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**FOURTH QUARTER 2008
GROUNDWATER MONITORING AND
PRODUCT EXTRACTION REPORT AND
ANNUAL SUMMARY**

**EMERYBAY CONDO PHASE I PARKING GARAGE
6400 CHRISTIE AVENUE
EMERYVILLE, CALIFORNIA**

Prepared for:

**BAY CENTER INVESTOR LLC
6475 CHRISTIE AVENUE, SUITE 550
EMERYVILLE, CA 94608**

January 2009

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Prepared for:

**BAY CENTER INVESTOR LLC
6475 CHRISTIE AVENUE, SUITE 550
EMERYVILLE, CA 94608**

Prepared by:

**STELLAR ENVIRONMENTAL SOLUTIONS, INC.
2198 SIXTH STREET
BERKELEY, CALIFORNIA 94710**

January 16, 2009

Project No. 2007-65

January 16, 2009

Ms. Sarah Irving
Bay Center Investor, LLC
6475 Christie Avenue, Suite 550
Emeryville, CA 94608

Subject: Fourth Quarter 2008 Groundwater Monitoring and Product Extraction Report and
Annual Summary - EmeryBay Phase I Condo Parking Garage
6400 Christie Avenue, Emeryville, CA

Dear Ms. Irving:

Enclosed is the Stellar Environmental Solutions, Inc. report summarizing the site activities conducted between October 2008 and December 2008 (specifically, 2 product extraction events and the Fourth Quarter 2008 groundwater-monitoring event). This project is being conducted for Bay Center Investor, LLC, c/o Harvest Properties (property owner), and follows previous sampling events—conducted by Groundwater Technology, Inc. in 1988, 1989, and 1991; by PES Environmental, Inc. in 2004 and 2006; and by SES in 2007 and 2008.

There is currently no directive from the regulatory agency, Alameda County Department of Environmental Health (ACEH), regarding the frequency of groundwater sampling. However, a new case officer, Barbara Jakub, was assigned to the site and is reviewing the historical information.

This report summarizes the ninth sampling event conducted at the site since 1988. In accordance with regulatory requirements, an electronic copy of this report has been uploaded to ACEH and to the State Water Resources Control Board's GeoTracker system.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report are true and correct to the best of my knowledge. If you have any questions regarding this report, please contact us at (510) 644-3123.

Sincerely,



Richard S. Makdisi, R.G., R.E.A.
Principal



Teal Glass, R.E.A.
Project Manager



cc: Ms. Barbara Jakub, Alameda County Department of Environmental Health

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1.0 INTRODUCTION

PROJECT BACKGROUND

The subject property, located at 6400 Christie Avenue in Emeryville, California, is owned by Bay Center Investor, LLC, for which Stellar Environmental Solutions, Inc. (SES) provides environmental consulting services. The site has undergone fuel tank-related investigations and remediation since 1988 (by SES since 2007). All known environmental documents for the subject property are listed in the References and Bibliography section (Section 7.0) of this report. Previous remediation and investigation activities are outlined in the final subsection of this chapter.

SITE AND VICINITY DESCRIPTION

The project site is located at 6400 Christie Avenue in Emeryville, California (see Figure 1). The project site, which slopes to the south, is wholly developed with an open ground-floor parking area and apartment complex known as the Emery Bay Phase I Condos and parking garage. The area of monitoring and product extraction is primarily located in the northeastern portion of the parking garage. Figure 2 is a site plan. The site is bordered to the east by the Emery Bay Phase II Condos and parking garage, to the north by 65th Avenue, beyond Christie Avenue and to the west by the Bay Center Offices, and to the south by 64th Avenue. The surrounding area is developed with apartment complexes, offices, and commercial stores.

PREVIOUS INVESTIGATIONS

Historical groundwater well analytical results are presented in Appendix A, and are discussed in detail in Section 5.0 of this report.

The subject property parcel was developed as early as 1958 with the Garrett Motor Freight Station, associated with Delta Lines, Inc. The Delta Lines complex contained an “Oil and Gas” building, located at the site of the present-day Emery Bay Phase I Condo complex and parking garage. The building remained on the property until 1986, when it was demolished to build the present-day structures. Twelve underground fuel storage tanks (UFSTs) containing diesel and gasoline were removed from the Emery Bay Phase I and Phase II Condo complex parcels in 1987, at which time soil and groundwater contamination was discovered.



Image courtesy of the U.S. Geological Survey



SITE LOCATION ON AERIAL PHOTO

**6400 Christie Ave.
Emeryville, CA**

By: MJC

JANUARY 2008

Figure 1



2007-565-01



LEGEND

--- Subject property boundary

Image © 2008 TerraMetrics

© 2007 Google



SITE PLAN AND ADJACENT LAND USE

6400 Christie Ave.
Emeryville, CA

By: MJC

JANUARY 2008

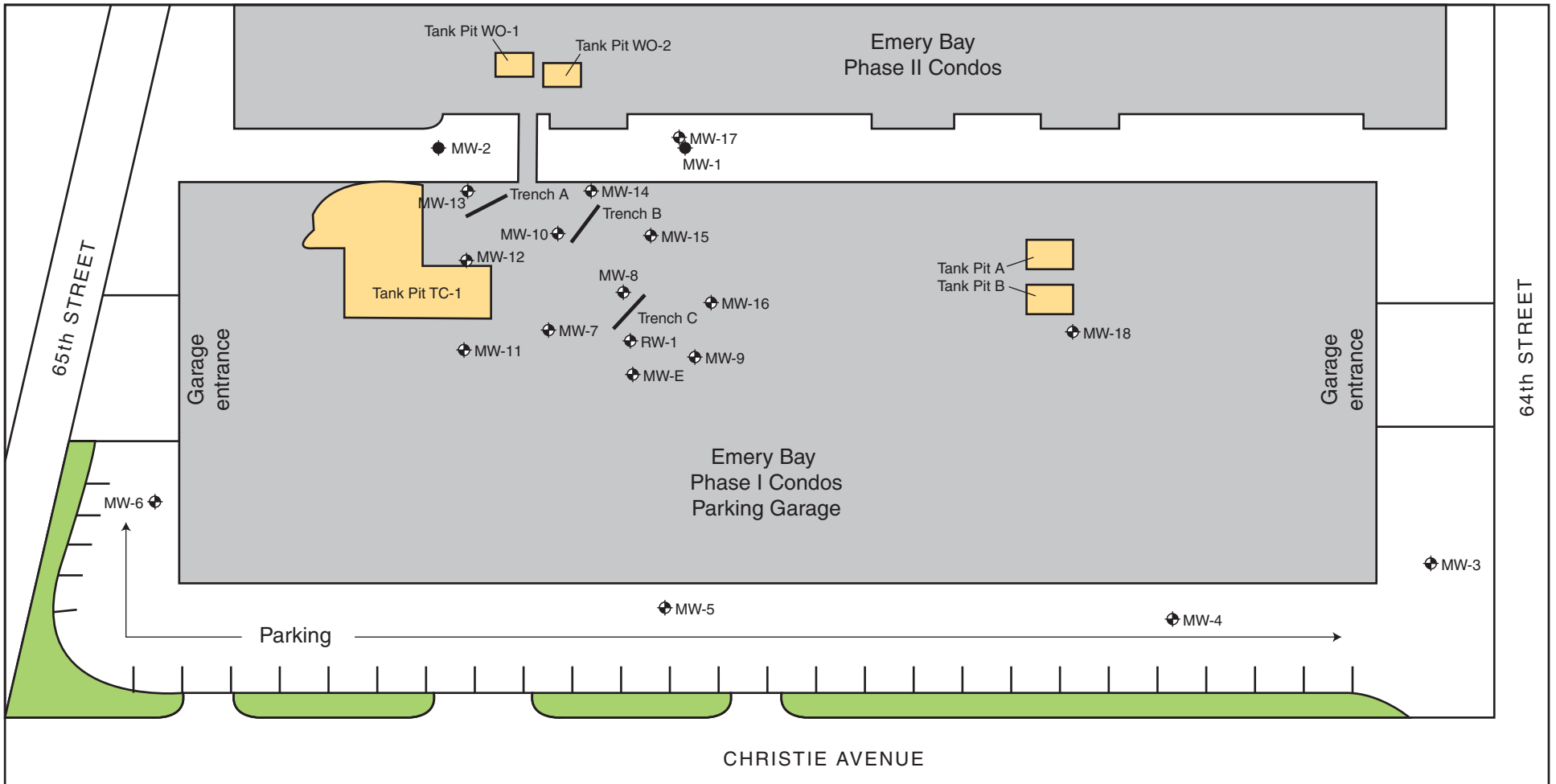
Figure 2








The subsurface contamination originated from the trucking terminal that was operated by the Garrett Freight Line and Delta Lines, and existed at the site of the Bay Center Apartments before its development in the late 1980s. Site investigations identified a total of 12 UFSTs in three areas of the trucking terminal. These UFST areas were referred to as: 1) Tank Pits A and B (each containing one 10,000-gallon diesel tank); 2) Tank Pit TC-1 (four 12,000-gallon diesel tanks, two 10,000-gallon diesel tanks, and one 6,000-gallon gasoline tank); and 3) Tank Pit WO-1 and WO-2 (one 6,000-gallon tank, one 4,000-gallon tank, and one 1,000-gallon tank). Nine UFSTs were located beneath the current footprint of the Emery Bay Phase I Condo complex, while three were beneath the Emery Bay Phase II Condo complex. Figure 2 shows the historical locations where the tanks were removed.

To address the contamination in the garage area of the Emery Bay Phase I Condo complex, a light non-aqueous phase liquid (LNAPL) groundwater pump-and-treat system was installed by Groundwater Technology, Inc. (GTI) in 1989. The system extracted approximately 1 million gallons of groundwater, yielding approximately 100 gallons of LNAPL from recovery well RW-1 from July 1990 to March 1991. Three monitoring wells had previously been installed in 1985. GTI installed (and repaired) several more monitoring wells between 1987 and 1990, for a total of seven monitoring wells and one extraction well by 1990. The system and groundwater monitoring wells were designed and monitored as a condition of discharge permits granted by the East Bay Municipal Utility District (EBMUD) and the Bay Area Air Quality Management District (BAAQMD). The first groundwater monitoring event for MW-1 through MW-6 occurred in December 1988. The second monitoring event, which also included MW-E and RW-1, was conducted in March 1989. Subsequently, the groundwater extraction system operated by GTI was closed in late 1990 when corrosion and other mechanical problems caused the system to fail. Recovery of LNAPL continued manually on RW-1 until 1991, and a third groundwater sampling event occurred in February 1991. In 1994, the GTI recovery system was abandoned. Appendix A contains the historical analytical results. Figure 3 shows the locations of the monitoring wells and trenches.

No groundwater monitoring events had occurred at the site between 1991 and 2004, when PES was retained to evaluate and implement remediation of the residual contamination at the TC-1 (former location of seven UFSTs) Emery Bay Phase I Condo complex area. (Note: Harding Lawson Associates conducted soil and groundwater sampling on the Phase II Apartment complex area during this time, but not for the purpose of product extraction or remediation.) In 2004, PES installed an additional 10 groundwater monitoring wells (monitoring wells MW-1 and MW-2 were either abandoned or paved over with asphalt during construction), bringing the current total to 17 monitoring wells and 1 extraction well in the Phase I parking garage area. The first groundwater monitoring event for the current wells was conducted in March 2004, and the second event was conducted in December 2006.



LEGEND

-  Monitoring well
-  Monitoring well (presumed abandoned)
-  Trench location
-  Historical tank pit area
-  Landscaping

0 60
SCALE: 1/2" = 60 FEET



MONITORING WELL AND TRENCH LOCATIONS
6400 Christie Ave., Emeryville, CA

Figure 3

by: MJC

JANUARY 2008

A previous SES report (SES, 2007) fully discusses previous site remediation and investigations, site geology and hydrogeology, and residual site contamination. Tabular summaries of historical groundwater well water elevations and analytical results are included in Appendix A.

OBJECTIVES AND SCOPE OF WORK

This report discusses the following activities conducted/coordinated by SES in the current annual monitoring period:

- Collecting water levels in site wells to determine groundwater flow direction
- Sampling site wells for contaminant analysis
- Evaluating hydrochemical and groundwater elevation trends in the context of plume stability and case closure assessment
- LNAPL passive product extraction from Trenches A and C, and active product extraction on the groundwater monitoring wells, trench sump wells, and recovery well RW-1

REGULATORY OVERSIGHT

The original groundwater extraction system installed at the Emery Bay Phase I Condo parking garage removed contaminated groundwater, treated it through a two-phase carbon filtration unit, and then discharged the treated water to the municipal storm sewer system. The original regulatory agencies overseeing the site were the BAAQMD and EBMUD. Sampling of the monitoring wells for groundwater treatment system discharge was required per the EBMUD permit guideline (account #500-54011) and the BAAQMD air discharge guideline (No. 32325). However, after the treatment system failed in 1991, the permits were no longer required; thus, little to no regulatory oversight of the hydrocarbon plume occurred between 1991 and 2004.

Currently, the Alameda County Department of Environmental Health (ACEH) is the Local Oversight Program (LOP) agency providing oversight of Leaking Underground Storage Tank (LUST) sites in the city of Emeryville. SES met with the previous case officer Barney Chan (who was then transferred to another section of ACEH) to discuss remedial activities and steps toward site closure (Chan, 2007). Mr. Chan indicated that, while a more vigorous approach to monitoring and remediation was desired, he never had access to historical investigations at the site; no previous site documentation had been provided to ACEH or uploaded to the State Water Resources Control Board's (State Water Board's) GeoTracker website (as required since 2004). A subsequent letter from ACEH to the previous owner and consultant (PES) requested the uploading of historical documents and GeoTracker-compliant monitoring well survey data.

SES has since uploaded all historical documents to the ACEH ftp website and the State Water Board GeoTracker website. Historically, the site was included in the Garret Freight Lines Spills, Leaks, Investigations, and Cleanups (SLIC) site under the Regional Water Quality Control Board (Water Board) global ID SLT2O05561 and ACEH case number RO0002799. Therefore, all site documents were uploaded under these ID numbers. However, this site encompasses adjacent properties, such as the Bay Center Offices and a recently developed apartment complex south of 64th Street. In addition, the SLIC listing is based on metals contamination discovered in soils on the Bay Center site, and does not reflect the leaking UFST remediation currently underway at the Emery Bay Phase I Condos. There is also a GeoTracker LUST listing for the Emery Bay Marketplace at 64th and Christie; however, this listing is most likely associated with the Emeryville Market located south of 64th Avenue.

This SES report follows previous groundwater sampling events conducted by GTI in 1988, 1989, and 1991; two groundwater monitoring events conducted by PES in 2004 and 2006; and work by SES in 2007 and 2008.

SES met with the new ACEH case officer, Barbara Jakub, on November 20, 2008. During the meeting, several options for moving the site towards “no further action” were discussed. As a result, SES submitted a letter to ACEH on November 24, 2008 requesting that the sampling frequency and active product removal events be changed from quarterly to semi-annual. SES also noted our intent to complete a preferential pathway study and indoor air investigation during the 2009-2010 calendar year.

Electronic data format (EDF) files will be successfully uploaded to the GeoTracker database, in accordance with the State Water Board’s requirements for EDF submittals.

2.0 PHYSICAL SETTING

The following evaluation of the physical setting of the site—including topography, drainage, and geologic and hydrogeologic conditions—is based on previous (1986 through 2006) site investigations conducted by others, and site inspections and subsurface data collection by SES in 2007 and 2008.

TOPOGRAPHY AND DRAINAGE

The mean elevation of the property is about 13 feet above mean sea level, and the general topographic gradient in the vicinity of the property is to the southwest, although the regional gradient is to the west-southwest.

The nearest receiving water body is San Francisco Bay, located approximately 700 feet to the west of the subject property. East of the site lies the Oakland Hills, which rise to an elevation of approximately 1,000 feet and are situated 2.5 miles east of the subject property. The subject property is not listed within a 100- or 500-year flood zone.

Storm drains from the roof collect storm runoff for discharge onto the asphalt-paved parking lots. Storm sewers collect drainage from the parking lot, as well as from Christie, 64th, and 65th Streets, which discharges into San Francisco Bay. SES noted several storm drains, in the parking lot area and on the surrounding streets.

GEOLOGY

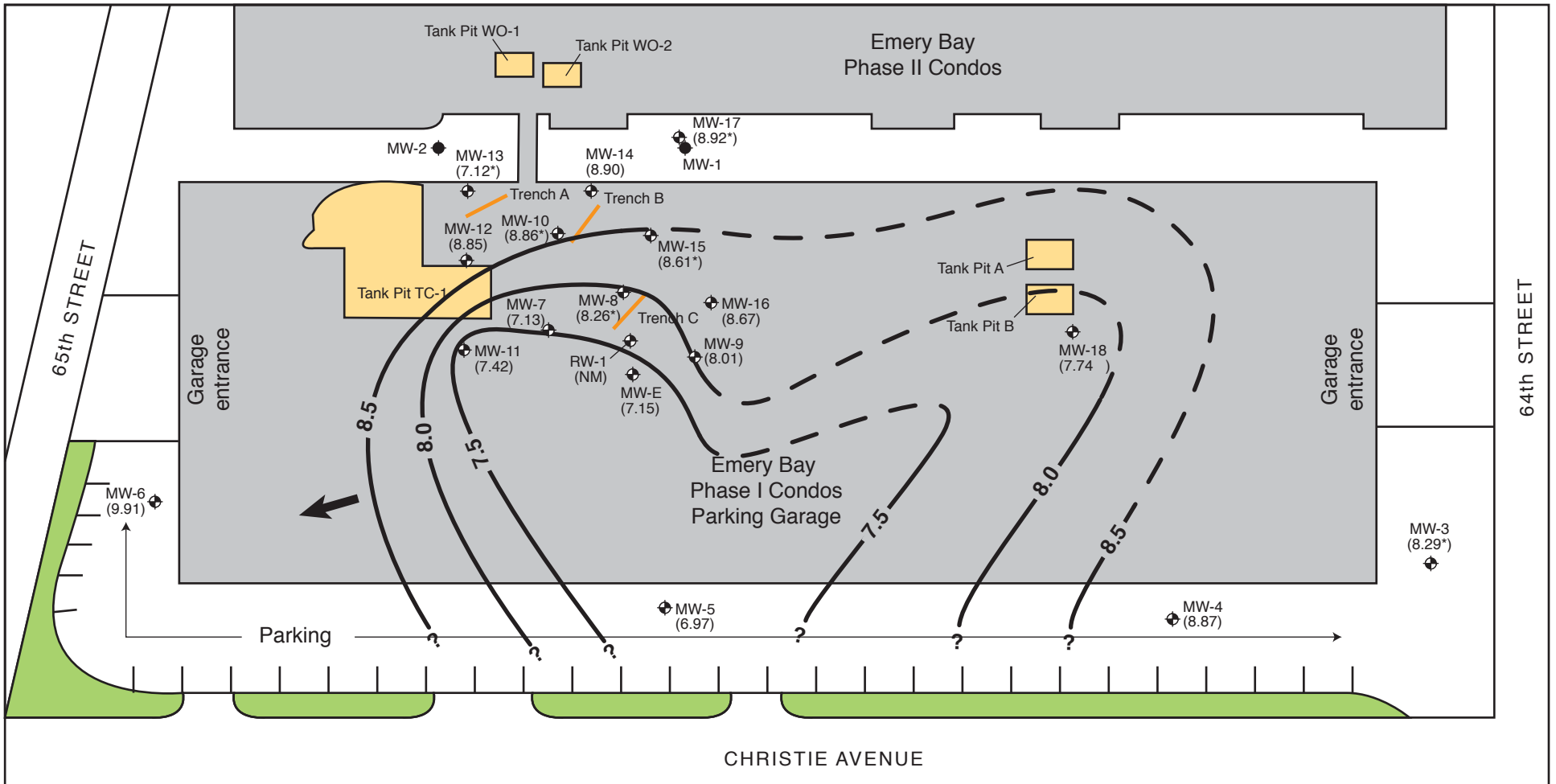
The subject property area is underlain with material mapped “Qhbm,” designated early pleistocene alluvium that is moderately consolidated, deeply weathered, poorly sorted, irregularly interbedded clay, silt, sand, and gravel. A geotechnical survey conducted in 1985 revealed that the upper 15 to 20 feet of soil consisted of a combination of fill and soft bay sediment. The upper 1 to 2½ feet of soil was generally pavement and imported fill. This is underlain by approximately 20 feet of firm soil consisting of primarily dense silty sand with intermittent layers of silty and sandy clay. Stiff to very stiff clay was encountered below a depth of approximately 40 feet and extended to the depth of the borings, approximately 101.5 feet (Geomatrix, 1988). The closest major fault, the Hayward Fault, is located about 3 miles east of the property. While the site is located in a seismically active area, it is not within an Alquist-Priolo Special Studies active fault zone, the legislatively defined

zone of restricted land use 200 feet around an active fault due to the high probability of ground rupture.

GROUNDWATER HYDROLOGY

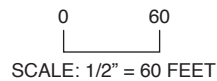
Regulatory agency records indicate that the direction of shallow groundwater flow in the site vicinity is to the west-northwest, toward San Francisco Bay. Water levels in this area are influenced by tidal patterns. According to current and historical water level data obtained from onsite monitoring wells, the depth to groundwater ranges from approximately 6 to 11 feet below ground surface (bgs). Groundwater elevations during this event ranged from 6.97 to 9.91 feet above mean sea level. For the 2008 year, the average groundwater gradient, and the gradient for the latest December 2008 monitoring event, was 0.001 foot/foot.

Figure 4 is a groundwater elevation map from the recent groundwater monitoring event (activities discussed in Section 4.0).



LEGEND

- ⊕ Monitoring well
- Monitoring well (presumed abandoned)
- Trench location
- Groundwater elevation contour in feet amsl
- Historical tank pit area
- Landscaping
- ← Inferred direction of groundwater flow
- Extrapolated groundwater elevation contour
- * Groundwater elevation not used in determining contour due to the presence of free product
- NM = Depth to groundwater could not be measured due to the presence of tar



GROUNDWATER ELEVATION MAP – December 29, 2008
6400 Christie Ave., Emeryville, CA

Figure 4

by: MJC

JANUARY 2009

3.0 DECEMBER 2008 GROUNDWATER MONITORING AND SAMPLING ACTIVITIES

This section presents the groundwater sampling and analytical methods for the most recent event. Table 1 summarizes monitoring well construction and groundwater monitoring data. Groundwater analytical results are summarized in Section 4.0.

SAMPLING METHODS AND ACTIVITIES

Activities for this event include:

- Measuring static water levels in all 18 wells
- Collecting post-purge groundwater samples from the 18 wells for laboratory analysis of the following contaminants:
 - benzene, toluene, ethyl benzene, and xylenes (BTEX)
 - methyl tertiary-butyl ether (MTBE)
 - total petroleum hydrocarbons as gasoline (TPHg)
 - total petroleum hydrocarbons as diesel (TPHd)

The site monitoring well sampling locations are shown on Figure 3. Well construction information and water level data are summarized in Table 1. Appendix B contains the groundwater monitoring field records.

CURRENT MONITORING EVENT

Groundwater monitoring well water level measurements, purging, sampling, and field analyses were conducted on December 29 and 30, 2008 by Blaine Tech Services under the supervision of SES personnel. Groundwater sampling was conducted in accordance with State of California guidelines for sampling dissolved analytes in groundwater associated with leaking UFSTs. As the first task of the monitoring event, static water levels and free product levels were measured in the 18 wells using an electric water level indicator. The depth of free product was recorded, and the water level was adjusted to reflect the groundwater elevation.

Table 1
Groundwater Monitoring Well Construction and Groundwater Elevation Data
6400 Christie Avenue, Emeryville, California

Well	Well Depth (feet bgs)	Screened Interval	Top of Well Casing Elevation ^(a)	Depth to Free Product (TOC)	Thickness of Free Product (feet)	Groundwater Elevation (December 29, 2008)
MW-3	25	5 to 20	16.65	7.49	0.87	8.29
MW-4	25	5 to 20	16.29	NA	NA	8.87
MW-5	25	5 to 20	16.72	NA	NA	6.97
MW-6	25	5 to 20	16.82	NA	NA	9.91
MW-7	20	5 to 20	17.73	NA	NA	7.13
MW-8	16	5 to 16	17.84	8.89	0.69	8.26
MW-9	20	5 to 20	17.84	NA	NA	8.01
MW-10	20	5 to 20	17.83	8.74	0.23	8.86
MW-11	20	5 to 20	17.76	NA	NA	7.42
MW-12	20	5 to 20	17.83	NA	NA	8.85
MW-13	20	5 to 20	17.66	9.65	0.89	7.12
MW-14	20	5 to 20	17.60	NA	NA	8.90
MW-15	20	5 to 20	17.80	8.36	0.83	8.61
MW-16	20	5 to 20	17.74	NA	NA	8.29
MW-17	20	5 to 20	18.17	9.11	0.14	8.92
MW-18	20	5 to 20	16.35	NA	NA	7.74
MW-E	47	7 to 40	17.47	NA	NA	7.15
RW-1	30	unknown	16.70	NM	NM	NM
TA-E	11-13	6-8 to 11-13	17.20	NM	NM	NM
TA-M	11-13	6-8 to 11-13	17.21	NM	NM	NM
TA-W	11-13	6-8 to 11-13	17.28	NM	NM	NM
TB-E	11-13	6-8 to 11-13	17.24	NM	NM	NM
TB-M	11-13	6-8 to 11-13	17.30	NM	NM	NM
TB-W	11-13	6-8 to 11-13	17.33	NM	NM	NM
TC-E	11-13	6-8 to 11-13	17.07	NM	NM	NM
TC-M	11-13	6-8 to 11-13	17.37	NM	NM	NM
TC-W	11-13	6-8 to 11-13	17.32	NM	NM	NM

Notes:

- (a) Relative to mean sea level.
- (b) Depth to groundwater could not be determined because free product density would not allow a clear delineation. Elevation is based on depth to free product.
- (c) The quantity of free product may be an overestimation due to the presence of tar.

bgs = below ground surface

TOC = below top of casing

NA = not applicable (no free product in well)

NM = depth to groundwater and/or free product could not be determined due to the presence of tar

MW-3 through MW-6 and MW-E are 2-inch PVC. MW-7 through MW-18 are ¾-inch PVC. RW-1 is 10-inch PVC.

Approximately 49 gallons of purge water and equipment decontamination rinse water from the current groundwater sampling event was containerized onsite in a labeled 55-gallon drum. All groundwater purged during active and passive product removals was containerized in a 1,100-gallon onsite aboveground storage tank (AST) and will be disposed of along with the purge water when these containers reach capacity.

4.0 REGULATORY CONSIDERATIONS, ANALYTICAL RESULTS AND DISCUSSION OF FINDINGS

This section presents analytical results of the most recent monitoring event, preceded by a summary of relevant regulatory considerations. Appendix C contains the certified analytical laboratory report and chain-of-custody record.

REGULATORY CONSIDERATIONS

As specified in the East Bay Plain Groundwater beneficial Use Evaluation Report by the San Francisco Bay Region Water Quality Board (Water Board, 1999), all groundwater is considered a potential source of drinking water unless otherwise indicated by the Water Board, and is assumed to ultimately discharge to a surface water body and potentially impact aquatic organisms. The subject property is listed as occurring within Zone B, designated as groundwater that is unlikely to be used as drinking water resource. The basin is shallow in this area, with depths of less than 300 feet. Groundwater in this area is used for backyard irrigation, industrial supply, and commercial irrigation. There is a low likelihood that this water will be used as a public water supply in the near future.

The Water Board publishes ESLs for residential and commercial/industrial properties where groundwater is/is not a potential drinking water resource. As stipulated in the ESL document (Water Board, 2008), ESLs are not cleanup criteria; rather, they are conservative screening-level criteria designed to be protective of both drinking water resources and aquatic environments in general. The groundwater ESLs are composed of one or more components—including ceiling value, human toxicity, indoor air impacts, and aquatic life protection. Exceedance of ESLs suggests that additional remediation and/or investigation may be warranted, such as monitoring plume stability to demonstrate no risk to sensitive receptors in the case of sites where drinking water is not threatened.

Because the subject property is a residential property where groundwater is not a potential drinking water resource (as stipulated above), the contaminant levels at the site will be compared to the ESLs for these criteria.

Contaminants detected above the ESLs during this sampling event include gasoline, diesel, benzene, toluene, ethylbenzene, and total xylenes. In general, concentrations of gasoline have decreased in the majority of the wells from the last sampling event; however, concentrations of diesel have remained the same overall, with concentrations increasing in some wells and decreasing in others.

GROUNDWATER SAMPLE RESULTS

Table 2 and Figure 5 summarize the contaminant analytical results of the current monitoring event samples.

Hydrocarbon Contaminants

Hydrocarbon concentrations in numerous wells have reported concentrations significantly in excess of the Water Board Environmental Screening Level (ESL) in this fourth consecutive quarterly sampling event.

Gasoline was detected in MW-3, MW-7, MW-8, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-17, MW-E, and RW-1 above the ESL where groundwater is not a drinking water resource (210 micrograms per liter [$\mu\text{g/L}$]). Gasoline was also detected in MW-9 and MW-16, but at concentrations below the ESL. The highest concentration (2,700,000 $\mu\text{g/L}$) was observed in MW-13. This is a new historic maximum concentration for this well. Overall, gasoline concentrations remained relatively the same as the last quarter, with the source area wells exhibiting increases and downgradient wells remaining the same or decreasing. The same is true with the Q4 2008 concentrations as compared to the Q4 2007 concentrations; the source-area well concentrations demonstrated an increase while downgradient and crossgradient well concentrations remained the same or decreased.

Figure 6 shows an isoconcentration contour map of TPHg concentrations in groundwater based on the December 2008 monitoring well analytical results. As stated above, increases as compared to the Q3 2008 monitoring event were observed in source area wells MW-7, MW-10, MW-12, MW-13, MW-15, MW-17, and RW-1; decreases were observed in downgradient and cross-gradient wells MW-3, MW-8, MW-9, MW-11, MW-14, MW-16, and MW-E; and concentrations in perimeter wells MW-4, MW-5, MW-6, and MW-18 remained the same. The same is true when comparing the concentrations to the December 2007 sampling event, with source area wells MW-7, MW-9, MW-12, MW-13, MW-15, MW-E, and RW-1 exhibiting increases; downgradient and cross-gradient wells MW-3, MW-5, MW-8, MW-10, MW-11, MW-14, MW-16, and MW-17 showing decreases; and perimeter wells MW-4, MW-6, and MW-18 remaining the same.

