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SECOUND SEMIANNUAL 2014 GROUNDWATER MONITORING AND PRODUCT EXTRACTION REPORT

BRIDGEWATER APARTMENTS PHASE I PARKING GARAGE
6400 CHRISTIE AVENUE
EMERYVILLE, CALIFORNIA

Prepared for:

EMERYBAY COMMERCIAL ASSOCIATION
EMERYVILLE, CA 94608

December 2014

SECOND SEMI-ANNUAL 2014 GROUNDWATER MONITORING AND PRODUCT EXTRACTION REPORT

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EMERYVILLE, CALIFORNIA

Prepared for:

EMERYBAY COMMERCIAL ASSOCIATION
6475 CHRISTIE AVENUE, SUITE 550
EMERYVILLE, CA 94608

Prepared by:

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

December 22, 2014

Project No. 2007-65

STELLAR
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December 22, 2014

Mr. Mark Detterman
Hazardous Materials Specialist
Alameda County Department of Environmental Health
Local Oversight Program
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: Second Semiannual 2013 Groundwater Monitoring & Product Extraction Report
EmeryBay Commercial Association Phase I Condo Parking Garage
6400 Christie Avenue, Emeryville, California

Dear Mr. Detterman:

Enclosed is the Stellar Environmental Solutions, Inc. report summarizing the site activities conducted in September 2014 at the referenced site. This report is being submitted on behalf of the owner and Responsible Party, Emerybay Commercial Association. The subject site activities included a surfactant injection into selected wells, a product extraction event and the second semiannual 2014 groundwater monitoring event.

This report summarizes the 22nd sampling event conducted at the site since 1988. The bulk of the residual contamination beneath the site remains concentrated around wells MW-8, MM-10, MW-12, MW-13, MW-14 and MW-15, and the plume underlying the parking garage appears to be stabilizing since the cessation of construction dewatering at the construction site across 64th Street during 2013. That dewatering had been influencing groundwater flow direction, and was suspected to have mobilized contaminants towards MW-3. 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.

We 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 our knowledge. If you have any questions regarding this report, please contact us at (510) 644-3123

We 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 our knowledge. If you have any questions regarding this report, please contact us at (510) 644-3123.

Sincerely,

Richard S. Makdisi, P.G., R.E.A.
Principal Geochemist & President

Ms. Katherine Collins
Emerybay Commercial Assoc.

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1.0 INTRODUCTION

PROJECT BACKGROUND

The subject property, located at 6400 Christie Avenue in Emeryville, California, is owned by the Emerybay Commercial Association, for which Stellar Environmental Solutions, Inc. (Stellar Environmental) provides environmental consulting services. The site has undergone fuel tank-related investigations and remediation since 1988 (by Stellar Environmental 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.

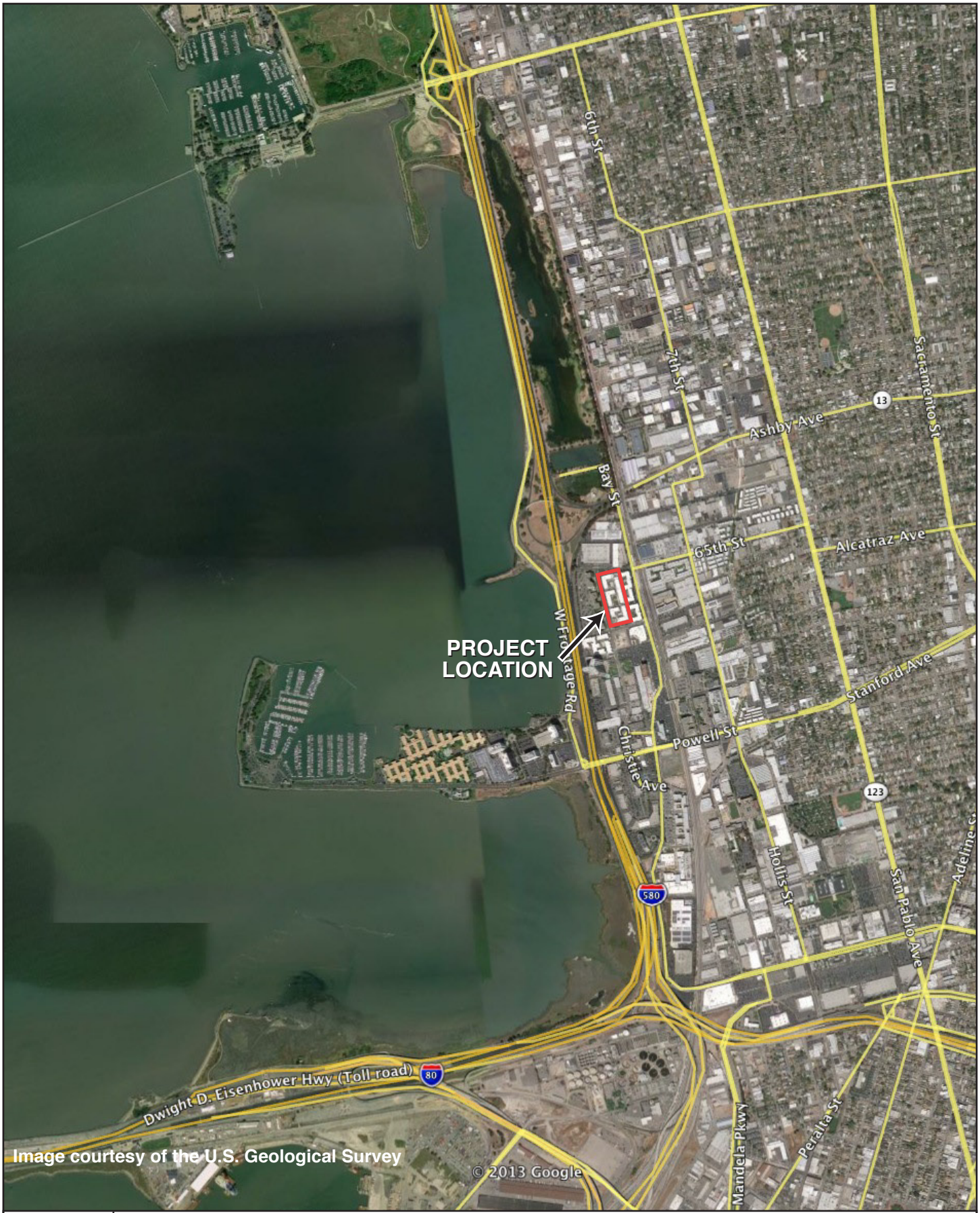
SITE AND VICINITY DESCRIPTION

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 Bridgewater 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 Street, beyond Christie Avenue and to the west by the Bay Center Offices, and to the south by 64th Street. 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.



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SITE LOCATION ON AERIAL PHOTO

6400 Christie Ave.
Emeryville, CA

By: MJC | NOVEMBER 2014

Figure 1

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SITE PLAN AND ADJACENT LAND USE

6400 Christie Ave. Emeryville, CA	By: MJC	NOVEMBER 2014
	Figure 2	

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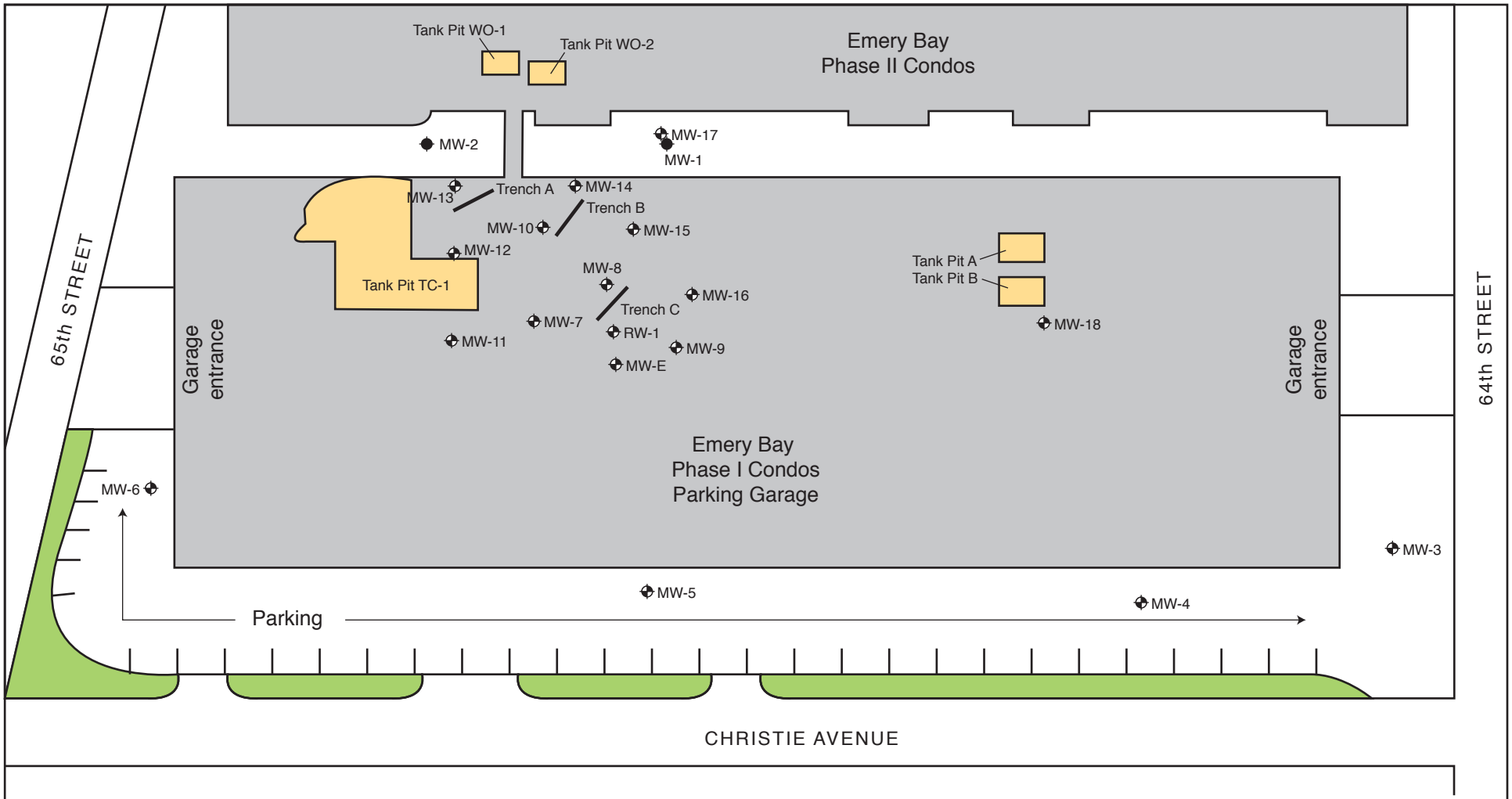
2007-65-80

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 remediate the hydrocarbon contamination beneath 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 one 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 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 Environmental, Inc. (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 one 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 conducted in December 2006. A previous Stellar Environmental report



LEGEND

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

0 60

SCALE: 1/2" = 60 FEET

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MONITORING WELL AND TRENCH LOCATIONS

6400 Christie Ave., Emeryville, CA

Figure 3

by: MJC | NOVEMBER 2014

2007-65-02

(Stellar Environmental, 2007) 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 Appendices D and A, respectively.

In March 2014, Stellar Environmental Solutions conducted a groundwater investigation that consisted of advancing five soil borings in the areas between wells MW-3 on the southern edge of the site and MW-18 in the garage and downgradient of MW-3, with the goal to locate a suspected source of residual subsurface hydrocarbons. The reason for this additional work was based on the recent uptrend in diesel concentration noted in well MW-3 since the late 2012 initiation of construction de-watering at the 6340 Christie Avenue (ACHCSA Case # RO0000057) property across 64th Street, south of the subject property garage area.

The apparent impact of the dewatering had on the subject site was apparent in terms of both the changes to the site hydrology—with the change in the groundwater flow regime from west/northwest to having a southern component—as well as a hydrochemical impact. The hydochemical impact, as documented in well data described in later sections had been to draw the hydrocarbon plume southward, increasing the concentrations of TEHd by orders of magnitude at well MW-3 near the subject property south border, compared to the previous 5 years of monitoring that showed stable results. The TEHd concentration at MW-3 on the southern property line increased from15,000 µg/L TEHd in April 2013 to 250,000 µg/L TEHd in September 2013. The relatively stable TEHd concentration present in well MW-18 since 2012, suggested a possible undiscovered source between these two wells that was impacting well MW-3.

Although no obvious source for the heavy oil accumulating in well MW-3 was found to be located between wells MW-3 and MW-18 during the advancement of the soil borings, this apparent lack of another hydrocarbon source near that area where an historical source was indicated supports the idea that the increase in TEHd observed in well MW-3 was associated with the dewatering of the construction site. The recent spike in TEHd concentrations in MW-3, which have again decreased for the current monitoring event to near historic lows, strongly suggests the construction dewatering across 64th Street during 2013 was responsible, with the southward pull of the hydrocarbon plume offsite resulting in the observed fluctuations in TEHd concentrations in well MW-3.

OBJECTIVES AND SCOPE OF WORK

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

- Removal of the oil skimmers from trench well arrays A and C. Due to the current lack of LNAPL present in these wells, the skimmers were removed for the reason that the coating of oil on the skimmers may be contributing to groundwater contamination at the site.
- Introduction of a hydrocarbon dissolving surfactant in all nine trench wells and in MW-3 with the goal of capturing the viscous hydrocarbon layer around these wells and cleaning the wells screens to reduce the accumulated heavy product fraction.
- Active extraction on all groundwater monitoring wells, trench sump wells, and recovery well RW-1.
- Record water levels in site wells to determine groundwater flow direction.
- Sampling of site wells for contaminant analysis.
- Evaluation of hydrochemical and groundwater elevation trends in the context of plume stability and case closure assessment

REGULATORY OVERSIGHT

Alameda Department of Environmental Health (ACEH) is the lead regulatory agency for the case, acting as a Local Oversight Program for the Regional Water Quality Control Board (Water Board). There are currently no ACEH or Water Board cleanup orders for the site; however, all site work has been conducted under the oversight of ACEH. ACEH assigned the site to its fuel leak case system (RO #2799), currently overseen by Mr. Mark Detterman. In a November 2008 meeting with the Responsible Party (represented by Ms. Sarah Irving), Stellar Environmental (represented by Ms. Teal Glass and Mr. Richard Makdisi), and ACEH (represented by Ms. Jakub and Ms. Donna Drogas), it was agreed that quarterly sampling could be reduced to a semiannual schedule with the stipulation that an indoor air and preferential pathway study be completed. Stellar Environmental submitted a letter on November 24, 2008 to ACEH documenting the change in sampling frequency. The Indoor Air Survey and Preferential Pathway Report (Stellar Environmental, 2009b) was submitted to ACEH on April 6, 2009. Stellar Environmental conducted an additional indoor air survey in the ground floor office area on March 22, 2010. The results were presented in a separate report, submitted to ACEH on April 6, 2010 (Stellar Environmental, 2010). The case has been assigned No. SLT2O05561 in the Water Board's GeoTracker system. Electronic uploads of required data/reports are submitted to both agencies. The November 2012 and March 2013 monitoring reports warned ACEH of impacts from the adjacent site dewatering at 6340 Christie Avenue.

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 Stellar Environmental 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. Drainage collected in storm sewers from the parking lot and from Christie, 64th, and 65th Streets discharges into San Francisco Bay. Stellar Environmental 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 consists of a combination of fill and soft bay sediment. The upper 1 to 2 feet of soil is 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 lies a depth of approximately 40 feet and extends 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

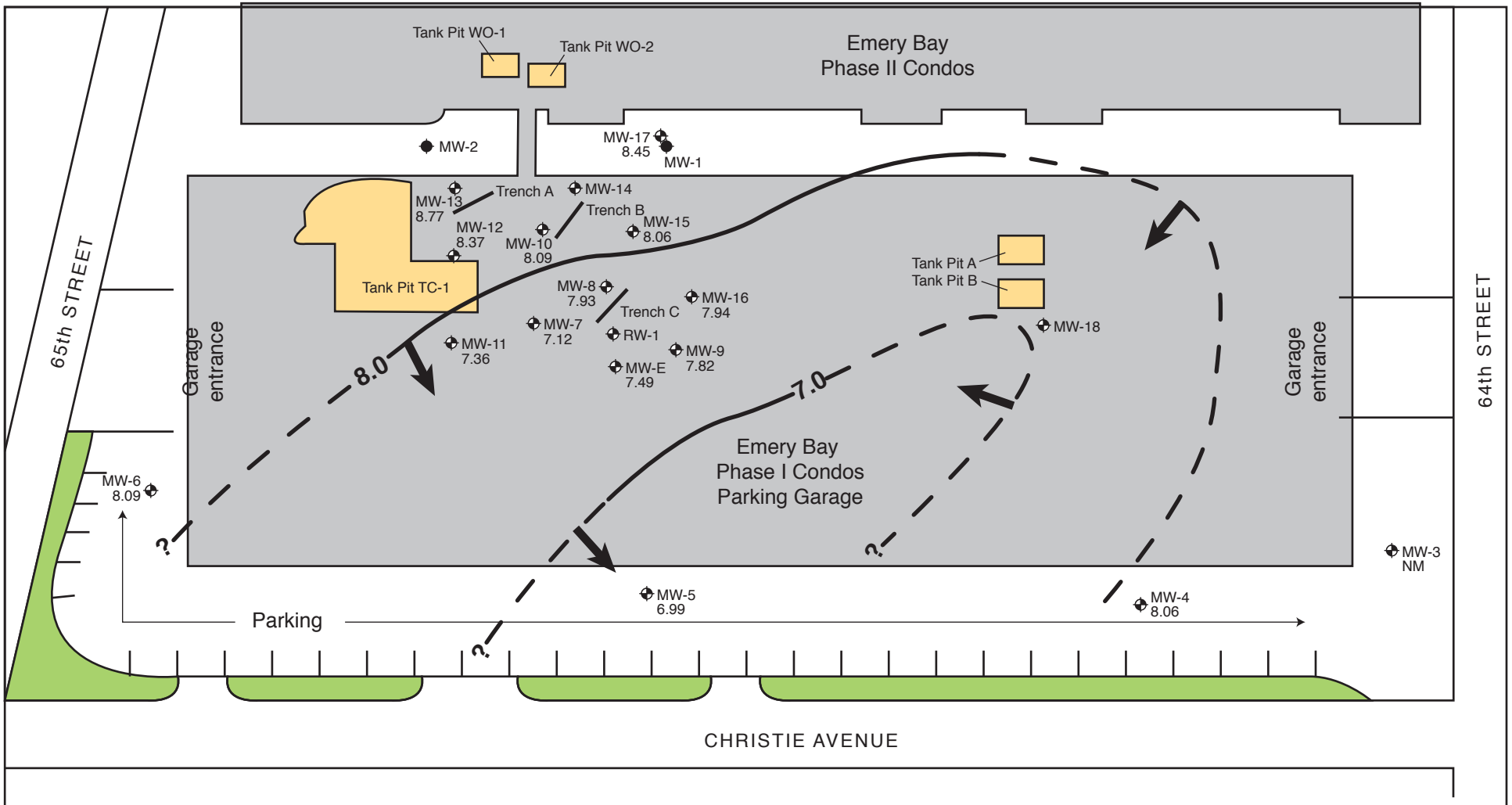
fault zone, the legislatively defined zone of restricted land use 200 feet around an active fault due to the high probability of ground rupture.

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. However, water levels and flow direction in this area are influenced by tidal patterns, natural topography modifications and the historical LNAPL, resulting in a relatively slow moving and stable plume pattern.

The groundwater flow direction measured during the September 2014 monitoring event was generally towards the southwest. The localized, approximately southerly direction to groundwater flow in the area of MW-3 noted in the 2013 monitoring events, thought to be the result of construction dewatering that had been occurring during 2013 at the re-development site across 64th Street, was not as pronounced for the current event, since that de-watering has been discontinued since February of 2014. According to current and historical water level data obtained from onsite monitoring wells, depth to groundwater beneath the site ranges from approximately 6 to 11 feet below ground surface (bgs). Groundwater elevations recorded during the September 2014 sampling event ranged from 5.6 feet (RW-1) to 10.79 feet (MW-18) above mean sea level. Some groundwater mounding may be occurring in area of MW-4 due to contributions from irrigation since the well box of MW-4 was filled with water. The average groundwater gradient for the current monitoring event was 0.003 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
- NM = Not measured
- Historical tank pit area
- Landscaping
- 8.0 Groundwater elevation contour in feet amsl
- Extrapolated groundwater elevation contour
- Groundwater flow direction

0 60

SCALE: 1/2" = 60 FEET

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MONITORING WELL AND TRENCH LOCATIONS

6400 Christie Ave., Emeryville, CA

Figure 4

by: MJC | NOVEMBER 2014

2007-65-86

3.0 SEPTEMBER 2014 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

Blaine Tech Services conducted groundwater monitoring well level measurements, purging, sampling, and field analyses on September 30, 2014 under the supervision of Stellar Environmental 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

September 30, 2014
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 (September 30, 2014)
MW-3	25	5 to 20	16.65	10.85	NM	NM
MW-4	25	5 to 20	16.29	NP	NP	8.06
MW-5	25	5 to 20	16.72	NP	NP	6.99
MW-6	25	5 to 20	16.82	NP	NP	8.69
MW-7	20	5 to 20	17.73	NP	NP	7.12
MW-8	16	5 to 16	17.84	9.85	0.06	7.93
MW-9	20	5 to 20	17.84	NP	NP	7.82
MW-10	20	5 to 20	17.83	9.36	0.38	8.09
MW-11	20	5 to 20	17.76	NP	NP	7.36
MW-12	20	5 to 20	17.83	NP	NP	8.37
MW-13	20	5 to 20	17.66	8.87	0.02	8.77
MW-14	20	5 to 20	17.60	NP	NP	8.44
MW-15	20	5 to 20	17.80	NP	NP	8.06
MW-16	20	5 to 20	17.74	NP	NP	7.94
MW-17	20	5 to 20	18.17	NP	NP	8.45
MW-18	20	5 to 20	16.35	NP	NP	10.79
MW-E	47	7 to 40	17.47	NP	NP	7.49
RW-1	30	unknown	16.70	NM	NM	5.60
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 and/or of free product could not be determined because free product density would not allow a clear delineation.

bgs = below ground surface
TOC = below top of casing
NP = no free product in well)
NM = depth to groundwater and/or free product could not be determined due to the presence of product

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 steel.

Approximately 50 gallons of purge water and equipment decontamination rinse water from the current groundwater sampling event was placed in a dedicated 55-gallon drum located in a locked fenced area on the northeast corner of the property. In addition, approximately 1,100 gallons of water and 0.031 gallons of product were removed/purged from wells during the active product removal; no measureable product volume was removed by passive product skimmers in the trench wells. The water generated during the active product and water removal was stored in a 1,100 gallon, plastic above ground storage tank locate in the fenced compound.

On November 7, 2014, Safety Kleen Corporation vacuumed and transported the 1,150 gallons of water to Seaport Refining and Environmental, LLC under manifest number 21882 (EPA ID No. CAL000374146). Appendix F contains copies of the manifest and recycling certificate.

4.0 REGULATORY CONSIDERATIONS, ANALYTICAL RESULTS, AND DISCUSSION OF FINDINGS

This section presents the analytical results of the most recent monitoring event and summarizes the 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 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 a 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 Environmental Screening Levels (ESLs) for residential and commercial/industrial properties where groundwater is/is not a likely drinking water resource. As stipulated in the ESL document (Water Board, 2013), ESLs are not cleanup criteria; rather, they are conservative screening-level criteria designed to be protective of both drinking water resources and aquatic environments. 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 (e.g., monitoring plume stability to demonstrate no risk to sensitive receptors where drinking water is not threatened) may be warranted. Because the subject property is a residential property where groundwater is not a likely drinking water resource, 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 and diesel have decreased as compared to both the previous quarter and the same quarter last year.

GROUNDWATER SAMPLE RESULTS

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

Table 2
Groundwater Sample Analytical Results – September 30, 2014
6400 Christie Avenue, Emeryville, California

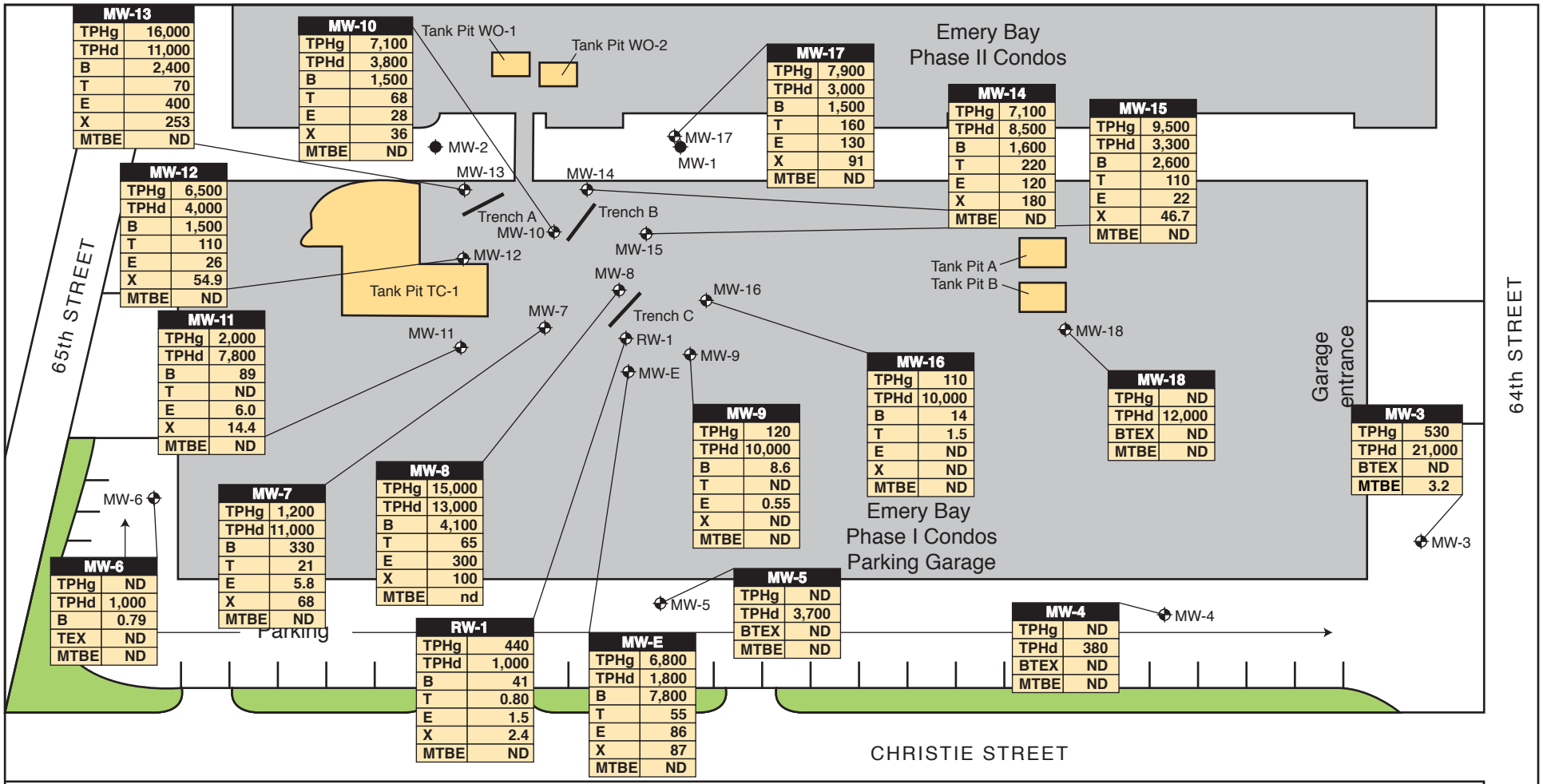
Well ID	Analytical Results						
	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
MW-3	**530**	**21,000**	<0.5	<0.5	<0.5	<0.5	3.2
MW-4	*<50*	380	<0.5	<0.5	<0.5	<0.5	< 2.0
MW-5	*<50*	**3,700**	<0.5	<0.5	<0.5	<0.5	<2.0
MW-6	*<50*	**1,600**	0.79	<0.5	<0.5	<0.5	< 2.0
MW-7	**1,200**	**11,000**	**330**	21	5.8	68	<2.0
MW-8	**15,000**	**13,000**	**4,100**	65	**300**	**100**	<170
MW-9	120	**10,000**	8.6	<0.5	0.55	<0.5	<2.0
MW-10	**7,100**	**3,800**	**1,500**	68	28	36	<67
MW-11	**2,000**	**7,800**	**89**	<0.5	6.0	14.4	<2.0
MW-12	**6,500**	**4,000**	**1,500**	110	26	**59.9**	<2.0
MW-13	**16,000**	**11,000**	**2,400**	70	**460**	**253**	<100
MW-14	**7,100**	**8,500**	**1,600**	**220**	**120**	**180**	<100
MW-15	**9,500**	**3,300**	**2,600**	110	22	46.7	<100
MW-16	110	**10,000**	14	1.5	<0.5	<0.5	<2.0
MW-17	**7.900**	**3,000**	**1,500**	**160**	**130**	91	<2.0
MW-18	<50	**12,000**	<0.5	<0.5	<0.5	<0.5	<2.0
MW-E	**6,800**	**7,800**	**1,800**	55	**86**	87	<67
RW-1	440	**1,000**	41	0.86	1.5	2.4	<2.0
ESLs [(a)]	**100 / 500**	**100 / 640**	**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, 2013).

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)

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GROUNDWATER MONITORING WELL ANALYTICAL RESULTS

6400 Christie Ave., Emeryville, CA

Figure 5

by: MJC | NOVEMBER 2014

2007-65-87

Distribution of Hydrocarbon Contaminants

During the September 2014 sampling event, several wells have hydrocarbon concentrations greatly in excess of the Water Board ESLs. However, hydrocarbon concentrations in wells can be significantly affected by the purging of accumulated hydrocarbons product, so large swings in concentration (both reductions and increases) are possible due to this occurrence. In addition, the introduction of surfactant (see Section 5) into the trench wells with the aim of reducing accumulated LNAPL in those wells is likely to affect dissolved concentrations.

Increases in September 2014 TVHg concentrations compared to the September 2013 monitoring event were observed in wells MW-8, MW-10, MW-11, MW-16 and RW-1. This represents five wells exhibiting an increase in TVHg as compared to four wells for the September 2013 sampling event. The remaining wells either remained below laboratory detection limits (in wells MW-4, MW-5, MW-6 and MW-18) or exhibited a decrease in TVHg concentrations.

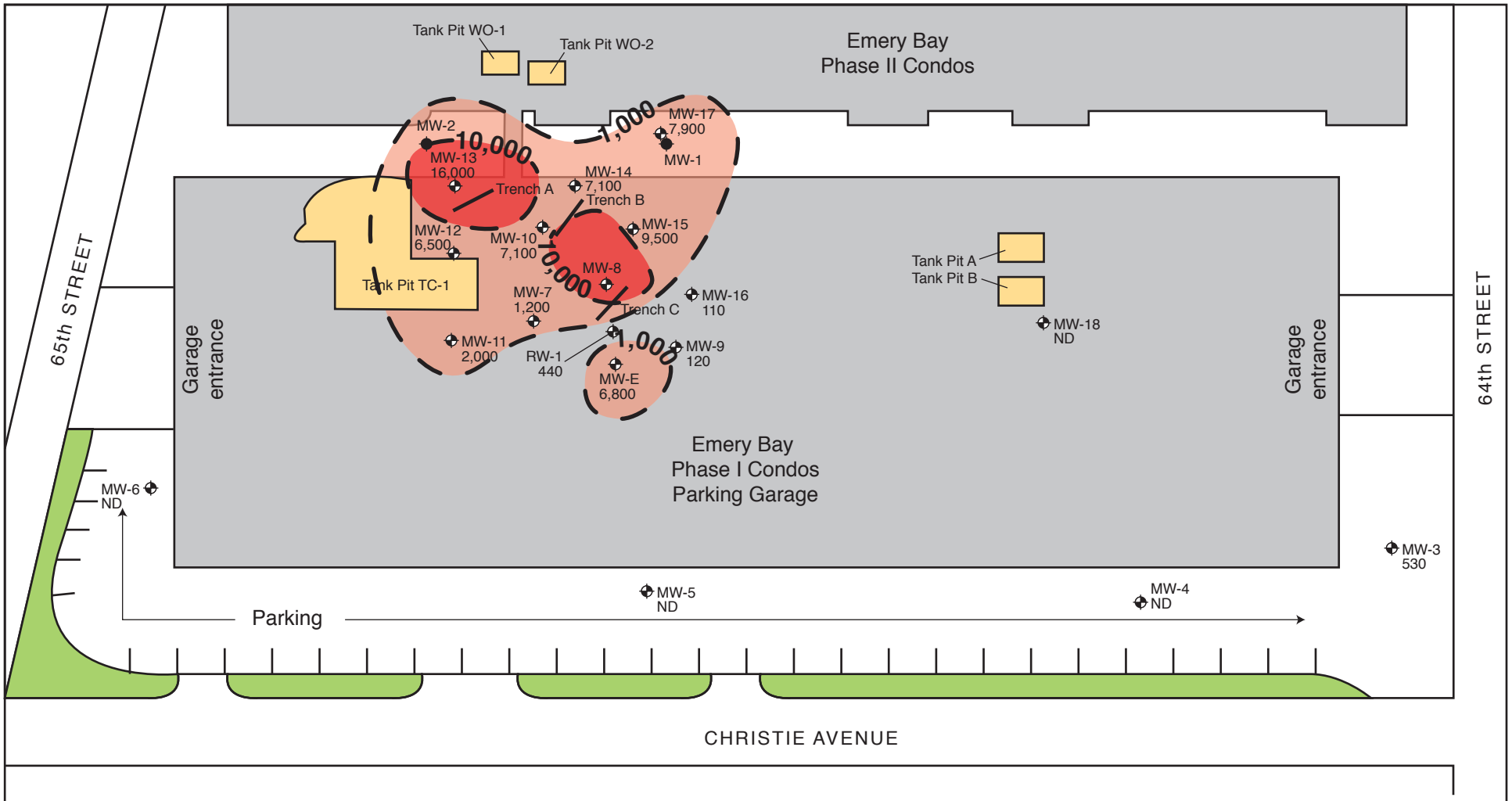
Gasoline was detected in MW-3, MW-7, MW-8, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-17, and MW-E above the ESL where groundwater is not a likely drinking water resource (500 micrograms per liter [µg/L]). Gasoline was also detected in MW-9, MW-16 and RW-1, but at concentrations below the ESL.

Diesel was detected in all site wells (except MW-4) above the ESL of 640 µg/L (where groundwater is not a likely drinking water resource), but showed a decrease in concentration in 9 of the 18 wells sampled as compared to 7 of 18 wells in the September 2013 sampling event.

The highest concentrations of TVHg (16,000 µg/L in MW-13) and TEHd (21,000 µg/L in MW-3) for the current event can be compared to concentrations of 19,000 µg/L TVHg in MW-13 and 250,000 µg/L TEHd observed in well MW-13 in September 2013. Concentrations of hydrocarbons in well MW-13 have decreased steadily since the September 2012 sampling event, with TVHg decreasing from 60,000 µg/L to 16,000 µg/L, and TEHd decreasing from 7,200,000 µg/L in 2012 to the current 11,000 µg/L.

Since the introduction of the surfactant in wells MW-8, MW-12, MW-13 and MW-14 in March and September 2013, into well MW-3 in July 2014 and into all nine trench wells in September 2014, hydrocarbon concentrations in site wells have decreased overall, while well MW-8 have shown increases in overall hydrocarbon concentration. Fluctuating concentrations of TVHg and TEHd in these wells may be attributed to LNAPL recovery and introduction of surfactant since March 2013.

Figures 6 and 7 are isoconcentration maps of TPHg and TEHd concentrations in groundwater based on the September 2014 analytical results.



LEGEND

- Monitoring well
- Monitoring well (presumed abandoned)
- Trench location
- Historical tank pit area
- Landscaping
- 1,000 Gasoline concentration contour

0 60

SCALE: 1/2" = 60 FEET

N

STELLAR ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

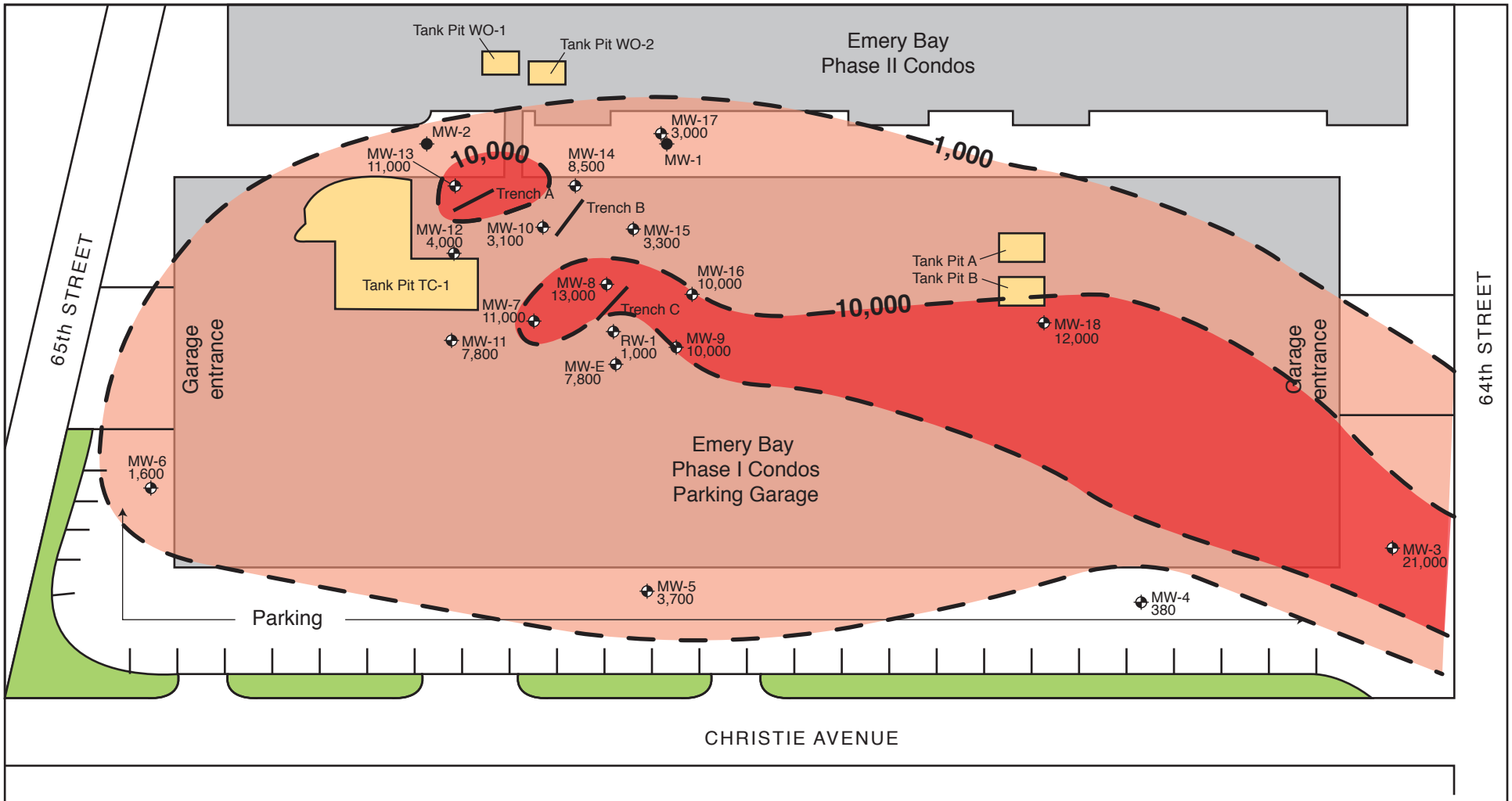
TOTAL PETROLEUM HYDROCARBONS AS GASOLINE

6400 Christie Ave., Emeryville, CA

Figure 6

by: MJC | NOVEMBER 2014

2007-65-89



LEGEND

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

0 60

SCALE: 1/2" = 60 FEET

N

STELLAR ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

TOTAL PETROLEUM HYDROCARBONS AS DIESEL

6400 Christie Ave., Emeryville, CA

Figure 7

by: MJC | NOVEMBER 2014

2007-65-88

Figure 8 depicts historical groundwater analytical trends for TPHd in downgradient wells MW-5 and MW-6. Figure 9 depicts historical groundwater analytical trends for TPHd in source wells MW-11 and MW-12. Figure 10 depicts historical groundwater analytical trends for TPHd in crossgradient wells MW-3 and MW-18.

In monitoring wells MW-7, MW-8, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-17, and MW-E concentrations of benzene exceeded the ESL of 46 µg/L where groundwater is not a drinking water resource. Comparing September 2013 results to September 2014 results showed a decrease in benzene in 8 of the 18 site wells sampled. An increase in benzene was detected in 7 of the 18 wells. Benzene was detected in wells MW-6, MW-9, MW-16 and RW-1, but at concentrations below the ESL. The biggest changes in benzene concentrations were in wells MW-13 (decrease from 3,400 µg/L to 2,400 µg/L), and in well MW-15 with benzene dropping from 4,100 µg/L to 2,600 µg/L. Perimeter wells MW-5 and MW-6, which in September 2013 contained concentrations of benzene at 0.65 µg/L and 1.7 µg/L benzene respectively, dropped to < 0.5 µg/L and 0.79 µg/L respectively for the current event.

