Carryl MacLeod
Project Manager
Marketing Business Unit

Chevron Environmental Management Company
6101 Bollinger Canyon Road
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Tel (925) 790-6506
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April 27, 2016

Alameda County Health Care Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Former Chevron Service Station 95607
5269 Crow Canyon Road
Castro Valley, CA
ACEH Case #RO 0350

I have reviewed the attached Monthly Remedial Progress and System Shutdown Report – February and March 2016.

The information in this report is accurate to the best of my knowledge and all local Agency/Regional Board guidelines have been followed. This report was prepared by GHD Services Inc., upon whose assistance and advice I have relied.

This letter is submitted pursuant to the requirements of California Water Code Section 13267(b)(1) and the regulating implementation entitled Appendix A pertaining thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Sincerely,

Carryl MacLeod
Project Manager

Attachment: Monthly Remedial Progress and System Shutdown Report – February and March 2016

April 27, 2016 Reference No. 311950

Mr. Mark Detterman
Alameda County Environmental Health Services
1131 Harbor Bay Parkway
Alameda, California 94502

Re: Monthly Remedial Progress and
System Shut-Down Report –
February and March 2016
Former Chevron Station 95607
5269 Crow Canyon Road
Castro Valley, California
Fuel Leak Case RO0350

Dear Mr. Detterman:

GHD Services Inc. (GHD), on behalf of Chevron Environmental Management Company (EMC), is providing this *Monthly Remedial Progress and System Shut-Down Report – February and March 2016* (Report), for the site referenced above (Figure 1). In accordance with Cambria Environmental Technology's (Cambria's) Remedial Action Plan (RAP), dated January 8, 2007 and Conestoga-Rovers & Associates' (CRA's) Remedial Action Plan (RAP) Addendum, dated April 4, 2013, a dual-phase extraction (DPE) system was proposed to remove hydrocarbon mass in soil and groundwater at the site to the extent practical. The RAP was approved by Alameda County Environmental Health Services (ACEHS) in a letter dated December 11, 2013.

The DPE system began operation on September 29, 2014. The system was down for repair from July 4, 2015 to October 22, 2015 and was shut down for good on March 15, 2016. GHD conducted routine operation and maintenance; adjusted the DPE system to maximize effectiveness; and collected groundwater and soil vapor samples monthly for analysis to confirm the DPE system was operating within the Bay Area Air Quality Management District (BAAQMD) and Castro Valley Sanitation District (CVSan) permit conditions.

This report includes a monthly summary of the dual-phase extraction (DPE) system operations for the reporting period between January 21, 2016 and March 15, 2016 (Tables 1 through 4) and a cumulative summary of operations from startup to shut-down.

GHD Services Inc.
5900 Hollis Street Suite A Emeryville California 94608 USA
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1. Monthly Remedial Summary – February and March 2016

The SVE and GWET systems (collectively referred to as the DPE system) shut-down on February 8, 2016 due to a high temperature alarm in the oxidizer compartment. The air conditioner unit in the oxidizer room was adjusted and the DPE system was restarted on February 12, 2016. On March 13, 2016 the DPE system shut-down due to a heavy rain event that filled the DPE-3 well vault. The system was restarted on March 15, 2016 to collect shut-down compliance samples. GHD collected monthly compliance effluent samples from the SVE and GWET systems on February 3, 2016 and March 3, 2016.

The DPE system was shut-down on March 15, 2016 based on low vapor mass removal rates (<12.4 pounds per day [ppd]) observed January 2016 through March 2016 (with the exception of 40.5 ppd on February 16, 2016 and 54 ppd on March 15, 2016). Graphs 1 and 2 summarize the vapor concentrations and mass removal rates for total petroleum hydrocarbons as gasoline (TPHg) and benzene, respectively.

During the reporting period approximately 1.14 pounds of TPHg and 0.04 pounds of benzene were removed via the dissolved phase (Table 2). In addition, approximately 1,180 pounds of TPHg and 13.8 pounds of benzene were removed via the vapor phase (Table 4). Graphs 3 and 4 summarize the groundwater concentrations and mass removal rates for TPHg and benzene.

A summary of the DPE system operational performance for the months of February 2016 and March 2016 is presented below.

VAPOR-PHASE EXTRACTION DATA – FEBRUARY 2016 AND MARCH 2016

Soil Vapor Influent Flow Rate (average scfm)	110.5 scfm (108 scfm - Feb & 113 scfm - Mar)
Soil Vapor Laboratory Influent Concentrations (TPHg ppmv)	240 ppmv & 1,100 ppmv (February) 290 ppmv & 1,300 ppmv (March)
Soil Vapor Laboratory Influent Concentrations (Benzene ppmv)	4.1 ppmv & 18 ppmv (February) 5.3 ppmv & 16 ppmv (March)
Soil Vapor Mass Removal (lb TPHg/period)	1,180 lbs (451 lbs– Feb & 729 lbs – Mar)
Soil Vapor Mass Removal (lb Benzene/period)	13.8 lbs (5.9 lbs – Feb & 7.9 lbs – Mar)
Soil Vapor Mass Removal (lb MTBE/period)	6.9 lbs (2.4 lbs – Feb & 4.5 lbs – Mar)
Soil Vapor Extraction Period Operating Uptime (hours)	1,267 hours
Soil Vapor Treatment Destruction Efficiency (%)	100%

lbs - pounds
ppmv – parts per million by volume
scfm – standard cubic feet per minute

DISSOLVED-PHASE EXTRACTION DATA - FEBRUARY 2016 AND MARCH 2016

Maximum Groundwater Extraction Rate (gpm)	1.25 gpm
Average Groundwater Extraction Rate (gpm)	1.02 gpm
Dissolved-Phase Mass Removal Rate (lb TPHg/period)	1.14 pounds
Dissolved-Phase Mass Removal Rate (lb Benzene/period)	0.04 pounds
Total Volume Groundwater Treated (gallons)	77,670 gallons
Groundwater Extraction Period Operating Uptime (hours)	1,267.2 hours

gpm – gallons per minute

2. Cumulative Remedial Summary

Since startup the remedial system accomplished the following:

SVE System

- The TPHg removal rate dropped from a high of 405.2 pounds of TPHg per day (September 2014) to an average of 17.9 pounds of TPHg per day (average from January to March 2016) (Table 4).

- Approximately 13,918 pounds of TPHg were removed by SVE (Table 1). As shown on Graph 1, TPHg removal rates have steadily declined to an asymptotic level.

- The benzene removal rate dropped from a high of 3.3 pounds of benzene per day (September 2014) to an average of 0.2 pounds per day (average from January to March 2016) (Table 4).

- Approximately 138 pounds of benzene were removed. Benzene removal has steadily declined to asymptotic levels (Graph 2).

GWET System

- The GWET system extracted, treated and discharged 467,200 gallons of impacted groundwater, removing 12.6 pounds of TPHg and 1.3 pounds of benzene (Table 2).

- TPHg extraction concentrations were reduced from 8,000 micrograms per liter (µg/L) (November 2014) to 1,700 µg/L (March 2016) and benzene extraction concentrations were reduced from 1,800 µg/L (September 2014) to 53 µg/L (March2016).

- Current (April 2016) dissolved hydrocarbon concentrations in groundwater collected from source area and downgradient monitoring wells are one to three orders of magnitude lower than historical dissolved hydrocarbon concentrations, as shown in the table below.

CURRENT AND HISTORIC DISSOLVED-PHASE ANALYTICAL DATA

Well	TPHg (µg/L)		Benzene (µg/L)		Toluene (µg/L)		Ethylbenzene (µg/L)		Total Xylenes (µg/L)		MTBE (µg/L)	
	7/14	4/16	7/14	4/16	7/14	4/16	7/14	4/16	7/14	4/16	7/14	4/16
C-1	5,700*	55 J	450*	<0.5	35*	<0.5	130*	<0.5	49*	3	<1.0*	<0.5
C-3	38,000	<50	12,000	0.5 J	300	<0.5	3,000	<0.5	1,600	<0.5	<10	<0.5
C-6	12,000	1,100	3,800	4	19	<0.5	200	2	68	1	17	3
C-9	17,000	8,400	5,500	170	22	140	240	120	59	990	6	<3

Notes:

* - Well was not sampled on July 2014. Analytical results shown are from the January 2014 monitoring event.
J – estimated value ≥ the method detection limit (MDL) and < the limit of quantitation (LOQ)

- TPHg and benzene removal rates using the GWET system have become asymptotic (Graphs 3 and 4).

A summary of the cumulative DPE system operational performance is presented below.

VAPOR-PHASE EXTRACTION DATA - CUMULATIVE

Soil Vapor Influent Flow Rate (average scfm)	139.5 scfm
Soil Vapor Mass Removal (lb TPHg/period)	13,918 lbs
Soil Vapor Mass Removal (lb Benzene/period)	138 lbs
Soil Vapor Mass Removal (lb MTBE/period)	102 lbs
Soil Vapor Extraction Period Operating Uptime (hours)	6,461.2 hours

DISSOLVED-PHASE EXTRACTION DATA - CUMULATIVE

Average Groundwater Extraction Rate (gpm)	0.80 gpm
Dissolved-Phase Mass Removal Rate (lb TPHg/period)	12.6 pounds
Dissolved-Phase Mass Removal Rate (lb Benzene/period)	1.3 pounds
Total Volume Groundwater Treated (gallons)	467,200 gallons
Groundwater Extraction Period Operating Uptime (hours)	9,678.8 hours

gpm – gallons per minute

3. Conclusions and Recommendations

- The DPE system was successful in extracting soil vapor and groundwater from the extraction wells at the site.
- Concentrations of dissolved hydrocarbons are one to three orders of magnitude lower than historical hydrocarbon concentrations and were reduced to the point that any remaining TPHg and benzene concentrations should be reduced through natural attenuation.
- At the current extraction rates of less than 17.9 pounds of TPHg and 0.2 pounds of benzene, continued operation of the remedial system is neither economically viable nor environmentally sustainable.
- The DPE system has operated in excess of one year.

Post Remedial Monitoring
The site groundwater monitoring wells are currently monitored quarterly. The second quarter monitoring and sampling event occurred on April 6, 2016. GHD recommends that the site be monitored for two more consecutive quarters to verify dissolved petroleum hydrocarbon concentration trends.

The system has met its effectiveness in remediating the site and operated for more than one year as stated in the low-threat closure policy (LTCP) and further operation of the remediation system is not warranted. Therefore, in addition to shutdown of the remediation system, GHD recommends that the system be properly removed from the site during the summer of 2016.

Please contact Judy Gilbert of GHD at (510) 420-3314, if you have any questions or comments.

Sincerely,
GHD

Matthew B. Smith, PE 82552

DATED:

BCF/mws/60
Encl.

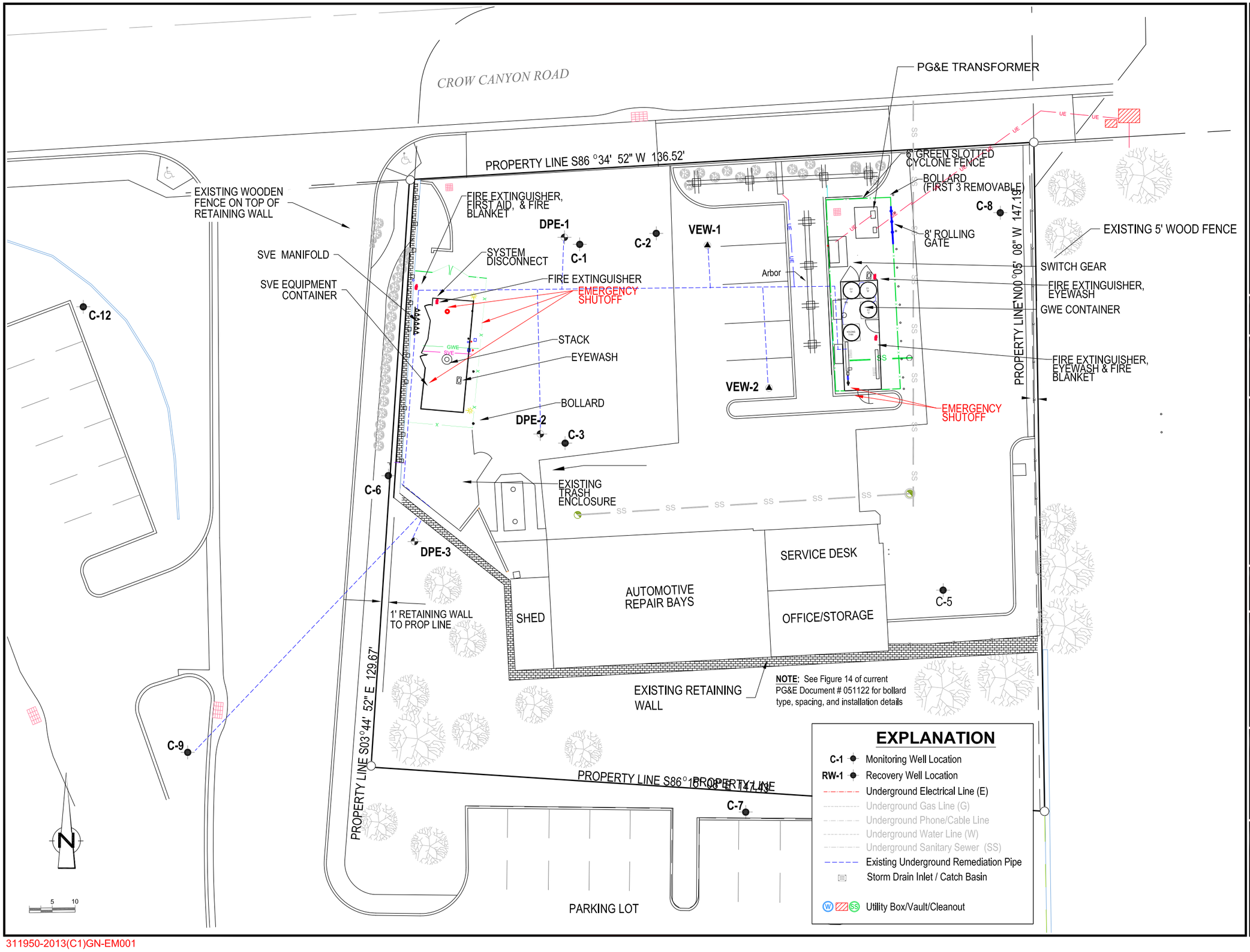
Figure 1	General Site Plan
Table 1	Groundwater Extraction & Treatment System – Influent and Effluent Hydrocarbon Concentration Data
Table 2	Groundwater Extraction & Treatment System - Operational Data and Dissolved Phase Hydrocarbons Mass Removal Data
Table 3	Soil Vapor Extraction System - Operational Data
Table 4	Soil Vapor Extraction System - Analytical and Mass Removal Data

Graph 1	SVE System: TPHg Concentration and Mass Removal Rates
Graph 2	SVE System: Benzene Concentration and Mass Removal Rates
Graph 3	GWE System: TPHg Concentration and Mass Removal Rates
Graph 4	GWE System: Benzene Concentration and Mass Removal Rates

Attachment A	Eurofins Lancaster Laboratory Analytical Report
Attachment B	Eurofins Air Toxics Laboratory Analytical Reports

c.c.: Ms. Carryl MacLeod, Chevron EMC *(electronic copy)*
Mr. Kevin Hinkley, Property Owner
Ms. Diane Riggs, Forest Creek Townhomes Association

Figure



311950-2013(C1)GN-EM001

CLIENT

CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY

PROJECT

FORMER CHEVRON STATION #9-5607
5269 CROW CANYON ROAD
CASTRO VALLEY, CA

TITLE

GENERAL SITE PLAN

PROJECT #311950

DRAWING STATUS

N°	Revision	Date	By
1	RELOCATE GWE TRAILER	10/12/13	DK
1	ADD SVE-1 AND SVE-2	10/23/13	DK
2	RELOCATE GWE TRAILER	3/25/14	DS
3	AS-BUILT	10/10/14	DS

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL.

