ExxonMobil
Environmental Services Company
4096 Piedmont Avenue #194
Oakland, California 94611
510 547 8196 Telephone
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Jennifer C. Sedlachek
Project Manager

ExxonMobil

February 19, 2014

Ms. Karel Detterman
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Room 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 copy of the letter report entitled ***Semi-Annual Groundwater Monitoring Report, First Quarter 2014,*** dated February 19, 2014, for the above-referenced site. The report was prepared by Cardno ERI of Petaluma, California, and details activities at the subject site.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

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

Sincerely,

Jennifer C. Sedlachek
Project Manager

Attachment: Cardno ERI's ***Semi-Annual Groundwater Monitoring Report, First Quarter 2014,*** dated February 19, 2014

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

w/o attachment
Ms. Rebekah A. Westrup, Cardno ERI

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February 19, 2014
Cardno ERI 2783C.Q141

Ms. Jennifer C. Sedlachek
ExxonMobil Environmental Services Company
4096 Piedmont Avenue, #194
Oakland, California 94611

SUBJECT **Semi-Annual Groundwater Monitoring Report, First Quarter 2014**
Former Mobil Service Station 99105
6301 San Pablo Avenue, Oakland, California

INTRODUCTION

At the request of ExxonMobil Environmental Services (EMES), on behalf of ExxonMobil Oil Corporation, Cardno ERI performed first quarter 2014 groundwater monitoring and sampling activities at the subject site. Relevant plates, tables, and appendices are included at the end of this report. Currently, the site operates as an oil change facility.

GROUNDWATER MONITORING AND SAMPLING SUMMARY

Gauging and sampling date:		01/10/14
Wells gauged and sampled:		MW2, MW3, MW5
Presence of NAPL:		None
Laboratory:		Calscience Environmental Laboratories, 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:		59 gallons purge and decon water delivered to Instrat, Inc. of Rio Vista, California, on 01/15/14

RESULTS AND CONCLUSIONS

The groundwater flow was towards the west and well MW3.

Maximum petroleum hydrocarbon concentrations were reported in well MW5, located downgradient of the former dispenser islands. Sheen was observed in well MW5 during third quarter 2012 and first quarter 2013; however, neither sheen nor NAPL were observed during the third quarter 2013 or first quarter 2014 groundwater monitoring and sampling events. TPHd (36,000 µg/L) and TPHg (62,000 µg/L) concentrations in well MW5 increased and benzene (4.7 µg/L) concentrations decreased during first quarter 2014 from third quarter 2013 concentrations. The TPHd result was footnoted by the laboratory as not matching the specified standard. The TPHd and TPHg concentrations likely represent weathered fuels. Reported concentrations in wells MW2 and MW3 show stable or declining trends. Previous work (B6 through B8) adequately delineated dissolved-phase concentrations off site to the west (Cardno ERI, 2012).

WORK IN PROGRESS AND RECOMMENDATIONS

Cardno ERI submitted a *Corrective Action Plan Addendum* (Cardno ERI, 2013a) proposing the installation of an additional well (MW6) and performing a targeted DPE event using well MW5 and proposed well MW6. The Alameda County Health Care Services Agency conditionally approved the work and requested the installation of additional wells in a letter dated September 24, 2013. In response, Cardno ERI submitted the *Second Addendum to Corrective Action Plan* (Cardno ERI, 2013b), proposing the installation of monitoring wells MW7 and MW8. Cardno ERI recommends performing the work proposed in the *Corrective Action Plan Addendum* (Cardno ERI, 2013a) and the *Second Addendum to Corrective Action Plan* (Cardno ERI, 2013b) and continuing semi-annual groundwater monitoring and sampling.

LIMITATIONS

For documents cited that were not generated by Cardno ERI, the data taken from those documents is used "as is" and is assumed to be accurate. Cardno ERI 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 Ms. Rebekah A. Westrup, Cardno ERI's project manager for this site, at rebekah.westrup@cardno.com or at (707) 766-2000 with any questions regarding this report.

Sincerely,

SCANNED IMAGE

SCANNED IMAGE

PROFESSIONAL GEOLOGIST
DAVID RICHARD DANIELS
No. 8737
EXP. 7/31/15
STATE OF CALIFORNIA

Christine M. Capwell
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for Cardno ERI
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Enclosures:

References
Acronym List

Plate 1	Site Vicinity Map
Plate 2	Select Analytical Results
Plate 3	Groundwater Elevation Map
Table 1A	Cumulative Groundwater Monitoring and Sampling Data
Table 1B	Additional Cumulative Groundwater Monitoring and Sampling Data
Table 2	Well Construction Details
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

