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**FIRST QUARTER 2008  
GROUNDWATER MONITORING AND  
PRODUCT EXTRACTION REPORT**

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

*Prepared for:*

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

**May 2008**

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*Prepared for:*

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

*Prepared by:*

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

**May 7, 2008**

Project No. 2007-65

May 7, 2008

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

Subject: First Quarter 2008 Groundwater Monitoring and Product Extraction Report  
EmeryBay Phase I Condo Parking Garage – 6400 Christie Avenue, Emeryville, CA

Dear Ms. Irving:

Enclosed is the Stellar Environmental Solutions, Inc. report summarizing the site activities conducted between January 2008 and March 2008 (specifically; 4 product extraction events, the First Quarter 2008 groundwater monitoring event, and purge water and equipment disposal). This project is being conducted for Bay Center Investor, LLC c/o Harvest Properties (property owner), and follows previous sampling events—conducted by Groundwater Technology, Inc. in 1988, 1989, and 1991; by PES Environmental, Inc. in 2004 and 2006; and by SES in 2007.

There is no agreement currently in place with the regulatory agency, Alameda County Department of Environmental Health (ACEH), regarding the frequency of groundwater sampling. However, a new case officer, Barb Jakub, has been assigned to the site and is reviewing the historical information.

This report summarizes the seventh sampling event conducted at the site since 1988. In accordance with California State Water Resources Control Board requirements, a copy of this report, in pdf format, will be uploaded to the State GeoTracker system.

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

Sincerely,



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



Teal Glass, R.E.A.  
Project Manager



cc: Barb Jakub, ACEH

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## **1.0 INTRODUCTION**

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### **PROJECT BACKGROUND**

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

### **SITE AND VICINITY DESCRIPTION**

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

### **PREVIOUS INVESTIGATIONS**

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

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





Image courtesy of the U.S. Geological Survey



**SITE LOCATION ON AERIAL PHOTO**

**6400 Christie Ave.  
Emeryville, CA**

By: MJC

JANUARY 2008

**Figure 1**



2007-565-01





**LEGEND**

--- Subject property boundary

Image © 2008 TerraMetrics

© 2007 Google



**SITE PLAN AND ADJACENT LAND USE**

6400 Christie Ave.  
Emeryville, CA

By: MJC

JANUARY 2008

**Figure 2**

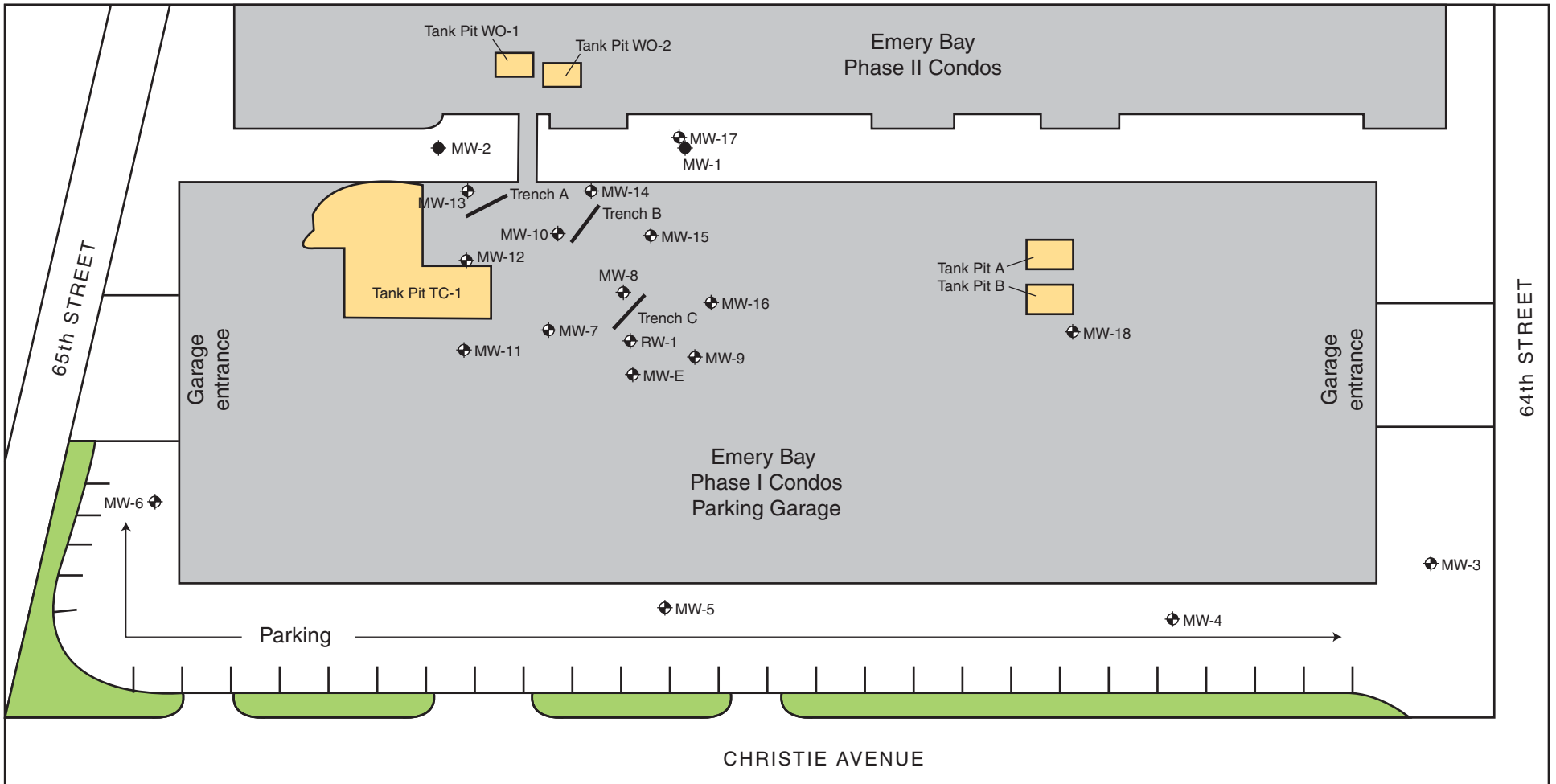


2007-65-07

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 tank removal locations.

To address the contamination in the garage area of the Emery Bay Phase I Condo complex, a light non-aqueous phase liquid (LNAPL) groundwater pump-and-treat system was installed by Groundwater Technology, Inc. (GTI) in 1989. The system extracted approximately 1,000,000 gallons of groundwater, yielding approximately 100 gallons of LNAPL from recovery well RW-1 from July 1990 to March 1991. Three monitoring wells had previously been installed in 1985. GTI installed (and repaired) several more monitoring wells between 1987 and 1990, for a total of seven monitoring wells and one extraction well by 1990. The system and groundwater monitoring wells were designed and monitored as a condition of discharge permits granted by the East Bay Municipal Utility District (EBMUD) and the Bay Area Air Quality Management District (BAAQMD). The first groundwater monitoring event for MW-1 through MW-6 occurred in December 1988. The second monitoring event, which also included MW-E and RW-1, was conducted in March 1989. Subsequently, the groundwater extraction system operated by GTI was closed in late 1990 when corrosion and other mechanical problems caused the system to fail. Recovery of LNAPL continued manually on RW-1 until 1991, and a third groundwater sampling event occurred in February 1991. In 1994, the GTI recovery system was abandoned. Appendix A contains the historical analytical results. Figure 3 shows the locations of the monitoring wells and trenches.

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



**LEGEND**

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

0 60  
SCALE: 1/2" = 60 FEET



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

**Figure 3**

by: MJC

JANUARY 2008

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

## **OBJECTIVES AND SCOPE OF WORK**

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

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

## **REGULATORY OVERSIGHT**

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

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

Following the completion of this report, SES will meet with the new ACEH case officer, Barb Jakub, to discuss the recommended actions for achieving site closure. SES has already uploaded all historical documents to the ACEH ftp website. However, SES also needs to ascertain specific GeoTracker upload requirements—e.g., which historical reports should be uploaded (all of the reports produced by SES will be uploaded to the GeoTracker website) and what global identification number (global ID) should be used. Historically, the site was included in the Garret Freight Lines SLIC site under the Regional Water Quality Control Board (Water Board) global ID SLT2O05561 and ACEH case number RO0002799. However, this site encompasses adjacent properties, such as the Bay Center Offices and recently developed apartment complex located south of 64<sup>th</sup> Street. In addition, the SLIC listing is based on metal contamination discovered in soils on the Bay Center site, and does not reflect the leaking UFST remediation currently underway at the Emery Bay Phase I Condos. There is also a GeoTracker LUST listing for the Emery Bay Marketplace at 64<sup>th</sup> and Christie; however, this listing is most likely associated with the Emeryville Market located south of 64<sup>th</sup> Avenue. Therefore, SES recommends establishing a new GeoTracker global ID specific to the Emery Bay Phase I Condos.

This SES report follows previous groundwater sampling events conducted by GTI in 1988, 1989, and 1991; two groundwater monitoring events conducted by PES in 2004 and 2006; and work by SES in 2007. At this time, it appears as if the contaminant plume could be migrating offsite. However, because of the infrequent groundwater sampling, it is unclear whether the plume is stabilizing or increasing in concentration. It also appears as if an offsite hydrocarbon source may be migrating from south of the site, toward the northwest portion of the subject property. This source is most likely the Emeryville Market LUFT site located immediately south of the subject property.

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



## **2.0 PHYSICAL SETTING**

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

### **TOPOGRAPHY AND DRAINAGE**

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

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

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

### **GEOLOGY**

The subject property area is underlain with material mapped “Qhbm,” designated early pleistocene alluvium that is moderately consolidated, deeply weathered, poorly sorted, irregularly interbedded clay, silt, sand, and gravel. A geotechnical survey conducted in 1985 revealed that the upper 15 to 20 feet of soil consisted of a combination of fill and soft bay sediment. The upper 1 to 2½ feet of soil was generally pavement and imported fill. The upper 20 feet of firm bearing soil was primarily dense silty sand with intermittent layers of silty and sandy clay. Stiff to very stiff clay was encountered below a depth of approximately 40 feet and extended to the depth of the borings, approximately 101.5 feet (Geomatrix, 1988). The closest major fault, the Hayward Fault, is located about 3 miles east of the property. While the site is located in a seismically active area, it is not within an Alquist-Priolo Special Studies active fault zone, the legislatively defined zone of restricted land use 200 feet around an active fault due to the high probability of ground rupture.

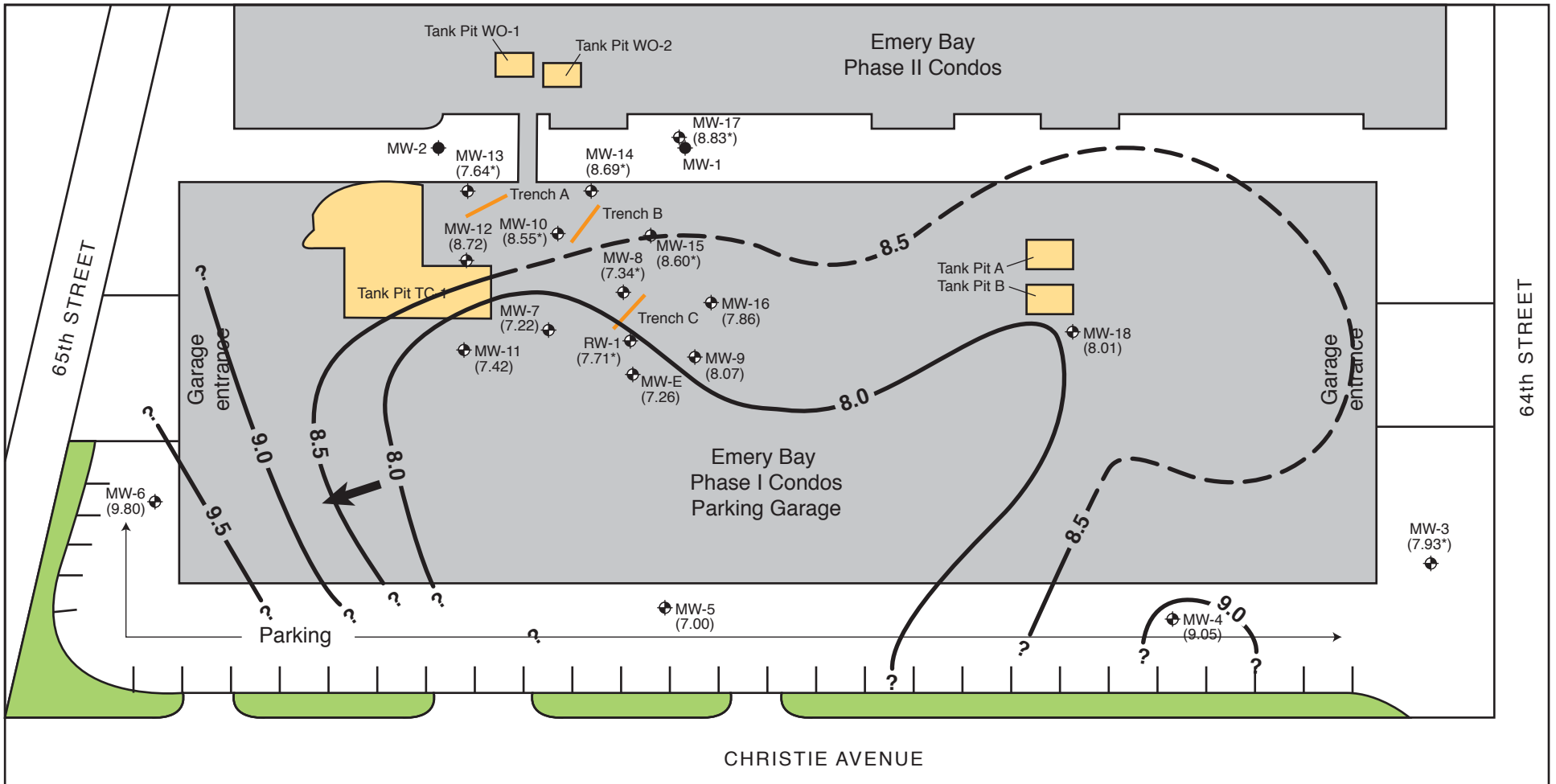
## **GROUNDWATER HYDROLOGY**

Section 5.0 contains a detailed discussion of site groundwater elevation trends. Regulatory agency records indicate that the direction of shallow groundwater flow in the site vicinity is to the west-northwest toward San Francisco Bay. Water levels in this area are influenced by tidal patterns. According to current and historical water level data obtained from onsite monitoring wells, the depth to groundwater ranges from approximately 6 to 11 feet below ground surface (bgs). The groundwater gradient is approximately 0.004 feet per foot.

While historical groundwater elevation data at the site have not been consistently collected, and the sporadic annual monitoring event did not track season fluctuation in groundwater elevations, the last two seasonal cycles in the Bay Area involved significantly less rainfall than normal, with resultant lower-than-normal water level elevations.

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





**LEGEND**

- Monitoring well
- Monitoring well (presumed abandoned)
- Trench location
- Groundwater elevation contour in feet amsl
- Historical tank pit area
- Landscaping
- Inferred direction of groundwater flow
- SCALE: 1/2" = 60 FEET
- N
- \* Groundwater elevation not used in determining contour due to the presence of free product

**GROUNDWATER ELEVATION MAP – March 24, 2008**  
**6400 Christie Ave., Emeryville, CA**

**Figure 4**

by: MJC

APRIL 2008

### **3.0 MARCH 2008 GROUNDWATER MONITORING AND SAMPLING ACTIVITIES**

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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—including benzene, toluene, ethyl benzene, and xylenes (BTEX); methyl tertiary-butyl ether (MTBE); total petroleum hydrocarbons as gasoline (TPHg); and total petroleum hydrocarbons as diesel (TPHd)

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

#### **CURRENT MONITORING EVENT**

Groundwater monitoring well water level measurements, purging, sampling, and field analyses were conducted on March 24 and 25, 2008 by Blaine Tech Services under the supervision of SES personnel. Groundwater sampling was conducted in accordance with State of California guidelines for sampling dissolved analytes in groundwater associated with leaking UFSTs. As the first task of the monitoring event, static water levels and free product levels were measured in the 18 wells using an electric water level indicator. The depth of free product was recorded, and the water level was adjusted to reflect the groundwater elevation.

Approximately 46 gallons of purge water and equipment decontamination rinse water from the current groundwater sampling event was containerized in a labeled 55-gallon drum. On April 28, 2008, this purge water, along with contaminated equipment removed from the recovery well RW-1, was disposed of by Evergreen Environmental under the supervision of SES personnel Steve Bittman. Appendix F contains the disposal manifest and recycling certificate.

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

Well	Well Depth (feet bgs)	Screened Interval	Top of Well Casing Elevation <sup>(a)</sup>	Depth to Free Product (bgs)	Free Product (feet)	Groundwater Elevation (March 24, 2008)
MW-3	25	5 to 20	16.65	8.70	0.02	7.93
MW-4	25	5 to 20	16.29	NA	NA	9.05
MW-5	25	5 to 20	16.72	NA	NA	7.00
MW-6	25	5 to 20	16.82	NA	NA	9.80
MW-7	20	5 to 20	17.73	NA	NA	7.22
MW-8	16	5 to 16	17.84	9.18	1.32 <sup>(c)</sup>	7.34
MW-9	20	5 to 20	17.84	NA	NA	8.07
MW-10	20	5 to 20	17.83	8.98	0.30	8.55
MW-11	20	5 to 20	17.76	NA	NA	7.42
MW-12	20	5 to 20	17.83	NA	NA	8.72
MW-13	20	5 to 20	17.66	9.54	0.48	7.64
MW-14	20	5 to 20	17.60	8.88	0.03	8.69
MW-15	20	5 to 20	17.80	9.18	0.02	8.60
MW-16	20	5 to 20	17.74	NA	NA	7.86
MW-17	20	5 to 20	18.17	9.18	0.16	8.83
MW-18	20	5 to 20	16.35	NA	NA	8.01
MW-E	47	7 to 40	17.47	NA	NA	7.26
RW-1	30	unknown	16.70	8.92	0.07	7.71
TA-E	11-13	6-8 to 11-13	17.20	8.40	0.02	8.84
TA-M	11-13	6-8 to 11-13	17.21	8.38	0.01	8.82
TA-W	11-13	6-8 to 11-13	17.28	NA	NA	8.86
TB-E	11-13	6-8 to 11-13	17.24	NA	NA	8.89
TB-M	11-13	6-8 to 11-13	17.30	NA	NA	8.80
TB-W	11-13	6-8 to 11-13	17.33	NA	NA	8.91
TC-E	11-13	6-8 to 11-13	17.07	NA	NA	8.10
TC-M	11-13	6-8 to 11-13	17.37	NA	NA	8.21
TC-W	11-13	6-8 to 11-13	17.32	NA	NA	8.36

Notes:

<sup>(a)</sup> Relative to mean sea level.

<sup>(b)</sup> Depth to groundwater could not be determined because free product density would not allow a clear delineation. Elevation is based on depth to free product.

<sup>(c)</sup> The quantity of free product may have been an overestimation due to the presence of tar.

bgs = below ground surface

NA = not applicable (no free product in well)

UK = depth of free product is unknown

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

## **4.0 CURRENT MONITORING EVENT ANALYTICAL RESULTS AND FINDINGS**

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This section presents the field and laboratory analytical results of the current groundwater monitoring event. Table 2 and Figure 5 summarize the contaminant analytical results of the current monitoring event samples. Appendix C contains the certified analytical laboratory report and chain-of-custody record.

### **GROUNDWATER SAMPLE RESULTS**

#### **Hydrocarbon Contaminants**

Hydrocarbon concentrations in numerous wells have reported concentrations significantly in excess of the Water Board Environmental Screening Level (ESL) in this 2<sup>nd</sup> consecutive quarterly sampling event.

Gasoline was detected in MW-3, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-17, MW-E, and RW-1 above the ESL's where groundwater is and is not a drinking water resource (100 micrograms per liter [ $\mu\text{g/L}$ ]). Gasoline was also detected in MW-4 and MW-16, but below the ESL. The highest concentration (98,000  $\mu\text{g/L}$ ) was observed in MW-13. This is higher than the concentration of 68,000  $\mu\text{g/L}$  observed during the December 2007 sampling event. Overall, gasoline concentration trends as compared to the previous December 2007 sampling event were varied, with some wells demonstrating concentration decreases (MW-5, MW-7, MW-10, MW-11, MW-16, and MW-E) while others showed concentration increases (MW-3, MW-4, MW-8, MW-9, MW-12, MW-13, MW-14, MW-15, MW-17, and RW-1). Figure 6 shows an isoconcentration contour map of TPHg concentrations in groundwater based on the March 2008 monitoring well analytical results.

Diesel was detected in all site wells above the ESL of 100  $\mu\text{g/L}$  (both for where groundwater is and is not a drinking water resource). The highest concentration (1,100,000  $\mu\text{g/L}$ ) was observed in MW-13. This well has historically been considered a source area well. Several other source area wells, including MW-10 and MW-14, also demonstrated increases in TPHd concentrations. Significant increases in TPHd concentrations in MW-10 (from 4,700  $\mu\text{g/L}$  in December 2007 to 280,000  $\mu\text{g/L}$  in March 2008) and RW-1 (from 2,100  $\mu\text{g/L}$  in the December 2007 event to 11,000  $\mu\text{g/L}$  in the March 2008 event) are most likely a direct response to the groundwater purging

conducted during the February and March 2008 active product extraction events. Perimeter wells MW-3, MW-4, and MW-5 showed slight decreases in diesel concentrations; however, perimeter well MW-3 (on the southern subject property border) showed a significant increase from 960 µg/L in

**Table 2**  
**Groundwater Sample Analytical Results – March 25, 2008**  
**6400 Christie Avenue, Emeryville, California**

Well ID	Analytical Results						
	TPHg	TPHd	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
MW-3	<b>450</b>	<b>6,600</b>	<0.5	<0.5	1.8	2.0	4.3
MW-4	57	<b>680</b>	<0.5	<0.5	<0.5	<0.5	<2.0
MW-5	<50	<b>4,500</b>	0.53	<0.5	<0.5	<0.5	<2.0
MW-6	<50	<b>940</b>	0.87	1.0	<0.5	<0.5	<2.0
MW-7	<b>360</b>	<b>7,000</b>	140	5.8	11	58	<2.0
MW-8	<b>47,000</b>	<b>21,000</b>	<b>10,000</b>	260	<b>1,200</b>	<b>458</b>	<2.0
MW-9	<b>100</b>	<b>8,600</b>	4.1	1.1	<0.5	<0.5	<2.0
MW-10	<b>10,000</b>	<b>280,000</b>	<b>2,600</b>	50	37	58.7	22
MW-11	<b>1,200</b>	<b>7,500</b>	120	7.6	10	24.9	3.0
MW-12	<b>33,000</b>	<b>3,300</b>	<b>9,200</b>	140	85	116	<2.0
MW-13	<b>98,000</b>	<b>1,100,000</b>	<b>19,000</b>	<b>820</b>	<b>2,300</b>	<b>3,190</b>	<100
MW-14	<b>18,000</b>	<b>4,400</b>	<b>4,400</b>	330	340	245	<2.0
MW-15	<b>13,000</b>	<b>3,000</b>	<b>3,600</b>	66	210	59.5	64
MW-16	60	<b>12,000</b>	11	0.73	<0.5	<0.5	<2.0
MW-17	<b>6,800</b>	<b>3,100</b>	<b>1,200</b>	110	91	94	21
MW-18	<50	<b>9,800</b>	0.52	<0.5	<0.5	<0.5	2.0
MW-E	<b>2,700</b>	<b>6,300</b>	<b>780</b>	17	20	20.9	12
RW-1	<b>890</b>	<b>11,000</b>	100	4.2	4.4	2.0	<2.0
ESLs <sup>(a)</sup>	<b>100/100</b>	<b>100/100</b>	<b>1/500</b>	<b>150/500</b>	<b>300/400</b>	<b>420/420</b>	<b>13/100</b>

Notes:

<sup>(a)</sup> Water Board Environmental Screening Levels for residential sites where groundwater is/is not a drinking water resource (Water Board, 2007).

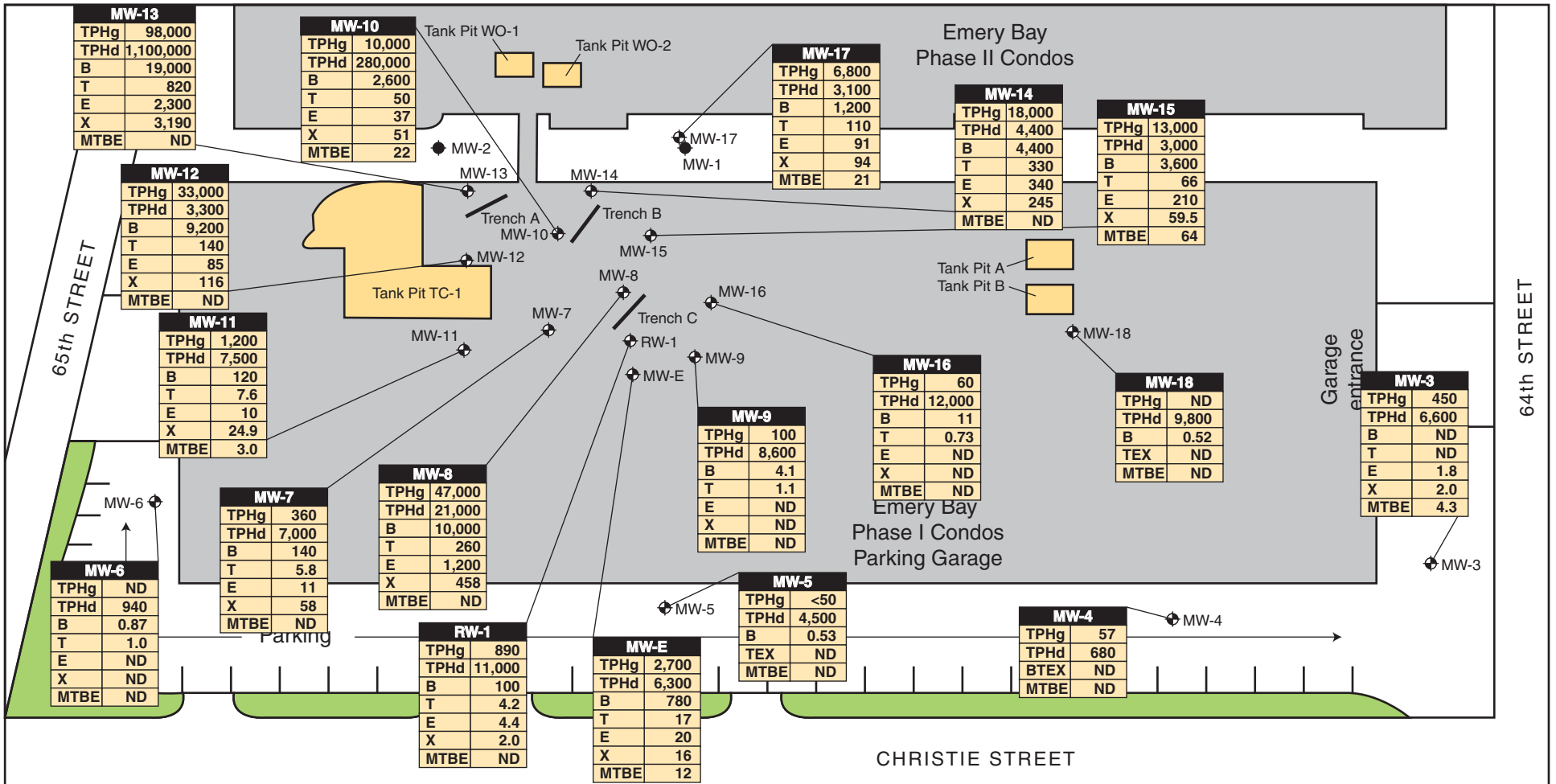
MTBE = methyl tertiary-butyl ether

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

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

NS= not sampled (inaccessible)

All concentrations are expressed in micrograms per liter (µg/L), equivalent to parts per billion (ppb). Results listed in **bold-face type** are above the ESLs where groundwater is not a drinking water resource.



**LEGEND**

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



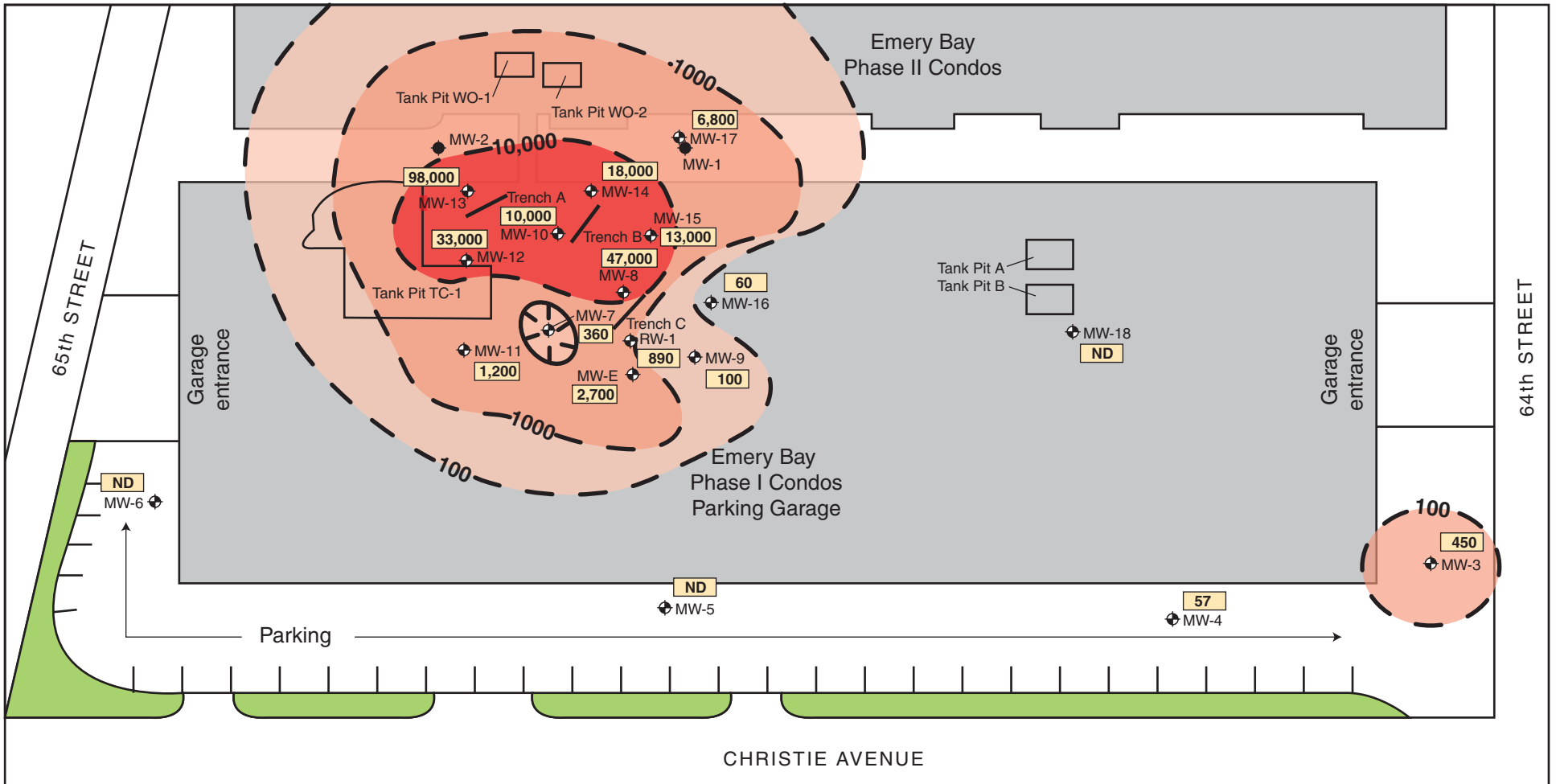
**GROUNDWATER MONITORING WELL ANALYTICAL RESULTS**

**6400 Christie Ave., Emeryville, CA**

**Figure 5**

by: MJC

APRIL 2008



**LEGEND**

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



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

**Figure 6**

by: MJC

APRIL 2008



the December 2007 sampling event to 6,600 µg/L in the current March 2008 sampling event. This indicates that contamination from the adjacent leaking UFST site, the Emeryville Market Place RO#1764, is migrating onto the site (the position of this perimeter well is crossgradient to the subject property contaminant plume).

Figure 7 is an isoconcentration contour map of TPHd concentrations in groundwater based on the March 2008 monitoring well analytical results. Figure 8 plots the change in diesel concentrations in the two downgradient wells (MW-5 and MW-6) from their installation in 1988 to the March 2008 sampling event. Figure 9 plots the change in diesel concentrations in source area wells MW-11 and MW-12 from their installation in 2004 to the March 2008 sampling event. Figure 10 plots the change in crossgradient wells MW-18 and MW-3 from their installation in 2004 and 1988, respectively, to date.