Table 2
Groundwater Sample Analytical Results – December 29 and 30, 2008
6400 Christie Avenue, Emeryville, California

Well ID	Analytical Results						
	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
MW-3	240	2,300	<0.5	<0.5	1.1	<0.5	<2.0
MW-4	<50	730	<0.5	<0.5	<0.5	<0.5	<2.0
MW-5	<50	5,200	0.61	<0.5	<0.5	<0.5	<2.0
MW-6	<50	1,400	1.0	<0.5	<0.5	<0.5	<2.0
MW-7	2,200	8,700	640	100	43	185	<4.0
MW-8	19,000	7,600	6,800	110	380	236	<50
MW-9	95	7,800	4.0	0.54	<0.5	<0.5	<2.0
MW-10	2,900	3,200	550	45	15	56	<20
MW-11	2,100	7,800	270	14	7.6	15.6	<2.0
MW-12	19,000	3,600	7,900	140	72	124	<50
MW-13	2,700,000	1,100,000	23,000	<250	40,000	45,000	<1,000
MW-14	2,300	2,800	830	27	45	30.7	<10
MW-15	20,000	3,000	7,600	95	300	84.2	<50
MW-16	60	8,800	11	2.8	<0.5	0.53	<2.0
MW-17	7,100	3,200	1,100	530	190	390	<10
MW-18	<50	9,300	<0.5	<0.5	<0.5	<0.5	<2.0
MW-E	9,100	9,400	3,400	110	180	182	<50
RW-1	1,100,000	54,000	500	<250	3,200	530	<1,000
ESLs ^(a)	100 / 210	100 / 210	1.0 / 46	40 / 130	30 / 43	20 / 100	5.0 / 1,800

Notes:

^(a) Water Board Environmental Screening Levels for residential sites where groundwater is/is not a drinking water resource (Water Board, 2008).

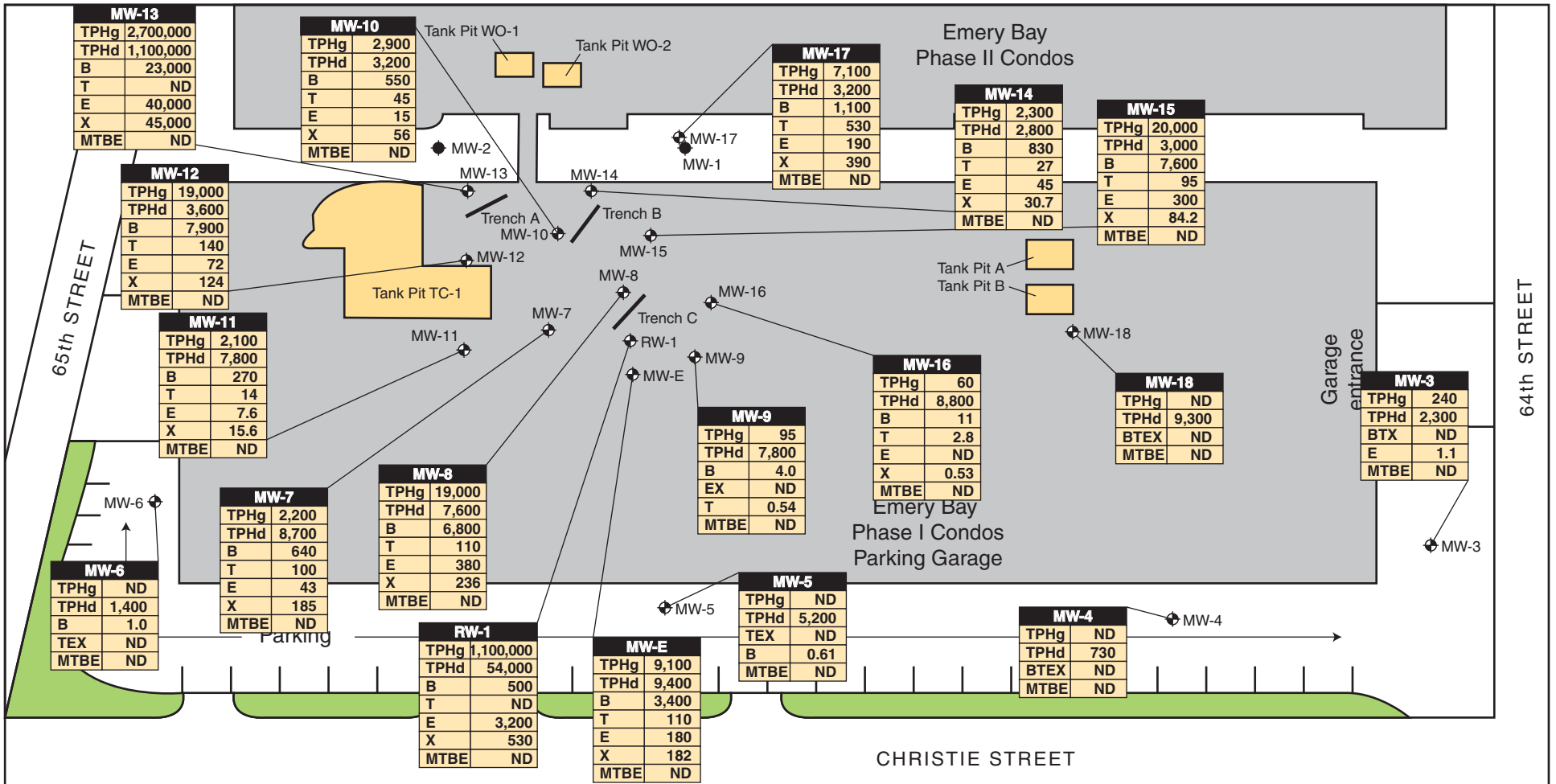
MTBE = methyl tertiary-butyl ether

TPHd = total petroleum hydrocarbons – diesel range (equivalent to total extractable hydrocarbons – diesel range)

TPHg = total petroleum hydrocarbons – gasoline range (equivalent to total volatile hydrocarbons – gasoline range)

All concentrations are expressed in micrograms per liter (µg/L), equivalent to parts per billion (ppb).

Results listed in **bold-face type** are at or above the ESLs where groundwater is not a drinking water resource.



LEGEND

- ◆ Monitoring well
 - ◆ Monitoring well (presumed abandoned)
 - Trench location
 - Historical tank pit area
 - Landscaping
- TPHg = Total petroleum hydrocarbons as gasoline
 TPHd = Total petroleum hydrocarbons as diesel
 B = Benzene
 T = Toluene
 E = Ethylbenzene
 X = Total xylenes
 ND = Below the laboratory detection limit
 MTBE = Methyl Tertiary Butyl Ether
- All concentrations in micrograms per liter (µg/L)



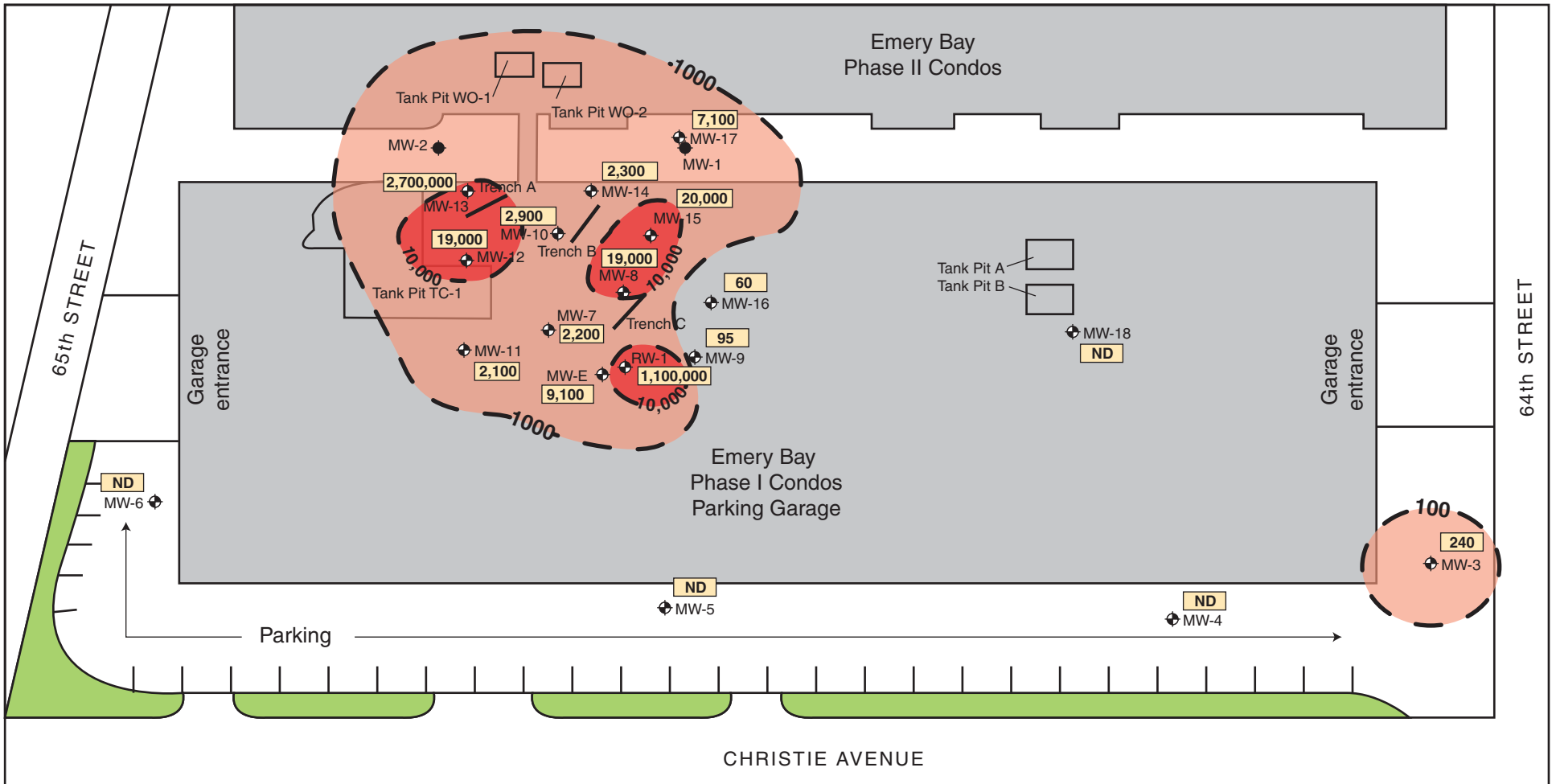
GROUNDWATER MONITORING WELL ANALYTICAL RESULTS

6400 Christie Ave., Emeryville, CA

Figure 5

by: MJC

JANUARY 2009



LEGEND

- ⊕ Monitoring well
- Monitoring well (presumed abandoned)
- Trench location
- 84 Total petroleum hydrocarbons as gasoline concentration in micrograms per liter (µg/L)
- Historical tank pit area
- ▭ Landscaping
- 100- Gasoline isoconcentration contour

0 60
SCALE: 1/2" = 60 FEET



TOTAL PETROLEUM HYDROCARBON PLUME AS GASOLINE
6400 Christie Ave., Emeryville, CA

Figure 6

by: MJC

JANUARY 2009

Diesel was detected in all site wells above the ESL of 210 µg/L (where groundwater is not a drinking water resource). The highest concentration (1,100,000 µg/L) was observed in MW-13. This concentration is the same as the historic high observed during the March 2008 event. Overall, diesel concentrations increased as compared to both the Q3 2008 (11 of 18 wells) and Q4 2007 (12 of 18 wells) sampling events. Decreases in diesel concentrations as compared to the Q3 2008 event were observed in MW-7, MW-8, MW-9, MW-10, MW-15, and MW-17. Decreases in diesel concentrations as compared to the Q4 2007 event were observed in MW-3, MW-9, MW-10, MW-15, MW-16, and MW-18.

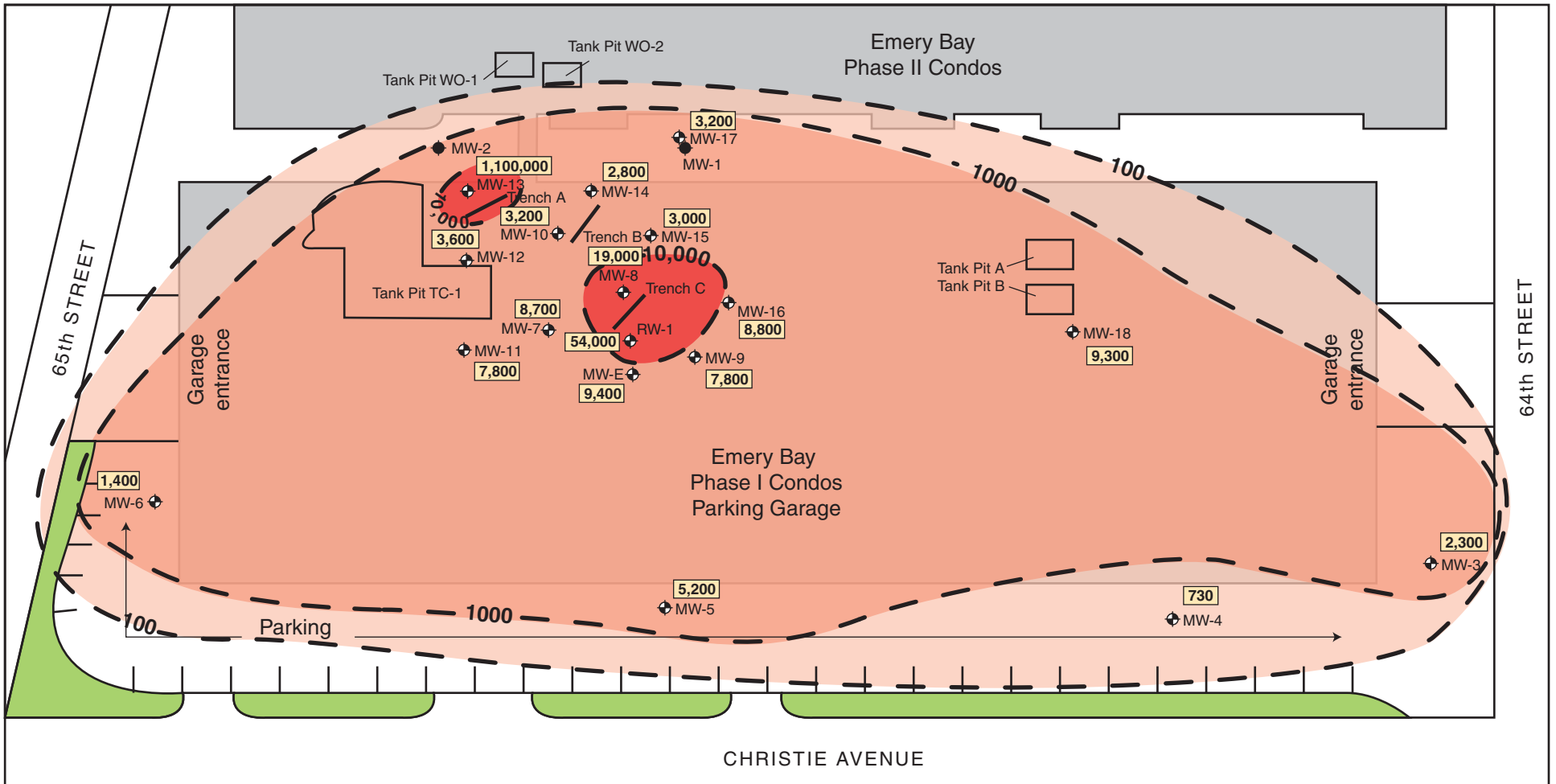
Figure 7 is an isoconcentration contour map of TPHd concentrations in groundwater based on the December 2008 monitoring well analytical results. Figure 8 plots the change in diesel concentrations in the two downgradient wells (MW-5 and MW-6) from February 1991 (the terminus of the pump-and-treat system) to the December 2008 sampling event. Figure 9 plots the change in diesel concentrations in source area wells MW-11 and MW-12 from their first sampling event in December 2006 to the December 2008 sampling event. Figure 10 plots the change in crossgradient wells MW-18 and MW-3 from December 2006 to date.

In MW-7, MW-8, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-17, MW-E, and RW-1, concentrations of benzene exceeded the ESL of 46 µg/L where groundwater is not a drinking water resource. Benzene was also found in MW-5, MW-6, MW-9, and MW-16, but at concentrations below the ESL.

Toluene was detected above the ESL of 130 µg/L in monitoring wells in MW-12 and MW-17. Ethylbenzene was detected above the 43-µg/L ESL (where groundwater is not a drinking water resource) in monitoring wells MW-7, MW-8, MW-12, MW-13, MW-14, MW-15, MW-17, MW-E, and RW-1. Total xylene concentrations in monitoring wells MW-7, MW-8, MW-12, MW-13, MW-17, MW-E, and RW-1 were above the 100-µg/L ESL where groundwater is not a drinking water resource. MTBE was not detected above the laboratory detection limit in any of the monitoring wells.

Quality Control Sample Analytical Results

Laboratory quality control (QC) samples (e.g., method blanks, matrix spikes, surrogate spikes, etc.) were analyzed by the laboratory in accordance with the requirements of each analytical method. All laboratory QC sample results and sample holding times were within the acceptance limits of the methods (Appendix C).



LEGEND

- ⊕ Monitoring well
 - Monitoring well (presumed abandoned)
 - Trench location
 - 1,100 Total petroleum hydrocarbons as diesel concentration in micrograms per liter (µg/L)
 - Historical tank pit area
 - ▭ Landscaping
 - 100- Diesel isoconcentration contour
- 0 60
SCALE: 1/2" = 60 FEET



TOTAL PETROLEUM HYDROCARBON PLUME AS DIESEL
6400 Christie Ave., Emeryville, CA

Figure 7

by: MJC

JANUARY 2009

Figure 8
Historical Groundwater Analytical Results
Total Petroleum Hydrocarbons as Diesel (TPHd)
Downgradient Wells MW-5 and MW-6
February 1991 - December 2008

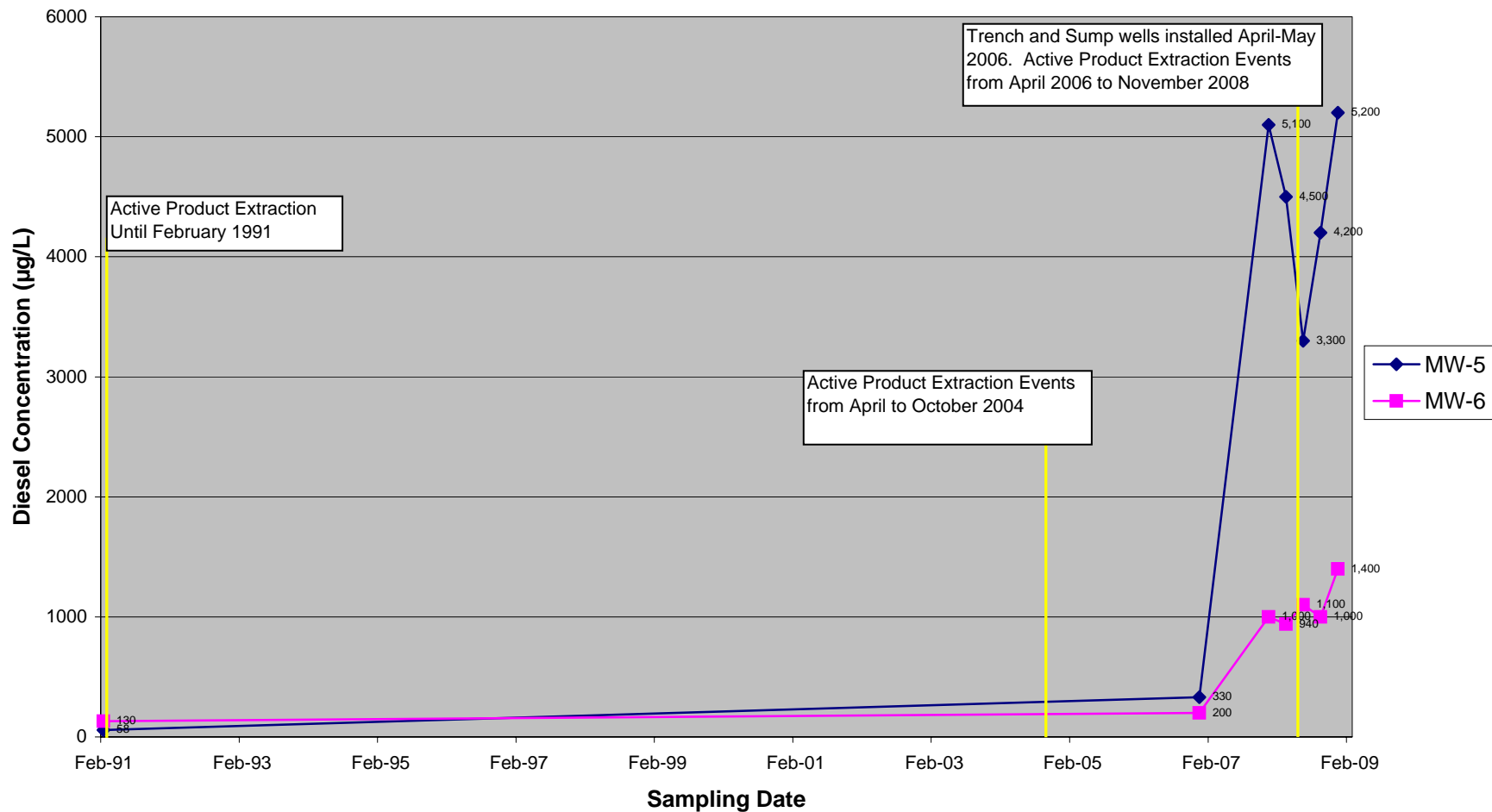


Figure 9
Historical Groundwater Analytical Results
Total Petroleum Hydrocarbons as Diesel (TPHd)
Source Wells MW-11 and MW-12
December 2006 - December 2008

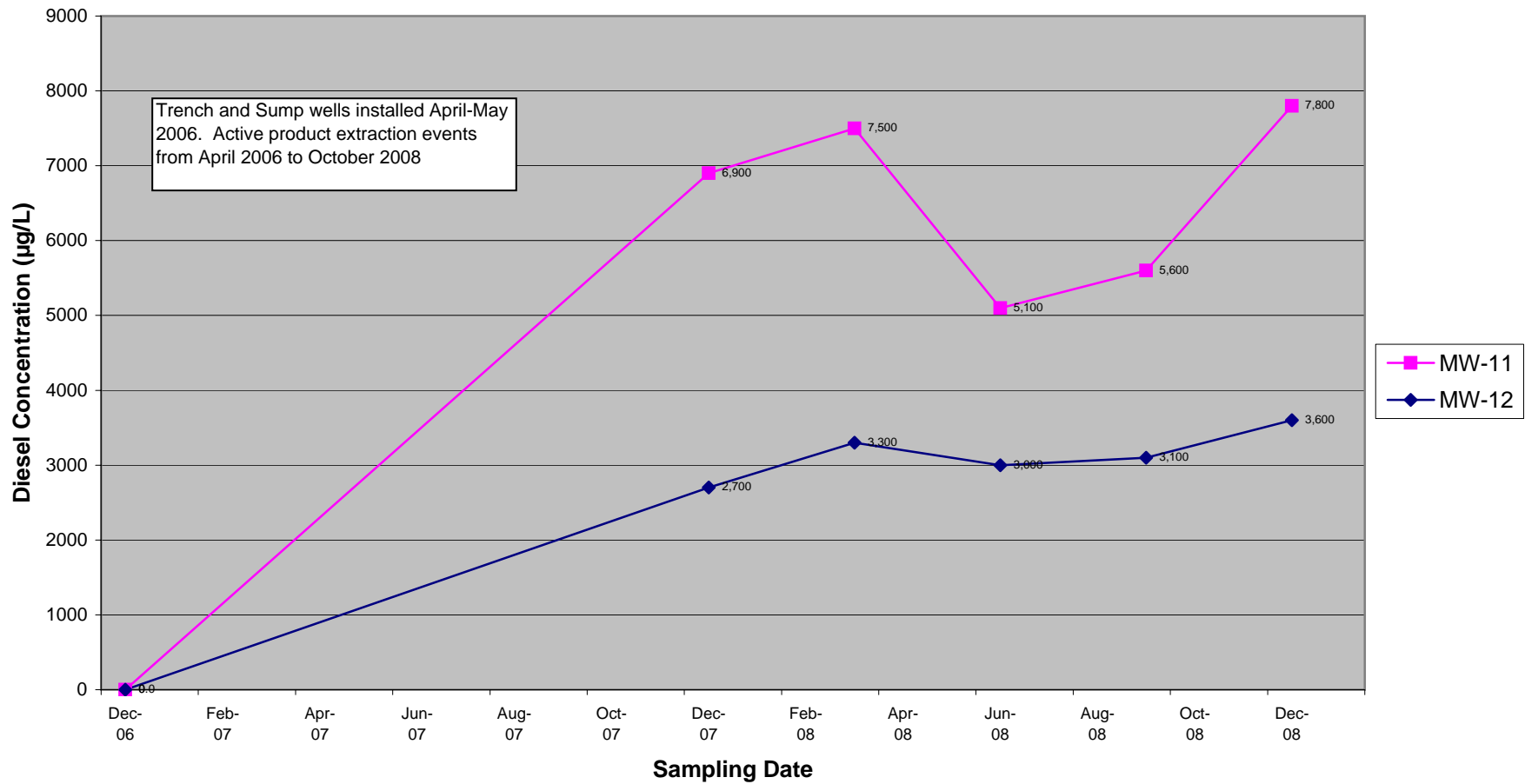
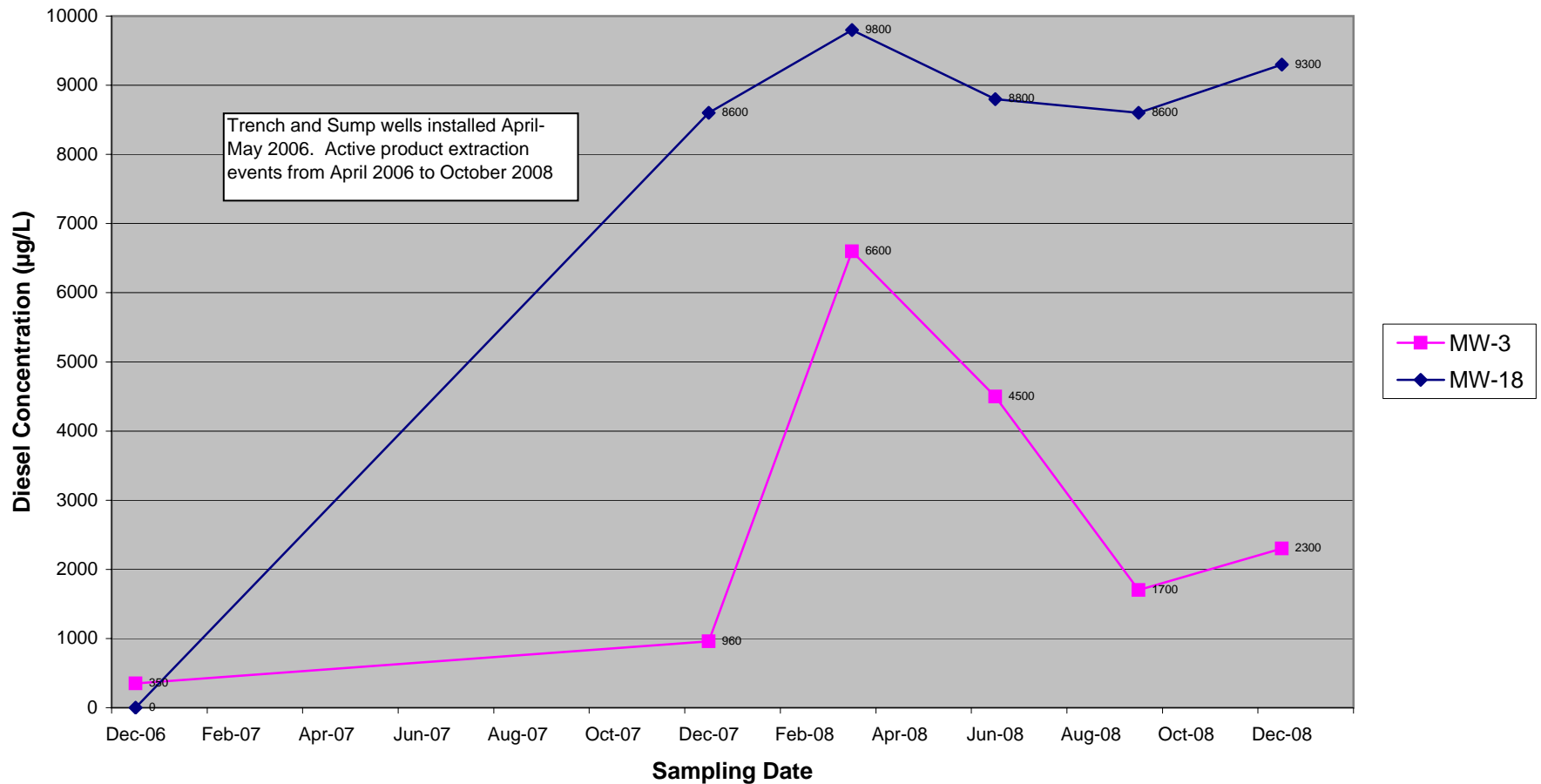


Figure 10
Historical Groundwater Analytical Results
Total Petroleum Hydrocarbons as Diesel (TPHd)
Crossgradient Well MW-3 and MW-18
December 2006 - December 2008



5.0 FREE-PHASE HYDROCARBON PRODUCT REMEDIATION SYSTEM

This section describes the extraction of the historical free product in the Emery Bay Phase I Condo parking garage, the construction details of the current LNAPL remediation system located on the northeastern portion of the garage, and the most recent product removal activities conducted in November and December 2008. Table 3 summarizes the product removed from the skimmers during these events. Appendix E summarizes historical product removal. Figure 11 compares the amount of total product removed on a yearly basis from 2004 to the present.

