

**ExxonMobil
Environmental Services Company**
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Oakland, California 94611
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Jennifer C. Sedlachek
Project Manager

RECEIVED

By Alameda County Environmental Health at 3:53 pm, Sep 26, 2013

ExxonMobil

September 23, 2013

Ms. Barbara Jakub
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. Jakub:

Attached for your review and comment is a copy of the letter report entitled *Semi-Annual Groundwater Monitoring Report, Third Quarter 2013*, dated September 23, 2013, 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, Third Quarter 2013*,
dated September 23, 2013

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

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

September 23, 2013
Cardno ERI 2783C.Q133

Ms. Jennifer C. Sedlachek
ExxonMobil Environmental Services Company
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SUBJECT **Semi-Annual Groundwater Monitoring Report, Third Quarter 2013**
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 third quarter 2013 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:	08/23/13
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
Waste disposal:	65 gallons purge and decon water delivered to Instrat, Inc. of Rio Vista, California, on 09/03/13

September 23, 2013
Cardno ERI 2783C.Q133 Former Mobil Service Station 99105, Oakland, California

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 the two previous groundwater monitoring and sampling events; however, neither sheen nor NAPL were observed during the third quarter 2013 groundwater monitoring and sampling event. TPHd (34,000 µg/L) and TPHg (17,000 µg/L) concentrations in well MW5 increased and benzene (17 µg/L) concentrations decreased during third quarter 2013 from first 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, 2013) proposing the installation of an additional well (MW6) and performing a targeted DPE event using well MW5 and proposed well MW6. Cardno ERI recommends performing the work proposed in the *Corrective Action Plan Addendum* (Cardno ERI, 2013) 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


Christine M. Capwell
Senior Technical Editor
for Cardno ERI
707 766 2000
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SCANNED
IMAGE


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Cardno ERI 2783C.Q133 Former Mobil Service Station 99105, Oakland, California

Enclosures:

References
Acronym List

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Table 2	Well Construction Details
Appendix A	Groundwater Sampling Protocol
Appendix B	Field Notes
Appendix C	Laboratory Analytical Report and Chain-of-Custody Record
Appendix D	Waste Disposal Documentation

cc: Ms. Barbara Jakub, 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

September 23, 2013

Cardno ERI 2783C.Q133 Former Mobil Service Station 99105, Oakland, California

REFERENCES

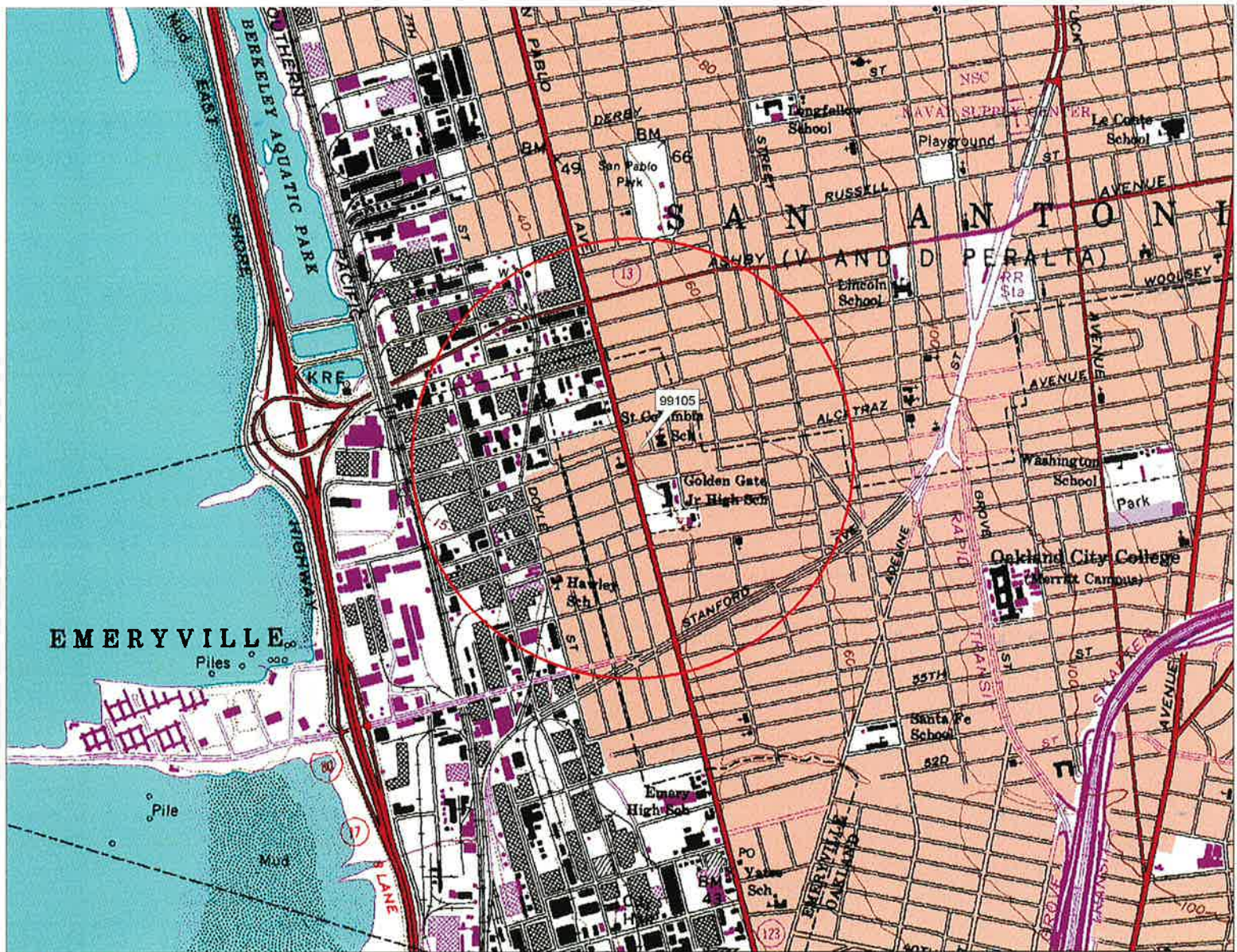
Cardno ERI. July 26, 2012. *Assessment Report, Former Mobil Service Station 99105, 6301 San Pablo Avenue, Oakland, California.*