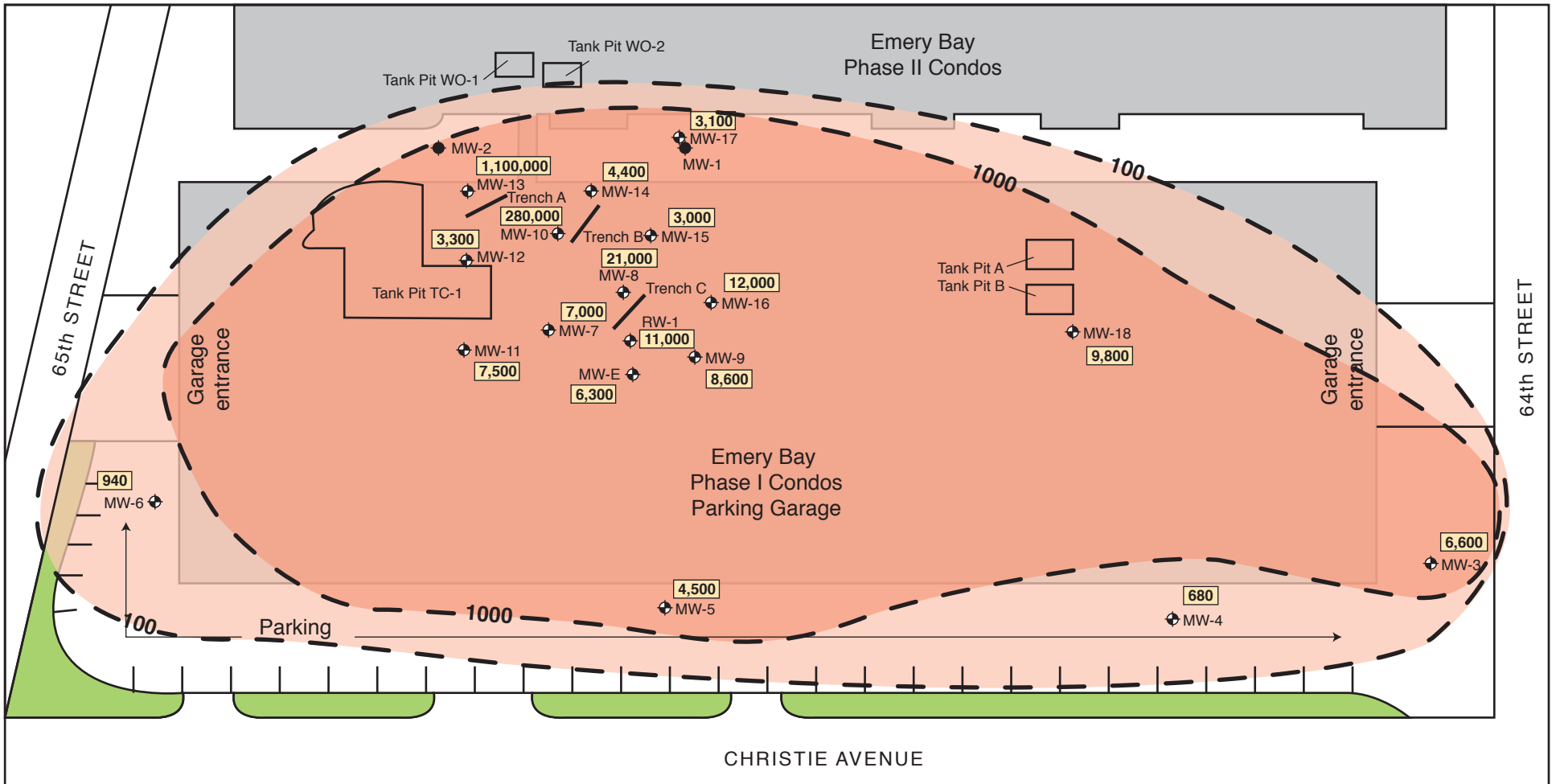
Concentrations of benzene exceeded the ESL of 500 µg/L where groundwater is not a drinking water resource for MW-8, MW-10, MW-12, MW-13, MW-14, MW-15, MW-17, and MW-E. Concentrations of benzene were also found in MW-5, MW-6, MW-7, MW-9, MW-11, MW-16, MW-18, and RW-1, but were below the ESL. The concentration of toluene was found to be above the 500-µg/L ESL in MW-13. Ethylbenzene and total xylene concentrations in MW-8 and MW-13 were above the 400-µg/L and 420-µg/L ESLs, respectively. Concentrations of MTBE were found in MW-3, MW-10, MW-11, MW-15, MW-17, MW-18, and MW-E, but were below the 100-µg/L ESL for non-drinking water.

### **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).

### **REGULATORY CONSIDERATIONS**

As specified in the East Bay Plain Groundwater beneficial Use Evaluation Report by the San Francisco Bay Region Water Quality Board (Water Board, 1999), all groundwater is considered a potential source of drinking water unless otherwise indicated by the Water Board, and is assumed to ultimately discharge to a surface water body and potentially impact aquatic organisms. The subject property location is listed as occurring within Zone B, designated as groundwater that is unlikely to be used as drinking water resource. The basin is shallow in this area, with depths 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.



**LEGEND**

- ◆ Monitoring well
- ◆ Monitoring well (presumed abandoned)
- Trench location
- 940 Total petroleum hydrocarbons as diesel concentration in micrograms per liter ( $\mu\text{g/L}$ )
- Historical tank pit area
- Landscaping
- 100- Diesel isoconcentration contour

0 60  
SCALE: 1/2" = 60 FEET



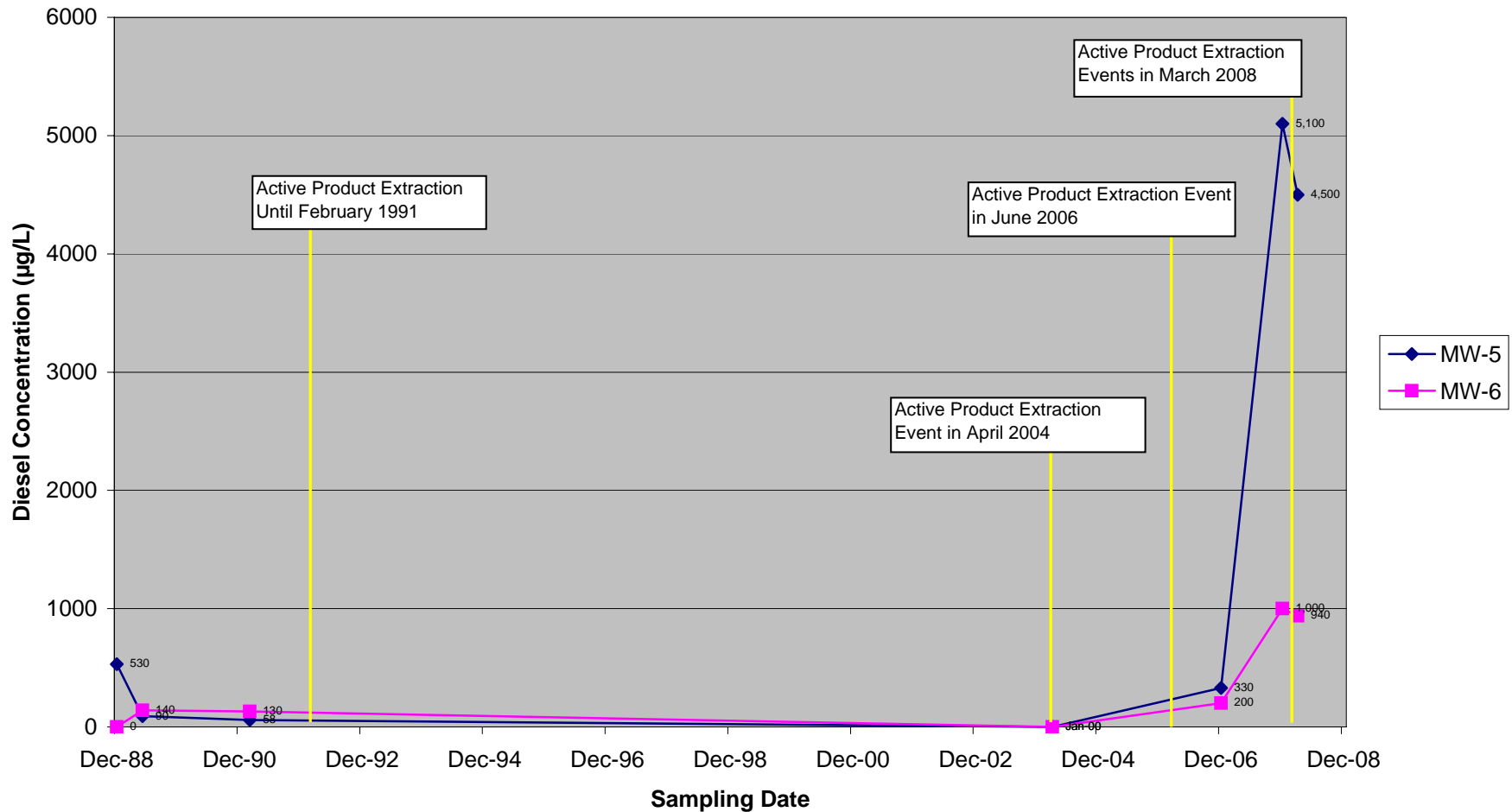
**TOTAL PETROLEUM HYDROCARBON PLUME AS DIESEL**  
**6400 Christie Ave., Emeryville, CA**

**Figure 7**

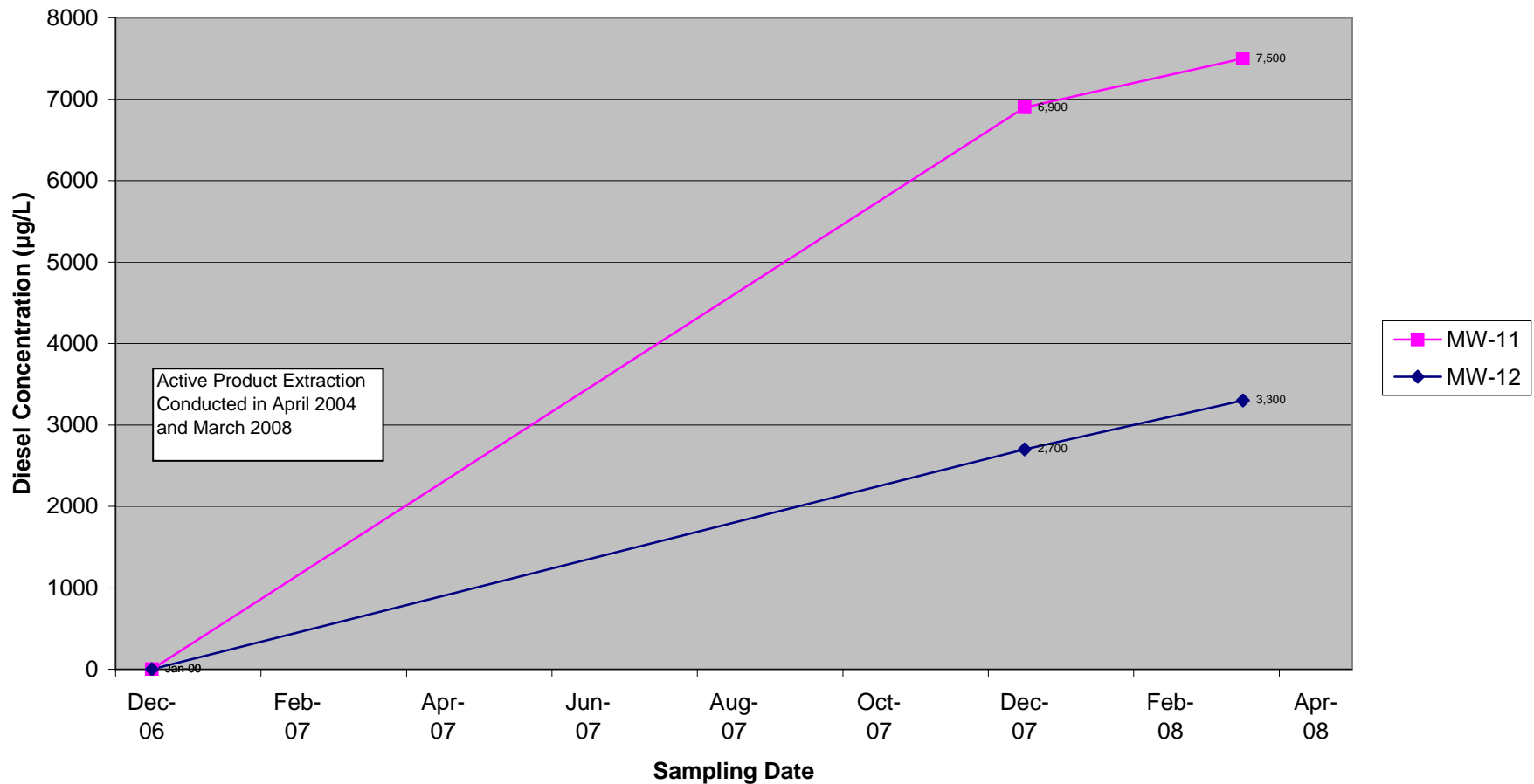
by: MJC

APRIL 2008

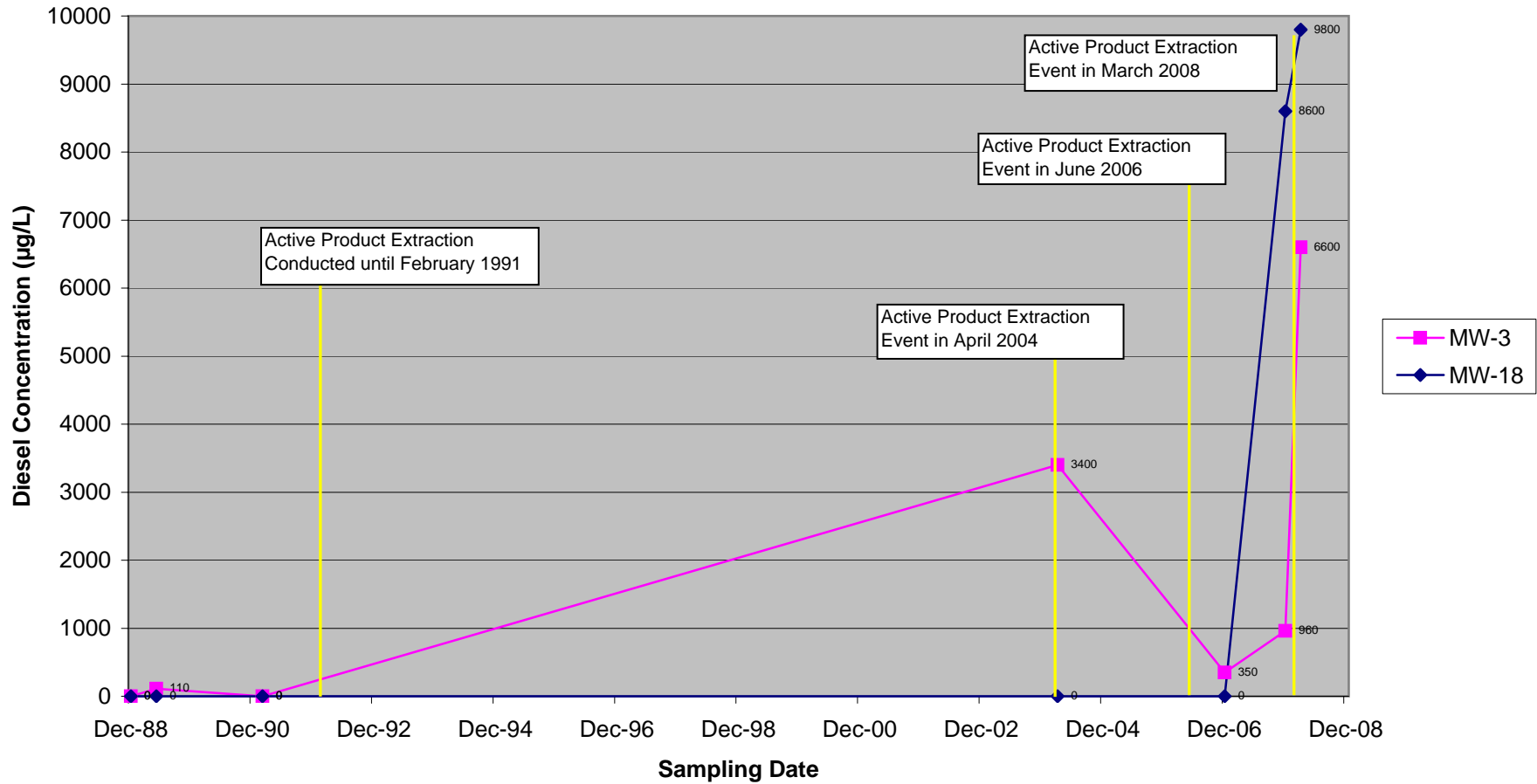
**Figure 8**  
**Historical Groundwater Analytical Results**  
**Total Petroleum Hydrocarbons as Diesel (TPHd)**  
**Downgradient Wells MW-5 and MW-6**  
**December 1988 - March 2008**



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



**Figure 10**  
**Historical Groundwater Analytical Results**  
**Total Petroleum Hydrocarbons as Diesel (TPHd)**  
**Crossgradient Well MW-3 and MW-18**  
**December 1988 - March 2008**



The Water Board publishes ESLs for residential and commercial/industrial properties where groundwater is/is not a potential drinking water resource. As stipulated in the ESL document (Water Board, 2007), ESLs are not cleanup criteria; rather, they are conservative screening-level criteria designed to be protective of both drinking water resources and aquatic environments in general. The groundwater ESLs are composed of one or more components—including ceiling value, human toxicity, indoor air impacts, and aquatic life protection. Exceedance of ESLs suggests that additional remediation and/or investigation may be warranted, such as monitoring plume stability to demonstrate no risk to sensitive receptors in the case of sites where drinking water is not threatened. Because the subject property is a residential property where groundwater is not a potential drinking water resource (as stipulated above), the contaminant levels at the site will be compared to the ESLs for these criteria.

Contaminants detected above the ESLs during this sampling event include gasoline, diesel, benzene, toluene, ethylbenzene, and total xylenes. In general, concentrations of all of these contaminants have increased significantly from the previous December 2007 sampling event.

## **5.0 FREE-PHASE HYDROCARBON PRODUCT REMEDICATION SYSTEM**

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

### **LNAPL REMEDIATION SYSTEM CONSTRUCTION**

In an attempt to maximize free product removal, PES constructed three trenches, each containing three sump wells, in the northeastern area of the Emery Bay Phase I Condo parking garage. Historically, this area has had the highest concentrations of contamination and accumulation of free product. The trenches (TA, TB, and TC) extend to depths between approximately 12.5 and 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 between 6 to 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). Appendix D contains the trench schematic. Passive skimmers, manufactured by QED Environmental Systems (of Oakland, California), were then placed in each of the sumps in Trench A.

During a site inspection in November 2007, SES noted two skimmers in each of the sumps in Trench A, no skimmers in Trench B, and one skimmer in Trench C in sump TC-E. The skimmers operate by floating on the surface of the water. Water and free product collect in a filtration reservoir, which allows water to pass through. A tube connected to the reservoir then filters the collected free product into a collection reservoir located below the water surface. The reservoir can be emptied by opening a valve located on the bottom of the cylindrical shaped reservoir. Each of these skimmers is attached to the sump lid by a rope, and can be removed and transferred to another sump as needed.



**Table 3**  
**Trench Product Extraction**  
**February and March 2008**

Trench ID	Number of Skimmers in Well	Total Product Removed (gallons)				
		February 15	February 29	March 17	March 24	Total
TA-E	2	0.2	NA	NA	NA	0.2
TA-M	2	0.3	NA	0.1	0.002	0.402
TA-W	2	0.5	NA	NA	0.008	0.508
TB-E	0	NA	NA	NA	NA	NA
TB-M	0	NA	NA	NA	NA	NA
TB-W	0	NA	NA	NA	NA	NA
TC-E	1	NA	NA	NA	NA	NA
TC-M	0	NA	NA	NA	NA	NA
TC-W	0	NA	NA	NA	NA	NA
<b>Total Product Removed</b>		<b>1.0</b>	<b>NA</b>	<b>0.1</b>	<b>0.01</b>	<b>1.11</b>

Note:

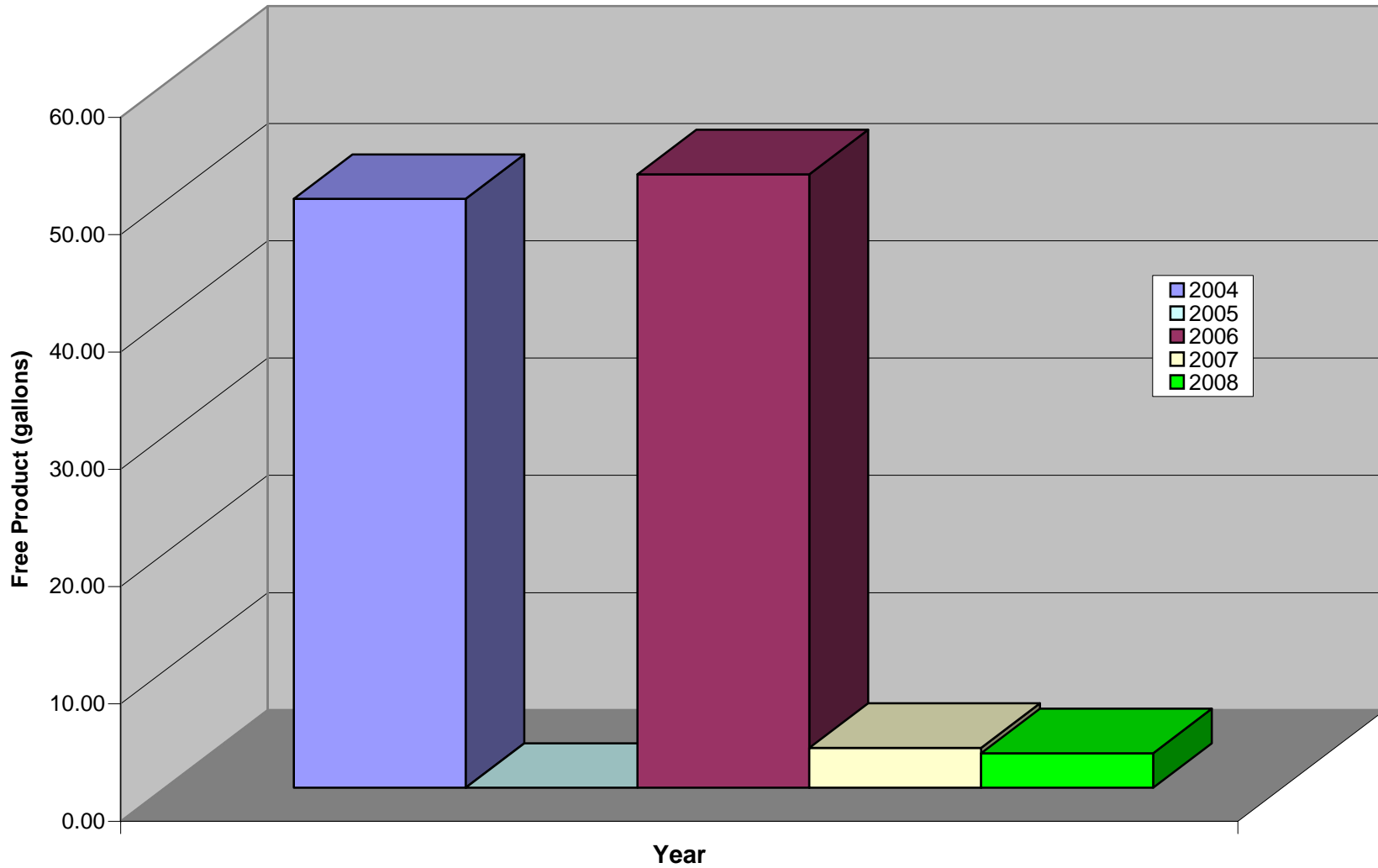
NA = No skimmer was located in the well, or no product was extracted.

## HISTORICAL FREE PRODUCT EXTRACTION

As mentioned under “Previous Investigations” in Section 1.0, contaminated soil and groundwater was discovered during the removal of 12 UFSTs from the Emery Bay Phase I and Phase II parcels in approximately 1986. 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 1,000,000 gallons of water yielding 100 gallons of hydrocarbon product was removed from RW-1 during its operation (PES, 2007). However, corrosion and other mechanical problems caused the system to fail in 1991, and it was decommissioned in 1994. In February 2008, SES removed all of the old parts of the system from the well vault.

In 2004, PES began manual extraction on RW-1 and was reported to have removed approximately 48 gallons of LNAPL (PES, 2004a), although whether that was pure product or product mixed with water is unclear. To accelerate free product removal, PES constructed a new LNAPL hydrocarbon remediation system (described below) between April and May 2004 (PES, 2007). Several extraction events were conducted by PES from May 2004 through March 2007; the extraction events yielded a total of approximately 51 gallons of LNAPL. No extraction events were conducted by PES in 2005; approximately 50 gallons of hydrocarbons were removed in 2006; and approximately 0.6 gallon of

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



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

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

### **FEBRUARY 2008 AND MARCH 2008 PRODUCT REMOVAL EVENTS**

Historical yield from the trench recovery system has not been very productive, with the 1-liter passive skimmer collection reservoirs not filling up completely, or filling up with water rather than product. The highest hydrocarbon product yield has been active pumping on recovery well RW-1 or at various other wells. SES conducted passive skimmer product removal on the trench wells, and active pumping on the trench wells, recovery well RW-1, and monitoring wells during the February 2008 and March 2008 removal events. The skimmers were also emptied during the March 24, 2008 groundwater monitoring event. A total of approximately 1,100 gallons of groundwater yielding 3 gallons of free product, 0.17 pound of gasoline suspended in groundwater, and 0.25 pound of diesel suspended in groundwater was removed in total during the three removal events. Table 3 shows the total amount of free product removed from the collection skimmers located in Trenches A and C. Table 4 shows the total amount of product actively removed by pumping based on the total amount of groundwater/product removed for the three active extraction events. The following discusses removal activities for each product removal event.

On February 15, 2008, SES removed a total of 1 gallon of LNAPL from the skimmers in the three sump wells in Trench A. Approximately 105 gallons of groundwater/product was removed actively from the three sump wells. There are currently no skimmers located in Trench B; however, SES actively removed approximately 52 gallons of groundwater/product from these three sump wells. In Trench C, the skimmer was filled with water, not product. SES emptied the water, and removed 55 gallons of groundwater/product from these three sump wells. SES also removed 150 gallons of groundwater/product from the recovery well RW-1 and 10 gallons from monitoring well MW-3. This yielded a total of 372 gallons of groundwater removed, which included approximately 1 gallon of free product.

**Table 4**  
**Active Product Extraction**  
**February and March 2008**

Well	Total Product Removed (gallons)			
	February 15	February 29	March 17	Total
MW-3	0.03	NP	NP	0.03
MW-5	NP	0.05	NP	0.05
MW-6	NP	NP	0.02	0.02
MW-7	NP	NP	0.002	0.002
MW-8	NP	NP	0.02	0.02
MW-9	NP	NP	0.001	0.001
MW-10	NP	NP	0.04	0.04
MW-11	NP	NP	0.02	0.02
MW-12	NP	NP	0.03	0.03
MW-13	NP	NP	0.004	0.004
MW-14	NP	NP	0.01	0.01
MW-15	NP	NP	0.02	0.02
MW-16	NP	NP	0.01	0.01
MW-17	NP	NP	0.01	0.01
MW-18	NP	NP	0.003	0.003
MW-E	NP	NP	0.012	0.012
RW-1	0.45	0.45	0.30	1.2
TA-E	0.08	0.15	0.09	0.32
TA-M	0.06	0.15	0.06	0.27
TA-W	0.18	0.30	0.09	0.57
TB-E	0.04	NP	NP	0.04
TB-M	0.06	NP	NP	0.06
TB-W	0.06	NP	NP	0.06
TC-E	0.08	NP	0.06	0.14
TC-M	0.05	NP	NP	0.05
TC-W	0.05	NP	NP	0.05
<b>Total</b>	<b>1.14</b>	<b>1.10</b>	<b>0.802</b>	<b>3.04</b>

Notes:

NP = not purged

Product removal estimates are based on the total amount of free product measured in the purge tank (3.22 gallons) versus the total amount of groundwater purged (1008.66 gallons), which yields 0.003 gallons of product per gallon of purge water.

On February 29, 2008, no product was present in any of the trench well skimmers; however, 200 gallons of groundwater/product was removed from Trench A. SES removed 150 gallons of groundwater/product on RW-1, and removed all of the old equipment left from the original groundwater pump-and-treat system decommissioned in 1991. A total of 15 gallons was removed from the monitoring well MW-5. This totaled 365 gallons of groundwater, which yielded approximately 1 gallon of free product.

On March 17, 2008, SES removed 1.33 gallons of groundwater/product from MW-13, 8.83 gallons from MW-12, 13 gallons from MW-10, 7.5 gallons from MW-15, 3.5 gallons from MW-14, 8 gallons from MW-8, 3.5 gallons from MW-16, 1 gallon from MW-18, 0.5 gallon from MW-9, 6 gallons from MW-E, 0.5 gallon from MW-7, 6 gallons from MW-11, 4 gallons from MW-17, 8 gallons from MW-6, and 100 gallons from RW-1. SES also removed 20 gallons of groundwater/product from Trench C and 80 gallons from Trench A. Only 0.25 gallon of LNAPL was removed from the skimmers in Trench A. In total, 271.66 gallons of groundwater was removed, which yielded approximately 1 gallon of free product. An additional 0.01 gallon was removed from the skimmers in Trench A during the March 24, 2008 groundwater monitoring event.

All purge water and free product extracted during this and previous events were disposed of by Evergreen Environmental on April 28, 2008. Appendix F contains the disposal manifest and recycling certificate.

## **DISCUSSION**

As mentioned under “Historical Free Product Extraction” in 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, and it is unclear in the PES documentation if this removal was actually pure product or a mix of product and water. The recovery by PES from the start of 2007 through October 2007, when SES assumed environmental consulting activities, was limited to 0.6 gallon collected from the skimmers. In addition, there has been no removal of free product from well RW-1 since 2004, at which time approximately 50 gallons of free product was removed by active pumping. The majority of free product apparently was removed from active pumping and removal activities rather than from the trench well skimmers. Thus, we conclude that the trench recovery system is not effective. In 2007, passive extraction of free product through trench well skimmers only removed 3.41 gallons.

As demonstrated by the March 2008 analytical data, the perimeter well concentrations were slightly reduced by the four 2008 product removal events. Concurrently, hydrocarbon concentrations in the source area wells significantly increased or showed very little change from the previous monitoring

events. This is to be expected as active pumping on the source area wells should draw more of the contamination into these locations. However, the effect of active pumping is minimal, and further events (both active and passive product extraction as well as groundwater monitoring) should be conducted to determine the effectiveness of this remedy.

The only definitive environmental change over the past year has been the recent (2006-2007 and 2007-2008) lower-than-normal rainfall. This lower groundwater elevation may have released some previously sorbed hydrocarbons. In addition, because there is no history of quarterly monitoring events, there is no way to compare the spring season concentrations from this event to those of the past. Thus, the high concentrations observed in this monitoring event may represent a real increase due to lowering groundwater elevations and subsequent recharge, as well as normal season increases not previously recorded.

More active remediation will likely be required on this site to reduce the concentrations to levels acceptable to the regulatory community and achieve eventual regulatory closure. However, with the exception of the current program of LNAPL removal from the skimmers and wells, no additional active remedies are proposed until the completion of the four consecutive quarterly sampling events are complete. This will ensure that hydrochemical and hydrologic variability can be factored into the development of an appropriate remedy.

## 6.0 SUMMARY, CONCLUSIONS, AND PROPOSED ACTIONS

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### FINDINGS AND CONCLUSIONS

- The subject property parcel was developed as early as 1958 with the Motor Freight Station, associated with the 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.
- There are currently a total of 17 monitoring wells, one recovery well, and nine-product extraction trench wells onsite. This is the seventh sampling event conducted since 1988.
- Site geological conditions consist of a combination of fill and soft bay sediment to between 15 and 20 feet bgs, covered by approximately 1 to 2½ feet of pavement and imported fill. The upper 20 feet of firm bearing soil is primarily dense silty sand with intermittent layers of silty and sandy clay. Stiff to very stiff clay extends from a depth of approximately 40 feet to approximately 102 feet.
- The groundwater direction during this monitoring event was found to be to the west-northwest, toward San Francisco Bay.
- Groundwater elevations in the March 2008 monitoring event ranged from 7.00 to 9.80 feet above mean sea level, and the groundwater gradient is approximately 0.004 feet per foot.
- Current contaminants of concern include TPHg, TPHd, MTBE, and BTEX. Current groundwater concentrations exceeded the ESLs for contaminants in groundwater.
- Gasoline was detected in MW-3, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, MW 15, MW-17, MW-E, and RW-1 above the Water Board ESL where groundwater is and is not a drinking water resource (100 µg/L). Gasoline was also detected in MW-4 and MW-16, but below the ESL.

- Diesel was detected in all sampled site wells above the ESL where groundwater is not a drinking water resource (100 µg/L). In general, concentrations were 1 to 5 orders of magnitude higher than the previous sampling event. Significant increases in TPHd concentrations in MW-10 (from 4,700 µg/L in December 2007 to 280,000 µg/L in March 2008) and RW-1 (from 2,100 in the December 2007 event to 11,000 in the March 2008 event) are most likely a direct response to the groundwater purging conducted on Trenches A and B and well RW-1 during the February and March 2008 active product extraction events. Concentrations of diesel in MW-3 (6,600 µg/L)—a crossgradient well—was significantly above the 2007 concentration.
- Concentrations of benzene exceeded the ESL of 500 µg/L where groundwater is not a drinking water resource for MW-8, MW-10, MW-12, MW-13, MW-14, MW-15, MW-17, and MW-E. Concentrations of benzene were also found in MW-5, MW-6, MW-7, MW-9, MW-11, MW-16, MW-18, and RW-1, but were below the ESL. The concentration of toluene was found to be above the 500-µg/L ESL in MW-13. Ethylbenzene and total xylene concentrations in MW-8 and MW-13 were above the 400-µg/L and 420-µg/L ESLs, respectively. Concentrations of MTBE were found in MW-3, MW-10, MW-11, MW-15, MW-17, MW-18, and MW-E, but were below the 100-µg/L ESL for non-drinking water.
- SES conducted passive skimmer product removal on the trench wells, and active pumping on the trench wells, recovery well RW-1, and monitoring wells during the February 2008 and March 2008 removal events. The skimmers were also emptied during the March 24, 2008 groundwater monitoring event. A total of approximately 1,100 gallons of groundwater yielding 3 gallons of free product, 0.17 pound of gasoline suspended in groundwater, and 0.25 pound of diesel suspended in groundwater was removed in total during the three removal events.
- Recent increases in total petroleum hydrocarbon concentrations on the source area wells is likely due to the active pumping conducted in February and March 2008, which drew the contaminant plume back in to these wells. Increases in petroleum hydrocarbon concentrations in general may be due to seasonal fluctuations, as demonstrated by comparing the current data to the March 2004 data. However, further sampling events are needed to obtain a full range of seasonal data over the course of at least 1 year.
- The trench recover system, where free product is designed to collect in 1-liter skimmers, is not effective. Pumping at various wells is critical to maintaining some dynamic equilibrium so that the plume does not migrate outbound. While the passive free product removal system in trench sump wells does remove some free product, it appears inadequate in controlling plume migration in the absence of other removal actions.