REFERENCES

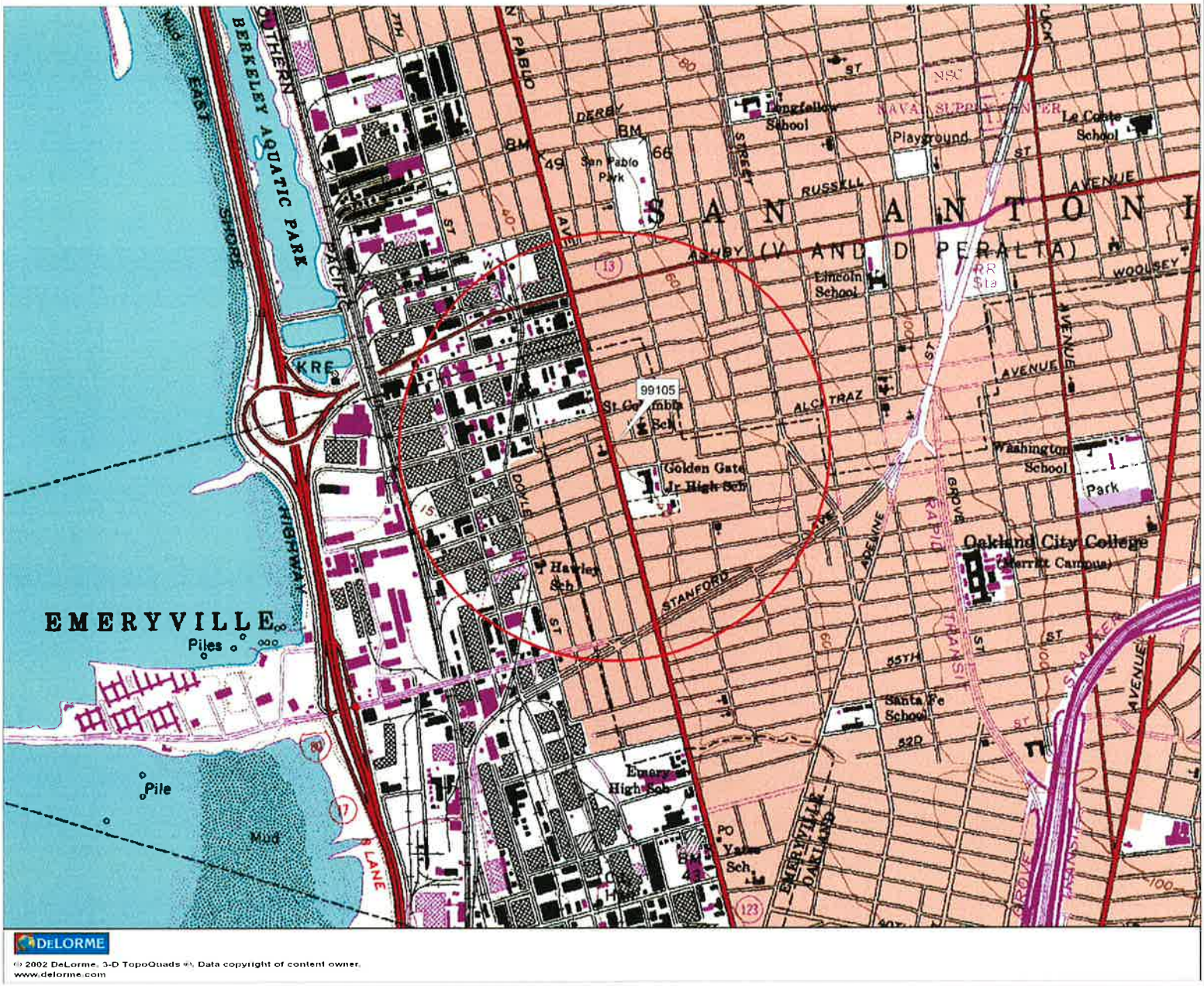
Cardno ERI. July 26, 2012. *Assessment Report, Former Mobil Service Station 99105, 6301 San Pablo Avenue, Oakland, California.*

Cardno ERI. May 14, 2013a. *Corrective Action Plan Addendum, Former Mobil Service Station 99105, 6301 San Pablo Avenue, Oakland, California.*

Cardno ERI. December 12, 2013b. *Second Addendum to Corrective Action Plan, Former Mobil Service Station 99105, 6301 San Pablo Avenue, Oakland, California.*

ACRONYM LIST

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



FN 2783TOPO

EXPLANATION

1/2-mile radius circle

N

APPROXIMATE SCALE

0 0.5 1 mile

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

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SITE VICINITY MAP

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

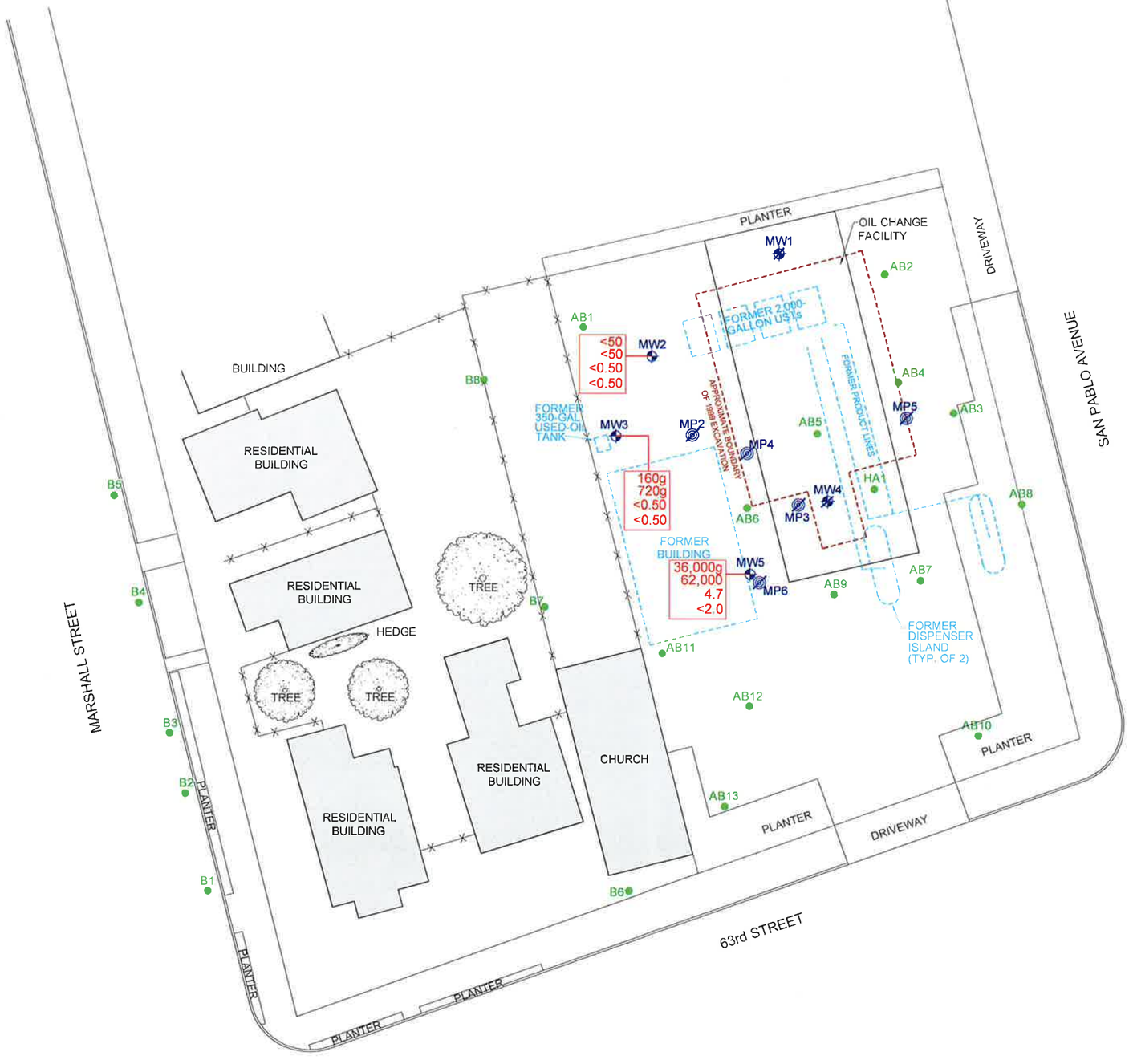
PROJECT NO.
2783

PLATE
1

Analyte Concentrations in ug/L
Sampled January 10, 2014

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

0 30 60 Feet

FN 2783 14 1QTR QM

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SELECT ANALTYICAL RESULTS
January 10, 2014

