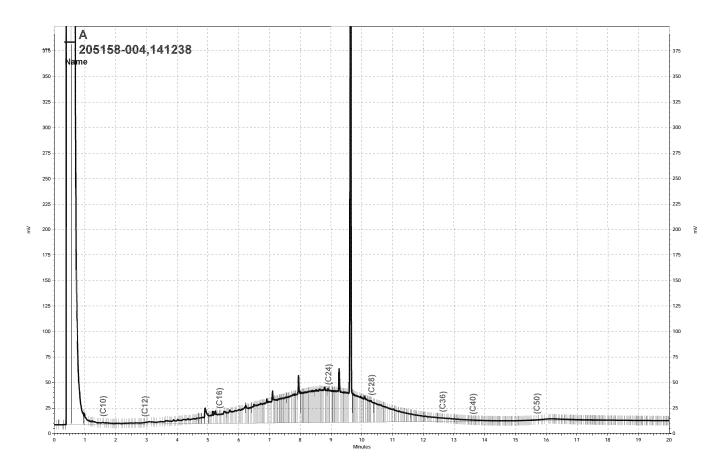
Page 1 of 1 18.0



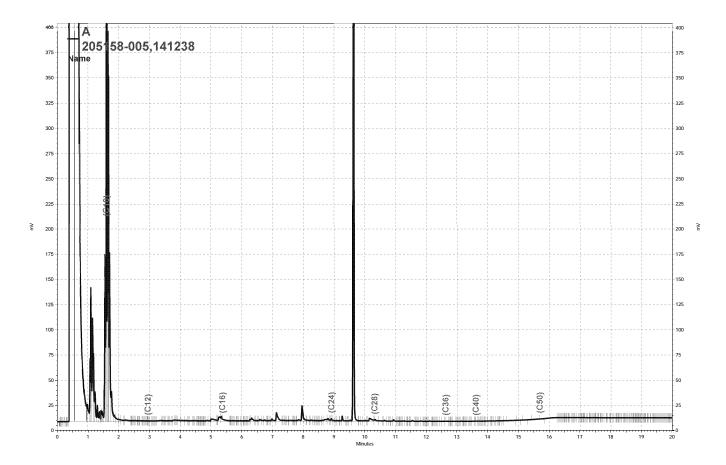
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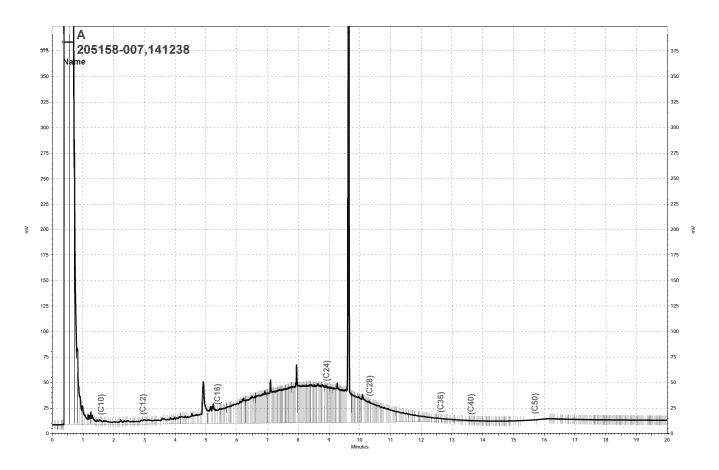
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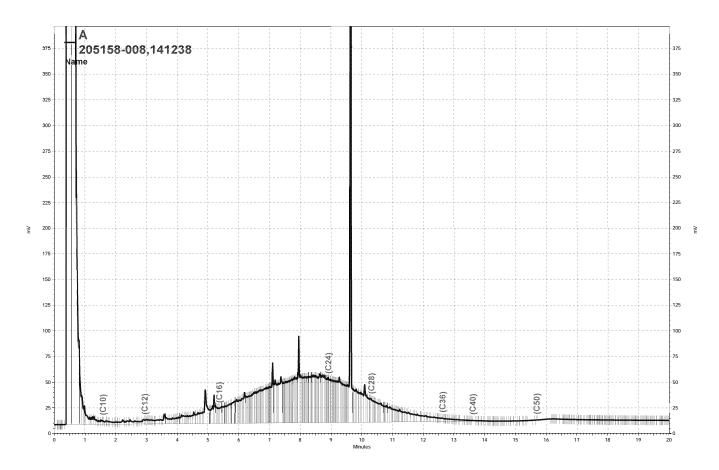
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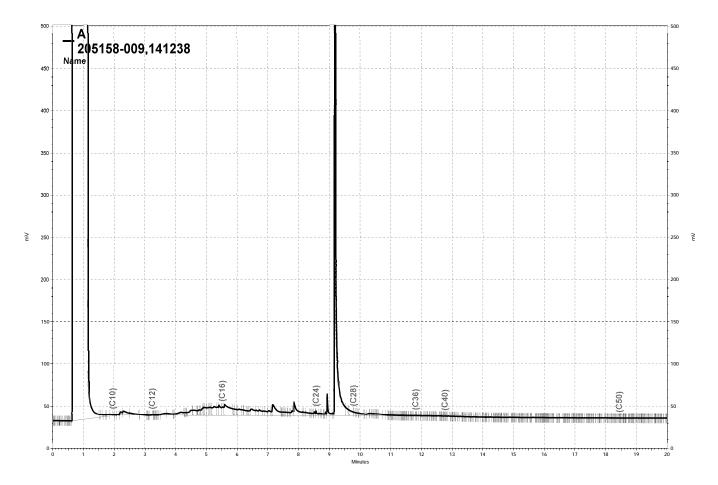
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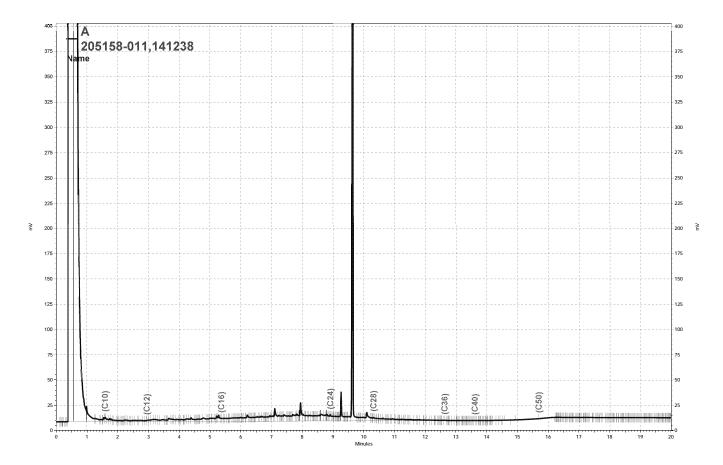
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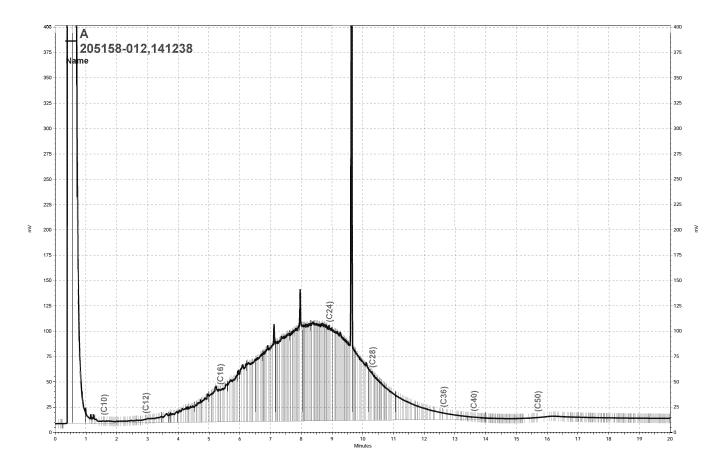
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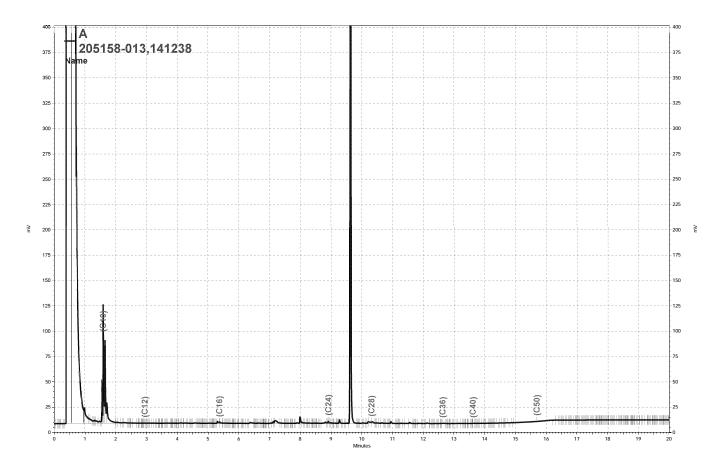
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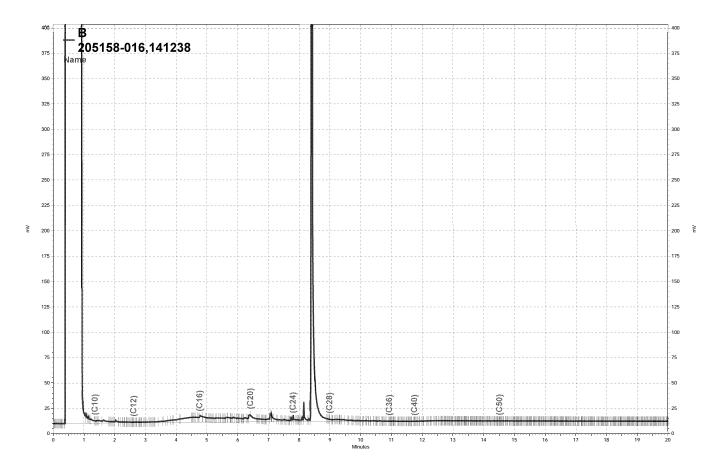
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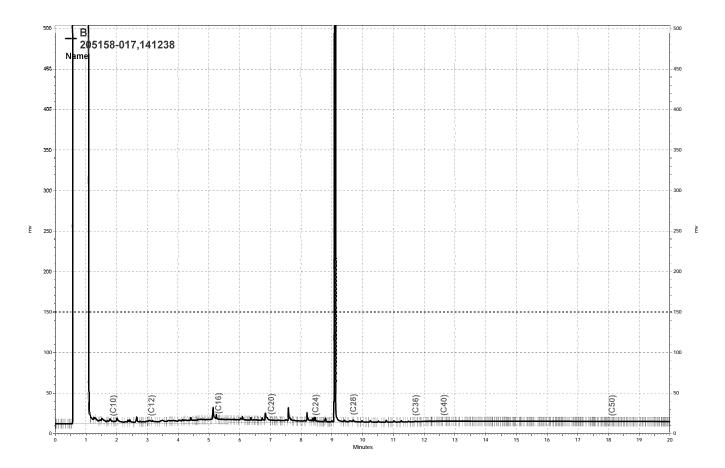
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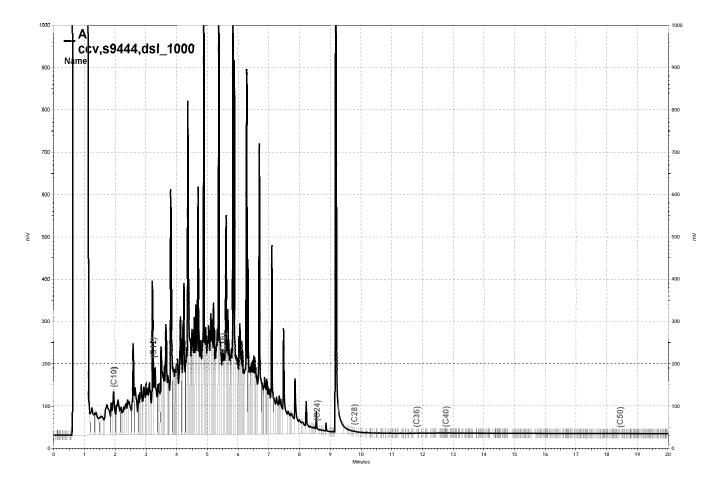
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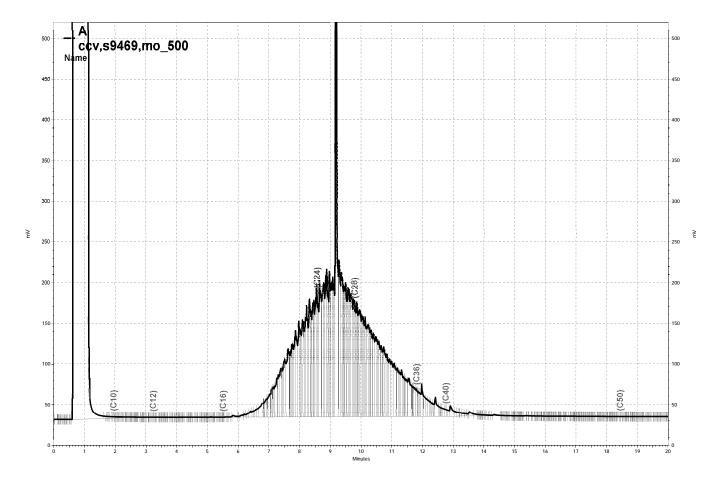
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Burns & McDonnell
S-NCE 1998

Request for Chemical Analysis and Chain of Custody Record

205158

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Ka	itheria, st	:: (650) 871-2653 ****	City/St	City/State/Zip: Berkeley, CA													/ ,	Ι,	////	
Attention: \mathcal{P}_a	birzio Bin	Unei	Teleph	Telephone: (510) 486-0900											/.	*	_/			
Project Numb	er: 487	291		Sample Type							Number of Containers		4nalysis	80/5		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	/ •	/ / /		
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Relinquished By (eignature): Date/Time Received By (signature):							Date/Tin	ne 1791	Ice P Yes [resent	TD♥ TO 600 IOZ IO7 in Container: No Temperature Upon Receipt:									
Relinquished E	By (signature):		/Time /R	eceived By	(signature):		- 4	Date/Tin	7- 1	Labo	ratory	Com	men	ts:						
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Burns &	
McDonnell	
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Request for Chemical Analysis and Chain of Custody Record

205158 2-08-2

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So. San Fran	ncisco, CA 9408	30	Addres	Address: 2323 5th Street									Lab. Reference No. or Episode No.: 8 6-08 = 8.661						
l ka	athering sc	: (650) 871-2653 ८००८	City/St	City/State/Zip: Berkeley, CA														$\overline{/}$	
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Project Numb	per: 497-91			<u>`</u>				Sar	mple 7	 Type		er of ners		Analysis		٤ / ٢	ر رئي	a	7///
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5	Sample Numbe	er	Samp	le Event		e Depth		mple	-		T	20	'	/ .	/	/	/ .	/: · ,	/ /
Group or SMWU Name	Sample Point	Sample Designator	Round	Year	- (in f From	feet) To	Colle Date	lected Time	Liquid	Solid	Gas		Z Z	7 Z	Z Z		7	/	Remarks
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t	DUP	-1w	aug	3008			8.6	_	人			6	X	1		メ	+		with Silice sel
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Relinquished B	By (signature):	Date/	Time R	eqeived By (1	Date/Tim	\vdash	Labor	ratory	Com	ment	s:					