GHD
5900 HOLLIS STREET, SUITE A
EMERYVILLE CA 94608
PHONE: 510.420.0700
FAX: 510.420.9170
WWW.GHD.COM

Source Reference:

Designed By: DS	Date: 10/10/2014	Drawing N°: FIG 1
Drafted By: DS	Date: 10/10/2014	
Reviewed By: DK	Date: 10/23/2014	
Scale: 1:10		

Tables

Table 1
Groundwater Extraction and Treatment System
Influent and Effluent Hydrocarbon Concentration Data
Former Chevron Station # 9-5607
5269 Crow Canyon Road, Castro Valley, California

	Influent						Midfluent 1						Midfluent 2						Effluent						
Sample Date (mm/dd/yy)	**TPHg Conc. (µg/L)**	**Benzene Conc. (µg/L)**	**Toluene Conc. (µg/L)**	**Ethylbenzene Conc. (µg/L)**	**Xylenes Conc. (µg/L)**	**MTBE Conc. (µg/L)**	**TPHg Conc. (µg/L)**	**Benzene Conc. (µg/L)**	**Toluene Conc. (µg/L)**	**Ethylbenzene Conc. (µg/L)**	**Xylenes Conc. (µg/L)**	**MTBE Conc. (µg/L)**	**TPHg Conc. (µg/L)**	**Benzene Conc. (µg/L)**	**Toluene Conc. (µg/L)**	**Ethylbenzene Conc. (µg/L)**	**Xylenes Conc. (µg/L)**	**MTBE Conc. (µg/L)**	**TPHg Conc. (µg/L)**	**Benzene Conc. (µg/L)**	**Toluene Conc. (µg/L)**	**Ethylbenzene Conc. (µg/L)**	**Xylenes Conc. (µg/L)**	**MTBE Conc. (µg/L)**	**pH[a]**
09/12/14	**6,000**	**1,800**	**19**	**120**	**94**	**4.0**	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<0.5	<0.5	<0.5	<0.5	<0.5	7.4
10/13/14	**7,500**	**1,600**	**37**	**76**	**630**	**4.0**	<50	**2.0**	<0.5	<0.5	<0.5	<0.5	NM	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
11/06/14	**8,000**	**990**	**140**	**100**	**590**	<10	<50	**2.0**	<0.5	<0.5	<0.5	<0.5	NM	NM	NM	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
12/02/14	**7,000**	**780**	**150**	**160**	**810**	**4.0**	<50	**2.0**	<0.5	<0.5	<0.5	<0.5	NM	NM	NM	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	<0.5	7.3
01/14/15	**3,700**	**290**	**36**	**33**	**390**	**3.0**	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NM	NM	NM	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
02/04/15	**4,100**	**190**	**14**	<0.5	**350**	**3.0**	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NM	NM	NM	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
03/03/15	**4,300**	**280**	**45**	**43**	**320**	**2.0**	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NM	NM	NM	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	<0.5	6.8
04/16/15	**1,800**	**180**	**6.0**	**0.8**	**92**	**2.0**	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NM	NM	NM	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
05/14/15	**2,900**	**570**	**16**	**42**	**89**	**3.0**	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NM	NM	NM	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
06/23/15	**380**	**3.0**	<0.5	<0.5	**5.0**	**2.0**	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NM	NM	NM	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	<0.5	7.2
07/20/15	**480**	**2.0**	<0.5	<0.5	**6.0**	**2.0**	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NM	NM	NM	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
08/05/15	**380**	**1.0**	<0.5	<0.5	**3.0**	**3.0**	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NM	NM	NM	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
09/02/15	**1,300**	**120**	**3.0**	**2.0**	**14**	**2.0**	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NM	NM	NM	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	<0.5	7.2
10/01/15	**1,100**	**56**	**1.0**	**0.7 J**	**6.0**	**2.0**	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NM	NM	NM	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	<0.5	7.4
11/09/15	**340**	**1.0**	<0.5	<0.5	**1.0**	**2.0**	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NM	NM	NM	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
12/02/15	**360**	**1.0**	<0.5	<0.5	**0.9 J**	**2.0**	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NM	NM	NM	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
01/07/16	**2,900**	**140**	**8.0**	<3.0	**210**	<3.0	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NM	NM	NM	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	<0.5	6.8
02/03/16	**1,800**	**75**	**5.0**	<0.5	**110**	**1.0**	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NM	NM	NM	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
03/03/16	**1,700**	**53**	**4.0**	**0.8 J**	**99**	**1.0**	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NM	NM	NM	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	<0.5	

Notes and Abbreviations:

mm/dd/yy = month/day/year
Conc. = concentration
TPHg = total petroleum hydrocarbons quantified as gasoline
MTBE = methyl tertiary butyl ether
µg/L = micrograms per liter
<X.X = not detected at or below the detection limit indicated
a = pH measured in the field
J = estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
NM = Not meaured due to nondetect at MID-1

TPHg analyzed by EPA Method 8015M.

Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B.

MTBE analyzed by EPA Method 8260B.

Table 2
Groundwater Extraction and Treatment System
Operational Data and Dissolved Phase Hydrocarbons Mass Removal Data
Former Chevron Station # 9-5607
5269 Crow Canyon Road, Castro Valley, California

Date (mm/dd/yy)	Well IDs	Operating Time (hours)	Totalizer Reading (gallons)	Period Volume (gallons)	Period Operational Flow Rate (gpm)	Cumulative Volume (gallons)	TPHg Concentration (µg/L)	TPHg Period Removal[2] (pounds)	TPHg Cumulative Removal (pounds)	Benzene Concentration (µg/L)	Benzene Period Removal[2] (pounds)	Benzene Cumulative Removal (pounds)	MTBE Concentration (µg/L)	MTBE Period Removal[2] (pounds)	MTBE Cumulative Removal (pounds)
9/12/14 9:00	DPE-1 - DPE-3, C-9	---	330,400	0	---	0	---	---	---	---	---	---	---	---	---
9/12/14 14:00	DPE-1 - DPE-3, C-9	5.0	331,500	1,100	3.67	1,100	6,000	0.06	0.06	1,800	0.02	0.02	4.0	0.00004	0.00004
9/29/14 14:00	DPE-1 - DPE-3, C-9	5.5	332,000	500	1.52	1,600	---	0.03	0.08	---	0.01	0.02	---	0.00002	0.00005
10/6/14 11:00	DPE-1 - DPE-3, C-9	5.0	332,700	700	2.33	2,300	---	0.04	0.12	---	0.01	0.03	---	0.00002	0.00008
10/13/14 14:00	DPE-1 - DPE-3, C-9	106.0	341,085	8,385	1.32	10,685	7,500	0.52	0.64	1,600	0.11	0.15	4.0	0.0003	0.0004
10/20/14 11:30	DPE-1 - DPE-3, C-9	166.0	348,600	7,515	0.75	18,200	---	0.47	1.1	---	0.10	0.25	---	0.0003	0.0006
10/27/14 11:00	DPE-1 - DPE-3, C-9	117.0	354,200	5,600	0.80	23,800	---	0.35	1.5	---	0.07	0.32	---	0.0002	0.0008
11/6/14 13:15	DPE-1 - DPE-3, C-9	67.0	364,390	10,190	2.53	33,990	8,000	0.68	2.1	990	0.08	0.41	10	0.0009	0.002
11/21/14 13:50	DPE-1 - DPE-3, C-9	188.6	373,033	8,643	0.76	42,633	---	0.58	2.7	---	0.07	0.48	---	0.0007	0.002
12/2/14 15:15	DPE-1 - DPE-3, C-9	113.3	379,635	6,602	0.97	49,235	7,000	0.39	3.1	780	0.04	0.52	4.0	0.0002	0.003
12/16/14 11:30	DPE-1 - DPE-3, C-9	249.1	399,600	19,965	1.34	69,200	---	1.17	4.3	---	0.13	0.65	---	0.0007	0.003
12/31/14 10:30	DPE-1 - DPE-3, C-9	359.1	436,625	37,025	1.72	106,225	---	2.16	6.4	---	0.24	0.89	---	0.001	0.004
1/14/15 11:25	DPE-1 - DPE-3, C-9	336.5	461,160	24,535	1.22	130,760	3,700	0.76	7.2	290	0.06	0.95	3.0	0.0006	0.005
1/23/15 14:35	DPE-1 - DPE-3, C-9	219.1	472,688	11,528	0.88	142,288	---	0.36	7.5	---	0.03	0.98	---	0.0003	0.005
2/4/15 11:00	DPE-1 - DPE-3, C-9	281.0	486,220	13,532	0.80	155,820	4,100	0.46	8.0	190	0.02	1.0	3.0	0.0003	0.006
2/17/15 14:30	DPE-1 - DPE-3, C-9	82.3	491,310	5,090	1.03	160,910	---	0.17	8.2	---	0.01	1.0	---	0.0001	0.006
3/3/15 14:25	DPE-1 - DPE-3, C-9	167.0	504,915	13,605	1.36	174,515	4,300	0.49	8.7	280	0.03	1.0	2.0	0.0002	0.006
3/11/15 11:45	DPE-1 - DPE-3, C-9	25.9	507,364	2,449	1.58	176,964	---	0.09	8.8	---	0.01	1.0	---	0.00004	0.006
3/16/15 12:00	DPE-1 - DPE-3, C-9	28.7	509,837	2,473	1.44	179,437	---	0.09	8.8	---	0.01	1.1	---	0.00004	0.006
4/2/15 9:30	DPE-1 - DPE-3, C-9	223.8	525,400	15,563	1.16	195,000	---	0.56	9.4	---	0.04	1.1	---	0.0003	0.006
4/16/15 14:30	DPE-1 - DPE-3, C-9	340.8	546,110	20,710	1.01	215,710	1,800	0.31	9.7	180	0.03	1.1	2.0	0.0003	0.007
4/30/15 10:20	DPE-1 - DPE-3, C-9	236.9	559,100	12,990	0.91	228,700	---	0.20	9.9	---	0.02	1.1	---	0.0002	0.007
5/14/15 12:15	DPE-1 - DPE-3, C-9	21.2	562,200	3,100	2.44	231,800	2,900	0.08	10.0	570	0.01	1.2	3.0	0.0001	0.007
5/29/15 9:30	DPE-1 - DPE-3, C-9	259.6	576,000	13,800	0.89	245,600	---	0.33	10.3	---	0.07	1.2	---	0.0002	0.007
6/23/15 11:45	DPE-1 - DPE-3, C-9	602.3	597,000	21,000	0.58	266,600	380	0.07	10.4	3.0	0.0005	1.2	2.0	0.0004	0.008
7/20/15 9:00	DPE-1 - DPE-3, C-9	645.2	616,830	19,830	0.51	286,430	480	0.08	10.5	2.0	0.0003	1.2	2.0	0.0003	0.008
8/5/15 15:15	DPE-1 - DPE-3, C-9	390.2	627,335	10,505	0.45	296,935	380	0.03	10.5	1.0	0.0001	1.2	3.0	0.0003	0.008
8/19/15 15:00	DPE-1 - DPE-3, C-9	335.8	635,900	8,565	0.43	305,500	---	0.03	10.5	---	0.0001	1.2	---	0.0002	0.008
9/2/15 14:00	DPE-1 - DPE-3, C-9	239.0	641,700	5,800	0.40	311,300	1,300	0.06	10.6	120	0.006	1.2	2.0	0.0001	0.009
9/16/15 17:30	DPE-1 - DPE-3, C-9	339.5	649,900	8,200	0.40	319,500	---	0.09	10.7	---	0.008	1.2	---	0.0001	0.009
10/1/15 14:00	DPE-1 - DPE-3, C-9	356.5	650,430	530	0.02	320,030	1,100	0.005	10.7	56	0.0002	1.2	2.0	0.00001	0.009
10/22/15 18:30	DPE-1 - DPE-3, C-9	342.1	661,400	10,970	0.53	331,000	---	0.10	10.8	---	0.005	1.2	---	0.0002	0.009
10/28/15 16:37	DPE-1 - DPE-3, C-9	142.1	663,200	1,800	0.21	332,800	---	0.02	10.8	---	0.0008	1.2	---	0.00003	0.009
11/9/15 12:15	DPE-1 - DPE-3, C-9	283.6	669,730	6,530	0.38	339,330	340	0.02	10.8	1.0	0.0001	1.2	2.0	0.00011	0.009
11/18/15 13:10	DPE-1 - DPE-3, C-9	111.1	670,913	1,183	0.18	340,513	---	0.00	10.8	---	0.00001	1.2	---	0.00002	0.009
11/25/15 17:34	DPE-1 - DPE-3, C-9	118.8	674,400	3,487	0.49	344,000	---	0.01	10.8	---	0.00003	1.2	---	0.00006	0.009
12/2/15 11:20	DPE-1 - DPE-3, C-9	161.8	679,100	4,700	0.48	348,700	360	0.01	10.8	1.0	0.00004	1.2	2.0	0.00008	0.009
12/17/15 11:30	DPE-1 - DPE-3, C-9	360.2	691,900	12,800	0.59	361,500	---	0.04	10.9	---	0.0001	1.2	---	0.0002	0.009
12/21/15 11:00	DPE-1 - DPE-3, C-9	13.0	692,440	540	0.69	362,040	---	0.00	10.9	---	0.000005	1.2	---	0.00001	0.009
1/5/16 15:15	DPE-1 - DPE-3, C-9	108.0	699,000	6,560	1.01	368,600	---	0.02	10.9	---	0.0001	1.2	---	0.0001	0.009
1/7/16 11:38	DPE-1 - DPE-3, C-9	44.4	703,100	4,100	1.54	372,700	2,900	0.10	11.0	140	0.005	1.2	3.0	0.0001	0.01
1/12/16 12:50	DPE-1 - DPE-3, C-9	22.4	705,360	2,260	1.68	374,960	---	0.05	11.1	---	0.003	1.2	---	0.00006	0.01
1/20/16 12:48	DPE-1 - DPE-3, C-9	192.0	719,930	14,570	1.26	389,530	---	0.35	11.4	---	0.02	1.3	---	0.0004	0.01
2/3/16 13:00	DPE-1 - DPE-3, C-9	336.2	745,160	25,230	1.25	414,760	1,800	0.38	11.8	75	0.02	1.3	1.0	0.0002	0.01
2/12/16 12:43	DPE-1 - DPE-3, C-9	215.7	757,360	12,200	0.94	426,960	---	0.18	12.0	---	0.008	1.3	---	0.0001	0.01
2/16/16 10:38	DPE-1 - DPE-3, C-9	93.9	762,780	5,420	0.96	432,380	---	0.08	12.1	---	0.003	1.3	---	0.00005	0.01
3/3/16 13:30	DPE-1 - DPE-3, C-9	386.9	782,700	19,920	0.86	452,300	1,700	0.28	12.3	53	0.009	1.3	1.0	0.00017	0.01
3/15/16 14:00	DPE-1 - DPE-3, C-9	234.5	797,600	14,900	1.06	467,200	---	0.21	12.6	---	0.007	1.3	---	0.00012	0.01
					Total Extracted Volume (gal):	467,200	Pounds Removed:	0.76	12.6	Pounds Removed:	0.03	1.3	Pounds Removed:	0.0004	0.01
					Average Operational Flow Rate (gpm)[3]:	0.80	Gallons Removed[4]:	0.12	2.1	Gallons Removed[4]:	0.004	0.18	Gallons Removed[4]:	0.00007	0.002