Toluene was detected at or above the ESL of 130 µg/L in monitoring wells MW-14 and MW-17. Toluene was also detected in wells MW-7, MW-8, MW-10, MW-12, MW-13, MW-15, MW-16, MW-E and RW-1 but at levels below the ESL.

Ethylbenzene was detected above the 43 µg/L ESL in monitoring wells MW-8, MW-13, MW-14, MW-17 and MW-E. Ethylbenzene was also detected in MW-7, MW-9, MW-10, MW-11, MW-12, MW-15 and RW-1 but at levels below the ESL.

Total xylene concentrations in wells MW-8 and MW-14 were above the 100-µg/L ESL where groundwater is not a likely drinking water resource. Total xylenes were detected in MW-7, MW-8, MW-10, MW-11, MW-15, MW-17, MW-E and RW-1 but below the ESL.

MTBE was not detected above the ESL of 1,800 µg/L in any of the monitoring wells. MTBE was detected in MW-3, but below the ESL. This represents six fewer wells containing MTBE compared to the September 2013 monitoring event.

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).

Figure 8
Historical Groundwater Analytical Results
Total Petroleum Hydrocarbons as Diesel (TPHd)
Downgradient Wells MW-5 and MW-6
February 1991 - September 2014

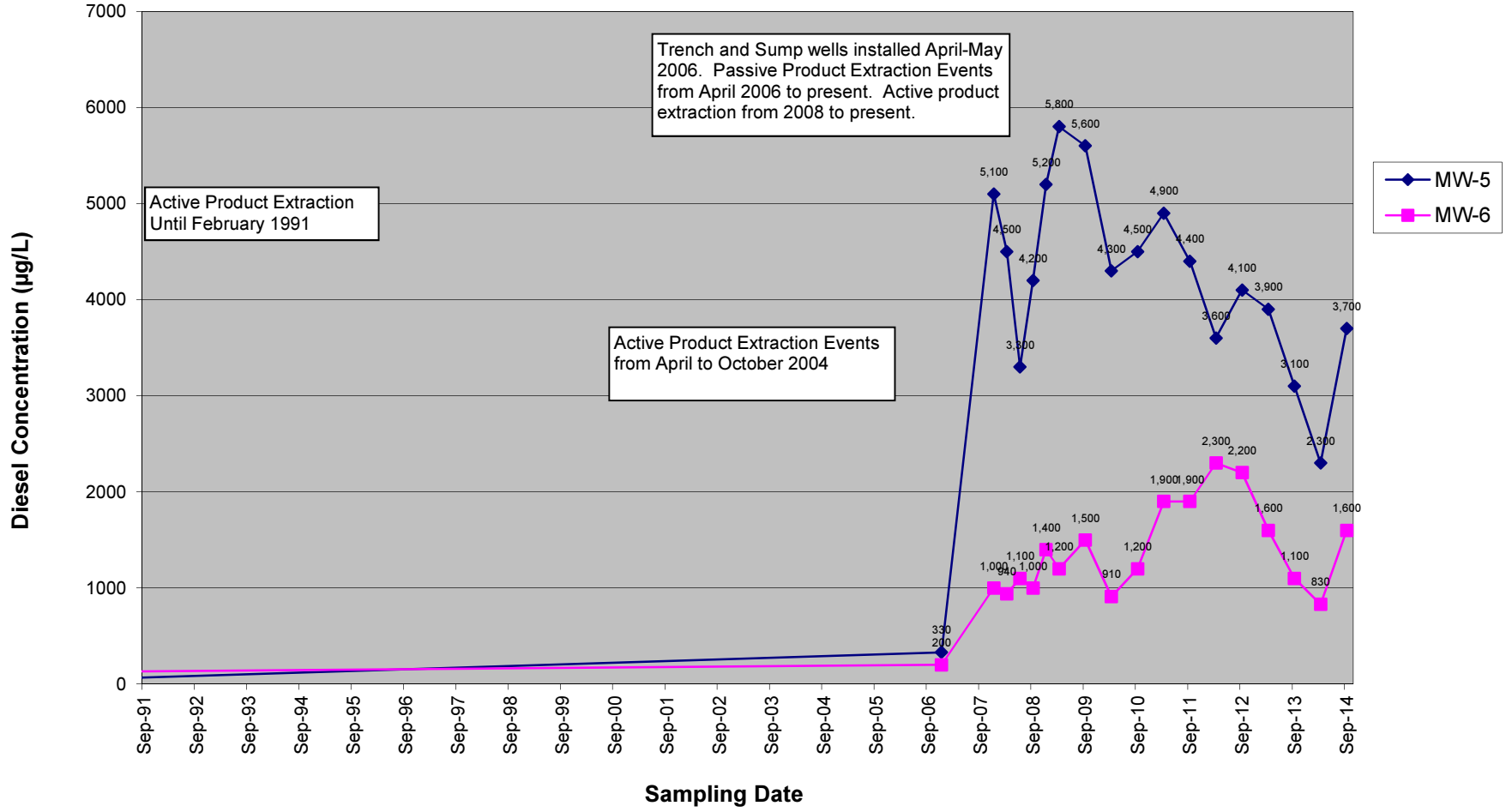


Figure 9
Historical Groundwater Analytical Results
Total Petroleum Hydrocarbons as Diesel (TPHd)
Source Wells MW-11 and MW-12
December 2006 - September 2014

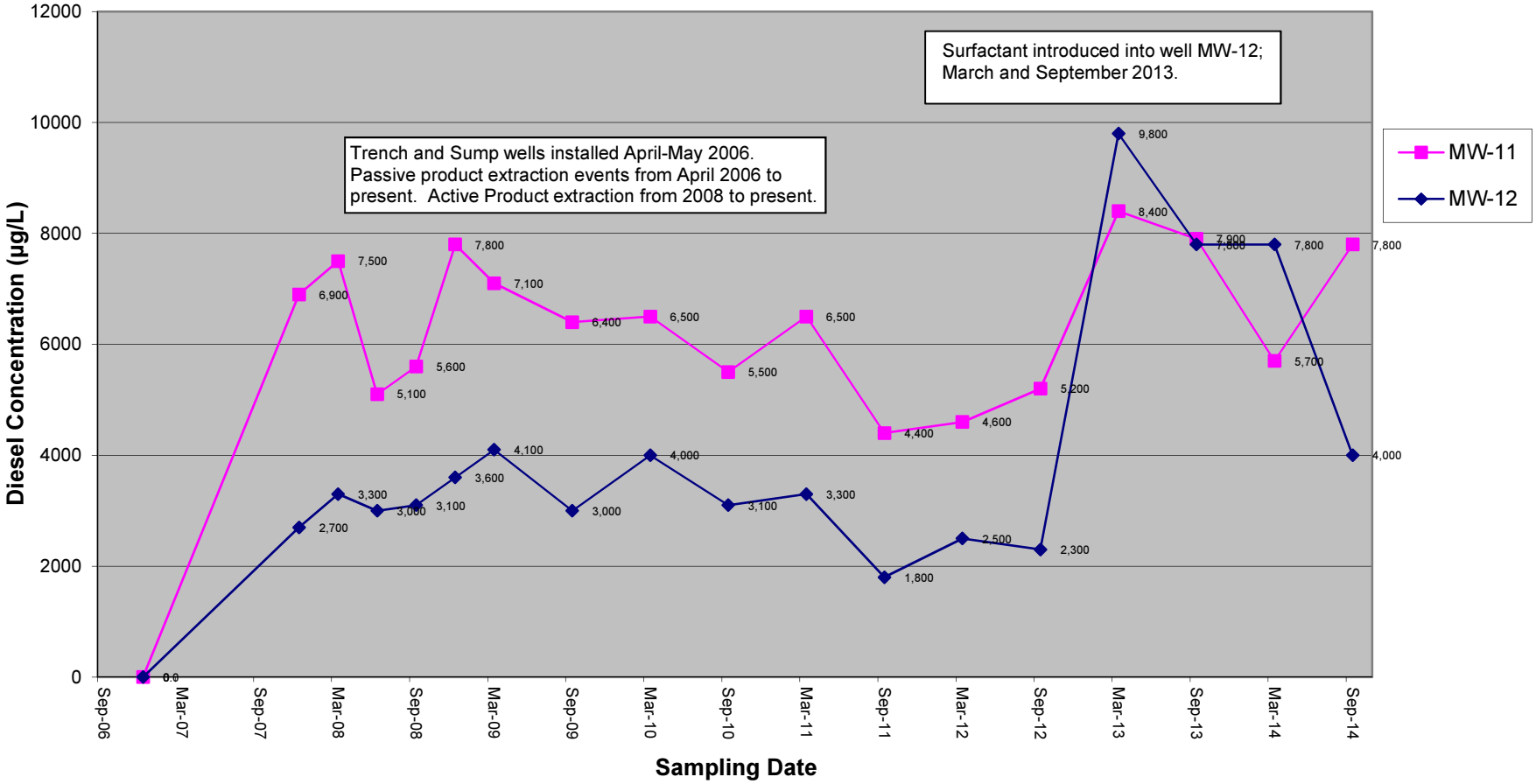
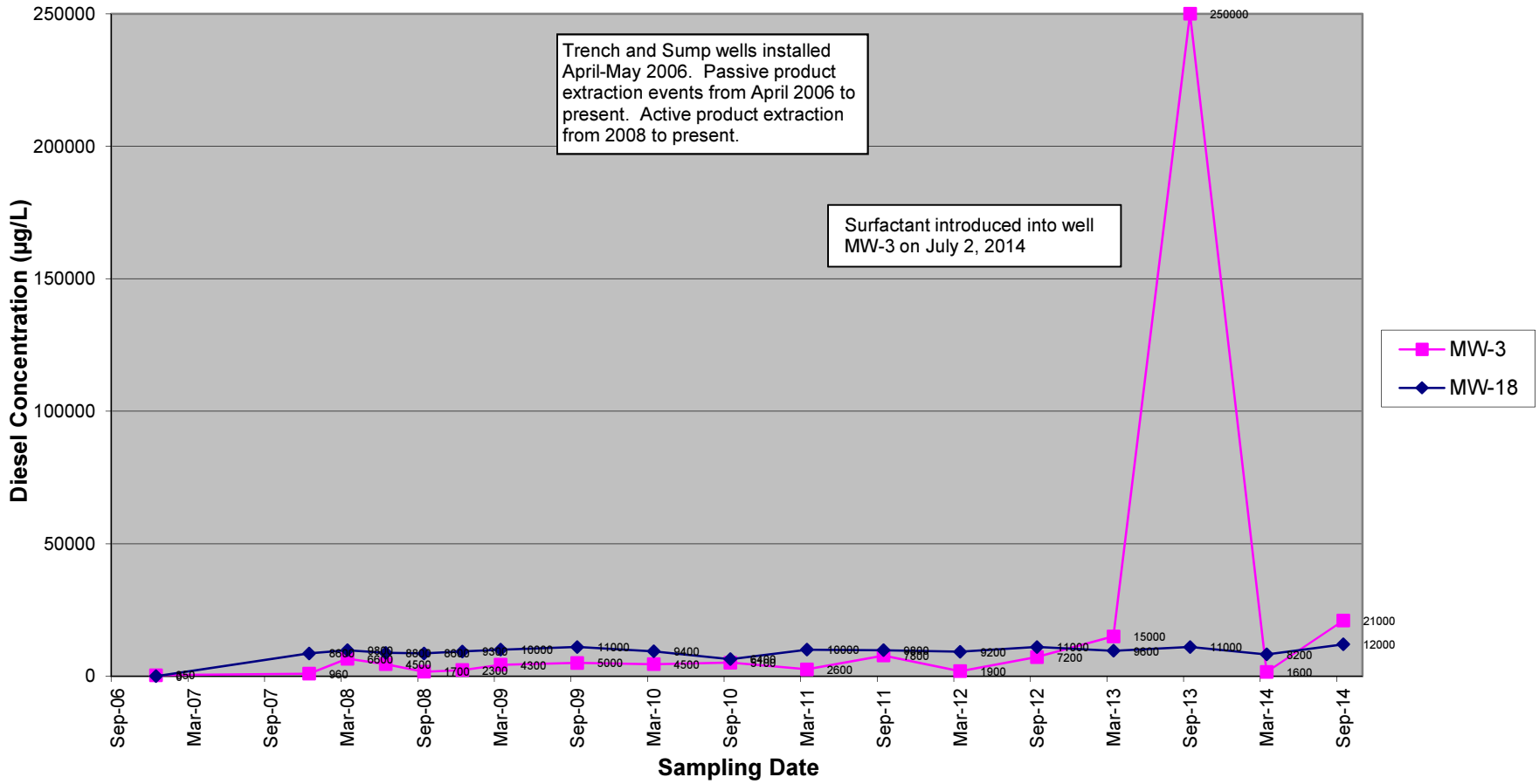


Figure 10
Historical Groundwater Analytical Results
Total Petroleum Hydrocarbons as Diesel (TPHd)
Crossgradient Wells MW-3 and MW-18
December 2006 - September 2014



5.0 FREE-PHASE HYDROCARBON PRODUCT REMEDIATION SYSTEM

This section describes the historical extraction of the free product from the Emery Bay/Bridgewater 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 on September 25 and 26, 2014 (prior to the sampling event on September 30). Appendix E summarizes historical product removal.

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 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 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 in principal 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 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. However, the skimmers were never particularly effective at capturing the petroleum product as designed, and as of the past several monitoring events, have contained nearly no free oil. Because the skimmers are no longer effective, and because the skimmer equipment was covered with oily residue, possibly contributing to the hydrocarbon impacts to site groundwater, the skimmers were removed from the wells in trenches A (six skimmers) and C (one skimmer) on September 4, 2014.

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, Stellar Environmental removed all of the old parts of the system from the well and 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 previously) 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 approximately 0.6 gallon of hydrocarbons was removed by PES between January and November 2007. In November and December 2007, after Stellar Environmental was retained for the project, the skimmer system yielded 2.82 gallons. Figure 11 graphs the comparison of free product extraction on a yearly basis.

No historical product extraction reports were provided to Stellar Environmental by the previous owner or by PES. Therefore, there is little to no information on how active product extraction occurred during 2004 and 2006. Based on better defined recovery in 2008 through 2011 the volume of free product indicated to have been recovered during 2004 and 2006 appears unrealistically high, suggesting that free-phase project mixed with water was reported as free-phase product recovery.

2013 AND 2014 SURFACTANT INJECTION

Many of the centrally located wells and well MW-3 contain a molasses like, degraded product that has made well purging and sampling increasingly difficult. Equipment lowered down into the well casings come back out coated with a tar like substance that is difficult or impossible to clean, and may account for low water yield in some wells due to sand pack and well screen fouling. Four of the worst wells in this regard are MW-3, MW-8, MW-10, MW-12, MW-13 and MW-14. All these wells are constructed with ¾-inch diameter PVC casing, and are screened to total depth across the same interval of 5 to 20 feet bgs, except for MW-8 which is screened from 5 to 16 feet bgs. In order to

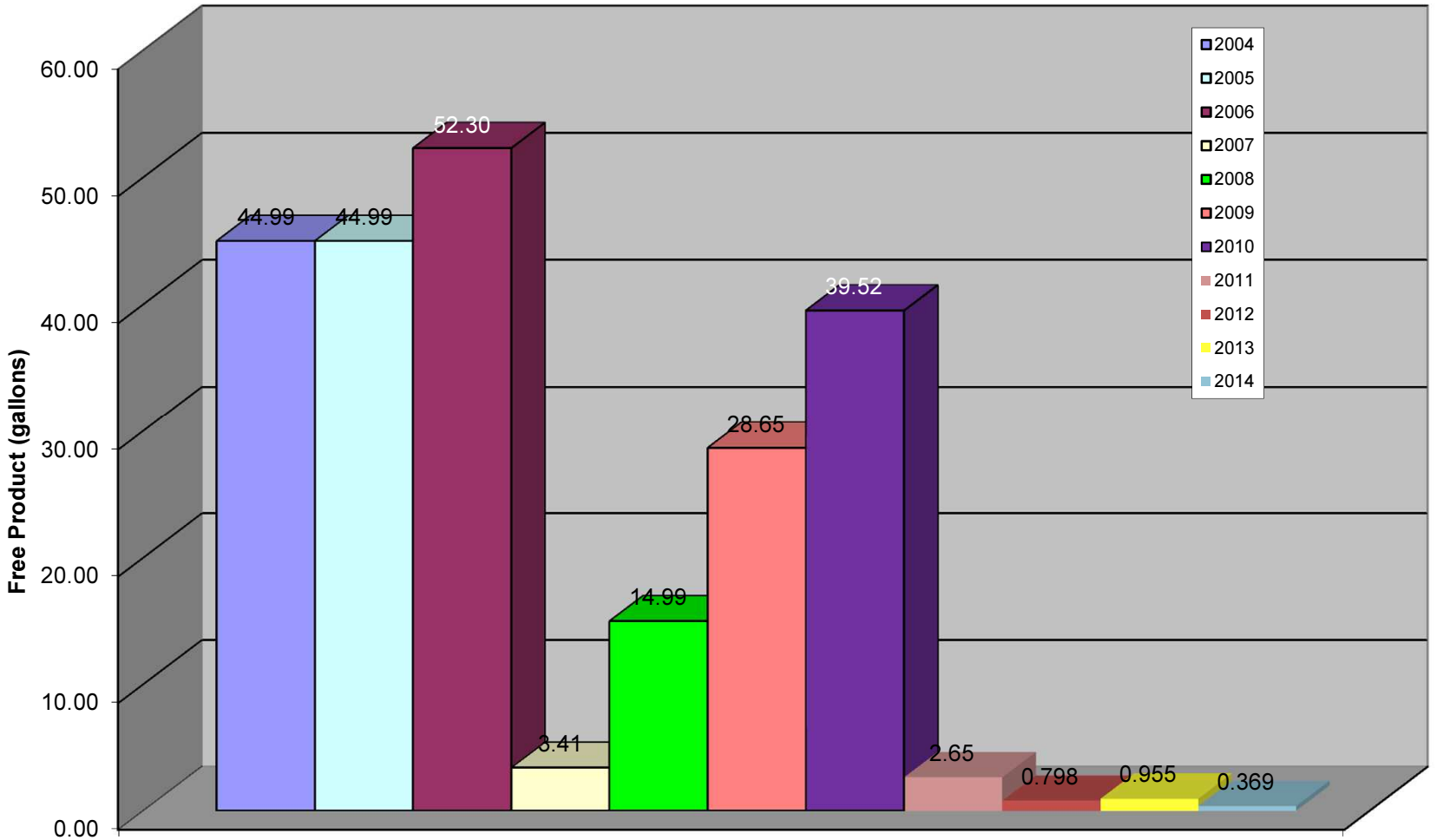
attempt to clean the well casings and emulsify the tar thought to exist in the well pack, a surfactant was chosen as a solution.

Surfactants are designed to change the interfacial tension between the water and NAPL and desorb the residual LNAPLs entrained in the soil matrix by micro-emulsifying the organic particles, and forming a micelle. In the case of weathered LNAPLs, surfactants have been used to decrease the viscosity of the material, resulting in increased and more efficient recovery. Surfactants can also be considered bioremediation enhancing and vapor suppression agents. The use of mobile multi-phase extraction that has been occurring at the site twice-yearly since 2008, allows a focused remediation effort at a targeted area of the site, and increases the effective radius of influence of the pumping. This combined approach involves the in-situ application of a surfactant mixture, under pressure, into the site subsurface. The injection is followed by high-vacuum induced multi-phase recovery from the injected wells as well as surrounding wells via a mobile vacuum truck.

In March and September 2013 wells MW-8, MW-12, MW-13 and MW-14 were injected with EnviroClean® supplied by Enviro Clean Services, LLC. EnviroClean® is described the manufacturer as a non-flammable, non-toxic, water-based, proprietary blend of non-toxic, non-ionic ethoxylated octylphenolic surfactants that has been specifically engineered as a cleanup/mitigation agent for a wide range of hydrocarbon products. EnviroClean® product information is included in Appendix F. A working solution of 4% EnviroClean® was mixed per manufacturer recommendations using clean water. Approximately 5 gallons of the solution was introduced each well using a funnel. The well casing and screen in each well were then scrubbed using a stiff bristle brush attached to an extension. After the scrubbing, approximately 15 gallons of the working EnviroClean® solution was injected under pressure into each well using a dual-diaphragm pump.

Based on the positive results of the non-hazardous surfactant injection into wells MW-8, MW-12, MW-13 and MW-14 in 2013 which resulted in reduced or eliminated oil residue, the same surfactant was introduced into well MW-3 which has historically been difficult to gauge and sample due to the thick oil in the well. On July 2, 2014, approximately 10 gallons of a 5% mixture of the surfactant was introduced into MW-3 and the well casing scrubbed. On September 4, 2014, approximately 20 gallons of the 5% surfactant mixture was introduced into each of the nine trench wells onsite after the skimmers had been removed from the wells in trenches A and C, to test the ability of the surfactant to re-dissolve the viscous hydrocarbon buildup in those wells. The wells were then undisturbed until the product removal phase of the current monitoring event took place on September 25 and 26, 2014.

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



SEPTEMBER 2014 PRODUCT REMOVAL EVENT

Historical product yield from the trench recovery system has been unproductive and inconsistent, with the 2-liter passive skimmer collection reservoirs not filling up completely, or filling up with water rather than product. As mentioned above, due to their ineffectiveness at collecting free product over the past several monitoring events, and due to the oily residue on the skimmers, the skimmers were removed from the wells in trenches A and C prior to the surfactant injection in early September. Table 3 shows the allocation of free product removed from the collection skimmers in Trenches A and C.

Table 3
Passive Skimmer Product Extraction in Trenches– September 25 and 26, 2014
6400 Christie Avenue, Emeryville, California

Trench ID	Number of Skimmers in Well	Total Product Removed (gallons)
TA-E	2	0.0
TA-M	2	0.0
TA-W	2	0.0
TB-E	0	NM
TB-M	0	NM
TB-W	0	NM
TC-E	1	0.0
TC-M	0	NM
TC-W	0	NM
Total Product Removed		**0.0**

Note:
NM = Not measured. No skimmer installed in the well.

Stellar Environmental conducted both passive and active product removal events during the 4 days prior (September 25 and 26) to the groundwater sampling event (September 30) to determine the recharge rate of free product in wells. A total of approximately 1,100 gallons of groundwater yielding approximately 0.031 gallons (Table 4) of free product were removed during the September 2014 active product removal event.

Table 4
Active Product Extraction – September 25 and 26, 2014
6400 Christie Avenue, Emeryville, California

Well	Total Gallons of Product Removed	Well	Total Gallons of Product Removed
MW-3	0	MW-17	0
MW-4	0	MW-18	0
MW-5	0	MW-E	0
MW-6	0	RW-1	0
MW-7	0	TA-E	0
MW-8	0	TA-M	0
MW-9	0	TA-W	0
MW-10	0.031	TB-E	0
MW-11	0	TB-M	0
MW-12	0	TB-W	0
MW-13	0	TC-E	0
MW-14	0	TC-M	0
MW-15	0	TC-W	0
MW-16	0		
		Total	**0.031**

Notes:

NP = not purged

Product removal estimates are based on the total amount of free product measured in the purge drum after pumping each well

The removal activities for September 25 and 26 2014 can be summarized as follows:

- Stellar Environmental removed a total 150 gallons of groundwater from TA-W, TA-E and TA-M along with about 0.0 gallons of product. The skimmers were filled with water with little or no free product. Stellar Environmental removed a total of 150 gallons of water from trench wells TB-W, TB-E and TB-M with no measurable free product. Wells TC-W, TC-E and TC-M were not pumped.
- Stellar Environmental removed a total of 400 gallons of groundwater from recovery well RW-1 along with a trace of product.

- A total of approximately 0.031 gallons (4 oz) of petroleum product was removed along with the 400 gallons of liquid that was pumped from all of the monitoring wells. Well MW-10 yielded the free product, with some of the remaining wells containing a trace of free product that was not measurable.
- All of the purge water and free product extracted during these events was contained onsite in the 1,100-gallon AST located in the northeastern gated area of the garage. On November 7, 2014, Safety Kleen Corporation, Inc. vacuumed and transported the water to a recycling facility in Redwood City, California. The waste manifest and recycling certificate are included in Appendix F.

DISCUSSION OF FREE PRODUCT REMOVAL AND LIMITATIONS

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 Stellar Environmental 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 reportedly (PES, 2004c) removed by active pumping although antidotal evince suggests that much of this was purge water versus pure free product. The majority of petroleum product appears in fact to have been 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. In 2007, passive extraction of free product through trench well skimmers removed only 3.41 gallons. Stellar Environmental removed approximately 5.65 gallons of free product from these passive skimmers during the 2008 removal events. Since 2011, the skimmers have contained only water and a trace of oil when checked. Approximately 14.99 gallons of product were removed by active pumping on wells during 2008, 28.65 gallons in 2009, 39.52 gallons in 2010, 2.65 gallons in 2011, 0.798 gallons in 2012, 0.955 gallons in 2013 and 0.369 gallons in 2014 indicating that the active pumping of site wells to be an effective means of product removal as compared to the passive skimmer system. Differences in recovery can be attributed to fluctuations in groundwater levels and to an overall reduction of free product as active pumping continues year to year.

As demonstrated by the analytical data, active pumping on the wells has generally reduced gasoline concentrations. 8 of 14 wells in which TVHg is detected, contained less of that compound as compared to September 2013. 9 of 18 wells showed a decrease in TEHd concentrations compared to September 2013. The very high hydrocarbon concentrations detected in well MW-13 and MW-3 in former monitoring events compared to the September 2104 sampling events is likely due to those wells containing LNAPL which was likely at least partially emulsified with the surfactant injection, reducing the possibility that the sample would contain LNAPL. Inconsistent trends in the hydrocarbon concentrations, particularly the upward spike in diesel concentration observed in well MW-8 and the downward spike in well MW-14 after the surfactant injection in and/or near those wells may show more consistent trend lines after subsequent sampling events. About 1/3 of the wells showed hydrocarbon concentrations with very little change as compared to 2013 results.

In addition to the above factors, the decrease of diesel concentrations observed in well MW-3 after seeing increases over the past three monitoring events, is very likely due to the cessation of de-watering activities that had been on-going at the construction site across 64th Street during 2013 until early 2014 which had affected the groundwater flow direction and magnitude. In addition, the surfactant introduced into MW-3 in September 2104, likely reduced LNAPL and dissolved hydrocarbon concentrations in that well. Well MW-18, which is the closest upgradient well to MW-3, has shown a relatively stable TEHd concentration over the past four monitoring events, suggesting that an undiscovered area of residual hydrocarbon contamination may exist between MW-3 and MW-18. In general, residual hydrocarbons left in the soil after the USTs were removed from the site in the 1980's, is likely to continue to be a source of contamination to groundwater at the site. More active remediation, including introduction of bio-remedial enhancing products into selected wells may be useful to reduce the concentrations to levels acceptable to the regulatory community and to achieve eventual regulatory closure. If the surfactant applications at the site can continue to reduce the degraded product present, particularly in wells MW-3, NMW-8, MW-9, MW-10, MW-12, MW-13 and MW-14, then application of such bio-remedial remedies can better be considered.

The outward effect of the surfactant injection based on observations made during product removal for the current monitoring event, has been a marked reduction in the viscous hydrocarbon substance in site wells. A significant increase in water yield from wells that received surfactant was not observed. The total measured recovery volume of product (in gallons) from the 18 wells for the September 2013 monitoring event, compared to the current monitoring event, decreased from 0.32 gallons to 0.031 gallons which is likely attributable to the emulsification of LNAPL in the wells receiving the surfactant.

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 quarterly sampling was reduced to a semiannual frequency in 2009.
- The site currently contains 17 monitoring wells, 1 recovery well, and 9 product extraction trench wells. The current event is the 22nd 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 2 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 flow direction calculated during this monitoring event was found to be generally to the southwest. Some mounding is evident in the area of MW-4 which is likely due to water accumulating from landscape irrigation leaks (MW-4 well box full of water).
- Construction dewatering that had occurred since 2012 at the construction site across 64th Street that was influencing the groundwater flow direction towards that site, was discontinued in February 2014.
- Groundwater elevations during the September 2014 event ranged from 5.60 feet amsl (RW-1) to 10.78 (MW-18) feet amsl. The average groundwater gradient was 0.001 foot/foot.

- The injection of a (non-hazardous) surfactant into wells MW-8, MW-12, MW-13 and MW-14 in 2013 and into the nine trench wells and well MW-3 in July and September 2014 was used to test the ability of the surfactant to emulsify the viscous hydrocarbon buildup in the injected wells and nearby wells. This was also being done to determine if the surfactant would result in significant decreases in the dissolved hydrocarbon concentrations in surrounding wells and if better recovery and water flow could be observed in site wells. The most significant decrease in TVHg and TEHd concentrations were observed in wells MW-3 and MW-13.
- Surfactant injections into wells MW-8, MW-12, MW-13 and MW-14 in 2013 have reduced or eliminated LNAPL in those wells, and may have contributed to a decrease in concentrations of dissolved hydrocarbons and MBTEX in those wells and other site wells as compared to the September 2013 monitoring event.
- Current contaminants of concern include TPHg, TPHd, and BTEX. Current groundwater concentrations exceeded the ESLs for these contaminants.
- MTBE was detected only in MW-3 during the current monitoring event compared to six wells with detected MTBE concentrations for the September 2013 sampling. The concentration of MTBE in well MW-3 is below the applicable ESL.
- The highest concentrations of TVHg (16,000 µg/L in MW-13) and TEHd (21,000 µg/L in MW-3) for the current event can be compared to concentrations of 19,000 µg/L TVHg in MW-13 and 250,000 µg/L TEHd observed in well MW-3 in September 2013. The concentration of hydrocarbons in wells MW-13 and MW-14 continue to decrease since September 2012 concentrations. Since the introduction of the surfactant in wells MW-8, MW-12, MW-13 and MW-14 in March and September 2013, hydrocarbon concentrations in surrounding wells MW-11, MW-15 have decreased overall while wells MW-8, MW-16 and MW-17 have shown increases in overall hydrocarbon concentration. Fluctuating concentrations of TVHg and TEHd in these wells may be attributed to LNAPL recovery and introduction of surfactant since March 2013.
- Increases in September 2014 TVHg concentrations compared to the September 2013 monitoring event were observed in wells MW-8, MW-10, MW-11, MW-16 and RW-1. This represents five wells exhibiting an increase in TVHg as compared to four wells for the September 2013 sampling event. The remaining wells either remained below laboratory detection limits (in wells MW-4, MW-5, MW-6 and MW-18) or exhibited a decrease in TVHg concentrations.

- Gasoline was detected in MW-3, MW-7, MW-8, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-17, and MW-E above the ESL where groundwater is not a likely drinking water resource (500 micrograms per liter [µg/L]). Gasoline was also detected in MW-9, MW-16 and RW-1, but at concentrations below the ESL.
- Diesel was detected in all site wells (except MW-4) above the ESL of 640 µg/L (where groundwater is not a likely drinking water resource), but showed a decrease in concentration in 9 of the 18 wells sampled as compared to 7 of 18 wells in the September 2013 sampling event.
- In monitoring wells MW-7, MW-8, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-17, and MW-E concentrations of benzene exceeded the ESL of 46 µg/L where groundwater is not a drinking water resource. Comparing September 2013 results to September 2014 results showed a decrease in benzene in 8 of the 18 site wells sampled. An increase in benzene was detected in 7 of the 18 wells. Benzene was detected in wells MW-6, MW-9, MW-16 and RW-1, but at concentrations below the ESL. The biggest changes in benzene concentrations were in wells MW-13 (decrease from 3,400 µg/L to 2,400 µg/L), and in well MW-15 with benzene dropping from 4,100 µg/L to 2,600 µg/L. Perimeter wells MW-5 and MW-6, which in September 2013 contained concentrations of benzene at 0.65 µg/L and 1.7 µg/L benzene respectively, dropped to < 0.5 µg/L and 0.79 µg/L respectively for the current event.
- Toluene was detected at or above the ESL of 130 µg/L in monitoring wells MW-14 and MW-17. Toluene was also detected in wells MW-7, MW-8, MW-10, MW-12, MW-13, MW-15, MW-16, MW-E and RW-1 but at levels below the ESL.
- Ethylbenzene was detected above the 43 µg/L ESL in monitoring wells MW-8, MW-13, MW-14, MW-17 and MW-E. Ethylbenzene was also detected in MW-7, MW-9, MW-10, MW-11, MW-12, MW-15 and RW-1 but at levels below the ESL.
- Total xylene concentrations in wells MW-8 and MW-14 were above the 100-µg/L ESL where groundwater is not a likely drinking water resource. Total xylenes were detected in MW-7, MW-8, MW-10, MW-11, MW-15, MW-17, MW-E and RW-1 but below the ESL.
- Based on the March 2014 site investigation conducted by Stellar Environmental, no obvious source for the heavy oil that has accumulated in well MW-3 was found to be located between wells MW-3 and MW-18. This apparent lack of another hydrocarbon source near that area where an historical source was indicated, supports the idea that the spike in TEHd concentrations observed in MW-3 during 2013, which have again decreased for the current monitoring event to near historic lows, strongly suggests the construction dewatering across 64th Street during 2013 was responsible, with the southward pull of the hydrocarbon plume offsite resulting in the observed fluctuations in TEHd concentrations in well MW-3 in 2013.

- Due to the ineffectiveness of the product skimmers that were in wells in recovery trenches A and C, the skimmers were removed from the wells. No oil was recovered from the nine skimmers for the September 2014 monitoring event. The other reason for removal of the skimmers was that they were coated with oil, and thought to be contributing to dissolved hydrocarbon groundwater contamination.
- Stellar Environmental conducted active product removal on the trench wells, source area wells, recovery well, and select monitoring wells during the March 2013 event. A total of approximately 1,100 gallons of groundwater that includes approximately 0.031 gallons of free-floating petroleum product from all the wells was removed with the estimate based on free-product accumulation in the extraction drum after pumping each well.

RECOMMENDATIONS

- Inject surfactant into well MW-10 and in well MW-3 where free-floating product is still apparent to dissolve the product and allow better recovery of remnant hydrocarbons. This work would best be accomplished in January or early February 2015.
- Conduct a field test for the application of a to-be-selected bioremediation product (both aerobic and anaerobic delivery systems are under review) into the three recovery wells in Trench A. The two other Trenches will not have bioremediation product introduced, acting as controls. The nearby wells to Trench A where the bioremediation product is to be introduced will also be monitored. This will allow for a bioremediation effectiveness evaluation. The timing of this work would occur after the surfactant application into MW-10, and directly following the next semi-annual monitoring event scheduled for late March 2015. Wells MW-10 and MW-12 (at minimum) would be used for data tracking points.
- Groundwater monitoring should be continued on a semiannual basis to document contaminant concentrations over time.
- Active groundwater/dissolved product removal events should be continued to ascertain their effectiveness in reducing the plume size over time. Active product removal is currently being conducted on a semiannual basis immediately prior to the sampling event.
- Continue to evaluate emergent best available technologies to cost-effectively remediate the site to move it toward full regulatory site closure.
- 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 Emerybay Commercial Association, 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, 2008, and 2009. 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
11	Mar-09	4,300	260	NA	1.3	<0.5	1.8	0.5	2.9
12	Sep-09	5,000	300	NA	2.5	<0.5	<0.5	<0.5	<2.0
13	Mar-10	4,500	230	670	1.7	<0.5	1.0	<0.5	2.7
14	Sep-10	5,100	470	NA	<0.5	0.64	<0.5	1.6	2.9
15	Mar-11	2,600	540	NA	47	28	7.6	11.8	17
16	Sep-11	7,800	290	NA	13	1.5	<0.50	2.0	9.5
17	Mar-12	1,900	430	NA	3.3	<0.5	<0.5	2.5	2.7
18	Sep-12	7,200	380	NA	18	14	6.0	25.3	<2.0
19	Mar-13	15,000	470	NA	1.3	0.68	2.1	2.1	8.6
20	Sep-13	250,000	530	NA	<0.5	<0.5	<0.5	2.4	5.6
21	Mar-14	1,600	270	NA	1.4	<0.5	<0.5	<0.5	<2.0
22	Sep-14	21,000	530	NA	0	0	0.0	0.0	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
11	Mar-09	940	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
12	Sep-09	660	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
13	Mar-10	680	<50	380	<0.5	<0.5	<0.5	<0.5	<2.0
14	Sep-10	770	71	NA	<0.5	<0.5	<0.5	<0.5	<2.0
15	Mar-11	590	<50	NA	<0.5	<0.5	<0.5	<0.5	2.4
16	Sep-11	380	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
17	Mar-12	340	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
18	Sep-12	350	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
19	Mar-13	390	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
20	Sep-13	250	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
21	Mar-14	380	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
22	Sep-14	380	0	NA	0	0	0	0	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
11	Mar-09	5,800	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
12	Sep-09	5,600	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
13	Mar-10	4,300	<50	5,400	4.9	<0.5	<0.5	<0.5	<2.0
14	Sep-10	4,500	<50	NA	0.58	<0.5	<0.5	<0.5	2.0
15	Mar-11	4,900	<50	NA	1.3	<0.5	<0.5	<0.5	5.9
16	Sep-11	4,400	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
17	Mar-12	3,600	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
18	Sep-12	4,100	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
19	Mar-13	3,900	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
20	Sep-13	3,100	<50	NA	0.65	<0.5	<0.5	<0.5	<2.0
21	Mar-14	2,300	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
22	Sep-14	3,700	0	NA	0	0	0	0	0.0

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
11	Mar-09	1,200	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
12	Sep-09	1,500	<50	NA	0.79	<0.5	<0.5	<0.5	<2.0
13	Mar-10	910	<50	1,500	1.9	<0.5	<0.5	<0.5	<2.0
14	Sep-10	1,200	72	NA	1.0	<0.5	<0.5	<0.5	<2.0
15	Mar-11	1,900	<50	NA	1.3	<0.5	<0.5	<0.5	3.9
16	Sep-11	1,900	<50	NA	1.8	<0.5	<0.5	<0.5	<2.0
17	Mar-12	2,300	<50	NA	0.82	<0.5	<0.5	<0.5	<2.0
18	Sep-12	2,200	<50	NA	0.85	<0.5	<0.5	<0.5	<2.0
19	Mar-13	1,600	<50	NA	0.83	<0.5	<0.5	<0.5	<2.0
20	Sep-13	1,100	<50	NA	1.70	<0.5	<0.5	<0.5	<2.0
21	Mar-14	830	65	NA	0.81	<0.5	<0.5	<0.5	<2.0
22	Sep-14	1,600	0	NA	0.79	0	0	0	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	<10
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
8	Mar-09	8,700	1,700	NA	510	33	47	220	<10
9	Sep-09	6,800	620	NA	310	9.5	27	117	<10
10	Mar-10	8,700	330	6,800	68	2.2	10	31.6	<2.0
11	Sep-10	10,000	1,300	NA	580	54	35	163	<20
12	Mar-11	8,100	630	NA	160	5.3	14	65	<2.0
13	Sep-11	8,000	2,900	NA	900	46	51	284	<2.0
14	Mar-12	7,900	740	NA	220	150	14	140	<2.0
15	Sep-12	10,000	1,700	NA	660	35	32	137	<2.0
16	Mar-13	8,600	3,000	NA	950	39	30	149	<33
17	Sep-13	12,000	2,100	NA	540	29	17	89	<29
18	Mar-14	8,200	1,900	NA	440	22	14	63	<29
19	Sep-14	11,000	1,200	NA	330	21	5.8	68	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
8	Mar-09	10,000	22,000	NA	9,400	200	640	358	<50
9	Sep-09	9,200	26,000	NA	8,600	100	630	230	170
10	Mar-10	11,000	19,000	1,900	6,200	120	830	149	<2.0
11	Sep-10	7,600	7,800	NA	8,800	110	620	212	<100
12	Mar-11	8,800	19,000	NA	8,100	130	890	149	<2.0
13	Sep-11	18,000	13,000	NA	8,000	140	860	178	<2.0
14	Mar-12	9,800	380	NA	100	3	5.9	20	<2.0
15	Sep-12	24,000	73,000	NA	18,000	520	2,300	670	<2.0
16	Mar-13	38,000	39,000	NA	9,400	160	1,600	255	<50
17	Sep-13	2,100	14,000	NA	3,800	140	35	86	440
18	Mar-14	13,000	23,000	NA	6,800	96	620	200	<200
19	Sep-14	13,000	15,000	NA	4,100	65	300	100	0