COOLER RECEIPT CHECKLIST



Login # 205158 Date Received 2/7/08 Number of coolers 3 Client SURPS & Mc DONNEU Project YRC
Date Opened 8 7 08 By (print) M. NI War Weld(sign)
1. Did cooler come with a shipping slip (airbill, etc)? Shipping info
2A. Were custody seals present? YES (circle) on cooler on samples How many Name Date 2B. Were custody seals intact upon arrival? YES NO N/A 3. Were custody papers dry and intact when received? NO
4. Were custody papers filled out properly (ink, signed, etc)? 5. Is the project identifiable from custody papers? (If so fill out top of form). 6. Indicate the packing in cooler: (if other, describe)
☐ Bubble Wrap ☐ Foam blocks ☐ Bags ☐ None ☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels 7. Temperature documentation:
Type of ice used: Wet Blue/Gel None Temp(°C) 5.5, 4.0, 6.0
☐ Samples Received on ice & cold without a temperature blank
☐ Samples received on ice directly from the field. Cooling process had begun
8. Were Method 5035 sampling containers present? If YES, what time were they transferred to freezer? 9. Did all bottles arrive unbroken/unopened? 10. Are samples in the appropriate containers for indicated tests? 11. Are sample labels present, in good condition and complete? 12. Do the sample labels agree with custody papers? 13. Was sufficient amount of sample sent for tests requested? 14. Are the samples appropriately preserved? 15. Are bubbles > 6mm absent in VOA samples? 16. VES NO N/A
13. Are bubbles > 6mm absent in VOA samples?
COMMENTS SAMPLE H 185 4/4 VOE W/ BUBBLE SAMPLE H 25 4/4 VOA W/ BUBBLE SAMPLE H 7 1/4 VOA W/ BUBBLE
NO AMBRIR RECO FOR SMAPLRETT ZO (TRIP BLOOKS) NOT LOGGED FOR TRHA

SOP Volume:

Client Services

Section:

1.1.2

Page: 1 of 1

Rev. 6 Number 1 of 3
Effective: 23 July 2008
F:\qc\forms\checklists\Cooler Receipt Checklist_rv6.doc



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

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

Laboratory Job Number 205159 ANALYTICAL REPORT

Burns & McDonnell Project : 48791

393 East Grand Avenue Location: YRC-Oakland

South San Francisco, CA 94080 Level : II

Sample ID	<u>Lab ID</u>	<u>Sample ID</u>	<u>Lab ID</u>
BM-10-1S	205159-001	BM-15-2S	205159-015
BM-10-2S	205159-002	BM-16-1S	205159-016
BM-11-1S	205159-003	BM-16-2S	205159-017
BM-11-2S	205159-004	BM-17-1S	205159-018
BM-11-3S	205159-005	DUP-1S	205159-019
BM-12-1S	205159-006	BM-17-2S	205159-020
BM-13-1S	205159-007	BM-17-3S	205159-021
BM-13-2S	205159-008	BM-18-1S	205159-022
BM-14-1S	205159-009	BM-18-2S	205159-023
BM-14-2S	205159-010	BM-18-3S	205159-024
BM-14-3S	205159-011	BM-19-1S	205159-025
BM-12-2S	205159-012	BM-19-2S	205159-026
BM-12-3S	205159-013	BM-19-3S	205159-027
BM-15-1S	205159-014	BM-19-4S	205159-028

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: <u>08/28/2008</u>

Date: <u>08/22/2008</u>

Signature:

Senior Program Manager

NELAP # 01107CA

Page 1 of ____



CASE NARRATIVE

Laboratory number: 205159

Client: Burns & McDonnell

Project: 48791

Location: YRC-Oakland
Request Date: 08/07/08
Samples Received: 08/07/08

This hardcopy data package contains sample and QC results for twenty eight soil samples, requested for the above referenced project on 08/07/08. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B):

Low recoveries were observed for gasoline C7-C12 in the MS/MSD for batch 141540, due to matrix interference; the parent sample was not a project sample, these low recoveries were confirmed by re-analysis, the LCS was within limits, and the associated RPD was within limits. High surrogate recovery was observed for trifluorotoluene (FID) in the MS for batch 141540, due to interference from coeluting hydrocarbon peaks; the corresponding bromofluorobenzene (FID) surrogate recovery was within limits, and the parent sample was not a project sample. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

BM-11-1S (lab # 205159-003) was diluted due to the dark and viscous nature of the sample extract. No other analytical problems were encountered.



Curtis & Tompkins Laboratories Analytical Report								
Lab #:	205159	Location:	YRC-Oakland					
Client:	Burns & McDonnell	Prep:	EPA 5030B					
Project#:	48791							
Matrix:	Soil	Diln Fac:	1.000					
Basis:	as received	Received:	08/07/08					

Field ID: BM-10-1S Batch#: 141341

Type: SAMPLE Sampled: 08/04/08

Lab ID: 205159-001 Analyzed: 08/12/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.93	mg/Kg EP.	A 8015B
MTBE	ND	19	ug/Kg EP.	A 8021B
Benzene	ND	4.6	ug/Kg EP.	A 8021B
Toluene	ND	4.6	ug/Kg EP.	A 8021B
Ethylbenzene	ND	4.6	ug/Kg EP.	A 8021B
m,p-Xylenes	ND	4.6	ug/Kg EP.	A 8021B
o-Xylene	ND	4.6	ug/Kg EP.	A 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	112	62-138	EPA 8015B	
Bromofluorobenzene (FID)	113	46-150	EPA 8015B	
Trifluorotoluene (PID)	90	53-157	EPA 8021B	
Bromofluorobenzene (PID)	93	57-155	EPA 8021B	

Field ID: BM-10-2S Batch#: 141341

Type: SAMPLE Sampled: 08/04/08

Lab ID: 205159-002 Analyzed: 08/12/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.91	mg/Kg EPA	8015B
MTBE	ND	18	ug/Kg EPA	8021B
Benzene	ND	4.5	ug/Kg EPA	8021B
Toluene	ND	4.5	ug/Kg EPA	8021B
Ethylbenzene	ND	4.5	ug/Kg EPA	8021B
m,p-Xylenes	ND	4.5	ug/Kg EPA	8021B
o-Xylene	ND	4.5	ug/Kg EPA	8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	106	62-138	EPA 8015B	
Bromofluorobenzene (FID)	113	46-150	EPA 8015B	
Trifluorotoluene (PID)	87	53-157	EPA 8021B	
Bromofluorobenzene (PID)	92	57-155	EPA 8021B	

ND= Not Detected

RL= Reporting Limit

Page 1 of 16



Curtis & Tompkins Laboratories Analytical Report									
Lab #:	205159	Location:	YRC-Oakland						
Client:	Burns & McDonnell	Prep:	EPA 5030B						
Project#:	48791								
Matrix:	Soil	Diln Fac:	1.000						
Basis:	as received	Received:	08/07/08						

 Field ID:
 BM-11-1S
 Batch#:
 141540

 Type:
 SAMPLE
 Sampled:
 08/04/08

 Lab ID:
 205159-003
 Analyzed:
 08/18/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.94	mg/Kg EP	A 8015B
MTBE	ND	19	ug/Kg EP	A 8021B
Benzene	ND	4.7	ug/Kg EP	A 8021B
Toluene	ND	4.7	ug/Kg EP	A 8021B
Ethylbenzene	ND	4.7	ug/Kg EP	A 8021B
m,p-Xylenes	ND	4.7	ug/Kg EP	A 8021B
o-Xylene	ND	4.7	ug/Kg EP	A 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	85	62-138	EPA 8015B	
Bromofluorobenzene (FID)	88	46-150	EPA 8015B	
Trifluorotoluene (PID)	82	53-157	EPA 8021B	
Bromofluorobenzene (PID)	88	57-155	EPA 8021B	

Field ID: BM-11-2S Batch#: 141540

Type: SAMPLE Sampled: 08/04/08

Lab ID: 205159-004 Analyzed: 08/18/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.93	mg/Kg EPA	8015B
MTBE	ND	19	ug/Kg EPA	8021B
Benzene	ND	4.6	ug/Kg EPA	8021B
Toluene	ND	4.6	ug/Kg EPA	8021B
Ethylbenzene	ND	4.6	ug/Kg EPA	8021B
m,p-Xylenes	ND	4.6	ug/Kg EPA	8021B
o-Xylene	ND	4.6	ug/Kg EPA	8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	95	62-138	EPA 8015B	
Bromofluorobenzene (FID)	101	46-150	EPA 8015B	
Trifluorotoluene (PID)	90	53-157	EPA 8021B	
Bromofluorobenzene (PID)	98	57-155	EPA 8021B	

ND= Not Detected

RL= Reporting Limit

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Curtis & Tompkins Laboratories Analytical Report					
Lab #:	205159	Location:	YRC-Oakland		
Client:	Burns & McDonnell	Prep:	EPA 5030B		
Project#:	48791				
Matrix:	Soil	Diln Fac:	1.000		
Basis:	as received	Received:	08/07/08		

Field ID: BM-11-3S Lab ID: 205159-005 Type: SAMPLE Sampled: 08/04/08

Analyte	Result	RL	Units Batch# Analyzed Analysis
Gasoline C7-C12	ND	1.0	mg/Kg 141341 08/13/08 EPA 8015B
MTBE	ND	18	ug/Kg 141540 08/18/08 EPA 8021B
Benzene	ND	4.6	ug/Kg 141540 08/18/08 EPA 8021B
Toluene	ND	4.6	ug/Kg 141540 08/18/08 EPA 8021B
Ethylbenzene	ND	4.6	ug/Kg 141540 08/18/08 EPA 8021B
m,p-Xylenes	ND	4.6	ug/Kg 141540 08/18/08 EPA 8021B
o-Xylene	ND	4.6	ug/Kg 141540 08/18/08 EPA 8021B

Surrogate	%REC	Limits	Batch# Analyzed	Analysis
Trifluorotoluene (FID)	105	62-138	141341 08/13/08	EPA 8015B
Bromofluorobenzene (FID)	109	46-150	141341 08/13/08	EPA 8015B
Trifluorotoluene (PID)	96	53-157	141540 08/18/08	EPA 8021B
Bromofluorobenzene (PID)	100	57-155	141540 08/18/08	EPA 8021B

Field ID: BM-12-1S Lab ID: 205159-006 Type: SAMPLE Sampled: 08/04/08

Analyte	Result	RL	Units Batch# Analyzed Analysis
Gasoline C7-C12	ND	0.98	mg/Kg 141341 08/13/08 EPA 8015B
MTBE	ND	18	ug/Kg 141540 08/18/08 EPA 8021B
Benzene	ND	4.6	ug/Kg 141540 08/18/08 EPA 8021B
Toluene	ND	4.6	ug/Kg 141540 08/18/08 EPA 8021B
Ethylbenzene	ND	4.6	ug/Kg 141540 08/18/08 EPA 8021B
m,p-Xylenes	ND	4.6	ug/Kg 141540 08/18/08 EPA 8021B
o-Xylene	ND	4.6	ug/Kg 141540 08/18/08 EPA 8021B

Surrogate	%REC	Limits	Batch# Analyzed	Analysis
Trifluorotoluene (FID)	106	62-138	141341 08/13/08	EPA 8015B
Bromofluorobenzene (FID)	111	46-150	141341 08/13/08	EPA 8015B
Trifluorotoluene (PID)	94	53-157	141540 08/18/08	EPA 8021B
Bromofluorobenzene (PID)	99	57-155	141540 08/18/08	EPA 8021B

ND= Not Detected RL= Reporting Limit

Page 3 of 16 19.3



	Curtis & Tompkins I	aboratories Anal	ytical Report	
Lab #:	205159	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 5030B	
Project#:	48791			
Matrix:	Soil	Diln Fac:	1.000	
Basis:	as received	Received:	08/07/08	

Field ID: BM-13-1S Batch#: 141540

Type: SAMPLE Sampled: 08/05/08

Lab ID: 205159-007 Analyzed: 08/18/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.0	mg/Kg EPA	8015B
MTBE	ND	21	ug/Kg EPA	8021B
Benzene	ND	5.2	ug/Kg EPA	8021B
Toluene	ND	5.2	ug/Kg EPA	8021B
Ethylbenzene	ND	5.2	ug/Kg EPA	8021B
m,p-Xylenes	ND	5.2	ug/Kg EPA	8021B
o-Xylene	ND	5.2	ug/Kg EPA	8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	94	62-138	EPA 8015B	
Bromofluorobenzene (FID)	101	46-150	EPA 8015B	
Trifluorotoluene (PID)	95	53-157	EPA 8021B	
Bromofluorobenzene (PID)	102	57-155	EPA 8021B	

Field ID: BM-13-2S Batch#: 141341
Type: SAMPLE Sampled: 08/05/08
Lab ID: 205159-008 Analyzed: 08/12/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.1	mg/Kg EPA	8015B
MTBE	ND	21	ug/Kg EPA	8021B
Benzene	ND	5.3	ug/Kg EPA	8021B
Toluene	ND	5.3	ug/Kg EPA	8021B
Ethylbenzene	ND	5.3	ug/Kg EPA	8021B
m,p-Xylenes	ND	5.3	ug/Kg EPA	8021B
o-Xylene	ND	5.3	ug/Kg EPA	8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	104	62-138	EPA 8015B	
Bromofluorobenzene (FID)	110	46-150	EPA 8015B	
Trifluorotoluene (PID)	79	53-157	EPA 8021B	
Bromofluorobenzene (PID)	86	57-155	EPA 8021B	

ND= Not Detected

RL= Reporting Limit

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	Curtis & Tompkins Laboratories Analytical Report				
Lab #:	205159	Location:	YRC-Oakland		
Client:	Burns & McDonnell	Prep:	EPA 5030B		
Project#:	48791				
Matrix:	Soil	Diln Fac:	1.000		
Basis:	as received	Received:	08/07/08		

Field ID: BM-14-1S Batch#: 141341
Type: SAMPLE Sampled: 08/05/08
Lab ID: 205159-009 Analyzed: 08/12/08

Analyte	Result	RL	Units Analysis
Gasoline C7-C12	ND	1.0	mg/Kg EPA 8015B
MTBE	ND	20	ug/Kg EPA 8021B
Benzene	ND	5.0	ug/Kg EPA 8021B
Toluene	ND	5.0	ug/Kg EPA 8021B
Ethylbenzene	ND	5.0	ug/Kg EPA 8021B
m,p-Xylenes	ND	5.0	ug/Kg EPA 8021B
o-Xylene	ND	5.0	ug/Kg EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	107	62-138	EPA 8015B
Bromofluorobenzene (FID)	112	46-150	EPA 8015B
Trifluorotoluene (PID)	82	53-157	EPA 8021B
Bromofluorobenzene (PID)	90	57-155	EPA 8021B

Field ID: BM-14-2S Batch#: 141341
Type: SAMPLE Sampled: 08/05/08
Lab ID: 205159-010 Analyzed: 08/12/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.99	mg/Kg EPA	. 8015B
MTBE	ND	20	ug/Kg EPA	8021B
Benzene	ND	5.0	ug/Kg EPA	8021B
Toluene	ND	5.0	ug/Kg EPA	8021B
Ethylbenzene	ND	5.0	ug/Kg EPA	8021B
m,p-Xylenes	ND	5.0	ug/Kg EPA	8021B
o-Xylene	ND	5.0	ug/Kg EPA	. 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	107	62-138	EPA 8015B	
Bromofluorobenzene (FID)	114	46-150	EPA 8015B	
Trifluorotoluene (PID)	78	53-157	EPA 8021B	
Bromofluorobenzene (PID)	88	57-155	EPA 8021B	

ND= Not Detected

RL= Reporting Limit

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	Curtis & Tompkins I	aboratories Anal	ytical Report	
Lab #:	205159	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 5030B	
Project#:	48791			
Matrix:	Soil	Diln Fac:	1.000	
Basis:	as received	Received:	08/07/08	

Field ID: BM-14-3S Batch#: 141341

Type: SAMPLE Sampled: 08/05/08

Lab ID: 205159-011 Analyzed: 08/12/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.95	mg/Kg EPA	8015B
MTBE	ND	19	ug/Kg EPA	8021B
Benzene	ND	4.8	ug/Kg EPA	8021B
Toluene	ND	4.8	ug/Kg EPA	8021B
Ethylbenzene	ND	4.8	ug/Kg EPA	8021B
m,p-Xylenes	ND	4.8	ug/Kg EPA	8021B
o-Xylene	ND	4.8	ug/Kg EPA	8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	106	62-138	EPA 8015B	
Bromofluorobenzene (FID)	109	46-150	EPA 8015B	
Trifluorotoluene (PID)	78	53-157	EPA 8021B	
Bromofluorobenzene (PID)	85	57-155	EPA 8021B	