LNAPL REMEDIATION SYSTEM CONSTRUCTION

In an attempt to maximize free product removal, PES constructed three trenches, each containing three sump wells, in the northeastern area of the Emery Bay Phase I Condo parking garage. Historically, this area has had the highest concentrations of contamination and accumulation of free product. The trenches (TA, TB, and TC) extend to depths of approximately 12.5 to 13 feet bgs, while the collection sumps (TA-W, TA-M, TA-E, TB-W, TB-M, TB-E, TC-W, TC-M, and TC-E) extend to approximately 11 to 13 feet bgs. The sumps were constructed using 10-inch-diameter schedule 40 polyvinyl chloride (PVC) casing. Blank casing was used from approximately 0.5 feet bgs to between 6 and 8 feet bgs. Slotted 0.06-inch PVC was used from between 6 and 8 feet bgs to 6 inches from the total depth of the trench. The trenches were then backfilled with high-porosity, high-permeability gravel designed to promote LNAPL migration (PES, 2007). Passive skimmers, manufactured by QED Environmental Systems (of Oakland, California) were then placed in each of the sumps in Trench A and in one of the sumps (TC-E) in Trench C.

The skimmers operate by floating on the surface of the water. Water and free product collect in a filtration reservoir, which allows water to pass through. A tube connected to the reservoir then filters the collected free product into a collection reservoir located below the water surface. The reservoir can be emptied by opening a valve located on the bottom of the cylindrical shaped reservoir. Each of these skimmers is attached to the sump lid by a rope, and can be removed and transferred to another sump as needed.

Table 3
Trench Product Extraction
November and December 2008

Trench ID	Number of Skimmers in Well	Total Product Removed (gallons)		
		November 7	December 29	Total
TA-E	2	0.1	0.0003	0.1003
TA-M	2	0.03	0.08	0.11
TA-W	2	NA	NA	NA
TB-E	0	NM	NM	NM
TB-M	0	NM	NM	NM
TB-W	0	NM	NM	NM
TC-E	1	NM	0.03	0.03
TC-M	0	NM	NM	NM
TC-W	0	NM	NM	NM
Total Product Removed		0.13	0.1103	0.2403

Note:

NM = No skimmer was located in the well, or no product was present, not measured.

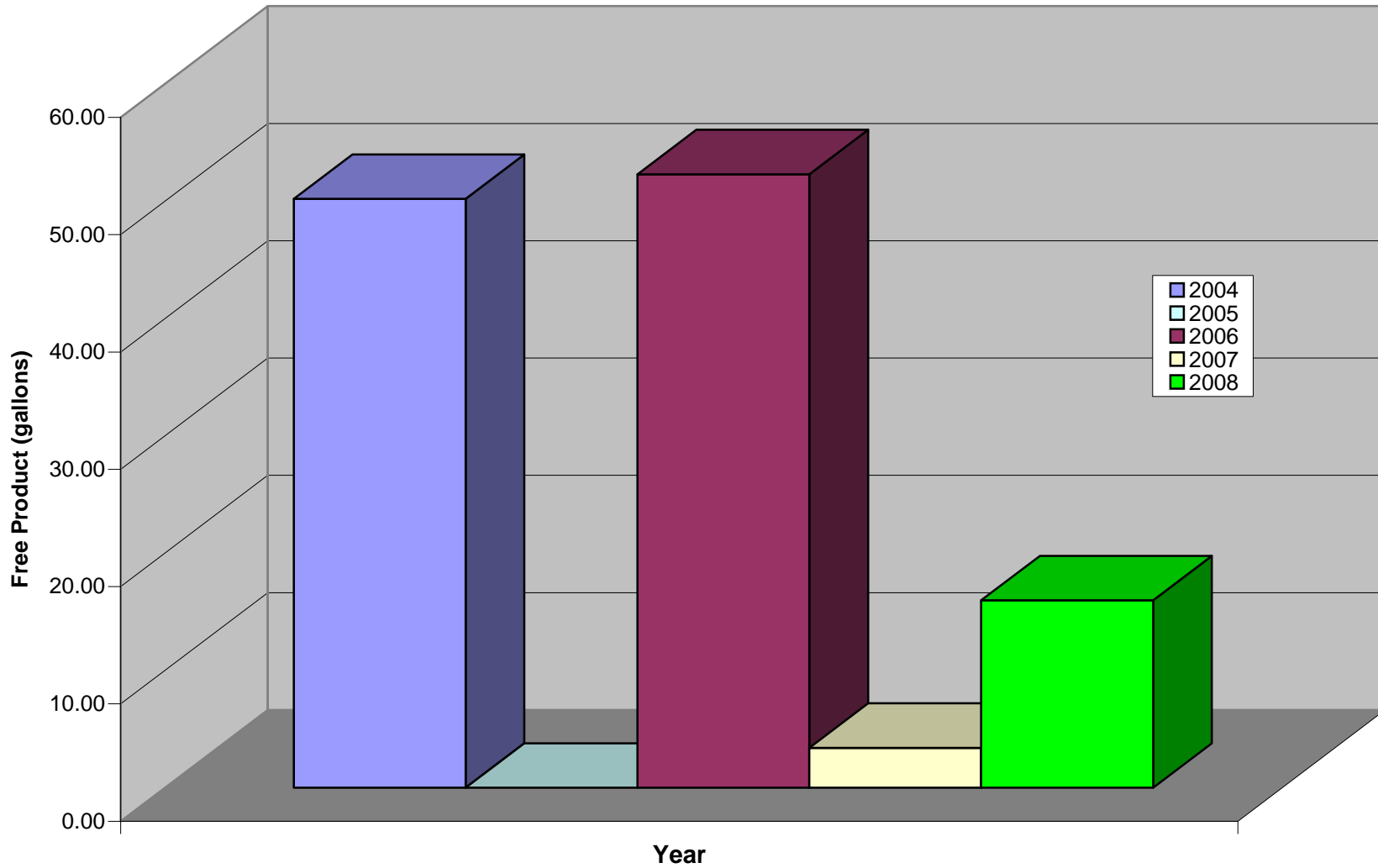
NA = Car parked over well, no access.

HISTORICAL FREE PRODUCT EXTRACTION

As mentioned under the “Previous Investigations” subsection in Section 1.0, in approximately 1986, contaminated soil and groundwater were discovered during the removal of 12 UFSTs from the Emery Bay Phase I and Phase II parcels. To dewater the excavation during the Phase I and Phase II Condo construction, a groundwater extraction and remediation system was installed by GTI in 1988. Approximately 1 million gallons of water yielding 100 gallons of hydrocarbon product was removed from RW-1 during its operation (PES, 2007). However, corrosion and other mechanical problems caused the system to fail in 1991, and it was decommissioned in 1994. In February 2008, SES removed all of the old parts of the system from the well vault.

In 2004, PES began manual extraction on RW-1, and was reported to have removed approximately 48 gallons of LNAPL (PES, 2004a)—although it is unclear whether the removed material was pure product or product mixed with water. To accelerate free product removal, PES constructed a new LNAPL hydrocarbon remediation system (described below) between April and May 2004 (PES, 2007). Several extraction events were conducted by PES from May 2004 through March 2007; the extraction events yielded a total of approximately 51 gallons of LNAPL. No extraction events were conducted by PES in 2005; approximately 50 gallons of hydrocarbons was removed in 2006; and

Figure 11
Total Free Product Extracted Per Year
6400 Christie Avenue, Emeryville, CA



approximately 0.6 gallon of hydrocarbons was removed by PES between January and November 2007. In November and December 2007, after SES was retained for the project, the skimmer system only yielded 2.82 gallons. Figure 11 graphs the comparison of free product extraction on a yearly basis.

It should be noted that no historical product extraction reports were provided to SES by the previous owner or by PES. Therefore, there is little to no information on how active product extraction occurred during 2004 and 2006. The amount of free product removed during 2004 and 2006 appears to have been high, as only 100 gallons of free product was obtained from actively pumping over 1 million gallons of water continuously between 1989 and 1991.

NOVEMBER 2008 PRODUCT REMOVAL EVENT

Historical yield from the trench recovery system has been unproductive, with the 1-liter passive skimmer collection reservoirs not filling up completely, or filling up with water rather than product. The highest hydrocarbon product yield has occurred from active pumping on recovery well RW-1 or at various other wells. SES conducted passive skimmer product removal on the trench wells in November and December 2008, and active pumping on the trench wells, recovery well RW-1, and select monitoring wells during the November 2008 removal event. A total of approximately 250 gallons of groundwater and 1.30 gallons of free product, were removed during the November 2008 active product removal event, as well as 0.13 gallon removed passively from the skimmers. A sample taken from the AST on December 31, 2008 contained concentrations of TVHg at 5,100 µg/L and TEHd at 53,000 µg/L. Based on the total amount of groundwater removed, 250 gallons, SES calculated approximately 0.01 pounds of gasoline and 0.11 pounds of diesel were removed with the purged groundwater.

An additional 0.1103 gallon was removed passively from the skimmers in December 2008. Table 3 shows the allocation of free product removed from the collection skimmers in Trenches A and C. Table 4 shows the total amount of product actively removed by pumping based on the total amount of groundwater/product removed for the November 2008 extraction event. The removal activities occurred as follows:

- On November 7, 2008, SES removed a total of 0.13 gallons of LNAPL from the skimmers in TA-E and TA-M (TA-W was blocked by a car). Approximately 15 gallons were removed from TC-M and TC-W. Approximately 20 gallons were removed from TC-E. Approximately 100 gallons were removed from RW-1. Twelve gallons total were removed after purging MW-3 three times. Ten gallons were removed from MW-17, 1.5 gallons from MW-13, 10 gallons from MW-12, 15 gallons from MW-8, and 0.5 gallons from MW-16. SES removed 10 gallons from each of the Trench B wells; TB-W, TB-M, and TB-E.

- On December 29, 2008, Blaine Tech, under the supervision of SES personnel, removed 0.1003 gallon from TA-E, 0.08 gallon from TA-M, and 0.03 gallon from TC-E. TC-E was blocked by a car during this event as well. Two skimmers were located both in TA-E and TA-M. Of those two skimmers, only one contained liquid and more than half of that liquid was water. The one skimmer located in TA-M was also over half filled with water. Visible product was still present in the wells.
- All of the purge water and free product extracted during these events was containerized onsite in the aboveground 1,100-gallon AST located in the northeastern gated area of the garage. When the AST reaches capacity, SES will have the liquid transported off-site to a recycling facility.

Table 4
Active Product Extraction
November 2008

Well	Total Gallons of Product Removed During November 2008 Event	Well	Total Gallons of Product Removed During November 2008 Event
MW-3	0.078	MW-17	0.06
MW-5	NP	MW-18	NP
MW-6	NP	MW-E	NP
MW-7	NP	RW-1	0.6
MW-8	0.009	TA-E	NP
MW-9	NP	TA-M	NP
MW-10	NP	TA-W	NP
MW-11	NP	TB-E	0.06
MW-12	0.06	TB-M	0.06
MW-13	0.009	TB-W	0.06
MW-14	NP	TC-E	0.12
MW-15	NP	TC-M	0.09
MW-16	0.003	TC-W	0.09
Total			1.3

Notes:

NP = not purged

Product removal estimates are based on the total amount of free product measured in the purge tank (1.30 gallons) rather than on the total amount of groundwater purged (250 gallons), which yields 0.006 gallon of product per 1 gallon of purge water.

DISCUSSION

As mentioned under the “Historical Free Product Extraction” subsection of this chapter, no product extraction was conducted by PES in 2005. “Product” removal in 2006 was reported at a significant 52 gallons by PES; however, it was not achieved through collection from the trench hydrocarbon skimmers, but rather through active pumping; in addition, the “product” referred to by PES appears to actually have been a mixture of petroleum product and water. The PES report provides no documentation (e.g., manifests) of the removal of actual recovered petroleum product. The recovery by PES from the start of 2007 through October 2007 (when SES assumed environmental consulting activities) was limited to 0.6 gallon collected from the skimmers. In addition, there had been no removal of free product from well RW-1 since 2004, at which time approximately 50 gallons of free-floating product was apparently removed by active pumping. The majority of this petroleum product apparently was removed by active pumping and removal activities rather than from the trench well skimmers. Much of this may also have been a mixture of water and hydrocarbons. Thus, we

conclude that the trench recovery system on its own has never been particularly effective. In 2007, passive extraction of free product through trench well skimmers removed only 3.41 gallons. SES removed approximately 5.65 gallons of free product from these passive skimmers during the 2008 removal events. Approximately 10.34 gallons were removed by active pumping on wells during 2008.

As demonstrated by the analytical data, active pumping on certain wells has generally reduced gasoline concentrations; however, wells not included in the pumping schedule showed a lower or no decrease. Diesel concentrations seem to be less affected by active pumping, even in wells that were included in the pumping schedule, such as RW-1. More active remediation will likely be required on this site to reduce the concentrations to levels acceptable to the regulatory community and to achieve eventual regulatory closure. However, with the exception of the current program of LNAPL removal from the skimmers and wells, no additional active remedies are proposed until a more cost effective and productive method of removal is found.

6.0 SUMMARY, CONCLUSIONS, AND PROPOSED ACTIONS

FINDINGS AND CONCLUSIONS

- The subject property parcel was developed as early as 1958 with the Motor Freight Station, associated with Delta Lines, Inc. The Delta Lines complex contained an “Oil and Gas” building, located at the site of the present-day Emery Bay Phase I Condo complex and parking garage. In 1986, the building was demolished, and 12 UFSTs containing diesel and gasoline were removed from the Emery Bay Phase I and Phase II Condo complex parcels. Soil and groundwater contamination was discovered.
- In response to the contamination, a LNAPL groundwater pump-and-treat system was installed in 1989, but failed in 1991. Active pumping of free product began again in 2004, and a product extraction system consisting of passive product removal was installed in 2006. Groundwater monitoring events have been sporadically conducted since 1988; quarterly groundwater monitoring events were conducted for the first time in 2008.
- The site currently contains 17 monitoring wells, 1 recovery well, and 9 product extraction trench wells. This is the ninth sampling event conducted since 1988.
- Site geological conditions consist of a combination of fill and soft bay sediment to between 15 and 20 feet bgs, covered by approximately 1 to 2½ feet of pavement and imported fill. This is underlain by approximately 20 feet of firm soil consisting of primarily dense silty sand with intermittent layers of silty and sandy clay. Stiff to very stiff clay extends from a depth of approximately 40 feet to approximately 102 feet.
- The groundwater direction during this monitoring event was found to be to the west-northwest, toward San Francisco Bay.
- Groundwater elevations in the December 2008 monitoring event ranged from 6.97 to 9.91 feet above mean sea level, and the groundwater gradient is approximately 0.001 foot per foot.
- Current contaminants of concern include TPHg, TPHd, and BTEX. Current groundwater concentrations exceeded the ESLs for these contaminants in groundwater. No MTBE was detected above the laboratory detection limit in any of the monitoring wells during this event.

- Gasoline was detected in MW-3, MW-7, MW-8, MW-10, MW-11, MW-12, MW-13, MW 14, MW 15, MW-17, MW-E, and RW-1 above the ESL where groundwater is not a drinking water resource (210 micrograms per liter [$\mu\text{g/L}$]). Gasoline was also detected in MW-9 and MW-16, but at concentrations below the ESL. The highest concentration (2,700,000 $\mu\text{g/L}$) was observed in MW-13. This is a new historic maximum concentration for this well.
- Overall, gasoline concentrations remained relatively the same as the last quarter, with the source area wells exhibiting increases and downgradient and crossgradient wells remaining the same or decreasing. The same is true with the Q4 2008 concentrations as compared to the Q4 2007 concentrations; the source-area well concentrations demonstrated an increase while downgradient and crossgradient well concentrations remained the same or decreased.
- Diesel was detected in all site wells above the ESL of 210 $\mu\text{g/L}$ (where groundwater is not a drinking water resource). The highest concentration (1,100,000 $\mu\text{g/L}$) was observed in MW 13. This concentration is the same as the historic high observed during the March 2008 event.
- Overall, diesel concentrations increased as compared to both the Q3 2008 (11 of 18 wells) and Q4 2007 (12 of 18 wells) sampling events.
- In MW-7, MW-8, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-17, MW-E, and RW-1, concentrations of benzene exceeded the ESL of 46 $\mu\text{g/L}$ where groundwater is not a drinking water resource. Benzene was also found in MW-5, MW-6, MW-9, and MW-16, but at concentrations below the ESL.
- Toluene was detected above the ESL of 130 $\mu\text{g/L}$ in monitoring wells in MW-12 and MW 17. Ethylbenzene was detected above the 43- $\mu\text{g/L}$ ESL (where groundwater is not a drinking water resource) in monitoring wells MW-7, MW-8, MW-12, MW-13, MW-14, MW-15, MW-17, MW-E, and RW-1. Total xylene concentrations in monitoring wells MW-7, MW-8, MW-12, MW-13, MW-17, MW-E, and RW-1 were above the 100- $\mu\text{g/L}$ ESL where groundwater is not a drinking water resource. MTBE was not detected above the laboratory detection limit in any of the monitoring wells.
- SES conducted passive skimmer product removal on the trench wells in November and December 2008, and active pumping on the trench wells, recovery well RW-1, and select monitoring wells during the November 2008 removal event. A total of 0.2403 gallon was removed from the sump well skimmers in Trench A during the November and December 2008 events. A total of 5.65 gallons were removed during the entire 2008 year from the sump well skimmers.
- A total of approximately 250 gallons of groundwater, yielding 1.3 gallons of free product, 0.01 pound of gasoline, and 0.11 pound of diesel were removed during the November 2008

active product removal event. Approximately 10.34 gallons of free product were removed by active pumping of wells during the 2008 year.

- The trench recovery system, where free product is designed to collect in 1-liter skimmers, is effective in removing small amounts of free product, but is not effective in decreasing the size of the plume overall. Pumping at various wells is critical to maintaining some dynamic equilibrium so that the plume does not migrate outbound.
- While it is unclear what has caused the dramatic spike in contaminant concentrations between the December 2006 and December 2008 sampling events, it does appear that active product removal facilitates decreasing concentrations in downgradient wells; effectively preventing further downgradient migration to the perimeter wells. The dramatic spike in the source area concentrations indicates that a large mass of residual contamination remains; perhaps trapped in the vadose zone and desorbing into the groundwater during drought like conditions such as those exhibited during the 2006-2008 years. However, further data is needed to confirm this hypothesis.

RECOMMENDATIONS

- After completing a full round of quarterly monitoring events for the 2008 year, the groundwater hydrology and general contaminant concentration trends have been delineated. As recommended in the November 2008 meeting with ACEH, SES recommends changing the groundwater monitoring frequency from quarterly to semi-annual to be conducted in March and September.
- Both active and passive free product removal events should be continued to ascertain their effectiveness in reducing the plume size over time; however, based on the slow hydrological gradient (0.001 foot per foot), the same amount of free product can be removed in semi-annual events as opposed to quarterly events. Therefore, SES will reduce the active product removal frequency to twice a year. However, passive product removal will be continued on a quarterly basis, as the skimmers tend to fill up with water and/or product during a 3-month period.
- Active product removal events will be coordinated with sampling events to occur one to two days before sampling. This will determine the rate of free-product recharge and the effectiveness of active removal on the dissolved hydrocarbon fraction.
- Electronic uploads to ACEH's ftp system and the State Water Board's GeoTracker system should be continued as required.

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8.0 LIMITATIONS

This report has been prepared for the exclusive use of Bay Center Investor LLC and Harvest Properties, their authorized representatives and assigns, and the regulatory agencies. No reliance on this report shall be made by anyone other than those for whom it was prepared.

The findings and conclusions presented in this report are based on a review of previous investigators' findings at the site, as well as site investigations conducted by SES in 2007. This report has been prepared in accordance with generally accepted methodologies and standards of practice. The SES personnel who performed this limited remedial investigation are qualified to perform such investigations and have accurately reported the information available, but cannot attest to the validity of that information. No warranty, expressed or implied, is made as to the findings, conclusions, and recommendations included in the report.

The findings of this report are valid as of the date of this report. Site conditions may change with the passage of time, natural processes, or human intervention, which can invalidate the findings and conclusions presented in this report. As such, this report should be considered a reflection of the current site conditions as based on the activities completed.

APPENDIX A

Historical Groundwater Well Analytical Results

TABLE A
Historical Groundwater Monitoring Well Groundwater Analytical Results
Petroleum and Aromatic Hydrocarbons (µg/L)
6400 Christie Avenue, Emeryville, California

MW-1									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
1	Dec-88	380	17,000	NA	8,600	940	250	570	NA
2	May-89	130	24,000	NA	16,000	2,100	300	1,200	NA
3	Feb-91	<10	22,000	NA	6,800	3,500	410	2,000	NA
Monitoring well abandoned - date unclear									

MW-2									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
1	Dec-88	72	22	NA	<0.5	<0.5	<0.5	<0.5	NA
2	May-89	40	18	NA	<0.5	<0.5	<0.5	<0.5	NA
3	Feb-91	83	<10	NA	<0.3	<0.3	<0.3	<0.6	NA
Monitoring well abandoned - date unclear									

MW-3									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
1	Dec-88	<10	4,200	NA	77	1,400	140	560	NA
2	May-89	110	1,800	NA	64	250	61	110	NA
3	Feb-91	NS	NS	NS	NS	NS	NS	NS	NS
4	Mar-04	3,400	440	3,900	<0.5	<0.5	1.5	<1.0	9.7
5	Dec-06	350	280	230	<0.5	<0.5	<0.5	<0.5	2.0
6	Dec-07	960	150	NA	0.54	0.54	<0.5	<0.5	<2.0
7	Mar-08	6,600	450	NA	<0.5	<0.5	1.8	2.0	4.3
8	Jun-08	4,500	440	NA	<0.5	<0.5	4.0	2.0	9.5
9	Sep-08	1,700	280	NA	<0.5	<0.5	1.0	<0.5	<2.0
10	Dec-08	2,300	240	NA	<0.5	<0.5	1.1	<0.5	<2.0

MW-4									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
1	Dec-88	<10	100	NA	2.0	1.0	<0.5	2.0	NA
2	May-89	60	18	NA	1.0	<0.5	<0.5	<0.5	NA
3	Feb-91	<10	<10	NA	<0.3	<0.3	<0.3	<0.6	NA
4	Mar-04	NS	NS	NS	NS	NS	NS	NS	NS
5	Dec-06	<50	50	<200	<0.5	<0.5	<0.5	<0.5	<1.0
6	Dec-07	710	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
7	Mar-08	680	57	NA	<0.5	<0.5	<0.5	<0.5	<2.0
8	Jun-08	620	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
9	Sep-08	440	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
10	Dec-08	730	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0

MW-5									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
1	Dec-88	530	890	NA	<1.0	<1.0	1.0	3.0	NA
2	May-89	90	5.0	NA	1.0	<0.5	<0.5	<0.5	NA
3	Feb-91	58	<10	NA	0.6	<0.3	<0.3	<0.6	NA
4	Mar-04	NS	NS	NS	NS	NS	NS	NS	NS
5	Dec-06	330	<25	<200	0.6	<0.5	<0.5	<0.5	<1.0
6	Dec-07	5,100	1.3	NA	1.3	<0.5	<0.5	1.23	<2.0
7	Mar-08	4,500	<50	NA	0.53	<0.5	<0.5	<0.5	<2.0
8	Jun-08	3,300	<50	NA	0.64	<0.5	<0.5	<0.5	<2.0
9	Sep-08	4,200	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
10	Dec-08	5,200	<50	NA	0.61	<0.5	<0.5	<0.5	<2.0

MW-6									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
1	Dec-88	<10	52	NA	1.0	<0.5	<0.5	<0.5	NA
2	May-89	140	31	NA	1.0	<0.5	<0.5	<0.5	NA
3	Feb-91	130	40	NA	0.8	<0.3	<0.3	<0.6	NA
4	Mar-04	NS	NS	NS	NS	NS	NS	NS	NS
5	Dec-06	200	43	<200	1.1	<0.5	<0.5	<0.5	<1.0
6	Dec-07	1,000	<50	NA	0.98	0.81	<0.5	0.5	<2.0
7	Mar-08	940	<50	NA	0.87	1.0	<0.5	<0.5	<2.0
8	Jun-08	1,100	56	NA	0.92	<0.5	<0.5	<0.5	2.9
9	Sep-08	1,000	<50	NA	0.91	<0.5	<0.5	<0.5	<2.0
10	Dec-08	1,400	<50	NA	1	<0.5	<0.5	<0.5	<2.0

MW-7									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in March 2004									
1	Mar-04	1,600	490	1,900	240	100	14	56	<2.5
2	Dec-06	420	<25	470	<0.5	<0.5	<0.5	<0.5	<1.0
3	Dec-07	6,300	3,100	NA	640	28	48	231	<1.0
4	Mar-08	7,000	360	NA	140	5.8	11	58	<2.0
5	Jun-08	5,400	1,700	NA	480	15	28	139	<2.0
6	Sep-08	9,400	1,200	NA	330	12	21	88	<2.0
7	Dec-08	8,700	2,200	NA	640	100	43	185	<4.0

MW-8									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in March 2004									
1	Mar-04	140,000	51,000	56,000	19,000	720	2,400	3,300	<50
2	Dec-06	2,400	29,000	<380	13,000	<100	640	500	<200
3	Dec-07	5,900	30,000	NA	11,000	180	650	561	<100
4	Mar-08	21,000	47,000	NA	10,000	260	1,200	458	<2.0
5	Jun-08	7,300	27,000	NA	9,300	140	790	290	<2.0
6	Sep-08	13,000	35,000	NA	11,000	190	900	402	<100
7	Dec-08	7,600	19,000	NA	6,800	110	380	236	<50

MW-9									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in March 2004									
1	Mar-04	1,300	95	1,500	4.7	0.68	<0.5	<1.0	<0.5
2	Dec-06	<50	92	<200	2.8	<0.5	<0.5	<0.5	<1.0
3	Dec-07	8,400	84	NA	4.7	1.1	<0.5	1.9	<2.0
4	Mar-08	8,600	100	NA	4.1	1.1	<0.5	<0.5	2.0
5	Jun-08	5,900	98	NA	4.9	<0.5	<0.5	<0.5	2.3
6	Sep-08	9,300	130	NA	4.6	<0.5	<0.5	<0.5	<50
7	Dec-08	7,800	95	NA	4	0.54	<0.5	<0.5	<2.0

MW-10									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in March 2004									
1	Mar-04	840,000	14,000	<100,000	4,000	77	200	120	<50
2	Dec-06	19,000	12,000	<4,000	4,600	42	90	52	<50
3	Dec-07	4,700	13,000	NA	5,300	96	42	86	<50
4	Mar-08	280,000	10,000	NA	2,600	50	37	58.7	22
5	Jun-08	4,800	10,000	NA	3,800	62	24	61	<2.0
6	Sep-08	4,700	1,200	NA	350	11	3.4	11	<2.0
7	Dec-08	3,200	2,900	NA	550	45	15	56	<20

MW-11									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in May 2004									
1	Dec-06	<50	920	<200	26	4.5	1.8	5.4	<1.0
2	Dec-07	6,900	1,500	NA	320	44	53	140	<2.0
3	Mar-08	7,500	1,200	NA	120	7.6	10	24.9	3.0
4	Jun-08	5,100	2,000	NA	190	11	7.7	16.3	<2.0
5	Sep-08	5,600	2,200	NA	260	20	34	60	<2.0
6	Dec-08	7,800	2,100	NA	270	14	7.6	15.6	<2.0

MW-12									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in May 2004									
1	Dec-06	<50	19,000	<200	9,100	51	<50	110	<100
2	Dec-07	2,700	17,000	NA	8,000	110	25	115	<40
3	Mar-08	3,300	33,000	NA	9,200	140	85	116	<2.0
4	Jun-08	3,000	17,000	NA	6,600	95	50	110	<2.0
5	Sep-08	3,100	14,000	NA	6,200	79	18	83	<10
6	Dec-08	3,600	19,000	NA	7,900	140	72	124	<50

MW-13									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in April 2004									
1	Dec-06	12,000	87,000	2,100	18,000	470	2,400	3,500	<400
2	Dec-07	NA	68,000	NA	19,000	650	1,700	2,440	<100
3	Mar-08	1,100,000	98,000	NA	19,000	820	2,300	3,190	<100
4	Jun-08	71,000	44,000	NA	12,000	510	1,600	1,950	<2.0
5	Sep-08	440,000	52,000	NA	<100	500	1,600	1,500	<100
6	Dec-08	1,100,000	2,700,000	NA	23,000	<250	40,000	45,000	<1,000

MW-14									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in April 2004									
1	Dec-06	<50	8,300	<200	3,700	240	230	260	<50
2	Dec-07	2,600	6,800	NA	3,100	150	220	168	<20
3	Mar-08	4,400	18,000	NA	4,400	330	340	245	<2.0
4	Jun-08	2,600	7,700	NA	2,600	180	200	141	<2.0
5	Sep-08	2,500	4,100	NA	1,300	50	80	61	<10
6	Dec-08	2,800	2,300	NA	830	27	45	30.7	<10

MW-15									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in April 2004									
1	Dec-06	<50	9,200	<200	3,700	<25	60	57	<50
2	Dec-07	3,300	8,100	NA	3,000	48	28	44.5	<20
3	Mar-08	3,000	13,000	NA	3,600	66	210	59.5	<64
4	Jun-08	2,900	15,000	NA	5,800	61	230	56.4	<2.0
5	Sep-08	3,400	18,000	NA	7,800	73	270	59.9	<10
6	Dec-08	3,000	20,000	NA	7,600	95	300	84.2	<50

MW-16									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in April 2004									
1	Dec-06	<50	190	<200	11.0	1.4	<0.5	<0.5	<1.0
2	Dec-07	8,500	71	NA	13	2.6	<0.5	1.46	<2.0
3	Mar-08	12,000	60	NA	11	0.73	<0.5	<0.5	<2.0
4	Jun-08	10,000	120	NA	13	2.2	<0.5	<0.5	2
5	Sep-08	8,200	64	NA	9.9	1.9	<0.5	<0.5	<2.0
6	Dec-08	8,800	60	NA	11	2.8	<0.5	0.53	<2.0

MW-17									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in April 2004									
1	Dec-06	<50	14,000	<200	3,400	1,100	480	<0.5	<1.0
2	Dec-07	2,900	5,000	NA	1,100	260	110	206	<10
3	Mar-08	3,100	6,800	NA	1,200	110	91	94	21
4	Jun-08	2,900	7,200	NA	1,100	45	75	66	<2.0
5	Sep-08	3,300	5,500	NA	900	63	69	69	<10
6	Dec-08	3,200	7,100	NA	1,100	530	190	390	<10

MW-18									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in May 2004									
1	Dec-06	<50	120	<200	22	6.2	3.2	6.2	<2.0
2	Dec-07	8,600	<50	NA	0.98	<0.5	<0.5	<0.5	<2.0
3	Mar-08	9,800	<50	NA	0.52	<0.5	<0.5	<0.5	2.0
4	Jun-08	8,800	<50	NA	<0.5	<0.5	<0.5	<0.5	3.1
5	Sep-08	8,600	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
6	Dec-08	9,300	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0

MW-E									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
1	Dec-88	100	5,400	NA	3,200	690	97	330	NA
2	May-89	NS	NS	NS	NS	NS	NS	NS	NS
3	Feb-91	NS	NS	NS	NS	NS	NS	NS	NS
4	Mar-04	470	810	<500	340	6.1	2.2	7.7	<1.0
5	Dec-06	280	1,900	<200	910	<10	10	<10	<20
6	Dec-07	6,900	7,000	NA	3,300	50	51	80	<20
7	Mar-08	6,300	2,700	NA	780	17	20	20.9	12
8	Jun-08	5,200	7,400	NA	2,900	43	85	50	<2.0
9	Sep-08	7,800	11,000	NA	3,800	170	130	257	<50
10	Dec-08	9,400	9,100	NA	3,400	110	180	182	<50

RW-1									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
1	Dec-88	NS	NS	NS	NS	NS	NS	NS	NS
2	May-89	NS	NS	NS	NS	NS	NS	NS	NS
3	Feb-91	NS	NS	NS	NS	NS	NS	NS	NS
4	Mar-04	NS	NS	NS	NS	NS	NS	NS	NS
5	Dec-06	<50	640	<200	100	1.3	2	1.6	<1.0
6	Dec-07	2,100	770	NA	110	<0.5	3.8	1.96	<2.0
7	Mar-08	11,000	890	NA	100	4.2	4.4	2.0	<2.0
8	Jun-08	1,500	1,200	NA	290	4.8	10	4.8	<2.0
9	Sep-08	1,900	1,400	NA	280	9.8	10	6.7	<2.0
10	Dec-08	54,000	1,100,000	NA	500	<250	3,200	530	<1,000

Notes:

The 1988, 1989, and 1991 sampling events were conducted by Groundwater Technology, Inc.