Reporting Period: 1/21/2016 - 3/15/2016

Number of Days during Reporting Period	55	days
Gallons of Extracted Ground Water	77,670	gal
Average Flow Rate	1.02	gpm
Pounds of TPHg Removed	0.76	lbs
TPHg Removal Rate	0.01	lbs/day
Pounds of Benzene Removed	0.03	lbs
Benzene Removal Rate	0.000	lbs/day
Pounds of MTBE Removed	0.0004	lbs
MTBE Removal Rate	0.00001	lbs/day

Cumulative Results Since Start-up:

Number Days since Startup	550	days
Cumulative Total Gallons Extracted	467,200	gal
Average Flow Rate[3]	0.80	gpm
Cumulative Pounds of TPHg Removed	12.6	lbs
TPHg Removal Rate	0.02	lbs/day
Cumulative Pounds of Benzene Removed	1.3	lbs
Benzene Removal Rate	0.002	lbs/day
Cumulative Pounds of MTBE Removed	0.01	lbs
MTBE Removal Rate	0.00002	lbs/day

Formulas and Assumptions:

1. Hour meter readings taken at the end of the site visit
2. Mass Removed During the Period `
3. When concentration of individual parameters were not detected, the concentration was assumed to be half the detection limit for calculation purposes.
   Average Flow Rate = (Volume of Extracted Water (gal) / Number of Operational Days) * (60 minutes/hour) * (24 hours/day)
4. Gallons Removed = (Mass (lb) / Density (g/cc)) x 453.6 (g/lb) x (L/1000 cc) x (gal/3.785 L)
   Density: = 0.73 g/cc TPHg
   = 0.88 g/cc Benzene
   = 0.74 g/cc MTBE

Abbreviations:

TPHg = total petroleum hydrocarbons as gasoline
MTBE = methyl tertiary butyl ether
L = liter
gal = gallon
gpm = gallon per minute
µg/L = micrograms per liter
g = grams
cc = cubic centimeter
lb = pounds
--- = not applicable

Table 3
Dual Phase Extraction System
Operational Data
Former Chevron Station # 9-5607
5269 Crow Canyon Road, Castro Valley, California

Date (mm/dd/yy hh:mm)	Operating Wells (open)	Operating Time (hours)	Hour Meter (hours)	System Uptime (%)	Period Operation (hours)	Blower Vacuum (inHg)	INF-1 Vacuum (inHg)	INF-1 Temperature (°F)	INF-1 Measured Flow (acfm)	INF-1 Calculated Flow (scfm)	INF-2 Pressure[1] (inH_2O)	INF-2 Temperature (°F)	INF-2 Measured Flow[1] (acfm)	INF-2 Calculated Flow (scfm)	Effluent Flow Rate (scfm)	Effluent Flow Rate (scfh)	Effluent Vapor (cubic feet)	Dilution Air (% open)	Pre-Oxidizer Temp (°F)	Post-Oxidizer Temp (°F)	INF-2 OVA (ppmv)	Effluent PID (ppmv)	Mass Removal based on OVA (ppd)	Destruction Efficiency (%)
9/12/14 14:00	C-9, DPE-1 - DPE3, VE-1, VE-2	0.0	4013.5	0%	0.0	NM	3.00	NM	NM	NM	10.0	155	294	259	259	15,517	0	20	747	NM	8,000	20.0	663.8	99.8%
9/29/14 14:00	C-9, DPE-1 - DPE3, VE-1, VE-2	5.5	4019.0	1.3%	5.5	15.0	2.81	93	165	143	11	189	255	213	213	12,784	70,312	20	880	NM	NM	0.0	NM	100%
10/6/14 11:00	C-9, DPE-1 - DPE3, VE-1, VE-2	5.0	4024.0	3.0%	5.0	15.0	2.81	83	144	127	10	176	255	217	217	13,014	65,070	25	899	NM	560	0.2	39.0	100%
10/13/14 14:00	C-9, DPE-1 - DPE-3	106.0	4130.0	62.0%	106.0	14.5	2.35	68	191	176	10.9	180	268	227	227	13,621	1,443,865	0	750	883	1,100	5.0	80.1	99.5%
10/20/14 11:30	C-9, DPE-1 - DPE-3	166.0	4296.0	100%	166.0	15.0	3.18	79	140	123	10.5	171	255	219	219	13,133	2,180,062	0	750	927	650	0.3	45.6	100%
10/27/14 11:00	C-9, DPE-1, DPE-2	117.0	4413.0	69.9%	117.0	15.0	4.14	61	161	141	11.6	160	270	236	236	14,189	1,660,164	0	750	897	700	0.4	53.1	99.9%
11/6/14 13:15	C-9, DPE-3, DPE-2	67.0	4480.0	27.7%	67.0	20.0	5.00	61	146	123	10.7	61	146	152	123	7,394	495,403	0	701	900	1,250	0.0	60.9	100%
11/21/14 13:50	C-9, DPE-3, DPE-2	188.6	4668.6	52.3%	188.6	20.0	5.30	68	132	109	11.1	174	176	151	109	6,517	1,229,109	0	698	809	558	0.4	27.0	99.9%
12/2/14 15:15	C-9, DPE-3, DPE-2	113.3	4781.9	42.7%	113.3	20.0	7.40	63	103	78	3.3	169	157	133	78	4,696	532,051	0	697	785	1,215	0.5	51.8	100%
12/16/14 11:30	C-9, DPE-3, DPE-2	249.1	5031.0	75.0%	249.1	18.5	10.20	64	61	41	4.3	172	118	100	100	5,977	1,488,981	0	700	750	1,650	3.0	52.7	99.8%
12/31/14 10:30	C-9, DPE-3, DPE-2	359.1	5390.1	100%	359.1	22.0	10.00	72	133	88	7.2	179	133	112	112	6,710	2,409,733	0	698	707	425	5.0	15.2	98.8%
1/14/15 11:25	C-9, DPE-3, DPE-2	336.5	5726.6	100%	336.5	23.0	8.10	71	148	107	9.8	176	148	126	126	7,550	2,540,450	0	700	752	1,000	0.5	40.4	100%
1/23/15 14:35	C-9, DPE-3, DPE-2	219.1	5945.7	100%	219.1	23.0	7.10	76	157	118	9.6	174	157	134	134	8,030	1,759,403	0	700	764	915	3.5	39.3	99.6%
2/4/15 11:00	C-9, DPE-2	281.0	6226.7	98.8%	281.0	22.0	8.30	75	137	98	5.9	183	137	114	114	6,848	1,924,213	0	698	738	715	0.7	26.2	99.9%
2/17/15 14:30	C-9, DPE-2	82.3	6309.0	26.1%	82.3	21.5	10.1	62	136	91	6.9	170	136	116	116	6,955	572,382	0	698	682	515	0.1	19.2	100%
3/3/15 14:25	C-9, DPE-1	167.0	6476.0	49.7%	167.0	23.0	11.1	79	118	73	4.0	185	118	98	98	5,853	977,400	0	690	698	295	0.4	9.2	99.9%
3/11/15 11:45	C-9, DPE-3	25.9	6501.9	13.7%	25.9	23.0	10.9	67	118	75	7.2	151	118	104	104	6,226	161,266	0	710	740	480	0.2	16.0	100%
3/16/15 12:00	C-9, DPE-3	28.7	6530.6	23.9%	28.7	23.0	10.2	67	121	80	7.1	175	121	102	102	6,145	176,359	0	700	689	235	0.0	7.7	100%
4/2/15 9:30	C-9, DPE-3	223.8	6754.4	55.2%	223.8	23.0	8.4	73	146	104	10.0	177	146	124	124	7,445	1,666,264	0	698	688	125	0.4	5.0	99.7%
4/16/15 14:30	DPE-2, DPE-3	340.8	7095.2	100%	340.8	23.0	8.4	87	137	95	6.8	199	137	112	112	6,696	2,282,011	0	699	700	210	0.6	7.5	99.7%
4/30/15 10:20	DPE-1, DPE-2	236.9	7332.1	71.4%	236.9	23.0	8.2	86	137	96	4.6	193	137	112	112	6,722	1,592,355	0	701	699	140	0.8	5.0	99.4%
5/14/15 12:15	DPE-1, VEW-2	21.2	7353.3	6.3%	21.2	23.0	13.0	81	98	54	1.9	187	223	183	183	10,970	232,565	40	698	693	75	0.0	4.4	100%
5/29/15 9:30	DPE-1, VEW-2	259.6	7612.9	72.7%	259.6	23.0	11.8	79	44	26	4.2	180	118	98	98	5,901	1,531,975	50	699	724	190	2.3	6.0	98.8%
6/23/15 11:45	DPE-1, VEW-2	177.9	7790.8	29.5%	177.9	23.0	10.1	79	175	114	5.6	190	118	97	97	5,830	1,037,208	0	700	746	280	2.0	8.7	99.3%
7/4/15 3:35	DPE-1, VEW-2	132.6	7923.4	51.8%	132.6	SVE SYSTEM DOWN FOR REPAIR																		
10/22/15 18:30	DPE-1, VEW-1	6.2	7929.6	0.2%	6.2	22.5	5.4	79	105	84	6.0	180	157	131	131	7,886	48,894	0	700	761	174	0.0	7.3	100%
10/28/15 16:37	DPE-1, VEW-1	22.8	7952.4	16.0%	22.8	NM	5.8	NM	NM	NM	NM	NM	176	NM	NM	NM	NM	0	700	773	NM	NM	NM	NM
11/9/15 12:15	DPE-1, VEW-2	284.3	8236.7	100%	284.3	23.0	8.0	55	66	50	6.5	175	176	149	149	8,921	2,536,202	0	699	762	250	0.0	11.9	100%
11/18/15 13:10	DPE-1, VEW-2	44.6	8281.3	20.6%	44.6	22.5	7.1	64	81	63	6.4	171	157	133	133	8,006	357,082	0	701	734	153	0.8	6.6	99.5%
11/25/15 17:34	DPE-1, VEW-2	118.8	8400.1	68.9%	118.8	LOCAL POWER OUTAGE, RESTART ONLY																		
12/2/15 11:20	DPE-1, C-9	163.0	8563.1	100%	163.0	22.5	7.2	53	84	66	7.5	174	157	133	133	7,995	1,303,135	0	700	833	230	0.6	9.8	99.7%
12/17/15 11:30	DPE-1, C-9	358.6	8921.7	100%	358.6	23.0	7.2	54	64	50	7.0	170	157	134	134	8,031	2,879,800	0	700	795	425	3.0	18.3	99.3%
12/21/15 11:00	DPE-1, C-9	12.3	8934.0	12.9%	12.3	22.5	7.7	54	53	40	6.7	172	157	133	133	7,999	98,393	0	700	731	206	3.0	8.8	98.5%
1/5/16 15:15	DPE-1, C-9	108.0	9042.0	29.6%	108.0	SVE SYSTEM DOWN, RESTART ONLY																		
1/7/16 11:38	DPE-1, C-9	43.5	9085.5	100%	43.5	22.5	8.6	53	62	46	6.0	176	137	115	115	6,925	301,228	0	700	688	11	0.0	0.4	100%
1/12/16 12:50	DPE-1, C-9	25.0	9110.5	20.6%	25.0	SVE SYSTEM DOWN, RESTART ONLY															27			
1/20/16 12:48	DPE-1, C-9	191.6	9302.1	100%	191.6	23.0	8.8	66	49	35	5.4	177	137	115	115	6,906	1,323,195	0	700	694	36	0.0	1.3	100%
2/3/16 15:00	DPE-1, C-9	335.5	9637.6	100%	335.5	23.0	8.8	60	54	39	5.9	168	137	117	117	7,017	2,354,163	0	700	695	47	0.0	1.8	100%
2/12/16 12:43	DPE-1, C-9	123.0	9760.6	57.6%	123.0	SVE SYSTEM DOWN, RESTART ONLY																		
2/16/16 15:30	C-9	93.9	9854.5	95.1%	93.9	23.0	8.6	65	81	58	5.0	179	118	99	99	5,922	556,078	0	700	690	32	0.0	1.0	100%
3/3/16 13:30	C-9	384.9	10239.4	100%	384.9	23.0	8.6	63	50	36	5.6	179	137	115	115	6,886	2,650,264	0	700	695	33	0.0	1.2	100%
3/15/16 14:00	C-9	286.7	10472.1	99.4%	232.7	23.0	9.8	56	39	27	5.7	175	132	111	111	6,678	1,914,497	0	700	688	30	0.0	1.1	100%

Cumulative Results Since Startup:

Number Days Since Startup	**550 days**
Number of Hours Operated Since Startup	**6459 hours**