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

EXPLANATION

- MW5 Groundwater Monitoring Well
- MW4 Destroyed Groundwater Monitoring Well
- MP6 Destroyed Observation Well
- AB13 Soil Boring

PROJECT NO. 2783

PLATE 2

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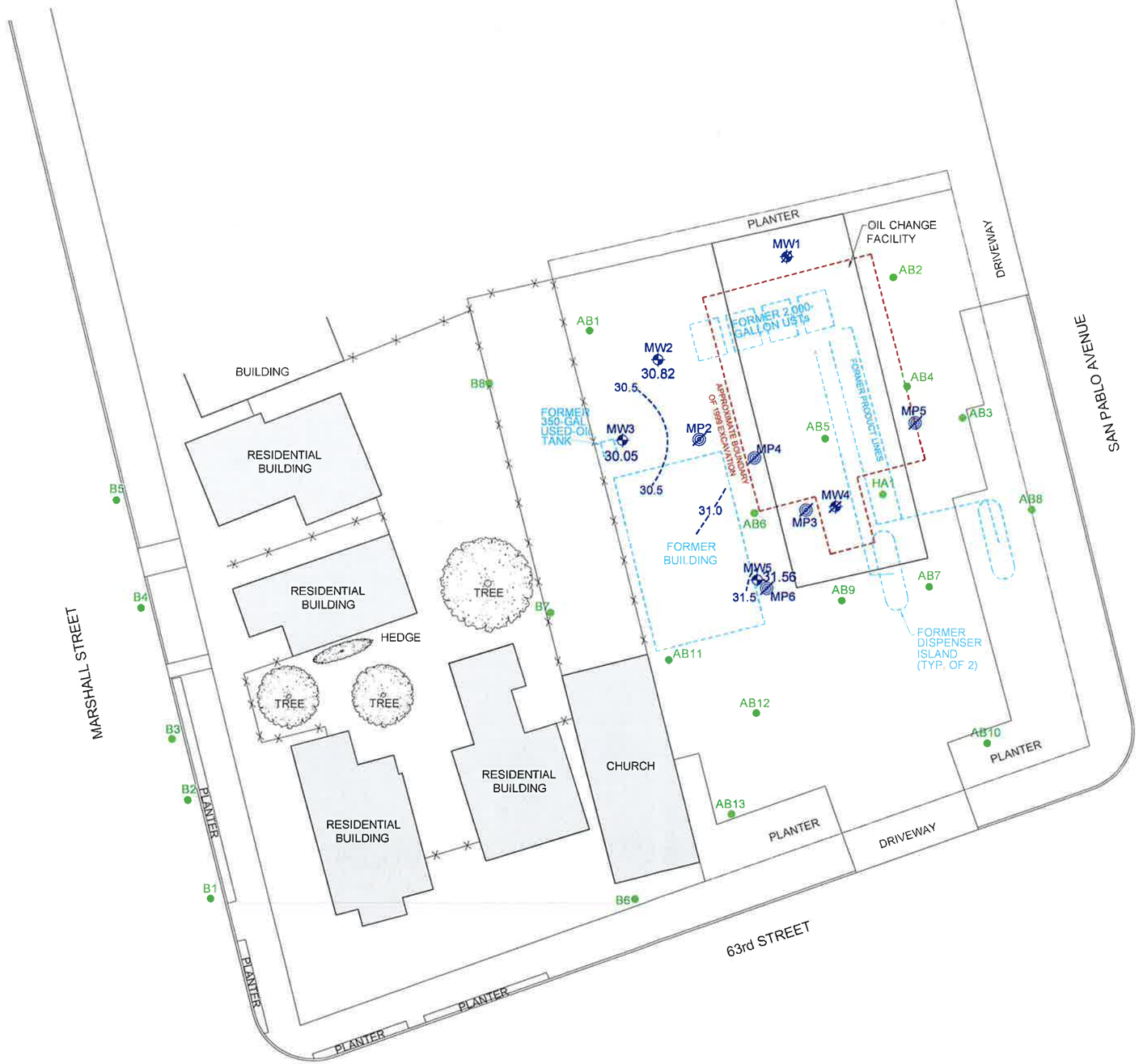

APPROXIMATE SCALE

0 30 60 Feet

FN 2783 14 1QTR QM

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GROUNDWATER ELEVATION MAP
January 10, 2014
FORMER MOBIL SERVICE STATION 99105
6301 San Pablo Avenue
Oakland, California

EXPLANATION

- MW5 — Groundwater Monitoring Well
- 31.56 — Groundwater elevation in feet; datum is mean sea level
- MP6 — Destroyed Observation Well
- MW4 — Destroyed Groundwater Monitoring Well
- AB13 — Soil Boring
- 31.5----- — Line of Equal Groundwater Elevation; datum is mean sea level

PROJECT NO. 2783

PLATE 3

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TABLE 1A
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 (µg/L)	TPHg (µg/L)	MTBE 8020/8021 (µg/L)	MTBE 8240/8260 (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
Environmental Screening Levels (May 2013)														
Groundwater is a current drinking water source (Table F-1a)							100	100	5	5	1	40	30	20
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		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

TABLE 1A
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 (µg/L)	TPHg (µg/L)	MTBE 8020/8021 (µg/L)	MTBE 8240/8260 (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
Environmental Screening Levels (May 2013)														
Groundwater is a current drinking water source (Table F-1a)							100	100	5	5	1	40	30	20
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
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
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
MW2	01/18/12		42.24	11.24	31.00	No	---	<50	---	<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
MW2	01/25/13		42.24	5.62	36.62	No	<50	<50	---	<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
MW2	01/10/14		42.24	11.42	30.82	No	<50	<50	---	<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**
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**

TABLE 1A
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 (µg/L)	TPHg (µg/L)	MTBE 8020/8021 (µg/L)	MTBE 8240/8260 (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
Environmental Screening Levels (May 2013)													
Groundwater is a current drinking water source (Table F-1a)						100	100	5	5	1	40	30	20
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
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
MW3	01/18/12	42.18	12.11	30.07	No	---	**910g**	---	<0.50	0.89	<0.50	<0.50	0.88
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
MW3	01/25/13	42.18	9.41	32.77	No	**120g**	**390g**	---	<0.50	**2.8**	<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
MW3	01/10/14	42.18	12.13	30.05	No	**160g**	**720g**	---	<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	Destroyed during construction activities.											
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**