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

September 23, 2013
 Cardno ERI 2783C.Q133 Former Mobil Service Station 99105, Oakland, California

ACRONYM LIST

µg/L	Micrograms per liter	NEPA	National Environmental Policy Act
µs	Microsiemens	NGVD	National Geodetic Vertical Datum
1,2-DCA	1,2-dichloroethane	NPDES	National Pollutant Discharge Elimination System
acfm	Actual cubic feet per minute	O&M	Operations and Maintenance
AS	Air sparge	ORP	Oxidation-reduction potential
bgs	Below ground surface	OSHA	Occupational Safety and Health Administration
BTEX	Benzene, toluene, ethylbenzene, and total xylenes	OVA	Organic vapor analyzer
CEQA	California Environmental Quality Act	P&ID	Process & Instrumentation Diagram
cfm	Cubic feet per minute	PAH	Polycyclic aromatic 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
HVOC	Halogenated volatile organic compound	SVOC	Semivolatile organic compound
J	Estimated value between MDL and PQL (RL)	TAME	Tertiary amyl methyl ether
LEL	Lower explosive limit	TBA	Tertiary butyl alcohol
LPC	Liquid-phase carbon	TCE	Trichloroethene
LRP	Liquid-ring pump	TOC	Top of well casing elevation; datum is msl
LUFT	Leaking underground fuel tank	TOG	Total oil and grease
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
NAPL	Non-aqueous phase liquid		



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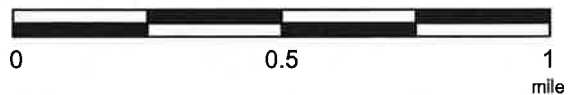
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EXPLANATION



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

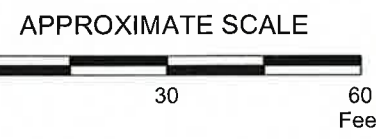
PLATE

1

Analyte Concentrations in ug/L
 Sampled August 23, 2013

- 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.



