ExxonMobil
Environmental Services Company
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Oakland, California 94611
510 547 8196 Telephone
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Jennifer C. Sedlachek
Project Manager

RECEIVED
By Alameda County Environmental Health at 4:38 pm, Jan 17, 2014

ExxonMobil

January 16, 2014

Mr. Mark Detterman
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Room 250
Alameda, California 94502-6577

RE: Former Exxon RAS #79374/990 San Pablo Avenue, Albany, California.

Dear Ms. Jakub:

Attached for your review and comment is a copy of the letter report entitled ***Groundwater Monitoring Report, Fourth Quarter 2013,*** dated January 16, 2014, for the above-referenced site. The report was prepared by Cardno ERI of Petaluma, California, and details activities for 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 ***Groundwater Monitoring Report, Fourth Quarter 2013,*** dated January 16, 2014

cc: w/ attachment
Ms. Muriel T. Blank, Trustee, The Blank Family Trust
Reverend Deborah Blank, Trustee, The Blank Family Trust
Ms. Marcia Blank Kelly, The Blank Family Trust

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

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January 16, 2014
Cardno ERI 2735C.Q134

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

SUBJECT **Groundwater Monitoring Report, Fourth Quarter 2013**
Former Exxon Service Station 79374
990 San Pablo Avenue, Albany, California

Alameda County RO#2974

INTRODUCTION

At the request of ExxonMobil Environmental Services (EMES), on behalf of Exxon Mobil Corporation, Cardno ERI performed fourth 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 is occupied by a retail outlet for paints and painting products.

GROUNDWATER MONITORING AND SAMPLING SUMMARY

Gauging and sampling date:		12/19/13
Wells gauged and sampled:		MW1 through MW3, MW3A, MW4 through MW6
Wells gauged only:		AS1, SVE1 through SVE3
Presence of NAPL:		Not observed
Laboratory:		Calscience Environmental Laboratories, Inc. Garden Grove, California
Analyses performed:	EPA Method 8015B	TPHd, TPHg, TPHmo
	EPA Method 8260B	BTEX, MTBE, ETBE, TAME, TBA, DIPE, EDB, 1,2-DCA
Waste disposal:	55 gallons purge and decon water delivered to InStrat, Inc., of Rio Vista, California, on 01/15/14	

RESULTS AND CONCLUSIONS

Groundwater Gradient

Due to varying well construction, Cardno ERI separated the wells into shallow and deep water-bearing zones. Wells MW3A, MW4, MW5, and SVE1 through SVE3 are screened no deeper than 15 feet bgs and are referred to as the shallow water-bearing zone; wells MW1 through MW3 and MW6 have screened intervals that extend deeper than 15 feet bgs and are referred to as the deep water-bearing zone. The groundwater elevations in wells screened deeper than 15 feet are commonly irregular and do not agree with the distribution of petroleum hydrocarbon concentrations. Although the water-bearing zones are referred to as shallow and deep, they likely do not represent unique water-bearing zones. During fourth quarter 2013, the groundwater flow direction in the shallow water-bearing zone was towards the southwest with a hydraulic gradient of approximately 0.008. Due to varying well construction, the groundwater flow in the deep water-bearing zone was not calculated. Groundwater elevation maps for the shallow and deep water-bearing zones are included as Plates 3 and 4, respectively.

Non-Aqueous Phase Liquid

During the fourth quarter 2012 sampling event, concentrations of TPHg (270,000 µg/L) were two orders of magnitude higher in well MW4 than previous concentrations, potentially indicative of the presence of NAPL. Although the TPHg concentrations increased, BTEX concentrations were consistent with previous data. NAPL was not observed in the well during the 2013 monitoring events. Concentrations of TPHg reported in well MW4 during the second quarter 2013 (16,000 µg/L) and fourth quarter 2013 (13,000 µg/L) sampling events were consistent with historical results.

Hydrocarbons in Groundwater

Concentrations of TPHd, TPHg, and BTEX were reported in wells MW3, MW3A, and MW4 through MW6 and concentrations of toluene and total xylenes were reported in well MW1. The chromatographic pattern of the TPHd results was not consistent with diesel. Concentrations of TPHmo, MTBE, TBA, ETBE, DIPE, TAME, EDB, and 1,2-DCA were not reported in the samples collected from the wells. Maximum hydrocarbon concentrations were reported in well MW3, located in the vicinity of the former USTs, and wells MW4 and MW5, located west of the former USTs. Petroleum hydrocarbon concentrations were consistent with historic site data.