Field ID: BM-12-2S Batch#: 141341
Type: SAMPLE Sampled: 08/05/08
Lab ID: 205159-012 Analyzed: 08/12/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.93	mg/Kg EPA	8015B
MTBE	ND	19	ug/Kg EPA	8021B
Benzene	ND	4.7	ug/Kg EPA	8021B
Toluene	ND	4.7	ug/Kg EPA	8021B
Ethylbenzene	ND	4.7	ug/Kg EPA	8021B
m,p-Xylenes	ND	4.7	ug/Kg EPA	8021B
o-Xylene	ND	4.7	ug/Kg EPA	8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	103	62-138	EPA 8015B	
Bromofluorobenzene (FID)	105	46-150	EPA 8015B	
Trifluorotoluene (PID)	78	53-157	EPA 8021B	
Bromofluorobenzene (PID)	81	57-155	EPA 8021B	

ND= Not Detected

RL= Reporting Limit

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	Curtis & Tompkins I	aboratories Anal	ytical Report	
Lab #:	205159	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 5030B	
Project#:	48791			
Matrix:	Soil	Diln Fac:	1.000	
Basis:	as received	Received:	08/07/08	

 Field ID:
 BM-12-3S
 Batch#:
 141341

 Type:
 SAMPLE
 Sampled:
 08/05/08

 Lab ID:
 205159-013
 Analyzed:
 08/12/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.98	mg/Kg EP	A 8015B
MTBE	ND	20	ug/Kg EP	A 8021B
Benzene	ND	4.9	ug/Kg EP	A 8021B
Toluene	ND	4.9	ug/Kg EP	A 8021B
Ethylbenzene	ND	4.9	ug/Kg EP	A 8021B
m,p-Xylenes	ND	4.9	ug/Kg EP	A 8021B
o-Xylene	ND	4.9	ug/Kg EP	A 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	105	62-138	EPA 8015B
Bromofluorobenzene (FID)	109	46-150	EPA 8015B
Trifluorotoluene (PID)	82	53-157	EPA 8021B
Bromofluorobenzene (PID)	85	57-155	EPA 8021B

Field ID: BM-15-1S Batch#: 141341
Type: SAMPLE Sampled: 08/05/08
Lab ID: 205159-014 Analyzed: 08/12/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.0	mg/Kg EPA	8015B
MTBE	ND	20	ug/Kg EPA	8021B
Benzene	ND	5.1	ug/Kg EPA	8021B
Toluene	ND	5.1	ug/Kg EPA	8021B
Ethylbenzene	ND	5.1	ug/Kg EPA	8021B
m,p-Xylenes	ND	5.1	ug/Kg EPA	8021B
o-Xylene	ND	5.1	ug/Kg EPA	8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	106	62-138	EPA 8015B	
Bromofluorobenzene (FID)	110	46-150	EPA 8015B	
Trifluorotoluene (PID)	91	53-157	EPA 8021B	
Bromofluorobenzene (PID)	93	57-155	EPA 8021B	

ND= Not Detected

RL= Reporting Limit

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	Curtis & Tompkins I	aboratories Anal	ytical Report	
Lab #:	205159	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 5030B	
Project#:	48791			
Matrix:	Soil	Diln Fac:	1.000	
Basis:	as received	Received:	08/07/08	

 Field ID:
 BM-15-2S
 Batch#:
 141341

 Type:
 SAMPLE
 Sampled:
 08/05/08

 Lab ID:
 205159-015
 Analyzed:
 08/12/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.98	mg/Kg EP	A 8015B
MTBE	ND	20	ug/Kg EP	A 8021B
Benzene	ND	4.9	ug/Kg EP	A 8021B
Toluene	ND	4.9	ug/Kg EP	A 8021B
Ethylbenzene	ND	4.9	ug/Kg EP	A 8021B
m,p-Xylenes	ND	4.9	ug/Kg EP	A 8021B
o-Xylene	ND	4.9	ug/Kg EP	A 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	108	62-138	EPA 8015B	
Bromofluorobenzene (FID)	113	46-150	EPA 8015B	
Trifluorotoluene (PID)	86	53-157	EPA 8021B	
Bromofluorobenzene (PID)	91	57-155	EPA 8021B	

Field ID: BM-16-1S Batch#: 141476
Type: SAMPLE Sampled: 08/05/08
Lab ID: 205159-016 Analyzed: 08/15/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.0	mg/Kg EPA	8015B
MTBE	ND	21	ug/Kg EPA	8021B
Benzene	ND	5.2	ug/Kg EPA	8021B
Toluene	ND	5.2	ug/Kg EPA	8021B
Ethylbenzene	ND	5.2	ug/Kg EPA	8021B
m,p-Xylenes	ND	5.2	ug/Kg EPA	8021B
o-Xylene	ND	5.2	ug/Kg EPA	8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	94	62-138	EPA 8015B	
Bromofluorobenzene (FID)	103	46-150	EPA 8015B	
Trifluorotoluene (PID)	97	53-157	EPA 8021B	
Bromofluorobenzene (PID)	100	57-155	EPA 8021B	

ND= Not Detected

RL= Reporting Limit

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	Curtis & Tompkins I	aboratories Anal	ytical Report	
Lab #:	205159	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 5030B	
Project#:	48791			
Matrix:	Soil	Diln Fac:	1.000	
Basis:	as received	Received:	08/07/08	

Field ID: BM-16-2S Batch#: 141476

Type: SAMPLE Sampled: 08/05/08

Lab ID: 205159-017 Analyzed: 08/15/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.99	mg/Kg EP	A 8015B
MTBE	ND	20	ug/Kg EP	A 8021B
Benzene	ND	5.0	ug/Kg EP	A 8021B
Toluene	ND	5.0	ug/Kg EP	A 8021B
Ethylbenzene	ND	5.0	ug/Kg EP	A 8021B
m,p-Xylenes	ND	5.0	ug/Kg EP	A 8021B
o-Xylene	ND	5.0	ug/Kg EP	A 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	101	62-138	EPA 8015B	
Bromofluorobenzene (FID)	98	46-150	EPA 8015B	
Trifluorotoluene (PID)	101	53-157	EPA 8021B	
Bromofluorobenzene (PID)	101	57-155	EPA 8021B	

Field ID: BM-17-1S Batch#: 141476
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205159-018 Analyzed: 08/16/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.0	mg/Kg EPA	8015B
MTBE	ND	20	ug/Kg EPA	8021B
Benzene	ND	5.0	ug/Kg EPA	8021B
Toluene	ND	5.0	ug/Kg EPA	8021B
Ethylbenzene	ND	5.0	ug/Kg EPA	8021B
m,p-Xylenes	ND	5.0	ug/Kg EPA	8021B
o-Xylene	ND	5.0	ug/Kg EPA	8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	94	62-138	EPA 8015B	
Bromofluorobenzene (FID)	97	46-150	EPA 8015B	
Trifluorotoluene (PID)	97	53-157	EPA 8021B	
Bromofluorobenzene (PID)	101	57-155	EPA 8021B	

ND= Not Detected

RL= Reporting Limit

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Curtis & Tompkins Laboratories Analytical Report						
Lab #:	205159	Location:	YRC-Oakland			
Client:	Burns & McDonnell	Prep:	EPA 5030B			
Project#:	48791					
Matrix:	Soil	Diln Fac:	1.000			
Basis:	as received	Received:	08/07/08			

Field ID: DUP-1S Batch#: 141476
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205159-019 Analyzed: 08/16/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.0	mg/Kg EPA	8015B
MTBE	ND	20	ug/Kg EPA	8021B
Benzene	ND	5.1	ug/Kg EPA	8021B
Toluene	ND	5.1	ug/Kg EPA	8021B
Ethylbenzene	ND	5.1	ug/Kg EPA	8021B
m,p-Xylenes	ND	5.1	ug/Kg EPA	8021B
o-Xylene	ND	5.1	ug/Kg EPA	8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	94	62-138	EPA 8015B
Bromofluorobenzene (FID)	98	46-150	EPA 8015B
Trifluorotoluene (PID)	99	53-157	EPA 8021B
Bromofluorobenzene (PID)	103	57-155	EPA 8021B

Field ID: BM-17-2S Batch#: 141476
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205159-020 Analyzed: 08/16/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.97	mg/Kg EPA	8015B
MTBE	ND	19	ug/Kg EPA	8021B
Benzene	ND	4.9	ug/Kg EPA	8021B
Toluene	ND	4.9	ug/Kg EPA	8021B
Ethylbenzene	ND	4.9	ug/Kg EPA	8021B
m,p-Xylenes	ND	4.9	ug/Kg EPA	8021B
o-Xylene	ND	4.9	ug/Kg EPA	8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	98	62-138	EPA 8015B	
Bromofluorobenzene (FID)	99	46-150	EPA 8015B	
Trifluorotoluene (PID)	99	53-157	EPA 8021B	
Bromofluorobenzene (PID)	103	57-155	EPA 8021B	

ND= Not Detected

RL= Reporting Limit

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Curtis & Tompkins Laboratories Analytical Report					
Lab #:	205159	Location:	YRC-Oakland		
Client:	Burns & McDonnell	Prep:	EPA 5030B		
Project#:	48791				
Matrix:	Soil	Diln Fac:	1.000		
Basis:	as received	Received:	08/07/08		

Field ID: BM-17-3S Batch#: 141476
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205159-021 Analyzed: 08/15/08

Analyte	Result	RL	Units Analysis	
Gasoline C7-C12	ND	1.0	mg/Kg EPA 8015B	
MTBE	ND	21	ug/Kg EPA 8021B	
Benzene	ND	5.2	ug/Kg EPA 8021B	
Toluene	ND	5.2	ug/Kg EPA 8021B	
Ethylbenzene	ND	5.2	ug/Kg EPA 8021B	
m,p-Xylenes	ND	5.2	ug/Kg EPA 8021B	
o-Xylene	ND	5.2	ug/Kg EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	95	62-138	EPA 8015B	
Bromofluorobenzene (FID)	97	46-150	EPA 8015B	
Trifluorotoluene (PID)	100	53-157	EPA 8021B	
Bromofluorobenzene (PID)	102	57-155	EPA 8021B	

Field ID: BM-18-1S Batch#: 141476
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205159-022 Analyzed: 08/15/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.97	mg/Kg EPA	A 8015B
MTBE	ND	19	ug/Kg EPA	A 8021B
Benzene	ND	4.9	ug/Kg EPA	A 8021B
Toluene	ND	4.9	ug/Kg EPA	A 8021B
Ethylbenzene	ND	4.9	ug/Kg EPA	A 8021B
m,p-Xylenes	ND	4.9	ug/Kg EPA	A 8021B
o-Xylene	ND	4.9	ug/Kg EPA	A 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	100	62-138	EPA 8015B	
Bromofluorobenzene (FID)	98	46-150	EPA 8015B	
Trifluorotoluene (PID)	101	53-157	EPA 8021B	
Bromofluorobenzene (PID)	104	57-155	EPA 8021B	

ND= Not Detected

RL= Reporting Limit

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Curtis & Tompkins Laboratories Analytical Report					
Lab #:	205159	Location:	YRC-Oakland		
Client:	Burns & McDonnell	Prep:	EPA 5030B		
Project#:	48791				
Matrix:	Soil	Diln Fac:	1.000		
Basis:	as received	Received:	08/07/08		

Field ID: BM-18-2S Batch#: 141476
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205159-023 Analyzed: 08/16/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.0	mg/Kg EP	A 8015B
MTBE	ND	20	ug/Kg EP	A 8021B
Benzene	ND	5.1	ug/Kg EP	A 8021B
Toluene	ND	5.1	ug/Kg EP	A 8021B
Ethylbenzene	ND	5.1	ug/Kg EP	A 8021B
m,p-Xylenes	ND	5.1	ug/Kg EP	A 8021B
o-Xylene	ND	5.1	ug/Kg EP	A 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	94	62-138	EPA 8015B	
Bromofluorobenzene (FID)	96	46-150	EPA 8015B	
Trifluorotoluene (PID)	99	53-157	EPA 8021B	
Bromofluorobenzene (PID)	102	57-155	EPA 8021B	

Field ID: BM-18-3S Batch#: 141476
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205159-024 Analyzed: 08/15/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.93	mg/Kg EPA	8015B
MTBE	ND	19	ug/Kg EPA	8021B
Benzene	ND	4.7	ug/Kg EPA	8021B
Toluene	ND	4.7	ug/Kg EPA	8021B
Ethylbenzene	ND	4.7	ug/Kg EPA	8021B
m,p-Xylenes	ND	4.7	ug/Kg EPA	8021B
o-Xylene	ND	4.7	ug/Kg EPA	8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	99	62-138	EPA 8015B	
Bromofluorobenzene (FID)	101	46-150	EPA 8015B	
Trifluorotoluene (PID)	105	53-157	EPA 8021B	
Bromofluorobenzene (PID)	109	57-155	EPA 8021B	

ND= Not Detected

RL= Reporting Limit

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Curtis & Tompkins Laboratories Analytical Report					
Lab #:	205159	Location:	YRC-Oakland		
Client:	Burns & McDonnell	Prep:	EPA 5030B		
Project#:	48791				
Matrix:	Soil	Diln Fac:	1.000		
Basis:	as received	Received:	08/07/08		

Field ID: BM-19-1S Batch#: 141476

Type: SAMPLE Sampled: 08/06/08

Lab ID: 205159-025 Analyzed: 08/15/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.98	mg/Kg EPA	A 8015B
MTBE	ND	20	ug/Kg EPA	A 8021B
Benzene	ND	4.9	ug/Kg EPA	A 8021B
Toluene	ND	4.9	ug/Kg EPA	A 8021B
Ethylbenzene	ND	4.9	ug/Kg EPA	A 8021B
m,p-Xylenes	ND	4.9	ug/Kg EPA	A 8021B
o-Xylene	ND	4.9	ug/Kg EPA	A 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	98	62-138	EPA 8015B	
Bromofluorobenzene (FID)	100	46-150	EPA 8015B	
Trifluorotoluene (PID)	104	53-157	EPA 8021B	
Bromofluorobenzene (PID)	108	57-155	EPA 8021B	

Field ID: BM-19-2S Batch#: 141476
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205159-026 Analyzed: 08/15/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.98	mg/Kg EPA	. 8015B
MTBE	ND	20	ug/Kg EPA	8021B
Benzene	ND	4.9	ug/Kg EPA	8021B
Toluene	ND	4.9	ug/Kg EPA	8021B
Ethylbenzene	ND	4.9	ug/Kg EPA	8021B
m,p-Xylenes	ND	4.9	ug/Kg EPA	8021B
o-Xylene	ND	4.9	ug/Kg EPA	. 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	92	62-138	EPA 8015B	
Bromofluorobenzene (FID)	96	46-150	EPA 8015B	
Trifluorotoluene (PID)	98	53-157	EPA 8021B	
Bromofluorobenzene (PID)	102	57-155	EPA 8021B	

ND= Not Detected

RL= Reporting Limit

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Curtis & Tompkins Laboratories Analytical Report					
Lab #:	205159	Location:	YRC-Oakland		
Client:	Burns & McDonnell	Prep:	EPA 5030B		
Project#:	48791				
Matrix:	Soil	Diln Fac:	1.000		
Basis:	as received	Received:	08/07/08		

Field ID: BM-19-3S Batch#: 141476
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205159-027 Analyzed: 08/15/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.97	mg/Kg EP	A 8015B
MTBE	ND	19	ug/Kg EP	A 8021B
Benzene	ND	4.9	ug/Kg EP	A 8021B
Toluene	ND	4.9	ug/Kg EP	A 8021B
Ethylbenzene	ND	4.9	ug/Kg EP	A 8021B
m,p-Xylenes	ND	4.9	ug/Kg EP	A 8021B
o-Xylene	ND	4.9	ug/Kg EP	A 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	100	62-138	EPA 8015B	
Bromofluorobenzene (FID)	100	46-150	EPA 8015B	
Trifluorotoluene (PID)	104	53-157	EPA 8021B	
Bromofluorobenzene (PID)	108	57-155	EPA 8021B	

Field ID: BM-19-4S Batch#: 141476
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205159-028 Analyzed: 08/15/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.94	mg/Kg EPA	8015B
MTBE	ND	19	ug/Kg EPA	8021B
Benzene	ND	4.7	ug/Kg EPA	8021B
Toluene	ND	4.7	ug/Kg EPA	8021B
Ethylbenzene	ND	4.7	ug/Kg EPA	8021B
m,p-Xylenes	ND	4.7	ug/Kg EPA	8021B
o-Xylene	ND	4.7	ug/Kg EPA	8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	99	62-138	EPA 8015B	
Bromofluorobenzene (FID)	107	46-150	EPA 8015B	
Trifluorotoluene (PID)	107	53-157	EPA 8021B	
Bromofluorobenzene (PID)	109	57-155	EPA 8021B	

