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Jennifer C. Sedlachek
Project Manager



October 25, 2017

RECEIVED

By Alameda County Environmental Health 11:13 am, Oct 25, 2017

Ms. Karel Detterman
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

RE: Former Mobil RAS #99105/6301 San Pablo Avenue, Oakland, California.

Dear Ms. Detterman:

Attached for your review and comment is a letter report entitled ***Groundwater and Soil Vapor Monitoring Report, Third Quarter 2017***, dated October 25, 2017, for the above-referenced site. The letter was prepared by Cardno, of Petaluma, California, and details activities at the subject site.

I have read and acknowledge the content, recommendations and/or conclusions contained in the attached document or report submitted on my behalf to ACDEH's FTP server and the SWRCB's GeoTracker website.

If you have any questions or comments, please contact me at 510.547.8196.

Sincerely,

Jennifer C. Sedlachek
Project Manager

Attachment: Cardno's ***Groundwater and Soil Vapor Monitoring Report, Third Quarter 2017***,
dated October 25, 2017

cc: w/ attachment
Mr. Leroy Griffin, Oakland Fire Department
Messrs. On Dan and Nathan Lam

w/o attachment
Mr. Scott Perkins, Cardno

October 25, 2017
 Cardno 2783C.Q173

Cardno

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SUBJECT **Groundwater and Soil Vapor Monitoring Report, Third Quarter 2017**
 Former Mobil Service Station 99105
 6301 San Pablo Avenue, Oakland, California

www.cardno.com

INTRODUCTION

At the request of ExxonMobil Environmental Services (EMES), on behalf of ExxonMobil Oil Corporation, Cardno performed third quarter 2017 groundwater and soil vapor monitoring and sampling activities at the site. Relevant plates, graphs, tables, and appendices are included at the end of this report. Currently, the site operates as an oil change facility.

GROUNDWATER AND SOIL VAPOR MONITORING AND SAMPLING SUMMARY

Monitoring and sampling date: 08/11/17

Groundwater wells gauged and sampled: MW2, MW3, MW5 through MW8

Vapor wells monitored: VW1 through VW5

Presence of NAPL: None

Groundwater flow direction: Southwest

Laboratory: Eurofins Calscience, Inc., Garden Grove, California

Analyses performed:	EPA Method 8015B	TPHd, TPHg
	EPA Method 8260B	BTEX, MTBE, TAME, TBA, DIPE, EDB, 1,2-DCA, ETBE

Waste disposal: 88 gallons purge and decon water delivered to Instrat, Inc. of Rio Vista, California, on 08/31/17

RESULTS

Dissolved-phase concentrations show overall stable or decreasing trends. Maximum dissolved-phase concentrations are limited to the area near wells MW5 and MW8. Currently, the maximum benzene concentration reported at the site (95 µg/L) is in well MW8.

October 25, 2017
 Cardno 2783C.Q173 Former Mobil Service Station 99105, Oakland, California

Dissolved-phase concentrations are limited in extent and adequately delineated:

- Toward the north by former well MW1.
- Toward the northwest by well MW2.
- Toward the west by borings B6 through B8 and AB11.
- Toward the east by well MW6.
- Toward the south by borings AB10 and AB13.

PID measurements from the soil vapor samples have not shown a significant decrease since the feasibility study performed in 2014 (Cardno ERI, 2014).

RECOMMENDATIONS

Soil vapor monitoring wells have been monitored since the DPE feasibility study conducted in August 2014 (Cardno ERI, 2014). It does not appear that the DPE event caused a significant reduction in the soil vapor concentrations. Further review of the DPE feasibility data and the subsequent soil vapor data indicate that additional remediation by DPE is not likely to reduce the reported soil vapor concentrations. The vapor flow rate extracted from the subsurface (approximately 25 scfm) does not appear to be adequate to remove the residual concentrations from the underlying soil.

Cardno recommends conducting the additional soil vapor assessment work proposed in Cardno's *Work Plan for Additional Soil Vapor Assessment*, dated September 8, 2016 (Cardno, 2016).

Cardno submitted the *Response to Request for Work Plan Addendum*, dated January 6, 2017 (Cardno, 2017), requesting to perform the work proposed in the work plan and has not had a response to date.

LIMITATIONS

For documents cited that were not generated by Cardno, the data taken from those documents is used "as is" and is assumed to be accurate. Cardno does not guarantee the accuracy of this data and makes no warranties for the referenced work performed nor the inferences or conclusions stated in these documents.

This document and the work performed have been undertaken in good faith, with due diligence and with the expertise, experience, capability, and specialized knowledge necessary to perform the work in a good and workmanlike manner and within all accepted standards pertaining to providers of environmental services in California at the time of investigation. No soil engineering or geotechnical references are implied or should be inferred. The evaluation of the geologic conditions at the site for this investigation is made from a limited number of data points. Subsurface conditions may vary away from these data points.

Please contact Mr. Scott Perkins, Cardno's project manager for this site, at scott.perkins@cardno.com or at (707) 766-2000 with any questions regarding this report.

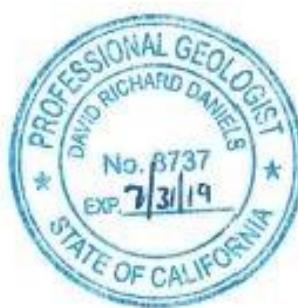
Sincerely,


 SCANNED IMAGE

Christine M. Capwell
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 for Cardno
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 SCANNED IMAGE

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Cardno 2783C.Q173 Former Mobil Service Station 99105, Oakland, California

Enclosures:

References

Acronym List

Plate 1 Site Vicinity Map

Plate 2 Select Analytical Results

Plate 3 Groundwater Elevation Map

Table 1 Cumulative Groundwater Monitoring and Sampling Data

Table 2 Well Construction Details

Table 3 Cumulative PID Readings, Vapor Wells

Appendix A Groundwater Sampling Protocol

Appendix B Field Data Sheets

Appendix C Laboratory Analytical Report

Appendix D Waste Disposal Documentation

cc: Ms. Karel Detterman, Alameda County Health Care Services Agency, 1131 Harbor Bay Parkway,
2nd Floor, Alameda, California, 94502

Mr. Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa, Suite 3341, Oakland, California,
94612

Messrs. On Dan and Nathan Lam, 200 El Dorado Terrace, San Francisco, California, 94112

October 25, 2017
Cardno 2783C.Q173 Former Mobil Service Station 99105, Oakland, California

REFERENCES

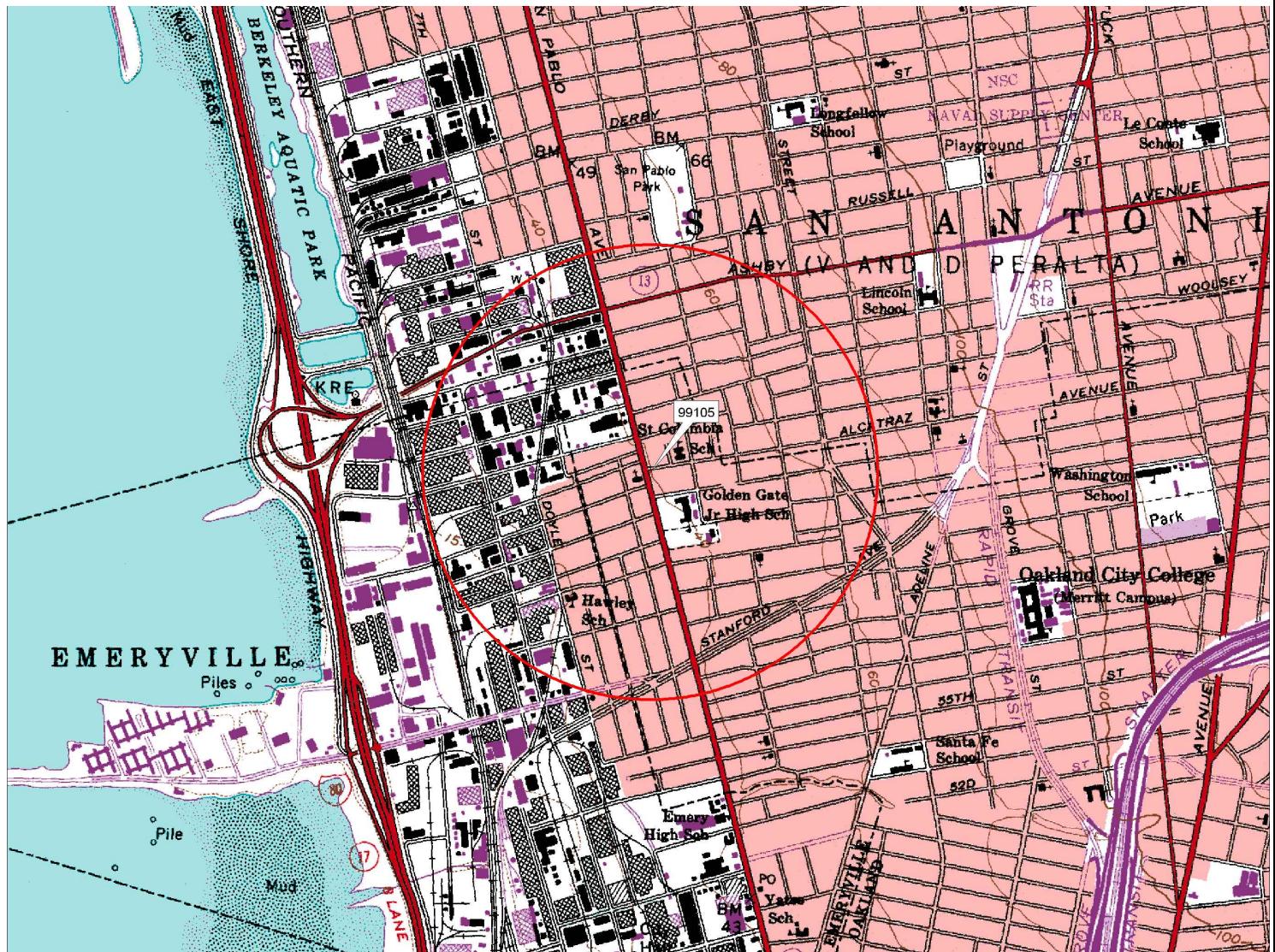
Cardno. September 8, 2016. *Work Plan for Additional Soil Vapor Assessment, Former Mobil Service Station 99105, 6301 San Pablo Avenue, Oakland, California.*

Cardno. January 6, 2017. *Response to Request for Work Plan Addendum, Former Mobil Service Station 99105, 6301 San Pablo Avenue, Oakland, California.*

Cardno ERI. September 10, 2014. *Well Installation and Feasibility Study, Former Mobil Service Station 99105, 6301 San Pablo Avenue, Oakland, California.*

ACRONYM LIST

$\mu\text{g/L}$	Micrograms per liter	NAPL	Non-aqueous phase liquid
$\mu\text{g/m}^3$	Micrograms per cubic meter	NEPA	National Environmental Policy Act
μs	Microsiemens	NGVD	National Geodetic Vertical Datum
1,2-DCA	1,2-dichloroethane	NPDES	National Pollutant Discharge Elimination System
acf m	Actual cubic feet per minute	O&M	Operations and Maintenance
AS	Air sparge	ORP	Oxidation-reduction potential
AST	Aboveground storage tank	OSHA	Occupational Safety and Health Administration
bgs	Below ground surface	OVA	Organic vapor analyzer
BTEX	Benzene, toluene, ethylbenzene, and total xylenes	P&ID	Process and Instrumentation Diagram
cfm	Cubic feet per minute	PAH	Polycyclic aromatic (or polyaromatic) hydrocarbon
COC	Chain-of-Custody	PCB	Polychlorinated biphenyl
CPT	Cone Penetration (Penetrometer) Test	PCE	Tetrachloroethene or perchloroethylene
DIPE	Di-isopropyl ether	PID	Photo-ionization detector
DO	Dissolved oxygen	PLC	Programmable logic control
DOT	Department of Transportation	POTW	Publicly-owned treatment works
DPE	Dual-phase extraction	ppmv	Parts per million by volume
DTW	Depth to water	PQL	Practical quantitation limit
EDB	1,2-dibromoethane	psi	Pounds per square inch
EPA	Environmental Protection Agency	PVC	Polyvinyl chloride
ESL	Environmental screening level	QA/QC	Quality assurance/quality control
ETBE	Ethyl tertiary butyl ether	RBSL	Risk-based screening levels
FID	Flame-ionization detector	RCRA	Resource Conservation and Recovery Act
fpm	Feet per minute	RL	Reporting limit
GAC	Granular activated carbon	scfm	Standard cubic feet per minute
gpd	Gallons per day	SSTL	Site-specific target level
gpm	Gallons per minute	STLC	Soluble threshold limit concentration
GWPTS	Groundwater pump and treat system	SVE	Soil vapor extraction
HIT	High-intensity targeted	SVOC	Semi-volatile organic compound
HVOC	Halogenated volatile organic compound	TAME	Tertiary amyl methyl ether
J	Estimated value between MDL and PQL (RL)	TBA	Tertiary butyl alcohol
LEL	Lower explosive limit	TCE	Trichloroethene
LPC	Liquid-phase carbon	TOC	Top of well casing elevation; datum is msl
LRP	Liquid-ring pump	TOG	Total oil and grease
LUFT	Leaking underground fuel tank	TPH	Total petroleum hydrocarbons
LUST	Leaking underground storage tank	TPHd	Total petroleum hydrocarbons as diesel
MCL	Maximum contaminant level	TPHg	Total petroleum hydrocarbons as gasoline
MDL	Method detection limit	TPHmo	Total petroleum hydrocarbons as motor oil
mg/kg	Milligrams per kilogram	TPHs	Total petroleum hydrocarbons as stoddard solvent
mg/L	Milligrams per liter	TRPH	Total recoverable petroleum hydrocarbons
mg/m ³	Milligrams per cubic meter	UCL	Upper confidence level
MPE	Multi-phase extraction	USCS	Unified Soil Classification System
MRL	Method reporting limit	USGS	United States Geologic Survey
msl	Mean sea level	UST	Underground storage tank
MTBE	Methyl tertiary butyl ether	VCP	Voluntary Cleanup Program
MTCA	Model Toxics Control Act	VOC	Volatile organic compound
NAI	Natural attenuation indicators	VPC	Vapor-phase carbon



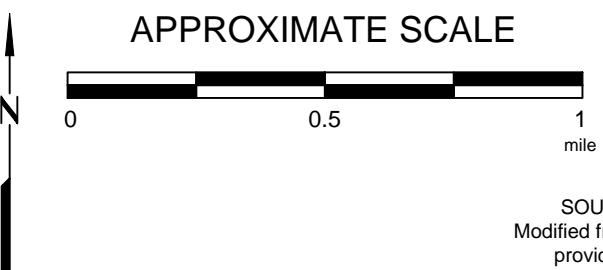
FN 2783TOPO

EXPLANATION



1/2-mile radius circle

APPROXIMATE SCALE



SOURCE:
Modified from a map
provided by
DeLorme 3-D TopoQuads



SITE VICINITY MAP

FORMER MOBIL SERVICE STATION 99105
6301 San Pablo Avenue
Oakland, California

PROJECT NO.