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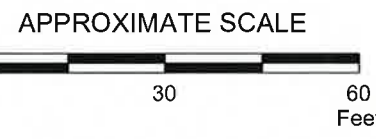
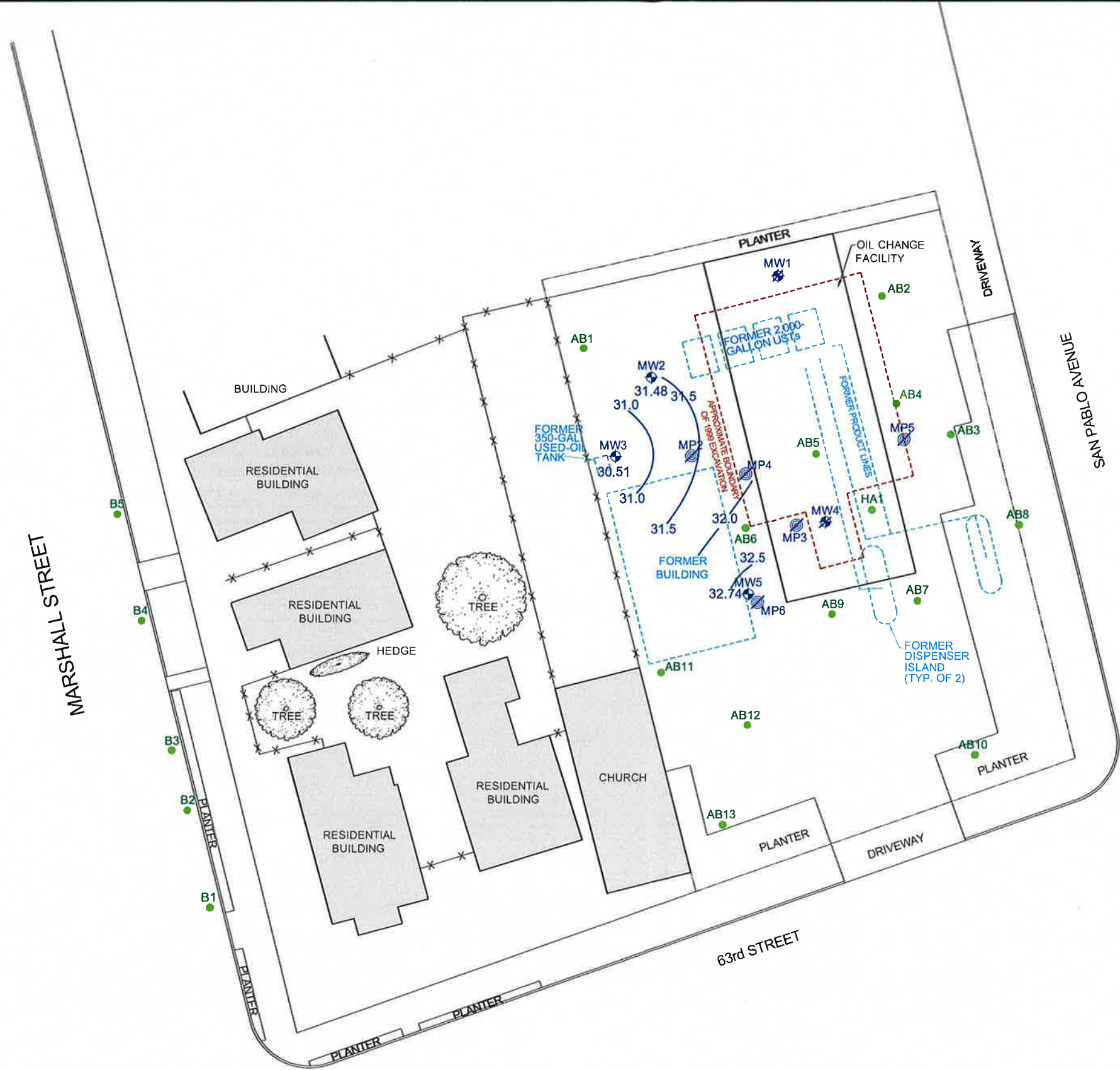
SELECT ANALYTICAL RESULTS
August 23, 2013
 FORMER MOBIL SERVICE STATION 99105
 6301 San Pablo Avenue
 Oakland, California

EXPLANATION

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

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 2783
PLATE
 2





FN 2783 13 3QTR QM



GROUNDWATER ELEVATION MAP
August 23, 2013
 FORMER MOBIL SERVICE STATION 99105
 6301 San Pablo Avenue
 Oakland, California

EXPLANATION

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

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2783

PLATE
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TABLE 1A
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Mobil Service Station 99105
6301 San Pablo Avenue
Oakland, California
(Page 1 of 5)

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)						100	100	5	5	1	40	30	20
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
MW2	04/28/03	41.99	5.87	36.12	No	---	<50.0	<0.50	---	<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
(Page 2 of 5)

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)						100	100	5	5	1	40	30	20
Groundwater is a current drinking water source (Table F-1a)													
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
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
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

TABLE 1A
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Mobil Service Station 99105
6301 San Pablo Avenue
Oakland, California
(Page 3 of 5)

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)						100	100	5	5	1	40	30	20
Groundwater is a current drinking water source (Table F-1a)													
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
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
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.												

TABLE 1A
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Mobil Service Station 99105
6301 San Pablo Avenue
Oakland, California
(Page 4 of 5)

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)						100	100	5	5	1	40	30	20
Groundwater is a current drinking water source (Table F-1a)													
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
Grab Groundwater Samples													
<i>Former Gasoline Tank Cavity</i>													
TW1	01/04/96	---	6.00	---	No	700	ND	---	---	ND	ND	ND	ND
<i>Used-Oil Tank Cavity</i>													
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
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

TABLE 1A
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Mobil Service Station 99105
6301 San Pablo Avenue
Oakland, California
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Notes:	Adapted from ETIC's <i>Report of Groundwater Monitoring, Third Quarter 2010</i> .	
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
(Page 1 of 2)

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 source (Table F-1a)			---	---	---	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	---
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	---
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	---
Grab Groundwater Samples									
Not analyzed for these analytes prior to 2010.									
B1	11/18/10		---	---	---	---	---	---	---
B3	11/19/10		---	---	---	---	8.7	---	---
B4	11/19/10		---	---	---	---	---	---	---
B5	11/18/10		---	---	---	---	0.099f	---	---

**TABLE 1B
ADDITIONAL CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA**

Former Mobil Service Station 99105

6301 San Pablo Avenue

Oakland, California

(Page 2 of 2)

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 source (Table F-1a)		---	---	---	12	0.50	0.05	---
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 <i>Report of Groundwater Monitoring, Third Quarter 2010</i> .	
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
(Page 1 of 1)

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 NOTES

Daily Field Report



Project ID #: 99105

ERI Job # 2783

Subject: Monitoring and Sampling

Date: 08/23/2013

Equipment Used: Sub. Pump, Disp. Bailers, DTW meter.