Abbreviations and Notes:

mm/dd/yy = month/day/year
hh:mm = hour : minute
inHg = inches of mercury
inH_2O = inches of water
°F = degrees Fahrenheit
acfm = actual cubic feet per minute
scfm = standard cubic feet per minute (flow in scfm = flow in acfm * [operating pressure{abs} / standard pressure {abs}] * [standard temperature {abs} / operating temperature {abs}])
% = percentage
INF-1 = pre-dilution system influent
INF-2 = post-dilution system influent
NM = not measured
LEL = Lower Explosive Limit
ppmv = parts per million by volume
PID = photo-ionization detector
FID = flame ionization detector
OVA = organic vapor analyzer
ppd = pounds per day
1. = INF-2 flow read from chart recorder. INF-2 pressure used to convert acfm to scfm.
2. = water in pipe; unable to measure accurate concentration/ LEL readings

GWE off from 7/4/2015 to 10/22/2015 for system repairs. GWE system temporarily off from 12/17/15 to 12/21/15 due to high holding tank alarm. Temporary shut-down between 12/25/15 to 12/26/15 due to unknown causes

Compliance:

BAAQMD Requirements:
Flow Rate < 300 scfm
Oxidizer Temperature > 600 degrees Fahrenheit in electric catalytic mode and > 1400 degrees in thermal catalytic mode
Benzene Emission Limit < 0.017ppd
Destruction Efficiency (measured as hexane)

98.50%	VOC >2,000 ppmv
97.00%	VOC >200 and <2,000 ppmv
90.00%	VOC < 200 ppmv

Note: If outlet VOC < 10 ppmv, destruction efficiency requirement is waived

Table 4
Dual Phase Extraction System
Analytical Data
Former Chevron Station # 9-5607
5269 Crow Canyon Road, Castro Valley, California

Date	Concentrations[1]									TPHg			Benzene			MTBE			VOC		
	INF-2					Effluent															
(mm/dd/yy hh:mm)	Operating Wells	TPHg (ppmv)	Benzene (ppmv)	MTBE (ppmv)	VOC (ppmv)	TPHg (ppmv)	Benzene (ppmv)	MTBE (ppmv)	VOC (ppmv)	Removal Rate[2, 6] (ppd)	Cumulative Removed[7] (pounds)	Emission Rate[2, 6] (ppd)	Removal Rate[3, 6] (ppd)	Cumulative Removed[7] (pounds)	Emission Rate[3, 6] (ppd)	Removal Rate[4, 6] (ppd)	Cumulative Removed[7] (pounds)	Emission Rate[4, 6] (ppd)	Removal Rate[5, 6] (ppd)	Emission Rate[5, 6] (ppd)	Destruction Efficiency (%)
9/12/14 14:00	C9, DPE-1 - DPE3, VE-1, VE-2	4,200	44	38	4,282	46	0.39	0.19	46.58	405.2	0.0	4.4	3.3	0.0	0.03	3.2	0.0	0.02	355.3	3.9	98.9%
9/29/14 14:00	C9, DPE-1 - DPE3, VE-1, VE-2	--	--	--	--	--	--	--	--	333.8	84.7	3.7	2.7	0.7	0.03	2.7	0.7	0.01	292.7	3.2	98.9%
10/6/14 11:00	C9, DPE-1 - DPE3, VE-1, VE-2	--	--	--	--	--	--	--	--	339.8	155	3.7	2.8	1.3	0.03	2.7	1.2	0.01	298.0	3.2	98.9%
10/13/14 11:00	C9, DPE-1 - DPE-3	1,500	10	< 20	1,530	<5	< 0.5	< 0.5	< 6.0	127.0	1186	0.42	0.7	8.9	0.04	1.5	10.5	0.04	111.4	0.4	99.6%
10/20/14 11:30	C9, DPE-1 - DPE-3	--	--	--	--	--	--	--	--	122.5	2049	0.41	0.6	13.3	0.04	1.4	20.6	0.04	107.4	0.4	99.6%
10/27/14 11:00	C9, DPE-1, DPE2	--	--	--	--	--	--	--	--	132.3	2670	0.44	0.7	16.6	0.04	1.6	27.9	0.04	116.1	0.5	99.6%
11/6/14 13:15	C9, DPE-2, DPE3	--	--	--	--	--	--	--	--	85.0	2973	0.23	0.4	18.2	0.02	1.0	31.5	0.02	74.5	0.2	99.6%
11/21/14 13:50	C9, DPE-2, DPE-3	585*	0.01	0.01	585	0.31	0.0020	< 0.0020	0.31	32.9	3436	0.01	0.0	19.9	0.00007	0.0	35.4	0.00007	28.3	0.01	99.9%
12/2/14 15:15	C9, DPE-2, DPE-3	1,000	12	8.8	1,021	0.23	0.0012	< 0.0010	0.23	49.6	3631	0.007	0.5	21.0	0.00003	0.4	36.3	0.00003	43.5	0.006	100.0%
12/16/14 11:30	C9, DPE-2, DPE-3	--	--	--	--	--	--	--	--	37.2	4081	0.009	0.3	25.2	0.00004	0.3	39.8	0.00003	32.6	0.007	100.0%
12/31/14 10:30	C9, DPE-2, DPE-3	--	--	--	--	--	--	--	--	41.7	4671	0.010	0.4	30.7	0.00004	0.3	44.4	0.00004	36.6	0.008	100.0%
1/14/15 11:25	C9, DPE-2, DPE-3	870	13	4.7	888	0.08	<0.0010	<0.0010	0.08	40.8	5250	0.004	0.5	36.8	0.00004	0.2	48.0	0.00004	35.8	0.003	100.0%
1/23/15 14:35	C9, DPE-2, DPE-3	--	--	--	--	--	--	--	--	43.4	5635	0.004	0.5	41.3	0.00004	0.2	49.8	0.00004	38.1	0.00	100.0%
2/4/15 11:00	C-9, DPE-2	800	17	7.3	824	1.5	0.014	0.0012	1.52	34.1	6088	0.06	0.6	47.5	0.0005	0.3	52.6	0.00004	30.2	0.06	99.8%
2/17/15 14:30	C-9, DPE-2	--	--	--	--	--	--	--	--	34.6	6206	0.06	0.6	49.5	0.0005	0.3	53.6	0.00005	30.7	0.06	99.8%
3/3/15 14:25	C-9, DPE-1	320	5.4	2.5	328	0.076	<0.0010	<0.0010	0.078	11.6	6367	0.003	0.2	52.0	0.00003	0.1	54.8	0.00003	10.3	0.002	100.0%
3/11/15 11:45	C-9, DPE-3	--	--	--	--	--	--	--	--	12.4	6380	0.003	0.2	52.2	0.00003	0.1	54.9	0.00003	10.9	0.003	100.0%
3/16/15 12:00	C-9, DPE-3	--	--	--	--	--	--	--	--	12.2	6395	0.003	0.2	52.4	0.00003	0.1	55.0	0.00003	10.8	0.003	100.0%
4/2/15 9:30	C-9, DPE-3	--	--	--	--	--	--	--	--	14.8	6521	0.004	0.2	54.1	0.00004	0.1	55.9	0.00004	13.1	0.003	100.0%
4/16/15 14:30	DPE-2, DPE-3	250	2.7	1.1	254	0.84	0.008	0.002	0.85	10.4	6700	0.03	0.1	56.1	0.0003	0.04	56.9	0.00007	9.1	0.03	99.7%
4/30/15 10:20	DPE-1, DPE-2	--	--	--	--	--	--	--	--	10.4	6803	0.04	0.1	56.9	0.0003	0.04	57.3	0.00007	9.1	0.03	99.7%
5/14/15 12:15	DPE-1, VEW-2	160	2.8	0.71	164	0.11	<0.032	<0.036	0.18	10.9	6812	0.008	0.1	57.0	0.002	0.04	57.3	0.002	9.6	0.01	99.9%
5/29/15 9:30	DPE-1, VEW-2	--	--	--	--	--	--	--	--	5.9	6903	0.004	0.1	58.3	0.001	0.02	57.7	0.001	5.2	0.01	99.9%
6/23/15 11:45	DPE-1, VEW-2	2,300	35.0	11.0	2,346	0.48	<0.032	<0.0010	0.51	83.4	7234	0.02	1.0	62.2	0.001	0.4	59.1	0.00003	73.1	0.02	100.0%
7/4/15 3:35	DPE-1, VEW-2	SVE SYSTEM OFF FOR REPAIR				--	--	--	--	83.4 a	7694 a	0.02 a	1.0 a	67.7 a	0.001 a	0.4 a	61.0 a	0.00003 a	73.1 a	0.02 a	100.0% a
10/22/15 18:30	DPE-1, VEW-1	1,000	18	9.0	1,027	0.26	<0.0010	<0.0010	0.26	49.0 b	7707 b	0.01 b	0.7 b	67.9 b	0.00004 b	0.4 b	61.1 b	0.00004 b	43.3 b	0.01 b	100.0% b
10/28/15 16:37	DPE-1, VEW-1	--	--	--	--	--	--	--	--	49.0 b,c	7753 b,c	0.01 b,c	0.7 b,c	68.5 b,c	0.00004 b,c	0.4 b,c	61.5 b,c	0.00004 b,c	43.3 b,c	0.01 b,c	100.0% b,c
11/9/15 12:15	DPE-1, VEW-2	870	13	6.2	889	0.58	0.0010	<0.0010	0.58	48.3	8325	0.03	0.6	75.9	0.00005	0.3	65.6	0.00005	42.4	0.03	99.9%
11/18/15 13:10	DPE-1, VEW-2	--	--	--	--	--	--	--	--	43.3	8406	0.03	0.5	76.9	0.00004	0.3	66.1	0.00004	38.1	0.02	99.9%
11/25/15 18:10	DPE-1, VEW-2	--	--	--	--	--	--	--	--	43.3 c	8486 c	0.03 c	0.5 c	77.9 c	0.00004 c	0.3 c	66.6 c	0.00004 c	38.1 c	0.02 c	99.9% c
12/2/15 11:20	DPE-1, C-9	3,700	52	28	3,780	0.87	0.0045	0.0012	0.88	184	9735	0.04	2.0	91.6	0.0002	1.2	74.9	0.00005	162	0.04	100.0%
12/17/15 11:30	DPE-1, C-9	--	--	--	--	--	--	--	--	185	12489	0.04	2.0	121.8	0.0002	1.2	93.2	0.00005	162	0.04	100.0%
12/21/15 11:00	DPE-1, C-9	--	--	--	--	--	--	--	--	184	12584	0.04	2.0	123	0.0002	1.2	93.9	0.00005	162	0.04	100.0%
1/5/16 15:15	DPE-1, C-9	--	--	--	--	--	--	--	--	184 c	12678 c	0.04 c	2.0 c	124 c	0.0002 c	1.2 c	94.5 c	0.00005 c	162 c	0.04 c	100.0%
1/7/16 11:38	DPE-1, C-9	120	1.7	0.35	122	0.54	0.0015	<0.0010	0.54	5.2	12688	0.02	0.1	124	0.00006	0.01	94.5	0.00004	4.5	0.02	99.6%
1/12/16 12:50	DPE-1, C-9	--	--	--	--	--	--	--	--	5.2 c	12697 c	0.02 c	0.1 c	124 c	0.00006 c	0.01 c	94.6 c	0.00004 c	4.5 c	0.02 c	99.6%
1/20/16 12:48	DPE-1, C-9	--	--	--	--	--	--	--	--	5.2	12738	0.02	0.1	124	0.00006	0.01	94.7	0.00004	4.5	0.02	99.6%
2/3/16 15:00	DPE-1, C-9	240	4.1	1.3	245	0.21	<0.0010	<0.0010	0.21	10.5	12885	0.01	0.1	126	0.00004	0.05	95.4	0.00004	9.2	0.01	99.9%
2/12/16 12:43	DPE-1, C-9	--	--	--	--	--	--	--	--	10.5 c	13031 c	0.01 c	0.1 c	128 c	0.00004 c	0.05 c	96.1 c	0.00004 c	9.2 c	0.01 c	99.9%
2/16/16 15:30	C-9	1,100	18	7.6	1,126	--	--	--	--	40.5	13189	0.01	0.5	130	0.00003	0.2	97.0	0.00003	35.6	0.01	100.0%
3/3/16 13:30	C-9	290	5.3	1.0	296	0.11	<0.0010	<0.0010	0.11	12.4	13388	0.005	0.2	133	0.00004	0.04	97.6	0.00004	10.9	0.004	100.0%
3/15/16 14:00	C-9	1,300	16 d	11	1,327	--	--	--	--	54.0	13912	0.005	0.5	138	0.00004	0.40	101.5	0.00004	47.4	0.004	100.0%
									Period Pounds Removed[9]:	**TPHg =**	**1,174**		**Benzene =**	**13.8**		**MTBE =**	**6.9**			
									Total Pounds Removed:	**TPHg =**	**13,912**		**Benzene =**	**138**		**MTBE =**	**101.5**			

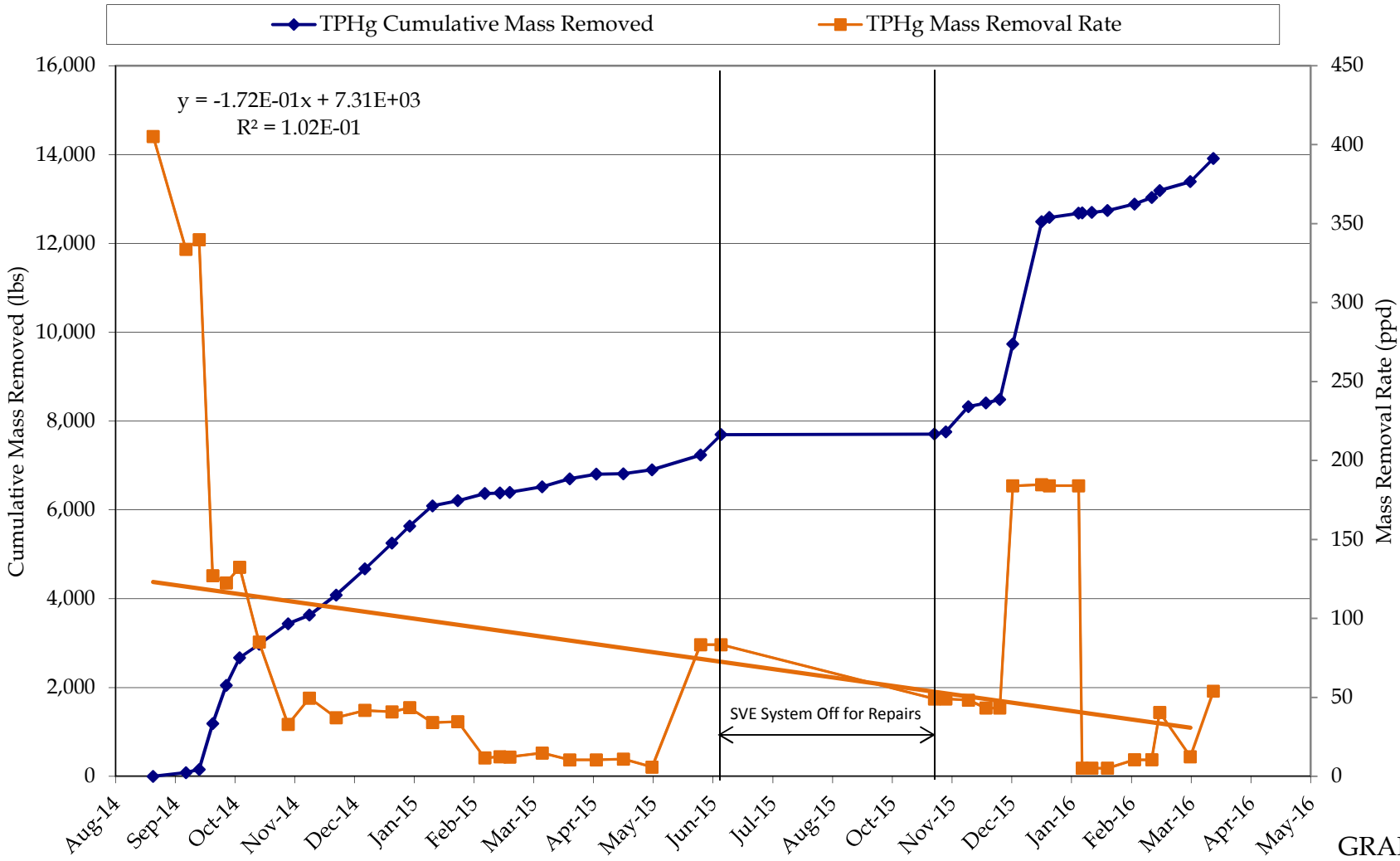
Abbreviations:
mm/dd/yy = month/day/year
hh:mm = hours : minutes
TPHg = total petroluem hydrocarbons as gasoline
MTBE = methyl tertiary butyl ether
VOC = volatile organic compounds
ppmv = parts per million by volume
ppd = pounds per day
lb = pounds
ft^3 = cubic feet
scfm = standard cubic feet per minute