2783

PLATE

1

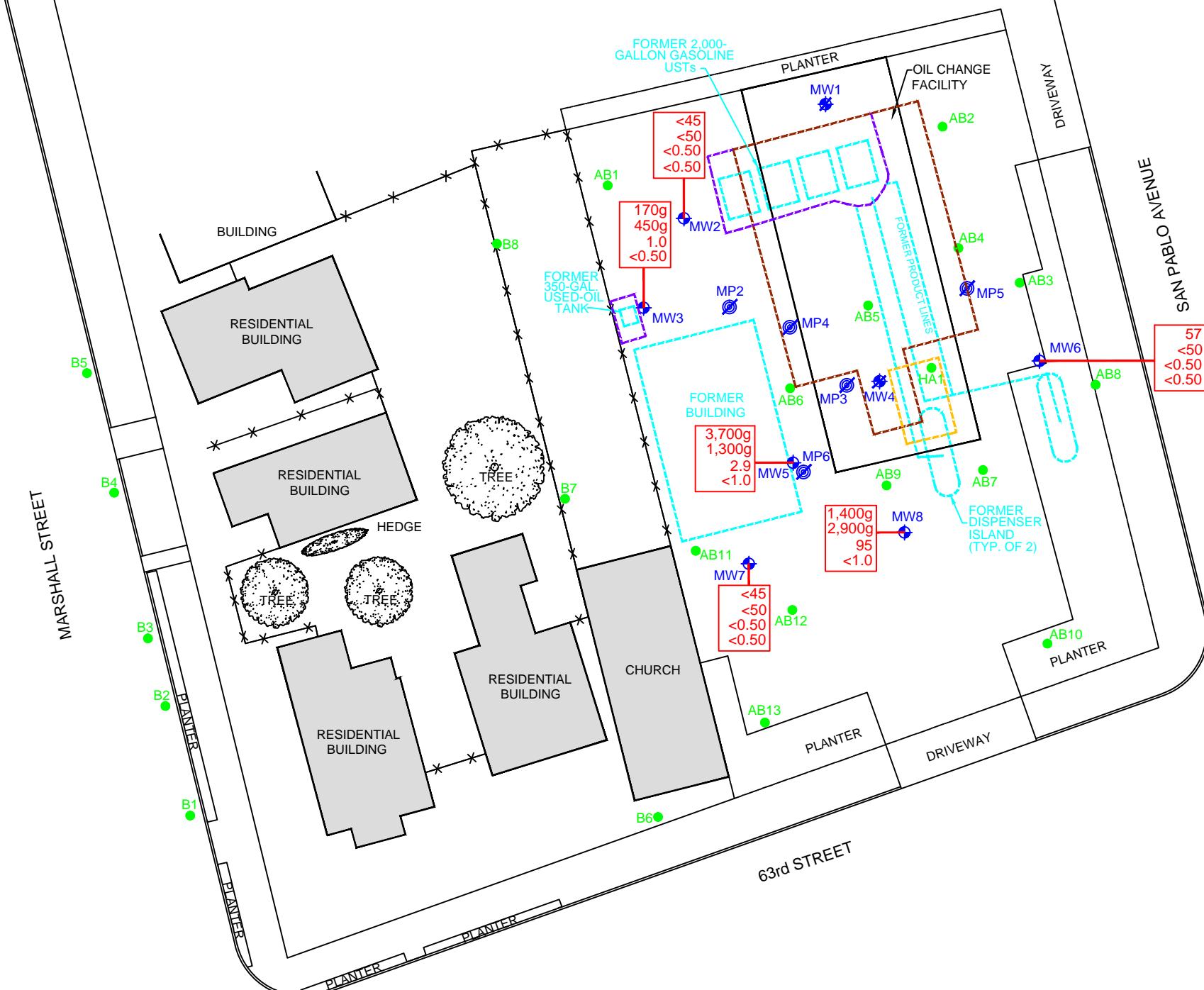
Analyte Concentrations in ug/L
Sampled August 11, 2017

Total Petroleum Hydrocarbons as diesel
Total Petroleum Hydrocarbons as gasoline
Benzene
Methyl Tertiary Butyl Ether

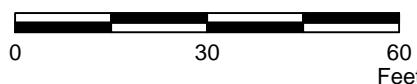
< Less than the Stated Laboratory Reporting Limit

ug/L Micrograms per Liter

g Chromatographic pattern does not match that of the specified standard.



APPROXIMATE SCALE



FN 2783 17 3QTR QM



SELECT ANALYTICAL RESULTS

August 11, 2017

FORMER MOBIL SERVICE STATION 99105
6301 San Pablo Avenue
Oakland, California

EXPLANATION

MW8 Groundwater Monitoring Well

MW4 Destroyed Groundwater Monitoring Well

MP6 Destroyed Observation Well

AB13 Soil Boring

1994 Areas of Excavation

1996 Area of Excavation

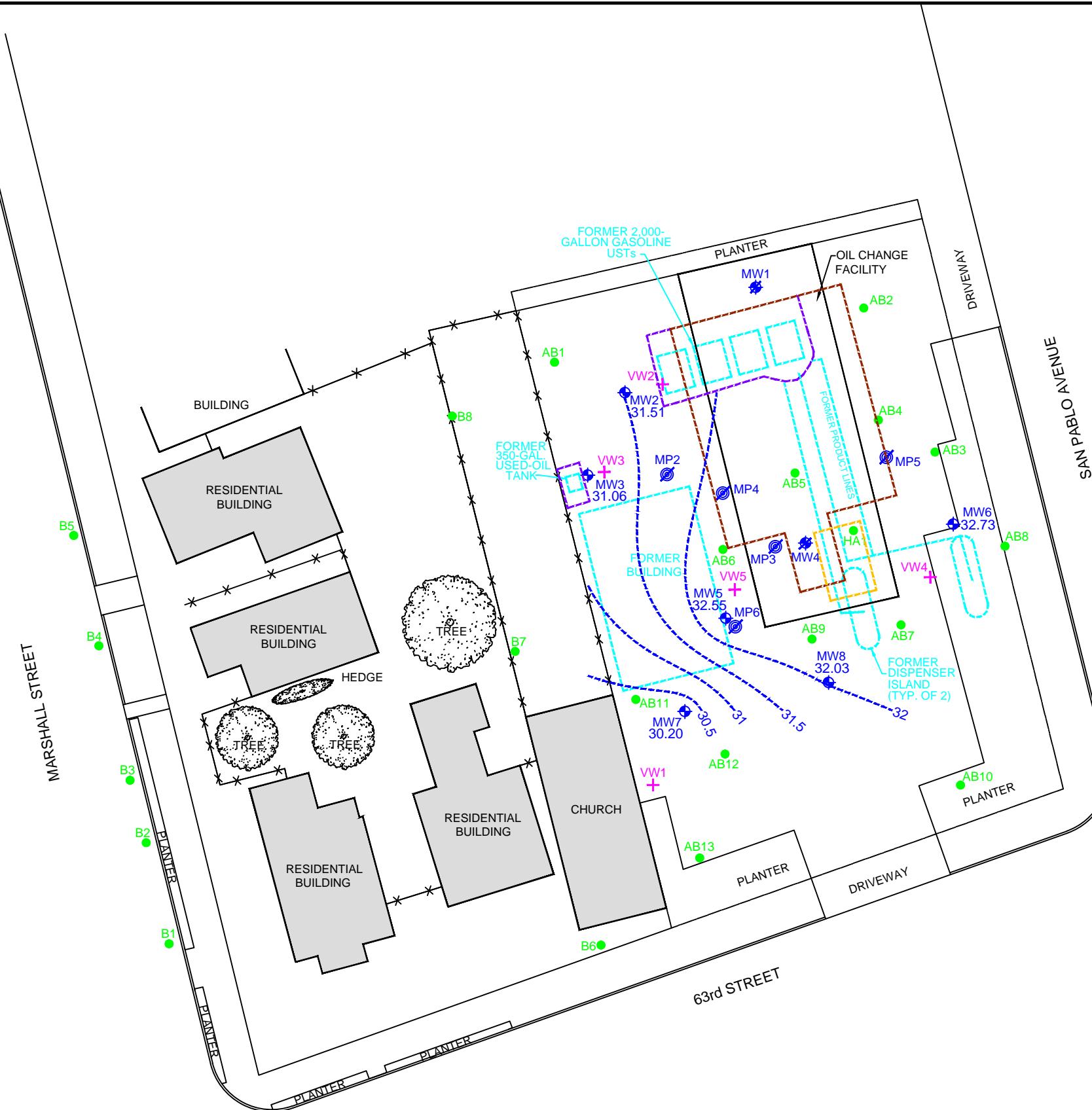
1999 Area of Excavation

PROJECT NO.

2783

PLATE

2



FN 2783 17 3QTR QM



GROUNDWATER ELEVATION MAP

August 11, 2017

FORMER MOBIL SERVICE STATION 99105
6301 San Pablo Avenue
Oakland, California

EXPLANATION

- MW8 ⬤ Groundwater Monitoring Well
- 32.03 Groundwater elevation in feet; datum is mean sea level
- MW4 ⬤ Destroyed Groundwater Monitoring Well
- MP6 ⬤ Destroyed Observation Well
- AB13 ● Soil Boring
- VW5 + Soil Vapor Sampling Well

32— Line of Equal Groundwater Elevation;
datum is mean sea level

1994 Areas of Excavation

1996 Area of Excavation

1999 Area of Excavation

PROJECT NO.
2783

PLATE
3

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Mobil Service Station 99105
6301 San Pablo Avenue
Oakland, California