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	0.54	<0.5	<0.5	<2.0
8	Mar-09	9,400	130	NA	4.6	<0.5	<0.5	<0.5	<2.0
9	Sep-09	8,200	98	NA	4.0	<0.5	<0.5	<0.5	<2.0
10	Mar-10	6,500	140	4,000	5.2	<0.5	<0.5	<0.5	<2.0
11	Sep-10	6,400	170	NA	4.8	0.77	<0.5	<0.5	<2.0
12	Mar-11	11,000	150	NA	5.9	0.61	<0.5	0.5	<2.0
13	Sep-11	9,400	62	NA	4.2	<0.5	<0.5	<0.5	<2.0
14	Mar-12	9,400	140	NA	6.2	0.61	<0.5	0.51	<2.0
15	Sep-12	10,000	130	NA	7.2	<0.5	0.53	0.92	<2.0
16	Mar-13	8,500	170	NA	14.0	0.73	0.7	0.63	<2.0
17	Sep-13	11,000	130	NA	12.0	<0.5	0.92	<0.5	4.9
18	Mar-14	7,300	140	NA	9.8	2	<0.5	<0.5	<2.0
19	Sep-14	10,000	120	NA	8.6	2	0.55	0	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
8	Mar-09	6,200	8,200	NA	890	46	78	130	<20
9	Sep-09	6,100	1,400	NA	1,200	35	19	31	<20
10	Mar-10	3,900	7,800	960	1,200	46	34	56	54
11	Sep-10	3,500	3,400	NA	1,500	47	18	44	<40
12	Mar-11	4,500	3,700	NA	1,200	81	25	46.4	<2.0
13	Sep-11	3,800	4,600	NA	720	49	26	52.4	<2.0
14	Mar-12	3,500	2,400	NA	240	27	10	33.6	<2.0
15	Sep-12	13,000	6,600	NA	1,800	89	130	46	<2.0
16	Mar-13	24,000	15,000	NA	1,300	66	130	94	<50
17	Sep-13	3,800	4,600	NA	900	87	29	56	<42
18	Mar-14	3,300	6,200	NA	940	43	<0.5	53	<40
19	Sep-14	42,000	7,000	NA	1,500	68	28	36	0

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
7	Mar-09	7,100	1,400	NA	200	6.4	7.3	10.4	<2.0
8	Sep-09	6,400	1,900	NA	320	13	9.8	15.2	2.0
9	Mar-10	6,500	1,600	6,900	150	<0.5	3.9	12.8	2.9
10	Sep-10	5,500	1,300	NA	330	15	9.2	17.3	<2.0
11	Mar-11	6,500	3,400	NA	1300	22	9.6	19.9	<2.0
12	Sep-11	4,400	3,600	NA	1200	36	16	39.1	<2.0
13	Mar-12	4,600	5,700	NA	2100	27	12	16.7	<2.0
14	Sep-12	5,200	4,100	NA	1,500	33	<0.5	18	<2.0
15	Mar-13	8,400	1,800	NA	97	18	19	30	<2.0
16	Sep-13	7,900	1,900	NA	60	<0.5	3.6	13	27.0
17	Mar-14	5,700	2,000	NA	60	<0.5	3.8	14.2	<2.0
18	Sep-14	7,800	2,000	NA	89	0	6	14.4	0.0

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
7	Mar-09	4,100	14,000	NA	6,100	150	130	111	<40
8	Sep-09	3,000	1,900	NA	4,500	80	14	51	<40
9	Mar-10	4,000	15,000	1,900	6,200	110	73	101	<2.0
10	Sep-10	3,100	4,900	NA	5,900	97	47	73	<100
11	Mar-11	3,300	15,000	NA	7,900	180	200	127	<2.0
12	Sep-11	1,800	8,600	NA	2,700	85	31	63	<2.0
13	Mar-12	2,500	17,000	NA	6,300	160	180	124	<2.0
14	Sep-12	2,300	10,000	NA	4,600	160	210	85	<2.0
15	Mar-13	9,800	9,100	NA	2,600	110	170	111	<2.0
16	Sep-13	7,800	9,400	NA	2,400	130	130	125	520
17	Mar-14	7,800	10,000	NA	2,500	89	68	55	<100
18	Sep-14	4,000	6,500	NA	1,500	110	26	59.9	0

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
7	Mar-09	2,000,000	330,000	NA	25,000	1,300	6,400	8,500	<1,000
8	Sep-09	38,000	1,400,000	NA	19,000	2,500	19,000	21,300	<1,000
9	Mar-10	15,000	43,000	670	12,000	310	1,600	1,140	<2,500
10	Sep-10	3,100,000	1,700,000	NA	21,000	2,300	30,000	17,200	7,000
11	Mar-11	13,000	86,000	NA	7,900	180	200	127	<2.0
12	Sep-11	15,000	49,000	NA	16,000	380	1900	850	<2.0
13	Mar-12	1,100,000	260,000	NA	23,000	1500	5700	4100	<2.0
14	Sep-12	7,200,000	60,000	NA	22,000	580	2,100	1,700	<2.0
15	Mar-13	23,000	27,000	NA	5,600	260	1,300	1,080	<200
16	Sep-13	39,000	19,000	NA	3,400	180	760	515	<200
17	Mar-14	19,000	20,000	NA	3,700	120	710	361	<200
18	Sep-14	11,000	16,000	NA	2,400	70	460	253	0

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
7	Mar-09	3,200	13,000	NA	4,300	870	260	283	<50
8	Sep-09	2,100	550	NA	630	14	28	17	<20
9	Mar-10	3,900	6,700	3,100	2,400	400	140	185	<20
10	Sep-10	2,500	2,000	NA	1,700	44	98	89	<40
11	Mar-11	2,800	16,000	NA	6,600	1600	450	600	<2.0
12	Sep-11	5,900	20,000	NA	6,600	690	550	740	<2.0
13	Mar-12	4,400	13,000	NA	3,000	1400	340	870	<2.0
14	Sep-12	9,900	31,000	NA	4,800	2400	740	2,450	<2.0
15	Mar-13	21,000	11,000	NA	2,300	340	280	371	<50
16	Sep-13	24,000	7,200	NA	1,900	200	160	197	<83
17	Mar-14	8,200	6,900	NA	2,100	220	170	155	<110
18	Sep-14	8,500	7,100	NA	1,600	220	120	180	0

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
7	Mar-09	3,400	17,000	NA	7,200	91	170	60	<50
8	Sep-09	2,700	2,300	NA	6,200	71	68	42	<50
9	Mar-10	3,700	14,000	910	5,900	74	170	69	<2.0
10	Sep-10	3,500	5,800	NA	8,100	95	170	71	<100
11	Mar-11	3,200	11,000	NA	5,600	88	110	66.1	<2.0
12	Sep-11	2,200	15,000	NA	6,400	100	71	77.7	<2.0
13	Mar-12	3,500	16,000	NA	7,200	110	160	177	<2.0
14	Sep-12	3,500	28,000	NA	12,000	300	380	297	<2.0
15	Mar-13	3,100	15,000	NA	6,100	170	360	266	<67
16	Sep-13	2,800	17,000	NA	4,100	92	76	144	<200
17	Mar-14	2,200	12,000	NA	3,900	75	30	54	<2.0
18	Sep-14	3,300	9,500	NA	2,600	110	22	46.7	0

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
7	Mar-09	14,000	78	NA	12	2.3	<0.5	<0.5	<2.0
8	Sep-09	10,000	51	NA	9.3	1.6	<0.5	<0.5	2.2
9	Mar-10	12,000	70	4,700	12	2.1	0.56	1.35	<2.0
10	Sep-10	9,800	77	NA	12	1.9	<0.5	0.55	2
11	Mar-11	9,900	64	NA	13	1.6	<0.5	2.3	16
12	Sep-11	10,000	74	NA	17	2.3	<0.5	1.33	<2.0
13	Mar-12	8,400	66	NA	12	1.8	<0.5	1.07	<2.0
14	Sep-12	7,700	84	NA	17	1.5	0.57	0.69	<2.0
15	Mar-13	8,100	80	NA	15	1.4	<0.5	0.75	<2.0
16	Sep-13	9,800	66	NA	13	1.7	<0.5	1.38	<2.0
17	Mar-14	5,900	76	NA	11	1.2	<0.5	0.94	<2.0
18	Sep-14	10,000	110	NA	14	1.5	0	0	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
7	Mar-09	3,000	5,400	NA	770	150	87	161	<2.0
8	Sep-09	3,000	2,200	NA	120	3.1	11	1.6	<2.0
9	Mar-10	3,400	5,000	1,900	910	66	73	93	<2.0
10	Sep-10	2,800	3,500	NA	1,400	62	46	76	<40
11	Mar-11	3,900	6,100	NA	1,100	44	55	70	<2.0
12	Sep-11	2,400	4,600	NA	850	49	51	64	<2.0
13	Mar-12	2,200	5,800	NA	1,500	57	58	67	<2.0
14	Sep-12	1,400	4,800	NA	1,300	45	100	41	<2.0
15	Mar-13	2,900	7,200	NA	1,200	89	220	110	<25
16	Sep-13	2,100	8,000	NA	1,400	150	220	122	<67
17	Mar-14	2,600	8,600	NA	1,800	150	320	118	<67
18	Sep-14	3,000	7,900	NA	1,500	160	130	91	0

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
7	Mar-09	10,000	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
8	Sep-09	11,000	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
9	Mar-10	9,400	<50	2,700	<0.5	<0.5	<0.5	<0.5	<2.0
10	Sep-10	6,400	1,800	NA	2200	45	64.0	78.0	<50
11	Mar-11	10,000	68	NA	5.5	1.1	<0.5	1.3	17
12	Sep-11	9,800	<50	NA	0.58	<0.5	<0.5	<0.5	<2.0
13	Mar-12	9,200	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
14	Sep-12	11,000	160	NA	5.1	<0.5	5.7	0.6	<2.0
15	Mar-13	9,600	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
16	Sep-13	11,000	<50	NA	0.52	<0.5	<0.5	<0.5	<2.0
17	Mar-14	8,200	<50	NA	0.52	<0.5	<0.5	<0.5	<2.0
18	Sep-14	12,000	0	NA	0	0	0.0	0.0	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
11	Mar-09	5,600	850	NA	270	7.5	13	17.5	<2.0
12	Sep-09	6,200	540	NA	1,200	22	37	37.2	<2.0
13	Mar-10	3,800	2,400	5,100	1,000	20	37	26.9	4.9
14	Sep-10	6,600	1,800	NA	2,200	45	64	78	<50
15	Mar-11	5,900	4,400	NA	2,600	46	64	90	<50
16	Sep-11	7,600	3,600	NA	4,500	150	340	402	<2.0
17	Mar-12	5,800	6,500	NA	2,600	50	52	84	<2.0
18	Sep-12	8,300	7,800	NA	5,500	190	430	431	<2.0
19	Mar-13	7,700	21,000	NA	5,900	210	850	970	<50
20	Sep-13	9,400	15,000	NA	3,800	120	470	351	200
21	Mar-14	5,600	9,500	NA	3,200	110	240	178	<140
22	Sep-14	7,800	6,800	NA	1,800	55	86	87	0

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
11	Mar-09	2,800	950	NA	180	3.6	13	3	<2.0
12	Sep-09	770	350	NA	120	3.1	11	2	<2.0
13	Mar-10	810	200	<300	<0.5	<0.5	<0.5	<0.5	<2.0
14	Sep-10	980	860	NA	170	4.0	5.6	2.8	8.0
15	Mar-11	810	310	NA	15	4.4	2.5	3.9	8.8
16	Sep-11	440	230	NA	28	2.7	1.7	1.5	<2.0
17	Mar-12	1,900	502	NA	70	2.0	2.2	2.1	<2.0
18	Sep-12	890	790	NA	150	9.6	5.5	12.0	<2.0
19	Mar-13	2,800	280	NA	2.7	1.7	2.5	1.9	<2.0
20	Sep-13	1,500	420	NA	10.2	6.0	<0.5	5.7	8.2
21	Mar-14	4,700	410	NA	1.3	1.0	2.4	3.4	2.8
22	Sep-14	1,000	440	NA	41	0.9	1.5	2.2	2.8

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

WELL GAUGING DATA

Project # 140930-MW1 Date 9/30/14 Client STELLAR

Site 65TH & BAY ST, EMERYVILLE, CA
6400 CHRISTIE 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	1010	2	odor	10.85			UNABLE TO DETECT	—		THICK SPH
MW-4	0940	2					8.23	24.94		
MW-5	0947	2					9.73	24.90		
MW-6	0953	2					8.13	23.35		
MW-7	0926	3/4					10.61	19.80		
MW-8	0938	3/4	ODOR	9.85	0.06		9.91	—		
MW-9	0933	3/4					10.02	19.68		
MW-10	0944	3/4	ODOR	9.36	0.38		9.74	—		
MW-11	0929	3/4	ODOR				10.40	19.58		
MW-12	0932	3/4	ODOR				9.46	18.94		
MW-13	1003	3/4		8.87	0.02		8.89	—		
MW-14	0948	3/4	ODOR	—			9.16	19.51		
MW-15	0952	3/4					9.74	18.82		
MW-16	0938	3/4					9.80	19.02		
MW-17	0959	3/4	ODOR				9.72	19.50		
MW-18	0942	3/4					5.56	19.56		
MW-E	0947	2					9.98	46.72	↓	

WELL GAUGING DATA

Project # 140930-WW1 Date 9/30/14 Client STELLAR

Site 65th & 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
RW-1	1011	10	SHEEN ODOR	11.09	0.01		11.10	—	↓	GLOBULES OF SPH.
*	RW-1	: THICK BLACK SPH GLOBULES ON PROBE.								

WELLHEAD INSPECTION CHECKLIST

Date 9/30/14 Client STELLAR

Site Address 65TH & BAY ST, EMERYVILLE, CA

Job Number 140920-WW1 Technician WW/GR/DC

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							✓	
MW-8							✓	
MW-9							✓	
MW-10	✓							
MW-11	✓							
MW-12	✓							
MW-13	✓							
MW-14	✓							
MW-15							✓	
MW-16							✓	
MW-17							✓	
MW-18	✓							

NOTES: MW-9: -1/2 BOLTS (7/16"). MW-16: -1/2 BOLTS (7/16"). MW-15: -2/2 BOLTS (9/16"). MW-7: -1/2 BOLTS. MW-8: -2/2 BOLTS. MW-17: -2/2 BOLTS

WELLHEAD INSPECTION CHECKLIST

Client STELLAR Date 9/30/14

Site Address 65TH & BAY ST, EMERYVILLE, CA

Job Number 140930-WW1 Technician HOW/GR/DC

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)	Repair Order Submitted
MW-E						X		
RW-1	X					X		

NOTES: MW-E :- 2/2 SCREWS MISSING. RW-1 :- 1/2 BOLTS (3/4") VAULT.

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME	STELLAR @ 65TH & BAY ST EMERYVILLE, CA			PROJECT NUMBER	140930-MW1		
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
MYRON L ULTRAMETER	6214213	9/30/14 1032	PH: 4, 7, 10 cond: 3900 us	PH: 7.00; 10.00 4.00 and 3900 us	yes	20.7 C	MW
MULTIRAE PWS	095-532724	9/30/14 1032	Isobutelene 100ppm	Isobutelene 100ppm	yes	—	MW

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME	Stellar Env. Solutions			PROJECT NUMBER	140930-WW1		
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
Myron L Ultrameter	6219985	9/30/2014 @ 1050	3900 us Cond	3901	yes	21.3°C	GR
			7.0 10.0 4.0 pH	7.00 10.00 3.99	yes	20.9°C	GR

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME STELLAR @ BAY CENTER APARTMENTS EMERYVILLE, CA				PROJECT NUMBER 140930-WW1			
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
MYRON L ULTRAMETER	6223841	9/30/14 0900	pH 7, 10, 4	7.01, 10.01, 4.00	Y	18°C	DC
↓	↓	↓	COND 3900 uS/cm	3895 uS/cm	Y	18°C	DC

WELL MONITORING DATA SHEET

Project #: 140930-WW1	Client: Stellar Environmental Solutions
Sampler: GR	Date: 9/30/14
Well I.D.: MW- 3	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): —	Depth to Water (DTW): *SPH to thick
Depth to Free Product: 10.85	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]:	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; (Peristaltic); Extraction Pump; Other_____

Sampling Method: Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; (Other) _____

— (Gals.) X — = — Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1402	Started Purge at ~ 0.5 gal/min, for 6 min					
1408	Stop purge. Begin sampling					* unable to record depth to SPH due to thickness of SPH in well.

Did well dewater? Yes (No) Gallons actually evacuated: 2.0

Sampling Date: 9/30/14 Sampling Time: 1410 Depth to Water: —

Sample I.D.: MW- 3 Laboratory: Curtis & Tompkins

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

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 #: 140930-WW1	Client: Stellar Environmental Solutions
Sampler: GR	Date: 9/30/14
Well I.D.: MW- 4	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 24.94	Depth to Water (DTW): 8.23
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]: 11.57	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; (Peristaltic); Extraction Pump; Other_____

Sampling Method: Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; (Other) new tubing

2.7 (Gals.) X 3 = 8.1 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1105	19.8	7.25	1266	2	3.0	
1109	19.9	7.32	1295	1	6.0	
1112	19.8	7.32	1285	1	9.0	DTW - 8.28

Did well dewater? Yes (No) Gallons actually evacuated: 9.0

Sampling Date: 9/30/14 Sampling Time: 1115 Depth to Water: 8.28

Sample I.D.: MW- 4 Laboratory: Curtis & Tompkins

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

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 #: 140930-WW1	Client: Stellar Environmental Solutions
Sampler: GR	Date: 9/30/14
Well I.D.: MW- 5	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 24.90	Depth to Water (DTW): 9.73
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]: 12.76	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; (Peristaltic); Extraction Pump; Other_____

Sampling Method: Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; (Other): new tubing

2.4 (Gals.) X	3	=	7.2 Gals.
1 Case Volume	Specified Volumes		Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1223	19.7	8.02	2082	16	2.5	odor/sheen
1226		well	dewatered @		4.5	
1245	19.0	7.81	2188	25	Grab	

Did well dewater? (Yes) No Gallons actually evacuated: 4.5

Sampling Date: 9/30/14 Sampling Time: 1245 Depth to Water: 12.71 (waited)

Sample I.D.: MW- 5 Laboratory: Curtis & Tompkins

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

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 #: 140930-WW1	Client: Stellar Environmental Solutions
Sampler: GR	Date: 9/30/14
Well I.D.: MW- 6	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 23.35	Depth to Water (DTW): 8.13
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]: 11.17	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; (Peristaltic); Extraction Pump; Other_____

Sampling Method: Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; (Other) new tubing

2.4 (Gals.) X	3	=	7.2 Gals.
1 Case Volume	Specified Volumes		Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1254	18.7	11.40	1583	19	2.5	
1257	18.8	11.43	1602	4	5.0	
1259	18.8	11.44	1588	10	7.5	DTW- 8.14

Did well dewater? Yes (No) Gallons actually evacuated: 7.5

Sampling Date: 9/30/14 Sampling Time: 1305 Depth to Water: 8.14

Sample I.D.: MW-6 Laboratory: Curtis & Tompkins

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

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 #: 140930-WW1	Client: Stellar Environmental Solutions
Sampler: DC	Date: 9/30/14
Well I.D.: MW- 7	Well Diameter: 2 3 4 6 8 (3/4)
Total Well Depth (TD): 19.80	Depth to Water (DTW): 10.61
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]: 12.44	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; (Peristaltic); Extraction Pump; Other_____

Sampling Method: Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; Other: (NEW TUBING)

0.2 (Gals.) X 3 = 0.6 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. ((mS) or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1020	16.9	8.14	10.97	36	0.2	CLEAR, YELLOWISH
1023	16.6	8.13	10.12	42	0.4	CLEAR, YELLOWISH
1026	16.5	8.11	10.11	45	0.6	CLEAR, YELLOWISH

Did well dewater? Yes (No) Gallons actually evacuated: 0.6

Sampling Date: 9/30/14 Sampling Time: 1030 Depth to Water: 12.18

Sample I.D.: MW- 7 Laboratory: Curtis & Tompkins

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

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 #: 140930-WW1	Client: Stellar Environmental Solutions
Sampler: DC	Date: 9/30/14
Well I.D.: MW- 8	Well Diameter: 2 3 4 6 8 (3/4)
Total Well Depth (TD): —	Depth to Water (DTW): 9.91
Depth to Free Product: 9.85	Thickness of Free Product (feet): 0.06
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; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; (Peristaltic); Extraction Pump; Other_____

Sampling Method: Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; Other: (NEW TUBING)

6 MINUTE PURGE @ 300 mL/MIN

— (Gals.) X — = — Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1228	START	PURGE				
1234	STOP	PURGE				

Did well dewater? Yes (No) Gallons actually evacuated: 1800 mL

Sampling Date: 9/30/14 Sampling Time: 1240 Depth to Water: 10.17

Sample I.D.: MW- 8 Laboratory: Curtis & Tompkins

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

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 #: 140930-WW1	Client: Stellar Environmental Solutions
Sampler: WW	Date: 9/30/14
Well I.D.: MW-9	Well Diameter: 2 3 4 6 8 (3/4)
Total Well Depth (TD): 19.68	Depth to Water (DTW): 10.02
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]: 11.95	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; (Peristaltic); Extraction Pump; Other new tubing 3/4" 0.02

Sampling Method: Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; (Other: new tubing 1/4")

0.2 (Gals.) X 3 = 0.6 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1051	17.3	9.60	2465	58	0.2	light yellow/color
1052	17.0	9.63	2516	56	0.4	" "
1053	16.9	9.66	2543	42	0.6	" "

Did well dewater? Yes (No) Gallons actually evacuated: 0.6

Sampling Date: 9/30/14 Sampling Time: 1055 Depth to Water: 11.90

Sample I.D.: MW-9 Laboratory: Curtis & Tompkins

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

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 #: 140930-WW1	Client: Stellar Environmental Solutions
Sampler: DC	Date: 9/30/14
Well I.D.: MW- 10	Well Diameter: 2 3 4 6 8 (3/4)
Total Well Depth (TD): —	Depth to Water (DTW): 9.74
Depth to Free Product: 9.36	Thickness of Free Product (feet): 0.38
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; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; (Peristaltic); Extraction Pump; Other_____

Sampling Method: Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; Other: (NEW TUBING)

6 MINUTE PURGE @ 300 mL/min

— (Gals.) X — = — Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1306	START	PURGE				
1312	STOP	PURGE				

Did well dewater? Yes (No) Gallons actually evacuated: 1800 mL

Sampling Date: 9/30/14 Sampling Time: 1320 Depth to Water: 10.06

Sample I.D.: MW- 10 Laboratory: Curtis & Tompkins

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

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 #: 140930-WW1	Client: Stellar Environmental Solutions
Sampler: DC	Date: 9/30/14
Well I.D.: MW- 11	Well Diameter: 2 3 4 6 8 (3/4)
Total Well Depth (TD): 19.58	Depth to Water (DTW): 10.40
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]: 12.23	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; (Peristaltic); Extraction Pump; Other_____

Sampling Method: Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; Other: (NEW TUBING)

0.2	(Gals.) X	3	=	0.6	Gals.
1 Case Volume		Specified Volumes		Calculated Volume	

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1055	16.9	8.02	2353	9	0.2	CLEAR
1059	16.6	7.91	2294	7	0.4	CLEAR
1103	16.5	7.90	2292	6	0.6	CLEAR

Did well dewater? Yes (No) Gallons actually evacuated: 0.6

Sampling Date: 9/30/14 Sampling Time: 1110 Depth to Water: 11.97

Sample I.D.: MW- 11 Laboratory: Curtis & Tompkins

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

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 #: 140930-WW1	Client: Stellar Environmental Solutions
Sampler: DC	Date: 9/30/14
Well I.D.: MW- 12	Well Diameter: 2 3 4 6 8 (3/4)
Total Well Depth (TD): 18.94	Depth to Water (DTW): 9.46
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]: 11.35	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; (Peristaltic); Extraction Pump; Other_____

Sampling Method: Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; Other: (NEW TUBING)

0.2 (Gals.) X 3 = 0.6 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1118	16.6	8.11	1260	5	0.2	CLEAR
1122	16.3	8.00	1239	8	0.4	CLEAR
1126	16.2	7.94	1238	4	0.6	CLEAR

Did well dewater? Yes (No) Gallons actually evacuated: 0.6

Sampling Date: 9/30/14 Sampling Time: 1130 Depth to Water: 10.91

Sample I.D.: MW- 12 Laboratory: Curtis & Tompkins

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

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 #: 140930-WW1	Client: Stellar Environmental Solutions
Sampler: GR	Date: 9 / 30 / 14
Well I.D.: MW- 13	Well Diameter: 2 3 4 6 8 3/4"
Total Well Depth (TD): —	Depth to Water (DTW): 8.89
Depth to Free Product: 8.87	Thickness of Free Product (feet): 0.02
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; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; (Peristaltic); Extraction Pump; Other_____

Sampling Method: Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; (Other: new tubing)

— (Gals.) X — = — Gals.
1 Case Volume / Specified Volumes / Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1338	Started purge at ~			500 ml/min, for 6 min.		
1344	Stop purge. Begin sampling					* Unable to record depth to SPH due to diameter of well

Did well dewater? Yes (No) Gallons actually evacuated: 0.5

Sampling Date: 9 / 30 / 14 Sampling Time: 1345 Depth to Water: —

Sample I.D.: MW- 13 Laboratory: Curtis & Tompkins

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

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 #: 140930-WW1	Client: Stellar Environmental Solutions
Sampler: DC	Date: 9/30/14
Well I.D.: MW- 14	Well Diameter: 2 3 4 6 8 (3/4)
Total Well Depth (TD): 19.51	Depth to Water (DTW): 9.16
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]: 11.23	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; (Peristaltic); Extraction Pump; Other_____

Sampling Method: Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; Other: (NEW TUBING)

0.2 (Gals.) X 3 = 0.6 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1343	17.1	8.35	1394	31	0.2	CLEAR
1347	16.7	8.18	1206	18	0.4	CLEAR
1351	16.6	8.12	1189	15	0.6	CLEAR

Did well dewater? Yes (No) Gallons actually evacuated: 0.6

Sampling Date: 9/30/14 Sampling Time: 1400 Depth to Water: 10.74

Sample I.D.: MW- 14 Laboratory: Curtis & Tompkins

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

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 #: 140930-WW1	Client: Stellar Environmental Solutions
Sampler: MW	Date: 9/30/14
Well I.D.: MW- 15	Well Diameter: 2 3 4 6 8 (3/4)
Total Well Depth (TD): 18.82	Depth to Water (DTW): 9.74
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]: 11.56	

Purge Method: Bailer, Disposable Bailer, Positive Air Displacement, Electric Submersible, Waterra, (Peristaltic), Extraction Pump, Other new tubing (1/4")

Sampling Method: Bailer, Disposable Bailer, Extraction Port, Dedicated Tubing, Other: new tubing (1/4")

1 Case Volume	Specified Volumes	Calculated Volume
0.2 (Gals.) X	3	= 0.6 Gals.

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1325	16.7	7.68	1058	10	0.2	odor
1326	16.5	7.49	1076	5	0.4	"
1327	16.5	7.43	1088	5	0.6	"

Did well dewater? Yes (No) Gallons actually evacuated: 0.6

Sampling Date: 9/30/14 Sampling Time: 1330 Depth to Water: 9.74

Sample I.D.: MW- 15 Laboratory: Curtis & Tompkins

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

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 #: 140930-WW1	Client: Stellar Environmental Solutions
Sampler: MW	Date: 9/30/14
Well I.D.: MW- 16	Well Diameter: 2 3 4 6 8 (3/4)
Total Well Depth (TD): 19.02	Depth to Water (DTW): 9.80
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]: 11.64	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; (Peristaltic) w/ new tubing (1/4"); Extraction Pump; Other_____

Sampling Method: Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; Other: new tubing (1/4")

0.2 (Gals.) X 3 = 0.6 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1111	16.9	10.23	3237	35	0.2	brown; clear
1112	16.7	10.25	3274	28	0.4	" "
1113	16.7	10.25	3290	23	0.6	" "

Did well dewater? Yes (No) Gallons actually evacuated: 0.6

Sampling Date: 9/30/14 Sampling Time: 1115 Depth to Water: 10.04

Sample I.D.: MW-16 Laboratory: Curtis & Tompkins

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

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 #: 140930-WW1	Client: Stellar Environmental Solutions
Sampler: GR	Date: 9/30/14
Well I.D.: MW- 17	Well Diameter: 2 3 4 6 8 (3/4")
Total Well Depth (TD): 19.50	Depth to Water (DTW): 9.72
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]: 11.68	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; (Peristaltic); Extraction Pump; Other_____

Sampling Method: Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; (Other) new tubing

0.2 (Gals.) X	3	=	0.6 Gals.
1 Case Volume	Specified Volumes		Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163
3/4" = 0.02			

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1320	18.1	7.80	965	57	0.2	
1321	18.0	7.62	937	38	0.4	
1322	18.0	7.67	921	24	0.6	DTW - 9.89

Did well dewater? Yes (No) Gallons actually evacuated: 0.6

Sampling Date: 9/30/14 Sampling Time: 1325 Depth to Water: 9.89

Sample I.D.: MW- 17 Laboratory: Curtis & Tompkins

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

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 #: 140930-WW1	Client: Stellar Environmental Solutions
Sampler: MW	Date: 9/30/14
Well I.D.: MW-18	Well Diameter: 2 3 4 6 8 (3/4)
Total Well Depth (TD): 19.56	Depth to Water (DTW): 5.56
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]: 8.36	

Purge Method: Bailer; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; (Peristaltic); Extraction Pump; (Other) new tubing (1/4")

Sampling Method: Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; (Other: new tubing (1/4"))

0.3 (Gals.) X 3 = 0.9 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1231	16.7	7.32	6752	254	0.3	cloudy
1232	16.5	7.21	6874	477	0.6	"
1235	16.5	7.24	7153	794	0.9	"

Did well dewater? Yes (No) Gallons actually evacuated: 0.9

Sampling Date: 9/30/14 Sampling Time: 1240 Depth to Water: 8.12

Sample I.D.: MW-18 Laboratory: Curtis & Tompkins

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

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 #: 140930-WW1	Client: Stellar Environmental Solutions
Sampler: MW	Date: 9/30/14
Well I.D.: MW-E	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth (TD): 46.72	Depth to Water (DTW): 9.98
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]: 11.16	

Purge Method: Bailer; (Waterra); Disposable Bailer; Peristaltic; Positive Air Displacement; Extraction Pump; Electric Submersible; Other ____

Sampling Method: Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; Other: new tubing (5/8")

5.9 (Gals.) X 3 = 17.7 Gals.
1 Case Volume; Specified Volumes; Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1310	16.7	8.09	2501	994	5.9	cloudy
WELL DEWATERED @ 9 GALS						
1420	17.3	7.76	2807	>1,000	—	odor

Did well dewater? (Yes) No Gallons actually evacuated: 9

Sampling Date: 9/30/14 Sampling Time: 1420 Depth to Water: 11.06

Sample I.D.: MW-E Laboratory: Curtis & Tompkins 10.05

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

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 #: 140930-WW1	Client: Stellar Environmental Solutions
Sampler: MW	Date: 9/30/14
Well I.D.: MW-1	Well Diameter: 2 3 4 6 8 (10)
Total Well Depth (TD): —	Depth to Water (DTW): 11.10
Depth to Free Product: 11.09	Thickness of Free Product (feet): 0.01
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; Disposable Bailer; Positive Air Displacement; Electric Submersible; Waterra; (Peristaltic); Extraction Pump; Other new tubing (1/4")

Sampling Method: Bailer; Disposable Bailer; Extraction Port; Dedicated Tubing; Other: new tubing (1/4")

_____(Gals.) X _____ = _____ Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1342	Purged wells 6 mins @ 200mL/min.					
1348	STOPPED PURGE					

Did well dewater? Yes (No) Gallons actually evacuated: 1200mL

Sampling Date: 9/30/14 Sampling Time: 1350 Depth to Water: 11.10

Sample I.D.: MW-1 Laboratory: Curtis & Tompkins

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

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

SPH or Purge Water Drum Log

Client: Stellar

Site Address: Bay Center Apts.

STATUS OF DRUM(S) UPON ARRIVAL

Date	3/29/12	9/27/12	3-28-13	9/26/13	3/27/14	9/30/14
Number of drum(s) empty:	4	4	4	6	4	3-DRUMS
Number of drum(s) 1/4 full:						
Number of drum(s) 1/2 full:						
Number of drum(s) 3/4 full:	1 AST ~12" from top	1-AST 1050 gals	1-AST 1050 gals		1 AST	
Number of drum(s) full:				1 (AST)		1-TANK
Total drum(s) on site:	4 + AST	4 + AST (1100 gal)	4 + AST	6 + 1 (AST)	4 + 1 AST	1-TANK 3-DRUMS
Are the drum(s) properly labeled?	No Faded	NO FADED	→	YES (FADED)	Y	yes FADED
Drum ID & Contents:	—	—	—	PURGE H2O →		purge H2O
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 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	3/29/12	9/28/12	3-28-13	9/27/13	3/25/14	9/30/14
Number of drums empty:	4	4	4	5	4	
Number of drum(s) 1/4 full:						
Number of drum(s) 1/2 full:						
Number of drum(s) 3/4 full:	1 ~6" from top			1	1 AST	
Number of drum(s) full:			Not full. Almost	1 (AST)		1-TANK
Total drum(s) on site:	4 + AST	4 + AST (1100 gal) →		6 + 1 (AST)	4 + 1 AST	1-TANK 3-DRUMS
Are the drum(s) properly labeled?	N			YES	Y	yes
Drum ID & Contents:	—	—	—		Purge water	purge H2O

LOCATION OF DRUM(S)

Describe location of drum(s): North End of Garage - Fenced area

FINAL STATUS

Number of new drum(s) left on site this event	—	0	0	0	0	0
Date of inspection:	3/29/12	9/28/12	3-29-13	9/27/13	3/28/14	9/30/14
Drum(s) labelled properly:	N	FADED	Faded	REMARKED YES	Y	YES
Logged by BTS Field Tech:	SC	WW	SD	CL	PC	MW
Office reviewed by:	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

APPENDIX C

Analytical Laboratory Report and Chain-of-Custody Record


Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 261309
ANALYTICAL REPORT

Stellar Environmental Solutions	Project : 2007-65
2198 6th Street	Location : Bay Center Apts
Berkeley, CA 94710	Level : II

Sample ID	Lab ID
MW-3	261309-001
MW-4	261309-002
MW-5	261309-003
MW-6	261309-004
MW-7	261309-005
MW-8	261309-006
MW-9	261309-007
MW-10	261309-008
MW-11	261309-009
MW-121	261309-010
MW-13	261309-011
MW-14	261309-012
MW-15	261309-013
MW-16	261309-014
MW-17	261309-015
MW-18	261309-016
MW-E	261309-017
RW-1	261309-018

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 signature. 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: Tracy Babjar Date: 10/07/2014

Tracy Babjar
Project Manager
tracy.babjar@ctberk.com
(510) 204-2226

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**261309**
Client:	**Stellar Environmental Solutions**
Project:	**2007-65**
Location:	**Bay Center Apts**
Request Date:	**09/30/14**
Samples Received:	**09/30/14**

This data package contains sample and QC results for eighteen water samples, requested for the above referenced project on 09/30/14. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B):
MW-7 (lab # 261309-005) and MW-18 (lab # 261309-016) had pH greater than 2. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):
MW-3 (lab # 261309-001) and MW-10 (lab # 261309-008) were diluted due to the dark and viscous nature of the sample extracts. No other analytical problems were encountered.

261309

Chain of Custody Record

Lab job no. _____
Date 9/30/14
Page 1 of 2

Laboratory CURTIS & TOMPKINS
Address 2323 FIFTH ST.
BERKELEY, CA

Project Owner _____
Site Address 6400 CHRISTIE AVE.
BERKELEY, CA
Project Name BAY CENTER APARTMENT
Project Number 2007-65

Method of Shipment HAND DELIVERY or LAB COURIER
Shipment No. _____
Airbill No. _____
Cooler No. _____
Project Manager R. MAKDISI
Telephone No. (510) 644-3123
Fax No. (510) 644-3859
Samplers: *(Signature)* _____

Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Preservation: Cooler	Preservation: Chemical	Filtered	No. of Containers	TEH-D (8015M)	TPH-G, M/B,T&X (8015M)	BTEX + MTBE (8260B)	Remarks
1 MW-3		9/30/14	1410	W	HCl VOA's / 2 x 500 mL AMBERS		HCl / NP		X	X	X		
2 MW-4			1115	W					X	X	X		
3 MW-5			1245	W					X	X	X		
4 MW-6			1305	W					X	X	X		
5 MW-7			1030	W					X	X	X		
6 MW-8			1240	W					X	X	X		
7 MW-9			1055	W					X	X	X		
8 MW-10			1320	W					X	X	X		
9 MW-11			1110	W					X	X	X		
10 MW-12			1130	W					X	X	X		
11 MW-13			1345	W					X	X	X		
12 MW-14			1400	W					X	X	X		

Analysis Required

Relinquished by:	Date	Received by:	Date	Relinquished by:	Date	Received by:	Date
Signature [signature]	9/30/14	Signature [signature]	9/30/14	Signature		Signature	
Printed RICHARD	Time 1512	Printed Will Rice	Time 1512	Printed	Time	Printed	Time
Company BLAINE TECH SERVICES		Company CCT		Company		Company	

Turnaround Time: STANDARD
Comments: EDF REQUIRED
GLOBAL ID # SLT2005561

Relinquished by:	Date	Received by:	Date
Signature		Signature	
Printed	Time	Printed	Time
Company		Company	

2000-00-01

★ Stellar Environmental Solutions

2198 Sixth Street #201, Berkeley, CA 94710

Chain of Custody Record

261309

Lab job no. _____
Date 9/30/14
Page 2 of 2

Laboratory CURTIS & TOMPKINS
Address 2323 FIFTH ST. BERKELEY, CA
Project Owner _____
Site Address 6400 CHRISTIE AVE. BERKELEY, CA
Project Name BAY CENTER APARTMENTS
Project Number 2007-65

Method of Shipment HAND DELIVERY or LAB COURIER
Shipment No. _____
Airbill No. _____
Cooler No. _____
Project Manager R. MAKDISI
Telephone No. (510) 644-3123
Fax No. (510) 644-3859
Samplers: *(Signature)* _____

Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Preservation: Cooler	Preservation: Chemical	Filtered	No. of Containers	TEH-D (8015M)	TPH-G (8015M) BTEX + MTBE	Remarks
13 MW-15		9/30/14	1330	W	HCl VOA's / 2 x 500 mL AMBER		HCl / NP		2	X	X	
14 MW-16			1115	W					2	X	X	
15 MW-17			1325	W					2	X	X	
16 MW-18			1240	W					2	X	X	
17 MW-E			1420	W					2	X	X	
18 RW-1		↓	1350	W	↓		↓		2	X	X	

Analysis Required

Relinquished by:	Date	Received by:	Date	Relinquished by:	Date	Received by:	Date
Signature	9/30/14	Signature	9/30/14	Signature		Signature	
Printed DOUG WHITEHEAD	Time 1512	Printed Will Rice	Time 1512	Printed	Time	Printed	Time
Company BLAINE TECH SERVICES		Company CTT		Company		Company	

Turnaround Time: STANDARD
Comments: EDF REQUIRED
GLOBAL ID # SLT2005561

Relinquished by:	Date	Received by:	Date
Signature		Signature	
Printed	Time	Printed	Time
Company		Company	

2000-00-01

★ Stellar Environmental Solutions

2198 Sixth Street #201, Berkeley, CA 94710

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 261307 Date Received 9/30/14 Number of coolers 3
Client Stellar Project 2007-65

Date Opened 9/30 By (print) [illegible] (sign) [illegible]
Date Logged in [illegible] By (print) [illegible] (sign) [illegible]

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: * Notify PM if temperature exceeds 6°C

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

☐ Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

☑ 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 there any missing / extra samples? YES ~~NO~~
11. Are samples in the appropriate containers for indicated tests? ~~YES~~ NO
12. Are sample labels present, in good condition and complete? ~~YES~~ NO
13. Do the sample labels agree with custody papers? ~~YES~~ NO
14. Was sufficient amount of sample sent for tests requested? ~~YES~~ NO N/A
15. Are the samples appropriately preserved? YES NO ~~N/A~~
16. Did you check preservatives for all bottles for each sample? YES NO ~~N/A~~
17. Did you document your preservative check? YES NO ~~N/A~~
18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO ~~N/A~~
19. Did you change the hold time in LIMS for preserved terracores? YES NO ~~N/A~~
20. Are bubbles > 6mm absent in VOA samples? YES ~~NO~~ N/A
21. Was the client contacted concerning this sample delivery? YES ~~NO~~
If YES, Who was called? By Date:

COMMENTS
20) -005 rcvd w/ 1/3 VOAs w/ bubbles > 6mm
-006 rcvd w/ 2/3 " "

Rev 10, 9/12

Curtis & Tompkins, Ltd.

Detections Summary for 261309

Results for any subcontracted analyses are not included in this summary.