## RECOMMENDATIONS

- Groundwater monitoring of site wells on a quarterly basis should be continued to establish the baseline to meet site closure criteria. This will also aid in better understanding the dynamic equilibrium of the plume, and the measures needed to stabilize and reduce it to ultimately achieve site closure. Quarterly monitoring will allow for an evaluation of seasonal hydrocarbon plume trends and groundwater directional flow.
- Continue active and passive free product removal events to ascertain their effectiveness in reducing the plume size over time.
- Request a meeting with ACEH now that a new case officer has been identified so that the discussion of a roadmap to regulatory closure can be completed.
- Continue to upload electronic uploads to ACEH's ftp system and the State Water Board's GeoTracker system.
- In our professional opinion, the current program of quarterly groundwater monitoring, as well as both active and passive free product removal, are the appropriate actions to further evaluate the magnitude and stability of the contaminant plume over a one-year period.
- Following the completion of the four consecutive quarterly sampling events designed to discern hydrochemical and hydrologic variability, the evaluation and development of an appropriate additional active remediation should be completed.

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---

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## 8.0 LIMITATIONS

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

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

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

## **APPENDIX A**

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### **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	4.3

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



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

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	<0.5	<0.5	<2.0

MW-7									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in March 2004									
4	Mar-04	1,600	490	1,900	240	100	14	56	<2.5
5	Dec-06	420	<25	470	<0.5	<0.5	<0.5	<0.5	<1.0
6	Dec-07	6,300	3,100	NA	640	28	48	231	<10
7	Mar-08	7,000	360	NA	140	5.8	11	58	<2.0

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

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

MW-10									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in March 2004									
4	Mar-04	840,000	14,000	<100,000	4,000	77	200	120	<50
5	Dec-06	19,000	12,000	<4,000	4,600	42	90	52	<50
6	Dec-07	4,700	13,000	NA	5,300	96	42	86	<50
7	Mar-08	280,000	10,000	NA	2,600	50	37	58.7	22

MW-11									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in May 2004									
5	Dec-06	<50	920	<200	26	4.5	1.8	5.4	<1.0
6	Dec-07	6,900	1,500	NA	320	44	53	140	<2.0
7	Mar-08	7,500	1,200	NA	120	7.6	10	24.9	3.0

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

MW-13									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in April 2004									
5	Dec-06	12,000	87,000	2,100	18,000	470	2,400	3,500	<400
6	Dec-07	NA	68,000	NA	19,000	650	1,700	2,440	<100
7	Mar-08	1,100,000	98,000	NA	19,000	820	2,300	3,190	<100

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

MW-15									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in April 2004									
5	Dec-06	<50	9,200	<200	3,700	<25	60	57	<50
6	Dec-07	3,300	8,100	NA	3,000	48	28	44.5	<20
7	Mar-08	3,000	13,000	NA	3,600	66	210	59.5	64

MW-16									
Sampling Event No.	Date Sampled	TEH-d	TVH-g	TEH-mo	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Installed in April 2004									
5	Dec-06	<50	190	<200	11.0	1.4	<0.5	<0.5	<1.0
6	Dec-07	8,500	71	NA	13	2.6	<0.5	1.46	<2.0
7	Mar-08	12,000	60	NA	11	0.73	<0.5	<0.5	<2.0

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

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

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

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

**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**

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### **Groundwater Monitoring Field Data Sheets**

## WELL GAUGING DATA

Project # C80324-DRI Date 3/24/08 Client Skeller

Site 65th and Bay St. Emeryville CA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
MW-2	+	Well	not	accessible. Covered by asphalt						
MW-3	0919	2		8.70	0.02		8.72	22.18		
MW-4	0924	2					7.24	24.87		
MW-5	0927	2					9.72	24.80		
MW-6	0930	2					7.02	23.22		
MW-7	0907	3/4					10.51	19.54		
MW-8	0948	3/4		9.18	1.32		10.50	—		
MW-9	0911	3/4					9.77	19.29		
MW-10	1002	3/4		8.98	0.30		9.28	—		
MW-11	0916	3/4					10.34	18.72		
MW-12	0920	3/4					9.11	18.75		
MW-13	0952	3/4		9.54	0.48		10.02	—		
MW-14	0934	3/4		8.88	0.03		8.91	—		
MW-15	0940	3/4		9.18	0.02		9.20	—		
MW-16	0924	3/4					9.88	18.06		
MW-17	0940	3/4		9.18	0.16		9.34	—		
MW-18	0946	3/4					8.34	19.34	✓	

# WELL GAUGING DATA

Project # 080324-DR1 Date 3/24/08 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	Tech cont	
										H <sub>2</sub> O	SPT
MW-E	0930	2					10.21	44.88			
RW-1	1012	10		8.92	0.07		8.99	—			
TA-W	1205	10				30 mL	8.36	—		0 mL	30 mL
TA-M	1202	10		8.38	0.01	10 mL	8.39	—		10 mL	10 mL
TA-E	1159	10		8.40	0.02		8.42	—		20 mL	0
TB-W	1129	10					8.55	—			
TB-M	1132	10					8.50	—			
TB-E	1135	10					8.42	—			
TC-W	1103	10					8.97	—			
TC-M	1106	10					9.16	—			
TC-E	1109	10					8.96	—		1000 mL	0 SPT

1311  
1320  
1330



# WELLHEAD INSPECTION CHECKLIST

Date 3/24/08 Client Stellar  
 Site Address 65th & Bay St. Emeryville CA.  
 Job Number 080324-DR1 Technician DR

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-2	* Not	accessible.	Covered by	asphalt.				
MW-3							XA	
MW-4							XA	
MW-5							XA	
MW-6							XA	
MW-17							X	
MW-8	X							
MW-10	X							
RW-1							X	

NOTES: XA = Checky box      MW-17 - 1 bolt. No cap.  
RW-1 - 1 bolt. No cap.









## WELL MONITORING DATA SHEET

Project #: <u>0803 24 - DR 1</u>	Client: <u>SEI/er</u>
Sampler: <u>DR</u>	Date: <u>3/24/08</u>
Well I.D.: <u>MW-2</u>	Well Diameter: 2 3 4 6 8 <u>    </u>
Total Well Depth (TD): <u>    </u>	Depth to Water (DTW): <u>    </u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): <u>YSI</u> <u>HACH</u>
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: <u>Bailer</u> Disposable Bailer Positive Air Displacement Electric Submersible <del>Watterra Peristaltic Extraction Pump</del> Other: <u>    </u>	Sampling Method: <u>Bailer</u> Disposable Bailer Extraction Port Dedicated Tubing Other: <u>    </u>
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_____ (Gals.) X _____ = _____ Gals. I Case Volume                  Specified Volumes                  Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
						<u>* Can not access well. Must be covered w/ asphalt. Can not locate the well.</u>

Did well dewater?    Yes    No	Gallons actually evacuated: _____
Sampling Date: _____	Sampling Time: _____
Sample I.D.: <u>MW-2</u>	Laboratory: <u>Kiff</u> <u>CalScience</u> <u>Other</u>
Analyzed for: <u>TPH-G</u> <u>BTEX</u> <u>MTBE</u> <u>TPH-D</u> <u>Oxygenates (5)</u> <u>Other:</u>	
EB I.D. (if applicable): _____ @ _____ Time	Duplicate I.D. (if applicable): _____
Analyzed for: <u>TPH-G</u> <u>BTEX</u> <u>MTBE</u> <u>TPH-D</u> <u>Oxygenates (5)</u> <u>Other:</u>	
D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: _____ mg/L
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV



## WELL MONITORING DATA SHEET

Project #: <u>080324-DR</u>	Client: <u>Stellar</u>
Sampler: <u>DR</u>	Date: <u>3/24/08</u>
Well I.D.: <u>MW-4</u>	Well Diameter: <u>3</u> 3 4 6 8 _____
Total Well Depth (TD): <u>24.87</u>	Depth to Water (DTW): <u>7.24</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailer <input checked="" type="checkbox"/> Disposable Bailer Positive Air Displacement Electric Submersible	Waterra Peristaltic Extraction Pump Other _____	Sampling Method: Bailer <input checked="" type="checkbox"/> Disposable Bailer Extraction Port Dedicated Tubing Other: _____
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$\underline{2.8} \text{ (Gals.)} \times \underline{3} = \underline{8.4} \text{ Gals.}$ 1 Case Volume                      Specified Volumes                      Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1112	16.2	6.4	1209	223	2.8	cloudy/color
1116	16.4	6.7	1217	229	5.6	"
1120	16.2	6.8	1222	230	8.4	"

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>8.4</u>
Sampling Date: <u>3/24/08</u>	Sampling Time: <u>1125</u> Depth to Water:
Sample I.D.: <u>MW-4</u>	Laboratory: Kiff CalScience Other <u>CTF</u>
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: <u>Sec CoC</u>	
EB I.D. (if applicable): @ _____ Time	Duplicate I.D. (if applicable):
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:	
D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: _____ mg/L
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV







## WELL MONITORING DATA SHEET

Project #: <b>080329-DR1</b>	Client: <b>PES</b>
Sampler: <b>MD</b>	Date: <b>03/24/08</b>
Well I.D.: <b>MW-7</b>	Well Diameter: 2 3 4 6 8 <b>(3/4)</b>
Total Well Depth (TD): <b>19.54</b>	Depth to Water (DTW): <b>10.51</b> <span style="float: right;">903</span>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <b>(PVE)</b> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <b>12.32</b>	

Purge Method: Bailer	Watterra	Sampling Method: Bailer
Disposable Bailer	<b>(Peristaltic)</b>	Disposable Bailer
Positive Air Displacement	Extraction Pump	Extraction Port
Electric Submersible	Other _____	Dedicated Tubing
		Other: <b>(New tubing)</b>

<b>0.27</b> (Gals.) X <b>3</b>	<b>= 0.81</b> 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	radius <sup>2</sup> * 0.163

**0.03** <sup>3/4</sup>

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1047	14.8	8.18	13.08	207	0.27	
1048	15.0	8.17	13.03	177	0.54	
1049	14.7	8.10	12.42	136	0.81	
						Major bleed on!
						ALL lots of bubbles

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <b>0.81</b>
Sampling Date: <b>03/24/08</b> Sampling Time: <b>1111</b>	Depth to Water: <b>12.30</b>
Sample I.D.: <b>MW-7</b>	Laboratory: Kiff CalScience Other <b>(C+H)</b>
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: <b>See COC</b>	
EB I.D. (if applicable): @ _____ Time	Duplicate I.D. (if applicable):
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:	
D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: _____ mg/L
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV

## WELL MONITORING DATA SHEET

Project #: <u>080324 DR1</u>	Client: <u>S Keller</u>
Sampler: <u>DR</u>	Date: <u>3/25/08</u>
Well I.D.: <u>MW-8</u>	Well Diameter: 2 3 4 6 8 <u>3/4"</u>
Total Well Depth (TD): <u>—</u>	Depth to Water (DTW): <u>10.50</u>
Depth to Free Product: <u>9.18</u>	Thickness of Free Product (feet): <u>1.32</u>
Referenced to: <u>PVE</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>—</u>	

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

\_\_\_\_\_ (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	radius <sup>2</sup> * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
<u>0846</u>	<u>Start</u>	<u>Purge</u>				
<u>0852</u>	<u>End</u>	<u>Purge</u>				<u>No parameters taken per client due to SPIT in well.</u>

Did well dewater? Yes  No  Gallons actually evacuated: —

Sampling Date: 3/25/08 Sampling Time: 0855 Depth to Water: \_\_\_\_\_

Sample I.D.: MW-8 Laboratory: Kiff CalScience Other C+T

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

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

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

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





## WELL MONITORING DATA SHEET

Project #: 080324-DRL	Client: Spiller
Sampler: MD	Date: 3/24/08
Well I.D.: MW-11	Well Diameter: 2 3 4 6 8 3/4
Total Well Depth (TD): 18.72	Depth to Water (DTW): 10.34
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]:	

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
--	---	--

0.25 (Gals.) X 3 = 0.75 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	radius <sup>2</sup> * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1246	14.5	7.80	2878	31	.25	
1247	14.6	7.81	2881	20	.50	
1248	14.6	7.81	2879	11	.75	

Did well dewater? Yes  No  Gallons actually evacuated: 0.75

Sampling Date: 03/24/08 Sampling Time: 1257 Depth to Water: 13.79

Sample I.D.: MW-11 Laboratory: Kiff CalScience Other: CFP

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

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

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

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

## WELL MONITORING DATA SHEET

Project #: <u>080324 <del>DR1</del></u>	Client: <u>PES</u>
Sampler: <u>MO</u>	Date: <u>03/24/08</u>
Well I.D.: <u>MW-12</u>	Well Diameter: 2 3 4 6 8 <u>(3A)</u>
Total Well Depth (TD): <u>18.75</u>	Depth to Water (DTW): <u>09.11</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

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

$0.29$ (Gals.) X <u>3</u> = <u>0.87</u> Gals. I Case Volume                  Specified Volumes                  Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
<u>1210</u>	<u>14.0</u>	<u>7.59</u>	<u>1538</u>	<u>27</u>	<u>0.29</u>	
<u>1312</u>	<u>14.1</u>	<u>7.50</u>	<u>1467</u>	<u>13</u>	<u>0.58</u>	
<u>1314</u>	<u>14.1</u>	<u>7.49</u>	<u>1455</u>	<u>9</u>	<u>0.87</u>	

Did well dewater? Yes <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>0.87</u>	
Sampling Date: <u>03/24/08</u>	Sampling Time: <u>1331</u>	Depth to Water:
Sample I.D.: <u>MW-12</u>	Laboratory: Kiff - CalScience	Other: <u>CAP</u>
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5)	Other: <u>See CAC</u>	
EB I.D. (if applicable): @ _____ Time	Duplicate I.D. (if applicable):	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5)	Other:	
D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: _____ mg/L	
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV	

## WELL MONITORING DATA SHEET

Project #: <u>080324-DRI</u>	Client: <u>Skellin</u>
Sampler: <u>DR</u>	Date: <u>3/25/08</u>
Well I.D.: <u>MW-13</u>	Well Diameter: 2 3 4 6 8 <u>3/4"</u>
Total Well Depth (TD): <u>—</u>	Depth to Water (DTW): <u>10.02</u>
Depth to Free Product: <u>9.541</u>	Thickness of Free Product (feet): <u>0.48</u>
Referenced to: <u>(PVC)</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

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

\_\_\_\_\_ (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	radius <sup>2</sup> * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
<u>0925</u>	<u>Start Purge</u>					
<u>0931</u>	<u>End Purge</u>			<u>Rep numbers taken</u>		<u>due to</u>
				<u>SPT in well.</u>		
<u>* Due to draw down a high content of SPT</u>						<u>was sampled.</u>
<u>Double bagged all samples for extra protection.</u>						<u>Submit samples as is per client.</u>

Did well dewater? Yes  No  Gallons actually evacuated: —

Sampling Date: 3/25/08 Sampling Time: 0935 Depth to Water: \_\_\_\_\_

Sample I.D.: MW-13 Laboratory: Kiff CalScience Other CFT

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 #: <u>803241 DR1</u>	Client: <u>Skinner</u>
Sampler: <u>DR</u>	Date: <u>3/25/08</u>
Well I.D.: <u>MW-15</u>	Well Diameter: 2' 3 4 6 8 <u>3/4"</u>
Total Well Depth (TD): <u>          </u>	Depth to Water (DTW): <u>9.20</u>
Depth to Free Product: <u>9.18</u>	Thickness of Free Product (feet): <u><del>9.18</del> DR 0.02</u>
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

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

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

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
0828	Start	Purge				
0834	End	Purge				No parameters per client due to SPH in well

Did well dewater? Yes <input type="radio"/> No <input checked="" type="radio"/>	Gallons actually evacuated: <u>          </u>	
Sampling Date: <u>3/25/08</u>	Sampling Time: <u>0840</u>	Depth to Water: <u>          </u>
Sample I.D.: <u>MW-15</u>	Laboratory: Kiff CalScience Other: <u>CAT</u>	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: <u>See Col</u>		
EB I.D. (if applicable): <u>          </u> @ <u>          </u> Time	Duplicate I.D. (if applicable): <u>          </u>	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: <u>          </u>		
D.O. (if req'd): Pre-purge: <u>          </u> mg/L	Post-purge: <u>          </u> mg/L	
O.R.P. (if req'd): Pre-purge: <u>          </u> mV	Post-purge: <u>          </u> mV	

## WELL MONITORING DATA SHEET

Project #: <u>080324 - <del>M21</del></u>	Client: <u>PES</u>
Sampler: <u>MD</u>	Date: <u>03/24/08</u>
Well I.D.: <u>MW-16</u>	Well Diameter: 2 3 4 6 8 <u>7.75</u>
Total Well Depth (TD): <u>18.06</u>	Depth to Water (DTW): <u>09.88</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

Purge Method: Bailer	Waterra	Sampling Method: Bailer
Disposable Bailer	<u>Peristaltic</u>	Disposable Bailer
Positive Air Displacement	Extraction Pump	Extraction Port
Electric Submersible	Other _____	Dedicated Tubing
		Other: <u>7.75 x 1.662</u>

0.25 (Gals.) X 3 = 0.75 Gals.  
 1 Case Volume      Specified Volumes      Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.44
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1349	14.3	10.34	3061	68	0.25	
1351	14.4	10.42	3062	97	0.50	
1353	13.7	10.42	52.10 <u>µS</u>	196	0.75	

Did well dewater? Yes  No  Gallons actually evacuated: 0.75

Sampling Date: 03/24/08 Sampling Time: 1411 Depth to Water: —

Sample I.D.: MW-16 Laboratory: Kiff CalScience Other CAP

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 #: <u>080324-DR1</u>	Client: <u>Stiller</u>
Sampler: <u>DR</u>	Date: <u>3/24/08</u>
Well I.D.: <u>MW-17</u>	Well Diameter: 2 3 4 6 8 <u>3/4</u>
Total Well Depth (TD): <u>→</u>	Depth to Water (DTW): <u>9.34</u>
Depth to Free Product: <u>9.18</u>	Thickness of Free Product (feet): <u>0.16</u>
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	Waters: Peristaltic	Sampling Method: Bailer
Disposable Bailer	Extraction Pump	Disposable Bailer
Positive Air Displacement	Other _____	Extraction Port
Electric Submersible		Dedicated Tubing
		Other: <u>New Poling</u>

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

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1322	Started	Purge	No parameters due to SPIT in well.			
1328	End	Purge				

Did well dewater? Yes No <u>5</u>	Gallons actually evacuated: <u>→</u>	
Sampling Date: <u>3/24/08</u>	Sampling Time: <u>1330</u>	Depth to Water: _____
Sample I.D.: <u>MW-17</u>	Laboratory: Kiff CalScience Other <u>CTT</u>	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: <u>Σc CcC</u>		
EB I.D. (if applicable): _____ @ _____ Time	Duplicate I.D. (if applicable): _____	
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: _____		
D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: _____ mg/L	
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV	

## WELL MONITORING DATA SHEET

Project #: <u>080324-DR1</u>	Client: <u>PES</u>
Sampler: <u>MD</u>	Date: <u>03/24/08</u>
Well I.D.: <u>MW-18</u>	Well Diameter: 2 3 4 6 8 <u>7.4</u>
Total Well Depth (TD): <u>19.34</u>	Depth to Water (DTW): <u>08.34</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>RVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	

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

$\underline{0.33} \text{ (Gals.)} \times \underline{3} = \underline{0.99} \text{ Gals.}$ 1 Case Volume      Specified Volumes      Calculated Volume	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Well Diameter</th> <th>Multiplier</th> <th>Well Diameter</th> <th>Multiplier</th> </tr> </thead> <tbody> <tr> <td>1"</td> <td>0.04</td> <td>4"</td> <td>0.65</td> </tr> <tr> <td>2"</td> <td>0.16</td> <td>6"</td> <td>1.47</td> </tr> <tr> <td>3"</td> <td>0.37</td> <td>Other</td> <td>radius<sup>2</sup> * 0.163</td> </tr> </tbody> </table>	Well Diameter	Multiplier	Well Diameter	Multiplier	1"	0.04	4"	0.65	2"	0.16	6"	1.47	3"	0.37	Other	radius <sup>2</sup> * 0.163
Well Diameter	Multiplier	Well Diameter	Multiplier														
1"	0.04	4"	0.65														
2"	0.16	6"	1.47														
3"	0.37	Other	radius <sup>2</sup> * 0.163														

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1422	14.2	7.37	7520	238	0.33	
1424	14.4	7.27	7661	175	0.66	
1426	14.6	7.25	7746	93	0.99	

Did well dewater? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Gallons actually evacuated: <u>0.99</u>
Sampling Date: <u>03/24/08</u> Sampling Time: <u>1441</u>	Depth to Water:
Sample I.D.: <u>MW-18</u>	Laboratory: Kiff CalScience Other: <u>CTP</u>
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: <u>see cert</u>	
EB I.D. (if applicable): @ _____ Time	Duplicate I.D. (if applicable):
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:	
D.O. (if req'd): Pre-purge: _____ mg/L	Post-purge: _____ mg/L
O.R.P. (if req'd): Pre-purge: _____ mV	Post-purge: _____ mV

## WELL MONITORING DATA SHEET

Project #: <u>080324-DRI</u>	Client: <u>Stellar</u>
Sampler: <u>DR</u>	Date: <u>3/24/08</u>
Well I.D.: <u>MW-E</u>	Well Diameter: <u>(2)</u> 3 4 6 8
Total Well Depth (TD): <u>44.88</u>	Depth to Water (DTW): <u>10.21</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <u>17.14</u>	

Purge Method: Bailer <input checked="" type="checkbox"/> Disposable Bailer <input type="checkbox"/> Positive Air Displacement <input type="checkbox"/> Electric Submersible	Waterra Peristaltic Extraction Pump <input checked="" type="checkbox"/> Other <u>New 5/8 tubing w/ check valve</u>	Sampling Method: Bailer <input checked="" type="checkbox"/> Disposable Bailer <input type="checkbox"/> Extraction Port <input type="checkbox"/> Dedicated Tubing <input checked="" type="checkbox"/> Other: <u>New tubing</u>
--	---	---

5.5 (Gals.) X 3 = 16.5 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	radius <sup>2</sup> * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
1407	15.6	8.2	3651	329	5.5	clear
1415	15.6	7.8	4136	298	11.0	cloudy / clear
1423	15.6	7.7	4429	277	16.5	"

Did well dewater? Yes  No                   Gallons actually evacuated: 16.5

Sampling Date: 3/24/08                  Sampling Time: 1430                  Depth to Water:

Sample I.D.: MW-E                  Laboratory: Kiff    CalScience    Other: CAT

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

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

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

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

### WELL MONITORING DATA SHEET

Project #: <b>080324-DRI</b>	Client: <b>Stellar</b>
Sampler: <b>DR</b>	Date: <b>3/25/08</b>
Well I.D.: <b>RW-1</b>	Well Diameter: 2 3 4 6 8 <b>3/4"</b>
Total Well Depth (TD): <b>—</b>	Depth to Water (DTW): <b>8.99</b>
Depth to Free Product: <b>8.92</b>	Thickness of Free Product (feet): <b>0.07</b>
Referenced to: <b>PVC</b> Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: <b>—</b>	

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

(Gals.) X  =  Gals.  
 I 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	radius <sup>2</sup> * 0.163

Time	Temp (°F or °C)	pH	Cond. (mS or µS)	Turbidity (NTUs)	Gals. Removed	Observations
0945	Start	Purge				
0951	End	Purge		No	Parameters taken due	
				to SPIT in well		

Did well dewater? Yes  No  Gallons actually evacuated: **—**

Sampling Date: **3/25/08** Sampling Time: **1000** Depth to Water: **—**

Sample I.D.: **AW-1** Laboratory: Kiff CalScience Other **CIT**

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

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

### STATUS OF DRUM(S) UPON ARRIVAL

Date	12/27/07	12/28/07	3/24/08			
Number of drum(s) empty:						
Number of drum(s) 1/4 full:	1	1				
Number of drum(s) 1/2 full:		<del>1</del>	1 skelbr			
Number of drum(s) 3/4 full:						
Number of drum(s) full:		1	2 <sup>(1) BTS</sup>			
Total drum(s) on site:	1	2	3 <sup>(1) BTS</sup>			
Are the drum(s) properly labeled?	No <sup>(New BTS)</sup>	Y	Y			
Drum ID & Contents:	?	purge water & SPH →				
If any drum(s) are partially or totally filled, what is the first use date:			1			

- If you add any SPH to an empty or partially filled drum, drum must have <sup>1 500gal. P. by Full</sup> at least 20 gals. of Purgewater or DI Water.
- If drum contains SPH, the drum MUST be steel AND labeled with the appropriate label.
- All BTS drums MUST be labeled appropriately.

### STATUS OF DRUM(S) UPON DEPARTURE

Date	12/27/07	12/27/07	3/25/08			
Number of drums empty:						
Number of drum(s) 1/4 full:	1					
Number of drum(s) 1/2 full:		1	1 (Skelbr)			
Number of drum(s) 3/4 full:			1 (BTS)			
Number of drum(s) full:	1	1	2 <sup>(1) BTS</sup>			
Total drum(s) on site:	2	2	4			
Are the drum(s) properly labeled?	1 Yes 1 No	Y	Y			
Drum ID & Contents:	Purge H <sub>2</sub> O <sup>(BTS)</sup>	H <sub>2</sub> O & SPH →				

### LOCATION OF DRUM(S)

Describe location of drum(s): (corner of garage next to 65th St. | 3/25/08 1500 gal. P. by is full of SPH (skelbr))

### FINAL STATUS

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

## **APPENDIX C**

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# **Analytical Laboratory Report and Chain-of-Custody Record**





**Curtis & Tompkins Laboratories Analytical Report**

Lab #: 202174	Location: Bay Center Apts
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: STANDARD	
Matrix: Water	Received: 03/25/08
Units: ug/L	

Field ID: MW-5 Diln Fac: 1.000  
 Type: SAMPLE Sampled: 03/24/08  
 Lab ID: 202174-003

Analyte	Result	RL	Batch#	Analyzed	Analysis
Gasoline C7-C12	ND	50	136780	04/07/08	EPA 8015B
MTBE	ND	2.0	136780	04/07/08	EPA 8021B
Benzene	0.53	0.50	136716	04/03/08	EPA 8021B
Toluene	ND	0.50	136780	04/07/08	EPA 8021B
Ethylbenzene	ND	0.50	136780	04/07/08	EPA 8021B
m,p-Xylenes	ND	0.50	136780	04/07/08	EPA 8021B
o-Xylene	ND	0.50	136780	04/07/08	EPA 8021B

Surrogate	%REC	Limits	Batch#	Analyzed	Analysis
Trifluorotoluene (FID)	90	69-140	136780	04/07/08	EPA 8015B
Bromofluorobenzene (FID)	108	73-144	136780	04/07/08	EPA 8015B
Trifluorotoluene (PID)	89	60-146	136780	04/07/08	EPA 8021B
Bromofluorobenzene (PID)	106	65-143	136780	04/07/08	EPA 8021B

Field ID: MW-6 Diln Fac: 1.000  
 Type: SAMPLE Sampled: 03/24/08  
 Lab ID: 202174-004

Analyte	Result	RL	Batch#	Analyzed	Analysis
Gasoline C7-C12	ND	50	136716	04/03/08	EPA 8015B
MTBE	ND	2.0	136807	04/07/08	EPA 8021B
Benzene	0.87	0.50	136807	04/07/08	EPA 8021B
Toluene	1.0	0.50	136807	04/07/08	EPA 8021B
Ethylbenzene	ND	0.50	136807	04/07/08	EPA 8021B
m,p-Xylenes	ND	0.50	136807	04/07/08	EPA 8021B
o-Xylene	ND	0.50	136807	04/07/08	EPA 8021B

Surrogate	%REC	Limits	Batch#	Analyzed	Analysis
Trifluorotoluene (FID)	94	69-140	136716	04/03/08	EPA 8015B
Bromofluorobenzene (FID)	97	73-144	136716	04/03/08	EPA 8015B
Trifluorotoluene (PID)	81	60-146	136807	04/07/08	EPA 8021B
Bromofluorobenzene (PID)	86	65-143	136807	04/07/08	EPA 8021B

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



**Curtis & Tompkins Laboratories Analytical Report**

Lab #: 202174	Location: Bay Center Apts
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: STANDARD	
Matrix: Water	Received: 03/25/08
Units: ug/L	

Field ID: MW-11 Diln Fac: 1.000  
 Type: SAMPLE Sampled: 03/24/08  
 Lab ID: 202174-007

Analyte	Result	RL	Batch#	Analyzed	Analysis
Gasoline C7-C12	1,200	50	136716	04/03/08	EPA 8015B
MTBE	3.0 C	2.0	136807	04/07/08	EPA 8021B
Benzene	120	0.50	136716	04/03/08	EPA 8021B
Toluene	7.6 C	0.50	136716	04/03/08	EPA 8021B
Ethylbenzene	10	0.50	136716	04/03/08	EPA 8021B
m,p-Xylenes	19	0.50	136716	04/03/08	EPA 8021B
o-Xylene	5.9	0.50	136716	04/03/08	EPA 8021B

Surrogate	%REC	Limits	Batch#	Analyzed	Analysis
Trifluorotoluene (FID)	141 *	69-140	136716	04/03/08	EPA 8015B
Bromofluorobenzene (FID)	107	73-144	136716	04/03/08	EPA 8015B
Trifluorotoluene (PID)	82	60-146	136716	04/03/08	EPA 8021B
Bromofluorobenzene (PID)	92	65-143	136716	04/03/08	EPA 8021B

Field ID: MW-12 Sampled: 03/24/08  
 Type: SAMPLE Analyzed: 04/07/08  
 Lab ID: 202174-008

Analyte	Result	RL	Diln Fac	Batch#	Analysis
Gasoline C7-C12	33,000	1,300	25.00	136807	EPA 8015B
MTBE	ND	2.0	1.000	136780	EPA 8021B
Benzene	9,200	13	25.00	136807	EPA 8021B
Toluene	140	13	25.00	136807	EPA 8021B
Ethylbenzene	85	13	25.00	136807	EPA 8021B
m,p-Xylenes	96	13	25.00	136807	EPA 8021B
o-Xylene	20	0.50	1.000	136780	EPA 8021B

Surrogate	%REC	Limits	Diln Fac	Batch#	Analysis
Trifluorotoluene (FID)	90	69-140	25.00	136807	EPA 8015B
Bromofluorobenzene (FID)	90	73-144	25.00	136807	EPA 8015B
Trifluorotoluene (PID)	74	60-146	25.00	136807	EPA 8021B
Bromofluorobenzene (PID)	77	65-143	25.00	136807	EPA 8021B

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



**Curtis & Tompkins Laboratories Analytical Report**

Lab #: 202174	Location: Bay Center Apts
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: STANDARD	
Matrix: Water	Received: 03/25/08
Units: ug/L	

Field ID: MW-17	Batch#: 136807
Type: SAMPLE	Sampled: 03/24/08
Lab ID: 202174-011	Analyzed: 04/07/08

Analyte	Result	RL	Diln Fac	Analysis
Gasoline C7-C12	6,800	50	1.000	EPA 8015B
MTBE	21 C	2.0	1.000	EPA 8021B
Benzene	1,200	5.0	10.00	EPA 8021B
Toluene	110	0.50	1.000	EPA 8021B
Ethylbenzene	91	0.50	1.000	EPA 8021B
m,p-Xylenes	73	0.50	1.000	EPA 8021B
o-Xylene	21	0.50	1.000	EPA 8021B

Surrogate	%REC	Limits	Diln Fac	Analysis
Trifluorotoluene (FID)	118	69-140	1.000	EPA 8015B
Bromofluorobenzene (FID)	99	73-144	1.000	EPA 8015B
Trifluorotoluene (PID)	84	60-146	1.000	EPA 8021B
Bromofluorobenzene (PID)	84	65-143	1.000	EPA 8021B

Field ID: MW-18	Diln Fac: 1.000
Type: SAMPLE	Sampled: 03/24/08
Lab ID: 202174-012	

Analyte	Result	RL	Batch#	Analyzed	Analysis
Gasoline C7-C12	ND	50	136716	04/04/08	EPA 8015B
MTBE	ND b	2.0	136807	04/08/08	EPA 8021B
Benzene	0.52 C	0.50	136716	04/04/08	EPA 8021B
Toluene	ND	0.50	136716	04/04/08	EPA 8021B
Ethylbenzene	ND	0.50	136716	04/04/08	EPA 8021B
m,p-Xylenes	ND	0.50	136716	04/04/08	EPA 8021B
o-Xylene	ND	0.50	136716	04/04/08	EPA 8021B

Surrogate	%REC	Limits	Batch#	Analyzed	Analysis
Trifluorotoluene (FID)	92	69-140	136716	04/04/08	EPA 8015B
Bromofluorobenzene (FID)	106	73-144	136716	04/04/08	EPA 8015B
Trifluorotoluene (PID)	69	60-146	136716	04/04/08	EPA 8021B
Bromofluorobenzene (PID)	87	65-143	136716	04/04/08	EPA 8021B

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

**Curtis & Tompkins Laboratories Analytical Report**

Lab #: 202174	Location: Bay Center Apts
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: STANDARD	
Matrix: Water	Received: 03/25/08
Units: ug/L	

Field ID: MW-E                      Lab ID: 202174-013  
Type: SAMPLE                      Sampled: 03/24/08