Well ID	Sampling Date	TOC Elev (feet)	DTW (feet)	GW Elev (feet)	NAPL (feet)	TPHd ($\mu\text{g/L}$)	TPHg ($\mu\text{g/L}$)	MTBE 8021B ($\mu\text{g/L}$)	MTBE 8260B ($\mu\text{g/L}$)	B ($\mu\text{g/L}$)	T ($\mu\text{g/L}$)	E ($\mu\text{g/L}$)	X ($\mu\text{g/L}$)	TBA ($\mu\text{g/L}$)	EDB ($\mu\text{g/L}$)	1,2-DCA ($\mu\text{g/L}$)	ETBE ($\mu\text{g/L}$)	TAME ($\mu\text{g/L}$)	DIPE ($\mu\text{g/L}$)	Ethanol ($\mu\text{g/L}$)
Tier 1 Environmental Screening Levels (February 2016)						100	100	5	5	1	40	13	20	12	0.05	0.50	---	---	---	
Groundwater Monitoring Wells																				
MW1	03/14/96	32.79	4.50	28.29	No	450	610	---	---	0.75	0.54	1.5	59	---	---	---	---	---	---	
MW1	05/21/96	32.79	5.64	27.15	No	ND	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	
MW1	08/13/96	32.79	9.76	23.03	No	ND	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	
MW1	11/08/96	32.79	10.24	22.55	No	ND	ND	ND	---	ND	0.92	ND	2.1	---	---	---	---	---	---	
MW1	01/31/97	32.79	3.83	28.96	No	ND	ND	2.6	ND	ND	0.85	ND	ND	---	---	---	---	---	---	
MW1	04/22/97	32.79	9.14	23.65	No	ND	ND	ND	---	ND	ND	ND	ND	---	---	---	---	---	---	
MW1	07/29/97 a	32.79	10.18	22.61	No	60e	ND	36	---	0.84	0.95	ND	1.6	---	---	---	---	---	---	
MW1	10/09/97 a	32.79	10.46	22.33	No	56e	ND	ND	---	ND	ND	ND	ND	---	---	---	---	---	---	
MW1	01/23/98 a	32.79	3.95	28.84	No	33	ND	ND	---	ND	ND	ND	ND	---	---	---	---	---	---	
MW1	04/22/98	32.79	5.33	27.46	No	ND	ND	ND	---	ND	ND	ND	ND	---	---	---	---	---	---	
MW1	07/21/98	32.79	9.17	23.62	No	---	ND	ND	---	ND	ND	ND	ND	---	---	---	---	---	---	
MW1	10/20/98	32.79	10.41	22.38	No	---	ND	ND	---	ND	ND	ND	ND	---	---	---	---	---	---	
MW1	01/27/99	32.79	5.51	27.28	No	---	ND	ND	---	ND	ND	ND	ND	---	---	---	---	---	---	
MW1	Apr-99	32.79	Destroyed during construction activities.																	
MW2	03/14/96	32.80	4.51	28.29	No	250	560	---	---	2.0	0.96	4.3	11	---	---	---	---	---	---	
MW2	05/21/96	32.80	5.65	27.15	No	560	730	---	---	5.1	1.4	6.7	5.9	---	---	---	---	---	---	
MW2	08/13/96	32.80	10.14	22.66	No	380b	490	---	---	25	3.5	7.2	13	---	---	---	---	---	---	
MW2	11/08/96	32.80	10.70	22.10	No	160d	520	6.1	---	80	2.7	14	66	---	---	---	---	---	---	
MW2	01/31/97	32.80	3.84	28.96	No	130b	74	ND	---	ND	ND	ND	ND	---	---	---	---	---	---	
MW2	04/22/97	32.80	9.61	23.19	No	430	260	ND	---	2.7	ND	2.5	ND	---	---	---	---	---	---	
MW2	07/29/97 a	32.80	10.53	22.27	No	150d	320	ND	---	28	1.2	10	ND	---	---	---	---	---	---	
MW2	10/09/97 a	32.80	10.87	21.93	No	160b	460	2.6	---	43	2.8	2.0	2.6	---	---	---	---	---	---	
MW2	01/23/98 a	32.80	3.75	29.05	No	54	ND	ND	---	ND	ND	ND	ND	---	---	---	---	---	---	
MW2	04/22/98	32.80	5.36	27.44	No	540	180	ND	---	1.2	0.3	0.4	ND	---	---	---	---	---	---	
MW2	07/21/98	32.80	9.55	23.25	No	---	80	ND	---	8.9	2.1	0.6	2.5	---	---	---	---	---	---	
MW2	10/20/98	32.80	10.75	22.05	No	---	50	ND	---	0.8	0.7	ND	0.8	---	---	---	---	---	---	
MW2	01/27/99	32.80	5.53	27.27	No	---	ND	ND	---	0.6	ND	ND	ND	---	---	---	---	---	---	
MW2	07/27/99	32.80	6.20	26.60	No	---	ND	ND	---	ND	0.6	ND	ND	---	---	---	---	---	---	
MW2	12/08/99	32.80	9.98	22.82	No	---	ND	ND	---	1.2	0.43	ND	ND	---	---	---	---	---	---	
MW2	10/25/00	39.34	11.30	28.04	No	---	<20	<0.30	---	2.0	0.59	0.46	1.3	---	---	---	---	---	---	
MW2	01/15/01	39.34	9.41	29.93	No	---	<20	<0.30	---	<0.20	0.46	<0.20	<0.60	---	---	---	---	---	---	
MW2	04/10/01	39.34	6.16	33.18	No	---	23	<1.0	---	0.28	<0.20	<0.20	<0.60	---	---	---	---	---	---	
MW2	07/24/01	39.34	10.70	28.64	No	---	<50	<0.30	---	<0.20	0.93	<0.20	0.82	---	---	---	---	---	---	
MW2	11/27/01	39.34	10.15	29.19	No	---	<50	<0.30	---	1.2	0.22	<0.20	<0.60	---	---	---	---	---	---	
MW2	01/18/02	41.99	5.46	36.53	No	---	<50.0	1.40	---	<0.50	<0.50	<0.50	<0.50	---	---	---	---	---	---	
MW2	04/10/02	41.99	6.48	35.51	No	---	<50.0	1.80	---	<0.50	<0.50	<0.50	<0.50	---	---	---	---	---	---	
MW2	07/12/02	41.99	10.45	31.54	No	---	<50.0	<0.50	---	<0.50	<0.50	<0.50	<0.50	---	---	---	---	---	---	
MW2	10/14/02	41.99	11.46	30.53	No	---	<50.0	<0.5	---	<0.5	4.1	0.6	4.0	---	---	---	---	---	---	
MW2	01/20/03	41.99	5.39	36.60	No	---	<50.0	0.6	---	<0.50	<0.50	<0.50	<0.50	---	---	---	---	---	---	
MW2	04/28/03	41.99	5.87	36.12	No	---	<50.0	<0.50	---	<0.50	<0.50	<0.50	<0.50	---	---	---	---	---	---	
MW2	07/15/03	41.99	10.31	31.68	No	---	<50	<0.5	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---	---	

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Mobil Service Station 99105
6301 San Pablo Avenue
Oakland, California

Well ID	Sampling Date	TOC Elev (feet)	DTW (feet)	GW Elev (feet)	NAPL (feet)	TPHd ($\mu\text{g/L}$)	TPHg ($\mu\text{g/L}$)	MTBE 8021B ($\mu\text{g/L}$)	MTBE 8260B ($\mu\text{g/L}$)	B ($\mu\text{g/L}$)	T ($\mu\text{g/L}$)	E ($\mu\text{g/L}$)	X ($\mu\text{g/L}$)	TBA ($\mu\text{g/L}$)	EDB ($\mu\text{g/L}$)	1,2-DCA ($\mu\text{g/L}$)	ETBE ($\mu\text{g/L}$)	TAME ($\mu\text{g/L}$)	DIPE ($\mu\text{g/L}$)	Ethanol ($\mu\text{g/L}$)
Tier 1 Environmental Screening Levels (February 2016)						100	100	5	5	1	40	13	20	12	0.05	0.50	---	---	---	
MW2	10/08/03	41.99	11.20	30.79	No	---	<50	<0.5	---	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---	---	
MW2	01/15/04	41.99	5.36	36.63	No	---	63.3	1.0	---	0.70	<0.5	<0.5	<0.5	---	---	---	---	---	---	
MW2	Well not sampled from 2004 to 2010.																			
MW2	09/17/10	41.99	10.72	31.27	No	<50	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	
MW2	12/15/10	42.24	Well resurveyed.																	
MW2	09/14/11	42.24	10.02	32.22	No	110g	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	
MW2	01/18/12	42.24	11.24	31.00	No	---	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	
MW2	01/27/12	42.24	9.65	32.59	No	<50	---	---	---	---	---	---	---	---	---	---	---	---	---	
MW2	07/09/12	42.24	10.07	32.17	No	<50	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	
MW2	01/25/13	42.24	5.62	36.62	No	<50	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	
MW2	08/23/13	42.24	10.76	31.48	No	<50	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	
MW2	01/10/14	42.24	11.42	30.82	No	<50	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	
MW2	07/14/14	42.24	10.52	31.72	No	<49	<50	---	<0.50	<0.50	<0.50	<0.50	0.52	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	
MW2	08/18/14	42.24	11.06	31.18	No	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
MW2	11/06/14	42.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
MW2	01/23/15	42.24	6.10	36.14	No	<50	62g	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	
MW2	06/26/15	42.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
MW2	08/14/15	42.24	11.45	30.79	No	<50	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	
MW2	03/25/16	42.24	4.62	37.62	No	<45	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	
MW2	07/12/16	42.24	10.37	31.87	No	<50	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	
MW2	03/02/17	42.24	4.32	37.92	No	<45	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	
MW2	08/11/17	42.24	10.73	31.51	No	<45	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	
MW3	03/14/96	32.80	9.55	23.25	No	1,200	4,200	---	---	220	30	140	520	---	---	---	---	---	---	
MW3	05/21/96	32.80	10.16	22.64	No	2,800	8,500	---	---	710	110	440	1,700	---	---	---	---	---	---	
MW3	08/13/96	32.80	11.18	21.62	No	2,300c	5,000	---	---	430	ND	200	360	---	---	---	---	---	---	
MW3	11/08/96	32.80	11.51	21.29	No	2,900b	8,400	73	ND	890	82	790	1,700	---	---	---	---	---	---	
MW3	01/31/97	32.80	7.90	24.90	No	7,500b	16,000	ND	---	660	85	960	1,800	---	---	---	---	---	---	
MW3	04/22/97	32.80	10.64	22.16	No	2,700	8,000	200	ND	340	33	400	490	---	---	---	---	---	---	
MW3	07/29/97 a	32.80	11.36	21.44	No	2,300b	9,800	ND	---	330	ND	530	530	---	---	---	---	---	---	
MW3	10/09/97 a	32.80	11.52	21.28	No	2,600b	7,300	270	ND	300	ND	430	460	---	---	---	---	---	---	
MW3	01/23/98 a	32.80	7.50	25.30	No	2,300	6,100	ND	---	190	23	330	320	---	---	---	---	---	---	
MW3	04/22/98	32.80	6.81	25.99	No	2,600	4,900	ND	ND	140	12	250	230	---	---	---	---	---	---	
MW3	07/21/98	32.80	10.65	22.15	No	---	7,400	74	ND	250	16	400	370	---	---	---	---	---	---	
MW3	10/20/98	32.80	11.57	21.23	No	---	6,700	ND	ND	200	18	350	350	---	---	---	---	---	---	
MW3	01/27/99	32.80	9.11	23.69	No	---	3,100	13	---	74	4	94	39	---	---	---	---	---	---	
MW3	07/27/99	32.80	7.27	25.53	No	---	8,900	ND	---	170	21	360	440	---	---	---	---	---	---	
MW3	12/08/99	32.80	10.63	22.17	No	---	4,800	ND	---	94	13	170	210	---	---	---	---	---	---	
MW3	10/25/00	39.27	12.08	27.19	No	---	3,800	<50	<5	63	2.9	100	65	---	---	---	---	---	---	
MW3	01/15/01	39.27	10.29	28.98	No	---	4,300	<5.0	---	76	9.5	47	76	---	---	---	---	---	---	
MW3	04/10/01	39.27	10.11	29.16	No	---	2,700	<20	---	55	4.4	100	37	---	---	---	---	---	---	
MW3	07/24/01	39.27	11.57	27.70	No	---	3,100	<1.0	---	110	6.9	110	81	---	---	---	---	---	---	
MW3	11/27/01	39.27	10.93	28.34	No	---	2,400	<0.30	---	47	8.9	25	35	---	---	---	---	---	---	
MW3	01/18/02	41.71	9.47	32.24	No	---	1,130	13.6	---	15.3	2.30	42.0	24.6	---	---	---	---	---	---	

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Mobil Service Station 99105
6301 San Pablo Avenue
Oakland, California

Well ID	Sampling Date	TOC Elev (feet)	DTW (feet)	GW Elev (feet)	NAPL (feet)	TPHd ($\mu\text{g/L}$)	TPHg ($\mu\text{g/L}$)	MTBE 8021B ($\mu\text{g/L}$)	MTBE 8260B ($\mu\text{g/L}$)	B ($\mu\text{g/L}$)	T ($\mu\text{g/L}$)	E ($\mu\text{g/L}$)	X ($\mu\text{g/L}$)	TBA ($\mu\text{g/L}$)	EDB ($\mu\text{g/L}$)	1,2-DCA ($\mu\text{g/L}$)	ETBE ($\mu\text{g/L}$)	TAME ($\mu\text{g/L}$)	DIPE ($\mu\text{g/L}$)	Ethanol ($\mu\text{g/L}$)				
Tier 1 Environmental Screening Levels (February 2016)										100	100	5	5	1	40	13	20	12	0.05	0.50	---	---	---	---
MW3	04/10/02	41.71	10.14	31.57	No	---	916	11.2	---	35.1	3.00	22.5	13.8	---	---	---	---	---	---	---	---	---		
MW3	07/12/02	41.71	11.34	30.37	No	---	2,330	15.4	---	60.5	2.90	39.8	50.9	---	---	---	---	---	---	---	---	---		
MW3	10/14/02	41.71	12.10	29.61	No	---	2,550	<0.5	---	36.9	3.8	20.3	48.0	---	---	---	---	---	---	---	---	---		
MW3	01/20/03	41.71	9.20	32.51	No	---	1,750	10.7	---	20.4	304.0	60.7	22.0	---	---	---	---	---	---	---	---	---		
MW3	04/28/03	41.71	9.37	32.34	No	---	2,730	11.2	---	10.0	2.7	42.7	20.1	---	---	---	---	---	---	---	---	---		
MW3	07/15/03	41.71	11.15	30.56	No	---	1,790	5.6	---	68.8	3.6	39.0	44.7	---	---	---	---	---	---	---	---	---		
MW3	10/08/03	41.71	11.89	29.82	No	---	1,320	7.1	---	35.1	4.0	23.6	31.8	---	---	---	---	---	---	---	---	---		
MW3	01/15/04	41.71	9.16	32.55	No	---	791	3.4	---	24.4	1.3	40.1	14.7	---	---	---	---	---	---	---	---	---		
MW3	Well not sampled from 2004 to 2010.																							
MW3	09/17/10	41.71	11.46	30.25	No	99	2,500	---	<0.50	2.6	0.31f	1.8	1.8	9.8f	<0.50	1.9	<0.50	<0.50	0.17f	---	---	---		
MW3	12/15/10	42.18	Well resurveyed.																					
MW3	09/14/11	42.18	11.37	30.81	No	270g	1,200	---	<0.50	18	0.95	1.7	1.3	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<50		
MW3	01/18/12	42.18	12.11	30.07	No	---	910g	---	<0.50	0.89	<0.50	<0.50	0.88	23	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<50		
MW3	01/27/12	42.18	10.18	32.00	No	1,000g	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
MW3	07/09/12	42.18	11.15	31.03	No	420g	350g	---	<0.50	7.9	<0.50	<0.50	<0.50	9.1	<0.50	1.1	<0.50	<0.50	<0.50	<0.50	<0.50	---		
MW3	01/25/13	42.18	9.41	32.77	No	120g	390g	---	<0.50	2.8	<0.50	<0.50	<0.50	9.6	<0.50	1.1	<0.50	<0.50	<0.50	<0.50	<0.50	---		
MW3	08/23/13	42.18	11.67	30.51	No	310g	640	---	<0.50	1.1	<0.50	<0.50	<0.50	7.2	<0.50	0.90	<0.50	<0.50	<0.50	<0.50	<0.50	---		
MW3	01/10/14	42.18	12.13	30.05	No	160g	720g	---	<0.50	<0.50	<0.50	<0.50	<0.50	12	<0.50	1.1	<0.50	<0.50	<0.50	<0.50	<0.50	---		
MW3	07/14/14	42.18	11.55	30.63	No	320g	1,100g	---	<0.50	1.8	<0.50	<0.50	0.53	11	<0.50	1.1	<0.50	<0.50	<0.50	<0.50	<0.50	---		
MW3	08/18/14	42.18	11.83	30.35	No	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
MW3	11/06/14	42.18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
MW3	01/23/15	42.18	10.19	31.99	No	440g	750g	---	<0.50	5.6	1.7	0.79	1.0	8.1	<0.50	0.70	<0.50	<0.50	<0.50	<0.50	<0.50	---		
MW3	06/26/15	42.18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
MW3	08/14/15	42.18	12.25	29.93	No	120g	710g	---	<0.50	2.0	0.50	<0.50	1.3	<5.0	<0.50	1.3	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	
MW3	03/25/16	42.18	8.05	34.13	No	190g	320g	---	<0.50	1.6	<0.50	0.91	<0.50	<5.0	<0.50	1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	
MW3	07/12/16	42.18	11.47	30.71	No	230g	340g	---	<0.50	2.0	<0.50	<0.50	<0.50	5.5	<0.50	1.1	<0.50	<0.50	<0.50	<0.50	<0.50	---		
MW3	03/02/17	42.18	7.56	34.62	No	130g	350g	---	<0.50	2.5	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---		
MW3	08/11/17	42.18	11.12	31.06	No	170g	450g	---	<0.50	1.0	<0.50	<0.50	0.53	7.9	<0.50	0.75	<0.50	<0.50	<0.50	<0.50	<0.50	---		
MW4	03/14/96	31.50	4.92	26.58	No	3,500	12,000	---	---	2,200	140	880	2,000	---	---	---	---	---	---	---	---	---		
MW4	05/21/96	31.50	8.60	22.90	No	4,200	11,000	---	---	1,700	ND	930	470	---	---	---	---	---	---	---	---	---		
MW4	08/13/96	31.50	10.02	21.50	0.02	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
MW4	11/08/96	31.50	10.28	21.33	0.15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
MW4	01/31/97	31.50	7.88	23.62	No	8,200b	23,000	ND	---	980	68	1,100	1,400	---	---	---	---	---	---	---	---	---		
MW4	04/22/97	31.50	7.40	24.10	No	4,500	8,800	ND	---	950	ND	610	130	---	---	---	---	---	---	---	---	---		
MW4	07/29/97	31.50	9.85	21.74	0.12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
MW4	10/09/97	31.50	10.35	21.38	0.30	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
MW4	01/23/98	31.50	4.68	27.51	0.92	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
MW4	04/22/98	31.50	6.39	25.22	0.14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
MW4	07/21/98	31.50	7.10	24.55	0.20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
MW4	10/20/98	31.50	9.03	22.60	0.17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
MW4	01/27/99	31.50	5.37	26.18	0.07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
MW4	Apr-99	31.50	Destroyed during construction activities.										---	---	---	---	---	---	---	---	---	---		