The 2004 and 2006 sampling events were conducted by PES Environmental.

NS = Not sampled

NA = Not analyzed for this constituent

All concentrations shown in µg/L

APPENDIX B

Groundwater Monitoring Field Data Sheets

SPH or Purge Water Drum Log

Client: Skeller Env.
 Site Address: 65th + Bay Sts. Bromleyville Ct.

STATUS OF DRUM(S) UPON ARRIVAL						
Date	12/27/07	12/28/07	3/25/08	06/25/08	12/29/08	
Number of drum(s) empty:				2	2	
Number of drum(s) 1/4 full:	1	1				
Number of drum(s) 1/2 full:		1	1 skelbr		1 (SPH)	
Number of drum(s) 3/4 full:						
Number of drum(s) full:		1	2 ⁽¹⁾ BTS	1 skelbr		
Total drum(s) on site:	1	2	3 ⁽¹⁾ BTS	3	3	
Are the drum(s) properly labeled?	No (No BTS)	Y	Y	Y	Y	
Drum ID & Contents:	?	purge water & SPH	→	→	→	
If any drum(s) are partially or totally filled, what is the first use date:						

- If you add any SPH to an empty or partially filled drum, drum must have ^{1 source Poly Full} at least 20 gals. of Purgewater or DI Water.
- If drum contains SPH, the drum MUST be steel AND labeled with the appropriate label.
- All BTS drums MUST be labeled appropriately.

STATUS OF DRUM(S) UPON DEPARTURE						
Date	12/27/07	12/27/07	3/25/08	06/25/08	12/30/08	
Number of drums empty:				1	1	
Number of drum(s) 1/4 full:	1			1		
Number of drum(s) 1/2 full:		1	1 (skelbr)		1 (SPH)	
Number of drum(s) 3/4 full:			1 (BTS)	1		
Number of drum(s) full:	1	1	2 ⁽¹⁾ BTS		1	
Total drum(s) on site:	2	2	4	3	3	
Are the drum(s) properly labeled?	1 Y 1 No	Y	Y	Y	Y	
Drum ID & Contents:	Purge H ₂ O (BTS)	H ₂ O & SPH	→	→	→	

LOCATION OF DRUM(S)
 Describe location of drum(s): (corner of garage next to 65th St.) | 3/25/08 1500 gal. Poly is full of SPH (skelbr)

FINAL STATUS						
Number of new drum(s) left on site this event	1	0	1	0	0	
Date of inspection:	12/27/07	12/28/07	3/25/08	06/25/08	12/30/08	
Drum(s) labelled properly:	Y	Y	Y	Y	Y	
Logged by BTS Field Tech:	DR	KF	DR	MD	DR	
Office reviewed by:			M	R	R	

WELLHEAD INSPECTION CHECKLIST

Date 12/29/08 Client Stellar
 Site Address 65th and Bay St. Emeryville CA
 Job Number 081229-DRI Technician DR/TO

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Debris Removed From Wellbox	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)
MW-3							*	
MW-4							*	
MW-5							*	
MW-6							*	
MW-7							X	
MW-8	X							
MW-9							X	
MW-10							X	
MW-11	X							
MW-12							X	
MW-13	X							
MW-14	X							
MW-15	X							
MW-16	X							
MW-17							X	
MW-18	X							

NOTES: * Christy box w/ no lock. MW-17 - 1 of 2 balls. No cap.
 MW-10 - 1 of 2 balls MW-12 - 1 of 2 balls MW-7 - 1 of 2 balls.
 MW-9 2 of 2 balls missing - No cap.

WELLHEAD INSPECTION CHECKLIST

Date 12/29/08 Client Stellar
 Site Address 65th and Bay St. Emeryville CA
 Job Number 081229-DRI Technician DR/JO

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Debris Removed From Wellbox	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)
MW-E							X	
RW-1	X			A				
TA-W	* Covered by truck.							
TA-M	X							
TA-E	X							
TB-W								
TB-M								
TB-E								
TC-W								
TC-M								
TC-E	X							

NOTES: MW-E - 2 of 2 wells RW-1 well

WELL GAUGING DATA

Project # 081229-DRI Date 12/29/08 Client Stellar

Site 65th and Bay St. Emeryville CA.

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
MW-3	0925	2	Yes Thick	7.49	0.87		8.36	—		
MW-4	0935	2	No				7.42	24.90		
MW-5	0939	2	No				9.75	24.86		
MW-6	0942	2	No				6.91	23.37		
MW-7	0932	3/4	No				10.60	19.85		
MW-8	1039	3/4	Yes	8.89	0.69		9.58	—		
MW-9	0944	3/4	No				9.83	19.66		
MW-10	1001	3/4	Yes	8.74	0.23		8.97	—		
MW-11	0937	3/4	odor				10.34	19.70		
MW-12	1009	3/4	No				8.98	19.00		
MW-13	1014	3/4	Thick Yes	9.65	0.89		10.54	—		
MW-14	0957	3/4	Sheen				8.70	19.50		
MW-15	1024	3/4	Thick Yes	8.36	0.83		9.19	—		
MW-16	0942	3/4	No				9.45	19.07		
MW-17	0947	3/4	Yes	9.11	0.14		9.25	—		
MW-18	0916	3/4	No				8.61	19.55		
MW-19	0947	2	No				10.32	44.96	✓	

WELL GAUGING DATA

Project # 081229-D1 Date 12/29/08 Client Stellar

Site 65th and Bay St. Emeryville CA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOG	Notes	
* RW-1	0955	10	Yes Thick				could not read	—	↓		
TA-W							Covered by truck SPIT	—			
1/30/08 TA-M	1230	10	Yes Thick				300 mL	H ₂ O 500 mL		1 of 2 skimmers empty	
1/30/08 TA-E	1240	10	Yes Thick				50 mL	4000 mL		1 of 2 skimmers empty	
TB-W	————— No skimmers —————										
TB-M	—————										
TB-E	—————										
TC-W	—————										
TC-M	—————										
1/30/08 TC-E	1315	10	Yes Thick				SPIT 100 mL	H ₂ O 2500 mL		↓	

* Damaged interface probe w/ thick SPIT.

WELL MONITORING DATA SHEET

Project #: 081229-DR1	Client: Stellar
Sampler: DR/JO	Date: 12/29/08
Well I.D.: MW-3	Well Diameter: (2) 3 4 6 8
Total Well Depth (TD): —	Depth to Water (DTW): 8.36
Depth to Free Product: 7.49	Thickness of Free Product (feet): 0.87
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: —	

Purge Method: Bailer	Waterra	Sampling Method: Bailer
Disposable Bailer	<input checked="" type="checkbox"/> Peristaltic	Disposable Bailer
Positive Air Displacement	Extraction Pump	Extraction Port
Electric Submersible	Other _____	Dedicated Tubing
		<input checked="" type="checkbox"/> Other: New Tubing

$\frac{\text{--- (Gals.)} \times 3}{\text{Specified Volumes}} = \frac{\text{---}}{\text{Calculated Volume}} \text{ Gals.}$	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
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1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
SPH in well.				Purged for 6 min.		DTW = 8.49
1115					1400 mL	DTW = 8.78
1118					2800 mL	DTW = 9.02

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: 2800 mL	
Sampling Date: 12/29/08	Sampling Time: 1120	Depth to Water: 9.18
Sample I.D.: MW-3	Laboratory: Kiff CalScience Other: <u>CET</u>	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See C-C		
EB I.D. (if applicable): @ Time	Duplicate I.D. (if applicable):	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:		
D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: _____ mg/L	
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV	

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558

* New tubing. Sampled ^{possible} out of order due to SPH content.

WELL MONITORING DATA SHEET

Project #: 081229-DR1	Client: Stellar
Sampler: DR/JO	Date: 12/29/08
Well I.D.: MW-6	Well Diameter: ② 3 4 6 8
Total Well Depth (TD): 23.37	Depth to Water (DTW): 6.91
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 10.20	

Purge Method: Bailer	Watterra	Sampling Method: Bailer
<input checked="" type="checkbox"/> Disposable Bailer	<input type="checkbox"/> Peristaltic	<input checked="" type="checkbox"/> Disposable Bailer
<input type="checkbox"/> Positive Air Displacement	<input type="checkbox"/> Extraction Pump	<input type="checkbox"/> Extraction Port
<input type="checkbox"/> Electric Submersible	Other: _____	<input type="checkbox"/> Dedicated Tubing
Other: _____		

$2.6 \text{ (Gals.)} \times 3 = 7.8 \text{ Gals.}$	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
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1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														
1 Case Volume	Specified Volumes	Calculated Volume															

Time	Temp (°F or °C)	pH	Cond. (mS or μS)	Turbidity (NTUs)	Gals. Removed	Observations
1218	59.3	10.12	1741	136	2.6	
1222	59.2	10.92	1733	149	5.2	
1226	59.3	10.94	1736	156	7.8	

Did well dewater? Yes No Gallons actually evacuated: 7.8

Sampling Date: 12/29/08 Sampling Time: 1235 Depth to Water: 7.38

Sample I.D.: MW-6 Laboratory: Kiff CalScience Other: C&T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See C-C

EB I.D. (if applicable): _____ @ _____ Time Duplicate I.D. (if applicable): _____

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: _____

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: <u>081229-DR1</u>	Client: <u>Stellar</u>
Sampler: <u>DR/JO</u>	Date: <u>12/29/08</u>
Well I.D.: <u>MW-7</u>	Well Diameter: 2 3 4 6 8 <u>3/4</u>
Total Well Depth (TD): <u>19.85</u>	Depth to Water (DTW): <u>10.60</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>12.45</u>	

Purge Method: Bailer	Waterra	Sampling Method: Bailer
Disposable Bailer	<input checked="" type="checkbox"/> Peristaltic	Disposable Bailer
Positive Air Displacement	Extraction Pump	Extraction Port
Electric Submersible	Other _____	Dedicated Tubing
		Other: <u>peristaltic</u>

$0.2 \text{ (Gals.)} \times 3 = 0.6 \text{ Gals.}$	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
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1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														
1 Case Volume Specified Volumes Calculated Volume	<u>0.02</u>																

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
<u>11:25</u>	<u>14.6</u>	<u>8.16</u>	<u>12.81</u>	<u>45.1</u>	<u>0.2</u>	
<u>11:29</u>	<u>14.9</u>	<u>8.18</u>	<u>12.86</u>	<u>49</u>	<u>0.4</u>	
<u>11:43</u>	<u>15.0</u>	<u>8.18</u>	<u>12.88</u>	<u>47</u>	<u>0.6</u>	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>0.6</u>	
Sampling Date: <u>12/29/08</u>	Sampling Time: <u>11:50</u>	Depth to Water: <u>11.23</u>
Sample I.D.: <u>MW-7</u>	Laboratory: Kiff CalScience Other: <u>C&T</u>	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: <u>See C-C</u>		
EB I.D. (if applicable): @ _____ Time	Duplicate I.D. (if applicable):	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:		
D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: _____ mg/L	
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV	

WELL MONITORING DATA SHEET

Project #: <u>081229-DR1</u>	Client: <u>Stellar</u>
Sampler: <u>DR/JO</u>	Date: <u>12/30/08</u>
Well I.D.: <u>MW-10</u>	Well Diameter: 2 3 4 6 8 <u>3/4"</u>
Total Well Depth (TD): <u>—</u>	Depth to Water (DTW): <u>8.97</u>
Depth to Free Product: <u>8.74</u>	Thickness of Free Product (feet): <u>0.23</u>
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>—</u>	

Purge Method: Bailer	Waterra	Sampling Method: Bailer	
Disposable Bailer	<input checked="" type="checkbox"/> Peristaltic	Disposable Bailer	
Positive Air Displacement	Extraction Pump	Extraction Port	
Electric Submersible	Other <u>—</u>	Dedicated Tubing	
		<input checked="" type="checkbox"/> Other: <u>New Tubing</u>	

$\text{--- (Gals.)} \times \text{---} = \text{--- Gals.}$ <p>1 Case Volume Specified Volumes Calculated Volume</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
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2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
						<u>SPT in well. Well was purged for 6 min.</u>
<u>0930</u>					<u>1200</u>	
<u>0933</u>					<u>2400</u>	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>2400 mL</u>	
Sampling Date: <u>12/30/08</u>	Sampling Time: <u>0940</u>	Depth to Water: <u>— 9.33</u>
Sample I.D.: <u>MW-10</u>	Laboratory: Kiff CalScience Other: <u>C&T</u>	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: <u>See C-C</u>		
EB I.D. (if applicable): @ <u>—</u> Time	Duplicate I.D. (if applicable):	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: <u>—</u>		
D.O. (if req'd): Pre-purge: <u>—</u> mg/L	Post-purge: <u>—</u> mg/L	
O.R.P. (if req'd): Pre-purge: <u>—</u> mV	Post-purge: <u>—</u> mV	

WELL MONITORING DATA SHEET

Project #: <u>081229-DR1</u>	Client: <u>Stellar</u>
Sampler: <u>DR/100</u>	Date: <u>12/29/08</u>
Well I.D.: <u>MW-11</u>	Well Diameter: 2 3 4 6 8 <u>3/4</u>
Total Well Depth (TD): <u>19.70</u>	Depth to Water (DTW): <u>10.34</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>12.21</u>	

Purge Method: Bailer	Waterra	Sampling Method: Bailer
Disposable Bailer	<input checked="" type="checkbox"/> Peristaltic	Disposable Bailer
Positive Air Displacement	Extraction Pump	Extraction Port
Electric Submersible	Other _____	Dedicated Tubing
		Other: <u>peristaltic</u>

$\underline{0.19} \text{ (Gals.)} \times \underline{3} = \underline{0.57} \text{ Gals.}$	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
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1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														
1 Case Volume	Specified Volumes	Calculated Volume															

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1245	14.5	7.81	2833	244	0.19	odor / grey
1249	15.1	7.80	2808	107	0.38	odor
1253	15.1	7.79	2787	58	0.57	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>0.57</u>
Sampling Date: <u>12/29/08</u> Sampling Time: <u>12:1300</u> Depth to Water: <u>11.15</u>	
Sample I.D.: <u>MW-11</u> Laboratory: Kiff CalScience Other: <u>C&T</u>	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: <u>See C-C</u>	
EB I.D. (if applicable): @ _____ Time Duplicate I.D. (if applicable):	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:	
D.O. (if req'd): Pre-purge: _____ mg/L Post-purge: _____ mg/L	
O.R.P. (if req'd): Pre-purge: _____ mV Post-purge: _____ mV	

WELL MONITORING DATA SHEET

Project #: <u>081229-DR1</u>	Client: <u>Stellar</u>
Sampler: <u>DR/JO</u>	Date: <u>12/29/08</u>
Well I.D.: <u>MW-12</u>	Well Diameter: 2 3 4 6 8 <u>3 1/4"</u>
Total Well Depth (TD): <u>19.00</u>	Depth to Water (DTW): <u>8.98</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>10.98</u>	

Purge Method: Bailer	Waterra	Sampling Method: Bailer
Disposable Bailer	<input checked="" type="checkbox"/> Peristaltic	Disposable Bailer
Positive Air Displacement	Extraction Pump	Extraction Port
Electric Submersible	Other _____	Dedicated Tubing
		<input checked="" type="checkbox"/> Other: <u>New Tubing</u>

$\underline{0.2} \text{ (Gals.)} \times \underline{3} = \underline{0.6} \text{ Gals.}$	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
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1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														
1 Case Volume	Specified Volumes	Calculated Volume															

Time	Temp (°F or °C)	pH	Cond. (mS or μS)	Turbidity (NTUs)	Gals. Removed	Observations
1341	58.6	7.7	1563	121	0.2	
1344	59.1	7.6	1531	97	0.4	
1347	59.0	7.6	1519	78	0.6	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>0.6</u>	
Sampling Date: <u>12/29/08</u>	Sampling Time: <u>1350</u>	Depth to Water: <u>9.26</u>
Sample I.D.: <u>MW-12</u>	Laboratory: Kiff CalScience Other: <u>C&T</u>	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: <u>See C-C</u>		
EB I.D. (if applicable): @ _____ Time	Duplicate I.D. (if applicable):	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:		
D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: _____ mg/L	
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV	

WELL MONITORING DATA SHEET

Project #: 081229-DRI	Client: Skiller
Sampler: DR/JO	Date: 12/30/08
Well I.D.: MW-13	Well Diameter: 2 3 4 6 8 3/4"
Total Well Depth (TD): —	Depth to Water (DTW): 10.54
Depth to Free Product: 9.65	Thickness of Free Product (feet): 0.89
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: —	

Purge Method: Bailer	Waterra	Sampling Method: Bailer
Disposable Bailer	✓ Peristaltic	Disposable Bailer
Positive Air Displacement	Extraction Pump	Extraction Port
Electric Submersible	Other _____	Dedicated Tubing
		Other: <u>New Tubing</u>

$\frac{\text{— (Gals.)}}{\text{Specified Volumes}} \times \frac{\text{—}}{\text{—}} = \frac{\text{—}}{\text{—}} \text{ Gals.}$	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
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1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														
1 Case Volume	Calculated Volume																

Time	Temp (F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
SPIT in well.						Purged well for 6 min.
1003					1000 mL	
1006					2000 mL	
* Originally was not going to sample due to high SPIT content in sample water. Returned later to get sample per client.						

Did well dewater? Yes <input type="radio"/> No <input checked="" type="radio"/>	Gallons actually evacuated: 2000 mL	
Sampling Date: 12/30/08	Sampling Time: 1330	Depth to Water: —
Sample I.D.: MW-13	Laboratory: Kiff CalScience	Other: CFI
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5)	Other: Sec Col	
EB I.D. (if applicable): @ Time	Duplicate I.D. (if applicable):	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5)	Other:	
D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: _____ mg/L	
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV	

WELL MONITORING DATA SHEET

Project #: <u>081229-DR1</u>	Client: <u>Stellar</u>
Sampler: <u>DR 10</u>	Date: <u>12/29/08</u>
Well I.D.: <u>MW-16</u>	Well Diameter: 2 3 4 6 8 <u>3/4</u>
Total Well Depth (TD): <u>19.07</u>	Depth to Water (DTW): <u>9.45</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>11.37</u>	

Purge Method: Bailer	Waterra	Sampling Method: Bailer
Disposable Bailer	<input checked="" type="checkbox"/> Peristaltic	Disposable Bailer
Positive Air Displacement	Extraction Pump	Extraction Port
Electric Submersible	Other _____	Dedicated Tubing
		Other: <u>peristaltic</u>

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3"	0.37	Other	radius ² * 0.163														
1 Case Volume Specified Volumes Calculated Volume																	

Time	Temp (°F or °C)	pH	Cond. (mS or μ S)	Turbidity (NTUs)	Gals. Removed	Observations
1405	14.4	10.01	3814	315	0.19	Brown/odor
1409	15.2	10.03	3537	317	0.38	↓
1403	15.3	10.07	3582	315	0.57	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>0.57</u>	
Sampling Date: <u>12/29/08</u>	Sampling Time: <u>1420</u>	Depth to Water: <u>10.05</u>
Sample I.D.: <u>MW-16</u>	Laboratory: Kiff CalScience Other: <u>C&T</u>	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: <u>See C-C</u>		
EB I.D. (if applicable): @ _____ Time	Duplicate I.D. (if applicable):	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:		
D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: _____ mg/L	
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV	

WELL MONITORING DATA SHEET

Project #: 081229-DR1	Client: Stellar
Sampler: DR/JO	Date: 12/29/08
Well I.D.: MW-17	Well Diameter: 2 3 4 6 8 3/4"
Total Well Depth (TD): —	Depth to Water (DTW): 9.25
Depth to Free Product: 9.11	Thickness of Free Product (feet): 0.14
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: —	

Purge Method: Bailer	Waterra	Sampling Method: Bailer	Bailer
Disposable Bailer	Peristaltic	Disposable Bailer	Disposable Bailer
Positive Air Displacement	Extraction Pump	Extraction Port	Extraction Port
Electric Submersible	Other _____	Dedicated Tubing	Dedicated Tubing
		Other: New tubing	

$\text{--- (Gals.)} \times \frac{3}{\text{---}} = \text{--- Gals.}$	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														
1 Case Volume Specified Volumes Calculated Volume																	

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
SPIT in well.					—	DTW = can't get *
1345					1200 mL	DTW = can't get *
1348					2400 mL	DTW = can't get *

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: 2400 mL	
Sampling Date: 12/29/08	Sampling Time: 1320	Depth to Water: 9.69
Sample I.D.: MW-17	Laboratory: Kiff CalScience Other: C&T	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See C-C		
EB I.D. (if applicable): @ _____ Time	Duplicate I.D. (if applicable):	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:		
D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: _____ mg/L	
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV	

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* 3/4" well does not allow water measurements while purging.

WELL MONITORING DATA SHEET

Project #: 081229-DR1	Client: Stellar
Sampler: DR/JO	Date: 12/29/08
Well I.D.: MW-18	Well Diameter: 2 3 4 6 8 <u>8 1/4</u>
Total Well Depth (TD): 19.55	Depth to Water (DTW): 8.61
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 10.79	

Purge Method: Bailer	Waterra	Sampling Method: Bailer	
Disposable Bailer	X Peristaltic	Disposable Bailer	
Positive Air Displacement	Extraction Pump	Extraction Port	
Electric Submersible	Other _____	Dedicated Tubing	
		Other: <u>peristaltic</u>	

0.22 (Gals.) X 3 = 0.66 Gals.	<table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														
1 Case Volume Specified Volumes Calculated Volume																	

Time	Temp (°F or °C)	pH	Cond. (mS or μ S)	Turbidity (NTUs)	Gals. Removed	Observations
1336	14.3	7.29	8222	1000	0.22	grey ↓
1340	14.7	7.31	8248	1000	0.44	
1345	12.5	7.33	8258	1000	0.66	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: 0.66	
Sampling Date: 12/29/08	Sampling Time: 1350	Depth to Water: 10.65
Sample I.D.: MW-18	Laboratory: Kiff CalScience Other: <u>C&T</u>	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: <u>See C&T</u>		
EB I.D. (if applicable): @ _____ Time	Duplicate I.D. (if applicable):	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:		
D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: _____ mg/L	
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV	

WELL MONITORING DATA SHEET

Project #: <u>081229-DR1</u>	Client: <u>Stellar</u>
Sampler: <u>DR170</u>	Date: <u>12/30/08</u>
Well I.D.: <u>MW-E</u>	Well Diameter: <u>(2)</u> 3 4 6 8
Total Well Depth (TD): <u>44.96</u>	Depth to Water (DTW): <u>10.32</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>17.25</u>	

Purge Method: Bailer Waterra Sampling Method: Bailer
 Disposable Bailer Peristaltic Disposable Bailer
 Positive Air Displacement Extraction Pump Extraction Port
 Electric Submersible Other Dedicated Tubing
 XOther: New Tubing w/ check valve

$\underline{5.5} \text{ (Gals.)} \times \underline{3} = \underline{16.5} \text{ Gals.}$	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														
1 Case Volume	Specified Volumes	Calculated Volume															

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
0856	59.6	7.8	3316	883	5.5	
0906	59.9	7.7	3426	71000	11.0	
0915	60.0	7.7	3518	71000	16.5	

Did well dewater? Yes No Gallons actually evacuated: 16.5

Sampling Date: 12/30/08 Sampling Time: 0920 Depth to Water: 11.7

Sample I.D.: MW-E Laboratory: Kiff CalScience Other: C&T

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: See C-C

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

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* Bent casing.

WELL MONITORING DATA SHEET

Project #: 081229-DAL	Client: Steller
Sampler: DA / TO	Date: 12/30/08
Well I.D.: RW-1	Well Diameter: 2 3 4 6 8 <u>10"</u>
Total Well Depth (TD): SPH to thick	Depth to Water (DTW): Could not read, Tool/vel
Depth to Free Product: _____	Thickness of Free Product (feet): _____
Referenced to: <u>PVE</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: _____	

Purge Method: Bailer	Waterra	Sampling Method: Bailer
Disposable Bailer	X Peristaltic	Disposable Bailer
Positive Air Displacement	Extraction Pump	Extraction Port
Electric Submersible	Other _____	Dedicated Tubing
		X Other: <u>New Tubing</u>

_____ (Gals.) X <u>3</u> = _____ Gals. 1 Case Volume Specified Volumes Calculated Volume	<table style="width:100%; border-collapse: collapse;"> <tr> <th style="text-align:left;">Well Diameter</th> <th style="text-align:left;">Multiplier</th> <th style="text-align:left;">Well Diameter</th> <th style="text-align:left;">Multiplier</th> </tr> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius² * 0.163</td> </tr> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius ² * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius ² * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or <u>µS</u>)	Turbidity (NTUs)	Gals. Removed	Observations
SPH in well.						Purged well for 6 minutes.
1122					200 mL	
1125					2400 mL	
* Cleared as much SPH out of sample as possible						

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: 2400 mL	
Sampling Date: 12/30/08	Sampling Time: 1130	Depth to Water: _____
Sample I.D.: RW-1	Laboratory: Kiff CalScience Other <u>CFT</u>	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: <u>See Col</u>		
EB I.D. (if applicable): _____ @ _____ Time	Duplicate I.D. (if applicable): _____	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: _____		
D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: _____ mg/L	
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV	

APPENDIX C

Analytical Laboratory Report and Chain-of-Custody Record

Chain of Custody Record

Lab job no. 208991
 Date 12/29/08
 Page 1 of 3

Laboratory CIT Method of Shipment LAB COURIER
 Address 2323 FIFTH ST Shipment No. _____
BERKELEY, CA
 Airbill No. _____
 Project Owner _____ Cooler No. _____
 Site Address 6400 CHRISTIE AVE Project Manager TEAL GLASS
BERKELEY, CA Telephone No. (510) 644-3123
 Project Name BAY CENTER APARTMENT Fax No. (510) 644-3859
 Project Number 2007-65 Samplers: (Signature) D. Reynol

Filtered
 No. of Containers
TEH-D (8015)
TPH-G (8015)
BTEX + MTBE

Field Sample Number	Location/Depth	Date	Time	Sample Type	Type/Size of Container	Preservation		Analysis Required				Remarks
						Cooler	Chemical					
1 + MW-3		12/29/08	1120	W	40mL vials (4) 1 x Amber	Y	ITCL	S	X	X	X	
2 + MW-4			1150	W		Y	ITCL	S	X	X	X	
3 + MW-5			1300	W		Y	ITCL	S	X	X	X	
4 + MW-6			1235	W		Y	ITCL	S	X	X	X	
5 + MW-17			1320	W		Y	ITCL	S	X	X	X	
6 + MW-12			1350	W		Y	ITCL	S	X	X	X	
7 + MW-14			1415	W		Y	ITCL	S	X	X	X	
8 + MW-15			1440	W		Y	ITCL	S	X	X	X	
9 + MW-7			1150	W		Y	ITCL	S	X	X	X	
10 + MW-9			1225	W		Y	ITCL	S	X	X	X	
11 + MW-11			1300	W		Y	ITCL	S	X	X	X	
12 + MW-18			1350	W		Y	ITCL	S	X	X	X	

Relinquished by: Signature <u>M. Jones</u> (3) Printed <u>M. Jones</u> Company <u>BTS</u>	Date <u>12/29/08</u> Time <u>1315</u>	Received by: Signature <u>Alexis</u> (4) Printed <u>Alexis Greuter</u> Company <u>CIT</u>	Date <u>12/29/08</u> Time <u>1315</u>	Relinquished by: Signature _____ Printed _____ Company _____	Date _____ Time _____
---	--	---	--	--	--------------------------

Turnaround Time: <u>STANDARD</u> Comments: <u>EDF REQUIRED</u> <u>GLOBAL ID # SLT 2005561</u>	Relinquished by: Signature <u>D. Reynol</u> (1) Printed <u>D. Reynol</u> Company <u>BTS</u>	Date <u>12/29</u> Time <u>1700</u>	Received by: Signature <u>D. Reynol (Sample Custodian)</u> (2) Printed <u>D. Reynol</u> Company <u>BTS</u>	Date <u>12/29</u> Time <u>1705</u>
---	---	---------------------------------------	--	---------------------------------------

2000-00-01

Chain of Custody Record

Lab job no. 209441
 Date 12/30/08
 Page 3 of 3

Laboratory CYT Method of Shipment LAB COURIER
 Address 2323 FIFTH ST Shipment No. _____
BERKELEY, CA
 Project Owner _____ Cooler No. _____
 Site Address 6400 CHRISTIE AVE Project Manager TEAL GLASS
BERKELEY, CA Telephone No. (510) 644-3123
 Project Name BAY CENTER APARTMENT Fax No. (510) 644-3859
 Project Number 2007-65 Samplers: (Signature) [Signature]

Field Sample Number	Location/Depth	Date	Time	Sample Type	Type/Size of Container	Preservation		Filtered	No. of Containers	Analysis Required				Remarks
						Cooler	Chemical							
15 + MW-10		12/30/08	0940	W	(4) 1L HD Amber	Y	1LCL		5	X	X	X		
16 + MW-E			0920	W	↓	Y	1LCL		5	X	X	X		
17 + RW-1			1130	W	↓	Y	1LCL		5	X	X	X		SPI in Sample Contact Steller
18 + MW-13			1330	W	↓	Y	1LCL		5	X	X	X		SPI in Sample Contact Steller

Relinquished by: Signature <u>WR Jones</u> Printed <u>WR JONES</u> Company <u>BTS</u>	Date <u>12/30/08</u> Time <u>1315</u>	Received by: Signature <u>[Signature]</u> Printed <u>A. RAYNS</u> Company <u>CYT</u>	Date <u>12/31/08</u> Time <u>1535</u>	Relinquished by: Signature _____ Printed _____ Company _____	Date _____ Time _____	Received by: Signature _____ Printed _____ Company _____	Date _____ Time _____		
Turnaround Time: <u>STANDARD</u> Comments: <u>EDF REQUIRED</u> <u>GLOBAL ID # SLT2005561</u>				Relinquished by: Signature <u>[Signature]</u> Printed <u>D. Rayns</u> Company <u>BTS</u>				Received by: Signature <u>[Signature]</u> Printed <u>D. Rayns</u> Company <u>BTS</u>	



2000-00-01

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 208991 Date Received 12/31/8 Number of coolers 3
 Client STELLAR Project BAY CENTER APTS

Date Opened 12/31/8 By (print) S. EVANS (sign) [Signature]
 Date Logged in [Signature] By (print) [Signature] (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) YES ~~NO~~
 Shipping info _____

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
 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) _____

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? _____ YES NO

If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? _____ YES NO

10. Are samples in the appropriate containers for indicated tests? _____ YES NO

11. Are sample labels present, in good condition and complete? _____ YES NO

12. Do the sample labels agree with custody papers? _____ YES NO

13. Was sufficient amount of sample sent for tests requested? _____ YES NO

14. Are the samples appropriately preserved? _____ YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A

16. Was the client contacted concerning this sample delivery? _____ YES NO

If YES, Who was called? _____ By _____ Date: _____

COMMENTS

BUBBLES: # 3 - 1/4 VOA # 12 - 4/4 VOAS
6 - 1/4 VOA # 13 - 3/4 VOAS
7 - 3/4 VOA # 14 - 2/4 VOAS
9 - 2/4 VOA
10 - 2/4 VOA
11 - 1/4 VOA



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

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

Laboratory Job Number 208991
ANALYTICAL REPORT

Stellar Environmental Solutions
2198 6th Street
Berkeley, CA 94710

Project : 2007-65
Location : Bay Center Apts
Level : II

Table with 2 columns: Sample ID and Lab ID. Lists 18 samples including MW-3 through MW-13 and MW-E, RW-1.