RECOMMENDATIONS

Cardno ERI recommends continued semi-annual monitoring and sampling of wells MW1 through MW3, MW3A, and MW4 through MW6 during the second and fourth quarters and quarterly monitoring of well MW4.

WORK IN PROGRESS

Cardno ERI is in the process of permitting the work proposed in the *Data Gap Investigation Work Plan,* dated July 22, 2013 (Cardno ERI, 2013).

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

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Enclosures:

Reference

Acronym List

Plate 1	Site Vicinity Map
Plate 2	Select Analytical Results
Plate 3	Groundwater Elevation Map, Shallow Water-Bearing Zone
Plate 4	Groundwater Elevation Map, Deep Water-Bearing Zone
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 and Chain-of-Custody Record
Appendix D	Waste Disposal Documentation

cc: Mr. Mark Detterman, Alameda County Health Care Services Agency, Environmental Health Services, 1131 Harbor Bay Parkway, Suite 250, Alameda, California, 94502-6577

Ms. Muriel T. Blank, Trustee, The Blank Family Trusts, 1164 Solano Avenue, #406, Albany, California, 94706

Reverend Deborah Blank, Trustee, The Blank Family Trust, 1563 Solano Avenue, #344, Berkeley, California, 94707

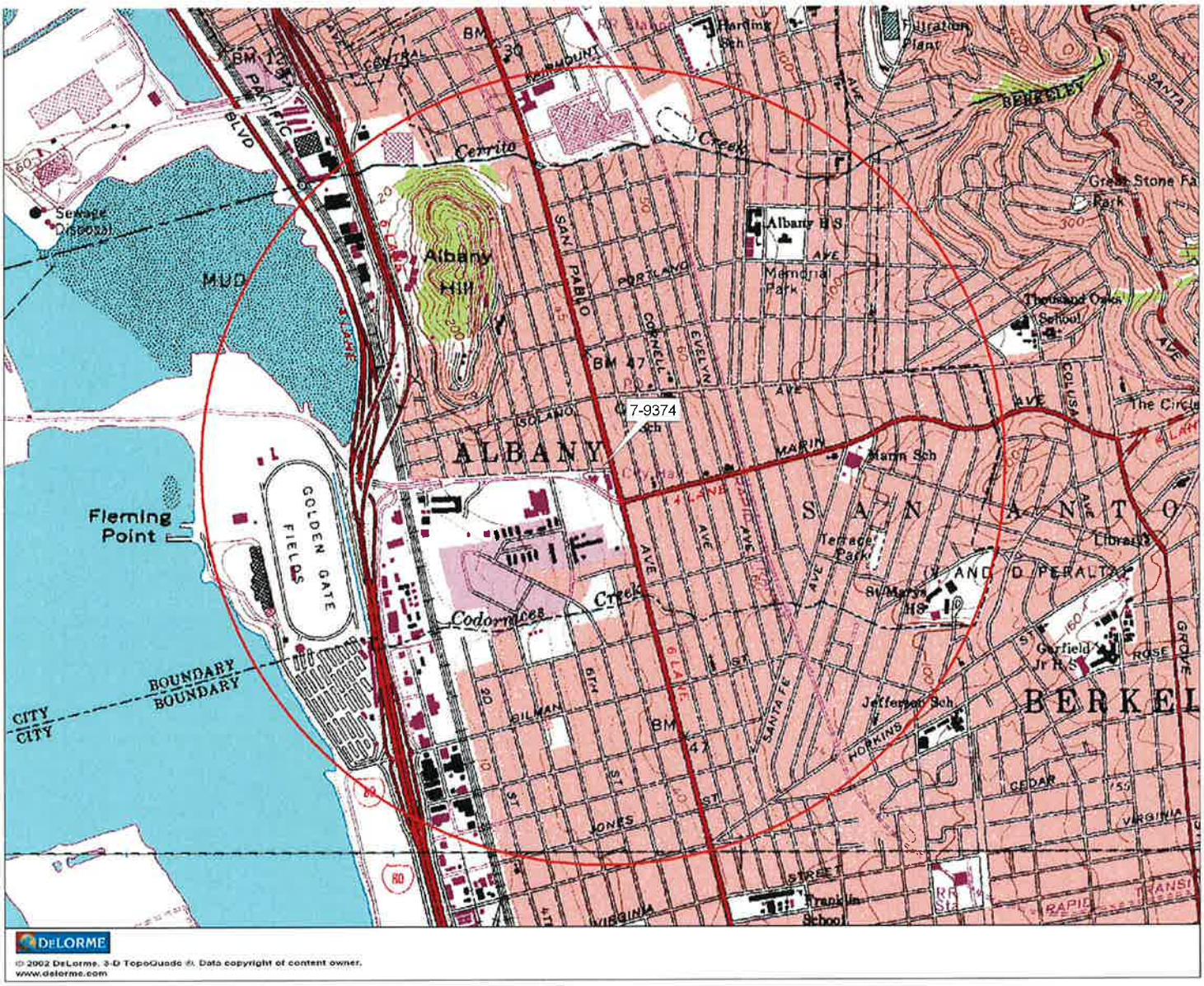
Ms. Marcia Blank, Trustee, The Blank Family Trust, 641 SW Morningside Road, Topeka, Kansas, 66606