Analyte	Result	RL	Diln Fac	Batch#	Analyzed	Analysis
Gasoline C7-C12	2,700 Y	250	5.000	136807	04/07/08	EPA 8015B
MTBE	12 C b	2.0	1.000	136807	04/08/08	EPA 8021B
Benzene	780	2.5	5.000	136807	04/07/08	EPA 8021B
Toluene	17	0.50	1.000	136716	04/04/08	EPA 8021B
Ethylbenzene	20	0.50	1.000	136716	04/04/08	EPA 8021B
m,p-Xylenes	16	0.50	1.000	136716	04/04/08	EPA 8021B
o-Xylene	4.9	0.50	1.000	136716	04/04/08	EPA 8021B

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed	Analysis
Trifluorotoluene (FID)	118	69-140	1.000	136716	04/04/08	EPA 8015B
Bromofluorobenzene (FID)	116	73-144	1.000	136716	04/04/08	EPA 8015B
Trifluorotoluene (PID)	97	60-146	1.000	136716	04/04/08	EPA 8021B
Bromofluorobenzene (PID)	101	65-143	1.000	136716	04/04/08	EPA 8021B

Field ID: MW-15                      Lab ID: 202174-014  
Type: SAMPLE                      Sampled: 03/25/08

Analyte	Result	RL	Diln Fac	Batch#	Analyzed	Analysis
Gasoline C7-C12	13,000	1,000	20.00	136807	04/07/08	EPA 8015B
MTBE	64 C	40	20.00	136807	04/07/08	EPA 8021B
Benzene	3,600	10	20.00	136807	04/07/08	EPA 8021B
Toluene	66	0.50	1.000	136716	04/04/08	EPA 8021B
Ethylbenzene	210	0.50	1.000	136716	04/04/08	EPA 8021B
m,p-Xylenes	54	0.50	1.000	136716	04/04/08	EPA 8021B
o-Xylene	5.5 C	0.50	1.000	136716	04/04/08	EPA 8021B

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed	Analysis
Trifluorotoluene (FID)	91	69-140	20.00	136807	04/07/08	EPA 8015B
Bromofluorobenzene (FID)	90	73-144	20.00	136807	04/07/08	EPA 8015B
Trifluorotoluene (PID)	119	60-146	1.000	136716	04/04/08	EPA 8021B
Bromofluorobenzene (PID)	99	65-143	1.000	136716	04/04/08	EPA 8021B

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





### Curtis & Tompkins Laboratories Analytical Report

Lab #: 202174	Location: Bay Center Apts
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: STANDARD	
Matrix: Water	Received: 03/25/08
Units: ug/L	

Field ID: MW-13	Batch#: 136807
Type: SAMPLE	Sampled: 03/25/08
Lab ID: 202174-017	Analyzed: 04/07/08
Diln Fac: 50.00	

Analyte	Result	RL	Analysis
Gasoline C7-C12	98,000	2,500	EPA 8015B
MTBE	ND	100	EPA 8021B
Benzene	19,000	25	EPA 8021B
Toluene	820	25	EPA 8021B
Ethylbenzene	2,300	25	EPA 8021B
m,p-Xylenes	2,700	25	EPA 8021B
o-Xylene	490	25	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	108	69-140	EPA 8015B
Bromofluorobenzene (FID)	92	73-144	EPA 8015B
Trifluorotoluene (PID)	99	60-146	EPA 8021B
Bromofluorobenzene (PID)	93	65-143	EPA 8021B

Field ID: RW-1	Diln Fac: 1.000
Type: SAMPLE	Sampled: 03/25/08
Lab ID: 202174-018	

Analyte	Result	RL	Batch#	Analyzed	Analysis
Gasoline C7-C12	890	50	136780	04/08/08	EPA 8015B
MTBE	ND	2.0	136780	04/08/08	EPA 8021B
Benzene	100	0.50	136780	04/08/08	EPA 8021B
Toluene	4.2 C	0.50	136780	04/08/08	EPA 8021B
Ethylbenzene	4.4	0.50	136780	04/08/08	EPA 8021B
m,p-Xylenes	2.0	0.50	136780	04/08/08	EPA 8021B
o-Xylene	ND	0.50	136780	04/08/08	EPA 8021B

Surrogate	%REC	Limits	Batch#	Analyzed	Analysis
Trifluorotoluene (FID)	134	69-140	136716	04/04/08	EPA 8015B
Bromofluorobenzene (FID)	108	73-144	136716	04/04/08	EPA 8015B
Trifluorotoluene (PID)	110	60-146	136780	04/08/08	EPA 8021B
Bromofluorobenzene (PID)	125	65-143	136780	04/08/08	EPA 8021B

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



**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	202174	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD		
Matrix:	Water	Received:	03/25/08
Units:	ug/L		

Type:	BLANK	Batch#:	136807
Lab ID:	QC436394	Analyzed:	04/07/08
Diln Fac:	1.000		

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

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	82	69-140	EPA 8015B
Bromofluorobenzene (FID)	84	73-144	EPA 8015B
Trifluorotoluene (PID)	89	60-146	EPA 8021B
Bromofluorobenzene (PID)	86	65-143	EPA 8021B

Type:	BLANK	Batch#:	136944
Lab ID:	QC436971	Analyzed:	04/10/08
Diln Fac:	1.000		

Analyte	Result	RL	Analysis
Benzene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	83	69-140	EPA 8015B
Bromofluorobenzene (FID)	83	73-144	EPA 8015B
Trifluorotoluene (PID)	89	60-146	EPA 8021B
Bromofluorobenzene (PID)	86	65-143	EPA 8021B

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

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	202174	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8021B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC436017	Batch#:	136716
Matrix:	Water	Analyzed:	04/03/08
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Benzene	20.00	19.17	96	80-120
Toluene	20.00	20.17	101	80-120
Ethylbenzene	20.00	19.63	98	80-120
m,p-Xylenes	20.00	19.64	98	80-120
o-Xylene	20.00	19.39	97	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	80	60-146
Bromofluorobenzene (PID)	83	65-143

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	202174	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC436018	Batch#:	136716
Matrix:	Water	Analyzed:	04/03/08
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	2,191	110	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	146 *	69-140
Bromofluorobenzene (FID)	109	73-144

\*= Value outside of QC limits; see narrative

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	202174	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8015B
Field ID:	MW-3	Batch#:	136716
MSS Lab ID:	202174-001	Sampled:	03/24/08
Matrix:	Water	Received:	03/25/08
Units:	ug/L	Analyzed:	04/04/08
Diln Fac:	1.000		

Type: MS Lab ID: QC436019

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	448.1	2,000	1,789	67	67-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	134	69-140
Bromofluorobenzene (FID)	111	73-144

Type: MSD Lab ID: QC436020

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,043	80	67-120	13	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	136	69-140
Bromofluorobenzene (FID)	114	73-144

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	202174	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC436289	Batch#:	136780
Matrix:	Water	Analyzed:	04/06/08
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,023	102	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	121	69-140
Bromofluorobenzene (FID)	135	73-144

**Batch QC Report**
**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	202174	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8021B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Batch#:	136780

Type: BS Analyzed: 04/06/08  
 Lab ID: QC436311

Analyte	Spiked	Result	%REC	Limits
MTBE	10.00	9.419	94	70-129
Benzene	10.00	8.741	87	80-120
Toluene	10.00	8.853	89	80-120
Ethylbenzene	10.00	10.04	100	80-120
m,p-Xylenes	10.00	9.661	97	80-120
o-Xylene	10.00	9.652	97	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	99	60-146
Bromofluorobenzene (PID)	117	65-143

Type: BSD Analyzed: 04/07/08  
 Lab ID: QC436312

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	30.00	28.55	95	70-129	1	21
Benzene	30.00	29.69	99	80-120	12	20
Toluene	30.00	29.89	100	80-120	12	20
Ethylbenzene	30.00	32.41	108	80-120	7	20
m,p-Xylenes	30.00	32.89	110	80-120	13	20
o-Xylene	30.00	31.16	104	80-120	7	20

Surrogate	%REC	Limits
Trifluorotoluene (PID)	106	60-146
Bromofluorobenzene (PID)	122	65-143

RPD= Relative Percent Difference



## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	202174	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	136807
Units:	ug/L	Analyzed:	04/07/08
Diln Fac:	1.000		

Type: BS Lab ID: QC436395

Analyte	Spiked	Result	%REC	Limits
MTBE	10.00	10.00	100	70-129
Benzene	10.00	9.926	99	80-120
Toluene	10.00	9.724	97	80-120
Ethylbenzene	10.00	9.965	100	80-120
m,p-Xylenes	10.00	10.17	102	80-120
o-Xylene	10.00	10.76	108	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	94	60-146
Bromofluorobenzene (PID)	95	65-143

Type: BSD Lab ID: QC436606

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
MTBE	10.00	9.415	94	70-129	6	21
Benzene	10.00	9.539	95	80-120	4	20
Toluene	10.00	10.47	105	80-120	7	20
Ethylbenzene	10.00	9.691	97	80-120	3	20
m,p-Xylenes	10.00	9.622	96	80-120	6	20
o-Xylene	10.00	10.70	107	80-120	1	20

Surrogate	%REC	Limits
Trifluorotoluene (PID)	96	60-146
Bromofluorobenzene (PID)	90	65-143

RPD= Relative Percent Difference

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	202174	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Batch#:	136807

Type: BS Analyzed: 04/07/08  
 Lab ID: QC436610

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	2,084	104	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	96	69-140
Bromofluorobenzene (FID)	90	73-144

Type: BSD Analyzed: 04/08/08  
 Lab ID: QC436611

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	3,000	2,999	100	80-120	4	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	92	69-140
Bromofluorobenzene (FID)	90	73-144

RPD= Relative Percent Difference

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

Lab #:	202174	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8021B
Type:	BS	Diln Fac:	1.000
Lab ID:	QC436972	Batch#:	136944
Matrix:	Water	Analyzed:	04/10/08
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Benzene	10.00	8.912	89	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	87	60-146
Bromofluorobenzene (PID)	88	65-143

## Batch QC Report

**Curtis & Tompkins Laboratories Analytical Report**

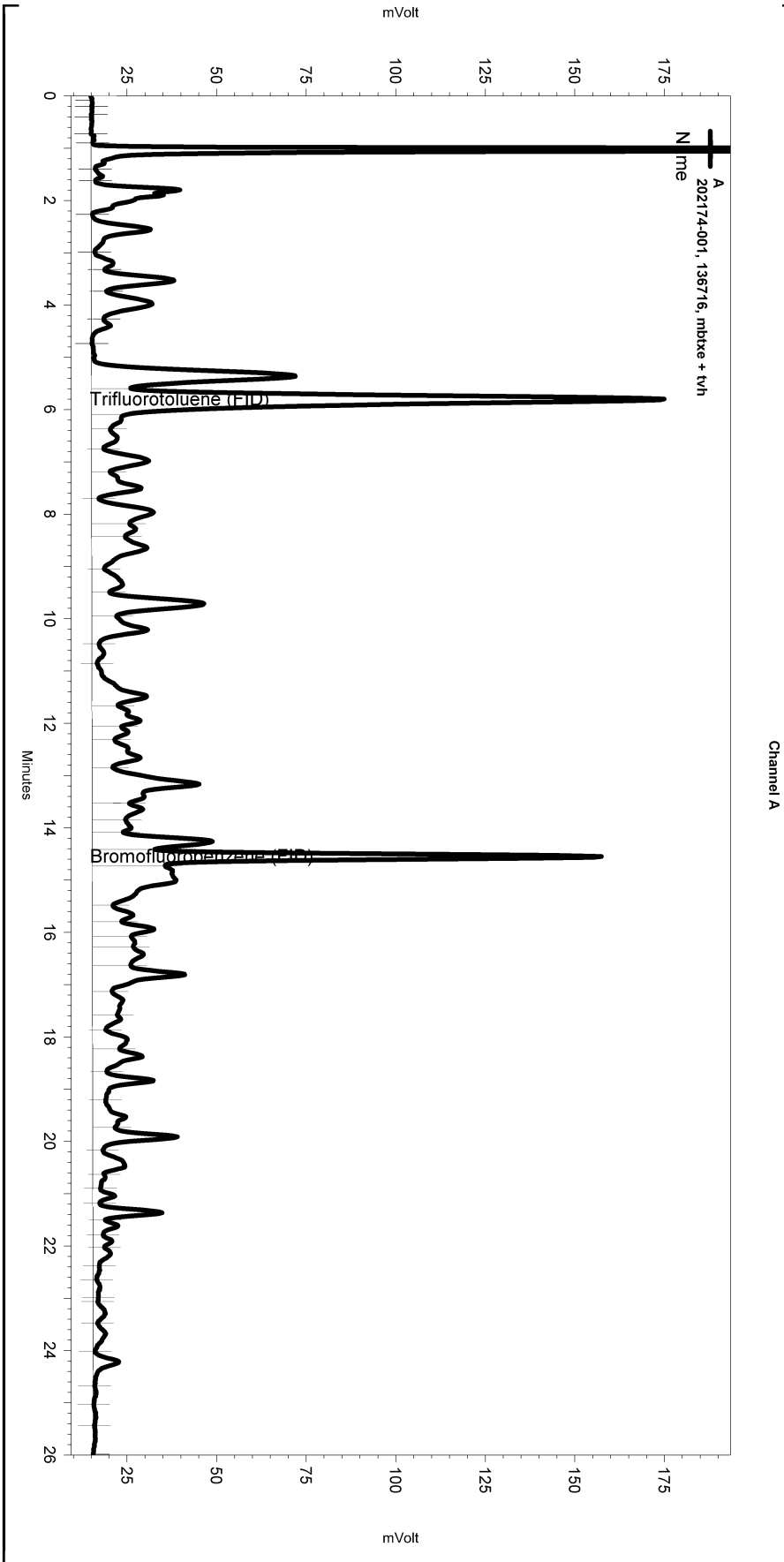
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Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8021B
Type:	BSD	Diln Fac:	1.000
Lab ID:	QC437002	Batch#:	136944
Matrix:	Water	Analyzed:	04/10/08
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	10.00	10.77	108	80-120	19	20

Surrogate	%REC	Limits
Trifluorotoluene (PID)	83	60-146
Bromofluorobenzene (PID)	88	65-143

Sequence File: \\Lims\gdrive\ezchrom\Projects\GC04\Sequence\094.seq  
 Sample Name: 202174-001, 136716, mbtxe + tvh  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\094\_032  
 Instrument: GC04 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC04\Method\tvhbtxe055.met

Software Version 3.1.7  
 Run Date: 4/4/2008 8:15:01 AM  
 Analysis Date: 4/4/2008 9:01:34 AM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: {Data Description}



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Yes	Threshold	0	0	50

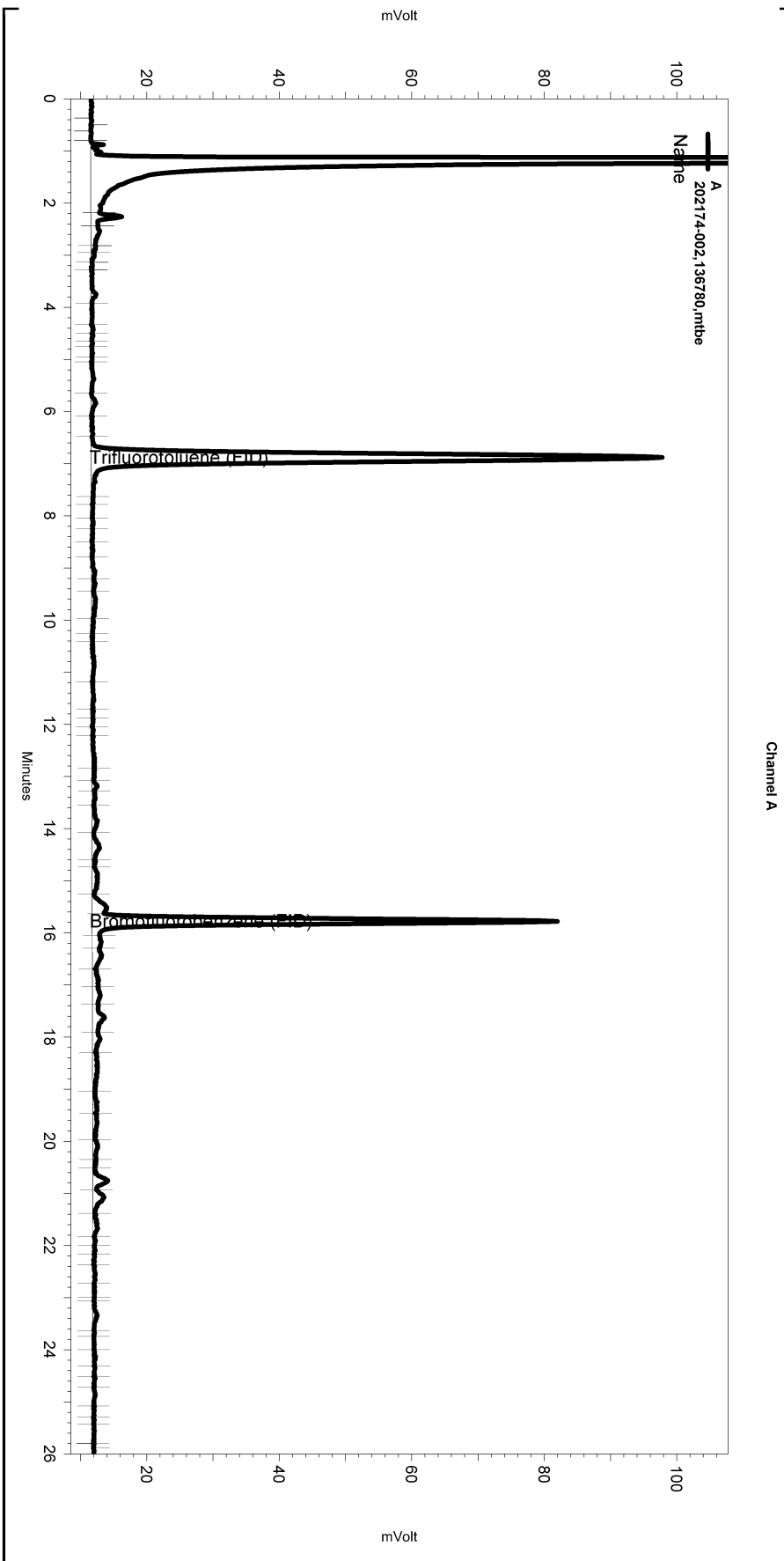
Manual Integration Fixes

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Yes	Split Peak	6.1	0	0

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 Sample Name: 202174-002,136780,mtbe  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC19\Data\097\_050  
 Instrument: GC19 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC19\Method\lvhbtxe079.met

Software Version 3.1.7  
 Run Date: 4/7/2008 3:14:07 PM  
 Analysis Date: 4/8/2008 8:58:34 AM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: c1.3



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Integration Events

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

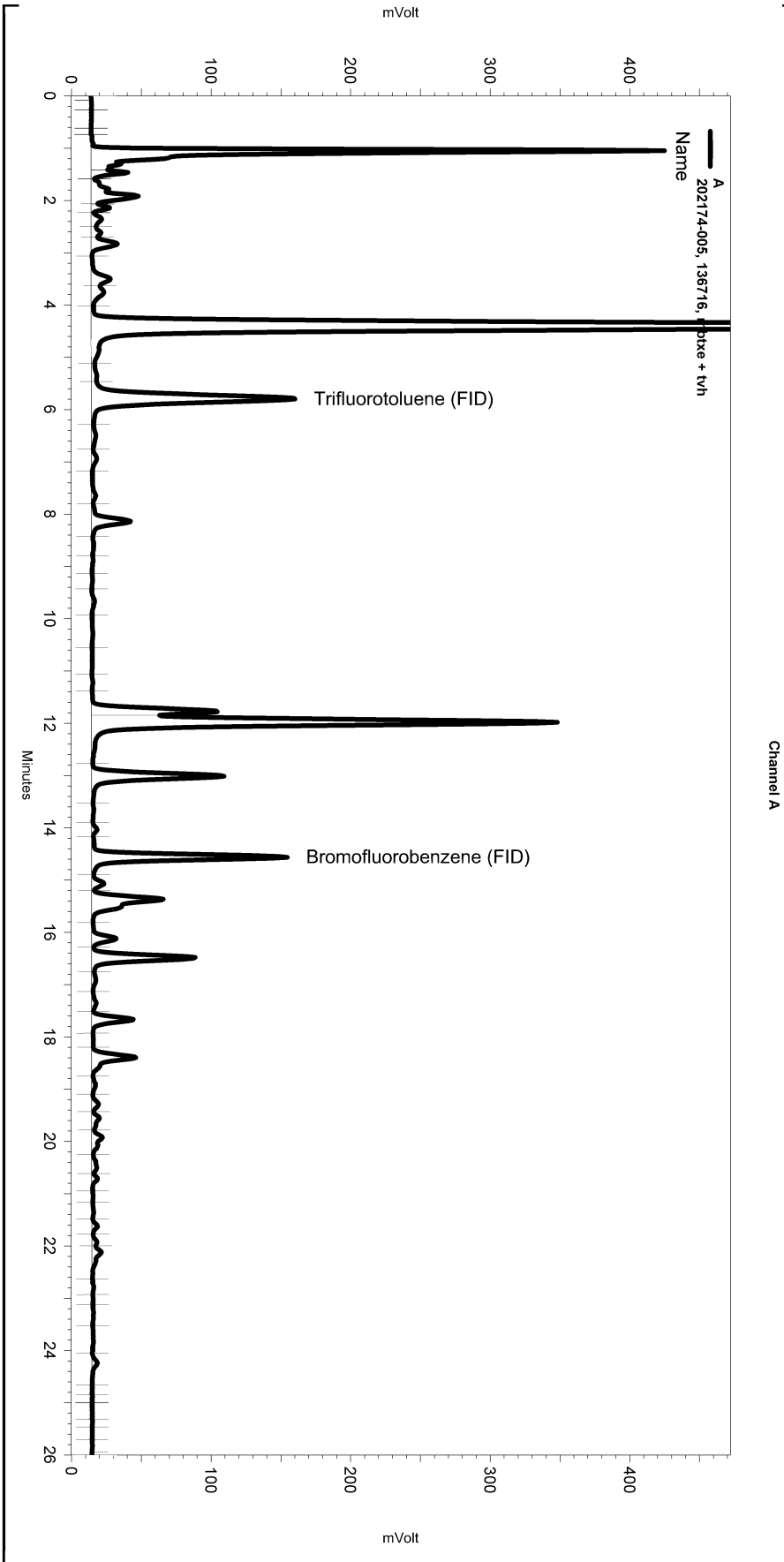
Manual Integration Fixes

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 Sample Name: 202174-005, 136716, mbtixe + tvh  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\094\_012  
 Instrument: GC04 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC04\Method\lvhbtixe055.met

Software Version 3.1.7  
 Run Date: 4/3/2008 6:57:44 PM  
 Analysis Date: 4/7/2008 1:54:44 PM  
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 Vial & pH or Core ID: a7.0



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Integration Events

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

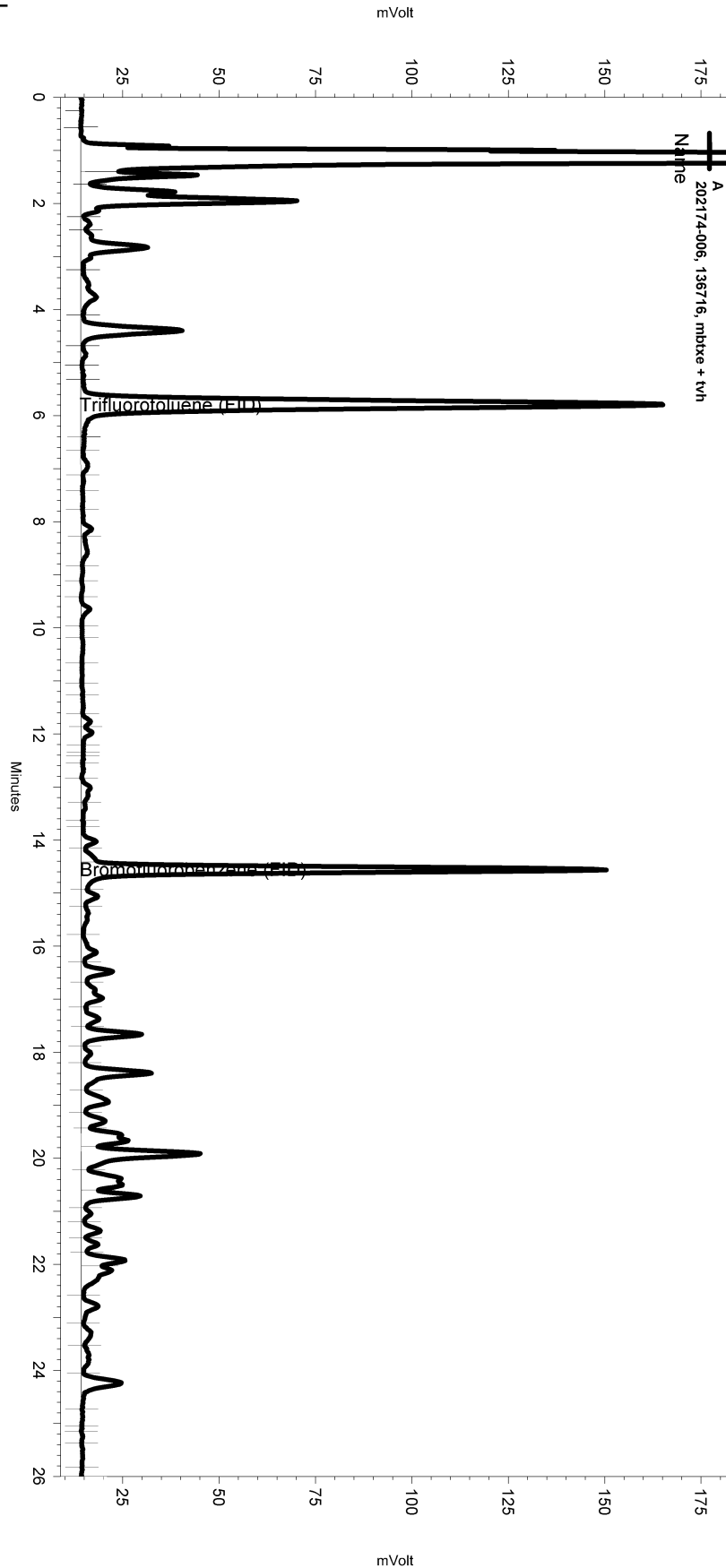
Manual Integration Fixes

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Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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Sequence File: \\Lims\gdrive\ezchrom\Projects\GC04\Sequence\094.seq  
 Sample Name: 202174-006, 136716, mbtxe + tvh  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\094\_013  
 Instrument: GC04 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
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 Analysis Date: 4/7/2008 1:58:08 PM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: a1.3



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Integration Events

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

Manual Integration Fixes

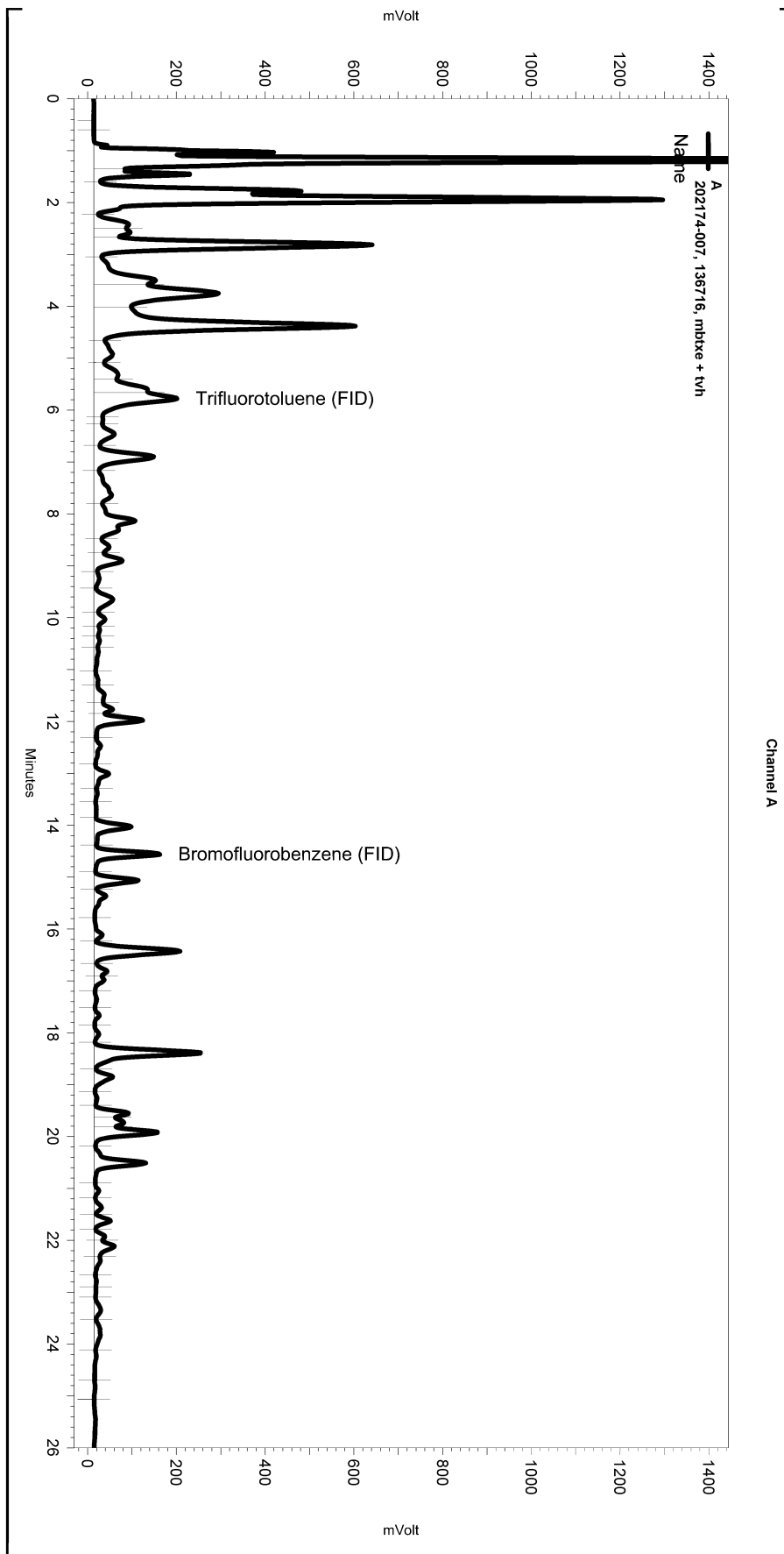
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Yes	Split Peak	14.409	0	0



Sequence File: \\Lims\gdrive\ezchrom\Projects\GC04\Sequence\094.seq  
 Sample Name: 202174-007, 136716, mbtXe + tvh  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\094\_014  
 Instrument: GC04 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC04\Method\TVHBTXE055.met

Software Version 3.1.7  
 Run Date: 4/3/2008 8:13:00 PM  
 Analysis Date: 4/7/2008 1:59:34 PM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: a1.3



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Integration Events

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

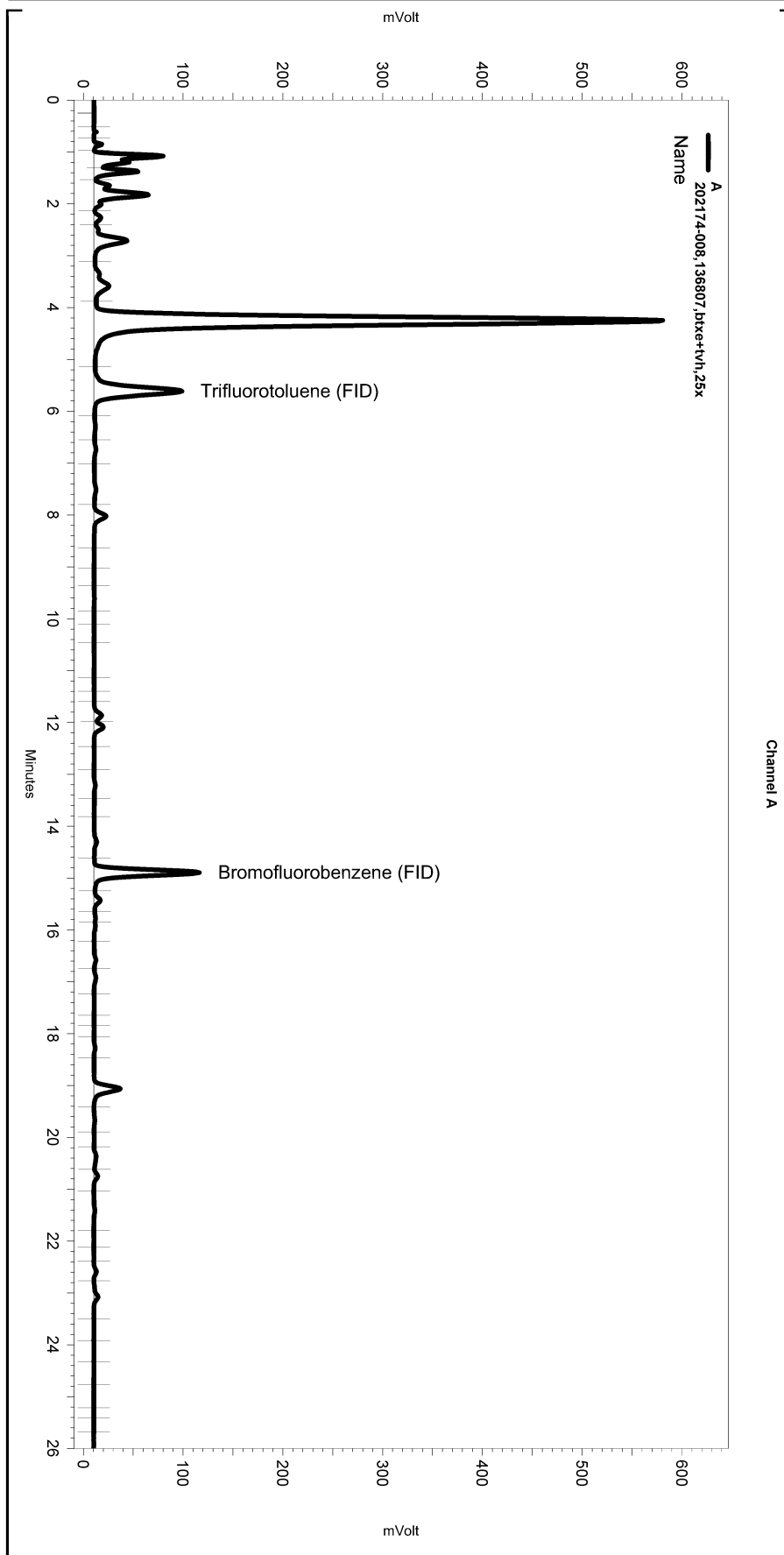
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\094\_014