Abbreviations (continued):
INF-1 = pre-dilution system influent
INF-2 = post-dilution system influent
TBD = Sample taken during this time and are awaiting results
n/a = Not available due to SVE equipment malfunction

Notes:
1. TPHg, Benzene, and MTBE analyzed by EPA Method 8015/8020. Vapor samples were collected in 1-liter tedlar bags unless otherwise noted.
2. Molecular weight of TPHg assumed to be 100 lb/lb-mole as hexane.
3. Molecular weight of Benzene assumed to be 78 lb/lb-mole.
4. Molecular weight of MTBE assumed to be 88 lb/lb-mole.
5. Molecular weight of VOCs assumed to be 86 lb/lb-mole as hexane.
6. Removal/Emission Rate (ppd) = C (ppmv) x Q (scfm) x (1lb-mole/386ft^3) x MW (lb/lb-mole) x 60 min/hr x 24 hr/day x 10^{-6}
   C = concentration

BAAQMD Requirements:
Flow Rate < 300 scfm
Oxidizer Temperature > 600 deg Fahrenheit in electric catalytic mode and > 1400 degrees in thermal catalytic mode
Benzene Emission Limit < 0.017 ppd
Destruction efficiency (measured as hexane)
98.50% VOC >2,000 ppmv
97.00% VOC >200 and <2,000 ppmv
90.00% VOC < 200 ppmv
Note: If outlet VOC < 10 ppmv, destruction efficiency requirement is waived

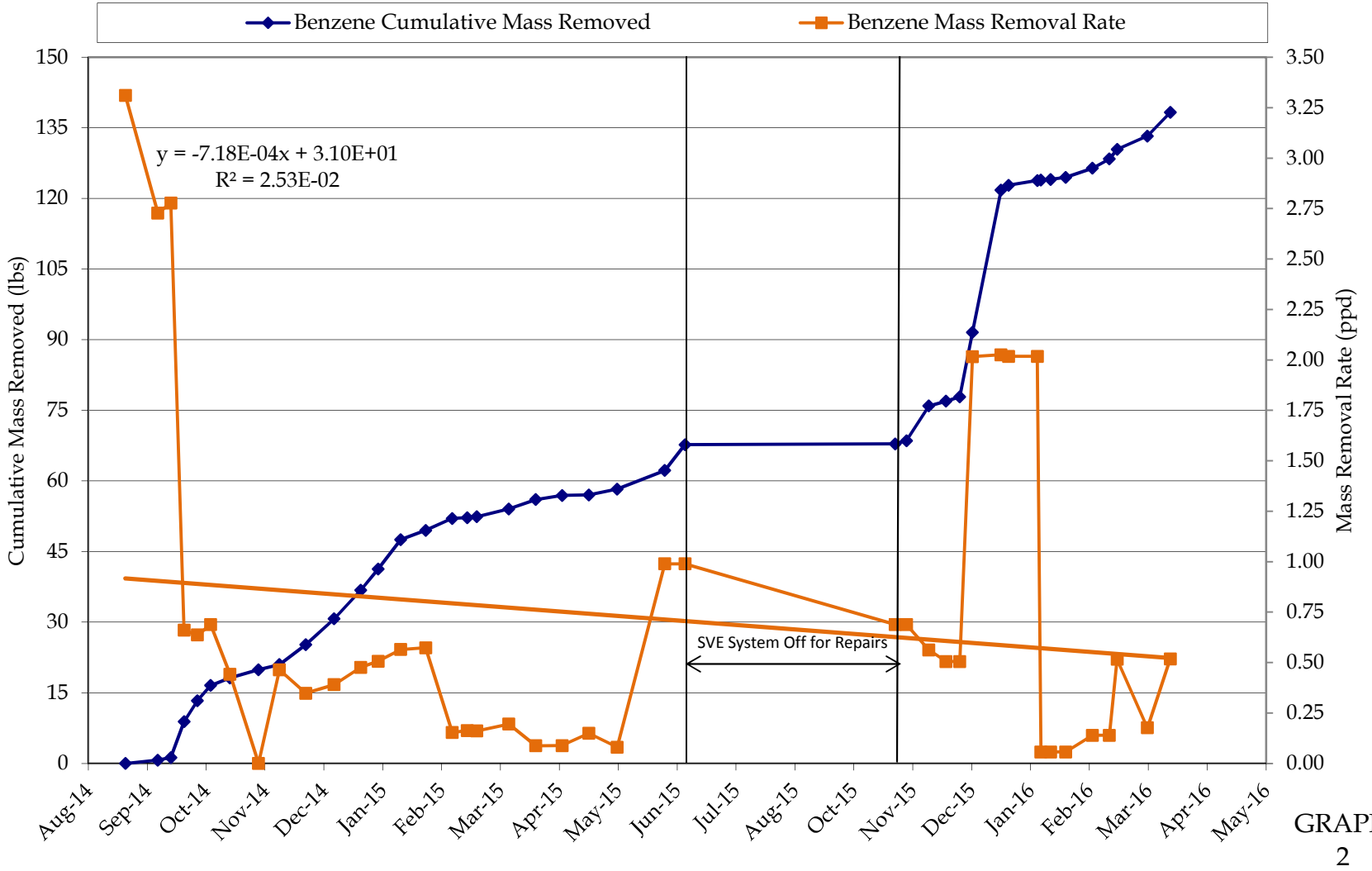
Graphs



GRAPH 1

FORMER CHEVRON SERVICE STATION #95607
5269 CROW CANYON ROAD
CASTRO VALLEY, CALIFORNIA

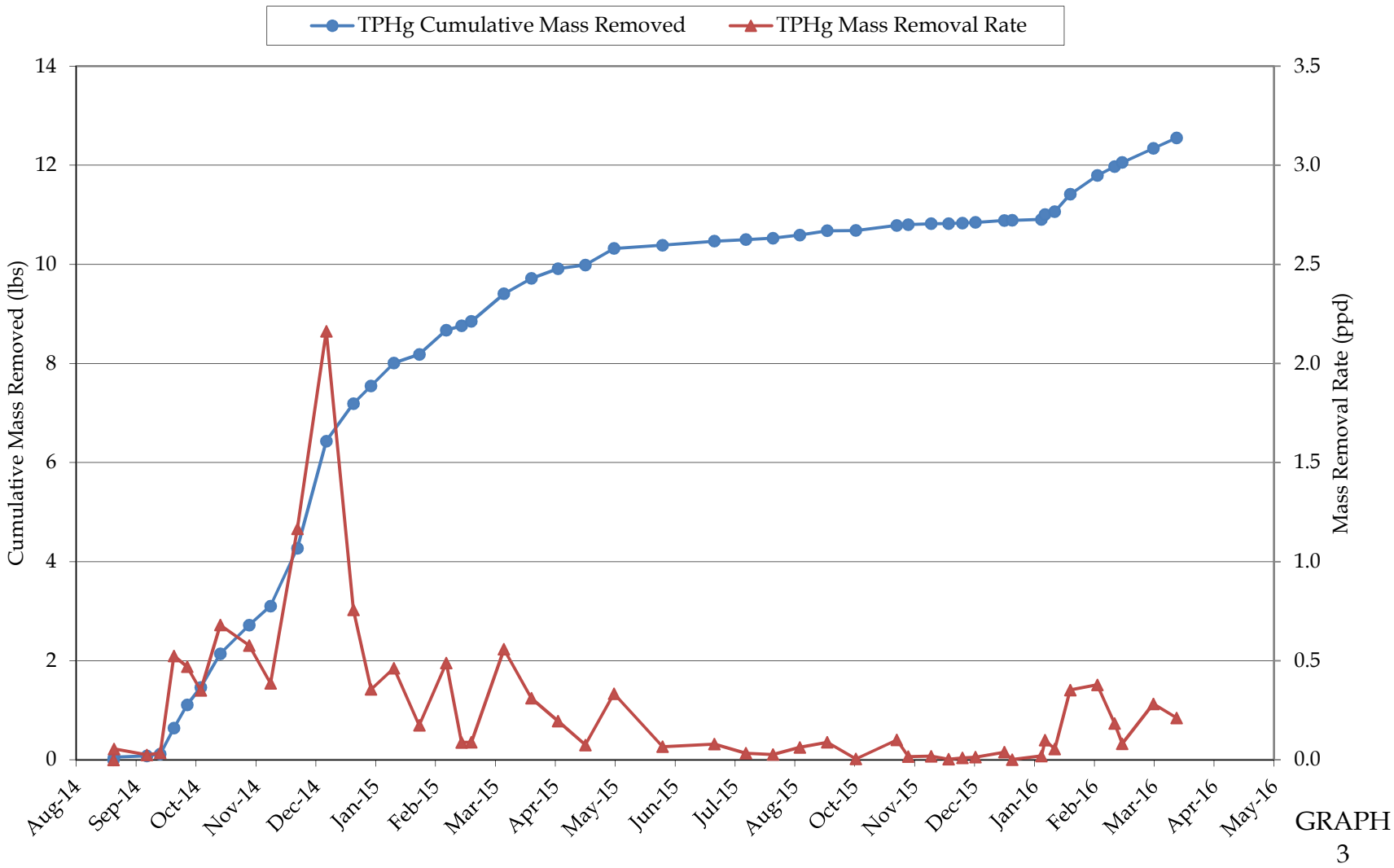
SVE SYSTEM: TPHg CONCENTRATION AND MASS REMOVAL RATES



GRAPH 2

FORMER CHEVRON SERVICE STATION #95607
5269 CROW CANYON ROAD
CASTRO VALLEY, CALIFORNIA

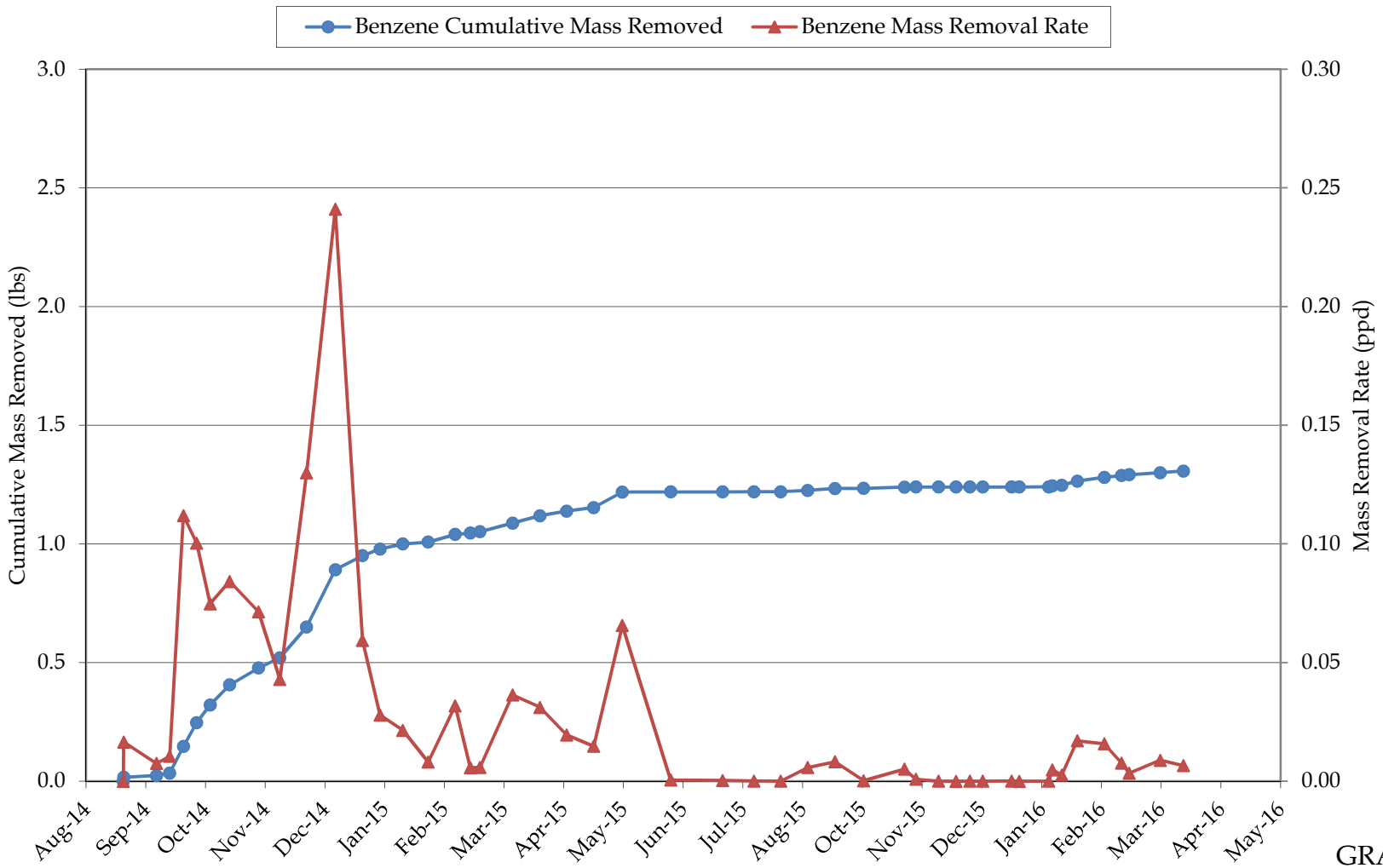
SVE SYSTEM: BENZENE CONCENTRATION AND MASS REMOVAL RATES



GRAPH 3

FORMER CHEVRON SERVICE STATION #95607
5269 CROW CANYON ROAD
CASTRO VALLEY, CALIFORNIA

GWE SYSTEM: TPHg CONCENTRATION AND MASS REMOVAL RATES



GRAPH 4

FORMER CHEVRON SERVICE STATION #95607
5269 CROW CANYON ROAD
CASTRO VALLEY, CALIFORNIA

GWE SYSTEM: BENZENE CONCENTRATION AND MASS REMOVAL RATES

Attachment A
Eurofins Lancaster Laboratory Analytical Report

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

February 22, 2016

Project: 95607

Submittal Date: 02/05/2016
Group Number: 1629328
PO Number: 0015188594
Release Number: CMACLEOD
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LL) #
EFF-1-W-160203 Grab Groundwater	8232744
MID-1-W-160203 Grab Groundwater	8232746
INF-1-W-160203 Grab Groundwater	8232747