TABLE 1A
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 (µg/L)	TPHg (µg/L)	MTBE 8020/8021 (µg/L)	MTBE 8240/8260 (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
Environmental Screening Levels (May 2013)													
Groundwater is a current drinking water source (Table F-1a)						100	100	5	5	1	40	30	20
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
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
MW5	01/18/12	41.86	9.46	32.40	No	---	**3,600g**	---	<1.0	**14**	<1.0	7.6	<1.0
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
MW5	01/25/13	41.86	6.01	35.85	Sheen	**22,000g**	**4,900g**	---	<2.0	**46**	<2.0	4.5	<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
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
Grab Groundwater Samples													
Former Gasoline Tank Cavity													
TW1	01/04/96	---	6.00	---	No	**700**	ND	---	---	ND	ND	ND	ND
Used-Oil Tank Cavity													
WW1	01/04/96	---	3.00	---	No	---	ND	---	---	ND	ND	ND	ND
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**
AB10	03/05/98	---	2.0	---	No	---	**200**	ND	---	**3.0**	1.2	3.2	2.8
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
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
B4	11/19/10	---	Dry	---	---	---	---	---	---	---	---	---	---
B5	11/18/10	---	8.95	---	---	<50	<50	---	<0.50	<0.50	<0.50	0.047f	0.21f

TABLE 1A
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 (µg/L)	TPHg (µg/L)	MTBE 8020/8021 (µg/L)	MTBE 8240/8260 (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
Environmental Screening Levels (May 2013)													
Groundwater is a current drinking water source (Table F-1a)						100	100	5	5	1	40	30	20
W-15-B6	06/19/12	---	15	---	---	<50	<50	---	<0.50	<0.50	<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
W-9.5-B8	06/19/12	---	9.5	---	---	**230g**	<50	---	<0.50	<0.50	<0.50	<0.50	<0.50

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

Well ID	Sampling Date	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Ethanol (µg/L)
Environmental Screening Levels (May 2013)								
Groundwater is a current drinking water sou		---	---	---	12	0.50	0.05	---
MW1	03/14/96 - 01/27/99	Not analyzed for these analytes						
MW1	Apr-99	Destroyed during construction activities.						
MW2	03/14/96 - 01/15/04	Not analyzed for these analytes						
MW2	09/17/10	<0.50	<0.50	<0.50	<10	<0.50	**<0.50**	---
MW2	09/14/11	<0.50	<0.50	<0.50	<5.0	<0.50	**<0.50**	<50
MW2	01/18/12	<0.50	<0.50	<0.50	<5.0	<0.50	**<0.50**	<50
MW2	01/27/12	---	---	---	---	---	---	---
MW2	07/09/12	<0.50	<0.50	<0.50	<5.0	<0.50	**<0.50**	---
MW2	01/25/13	<0.50	<0.50	<0.50	<5.0	<0.50	**<0.50**	---
MW2	08/23/13	<0.50	<0.50	<0.50	<5.0	<0.50	**<0.50**	---
MW2	01/10/14	<0.50	<0.50	<0.50	<5.0	<0.50	**<0.50**	---
MW3	03/14/96 - 01/15/04	Not analyzed for these analytes						
MW3	09/17/10	0.17f	<0.50	<0.50	9.8f	**1.9**	**<0.50**	---
MW3	09/14/11	<0.50	<0.50	<0.50	<5.0	<0.50	**<0.50**	<50
MW3	01/18/12	<0.50	<0.50	<0.50	**23**	<0.50	**<0.50**	<50
MW3	01/27/12	---	---	---	---	---	---	---
MW3	07/09/12	<0.50	<0.50	<0.50	9.1	**1.1**	**<0.50**	---
MW3	01/25/13	<0.50	<0.50	<0.50	9.6	**1.1**	**<0.50**	---
MW3	08/23/13	<0.50	<0.50	<0.50	7.2	**0.90**	**<0.50**	---
MW3	01/10/14	<0.50	<0.50	<0.50	12	**1.1**	**<0.50**	---
MW4	03/14/96 - 01/27/99	Not analyzed for these analytes						
MW4	Apr-99	Destroyed during construction activities.						
MW5	10/25/00 - 01/15/04	Not analyzed for these analytes						
MW5	09/17/10	<5.0	<5.0	<5.0	**<100**	**<5.0**	**<5.0**	---
MW5	09/14/11	<2.0	<2.0	<2.0	**25**	**<2.0**	**<2.0**	<200
MW5	01/18/12	<1.0	<1.0	<1.0	**37**	**<1.0**	**<1.0**	<100
MW5	01/27/12	---	---	---	---	---	---	---
MW5	07/09/12	<2.5	<2.5	<2.5	**36**	**<2.5**	**<2.5**	---
MW5	01/25/13	<2.0	<2.0	<2.0	**45**	**<2.0**	**<2.0**	---
MW5	08/23/13	<2.0	<2.0	<2.0	**42**	**<2.0**	**<2.0**	---
MW5	01/10/14	<2.0	<2.0	<2.0	**36**	**<2.0**	**<2.0**	---
Grab Groundwater Samples								
Not analyzed for these analytes prior to 2010.								
B1	11/18/10	---	---	---	---	---	---	---
B3	11/19/10	---	---	---	---	**8.7**	---	---

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

Well ID	Sampling Date	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	Ethanol (µg/L)
Environmental Screening Levels (May 2013)								
Groundwater is a current drinking water sou		---	---	---	12	0.50	0.05	---
B4	11/19/10	---	---	---	---	---	---	---
B5	11/18/10	---	---	---	---	0.099f	---	---
W-15-B6	06/19/12	<0.50	<0.50	<0.50	<5.0	---	---	---
W-15-B7	06/19/12	<0.50	<0.50	<0.50	<5.0	---	---	---
W-9.5-B8	06/19/12	<0.50	<0.50	<0.50	<5.0	---	---	---