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

Signature: [Handwritten Signature]
Project Manager

Date: 01/15/2009

Signature: [Handwritten Signature]
Senior Program Manager

Date: 01/15/2009

CASE NARRATIVE

Laboratory number: 208991
Client: Stellar Environmental Solutions
Project: 2007-65
Location: Bay Center Apts
Request Date: 12/31/08
Samples Received: 12/31/08

This data package contains sample and QC results for eighteen water samples, requested for the above referenced project on 12/31/08. 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 bromofluorobenzene (FID) in RW-1 (lab # 208991-017) and MW-13 (lab # 208991-018), due to interference from coeluting hydrocarbon peaks; the corresponding trifluorotoluene (FID) surrogate recoveries were within limits. MW-7 (lab # 208991-009) and MW-18 (lab # 208991-012) had pH greater than 2. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Curtis & Tompkins Laboratories Analytical Report

Lab #: 208991	Location: Bay Center Apts
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2007-65	
Matrix: Water	Received: 12/31/08
Units: ug/L	

Field ID: MW-3	Batch#: 146648
Type: SAMPLE	Sampled: 12/29/08
Lab ID: 208991-001	Analyzed: 01/05/09
Diln Fac: 1.000	

Analyte	Result	RL	Analysis
Gasoline C7-C12	240 Y	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	1.1	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	61-149	EPA 8015B
Bromofluorobenzene (FID)	112	65-146	EPA 8015B
Trifluorotoluene (PID)	97	52-143	EPA 8021B
Bromofluorobenzene (PID)	93	56-141	EPA 8021B

Field ID: MW-4	Batch#: 146648
Type: SAMPLE	Sampled: 12/29/08
Lab ID: 208991-002	Analyzed: 01/05/09
Diln Fac: 1.000	

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	61-149	EPA 8015B
Bromofluorobenzene (FID)	92	65-146	EPA 8015B
Trifluorotoluene (PID)	90	52-143	EPA 8021B
Bromofluorobenzene (PID)	87	56-141	EPA 8021B

*= Value outside of QC limits; see narrative
 C= Presence confirmed, but RPD between columns exceeds 40%
 Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #: 208991	Location: Bay Center Apts
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2007-65	
Matrix: Water	Received: 12/31/08
Units: ug/L	

Field ID: MW-17	Batch#: 146709
Type: SAMPLE	Sampled: 12/29/08
Lab ID: 208991-005	Analyzed: 01/06/09
Diln Fac: 5.000	

Analyte	Result	RL	Analysis
Gasoline C7-C12	7,100	250	EPA 8015B
MTBE	ND	10	EPA 8021B
Benzene	1,100	2.5	EPA 8021B
Toluene	530	2.5	EPA 8021B
Ethylbenzene	190	2.5	EPA 8021B
m,p-Xylenes	280	2.5	EPA 8021B
o-Xylene	110	2.5	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	111	61-149	EPA 8015B
Bromofluorobenzene (FID)	98	65-146	EPA 8015B
Trifluorotoluene (PID)	114	52-143	EPA 8021B
Bromofluorobenzene (PID)	92	56-141	EPA 8021B

Field ID: MW-12	Lab ID: 208991-006
Type: SAMPLE	Sampled: 12/29/08

Analyte	Result	RL	Diln Fac	Batch#	Analyzed	Analysis
Gasoline C7-C12	19,000	1,300	25.00	146709	01/07/09	EPA 8015B
MTBE	ND	50	25.00	146709	01/07/09	EPA 8021B
Benzene	7,900	13	25.00	146709	01/07/09	EPA 8021B
Toluene	140	13	25.00	146709	01/07/09	EPA 8021B
Ethylbenzene	72	13	25.00	146709	01/07/09	EPA 8021B
m,p-Xylenes	110	13	25.00	146709	01/07/09	EPA 8021B
o-Xylene	14	0.50	1.000	146648	01/06/09	EPA 8021B

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed	Analysis
Trifluorotoluene (FID)	104	61-149	25.00	146709	01/07/09	EPA 8015B
Bromofluorobenzene (FID)	93	65-146	25.00	146709	01/07/09	EPA 8015B
Trifluorotoluene (PID)	106	52-143	25.00	146709	01/07/09	EPA 8021B
Bromofluorobenzene (PID)	87	56-141	25.00	146709	01/07/09	EPA 8021B

*= Value outside of QC limits; see narrative
 C= Presence confirmed, but RPD between columns exceeds 40%
 Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #: 208991	Location: Bay Center Apts
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2007-65	
Matrix: Water	Received: 12/31/08
Units: ug/L	

Field ID: MW-14	Batch#: 146709
Type: SAMPLE	Sampled: 12/29/08
Lab ID: 208991-007	Analyzed: 01/06/09
Diln Fac: 5.000	

Analyte	Result	RL	Analysis
Gasoline C7-C12	2,300	250	EPA 8015B
MTBE	ND	10	EPA 8021B
Benzene	830	2.5	EPA 8021B
Toluene	27	2.5	EPA 8021B
Ethylbenzene	45	2.5	EPA 8021B
m,p-Xylenes	25	2.5	EPA 8021B
o-Xylene	5.7	2.5	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	107	61-149	EPA 8015B
Bromofluorobenzene (FID)	94	65-146	EPA 8015B
Trifluorotoluene (PID)	97	52-143	EPA 8021B
Bromofluorobenzene (PID)	90	56-141	EPA 8021B

Field ID: MW-15	Lab ID: 208991-008
Type: SAMPLE	Sampled: 12/29/08

Analyte	Result	RL	Diln Fac	Batch#	Analyzed	Analysis
Gasoline C7-C12	20,000	1,300	25.00	146709	01/07/09	EPA 8015B
MTBE	ND	50	25.00	146709	01/07/09	EPA 8021B
Benzene	7,600	13	25.00	146709	01/07/09	EPA 8021B
Toluene	95	13	25.00	146709	01/07/09	EPA 8021B
Ethylbenzene	300	13	25.00	146709	01/07/09	EPA 8021B
m,p-Xylenes	77	13	25.00	146709	01/07/09	EPA 8021B
o-Xylene	7.2	0.50	1.000	146648	01/06/09	EPA 8021B

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed	Analysis
Trifluorotoluene (FID)	104	61-149	25.00	146709	01/07/09	EPA 8015B
Bromofluorobenzene (FID)	95	65-146	25.00	146709	01/07/09	EPA 8015B
Trifluorotoluene (PID)	101	52-143	25.00	146709	01/07/09	EPA 8021B
Bromofluorobenzene (PID)	88	56-141	25.00	146709	01/07/09	EPA 8021B

*= Value outside of QC limits; see narrative
 C= Presence confirmed, but RPD between columns exceeds 40%
 Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #: 208991	Location: Bay Center Apts
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2007-65	
Matrix: Water	Received: 12/31/08
Units: ug/L	

Field ID: MW-7	Batch#: 146709
Type: SAMPLE	Sampled: 12/29/08
Lab ID: 208991-009	Analyzed: 01/07/09
Diln Fac: 2.000	

Analyte	Result	RL	Analysis
Gasoline C7-C12	2,200	100	EPA 8015B
MTBE	ND	4.0	EPA 8021B
Benzene	640	1.0	EPA 8021B
Toluene	100	1.0	EPA 8021B
Ethylbenzene	43	1.0	EPA 8021B
m,p-Xylenes	150	1.0	EPA 8021B
o-Xylene	35	1.0	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	93	61-149	EPA 8015B
Bromofluorobenzene (FID)	91	65-146	EPA 8015B
Trifluorotoluene (PID)	97	52-143	EPA 8021B
Bromofluorobenzene (PID)	86	56-141	EPA 8021B

Field ID: MW-9	Batch#: 146648
Type: SAMPLE	Sampled: 12/29/08
Lab ID: 208991-010	Analyzed: 01/06/09
Diln Fac: 1.000	

Analyte	Result	RL	Analysis
Gasoline C7-C12	95	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	4.0	0.50	EPA 8021B
Toluene	0.54	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)	98	61-149	EPA 8015B
Bromofluorobenzene (FID)	95	65-146	EPA 8015B
Trifluorotoluene (PID)	91	52-143	EPA 8021B
Bromofluorobenzene (PID)	87	56-141	EPA 8021B

*= Value outside of QC limits; see narrative
 C= Presence confirmed, but RPD between columns exceeds 40%
 Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Curtis & Tompkins Laboratories Analytical Report

Lab #: 208991	Location: Bay Center Apts
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2007-65	
Matrix: Water	Received: 12/31/08
Units: ug/L	

Field ID: RW-1	Batch#: 146709
Type: SAMPLE	Sampled: 12/30/08
Lab ID: 208991-017	Analyzed: 01/07/09
Diln Fac: 500.0	

Analyte	Result	RL	Analysis
Gasoline C7-C12	1,100,000	25,000	EPA 8015B
MTBE	ND	1,000	EPA 8021B
Benzene	500 C	250	EPA 8021B
Toluene	ND	250	EPA 8021B
Ethylbenzene	3,200 C	250	EPA 8021B
m,p-Xylenes	530	250	EPA 8021B
o-Xylene	ND	250	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	101	61-149	EPA 8015B
Bromofluorobenzene (FID)	173 *	65-146	EPA 8015B
Trifluorotoluene (PID)	92	52-143	EPA 8021B
Bromofluorobenzene (PID)	109	56-141	EPA 8021B

Field ID: MW-13	Batch#: 146709
Type: SAMPLE	Sampled: 12/30/08
Lab ID: 208991-018	Analyzed: 01/07/09
Diln Fac: 500.0	

Analyte	Result	RL	Analysis
Gasoline C7-C12	2,700,000	25,000	EPA 8015B
MTBE	ND	1,000	EPA 8021B
Benzene	23,000	250	EPA 8021B
Toluene	ND	250	EPA 8021B
Ethylbenzene	40,000	250	EPA 8021B
m,p-Xylenes	33,000	250	EPA 8021B
o-Xylene	12,000	250	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	140	61-149	EPA 8015B
Bromofluorobenzene (FID)	204 *	65-146	EPA 8015B
Trifluorotoluene (PID)	112	52-143	EPA 8021B
Bromofluorobenzene (PID)	117	56-141	EPA 8021B

*= Value outside of QC limits; see narrative
 C= Presence confirmed, but RPD between columns exceeds 40%
 Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	208991	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC478103	Batch#:	146648
Matrix:	Water	Analyzed:	01/05/09
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	887.4	89	78-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	117	61-149
Bromofluorobenzene (FID)	92	65-146

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	208991	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65	Analysis:	EPA 8021B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC478104	Batch#:	146648
Matrix:	Water	Analyzed:	01/05/09
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
MTBE	10.00	9.368	94	61-143
Benzene	10.00	8.860	89	80-120
Toluene	10.00	9.443	94	77-120
Ethylbenzene	10.00	9.652	97	79-123
m,p-Xylenes	10.00	9.488	95	78-123
o-Xylene	10.00	9.176	92	78-122

Surrogate	%REC	Limits
Trifluorotoluene (PID)	90	52-143
Bromofluorobenzene (PID)	87	56-141

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	208991	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65	Analysis:	EPA 8015B
Field ID:	MW-4	Batch#:	146648
MSS Lab ID:	208991-002	Sampled:	12/29/08
Matrix:	Water	Received:	12/31/08
Units:	ug/L	Analyzed:	01/05/09
Diln Fac:	1.000		

Type: MS Lab ID: QC478111

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	31.92	2,000	1,737	85	65-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	115	61-149
Bromofluorobenzene (FID)	99	65-146

Type: MSD Lab ID: QC478112

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,730	85	65-120	0	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	117	61-149
Bromofluorobenzene (FID)	99	65-146

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	208991	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC478344	Batch#:	146709
Matrix:	Water	Analyzed:	01/06/09
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	962.6	96	78-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	109	61-149
Bromofluorobenzene (FID)	94	65-146

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	208991	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	146709
MSS Lab ID:	209059-001	Sampled:	01/05/09
Matrix:	Water	Received:	01/06/09
Units:	ug/L	Analyzed:	01/06/09
Diln Fac:	1.000		

Type: MS Lab ID: QC478345

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	28.45	2,000	1,950	96	65-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	116	61-149
Bromofluorobenzene (FID)	99	65-146

Type: MSD Lab ID: QC478346

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,984	98	65-120	2	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	116	61-149
Bromofluorobenzene (FID)	101	65-146

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	208991	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	146709
Units:	ug/L	Analyzed:	01/06/09
Diln Fac:	1.000		

Type: BS Lab ID: QC478356

Analyte	Spiked	Result	%REC	Limits
MTBE	10.00	9.899	99	61-143
Benzene	10.00	9.105	91	80-120
Toluene	10.00	10.07	101	77-120
Ethylbenzene	10.00	10.09	101	79-123
m,p-Xylenes	10.00	10.26	103	78-123
o-Xylene	10.00	9.780	98	78-122

Surrogate	%REC	Limits
Trifluorotoluene (PID)	92	52-143
Bromofluorobenzene (PID)	88	56-141

Type: BSD Lab ID: QC478357

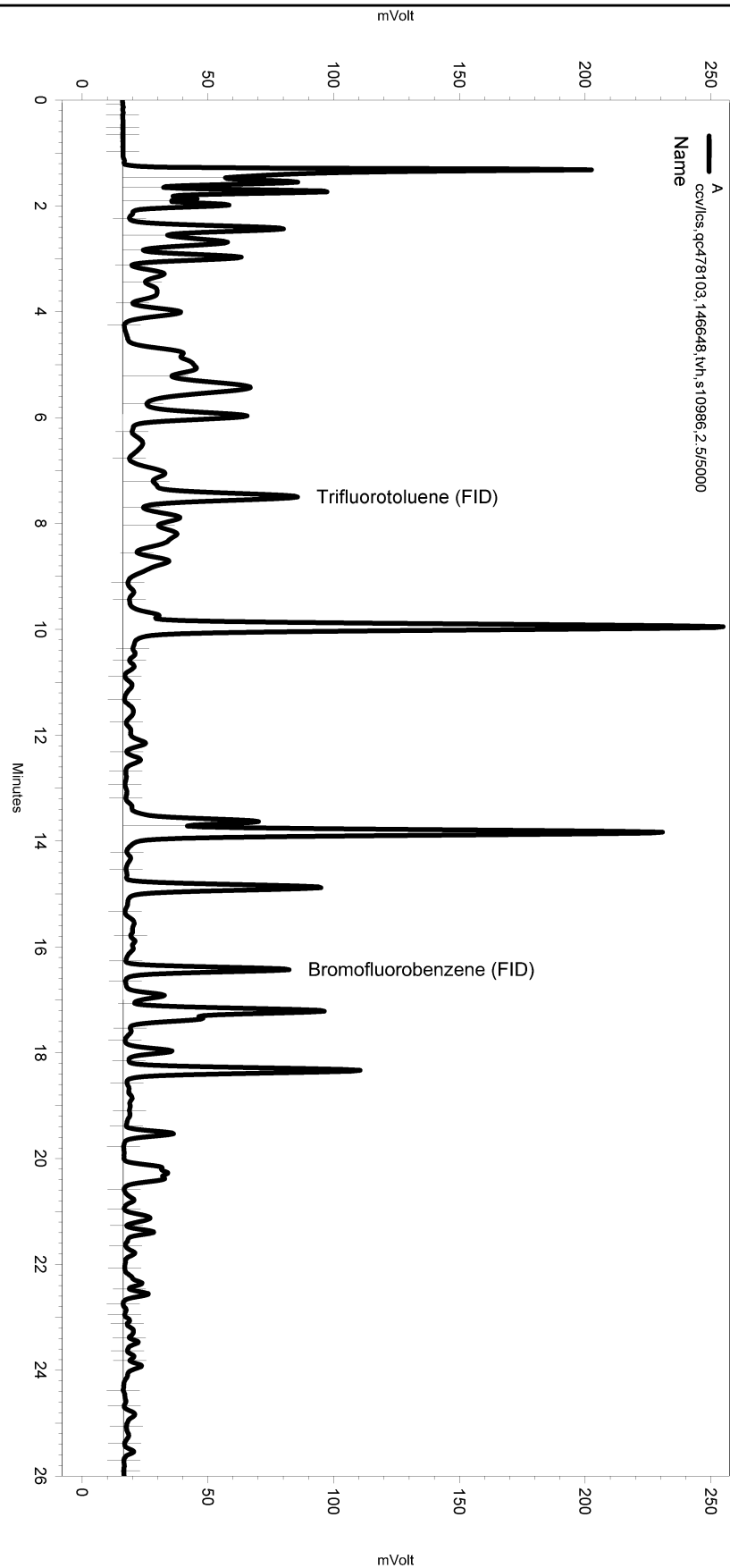
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	20.00	19.87	99	61-143	0	32
Benzene	20.00	19.90	100	80-120	9	20
Toluene	20.00	21.54	108	77-120	7	20
Ethylbenzene	20.00	21.71	109	79-123	7	20
m,p-Xylenes	20.00	22.21	111	78-123	8	21
o-Xylene	20.00	21.11	106	78-122	8	20

Surrogate	%REC	Limits
Trifluorotoluene (PID)	91	52-143
Bromofluorobenzene (PID)	87	56-141

RPD= Relative Percent Difference

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Software Version 3.1.7
 Run Date: 1/5/2009 12:13:45 PM
 Analysis Date: 1/5/2009 12:42:55 PM
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Channel A

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No items selected for this section

---< A >---

No items selected for this section

Integration Events

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

Manual Integration Fixes

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Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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Total Extractable Hydrocarbons			
Lab #:	208991	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2007-65	Analysis:	EPA 8015B
Matrix:	Water	Received:	12/31/08
Units:	ug/L	Prepared:	01/05/09
Batch#:	146661		

Field ID: MW-17 Diln Fac: 1.000
 Type: SAMPLE Sampled: 12/29/08
 Lab ID: 208991-005 Analyzed: 01/07/09

Analyte	Result	RL
Diesel C10-C24	3,200 Y	50
Surrogate	%REC	Limits
o-Terphenyl	104	63-124

Field ID: MW-12 Diln Fac: 1.000
 Type: SAMPLE Sampled: 12/29/08
 Lab ID: 208991-006 Analyzed: 01/07/09

Analyte	Result	RL
Diesel C10-C24	3,600 Y	50
Surrogate	%REC	Limits
o-Terphenyl	107	63-124

Field ID: MW-14 Diln Fac: 1.000
 Type: SAMPLE Sampled: 12/29/08
 Lab ID: 208991-007 Analyzed: 01/07/09

Analyte	Result	RL
Diesel C10-C24	2,800 Y	50
Surrogate	%REC	Limits
o-Terphenyl	97	63-124

Field ID: MW-15 Diln Fac: 1.000
 Type: SAMPLE Sampled: 12/29/08
 Lab ID: 208991-008 Analyzed: 01/07/09

Analyte	Result	RL
Diesel C10-C24	3,000 Y	50
Surrogate	%REC	Limits
o-Terphenyl	96	63-124

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

Total Extractable Hydrocarbons			
Lab #:	208991	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2007-65	Analysis:	EPA 8015B
Matrix:	Water	Received:	12/31/08
Units:	ug/L	Prepared:	01/05/09
Batch#:	146661		

Field ID:	MW-7	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	12/29/08
Lab ID:	208991-009	Analyzed:	01/07/09

Analyte	Result	RL
Diesel C10-C24	8,700 Y	50

Surrogate	%REC	Limits
o-Terphenyl	94	63-124

Field ID:	MW-9	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	12/29/08
Lab ID:	208991-010	Analyzed:	01/07/09

Analyte	Result	RL
Diesel C10-C24	7,800 Y	50

Surrogate	%REC	Limits
o-Terphenyl	92	63-124

Field ID:	MW-11	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	12/29/08
Lab ID:	208991-011	Analyzed:	01/07/09

Analyte	Result	RL
Diesel C10-C24	7,800 Y	50

Surrogate	%REC	Limits
o-Terphenyl	107	63-124

Field ID:	MW-18	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	12/29/08
Lab ID:	208991-012	Analyzed:	01/07/09

Analyte	Result	RL
Diesel C10-C24	9,300 Y	50

Surrogate	%REC	Limits
o-Terphenyl	103	63-124

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

Total Extractable Hydrocarbons			
Lab #:	208991	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2007-65	Analysis:	EPA 8015B
Matrix:	Water	Received:	12/31/08
Units:	ug/L	Prepared:	01/05/09
Batch#:	146661		

Field ID:	MW-16	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	12/29/08
Lab ID:	208991-013	Analyzed:	01/07/09

Analyte	Result	RL
Diesel C10-C24	8,800 Y	50

Surrogate	%REC	Limits
o-Terphenyl	97	63-124

Field ID:	MW-8	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	12/29/08
Lab ID:	208991-014	Analyzed:	01/07/09

Analyte	Result	RL
Diesel C10-C24	7,600 Y	50

Surrogate	%REC	Limits
o-Terphenyl	98	63-124

Field ID:	MW-10	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	12/30/08
Lab ID:	208991-015	Analyzed:	01/07/09

Analyte	Result	RL
Diesel C10-C24	3,200 Y	50

Surrogate	%REC	Limits
o-Terphenyl	96	63-124

Field ID:	MW-E	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	12/30/08
Lab ID:	208991-016	Analyzed:	01/08/09

Analyte	Result	RL
Diesel C10-C24	9,400 Y	50

Surrogate	%REC	Limits
o-Terphenyl	107	63-124

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

Total Extractable Hydrocarbons			
Lab #:	208991	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2007-65	Analysis:	EPA 8015B
Matrix:	Water	Received:	12/31/08
Units:	ug/L	Prepared:	01/05/09
Batch#:	146661		

Field ID: RW-1 Diln Fac: 20.00
 Type: SAMPLE Sampled: 12/30/08
 Lab ID: 208991-017 Analyzed: 01/07/09

Analyte	Result	RL
Diesel C10-C24	54,000 Y	1,000

Surrogate	%REC	Limits
o-Terphenyl	DO	63-124

Field ID: MW-13 Diln Fac: 50.00
 Type: SAMPLE Sampled: 12/30/08
 Lab ID: 208991-018 Analyzed: 01/07/09

Analyte	Result	RL
Diesel C10-C24	1,100,000 Y	5,000

Surrogate	%REC	Limits
o-Terphenyl	DO	63-124

Type: BLANK Diln Fac: 1.000
 Lab ID: QC478154 Analyzed: 01/08/09

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	106	63-124

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

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	208991	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2007-65	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	146661
Units:	ug/L	Prepared:	01/05/09
Diln Fac:	1.000	Analyzed:	01/07/09

Type: BS Lab ID: QC478155

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,347	94	52-120

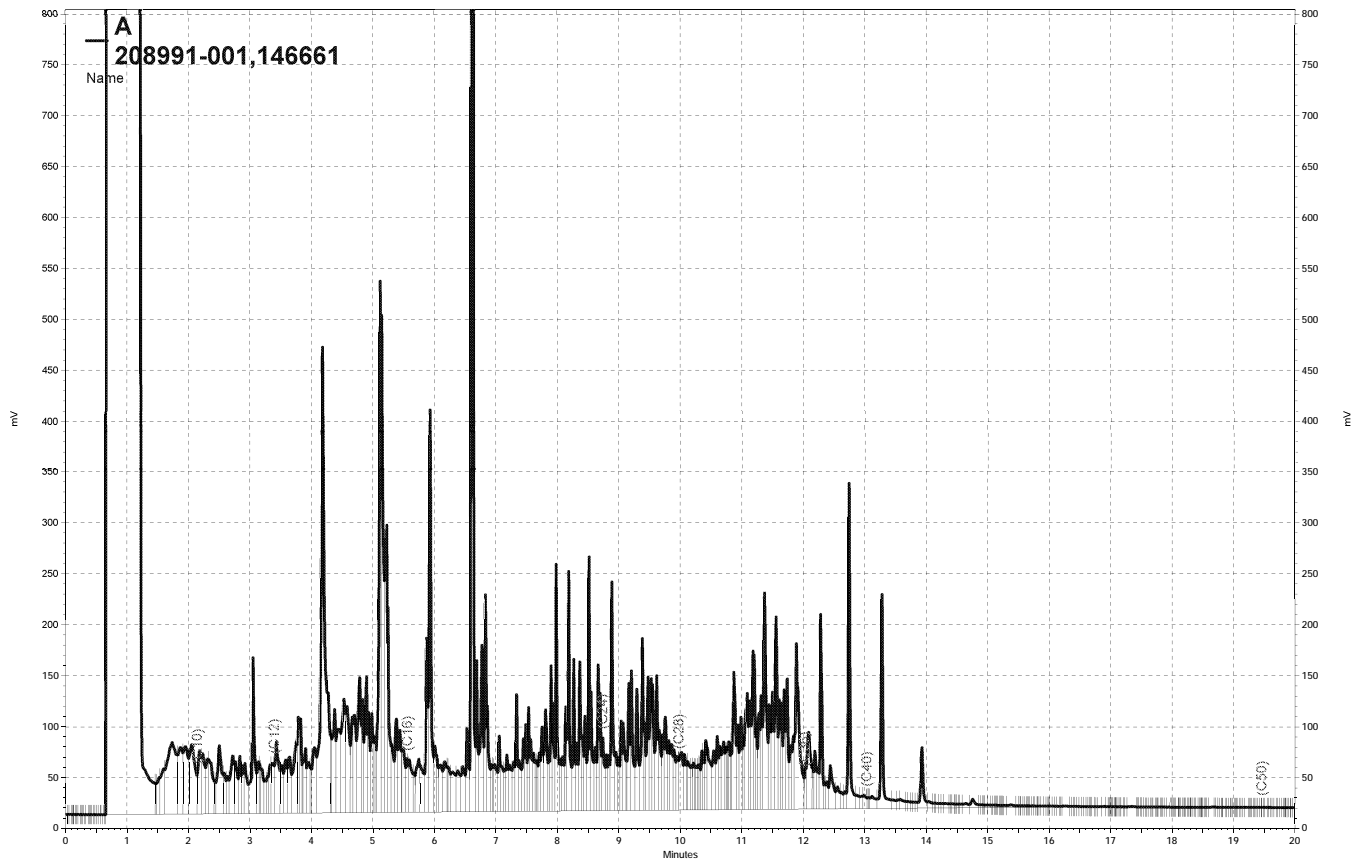
Surrogate	%REC	Limits
o-Terphenyl	100	63-124