Sheet: 1 of 1

Name(s): Azat R. Magdanov

Time Arrived On Site: 5:30

Time Departed Site: 9:00

08/23/2013

05:30 On site.

05:30-05:45 H&S meeting, Permit.

05:45-05:50 Opened wells.

06:20-06:30 DTW

06:30-07:30 Purged: MW2, MW3, MW5.

07:45-08:30 Sampled: MW2, MW3, MW5.

09:00 Off site.

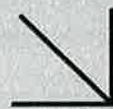
Purge water - 41 gal.

Decon water - 24 gal.

Total water - 65 gal.

APPENDIX C

**LABORATORY ANALYTICAL REPORT
AND CHAIN-OF-CUSTODY RECORD**



CALSCIENCE

WORK ORDER NUMBER: 13-08-1791

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

RECEIVED
SEP 09 2013

BY:

Analytical Report For

Client: Cardno ERI

Client Project Name: ExxonMobil 99105/022783C

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

Cecile L. de Guia

Approved for release on 09/09/2013 by:
Cecile deGuia
Project Manager

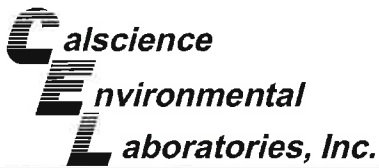
ResultLink ▶

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.





Contents

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Work Order Number: 13-08-1791

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Work Order Narrative

Work Order: 13-08-1791

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Condition Upon Receipt:

Samples were received under Chain of Custody (COC) on 08/27/13. They were assigned to Work Order 13-08-1791.

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:

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.





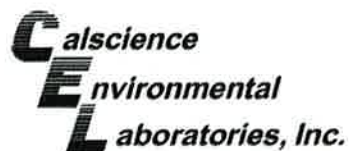
Sample Summary

Client: Cardno ERI	Work Order:	13-08-1791
601 North McDowell Blvd.	Project Name:	ExxonMobil 99105/022783C
Petaluma, CA 94954-2312	PO Number:	022783C
	Date/Time Received:	08/27/13 10:50
	Number of Containers:	26

Attn: Rebekah Westrup

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
QCBB	13-08-1791-1	08/23/13 08:45	2	Aqueous
W-12-MW2	13-08-1791-2	08/23/13 07:45	8	Aqueous
W-14-MW3	13-08-1791-3	08/23/13 08:05	8	Aqueous
W-18-MW5	13-08-1791-4	08/23/13 08:30	8	Aqueous

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Analytical Report

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

Date Received: 08/27/13
Work Order: 13-08-1791
Preparation: EPA 3510C
Method: EPA 8015B (M)
Units: ug/L

Project: ExxonMobil 99105/022783C

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-12-MW2	13-08-1791-2-G	08/23/13 07:45	Aqueous	GC 47	08/28/13	09/05/13 05:15	130828B01
<u>Parameter</u>		<u>Result</u>		<u>RL</u>		<u>DF</u>	<u>Qualifiers</u>
TPH as Diesel		ND		50		1	SG
<u>Surrogate</u>		<u>Rec. (%)</u>		<u>Control Limits</u>		<u>Qualifiers</u>	
n-Octacosane		106		68-140			
W-14-MW3	13-08-1791-3-G	08/23/13 08:05	Aqueous	GC 47	08/28/13	09/05/13 05:33	130828B01
<u>Parameter</u>		<u>Result</u>		<u>RL</u>		<u>DF</u>	<u>Qualifiers</u>
TPH as Diesel		310		50		1	SG,HD
<u>Surrogate</u>		<u>Rec. (%)</u>		<u>Control Limits</u>		<u>Qualifiers</u>	
n-Octacosane		111		68-140			
W-18-MW5	13-08-1791-4-G	08/23/13 08:30	Aqueous	GC 47	08/28/13	09/06/13 13:28	130828B01
<u>Parameter</u>		<u>Result</u>		<u>RL</u>		<u>DF</u>	<u>Qualifiers</u>
TPH as Diesel		34000		1000		20	SG,HD
<u>Surrogate</u>		<u>Rec. (%)</u>		<u>Control Limits</u>		<u>Qualifiers</u>	
n-Octacosane		135		68-140			
Method Blank	099-15-304-452	N/A	Aqueous	GC 47	08/28/13	09/05/13 04:23	130828B01
<u>Parameter</u>		<u>Result</u>		<u>RL</u>		<u>DF</u>	<u>Qualifiers</u>
TPH as Diesel		ND		50		1	
<u>Surrogate</u>		<u>Rec. (%)</u>		<u>Control Limits</u>		<u>Qualifiers</u>	
n-Octacosane		98		68-140			