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Split Peak	5.671	0	0

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 Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\098\_010  
 Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\tvhbtxe082rtupdate.met

Software Version 3.1.7  
 Run Date: 4/7/2008 2:11:20 PM  
 Analysis Date: 4/8/2008 1:08:31 PM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: b1.0



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Integration Events

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

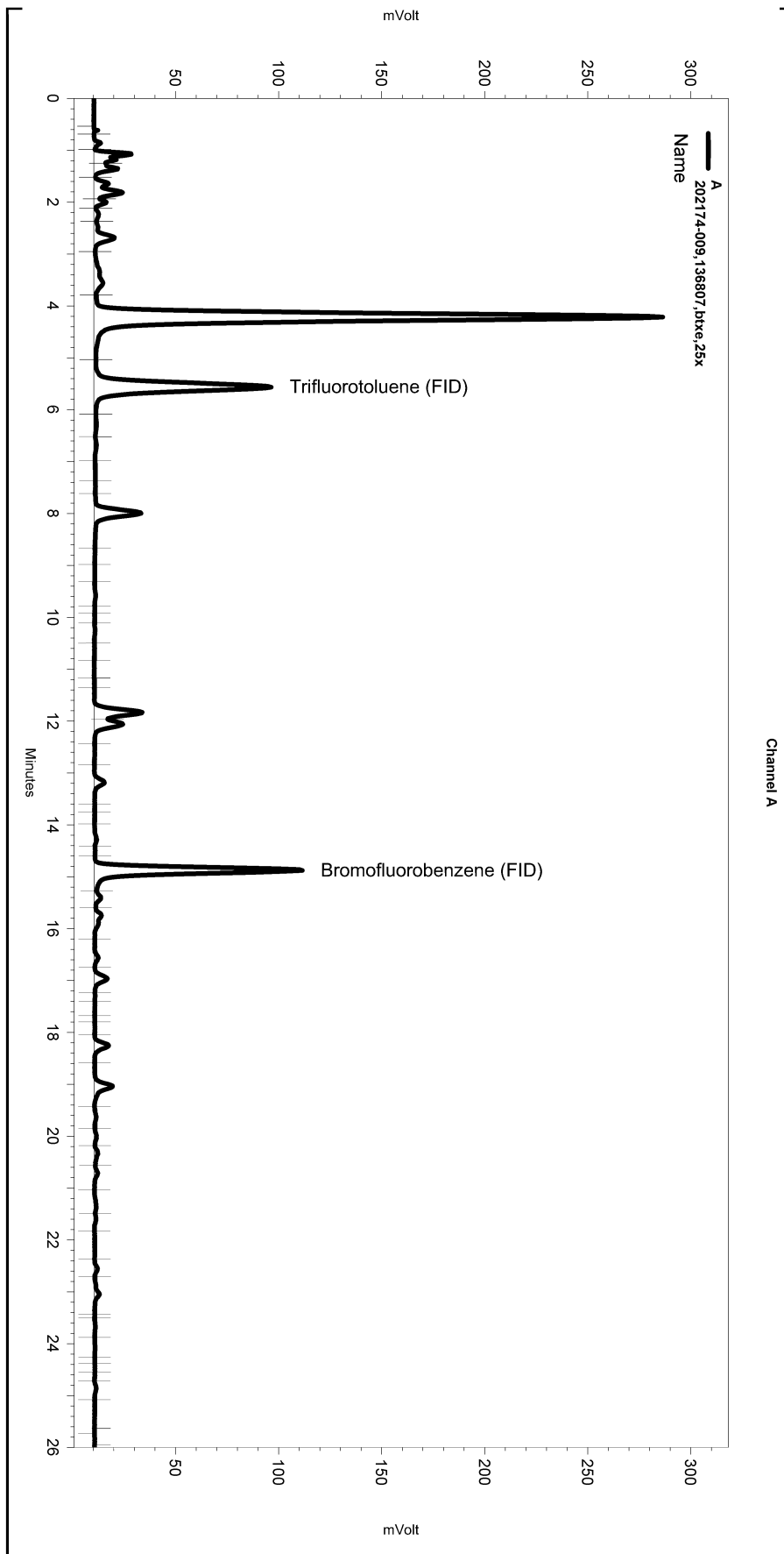
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\098\_010

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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 Sample Name: 202174-009,136807,btXe,25x  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\098\_011  
 Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\TVHBTXE082Rtupdate.met

Software Version 3.1.7  
 Run Date: 4/7/2008 2:47:14 PM  
 Analysis Date: 4/8/2008 1:08:35 PM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: b1.0



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

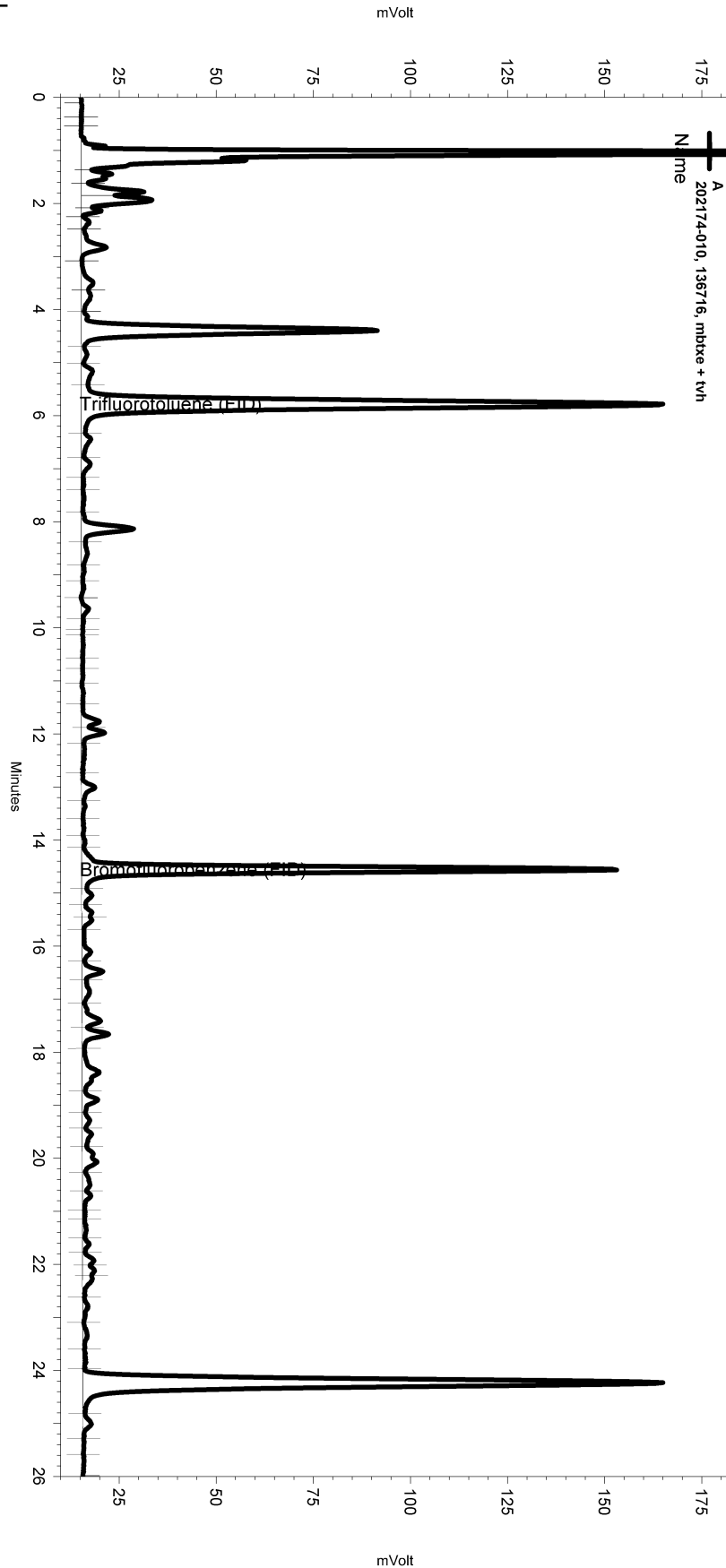
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 Manual Integration Fixes  
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Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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Sequence File: \\Lims\gdrive\ezchrom\Projects\GC04\Sequence\094.seq  
 Sample Name: 202174-010, 136716, mbtXe + tvh  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\094\_022  
 Instrument: GC04 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC04\Method\TVHBTXE055.met

Software Version 3.1.7  
 Run Date: 4/4/2008 1:27:14 AM  
 Analysis Date: 4/7/2008 2:03:14 PM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: a1.3



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Integration Events

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

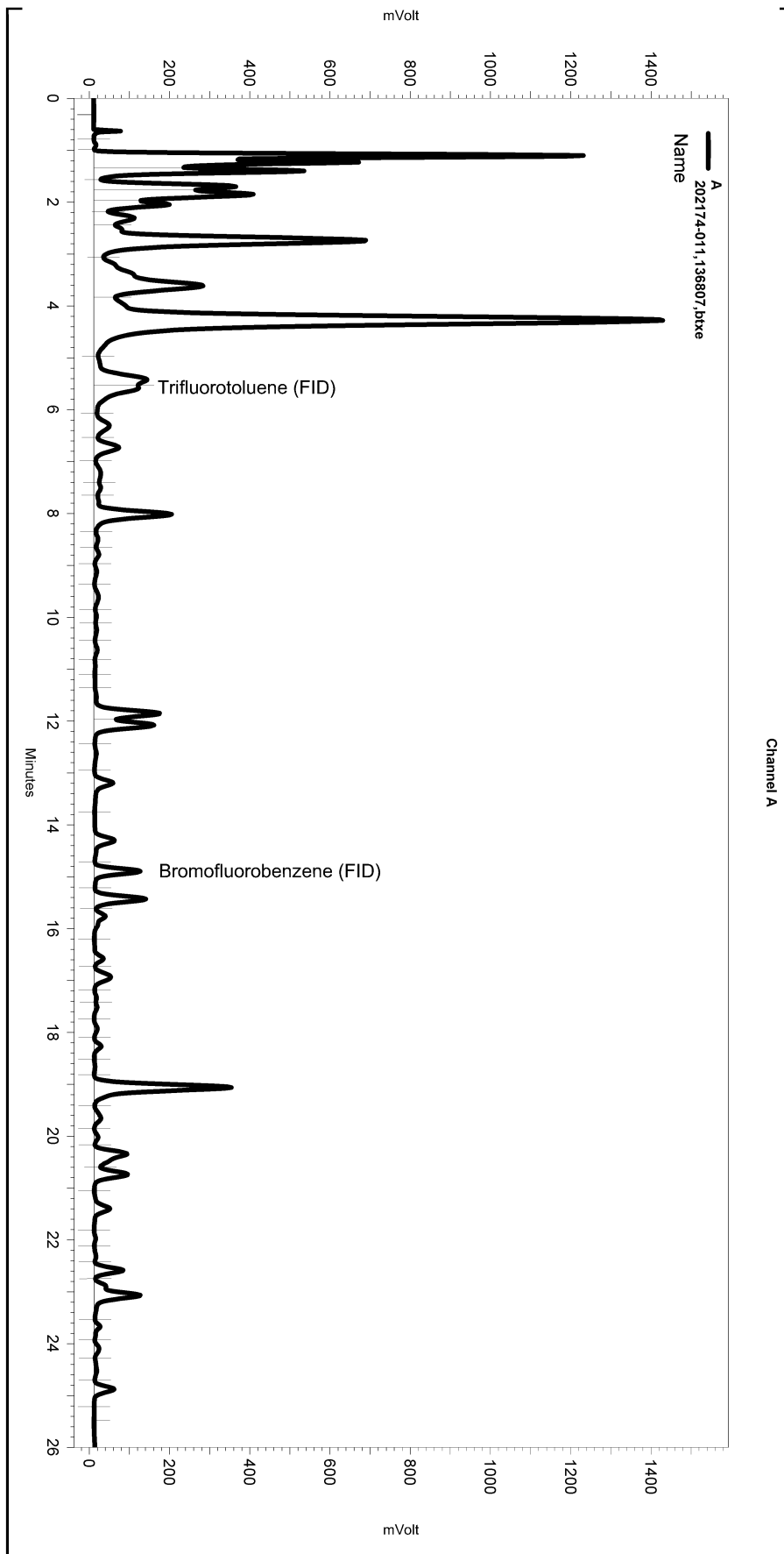
Manual Integration Fixes

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Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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Sequence File: \\Lims\gdrive\ezchrom\Projects\GC07\Sequence\098.seq  
 Sample Name: 202174-011,136807,btxe  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\098\_026  
 Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\tvhbtxe082rtupdate.met

Software Version 3.1.7  
 Run Date: 4/7/2008 11:43:50 PM  
 Analysis Date: 4/11/2008 1:09:37 PM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: b1.3



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Integration Events

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

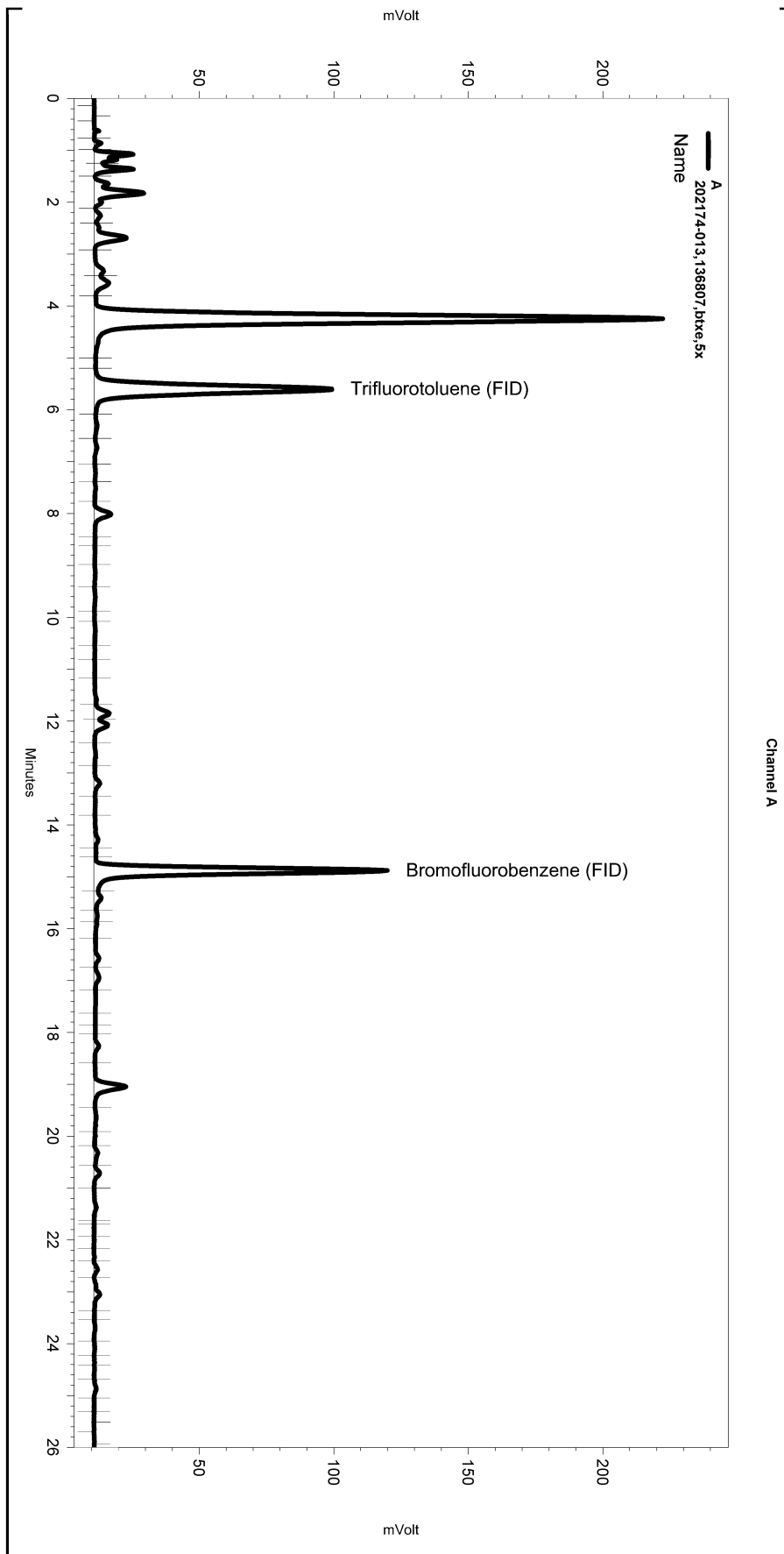
Manual Integration Fixes

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 Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\098\_013  
 Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\tvhbtXe082rtupdate.met

Software Version 3.1.7  
 Run Date: 4/7/2008 3:58:36 PM  
 Analysis Date: 4/11/2008 1:03:50 PM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: b1.6



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Integration Events

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

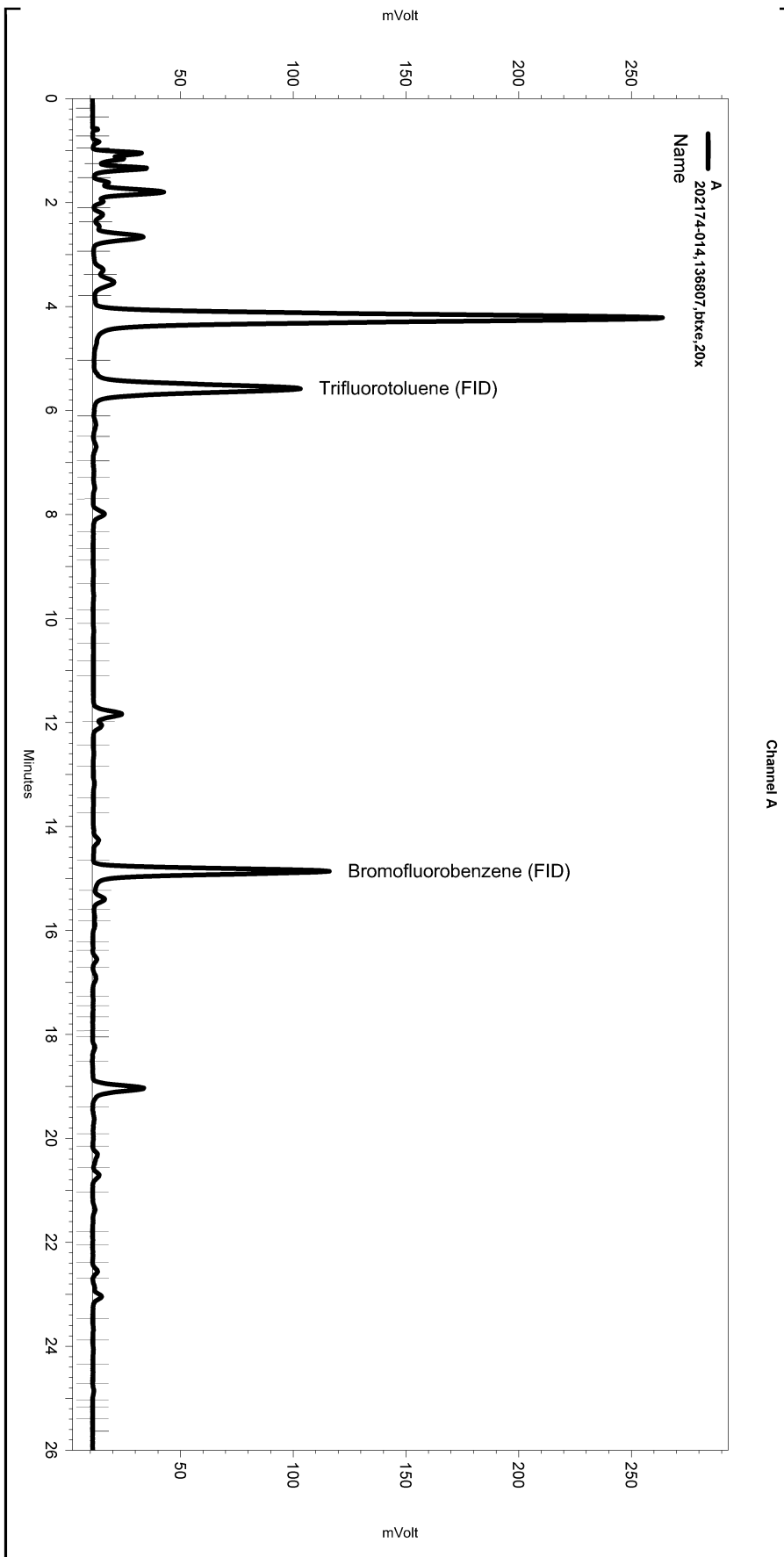
Manual Integration Fixes

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Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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 Sample Name: 202174-014,136807,btxe,20x  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\098\_014  
 Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\TVHBTXE082rtupdate.met

Software Version 3.1.7  
 Run Date: 4/7/2008 4:34:25 PM  
 Analysis Date: 4/11/2008 1:04:31 PM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: b1.3



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

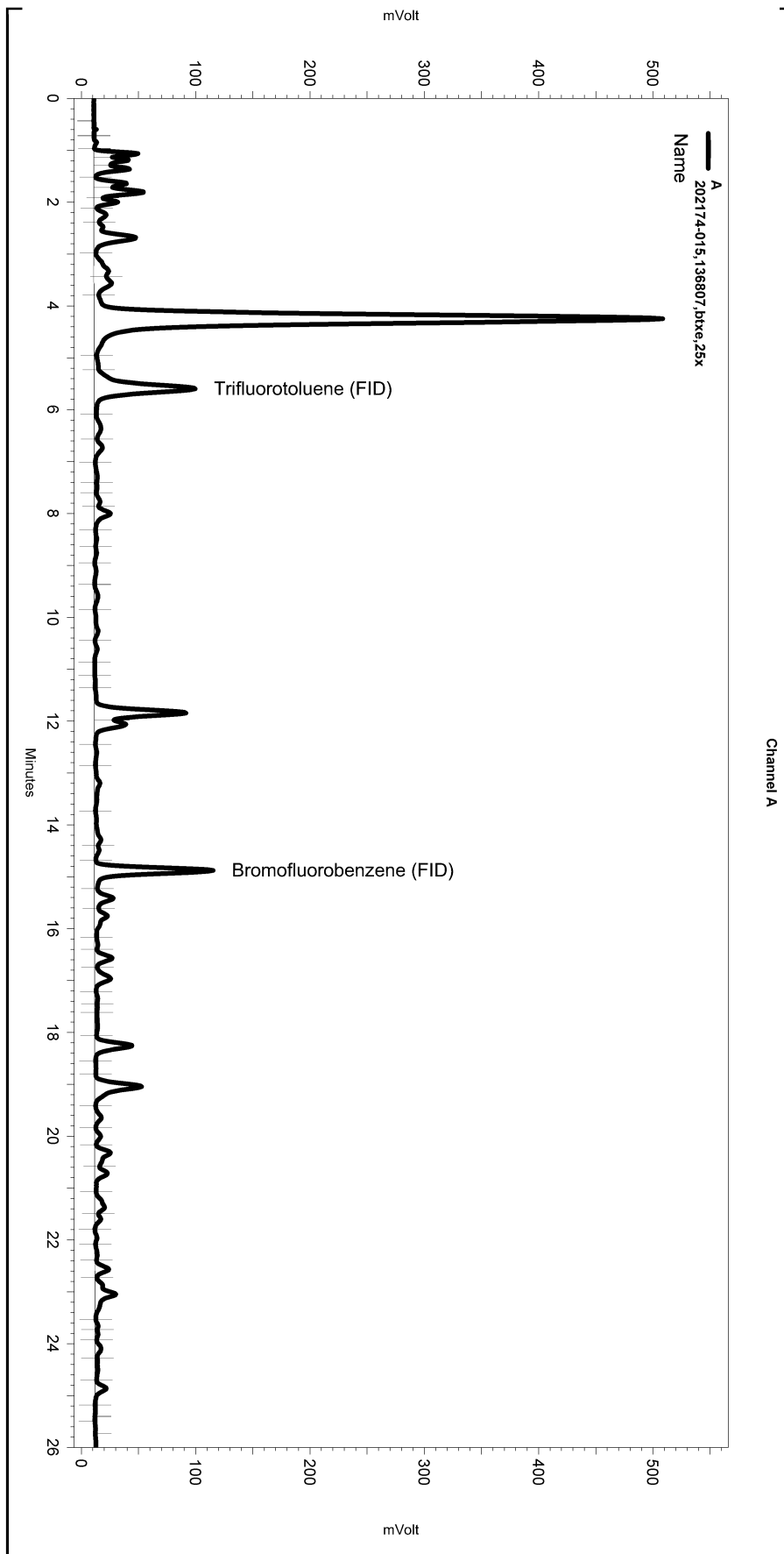
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 Manual Integration Fixes  
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Sequence File: \\Lims\gdrive\ezchrom\Projects\GC07\Sequence\098.seq  
 Sample Name: 202174-015,136807,btxe,25x  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\098\_015  
 Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\TVHBTXE082rtupdate.met

Software Version 3.1.7  
 Run Date: 4/7/2008 5:10:11 PM  
 Analysis Date: 4/11/2008 1:05:01 PM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: b1.0



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

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 Manual Integration Fixes  
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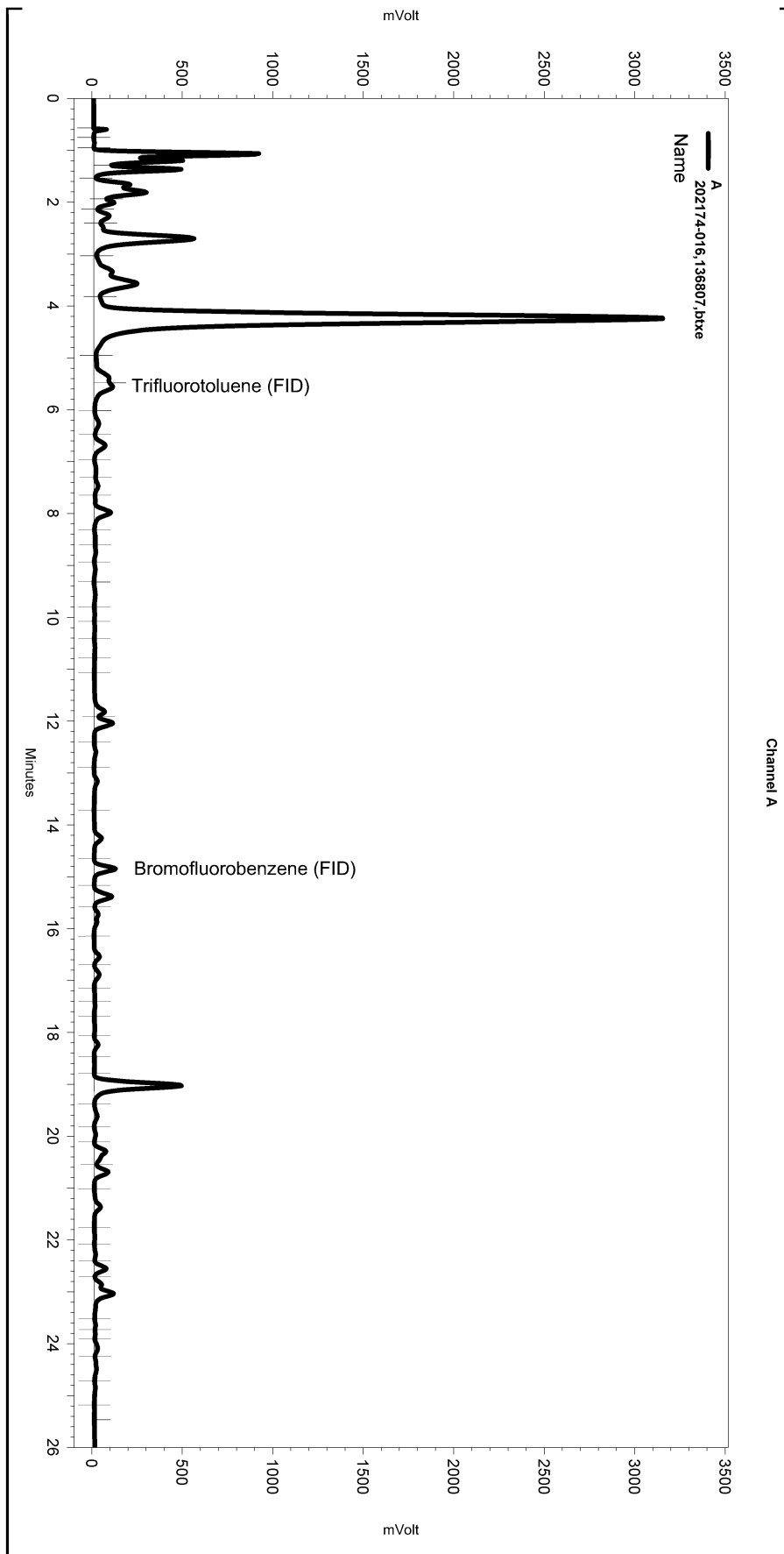
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Sequence File: \\Lims\gdrive\ezchrom\Projects\GC07\Sequence\098.seq  
 Sample Name: 202174-016,136807,btxe  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\098\_030  
 Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\TVHBTXE098.met

Software Version 3.1.7  
 Run Date: 4/8/2008 2:06:47 AM  
 Analysis Date: 4/11/2008 3:04:15 PM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: b1.3



---< General Method Parameters >---

No items selected for this section

---< A >---

No items selected for this section

Integration Events

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

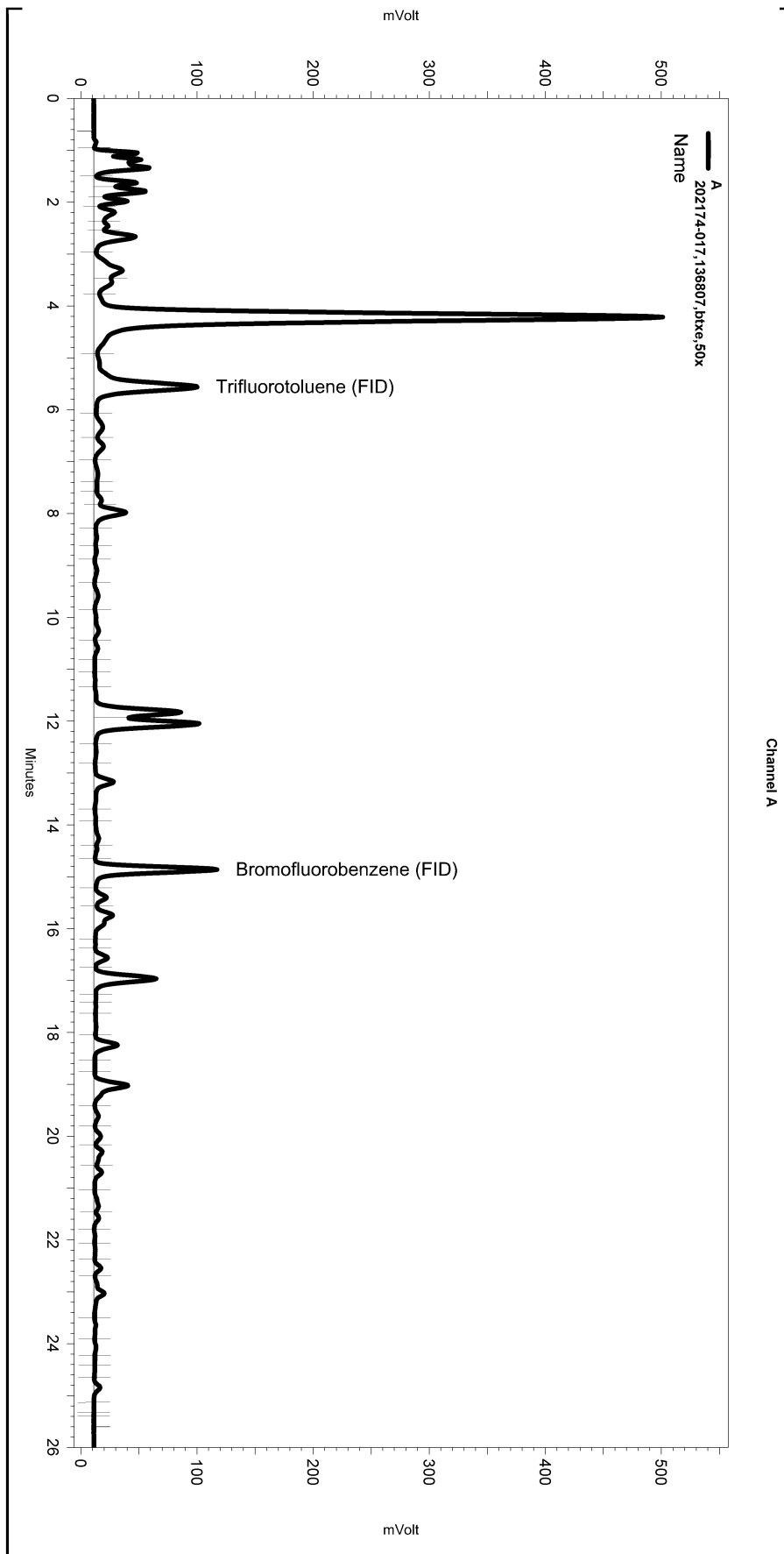
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\098\_030

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Split Peak	5.481	0	0

Sequence File: \\Lims\gdrive\ezchrom\Projects\GC07\Sequence\098.seq  
 Sample Name: 202174-017,136807,btxe,50x  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\098\_017  
 Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\TVHBTXE082rtupdate.met

Software Version 3.1.7  
 Run Date: 4/7/2008 6:21:44 PM  
 Analysis Date: 4/8/2008 1:08:57 PM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: b1.3