Type: BSD Lab ID: QC478156

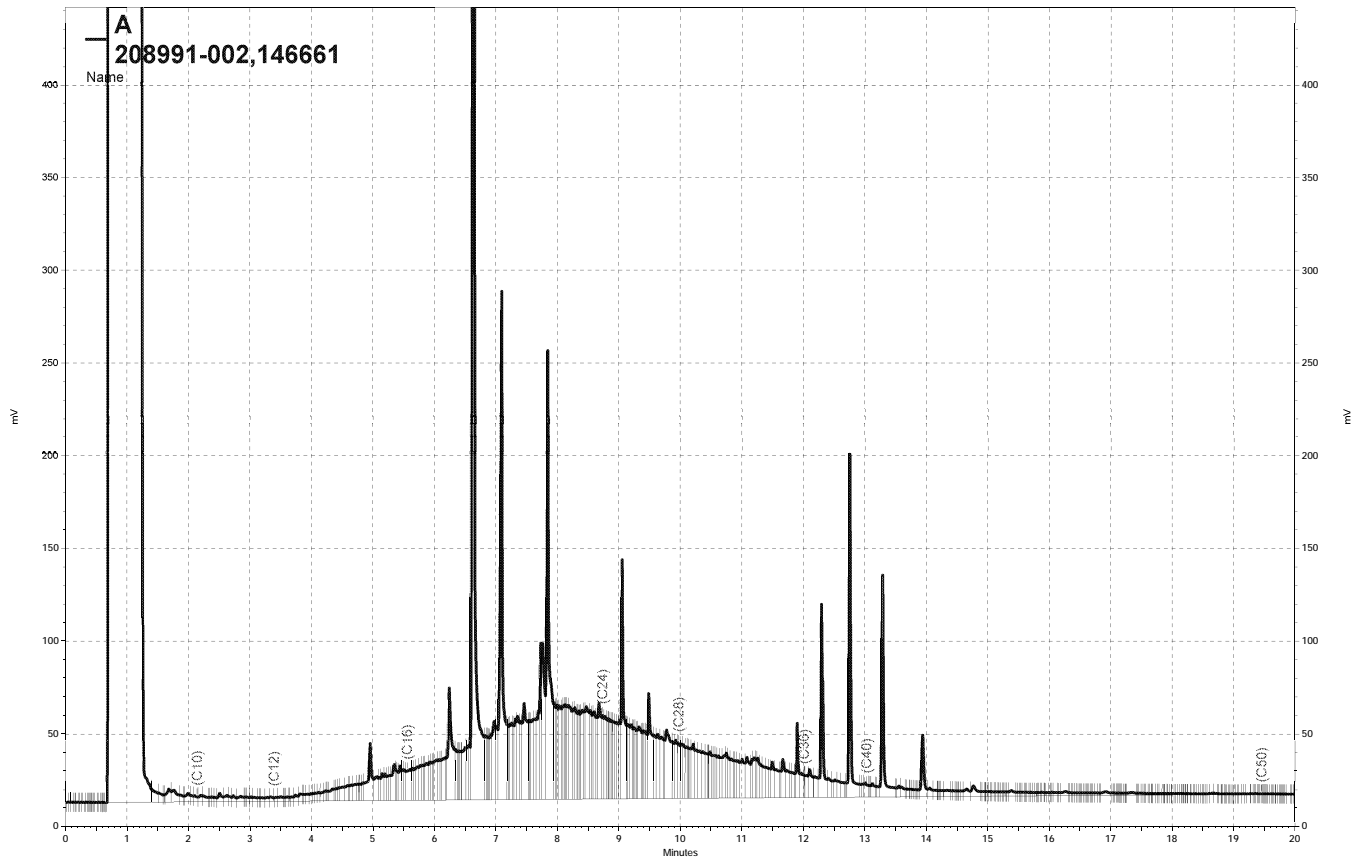
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,262	90	52-120	4	30