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	GHD	Attn: Andy Leung
ELECTRONIC COPY TO	GHD	Attn: Matt B. Smith
ELECTRONIC COPY TO	CRA	Attn: Judy Gilbert
ELECTRONIC COPY TO	Chevron	Attn: GHD EDD

Respectfully Submitted,

Amek Carter
Specialist

(717) 556-7252

Sample Description: EFF-1-W-160203 Grab Groundwater
Facility# 95607 CRAW
5269 Crow Canyon Rd-Castro T0600100344

LL Sample # WW 8232744
LL Group # 1629328
Account # 10880

Project Name: 95607

Collected: 02/03/2016 09:00 by GB

Submitted: 02/05/2016 09:40
Reported: 02/22/2016 14:21

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

EF1CC

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	100	1

General Sample Comments

CA ELAP Lab Certification No. 2792
Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE	SW-846 8260B	1	P160412AA	02/10/2016 08:29	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P160412AA	02/10/2016 08:29	Anita M Dale	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	16040B20A	02/11/2016 19:55	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	16040B20A	02/11/2016 19:55	Jeremy C Giffin	1

*=This limit was used in the evaluation of the final result

Sample Description: MID-1-W-160203 Grab Groundwater
Facility# 95607 CRAW
5269 Crow Canyon Rd-Castro T0600100344

LL Sample # WW 8232746
LL Group # 1629328
Account # 10880

Project Name: 95607

Collected: 02/03/2016 09:20 by GB

Submitted: 02/05/2016 09:40
Reported: 02/22/2016 14:21

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

MI1CC

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	100	1

General Sample Comments

CA ELAP Lab Certification No. 2792
Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE	SW-846 8260B	1	P160412AA	02/10/2016 09:48	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P160412AA	02/10/2016 09:48	Anita M Dale	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	16040B20A	02/11/2016 20:22	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	16040B20A	02/11/2016 20:22	Jeremy C Giffin	1

*=This limit was used in the evaluation of the final result

Sample Description: INF-1-W-160203 Grab Groundwater
Facility# 95607 CRAW
5269 Crow Canyon Rd-Castro T0600100344

LL Sample # WW 8232747
LL Group # 1629328
Account # 10880

Project Name: 95607

Collected: 02/03/2016 09:30 by GB

Submitted: 02/05/2016 09:40
Reported: 02/22/2016 14:21

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

IN1CC

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	75	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	1	0.5	1	1
10945	Toluene	108-88-3	5	0.5	1	1
10945	Xylene (Total)	1330-20-7	110	0.5	1	1
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water C6-C12	n.a.	1,800	50	100	1

General Sample Comments

CA ELAP Lab Certification No. 2792
Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE	SW-846 8260B	1	P160412AA	02/10/2016 10:15	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P160412AA	02/10/2016 10:15	Anita M Dale	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	16040B20A	02/11/2016 20:50	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	16040B20A	02/11/2016 20:50	Jeremy C Giffin	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: ChevronTexaco
Reported: 02/22/2016 14:21

Group Number: 1629328

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Batch number: P160412AA	Sample number(s): 8232744,8232746-8232747		
Benzene	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Toluene	N.D.	0.5	1
Xylene (Total)	N.D.	0.5	1
Batch number: 16040B20A	Sample number(s): 8232744,8232746-8232747		
TPH-GRO N. CA water C6-C12	N.D.	50	100

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: P160412AA	Sample number(s): 8232744,8232746-8232747								
Benzene	20	20.09			100		78-120		
Ethylbenzene	20	19.17			96		78-120		
Methyl Tertiary Butyl Ether	20	20.81			104		75-120		
Toluene	20	19.69			98		80-120		
Xylene (Total)	60	58.91			98		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 16040B20A	Sample number(s): 8232744,8232746-8232747								
TPH-GRO N. CA water C6-C12	1100	938.83	1100	979.36	85	89	71-138	4	30

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: P160412AA	Sample number(s): 8232744,8232746-8232747 UNSPK: 8232744									
Benzene	N.D.	20	21.08	20	21.01	105	105	78-120	0	30
Ethylbenzene	N.D.	20	20.02	20	19.92	100	100	78-120	0	30
Methyl Tertiary Butyl Ether	N.D.	20	20.99	20	20.95	105	105	75-120	0	30
Toluene	N.D.	20	20.07	20	20.56	100	103	80-120	2	30
Xylene (Total)	N.D.	60	61.04	60	62.04	102	103	80-120	2	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: ChevronTexaco
Reported: 02/22/2016 14:21

Group Number: 1629328

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: BTEX/MTBE
Batch number: P160412AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8232744	101	102	95	97
8232746	100	104	94	96
8232747	102	100	95	97
Blank	100	101	95	96
LCS	101	101	95	97
MS	101	102	93	96
MSD	100	100	94	98
Limits:	80-116	77-113	80-113	78-113

Analysis Name: TPH-GRO N. CA water C6-C12
Batch number: 16040B20A

	Trifluorotoluene-F
8232744	77
8232746	86
8232747	106
Blank	88
LCS	96
LCSD	88
Limits:	63-135

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Ø2Ø416-Ø1

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 10880 Group # 1629328 Sample # 8232744-47

Client: Chevron EMC				Matrix		For Lab Use Only
Project Name/#: Castro Valley	Site ID #: 95607					SF #:
Project Manager: Judy Gilbert	P.O. #: Direct Bill To Chevron					SCR #:
Sampler: GREG BRUSKI	PWSID #:					
Phone #: 707 332 8265	Quote #:					
State where sample(s) were collected: GWE Effluent						

Matrix: Sediment ☐; Ground ☑; Surface ☐; Potable ☐; NPDES ☐

Preservation Codes: H = HCl, T = Thiosulfate, N = HNO_3, B = NaOH, S = H_2SO_4, P = H_3PO_4, O = Other

Sample Identification	Collection Date	Collection Time	Grab	Composite	Soil	Water	Other	Total # of Containers	TPH-g by 8015M	BTEX by 8260	MTBE by 8260							Remarks
EFF-1	2.3.16	0900	X			X		6	X	X	X							
MID-2	2.3.16	0910	X			X		6	X	X	X							HOLD MID-2, SAMPLE ONLY IF MID-1 > N.D.
MID-1	2.3.16	0920	X			X		6	X	X	X							
INF-1	2.3.16	0930	X			X		6	X	X	X							

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐

(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

Rush results requested by (please check): E-Mail ☒ Phone ☐

E-mail Address: Judy.Gilbert@ghd.com matthew.b.smith@ghd.com

Phone: BONNIE.CHIN@GHD.COM

Data Package Options (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐

Type III (Reduced non-CLP) ☐ CT RCP ☐

Type IV (CLP SOW) ☐ TX TRRP-13 ☐

Type VI (Raw Data Only) ☐

EDD Required? Yes ☑ No ☐ If yes, format: Zip File

Relinquished by:	Date	Time	Received by:	Date	Time
Bruski	2.3.16	1600	[signature]	2/3/16	4:01
[signature]	2/4/16	10:40	[signature]	2/4/16	1040
A. Salazar	04FEB16	1630	FX		
			[signature]	2.5.16	940

Relinquished by Commercial Carrier: UPS ___ FedEx Y Other ___

Temperature upon receipt 0.2-1.4 °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 135478

Group Number(s): 1629328

Client: CA Office

Castro Valley

Delivery and Receipt Information

Delivery Method:	BASC	Arrival Timestamp:	02/05/2016 9:40
Number of Packages:	4	Number of Projects:	2
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Timothy Cubberley (6520) at 11:36 on 02/05/2016

Samples Chilled Details: Castro Valley

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	1.9	DT	Wet	Y	Bagged	N
2	DT131	0.2	DT	Wet	Y	Bagged	N
3	DT131	0.7	DT	Wet	Y	Bagged	N
4	DT131	1.9	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T 717-656-2300
F 717-656-2681
www.LancasterLabs.com

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

Report Date: March 14, 2016

Project: 95607

Submittal Date: 03/05/2016
Group Number: 1637686
PO Number: 0015188594
Release Number: CMACLEOD
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LL) #
EFF-1-W-160303 Grab Groundwater	8272574
MID-1-W-160303 Grab Groundwater	8272576
INF-1-W-160303 Grab Groundwater	8272577

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

Electronic Copy To	GHD	Attn: Bonnie Chin-Fischler
Electronic Copy To	GHD	Attn: Matt B. Smith
Electronic Copy To	CRA	Attn: Judy Gilbert
Electronic Copy To	Chevron	Attn: GHD EDD

Respectfully Submitted,

Amek Carter
Specialist

(717) 556-7252

Sample Description: EFF-1-W-160303 Grab Groundwater
Facility# 95607 CRAW
5269 Crow Canyon Rd-Castro T0600100344

LL Sample # WW 8272574
LL Group # 1637686
Account # 10880

Project Name: 95607

Collected: 03/03/2016 12:30 by GB

Submitted: 03/05/2016 10:00
Reported: 03/14/2016 14:17

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

5CCE1

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	100	1

General Sample Comments

CA ELAP Lab Certification No. 2792
Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE	SW-846 8260B	1	D160702AA	03/10/2016 19:29	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D160702AA	03/10/2016 19:29	Daniel H Heller	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	16069B20A	03/10/2016 14:38	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	16069B20A	03/10/2016 14:38	Jeremy C Giffin	1

*=This limit was used in the evaluation of the final result

Sample Description: MID-1-W-160303 Grab Groundwater
Facility# 95607 CRAW
5269 Crow Canyon Rd-Castro T0600100344

LL Sample # WW 8272576
LL Group # 1637686
Account # 10880

Project Name: 95607

Collected: 03/03/2016 12:50 by GB

Submitted: 03/05/2016 10:00
Reported: 03/14/2016 14:17

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

5CCM1

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	100	1

General Sample Comments

CA ELAP Lab Certification No. 2792
Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE	SW-846 8260B	1	P160672AA	03/07/2016 19:53	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P160672AA	03/07/2016 19:53	Hu Yang	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	16064A94A	03/07/2016 13:06	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	16064A94A	03/07/2016 13:06	Jeremy C Giffin	1

*=This limit was used in the evaluation of the final result

Sample Description: INF-1-W-160303 Grab Groundwater
Facility# 95607 CRAW
5269 Crow Canyon Rd-Castro T0600100344

LL Sample # WW 8272577
LL Group # 1637686
Account # 10880

Project Name: 95607

Collected: 03/03/2016 13:00 by GB

Submitted: 03/05/2016 10:00
Reported: 03/14/2016 14:17

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

5CCI1

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	53		0.5	1	1
10945	Ethylbenzene	100-41-4	0.8	J	0.5	1	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	1		0.5	1	1
10945	Toluene	108-88-3	4		0.5	1	1
10945	Xylene (Total)	1330-20-7	99		0.5	1	1
GC Volatiles	**SW-846 8015B**		**ug/l**		**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water C6-C12	n.a.	1,700		50	100	1

General Sample Comments

CA ELAP Lab Certification No. 2792
Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE	SW-846 8260B	1	D160702AA	03/10/2016 19:52	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D160702AA	03/10/2016 19:52	Daniel H Heller	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	16069B20A	03/10/2016 15:00	Jeremy C Giffin	1
01146	GC VOA Water Prep	SW-846 5030B	1	16069B20A	03/10/2016 15:00	Jeremy C Giffin	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: ChevronTexaco
Reported: 03/14/2016 14:17

Group Number: 1637686

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Batch number: D160702AA	Sample number(s): 8272574,8272577		
Benzene	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Toluene	N.D.	0.5	1
Xylene (Total)	N.D.	0.5	1
Batch number: P160672AA	Sample number(s): 8272576		
Benzene	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Toluene	N.D.	0.5	1
Xylene (Total)	N.D.	0.5	1
Batch number: 16064A94A	Sample number(s): 8272576		
TPH-GRO N. CA water C6-C12	N.D.	50	100
Batch number: 16069B20A	Sample number(s): 8272574,8272577		
TPH-GRO N. CA water C6-C12	N.D.	50	100

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: D160702AA	Sample number(s): 8272574,8272577								
Benzene	20	17.62			88		78-120		
Ethylbenzene	20	18.19			91		78-120		
Methyl Tertiary Butyl Ether	20	18.2			91		75-120		
Toluene	20	17.96			90		80-120		
Xylene (Total)	60	55.04			92		80-120		
Batch number: P160672AA	Sample number(s): 8272576								
Benzene	20	17.52	20	17.6	88	88	78-120	0	30
Ethylbenzene	20	18.77	20	18.52	94	93	78-120	1	30
Methyl Tertiary Butyl Ether	20	17.8	20	17.96	89	90	75-120	1	30
Toluene	20	18.72	20	18.31	94	92	80-120	2	30
Xylene (Total)	60	57.19	60	56.11	95	94	80-120	2	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 16064A94A	Sample number(s): 8272576								
TPH-GRO N. CA water C6-C12	1100	1055.51	1100	1035.19	96	94	77-120	2	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: ChevronTexaco
Reported: 03/14/2016 14:17

Group Number: 1637686

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 16069B20A	Sample number(s): 8272574,8272577								
TPH-GRO N. CA water C6-C12	1100	1104.95	1100	1075.94	100	98	77-120	3	30