ND= Not Detected

RL= Reporting Limit

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Curtis & Tompkins Laboratories Analytical Report					
Lab #:	205159	Location:	YRC-Oakland		
Client:	Burns & McDonnell	Prep:	EPA 5030B		
Project#:	48791				
Matrix:	Soil	Diln Fac:	1.000		
Basis:	as received	Received:	08/07/08		

Type: BLANK Batch#: 141341 Lab ID: QC455172 Analyzed: 08/12/08

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.0	mg/Kg EP	A 8015B
MTBE	ND	20	ug/Kg EP	A 8021B
Benzene	ND	5.0	ug/Kg EP	A 8021B
Toluene	ND	5.0	ug/Kg EP	A 8021B
Ethylbenzene	ND	5.0	ug/Kg EP	A 8021B
m,p-Xylenes	ND	5.0	ug/Kg EP	A 8021B
o-Xylene	ND	5.0	ug/Kg EP	A 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	104	62-138	EPA 8015B	
Bromofluorobenzene (FID)	109	46-150	EPA 8015B	
Trifluorotoluene (PID)	79	53-157	EPA 8021B	
Bromofluorobenzene (PID)	87	57-155	EPA 8021B	

Type: BLANK Batch#: 141476 Lab ID: QC455771 Analyzed: 08/15/08

Analyte	Result	RL	Units Analysis	
Gasoline C7-C12	ND	1.0	mg/Kg EPA 8015B	
MTBE	ND	20	ug/Kg EPA 8021B	
Benzene	ND	5.0	ug/Kg EPA 8021B	
Toluene	ND	5.0	ug/Kg EPA 8021B	
Ethylbenzene	ND	5.0	ug/Kg EPA 8021B	
m,p-Xylenes	ND	5.0	ug/Kg EPA 8021B	
o-Xylene	ND	5.0	ug/Kg EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	95	62-138	EPA 8015B	
Bromofluorobenzene (FID)	99	46-150	EPA 8015B	
Trifluorotoluene (PID)	98	53-157	EPA 8021B	
Bromofluorobenzene (PID)	100	57-155	EPA 8021B	

ND= Not Detected RL= Reporting Limit

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Curtis & Tompkins Laboratories Analytical Report					
Lab #:	205159	Location:	YRC-Oakland		
Client:	Burns & McDonnell	Prep:	EPA 5030B		
Project#:	48791				
Matrix:	Soil	Diln Fac:	1.000		
Basis:	as received	Received:	08/07/08		

Type: BLANK Batch#: 141540 Lab ID: QC456055 Analyzed: 08/18/08

Analyte	Result	RL	Units Analysis	
Gasoline C7-C12	ND	1.0	mg/Kg EPA 8015B	
MTBE	ND	20	ug/Kg EPA 8021B	
Benzene	ND	5.0	ug/Kg EPA 8021B	
Toluene	ND	5.0	ug/Kg EPA 8021B	
Ethylbenzene	ND	5.0	ug/Kg EPA 8021B	
m,p-Xylenes	ND	5.0	ug/Kg EPA 8021B	
o-Xylene	ND	5.0	ug/Kg EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	94	62-138	EPA 8015B	
Bromofluorobenzene (FID)	96	46-150	EPA 8015B	
Trifluorotoluene (PID)	92	53-157	EPA 8021B	
Bromofluorobenzene (PID)	97	57-155	EPA 8021B	

ND= Not Detected RL= Reporting Limit

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	Curtis & Tompkins I	aboratories Anal	ytical Report	
Lab #:	205159	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 5030B	
Project#:	48791	Analysis:	EPA 8015B	
Type:	LCS	Basis:	as received	
Lab ID:	QC455173	Diln Fac:	1.000	
Matrix:	Soil	Batch#:	141341	
Units:	mg/Kg	Analyzed:	08/12/08	

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	5.000	5.572	111	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	121	62-138
Bromofluorobenzene (FID)	112	46-150

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	Curtis & Tompkins I	aboratories Anal	ytical Report	
Lab #:	205159	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 5030B	
Project#:	48791	Analysis:	EPA 8021B	
Type:	LCS	Basis:	as received	
Lab ID:	QC455174	Diln Fac:	1.000	
Matrix:	Soil	Batch#:	141341	
Units:	ug/Kg	Analyzed:	08/12/08	

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	51.32	103	69-129
Benzene	50.00	46.53	93	80-120
Toluene	50.00	47.96	96	80-120
Ethylbenzene	50.00	46.45	93	80-120
m,p-Xylenes	50.00	44.99	90	80-122
o-Xylene	50.00	46.96	94	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	79	53-157
Bromofluorobenzene (PID)	86	57-155

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	Curtis & Tompkins I	Laboratories Anal	ytical Report	
Lab #:	205159	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 5030B	
Project#:	48791	Analysis:	EPA 8015B	
Field ID:	BM-12-3S	Diln Fac:	1.000	
MSS Lab ID:	205159-013	Batch#:	141341	
Matrix:	Soil	Sampled:	08/05/08	
Units:	mg/Kg	Received:	08/07/08	
Basis:	as received	Analyzed:	08/13/08	

Type: MS Lab ID: QC455253

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	<0.06712	10.10	10.47	104	45-120

Surrogate	%REC	Limits	
Trifluorotoluene (FID)	129	62-138	
Bromofluorobenzene (FID)	112	46-150	

Type: MSD Lab ID: QC455254

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.00	10.00	100	45-120	4	24

Surrogate	%REC	Limits
Trifluorotoluene (FID)	127	62-138
Bromofluorobenzene (FID)	111	46-150



	Curtis & Tompkins I	aboratories Anal	ytical Report	
Lab #:	205159	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 5030B	
Project#:	48791	Analysis:	EPA 8015B	
Type:	LCS	Basis:	as received	
Lab ID:	QC455772	Diln Fac:	1.000	
Matrix:	Soil	Batch#:	141476	
Units:	mg/Kg	Analyzed:	08/15/08	

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	5.000	4.746	95	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	121	62-138
Bromofluorobenzene (FID)	105	46-150

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	Curtis & Tompkins	Laboratories Anal	ytical Report	
Lab #:	205159	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 5030B	
Project#:	48791	Analysis:	EPA 8021B	
Type:	LCS	Basis:	as received	
Lab ID:	QC455773	Diln Fac:	1.000	
Matrix:	Soil	Batch#:	141476	
Units:	ug/Kg	Analyzed:	08/15/08	

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	48.80	98	69-129
Benzene	50.00	48.79	98	80-120
Toluene	50.00	47.12	94	80-120
Ethylbenzene	50.00	47.79	96	80-120
m,p-Xylenes	50.00	47.37	95	80-122
o-Xylene	50.00	46.79	94	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	86	53-157
Bromofluorobenzene (PID)	84	57-155

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Curtis & Tompkins Laboratories Analytical Report						
Lab #:	205159	Location:	YRC-Oakland			
Client:	Burns & McDonnell	Prep:	EPA 5030B			
Project#:	48791	Analysis:	EPA 8015B			
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000			
MSS Lab ID:	205242-001	Batch#:	141476			
Matrix:	Soil	Sampled:	07/17/08			
Units:	mg/Kg	Received:	08/07/08			
Basis:	as received	Analyzed:	08/15/08			

Type: MS Lab ID: QC455774

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.07620	9.524	7.318	76	45-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	117	62-138
Bromofluorobenzene (FID)	109	46-150

Type: MSD Lab ID: QC455775

Analyte	Spiked	Result	%REC	Limits	RPD L	Lim
Gasoline C7-C12	9.524	7.194	75	45-120	2 2	24

Surrogate	%REC	Limits
Trifluorotoluene (FID)	115	62-138
Bromofluorobenzene (FID)	106	46-150



Curtis & Tompkins Laboratories Analytical Report					
Lab #:	205159	Location:	YRC-Oakland		
Client:	Burns & McDonnell	Prep:	EPA 5030B		
Project#:	48791	Analysis:	EPA 8015B		
Type:	LCS	Basis:	as received		
Lab ID:	QC456056	Diln Fac:	1.000		
Matrix:	Soil	Batch#:	141540		
Units:	mg/Kg	Analyzed:	08/18/08		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	5.000	4.765	95	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	116	62-138
Bromofluorobenzene (FID)	104	46-150

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Curtis & Tompkins Laboratories Analytical Report						
Lab #:	205159	Location:	YRC-Oakland			
Client:	Burns & McDonnell	Prep:	EPA 5030B			
Project#:	48791	Analysis:	EPA 8021B			
Matrix:	Soil	Diln Fac:	1.000			
Units:	ug/Kg	Batch#:	141540			
Basis:	as received	Analyzed:	08/18/08			

Type: BS Lab ID: QC456057

Analyte	Spiked	Result	%REC	Limits
MTBE	50.00	51.01	102	69-129
Benzene	50.00	49.07	98	80-120
Toluene	50.00	47.60	95	80-120
Ethylbenzene	50.00	47.69	95	80-120
m,p-Xylenes	50.00	48.02	96	80-122
o-Xylene	50.00	48.07	96	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	88	53-157
Bromofluorobenzene (PID)	93	57-155

Type: BSD Lab ID: QC456058

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	50.00	51.64	103	69-129	1	22
Benzene	50.00	50.74	101	80-120	3	20
Toluene	50.00	50.25	101	80-120	5	20
Ethylbenzene	50.00	51.77	104	80-120	8	20
m,p-Xylenes	50.00	49.48	99	80-122	3	20
o-Xylene	50.00	49.98	100	80-120	4	20

Surrogate	%REC	Limits
Trifluorotoluene (PID)	95	53-157
Bromofluorobenzene (PID)	102	57-155



	Curtis & Tompkins I	aboratories Anal	ytical Report	
Lab #:	205159	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 5030B	
Project#:	48791	Analysis:	EPA 8015B	
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000	
MSS Lab ID:	205258-030	Batch#:	141540	
Matrix:	Soil	Sampled:	08/12/08	
Units:	mg/Kg	Received:	08/12/08	
Basis:	as received	Analyzed:	08/18/08	

Type: MS Lab ID: QC456059

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	4.271	9.524	8.249	42 *	45-120

Surrogate	%REC	Limits	
Trifluorotoluene (FID)	151 *	62-138	
Bromofluorobenzene (FID)	134	46-150	

Type: MSD Lab ID: QC456060

Analyte	Spiked	Result	%REC	Limits	RPD I	Lim
Gasoline C7-C12	10.53	7.153	27 *	45-120	21 2	24

Surrogate	%REC	Limits
Trifluorotoluene (FID)	115	62-138
Bromofluorobenzene (FID)	123	46-150

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^{*=} Value outside of QC limits; see narrative RPD= Relative Percent Difference



Total Extractable Hydrocarbons Lab #: 205159 Location: YRC-Oakland EPA 8015B Client: Burns & McDonnell Analysis: Project#: 48791 Matrix: Soil Received: 08/07/08 08/11/08 Units: mg/Kg Prepared: Basis: as received

Field ID: BM-10-1S Sampled: 08/04/08 Analyzed: Type: SAMPLE 08/12/08 Lab ID: 205159-001 Prep: EPA 3550B Diln Fac: 1.000 Cleanup Method: EPA 3630C Batch#: 141288

 Analyte
 Result
 RL

 Diesel C10-C24 (SGCU)
 4.5 Y
 0.99

 Diesel C10-C24
 6.7 Y
 0.99

Motor Oil C24-C36 16 5.0 Motor Oil C24-C36 (SGCU) 12 5.0

 Surrogate
 %REC
 Limits

 Hexacosane (SGCU)
 85
 48-128

 Hexacosane
 93
 48-128

Field ID: BM-10-2S Batch#: 141288 Type: SAMPLE Sampled: 08/04/08 Lab ID: 205159-002 Analyzed: 08/12/08 Diln Fac: 1.000 Prep: EPA 3550B

 Analyte
 Result
 RL

 Diesel C10-C24
 ND
 0.99

 Motor Oil C24-C36
 ND
 5.0

Surrogate %REC Limits
Hexacosane 83 48-128

Field ID: 08/04/08 BM-11-1S Sampled: Type: SAMPLE Analyzed: 08/12/08 Lab ID: 205159-003 EPA 3550B Prep: Batch#: 141288 Cleanup Method: EPA 3630C

Analyte	Result	RL	Diln Fac	
Diesel C10-C24 (SGCU)	30 Y	10	10.00	
Diesel C10-C24	35 Y	20	20.00	
Motor Oil C24-C36	870	100	20.00	
Motor Oil C24-C36 (SGCU)	860	50	10.00	

Surrogate	%REC	Limits	Diln Fac
Hexacosane (SGCU)	DO	48-128	10.00
Hexacosane	DO	48-128	20.00

Y= Sample exhibits chromatographic pattern which does not resemble standard

DO= Diluted Out
ND= Not Detected

ND= Not Detected RL= Reporting Limit

SGCU= Silica gel cleanup

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	Total	Extractable Hydrocar	bons	
Lab #: Client: Project#:	205159 Burns & McDonnell 48791	Location: Analysis:	YRC-Oakland EPA 8015B	
Matrix: Units: Basis:	Soil mg/Kg as received	Received: Prepared:	08/07/08 08/11/08	

Field ID: BM-11-2S Batch#: 141288
Type: SAMPLE Sampled: 08/04/08
Lab ID: 205159-004 Prep: EPA 3550B
Diln Fac: 1.000 Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed	
Diesel C10-C24 (SGCU)	ND	1.0	08/13/08	
Diesel C10-C24	1.3 Y	1.0	08/12/08	
Motor Oil C24-C36	ND	5.0	08/12/08	
Motor Oil C24-C36 (SGCU)	ND	5.0	08/13/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	85	48-128	08/13/08
Hexacosane	80	48-128	08/12/08

Field ID: BM-11-3S Batch#: 141288
Type: SAMPLE Sampled: 08/04/08
Lab ID: 205159-005 Prep: EPA 3550B
Diln Fac: 1.000 Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed	
Diesel C10-C24 (SGCU)	1.1 Y	0.99	08/13/08	
Diesel C10-C24	1.5 Y	0.99	08/12/08	
Motor Oil C24-C36	ND	5.0	08/12/08	
Motor Oil C24-C36 (SGCU)	ND	5.0	08/13/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	108	48-128	08/13/08
Hexacosane	97	48-128	08/12/08

Field ID: BM-12-1S Sampled: 08/04/08
Type: SAMPLE Analyzed: 08/12/08
Lab ID: 205159-006 Prep: EPA 3550B
Diln Fac: 1.000 Cleanup Method: EPA 3630C
Batch#: 141288

Analyte	Result	RL	
Diesel C10-C24 (SGCU)	65 Y	1.0	
Diesel C10-C24	78 Y	1.0	
Motor Oil C24-C36	150	5.0	
Motor Oil C24-C36 (SGCU)	130	5.0	

Surrogate	%REC	Limits
Hexacosane (SGCU)	94	48-128
Hexacosane	102	48-128

Y= Sample exhibits chromatographic pattern which does not resemble standard

DO= Diluted Out

ND= Not Detected

RL= Reporting Limit

SGCU= Silica gel cleanup



Total Extractable Hydrocarbons 205159 YRC-Oakland Lab #: Location: Burns & McDonnell Client: Analysis: EPA 8015B Project#: 48791 Soil Matrix: Received: 08/07/08 Units: mg/Kg Prepared: 08/11/08 Basis: as received

Field ID: BM-13-1S Batch#: 141288
Type: SAMPLE Sampled: 08/05/08
Lab ID: 205159-007 Prep: EPA 3550B
Diln Fac: 1.000 Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed	
Diesel C10-C24 (SGCU)	3.7 Y	0.99	08/15/08	
Diesel C10-C24	4.8 Y	0.99	08/12/08	
Motor Oil C24-C36	16	5.0	08/12/08	
Motor Oil C24-C36 (SGCU)	13	5.0	08/15/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	93	48-128	08/15/08
Hexacosane	88	48-128	08/12/08