Client : Stellar Environmental Solutions
Project : 2007-65
Location : Bay Center Apts

Client Sample ID : MW-3 Laboratory Sample ID : 261309-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	530	Y	50	ug/L	As Recd	1.000	EPA 8015B	EPA 5030B
MTBE	3.2		2.0	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Diesel C10-C24	21,000		490	ug/L	As Recd	10.00	EPA 8015B	EPA 3520C

Client Sample ID : MW-4 Laboratory Sample ID : 261309-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	380	Y	49	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : MW-5 Laboratory Sample ID : 261309-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3,700		49	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : MW-6 Laboratory Sample ID : 261309-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Benzene	0.79		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Diesel C10-C24	1,600		49	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : MW-7 Laboratory Sample ID : 261309-005

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	1,200		50	ug/L	As Recd	1.000	EPA 8015B	EPA 5030B
Benzene	330		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Toluene	21		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Ethylbenzene	5.8		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
m,p-Xylenes	58		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
o-Xylene	10		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Diesel C10-C24	11,000		50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : MW-8 Laboratory Sample ID : 261309-006

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	15,000		4,200	ug/L	As Recd	83.33	EPA 8015B	EPA 5030B
Benzene	4,100		42	ug/L	As Recd	83.33	EPA 8021B	EPA 5030B
Toluene	65		42	ug/L	As Recd	83.33	EPA 8021B	EPA 5030B
Ethylbenzene	300		42	ug/L	As Recd	83.33	EPA 8021B	EPA 5030B
m,p-Xylenes	100		42	ug/L	As Recd	83.33	EPA 8021B	EPA 5030B
Diesel C10-C24	13,000		51	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : MW-9 Laboratory Sample ID : 261309-007

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	120		50	ug/L	As Recd	1.000	EPA 8015B	EPA 5030B
Benzene	8.6		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Ethylbenzene	0.55		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Diesel C10-C24	10,000		51	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : MW-10 Laboratory Sample ID : 261309-008

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	7,000		1,700	ug/L	As Recd	33.33	EPA 8015B	EPA 5030B
Benzene	1,500		17	ug/L	As Recd	33.33	EPA 8021B	EPA 5030B
Toluene	68		17	ug/L	As Recd	33.33	EPA 8021B	EPA 5030B
Ethylbenzene	28		17	ug/L	As Recd	33.33	EPA 8021B	EPA 5030B
m,p-Xylenes	36		17	ug/L	As Recd	33.33	EPA 8021B	EPA 5030B
Diesel C10-C24	42,000		510	ug/L	As Recd	10.00	EPA 8015B	EPA 3520C

Client Sample ID : MW-11 Laboratory Sample ID : 261309-009

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	2,000		50	ug/L	As Recd	1.000	EPA 8015B	EPA 5030B
Benzene	89		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Ethylbenzene	6.0		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
m,p-Xylenes	10		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
o-Xylene	4.4		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Diesel C10-C24	7,800		51	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : MW-121 Laboratory Sample ID : 261309-010

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	6,500	Y	1,700	ug/L	As Recd	33.33	EPA 8015B	EPA 5030B
Benzene	1,500		17	ug/L	As Recd	33.33	EPA 8021B	EPA 5030B
Toluene	110	C	0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Ethylbenzene	26		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
m,p-Xylenes	50		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
o-Xylene	9.9		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Diesel C10-C24	4,000		51	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

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Client Sample ID : MW-13 Laboratory Sample ID : 261309-011

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	16,000		2,500	ug/L	As Recd	50.00	EPA 8015B	EPA 5030B
Benzene	2,400		25	ug/L	As Recd	50.00	EPA 8021B	EPA 5030B
Toluene	70		25	ug/L	As Recd	50.00	EPA 8021B	EPA 5030B
Ethylbenzene	460		25	ug/L	As Recd	50.00	EPA 8021B	EPA 5030B
m,p-Xylenes	220		25	ug/L	As Recd	50.00	EPA 8021B	EPA 5030B
o-Xylene	33		25	ug/L	As Recd	50.00	EPA 8021B	EPA 5030B
Diesel C10-C24	11,000		49	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : MW-14 Laboratory Sample ID : 261309-012

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	7,100		2,500	ug/L	As Recd	50.00	EPA 8015B	EPA 5030B
Benzene	1,600		25	ug/L	As Recd	50.00	EPA 8021B	EPA 5030B
Toluene	220		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Ethylbenzene	120		25	ug/L	As Recd	50.00	EPA 8021B	EPA 5030B
m,p-Xylenes	140		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
o-Xylene	40		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Diesel C10-C24	8,500		51	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : MW-15 Laboratory Sample ID : 261309-013

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	9,500	Y	2,500	ug/L	As Recd	50.00	EPA 8015B	EPA 5030B
Benzene	2,600		25	ug/L	As Recd	50.00	EPA 8021B	EPA 5030B
Toluene	110	C	0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Ethylbenzene	22		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
m,p-Xylenes	39		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
o-Xylene	7.7		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Diesel C10-C24	3,300		49	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : MW-16 Laboratory Sample ID : 261309-014

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	110		50	ug/L	As Recd	1.000	EPA 8015B	EPA 5030B
Benzene	14		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Toluene	1.5		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Diesel C10-C24	10,000		50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Curtis & Tompkins, Ltd.

Client Sample ID : MW-17 Laboratory Sample ID : 261309-015

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	7,900		1,700	ug/L	As Recd	33.33	EPA 8015B	EPA 5030B
Benzene	1,500		17	ug/L	As Recd	33.33	EPA 8021B	EPA 5030B
Toluene	160	C	0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Ethylbenzene	130		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
m,p-Xylenes	68		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
o-Xylene	23		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Diesel C10-C24	3,000		49	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : MW-18 Laboratory Sample ID : 261309-016

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	12,000		51	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : MW-E Laboratory Sample ID : 261309-017

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	6,800		1,700	ug/L	As Recd	33.33	EPA 8015B	EPA 5030B
Benzene	1,800		17	ug/L	As Recd	33.33	EPA 8021B	EPA 5030B
Toluene	55		17	ug/L	As Recd	33.33	EPA 8021B	EPA 5030B
Ethylbenzene	86		17	ug/L	As Recd	33.33	EPA 8021B	EPA 5030B
m,p-Xylenes	68		17	ug/L	As Recd	33.33	EPA 8021B	EPA 5030B
o-Xylene	19		17	ug/L	As Recd	33.33	EPA 8021B	EPA 5030B
Diesel C10-C24	7,800		51	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

Client Sample ID : RW-1 Laboratory Sample ID : 261309-018

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	440		50	ug/L	As Recd	1.000	EPA 8015B	EPA 5030B
Benzene	41		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Toluene	0.86	C	0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Ethylbenzene	1.5		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
m,p-Xylenes	1.3	C	0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
o-Xylene	0.92		0.50	ug/L	As Recd	1.000	EPA 8021B	EPA 5030B
Diesel C10-C24	1,000		50	ug/L	As Recd	1.000	EPA 8015B	EPA 3520C

C = Presence confirmed, but RPD between columns exceeds 40%
Y = Sample exhibits chromatographic pattern which does not resemble standard

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65		
Matrix:	Water	Sampled:	09/30/14
Units:	ug/L	Received:	09/30/14

Field ID:	MW-3	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	215987
Lab ID:	261309-001	Analyzed:	10/01/14

Analyte	Result	RL	Analysis
Gasoline C7-C12	530 Y	50	EPA 8015B
MTBE	3.2	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
Bromofluorobenzene (FID)	122	77-128	EPA 8015B
Bromofluorobenzene (PID)	110	75-132	EPA 8021B

Field ID:	MW-4	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	215987
Lab ID:	261309-002	Analyzed:	10/01/14

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
Bromofluorobenzene (FID)	102	77-128	EPA 8015B
Bromofluorobenzene (PID)	105	75-132	EPA 8021B

Field ID:	MW-5	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	215987
Lab ID:	261309-003	Analyzed:	10/01/14

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
Bromofluorobenzene (FID)	101	77-128	EPA 8015B
Bromofluorobenzene (PID)	94	75-132	EPA 8021B

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, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65		
Matrix:	Water	Sampled:	09/30/14
Units:	ug/L	Received:	09/30/14

Field ID:	MW-6	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	215987
Lab ID:	261309-004	Analyzed:	10/01/14

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	0.79	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
Bromofluorobenzene (FID)	99	77-128	EPA 8015B
Bromofluorobenzene (PID)	93	75-132	EPA 8021B

Field ID:	MW-7	Lab ID:	261309-005
Type:	SAMPLE	Diln Fac:	1.000

Analyte	Result	RL	Batch#	Analyzed	Analysis
Gasoline C7-C12	1,200	50	216022	10/02/14	EPA 8015B
MTBE	ND	2.0	215987	10/01/14	EPA 8021B
Benzene	330	0.50	216022	10/02/14	EPA 8021B
Toluene	21	0.50	216022	10/02/14	EPA 8021B
Ethylbenzene	5.8	0.50	216022	10/02/14	EPA 8021B
m,p-Xylenes	58	0.50	216022	10/02/14	EPA 8021B
o-Xylene	10	0.50	216022	10/02/14	EPA 8021B

Surrogate	%REC	Limits	Batch#	Analyzed	Analysis
Bromofluorobenzene (FID)	82	77-128	216022	10/02/14	EPA 8015B
Bromofluorobenzene (PID)	84	75-132	216022	10/02/14	EPA 8021B

Field ID:	MW-8	Diln Fac:	83.33
Type:	SAMPLE	Batch#:	216021
Lab ID:	261309-006	Analyzed:	10/03/14

Analyte	Result	RL	Analysis
Gasoline C7-C12	15,000	4,200	EPA 8015B
MTBE	ND	170	EPA 8021B
Benzene	4,100	42	EPA 8021B
Toluene	65	42	EPA 8021B
Ethylbenzene	300	42	EPA 8021B
m,p-Xylenes	100	42	EPA 8021B
o-Xylene	ND	42	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	114	77-128	EPA 8015B
Bromofluorobenzene (PID)	91	75-132	EPA 8021B

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, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65		
Matrix:	Water	Sampled:	09/30/14
Units:	ug/L	Received:	09/30/14

Field ID:	MW-9	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	215987
Lab ID:	261309-007	Analyzed:	10/01/14

Analyte	Result	RL	Analysis
Gasoline C7-C12	120	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	8.6	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	0.55	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	88	77-128	EPA 8015B
Bromofluorobenzene (PID)	79	75-132	EPA 8021B

Field ID:	MW-10	Diln Fac:	33.33
Type:	SAMPLE	Batch#:	216100
Lab ID:	261309-008	Analyzed:	10/05/14

Analyte	Result	RL	Analysis
Gasoline C7-C12	7,000	1,700	EPA 8015B
MTBE	ND	67	EPA 8021B
Benzene	1,500	17	EPA 8021B
Toluene	68	17	EPA 8021B
Ethylbenzene	28	17	EPA 8021B
m,p-Xylenes	36	17	EPA 8021B
o-Xylene	ND	17	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	105	77-128	EPA 8015B
Bromofluorobenzene (PID)	103	75-132	EPA 8021B

Field ID:	MW-11	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	215987
Lab ID:	261309-009	Analyzed:	10/02/14

Analyte	Result	RL	Analysis
Gasoline C7-C12	2,000	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	89	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	6.0	0.50	EPA 8021B
m,p-Xylenes	10	0.50	EPA 8021B
o-Xylene	4.4	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	99	77-128	EPA 8015B
Bromofluorobenzene (PID)	90	75-132	EPA 8021B

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, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65		
Matrix:	Water	Sampled:	09/30/14
Units:	ug/L	Received:	09/30/14

Field ID: MW-121 Lab ID: 261309-010
Type: SAMPLE

Analyte	Result	RL	Diln Fac	Batch#	Analyzed	Analysis
Gasoline C7-C12	6,500 Y	1,700	33.33	216022	10/03/14	EPA 8015B
MTBE	ND	2.0	1.000	215987	10/02/14	EPA 8021B
Benzene	1,500	17	33.33	216022	10/03/14	EPA 8021B
Toluene	110 C	0.50	1.000	215987	10/02/14	EPA 8021B
Ethylbenzene	26	0.50	1.000	215987	10/02/14	EPA 8021B
m,p-Xylenes	50	0.50	1.000	215987	10/02/14	EPA 8021B
o-Xylene	9.9	0.50	1.000	215987	10/02/14	EPA 8021B

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed	Analysis
Bromofluorobenzene (FID)	106	77-128	33.33	216022	10/03/14	EPA 8015B
Bromofluorobenzene (PID)	89	75-132	1.000	215987	10/02/14	EPA 8021B

Field ID: MW-13 Diln Fac: 50.00
Type: SAMPLE Batch#: 216021
Lab ID: 261309-011 Analyzed: 10/03/14

Analyte	Result	RL	Analysis
Gasoline C7-C12	16,000	2,500	EPA 8015B
MTBE	ND	100	EPA 8021B
Benzene	2,400	25	EPA 8021B
Toluene	70	25	EPA 8021B
Ethylbenzene	460	25	EPA 8021B
m,p-Xylenes	220	25	EPA 8021B
o-Xylene	33	25	EPA 8021B

Surrogate	%REC	Limits	Analysis
Bromofluorobenzene (FID)	114	77-128	EPA 8015B
Bromofluorobenzene (PID)	92	75-132	EPA 8021B

Field ID: MW-14 Lab ID: 261309-012
Type: SAMPLE Analyzed: 10/02/14

Analyte	Result	RL	Diln Fac	Batch#	Analysis
Gasoline C7-C12	7,100	2,500	50.00	216022	EPA 8015B
MTBE	ND	100	50.00	216022	EPA 8021B
Benzene	1,600	25	50.00	216022	EPA 8021B
Toluene	220	0.50	1.000	215987	EPA 8021B
Ethylbenzene	120	25	50.00	216022	EPA 8021B
m,p-Xylenes	140	0.50	1.000	215987	EPA 8021B
o-Xylene	40	0.50	1.000	215987	EPA 8021B

Surrogate	%REC	Limits	Diln Fac	Batch#	Analysis
Bromofluorobenzene (FID)	110	77-128	50.00	216022	EPA 8015B
Bromofluorobenzene (PID)	99	75-132	1.000	215987	EPA 8021B

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, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65		
Matrix:	Water	Sampled:	09/30/14
Units:	ug/L	Received:	09/30/14

Field ID:	MW-15	Lab ID:	261309-013
Type:	SAMPLE	Analyzed:	10/02/14

Analyte	Result	RL	Diln Fac	Batch#	Analysis
Gasoline C7-C12	9,500 Y	2,500	50.00	216022	EPA 8015B
MTBE	ND	100	50.00	216022	EPA 8021B
Benzene	2,600	25	50.00	216022	EPA 8021B
Toluene	110 C	0.50	1.000	215987	EPA 8021B
Ethylbenzene	22	0.50	1.000	215987	EPA 8021B
m,p-Xylenes	39	0.50	1.000	215987	EPA 8021B
o-Xylene	7.7	0.50	1.000	215987	EPA 8021B

Surrogate	%REC	Limits	Diln Fac	Batch#	Analysis
Bromofluorobenzene (FID)	111	77-128	50.00	216022	EPA 8015B
Bromofluorobenzene (PID)	81	75-132	1.000	215987	EPA 8021B

Field ID:	MW-16	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	215987
Lab ID:	261309-014	Analyzed:	10/02/14

Analyte	Result	RL	Analysis
Gasoline C7-C12	110	50	EPA 8015B
MTBE	ND	2.0	EPA 8021B
Benzene	14	0.50	EPA 8021B
Toluene	1.5	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
Bromofluorobenzene (FID)	100	77-128	EPA 8015B
Bromofluorobenzene (PID)	86	75-132	EPA 8021B

Field ID:	MW-17	Lab ID:	261309-015
Type:	SAMPLE	Analyzed:	10/02/14

Analyte	Result	RL	Diln Fac	Batch#	Analysis
Gasoline C7-C12	7,900	1,700	33.33	216022	EPA 8015B
MTBE	ND	2.0	1.000	215987	EPA 8021B
Benzene	1,500	17	33.33	216022	EPA 8021B
Toluene	160 C	0.50	1.000	215987	EPA 8021B
Ethylbenzene	130	0.50	1.000	215987	EPA 8021B
m,p-Xylenes	68	0.50	1.000	215987	EPA 8021B
o-Xylene	23	0.50	1.000	215987	EPA 8021B

Surrogate	%REC	Limits	Diln Fac	Batch#	Analysis
Bromofluorobenzene (FID)	101	77-128	33.33	216022	EPA 8015B
Bromofluorobenzene (PID)	89	75-132	1.000	215987	EPA 8021B

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, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65		
Matrix:	Water	Sampled:	09/30/14
Units:	ug/L	Received:	09/30/14

Field ID: MW-18 Diln Fac: 1.000
Type: SAMPLE Batch#: 216022
Lab ID: 261309-016

Analyte	Result	RL	Analyzed	Analysis
Gasoline C7-C12	ND	50	10/02/14	EPA 8015B
MTBE	ND	2.0	10/02/14	EPA 8021B
Benzene	ND	0.50	10/03/14	EPA 8021B
Toluene	ND	0.50	10/02/14	EPA 8021B
Ethylbenzene	ND	0.50	10/02/14	EPA 8021B
m,p-Xylenes	ND	0.50	10/02/14	EPA 8021B
o-Xylene	ND	0.50	10/02/14	EPA 8021B

Surrogate	%REC	Limits	Analyzed	Analysis
Bromofluorobenzene (FID)	92	77-128	10/02/14	EPA 8015B
Bromofluorobenzene (PID)	86	75-132	10/02/14	EPA 8021B

Field ID: MW-E Lab ID: 261309-017
Type: SAMPLE Diln Fac: 33.33

Analyte	Result	RL	Batch#	Analyzed	Analysis
Gasoline C7-C12	6,800	1,700	216021	10/03/14	EPA 8015B
MTBE	ND	67	216022	10/02/14	EPA 8021B
Benzene	1,800	17	216022	10/02/14	EPA 8021B
Toluene	55	17	216022	10/02/14	EPA 8021B
Ethylbenzene	86	17	216021	10/03/14	EPA 8021B
m,p-Xylenes	68	17	216021	10/03/14	EPA 8021B
o-Xylene	19	17	216022	10/02/14	EPA 8021B

Surrogate	%REC	Limits	Batch#	Analyzed	Analysis
Bromofluorobenzene (FID)	112	77-128	216021	10/03/14	EPA 8015B
Bromofluorobenzene (PID)	91	75-132	216021	10/03/14	EPA 8021B

Field ID: RW-1 Lab ID: 261309-018
Type: SAMPLE Diln Fac: 1.000

Analyte	Result	RL	Batch#	Analyzed	Analysis
Gasoline C7-C12	440	50	216022	10/03/14	EPA 8015B
MTBE	ND	2.0	216022	10/03/14	EPA 8021B
Benzene	41	0.50	216022	10/03/14	EPA 8021B
Toluene	0.86 C	0.50	216022	10/03/14	EPA 8021B
Ethylbenzene	1.5	0.50	216022	10/03/14	EPA 8021B
m,p-Xylenes	1.3 C	0.50	216022	10/03/14	EPA 8021B
o-Xylene	0.92	0.50	215987	10/02/14	EPA 8021B

Surrogate	%REC	Limits	Batch#	Analyzed	Analysis
Bromofluorobenzene (FID)	113	77-128	216022	10/03/14	EPA 8015B
Bromofluorobenzene (PID)	106	75-132	216022	10/03/14	EPA 8021B

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, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65		
Matrix:	Water	Sampled:	09/30/14
Units:	ug/L	Received:	09/30/14

Type: BLANK
Lab ID: QC759940
Diln Fac: 1.000

Batch#: 215987
Analyzed: 10/01/14

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
Bromofluorobenzene (FID)	106	77-128	EPA 8015B
Bromofluorobenzene (PID)	101	75-132	EPA 8021B

Type: BLANK
Lab ID: QC760071
Diln Fac: 1.000

Batch#: 216021
Analyzed: 10/03/14

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
Bromofluorobenzene (FID)	112	77-128	EPA 8015B
Bromofluorobenzene (PID)	89	75-132	EPA 8021B

Type: BLANK
Lab ID: QC760077
Diln Fac: 1.000

Batch#: 216022
Analyzed: 10/02/14

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
Bromofluorobenzene (FID)	97	77-128	EPA 8015B
Bromofluorobenzene (PID)	102	75-132	EPA 8021B

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, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65		
Matrix:	Water	Sampled:	09/30/14
Units:	ug/L	Received:	09/30/14

Type:	BLANK	Batch#:	216100
Lab ID:	QC760386	Analyzed:	10/05/14
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
Bromofluorobenzene (FID)	97	77-128	EPA 8015B
Bromofluorobenzene (PID)	110	75-132	EPA 8021B

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 #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	215987
Units:	ug/L	Analyzed:	10/01/14
Diln Fac:	1.000		

Type: BS Lab ID: QC759937

Analyte	Spiked	Result	%REC	Limits
MTBE	10.00	9.333	93	74-132
Benzene	10.00	9.926	99	80-120
Toluene	10.00	10.16	102	80-120
Ethylbenzene	10.00	10.43	104	80-120
m,p-Xylenes	10.00	10.51	105	80-120
o-Xylene	10.00	10.72	107	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	99	75-132

Type: BSD Lab ID: QC759938

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	20.00	18.18	91	74-132	3	36
Benzene	20.00	17.91	90	80-120	10	20
Toluene	20.00	16.88	84	80-120	19	20
Ethylbenzene	20.00	17.65	88	80-120	17	20
m,p-Xylenes	20.00	18.00	90	80-120	15	20
o-Xylene	20.00	18.42	92	80-120	15	20

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	96	75-132

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	261309	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:	QC759939	Batch#:	215987
Matrix:	Water	Analyzed:	10/01/14
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,040	104	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	105	77-128

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65	Analysis:	EPA 8015B
Field ID:	MW-3	Batch#:	215987
MSS Lab ID:	261309-001	Sampled:	09/30/14
Matrix:	Water	Received:	09/30/14
Units:	ug/L	Analyzed:	10/01/14
Diln Fac:	1.000		

Type: MS Lab ID: QC759941

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	528.3	2,000	2,589	103	74-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	122	77-128

Type: MSD Lab ID: QC759942

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,514	99	74-120	3	27

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	119	77-128

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	261309	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:	QC760070	Batch#:	216021
Matrix:	Water	Analyzed:	10/03/14
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,103	110	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	112	77-128

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	216021
MSS Lab ID:	261360-001	Sampled:	10/01/14
Matrix:	Water	Received:	10/01/14
Units:	ug/L	Analyzed:	10/04/14
Diln Fac:	1.000		

Type: MS Lab ID: QC760072

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	24.78	2,000	1,850	91	74-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	115	77-128

Type: MSD Lab ID: QC760073

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,853	91	74-120	0	27

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	116	77-128

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	216022
Units:	ug/L	Analyzed:	10/02/14
Diln Fac:	1.000		

Type: BS Lab ID: QC760074

Analyte	Spiked	Result	%REC	Limits
MTBE	10.00	9.192	92	74-132
Benzene	10.00	8.544	85	80-120
Toluene	10.00	8.564	86	80-120
Ethylbenzene	10.00	8.759	88	80-120
m,p-Xylenes	10.00	9.200	92	80-120
o-Xylene	10.00	9.262	93	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	101	75-132

Type: BSD Lab ID: QC760075

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	10.00	9.276	93	74-132	1	36
Benzene	10.00	8.853	89	80-120	4	20
Toluene	10.00	8.936	89	80-120	4	20
Ethylbenzene	10.00	8.903	89	80-120	2	20
m,p-Xylenes	10.00	9.805	98	80-120	6	20
o-Xylene	10.00	9.604	96	80-120	4	20

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	101	75-132

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	261309	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:	QC760076	Batch#:	216022
Matrix:	Water	Analyzed:	10/02/14
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,069	107	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	111	77-128

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	216022
MSS Lab ID:	261319-004	Sampled:	09/30/14
Matrix:	Water	Received:	09/30/14
Units:	ug/L	Analyzed:	10/03/14
Diln Fac:	1.000		

Type: MS Lab ID: QC760078

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	42.06	2,000	1,928	94	74-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	106	77-128

Type: MSD Lab ID: QC760079

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,986	97	74-120	3	27

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	113	77-128

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	216021
Units:	ug/L	Analyzed:	10/03/14
Diln Fac:	1.000		

Type: BS Lab ID: QC760265

Analyte	Spiked	Result	%REC	Limits
MTBE	10.00	10.00	100	74-132
Benzene	10.00	9.037	90	80-120
Toluene	10.00	9.279	93	80-120
Ethylbenzene	10.00	9.266	93	80-120
m,p-Xylenes	10.00	9.394	94	80-120
o-Xylene	10.00	9.207	92	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	86	75-132

Type: BSD Lab ID: QC760266

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	20.00	19.65	98	74-132	2	36
Benzene	20.00	18.07	90	80-120	0	20
Toluene	20.00	18.14	91	80-120	2	20
Ethylbenzene	20.00	17.90	90	80-120	3	20
m,p-Xylenes	20.00	18.03	90	80-120	4	20
o-Xylene	20.00	18.06	90	80-120	2	20

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	93	75-132

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	216100
Units:	ug/L	Analyzed:	10/05/14
Diln Fac:	1.000		

Type: BS Lab ID: QC760383

Analyte	Spiked	Result	%REC	Limits
MTBE	10.00	9.308	93	74-132
Benzene	10.00	10.70	107	80-120
Toluene	10.00	10.53	105	80-120
Ethylbenzene	10.00	10.50	105	80-120
m,p-Xylenes	10.00	10.33	103	80-120
o-Xylene	10.00	9.867	99	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	104	75-132

Type: BSD Lab ID: QC760384

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	10.00	11.12	111	74-132	18	36
Benzene	10.00	11.94	119	80-120	11	20
Toluene	10.00	12.01	120	80-120	13	20
Ethylbenzene	10.00	11.75	117	80-120	11	20
m,p-Xylenes	10.00	11.65	117	80-120	12	20
o-Xylene	10.00	11.12	111	80-120	12	20

Surrogate	%REC	Limits
Bromofluorobenzene (PID)	111	75-132

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	261309	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:	QC760385	Batch#:	216100
Matrix:	Water	Analyzed:	10/05/14
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,049	105	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	107	77-128

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2007-65	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	216100
MSS Lab ID:	261421-001	Sampled:	10/03/14
Matrix:	Water	Received:	10/03/14
Units:	ug/L	Analyzed:	10/06/14
Diln Fac:	1.000		

Type: MS Lab ID: QC760387

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	27.51	2,000	1,806	89	74-120

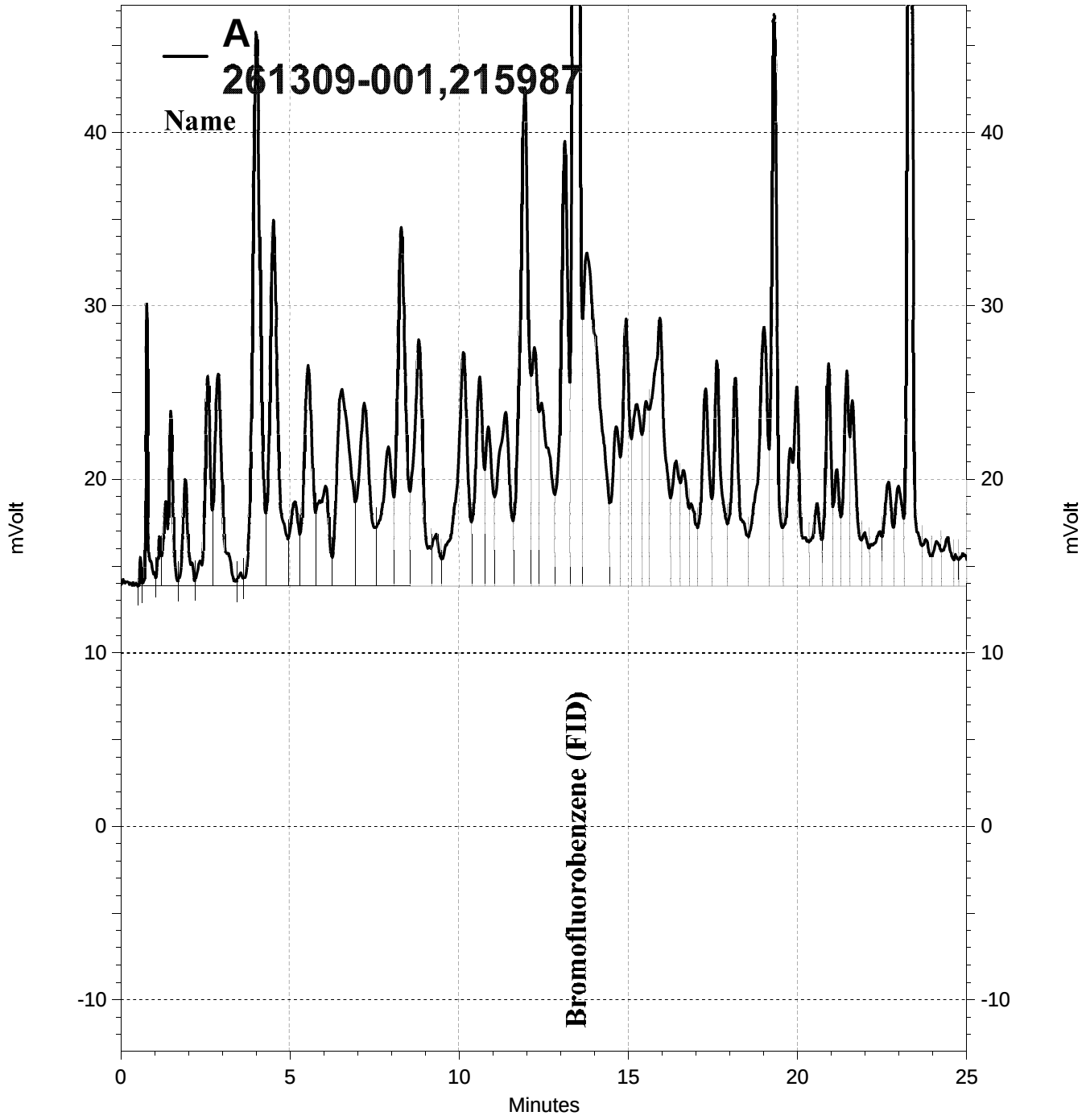
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	85	77-128

Type: MSD Lab ID: QC760388

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,644	81	74-120	9	27

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	80	77-128

RPD= Relative Percent Difference



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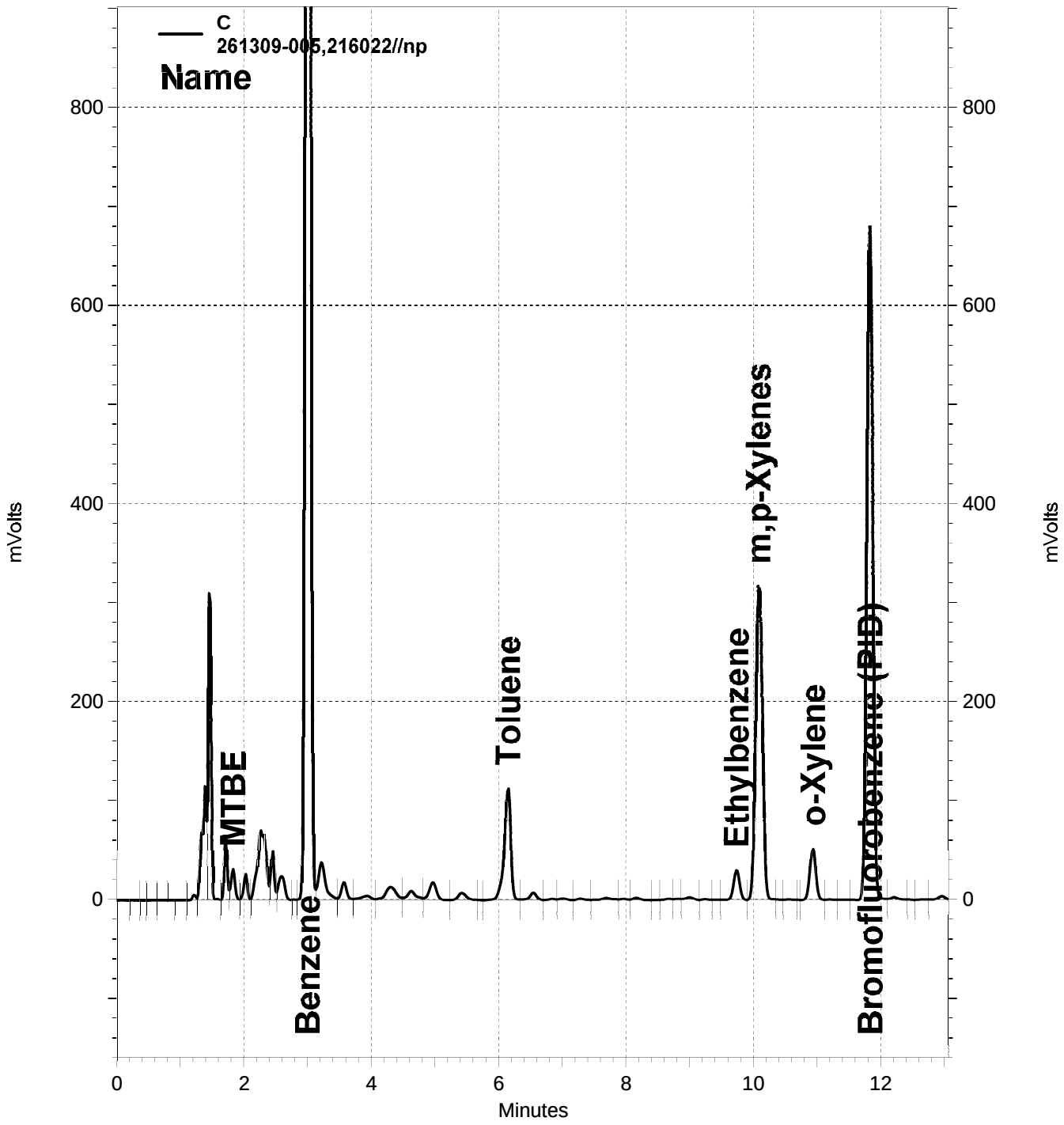

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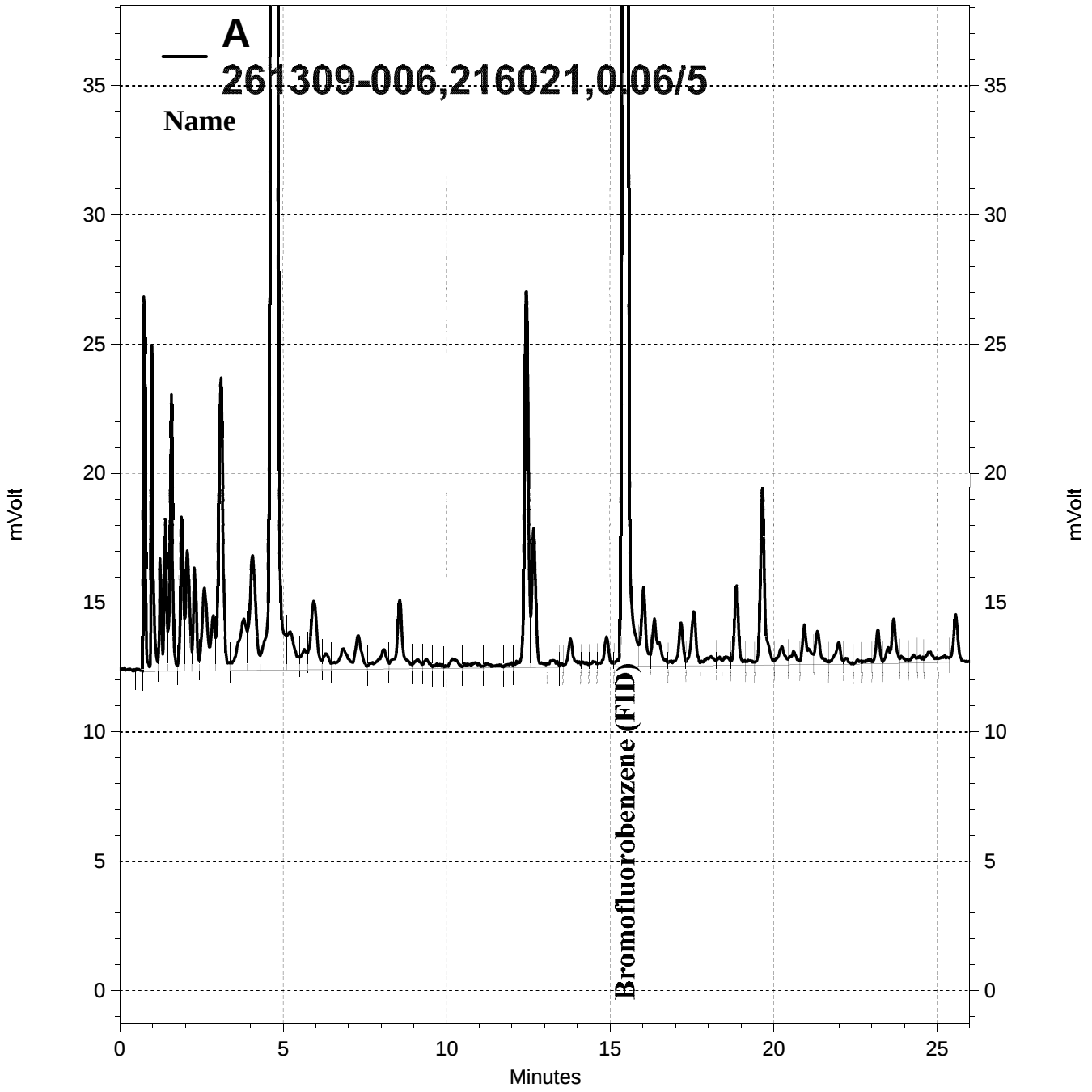

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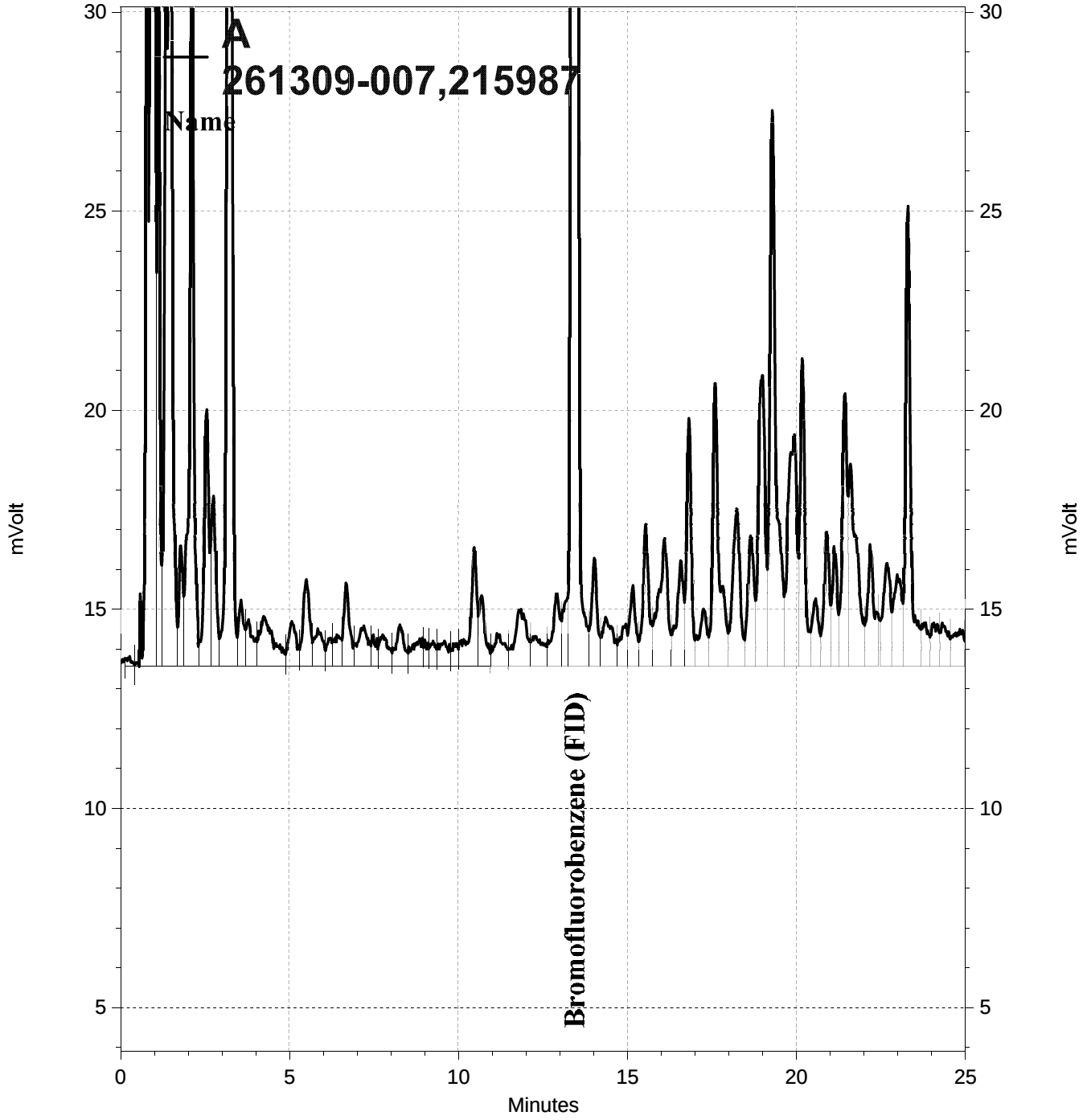