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: D160702AA	Sample number(s): 8272574,8272577 UNSPK: P274309									
Benzene	N.D.	20	18.14	20	19.72	91	99	78-120	8	30
Ethylbenzene	N.D.	20	19	20	19.93	95	100	78-120	5	30
Methyl Tertiary Butyl Ether	N.D.	20	18.41	20	18.07	92	90	75-120	2	30
Toluene	N.D.	20	19.21	20	20.42	96	102	80-120	6	30
Xylene (Total)	N.D.	60	56.89	60	60.46	95	101	80-120	6	30

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: BTEX/MTBE
Batch number: D160702AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8272574	93	97	102	94
8272577	91	97	102	96
Blank	93	98	102	95
LCS	94	98	100	98
MS	93	99	103	98
MSD	93	99	102	97
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX/MTBE
Batch number: P160672AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8272576	97	99	100	97
Blank	95	98	100	95
LCS	96	100	100	98
LCSD	97	103	100	96
Limits:	80-116	77-113	80-113	78-113

Analysis Name: TPH-GRO N. CA water C6-C12
Batch number: 16064A94A

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: ChevronTexaco
Reported: 03/14/2016 14:17

Group Number: 1637686

	Trifluorotoluene-F
8272576	77
Blank	83
LCS	95
LCSD	94
Limits:	63-135

Analysis Name: TPH-GRO N. CA water C6-C12
Batch number: 16069B20A

	Trifluorotoluene-F
8272574	90
8272577	104
Blank	89
LCS	98
LCSD	97
Limits:	63-135

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody

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030416-04 Acct. # 10880 Group # 1637686 Sample # 8272574-7

Client: Chevron EMC	
Project Name/#: Castro Valley	Site ID #: 95607
Project Manager: Judy Gilbert	P.O. #: Direct Bill To Chevron
Sampler: GREG BRUSKI	PWSID #:
Phone #: 707 332 8265	Quote #:
State where sample(s) were collected: GWE Effluent	

Matrix: Sediment ☐; Ground ☑; Surface ☐; Soil ☐; Potable ☐; NPDES ☐; Water; Other

Sample Identification	Collection Date	Collection Time	Grab	Composite	Soil	Water	Other	Total # of Containers	TPH-g by 8015M	BTEX by 8260	MTBE by 8260	Remarks
EFF-1	3.3.16	1230	X			X		6	X	X	X	
MID-2	3.3.16	1240	X			X		6	X	X	X	HOLD MID-2, SAMPLE
MID-1	3.3.16	1250	X			X		6	X	X	X	ONLY IF MID-1 > N.D.
INF-1	3.3.16	1300	X			X		6	X	X	X	

For Lab Use Only
SF #: ______
SCR #: ______

Preservation Codes
H = HCl (circled) T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 P = H_3PO_4
O = Other

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:
Rush results requested by (please check): E-Mail ☐ Phone ☐
E-mail Address: Judy.Gilbert@ghd.com matthew.b.smith@ghd.com
Phone: BONNIE.CHIN@GHD.COM

Data Package Options (please check if required)
Type I (Validation/non-CLP) ☐ MA MCP ☐
Type III (Reduced non-CLP) ☐ CT RCP ☐
Type IV (CLP SOW) ☐ TX TRRP-13 ☐
Type VI (Raw Data Only) ☐

EDD Required? Yes ☑ No ☐ If yes, format: Zip File

Relinquished by	Date	Time	Received by	Date	Time
[signature]	3.3.16	1545	SAFE LOCATION OFFICE	3.3.16	1545
[signature]	3/4/16	11:00	[signature]	3/4/16	1100
[signature]	3/4/16	1600	FE		
			Kristen Abel	3/5/16	1000

Relinquished by Commercial Carrier:
UPS ______ FedEx X Other ______

Temperature upon receipt 0.6–1.8 °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 138503

Group Number(s): 1637686

Client: CA

95607

Delivery and Receipt Information

Delivery Method:	BASC	Arrival Timestamp:	03/05/2016 10:00
Number of Packages:	4	Number of Projects:	4
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Krista Abel (3058) at 11:59 on 03/05/2016

Samples Chilled Details: 95607

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	1.3	DT	Wet	Y	Bagged	N
2	DT131	1.8	DT	Wet	Y	Bagged	N
3	DT131	0.7	DT	Wet	Y	Bagged	N
4	DT131	0.6	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Attachment B
Eurofins Air Toxics Laboratory Analytical Reports

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2/15/2016
Ms. Judy Gilbert
GHD
5900 Hollis Street
Suite A
Emeryville CA 94608

Project Name: Castro Valley
Project #: 311950 2015.0 94.09
Workorder #: 1602077

Dear Ms. Judy Gilbert

The following report includes the data for the above referenced project for sample(s) received on 2/4/2016 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-3 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

Project Manager

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WORK ORDER #: 1602077

Work Order Summary

CLIENT:	Ms. Judy Gilbert GHD 5900 Hollis Street Suite A Emeryville, CA 94608	**BILL TO:**	Accounts Payable Chevron U.S.A. Inc. 6001 Bollinger Canyon Road L4310 San Ramon, CA 94583
PHONE:	510-420-3314	**P.O. #**	311950 2015.0 94.09
FAX:	510-420-9170	**PROJECT #**	311950 2015.0 94.09 Castro Valley
DATE RECEIVED:	02/04/2016	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	02/15/2016		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	EFF	Modified TO-3	Tedlar Bag	Tedlar Bag
02A	INF	Modified TO-3	Tedlar Bag	Tedlar Bag
03A	Lab Blank	Modified TO-3	NA	NA
04A	LCS	Modified TO-3	NA	NA
04AA	LCSD	Modified TO-3	NA	NA
04B	LCS	Modified TO-3	NA	NA
04BB	LCSD	Modified TO-3	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 02/15/16

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-3
GHD
Workorder# 1602077

Two Client Tedlar Bag samples were received on February 04, 2016. The laboratory performed analysis for volatile organic compounds in air via modified EPA Method TO-3 using gas chromatography with photo ionization and flame ionization detection. The TPH results are calculated using the response of Gasoline. A molecular weight of 100 is used to convert the TPH ppmv result to ug/L. The method involves concentrating up to 200 mL of sample. The concentrated aliquot is then dry purged to remove water vapor prior to entering the chromatographic system.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-3***	***ATL Modifications***
Daily Calibration Standard Frequency	Prior to sample analysis and every 4 - 6 hrs	Prior to sample analysis and after the analytical batch </= 20 samples.
Initial Calibration Calculation	4-point calibration using a linear regression model	5-point calibration using average Response Factor
Initial Calibration Frequency	Weekly	When daily calibration standard recovery is outside 75 - 125 %, or upon significant changes to procedure or instrumentation
Moisture Control	Nafion system	Sorbent system
Minimum Detection Limit (MDL)	Calculated using the equation DL = A+3.3S, where A is intercept of calibration line and S is the standard deviation of at least 3 reps of low level standard	40 CFR Pt. 136 App. B
Preparation of Standards	Levels achieved through dilution of gas mixture	Levels achieved through loading various volumes of the gas mixture

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The recovery of surrogate Fluorobenzene in sample INF was outside control limits due to high level hydrocarbon matrix interference. Data is reported as qualified.

Total Xylenes concentration is calculated by summing the individual concentrations of m,p-Xylene and O-Xylene.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-3 GC/PID/FID

Client Sample ID: EFF

Lab ID#: 1602077-01A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
Toluene	0.0010	0.0038	0.0019	0.0071
Total Xylenes	0.0010	0.0043	0.0024	0.010
TPH (Gasoline Range)	0.025	0.10	0.21	0.86

Client Sample ID: INF

Lab ID#: 1602077-02A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
Benzene	0.012	0.040	4.1	13
Toluene	0.012	0.047	1.2	4.4
Ethyl Benzene	0.012	0.054	0.64	2.8
Total Xylenes	0.012	0.054	2.5	11
Methyl tert-butyl ether	0.012	0.045	1.3	4.7
TPH (Gasoline Range)	0.31	1.3	240	980

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Client Sample ID: EFF

Lab ID#: 1602077-01A

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d020506**	**Date of Collection:**	**2/3/16 11:00:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**2/5/16 12:24 PM**

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
Benzene	0.0010	0.0032	Not Detected	Not Detected
Toluene	0.0010	0.0038	0.0019	0.0071
Ethyl Benzene	0.0010	0.0043	Not Detected	Not Detected
Total Xylenes	0.0010	0.0043	0.0024	0.010
Methyl tert-butyl ether	0.0010	0.0036	Not Detected	Not Detected
TPH (Gasoline Range)	0.025	0.10	0.21	0.86

Container Type: Client Tedlar Bag

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	94	75-150
Fluorobenzene (PID)	108	75-125

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Client Sample ID: INF

Lab ID#: 1602077-02A

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d020508**	**Date of Collection: 2/3/16 11:10:00 AM**	
Dil. Factor:	**12.5**	**Date of Analysis: 2/5/16 01:36 PM**	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
Benzene	0.012	0.040	4.1	13
Toluene	0.012	0.047	1.2	4.4
Ethyl Benzene	0.012	0.054	0.64	2.8
Total Xylenes	0.012	0.054	2.5	11
Methyl tert-butyl ether	0.012	0.045	1.3	4.7
TPH (Gasoline Range)	0.31	1.3	240	980

Q = Exceeds Quality Control limits, due to matrix effects. Matrix effects confirmed by re-analysis.

Container Type: Client Tedlar Bag

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	198 Q	75-150
Fluorobenzene (PID)	190 Q	75-125

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Client Sample ID: Lab Blank

Lab ID#: 1602077-03A

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d020505**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/5/16 11:33 AM**	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
Benzene	0.0010	0.0032	Not Detected	Not Detected
Toluene	0.0010	0.0038	Not Detected	Not Detected
Ethyl Benzene	0.0010	0.0043	Not Detected	Not Detected
Total Xylenes	0.0010	0.0043	Not Detected	Not Detected
Methyl tert-butyl ether	0.0010	0.0036	Not Detected	Not Detected
TPH (Gasoline Range)	0.025	0.10	Not Detected	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	81	75-150
Fluorobenzene (PID)	94	75-125

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Client Sample ID: LCS

Lab ID#: 1602077-04A

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d020504b**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/5/16 10:44 AM**	

Compound	%Recovery	Method Limits
Benzene	101	75-125
Toluene	92	75-125
Ethyl Benzene	92	75-125
Total Xylenes	95	75-125
Methyl tert-butyl ether	108	75-125

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (PID)	100	75-125

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Client Sample ID: LCSD

Lab ID#: 1602077-04AA

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d020513b**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/5/16 05:04 PM**	

Compound	%Recovery	Method Limits
Benzene	99	75-125
Toluene	92	75-125
Ethyl Benzene	92	75-125
Total Xylenes	94	75-125
Methyl tert-butyl ether	104	75-125

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (PID)	97	75-125

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Client Sample ID: LCS

Lab ID#: 1602077-04B

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d020502**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/5/16 09:30 AM**	

Compound	%Recovery	Method Limits
TPH (Gasoline Range)	78	75-125

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	93	75-150

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Client Sample ID: LCSD

Lab ID#: 1602077-04BB

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d020512**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/5/16 04:30 PM**	

Compound	%Recovery	Method Limits
TPH (Gasoline Range)	78	75-125

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	93	75-150

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2/19/2016
Ms. Judy Gilbert
GHD
5900 Hollis Street
Suite A
Emeryville CA 94608

Project Name: Castro Valley
Project #: 311950 2015.0 94.09
Workorder #: 1602313

Dear Ms. Judy Gilbert

The following report includes the data for the above referenced project for sample(s) received on 2/17/2016 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-3 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

Project Manager

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WORK ORDER #: 1602313

Work Order Summary

CLIENT:	Ms. Judy Gilbert GHD 5900 Hollis Street Suite A Emeryville, CA 94608	**BILL TO:**	Accounts Payable Chevron U.S.A. Inc. 6001 Bollinger Canyon Road L4310 San Ramon, CA 94583
PHONE:	510-420-3314	**P.O. #**	NWENV00956070
FAX:	510-420-9170	**PROJECT #**	311950 2015.0 94.09 Castro Valley
DATE RECEIVED:	02/17/2016	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	02/19/2016		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	C-9	Modified TO-3	Tedlar Bag	Tedlar Bag
02A	Lab Blank	Modified TO-3	NA	NA
03A	LCS	Modified TO-3	NA	NA
03AA	LCSD	Modified TO-3	NA	NA
03B	LCS	Modified TO-3	NA	NA
03BB	LCSD	Modified TO-3	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 02/19/16

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-3
GHD
Workorder# 1602313

One 1 Liter Tedlar Bag sample was received on February 17, 2016. The laboratory performed analysis for volatile organic compounds in air via modified EPA Method TO-3 using gas chromatography with photo ionization and flame ionization detection. The TPH results are calculated using the response of Gasoline. A molecular weight of 100 is used to convert the TPH ppmv result to ug/L. The method involves concentrating up to 200 mL of sample. The concentrated aliquot is then dry purged to remove water vapor prior to entering the chromatographic system.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-3***	***ATL Modifications***
Daily Calibration Standard Frequency	Prior to sample analysis and every 4 - 6 hrs	Prior to sample analysis and after the analytical batch </= 20 samples.
Initial Calibration Calculation	4-point calibration using a linear regression model	5-point calibration using average Response Factor
Initial Calibration Frequency	Weekly	When daily calibration standard recovery is outside 75 - 125 %, or upon significant changes to procedure or instrumentation
Moisture Control	Nafion system	Sorbent system
Minimum Detection Limit (MDL)	Calculated using the equation DL = A+3.3S, where A is intercept of calibration line and S is the standard deviation of at least 3 reps of low level standard	40 CFR Pt. 136 App. B
Preparation of Standards	Levels achieved through dilution of gas mixture	Levels achieved through loading various volumes of the gas mixture

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The recovery of surrogate Fluorobenzene in sample C-9 was outside control limits due to high level hydrocarbon matrix interference. Data is reported as qualified.

Total Xylenes concentration is calculated by summing the individual concentrations of m,p-Xylene and O-Xylene.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-3 GC/PID/FID

Client Sample ID: C-9

Lab ID#: 1602313-01A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
Benzene	0.057	0.18	18	58
Toluene	0.057	0.22	3.7	14
Ethyl Benzene	0.057	0.25	2.1	9.1
Total Xylenes	0.057	0.25	8.0	35
Methyl tert-butyl ether	0.057	0.20	7.6	27
TPH (Gasoline Range)	1.4	5.8	1100	4600

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Client Sample ID: C-9

Lab ID#: 1602313-01A

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d021810**	**Date of Collection: 2/16/16 10:00:00 AM**	
Dil. Factor:	**57.1**	**Date of Analysis: 2/18/16 01:20 PM**	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
Benzene	0.057	0.18	18	58
Toluene	0.057	0.22	3.7	14
Ethyl Benzene	0.057	0.25	2.1	9.1
Total Xylenes	0.057	0.25	8.0	35
Methyl tert-butyl ether	0.057	0.20	7.6	27
TPH (Gasoline Range)	1.4	5.8	1100	4600

Q = Exceeds Quality Control limits, due to matrix effects. Matrix effects confirmed by re-analysis.