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 ---< General Method Parameters >-----  
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No items selected for this section

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No items selected for this section

Integration Events

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

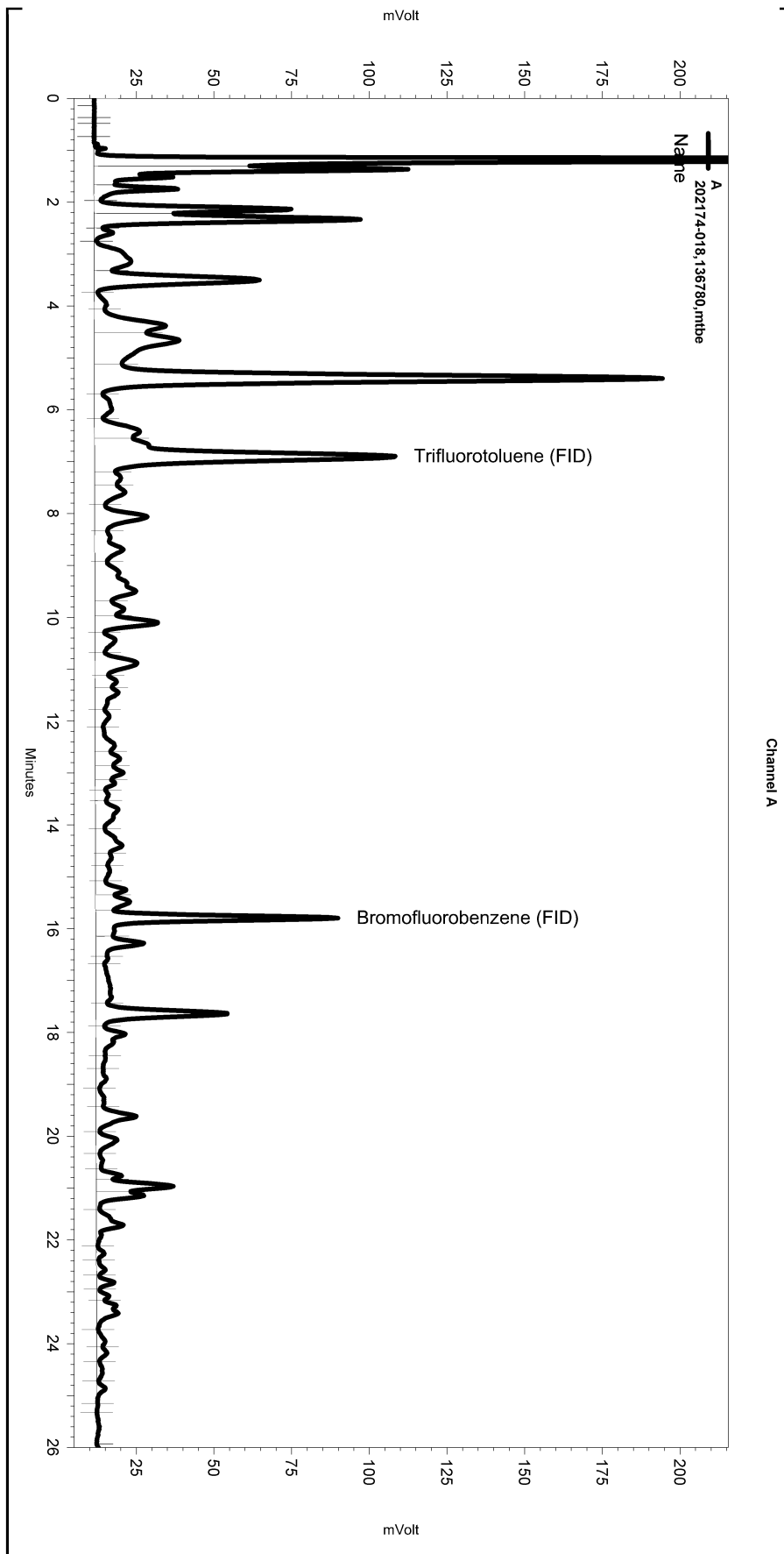
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\098\_017

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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 Sample Name: 202174-018,136780,mtbe  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC19\Data\097\_065  
 Instrument: GC19 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC19\Method\TVHBTXE079.met

Software Version 3.1.7  
 Run Date: 4/8/2008 12:36:53 AM  
 Analysis Date: 4/8/2008 10:24:30 AM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: {Data Description}



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No items selected for this section

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No items selected for this section

Integration Events

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

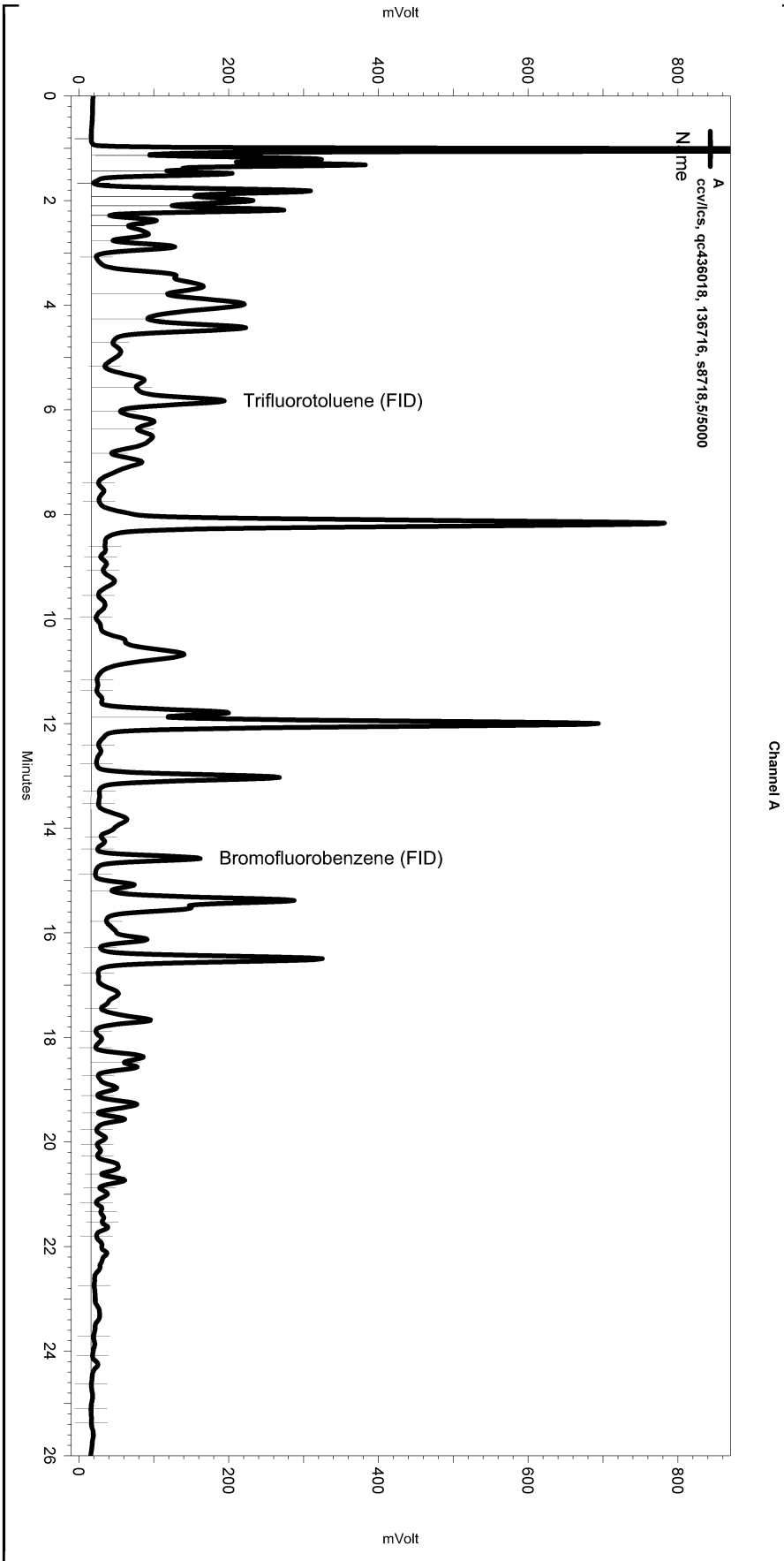
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC19\Data\097\_065

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
None				

Sequence File: \\Lims\gdrive\ezchrom\Projects\GC04\Sequence\094.seq  
 Sample Name: ccv/lcs, qc436018, 136716, s8718,5/5000  
 Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\094\_005  
 Instrument: GC04 (Offline) Vial: N/A Operator: Tvh 2. Analyst (lims2k3\tvh2)  
 Method Name: \\Lims\gdrive\ezchrom\Projects\GC04\Method\lvhbtxe055.met

Software Version 3.1.7  
 Run Date: 4/3/2008 1:43:55 PM  
 Analysis Date: 4/3/2008 4:13:29 PM  
 Sample Amount: 5 Multiplier: 5  
 Vial & pH or Core ID: {Data Description}



---< General Method Parameters >---

No items selected for this section

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No items selected for this section

Integration Events

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

Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\094\_005

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
None				

Total Extractable Hydrocarbons			
Lab #:	202174	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Water	Received:	03/25/08
Units:	ug/L	Prepared:	03/28/08
Batch#:	136521		

Field ID:	MW-3	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	03/24/08
Lab ID:	202174-001	Analyzed:	04/02/08

Analyte	Result	RL
Diesel C10-C24	6,600	50

Surrogate	%REC	Limits
Hexacosane	115	63-130

Field ID:	MW-4	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	03/24/08
Lab ID:	202174-002	Analyzed:	04/02/08

Analyte	Result	RL
Diesel C10-C24	680 Y	50

Surrogate	%REC	Limits
Hexacosane	88	63-130

Field ID:	MW-5	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	03/24/08
Lab ID:	202174-003	Analyzed:	04/01/08

Analyte	Result	RL
Diesel C10-C24	4,500 Y	50

Surrogate	%REC	Limits
Hexacosane	101	63-130

Field ID:	MW-6	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	03/24/08
Lab ID:	202174-004	Analyzed:	04/02/08

Analyte	Result	RL
Diesel C10-C24	940 Y	50

Surrogate	%REC	Limits
Hexacosane	85	63-130

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

Total Extractable Hydrocarbons			
Lab #:	202174	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Water	Received:	03/25/08
Units:	ug/L	Prepared:	03/28/08
Batch#:	136521		

Field ID:	MW-7	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	03/24/08
Lab ID:	202174-005	Analyzed:	04/01/08

Analyte	Result	RL
Diesel C10-C24	7,000 Y	50

Surrogate	%REC	Limits
Hexacosane	76	63-130

Field ID:	MW-9	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	03/24/08
Lab ID:	202174-006	Analyzed:	04/01/08

Analyte	Result	RL
Diesel C10-C24	8,600 Y	50

Surrogate	%REC	Limits
Hexacosane	99	63-130

Field ID:	MW-11	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	03/24/08
Lab ID:	202174-007	Analyzed:	04/01/08

Analyte	Result	RL
Diesel C10-C24	7,500 Y	50

Surrogate	%REC	Limits
Hexacosane	107	63-130

Field ID:	MW-12	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	03/24/08
Lab ID:	202174-008	Analyzed:	04/02/08

Analyte	Result	RL
Diesel C10-C24	3,300 Y	50

Surrogate	%REC	Limits
Hexacosane	95	63-130

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

Total Extractable Hydrocarbons			
Lab #:	202174	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Water	Received:	03/25/08
Units:	ug/L	Prepared:	03/28/08
Batch#:	136521		

Field ID:	MW-14	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	03/24/08
Lab ID:	202174-009	Analyzed:	04/02/08

Analyte	Result	RL
Diesel C10-C24	4,400 Y	50

Surrogate	%REC	Limits
Hexacosane	86	63-130

Field ID:	MW-16	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	03/24/08
Lab ID:	202174-010	Analyzed:	04/01/08

Analyte	Result	RL
Diesel C10-C24	12,000 Y	50

Surrogate	%REC	Limits
Hexacosane	92	63-130

Field ID:	MW-17	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	03/24/08
Lab ID:	202174-011	Analyzed:	04/02/08

Analyte	Result	RL
Diesel C10-C24	3,100 Y	50

Surrogate	%REC	Limits
Hexacosane	109	63-130

Field ID:	MW-18	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	03/24/08
Lab ID:	202174-012	Analyzed:	04/02/08

Analyte	Result	RL
Diesel C10-C24	9,800 Y	50

Surrogate	%REC	Limits
Hexacosane	105	63-130

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

Total Extractable Hydrocarbons			
Lab #:	202174	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Water	Received:	03/25/08
Units:	ug/L	Prepared:	03/28/08
Batch#:	136521		

Field ID:	MW-E	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	03/24/08
Lab ID:	202174-013	Analyzed:	04/03/08

Analyte	Result	RL
Diesel C10-C24	6,300 Y	50

Surrogate	%REC	Limits
Hexacosane	100	63-130

Field ID:	MW-15	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	03/25/08
Lab ID:	202174-014	Analyzed:	04/02/08

Analyte	Result	RL
Diesel C10-C24	3,000 Y	50

Surrogate	%REC	Limits
Hexacosane	88	63-130

Field ID:	MW-8	Diln Fac:	2.000
Type:	SAMPLE	Sampled:	03/25/08
Lab ID:	202174-015	Analyzed:	04/02/08

Analyte	Result	RL
Diesel C10-C24	21,000	100

Surrogate	%REC	Limits
Hexacosane	105	63-130

Field ID:	MW-10	Diln Fac:	25.00
Type:	SAMPLE	Sampled:	03/25/08
Lab ID:	202174-016	Analyzed:	04/01/08

Analyte	Result	RL
Diesel C10-C24	280,000	1,300

Surrogate	%REC	Limits
Hexacosane	DO	63-130

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



Total Extractable Hydrocarbons			
Lab #:	202174	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Water	Received:	03/25/08
Units:	ug/L	Prepared:	03/28/08
Batch#:	136521		

Field ID:	MW-13	Diln Fac:	100.0
Type:	SAMPLE	Sampled:	03/25/08
Lab ID:	202174-017	Analyzed:	04/02/08

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

Surrogate	%REC	Limits
Hexacosane	DO	63-130

Field ID:	RW-1	Diln Fac:	2.000
Type:	SAMPLE	Sampled:	03/25/08
Lab ID:	202174-018	Analyzed:	04/02/08

Analyte	Result	RL
Diesel C10-C24	11,000	100

Surrogate	%REC	Limits
Hexacosane	101	63-130

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC435152	Analyzed:	04/01/08

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
Hexacosane	110	63-130

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

## Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	202174	Location:	Bay Center Apts
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	136521
Units:	ug/L	Prepared:	03/28/08
Diln Fac:	1.000	Analyzed:	04/01/08

Type: BS Cleanup Method: EPA 3630C  
 Lab ID: QC435153

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,161	86	61-120

Surrogate	%REC	Limits
Hexacosane	98	63-130

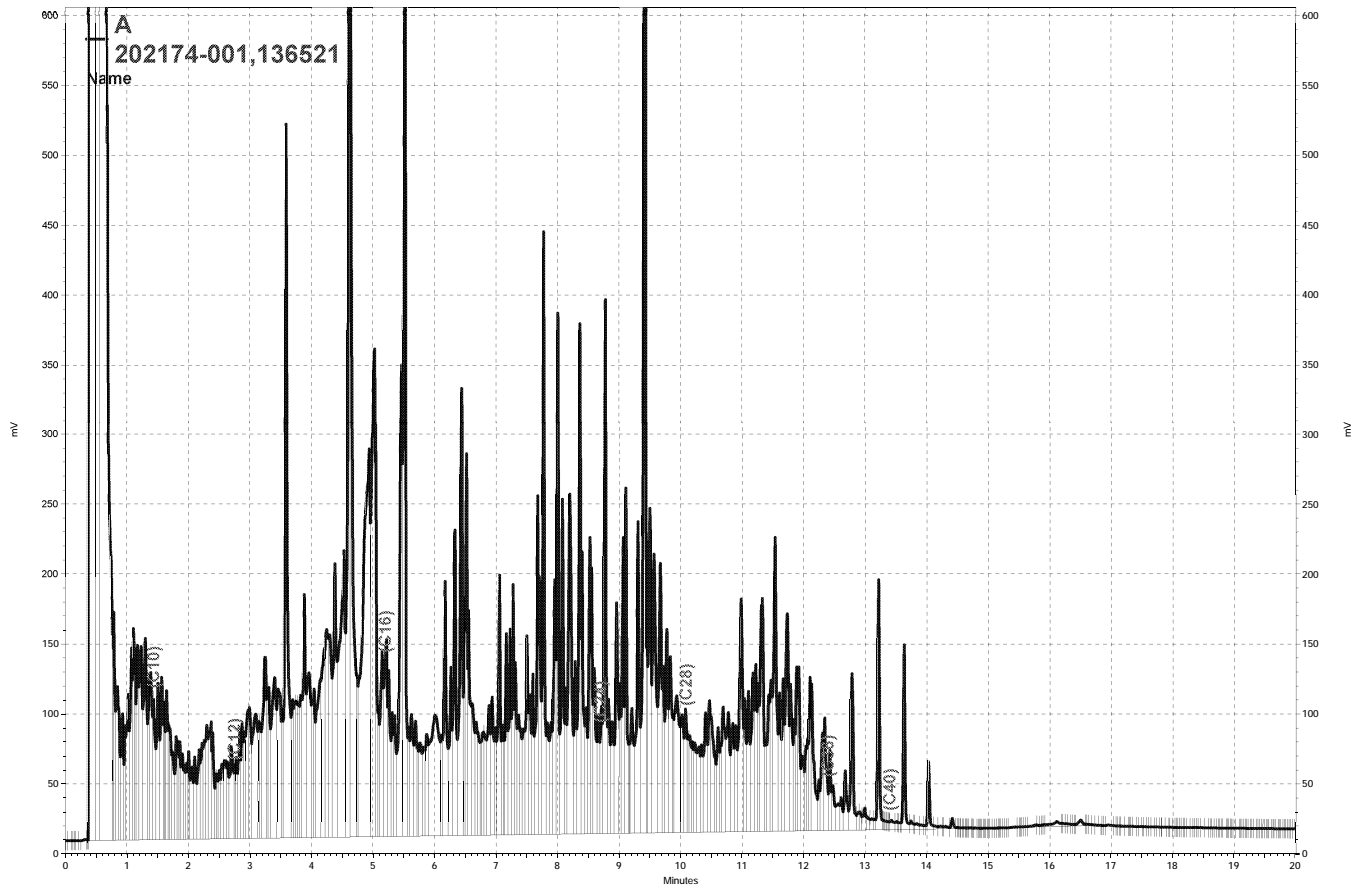
Type: BSD Cleanup Method: EPA 3630C  
 Lab ID: QC435154

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,096	84	61-120	3	29

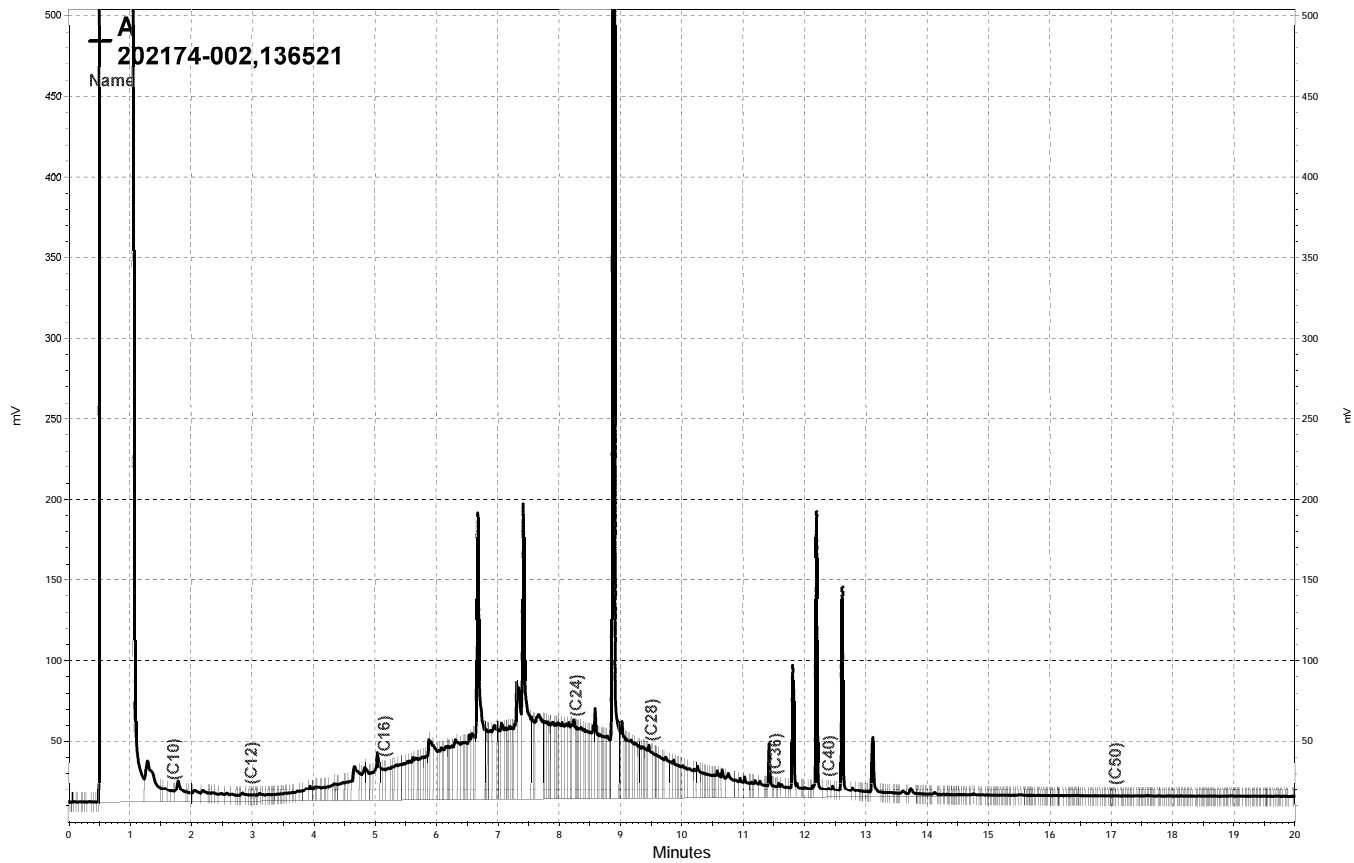
  

Surrogate	%REC	Limits
Hexacosane	95	63-130

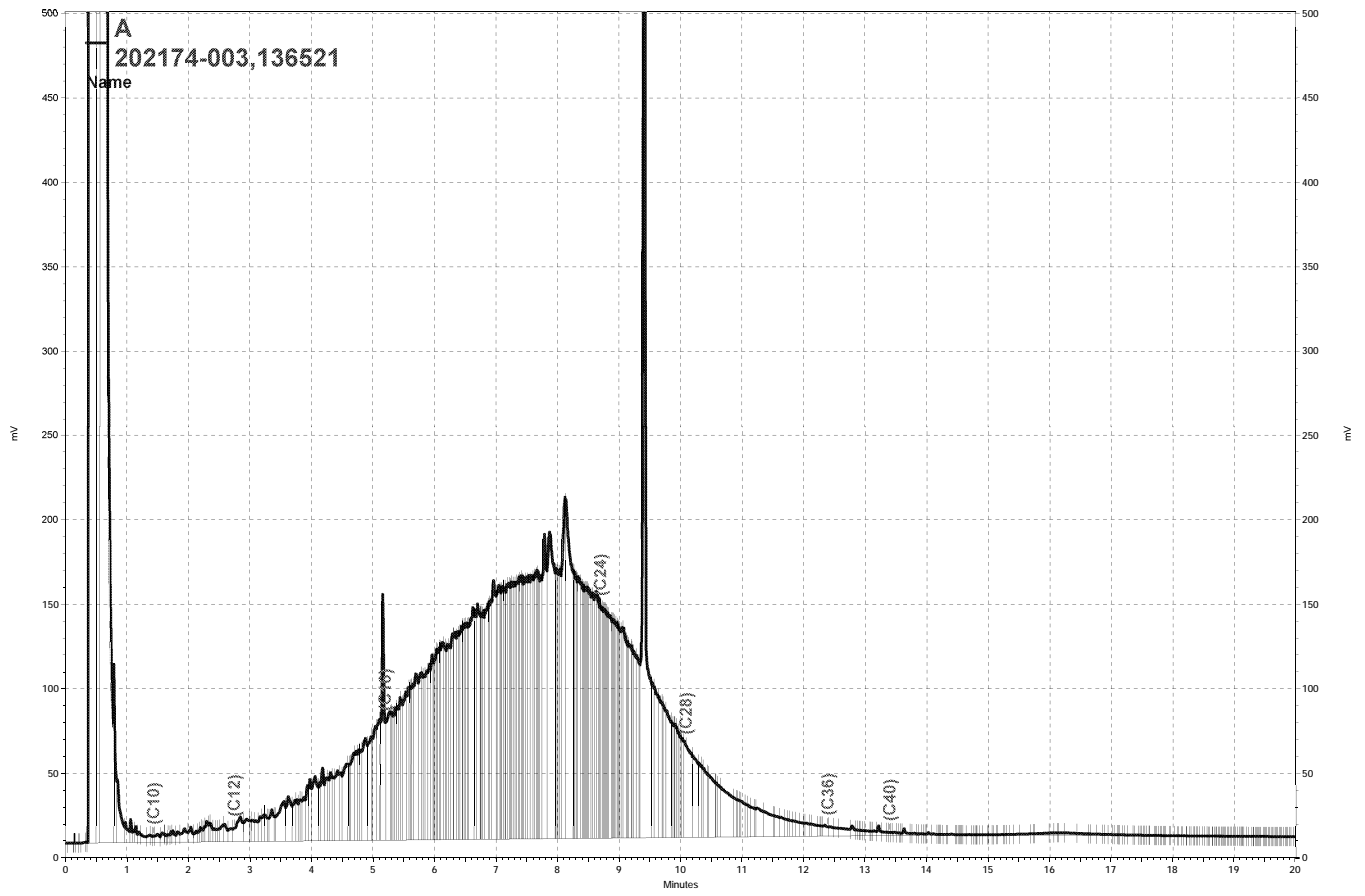
RPD= Relative Percent Difference



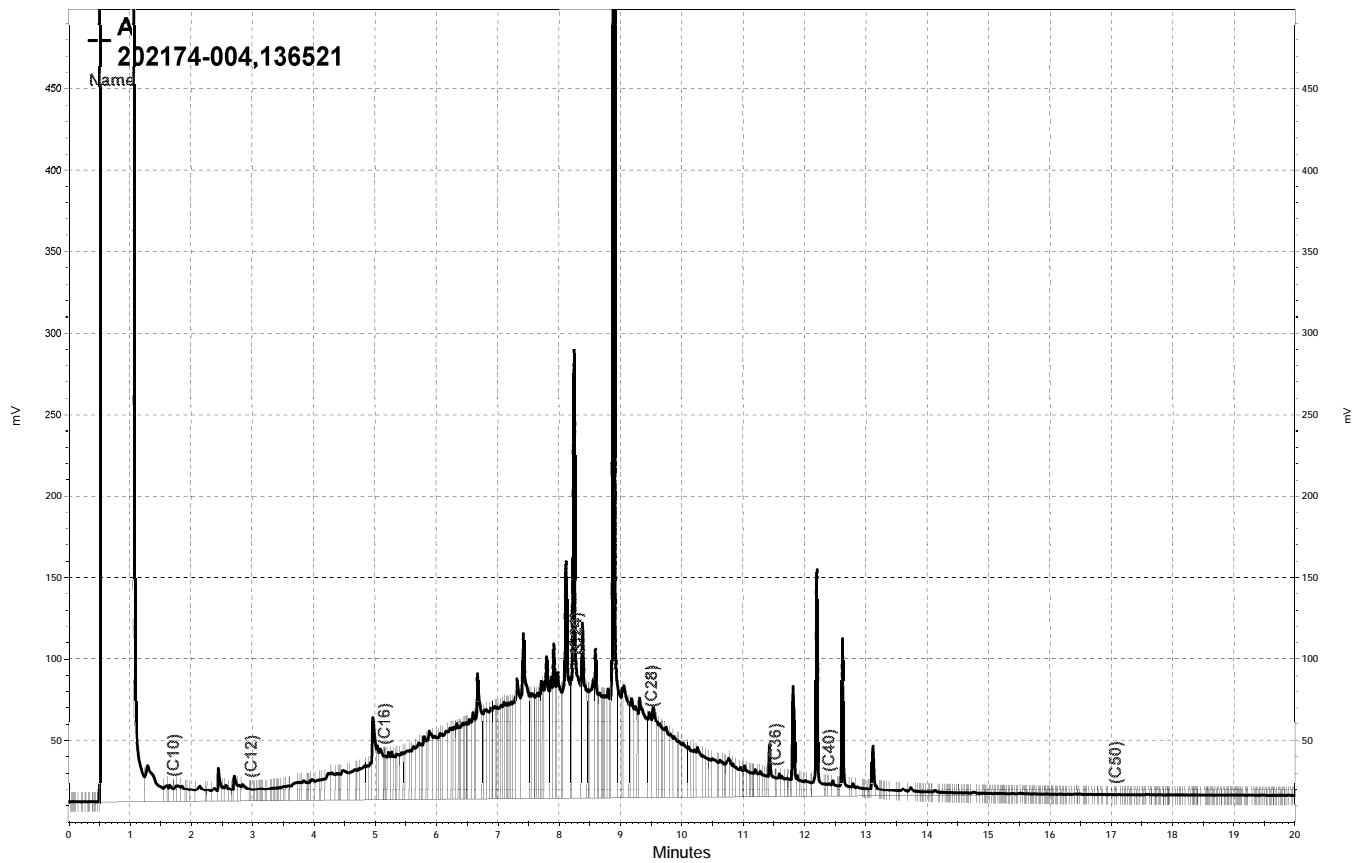
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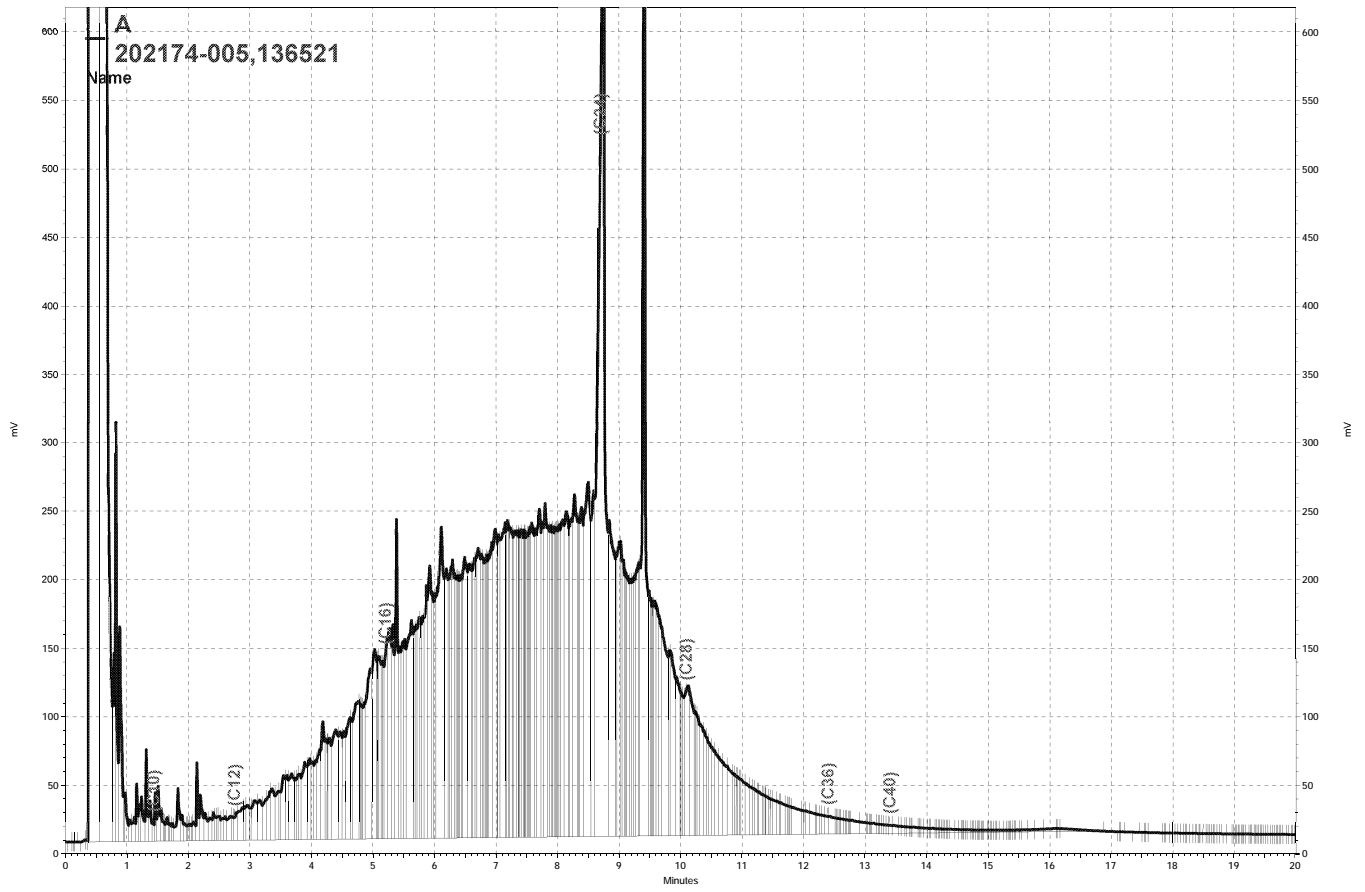
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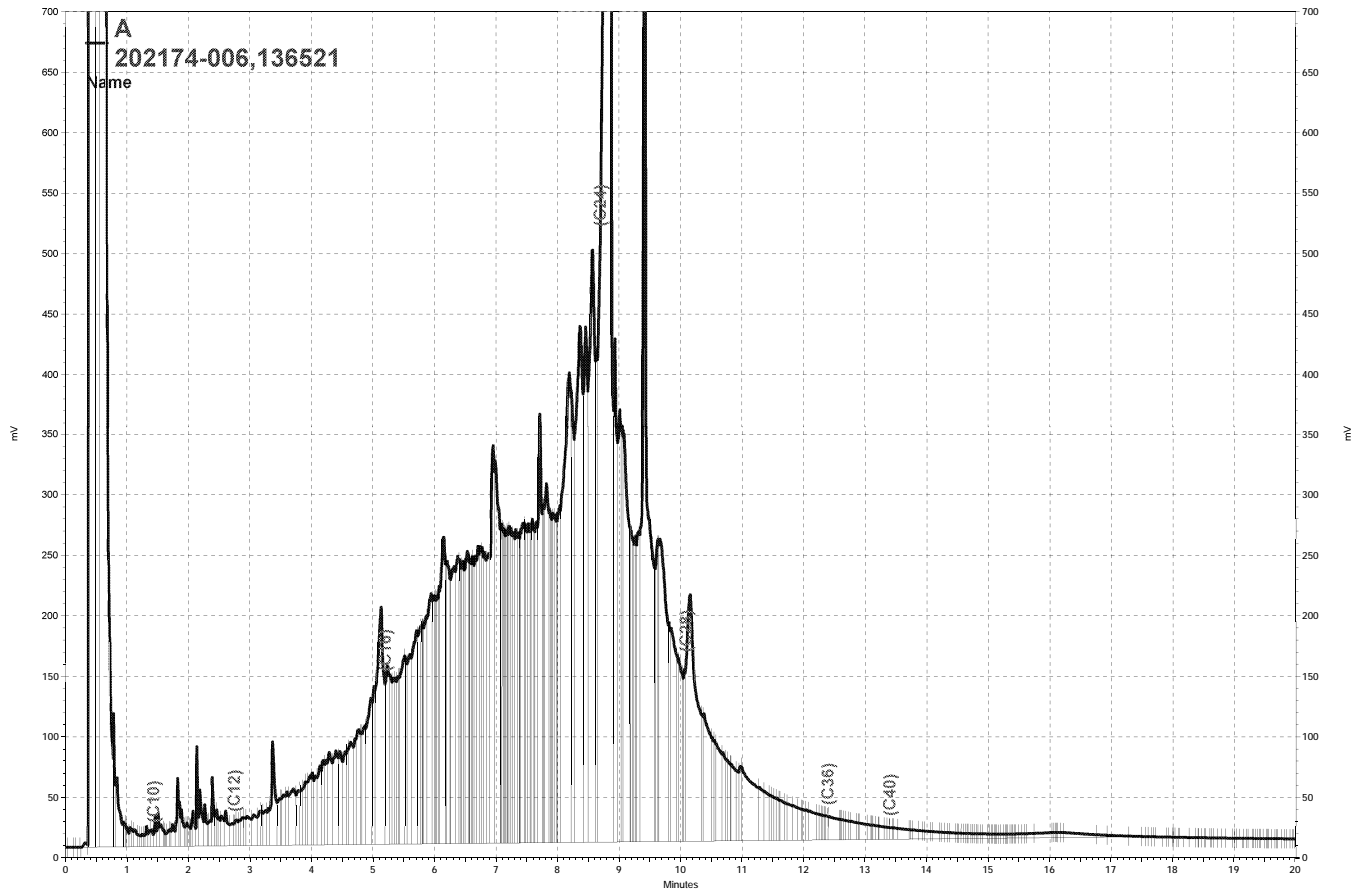
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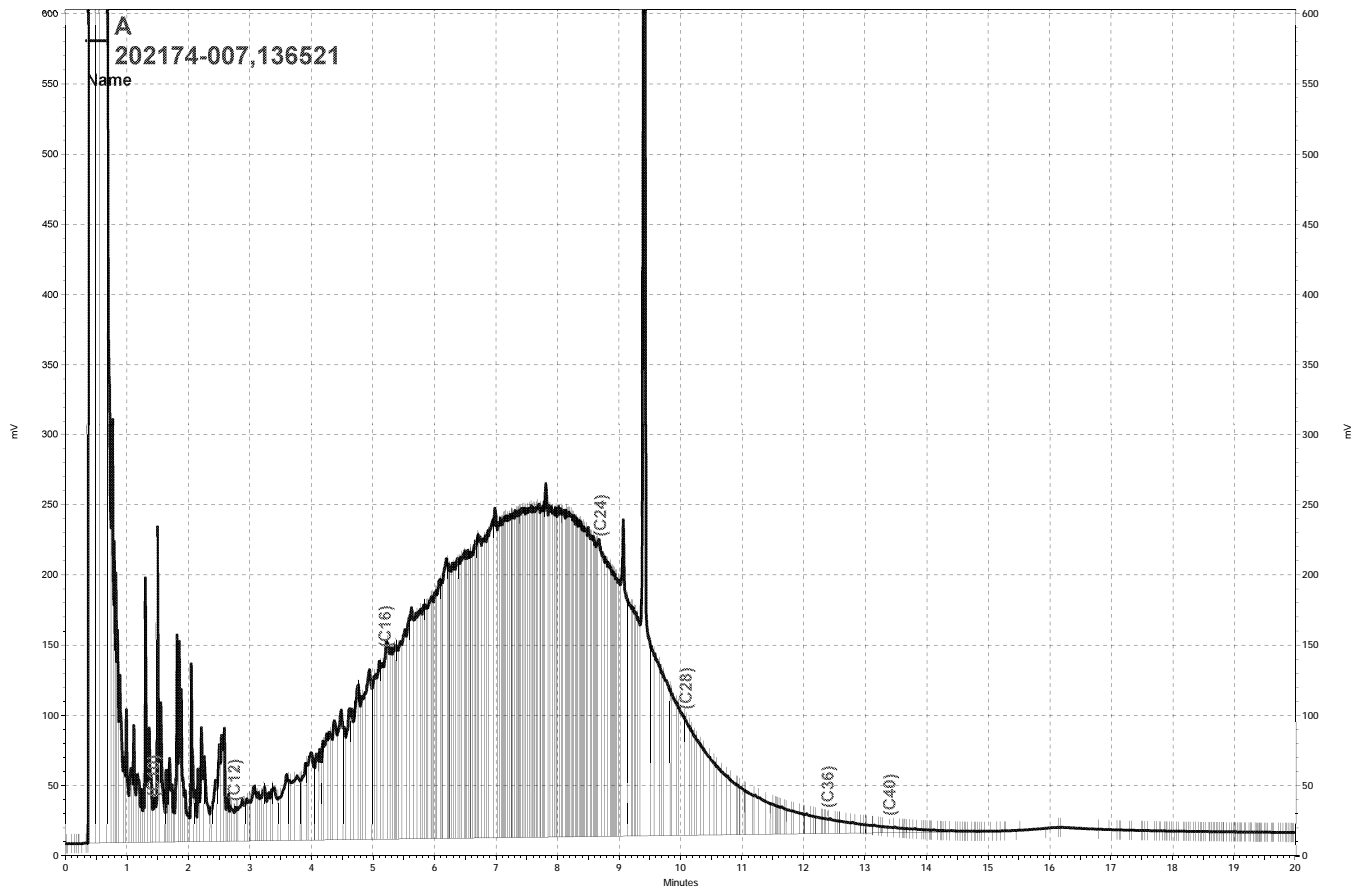