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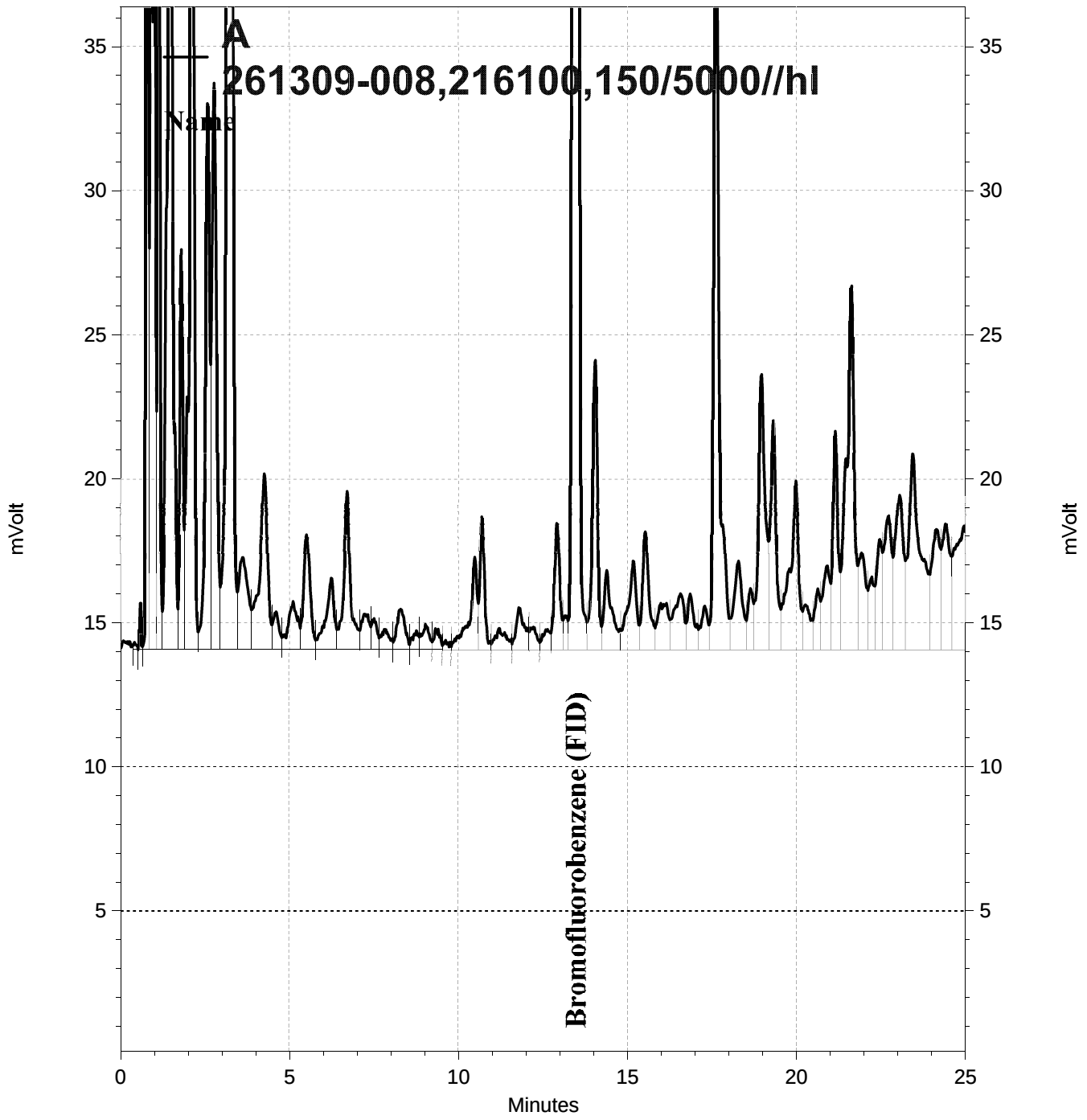

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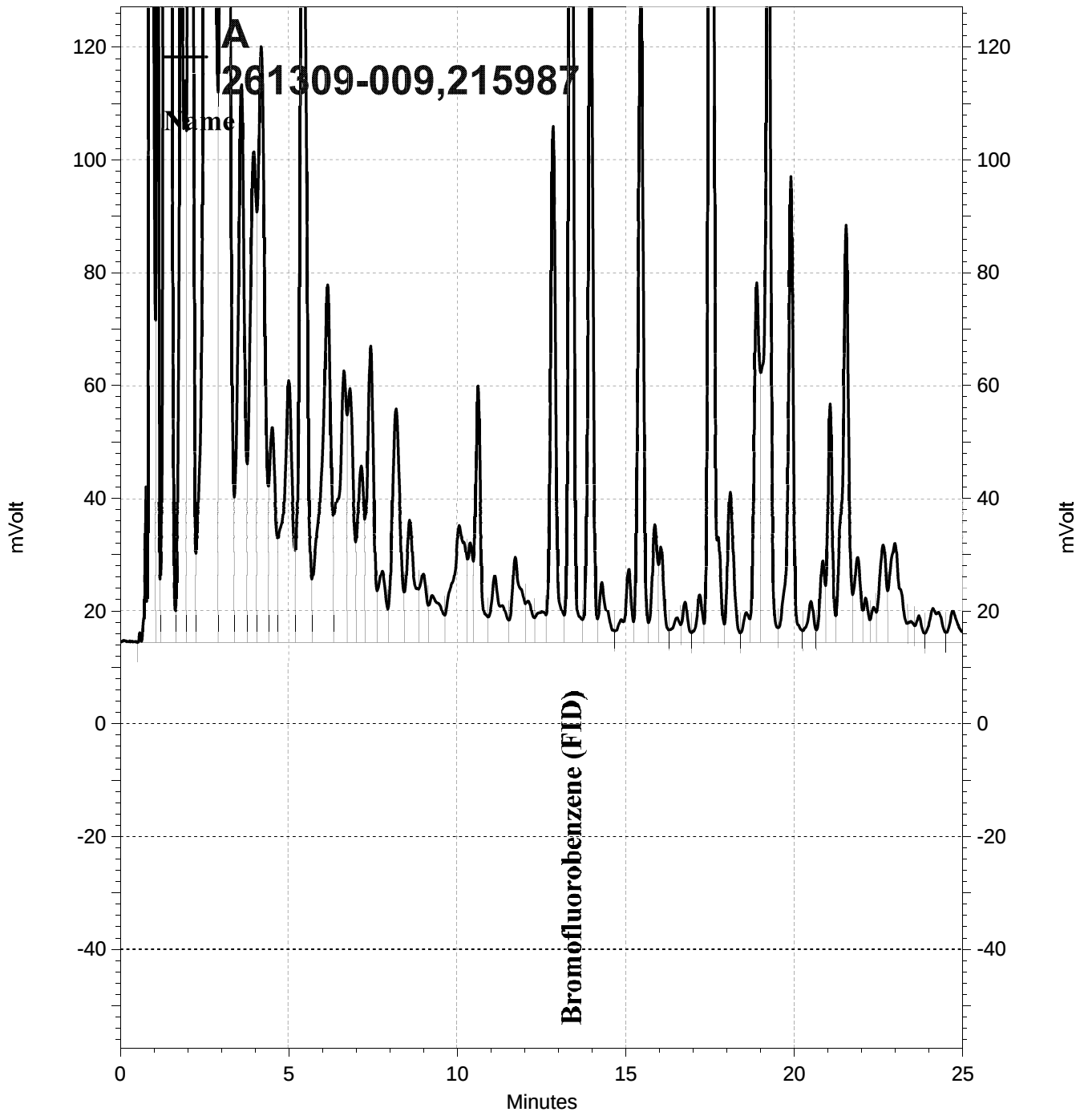

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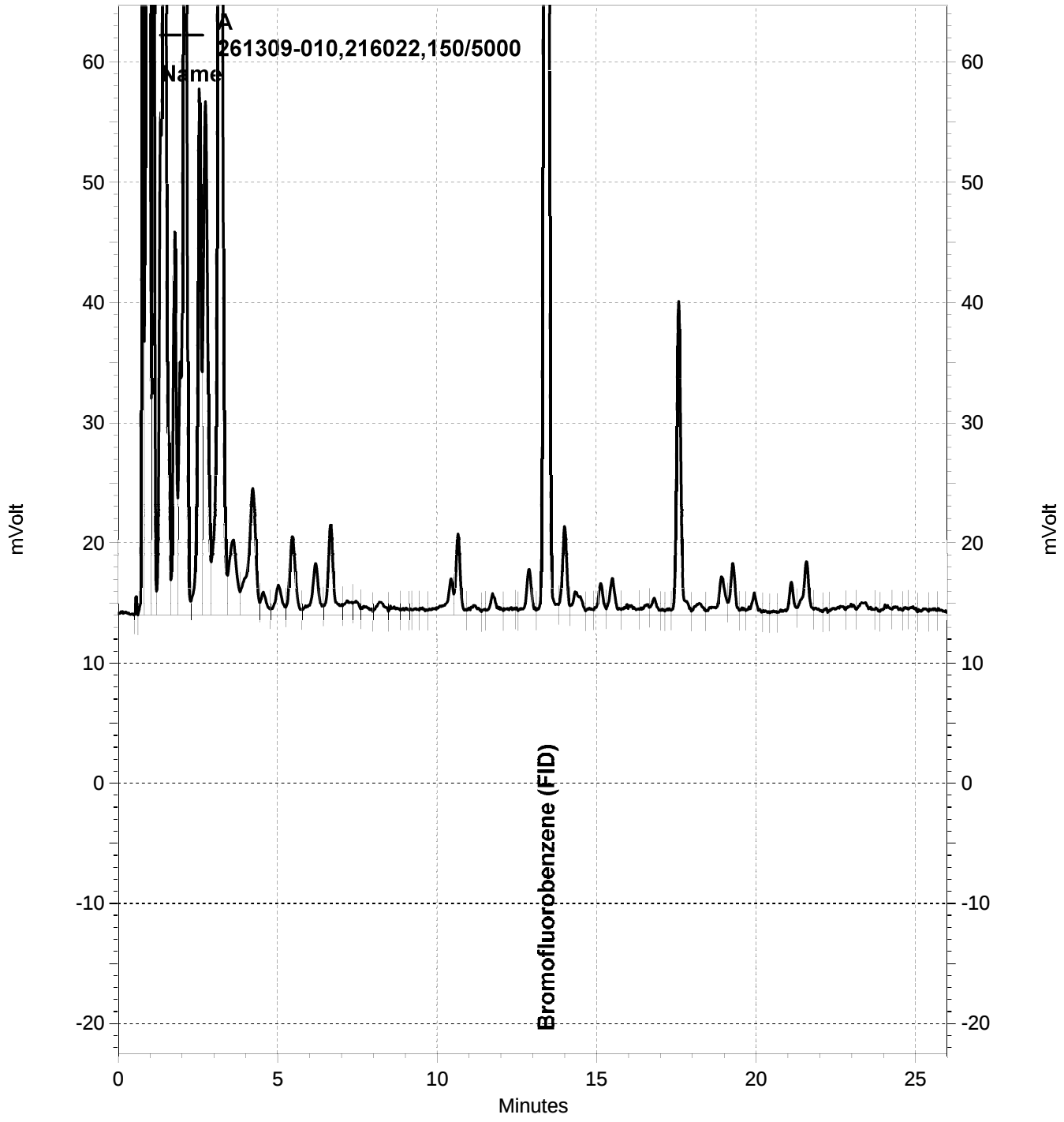

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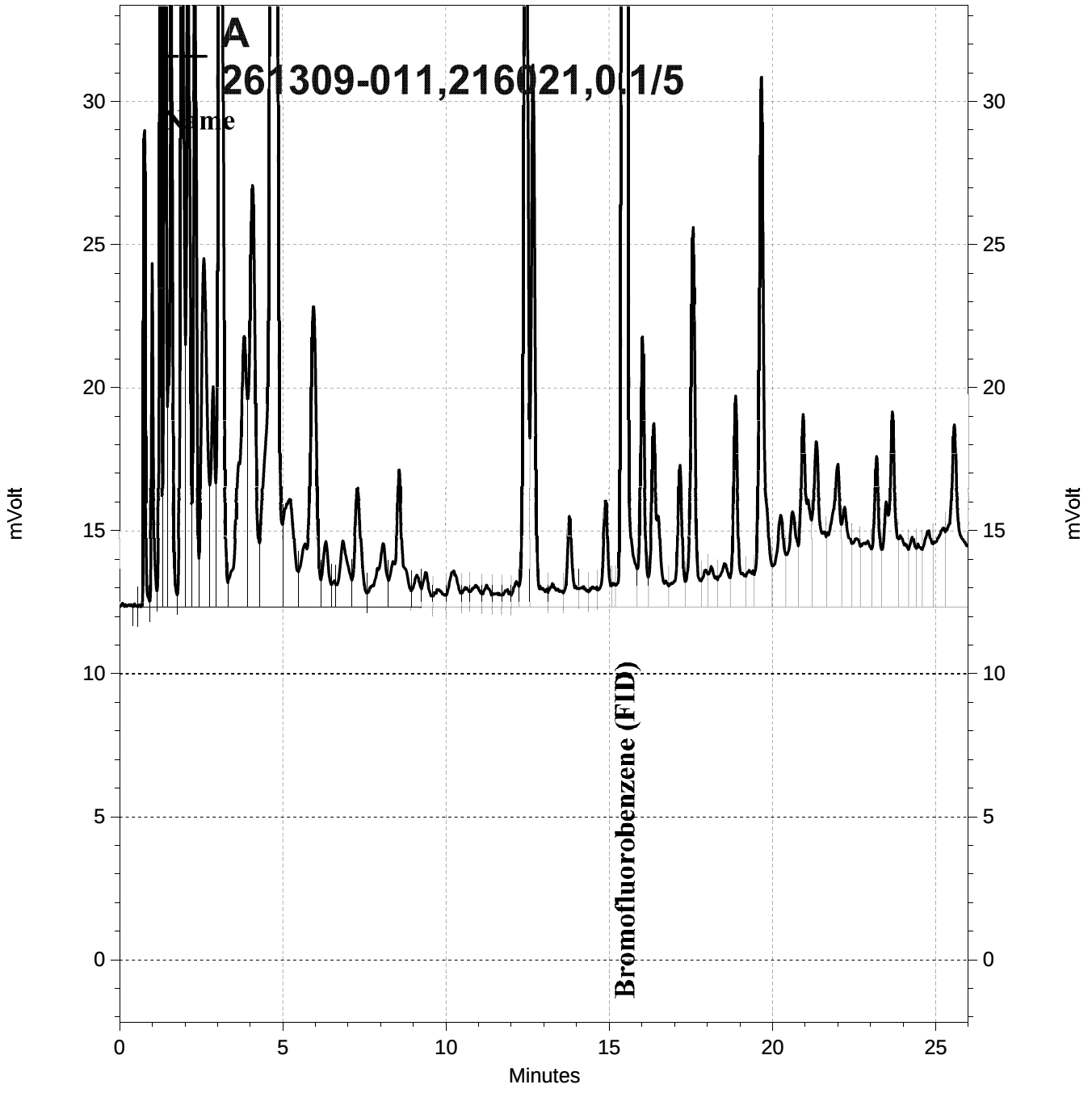

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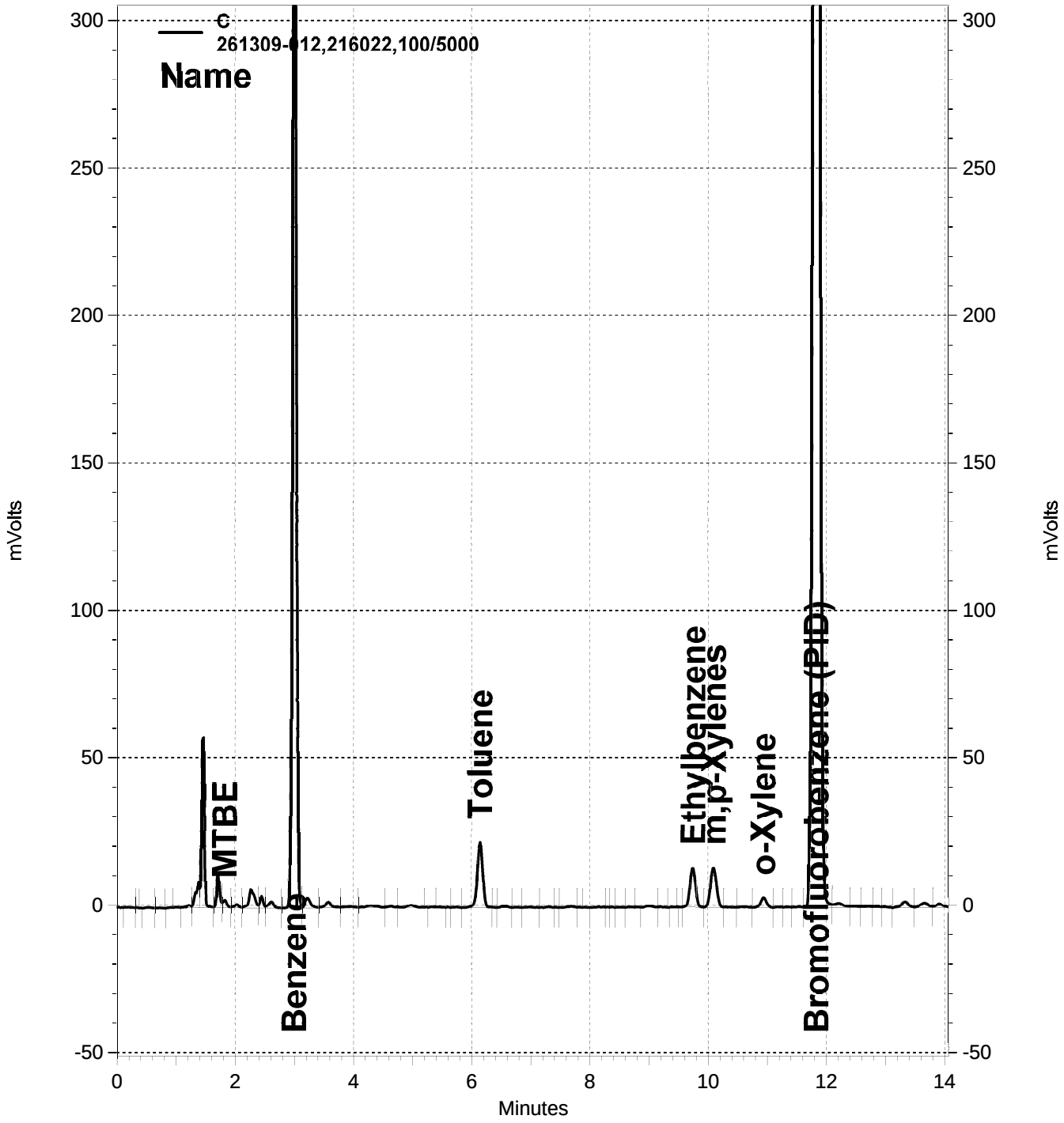

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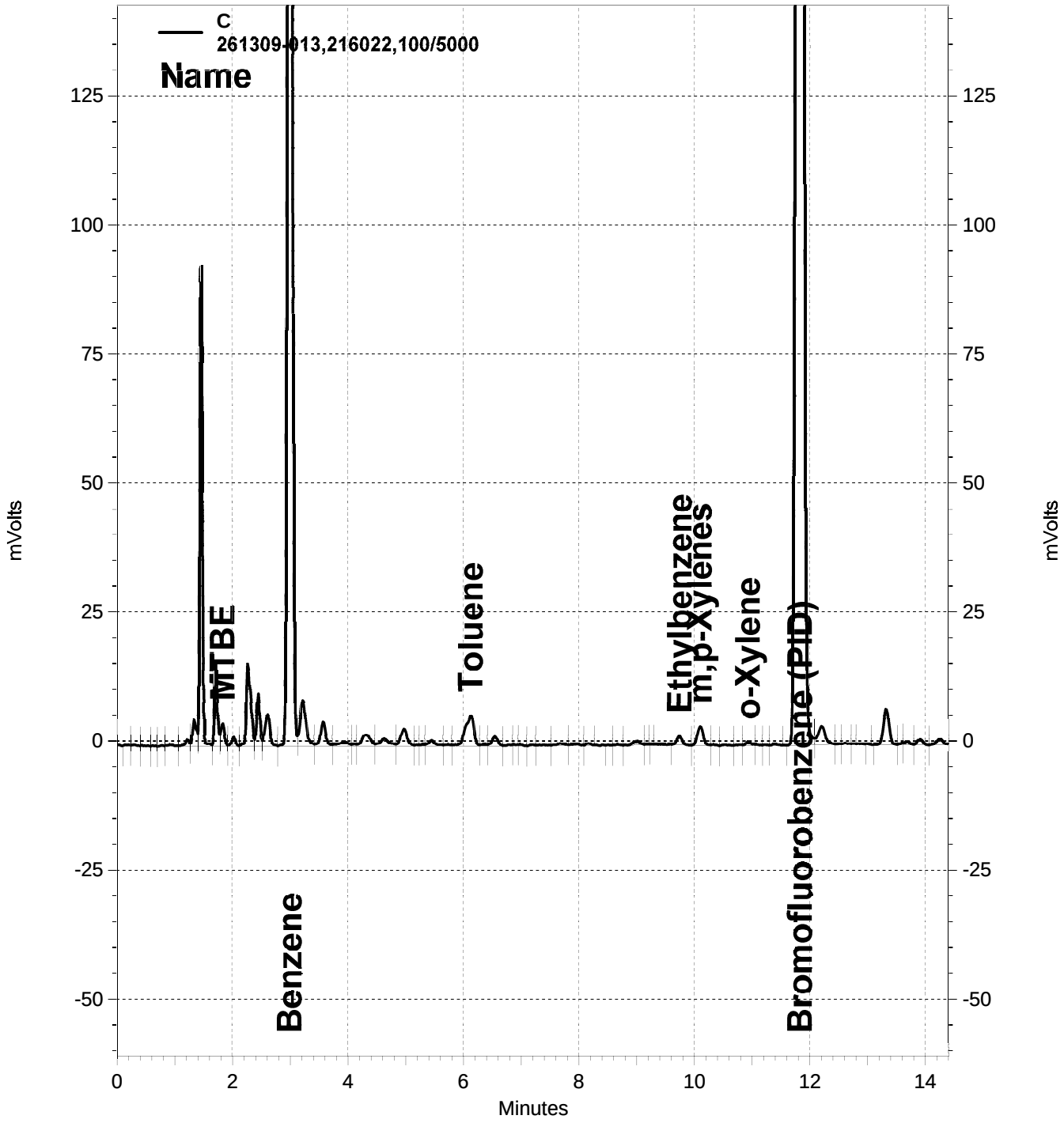

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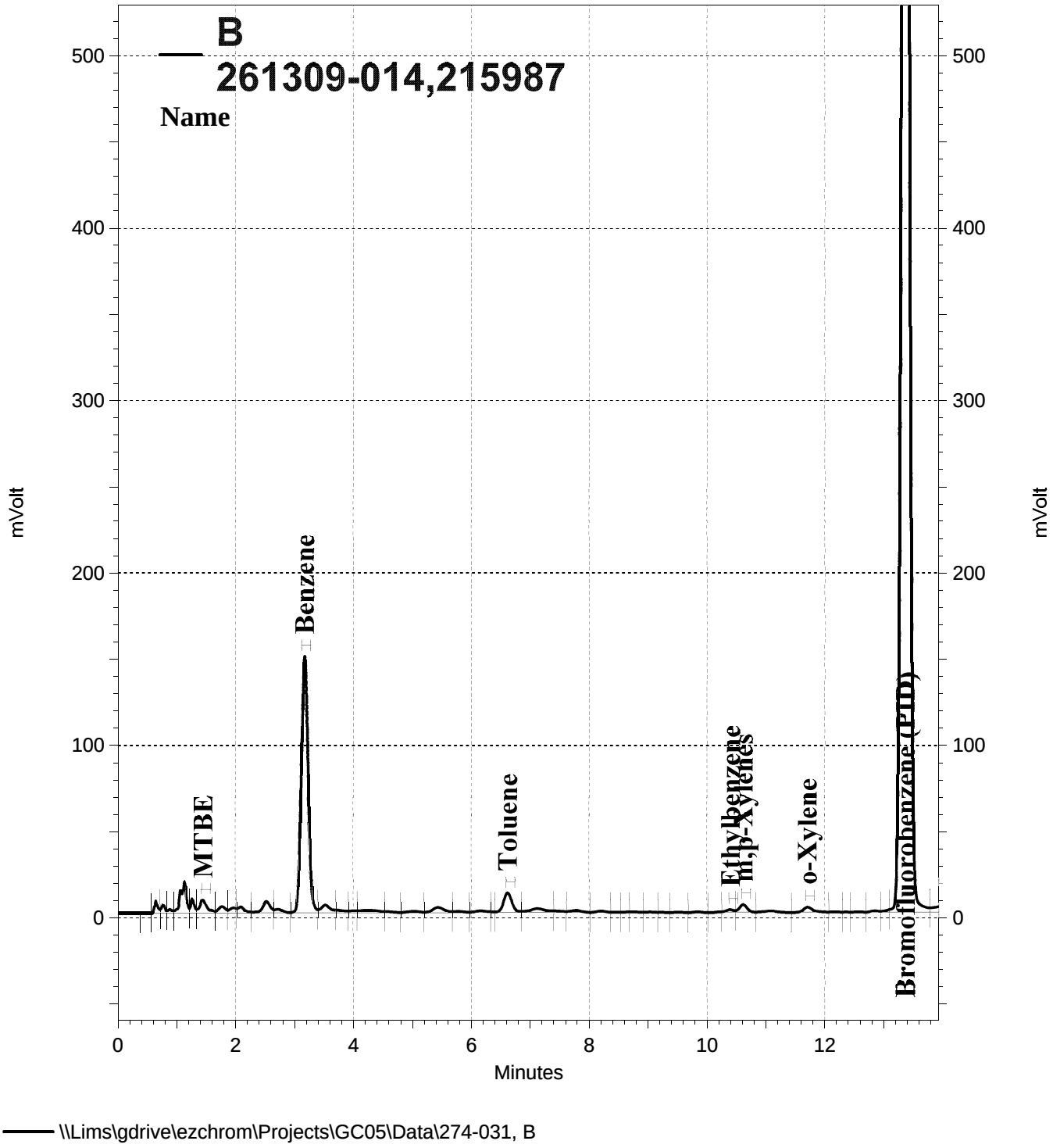
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Ethylbenzene
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o-Xylene
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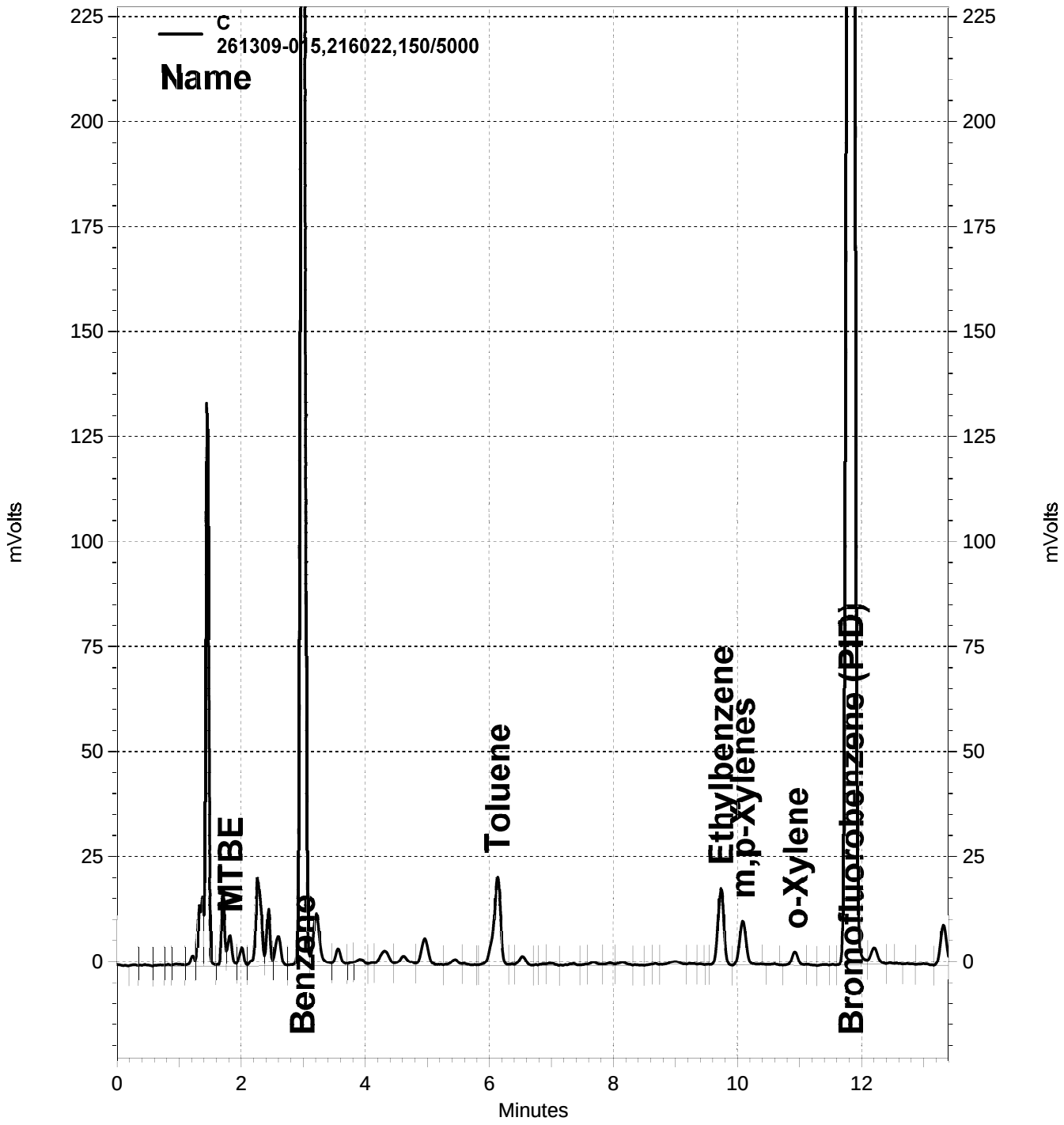

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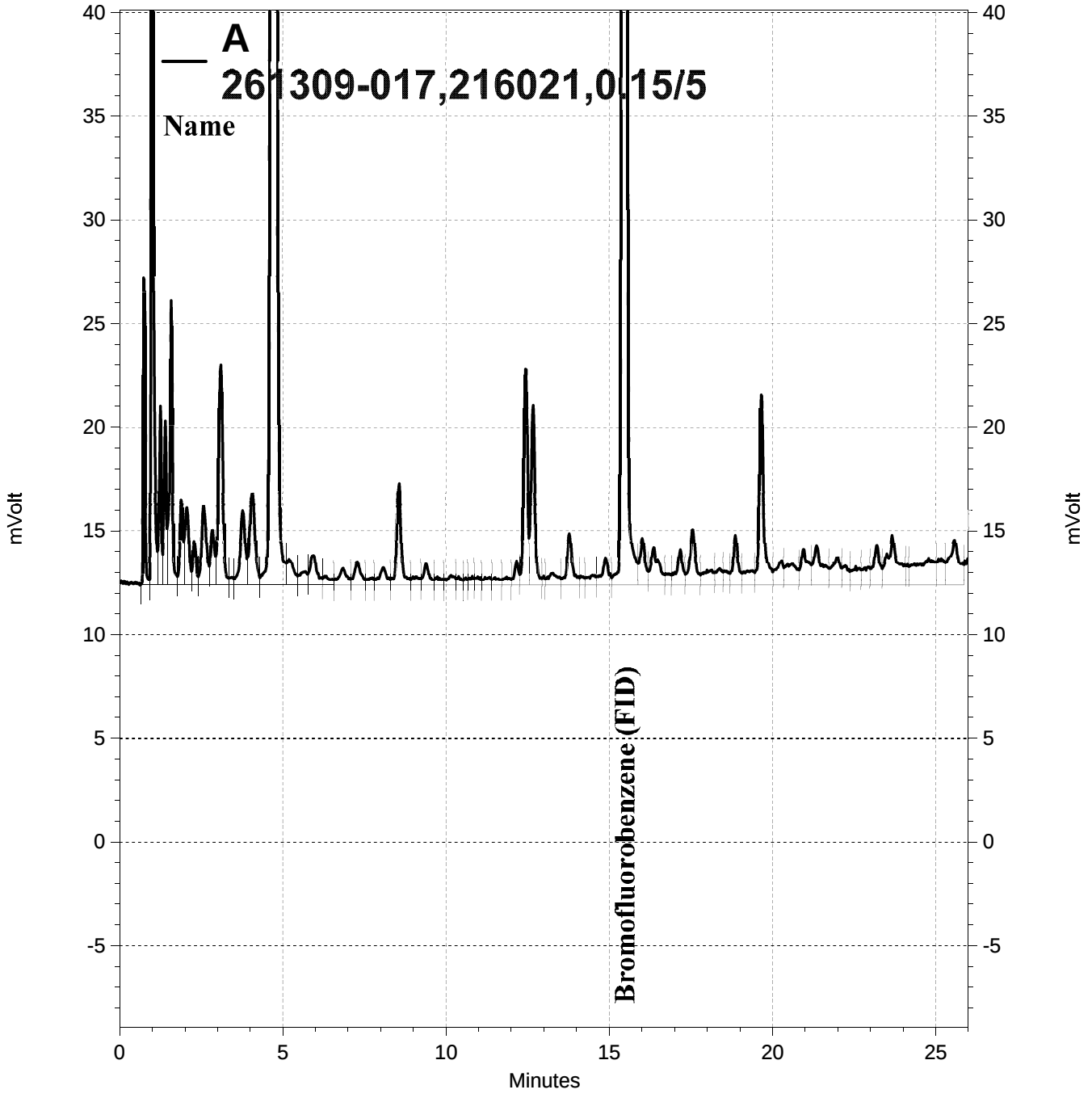

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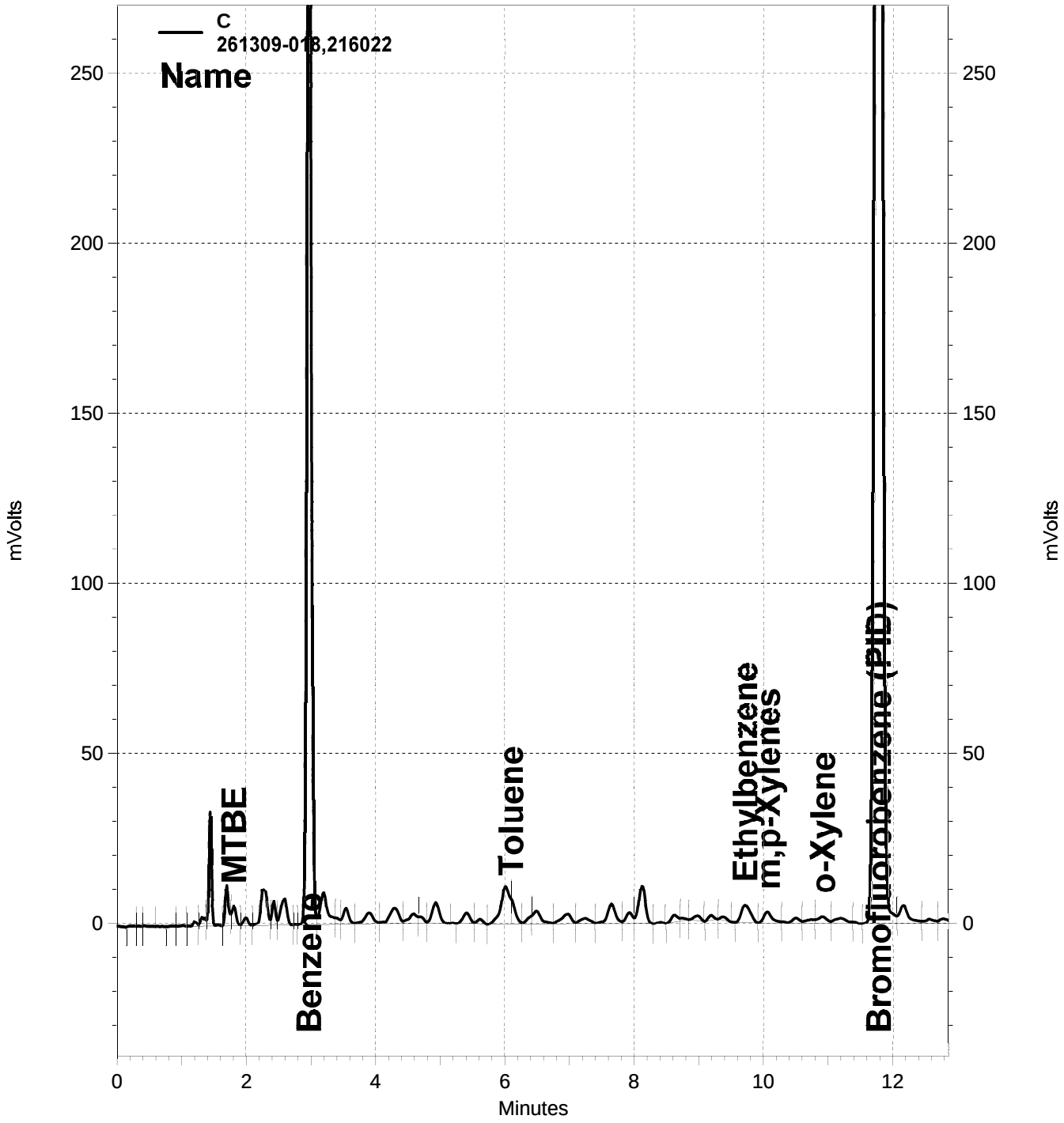

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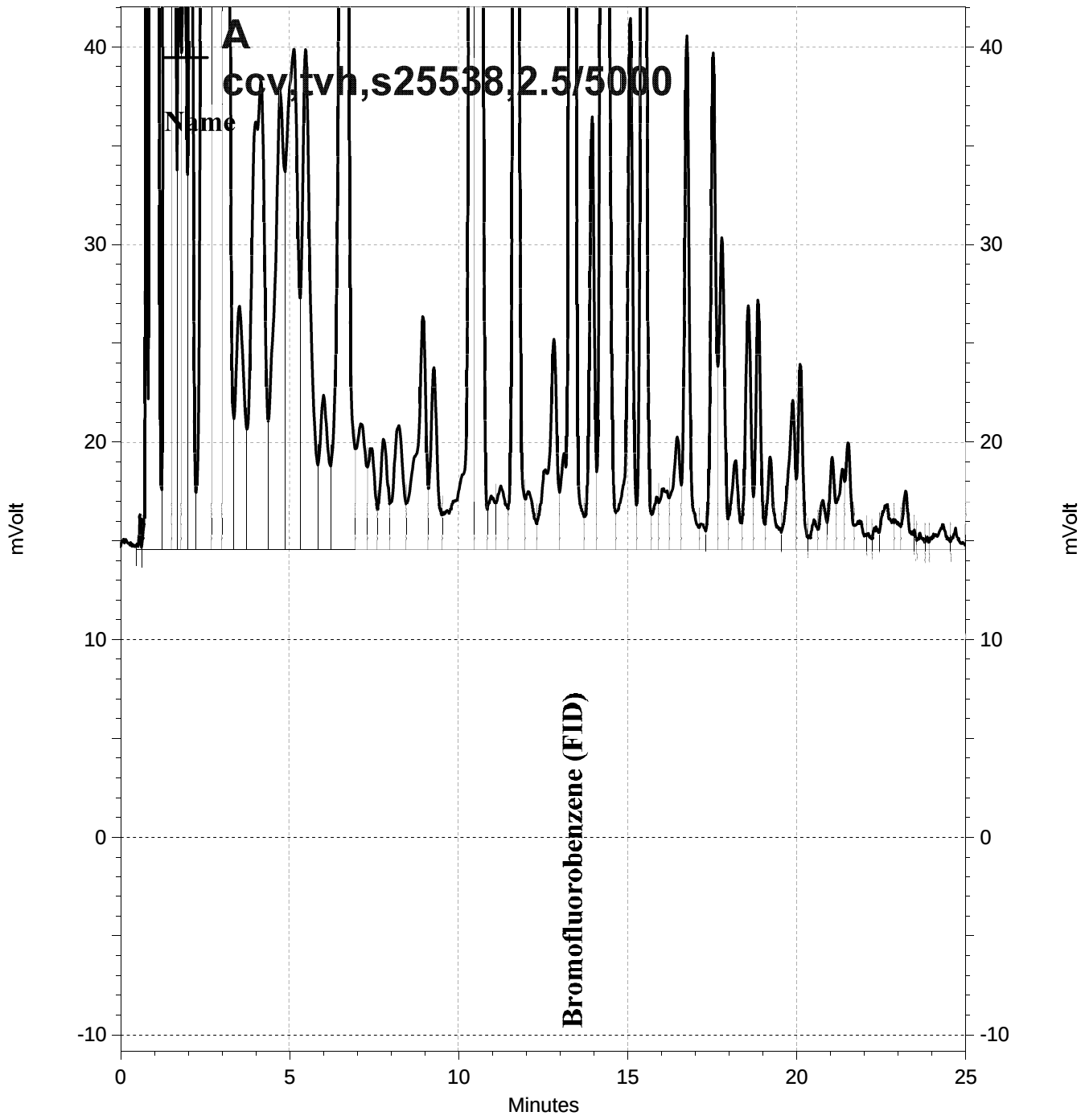

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Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2007-65	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	09/30/14
Units:	ug/L	Received:	09/30/14

Field ID:	MW-3	Batch#:	215985
Type:	SAMPLE	Prepared:	10/01/14
Lab ID:	261309-001	Analyzed:	10/02/14
Diln Fac:	10.00		

Analyte	Result	RL
Diesel C10-C24	21,000	490

Surrogate	%REC	Limits
o-Terphenyl	DO	66-129

Field ID:	MW-4	Batch#:	215985
Type:	SAMPLE	Prepared:	10/01/14
Lab ID:	261309-002	Analyzed:	10/02/14
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	380 Y	49

Surrogate	%REC	Limits
o-Terphenyl	114	66-129

Field ID:	MW-5	Batch#:	215985
Type:	SAMPLE	Prepared:	10/01/14
Lab ID:	261309-003	Analyzed:	10/02/14
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	3,700	49