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	Well Destruction Date	TOC Elevation (feet)	Well Casing Material	Total Depth (feet)	Well Depth (feet)	Borehole Diameter (inches)	Casing Diameter (inches)	Screened Interval (feet)	Slot Size (inches)	Filter Pack Interval (feet)	Filter Pack Material
MW1	03/01/96	Apr-99	32.79	PVC	21.5	20	10	4	5-20	0.010	4.5-21.5	#12 Sand
MW2	03/01/96	---	42.24	PVC	21.5	20	10	4	5-20	0.010	4.5-21.5	#12 Sand
MW3	03/01/96	---	42.18	PVC	21.5	20	10	4	5-20	0.010	4.5-21.5	#12 Sand
MW4	03/01/96	Apr-99	31.50	PVC	26.5	25	10	4	5-25	0.010	4.5-21.5	#12 Sand
MW5	09/06/00	---	41.86	PVC	21.5	20	10	4	5-20	0.010	4-21.5	#2/12 Sand
VW1	11/01/10	---	---	Stainless Steel	6	6	4	0.25	5.25-5.75	0.0057	5-6	#2/12 Sand
VW2	11/02/10	---	---	Stainless Steel	6	6	4	0.25	5.25-5.75	0.0057	5-6	#2/12 Sand
VW3	11/01/10	---	---	Stainless Steel	6	6	4	0.25	5.25-5.75	0.0057	5-6	#2/12 Sand
VW4	11/02/10	---	---	Stainless Steel	6	6	4	0.25	5.25-5.75	0.0057	5-6	#2/12 Sand
VW5	11/02/10	---	---	Stainless Steel	6	6	4	0.25	5.25-5.75	0.0057	5-6	#2/12 Sand
MP1	11/16/98	1998	---	PVC	23	23	1.5	1	4-23	0.020	2.5-23	#3 Sand
MP2	11/16/98	1998	---	PVC	20	20	1.5	1	5-20	0.020	4-20	#3 Sand
MP3	11/16/98	1998	---	PVC	18	18	1.5	1	3-18	0.020	2-18	#3 Sand
MP4	11/16/98	1998	---	PVC	18	18	1.5	1	3-18	0.020	2-18	#3 Sand
MP5	11/16/98	1998	---	PVC	18	18	1.5	1	3-18	0.020	2-18	#3 Sand
MP6	11/16/98	1998	---	PVC	17.5	17.5	1.5	1	3.5-17.5	0.020	2.5-17.5	#3 Sand
SVS1	06/18/12	---	38.78	PVC/Stainless Steel	5.5	5	3.25	0.25	4.75-5	0.010	4.5-5	#3 Sand
SVS2	06/18/12	---	41.05	PVC/Stainless Steel	5.5	5	3.25	0.25	4.75-5	0.010	4.5-5	#3 Sand
SVS3	06/18/12	---	42.64	PVC/Stainless Steel	5.5	5	3.25	0.25	4.75-5	0.010	4.5-5	#3 Sand

Notes:
TOC = Top of casing.
PVC = Polyvinyl chloride.
--- = Not applicable/Not available.

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 well casing volume = $\pi r^2 h(7.48)$ 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

Daily Field Report

Cardno ERI
Shaping the Future

Project ID #: 99105
Subject: Monitoring & Sampling
Equipment Used: DTW Tape, Sub. pump, disp. bailers
Prepared by: Scott Elder
Time Arrived On Site: 500
Time Departed from Site: 900

ERI Job #: 2783
Date: 1/10/14
Sheet 1 of 1

On Site	- 500
H & S Meeting	- 500 - 515
Opened wells	- 515 - 520
Decon Equipment	- 520 - 550
DTW wells	- 550 - 600
Purged wells: MW2, MW3, MW5	- 606 - 648
Sampled wells: MW2, MW3, MW5	- 725 - 815
Off site	- 900

Decon water - 24 gal.
Purge water - 35 gal.
Total water - 59 gal.

ERI Groundwater M+S
Depth To Water

Case Volume= $H(r^2 x 0.163)$

H=Height of Water Column in Feet
r=Radius of well casing in inches

Common conversion factors:
2"=0.163, 4"=0.652, 6"=1.457

Project	Location	Date	Name
2783	99105	1/10/14	Scott Elder

WELL ID	WELL DIAMETER inches	ODOR? SHEEN?	TOTAL DEPTH feet	Pre-Purge DTW feet	CASE VOLUME gallons	80% RECHARGE feet	COMMENTS
MW2	4		18.59	11.42	4.67	12.85	
MW3	4		18.18	12.13	3.94	13.34	
MW5	4		19.94	10.30	6.29	12.23	

WATER SAMPLING SITE STATUS

Date: [illegible]

Inspected by: Scott Elder

Cardno ERI Job No.: 2783 Station No.: 99105 Site Address: 6301 San Pablo Ave, Oakland, CA

Well ID	Well Head Screws	Rubber Gasket	Well Cap Locking	Lock on Well Cap	Concrete Well Seal	Well Head PVC	Water in Well Vault	Tabs	Well Cover	Fence/Gate Condition	# Drums	Drum Contents	Building Condition	Site Appearance	Comments / Well Covers
	N/R/ok	N/R/ok	N/R/ok	N/R/ok	N/R/ok	N/R/ok	Y / N	N/R/ok	N/R/ok	N/R/ok		s/w/e	g/v/o	N/R/ok	
MW2	NA	ok	ok	ok	ok	ok	N	ok	ok	NA	NA	NA	NA	ok	
MW3	↓	↓	↓	N	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	No Lock
MW5	ok	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	No Lock

N = Not repairable in time available-see comments.
R = Repaired-see comments
ok = No action needed.

Y = Yes.
N = No.

s = Soil.
w = Water.
e = Empty.

g = Graffitti on walls.
v = Vagrants (or evidence of).
o = Open (not secured).

GROUNDWATER SAMPLING FIELD LOG

Client Name: ExxonMobil
Location: 99105
Field Crew: Scott Elder

Cardno ERI Job #: 2783
Field Cleaning Performed: _____
Analysis: _____

Date: 1/10/14 Page 1 of 1

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
MW2	606	4.67					14.44	N						Dry @ 10 gal.
	608	5	5	12.3	175	7.91	W-14 - MW2 @ 725							Slow recharge
	610		10	12.8	159	7.79								
			15											
MW3	624	3.94					15.35	N						Dry @ 8 gal.
	626	4	4	11.6	198	7.46	W-15 - MW3 @ 755							Slow recharge
	628		8	12.4	225	7.07								
			12											
MW5	642	6.29					19.40	N						Dry @ 17 gal.
	645	7	7	12.8	303	7.21	W-18 - MW5 @ 815							Slow recharge
	648		14	13.6	304	6.97								
			21											
							QCBB @ 820							

APPENDIX C

LABORATORY ANALYTICAL REPORT

Calscience Environmental Laboratories, Inc.

CALSCIENCE

WORK ORDER NUMBER: 14-01-0651

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Cardno ERI

Client Project Name: ExxonMobil 99105/022783C

Attention: Rebekah Westrup
601 North McDowell Blvd.
Petaluma, CA 94954-2312

RECEIVED
JAN 27 2014

BY: .....