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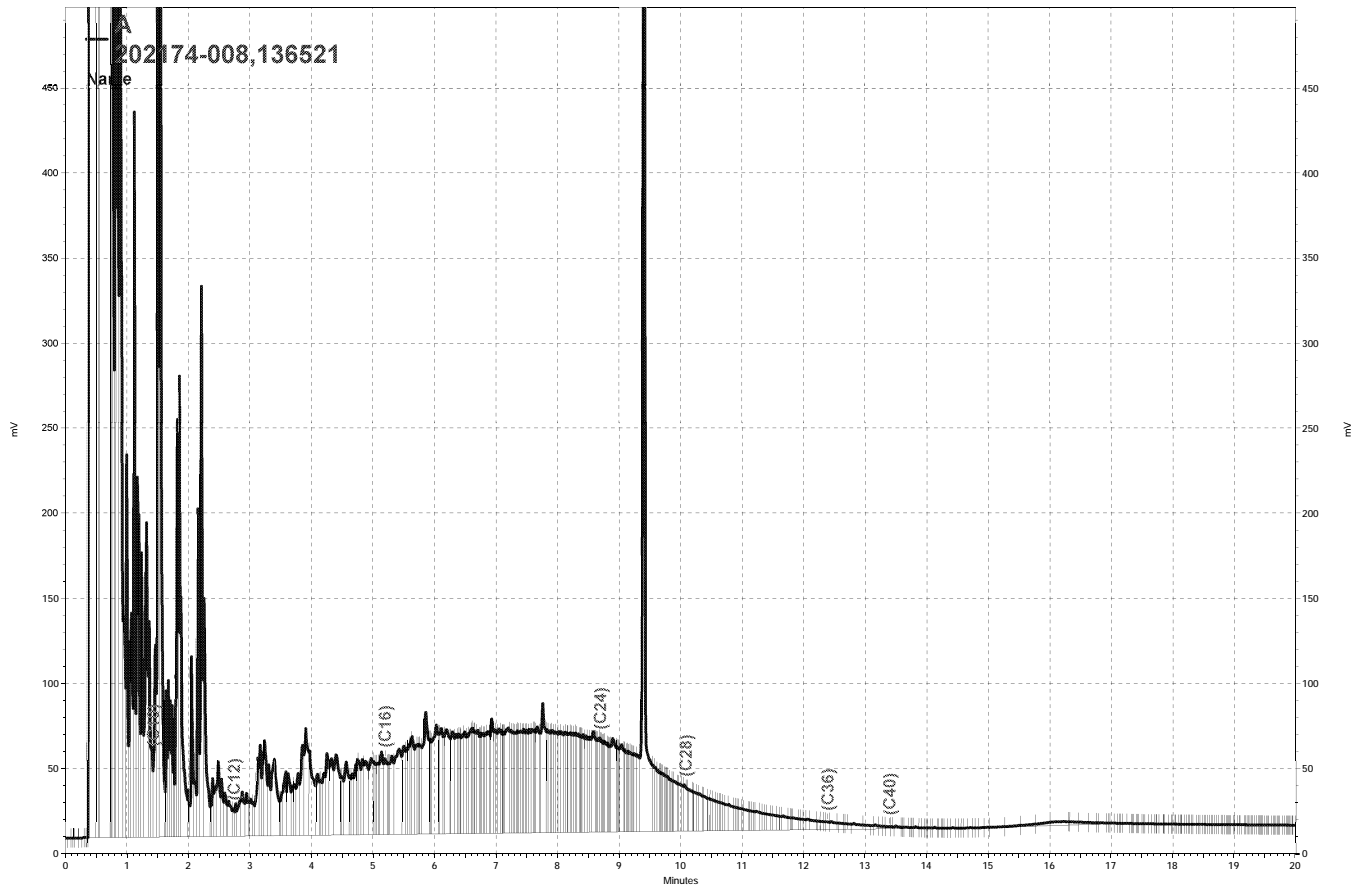


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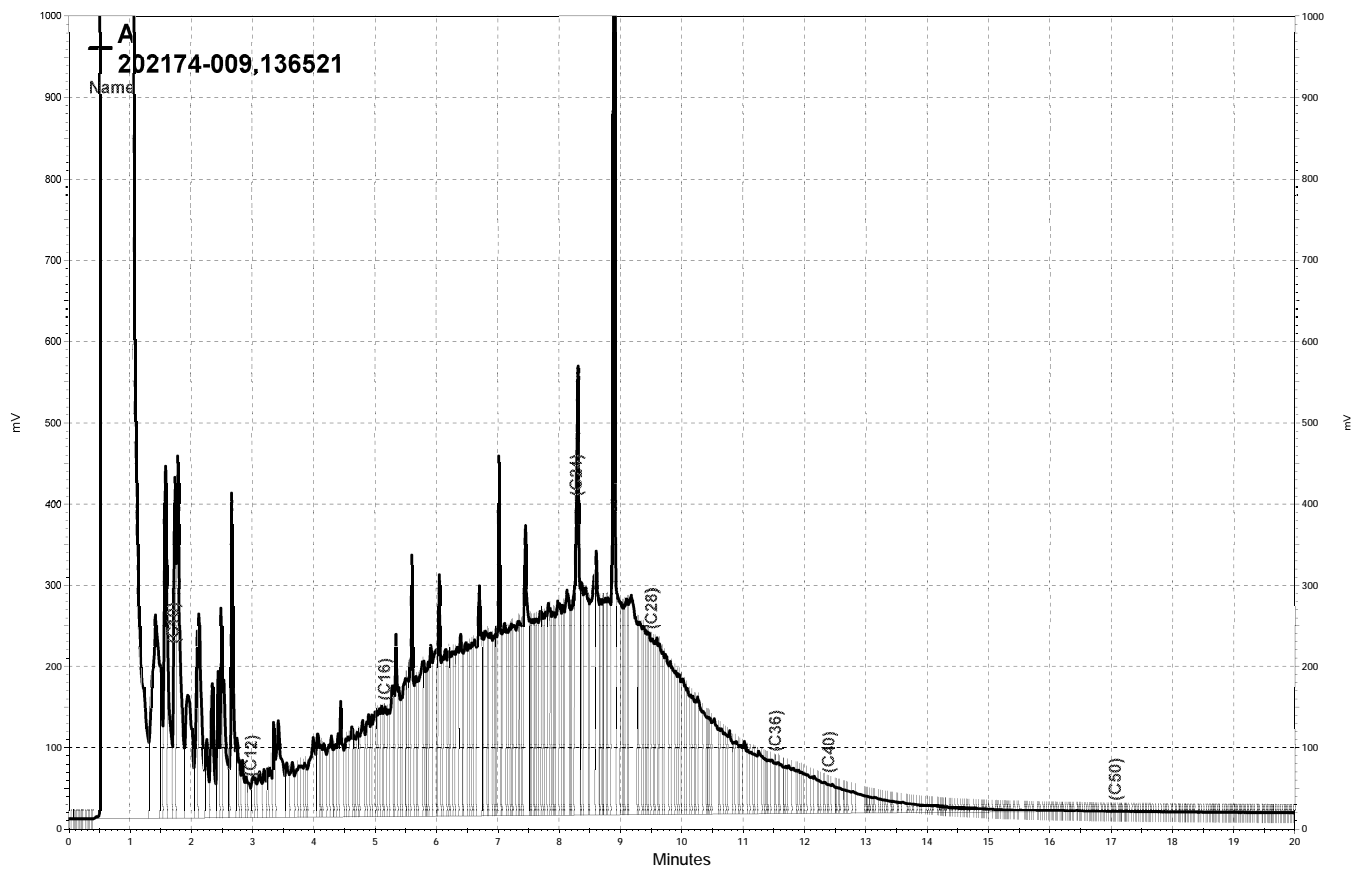




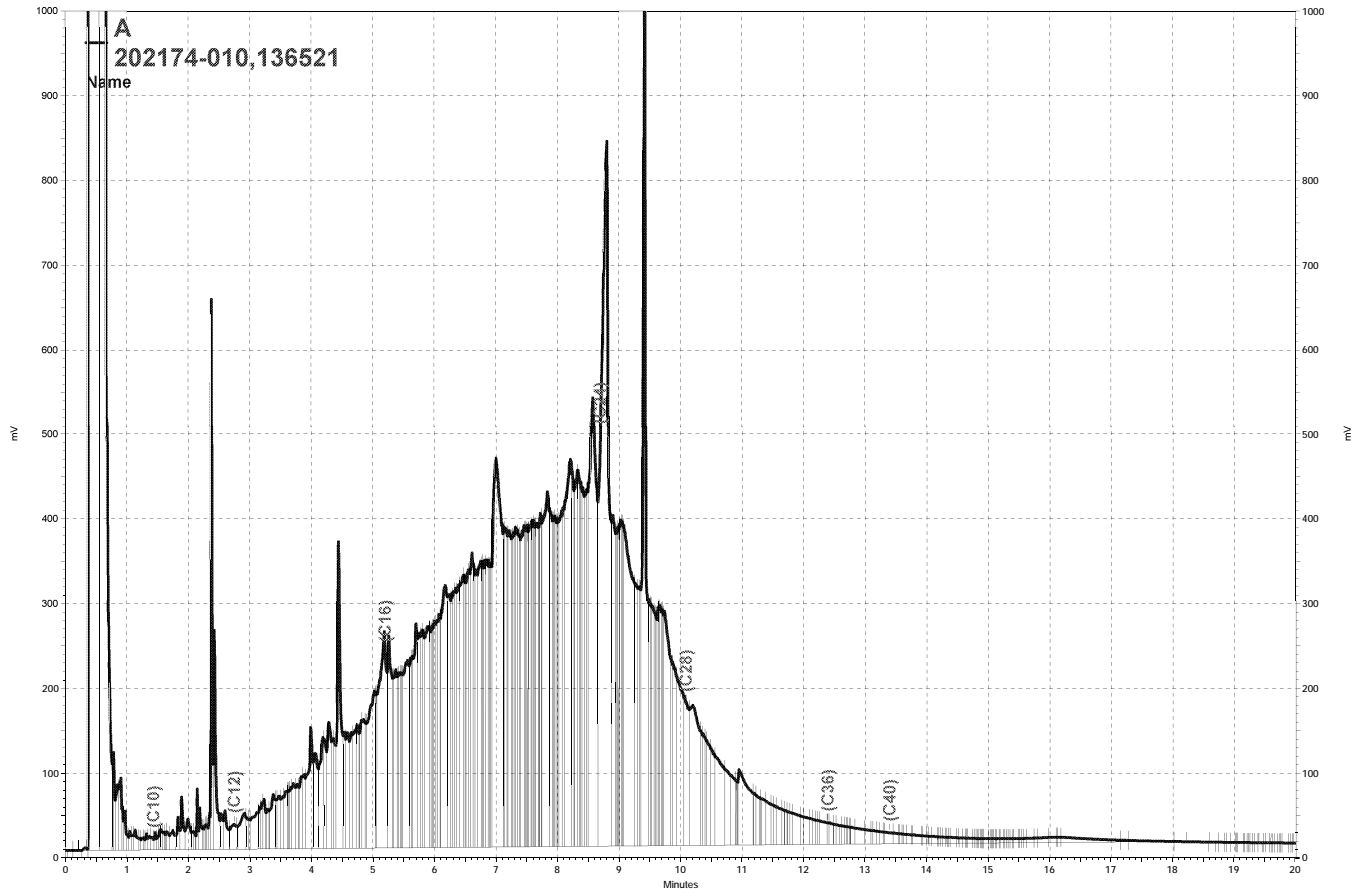
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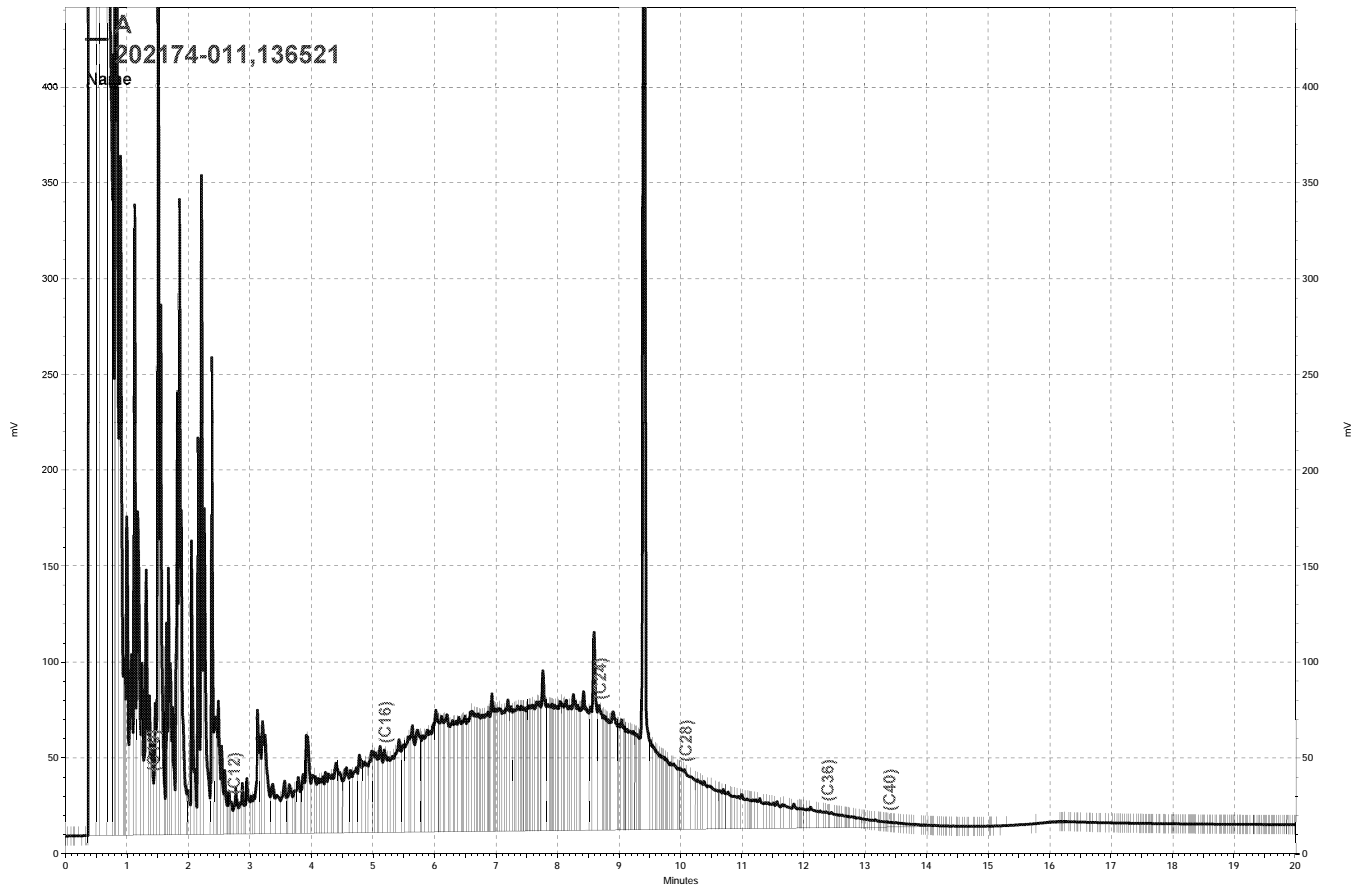
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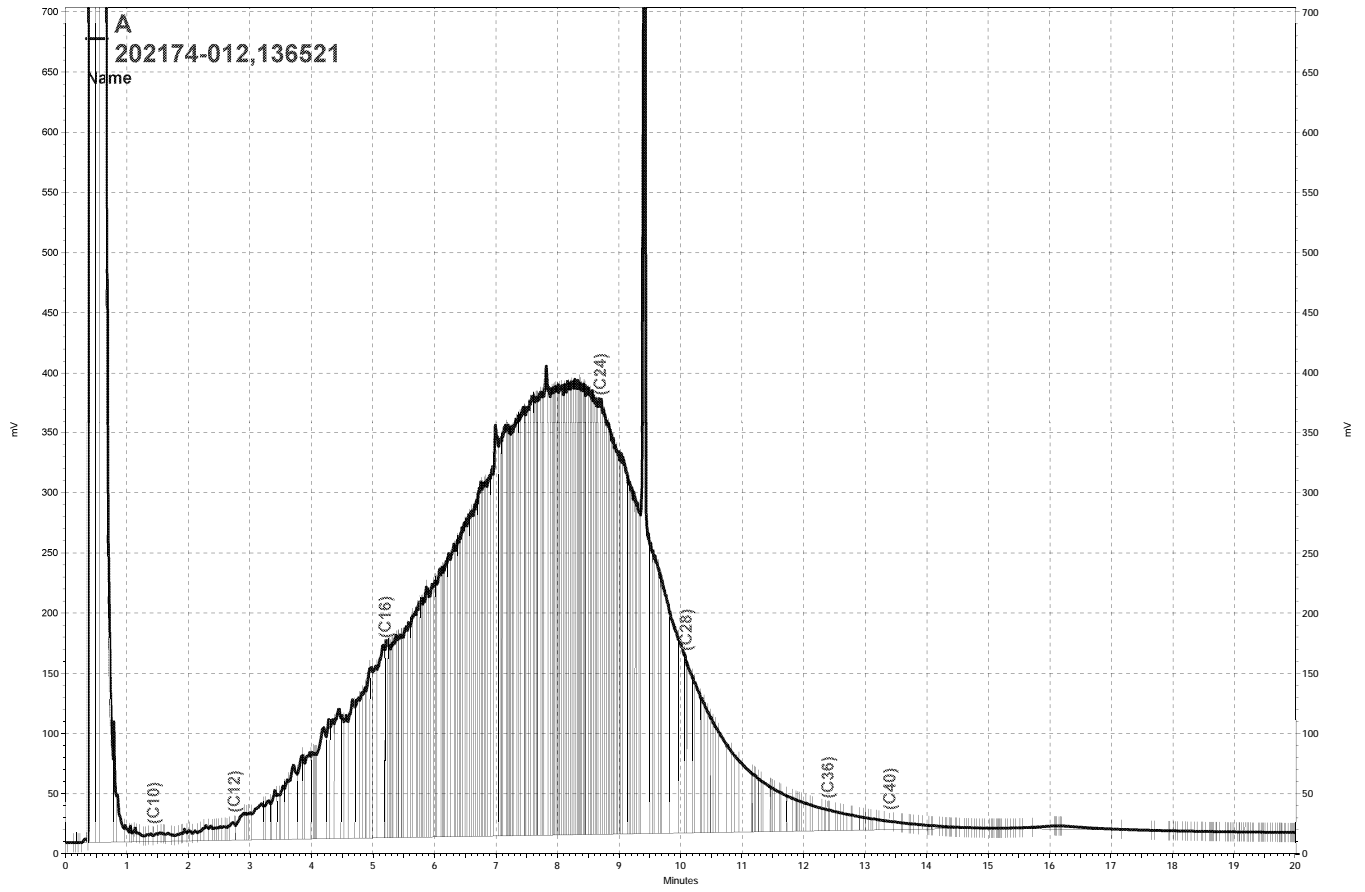
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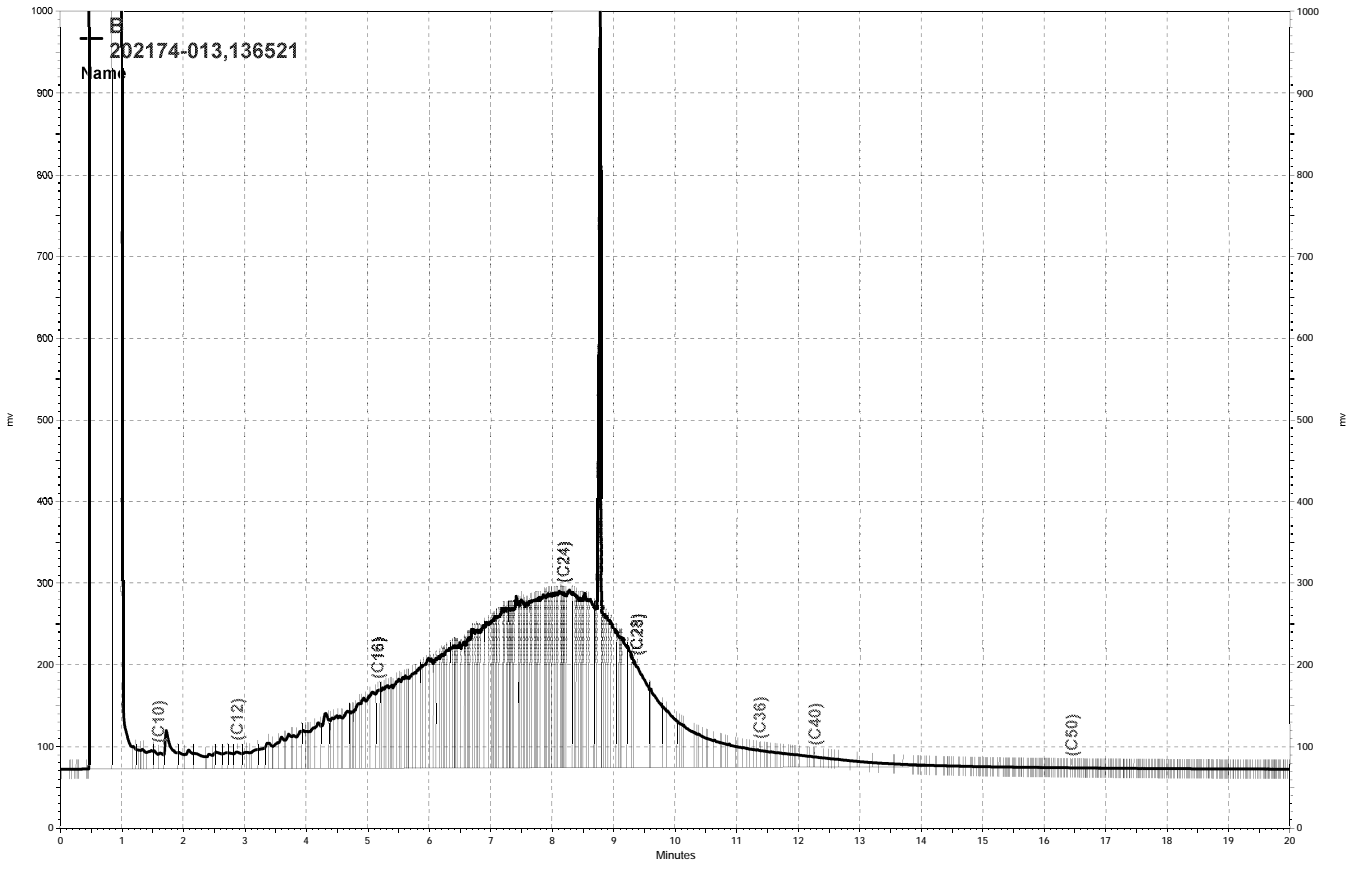
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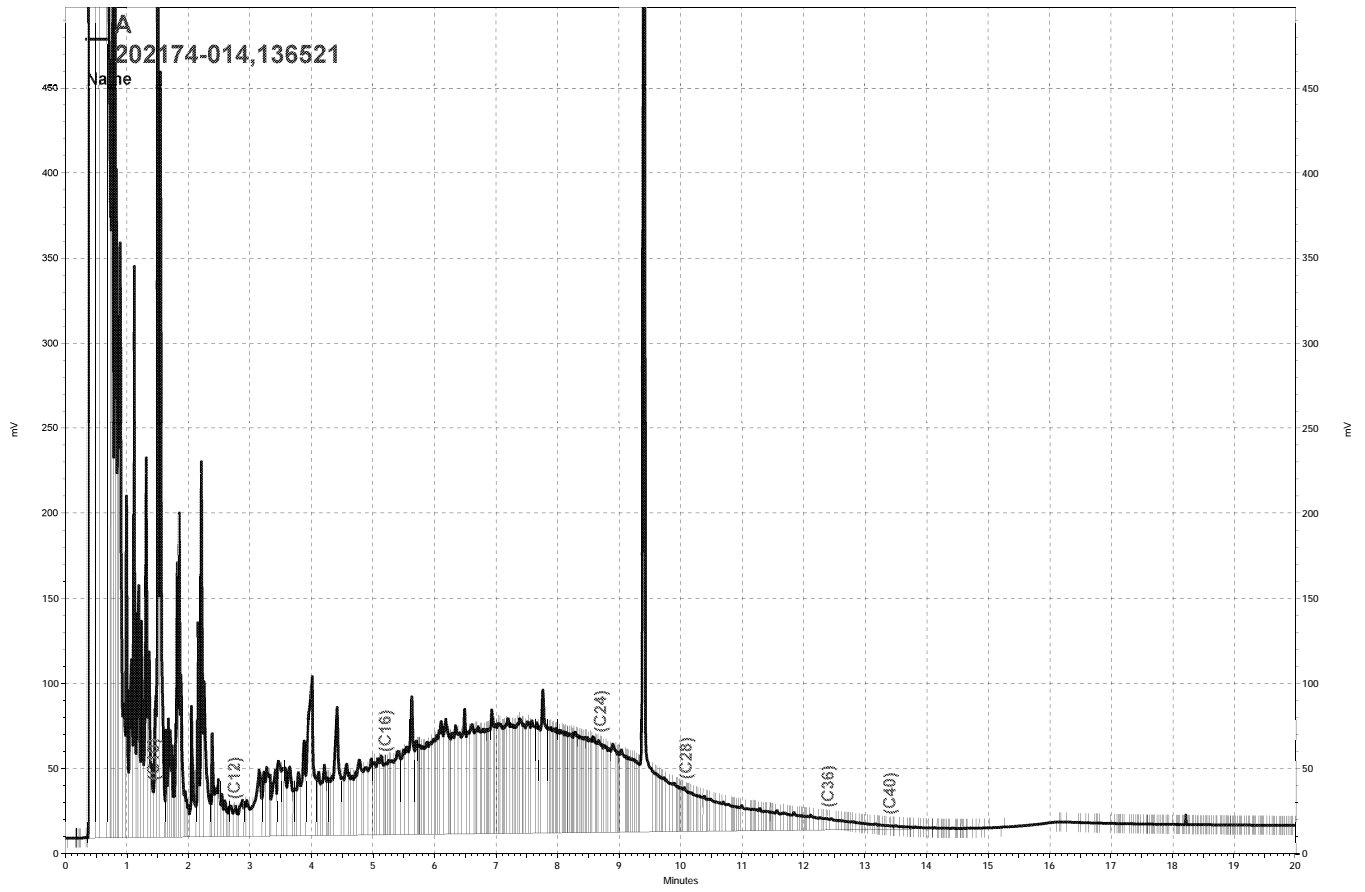
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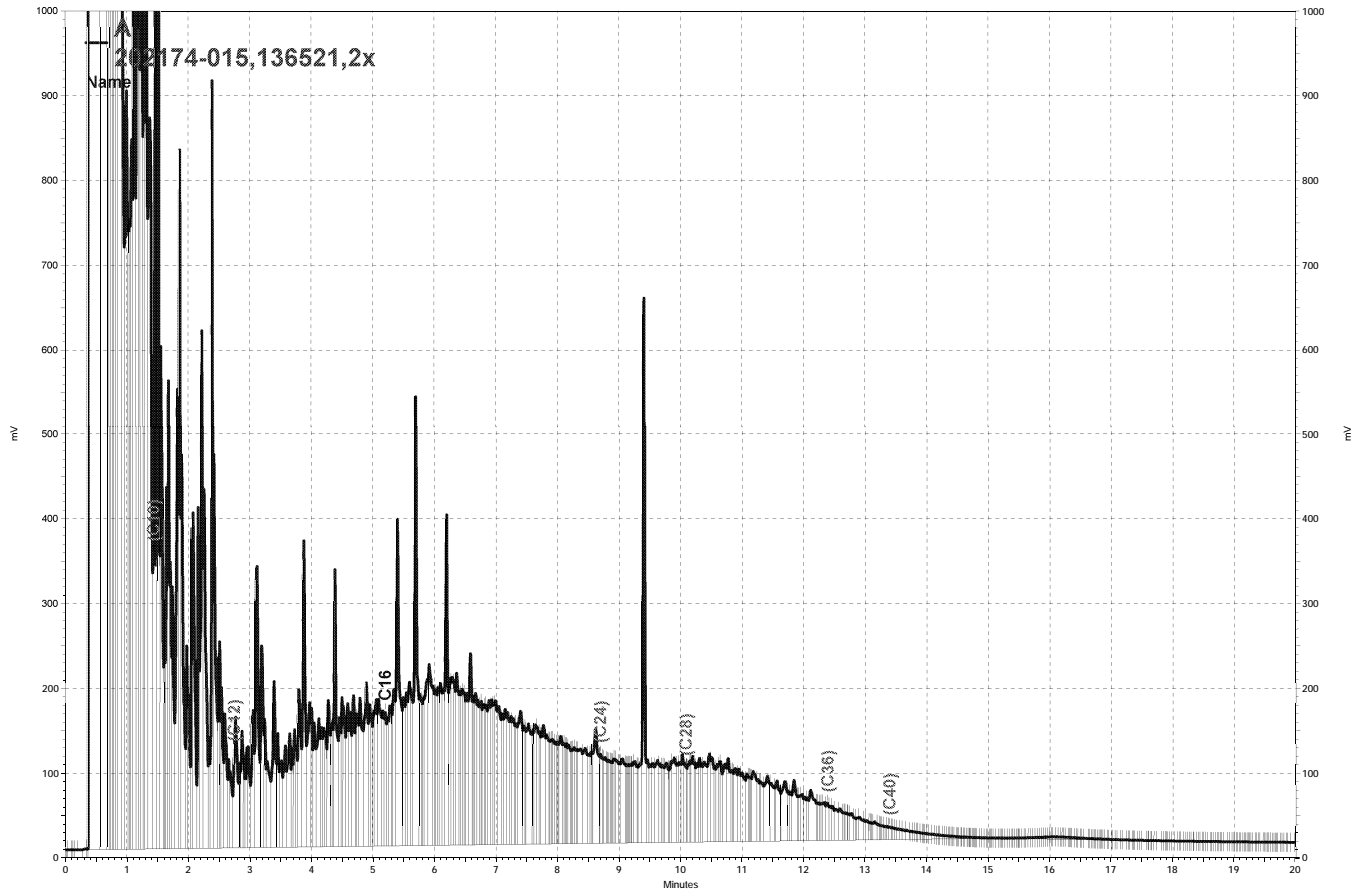