Return to Contents

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



Analytical Report

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

Date Received: 08/27/13
Work Order: 13-08-1791
Preparation: EPA 5030C
Method: EPA 8015B (M)
Units: ug/L

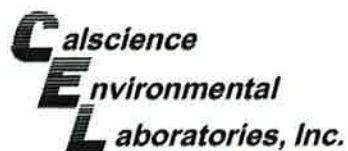
Project: ExxonMobil 99105/022783C

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-12-MW2	13-08-1791-2-E	08/23/13 07:45	Aqueous	GC 25	08/28/13	08/29/13 02:56	130828B01
<u>Parameter</u>		<u>Result</u>	<u>RL</u>		<u>DF</u>		<u>Qualifiers</u>
TPH as Gasoline		ND	50		1		
<u>Surrogate</u>		<u>Rec. (%)</u>	<u>Control Limits</u>		<u>Qualifiers</u>		
1,4-Bromofluorobenzene		67	38-134				
W-14-MW3	13-08-1791-3-E	08/23/13 08:05	Aqueous	GC 25	08/28/13	08/29/13 03:30	130828B01
<u>Parameter</u>		<u>Result</u>	<u>RL</u>		<u>DF</u>		<u>Qualifiers</u>
TPH as Gasoline		640	50		1		
<u>Surrogate</u>		<u>Rec. (%)</u>	<u>Control Limits</u>		<u>Qualifiers</u>		
1,4-Bromofluorobenzene		108	38-134				
W-18-MW5	13-08-1791-4-F	08/23/13 08:30	Aqueous	GC 25	08/29/13	08/29/13 15:46	130829B01
<u>Parameter</u>		<u>Result</u>	<u>RL</u>		<u>DF</u>		<u>Qualifiers</u>
TPH as Gasoline		17000	1000		20		
<u>Surrogate</u>		<u>Rec. (%)</u>	<u>Control Limits</u>		<u>Qualifiers</u>		
1,4-Bromofluorobenzene		105	38-134				
Method Blank	099-12-436-8804	N/A	Aqueous	GC 25	08/28/13	08/28/13 14:38	130828B01
<u>Parameter</u>		<u>Result</u>	<u>RL</u>		<u>DF</u>		<u>Qualifiers</u>
TPH as Gasoline		ND	50		1		
<u>Surrogate</u>		<u>Rec. (%)</u>	<u>Control Limits</u>		<u>Qualifiers</u>		
1,4-Bromofluorobenzene		68	38-134				
Method Blank	099-12-436-8805	N/A	Aqueous	GC 25	08/29/13	08/29/13 10:58	130829B01
<u>Parameter</u>		<u>Result</u>	<u>RL</u>		<u>DF</u>		<u>Qualifiers</u>
TPH as Gasoline		ND	50		1		
<u>Surrogate</u>		<u>Rec. (%)</u>	<u>Control Limits</u>		<u>Qualifiers</u>		
1,4-Bromofluorobenzene		66	38-134				

Return to Contents 

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



Analytical Report

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

Date Received: 08/27/13
Work Order: 13-08-1791
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
W-12-MW2	13-08-1791-2-A	08/23/13 07:45	Aqueous	GC/MS L	08/27/13	08/28/13 00:30	130827L01

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	89	68-120	
Dibromofluoromethane	97	80-127	
1,2-Dichloroethane-d4	100	80-128	
Toluene-d8	95	80-120	

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



Analytical Report

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

Date Received: 08/27/13
Work Order: 13-08-1791
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
W-14-MW3	13-08-1791-3-A	08/23/13 08:05	Aqueous	GC/MS L	08/27/13	08/28/13 00:59	130827L01

Parameter	Result	RL	DF	Qualifiers
Benzene	1.1	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)	7.2	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	0.90	0.50	1	
Surrogate	Rec. (%)	Control Limits	Qualifiers	
1,4-Bromofluorobenzene	94	68-120		
Dibromofluoromethane	97	80-127		
1,2-Dichloroethane-d4	99	80-128		
Toluene-d8	104	80-120		

Return to Contents

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



Analytical Report

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

Date Received: 08/27/13
Work Order: 13-08-1791
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
W-18-MW5	13-08-1791-4-B	08/23/13 08:30	Aqueous	GC/MS L	08/28/13	08/28/13 19:30	130828L01

Parameter	Result	RL	DF	Qualifiers
Benzene	17	2.0	4	
Toluene	ND	2.0	4	
Ethylbenzene	6.3	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)	42	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	85	68-120	
Dibromofluoromethane	90	80-127	
1,2-Dichloroethane-d4	99	80-128	
Toluene-d8	115	80-120	