Surrogate	%REC	Limits
o-Terphenyl	115	66-129

Field ID:	MW-6	Batch#:	215985
Type:	SAMPLE	Prepared:	10/01/14
Lab ID:	261309-004	Analyzed:	10/02/14
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	1,600	49

Surrogate	%REC	Limits
o-Terphenyl	105	66-129

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

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2007-65	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	09/30/14
Units:	ug/L	Received:	09/30/14

Field ID:	MW-7	Batch#:	215985
Type:	SAMPLE	Prepared:	10/01/14
Lab ID:	261309-005	Analyzed:	10/02/14
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	11,000	50

Surrogate	%REC	Limits
o-Terphenyl	101	66-129

Field ID:	MW-8	Batch#:	215985
Type:	SAMPLE	Prepared:	10/01/14
Lab ID:	261309-006	Analyzed:	10/02/14
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	13,000	51

Surrogate	%REC	Limits
o-Terphenyl	114	66-129

Field ID:	MW-9	Batch#:	215985
Type:	SAMPLE	Prepared:	10/01/14
Lab ID:	261309-007	Analyzed:	10/02/14
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	10,000	51

Surrogate	%REC	Limits
o-Terphenyl	103	66-129

Field ID:	MW-10	Batch#:	215985
Type:	SAMPLE	Prepared:	10/01/14
Lab ID:	261309-008	Analyzed:	10/02/14
Diln Fac:	10.00		

Analyte	Result	RL
Diesel C10-C24	42,000	510

Surrogate	%REC	Limits
o-Terphenyl	DO	66-129

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

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2007-65	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	09/30/14
Units:	ug/L	Received:	09/30/14

Field ID:	MW-11	Batch#:	215985
Type:	SAMPLE	Prepared:	10/01/14
Lab ID:	261309-009	Analyzed:	10/02/14
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	7,800	51

Surrogate	%REC	Limits
o-Terphenyl	114	66-129

Field ID:	MW-121	Batch#:	215985
Type:	SAMPLE	Prepared:	10/01/14
Lab ID:	261309-010	Analyzed:	10/02/14
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	4,000	51

Surrogate	%REC	Limits
o-Terphenyl	118	66-129

Field ID:	MW-13	Batch#:	215985
Type:	SAMPLE	Prepared:	10/01/14
Lab ID:	261309-011	Analyzed:	10/02/14
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	11,000	49

Surrogate	%REC	Limits
o-Terphenyl	119	66-129

Field ID:	MW-14	Batch#:	215985
Type:	SAMPLE	Prepared:	10/01/14
Lab ID:	261309-012	Analyzed:	10/02/14
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	8,500	51

Surrogate	%REC	Limits
o-Terphenyl	97	66-129

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

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2007-65	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	09/30/14
Units:	ug/L	Received:	09/30/14

Field ID:	MW-15	Batch#:	215985
Type:	SAMPLE	Prepared:	10/01/14
Lab ID:	261309-013	Analyzed:	10/02/14
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	3,300	49

Surrogate	%REC	Limits
o-Terphenyl	115	66-129

Field ID:	MW-16	Batch#:	215985
Type:	SAMPLE	Prepared:	10/01/14
Lab ID:	261309-014	Analyzed:	10/03/14
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	10,000	50

Surrogate	%REC	Limits
o-Terphenyl	110	66-129

Field ID:	MW-17	Batch#:	215985
Type:	SAMPLE	Prepared:	10/01/14
Lab ID:	261309-015	Analyzed:	10/03/14
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	3,000	49

Surrogate	%REC	Limits
o-Terphenyl	106	66-129

Field ID:	MW-18	Batch#:	216027
Type:	SAMPLE	Prepared:	10/02/14
Lab ID:	261309-016	Analyzed:	10/04/14
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	12,000	51

Surrogate	%REC	Limits
o-Terphenyl	116	66-129

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

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2007-65	Analysis:	EPA 8015B
Matrix:	Water	Sampled:	09/30/14
Units:	ug/L	Received:	09/30/14

Field ID:	MW-E	Batch#:	216027
Type:	SAMPLE	Prepared:	10/02/14
Lab ID:	261309-017	Analyzed:	10/04/14
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	7,800	51

Surrogate	%REC	Limits
o-Terphenyl	109	66-129

Field ID:	RW-1	Batch#:	216027
Type:	SAMPLE	Prepared:	10/02/14
Lab ID:	261309-018	Analyzed:	10/04/14
Diln Fac:	1.000		

Analyte	Result	RL
Diesel C10-C24	1,000	50

Surrogate	%REC	Limits
o-Terphenyl	119	66-129

Type:	BLANK	Batch#:	215985
Lab ID:	QC759925	Prepared:	10/01/14
Diln Fac:	1.000	Analyzed:	10/02/14

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	122	66-129

Type:	BLANK	Batch#:	216027
Lab ID:	QC760094	Prepared:	10/02/14
Diln Fac:	1.000	Analyzed:	10/03/14

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	115	66-129

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

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2007-65	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	215985
Units:	ug/L	Prepared:	10/01/14
Diln Fac:	1.000	Analyzed:	10/02/14

Type: BS Lab ID: QC759926

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,588	104	61-120

Surrogate	%REC	Limits
o-Terphenyl	109	66-129

Type: BSD Lab ID: QC759927

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,731	109	61-120	5	45

Surrogate	%REC	Limits
o-Terphenyl	112	66-129

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Total Extractable Hydrocarbons

Lab #:	261309	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	2007-65	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	216027
Units:	ug/L	Prepared:	10/02/14
Diln Fac:	1.000	Analyzed:	10/03/14

Type: BS Lab ID: QC760095

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,493	100	61-120

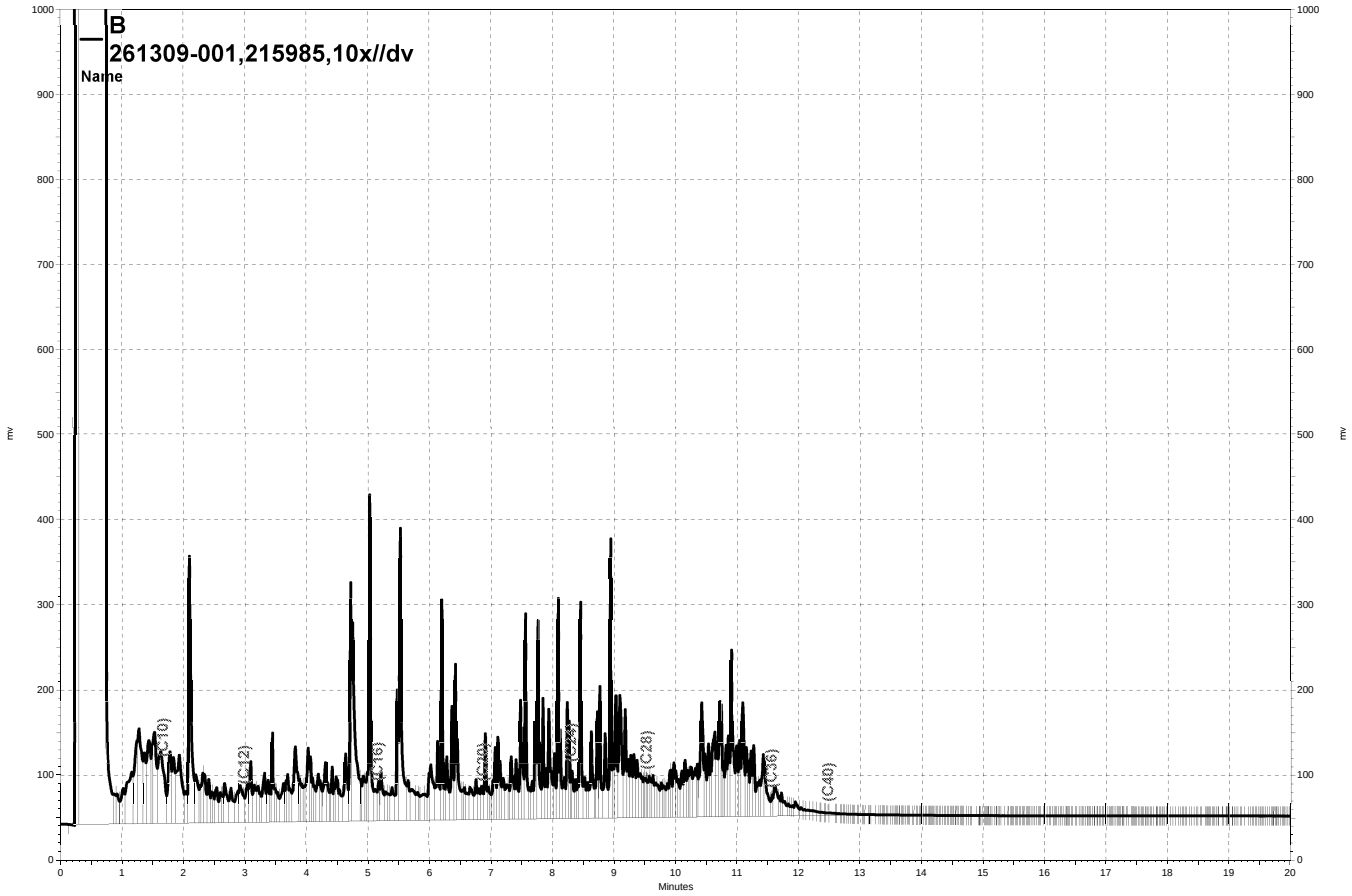
Surrogate	%REC	Limits
o-Terphenyl	105	66-129

Type: BSD Lab ID: QC760096

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,641	106	61-120	6	45

Surrogate	%REC	Limits
o-Terphenyl	111	66-129

RPD= Relative Percent Difference



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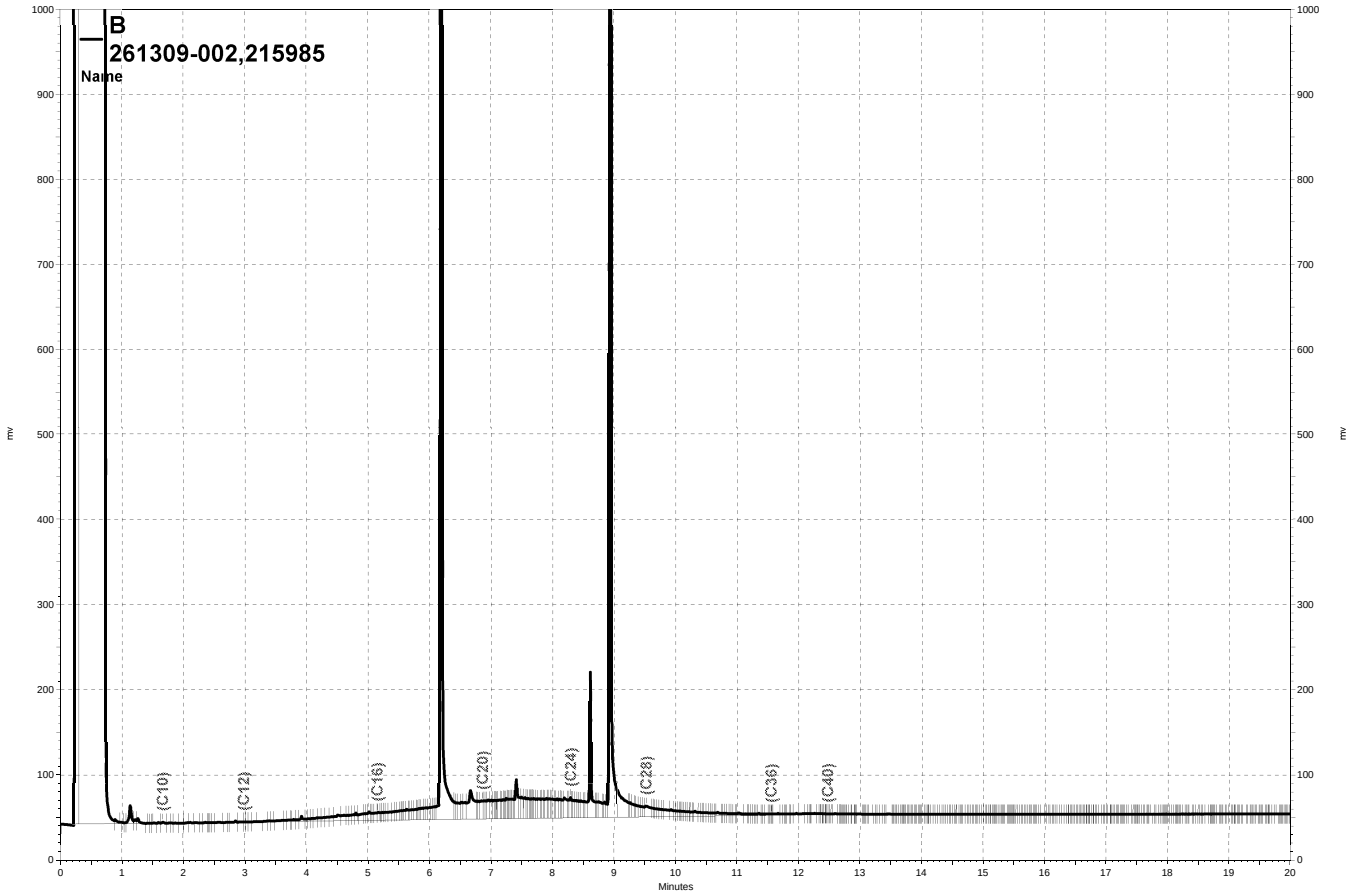

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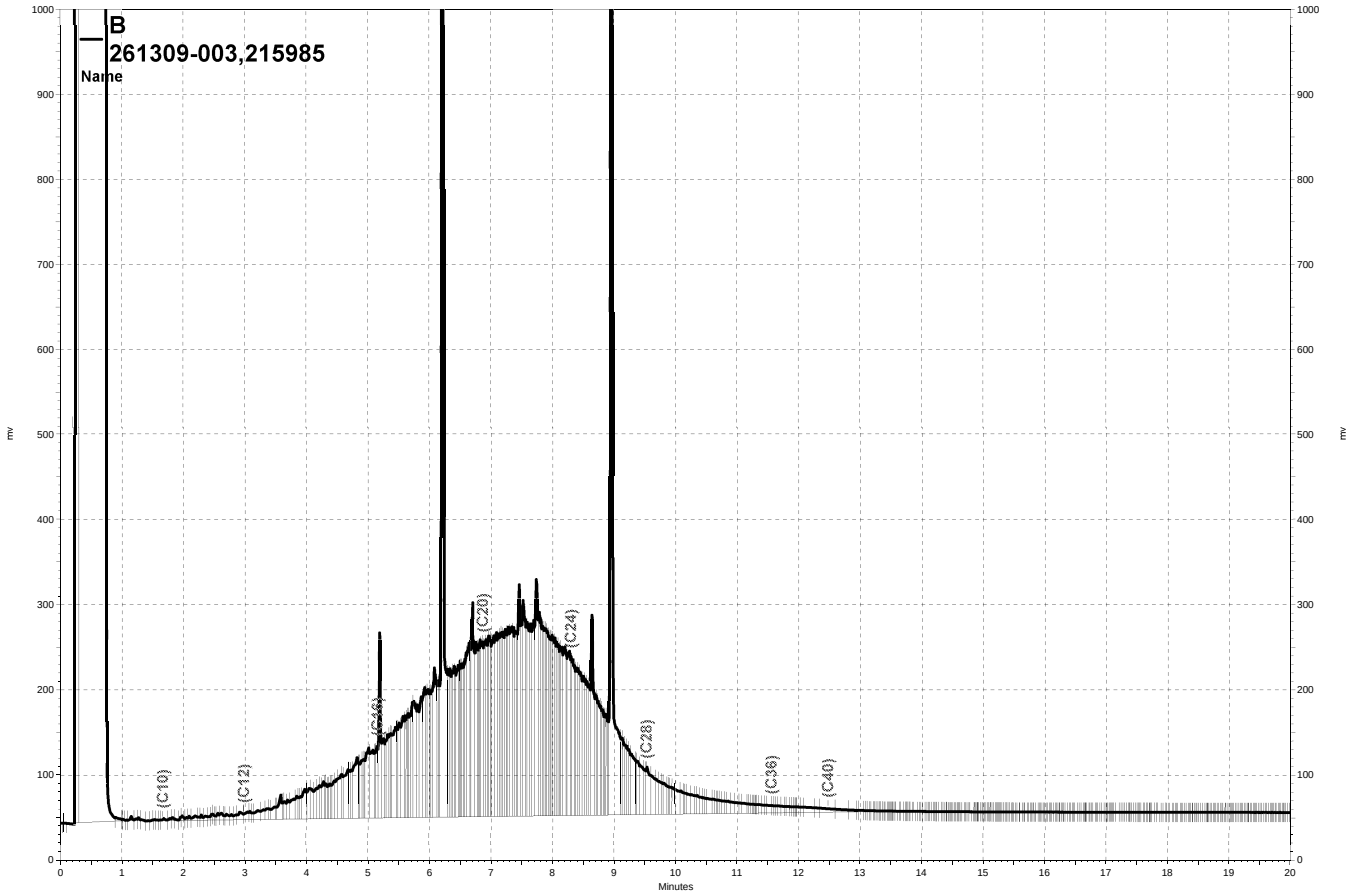

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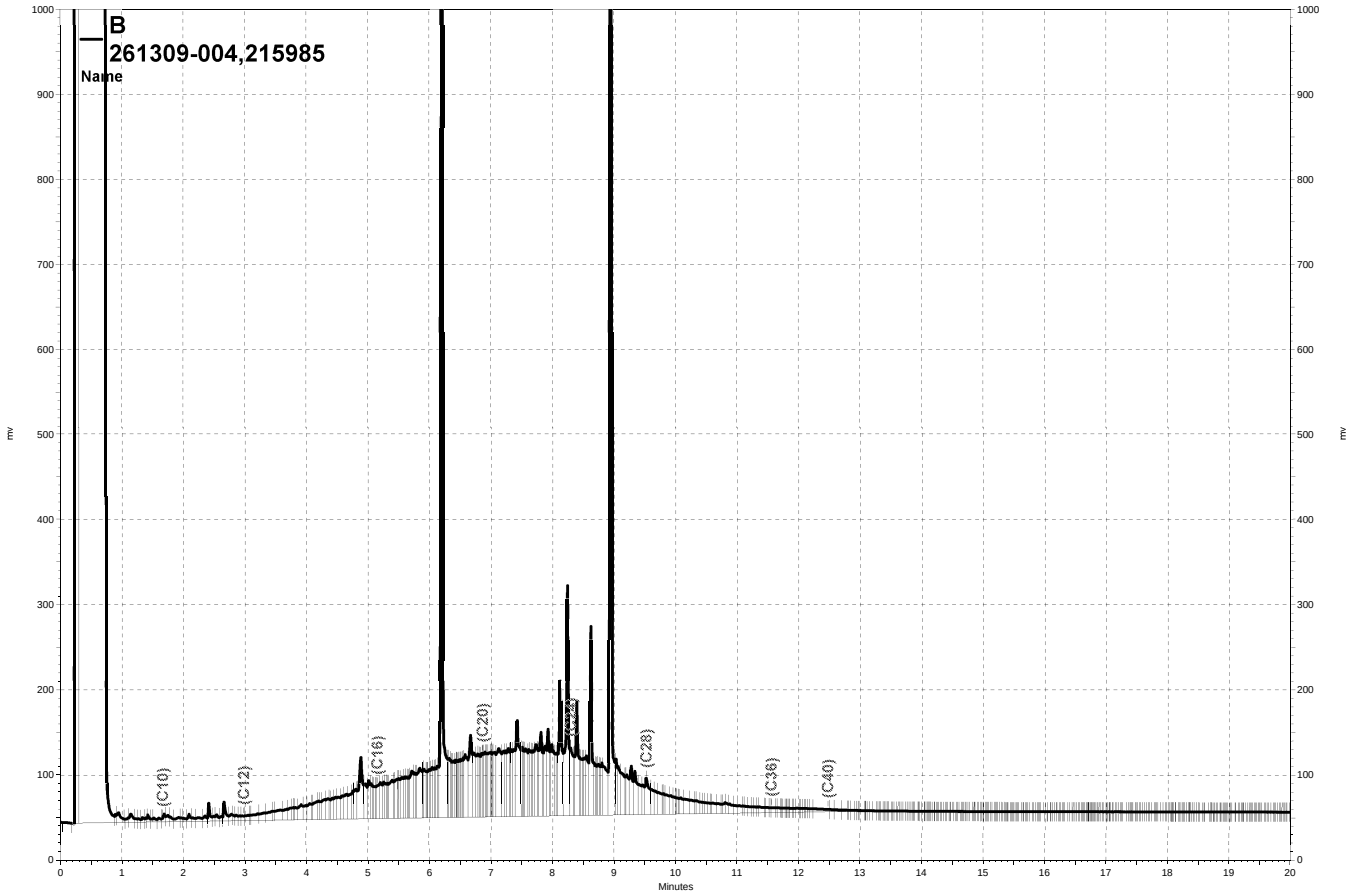

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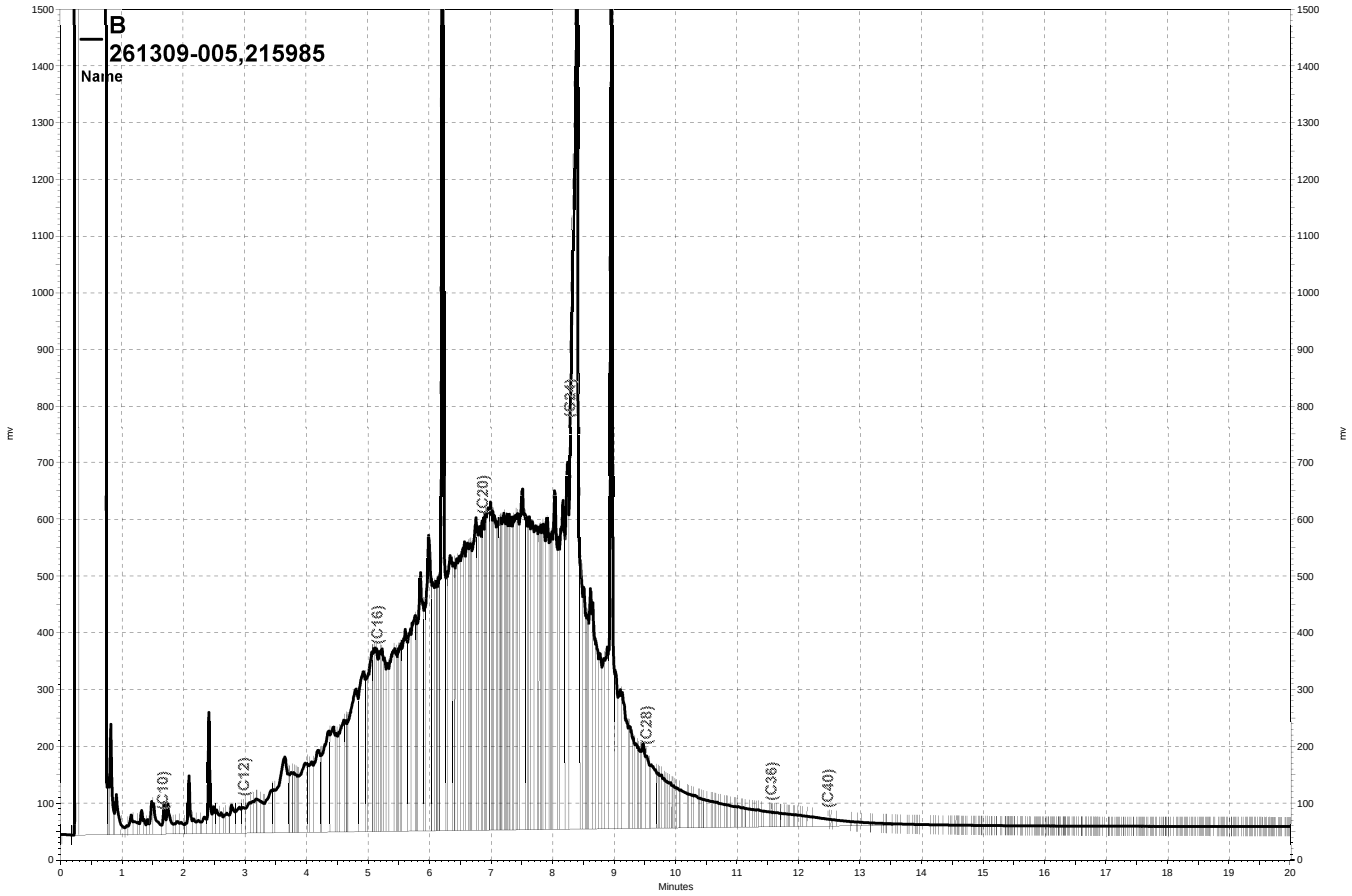

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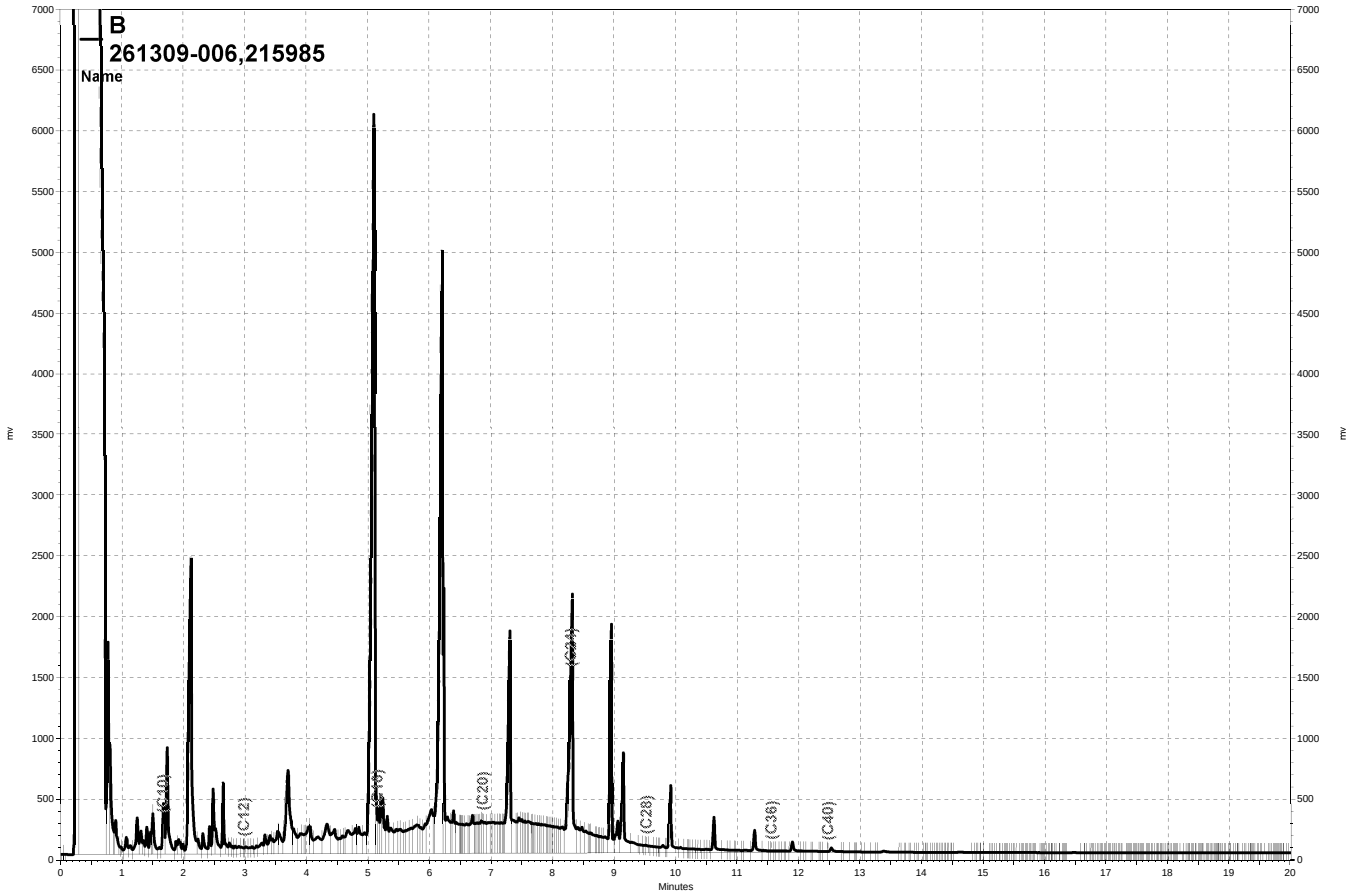

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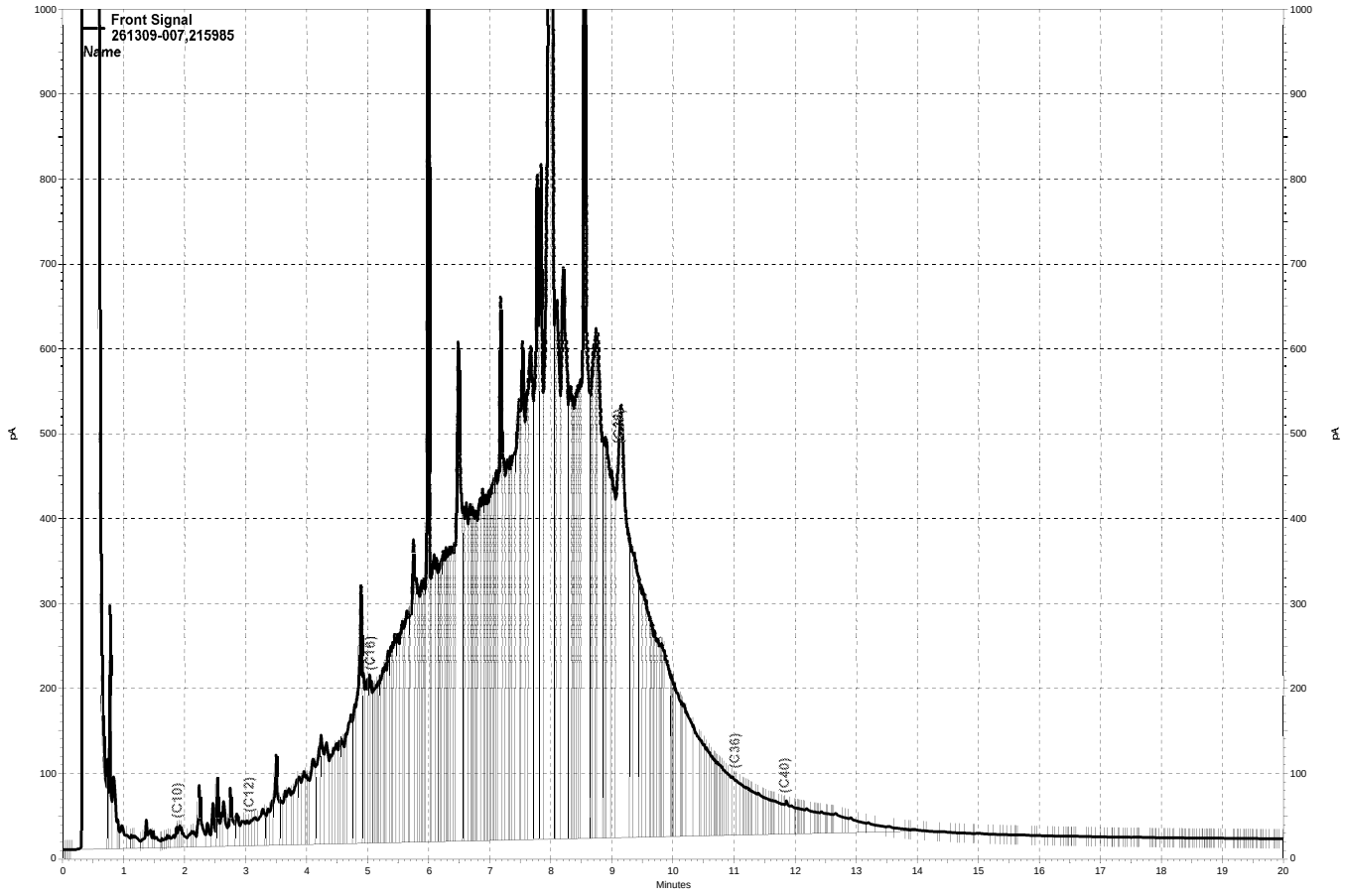

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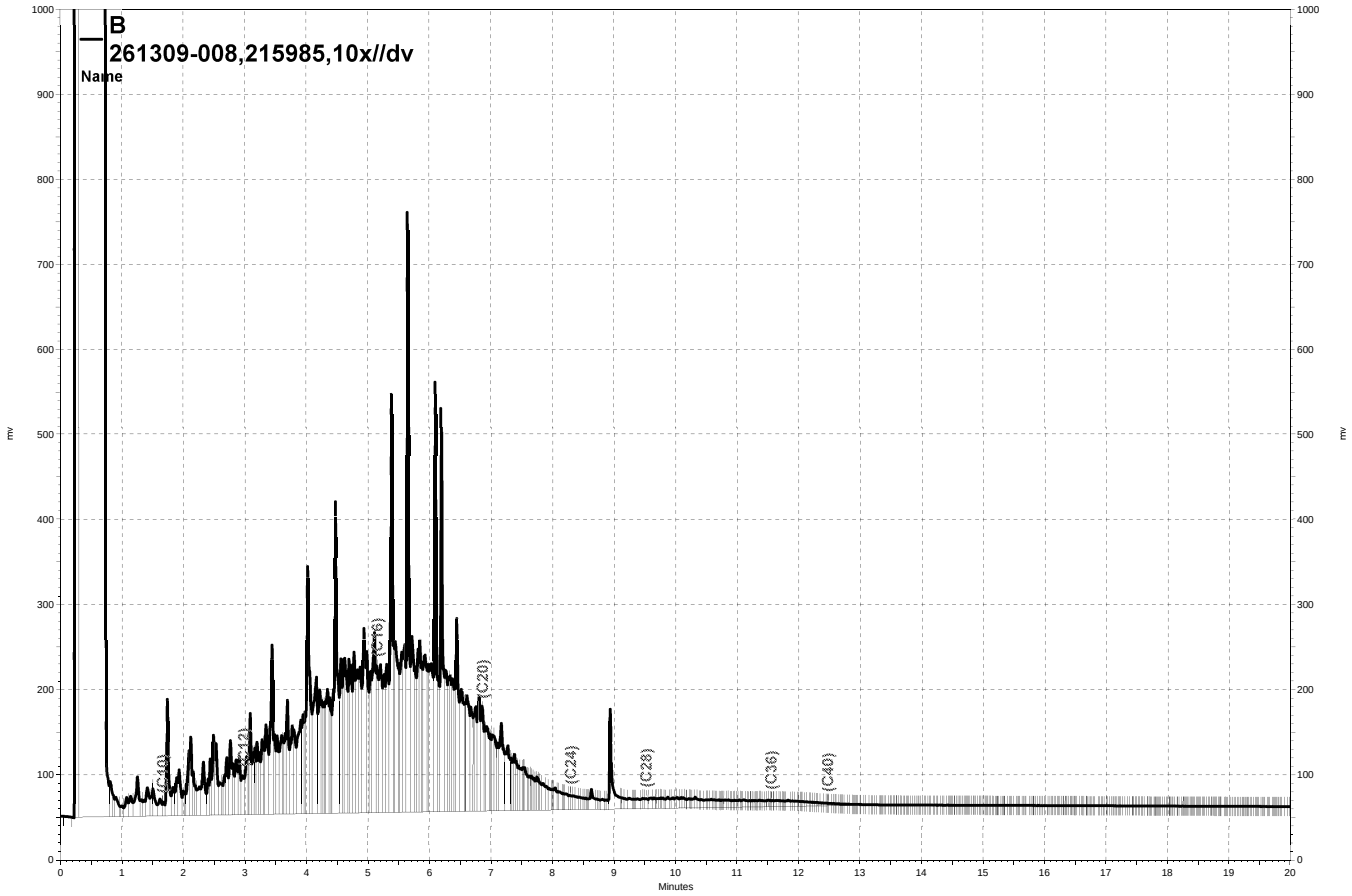

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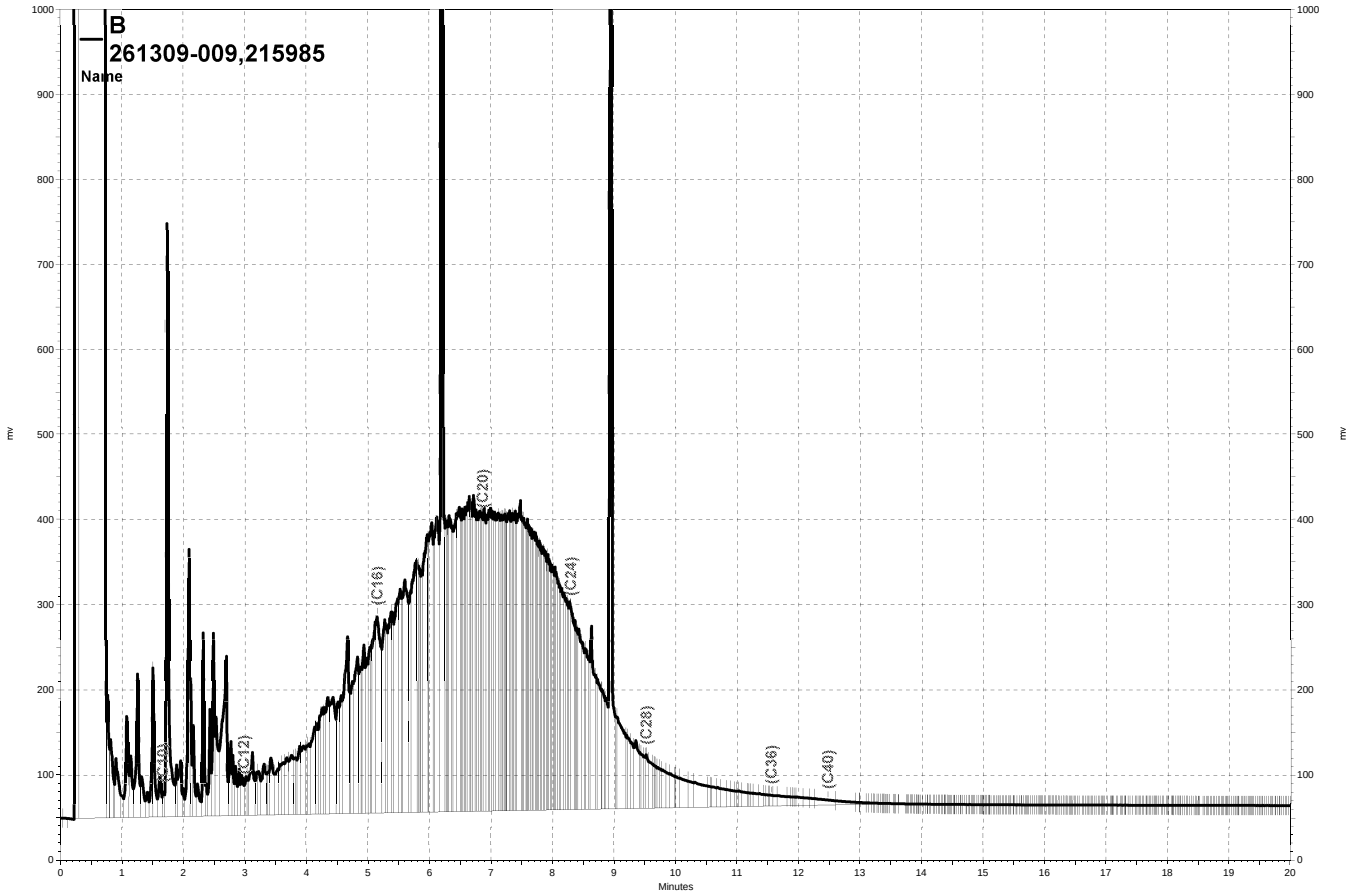