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Mobil Service Station 99105
6301 San Pablo Avenue
Oakland, California

Well ID	Sampling Date	TOC Elev (feet)	DTW (feet)	GW Elev (feet)	NAPL (feet)	TPHd ($\mu\text{g/L}$)	TPHg ($\mu\text{g/L}$)	MTBE 8021B ($\mu\text{g/L}$)	MTBE 8260B ($\mu\text{g/L}$)	B ($\mu\text{g/L}$)	T ($\mu\text{g/L}$)	E ($\mu\text{g/L}$)	X ($\mu\text{g/L}$)	TBA ($\mu\text{g/L}$)	EDB ($\mu\text{g/L}$)	1,2-DCA ($\mu\text{g/L}$)	ETBE ($\mu\text{g/L}$)	TAME ($\mu\text{g/L}$)	DIPE ($\mu\text{g/L}$)	Ethanol ($\mu\text{g/L}$)
Tier 1 Environmental Screening Levels (February 2016)						100	100	5	5	1	40	13	20	12	0.05	0.50	---	---	---	
MW5	10/25/00	39.18	10.92	28.26	No	---	2,500	<20	---	79	3.8	66	<20	---	---	---	---	---	---	
MW5	01/15/01	39.18	8.32	30.86	No	---	3,900	<5.0	---	120	7.9	280	52	---	---	---	---	---	---	
MW5	04/10/01	39.18	7.21	31.97	No	---	8,000	<50	<5	280	4.4	410	100	---	---	---	---	---	---	
MW5	07/24/01	39.18	9.54	29.64	No	---	7,000	<1.0	---	360	7.4	380	67	---	---	---	---	---	---	
MW5	11/27/01	39.18	8.84	30.34	No	---	5,000	8.9	<2	64	11	340	52	---	---	---	---	---	---	
MW5	01/18/02	41.59	6.52	35.07	No	---	6,330	21.8	---	99.1	2.30	103	19.6	---	---	---	---	---	---	
MW5	04/10/02	41.59	7.20	34.39	No	---	2,140	<2.50	---	275	8.00	183	24.5	---	---	---	---	---	---	
MW5	07/12/02	41.59	8.83	32.76	No	---	3,940	20	<0.50	350	<0.50	268	14	---	---	---	---	---	---	
MW5	10/14/02	41.59	10.74	30.85	No	---	4,040	<2.5	---	98.5	9.0	169	29.0	---	---	---	---	---	---	
MW5	01/20/03	41.59	6.45	35.14	No	---	7,660	59	<0.50	421	10.0	743	96.0	---	---	---	---	---	---	
MW5	04/28/03	41.59	6.68	34.91	No	---	7,510	47	<0.50	403	5.5	524	50.5	---	---	---	---	---	---	
MW5	07/15/03	41.59	8.68	32.91	No	---	6,080	52.9	<2.5	406	19.8	412	34.7	---	---	---	---	---	---	
MW5	10/08/03	41.59	10.56	31.03	No	---	2,460	54.3	<0.5	160	12.8	173	31.7	---	---	---	---	---	---	
MW5	01/15/04	41.59	6.56	35.03	No	---	4,630	37.4	<0.5	181	6.0	312	38.5	---	---	---	---	---	---	
MW5	Well not sampled from 2004 to 2010.																			
MW5	09/17/10	41.59	9.99	31.60	No	5,700	6,600	---	<5.0	19	<5.0	16	1.4f	<100	<5.0	<5.0	<5.0	<5.0	<5.0	
MW5	12/15/10	41.86	Well resurveyed.																	
MW5	09/14/11	41.86	7.33	34.53	No	1,600g	7,200	---	<2.0	23	<2.0	8.6	<2.0	25	<2.0	<2.0	<2.0	<2.0	<200	
MW5	01/18/12	41.86	9.46	32.40	No	---	3,600g	---	<1.0	14	<1.0	7.6	<1.0	37	<1.0	<1.0	<1.0	<1.0	<100	
MW5	01/27/12	41.86	8.81	33.05	No	3,100g	---	---	---	---	---	---	---	---	---	---	---	---	---	
MW5	07/09/12	41.86	8.91	32.95	Sheen	29,000g	9,300g	---	<2.5	21	<2.5	6.9	<2.5	36	<2.5	<2.5	<2.5	<2.5	<2.5	
MW5	01/25/13	41.86	6.01	35.85	Sheen	22,000g	4,900g	---	<2.0	46	<2.0	4.5	<2.0	45	<2.0	<2.0	<2.0	<2.0	<2.0	
MW5	08/23/13	41.86	9.12	32.74	No	34,000g	17,000	---	<2.0	17	<2.0	6.3	<2.0	42	<2.0	<2.0	<2.0	<2.0	<2.0	
MW5	01/10/14	41.86	10.30	31.56	No	36,000g	62,000	---	<2.0	4.7	<2.0	3.5	<2.0	36	<2.0	<2.0	<2.0	<2.0	<2.0	
MW5	07/14/14	41.86	8.70	33.16	No	88,000g	90,000g	---	<5.0	100	<5.0	12	<5.0	<50	<5.0	<5.0	<5.0	<5.0	<5.0	
MW5	08/18/14	41.86	9.40	32.46	No	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
MW5	08/22/14	41.86	9.60	32.26	No	5,800g	5,100	---	<5.0	520	<5.0	320	81	<50	<5.0	<5.0	<5.0	<5.0	<5.0	
MW5	11/06/14	41.86	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
MW5	01/23/15	41.86	7.30	34.56	No	19,000g	3,300g	---	<5.0	130	<5.0	65	26	<50	<5.0	<5.0	<5.0	<5.0	<5.0	
MW5	06/26/15	41.86	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
MW5	08/14/15	41.86	9.87	31.99	Sheen	4,900g	10,000g	---	<2.0	27	<2.0	24	17	23	<2.0	<2.0	<2.0	<2.0	<2.0	
MW5	03/25/16	41.86	5.67	36.19	No	2,300g	4,500g	---	<2.0	91	<2.0	23	8.3	<20	<2.0	<2.0	<2.0	<2.0	<2.0	
MW5	07/12/16	41.86	8.90	32.96	Sheen	2,800g	1,500g	---	<2.0	54	<2.0	12	6.0	<20	<2.0	<2.0	<2.0	<2.0	<2.0	
MW5	03/02/17	41.86	5.14	36.72	No	3,400g	650g	---	<2.0	71	<2.0	8.5	5.2	<20	<2.0	<2.0	<2.0	<2.0	<2.0	
MW5	08/11/17	41.86	9.31	32.55	No	3,700g	1,300g	---	<1.0	2.9	1.2	1.5	3.4	12	<1.0	<1.0	<1.0	<1.0	<1.0	
MW6	08/18/14	42.00	Well surveyed.																	
MW6	08/18/14	42.00	13.12	28.88	No	350g	410g	---	0.60	<0.50	<0.50	<0.50	<0.50	14	<0.50	1.1	<0.50	<0.50	<0.50	
MW6	08/22/14	42.00	11.20	30.80	No	1,000g	1,500g	---	<0.50	<0.50	<0.50	<0.50	<0.50	12	<0.50	<0.50	<0.50	<0.50	<0.50	
MW6	11/06/14	42.00	10.77	31.23	No	640g	840g	---	0.80	<0.50	<0.50	<0.50	<0.50	14	<0.50	1.3	<0.50	<0.50	<0.50	
MW6	01/23/15	42.00	7.38	34.62	No	170g	120g	---	<0.50	<0.50	<0.50	<0.50	<0.50	6.7	<0.50	<0.50	<0.50	<0.50	<0.50	
MW6	06/26/15	42.00	9.11	32.89	No	160g	170g	---	<0.50	<0.50	<0.50	<0.50	<0.50	5.0	<0.50	<0.50	<0.50	<0.50	<0.50	
MW6	08/14/15	42.00	9.89	32.11	No	91g	120g	---	<0.50	<0.50	<0.50	<0.50	<0.50	5.0	<0.50	0.59	<0.50	<0.50	<0.50	
MW6	03/25/16	42.00	6.06	35.94	No	82g	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Mobil Service Station 99105
6301 San Pablo Avenue
Oakland, California