Return to Contents

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



Analytical Report

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

Date Received: 08/27/13
Work Order: 13-08-1791
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	099-12-884-1083	N/A	Aqueous	GC/MS L	08/27/13	08/27/13 17:47	130827L01

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	88	68-120	
Dibromofluoromethane	100	80-127	
1,2-Dichloroethane-d4	104	80-128	
Toluene-d8	99	80-120	

Return to Contents

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



Analytical Report

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

Date Received: 08/27/13
Work Order: 13-08-1791
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 99105/022783C

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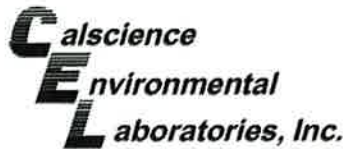
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-884-1084	N/A	Aqueous	GC/MS L	08/28/13	08/28/13 11:21	130828L01

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	88	68-120	
Dibromofluoromethane	91	80-127	
1,2-Dichloroethane-d4	90	80-128	
Toluene-d8	95	80-120	

Return to Contents

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



Quality Control - Spike/Spike Duplicate

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

Date Received: 08/27/13
Work Order: 13-08-1791
Preparation: EPA 5030C
Method: EPA 8015B (M)

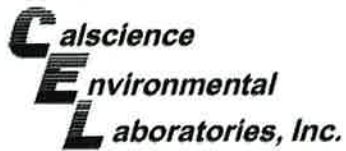
Project: ExxonMobil 99105/022783C

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Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number					
13-08-1536-4	Aqueous	GC 25	08/28/13	08/28/13 16:18	130828S01					
Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	106.7	2000	1939	92	2000	95	68-122	3	0-18	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Quality Control - Spike/Spike Duplicate

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

Date Received: 08/27/13
Work Order: 13-08-1791
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project: ExxonMobil 99105/022783C

Page 2 of 4

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number					
13-08-1792-3	Aqueous	GC 25	08/29/13	08/29/13 12:39	130829S01					
Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	78.84	2000	1881	90	1927	92	68-122	2	0-18	

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits



Quality Control - Spike/Spike Duplicate

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

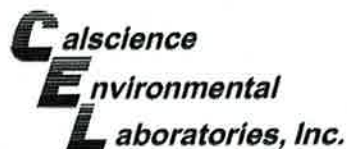
Date Received: 08/27/13
Work Order: 13-08-1791
Preparation: EPA 5030C
Method: EPA 8260B

Project: ExxonMobil 99105/022783C

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Quality Control Sample ID	Matrix		Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number				
13-08-1793-2	Aqueous		GC/MS L	08/27/13	08/27/13 20:11	130827S01				
Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	1.930	10.00	11.68	98	12.06	101	76-124	3	0-20	
Toluene	ND	10.00	9.854	99	9.945	99	80-120	1	0-20	
Ethylbenzene	0.9149	10.00	11.12	102	11.21	103	78-126	1	0-20	
o-Xylene	ND	10.00	9.793	98	9.886	99	70-130	1	0-30	
p/m-Xylene	ND	20.00	19.88	99	20.28	101	70-130	2	0-30	
Methyl-t-Butyl Ether (MTBE)	ND	10.00	10.64	106	10.80	108	67-121	1	0-49	
Tert-Butyl Alcohol (TBA)	ND	50.00	55.75	112	51.74	103	36-162	7	0-30	
Diisopropyl Ether (DIPE)	ND	10.00	10.26	103	10.30	103	60-138	0	0-45	
Ethyl-t-Butyl Ether (ETBE)	ND	10.00	10.37	104	10.44	104	69-123	1	0-30	
Tert-Amyl-Methyl Ether (TAME)	ND	10.00	10.62	106	10.66	107	65-120	0	0-20	
1,2-Dibromoethane	ND	10.00	10.51	105	10.20	102	80-120	3	0-20	
1,2-Dichloroethane	ND	10.00	9.698	97	9.894	99	80-120	2	0-20	

RPD: Relative Percent Difference, CL: Control Limits



Quality Control - Spike/Spike Duplicate

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

Date Received: 08/27/13
Work Order: 13-08-1791
Preparation: EPA 5030C
Method: EPA 8260B