Cecile L deGuia

Approved for release on 01/24/2014 by:
Cecile deGuia
Project Manager

ResultLink ▸

Email your PM ▸

Calscience Environmental Laboratories, 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 Environmental Laboratories, Inc.

Contents

Client Project Name: ExxonMobil 99105/022783C
Work Order Number: 14-01-0651

Calscience Environmental Laboratories, Inc.

Work Order Narrative

Work Order: 14-01-0651 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain of Custody (COC) on 01/14/14. They were assigned to Work Order 14-01-0651.

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.

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.

New York NELAP air certification does not certify for all reported methods and analytes, reference the accredited items here: http://www.calscience.com/PDF/New_York.pdf

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.

Subcontractor Information:

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

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Calscience Environmental Laboratories, Inc.

Sample Summary

Client:	Cardno ERI	Work Order:	14-01-0651
	601 North McDowell Blvd.	Project Name:	ExxonMobil 99105/022783C
	Petaluma, CA 94954-2312	PO Number:	022783C
		Date/Time Received:	01/14/14 10:50
		Number of Containers:	26
Attn:	Rebekah Westrup		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
QCBB	14-01-0651-1	01/10/14 08:20	2	Aqueous
W-14-MW2	14-01-0651-2	01/10/14 07:25	8	Aqueous
W-15-MW3	14-01-0651-3	01/10/14 07:55	8	Aqueous
W-18-MW5	14-01-0651-4	01/10/14 08:15	8	Aqueous

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Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 01/14/14
Work Order: 14-01-0651
Preparation: EPA 3510C
Method: EPA 8015B (M)
Units: ug/L

Project: ExxonMobil 99105/022783C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-14-MW2	**14-01-0651-2-G**	**01/10/14 07:25**	**Aqueous**	**GC 47**	**01/16/14**	**01/21/14 00:14**	**140116B16**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	50	1	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	116	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-15-MW3	**14-01-0651-3-G**	**01/10/14 07:55**	**Aqueous**	**GC 47**	**01/16/14**	**01/21/14 00:31**	**140116B16**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	160	50	1	SG,HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	110	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-18-MW5	**14-01-0651-4-G**	**01/10/14 08:15**	**Aqueous**	**GC 47**	**01/16/14**	**01/21/14 12:35**	**140116B16**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	36000	500	10	SG,HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	134	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-304-577**	**N/A**	**Aqueous**	**GC 47**	**01/16/14**	**01/20/14 23:22**	**140116B16**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	119	68-140	

Return to Contents

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 01/14/14
Work Order: 14-01-0651
Preparation: EPA 5030C
Method: EPA 8015B (M)
Units: ug/L

Project: ExxonMobil 99105/022783C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-14-MW2	**14-01-0651-2-D**	**01/10/14 07:25**	**Aqueous**	**GC 4**	**01/14/14**	**01/15/14 07:53**	**140114B03**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	ND	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	82	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-15-MW3	**14-01-0651-3-D**	**01/10/14 07:55**	**Aqueous**	**GC 4**	**01/14/14**	**01/15/14 08:26**	**140114B03**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	720	50	1	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	99	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-18-MW5	**14-01-0651-4-D**	**01/10/14 08:15**	**Aqueous**	**GC 4**	**01/14/14**	**01/15/14 08:59**	**140114B03**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	62000	1000	20	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	151	38-134	AZ

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-436-9079**	**N/A**	**Aqueous**	**GC 4**	**01/14/14**	**01/15/14 02:57**	**140114B03**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	ND	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	82	38-134	

Return to Contents

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 01/14/14
Work Order: 14-01-0651
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 99105/022783C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-14-MW2	**14-01-0651-2-A**	**01/10/14 07:25**	**Aqueous**	**GC/MS L**	**01/14/14**	**01/14/14 18:16**	**140114L02**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1	
Toluene	ND	0.50	1	
Ethylbenzene	ND	0.50	1	
o-Xylene	ND	0.50	1	
p/m-Xylene	ND	0.50	1	
Xylenes (total)	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
Tert-Butyl Alcohol (TBA)	ND	5.0	1	
Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
1,2-Dibromoethane	ND	0.50	1	
1,2-Dichloroethane	ND	0.50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	96	68-120	
Dibromofluoromethane	98	80-127	
1,2-Dichloroethane-d4	105	80-128	
Toluene-d8	100	80-120	

Return to Contents

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 01/14/14
Work Order: 14-01-0651
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 99105/022783C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-15-MW3	**14-01-0651-3-A**	**01/10/14 07:55**	**Aqueous**	**GC/MS L**	**01/14/14**	**01/14/14 18:43**	**140114L02**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1	
Toluene	ND	0.50	1	
Ethylbenzene	ND	0.50	1	
o-Xylene	ND	0.50	1	
p/m-Xylene	ND	0.50	1	
Xylenes (total)	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
Tert-Butyl Alcohol (TBA)	12	5.0	1	
Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
1,2-Dibromoethane	ND	0.50	1	
1,2-Dichloroethane	1.1	0.50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	101	68-120	
Dibromofluoromethane	106	80-127	
1,2-Dichloroethane-d4	111	80-128	
Toluene-d8	104	80-120	

Return to Contents

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 01/14/14
Work Order: 14-01-0651
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 99105/022783C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-18-MW5	**14-01-0651-4-A**	**01/10/14 08:15**	**Aqueous**	**GC/MS L**	**01/14/14**	**01/14/14 19:11**	**140114L02**

Parameter	Result	RL	DF	Qualifiers
Benzene	4.7	2.0	4	
Toluene	ND	2.0	4	
Ethylbenzene	3.5	2.0	4	
o-Xylene	ND	2.0	4	
p/m-Xylene	ND	2.0	4	
Xylenes (total)	ND	2.0	1	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	4	
Tert-Butyl Alcohol (TBA)	36	20	4	
Diisopropyl Ether (DIPE)	ND	2.0	4	
Ethyl-t-Butyl Ether (ETBE)	ND	2.0	4	
Tert-Amyl-Methyl Ether (TAME)	ND	2.0	4	
1,2-Dibromoethane	ND	2.0	4	
1,2-Dichloroethane	ND	2.0	4	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	81	68-120	
Dibromofluoromethane	105	80-127	
1,2-Dichloroethane-d4	105	80-128	
Toluene-d8	114	80-120	