141288 Field ID: BM-13-2S Batch#: Sampled: Type: SAMPLE 08/05/08 Lab ID: 205159-008 Analyzed: 08/12/08 Diln Fac: 1.000 Prep: EPA 3550B

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

Surrogate	%REC	Limits
Hexacosane	86	48-128

Field ID: BM-14-1SBatch#: 141288 Type: SAMPLE Sampled: 08/05/08 205159-009 Lab ID: EPA 3550B Prep: Diln Fac: 1.000 Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed	
Diesel C10-C24 (SGCU)	56 Y	1.0	08/13/08	
Diesel C10-C24	65 Y	1.0	08/12/08	
Motor Oil C24-C36	110	5.0	08/12/08	
Motor Oil C24-C36 (SGCU)	90	5.0	08/13/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	90	48-128	08/13/08
Hexacosane	91	48-128	08/12/08

Y= Sample exhibits chromatographic pattern which does not resemble standard

DO= Diluted Out

ND= Not Detected

RL= Reporting Limit

SGCU= Silica gel cleanup



Total Extractable Hydrocarbons					
Lab #: Client: Project#:	205159 Burns & McDonnell 48791	Location: Analysis:	YRC-Oakland EPA 8015B		
Matrix: Units: Basis:	Soil mg/Kg as received	Received: Prepared:	08/07/08 08/11/08		

Field ID: BM-14-2S 141288 Batch#: Sampled: SAMPLE 08/05/08 Type: Lab ID: 205159-010 Analyzed: 08/12/08 Diln Fac: 1.000 Prep: EPA 3550B

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

141312 Field ID: BM-14-3S Batch#: Type: SAMPLE Sampled: 08/05/08 Lab ID: 205159-011 08/13/08 Analyzed: SHAKER TABLE Diln Fac: 1.000 Prep:

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

Field ID: Sampled: 08/05/08 BM-12-2S Type: SAMPLE Analyzed: 08/13/08 Lab ID: 205159-012 Prep: SHAKER TABLE 1.000 Diln Fac: EPA 3630C Cleanup Method: Batch#: 141312

Analyte	Result	RL	
Diesel C10-C24 (SGCU)	1.2 Y	1.0	
Diesel C10-C24	2.7 Y	1.0	
Motor Oil C24-C36	22	5.0	
Motor Oil C24-C36 (SGCU)	10	5.0	

S	Surrogate	%REC	Limits
Hexacosane	(SGCU)	77	48-128
Hexacosane	,	86	48-128

Y= Sample exhibits chromatographic pattern which does not resemble standard

DO= Diluted Out

ND= Not Detected

RL= Reporting Limit



Total Extractable Hydrocarbons					
Lab #: Client: Project#:	205159 Burns & McDonnell 48791	Location: Analysis:	YRC-Oakland EPA 8015B		
Matrix: Units: Basis:	Soil mg/Kg as received	Received: Prepared:	08/07/08 08/11/08		

Field ID: BM-12-3S 141312 Batch#: Sampled: SAMPLE 08/05/08 Type: Lab ID: 205159-013 Analyzed: 08/13/08 Diln Fac: 1.000 Prep: SHAKER TABLE

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

Surrogate	%REC	Limits
Hexacosane	95	48-128

Field ID: BM-15-1S Batch#: 141312

Type: SAMPLE Sampled: 08/05/08

Lab ID: 205159-014 Prep: SHAKER TABLE

Diln Fac: 1.000 Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed	
Diesel C10-C24 (SGCU)	45 Y	1.0	08/14/08	
Diesel C10-C24	50 Y	1.0	08/13/08	
Motor Oil C24-C36	260	5.0	08/13/08	
Motor Oil C24-C36 (SGCU)	320	5.0	08/14/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	96	48-128	08/14/08
Hexacosane	88	48-128	08/13/08

Field ID: BM-15-2S Batch#: 141312 08/05/08 Type: SAMPLE Sampled: Lab ID: 205159-015 Prep: SHAKER TABLE Diln Fac: 1.000 Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed	
Diesel C10-C24 (SGCU)	1.3 Y	0.99	08/14/08	
Diesel C10-C24	2.3 Y	0.99	08/13/08	
Motor Oil C24-C36	9.4	5.0	08/13/08	
Motor Oil C24-C36 (SGCU)	11	5.0	08/14/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	88	48-128	08/14/08
Hexacosane	85	48-128	08/13/08

Y= Sample exhibits chromatographic pattern which does not resemble standard

DO= Diluted Out

ND= Not Detected

RL= Reporting Limit



	Total E	xtractable Hydrocar	bons	
Lab #: Client: Project#:	205159 Burns & McDonnell 48791	Location: Analysis:	YRC-Oakland EPA 8015B	
Matrix: Units: Basis:	Soil mg/Kg as received	Received: Prepared:	08/07/08 08/11/08	

Field ID: BM-16-1S Batch#: 141312
Type: SAMPLE Sampled: 08/05/08
Lab ID: 205159-016 Prep: SHAKER TABLE
Diln Fac: 1.000 Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed	
Diesel C10-C24 (SGCU)	2.4 Y	0.99	08/14/08	
Diesel C10-C24	4.1 Y	0.99	08/13/08	
Motor Oil C24-C36	12	5.0	08/13/08	
Motor Oil C24-C36 (SGCU)	13	5.0	08/14/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	93	48-128	08/14/08
Hexacosane	82	48-128	08/13/08

Field ID: BM-16-2S Batch#: 141312

Type: SAMPLE Sampled: 08/05/08

Lab ID: 205159-017 Prep: SHAKER TABLE

Diln Fac: 1.000 Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed	
Diesel C10-C24 (SGCU)	ND	1.0	08/14/08	
Diesel C10-C24	1.7 Y	1.0	08/13/08	
Motor Oil C24-C36	ND	5.0	08/13/08	
Motor Oil C24-C36 (SGCU)	ND	5.0	08/14/08	

	Surrogate	%REC	Limits	Analyzed
Hex	acosane (SGCU)	99	48-128	08/14/08
Hex	acosane	109	48-128	08/13/08

 Field ID:
 BM-17-1S
 Batch#:
 141312

 Type:
 SAMPLE
 Sampled:
 08/06/08

 Lab ID:
 205159-018
 Prep:
 SHAKER TABLE

 Diln Fac:
 1.000
 Cleanup Method:
 EPA 3630C

Analyte	Result	RL	Analyzed	
Diesel C10-C24 (SGCU)	2.4 Y	1.0	08/14/08	
Diesel C10-C24	5.1 Y	1.0	08/13/08	
Motor Oil C24-C36	17	5.0	08/13/08	
Motor Oil C24-C36 (SGCU)	16	5.0	08/14/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	83	48-128	08/14/08
Hexacosane	82	48-128	08/13/08

Y= Sample exhibits chromatographic pattern which does not resemble standard

DO= Diluted Out

ND= Not Detected

RL= Reporting Limit



	Total Ex	tractable Hydrocar	bons	
Lab #: Client: Project#:	205159 Burns & McDonnell 48791	Location: Analysis:	YRC-Oakland EPA 8015B	
Matrix: Units: Basis:	Soil mg/Kg as received	Received: Prepared:	08/07/08 08/11/08	

Field ID: DUP-1S Batch#: 141312
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205159-019 Prep: SHAKER TABLE
Diln Fac: 1.000 Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed	
Diesel C10-C24 (SGCU)	ND	0.99	08/14/08	
Diesel C10-C24	1.4 Y	0.99	08/13/08	
Motor Oil C24-C36	ND	5.0	08/13/08	
Motor Oil C24-C36 (SGCU)	ND	5.0	08/14/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	89	48-128	08/14/08
Hexacosane	73	48-128	08/13/08

Field ID: BM-17-2S Batch#: 141312
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205159-020 Prep: SHAKER TABLE
Diln Fac: 1.000 Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed	
Diesel C10-C24 (SGCU)	3.1 Y	0.99	08/14/08	
Diesel C10-C24	5.1 Y	0.99	08/13/08	
Motor Oil C24-C36	17	5.0	08/13/08	
Motor Oil C24-C36 (SGCU)	15	5.0	08/14/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	84	48-128	08/14/08
Hexacosane	75	48-128	08/13/08

Field ID: BM-17-3S Batch#: 141312

Type: SAMPLE Sampled: 08/06/08

Lab ID: 205159-021 Prep: SHAKER TABLE

Diln Fac: 1.000 Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed	
Diesel C10-C24 (SGCU)	1.3 Y	0.99	08/14/08	
Diesel C10-C24	2.9 Y	0.99	08/13/08	
Motor Oil C24-C36	7.1	5.0	08/13/08	
Motor Oil C24-C36 (SGCU)	8.2	5.0	08/14/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	92	48-128	08/14/08
Hexacosane	86	48-128	08/13/08

Y= Sample exhibits chromatographic pattern which does not resemble standard

DO= Diluted Out

ND= Not Detected

RL= Reporting Limit



Total Extractable Hydrocarbons							
Lab #: Client: Project#:	205159 Burns & McDonnell 48791	Location: Analysis:	YRC-Oakland EPA 8015B				
Matrix: Units: Basis:	Soil mg/Kg as received	Received: Prepared:	08/07/08 08/11/08				

Field ID: BM-18-1S Batch#: 141312
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205159-022 Prep: SHAKER TABLE
Diln Fac: 1.000 Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed	
Diesel C10-C24 (SGCU)	3.7 Y	0.99	08/14/08	
Diesel C10-C24	8.1 Y	0.99	08/13/08	
Motor Oil C24-C36	25	5.0	08/13/08	
Motor Oil C24-C36 (SGCU)	16	5.0	08/14/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	87	48-128	08/14/08
Hexacosane	104	48-128	08/13/08

Field ID: BM-18-2S Batch#: 141312
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205159-023 Prep: SHAKER TABLE
Diln Fac: 1.000 Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed	
Diesel C10-C24 (SGCU)	ND	1.0	08/14/08	
Diesel C10-C24	1.5 Y	1.0	08/13/08	
Motor Oil C24-C36	5.1	5.0	08/13/08	
Motor Oil C24-C36 (SGCU)	ND	5.0	08/14/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	83	48-128	08/14/08
Hexacosane	93	48-128	08/13/08

Field ID: BM-18-3S Batch#: 141312
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205159-024 Prep: SHAKER TABLE
Diln Fac: 1.000 Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed	
Diesel C10-C24 (SGCU)	2.0 Y	0.99	08/14/08	
Diesel C10-C24	4.1 Y	0.99	08/13/08	
Motor Oil C24-C36	9.8	5.0	08/13/08	
Motor Oil C24-C36 (SGCU)	13	5.0	08/14/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	97	48-128	08/14/08
Hexacosane	92	48-128	08/13/08

Y= Sample exhibits chromatographic pattern which does not resemble standard

DO= Diluted Out

ND= Not Detected

RL= Reporting Limit



Total Extractable Hydrocarbons							
Lab #: Client: Project#:	205159 Burns & McDonnell 48791	Location: Analysis:	YRC-Oakland EPA 8015B				
Matrix: Units: Basis:	Soil mg/Kg as received	Received: Prepared:	08/07/08 08/11/08				

Field ID: BM-19-1S Batch#: 141312
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205159-025 Prep: SHAKER TABLE
Diln Fac: 1.000 Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed	
Diesel C10-C24 (SGCU)	7.6 Y	1.0	08/14/08	
Diesel C10-C24	14 Y	1.0	08/13/08	
Motor Oil C24-C36	23	5.0	08/13/08	
Motor Oil C24-C36 (SGCU)	15	5.0	08/14/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	89	48-128	08/14/08
Hexacosane	110	48-128	08/13/08

Field ID: BM-19-2S 08/06/08 Sampled: Type: SAMPLE Analyzed: 08/13/08 Lab ID: 205159-026 Prep: SHAKER TABLE Diln Fac: 1.000 Cleanup Method: EPA 3630C Batch#: 141312

Analyte	Result	RL	
Diesel C10-C24 (SGCU)	3.7 Y	1.0	
Diesel C10-C24	4.8 Y	1.0	
Motor Oil C24-C36	22	5.0	
Motor Oil C24-C36 (SGCU)	19	5.0	

S	Surrogate %	%REC	Limits
Hexacosane	e (SGCU) 95	5	48-128
Hexacosane	` ′		48-128

Field ID: BM-19-3S Batch#: 141312
Type: SAMPLE Sampled: 08/06/08
Lab ID: 205159-027 Prep: SHAKER TABLE
Diln Fac: 1.000 Cleanup Method: EPA 3630C

Analyte	Result	RL	Analyzed	
Diesel C10-C24 (SGCU)	ND	1.0	08/14/08	
Diesel C10-C24	1.1 Y	1.0	08/13/08	
Motor Oil C24-C36	ND	5.0	08/13/08	
Motor Oil C24-C36 (SGCU)	ND	5.0	08/14/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	94	48-128	08/14/08
Hexacosane	101	48-128	08/13/08

Y= Sample exhibits chromatographic pattern which does not resemble standard

DO= Diluted Out

ND= Not Detected

RL= Reporting Limit



Total Extractable Hydrocarbons 205159 YRC-Oakland Lab #: Location: Burns & McDonnell Client: Analysis: EPA 8015B Project#: 48791 Soil Matrix: Received: 08/07/08 Units: mg/Kg Prepared: 08/11/08 Basis: as received

Field ID: BM-19-4S Batch#: 141312 08/06/08 Type: SAMPLE Sampled: 205159-028 Analyzed: Lab ID: 08/13/08 Diln Fac: 1.000 Prep: SHAKER TABLE

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

Surrogate	%REC	Limits
Hexacosane	96	48-128

Type: BLANK Analyzed: 08/11/08
Lab ID: QC454968 Prep: EPA 3550B
Diln Fac: 1.000 Cleanup Method: EPA 3630C
Batch#: 141288

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

	Surrogate	%REC	Limits
Hexacosane	e (SGCU)	84	48-128
Hexacosane	2	88	48-128

Type: BLANK Batch#: 141312

Lab ID:QC455060Prep:SHAKER TABLEDiln Fac:1.000Cleanup Method:EPA 3630C

Analyte	Result	RL	Analyzed	
Diesel C10-C24 (SGCU)	ND	1.0	08/14/08	
Diesel C10-C24	ND	1.0	08/13/08	
Motor Oil C24-C36	ND	5.0	08/13/08	
Motor Oil C24-C36 (SGCU)	ND	5.0	08/14/08	

Surrogate	%REC	Limits	Analyzed
Hexacosane (SGCU)	75	48-128	08/14/08
Hexacosane	80	48-128	08/13/08

Y= Sample exhibits chromatographic pattern which does not resemble standard

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

SGCU= Silica gel cleanup

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	Total Ext	ractable Hydrocar	rbons	
Lab #:	205159	Location:	YRC-Oakland	
Client:	Burns & McDonnell	Prep:	EPA 3550B	
Project#:	48791	Analysis:	EPA 8015B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC454969	Batch#:	141288	
Matrix:	Soil	Prepared:	08/11/08	
Units:	mg/Kg	Analyzed:	08/11/08	
Basis:	as received			ŀ

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24 (SGCU)	49.96	37.53	75	54-126

Surrogate	%REC	Limits
Hexacosane (SGCU)	84	48-128



	Total Extractable Hydrocarbons				
Lab #:	205159	Location:	YRC-Oakland		
Client:	Burns & McDonnell	Prep:	EPA 3550B		
Project#:	48791	Analysis:	EPA 8015B		
Field ID:	BM-13-2S	Batch#:	141288		
MSS Lab ID:	205159-008	Sampled:	08/05/08		
Matrix:	Soil	Received:	08/07/08		
Units:	mg/Kg	Prepared:	08/11/08		
Basis:	as received	Analyzed:	08/11/08		
Diln Fac:	1.000				

Type: MS Lab ID: QC454970

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	<0.2108	49.99	36.91	74	34-144