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	214 Q	75-150
Fluorobenzene (PID)	193 Q	75-125

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Client Sample ID: Lab Blank

Lab ID#: 1602313-02A

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d021808**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/18/16 11:57 AM**	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
Benzene	0.0010	0.0032	Not Detected	Not Detected
Toluene	0.0010	0.0038	Not Detected	Not Detected
Ethyl Benzene	0.0010	0.0043	Not Detected	Not Detected
Total Xylenes	0.0010	0.0043	Not Detected	Not Detected
Methyl tert-butyl ether	0.0010	0.0036	Not Detected	Not Detected
TPH (Gasoline Range)	0.025	0.10	Not Detected	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	96	75-150
Fluorobenzene (PID)	106	75-125

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Client Sample ID: LCS

Lab ID#: 1602313-03A

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d021807b**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/18/16 11:21 AM**	

Compound	%Recovery	Method Limits
Benzene	92	75-125
Toluene	86	75-125
Ethyl Benzene	86	75-125
Total Xylenes	84	75-125
Methyl tert-butyl ether	98	75-125

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (PID)	97	75-125

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Client Sample ID: LCSD

Lab ID#: 1602313-03AA

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d021814b**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/18/16 03:48 PM**	

Compound	%Recovery	Method Limits
Benzene	90	75-125
Toluene	88	75-125
Ethyl Benzene	93	75-125
Total Xylenes	96	75-125
Methyl tert-butyl ether	92	75-125

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (PID)	98	75-125

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Client Sample ID: LCS

Lab ID#: 1602313-03B

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d021804**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/18/16 09:20 AM**	

Compound	%Recovery	Method Limits
TPH (Gasoline Range)	75	75-125

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	98	75-150

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Client Sample ID: LCSD

Lab ID#: 1602313-03BB

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d021805**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/18/16 10:02 AM**	

Compound	%Recovery	Method Limits
TPH (Gasoline Range)	82	75-125

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	103	75-150

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3/10/2016
Ms. Judy Gilbert
GHD
5900 Hollis Street
Suite A
Emeryville CA 94608

Project Name: Castro Valley
Project #: 311950 2015.0 94.09
Workorder #: 1603064

Dear Ms. Judy Gilbert

The following report includes the data for the above referenced project for sample(s) received on 3/4/2016 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-3 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

Project Manager

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WORK ORDER #: 1603064

Work Order Summary

CLIENT:	Ms. Judy Gilbert GHD 5900 Hollis Street Suite A Emeryville, CA 94608	**BILL TO:**	Accounts Payable Chevron U.S.A. Inc. 6001 Bollinger Canyon Road L4310 San Ramon, CA 94583
PHONE:	510-420-3314	**P.O. #**	311950 2015.0 94.09
FAX:	510-420-9170	**PROJECT #**	311950 2015.0 94.09 Castro Valley
DATE RECEIVED:	03/04/2016	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	03/10/2016		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	EFF	Modified TO-3	Tedlar Bag	Tedlar Bag
02A	INF	Modified TO-3	Tedlar Bag	Tedlar Bag
03A	Lab Blank	Modified TO-3	NA	NA
04A	LCS	Modified TO-3	NA	NA
04AA	LCSD	Modified TO-3	NA	NA
04B	LCS	Modified TO-3	NA	NA
04BB	LCSD	Modified TO-3	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 03/10/16

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-3
GHD
Workorder# 1603064

Two 1 Liter Tedlar Bag samples were received on March 04, 2016. The laboratory performed analysis for volatile organic compounds in air via modified EPA Method TO-3 using gas chromatography with photo ionization and flame ionization detection. The TPH results are calculated using the response of Gasoline. A molecular weight of 100 is used to convert the TPH ppmv result to ug/L. The method involves concentrating up to 200 mL of sample. The concentrated aliquot is then dry purged to remove water vapor prior to entering the chromatographic system.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-3***	***ATL Modifications***
Daily Calibration Standard Frequency	Prior to sample analysis and every 4 - 6 hrs	Prior to sample analysis and after the analytical batch </= 20 samples.
Initial Calibration Calculation	4-point calibration using a linear regression model	5-point calibration using average Response Factor
Initial Calibration Frequency	Weekly	When daily calibration standard recovery is outside 75 - 125 %, or upon significant changes to procedure or instrumentation
Moisture Control	Nafion system	Sorbent system
Minimum Detection Limit (MDL)	Calculated using the equation DL = A+3.3S, where A is intercept of calibration line and S is the standard deviation of at least 3 reps of low level standard	40 CFR Pt. 136 App. B
Preparation of Standards	Levels achieved through dilution of gas mixture	Levels achieved through loading various volumes of the gas mixture

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Total Xylenes concentration is calculated by summing the individual concentrations of m,p-Xylene and O-Xylene.

The recovery of surrogate Fluorobenzene in sample INF was outside control limits due to high level hydrocarbon matrix interference. Data is reported as qualified.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-3 GC/PID/FID

Client Sample ID: EFF

Lab ID#: 1603064-01A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
Toluene	0.0010	0.0038	0.0019	0.0072
Total Xylenes	0.0020	0.0087	0.0022	0.0097
TPH (Gasoline Range)	0.025	0.10	0.11	0.44

Client Sample ID: INF

Lab ID#: 1603064-02A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
Benzene	0.012	0.040	5.3	17
Toluene	0.012	0.047	1.5	5.7
Ethyl Benzene	0.012	0.054	0.82	3.6
Total Xylenes	0.025	0.11	4.7	20
Methyl tert-butyl ether	0.012	0.045	1.0	3.6
TPH (Gasoline Range)	0.31	1.3	290	1200

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Client Sample ID: EFF

Lab ID#: 1603064-01A

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d030413**	**Date of Collection: 3/3/16 9:30:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/16 07:58 AM**	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
Benzene	0.0010	0.0032	Not Detected	Not Detected
Toluene	0.0010	0.0038	0.0019	0.0072
Ethyl Benzene	0.0010	0.0043	Not Detected	Not Detected
Total Xylenes	0.0020	0.0087	0.0022	0.0097
Methyl tert-butyl ether	0.0010	0.0036	Not Detected	Not Detected
TPH (Gasoline Range)	0.025	0.10	0.11	0.44

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	95	75-150
Fluorobenzene (PID)	106	75-125

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Client Sample ID: INF

Lab ID#: 1603064-02A

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d030414**	**Date of Collection: 3/3/16 9:40:00 AM**	
Dil. Factor:	**12.5**	**Date of Analysis: 3/5/16 08:39 AM**	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
Benzene	0.012	0.040	5.3	17
Toluene	0.012	0.047	1.5	5.7
Ethyl Benzene	0.012	0.054	0.82	3.6
Total Xylenes	0.025	0.11	4.7	20
Methyl tert-butyl ether	0.012	0.045	1.0	3.6
TPH (Gasoline Range)	0.31	1.3	290	1200

Q = Exceeds Quality Control limits, possibly due to matrix effects.

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	319 Q	75-150
Fluorobenzene (PID)	272 Q	75-125

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Client Sample ID: Lab Blank

Lab ID#: 1603064-03A

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d030412**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/16 07:11 AM**	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
Benzene	0.0010	0.0032	Not Detected	Not Detected
Toluene	0.0010	0.0038	Not Detected	Not Detected
Ethyl Benzene	0.0010	0.0043	Not Detected	Not Detected
Total Xylenes	0.0020	0.0087	Not Detected	Not Detected
Methyl tert-butyl ether	0.0010	0.0036	Not Detected	Not Detected
TPH (Gasoline Range)	0.025	0.10	Not Detected	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	95	75-150
Fluorobenzene (PID)	106	75-125

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Client Sample ID: LCS

Lab ID#: 1603064-04A

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d030411b**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/16 06:26 AM**	

Compound	%Recovery	Method Limits
Benzene	94	75-125
Toluene	88	75-125
Ethyl Benzene	88	75-125
Total Xylenes	89	75-125
Methyl tert-butyl ether	99	75-125

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (PID)	94	75-125

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Client Sample ID: LCSD

Lab ID#: 1603064-04AA

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d030419b**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/16 12:31 PM**	

Compound	%Recovery	Method Limits
Benzene	95	75-125
Toluene	87	75-125
Ethyl Benzene	88	75-125
Total Xylenes	90	75-125
Methyl tert-butyl ether	100	75-125

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (PID)	99	75-125

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Client Sample ID: LCS

Lab ID#: 1603064-04B

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d030409**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/4/16 03:48 PM**	

Compound	%Recovery	Method Limits
TPH (Gasoline Range)	79	75-125

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	101	75-150

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Client Sample ID: LCSD

Lab ID#: 1603064-04BB

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d030418**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/5/16 11:52 AM**	

Compound	%Recovery	Method Limits
TPH (Gasoline Range)	79	75-125

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	96	75-150

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3/18/2016
Ms. Judy Gilbert
GHD
5900 Hollis Street
Suite A
Emeryville CA 94608

Project Name: Castro Valley
Project #: 311950 2016.0 94.09
Workorder #: 1603298

Dear Ms. Judy Gilbert

The following report includes the data for the above referenced project for sample(s) received on 3/16/2016 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-3 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

Project Manager

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WORK ORDER #: 1603298

Work Order Summary

CLIENT:	Ms. Judy Gilbert GHD 5900 Hollis Street Suite A Emeryville, CA 94608	**BILL TO:**	Accounts Payable Chevron U.S.A. Inc. 6001 Bollinger Canyon Road L4310 San Ramon, CA 94583
PHONE:	510-420-3314	**P.O. #**	311950 2016.0 94.09
FAX:	510-420-9170	**PROJECT #**	311950 2016.0 94.09 Castro Valley
DATE RECEIVED:	03/16/2016	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	03/18/2016		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	INF	Modified TO-3	Tedlar Bag	Tedlar Bag
02A	Lab Blank	Modified TO-3	NA	NA
03A	LCS	Modified TO-3	NA	NA
03AA	LCSD	Modified TO-3	NA	NA
03B	LCS	Modified TO-3	NA	NA
03BB	LCSD	Modified TO-3	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 03/18/16

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-3
GHD
Workorder# 1603298

One 1 Liter Tedlar Bag sample was received on March 16, 2016. The laboratory performed analysis for volatile organic compounds in air via modified EPA Method TO-3 using gas chromatography with photo ionization and flame ionization detection. The TPH results are calculated using the response of Gasoline. A molecular weight of 100 is used to convert the TPH ppmv result to ug/L. The method involves concentrating up to 200 mL of sample. The concentrated aliquot is then dry purged to remove water vapor prior to entering the chromatographic system.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-3***	***ATL Modifications***
Daily Calibration Standard Frequency	Prior to sample analysis and every 4 - 6 hrs	Prior to sample analysis and after the analytical batch </= 20 samples.
Initial Calibration Calculation	4-point calibration using a linear regression model	5-point calibration using average Response Factor
Initial Calibration Frequency	Weekly	When daily calibration standard recovery is outside 75 - 125 %, or upon significant changes to procedure or instrumentation
Moisture Control	Nafion system	Sorbent system
Minimum Detection Limit (MDL)	Calculated using the equation DL = A+3.3S, where A is intercept of calibration line and S is the standard deviation of at least 3 reps of low level standard	40 CFR Pt. 136 App. B
Preparation of Standards	Levels achieved through dilution of gas mixture	Levels achieved through loading various volumes of the gas mixture

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The recovery of surrogate Fluorobenzene in sample INF was outside control limits due to high level hydrocarbon matrix interference. Data is reported as qualified.

Total Xylenes concentration is calculated by summing the individual concentrations of m,p-Xylene and O-Xylene.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-3 GC/PID/FID

Client Sample ID: INF

Lab ID#: 1603298-01A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
Benzene	0.067	0.21	16 M	50 M
Toluene	0.067	0.25	3.3	12
Ethyl Benzene	0.067	0.29	2.1	9.2
Total Xylenes	0.13	0.58	6.5	28
Methyl tert-butyl ether	0.067	0.24	11	40
TPH (Gasoline Range)	1.7	6.8	1300	5200

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Client Sample ID: INF

Lab ID#: 1603298-01A

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d031608**	**Date of Collection: 3/15/16 10:40:00 AM**	
Dil. Factor:	**66.7**	**Date of Analysis: 3/16/16 12:18 PM**	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
Benzene	0.067	0.21	16 M	50 M
Toluene	0.067	0.25	3.3	12
Ethyl Benzene	0.067	0.29	2.1	9.2
Total Xylenes	0.13	0.58	6.5	28
Methyl tert-butyl ether	0.067	0.24	11	40
TPH (Gasoline Range)	1.7	6.8	1300	5200

M = Reported value may be biased due to apparent matrix interferences.
Q = Exceeds Quality Control limits, due to matrix effects. Matrix effects confirmed by re-analysis.

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	223 Q	75-150
Fluorobenzene (PID)	202 Q	75-125

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Client Sample ID: Lab Blank

Lab ID#: 1603298-02A

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d031605**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/16/16 10:11 AM**	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
Benzene	0.0010	0.0032	Not Detected	Not Detected
Toluene	0.0010	0.0038	Not Detected	Not Detected
Ethyl Benzene	0.0010	0.0043	Not Detected	Not Detected
Total Xylenes	0.0020	0.0087	Not Detected	Not Detected
Methyl tert-butyl ether	0.0010	0.0036	Not Detected	Not Detected
TPH (Gasoline Range)	0.025	0.10	Not Detected	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	102	75-150
Fluorobenzene (PID)	112	75-125

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1603298-03A

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d031604b**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/16/16 09:38 AM**	

Compound	%Recovery	Method Limits
Benzene	94	75-125
Toluene	87	75-125
Ethyl Benzene	89	75-125
Total Xylenes	90	75-125
Methyl tert-butyl ether	101	75-125

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (PID)	101	75-125

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1603298-03AA

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d031610b**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/16/16 01:27 PM**	

Compound	%Recovery	Method Limits
Benzene	93	75-125
Toluene	87	75-125
Ethyl Benzene	88	75-125
Total Xylenes	89	75-125
Methyl tert-butyl ether	97	75-125

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (PID)	98	75-125

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1603298-03B

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d031602**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/16/16 08:26 AM**	

Compound	%Recovery	Method Limits
TPH (Gasoline Range)	84	75-125

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	104	75-150

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1603298-03BB

MODIFIED EPA METHOD TO-3 GC/PID/FID

File Name:	**d031609**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/16/16 12:54 PM**	

Compound	%Recovery	Method Limits
TPH (Gasoline Range)	88	75-125

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	109	75-150