Surrogate	%REC	Limits
o-Terphenyl	95	63-124

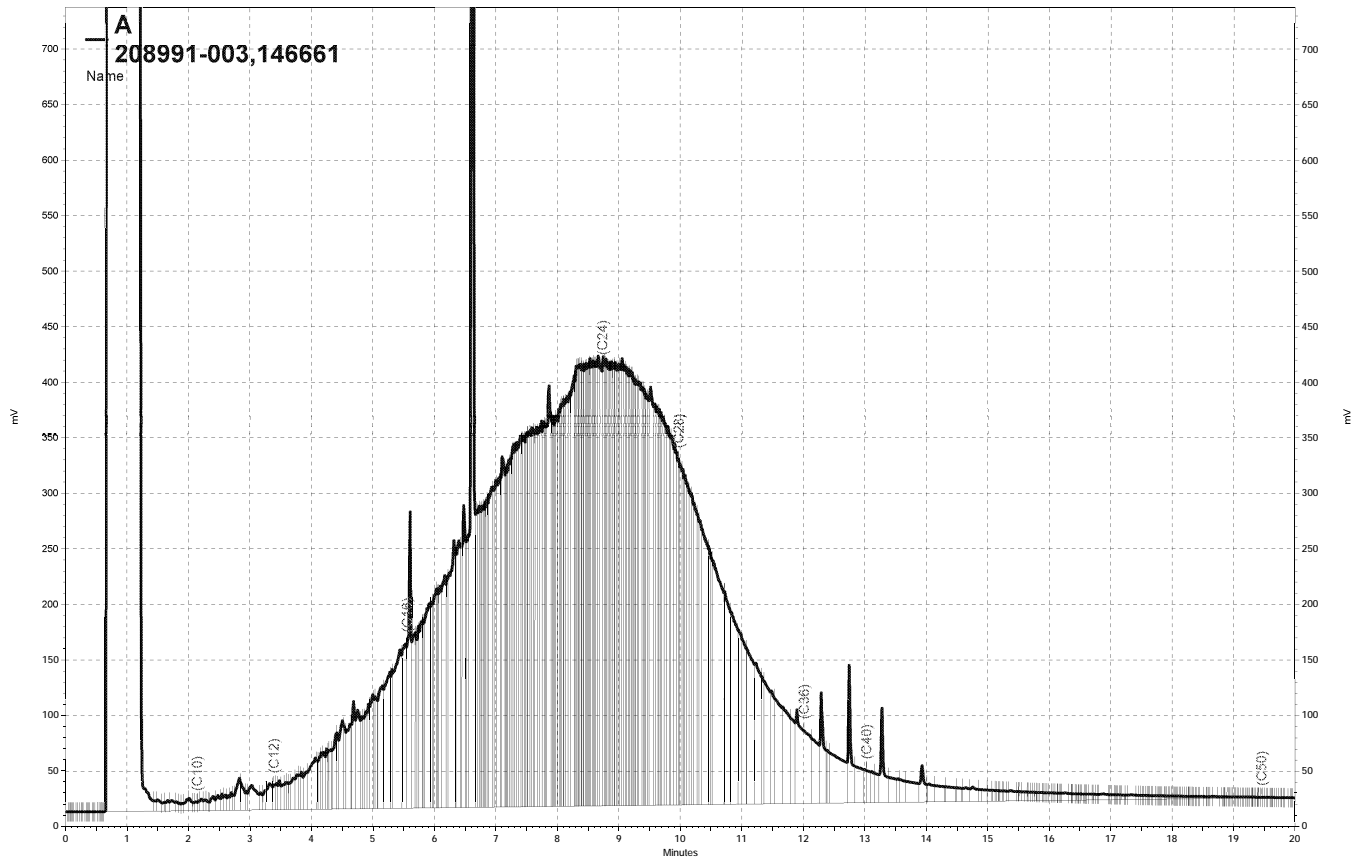
RPD= Relative Percent Difference



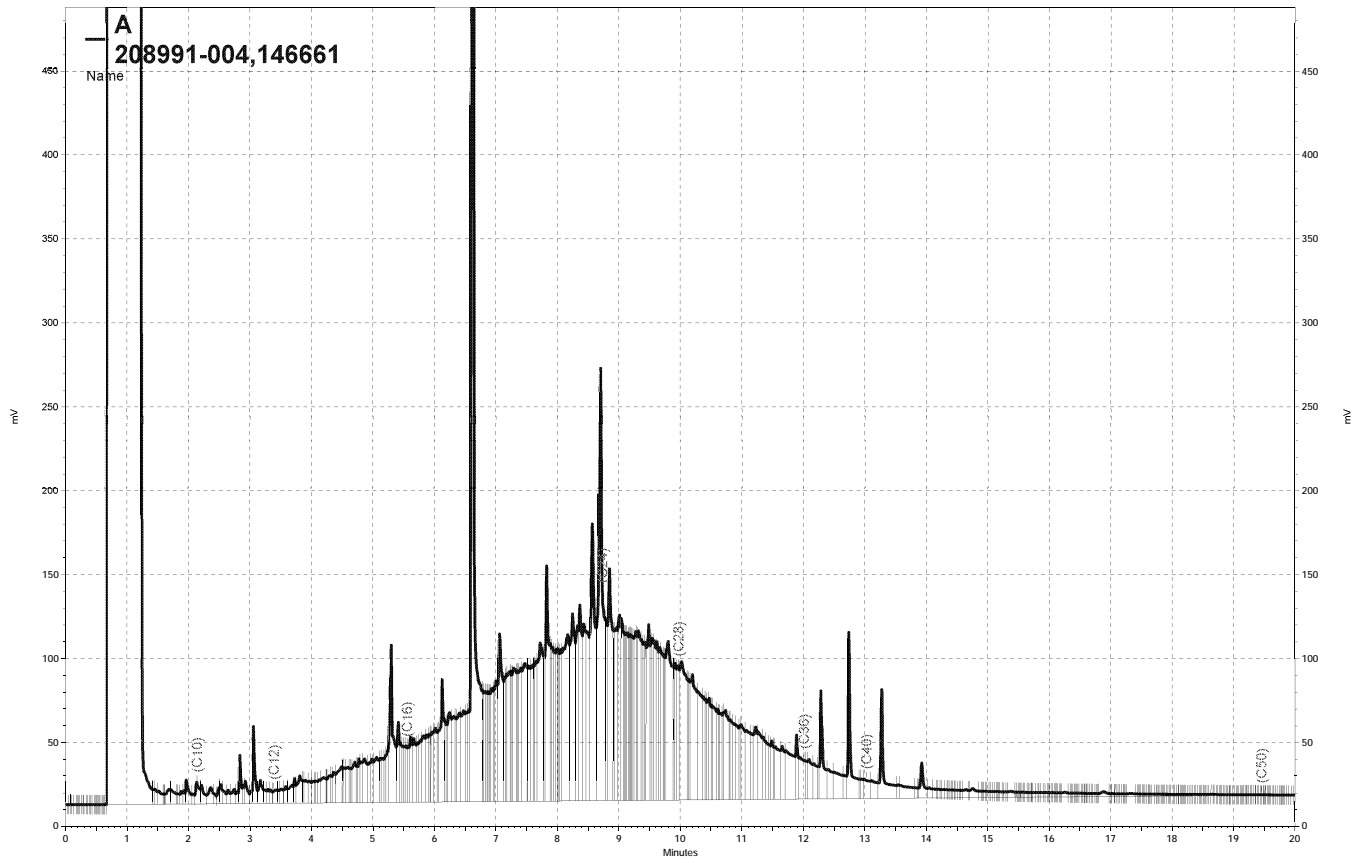
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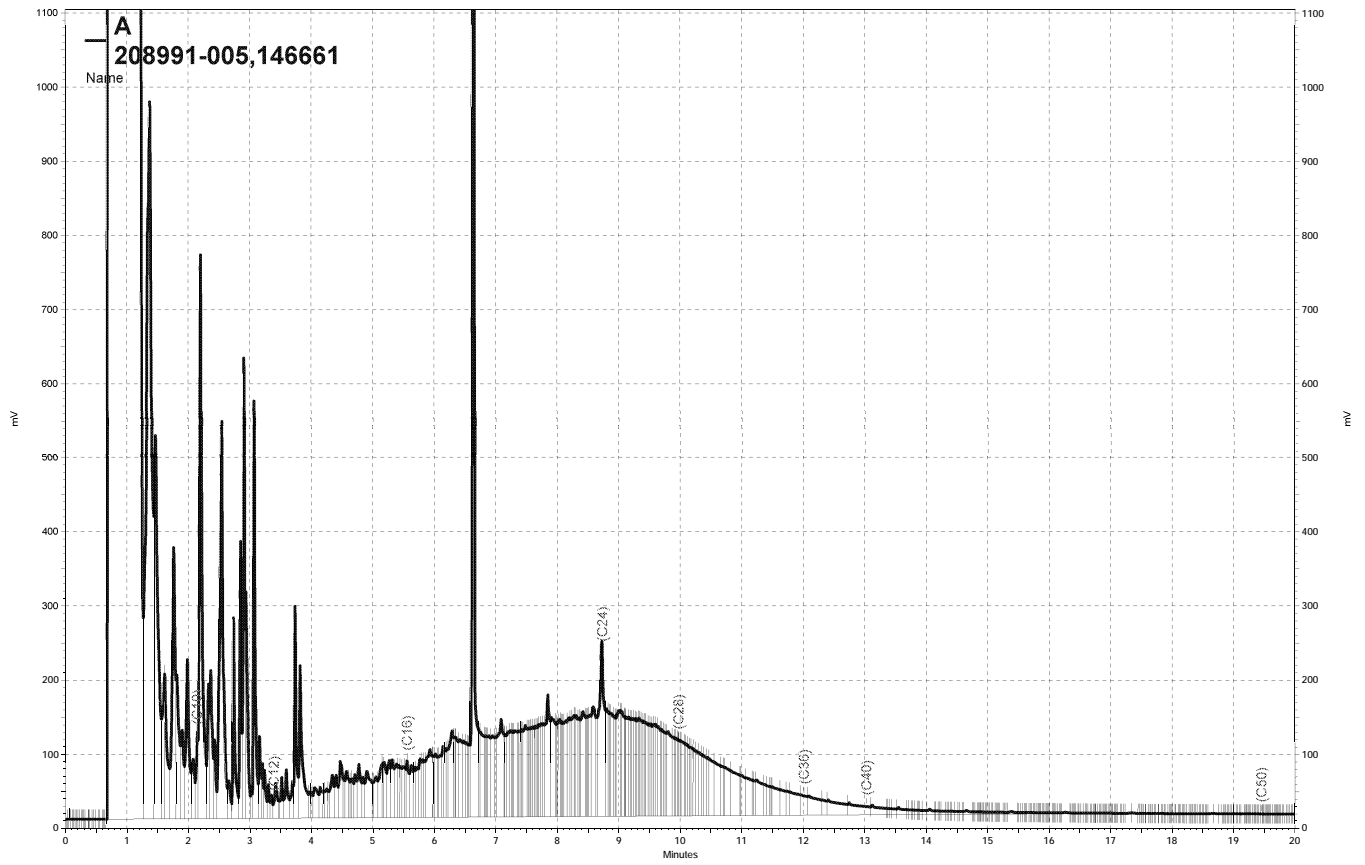
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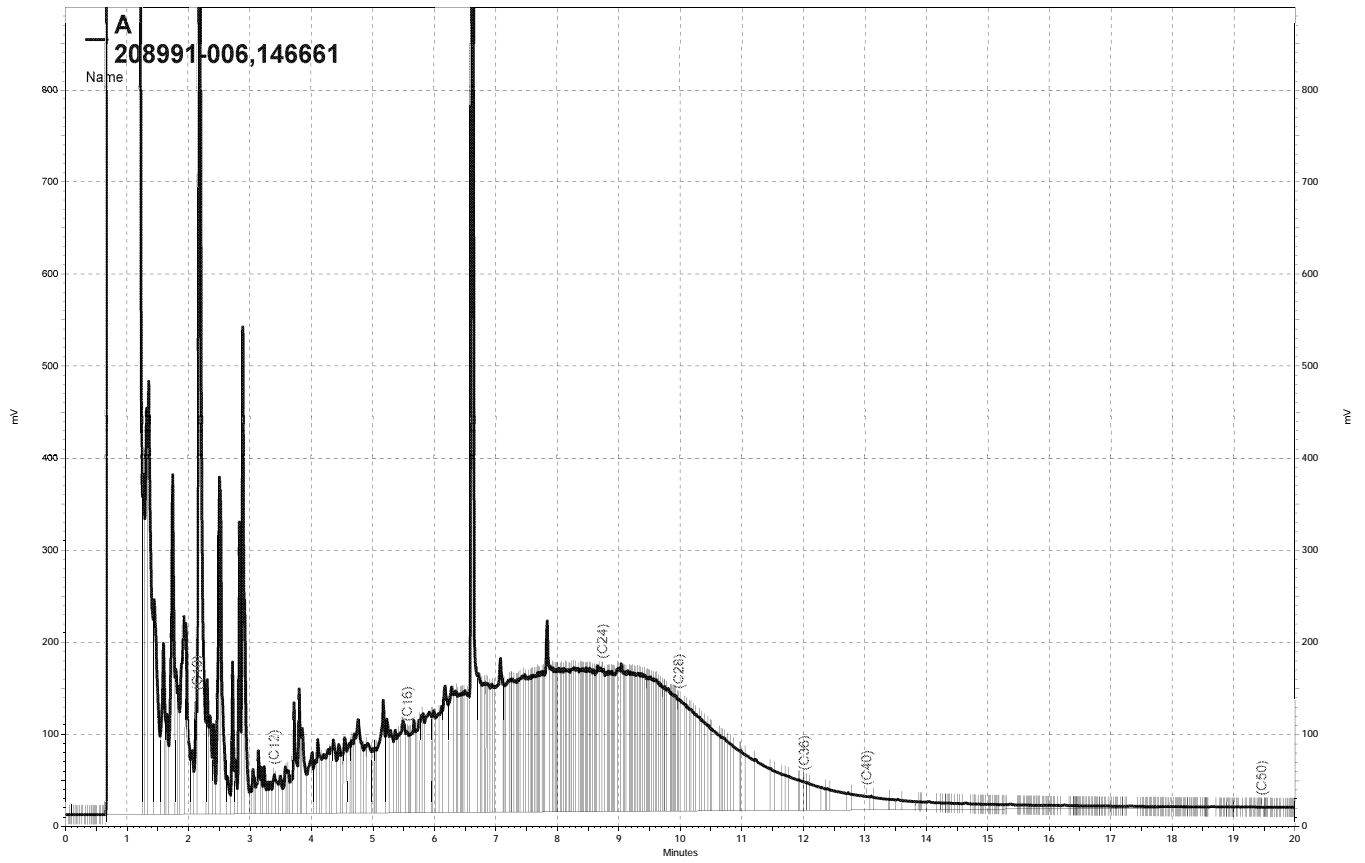
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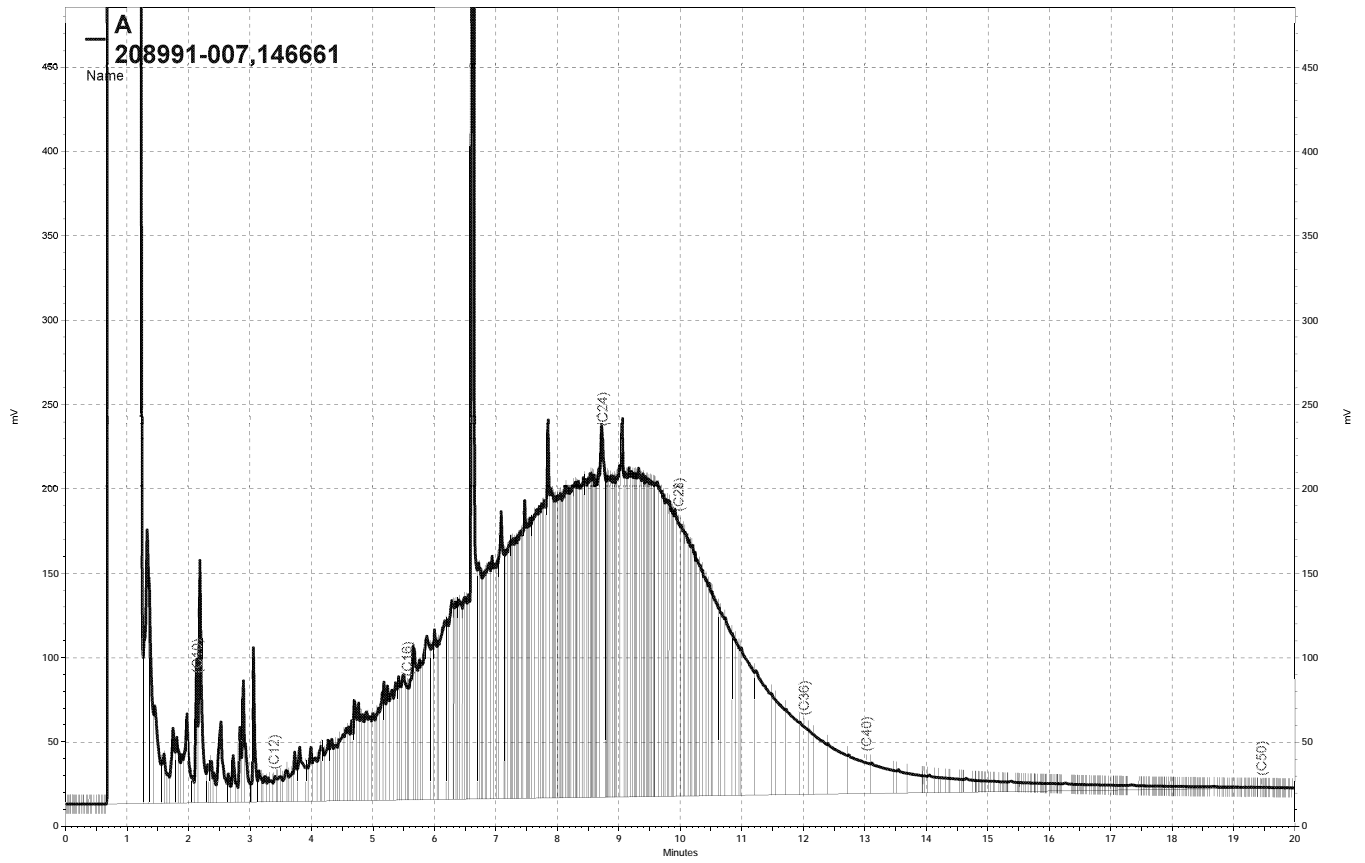
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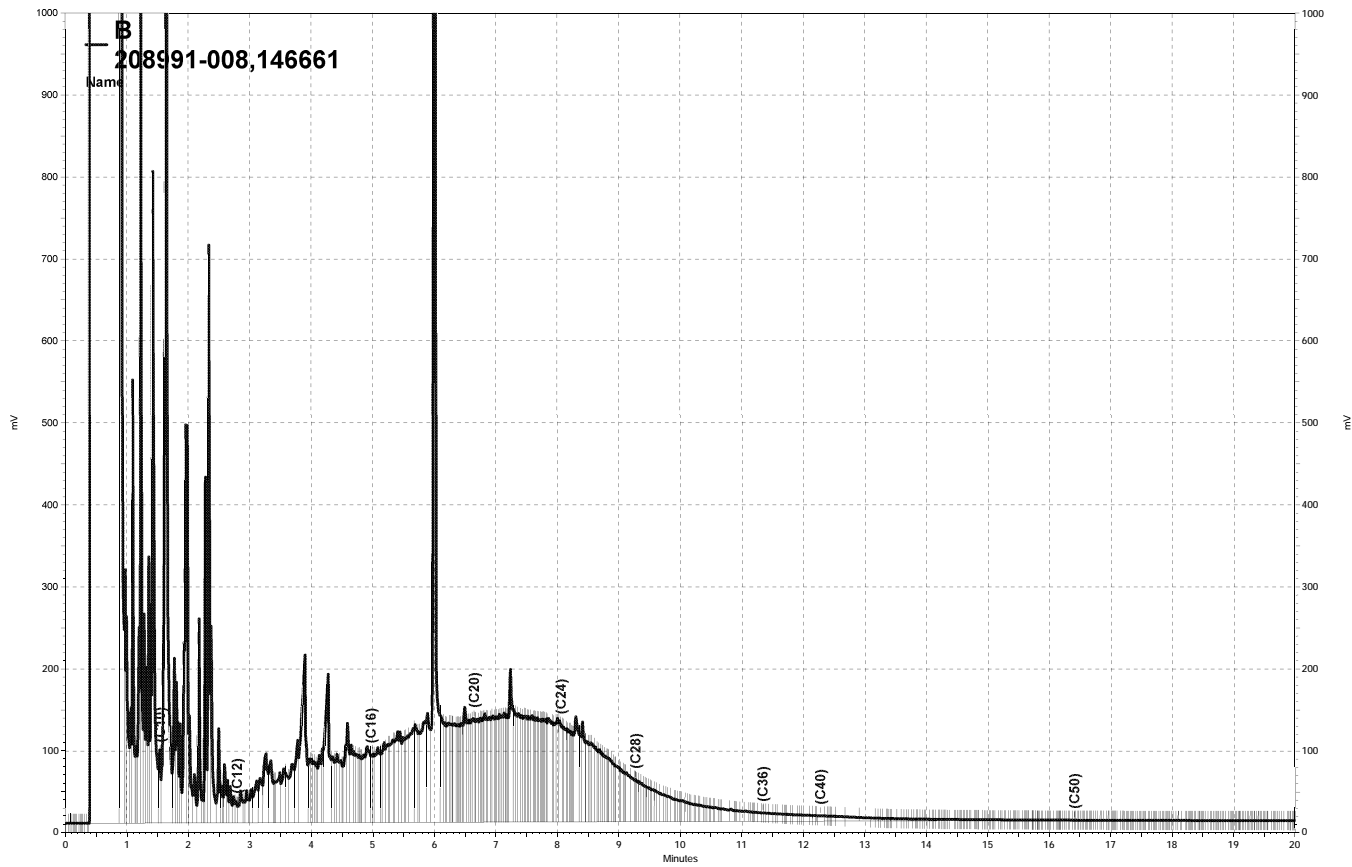
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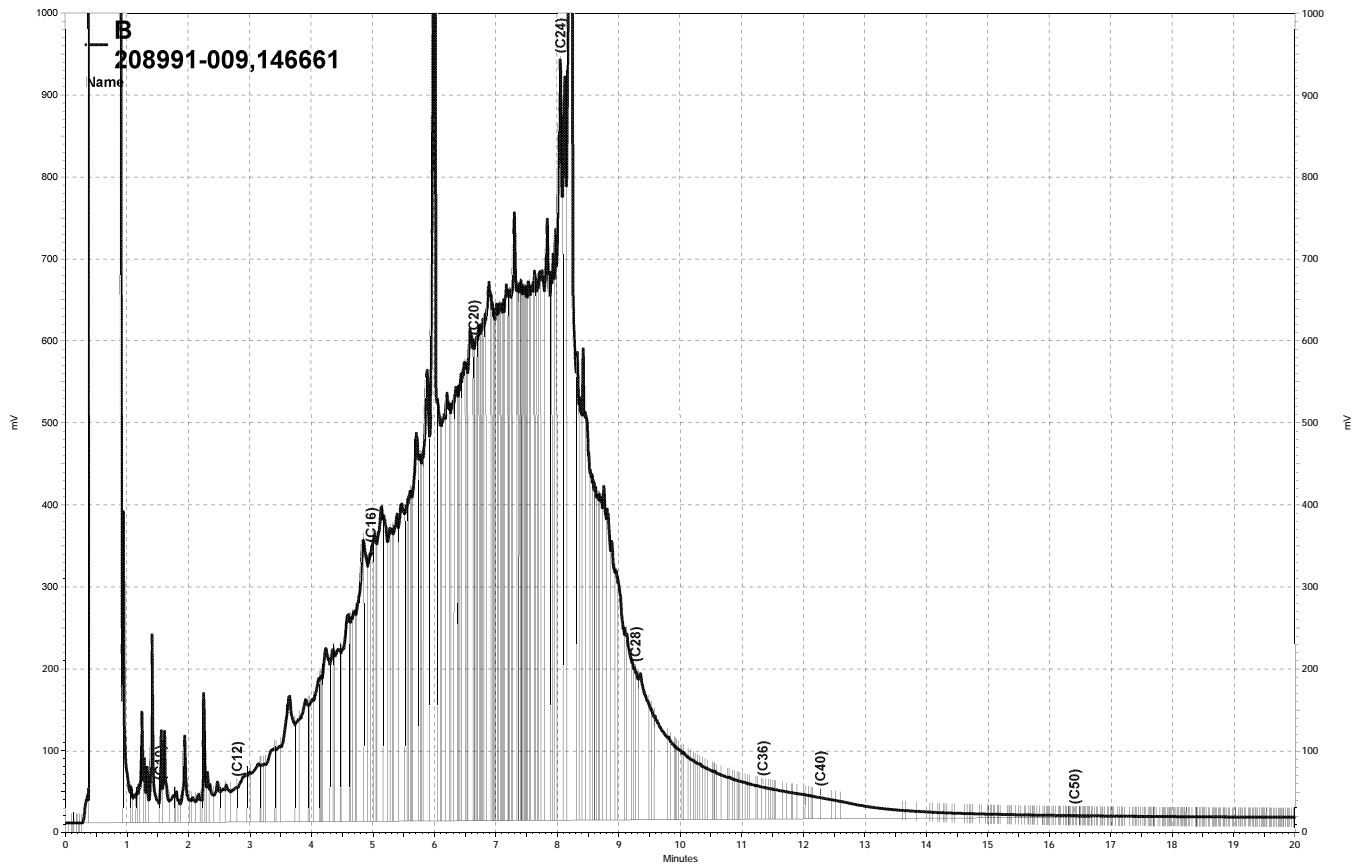
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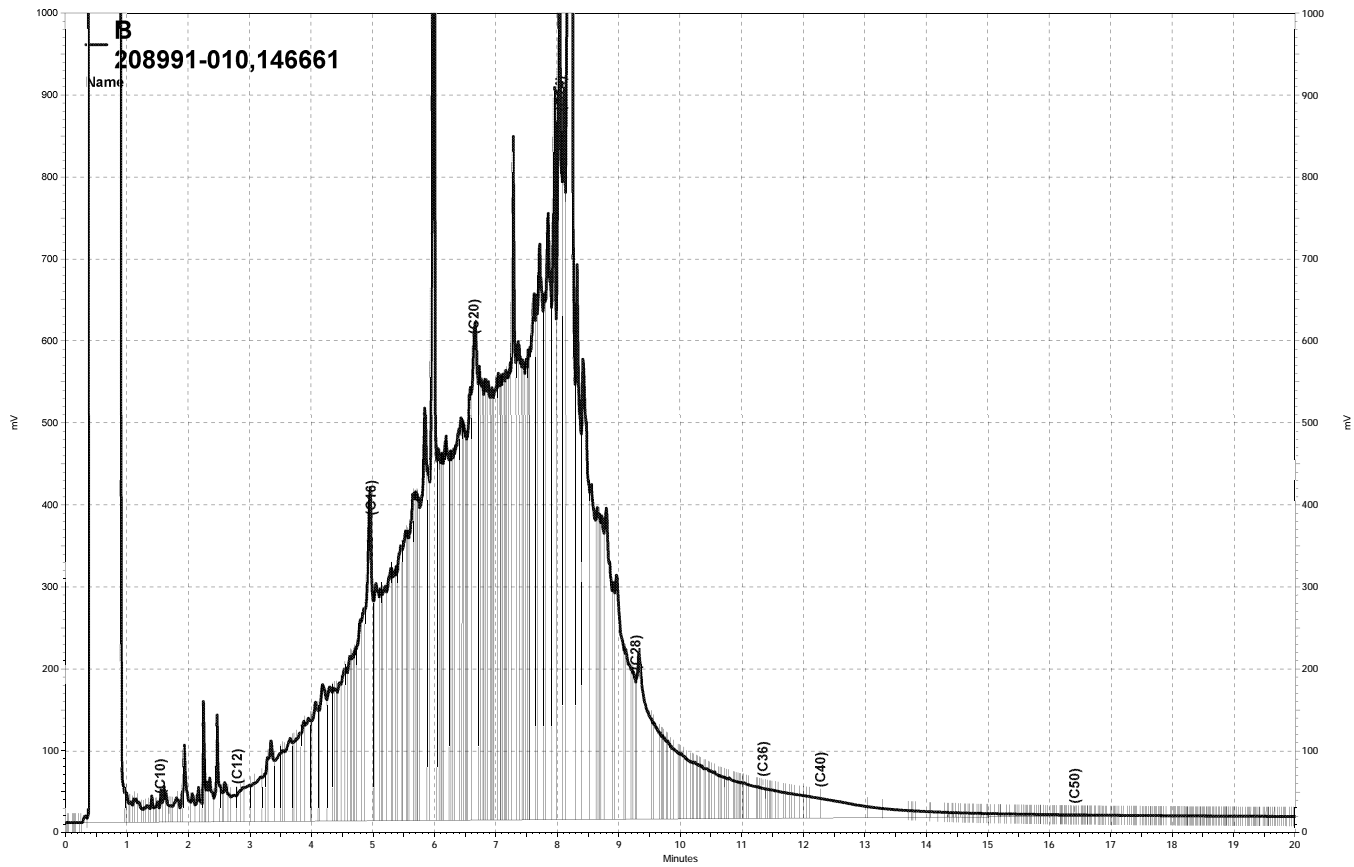
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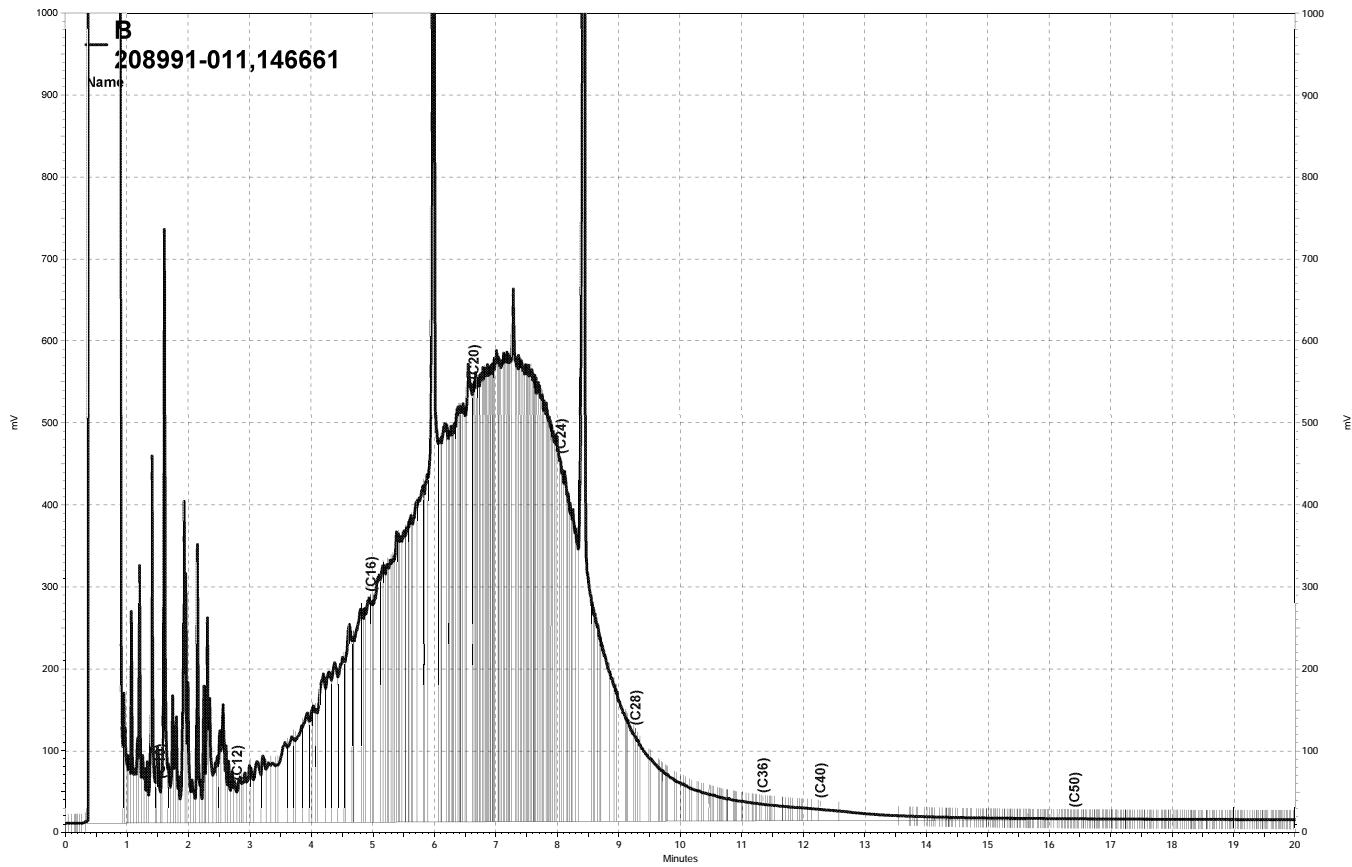
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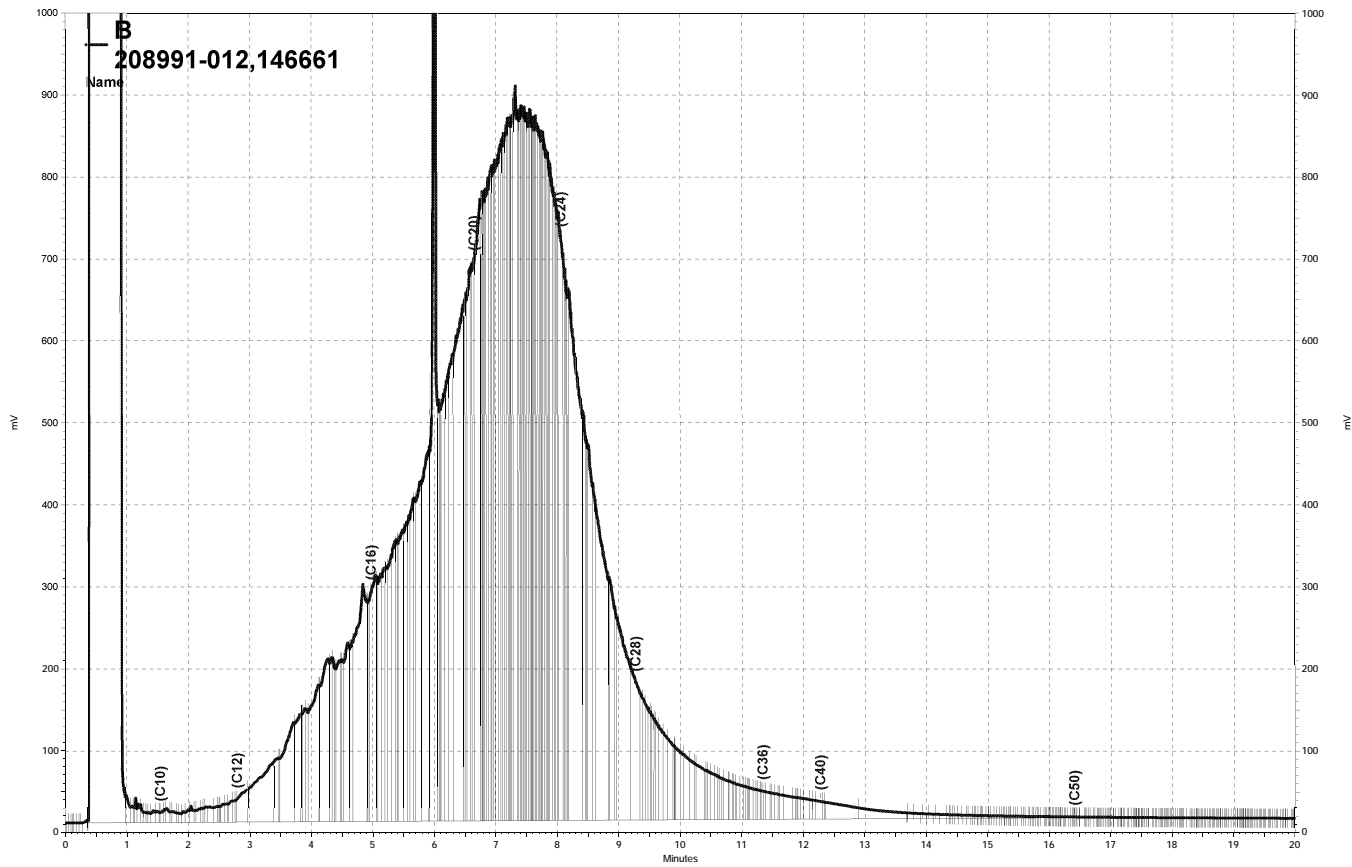
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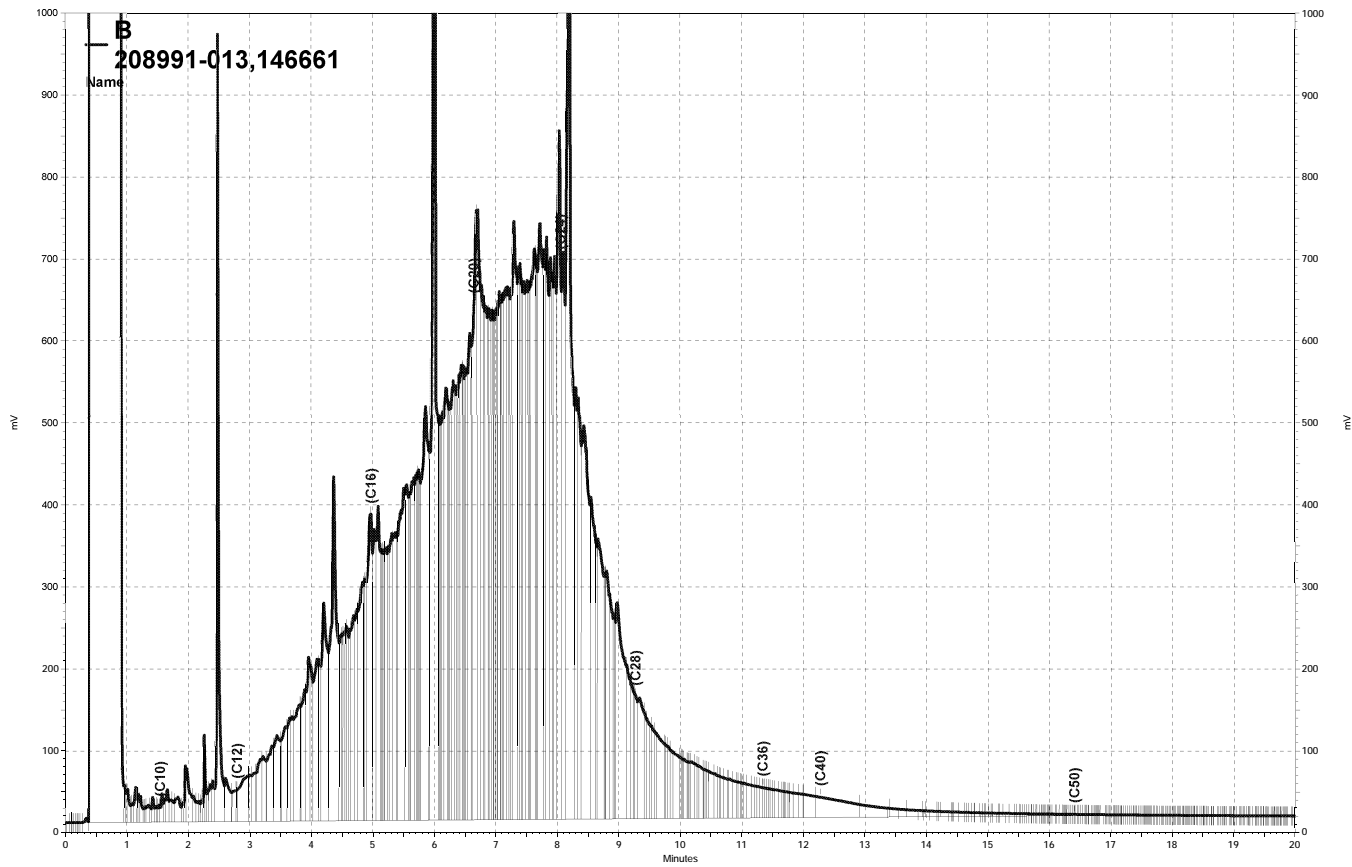
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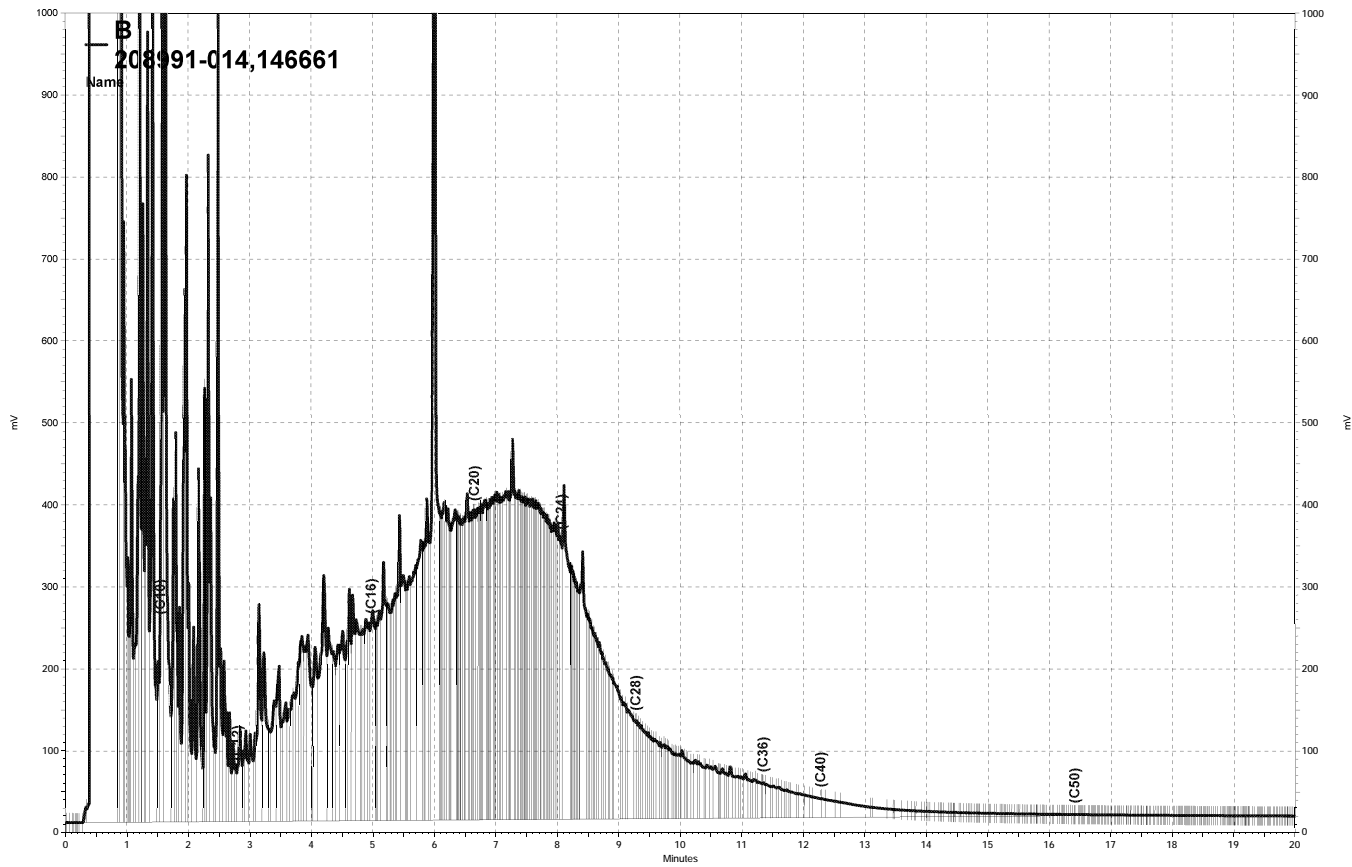
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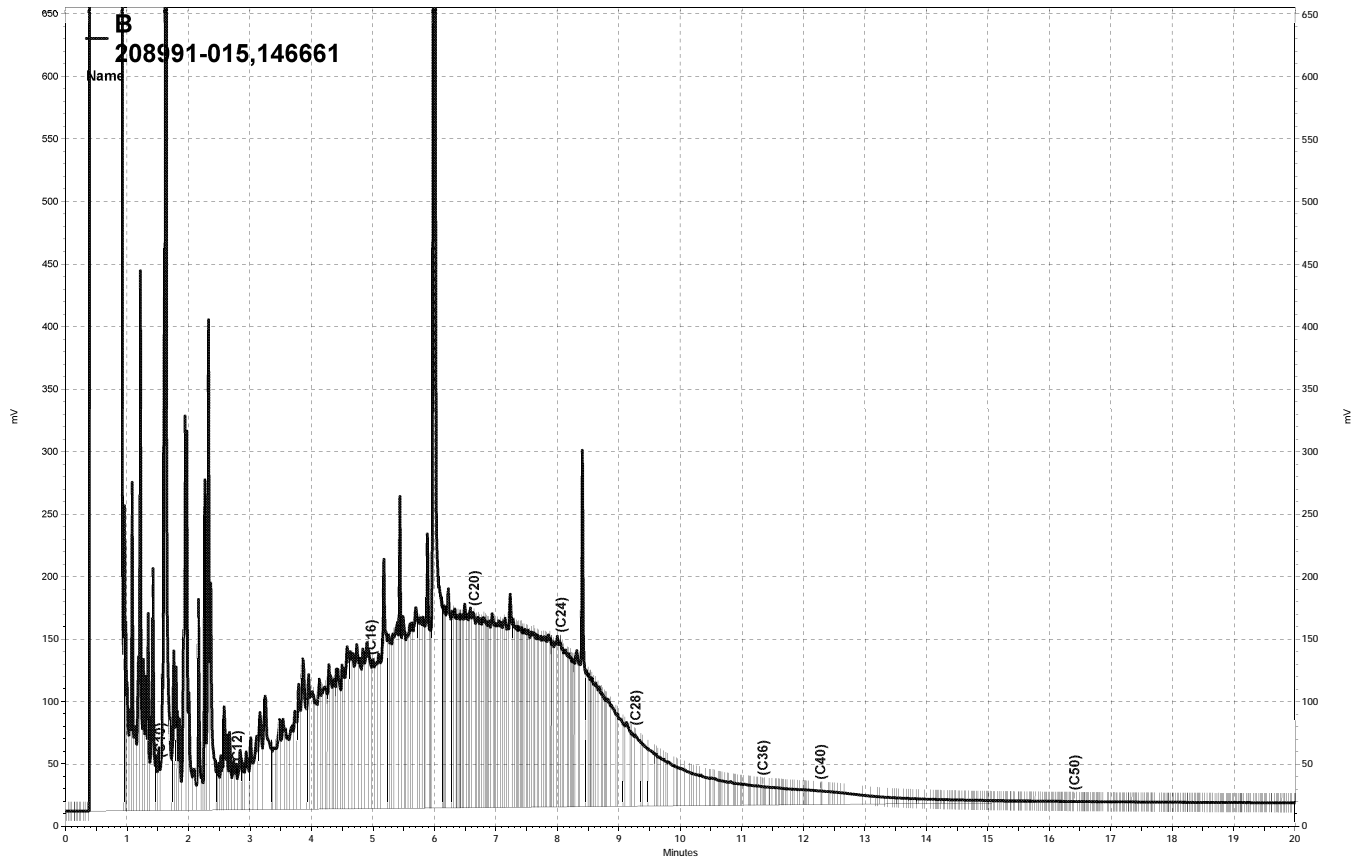
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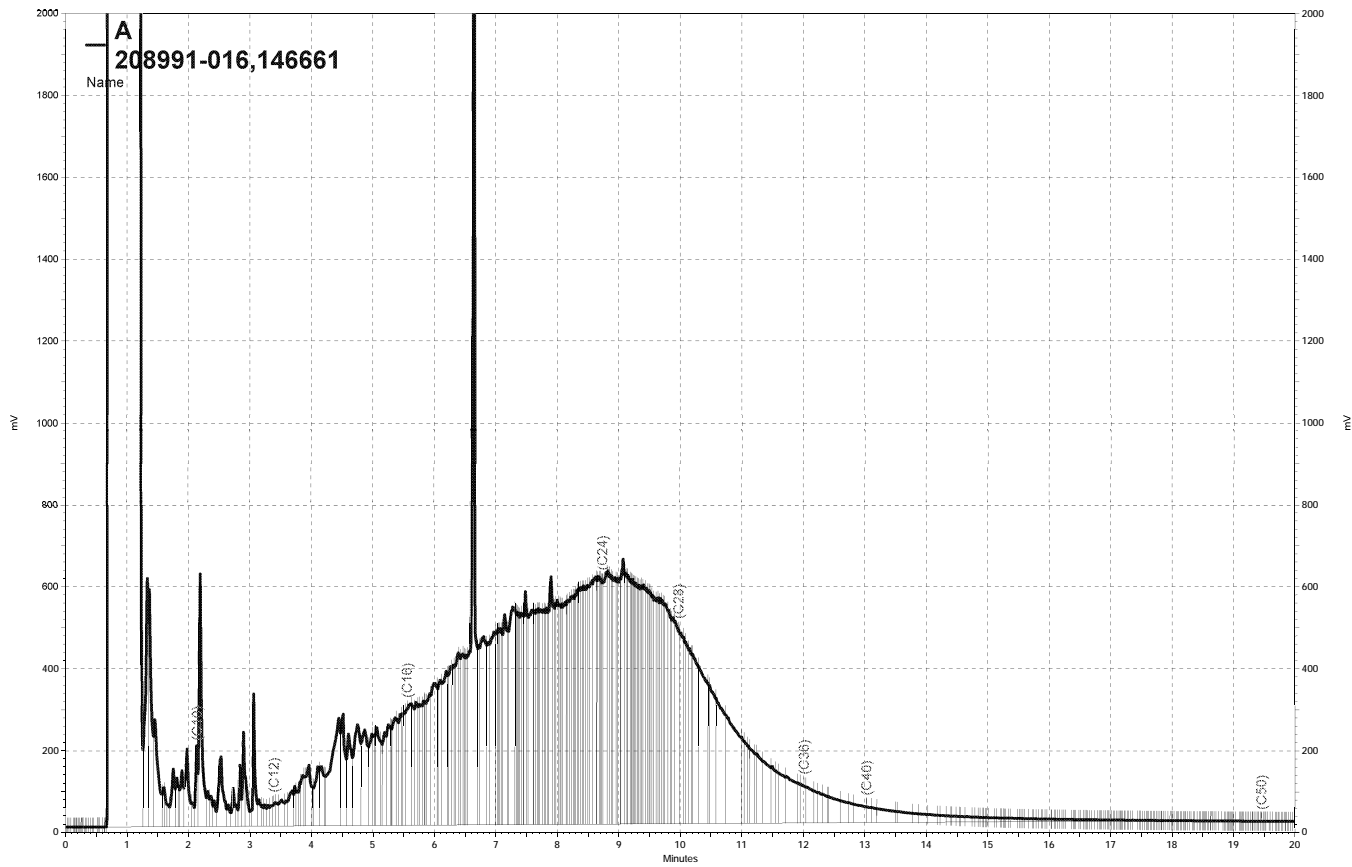
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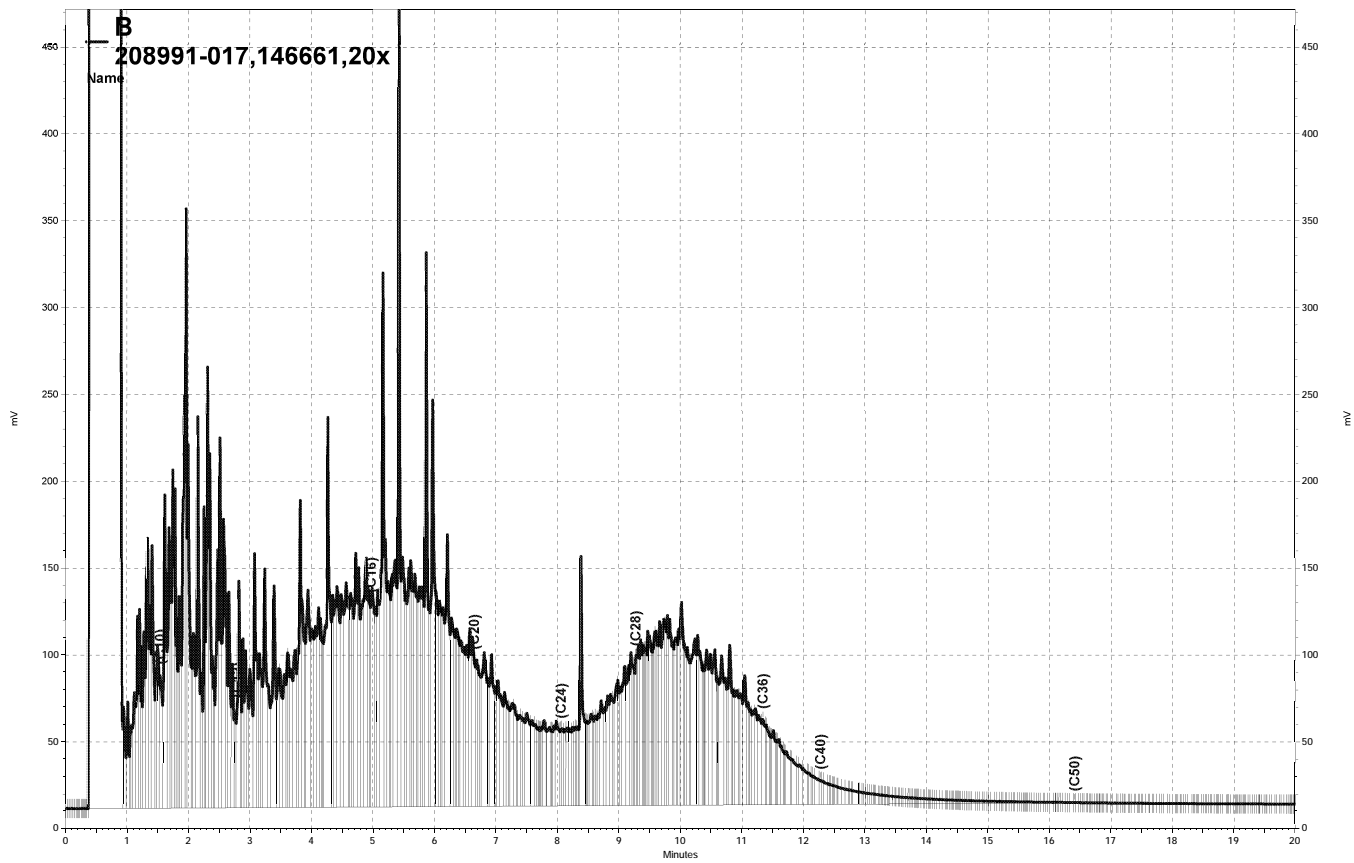
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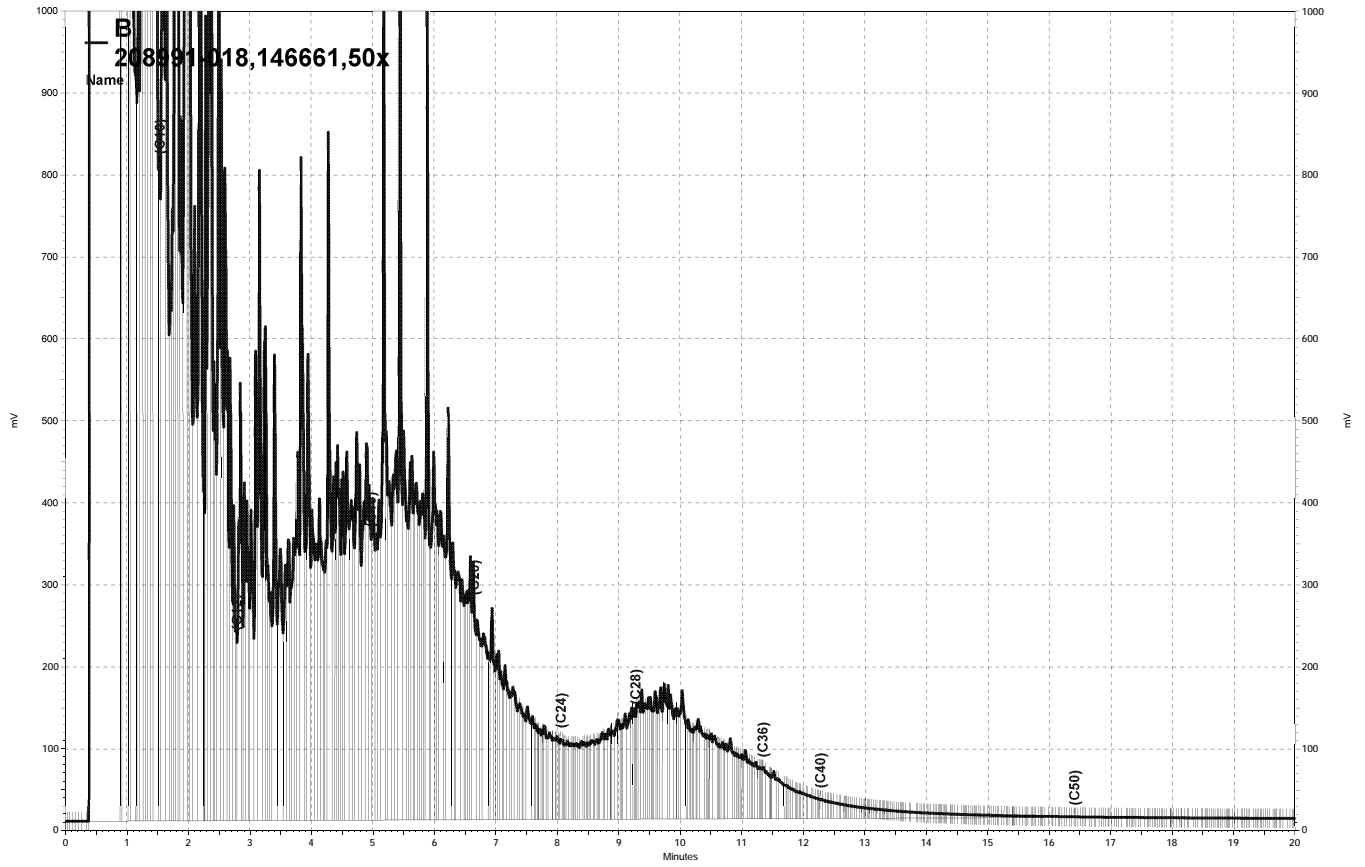
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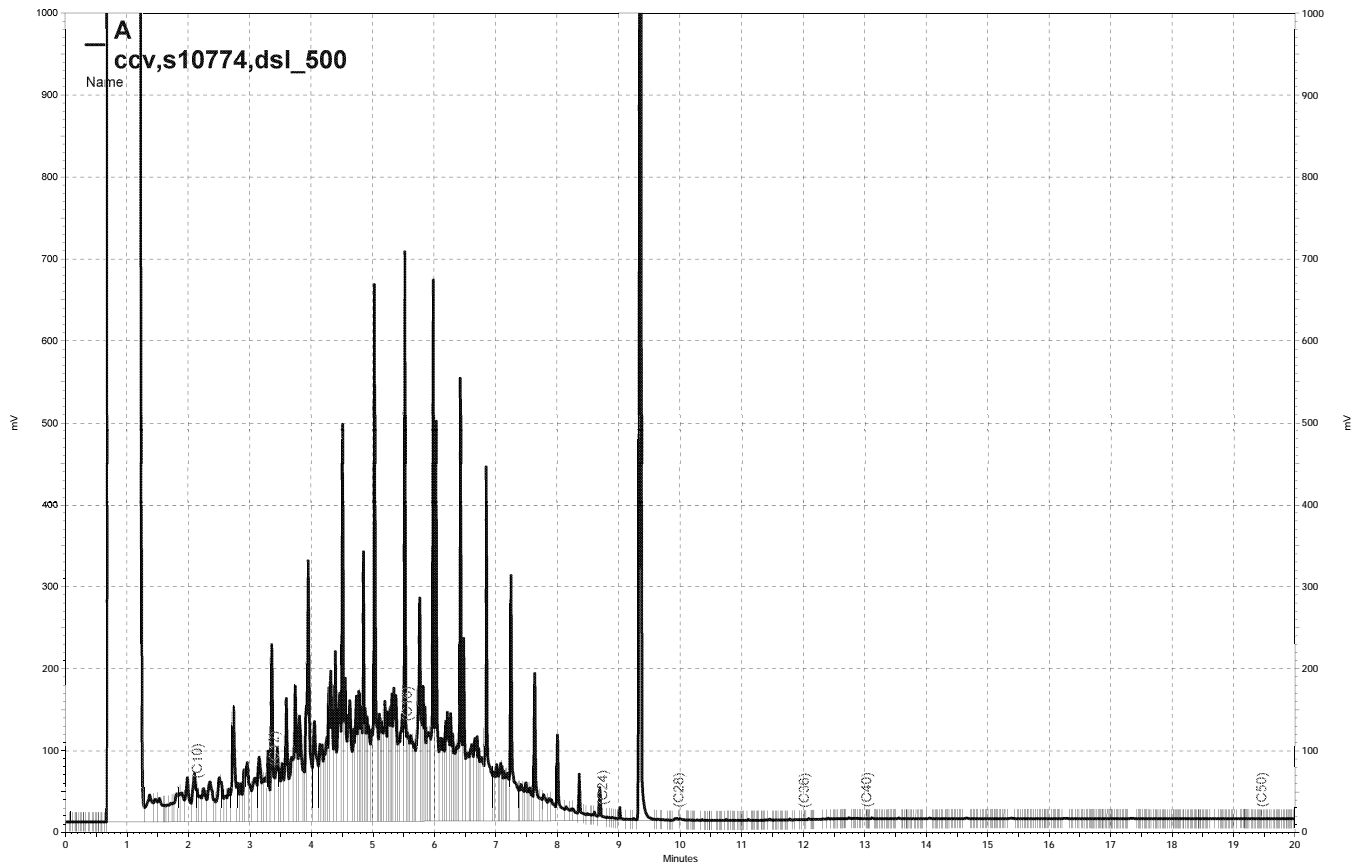
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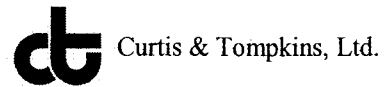