Well ID	Sampling Date	TOC Elev (feet)	DTW (feet)	GW Elev (feet)	NAPL (feet)	TPHd ($\mu\text{g/L}$)	TPHg ($\mu\text{g/L}$)	MTBE 8021B ($\mu\text{g/L}$)	MTBE 8260B ($\mu\text{g/L}$)	B ($\mu\text{g/L}$)	T ($\mu\text{g/L}$)	E ($\mu\text{g/L}$)	X ($\mu\text{g/L}$)	TBA ($\mu\text{g/L}$)	EDB ($\mu\text{g/L}$)	1,2-DCA ($\mu\text{g/L}$)	ETBE ($\mu\text{g/L}$)	TAME ($\mu\text{g/L}$)	DIPE ($\mu\text{g/L}$)	Ethanol ($\mu\text{g/L}$)
Tier 1 Environmental Screening Levels (February 2016)						100	100	5	5	1	40	13	20	12	0.05	0.50	---	---	---	
MW6	07/12/16	42.00	9.09	32.91	No	130g	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	
MW6	03/02/17	42.00	5.66	36.34	No	84	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	
MW6	08/11/17	42.00	9.27	32.73	No	57	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	
MW7	08/18/14	41.34	Well surveyed.																	
MW7	08/18/14	41.34	13.81	27.53	No	<51	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	21	<0.50	3.1	<0.50	<0.50	<0.50	
MW7	08/22/14	41.34	Dry	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
MW7	11/06/14	41.34	11.73	29.61	No	<50	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	15	<0.50	3.9	<0.50	<0.50	<0.50	
MW7	01/23/15	41.34	10.81	30.53	No	57g	140	---	<0.50	4.2	2.8	6.4	6.1	23	<0.50	5.1	<0.50	<0.50	<0.50	
MW7	06/26/15	41.34	10.28	31.06	No	49g	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	11	<0.50	3.4	<0.50	<0.50	<0.50	
MW7	08/14/15	41.34	11.41	29.93	No	<47	58g	---	<0.50	<0.50	<0.50	<0.50	<0.50	6.6	<0.50	2.5	<0.50	<0.50	<0.50	
MW7	03/25/16	41.34	9.72	31.62	No	55g	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	9.5	<0.50	1.9	<0.50	<0.50	<0.50	
MW7	07/12/16	41.34	10.66	30.68	No	88g	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	10	<0.50	2.0	<0.50	<0.50	<0.50	
MW7	03/02/17	41.34	5.83	35.51	No	<45	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	0.62	<0.50	<0.50	<0.50	
MW7	08/11/17	41.34	11.14	30.20	No	<45	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	1.2	<0.50	<0.50	<0.50	
MW8	08/18/14	41.30	Well surveyed.																	
MW8	08/18/14	41.30	12.18	29.12	No	440g	1,600	---	<0.50	39	<0.50	19	44	20	<0.50	0.78	<0.50	<0.50	<0.50	
MW8	08/22/14	41.30	13.10	28.20	No	350g	950g	---	<0.50	5.7	<0.50	4.2	6.4	31	<0.50	<0.50	<0.50	<0.50	<0.50	
MW8	11/06/14	41.30	10.96	30.34	No	260g	910g	---	<0.50	54	<0.50	25	11	34	<0.50	2.8	<0.50	<0.50	<0.50	
MW8	01/23/15	41.30	6.83	34.47	No	440g	1,000g	---	<0.50	110	1.8	19	10	20	<0.50	<0.50	<0.50	<0.50	<0.50	
MW8	06/26/15	41.30	8.46	32.84	No	650g	1,100	---	<2.0	100	<2.0	24	6.2	20	<2.0	<2.0	<2.0	<2.0	<2.0	
MW8	08/14/15	41.30	9.85	31.45	No	770g	2,000g	---	<0.50	92	1.2	14	13	15	<0.50	<0.50	<0.50	<0.50	<0.50	
MW8	03/25/16	41.30	8.18	33.12	No	1,200g	4,000g	---	<0.50	160	1.6	130	37	17	<0.50	<0.50	<0.50	<0.50	<0.50	
MW8	07/12/16	41.30	7.96	33.34	Sheen	1,500g	2,000	---	<2.5	160	<2.5	84	11	29	<2.5	<2.5	<2.5	<2.5	<2.5	
MW8	03/02/17	41.30	7.67	33.63	No	1,800g	1,500g	---	<2.5	270	<2.5	190	16	<25	<2.5	<2.5	<2.5	<2.5	<2.5	
MW8	08/11/17	41.30	9.27	32.03	No	1,400g	2,900g	---	<1.0	95	<1.0	48	4.2	36	<1.0	<1.0	<1.0	<1.0	<1.0	
Grab Groundwater Samples																				
AB10	03/05/98	---	2.0	---	No	---	200	ND	---	3.0	1.2	3.2	2.8	---	---	---	---	---	---	
AB1	03/05/98	---	4.5	---	No	---	1,600	ND	---	31	5.3	79	130	---	---	---	---	---	---	
AB2	03/05/98	---	8.0	---	No	---	ND	ND	---	ND	2.9	0.9	5.7	---	---	---	---	---	---	
AB3	03/05/98	---	5.5	---	No	---	6,800	230	---	680	100	1,500	2,300	---	---	---	---	---	---	
AB4	03/05/98	---	4.0	---	No	---	8,500	ND	---	240	ND	260	720	---	---	---	---	---	---	
AB6	03/05/98	---	4.5	---	No	---	12,000	ND	---	350	ND	310	100	---	---	---	---	---	---	
AB9	03/05/98	---	6.0	---	No	---	1,000	ND	---	57	12	44	93	---	---	---	---	---	---	
AB11	03/05/98	---	8.5	---	No	---	ND	ND	---	ND	ND	ND	ND	---	---	---	---	---	---	
AB12	03/05/98	---	6.0	---	No	---	8,800	37	---	660	50	630	940	---	---	---	---	---	---	
AB13	03/05/98	---	8.0	---	No	---	210	ND	---	11	0.8	10	15	---	---	---	---	---	---	
HA1	01/25/00	---	---	---	---	---	<500	<5.0	---	<0.3	<0.3	<0.3	<0.6	---	---	---	---	---	---	

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Mobil Service Station 99105
6301 San Pablo Avenue
Oakland, California

Well ID	Sampling Date	TOC Elev (feet)	DTW (feet)	GW Elev (feet)	NAPL (feet)	TPHd ($\mu\text{g/L}$)	TPHg ($\mu\text{g/L}$)	MTBE 8021B ($\mu\text{g/L}$)	MTBE 8260B ($\mu\text{g/L}$)	B ($\mu\text{g/L}$)	T ($\mu\text{g/L}$)	E ($\mu\text{g/L}$)	X ($\mu\text{g/L}$)	TBA ($\mu\text{g/L}$)	EDB ($\mu\text{g/L}$)	1,2-DCA ($\mu\text{g/L}$)	ETBE ($\mu\text{g/L}$)	TAME ($\mu\text{g/L}$)	DIPE ($\mu\text{g/L}$)	Ethanol ($\mu\text{g/L}$)
Tier 1 Environmental Screening Levels (February 2016)						100	100	5	5	1	40	13	20	12	0.05	0.50	---	---	---	
B1	11/18/10	---	Dry	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
B2	11/19/10	---	Dry	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
B3	11/19/10	---	8.45	---	---	<50	<50	---	<0.50	<0.50	<0.50	0.053f	0.21f	---	---	8.7	---	---	---	
B4	11/19/10	---	Dry	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
B5	11/18/10	---	8.95	---	---	<50	<50	---	<0.50	<0.50	<0.50	0.047f	0.21f	---	---	0.099f	---	---	---	
W-15-B6	06/19/12	---	15	---	---	<50	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	---	---	<0.50	<0.50	<0.50	
W-15-B7	06/19/12	---	15	---	---	<50	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	---	---	<0.50	<0.50	<0.50	
W-9.5-B8	06/19/12	---	9.5	---	---	230g	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	---	---	<0.50	<0.50	<0.50	
Former Used-Oil Tank Cavity Sample																				
WW1	01/04/96	---	3.00	---	No	---	ND	---	---	ND	ND	ND	ND	ND	---	---	---	---	---	
Former Gasoline Tank Cavity Sample																				
TW1	01/04/96	---	6.00	---	No	700	ND	---	---	ND	ND	ND	ND	ND	---	---	---	---	---	

TABLE 1
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Mobil Service Station 99105
6301 San Pablo Avenue
Oakland, California

Notes:	Adapted from ETIC's Report of Groundwater Monitoring, Third Quarter 2010.
TOC Elev.	= Top of casing elevation.
DTW	= Depth to water.
GW Elev.	= Groundwater elevation.
NAPL	= Non-aqueous phase liquid.
TPHd	= Total petroleum hydrocarbons as diesel analyzed using EPA Method 8015B.
TPHg	= Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8015B.
MTBE 8020/8021	= Methyl tertiary butyl ether analyzed using EPA Method 8020 or 8021B.
MTBE 8240/8260	= Methyl tertiary butyl ether analyzed using EPA Method 8260B or 8240.
BTEX	= Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8260B.
DIPE	= Di-isopropyl ether analyzed using EPA Method 8260B.
ETBE	= Ethyl tertiary butyl ether analyzed using EPA Method 8260B.
TAME	= Tertiary amyl methyl ether analyzed using EPA Method 8260B.
TBA	= Tertiary butyl alcohol analyzed using EPA Method 8260B.
1,2-DCA	= 1,2-dichloroethane analyzed using EPA Method 8260B.
EDB	= 1,2-dibromoethane analyzed using EPA Method 8260B.
Ethanol	= Ethanol analyzed using EPA Method 8260B.
ND	= Not detected at or above the laboratory reporting limit.
µg/L	= Micrograms per liter.
<	= Less than the stated laboratory reporting limit.
---	= Not analyzed/Not applicable.
a	= Well sampled using no-purge method.
b	= Diesel and unidentified hydrocarbons <C15.
c	= Diesel and unidentified hydrocarbons <C15>C25.
d	= Diesel and unidentified hydrocarbons >C20.
e	= Unidentified hydrocarbons >C18.
f	= Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit.
g	= Chromatographic pattern does not match that of the specified standard.

TABLE 2
WELL CONSTRUCTION DETAILS
Former Mobil Service Station 99105
6301 San Pablo Avenue
Oakland, California

Well ID	Well Installation Date	TOC Elevation (feet)	Borehole Diameter (inches)	Total Depth of Boring (feet bgs)	Well Depth (feet bgs)	Casing Diameter (inches)	Well Casing Material	Screened Interval (feet bgs)	Slot Size (inches)	Filter Pack Interval (feet bgs)	Filter Pack Material
MW1	03/01/96	32.79	10	21.5	21.5	4	PVC	5-20	0.010	4.5-21.5	#12 Sand
MW2	03/01/96	42.24	10	21.5	21.5	4	PVC	5-20	0.010	4.5-21.5	#12 Sand
MW3	03/01/96	42.18	10	21.5	21.5	4	PVC	5-20	0.010	4.5-21.5	#12 Sand
MW4	03/01/96	31.50	10	26.5	25	4	PVC	5-25	0.010	4.5-21.5	#12 Sand
MW5	09/06/00	41.86	10	21.5	21.5	4	PVC	5-20	0.010	4-21.5	#2/12 Sand
MW6	08/11/14	42.00	12	18	15	4	PVC	5-15	0.020	4-15	#2/12 Sand
MW7	08/11/14	41.34	10	16	15	2	PVC	5-15	0.020	4-15	#2/12 Sand
MW8	08/15/14	41.30	12	16	15	4	PVC	5-15	0.020	4-15	#2/12 Sand
VW1	11/01/10	---	4	6	6	0.25	Stainless Steel	5.25-5.75	0.0057	5-6	#2/12 Sand
VW2	11/02/10	---	4	6	6	0.25	Stainless Steel	5.25-5.75	0.0057	5-6	#2/12 Sand
VW3	11/01/10	---	4	6	6	0.25	Stainless Steel	5.25-5.75	0.0057	5-6	#2/12 Sand
VW4	11/02/10	---	4	6	6	0.25	Stainless Steel	5.25-5.75	0.0057	5-6	#2/12 Sand
VW5	11/02/10	---	4	6	6	0.25	Stainless Steel	5.25-5.75	0.0057	5-6	#2/12 Sand
MP1	11/16/98	---	1.5	23	23	1	PVC	4-23	0.020	2.5-23	#3 Sand
MP2	11/16/98	---	1.5	20	20	1	PVC	5-20	0.020	4-20	#3 Sand
MP3	11/16/98	---	1.5	18	18	1	PVC	3-18	0.020	2-18	#3 Sand
MP4	11/16/98	---	1.5	18	18	1	PVC	3-18	0.020	2-18	#3 Sand
MP5	11/16/98	---	1.5	18	18	1	PVC	3-18	0.020	2-18	#3 Sand
MP6	11/16/98	---	1.5	17.5	17.5	1	PVC	3.5-17.5	0.020	2.5-17.5	#3 Sand
SVS1	06/18/12	38.78	3.25	5.5	5	0.25	PVC/Stainless Steel	4.75-5	0.010	4.5-5	#3 Sand
SVS2	06/18/12	41.05	3.25	5.5	5	0.25	PVC/Stainless Steel	4.75-5	0.010	4.5-5	#3 Sand
SVS3	06/18/12	42.64	3.25	5.5	5	0.25	PVC/Stainless Steel	4.75-5	0.010	4.5-5	#3 Sand

Notes:

- TOC = Top of casing.
- PVC = Polyvinyl chloride.
- bgs = Below ground surface.
- = No applicable.

TABLE 3
CUMULATIVE PID READINGS, VAPOR WELLS
Former Mobil Service Station 99105
6301 San Pablo Avenue
Oakland, California

Sampling Date	VW1 (ppm)	VW2 (ppm)	VW3 (ppm)	VW4 (ppm)	VW5 (ppm)
08/01/14	559	118	146	>7,000	500
08/18/14	317	1.9	85.8	1,780	395
08/22/14	62	0.4	122	>9,000	473
12/31/14	75.2	Wet	178.1	1,499	165.4
01/23/15	1.2	2.2	64	3,680	18
06/26/15	Wet	0.7	79.5	2,319	Wet
08/14/15	Wet	6.2	16.6	2,740	Wet
03/25/16	18.3	Wet	69.3	1,447	Wet
07/12/16	7.5	1.1	46.2	2,244	Wet
03/02/17	Wet	Wet	0.5	1,345	Wet
08/11/17	Wet	0.8	1.6	1,075	Wet

Notes:
ppm = Parts per million.

APPENDIX A

GROUNDWATER SAMPLING PROTOCOL

GROUNDWATER SAMPLING PROTOCOL

The static water level and separate-phase product level, if present, in each well that contained water and/or separate-phase product are measured with a ORS Interface Probe, which is accurate to the nearest 0.01 foot. To calculate groundwater elevations and evaluate groundwater gradient, depth to water (DTW) levels are subtracted from top of casing elevations.

Groundwater samples collected for subjective evaluation are collected by gently lowering approximately half the length of a clean Teflon® or polypropylene bailer past the air-water interface (if possible) and collecting a sample from near the surface of the water in the well. The samples are checked for measurable free-phase hydrocarbons or sheen. If appropriate, free-phase hydrocarbons are removed from the well.

Before water samples are collected from the groundwater monitoring wells, the wells are purged until a minimum of three well casing volumes is purged and stabilization of the temperature, pH, and conductivity is obtained. Water samples from the wells that do not obtain stability of the temperature, pH, and conductivity are considered to be "grab samples." The quantity of water purged from each well is calculated as follows:

$$1 \text{ well casing volume} = \pi r^2 h(7.48) \text{ where:}$$

r	=	radius of the well casing in feet
h	=	column of water in the well in feet (depth to bottom - depth to water)
7.48	=	conversion constant from cubic feet to gallons
π	=	ratio of the circumference of a circle to its diameter

Gallons of water purged/gallons in 1 well casing volume = well casing volumes removed.

The wells are purged using a submersible pump. Prior to use at the site and between wells the pump is cleaned.

Five gallons of water are placed in three 15-gallon tubs. Liquinox detergent is added to the first tub of water. The pump and tubing are submerged in the first tub and the water is pumped through the pump. The process is repeated in the second and third tub.

After purging, each well is allowed to recharge to at least 80% of the initial water level. Water samples from wells that do not recover at least 80% (due to slow recharging of the well) between purging and sampling are considered to be "grab samples." Water samples are collected with a new, disposable Teflon® or polypropylene bailer. The groundwater is carefully poured into selected sample containers (40-milliliter [ml] glass vials, 1,000-ml glass amber bottles, etc.), which are filled so as to produce a positive meniscus.