REFERENCE

Cardno ERI. July 22, 2013. *Data Gap Investigation Work Plan, Former Exxon Service Station 79374, 990 San Pablo Avenue, Albany, 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 2735 TOPO

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 EXXON SERVICE STATION 79374
990 San Pablo Avenue
Albany, California

PROJECT NO.
2735

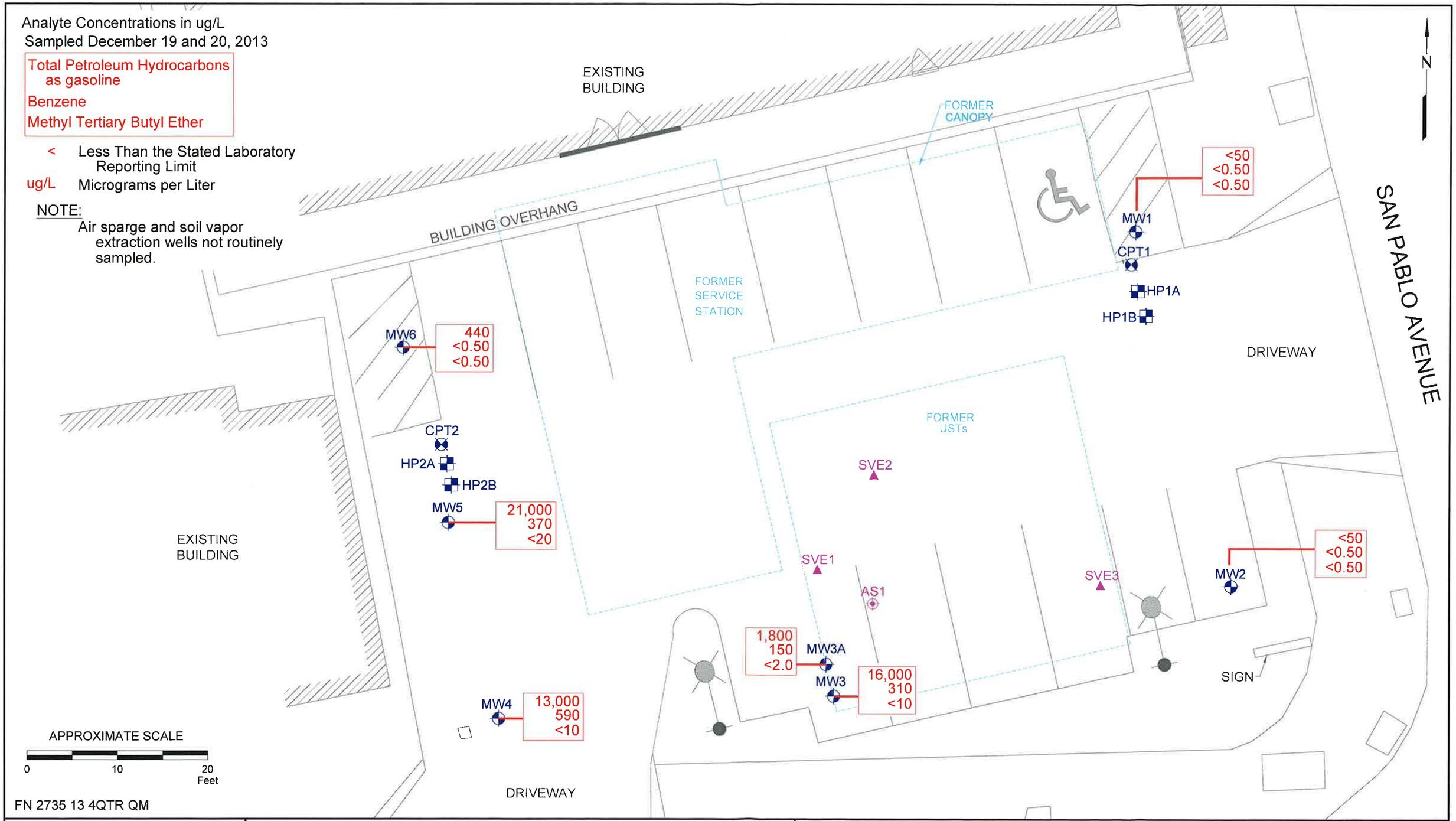
PLATE
1

Analyte Concentrations in ug/L
Sampled December 19 and 20, 2013

Total Petroleum Hydrocarbons as gasoline
Benzene
Methyl Tertiary Butyl Ether

< Less Than the Stated Laboratory Reporting Limit
ug/L Micrograms per Liter

NOTE:
Air sparge and soil vapor extraction wells not routinely sampled.



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SELECT ANALYTICAL RESULTS
December 19 and 20, 2013
FORMER EXXON SERVICE STATION 79374
990 San Pablo Avenue
Albany, California

EXPLANATION
MW6 Groundwater Monitoring Well
HP2B Hydropunch Boring
AS1 Air Sparge Well
CPT2 Cone Penetration Test Boring
SVE3 Soil Vapor Extraction Well

PROJECT NO.
2735

PLATE
2

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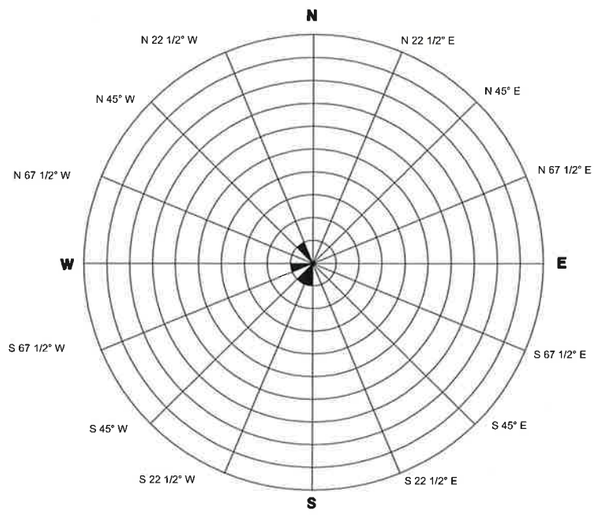