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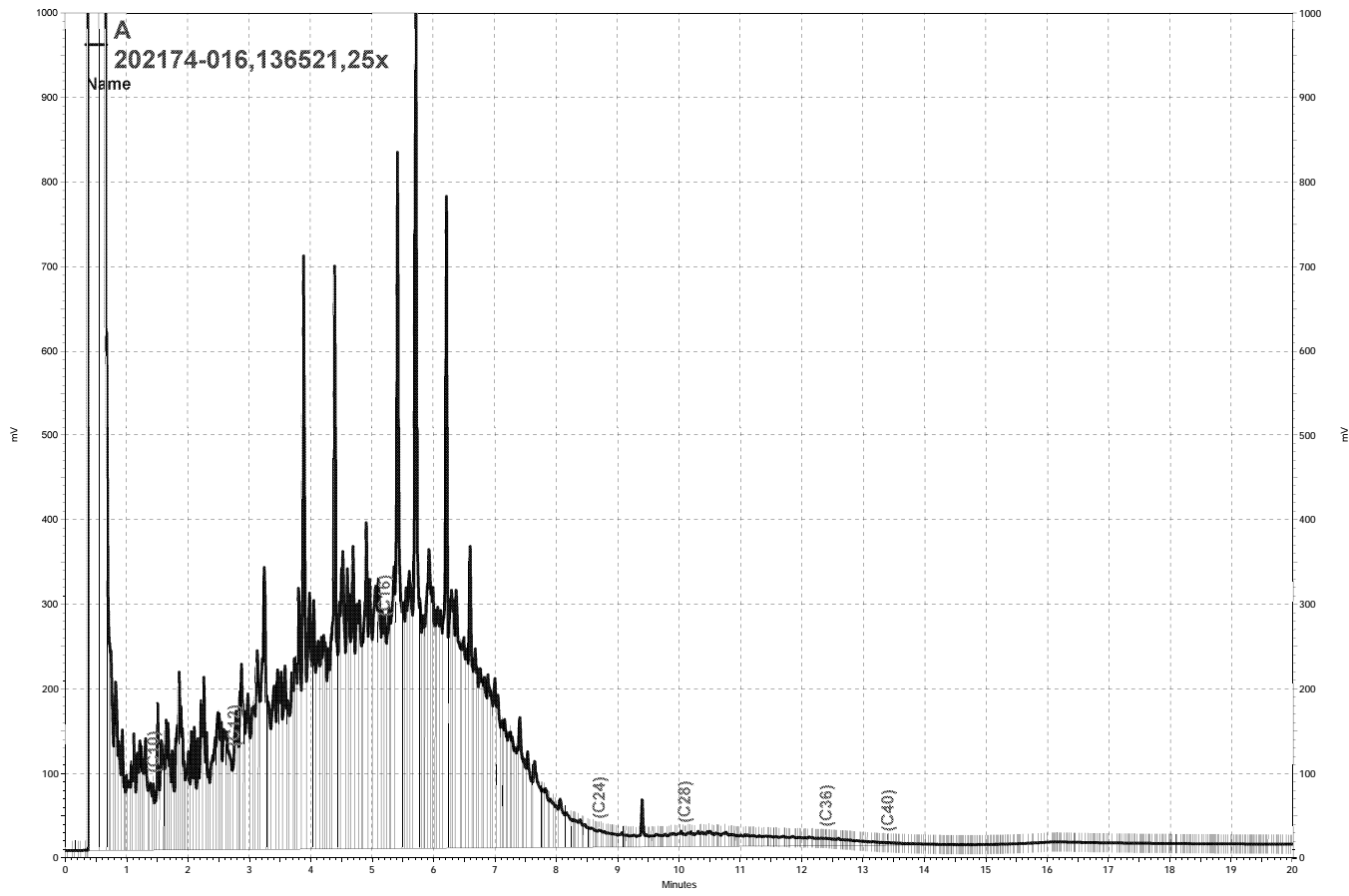


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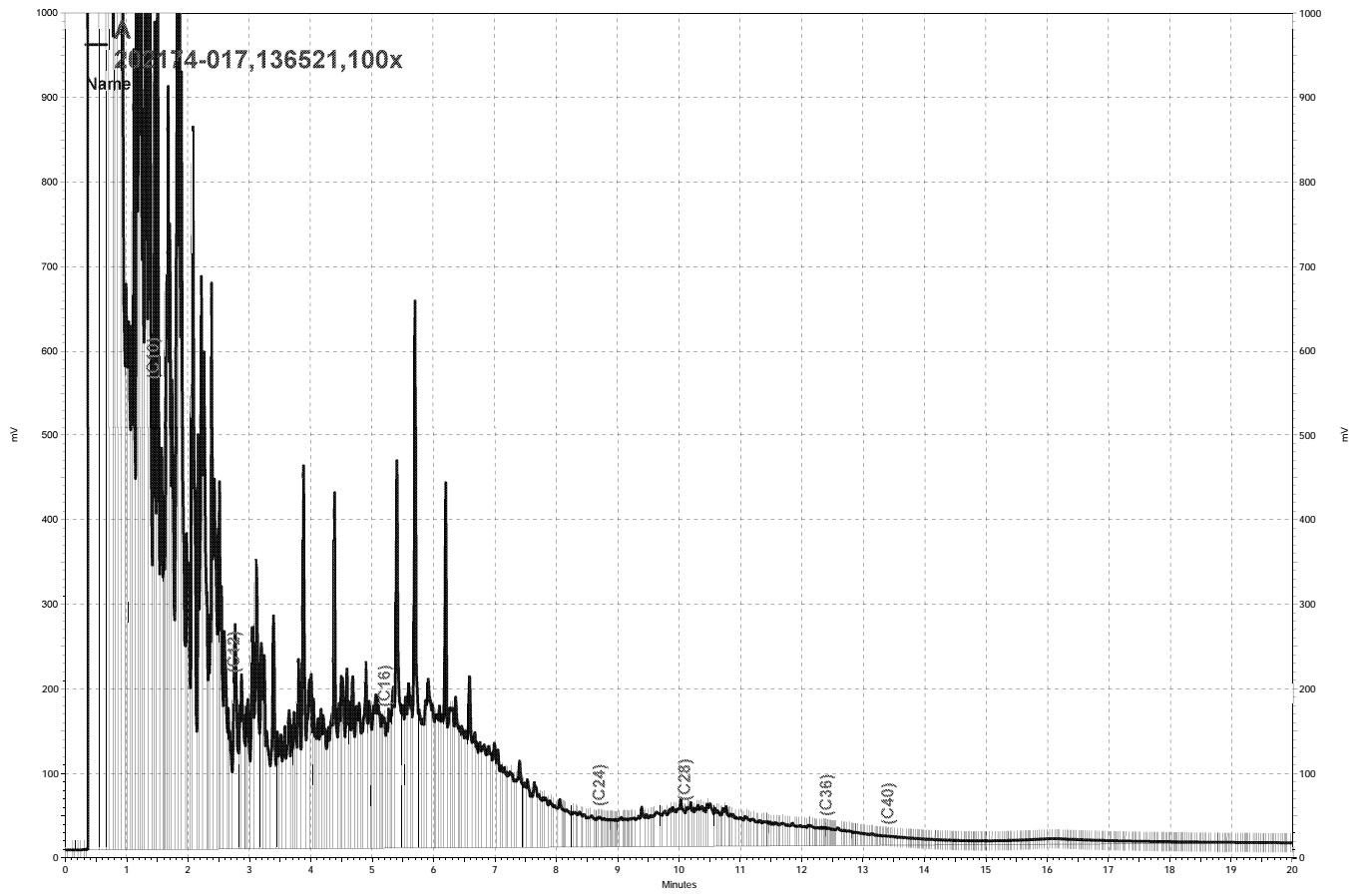




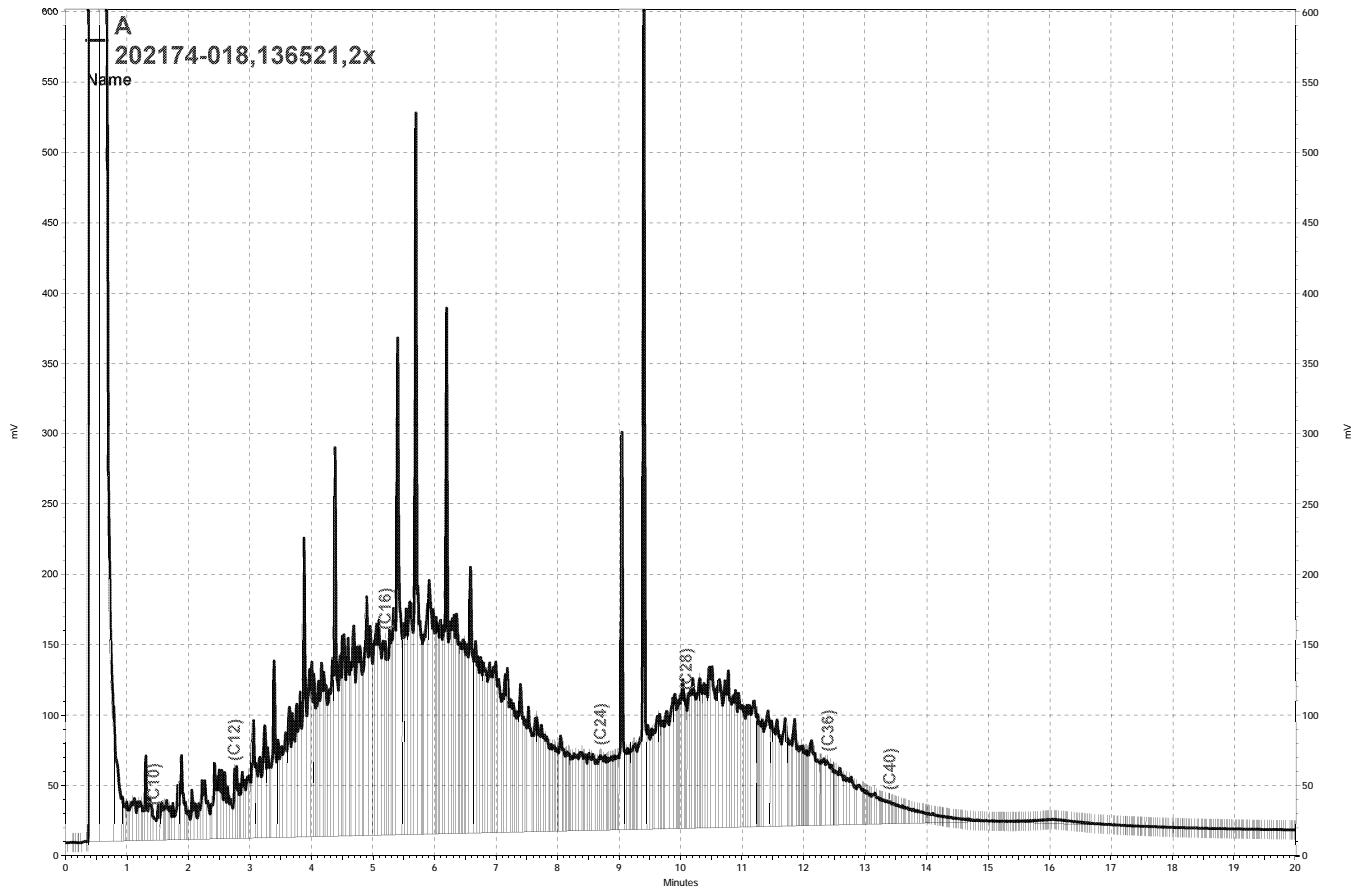
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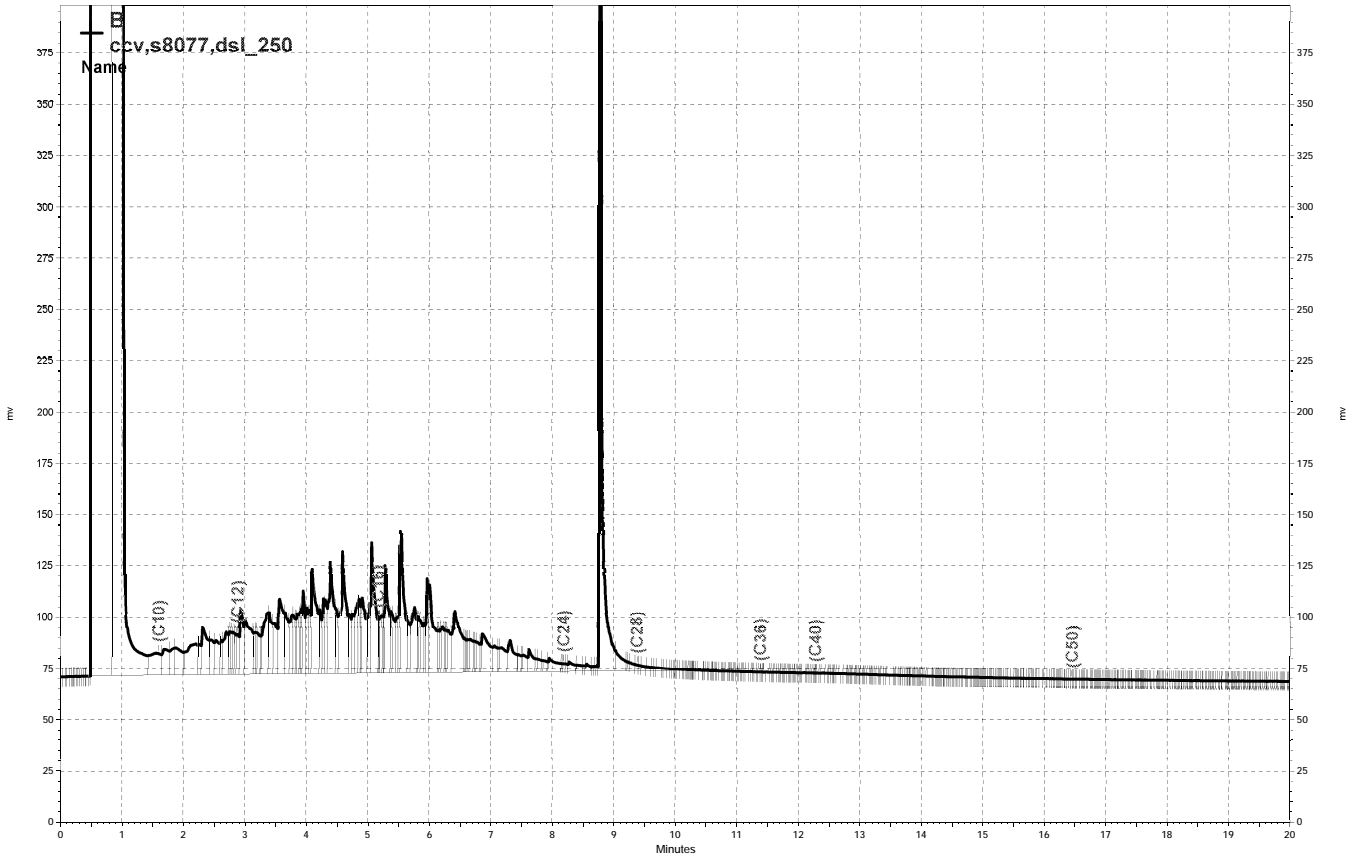
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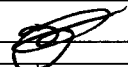
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202174

# Chain of Custody Record


Lab job # 080329-DR1  
Date 03/24/08  
Page 1 of 2

Laboratory C&T  
Address 2323 Fifth St  
Berkeley, CA  
Project Owner \_\_\_\_\_  
Site Address 65th & Bay St.  
EMERYVILLE, CA  
Project Name BAY CENTER ARTS  
Project Number \_\_\_\_\_

Method of Shipment \_\_\_\_\_  
Shipment No. \_\_\_\_\_  
Airbill No. \_\_\_\_\_  
Cooler No. \_\_\_\_\_  
Project Manager TELL GLASS  
Telephone No. (510) 644-3123  
Fax No. (510) 644-3859  
Samplers: (Signature) 

Filtered	No. of Containers	Analysis Required										Remarks		
		TEH-D (BOISM)	TPH-G (BOISM)	BTEX	MTBE									
	N 5													
		X	X	X	X									
		X	X	X	X									
		X	X	X	X									
		X	X	X	X									
		X	X	X	X									
		X	X	X	X									
		X	X	X	X									
		X	X	X	X									
		X	X	X	X									

Field Sample Number	Location/Depth	Date	Time	Sample Type	Type/Size of Container	Preservation		N	5
						Cooler	Chemical		
1	MW-3	03/24	1100	W	4 Wa's, 11L	g	HCL		
2	MW-4		1125						
3	MW-5		1145						
4	MW-6		1305						
5	MW-7		1111						
6	MW-9		1151						
7	MW-11		1257						
8	MW-12		1331						
9	MW-14		1445						
10	MW-16		1411						
11	MW-17		1330						
12	MW-18		1441						

Relinquished by: Signature  Printed <u>Michael PIERRE</u> Company <u>BTS</u>	Date <u>03/24</u> <u>2008</u> Time	Received by: Signature <u>D. Reyna</u> Printed <u>D. Reyna</u> Company <u>BTS</u>	Date <u>3/25</u> Time <u>1400</u>	Relinquished by: Signature _____ Printed _____ Company _____	Date	Received by: Signature <u>Ling Wu</u> Printed <u>Ling Wu</u> Company <u>C&amp;T</u>	Date <u>3/25/08</u> Time <u>14:00</u>
Turnaround Time: <u>STANDARD TAT</u> Comments: <u>EDF REQUIRED</u> <u>on ice, intact</u>				Relinquished by: Signature _____ Printed _____ Company _____	Date	Received by: Signature _____ Printed _____ Company _____	Date

2000-00-01

202174

# Chain of Custody Record

Lab job no. 080324-DPI  
Date 03/24/08  
Page 2 of 2

Laboratory C+T Method of Shipment \_\_\_\_\_  
 Address 2323 FIFTH ST. Shipment No. \_\_\_\_\_  
Berkeley, Ca  
 Project Owner \_\_\_\_\_ Cooler No. \_\_\_\_\_  
 Site Address 65th + Bay St Project Manager TEAL Glass  
Emeryville, Ca Telephone No. (510) 644-3123  
 Project Name Bay center Apts Fax No. (510) 644-3859  
 Project Number \_\_\_\_\_ Samplers: (Signature) [Signature]

Field Sample Number	Location/Depth	Date	Time	Sample Type	Type/Size of Container	Preservation		Filtered	No. of Containers				Analysis Required				Remarks
						Cooler	Chemical		TEKI-D (8015)	TPH-G (8015)	BTEX	MTBE					
13	MW-E	03/24	1430	W	400ml, 116 Amber	Y	HCl, none	N	5	X	X	X	X				
14	MW-15	3/25	0840	W		Y		N	5	X	X	X	X				
15	MW-8		0855	W		Y		N	5	X	X	X	X				
16	MW-10		0915	W		Y		N	5	X	X	X	X				
17	MW-13		0935	W		Y		N	5	X	X	X	X				
18	RW-1		1000	W		Y		N	5	X	X	X	X				Dacont off oil layer & analyze water

Relinquished by: Signature <u>[Signature]</u> Printed <u>Michael PIERCE</u> Company <u>BTS</u>	Date <u>03/24</u> Time <u>1530</u>	Received by: Signature <u>[Signature]</u> Printed <u>D. Raynal</u> Company <u>BTS</u>	Date <u>3/25</u> Time <u>1400</u>	Relinquished by: Signature _____ Printed _____ Company _____	Date _____ Time _____	Received by: Signature <u>[Signature]</u> Printed <u>[Signature]</u> Company <u>CIT</u>	Date <u>3/25/08</u> Time <u>14:00</u>		
Turnaround Time: <u>standing TAT</u> Comments: <u>EDF Reguian on ice, intad</u>				Relinquished by: Signature _____ Printed _____ Company _____				Date _____ Time _____	Received by: Signature _____ Printed _____ Company _____

\* MW-13 has split in samples. Bottles are double bagged

2000-00-01

## **APPENDIX D**

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### **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 <sup>(a)</sup>	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 <sup>(a)</sup>	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 <sup>(a)</sup>	8.69	NP	5.74
3	Feb-91	14.43	8.31	NP	6.12
4	Mar-04	16.96 <sup>(b)</sup>	9.47	NP	7.49
5	Dec-06	NA	NA	NA	NA
6	Dec-07	16.65 <sup>(c)</sup>	7.76 <sup>(c)</sup>	7.76	8.89
7	Mar-08	16.65	8.72	8.70	7.93

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 <sup>(a)</sup>	7.75	NP	6.37
3	Feb-91	14.12	8.04	NP	6.08
4	Mar-04	16.74 <sup>(b)</sup>	6.90	NP	7.49
5	Dec-06	NA	NA	NA	NA
6	Dec-07	16.29 <sup>(c)</sup>	6.61	NP	9.68
7	Mar-08	16.29	7.24	NP	9.05

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 <sup>(a)</sup>	9.29	NP	5.27
3	Feb-91	14.56	10.04	NP	4.52
4	Mar-04	17.11 <sup>(b)</sup>	9.10	NP	8.01
5	Dec-06	NA	NA	NA	NA
6	Dec-07	16.72 <sup>(c)</sup>	9.66	NA	7.06
7	Mar-08	16.72	9.72	NP	7.00

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 <sup>(a)</sup>	7.58	NP	7.09
3	Feb-91	14.67	7.05	NP	7.62
4	Mar-04	17.22 <sup>(b)</sup>	6.51	NP	10.71
5	Dec-06	NA	NA	NA	NA
6	Dec-07	16.82 <sup>(c)</sup>	6.61	NP	10.21
7	Mar-08	16.82	7.02	NP	9.80

MW-7					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed March 2004					
4	Mar-04	18.09	9.93	NP	8.16
5	Dec-06	NA	NA	NA	NA
6	Dec-07	17.73 <sup>(c)</sup>	10.30	NP	7.43
7	Mar-08	17.73	10.51	NP	7.22

MW-8					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed March 2004					
4	Mar-04	18.25	9.32	8.15	8.93
5	Nov-06 <sup>(d)</sup>	16.96	10.59	NP	6.37
6	Dec-07	17.84 <sup>(c)</sup>	9.42	NP	8.42
7	Mar-08	17.84	10.50	9.18	7.34

MW-9					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed March 2004					
4	Mar-04	18.27	9.38	NP	8.89
5	Dec-06	NA	NA	NA	NA
6	Dec-07	17.84 <sup>(c)</sup>	9.54	NP	8.30
7	Mar-08	17.84	9.77	NP	8.07

MW-10					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed March 2004					
4	Mar-04	18.21	9.87	8.24	8.34
5	Dec-06	18.21	9.30	8.86	8.91
6	Dec-07	17.83 <sup>(c)</sup>	8.98 <sup>(e)</sup>	8.98	8.85
7	Mar-08	17.83	9.28	8.98	8.55

MW-11					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed May 2004					
5	Nov-06 <sup>(d)</sup>	17.76 <sup>(c)</sup>	10.33	NP	7.43
6	Dec-07	17.76	10.27	NP	7.49
7	Mar-08	17.76	10.34	NP	7.42

MW-12					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
5	Nov-06 <sup>(d)</sup>	17.83 <sup>(c)</sup>	9.37	NP	8.46
6	Dec-07	17.83	9.15	NP	8.68
7	Mar-08	17.83	9.11	NP	8.72

MW-13					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
5	Dec-06	17.66 <sup>(c)</sup>	9.81	9.44	7.85
6	Dec-07	17.66	9.95	9.39	7.71
7	Mar-08	17.66	10.02	9.54	7.64

MW-14					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
5	Nov-06 <sup>(d)</sup>	17.60 <sup>(c)</sup>	9.11	9.11(sheen)	8.49
6	Dec-07	17.60	8.86	8.84	8.74
7	Mar-08	17.60	8.91	8.88	8.69

MW-15					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
5	Dec-06	17.80 <sup>(c)</sup>	9.15	NP	8.65
6	Dec-07	17.80	9.30	NP	8.50
7	Mar-08	17.80	9.20	9.18	8.60

MW-16					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
5	Dec-06	NA	NA	NA	NA
6	Dec-07	17.74 <sup>(c)</sup>	9.36	NP	8.38
7	Mar-08	17.74	9.88	NP	7.86

MW-17					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
5	Dec-06	NA	NA	NA	NA
6	Dec-07	18.17 <sup>(c)</sup>	9.40	9.32	8.77
7	Mar-08	18.17	9.34	9.18	8.83

MW-18					
Sampling Event No.	Date	TOC Elevation	DTW	DTP	GW Elevation
Installed between 2004-2006					
5	Dec-06	NA	NA	NA	NA
6	Dec-07	16.35 <sup>(c)</sup>	8.30	NP	8.05
7	3.28-04	16.35	8.34	NP	8.01

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 <sup>(d)</sup>	17.80	10.22	NP	7.58
6	Dec-07	17.47 <sup>(c)</sup>	10.03	NP	7.44
7	Mar-08	17.47	10.21	NP	7.26

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 <sup>(d)</sup>	18.32	9.15	9.11	9.17
6	Dec-07	16.70 <sup>(c)</sup>	9.53 <sup>(e)</sup>	9.53	7.17
7	Mar-08	16.70	8.99	8.92	7.71

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

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

<sup>(a)</sup> Wells resurveyed in May 1989

<sup>(b)</sup> New elevation recorded by PES. Date of survey unclear.

<sup>(c)</sup> Wells resurveyed by PES in April 2007

<sup>(d)</sup> no water level data available for the December 2006 sampling event

<sup>(e)</sup> Thickness of product interfered with determining oil/water interface.

Depth to groundwater = depth to free product as difference could not be determined

## **APPENDIX E**

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### **Historical Product Extraction Data Table**

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

Extraction Date	Well or Trench Location																								Total Extracted		
	MW-3	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-E	RW-1	TA-E	TA-M	TA-W	TB-E	TB-M	TB-W	TC-E		TC-M	TC-W
Apr-04	---	---	---	---	1	---	1	---	---	---	---	---	---	---	---	---	19.75	---	---	---	---	---	---	---	---	---	21.75
May-04	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	22.5	---	---	---	---	---	---	---	---	---	22.50
Sep-04	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.74	---	---	---	---	---	---	---	---	---	0.74
Oct-04	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5.22	---	---	---	---	---	---	---	---	---	5.22
<b>2004 Total</b>																									<b>50.21</b>		
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
<b>2006 Total</b>																									<b>52.30</b>		
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
<b>2007 Total</b>																									<b>3.41</b>		
February 15, 2008	0.03	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.45	0.08	0.06	0.18	0.04	0.06	0.06	0.08	0.05	0.05	1.11
February 29, 2008	---	0.05	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.45	0.15	0.15	0.30	---	---	---	---	---	---	1.05
March 17, 2008	---	---	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	---	0.78	
March 25, 2008	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.002	0.008	---	---	---	---	---	---	0.01
<b>2008 Total</b>																									<b>2.95</b>		
<b>Total Extracted</b>	<b>0.03</b>	<b>0.05</b>	<b>0.02</b>	<b>0.002</b>	<b>1.82</b>	<b>0.001</b>	<b>2.64</b>	<b>0.02</b>	<b>0.03</b>	<b>1.20</b>	<b>0.51</b>	<b>0.22</b>	<b>0.01</b>	<b>0.01</b>	<b>0.003</b>	<b>0.01</b>	<b>49.41</b>	<b>14.63</b>	<b>16.09</b>	<b>21.23</b>	<b>0.04</b>	<b>0.06</b>	<b>0.06</b>	<b>0.77</b>	<b>0.05</b>	<b>0.05</b>	<b>108.87</b>

Note:

All free product quantities presented in gallons

Product extraction events conducted before November 2007 were completed by PES Environmental

## **APPENDIX F**

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### **Purge Water and Equipment Disposal Manifest and Recycling Certificate**

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number CAL000331636	2. Page 1 of 1	3. Emergency Response Phone 1-800-424-9300	4. Manifest Tracking Number 003779406 JJK				
5. Generator's Name and Mailing Address STELLAR Environmental Solutions 2198 Sixth St Ste 201 Berkeley CA 94710 Generator's Phone: 510 644-3123			Generator's Site Address (if different than mailing address) Bay Center Apartments 6400 Christie St Emeryville CA 94608 510 644-3123						
6. Transporter 1 Company Name Evergreen Environmental Services				U.S. EPA ID Number CAD982413262					
7. Transporter 2 Company Name				U.S. EPA ID Number					
8. Designated Facility Name and Site Address Evergreen Oil, Inc. 6880 SMITH AVENUE NEWARK CA 94560 Facility's Phone: 510-795-4400				U.S. EPA ID Number CAD980887418					
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))			10. Containers No. Type		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
	1. NON-RCRA HAZARDOUS WASTE, LIQUID (oil & water)			001 TT		1200	G	221	223
	2.								
	3.								
	4.								
14. Special Handling Instructions and Additional Information PROFILE # _____ DOT ERG # 171 WEAR PROTECTIVE CLOTHING INVOICE # 453160 SALES ORDER # 20060758									
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.									
Generator's/Offoror's Printed/Typed Name Steve Bitman for Bay Center Apts				Signature Steve Bitman		Month Day Year 10 4 12 8 10			
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____									
17. Transporter Acknowledgment of Receipt of Materials									
Transporter 1 Printed/Typed Name JSSC FALCON				Signature JSSC		Month Day Year 10 4 12 8 10			
Transporter 2 Printed/Typed Name				Signature		Month Day Year			
18. Discrepancy									
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection									
Manifest Reference Number:									
18b. Alternate Facility (or Generator)				U.S. EPA ID Number					
Facility's Phone:									
18c. Signature of Alternate Facility (or Generator)								Month Day Year	
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)									
1. 4135		2.		3.		4.			
20. Designated Facility Owner or Operator. Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a									
Printed/Typed Name Charles Scott				Signature Charles Scott		Month Day Year 14 12 8 10			





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# *Certificate of Recycling*

Dear Valued Customer:

Evergreen certifies that the **used oil, used antifreeze, oily water, and used oil filters** collected from your facility were fully recycled in accordance with all applicable state and federal regulations.

Evergreen Environmental Services also provides emergency spill response: vacuum cleaning of tanks, clarifiers, and sumps; transportation of hazardous waste, steam cleaning, management of oily solids, and treatment of non-hazardous wastewater.

For more information regarding the services Evergreen provides, please call:

**1-800-972-5284**

***We appreciate your business!***

*This certificate also serves as notification, as required by Title 22, Section 66264.12, that Evergreen Oil, Inc. has the appropriate permits for, and will accept the wastes manifested to Evergreen facilities.*



*“dedicated to the protection of the environment”*