Depending on the required analysis, each sample container is preserved with hydrochloric acid, nitric acid, etc., or it is preservative free. The type of preservative used for each sample is specified on the Chain-of-Custody record.

Each vial and glass amber bottle is sealed with a cap containing a Teflon® septum, and subsequently examined for air bubbles to avoid headspace, which would allow volatilization to occur. The samples are promptly transported in iced storage in a thermally-insulated ice chest, accompanied by a Chain-of-Custody record, to a California state-certified laboratory.

Water generated during purging and cleaning is contained and transported off site for treatment and disposal.

APPENDIX B

FIELD DATA SHEETS

**SV assessment
FIELD WORK REQUEST**

Site #:	99105	Cardno ERI Project #:	2783
Address:	6301 San Pablo Ave.	Date:	3rd Quarter 2017
City	Oakland	Project Manager:	Scott Perkins

WORK REQUESTED

PID Following VW wells (use compressor and tedlar bags)

Previous results in ppm are listed below for your info.

Bring Vacuum Pump, PID, Tedlar Bag(s), Silicon Tubing, Poly Tubing

Point	3/25/2016	7/12/2016	3/2/2017	/ /2017
VW1	18.3	7.5	Wet	wet
VW2	Wet	1.1	Wet	0.8
VW3	69.3	46.2	0.5	1.6
VW4	1447	2244	1,345	1,075
VW5	Wet	Wet	Wet	wet



Daily Field Report

Project ID #: Former Exxon Mobil # 99105 Cardno Job # 2783
Subject: 3Q Monitoring & Sampling Date: 8/11/10
Equipment Used: DTW Tape, Decan, GW Pump Sheet: of
Name(s): Scott Sauer, Alex Chairez
Time Arrived On Site: 0600 Time Departed Site: 1215 Total Travel: 2

Arrived on site @ 0600

- Went over HASP/JSA's during tailgate safety meeting
- Opened all wells on site for 30+ minutes
- Gauged and ^{Purged} ~~sampled~~ all wells.

MW2 was purged and sampled early due to auto shop opening

- Alex performed vapor testing

VW1 wet

VW2 0.8

VW3 1.6

VW4 1,075

VW5 wet

- Sampled rest of wells after 2 hours w/o BDT recharge

- disposed of decan H₂O in truck tank

- cleaned site and vehicles

off site @ 1215

~~Potable water~~

Water used

Decan H₂O = 30 gal

Purge H₂O = 48 gal

Total H₂O = 77.5 gall

Cardno Groundwater M+S Depth To Water

Case Volume= (TD-DTW) x F

$$80\% \text{ Recharge} = ((TD - DTW) \times 0.8) - TD \times (-1.0)$$

Where F= 0.163 for 2" inside-diameter well casing
0.652 for 4" inside-diameter well casing
1.457 for 6" inside-diameter well casing

Project

Location

Date

Name(s)

2783

ation
99105

8/11/17

55, AC

GROUNDWATER SAMPLING FIELD LOG

Client Name: Exxon Mobil
 Location: 99105
 Field Crew: 98, AC

Cardno Job #: 27B3Date: 8/11/17 Page 1 of 2

Case Volume = (TD - DTW) x F where F =

- 0.163 for 2" inside-diameter well casing
- 0.652 for 4" inside-diameter well casing
- 1.457 for 6" inside-diameter well casing

Well ID	Time	Case Volume	Purge Volume	Temp	Cond	pH	Post-Purge DTW	80% Recharge	BB	40mil	Amber	DO	ORP	Comments Well Box Condition
---------	------	-------------	--------------	------	------	----	----------------	--------------	----	-------	-------	----	-----	--------------------------------

MW2	0723	5.12	6				14.62	13.60						
	0723		ZERO	17.7	5.58	6.01		NO						dry @ 8.75 gal sampled early due to shop opening
	0726		6	18.5	302	6.37		Sample Date: 8/11/17						
			12	—	—	—		Sample Name: MW2						
			18	—	—	—		Sample Time: 0805						
MW3	0741	4.59	5				15.62	13.13						
	0741		ZERO	16.8	651	6.42	15.62	NO						dry @ 6.25 gal
	0744		5	17.2	601	6.66		Sample Date: 8/11/17						
	—		10	—	—	—		Sample Name: MW3						
	—		15	—	—	—		Sample Time: 1020						
MW5	0856	6.99	7				17.35	15.40						
	0856		ZERO	17.8	634	6.86		NO						dry @ 15 gal
	0900		7	19.3	610	6.87		Sample Date: 8/11/17						
	0905		14	18.3	626	6.73		Sample Name: MW5						
	—		21	—	—	—		Sample Time: 1030						
MW7	0916	0.71	1				13.95	13.60						
	0916		ZERO	18.4	646	6.85		NO						dry @ 2 gal
	0917		1	18.6	650	6.62		Sample Date: 8/11/17						
	0918		2	18.5	646	6.71		Sample Name: MW7						
	—		3	—	—	—		Sample Time: 1120						
MW8	0941	0.82	3+4				13.13	12.55						dry @ 6 gal
	0941		ZERO	19.2	627	6.73		NO						
	0944		14	20.8	618	6.73		Sample Date: 8/11/17						
	—		18	—	—	—		Sample Name: MW8						
	—		21	—	—	—		Sample Time: 1030 1145						

Additional Remarks:

GROUNDWATER SAMPLING FIELD LOG

Client Name: Baxon MobilLocation: 99105Field Crew: SS, ACCardno Job #: 2783Date: 8/11/17 Page 2 of 2

Case Volume = (TD - DTW) x F where F =

0.163 for 2" inside-diameter well casing

0.652 for 4" inside-diamter well casing

1.457 for 6" inside-diamter well casing

Well ID	Time	Case Volume	Purge Volume	Temp	Cond	pH	Post-Purge DTW	80% Recharge	BB	40mil	Amber	DO	ORP	Comments	Well Box Condition
---------	------	-------------	--------------	------	------	----	----------------	--------------	----	-------	-------	----	-----	----------	--------------------

MW6	0956	3.40	4				14.19	13.78							
	0955		ZERO	17.4	672	7.16									dry @ 95 gal
	0957		4	18.1	649	7.13									Sample Date: <u>8/11/17</u>
	0959		8	17.7	662	6.97									Sample Name: <u>MW6</u>
	-		12	-	-	-									Sample Time: <u>1200</u>
			ZERO												Sample Date:
															Sample Name:
															Sample Time:
			ZERO												Sample Date:
															Sample Name:
															Sample Time:
			ZERO												Sample Date:
															Sample Name:
															Sample Time:
			ZERO												Sample Date:
															Sample Name:
															Sample Time:
			ZERO												Sample Date:
															Sample Name:
															Sample Time:

Additional Remarks:

WATER SAMPLING SITE STATUS

Date: 8/11/17

Inspected by: SS

Cardno Job No.: 2783

Station No.: 99105

Site Address: 6301 San Pablo Ave, Oakland CA

N = Not repairable in time available-see comments.

Y = Yes.

s = Soil.

g = Graffiti on walls.

R = Repaired-see comments

N = No.

w = Water.

v = Vagrants (or evidence of).

ok = No action needed.

APPENDIX C

LABORATORY ANALYTICAL REPORT



WORK ORDER NUMBER: 17-08-1218



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Cardno

Client Project Name: ExxonMobil 99105/022783C

Attention: Scott Perkins

601 North McDowell Blvd.
Petaluma, CA 94954-2312

Cecile L. deGuia

Approved for release on 08/29/2017 by:
Cecile deGuia
Project Manager

ResultLink ▶

Email your PM ▶

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Calscience

Contents

Client Project Name: ExxonMobil 99105/022783C
Work Order Number: 17-08-1218

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	3.2 EPA 8015B (M) TPH Gasoline (Aqueous)	7
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Work Order Narrative

Work Order: 17-08-1218Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 08/15/17. They were assigned to Work Order 17-08-1218.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.



Sample Summary

Client:	Cardno 601 North McDowell Blvd. Petaluma, CA 94954-2312	Work Order:	17-08-1218
		Project Name:	ExxonMobil 99105/022783C
		PO Number:	022783C
		Date/Time Received:	08/15/17 12:35
		Number of Containers:	62

Attn: Scott Perkins

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
MW2	17-08-1218-1	08/11/17 08:05	10	Aqueous
MW3	17-08-1218-2	08/11/17 10:20	10	Aqueous
MW5	17-08-1218-3	08/11/17 10:30	10	Aqueous
MW6	17-08-1218-4	08/11/17 12:00	10	Aqueous
MW7	17-08-1218-5	08/11/17 11:25	10	Aqueous
MW8	17-08-1218-6	08/11/17 11:45	10	Aqueous
QCBB	17-08-1218-7	08/11/17 08:00	2	Aqueous

Analytical Report

Cardno
 601 North McDowell Blvd.
 Petaluma, CA 94954-2312

Date Received: 08/15/17
 Work Order: 17-08-1218
 Preparation: EPA 3510C
 Method: EPA 8015B (M)
 Units: ug/L

Project: ExxonMobil 99105/022783C

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW2	17-08-1218-1-J	08/11/17 08:05	Aqueous	GC 45	08/11/17	08/17/17 01:10	170816B04S
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>			<u>Qualifiers</u>
TPH as Diesel		ND	45		1.00		SG
<u>Surrogate</u>		<u>Rec. (%)</u>	<u>Control Limits</u>				<u>Qualifiers</u>
n-Octacosane		115	68-140				
MW3	17-08-1218-2-J	08/11/17 10:20	Aqueous	GC 45	08/11/17	08/17/17 01:31	170816B04S
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>			<u>Qualifiers</u>
TPH as Diesel		170	45		1.00		SG,HD
<u>Surrogate</u>		<u>Rec. (%)</u>	<u>Control Limits</u>				<u>Qualifiers</u>
n-Octacosane		128	68-140				
MW5	17-08-1218-3-J	08/11/17 10:30	Aqueous	GC 45	08/11/17	08/17/17 01:54	170816B04S
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>			<u>Qualifiers</u>
TPH as Diesel		3700	45		1.00		SG,HD
<u>Surrogate</u>		<u>Rec. (%)</u>	<u>Control Limits</u>				<u>Qualifiers</u>
n-Octacosane		124	68-140				
MW6	17-08-1218-4-J	08/11/17 12:00	Aqueous	GC 45	08/11/17	08/17/17 02:16	170816B04S
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>			<u>Qualifiers</u>
TPH as Diesel		57	45		1.00		SG,HD
<u>Surrogate</u>		<u>Rec. (%)</u>	<u>Control Limits</u>				<u>Qualifiers</u>
n-Octacosane		126	68-140				
MW7	17-08-1218-5-J	08/11/17 11:25	Aqueous	GC 45	08/11/17	08/17/17 02:39	170816B04S
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>			<u>Qualifiers</u>
TPH as Diesel		ND	45		1.00		SG
<u>Surrogate</u>		<u>Rec. (%)</u>	<u>Control Limits</u>				<u>Qualifiers</u>
n-Octacosane		124	68-140				

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Cardno
601 North McDowell Blvd.
Petaluma, CA 94954-2312

Date Received: 08/15/17
Work Order: 17-08-1218
Preparation: EPA 3510C
Method: EPA 8015B (M)
Units: ug/L

Project: ExxonMobil 99105/022783C

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW8	17-08-1218-6-J	08/11/17 11:45	Aqueous	GC 45	08/11/17	08/17/17 03:02	170816B04S

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
TPH as Diesel	1400	45	1.00	SG,HD
<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>	

n-Octacosane 107 68-140

Method Blank	099-15-304-1819	N/A	Aqueous	GC 45	08/16/17	08/16/17 22:15	170816B04S
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
TPH as Diesel	ND	50	1.00	
<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>	

n-Octacosane 111 68-140

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Cardno
 601 North McDowell Blvd.
 Petaluma, CA 94954-2312

Date Received: 08/15/17
 Work Order: 17-08-1218
 Preparation: EPA 5030C
 Method: EPA 8015B (M)
 Units: ug/L

Project: ExxonMobil 99105/022783C

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW2	17-08-1218-1-G	08/11/17 08:05	Aqueous	GC 42	08/17/17	08/17/17 16:07	170817L049
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>			<u>Qualifiers</u>
TPH as Gasoline		ND	50		1.00		
<u>Surrogate</u>		<u>Rec. (%)</u>	<u>Control Limits</u>		<u>Qualifiers</u>		
1,4-Bromofluorobenzene		58	38-134				
MW3	17-08-1218-2-G	08/11/17 10:20	Aqueous	GC 42	08/17/17	08/18/17 02:37	170817L049
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>			<u>Qualifiers</u>
TPH as Gasoline		450	50		1.00		HD
<u>Surrogate</u>		<u>Rec. (%)</u>	<u>Control Limits</u>		<u>Qualifiers</u>		
1,4-Bromofluorobenzene		78	38-134				
MW5	17-08-1218-3-G	08/11/17 10:30	Aqueous	GC 42	08/17/17	08/18/17 04:21	170817L049
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>			<u>Qualifiers</u>
TPH as Gasoline		1300	250		5.00		HD
<u>Surrogate</u>		<u>Rec. (%)</u>	<u>Control Limits</u>		<u>Qualifiers</u>		
1,4-Bromofluorobenzene		74	38-134				
MW6	17-08-1218-4-G	08/11/17 12:00	Aqueous	GC 42	08/17/17	08/17/17 17:52	170817L049
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>			<u>Qualifiers</u>
TPH as Gasoline		ND	50		1.00		
<u>Surrogate</u>		<u>Rec. (%)</u>	<u>Control Limits</u>		<u>Qualifiers</u>		
1,4-Bromofluorobenzene		63	38-134				
MW7	17-08-1218-5-G	08/11/17 11:25	Aqueous	GC 42	08/17/17	08/17/17 18:27	170817L049
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>			<u>Qualifiers</u>
TPH as Gasoline		ND	50		1.00		
<u>Surrogate</u>		<u>Rec. (%)</u>	<u>Control Limits</u>		<u>Qualifiers</u>		
1,4-Bromofluorobenzene		63	38-134				