Project: ExxonMobil 99105/022783C

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Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number					
13-08-1853-4	Aqueous	GC/MS L	08/28/13	08/28/13 15:11	130828S01					
Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	10.00	9.862	99	10.05	100	76-124	2	0-20	
Toluene	ND	10.00	9.898	99	10.11	101	80-120	2	0-20	
Ethylbenzene	ND	10.00	10.52	105	10.49	105	78-126	0	0-20	
o-Xylene	ND	10.00	9.876	99	9.829	98	70-130	0	0-30	
p/m-Xylene	ND	20.00	20.59	103	20.73	104	70-130	1	0-30	
Methyl-t-Butyl Ether (MTBE)	ND	10.00	9.965	100	9.874	99	67-121	1	0-49	
Tert-Butyl Alcohol (TBA)	ND	50.00	60.28	121	50.37	101	36-162	18	0-30	
Diisopropyl Ether (DIPE)	ND	10.00	9.986	100	10.16	102	60-138	2	0-45	
Ethyl-t-Butyl Ether (ETBE)	ND	10.00	9.710	97	9.854	99	69-123	1	0-30	
Tert-Amyl-Methyl Ether (TAME)	ND	10.00	10.08	101	10.04	100	65-120	0	0-20	
1,2-Dibromoethane	ND	10.00	9.981	100	9.989	100	80-120	0	0-20	
1,2-Dichloroethane	ND	10.00	9.744	97	9.798	98	80-120	1	0-20	

RPD: Relative Percent Difference. CL: Control Limits



Quality Control - LCS/LCSD

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

Date Received: 08/27/13
Work Order: 13-08-1791
Preparation: EPA 3510C
Method: EPA 8015B (M)

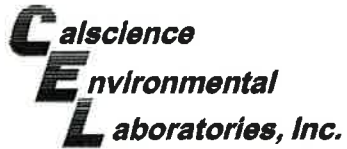
Project: ExxonMobil 99105/022783C

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Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number				
099-15-304-452	Aqueous	GC 47	08/28/13	09/06/13 17:02	130828B01				
Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	2000	1871	94	1826	91	75-117	2	0-13	

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RPD: Relative Percent Difference. CL: Control Limits



Quality Control - LCS

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

Date Received: 08/27/13
Work Order: 13-08-1791
Preparation: EPA 5030C
Method: EPA 8015B (M)

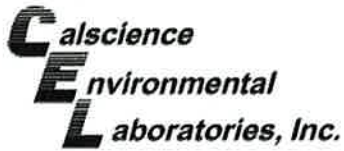
Project: ExxonMobil 99105/022783C

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Quality Control Sample ID	Matrix	Instrument	Date Analyzed	LCS Batch Number	
099-12-436-8804	Aqueous	GC 25	08/28/13 15:11	130828B01	
Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Gasoline	2000	1964	98	78-120	

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RPD: Relative Percent Difference. CL: Control Limits



Quality Control - LCS

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

Date Received: 08/27/13
 Work Order: 13-08-1791
 Preparation: EPA 5030C
 Method: EPA 8015B (M)

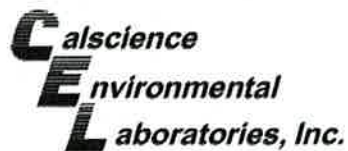
Project: ExxonMobil 99105/022783C

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Quality Control Sample ID	Matrix	Instrument	Date Analyzed	LCS Batch Number	
099-12-436-8805	Aqueous	GC 25	08/29/13 11:32	130829B01	
Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Gasoline	2000	1970	99	78-120	

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RPD: Relative Percent Difference. CL: Control Limits



Quality Control - LCS

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

Date Received: 08/27/13
Work Order: 13-08-1791
Preparation: EPA 5030C
Method: EPA 8260B

Project: ExxonMobil 99105/022783C

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Quality Control Sample ID	Matrix	Instrument	Date Analyzed	LCS Batch Number		
099-12-884-1083	Aqueous	GC/MS L	08/27/13 16:39	130827L01		
Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	10.00	9.837	98	80-120	73-127	
Toluene	10.00	9.996	100	80-120	73-127	
Ethylbenzene	10.00	10.40	104	80-120	73-127	
o-Xylene	10.00	9.849	98	75-125	67-133	
p/m-Xylene	20.00	20.19	101	75-125	67-133	
Methyl-t-Butyl Ether (MTBE)	10.00	9.840	98	69-123	60-132	
Tert-Butyl Alcohol (TBA)	50.00	47.20	94	63-123	53-133	
Diisopropyl Ether (DIPE)	10.00	9.985	100	59-137	46-150	
Ethyl-t-Butyl Ether (ETBE)	10.00	10.00	100	69-123	60-132	
Tert-Amyl-Methyl Ether (TAME)	10.00	10.24	102	70-120	62-128	
1,2-Dibromoethane	10.00	9.743	97	79-121	72-128	
1,2-Dichloroethane	10.00	9.472	95	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



Quality Control - LCS

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

Date Received: 08/27/13
Work Order: 13-08-1791
Preparation: EPA 5030C
Method: EPA 8260B