Return to Contents

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 01/14/14
Work Order: 14-01-0651
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 99105/022783C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-884-1120**	**N/A**	**Aqueous**	**GC/MS L**	**01/14/14**	**01/14/14 11:15**	**140114L02**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1	
Toluene	ND	0.50	1	
Ethylbenzene	ND	0.50	1	
o-Xylene	ND	0.50	1	
p/m-Xylene	ND	0.50	1	
Xylenes (total)	ND	0.50	1	
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	
Tert-Butyl Alcohol (TBA)	ND	5.0	1	
Diisopropyl Ether (DIPE)	ND	0.50	1	
Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	
Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	
1,2-Dibromoethane	ND	0.50	1	
1,2-Dichloroethane	ND	0.50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	98	68-120	
Dibromofluoromethane	105	80-127	
1,2-Dichloroethane-d4	109	80-128	
Toluene-d8	100	80-120	

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

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Project: ExxonMobil 99105/022783C

Date Received: 01/14/14
Work Order: 14-01-0651
Preparation: EPA 5030C
Method: EPA 8015B (M)
Page 1 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
14-01-0694-1	Sample	Aqueous	GC 4	01/14/14	01/15/14 05:08	140114S01
14-01-0694-1	Matrix Spike	Aqueous	GC 4	01/14/14	01/15/14 05:41	140114S01
14-01-0694-1	Matrix Spike Duplicate	Aqueous	GC 4	01/14/14	01/15/14 06:14	140114S01

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	97.33	2000	1981	94	1998	95	68-122	1	0-18	

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Cardno ERI		Date Received:	01/14/14
601 North McDowell Blvd.		Work Order:	14-01-0651
Petaluma, CA 94954-2312		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: ExxonMobil 99105/022783C			Page 2 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
14-01-0599-1	**Sample**	**Aqueous**	**GC/MS L**	**01/14/14**	**01/14/14 12:24**	**140114S01**
14-01-0599-1	**Matrix Spike**	**Aqueous**	**GC/MS L**	**01/14/14**	**01/14/14 12:51**	**140114S01**
14-01-0599-1	**Matrix Spike Duplicate**	**Aqueous**	**GC/MS L**	**01/14/14**	**01/14/14 13:18**	**140114S01**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	200.0	210.3	105	206.2	103	76-124	2	0-20	
Toluene	ND	200.0	235.4	118	223.5	112	80-120	5	0-20	
Ethylbenzene	ND	200.0	213.3	107	211.7	106	78-126	1	0-20	
o-Xylene	ND	200.0	196.9	98	194.0	97	70-130	1	0-30	
p/m-Xylene	ND	400.0	410.5	103	404.5	101	70-130	1	0-30	
Methyl-t-Butyl Ether (MTBE)	ND	200.0	226.5	113	222.1	111	67-121	2	0-49	
Tert-Butyl Alcohol (TBA)	ND	1000	987.5	99	995.6	100	36-162	1	0-30	
Diisopropyl Ether (DIPE)	ND	200.0	232.0	116	227.4	114	60-138	2	0-45	
Ethyl-t-Butyl Ether (ETBE)	ND	200.0	225.6	113	221.3	111	69-123	2	0-30	
Tert-Amyl-Methyl Ether (TAME)	ND	200.0	204.2	102	201.6	101	65-120	1	0-20	
1,2-Dibromoethane	ND	200.0	205.5	103	205.1	103	80-120	0	0-20	
1,2-Dichloroethane	ND	200.0	225.0	113	219.6	110	80-120	2	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCSD

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

Project: ExxonMobil 99105/022783C

Date Received: 01/14/14
Work Order: 14-01-0651
Preparation: EPA 3510C
Method: EPA 8015B (M)
Page 1 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-15-304-577	LCS	Aqueous	GC 47	01/16/14	01/20/14 23:39	140116B16
099-15-304-577	LCSD	Aqueous	GC 47	01/16/14	01/20/14 23:57	140116B16

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	2000	2331	117	2330	116	75-117	0	0-13	

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - LCS

Cardno ERI		Date Received:	01/14/14
601 North McDowell Blvd.		Work Order:	14-01-0651
Petaluma, CA 94954-2312		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
Project: ExxonMobil 99105/022783C			Page 2 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-436-9079	LCS	Aqueous	GC 4	01/14/14	01/15/14 03:30	140114B03

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Gasoline	2000	1917	96	78-120	

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RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - LCS

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

Project: ExxonMobil 99105/022783C

Date Received: 01/14/14
Work Order: 14-01-0651
Preparation: EPA 5030C
Method: EPA 8260B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-884-1120	**LCS**	**Aqueous**	**GC/MS L**	**01/14/14**	**01/14/14 10:11**	**140114L02**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	10.00	10.52	105	80-120	73-127	
Toluene	10.00	10.20	102	80-120	73-127	
Ethylbenzene	10.00	10.35	104	80-120	73-127	
o-Xylene	10.00	9.673	97	75-125	67-133	
p/m-Xylene	20.00	20.07	100	75-125	67-133	
Methyl-t-Butyl Ether (MTBE)	10.00	9.886	99	69-123	60-132	
Tert-Butyl Alcohol (TBA)	50.00	47.00	94	63-123	53-133	
Diisopropyl Ether (DIPE)	10.00	12.23	122	59-137	46-150	
Ethyl-t-Butyl Ether (ETBE)	10.00	11.67	117	69-123	60-132	
Tert-Amyl-Methyl Ether (TAME)	10.00	10.60	106	70-120	62-128	
1,2-Dibromoethane	10.00	10.63	106	79-121	72-128	
1,2-Dichloroethane	10.00	10.45	105	80-120	73-127	

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

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order: 14-01-0651 Page 1 of 1

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.
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 stnds.
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.

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Calscience Environmental Laboratories, Inc.