Surrogate	%REC	Limits
Hexacosane	80	48-128

Type: MSD Lab ID: QC454971

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.55	37.11	75	34-144	1	47

Surrogate	%REC	Limits
Hexacosane	82	48-128



	Total Exti	ractable Hydrocar	rbons
Lab #:	205159	Location:	YRC-Oakland
Client:	Burns & McDonnell	Prep:	SHAKER TABLE
Project#:	48791	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC455061	Batch#:	141312
Matrix:	Soil	Prepared:	08/11/08
Units:	mg/Kg	Analyzed:	08/14/08
Basis:	as received		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24 (SGCU)	49.95	40.91	82	54-126

Surrogate	%REC	Limits
Hexacosane (SGCU)	85	48-128



	Total Extractable Hydrocarbons				
Lab #:	205159	Location:	YRC-Oakland		
Client:	Burns & McDonnell	Prep:	SHAKER TABLE		
Project#:	48791	Analysis:	EPA 8015B		
Field ID:	ZZZZZZZZZ	Batch#:	141312		
MSS Lab ID:	205190-009	Sampled:	08/07/08		
Matrix:	Soil	Received:	08/08/08		
Units:	mg/Kg	Prepared:	08/11/08		
Basis:	as received	Analyzed:	08/13/08		
Diln Fac:	1.000				

Type: MS Lab ID: QC455062

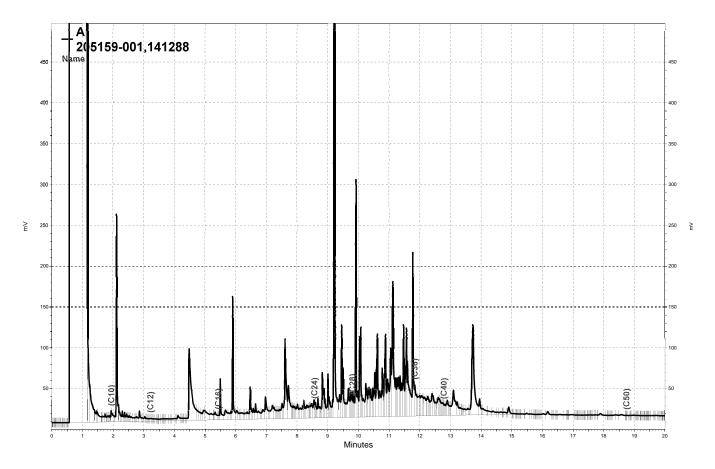
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Diesel C10-C24	5.351	49.80	64.81	119	34-144

Surrogate	%REC	Limits
Hexacosane	120	48-128

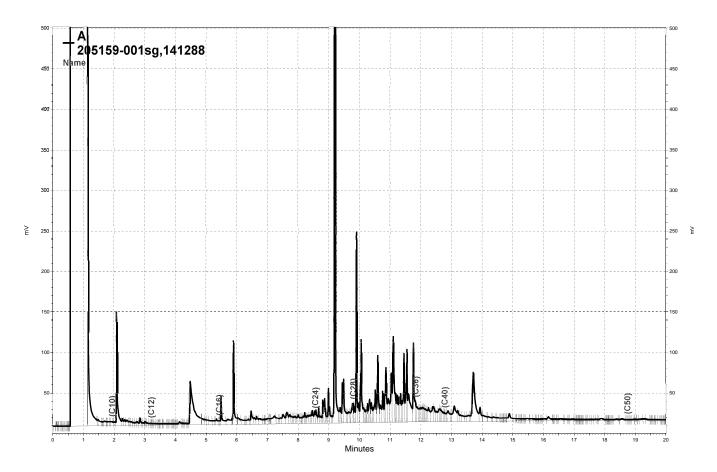
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Analyte	Spiked	Result	%REC	Limits	RPD Lim
Diesel C10-C24	49.91	51.99	93	34-144	22 47

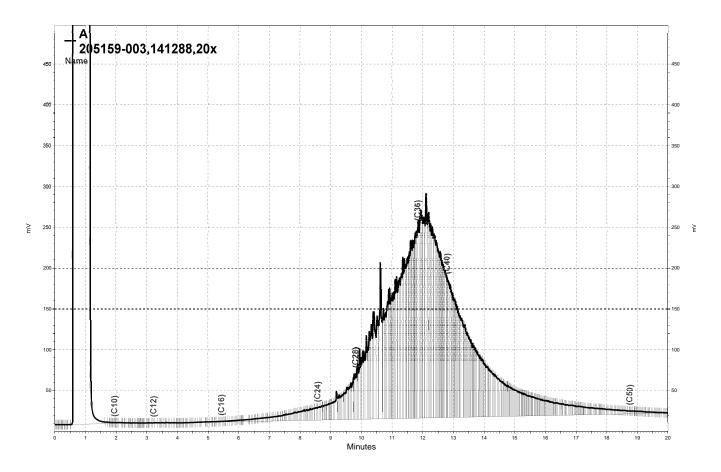
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Hexacosane	93	48-128