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Cardno
601 North McDowell Blvd.
Petaluma, CA 94954-2312

Date Received: 08/15/17
Work Order: 17-08-1218
Preparation: EPA 5030C
Method: EPA 8015B (M)
Units: ug/L

Project: ExxonMobil 99105/022783C

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW8	17-08-1218-6-G	08/11/17 11:45	Aqueous	GC 42	08/17/17	08/18/17 03:12	170817L049

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
TPH as Gasoline	2900	50	1.00	HD
<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>	

1,4-Bromofluorobenzene 121 38-134

Method Blank	099-12-436-11579	N/A	Aqueous	GC 42	08/17/17	08/17/17 15:32	170817L049
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
TPH as Gasoline	ND	50	1.00	
<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>	

1,4-Bromofluorobenzene 62 38-134

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Cardno
601 North McDowell Blvd.
Petaluma, CA 94954-2312

Date Received: 08/15/17
Work Order: 17-08-1218
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 99105/022783C

Page 1 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID			
MW2	17-08-1218-1-A	08/11/17 08:05	Aqueous	GC/MS L	08/23/17	08/24/17 03:54	170823L039			
<hr/>										
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>					
Benzene		ND	0.50	1.00						
Toluene		ND	0.50	1.00						
Ethylbenzene		ND	0.50	1.00						
o-Xylene		ND	0.50	1.00						
p/m-Xylene		ND	0.50	1.00						
Xylenes (total)		ND	0.50	1.00						
Methyl-t-Butyl Ether (MTBE)		ND	0.50	1.00						
Tert-Butyl Alcohol (TBA)		ND	5.0	1.00						
Diisopropyl Ether (DIPE)		ND	0.50	1.00						
Ethyl-t-Butyl Ether (ETBE)		ND	0.50	1.00						
Tert-Amyl-Methyl Ether (TAME)		ND	0.50	1.00						
1,2-Dibromoethane		ND	0.50	1.00						
1,2-Dichloroethane		ND	0.50	1.00						
<hr/>										
<u>Surrogate</u>		<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>						
1,4-Bromofluorobenzene		92	68-120							
Dibromofluoromethane		103	80-127							
1,2-Dichloroethane-d4		100	80-128							
Toluene-d8		100	80-120							

 RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Cardno
601 North McDowell Blvd.
Petaluma, CA 94954-2312

Date Received: 08/15/17
Work Order: 17-08-1218
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 99105/022783C

Page 2 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW3	17-08-1218-2-A	08/11/17 10:20	Aqueous	GC/MS L	08/23/17	08/24/17 04:25	170823L039
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>			<u>Qualifiers</u>
Benzene		1.0	0.50		1.00		
Toluene		ND	0.50		1.00		
Ethylbenzene		ND	0.50		1.00		
o-Xylene		ND	0.50		1.00		
p/m-Xylene		0.53	0.50		1.00		
Xylenes (total)		0.53	0.50		1.00		
Methyl-t-Butyl Ether (MTBE)		ND	0.50		1.00		
Tert-Butyl Alcohol (TBA)		7.9	5.0		1.00		
Diisopropyl Ether (DIPE)		ND	0.50		1.00		
Ethyl-t-Butyl Ether (ETBE)		ND	0.50		1.00		
Tert-Amyl-Methyl Ether (TAME)		ND	0.50		1.00		
1,2-Dibromoethane		ND	0.50		1.00		
1,2-Dichloroethane		0.75	0.50		1.00		
<u>Surrogate</u>		<u>Rec. (%)</u>	<u>Control Limits</u>		<u>Qualifiers</u>		
1,4-Bromofluorobenzene		94	68-120				
Dibromofluoromethane		96	80-127				
1,2-Dichloroethane-d4		94	80-128				
Toluene-d8		102	80-120				

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Cardno
601 North McDowell Blvd.
Petaluma, CA 94954-2312

Date Received: 08/15/17
Work Order: 17-08-1218
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 99105/022783C

Page 3 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW5	17-08-1218-3-B	08/11/17 10:30	Aqueous	GC/MS L	08/24/17	08/24/17 16:07	170824L036

Parameter	Result	RL	DF	Qualifiers
Benzene	2.9	1.0	2.00	
Toluene	1.2	1.0	2.00	
Ethylbenzene	1.5	1.0	2.00	
o-Xylene	ND	1.0	2.00	
p/m-Xylene	3.4	1.0	2.00	
Xylenes (total)	3.4	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	2.00	
Tert-Butyl Alcohol (TBA)	12	10	2.00	
Diisopropyl Ether (DIPE)	ND	1.0	2.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.0	2.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.0	2.00	
1,2-Dibromoethane	ND	1.0	2.00	
1,2-Dichloroethane	ND	1.0	2.00	
Surrogate	Rec. (%)	Control Limits	Qualifiers	
1,4-Bromofluorobenzene	97	68-120		
Dibromofluoromethane	92	80-127		
1,2-Dichloroethane-d4	96	80-128		
Toluene-d8	104	80-120		

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 Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Cardno
601 North McDowell Blvd.
Petaluma, CA 94954-2312

Date Received: 08/15/17
Work Order: 17-08-1218
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 99105/022783C

Page 4 of 8

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW6	17-08-1218-4-A	08/11/17 12:00	Aqueous	GC/MS L	08/23/17	08/24/17 05:26	170823L039

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1.00	
Toluene	ND	0.50	1.00	
Ethylbenzene	ND	0.50	1.00	
o-Xylene	ND	0.50	1.00	
p/m-Xylene	ND	0.50	1.00	
Xylenes (total)	ND	0.50	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1.00	
Tert-Butyl Alcohol (TBA)	ND	5.0	1.00	
Diisopropyl Ether (DIPE)	ND	0.50	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1.00	
1,2-Dibromoethane	ND	0.50	1.00	
1,2-Dichloroethane	ND	0.50	1.00	
Surrogate	Rec. (%)	Control Limits	Qualifiers	
1,4-Bromofluorobenzene	94	68-120		
Dibromofluoromethane	93	80-127		
1,2-Dichloroethane-d4	97	80-128		
Toluene-d8	100	80-120		

 Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Cardno
601 North McDowell Blvd.
Petaluma, CA 94954-2312

Date Received: 08/15/17
Work Order: 17-08-1218
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 99105/022783C

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW7	17-08-1218-5-A	08/11/17 11:25	Aqueous	GC/MS L	08/23/17	08/24/17 05:57	170823L039

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1.00	
Toluene	ND	0.50	1.00	
Ethylbenzene	ND	0.50	1.00	
o-Xylene	ND	0.50	1.00	
p/m-Xylene	ND	0.50	1.00	
Xylenes (total)	ND	0.50	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1.00	
Tert-Butyl Alcohol (TBA)	ND	5.0	1.00	
Diisopropyl Ether (DIPE)	ND	0.50	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1.00	
1,2-Dibromoethane	ND	0.50	1.00	
1,2-Dichloroethane	1.2	0.50	1.00	
Surrogate	Rec. (%)	Control Limits	Qualifiers	
1,4-Bromofluorobenzene	95	68-120		
Dibromofluoromethane	95	80-127		
1,2-Dichloroethane-d4	98	80-128		
Toluene-d8	101	80-120		

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Cardno
601 North McDowell Blvd.
Petaluma, CA 94954-2312

Date Received: 08/15/17
Work Order: 17-08-1218
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 99105/022783C

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW8	17-08-1218-6-B	08/11/17 11:45	Aqueous	GC/MS L	08/24/17	08/24/17 16:38	170824L036

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Toluene	ND	1.0	2.00	
Ethylbenzene	48	1.0	2.00	
o-Xylene	ND	1.0	2.00	
p/m-Xylene	4.2	1.0	2.00	
Xylenes (total)	4.2	1.0	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	1.0	2.00	
Tert-Butyl Alcohol (TBA)	36	10	2.00	
Diisopropyl Ether (DIPE)	ND	1.0	2.00	
Ethyl-t-Butyl Ether (ETBE)	ND	1.0	2.00	
Tert-Amyl-Methyl Ether (TAME)	ND	1.0	2.00	
1,2-Dibromoethane	ND	1.0	2.00	
1,2-Dichloroethane	ND	1.0	2.00	
<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>	
1,4-Bromofluorobenzene	95	68-120		
Dibromofluoromethane	87	80-127		
1,2-Dichloroethane-d4	95	80-128		
Toluene-d8	104	80-120		

MW8	17-08-1218-6-A	08/11/17 11:45	Aqueous	GC/MS L	08/23/17	08/24/17 06:27	170823L039
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qualifiers</u>
Benzene	95	5.0	10.0	
<u>Surrogate</u>	<u>Rec. (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>	
1,4-Bromofluorobenzene	96	68-120		
Dibromofluoromethane	91	80-127		
1,2-Dichloroethane-d4	94	80-128		
Toluene-d8	101	80-120		

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Cardno
601 North McDowell Blvd.
Petaluma, CA 94954-2312

Date Received: 08/15/17
Work Order: 17-08-1218
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 99105/022783C

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-884-1414	N/A	Aqueous	GC/MS L	08/23/17	08/23/17 23:19	170823L039
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>			<u>Qualifiers</u>
Benzene		ND	0.50		1.00		
Toluene		ND	0.50		1.00		
Ethylbenzene		ND	0.50		1.00		
o-Xylene		ND	0.50		1.00		
p/m-Xylene		ND	0.50		1.00		
Xylenes (total)		ND	0.50		1.00		
Methyl-t-Butyl Ether (MTBE)		ND	0.50		1.00		
Tert-Butyl Alcohol (TBA)		ND	5.0		1.00		
Diisopropyl Ether (DIPE)		ND	0.50		1.00		
Ethyl-t-Butyl Ether (ETBE)		ND	0.50		1.00		
Tert-Amyl-Methyl Ether (TAME)		ND	0.50		1.00		
1,2-Dibromoethane		ND	0.50		1.00		
1,2-Dichloroethane		ND	0.50		1.00		
<u>Surrogate</u>		<u>Rec. (%)</u>	<u>Control Limits</u>		<u>Qualifiers</u>		
1,4-Bromofluorobenzene		94	68-120				
Dibromofluoromethane		96	80-127				
1,2-Dichloroethane-d4		97	80-128				
Toluene-d8		100	80-120				

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Analytical Report

Cardno
601 North McDowell Blvd.
Petaluma, CA 94954-2312

Date Received: 08/15/17
Work Order: 17-08-1218
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 99105/022783C

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-884-1415	N/A	Aqueous	GC/MS L	08/24/17	08/24/17 11:19	170824L036
<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>DF</u>			<u>Qualifiers</u>
Benzene		ND	0.50		1.00		
Toluene		ND	0.50		1.00		
Ethylbenzene		ND	0.50		1.00		
o-Xylene		ND	0.50		1.00		
p/m-Xylene		ND	0.50		1.00		
Xylenes (total)		ND	0.50		1.00		
Methyl-t-Butyl Ether (MTBE)		ND	0.50		1.00		
Tert-Butyl Alcohol (TBA)		ND	5.0		1.00		
Diisopropyl Ether (DIPE)		ND	0.50		1.00		
Ethyl-t-Butyl Ether (ETBE)		ND	0.50		1.00		
Tert-Amyl-Methyl Ether (TAME)		ND	0.50		1.00		
1,2-Dibromoethane		ND	0.50		1.00		
1,2-Dichloroethane		ND	0.50		1.00		
<u>Surrogate</u>		<u>Rec. (%)</u>	<u>Control Limits</u>		<u>Qualifiers</u>		
1,4-Bromofluorobenzene		91	68-120				
Dibromofluoromethane		92	80-127				
1,2-Dichloroethane-d4		93	80-128				
Toluene-d8		99	80-120				

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

Quality Control - Spike/Spike Duplicate

Cardno Date Received: 08/15/17
 601 North McDowell Blvd. Work Order: 17-08-1218
 Petaluma, CA 94954-2312 Preparation: EPA 5030C
 Method: EPA 8015B (M)

Project: ExxonMobil 99105/022783C Page 1 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number				
MW2	Sample	Aqueous	GC 42	08/17/17	08/17/17 16:07	170817S030				
MW2	Matrix Spike	Aqueous	GC 42	08/17/17	08/17/17 16:42	170817S030				
MW2	Matrix Spike Duplicate	Aqueous	GC 42	08/17/17	08/17/17 17:17	170817S030				
Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	ND	2000	2040	102	1992	100	68-122	2	0-18	



RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - Spike/Spike Duplicate

Cardno Date Received: 08/15/17
 601 North McDowell Blvd. Work Order: 17-08-1218
 Petaluma, CA 94954-2312 Preparation: EPA 5030C
 Method: EPA 8260B

Project: ExxonMobil 99105/022783C Page 2 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number				
MW2	Sample	Aqueous	GC/MS L	08/23/17	08/24/17 03:54	170823S023				
MW2	Matrix Spike	Aqueous	GC/MS L	08/23/17	08/24/17 08:11	170823S023				
MW2	Matrix Spike Duplicate	Aqueous	GC/MS L	08/23/17	08/24/17 08:42	170823S023				
Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	10.00	9.010	90	8.375	84	75-125	7	0-20	
Toluene	ND	10.00	9.020	90	8.474	85	75-125	6	0-20	
Ethylbenzene	ND	10.00	9.595	96	8.805	88	75-125	9	0-20	
o-Xylene	ND	10.00	9.430	94	8.774	88	75-127	7	0-20	
p/m-Xylene	ND	20.00	18.97	95	17.39	87	75-125	9	0-20	
Methyl-t-Butyl Ether (MTBE)	ND	10.00	7.179	72	8.320	83	71-131	15	0-20	
Tert-Butyl Alcohol (TBA)	ND	50.00	76.63	153	80.27	161	20-180	5	0-40	
Diisopropyl Ether (DIPE)	ND	10.00	8.731	87	8.846	88	64-136	1	0-20	
Ethyl-t-Butyl Ether (ETBE)	ND	10.00	7.921	79	8.587	86	73-133	8	0-20	
Tert-Amyl-Methyl Ether (TAME)	ND	10.00	7.776	78	8.432	84	75-125	8	0-20	
1,2-Dibromoethane	ND	10.00	7.991	80	8.677	87	75-126	8	0-20	
1,2-Dichloroethane	ND	10.00	7.871	79	8.054	81	75-127	2	0-20	