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COOLER RECEIPT CHECKLIST



Login # 208969 Date Received 12/31/08 Number of coolers 1
Client BAY Center Investor LLC Project emergency phase 1 cardos
STELLAR Environmental
Date Opened 12/31/08 By (print) PHUONG (sign) P. Le
Date Logged in By (print) (sign)

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
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, Cloth material, Foam blocks, Cardboard, Bags, Styrofoam, None, Paper towels

7. Temperature documentation:

Type of ice used: Wet Blue/Gel None Temp(C)

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? YES NO

If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are samples in the appropriate containers for indicated tests? YES NO

11. Are sample labels present, in good condition and complete? YES NO

12. Do the sample labels agree with custody papers? YES NO

13. Was sufficient amount of sample sent for tests requested? YES NO

14. Are the samples appropriately preserved? YES NO N/A

15. Are bubbles > 6mm absent in VOA samples? YES NO N/A

16. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? By Date:

COMMENTS

Blank lines for handwritten comments.



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

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

Laboratory Job Number 208969
ANALYTICAL REPORT

Stellar Environmental Solutions
2198 6th Street
Berkeley, CA 94710

Project : 2007-65
Location : Bay Center Apts
Level : II

Sample ID
TANK-1

Lab ID
208969-001

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: 01/15/2009

Signature: 
Senior Program Manager

Date: 01/15/2009

CASE NARRATIVE

Laboratory number: 208969
Client: Stellar Environmental Solutions
Project: 2007-65
Location: Bay Center Apts
Request Date: 12/31/08
Samples Received: 12/31/08

This data package contains sample and QC results for one water sample, requested for the above referenced project on 12/31/08. The sample was received cold and intact.

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

High surrogate recovery was observed for bromofluorobenzene (FID) in TANK-1 (lab # 208969-001), due to interference from coeluting hydrocarbon peaks; the corresponding trifluorotoluene (FID) surrogate recovery was within limits. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

TANK-1 (lab # 208969-001) was diluted due to the dark and viscous nature of the sample extract. No other analytical problems were encountered.

Total Volatile Hydrocarbons			
Lab #:	208969	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65	Analysis:	EPA 8015B
Field ID:	TANK-1	Batch#:	146597
Matrix:	Water	Sampled:	12/31/08
Units:	ug/L	Received:	12/31/08
Diln Fac:	1.000		

Type: SAMPLE Analyzed: 01/03/09
 Lab ID: 208969-001

Analyte	Result	RL
Gasoline C7-C12	5,100	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	107	61-149
Bromofluorobenzene (FID)	206 *	65-146

Type: BLANK Analyzed: 01/02/09
 Lab ID: QC477906

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	95	61-149
Bromofluorobenzene (FID)	95	65-146

*= Value outside of QC limits; see narrative
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	208969	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC477907	Batch#:	146597
Matrix:	Water	Analyzed:	01/02/09
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	940.8	94	78-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	125	61-149
Bromofluorobenzene (FID)	99	65-146

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	208969	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	146597
MSS Lab ID:	208897-002	Sampled:	12/22/08
Matrix:	Water	Received:	12/23/08
Units:	ug/L	Analyzed:	01/03/09
Diln Fac:	1.000		

Type: MS Lab ID: QC477909

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	18.96	2,000	1,733	86	65-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	127	61-149
Bromofluorobenzene (FID)	107	65-146

Type: MSD Lab ID: QC477910

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,737	86	65-120	0	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	123	61-149
Bromofluorobenzene (FID)	103	65-146

RPD= Relative Percent Difference

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	208969	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2007-65	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	146621
Units:	ug/L	Prepared:	01/02/09
Diln Fac:	1.000	Analyzed:	01/04/09

Type: BS Cleanup Method: EPA 3630C
 Lab ID: QC478010

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,013	81	52-120

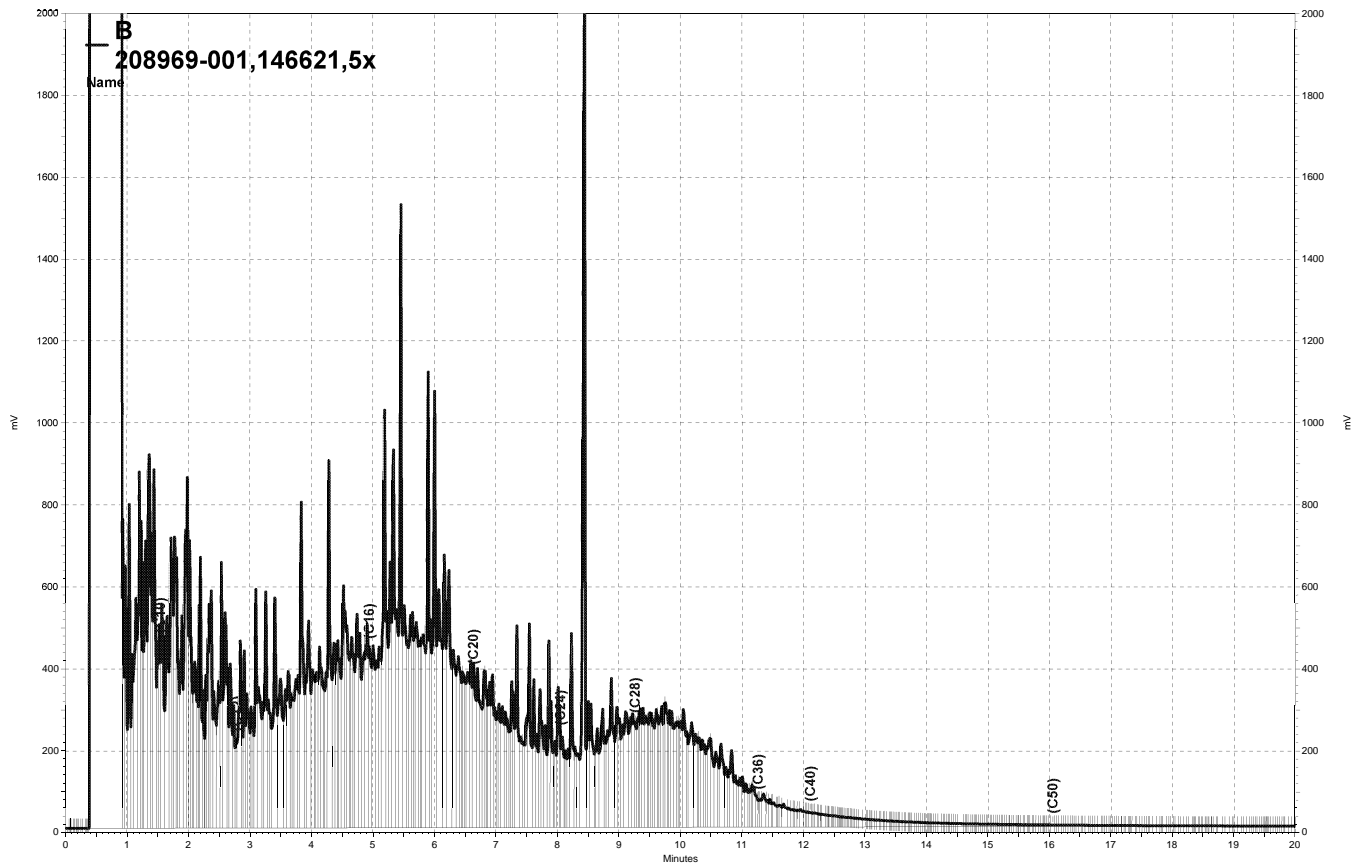
Surrogate	%REC	Limits
o-Terphenyl	83	63-124

Type: BSD Cleanup Method: EPA 3630C
 Lab ID: QC478011

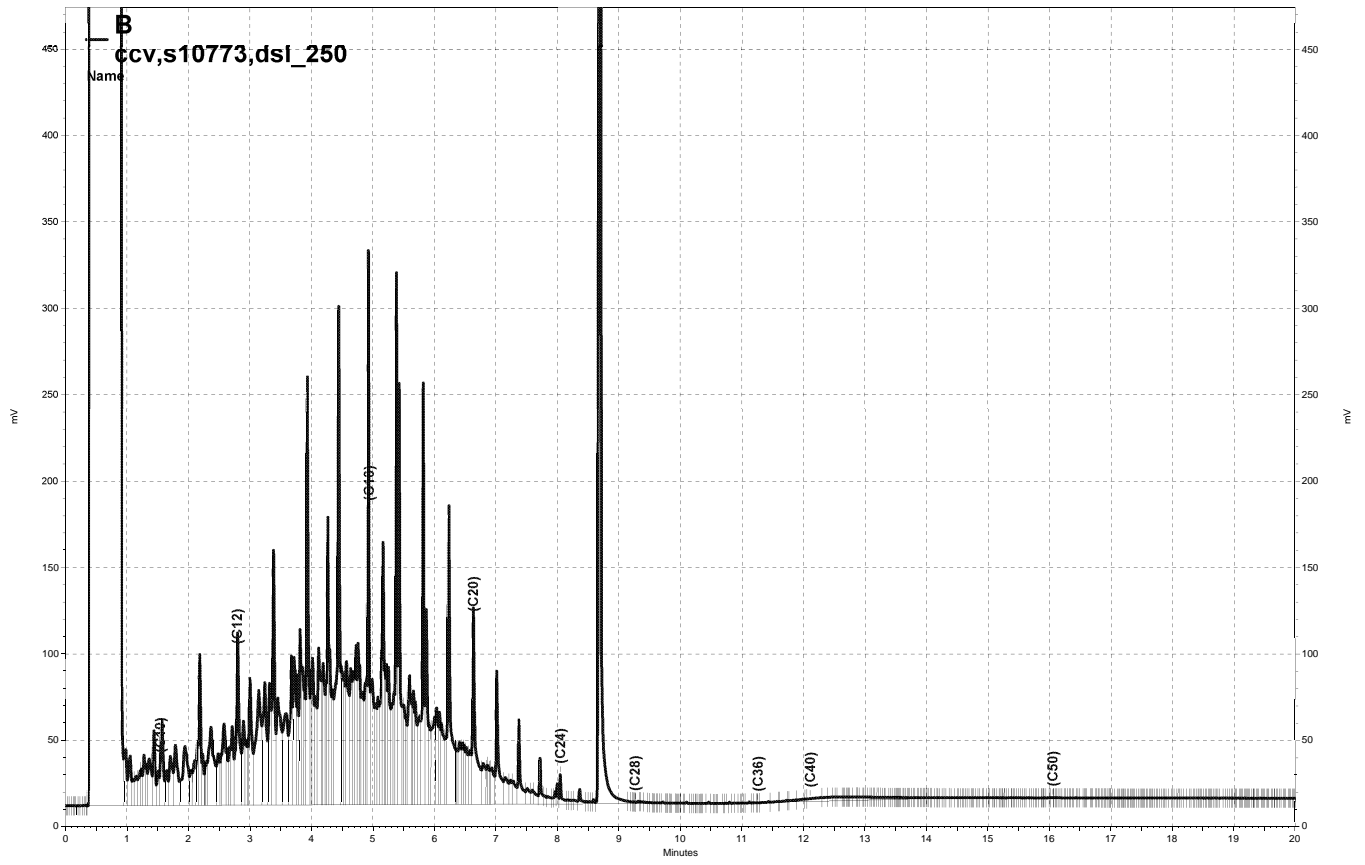
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,283	91	52-120	13	30

Surrogate	%REC	Limits
o-Terphenyl	95	63-124

RPD= Relative Percent Difference



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APPENDIX D

Historical Groundwater Elevation Data

TABLE B
Historical Monitoring, Extraction, and Trench Well Elevations
6400 Christie Avenue, Emeryville, California

MW-1					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
1	Dec-88	14.39	9.60	NP	4.79
2	May-89	14.31 ^(a)	8.73	NP	5.58
3	Feb-91	14.31	9.18	NP	5.13
Monitoring well abandoned - date unclear					

MW-2					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
1	Dec-88	14.36	9.64	NP	4.72
2	May-89	14.28 ^(a)	8.78	NP	5.50
3	Feb-91	14.28	9.61	NP	4.67
Monitoring well abandoned - date unclear					

MW-3					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
1	Dec-88	14.53	8.93	trace	5.60
2	May-89	14.43 ^(a)	8.69	NP	5.74
3	Feb-91	14.43	8.31	NP	6.12
4	Mar-04	16.96 ^(b)	9.47	NP	7.49
5	Dec-06	NA	NA	NA	NA
6	Dec-07	16.65 ^(c)	7.76 ^(c)	7.76	8.89
7	Mar-08	16.65	8.72	8.70	7.93
8	Jun-08	16.65	8.56	NP	8.09
9	Sep-08	16.65	9.27	7.95	7.38
10	Dec-08	16.65	8.36	7.49	8.29

MW-4					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
1	Dec-88	14.21	8.29	NP	5.92
2	May-89	14.12 ^(a)	7.75	NP	6.37
3	Feb-91	14.12	8.04	NP	6.08
4	Mar-04	16.74 ^(b)	6.90	NP	7.49
5	Dec-06	NA	NA	NA	NA
6	Dec-07	16.29 ^(c)	6.61	NP	9.68
7	Mar-08	16.29	7.24	NP	9.05
8	Jun-08	16.29	6.94	NP	9.35
9	Sep-08	16.29	6.85	NP	6.85
10	Dec-08	16.29	7.42	NP	8.87

MW-5					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
1	Dec-88	14.65	10.23	NP	4.42
2	May-89	14.56 ^(a)	9.29	NP	5.27
3	Feb-91	14.56	10.04	NP	4.52
4	Mar-04	17.11 ^(b)	9.10	NP	8.01
5	Dec-06	NA	NA	NA	NA
6	Dec-07	16.72 ^(c)	9.66	NA	7.06
7	Mar-08	16.72	9.72	NP	7.00
8	Jun-08	16.72	9.72	NP	7.00
9	Sep-08	16.72	8.56	NP	8.16
10	Dec-08	16.72	9.75	NP	6.97

MW-6					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
1	Dec-88	14.75	8.10	NP	6.65
2	May-89	14.67 ^(a)	7.58	NP	7.09
3	Feb-91	14.67	7.05	NP	7.62
4	Mar-04	17.22 ^(b)	6.51	NP	10.71
5	Dec-06	NA	NA	NA	NA
6	Dec-07	16.82 ^(c)	6.61	NP	10.21
7	Mar-08	16.82	7.02	NP	9.80
8	Jun-08	16.82	7.55	NP	9.27
9	Sep-08	16.82	6.06	NP	10.76
10	Dec-08	16.82	6.91	NP	9.91

MW-7					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed March 2004					
1	Mar-04	18.09	9.93	NP	8.16
2	Dec-06	NA	NA	NA	NA
3	Dec-07	17.73 ^(c)	10.30	NP	7.43
4	Mar-08	17.73	10.51	NP	7.22
5	Jun-08	17.73	10.50	NP	7.23
6	Sep-08	17.73	10.37	NP	7.36
7	Dec-08	17.73	10.60	NP	7.13

MW-8					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed March 2004					
1	Mar-04	18.25	9.32	8.15	8.93
2	Nov-06 ^(d)	16.96	10.59	NP	6.37
3	Dec-07	17.84 ^(c)	9.42	NP	8.42
4	Mar-08	17.84	10.50	9.18	7.34
5	Jun-08	17.84	9.68	9.10	8.16
6	Sep-08	17.84	9.63	8.89	8.21
7	Dec-08	17.84	9.58	8.89	8.26

MW-9					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed March 2004					
1	Mar-04	18.27	9.38	NP	8.89
2	Dec-06	NA	NA	NA	NA
3	Dec-07	17.84 ^(c)	9.54	NP	8.30
4	Mar-08	17.84	9.77	NP	8.07
5	Jun-08	17.84	9.68	NP	9.27
6	Sep-08	17.84	9.30	NP	8.54
7	Dec-08	17.84	9.83	NP	8.01

MW-10					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed March 2004					
1	Mar-04	18.21	9.87	8.24	8.34
2	Dec-06	18.21	9.30	8.86	8.91
3	Dec-07	17.83 ^(c)	8.98 ^(e)	8.98	8.85
4	Mar-08	17.83	9.28	8.98	8.55
5	Jun-08	17.83	8.86	8.78	7.23
6	Sep-08	17.83	8.95	8.84	8.88
7	Dec-08	17.83	8.97	8.74	8.86

MW-11					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed May 2004					
1	Nov-06 ^(d)	17.76 ^(c)	10.33	NP	7.43
2	Dec-07	17.76	10.27	NP	7.49
3	Mar-08	17.76	10.34	NP	7.42
4	Jun-08	17.76	10.20	NP	8.16
5	Sep-08	17.76	10.03	NP	7.73
6	Dec-08	17.76	10.34	NP	7.42

MW-12					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
1	Nov-06 ^(d)	17.83 ^(c)	9.37	NP	8.46
2	Dec-07	17.83	9.15	NP	8.68
3	Mar-08	17.83	9.11	NP	8.72
4	Jun-08	17.83	8.86	NP	8.97
5	Sep-08	17.83	8.76	NP	9.07
6	Dec-08	17.83	8.98	NP	8.85

MW-13					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
1	Dec-06	17.66 ^(c)	9.81	9.44	7.85
2	Dec-07	17.66	9.95	9.39	7.71
3	Mar-08	17.66	10.02	9.54	7.64
4	Jun-08	17.66	9.86	9.45	7.80
5	Sep-08	17.66	10.34	9.54	7.32
6	Dec-08	17.66	10.54	9.65	7.12

MW-14					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
1	Nov-06 ^(d)	17.60 ^(c)	9.11	9.11(sheen)	8.49
2	Dec-07	17.60	8.86	8.84	8.74
3	Mar-08	17.60	8.91	8.88	8.69
4	Jun-08	17.60	8.66	8.62	8.94
5	Sep-08	17.60	8.64	NP	8.96
6	Dec-08	17.60	8.70	NP	8.90

MW-15					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
1	Dec-06	17.80 ^(c)	9.15	NP	8.65
2	Dec-07	17.80	9.30	NP	8.50
3	Mar-08	17.80	9.20	9.18	8.60
4	Jun-08	17.80	9.60	9.63	8.20
5	Sep-08	17.80	8.84	8.84 ^(f)	8.96
6	Dec-08	17.80	9.19	8.36	8.61

MW-16					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
1	Dec-06	NA	NA	NA	NA
2	Dec-07	17.74 ^(c)	9.36	NP	8.38
3	Mar-08	17.74	9.88	NP	7.86
4	Jun-08	17.74	9.25	NP	7.80
5	Sep-08	17.74	9.07	NP	8.67
6	Dec-08	17.74	9.45	NP	8.29

MW-17					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
1	Dec-06	NA	NA	NA	NA
2	Dec-07	18.17 ^(c)	9.40	9.32	8.77
3	Mar-08	18.17	9.34	9.18	8.83
4	Jun-08	18.17	8.98	8.97	9.19
5	Sep-08	18.17	9.21	7.92	8.96
6	Dec-08	18.17	9.25	9.11	8.92

MW-18					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
1	Dec-06	NA	NA	NA	NA
2	Dec-07	16.35 ^(c)	8.30	NP	8.05
3	Mar-04	16.35	8.34	NP	8.01
4	Jun-08	16.35	8.34	NP	8.20
5	Sep-08	16.35	8.48	NP	7.87
6	Dec-08	16.35	8.61	NP	7.74

MW-E					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
1	Dec-88	NM	NM	NM	NM
2	May-89	15.32	10.39	NP	4.93
3	Feb-91	NM	NM	NM	NM
4	Mar-04	17.80	9.92	NP	7.88
5	Nov-06 ^(d)	17.80	10.22	NP	7.58
6	Dec-07	17.47 ^(c)	10.03	NP	7.44
7	Mar-08	17.47	10.21	NP	7.26
8	Jun-08	17.47	10.20	NP	7.27
9	Sep-08	17.47	9.55	NP	7.92
10	Dec-08	17.47	10.32	NP	7.15

RW-1					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
1	Dec-88	NM	NM	NM	NM
2	May-89	14.54	10.17	10.14	4.37
3	Feb-91	14.54	11.46	10.85	3.57
4	Mar-04	18.32	7.20	5.62	11.12
5	Nov-06 ^(d)	18.32	9.15	9.11	9.17
6	Dec-07	16.70 ^(c)	9.53 ^(e)	9.53	7.17
7	Mar-08	16.70	8.99	8.92	7.71
8	Jun-08	16.70	8.95	8.87	7.75
9	Sep-08	16.70	NM ^(c)	NM ^(c)	NM ^(c)
10	Dec-08	16.70	NM ^(c)	NM ^(c)	NM ^(c)

Notes:

The 1988, 1989, and 1991 water elevations were measured by Groundwater Technology, Inc.

The 2004 and 2006 water elevations were measured by PES Environmental.

NS = Not sampled

NP = No product

NM - Not measured

NA = data not available from the previous consultant for this event

TOC Elevation = Top of Casing Elevation

DTW = Depth to water from the top of the casing

DTP - Depth to product from the top of the casing

GW Elevation - Groundwater elevation as compared to mean sea level

^(a) Wells resurveyed in May 1989

^(b) New elevation recorded by PES. Date of survey unclear.

^(c) Wells resurveyed by PES in April 2007

^(d) no water level data available for the December 2006 sampling event

^(e) Thickness of product interfered with determining oil/water interface.

^(f) Depth to groundwater = depth to free product as difference could not be determined

APPENDIX E

Historical Product Extraction Data Table

Table D
Historical Trench and Monitoring Well Product Recovery
6400 Christie Avenue, Emeryville, CA

Extraction Date	Well or Trench Location																								Total Extracted		
	MW-3	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-E	RW-1	TA-E	TA-M	TA-W	TB-E	TB-M	TB-W	TC-E		TC-M	TC-W
Apr-04	---	---	---	---	1	---	1	---	---	---	---	---	---	---	---	---	19.75	---	---	---	---	---	---	---	---	---	21.75
May-04	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	22.5	---	---	---	---	---	---	---	---	---	22.50
Sep-04	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.74	---	---	---	---	---	---	---	---	---	0.74
Oct-04	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5.22	---	---	---	---	---	---	---	---	---	5.22
2004 Total																									50.21		
Jan-05	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.00
Apr-06	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3.3	---	---	---	---	---	3.30
Jun-06	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	8.9	9.2	10.3	---	---	---	---	---	---	---	28.40
Jul-06	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3.6	5	5.3	---	---	---	---	---	---	---	13.90
Aug-06	---	---	---	---	0.8	---	0.8	---	---	1	0.2	0.2	---	---	---	---	0.2	0.2	0.4	---	---	---	---	---	---	3.80	
Sep-06	---	---	---	---	---	---	0.8	---	---	0.2	0.3	---	---	---	---	---	0.6	---	0.6	---	---	---	---	---	---	2.50	
Nov-06	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	---	---	---	---	---	---	---	---	---	0.20
Dec-06	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	---	---	---	---	---	---	---	---	---	0.20
2006 Total																									52.30		
Jan-07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	---	---	---	---	---	---	---	---	---	0.20
Feb-07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	---	---	---	---	---	---	---	---	---	0.20
Mar-07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	---	---	---	---	---	---	---	---	---	0.20
Nov-07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.81	0.68	---	---	---	---	0.63	---	---	2.12
Dec-07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.01	0.61	0.07	---	---	---	---	0.002	---	---	0.69
2007 Total																									3.41		
Feb-08	0.03	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.45	0.08	0.06	0.18	0.04	0.06	0.06	0.08	0.05	0.05	1.14
Feb-08	---	0.05	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.45	0.15	0.15	0.30	---	---	---	---	---	---	1.10
Mar-08	---	---	0.02	0.002	0.02	0.001	0.04	0.02	0.03	0.004	0.01	0.02	0.01	0.01	0.003	0.012	0.3	0.09	0.06	0.09	---	---	---	0.06	---	0.80	
Mar-08	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	0.008	---	---	---	---	---	---	---	0.01
May-08	0.09	---	---	---	---	---	0.075	---	0.075	0.019	0.009	---	---	---	0.13	---	1.397	0.866	1.466	1.431	---	---	---	---	---	5.56	
Jun-08	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.15	0.11	0.57	---	---	---	---	---	---	0.83	
Aug-08	0.12	---	---	---	---	---	0.048	---	0.024	0.009	---	---	---	---	---	---	0.75	0.9	1.6	0.7	0.3	0.3	---	0.15	---	4.90	
Sep-08	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.03	0.09	0.048	---	---	---	---	---	---	0.17	
Nov-08	0.078	---	---	---	0.009	---	---	---	0.06	0.009	---	---	---	0.003	0.06	---	0.6	0.1	0.03	---	0.06	0.06	0.06	0.06	0.09	1.37	
Dec-08	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0003	0.08	---	---	---	---	---	0.03	---	---	0.11
2008 Total																									15.99		
Total Extracted	0.32	0.05	0.02	0.00	1.83	0.00	2.76	0.02	0.19	1.24	0.52	0.22	0.01	0.20	0.00	0.01	52.16	16.68	19.47	23.98	0.40	0.42	0.12	1.01	0.14	0.14	121.91

Note:
All free product quantities presented in gallons
Product extraction events conducted before November 2007 were completed by PES Environmental