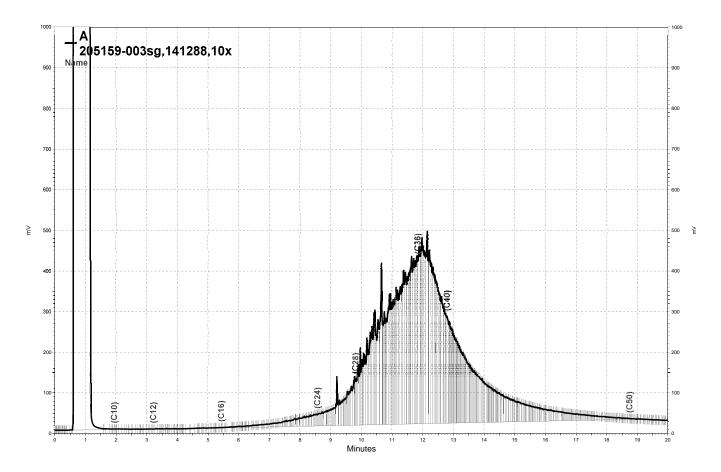
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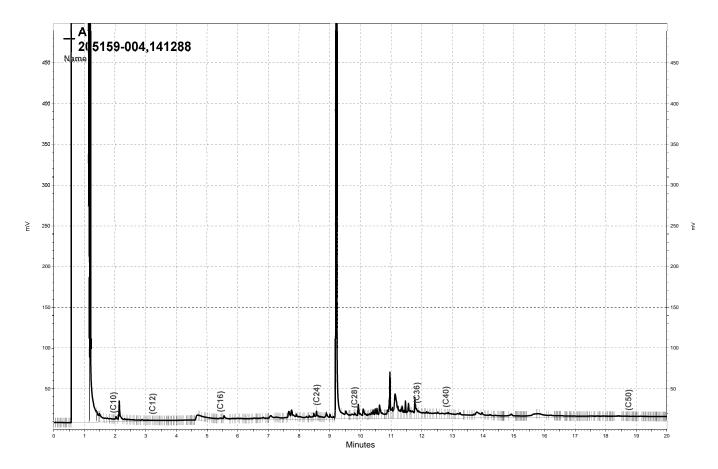
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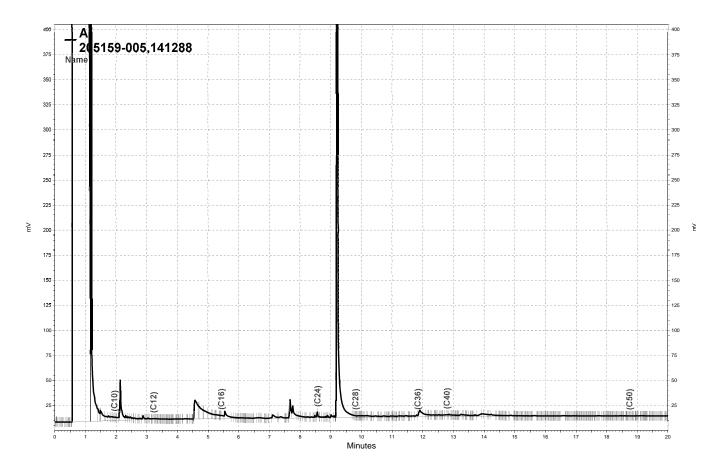
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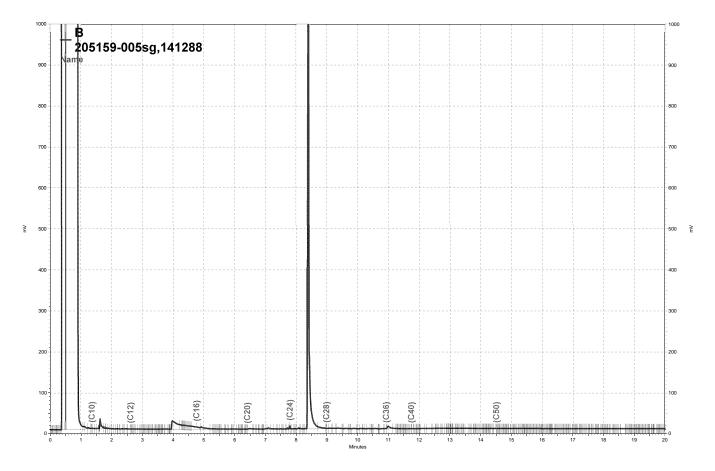
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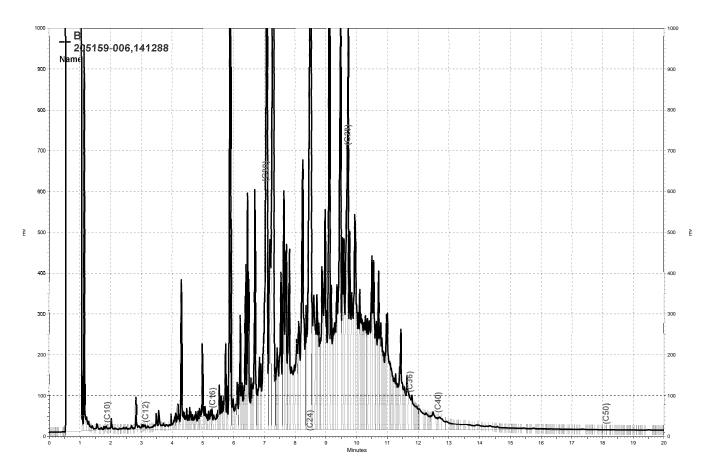
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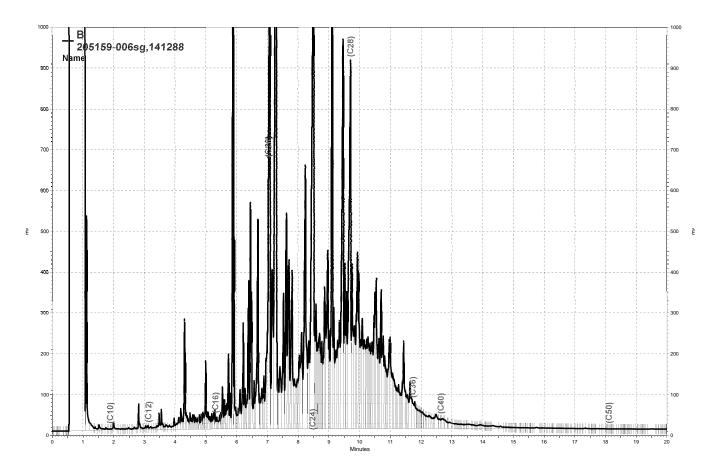
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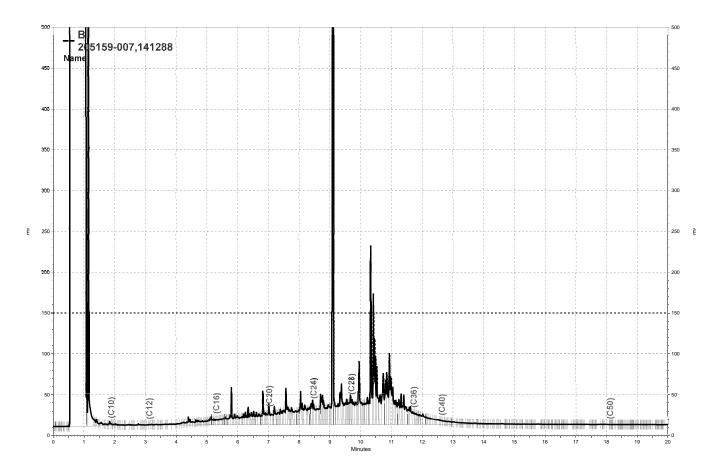
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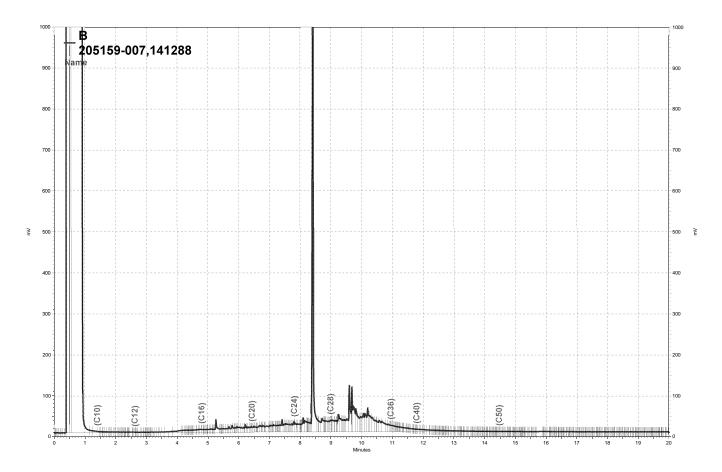
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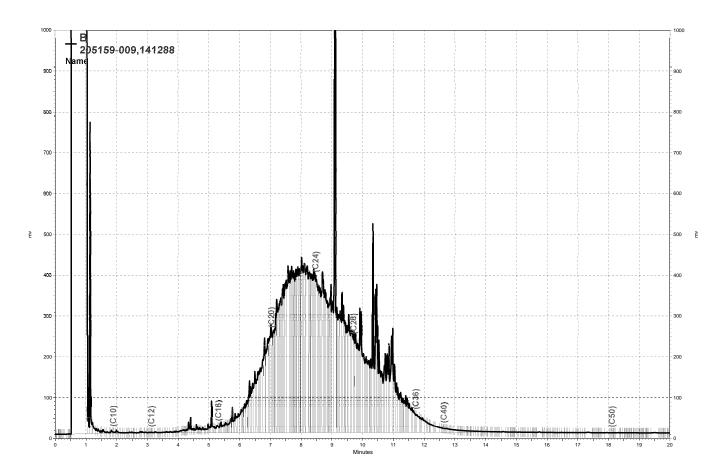
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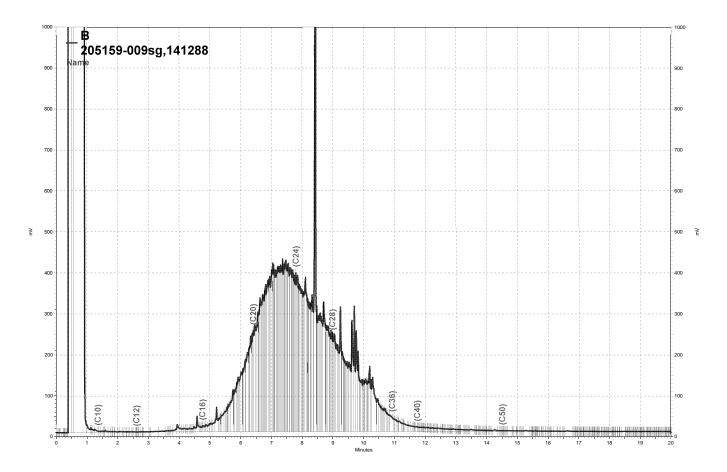
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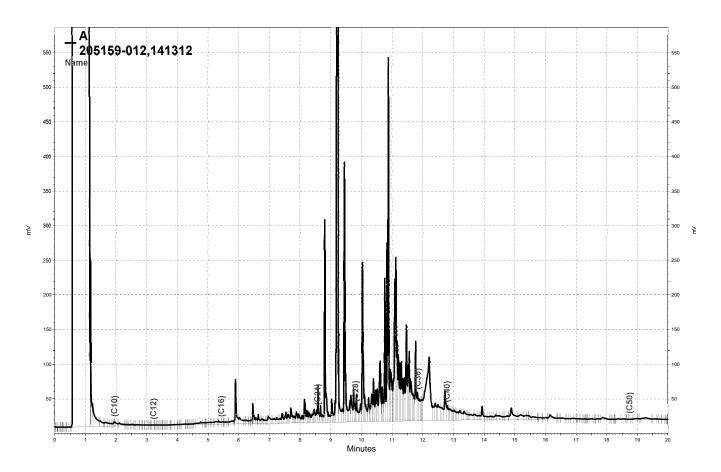
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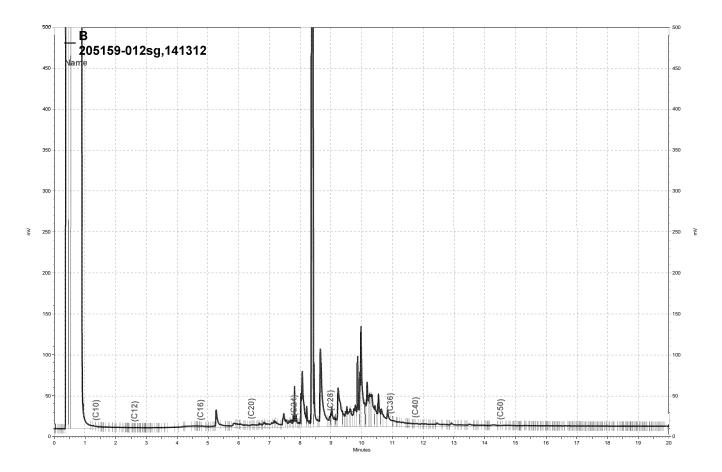
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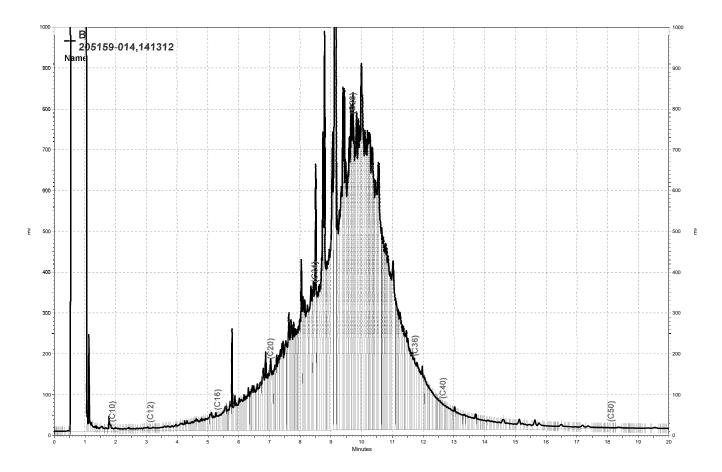
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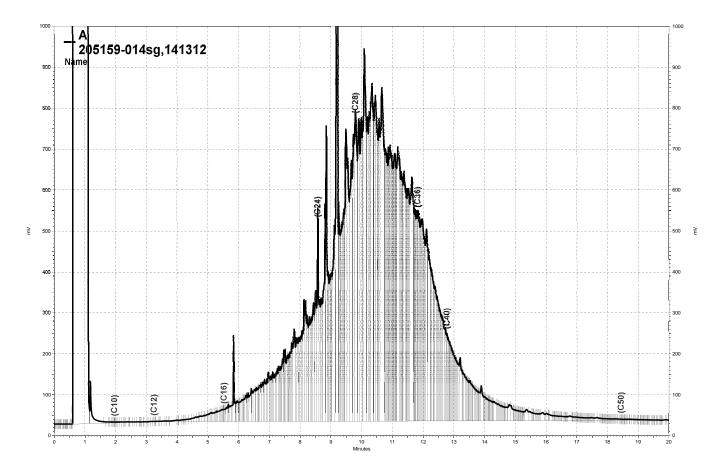
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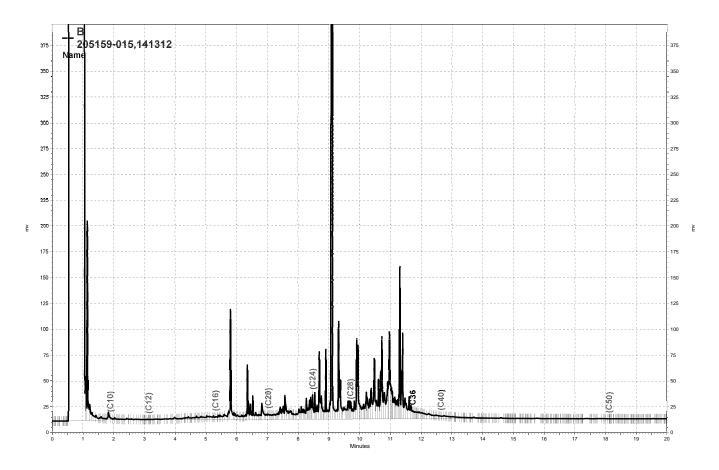
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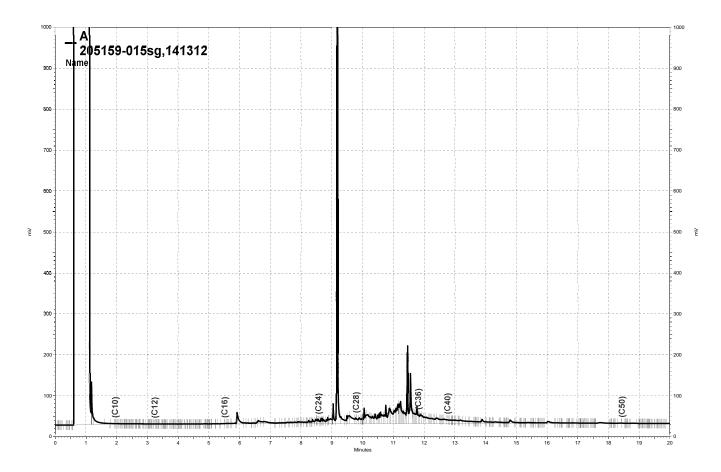
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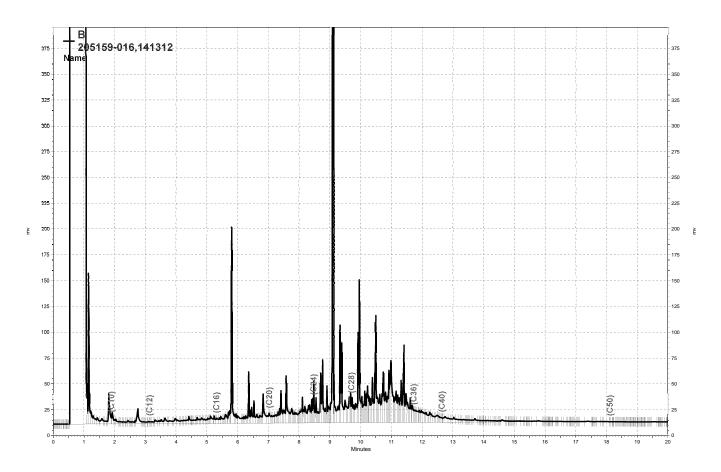
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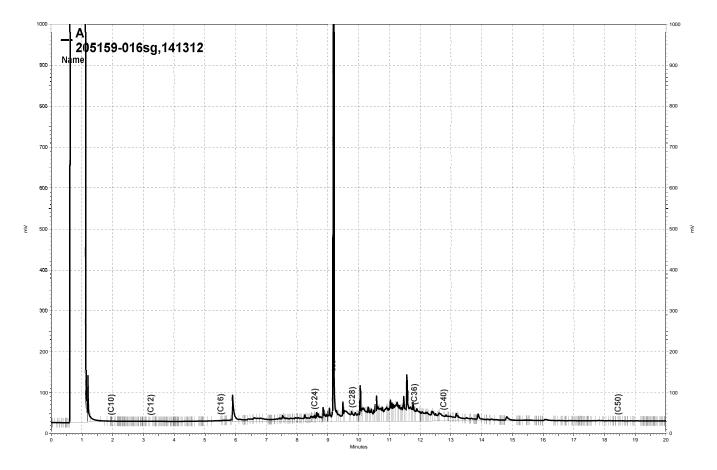
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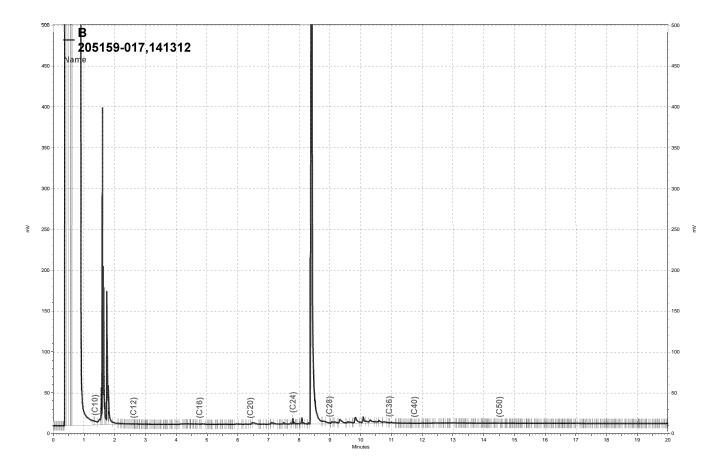
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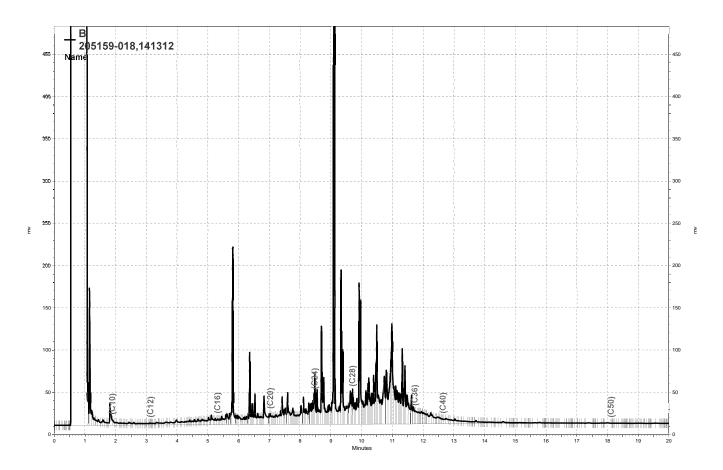
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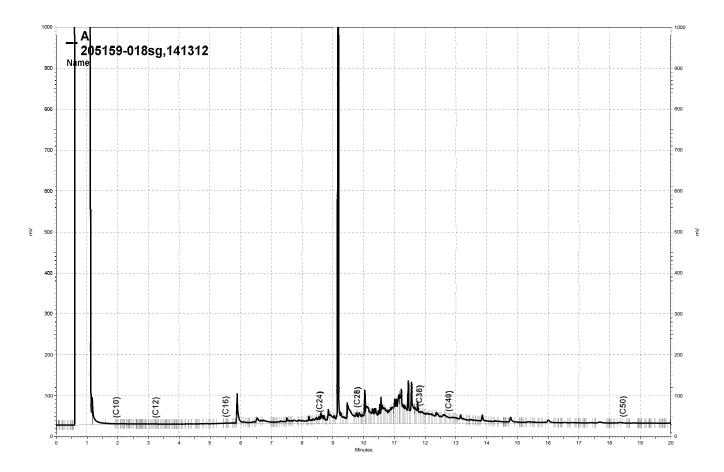
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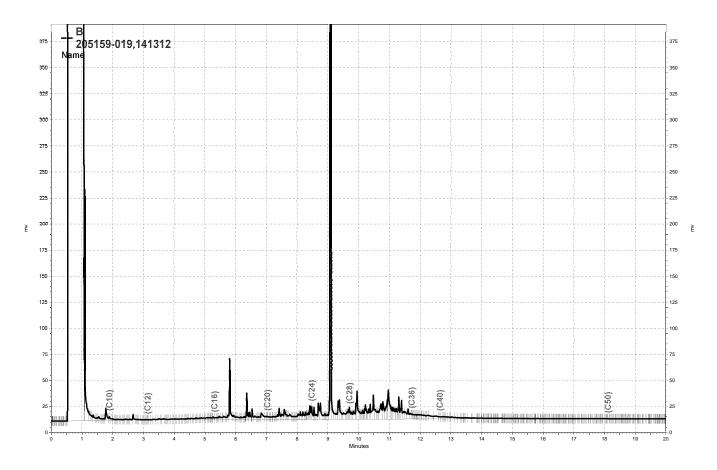
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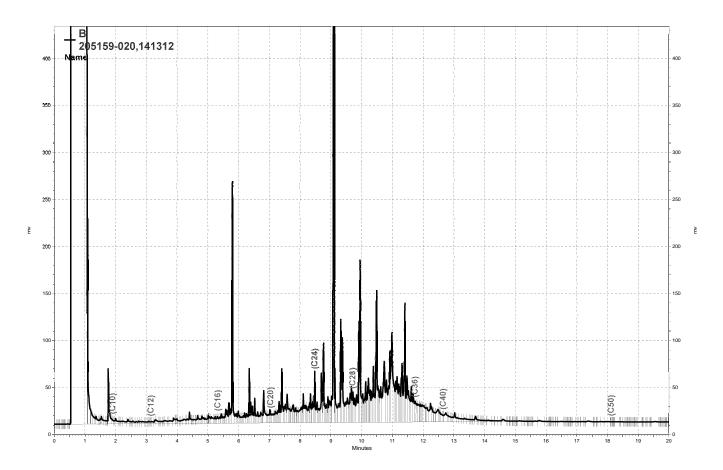
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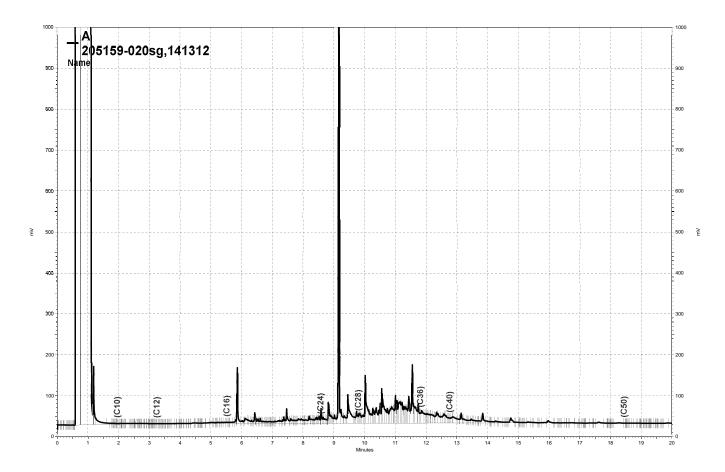
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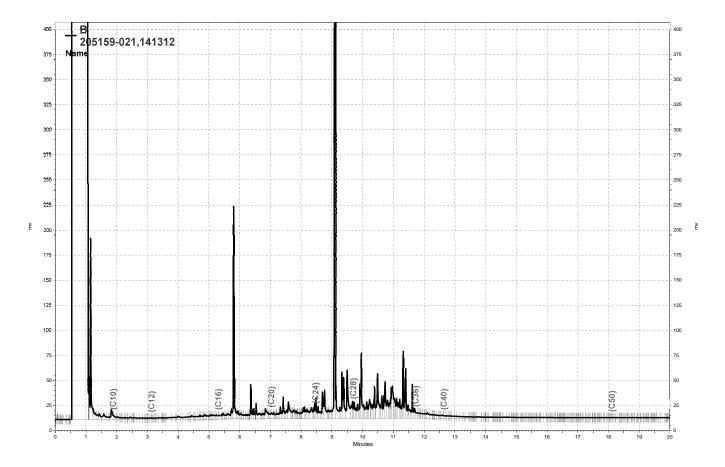
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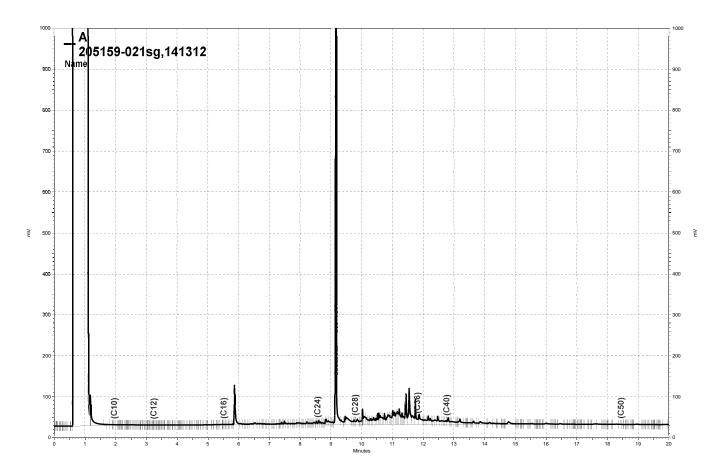
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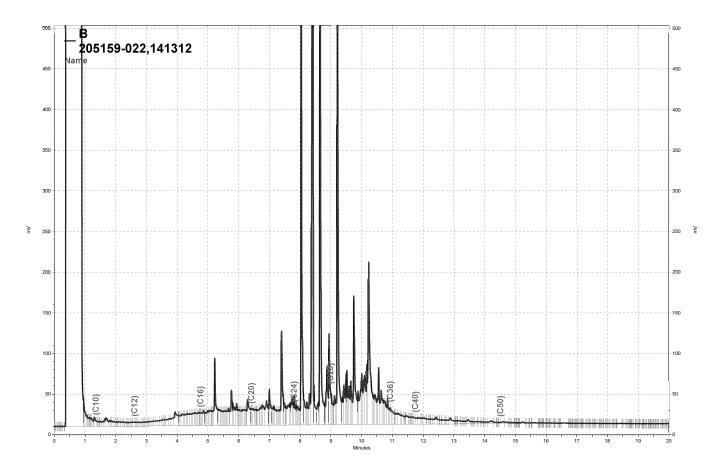
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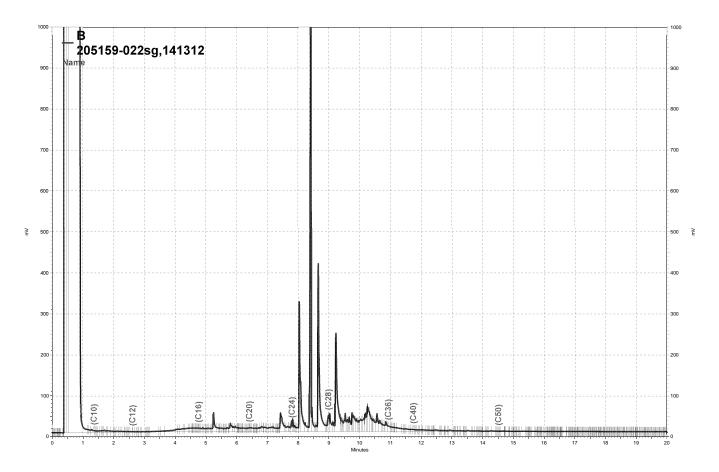
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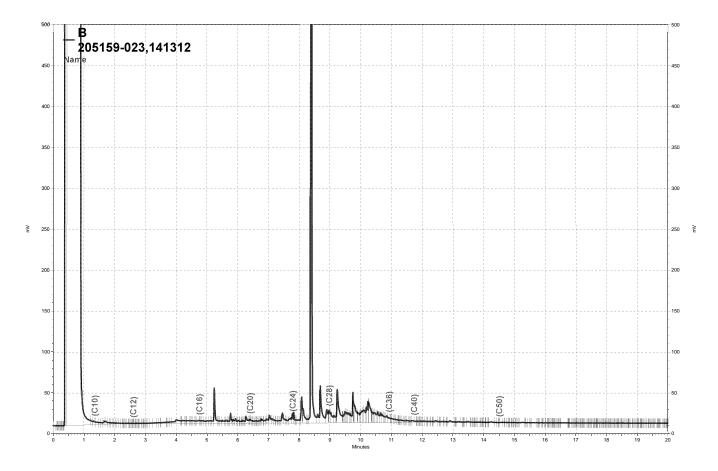
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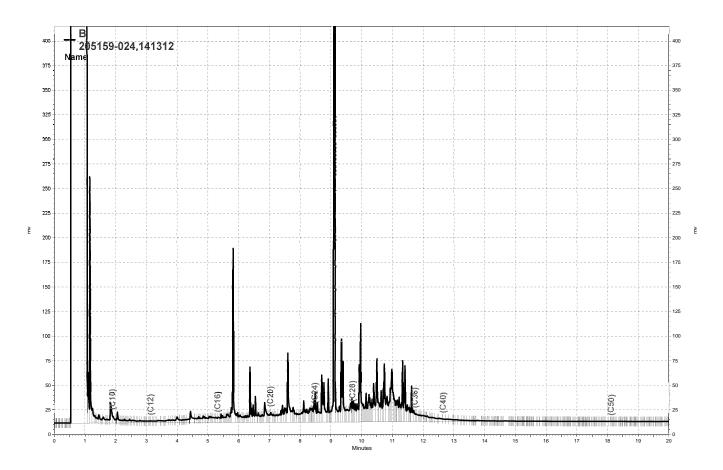
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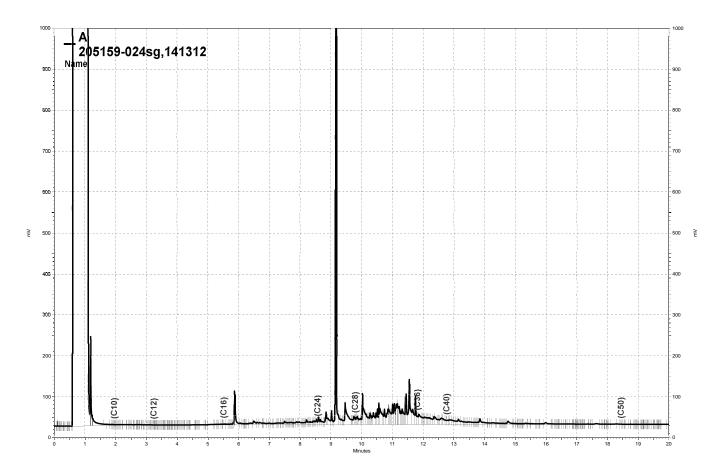
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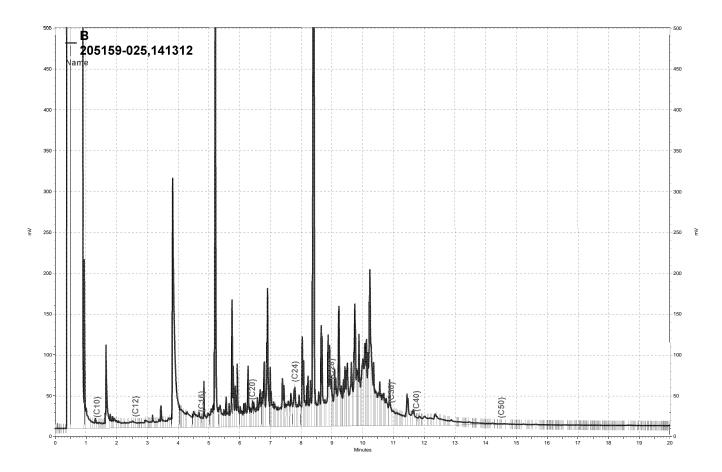
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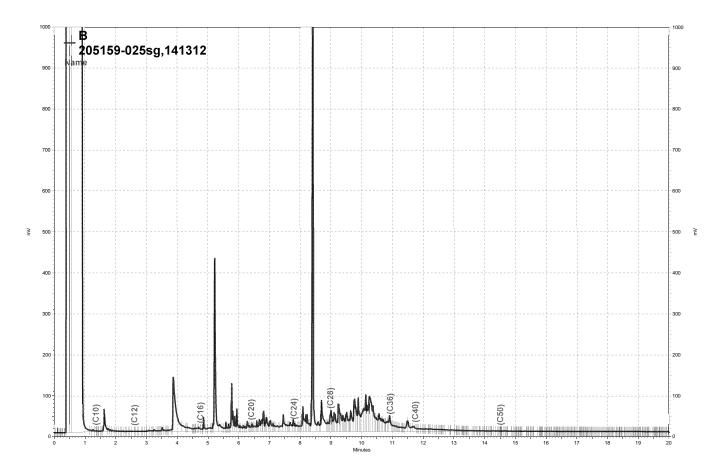
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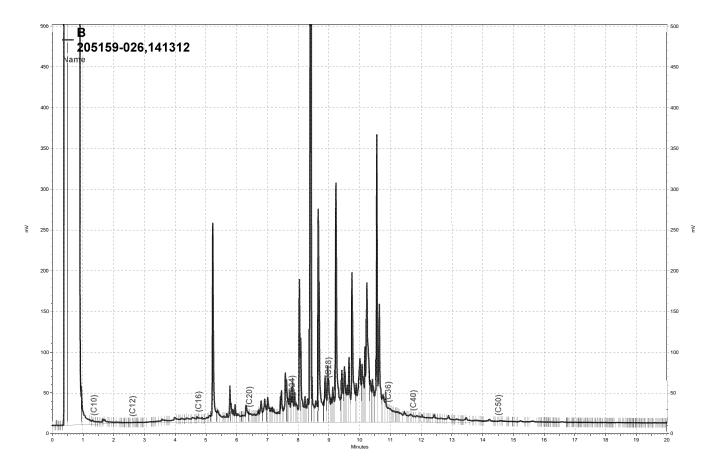
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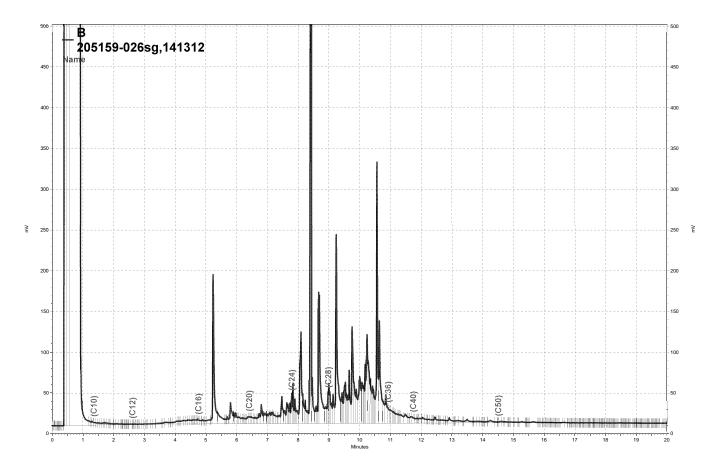
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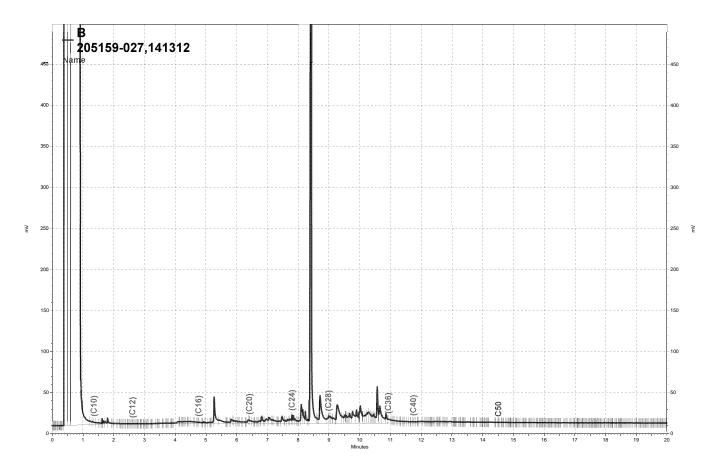
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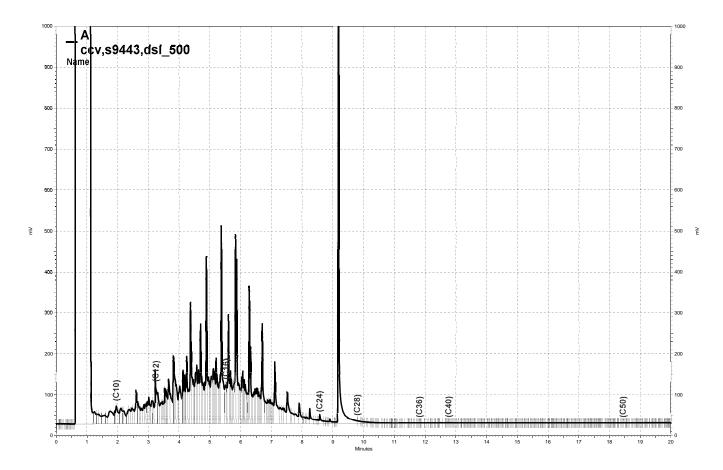
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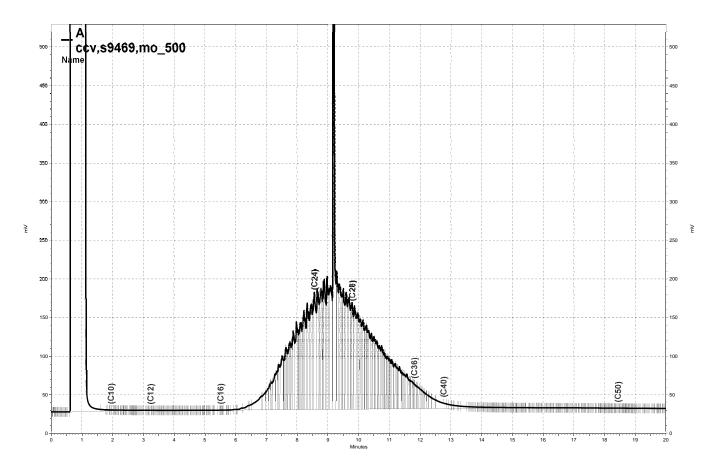
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Request for Chemical Analysis and Chain of Custody Record