7440 Lincoln Way
Garden Grove, CA 92841

Phone: 714-895-5494
Fax: 714-894-7501

ExxonMobil

14-01-0651

Consultant Name:	Cardno ERI	Account #:	NA PO#: Direct Bill Cardno ERI
Consultant Address:	601 N McDowell	Invoice To:	Direct Bill Cardno ERI
Consultant City/State/Zip:	Petaluma, CA 94954	Report To:	Rebekah Westrup
ExxonMobil Project Mgr:	Jennifer Sedlachek	Project Name:	02 2783 C
Consultant Project Mgr:	Rebekah Westrup	ExxonMobil Site #:	99105 Major Project (AFE #):
Consultant Telephone Number:	(707) 766-2000 Fax No.: (707) 789-0414	Site Address:	6301 San Pablo Ave
Sampler Name (Print):	Scott Elder	Site City, State, Zip:	Oakland, CA
Sampler Signature:	Scott Elder	Oversight Agency:	Alameda County Environmental Health Department

Sample ID		Field Point Name	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	HCl	NaOH	H_2SO_4 Plastic	H_2SO_4 Glass	HNO_3	Ice	Other	None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Air	Other (specify): Distilled Water	Analyze For: TPHd 8015B*	*silica gel clenup	TPHg 8015B	BTEX 8260B	Methanol by 8015	8260 see list		Ethanol	RUSH TAT (Pre-Schedule)	5-day TAT	Standard 10-day TAT	Due Date of Report
QCBB		QCBB	1/10/14	820	2V	x					x					x									x		H	O	L	D						x	
W-14 -MW2	2	MW2	↓	725	6V/2A	x					6V					x		2A	x							x	x	x	x		x					x	
W-15 -MW3	3	MW3	↓	755	6V/2A	x					6V					x		2A	x							x	x	x	x		x					x	
W-18 -MW5	4	MW5	↓	815	6V/2A	x					6V					x		2A	x							x	x	x	x		x					x	

Comments/Special Instructions: Only include requested data in report
OXY's report MTBE, DIPE, TBA, TAME, EDB, ETBE, 1,2 DCA
*Use silica-gel clean-up for TPHd

GLOBAL ID # T0600101855

PLEASE E-MAIL ALL PDF FILES TO norcallabs@eri-us.com

Relinquished by:		Date	Time	Received by:	Date	Time
Scott Elder		1/13/14	1230	Tom O'Malley CEL	1/13/14	1230
Relinquished by: Tom O'Malley TO	0658	1/13/14	1730	Received by (Lab personnel): [signature]	1/14/14	1050

Laboratory Comments:
Temperature Upon Receipt:
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N

QC Deliverables (please circle one)
Level 2
Level 3
Level 4
Site Specific - if yes, please attach pre-schedule w/ Calscience Project Manager or attach specific instructions

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065T

GSO

WebShip

800-322-5555 www.gso.com

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

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

COD:
$0.00

Reference:
ETIC, CARDNO ERI

Delivery Instructions:

Signature Type:
SIGNATURE REQUIRED

Tracking #: 523666274

NPS

ORC

A

GARDEN GROVE

D92841A

20096564

Print Date : 01/13/14 16:26 PM

Package 1 of 1

Send Label To Printer | ☑ Print All | Edit Shipment | Finish

LABEL INSTRUCTIONS:

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

STEP 1 - Use the "Send Label to Printer" button on this page to print the shipping label on a laser or inkjet printer.

STEP 2 - Fold this page in half.

STEP 3 - Securely attach this label to your package, do not cover the barcode.

STEP 4 - Request an on-call pickup for your package, if you do not have scheduled daily pickup service or Drop-off your package at the nearest GSO drop box. Locate nearest GSO dropbox locations using this link.

ADDITIONAL OPTIONS:

Send Label Via Email | Create Return Label

TERMS AND CONDITIONS:

By giving us your shipment to deliver, you agree to all the service terms and conditions described in this section. Our liability for loss or damage to any package is limited to your actual damages or $100 whichever is less, unless you pay for and declare a higher authorized value. If you declare a higher value and pay the additional charge, our liability will be the lesser of your declared value or the actual value of your loss or damage. In any event, we will not be liable for any damage, whether direct, incidental, special or consequential, in excess of the declared value of a shipment whether or not we had knowledge that such damage might be incurred including but not limited to loss of income or profit. We will not be liable for your acts or omissions, including but not limited to improper or insufficient packaging, securing, marking or addressing. Also, we will not be liable if you or the recipient violates any of the terms of our agreement. We will not be liable for loss, damage or delay caused by events we cannot control, including but not limited to acts of God, perils of the air, weather conditions, act of public enemies, war, strikes, or civil commotion. The highest declared value for our GSO Priority Letter or GSO Priority Package is $500. For other shipments the highest declared value is $10,000 unless your package contains items of "extraordinary value", in which case the highest declared value we allow is $500. Items of "extraordinary value" include, but or not limited to, artwork, jewelry, furs, precious metals, tickets, negotiable instruments and other items with intrinsic value.

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Calscience Environmental Laboratories, Inc.

WORK ORDER #: 14-01-0651

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: Cardno ERI

DATE: 01/14/14

TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)

Temperature 2.8 °C - 0.3 °C (CF) = 2.5 °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.

☐ Received at ambient temperature, placed on ice for transport by Courier.

Ambient Temperature: ☐ Air ☐ Filter Checked by: 15

CUSTODY SEALS INTACT:

☑ Cooler ☐ _____ ☐ No (Not Intact) ☐ Not Present ☐ N/A Checked by: 15

☐ Sample ☐ _____ ☐ No (Not Intact) ☑ Not Present Checked by: 603

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
Aqueous samples received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfides ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation noted on COC or sample container	☑	☐	☐
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☑	☐	☐
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☐8ozCGJ ☐16ozCGJ ☐Sleeve (_____) ☐EnCores® ☐TerraCores® ☐_____

Aqueous: ☐VOA ☐VOAh ☐VOAna_2 ☐125AGB ☐125AGBh ☐125AGBp ☐1AGB ☐1AGBna_2 ☐1AGBs ☐500AGB ☑500AGJ ☐500AGJs ☐250AGB ☐250CGB ☐250CGBs ☐1PB ☐1PBna ☐500PB ☐250PB ☐250PBn ☐125PB ☐125PBznna ☐100PJ ☐100PJna_2 ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Canister **Other:** ☐_____ **Trip Blank Lot#:** N/A **Labeled/Checked by:** 603

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope **Reviewed by:** 739

Preservative: h: HCL n: HNO_3 na_2:$Na_2S_2O_3$ na: NaOH p: H_3PO_4 s: H_2SO_4 u: Ultra-pure znna: $ZnAc_2$+NaOH f: Filtered **Scanned by:** 739

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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. ERI 2783

2. Page 1 of 1

3. Generator's Name and Mailing Address
EMI# 99105
6301 SAN PABLO AVE
OAKLAND, CA

4. Generator's Phone ( )

CARDNO ERI

5. Transporter 1 Company Name
CARDNO ERI

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
[redacted]

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone [redacted]

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZ PURGE WATER	1	POLY	59	GAL
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above
GRAY, NO ODOR/SOLIDS

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 Month	Day	Year

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date Month	Day	Year
Dana Finkel	Dana Finkel	1	15	14

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date Month	Day	Year

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 Month	Day	Year
MICHAEL WHITEHEAD		1	15	14

NON-HAZARDOUS WASTE — GENERATOR — TRANSPORTER — FACILITY