Project: ExxonMobil 99105/022783C

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Quality Control Sample ID	Matrix	Instrument	Date Analyzed	LCS Batch Number		
099-12-884-1084	Aqueous	GC/MS L	08/28/13 10:17	130828L01		
Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	10.00	9.858	99	80-120	73-127	
Toluene	10.00	9.673	97	80-120	73-127	
Ethylbenzene	10.00	10.05	101	80-120	73-127	
o-Xylene	10.00	9.553	96	75-125	67-133	
p/m-Xylene	20.00	19.73	99	75-125	67-133	
Methyl-t-Butyl Ether (MTBE)	10.00	9.658	97	69-123	60-132	
Tert-Butyl Alcohol (TBA)	50.00	47.89	96	63-123	53-133	
Diisopropyl Ether (DIPE)	10.00	10.09	101	59-137	46-150	
Ethyl-t-Butyl Ether (ETBE)	10.00	10.01	100	69-123	60-132	
Tert-Amyl-Methyl Ether (TAME)	10.00	10.31	103	70-120	62-128	
1,2-Dibromoethane	10.00	9.709	97	79-121	72-128	
1,2-Dichloroethane	10.00	8.179	82	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

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RPD: Relative Percent Difference. CL: Control Limits

Glossary of Terms and Qualifiers

Work Order: 13-08-1791

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<u>Qualifiers</u>	<u>Definition</u>
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 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.
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.

1791

			
800-322-5555 www.gso.com			
Ship From: ALAN KEMP CAL SCIENCE- CONCORD 5063 COMMERCIAL CIRCLE #H CONCORD, CA 94520		Tracking #: 522595279 	
Ship To: SAMPLE RECEIVING CEL 7440 LINCOLN WAY GARDEN GROVE, CA 92841		NPS <div style="border: 1px solid black; padding: 5px; display: inline-block;"> A </div>	
COD: \$0.00		ORC GARDEN GROVE	
Reference: CARDNO ERI		D92841A 	
Delivery Instructions:		15375579	
Signature Type: SIGNATURE REQUIRED		Print Date : 08/28/13 14:58 PM	

Package 1 of 2

Send Label To Printer	<input checked="" type="checkbox"/> Print All	Edit Shipment	Finish
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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.

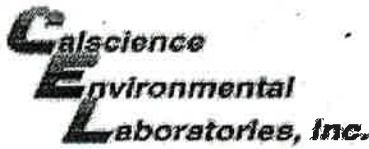
ADDITIONAL OPTIONS:

Send Label Via Email	Create Return Label
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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 not limited to, artwork, jewelry, furs, precious metals, tickets, negotiable instruments and other items with intrinsic value.

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WORK ORDER #: 13-08-1791

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: Cardno ERI

DATE: 08/27/13

TEMPERATURE: Thermometer ID: SC3 (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Temperature 2.5 °C - 0.2°C (CF) = 2.3 °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 Initial: JK

CUSTODY SEALS INTACT:

Cooler _____ No (Not Intact) Not Present N/A Initial: JK

Sample _____ No (Not Intact) Not Present Initial: JK

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"/> Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
<input type="checkbox"/> No analysis requested. <input type="checkbox"/> Not relinquished. <input type="checkbox"/> No date/time relinquished.			
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 good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers and sufficient volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aqueous samples received within 15-minute holding time			
<input type="checkbox"/> pH <input type="checkbox"/> Residual Chlorine <input type="checkbox"/> Dissolved Sulfides <input type="checkbox"/> Dissolved Oxygen.....			
Proper preservation noted on COC or sample container.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:

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

Aqueous: VOA VOA^h VOA_{na2} 125AGB 125AGBh 125AGBp 1AGB 1AGBna₂ 1AGBs

500AGB 500AGJ 500AGJs 250AGB 250CGB 250CGBs 1PB 1PBna 500PB

250PB 250PBn 125PB 125PBz_{nna} 100PJ 100PJna₂ _____ _____ _____

Air: Tedlar® Canister Other: _____ Trip Blank Lot#: _____ Labeled/Checked by: JK

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

Preservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure z_{nna}: ZnAc₂+NaOH f: Filtered Scanned by: JK

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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. EKI 2783	2. Page 1 of 1
3. Generator's Name and Mailing Address EM# 99105 6301 SAN PABLO BLVD OAKLAND, CA				CARDNO EKI	
4. Generator's Phone ()					
5. Transporter 1 Company Name CARDNO EKI		6. US EPA ID Number		A. State Transporter's ID	
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone	
9. Designated Facility Name and Site Address INSTANT, INC. 1185 C AIRPORT RD. RICO 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 (707) 874-3334	
11. WASTE DESCRIPTION			12. Containers		13. Total Quantity
			No.	Type	14. Unit Wt./Vol.
a. NON-HAZ PURGE WATER			01	PLY	65 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	
				Month Day Year	
				9 3 13	
T R A N S P O R T E R					
17. Transporter 1 Acknowledgement of Receipt of Materials				Date	
Printed/Typed Name Scott Elder				Signature <i>Scott Elder</i>	
18. Transporter 2 Acknowledgement of Receipt of Materials				Date	
Printed/Typed Name				Signature	
F A C I L I T Y					
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.				Date	
Printed/Typed Name MICHAEL WHITEHEAD				Signature <i>Michael Whitehead</i>	
				Date	
				Month Day Year	
				9 3 13	

NON-HAZARDOUS WASTE