205159 1.00.2

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Burns & McDonnell Engineering 393 E. Grand Avenue, Suite J	Laborator	Laboratory: Curtis & Tompkins										Document Control No.:									
So. San Francisco, CA 94080 Phone: (650) 871-2926 Fax: (650) 871-2653	Address:	Address: 2323 5th Street									Lab. Reference No. or Episode No.: 8-4-8 - 6.5-65										
Katherine spencer	City/State	City/State/Zip: Berkeley, CA										 									
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Burns & McDornell Engineering 383 E. Grand Arevus, Suite J. Sample (650) 871-2653 Address: 2323 5th Street																		1				
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COOLER RECEIPT CHECKLIST



Login # 205159 Date Received 9/7/08 Number of coolers 3 Client SURPS & Mc DONNEW Project YICC
Client SURPS & Mc DONNEU Project YRC
Date Opened 8 7 08 By (print) M. VI USWELL(sign) M. J. L. U. Date Logged in By (print) (sign)
1. Did cooler come with a shipping slip (airbill, etc)? Shipping infoYES
2A. Were custody seals present? YES (circle) on cooler on samples How many Name Date 2B. Were custody seals intact upon arrival? YES NO N/A 3. Were custody papers dry and intact when received? YES NO 4. Were custody papers filled out properly (ink, signed, etc)? YES NO 5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO 6. Indicate the packing in cooler: (if other, describe)
☐ Bubble Wrap ☐ Foam blocks ☐ Bags ☐ None ☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels 7. Temperature documentation:
Type of ice used: Wet Blue/Gel None Temp(°C) 5.5, 4.0, 6.0
☐ Samples Received on ice & cold without a temperature blank
☐ Samples received on ice directly from the field. Cooling process had begun
8. Were Method 5035 sampling containers present? If YES, what time were they transferred to freezer? 9. Did all bottles arrive unbroken/unopened? 10. Are samples in the appropriate containers for indicated tests? 11. Are sample labels present, in good condition and complete? 12. Do the sample labels agree with custody papers? 13. Was sufficient amount of sample sent for tests requested? 14. Are the samples appropriately preserved? 15. Are bubbles > 6mm absent in VOA samples? 16. Was the client contacted concerning this sample delivery? 17. Are bubbles > MO 18. Wes NO 19. Date: 19. Date
COMMENTS

SOP Volume:

Client Services

Section: Page: 1.1.2 1 of 1 Rev. 6 Number 1 of 3 Effective: 23 July 2008

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