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RPD: Relative Percent Difference. CL: Control Limits



Calscience

Quality Control - Spike/Spike Duplicate

Cardno Date Received: 08/15/17
 601 North McDowell Blvd. Work Order: 17-08-1218
 Petaluma, CA 94954-2312 Preparation: EPA 5030C
 Method: EPA 8260B

Project: ExxonMobil 99105/022783C Page 3 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
17-08-1612-2	Sample	Aqueous	GC/MS L	08/24/17	08/24/17 12:31	170824S007
17-08-1612-2	Matrix Spike	Aqueous	GC/MS L	08/24/17	08/24/17 15:05	170824S007
17-08-1612-2	Matrix Spike Duplicate	Aqueous	GC/MS L	08/24/17	08/24/17 15:36	170824S007

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	2000	1858	93	2030	101	75-125	9	0-20	
Toluene	ND	2000	1836	92	1982	99	75-125	8	0-20	
Ethylbenzene	ND	2000	1846	92	1962	98	75-125	6	0-20	
o-Xylene	ND	2000	1817	91	1956	98	75-127	7	0-20	
p/m-Xylene	ND	4000	3689	92	3936	98	75-125	6	0-20	
Methyl-t-Butyl Ether (MTBE)	ND	2000	1836	92	1895	95	71-131	3	0-20	
Tert-Butyl Alcohol (TBA)	ND	10000	9805	98	9350	93	20-180	5	0-40	
Diisopropyl Ether (DIPE)	ND	2000	1902	95	1947	97	64-136	2	0-20	
Ethyl-t-Butyl Ether (ETBE)	ND	2000	1836	92	1935	97	73-133	5	0-20	
Tert-Amyl-Methyl Ether (TAME)	ND	2000	1843	92	1923	96	75-125	4	0-20	
1,2-Dibromoethane	ND	2000	1991	100	2045	102	75-126	3	0-20	
1,2-Dichloroethane	ND	2000	1820	91	1910	95	75-127	5	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

Quality Control - LCS/LCSD

Cardno Date Received: 08/15/17
 601 North McDowell Blvd. Work Order: 17-08-1218
 Petaluma, CA 94954-2312 Preparation: EPA 3510C
 Method: EPA 8015B (M)
 Project: ExxonMobil 99105/022783C Page 1 of 4

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number			
099-15-304-1819	LCS	Aqueous	GC 45	08/16/17	08/16/17 22:37	170816B04S			
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	2000	2157	108	2181	109	69-123	1	0-30	

Quality Control - LCS

Cardno 601 North McDowell Blvd. Petaluma, CA 94954-2312	Date Received: Work Order: Preparation: Method:	08/15/17 17-08-1218 EPA 5030C EPA 8015B (M)
Project: ExxonMobil 99105/022783C		Page 2 of 4

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-436-11579	LCS	Aqueous	GC 42	08/17/17	08/17/17 14:57	170817L049
<u>Parameter</u>		<u>Spike Added</u>		<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>
TPH as Gasoline		2000		2042	102	78-120

Quality Control - LCS

Cardno Date Received: 08/15/17
 601 North McDowell Blvd. Work Order: 17-08-1218
 Petaluma, CA 94954-2312 Preparation: EPA 5030C
 Method: EPA 8260B

Project: ExxonMobil 99105/022783C Page 3 of 4

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
Parameter		Aqueous	GC/MS L	08/23/17	08/23/17 22:48	170823L039
Benzene		10.00	9.513	95	80-120	73-127
Toluene		10.00	9.471	95	80-120	73-127
Ethylbenzene		10.00	9.720	97	80-120	73-127
o-Xylene		10.00	9.748	97	80-120	73-127
p/m-Xylene		20.00	19.24	96	80-120	73-127
Methyl-t-Butyl Ether (MTBE)		10.00	9.303	93	75-123	67-131
Tert-Butyl Alcohol (TBA)		50.00	49.01	98	80-120	73-127
Diisopropyl Ether (DIPE)		10.00	9.681	97	73-121	65-129
Ethyl-t-Butyl Ether (ETBE)		10.00	9.612	96	76-124	68-132
Tert-Amyl-Methyl Ether (TAME)		10.00	9.537	95	80-120	73-127
1,2-Dibromoethane		10.00	9.704	97	80-120	73-127
1,2-Dichloroethane		10.00	9.306	93	80-122	73-129

Total number of LCS compounds: 12

Total number of ME compounds: 0

Total number of ME compounds allowed: 1

LCS ME CL validation result: Pass

Quality Control - LCS

Cardno Date Received: 08/15/17
 601 North McDowell Blvd. Work Order: 17-08-1218
 Petaluma, CA 94954-2312 Preparation: EPA 5030C
 Method: EPA 8260B

Project: ExxonMobil 99105/022783C Page 4 of 4

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
Parameter		Aqueous	GC/MS L	08/24/17	08/24/17 10:34	170824L036
Benzene		10.00	10.92	109	80-120	73-127
Toluene		10.00	10.83	108	80-120	73-127
Ethylbenzene		10.00	10.82	108	80-120	73-127
o-Xylene		10.00	10.72	107	80-120	73-127
p/m-Xylene		20.00	21.33	107	80-120	73-127
Methyl-t-Butyl Ether (MTBE)		10.00	9.588	96	75-123	67-131
Tert-Butyl Alcohol (TBA)		50.00	46.95	94	80-120	73-127
Diisopropyl Ether (DIPE)		10.00	10.99	110	73-121	65-129
Ethyl-t-Butyl Ether (ETBE)		10.00	10.31	103	76-124	68-132
Tert-Amyl-Methyl Ether (TAME)		10.00	10.20	102	80-120	73-127
1,2-Dibromoethane		10.00	10.45	104	80-120	73-127
1,2-Dichloroethane		10.00	9.911	99	80-122	73-129

Total number of LCS compounds: 12

Total number of ME compounds: 0

Total number of ME compounds allowed: 1

LCS ME CL validation result: Pass



Sample Analysis Summary Report

Work Order: 17-08-1218

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<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
EPA 8015B (M)	EPA 3510C	682	GC 45	1
EPA 8015B (M)	EPA 5030C	1063	GC 42	2
EPA 8260B	EPA 5030C	316	GC/MS L	2



Location 1: 7440 Lincoln Way, Garden Grove, CA 92841

Location 2: 7445 Lampson Avenue, Garden Grove, CA 92841

Work Order: 17-08-1218

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Qualifiers	Definition
AZ	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
B	Analyte was present in the associated method blank.
BA	The MS/MSD RPD was out of control due to suspected matrix interference.
BB	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
DF	Reporting limits elevated due to matrix interferences.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
GE	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
HD	Chromat. profile inconsistent with pattern(s) of ref. fuel stdns.
HO	High concentration matrix spike recovery out of limits
HT	Analytical value calculated using results from associated tests.
HX	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS was in control.
IL	Relative percent difference out of control.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
LD	Analyte presence was not confirmed by second column or GC/MS analysis.
LP	The LCS and/or LCSD recoveries for this analyte were above the upper control limit. The associated sample was non-detected. Therefore, the sample data was reported without further clarification.
LQ	LCS recovery above method control limits.
LR	LCS recovery below method control limits.
ND	Parameter not detected at the indicated reporting limit.
QO	Compound did not meet method-described identification guidelines. Identification was based on additional GC/MS characteristics.
RU	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
SG	A silica gel cleanup procedure was performed.
SN	See applicable analysis comment. Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis. Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time. A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.



800-322-5555 www.gso.com

(1218)

Ship From
CAL SCIENCE- CONCORD
ALAN KEMP
5063 COMMERCIAL CIRCLE
#H
CONCORD, CA 94520

Tracking #: 537227824

NPS



Ship To
CEL
SAMPLE RECEIVING
7440 LINCOLN WAY
GARDEN GROVE, CA 92841

ORC
GARDEN GROVE

A

COD: \$0.00
Weight: 0 lb(s)
Reference:
CARDNO ERI
Delivery Instructions:

D92845A



Signature Type: REQUIRED

70818571

Print Date: 8/14/2017 4:10 PM

Package 2 of 2

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer. Securely attach this label to your package, do not cover the barcode.

SAMPLE RECEIPT CHECKLIST

COOLER / OF /CLIENT: CardnoDATE: 08 / 15 / 2017

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC6 (CF: +0.2°C); Temperature (w/o CF): 1.6 °C (w/ CF): 1.8 °C; Blank Sample

- Sample(s) outside temperature criteria (PM/APM contacted by: _____)
- Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling
- Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: Air FilterChecked by: 836

CUSTODY SEAL:

Cooler	<input checked="" type="checkbox"/> Present and Intact	<input type="checkbox"/> Present but Not Intact	<input type="checkbox"/> Not Present	<input type="checkbox"/> N/A	Checked by: <u>836</u>
Sample(s)	<input type="checkbox"/> Present and Intact	<input type="checkbox"/> Present but Not Intact	<input checked="" type="checkbox"/> Not Present	<input type="checkbox"/> N/A	Checked by: <u>1140</u>

SAMPLE CONDITION:

	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sampling date <input type="checkbox"/> Sampling time <input type="checkbox"/> Matrix <input type="checkbox"/> Number of containers			
<input type="checkbox"/> No analysis requested <input type="checkbox"/> Not relinquished <input type="checkbox"/> No relinquished date <input type="checkbox"/> No relinquished time			
Sampler's name indicated on COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and in good condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers for analyses requested	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient volume/mass for analyses requested	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples received within holding time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aqueous samples for certain analyses received within 15-minute holding time			
<input type="checkbox"/> pH <input type="checkbox"/> Residual Chlorine <input type="checkbox"/> Dissolved Sulfide <input type="checkbox"/> Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation chemical(s) noted on COC and/or sample container	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unpreserved aqueous sample(s) received for certain analyses			
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Total Metals <input type="checkbox"/> Dissolved Metals			
Container(s) for certain analysis free of headspace	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Volatile Organics <input type="checkbox"/> Dissolved Gases (RSK-175) <input type="checkbox"/> Dissolved Oxygen (SM 4500)			
<input type="checkbox"/> Carbon Dioxide (SM 4500) <input type="checkbox"/> Ferrous Iron (SM 3500) <input type="checkbox"/> Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:

(Trip Blank Lot Number: 1140) Aqueous: VOA VOAh VOAna₂ 100PJ 100PJna₂ 125AGB 125AGBh 125AGBp 125PB 125PBznna 250AGB 250CGB 250CGBs 250PB 250PBn 500AGB 500AGJ 500AGJs 500PB 1AGB 1AGBna₂ 1AGBs 1PB 1PBna _____ _____ _____ _____ Solid: 4ozCGJ 8ozCGJ 16ozCGJ Sleeve (_____) EnCores® (_____) TerraCores® (_____) _____ Air: Tedlar™ Canister Sorbent Tube PUF _____ Other Matrix (_____) : _____

Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/Resealable Bag

Preservative: b = buffered, f = filtered, h = HCl, n = HNO₃, na = NaOH, na₂ = Na₂S₂O₃, p = H₃PO₄, Labeled/Checked by: 1140s = H₂SO₄, u = ultra-pure, x = Na₂SO₃+NaHSO₄.H₂O, znna = Zn (CH₃COO)₂ + NaOHReviewed by: 1017

APPENDIX D

WASTE DISPOSAL DOCUMENTATION

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Document No. <i>ERI278320170811</i>	2. Page 1 of
GENERATOR	3. Generator's Name and Mailing address ExxonMobil Environmental Services/ c/o Cardno 601 N. McDowell Blvd, Petaluma, CA 94954		STRATOR 6301 SAN PABLO AVE. OAKLAND, CA Em # 99105		
	4. Generator's Phone: (707) 766 2000				
	5. Transporter 1 Company Name <i>CARDNO</i>		6. US EPA ID Number	A. State Transporter's ID 707-766-2000	
	7. Transporter 2 Company Name		8. US EPA ID Number	B. Transporter 1 Phone	
	9. Designated Facility Name and Site Address INSTRAT INC. 1105 C. AIRPORT ROAD RIO VISTA, CA 94571		10. US EPA ID Number	C. State Transporter's ID	
				D. Transporter 2 Phone	
				E. State Facility's ID	
				F. Facility's Phone 530-753-1829	
	11. WASTE DESCRIPTION		12. Containers	13. Total Quantity	14. Unit Wt./Vol.
	a. NON-HAZARDOUS PURGE WATER		01 TRAILER	88	GAL
b.					
c.					
d.					
G. Additional Descriptions for Materials Listed Above		H. Handling Codes for Wastes Listed Above			
15. Special Handling Instructions and Additional Information					
16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.					
Printed/Typed Name		Signature		Date	
<i>ON BEHALF OF EXXONMOBIL</i> <i>SCOTT PERKINS</i>		<i>Art Pal</i>		Month Day Year 08 11 17	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Date	
<i>Scott Sanko</i>		<i>SS</i>		Month Day Year 08 31 17	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Date	
19. Discrepancy Indication Space					
20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.					
Printed/Typed Name		Signature		Date	
<i>INSTRAT INC.</i> <i>Belen Gonzalez</i>		<i>Belen Gonzalez</i>		Month Day Year 08 31 17	