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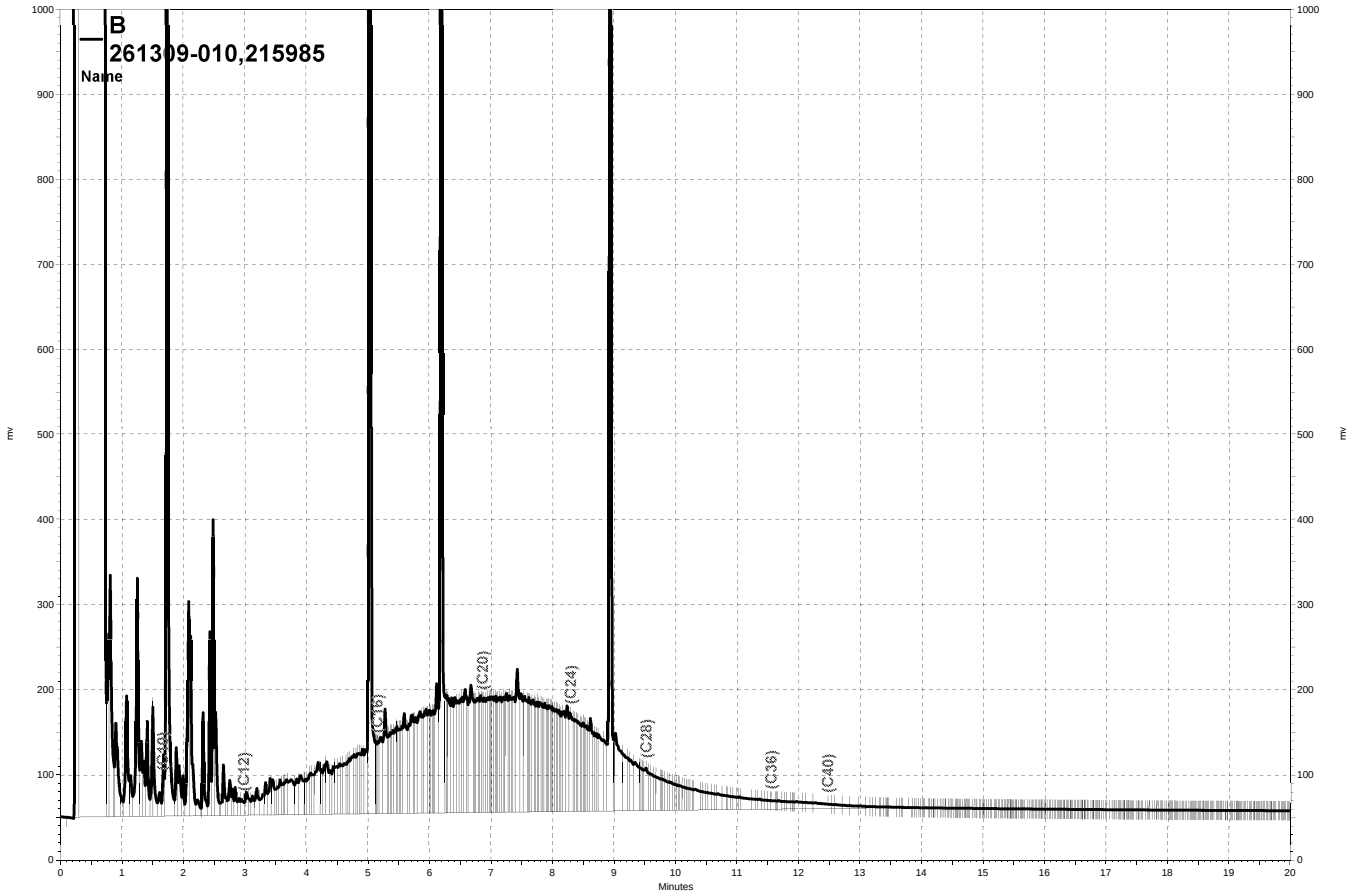

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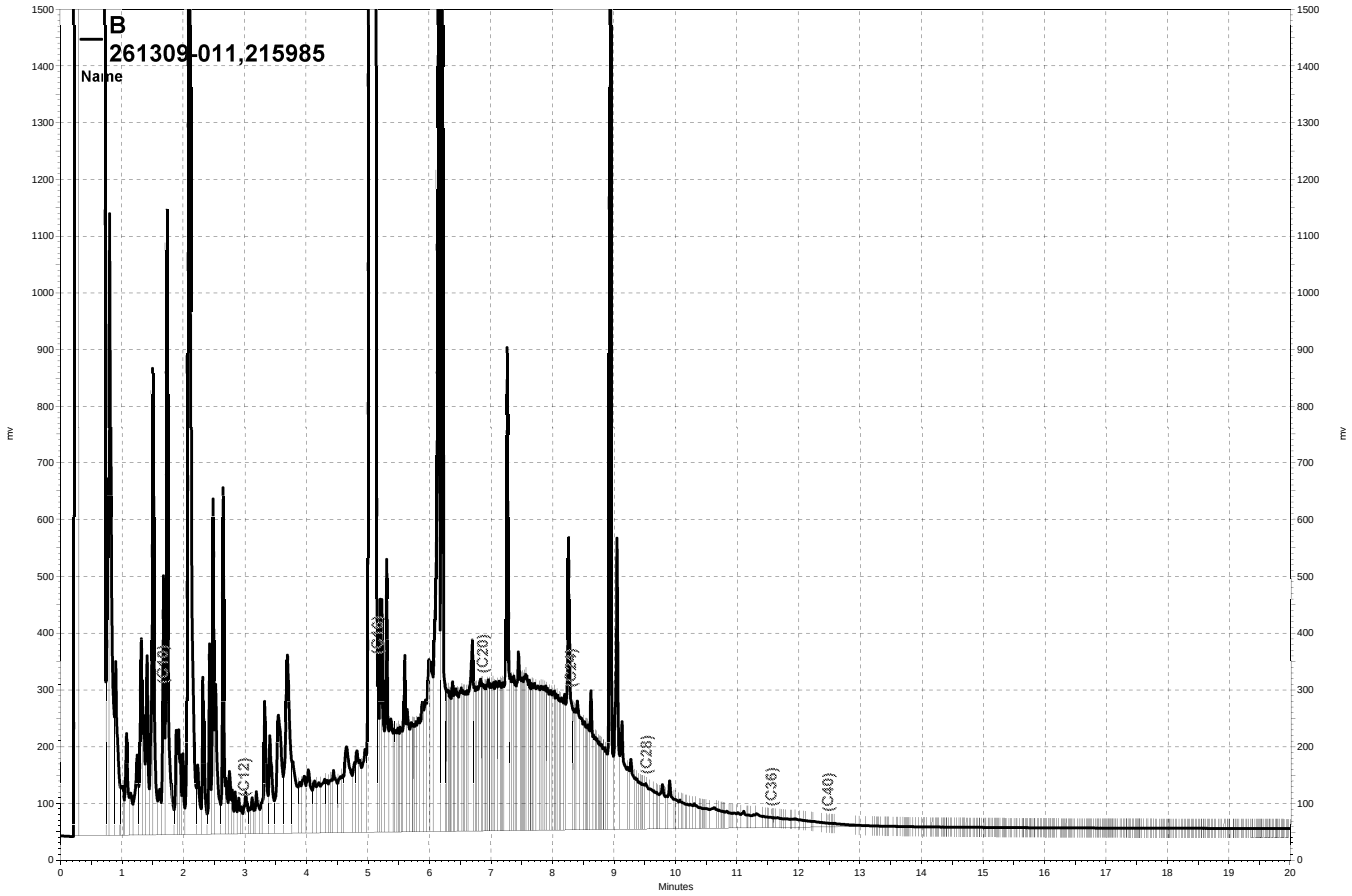

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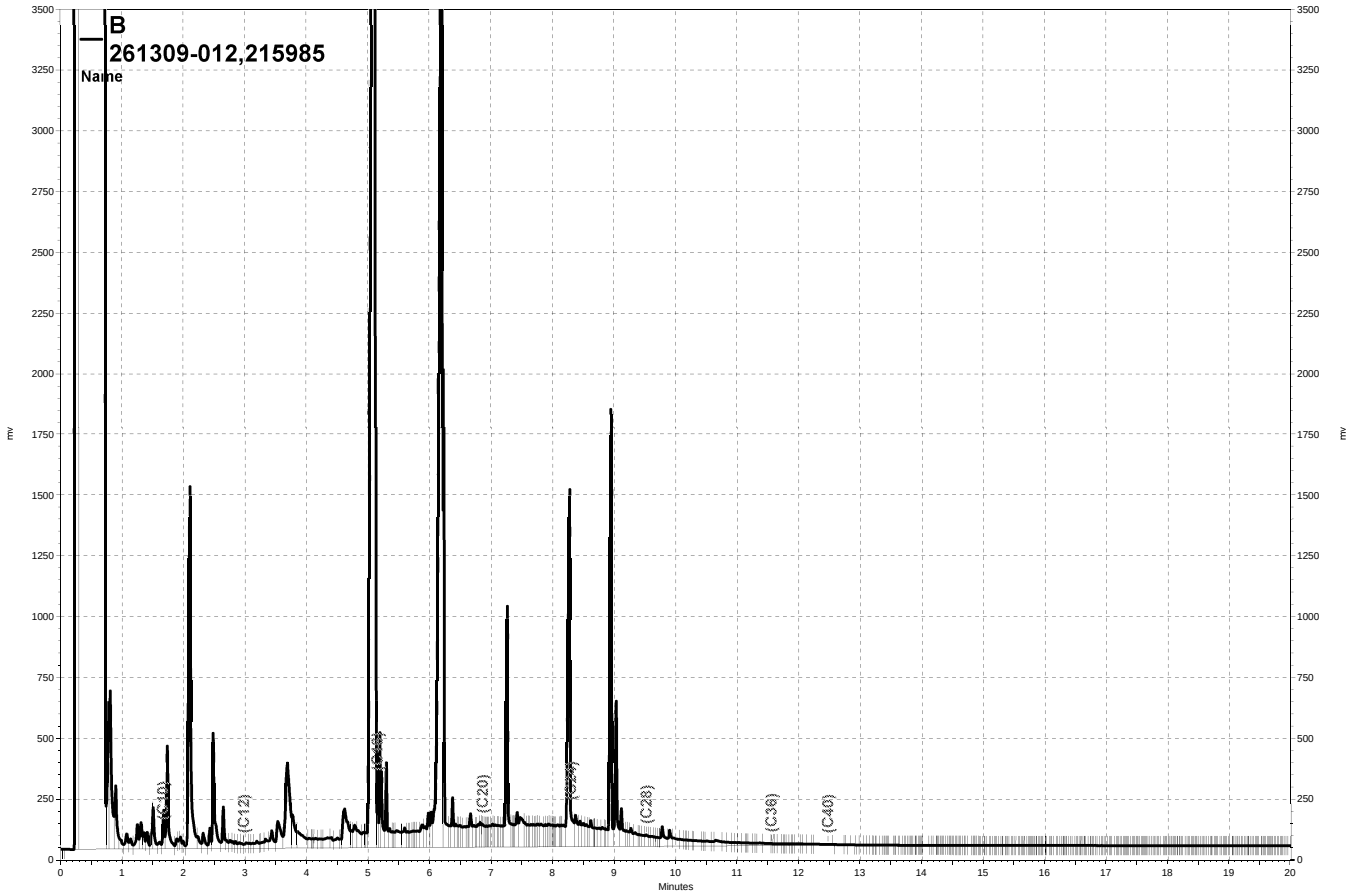

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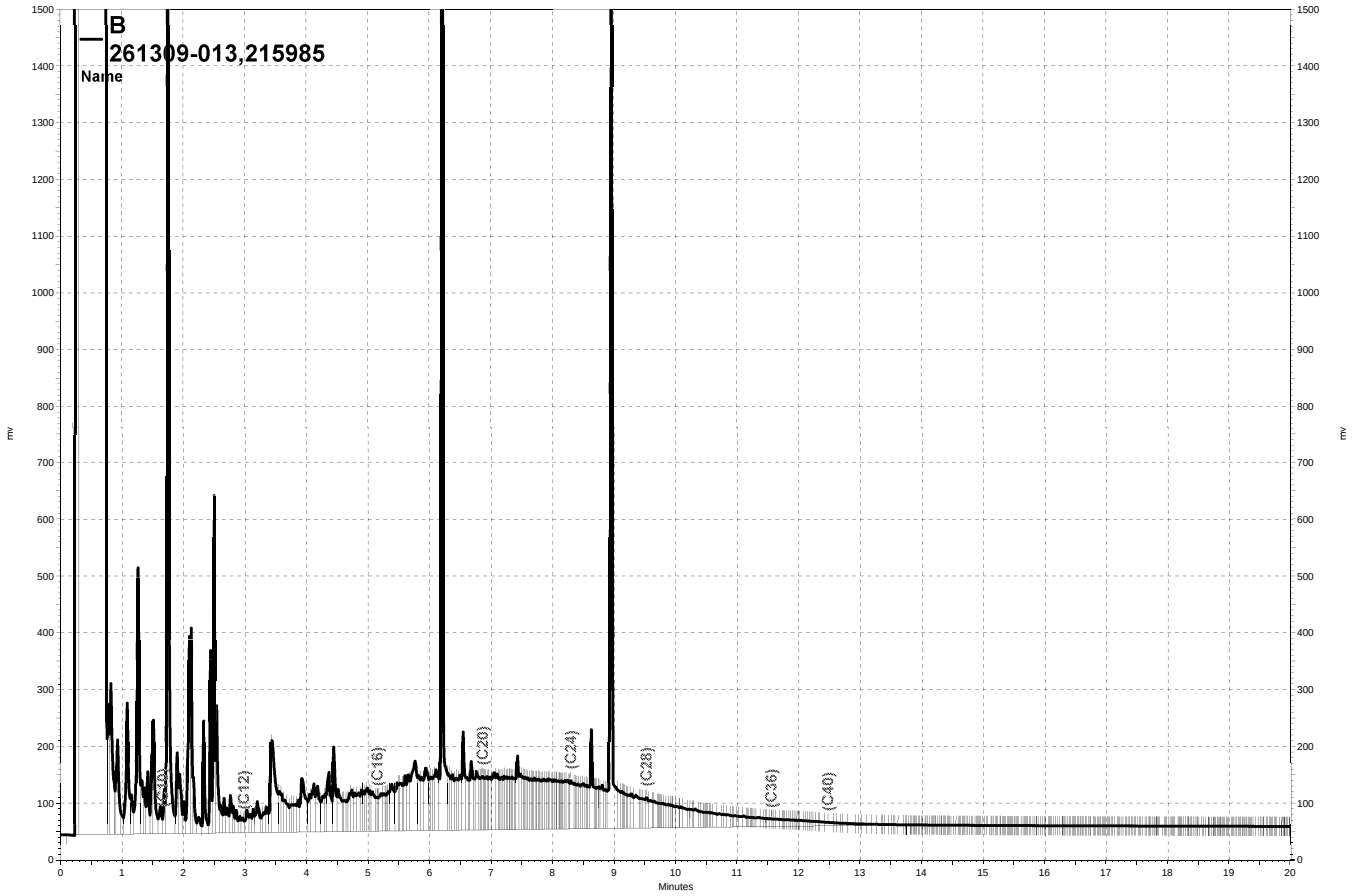

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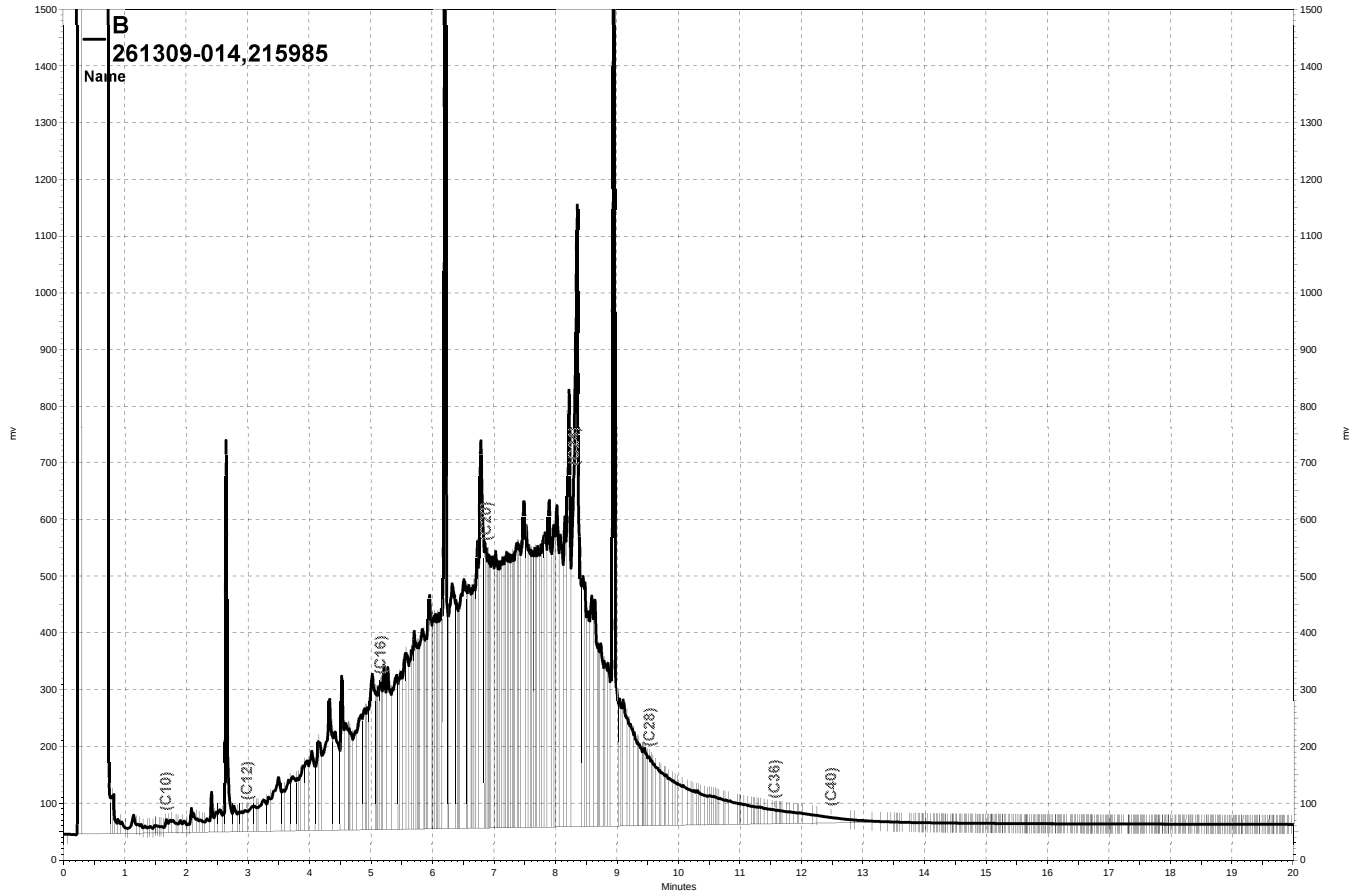

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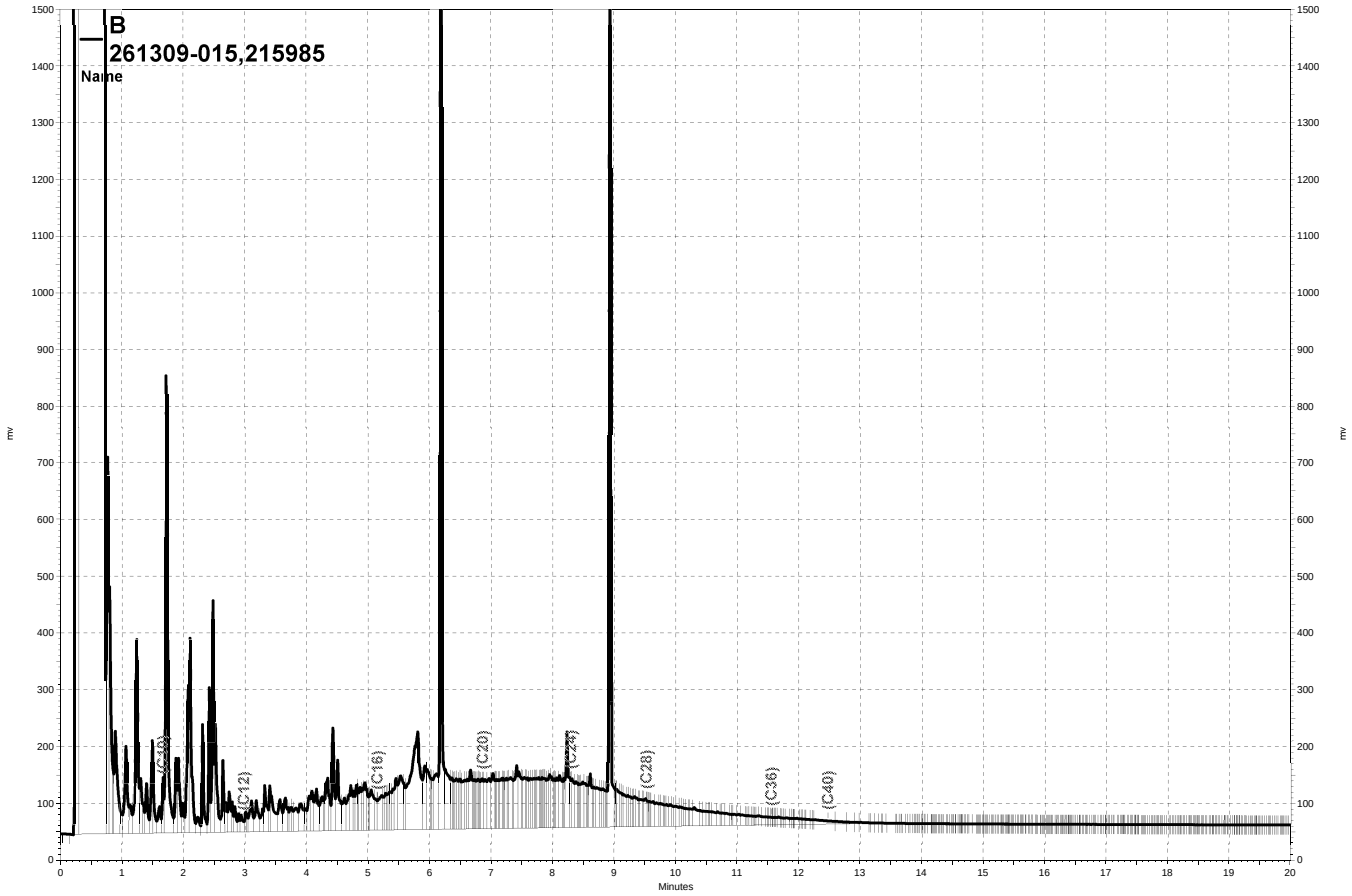

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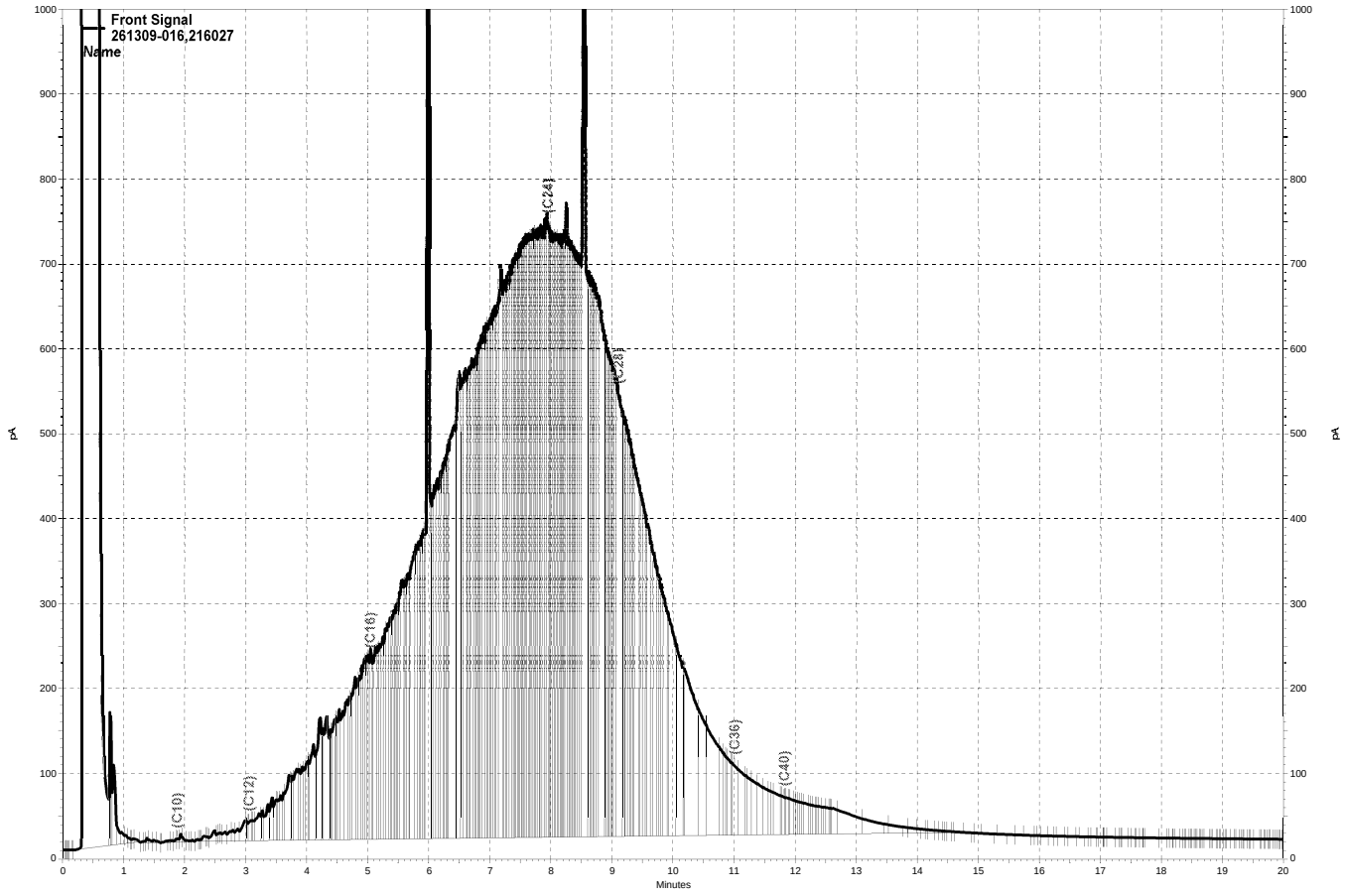

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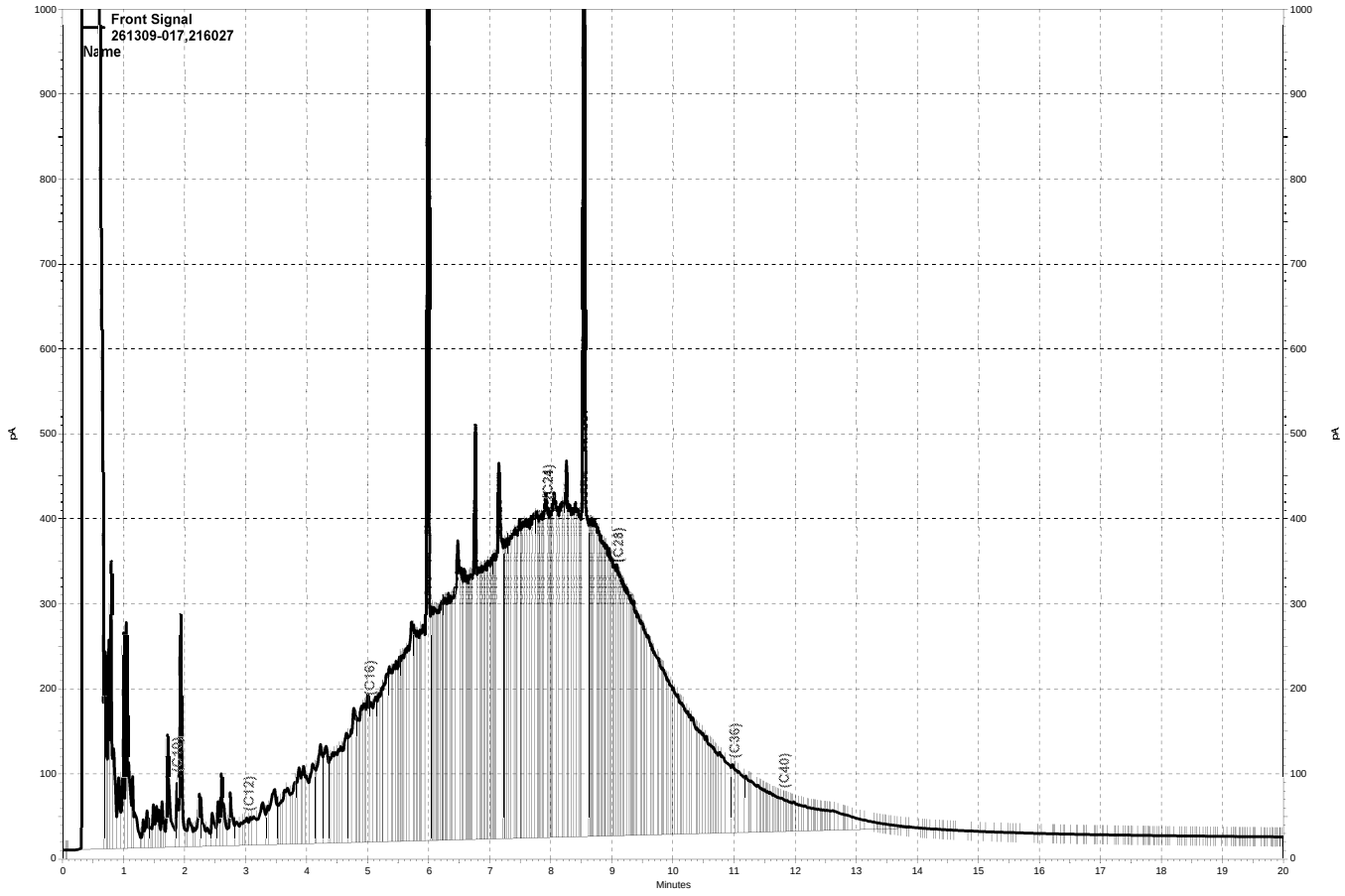

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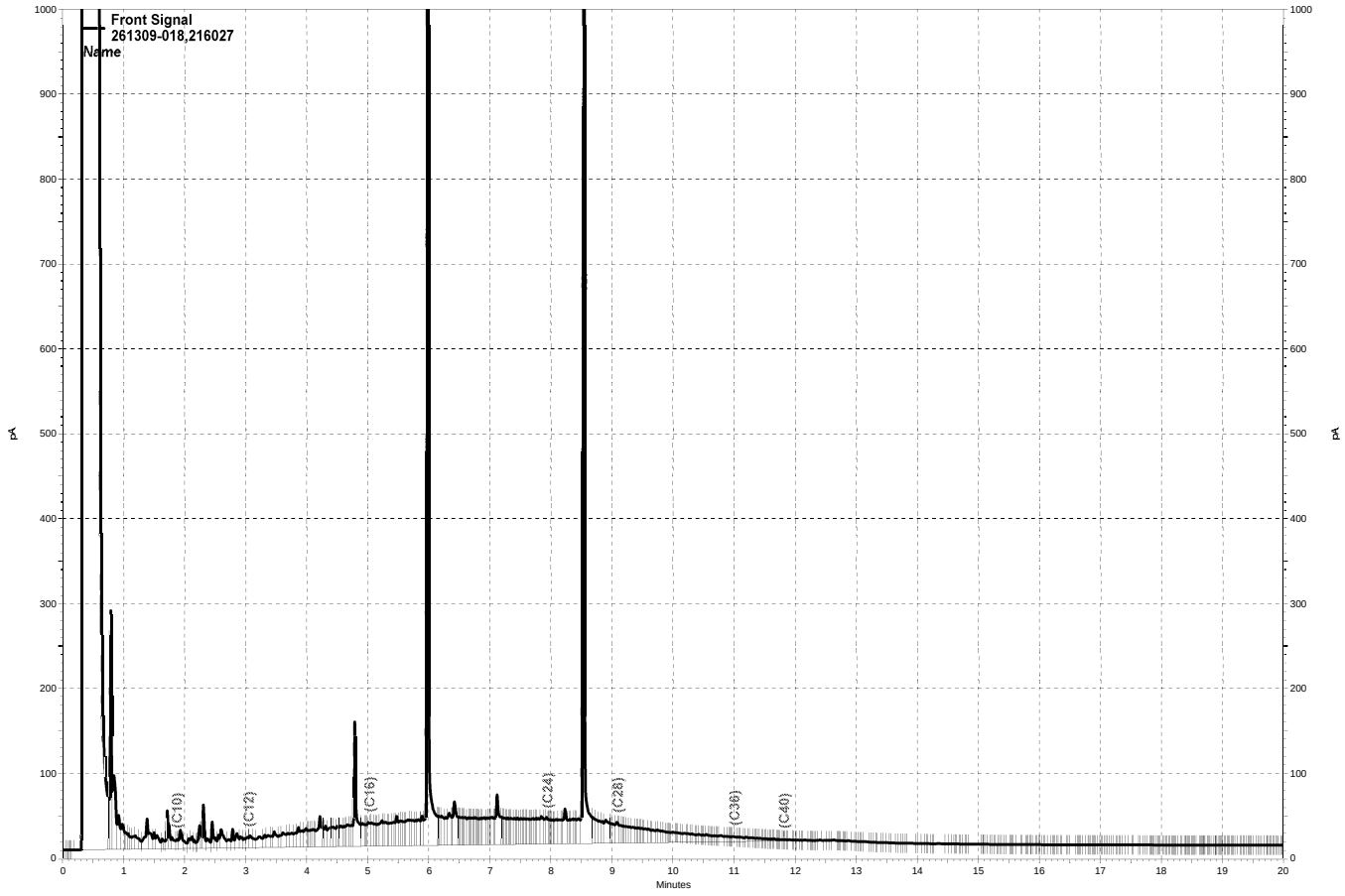

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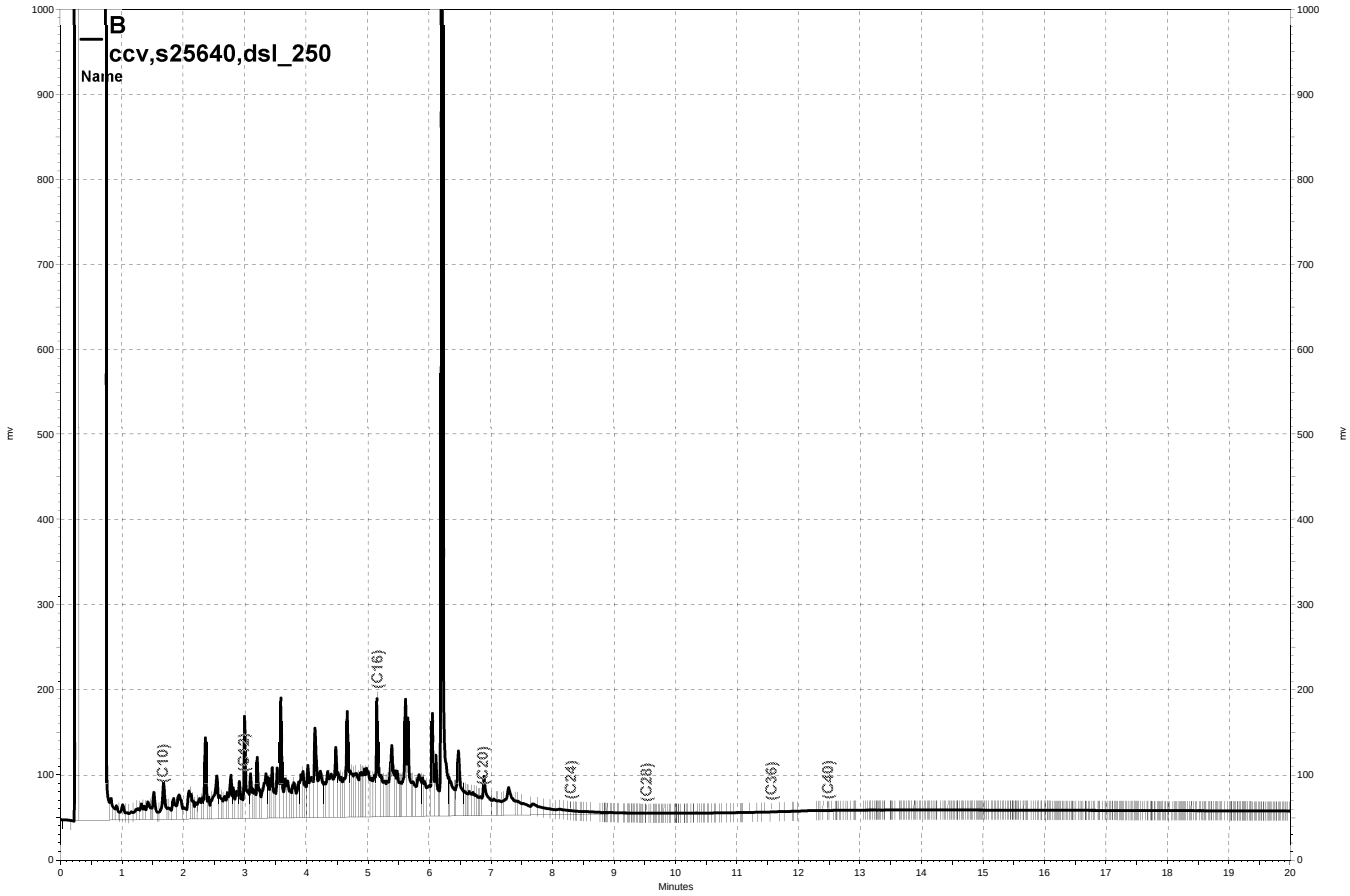

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APPENDIX D

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 [e]	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
11	Mar-09	16.65	7.94	NP	8.71
12	Sep-09	16.65	8.58	NP	8.07
13	Mar-10	16.65	8.08 [e]	8.08	8.57
14	Sep-10	16.65	8.68 [e]	8.68	7.97
15	Mar-11	16.65	10.40	NM	6.25
16	Sep-11	16.65	10.84	10.83	6.17
17	Mar-12	16.65	8.21	NM	8.44
18	Sep-12	16.65	10.77	NM	5.88
19	Mar-13	16.65	11.27	NM	5.38
20	Sep-13	16.65	11.50	NM	5.15
21	Mar-14	16.65	9.64	9.61	7.01
22	Sep-14	16.65	NM	10.85	NM

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
11	Mar-09	16.29	6.90	NP	9.39
12	Sep-09	16.29	7.40	NP	8.89
13	Mar-10	16.29	7.08	NP	9.21
14	Sep-10	16.29	7.08	NP	9.21
15	Mar-11	16.29	7.02	NP	9.27
16	Sep-11	16.29	7.83	NP	8.46
17	Mar-12	16.29	7.01	NP	9.28
18	Sep-12	16.29	7.82	NP	8.45
19	Mar-13	16.29	9.15	NP	7.14
20	Sep-13	16.29	8.00	NP	8.29
21	Mar-14	16.29	7.72	NP	8.57
22	Sep-14	16.29	8.23	NP	8.06

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
11	Mar-09	16.72	9.31	NP	7.41
12	Sep-09	16.72	9.79	NP	6.93
13	Mar-10	16.72	9.48	NP	7.24
14	Sep-10	16.72	9.90	NP	6.82
15	Mar-11	16.72	9.29	NP	7.43
16	Sep-11	16.72	9.77	NP	6.95
17	Mar-12	16.72	9.19	NP	7.53
18	Sep-12	16.72	9.70	NP	7.02
19	Mar-13	16.72	10.63	NP	6.09
19	Sep-13	16.72	10.20	NP	6.52
20	Mar-14	16.72	9.68	NP	7.04
21	Sep-14	16.72	9.73	NP	6.99

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
11	Mar-09	16.82	6.45	NP	10.37
12	Sep-09	16.82	8.05	NP	8.77
13	Mar-10	16.82	6.66	NP	10.16
14	Sep-10	16.82	7.98	NP	8.84
15	Mar-11	16.82	5.91	NP	10.91
16	Sep-11	16.82	7.66	NP	9.16
17	Mar-12	16.82	5.65	NP	11.17
18	Sep-12	16.82	7.51	NP	9.31
19	Mar-13	16.82	7.60	NP	9.22
20	Sep-13	16.82	5.65	NP	11.17
21	Mar-14	16.82	6.33	NP	10.49
22	Sep-14	16.82	8.13	NP	8.69

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
8	Mar-09	17.73	10.13	NP	7.60
9	Sep-09	17.73	10.61	NP	7.12
10	Mar-10	17.73	10.02	NP	7.71
11	Sep-10	17.73	10.59	NP	7.14
12	Mar-11	17.73	10.14	NP	7.59
13	Sep-11	17.73	10.58	NP	7.15
14	Mar-12	17.73	10.12	NP	7.61
15	Sep-12	17.73	10.50	NP	7.23
16	Mar-13	17.73	11.30	NP	6.43
17	Sep-13	17.73	5.50	NP	12.23
18	Mar-14	17.73	10.82	NP	6.91
19	Sep-14	17.73	10.61'	NP	7.02

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
8	Mar-09	17.84	9.62	8.89	8.22
9	Sep-09	17.84	8.55 [e]	8.55	9.29
10	Mar-10	17.84	9.02 [e]	9.02	8.82
11	Sep-10	17.84	9.75	9.89	7.95
12	Mar-11	17.84	8.89	8.99	8.85
13	Sep-11	17.84	9.87	9.55	7.97
14	Mar-12	17.84	9.29	9.01	8.55
15	Sep-12	17.84	9.25	8.46	8.59
16	Mar-13	17.84	9.95	9.59	7.89
17	Sep-13	17.84	10.32	10.28	7.52
18	Mar-14	17.84	10.22	10.28	7.62
19	Sep-14	17.84	9.91	9.85	7.93

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
8	Mar-09	17.84	9.37	NP	8.47
9	Sep-09	17.84	9.70	NP	8.14
10	Mar-10	17.84	9.46	NP	8.38
11	Sep-10	17.84	9.75	NP	8.09
12	Mar-11	17.84	9.52	NP	8.32
13	Sep-11	17.84	9.80	NP	8.04
14	Mar-12	17.84	9.54	NP	8.30
15	Sep-12	17.84	9.54	NP	8.30
16	Mar-13	17.84	10.08	NP	7.76
17	Sep-13	17.84	10.13	NP	7.71
18	Mar-14	17.84	10.01	NP	7.83
18	Sep-14	17.84	10.02	NP	7.82

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
8	Mar-09	17.83	9.25	8.54	9.25
9	Sep-09	17.83	8.63	8.52	9.20
10	Mar-10	17.83	10.30	8.58	7.53
11	Sep-10	17.83	8.76	8.82	9.01
12	Mar-11	17.83	8.15	8.14	9.68
13	Sep-11	17.83	8.83	8.78	9.00
14	Mar-12	17.83	7.89	7.75	9.94
15	Sep-12	17.83	7.48	7.40	10.35
16	Mar-13	17.83	10.30	9.33	7.53
17	Sep-13	17.83	10.02	9.65	7.81
18	Mar-14	17.83	9.92	9.65	7.91
19	Sep-14	17.83	9.74	9.36	8.09

MW-11					
Sampling Event No.	**Date**	**TOC Elevation**	**DTW**	**DTP**	**GW Elevation**
Installed May 2004					
1	Nov-06[d]	17.76[e]	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
7	Mar-09	17.76	10.20	NP	7.56
8	Sep-10	17.76	10.25	NP	7.51
9	Mar-10	17.76	10.23	NP	7.53
10	Sep-10	17.76	10.24	NP	7.52
11	Mar-11	17.76	10.10	NP	7.66
12	Sep-11	17.76	10.30	NP	7.46
13	Mar-12	17.76	10.18	NP	7.58
14	Sep-12	17.76	10.24	NP	7.52
15	Mar-13	17.76	10.62	NP	7.14
16	Sep-13	17.76	10.21	NP	7.55
17	Mar-14	17.76	10.33	NP	7.43

MW-12					
Sampling Event No.	**Date**	**TOC Elevation**	**DTW**	**DTP**	**GW Elevation**
Installed between 2004-2006					
1	Nov-06[d]	17.83[e]	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
7	Mar-09	17.83	8.50	NP	9.33
8	Sep-09	17.83	8.95	NP	8.88
9	Mar-10	17.83	8.66	NP	9.17
10	Sep-10	17.83	8.89	NP	8.94
11	Mar-11	17.83	8.18	NP	9.65
12	Sep-11	17.83	8.80	NP	9.03
13	Mar-12	17.83	7.79	NP	10.04
14	Sep-12	17.83	7.44	NP	10.39
15	Mar-13	17.83	9.39	NP	8.44
16	Sep-13	17.83	9.72	NP	8.11
17	Mar-14	17.83	9.55	NP	8.26
18	Sep-14	17.83	9.46	NP	8.37

MW-13					
Sampling Event No.	**Date**	**TOC Elevation**	**DTW**	**DTP**	**GW Elevation**
Installed between 2004-2006					
1	Dec-06	17.66[e]	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
7	Mar-09	17.66	9.26	9.14	8.40
8	Sep-09	17.66	9.91[e]	9.72	7.75
9	Mar-10	17.66	9.22[e]	9.22	8.44
10	Sep-10	17.66	9.40	10.18	7.48
11	Mar-11	17.66	9.90	NM	NM
12	Sep-11	17.66	10.41	9.64	7.25
13	Mar-12	17.66	10.09	9.02	7.57
14	Sep-12	17.66	9.54	9.23	8.12
15	Mar-13	17.66	9.36	9.35	8.30
16	Sep-13	17.66	9.48	9.45	8.18
17	Mar-14	17.66	9.58	9.45	8.08
18	Sep-14	17.66	8.89	8.87	8.77

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
7	Mar-09	17.60	9.25	NP	9.25
8	Sep-09	17.60	8.80	NP	8.80
9	Mar-10	17.60	8.42	NP	9.18
10	Sep-10	17.60	8.56	8.62	8.98
11	Mar-11	17.60	7.93	7.92	9.67
12	Sep-11	17.60	8.60	8.55	9.00
13	Mar-12	17.60	7.71	7.61	9.89
14	Sep-12	17.60	7.22	7.20	10.38
15	Mar-13	17.60	9.18	9.17	8.42
16	Sep-13	17.60	9.49	9.47	8.11
18	Mar-14	17.60	9.48	9.47	8.12
19	Mar-14	17.60	9.16	NP	8.44

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
7	Mar-09	17.80	8.70	NP	9.10
8	Sep-09	17.80	9.40 [e]	9.22	8.08
9	Mar-10	17.80	8.81 [e]	8.81	8.99
10	Sep-10	17.80	9.42	9.45	8.35
11	Mar-11	17.80	8.50	NM	9.30
12	Sep-11	17.80	9.32	NP	8.48
13	Mar-12	17.80	8.55	NP	9.25
14	Sep-12	17.80	8.03	NP	9.77
15	Mar-13	17.80	9.45	NP	8.35
16	Sep-13	17.80	10.01	NP	7.79
17	Mar-14	17.80	10.18	NP	7.62
18	Sep-14	17.80	9.74	NP	8.06

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
7	Mar-09	17.74	8.88	NP	8.86
8	Sep-09	17.74	9.51	NP	8.23
9	Mar-10	17.74	8.92	NP	8.82
10	Sep-10	17.74	9.40	NP	8.34
11	Mar-11	17.74	9.16	NP	8.57
12	Sep-11	17.74	9.56	NP	8.18
13	Mar-12	17.74	9.38	NP	8.36
14	Sep-12	17.74	9.15	NP	8.59
15	Mar-13	17.74	9.60	NP	8.14
16	Sep-13	17.74	10.03	NP	7.71
17	Mar-14	17.74	9.81	NP	7.93
18	Sep-14	17.74	9.80	NP	7.94

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
7	Mar-09	18.17	8.89	NP	9.28
8	Sep-09	18.17	9.31	NP	8.86
9	Mar-10	18.17	8.93	NP	9.24
10	Sep-10	18.17	9.15	NP	9.02
11	Mar-11	18.17	8.52	8.50	9.65
12	Sep-11	18.17	9.15	NP	9.02
13	Mar-12	18.17	8.17	NP	10.00
14	Sep-12	18.17	7.77	NP	10.40
15	Mar-13	18.17	9.17	NP	9.00
16	Sep-13	18.17	10.00	NP	8.17
17	Mar-14	18.17	10.00	NP	8.17
18	Sep-14	18.17	9.72	NP	8.45

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
7	Mar-09	16.35	7.75	NP	8.60
8	Sep-09	16.35	8.50	NP	7.85
9	Mar-10	16.35	7.97	NP	8.38
10	Sep-10	16.35	8.28	NP	8.07
11	Mar-11	16.35	8.63	NP	7.72
12	Sep-11	16.35	8.90	NP	7.45
13	Mar-12	16.35	8.56	NP	7.79
14	Sep-12	16.35	8.59	NP	7.76
15	Mar-13	16.35	9.92	NP	6.43
16	Sep-13	16.35	9.81	NP	6.54
17	Mar-14	16.35	9.19	NP	7.16
18	Sep-14	16.35	9.56	NP	6.79

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
11	Mar-09	17.47	9.79	NP	7.68
12	Sep-09	17.47	10.22	NP	7.25
13	Mar-10	17.47	9.82	NP	7.65
14	Sep-10	17.47	10.11	NP	7.36
15	Mar-11	17.47	9.10	NP	8.37
16	Sep-11	17.47	8.41	NP	9.06
17	Mar-12	17.47	9.86	NP	7.61
18	Sep-12	17.47	9.95	NP	7.52
19	Mar-13	17.47	10.41	NP	7.06
20	Sep-13	17.47	10.21	NP	7.26
21	Mar-14	17.47	10.15	NP	7.32
22	Sep-14	17.47	9.98	NP	7.49

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	NM	NM
11	Mar-09	16.70	9.06 [e]	9.06	7.64
12	Sep-09	16.70	9.45 [e]	9.45	7.25
13	Mar-10	16.70	8.93 [e]	8.93	7.77
14	Sep-10	16.70	9.50	9.65	7.05
15	Mar-11	16.70	9.05	9.04	7.65
16	Sep-11	16.70	9.75	9.74	6.95
17	Mar-12	16.70	9.33	NP	7.35
18	Sep-12	16.70	NM	9.69	NM
19	Mar-13	16.70	NM	9.99	NM
20	Sep-13	16.70	11.60	9.99	5.10
21	Mar-14	16.70	9.13	9.99	7.57
22	Sep-14	16.70	11.10	11.09	5.60

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/Could Not Measure

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

	Well or Trench Location																											
Extraction Date	**MW-3**	**MW-4**	**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**	**Total Extracted**
Apr-04	---	---	---	---	---	1.00	---	1.00	---	---	---	---	---	---	---	---	---	19.75	---	---	---	---	---	---	---	---	---	21.75
May-04	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	22.5	---	---	---	---	---	---	---	---	---	22.50
Sep-04	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.74	---	---	---	---	---	---	---	---	---	0.74
Oct-04	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5.22	---	---	---	---	---	---	---	---	---	0.00
2004 Total																												**44.99**
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	0.09	1.37
Dec-08	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0003	0.08	---	---	---	---	0.03	---	---	0.11
2008 Total																												**14.99**
Mar-09	0.279	---	---	---	---	0.378	---	0.369	---	0.261	0.007	0.023	0.117	---	0.342	---	0.023	1.800	0.750	0.950	1.010	0.153	0.153	0.153	0.653	0.153	0.153	7.73
Jun-09	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.5	---	---	---	---	---	---	---	---	0.50
Sep-09	0.286	---	---	---	0.022	0.418	---	0.176	0.308	0.176	0.088	0.007	0.176	0.088	0.176	0.022	0.066	7.15	1.4	1.1	1.2	1.1	1.1	1.1	1.1	1.1	1.1	19.46
Dec-09	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0	0.9	0.06	---	---	---	0	---	---	0.96
2009 Total																												**28.65**
Mar-10	0.14	---	---	---	0.01	0.18	0.02	0.60	---	0.60	0.03	0.10	0.69	0.04	0.30	0.02	---	8.00	1.30	1.00	1.00	0.50	1.00	0.50	1.00	1.00	1.00	19.03
Jun-10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.75	---	---	---	---	---	---	---	0.75
Sep-10	0.3	0.2	0.4	0.5	0.01	0.5	0.01	0.5	---	1.6	0.02	0.01	1.5	0.02	1.0	0.02	0.1	6.9	1.00	1.00	1.00	0.3	0.3	0.4	1.00	0.5	0.5	19.59
Dec-10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.10	0.00	0.05	---	---	---	0.00	---	---	0.15
2010 Total																												**39.52**
Mar-11	---	---	---	---	---	0.002	---	0.002	---	---	---	0.002	---	---	0.003	---	---	0.002	0.06	0.06	0.02	---	---	---	0	---	---	0.15
Sep-11	0.2	--	--	--	--	0.3	--	--	--	--	0.2	--	--	0.1	--	--	--	0.5	--	0.45	0.25	0.1	0.1	0.1	--	0.1	0.1	2.50
2011 Total																												**2.65**
Mar-12	0.015	--	--	--	--	0.015	--	--	--	--	0.06	--	--	--	0.01	--	--	0.06	0.13	0.03	0.015	--	0.01	--	--	0.015	0.015	0.375
Sep-12	--	--	--	--	--	0.03	--	0.023	--	--	0.08	--	--	--	--	--	0.015	0.06	0.045	0.08	0.09	--	--	--	--	--	--	0.423
2012 Total																												**0.798**
Mar-13	0.06	--	--	--	--	0.08	--	0.015	--	--	0.08	--	--	--	--	--	0.01	0.06	0.05	0.12	0.07	--	--	--	0.03	0.03	0.03	0.635
Sep-13	0.06	--	--	--	--	0.02	--	0.05	--	--	--	--	--	--	--	--	0.02	0.06	0.02	0.02	0.02	--	--	--	0.01	0.02	0.02	0.320
2013 Total																												**0.955**
Mar-14	0.08	--	--	--	--	--	--	0.023	--	--	--	--	--	0.015	--	--	0.01	0.09	0.03	0.03	0.015	--	--	--	0.015	0.015	0.015	0.338
Sep-14	--	--	--	--	--	--	--	0.031	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.031
2014 Total																												**0.369**
Total Extracted	**1.74**	**0.20**	**0.45**	**0.52**	**0.04**	**3.75**	**0.03**	**4.61**	**0.33**	**2.83**	**1.81**	**0.66**	**2.70**	**0.28**	**2.03**	**0.07**	**0.26**	**76.84**	**22.03**	**25.96**	**28.80**	**2.55**	**3.08**	**2.37**	**4.83**	**3.08**	**3.08**	**194.91**

Note:
All free product quantities presented in gallons

APPENDIX F

Groundwater Disposal Documentation

EnviroClean MSDS

BILL OF LADING/MANIFEST

1. Shipper's US EPA ID No. (If Applicable): CAL000374148
Document No.: 21882
2. Page 1 of 1

SHIPPER

3. Shipper's Name and Mailing Address
Bay Center Apartments
6400 Christie Ave
Emeryville CA 94608-1009

4. Shipper's Phone (510-)594-2050

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
SAFETY-KLEEN SYSTEMS, INC.	TXR000078063	972-265-2000
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone

9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
SE2605 SEAPORT REFINING & ENVIRONMENTAL, LLC 700 SEAPORT BLVD. REDWOOD CITY CA 94063	CAL000311135	650-364-1024

11. Shipping Name and Description	HM	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol
a. NON-REGULATED LIQUID (VAC-OIL, WATER, SLUDGE) (NOT USDOT/NOT USEPA REGULATED) (NOT CA REGULATED)		001	TT	01050	G
b.					
c.					
d.					

15. Special Handling Instruction and Additional Information

SK SHIP# 214621882 BA28005

24 HR EMERGENCY #1-800-468-1760 (SAFETY-KLEEN)
SK AUTHORIZED TO RETAIN LICENSED SUBSEQUENT CARRIERS AS NECESSARY

DOT/PRFL A. 3299/156097 B. C. D.
A) NONE B) C) D)

USE 16A OR 16B

16a. US DOT HAZARDOUS MATERIALS SHIPPER'S CERTIFICATION: "This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Printed/Typed Name: Steve Bittman | Signature required here if US DOT regulated | Month Day Year

16b. NON-REGULATED SHIPPER'S CERTIFICATION: I certify the materials described above on this form are not subject to federal regulations for Transportation or Disposal.

Printed/Typed Name: Steve Bittman | Sign here if material is not DOT regulated | Month: 11 Day: 07 Year: 14

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: CRAIG [illegible] | Signature | Month: 11 Day: 07 Year: 14

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of materials covered by this form except as noted in Item 19.

Printed/Typed Name | Signature | Month Day Year

24 HR EMERGENCY # 800-468-1760
(SAFETY-KLEEN-CONTRACT #94138)

GENERATOR'S COPY

FORM NO. 01-90291 (04/11)

EnviroClean
Degassing/Hydrocarbon Removal/Remediation Chemistry

Contents

PHYSICAL PROPERTIES

Product Name	EnviroClean
Physical Form	Clear Liquid
Color	Colorless unless dyed
Specific Gravity (Water = 1)	1.028 +/- .01
Solubility in Water	100%
Freezing/Melting Point	NE
Flash Point (^{0}F)	>200^0 F
pH	8.5 +/- .25
Reportable Quantity (RQ)	None

Complete information on health hazards, protective equipment, handling precautions, environmental hazards and disposal is listed in the current EnviroClean Material Safety Data Sheet (MSDS) for this product.

SUMMARY

EnviroClean is a non-flammable, non-toxic, water-based, proprietary blend of non-ionic ethoxylated octylphenolic surfactants that has been specifically engineered as a cleanup/mitigation agent for a wide range of hydrocarbon products. EnviroClean has been shown to be effective for quickly and effectively suppressing or completely eliminating VOCs, LEL's, benzene and low levels of H_2S and mercaptans in open or confined spaces.

EnviroClean has been used for cleanup of hydrocarbon spills and soil remediation. In these applications, EnviroClean effectively conditions (physically) the hydrocarbon such that the microbes that naturally occur can more readily consume it. It turns hydrocarbons into a nutrient source for the microbes. When sufficiently mixed with hydrocarbon and water, the EnviroClean forms a homogeneous solution of hydrocarbon, EnviroClean and water, which is very stable.

EnviroClean is a concentrated product that readily biodegrades.

EnviroClean is commercially available in 5-gallon units, 55-gallon drums, 275 and 330-gallon totes and bulk from Oklahoma City, Oklahoma, Wappingers Falls, New York, and Houston, Texas.

FLUID DESIGN

EnviroClean is a proprietary blend of surfactants that needs to be diluted to be effective and it is very safe to workers and the environment. EnviroClean does **not** contain caustic, therefore does not have the common harmful side effects associated with caustic based products. The product is designed for use as a degassing agent and a cleaner/degreaser for remediation. The product does not contain any enzymes or biomass itself. It works by conditioning the hydrocarbon so that the naturally occurring microbes (bacteria) are able to readily consume it. Through the application of the appropriate dilution and mixing, the EnviroClean will capture the hydrocarbon and tie it up in a solution that is very stable. The formation of this solution results in extremely small particles that will not recoalesce. It is important to note that if EnviroClean reaches its saturation point the oversaturated hydrocarbon will breakout of solution very quickly. This will allow for easy removal or reclamation of any hydrocarbon that is not preconditioned for remediation.

In addition to tying up the hydrocarbon in solution, the product is very effective when contacted with hydrocarbon vapors at suppressing volatile organic vapors, gases, and odors. Once combustible and flammable hydrocarbon vapors are tied up in the resultant solution, the solution will be very difficult to ignite. It also accelerates the biodegradation process of the hydrocarbon, thereby enhancing recycling or reclamation of water.

EnviroClean has been demonstrated to be effective on gas, oil, lube oil, hydraulic oil, most petroleum-based products, animal and vegetable oils, fats, and tallow oils. EnviroClean cleans the heavy tar build-up, asphaltenes or oily residue from inside of tanks and vessels. Furthermore, once a surface has been cleaned with EnviroClean, the cleaned surface will resist the deposition of oily materials.

EnviroClean can be used to cleanup oil spills whether in/on soil or hard surfaces. The first step in this process is to remove as much of the free oil as possible. This step is followed by contacting the contaminated surface appropriately with the proper dilution of EnviroClean and water. The treatment solution will contact the hydrocarbon molecules and change their behavior such that they are now essentially water soluble. The large increase in interfacial surface area creates conditions that are favorable to degradation and consumption by bacteria and microbes. The product converts hydrocarbons into a very good nutrient source for bacteria and microbes.

EnviroClean is typically fed at concentrations between 1% and 6%, depending on the nature of the hydrocarbon contamination problem. It can be diluted with most types of water – hard, soft or brackish water. The product has an unlimited shelf life when unopened. EnviroClean is effective at ambient temperatures. However, the **effectiveness will increase as the temperature of the application is increased**. EnviroClean does not require the use of steam, but has been shown to be very effective when injected into the steam (vapor) phase.

FIELD MIXING PROCEDURES

Mixing Concentrates

EnviroClean is usually delivered as a concentrate and **must** be diluted with water to work properly. Cleaning solutions can be formulated by premixing or eduction. It is not necessary to provide high shear agitation when preparing a batch of cleaning solution since EnviroClean is 100% soluble in water. It is recommended that when preparing the cleaning solution you first add the water into the mix container and then follow by the addition of EnviroClean. This will minimize foaming as the EnviroClean and water form a homogeneous solution.

For premixing, the following procedure may be used:

1. Add the correct amount of water to the container.
2. Depending on the desired strength, add the correct amount of EnviroClean to the container.
3. If the final solution is not a consistent pink color, mild agitation may be required until a consistent pink color is achieved.

Quality Control Testing

There is no easy field testing procedure to monitor the concentration of active ingredients in the EnviroClean formulation. Visually the color changes from rose color to lighter pink as the product is further diluted. Effectiveness can also be predicted by quantifying the amount of hydrocarbon that is to be picked up. By observing the effluent from the use of EnviroClean, an adjustment in the cleaning solution concentration can be made. If it is observed that free oil is floating on the effluent solution, then the concentration should be increased.

MATERIAL REQUIREMENTS

For specific protocols and application rates, please refer to the available **Product Usage Guide**, product label, or consult with the manufacturer or authorized distributor for additional guidance.

Equipment Cleaning & Parts Washing

EnviroClean is very effective for equipment cleaning applications. EnviroClean is used at light dilutions and has a significant “life of batch” as well as low foaming tendencies. The surfactants in EnviroClean desorb and micro-emulsify grease and oil contamination and separate it from solids (metal shavings, grit, etc.) allowing them to settle without accumulating oily sludges. These factors make EnviroClean ideal for spray wash systems as well as dip/agitating equipment. Some agitation or circulation of the fluid is required for thorough cleaning. For

equipment cleaning applications, EnviroClean is normally diluted to a 3% - 6% solution with water.

Soil Remediation

Calculate the volume of hydrocarbon contained in the contaminated area. It is important to determine accurately the depth of oil penetration into the soil. It will be important to agitate the soil to just below the depth of penetration. Once the estimate of hydrocarbon is known, the amount of the normal dilution of EnviroClean for soil remediation is 32 parts water to 1 part EnviroClean (3% solution). The EnviroClean solution will use the naturally occurring bacteria in the soil and begin to consume the hydrocarbon, which has been put into a form that can be quickly consumed. The remediation process normally occurs over 4 to 12 weeks.

The following step-by-step procedure can be used for soil remediation using EnviroClean:

1. If contaminated soil is deeper than 12", excavate the soil and spread at the surface to a depth of 10" – 12" and then proceed with this protocol. If contaminated soil is 12" in depth or less, thoroughly mix and aerate the soil in place utilizing a roto-tiller or similar equipment. If soil is extremely oily or gummy, mix clean soil with oily soil to expedite clean up and to make it easier to work with.

2. Utilizing local soil or rock, build a small berm surrounding the treatment area to prevent rain water run off from the site.

3. To determine treatment volumes of EnviroClean, measure the square footage area of the treatment cell and divide that number by 27 to find cubic yards per foot of depth (i.e. treatment area is 100' x 50': 100 x 50 ÷ 27 = 185). Multiply that number x .06 to determine the amount of EnviroClean to utilize in the treatment (i.e. 185 x .06 = 11 gallons EnviroClean). Dilute the EnviroClean to approximately a 3% solution (32 to 1 or 352 gallons water to 11 gallons EnviroClean). Spray the 3% EnviroClean solution over the entire treatment cell.

4. If, after a week, little to no rainfall has fallen, water the site thoroughly.

5. Wait another week and repeat steps 1 and 3, if needed.

6. Monitor and continue the treatment protocol until desired clean up levels are reached.

Samples can be taken and analyzed for Total Petroleum Hydrocarbons (TPH) to track the progress of the remediation. If the TPH were to appear to stabilize and not continue to decline, a second application of EnviroClean may be required.

***Note*:** It can be helpful, but not required, to add a highly soluble, high nitrogen fertilizer such as Miracle Grow or Sam's Choice to the first 3% EnviroClean solution.

The addition of bacteria is not typically required. The EnviroClean solution will stimulate the activity level of the naturally occurring bacteria.

In the fall and winter, it helps to expedite the job if the treatment cell is covered with plastic between treatments. This tends to hold in heat and generate additional moisture.

Keeping the soil moist is an integral part of the clean up.

Emergency Response & Spill Cleanup

Small Spill Cleanup: Dilute EnviroClean to a 10% solution. On small spills apply with 2 ½ gallon pressure sprayer or similar device. Cover the entire spill working in a circular motion from outside perimeter toward the center of the spill. After application of EnviroClean has been completed, agitate spill area with forcible stream of water or broom and rinse thoroughly. EnviroClean helps to reduce or eliminate any VOC concerns associated with the cleanup by micro-emulsifying the hydrocarbon on contact drastically reducing the LEL levels in a very short time frame. EnviroClean also eliminates sheens.

On Roadways & Pavement: EnviroClean can be applied with a pressure sprayer or applied through a foam eductor at a 6% setting. EnviroClean will instantly stop the deterioration of asphalt by diesel or gas and eliminate slippery conditions. Dispose in accordance with local rules and regulations.

***Note*:** For use with absorbents, EnviroClean will increase effectiveness by allowing the contaminate to more easily penetrate into the absorbent.

Degassing & Cleaning of Tanks & Equipment

EnviroClean is effective for the degassing and cleaning of all types of petroleum storage tanks. For small tanks of less than 50,000 gallons,

EnviroClean should be utilized through a power washer at dilutions between 2% and 6% depending on the type of product within the vessel and the degree of contamination. Typically for flammables, a 6% solution is utilized to completely agitate the tank residue and to scour the wall of the vessel prior to and during pump out. Lower dilutions may be utilized for products not representing a vapor hazard. EnviroClean is also effective for reducing H2S, Benzene and other VOC's.

Tank Bed Remediation

A common and effective means of mitigating the vapor hazard and remediating the tank bedding is to utilize a "flushing and recovery" technique with a diluted solution of EnviroClean. Typically a 3% to 6% solution of EnviroClean and water is utilized in a batch process to treat the impacted portions of the tank floor area. Simply perforating the affected area with a "buster" or hole saw and allowing the EnviroClean solution to flood the affected bedding will eliminate immediate, and future, recurrences of vapor generation. The process also serves to remediate the contamination by flushing entrained hydrocarbon out of the bedding for recovery and disposal, or re-processing. If necessary, the entire sub-floor area may be treated by saturating the zone of contamination and flushing the fluid to the sump, or other collection point, and recovering the rinsate for disposal. Depending upon the severity of the leak, and the resultant degree of subfloor contamination, the EnviroClean solution can be applied so as to simply saturate the bedding material, or it can be injected so as to flush and recover gross quantities of hydrocarbon.

Chemical Pipeline Pigging

As a general guideline, pump a slug of 3% to 6% solution and chase with water.

VOC Vapor Mitigation & Odor Control

EnviroClean is typically applied at a concentration of 3 – 6% for vapor and/or odor control. Circulate the solution through a manway cannon or other device in order to provide sufficient saturation of the vapor space of the vessel that is being degassed. Check the vapor level of the tank before circulation begins. Circulate for about 2 hours and let the tank settle for about 2 hours. Check the vapor level in the tank. More than one circulation may be required for complete vapor suppression. The holding capacity of EnviroClean may require sweetening or circulation with a fresh batch of product, depending on the amount of hydrocarbon vapors originally contained in the vessel.

Dilute EnviroClean to a 3% to 6% solution. Coverage is normally at 3 to 4 square yards of surface area per gallon. Heavy contamination or mercaptan type odors may require a stronger solution of EnviroClean.

Typically, 1 gallon of EnviroClean concentrate diluted to a 3% to 6% solution will render up to 6 gallons of petroleum product nonflammable when properly applied.

Hard Surface Cleaning & Decontamination

For heavy soiled oil and grease on hard surfaces: Mix a 6% solution of concentrate with clean water in quantity sufficient to cover contaminated area. Apply generous amounts with spray applicator, or equivalent and allow reasonable time for the surfactants in EnviroClean to penetrate and break down the hydrocarbon and grime. Once applied, solution may be scrubbed or brushed in for stubborn soiling. Next, apply EnviroClean at a 1% - 2% solution through a power washer (heated power wash system will expedite the process). Flush residue to containment and dispose of as local rules apply.

For lightly soiled or freshly oiled surfaces:
EnviroClean may be used through any power washer or steam jenny currently available. Operating temperatures of 140 degrees F. will maximize effectiveness. Solution strengths of 1 – 2% may be used for lighter decontamination duties. For small applications, a 5% solution (16 oz. EnviroClean concentrate to 2.5 gallons water) may be applied with a small pump sprayer and scrubbed or brushed into surface.

Insitu Free Product Recovery Enhancement

EnviroClean is effective for the insitu solubilization and recovery enhancement of entrained Free Product Hydrocarbon in the subsurface to facilitate recovery or biodegradation. Dilutions of 2% v/v are typical for light ends (i.e. gasoline) while concentrations of 3% to 6% are effective for Diesel Range Organic (DRO's) and heavier oils. Applications vary, however the EnviroClean solution is injected into the contaminated zone followed typically by a recovery event.

Soil Flushing and Recovery

EnviroClean is effective for the insitu solubilization and recovery enhancement of entrained Free Product Hydrocarbon in surface and sub-surface soil to facilitate recovery or biodegradation. Dilutions of 2% v/v are typical for light ends (i.e. gasoline) while concentrations of 3% to 6% are effective for Diesel Range Organic (DRO's) and heavier oils. Applications vary, however the EnviroClean solution is injected into or flushed through the contaminated zone.

Surface Washing & Shoreline Cleanup

Dilute EnviroClean to a 2% solution. On small spills apply with 2.5 gallon pressure sprayer or similar device. Cover entire spill, working in a circular motion, from outside perimeter toward the center of the spill. After application of EnviroClean has been completed, agitate spill area with forcible stream of water or broom and rinse thoroughly.

On larger spills, specific applications and protocols should be developed taking into account local risks and considerations.

***Note*:** EnviroClean is listed on the U.S. E.P.A. NCP Product Schedule as a Surface Washing Agent (listed SW #31). This listing does *not* mean that U.S. E.P.A. approves, licenses, certifies, or authorizes the use of EnviroClean on an oil discharge. This listing means only that data have been submitted to EPA as required by subpart J of the National Contingency Plan § 300.915.

Fire Fighting for Class A & B Fires

Proportioning Rate:	6%
GPM Flow Rate:	95 – 110
PSI at Eductor:	200 or MFG's recommendations
Hose Length:	As per MFG's suggestion
Nozzle Type:	Standard adjustable or automatic
Coverage:	0.2 gpm per square foot
Nozzle Pattern:	Hard cone to coarse stream
Application:	Starting from the outside perimeter, using a stirring, mixing action.

Contaminated Soil Excavation

In most cases a 3% solution of EnviroClean will be adequate to keep vapor emissions within acceptable limits. Dilute EnviroClean concentrate with water at a ratio of 1 part EnviroClean to 32 parts water to make a 3% solution. The EnviroClean solution should be applied evenly to the soil surface in sufficient quantity to dampen the surface well. As a general rule, 1 gallon of solution will cover approximately 4 sq. yd. of soil surface area.

MATERIAL SAFETY DATA SHEET

Product Name: ENVIROCLEAN

SECTION 1 MATERIAL IDENTIFICATION

PRODUCT NAME/DESCRIPTION: ENVIROCLEAN

DISTRIBUTED / MANUFACTURED BY:
ENVIRO CLEAN SERVICES, L.L.C.
PO BOX 721090
OKLAHOMA CITY, OK 73172

DATE: 5/27/2008
PHONE: 405-373-4545
EMERGENCY PHONE: 405-373-4548

SECTION 2 HAZARDOUS COMPONENTS

			OSHA (ACGIH) EXPOSURE LIMIT				
			TLVs(ACGIH)				
			TWA		STEEL		
CHEMICAL NAME	%W/W	CAS NUMBER	ppm	mg/m3	ppm	mg/m3	Other1
Proprietary Blend Of Ethoxylated Octylphenolic Surfactants							
Non-ionic water based liquid blend, concentrate							

This product does not contain any hazardous ingredients
as defined by CERCLA, and California's Prop. 65.

SECTION 3 HEALTH HAZARDS

IRRITATION
- ☑ SKIN ☐ SEVERE ☑ MODERATE
- ☑ EYE ☐ SEVERE ☑ MODERATE ☐ MILD (TRANSIENT)

CORROSIVITY
- ☐ SKIN ☐ 4HRS. (DOT) ☐ 24 HRS. (CPSC
- ☐ EYE ☐ MAY CAUSE BLINDNESS

SENSITIZATION ☐ SKIN ☐ RESPIRATORY ☐ ALLERGEN OTHER: None Known

INHALATION EFFECTS ☐ NARCOTIC EFFECT ☐ CYANOSIS ☐ ASPHYXIANT OTHER: None Known

LUNG EFFECTS (SPECIFY):

None Known

OTHER (SPECIFY):

☐ REPEATED CONTACT SKIN DEFATTER

OTHER (SPECIFY): Pre-existing skin and eye disorders may be aggravated by contact with this product.

SECTION 4 FIRST AID

INGESTION

☐ INDUCE VOMITING ☐ DON'T INDUCE VOMITING ☐ GIVE PLENTY OF WATER ☑ GET MEDICAL ATTENTION

☑ NEVER GIVE ANYTHING TO AN UNCONSCIOUS PERSON

DERMAL

☑ FLUSH WITH SOAP AND WATER ☑ GET MEDICAL ATTENTION ☑ CONTAMINATED CLOTHING - REMOVED AND LAUNDER ☐ CONTAMINATED SHOE - DESTROY

OTHER (SPECIFY):

None Known

EYE CONTACT

☑ FLUSH WITH WATER FOR 15 MINUTES ☑ GET MEDICAL ATTENTION

OTHER (SPECIFY):

Life and separate eyelids to aid in rinsing

INHALATION

☐ REMOVE TO FRESH AIR ☐ IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION ☐ GIVE OXYGEN ☑ GET MEDICAL ATTENTION

OTHER (SPECIFY):

None considered necessary.

SECTION 5 FIRE AND EXPLOSION DATA

CHARACTERISTICS:

FLASH POINT	>200 deg F
FLASH POINT METHOD(S)	NA
UPPER EXPLOSION LIMIT (UEL)	NA
LOWER EXPLOSION LIMIT (UEL)	NA
AUTOIGNITION TEMPERATURE	NA
FIRE HAZARD CLASSIFICATION (OSHA/NFPA)	0

EXTINGUISHING MEDIA

☐ WATER SPRAY ☐ WATER FOG ☐ WATER STREAM ☐ CO2 ☐ DRY CHEMICAL ☐ ALCOHOL FOAM

☐ FOAM ☐ EARTH OR SAND ☑ AS REQUIRED FOR FIRE BEING FOUGHT

SPECIAL FIRE FIGHTING PROCEDURES

☐ DON'T ENTER BUILDING ☐ ALLOW FIRE TO BURN ☑ WATER MAY CAUSE FROTHING ☐ DON'T USE WATER ☑ USE SELF-CONTAINED BREATHING APPRATUS

OTHER (SPECIFY): None Known

SPECIAL FIRE FIGHTING PROCEDURES

☐ DUST EXPLOSION HAZARD ☐ SENSITIVE TO SHOCK ☐ CONTAMINATION ☐ TEMPERATURE

OTHER (SPECIFY): None Known

SECTION 6 ACCIDENTAL RELEASE MEASURES

STEP TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

☑ FLUSH WITH WATER ☑ ABSORB WITH SAND OF INERT MATERIAL ☐ NEUTRALIZE ☐ SWEEP OR SCOOP UP AND REMOVE

☐ KEEP UPWIND ☑ PREVENT SPILLS ☑ DISPOSE OF PROMTLY

OTHER (SPECIFY): Remove with vacuum truck or pump to storage/salvage vessel.

SECTION 7 HANDLING AND STORAGE

PRECAUTIONARY LABELING

- [x] WASH AFTER HANDLING
- [x] DON'T GET IN EYES, SKIN, CLOTHING
- [x] DON'T BREATHE DUST, VAPOR, GAS
- [x] KEEP CONTAINTER CLOSED
- [ ] KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAMES
- [x] STORE IN TIGHTLY CLOSED CONTAINERS
- [ ] DON'T STORE NEAR COMBUSTIBLES
- [x] KEEP FROM CONTACT WITH CLOTHING
- [ ] EMPTY CONTAINER MAY CONTAIN HAZARDOUS RESIDUE
- [ ] USE EXPLOSION PROOF EQUIPMENT

OTHER (SPECIFY):

Keep this and all chemicals out of reach of children.

OTHER HANDLING AND STORAGE CONDITIONS

Storage: 35 - 120 deg F Shelf Life: Unlimited unopened

SECTION 8 PERSONAL PROTECTION/EXPOSURE CONTROLS

VENTILATION REQUIREMENTS - ALWAYS KEEP EXPOSURE BELOW PERMISSIBLE EXPOSURE LIMITS

- [ ] CONSULT AN INDUSTRIAL HYGIENIST
- [x] LOCAL EXHAUST
- [ ] USE ADEQUATE VENTILATION
- [ ] CHECK FOR AIR CONTAMINANT

OTHER (SPECIFY): Not Known

EYE

- [ ] FACE SHIELD AND GOGGLES
- [x] SAFTEY GLASSES
- [ ] GOGGLES

HAND

- [ ] BUTYL RUBBER
- [x] POLYVINYL ALCHOHOL
- [x] POLYVINYL CHLORIDE
- [ ] POLY-ETHYLENE
- [x] NATURAL RUBBER
- [ ] NEOPRENE

OTHER (SPECIFY): None Known

RESPIRATORY

- [ ] SELF-CONTAINED
- [ ] SUPPLIED AIR
- [ ] CAN OR CARTRIDGE GAS OR VAPOR
- [ ] FILTER-DUST, FUME, MIST

OTHER (SPECIFY): Not required for normal use

OTHER PROTECTIVE EQUIPMENT

- [ ] RUBBER BOOTS
- [ ] APRON

OTHER (SPECIFY): Eye wash

SECTION 9 PERSONAL PROTECTION/EXPOSURE CONTROLS

PHYSICAL FORM	Clear Liquid
COLOR	Colorless unless dyed
ODOR	Nil (unless fragranced)
PH	8.5 +/- .25
VAPOR PRESSURE (mm Hg)	NA
VAPOR DENSITY (AIR = 1)	NA
BOILING POINT	NE
FREEZING/MELTING POINT	NE
SOLUBILITY IN WATER	100%
SPECIFIC GRAVITY (WATER = 1)	1.028 +/- .01
EVAPORATION RATE (BUTYLACETATE = 1)	>1 as compared to water
VISCOSITY (CPS)	9 CP
MOLECULAR WEIGHT	NE

NA = NOT APPLICABLE NE = NOT ESTABLISHED

SECTION 10 STABILITY AND REACTIVITY

STABILITY ☑ STABLE ☐ UNSTABLE

CONDITIONS CONTRIBUTING TO INSTABILITY

☐ THERMAL DECOMPOSITION ☐ PHOTO DEGRADATION ☐ POLYMERIZATION ☐ CONTAMINATION

OTHER (SPECIFY): None known

INCOMPATIBILITY - AVOID CONTACT WITH

☐ STRONG ACIDS ☐ STRONG ALKALIS ☐ STRONG OXIDIZERS

OTHER (SPECIFY): None Known

HAZARDOUS DECOMPOSITION PRODUCTS - THERMAL AND OTHER (LIST)

None Known

CONDITIONS TO AVOID

☐ HEAT ☐ OPEN FLAMES ☐ SPARKS ☐ IGNITION SOURCES

OTHER (SPECIFY): None Known

SECTION 11 TOXICOLOGICAL PROPERTIES

ACUTE TOXICITY EFFECTS DATA

Eyes: Moderate irritation

Skin: May aggravate pre-existing skin and/or eye disorders or conditions.

Ingestion: Moderate Irritation

Inhalation: None known

IRRITATION EFFECTS DATA

None Known

OTHER ACUTE EFFECTS

None Known

CHRONIC/SUBCHRONIC DATA

None Known

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

None Known

ENVIRONMENTAL FATE

Not Known

ADDITION INFORMATION

None Known

SECTION 13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION 14 TRANSPORT INFORMATION

NON-HAZARDOUS

SECTION 15 REGULATORY INFORMATION

SARA (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT):

SARA 302 EXTREMELY HAZARDOUS SUBSTANCES LIST:

NA

SARA 312 HAZARD CATEGORY:

NA

SARA 313 TOXIC CHEMICALS LIST:

NA

CERCLA (COMPREHENSIVE ENVIROMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT:

NA

RCRA (RESOURCE CONSERVATION AND RECOVERY ACT) LISTED HAZARDOUS WASTES:

NA

CWA (CLEAN WATER ACT) LISTED SUBSTANCES:

NA

FDA (FOOD AND DRUG ADMINISTRATION):

NA

TOXIC SUBSTANCES CONTROL ACT (TSCA):

All ingredients are listed

NFPA HAZARD INFORMATION SIGN

0 HEALTH HAZARD (BLUE DIAMOND)

4 - DEADLY
3 - EXTREME DANGER
2 - HAZARDOUS
1 - SLIGHTLY HAZARDOUS
0 - NORMAL MATERIAL

0 REACTIVITY HAZARD (YELLOW DIAMOND)

4 - MAY DETONATE
3 - SHOCK AND HEAT MY DETONATE
2 - VIOLENT CHEMICAL CHANGE
1 - UNSTABLE IF HEATED
0 - STABLE

0 FIRE HAZARD (RED DIAMOND)

FLASH POINTS:
4 - BELOW 73 F
3 - BELOW 100 F
2 - BELOW 200 F
1 - ABOVE 200 F
0 - WILL NOT BURN

SPECIFIC HAZARD (WHITE DIAMOND)

OXY	OXIDIZER
ACID	ACID
ALK	ALKALI
COR	CORROSIVE
W	USE NO WATER

SECTION 16 INTERNATIONAL REGULATIONS

CANADA

DSL:

NA

WHMIS HAZARD CLASSIFICATIONS:

NA

WHMIS TRADE SECRET REGISTRY NUMBER(S):

NA

WHMIS HAZARDOUS INGREDIENTS:

NA

WHMIS SYMBOLS:

NA

EUROPEAN ECONOMIC COMMUNITY (EEC)

EINECS MASTER INVENTORY:

NA

EEC PRIMARY RISK SYMBOL:

NA

EEC RISK AND SAFETY PHRASES:

NA

THIS INFORMATION IS OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS A PRODUCT SPECIFICATION. NO WARRANTY, EXPRESSED OR IMPLIED, IS HEREBY MADE. THE RECOMMENDED INDUSTRIAL HYGIENE AND SAFE HOLDING PROCEDURES ARE BELIEVED TO BE GENERALLY APPLICABLE. HOWEVER, EACH USER SHOULD REVIEW THESE RECOMMENDATIONS IN THE SPECIFIC CONTEXT OF THE INTENDED USE AND DETERMINE WHETHER THEY ARE APPROPRIATE.

PREPARED BY: Jeff Schulhoff