Rose diagram developed by evaluating the groundwater gradient direction from the quarterly monitoring data. Each circle on the rose diagram represents the gradient plotted in that 22 1/2 degree sector.

N Compass Direction
2 Data Points Shown

GROUNDWATER FLOW DIRECTION ROSE DIAGRAM

EXISTING BUILDING

BUILDING OVERHANG

FORMER CANOPY

FORMER SERVICE STATION

FORMER USTs

DRIVEWAY

SAN PABLO AVENUE

N

MW1

CPT1

HP1A

HP1B

MW6

CPT2

HP2A

HP2B

MW5
30.53

30.5

30.6

30.7

SVE2
30.74

30.7

i = 0.008
December 19, 2013

GROUNDWATER FLOW DIRECTION

SVE1
30.69

AS1

SVE3
30.62

MW2

MW3A
30.63

MW3
30.6

30.4

MW4
30.35

30.4

30.5

SIGN

EXISTING BUILDING

DRIVEWAY

APPROXIMATE SCALE
0 10 20 Feet

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GROUNDWATER ELEVATION MAP
SHALLOW WATER-BEARING ZONE
December 19, 2013

FORMER EXXON SERVICE STATION 79374
990 San Pablo Avenue
Albany, California

EXPLANATION

- MW5 — Groundwater Monitoring Well
- 30.53 — Groundwater elevation in feet; datum is mean sea level
- i = Interpreted Hydraulic Gradient
- HP2B — Hydropunch Boring
- CPT2 — Cone Penetration Test Boring
- 30.7 ------ Line of Equal Groundwater Elevation; datum is mean sea level
- AS1 — Air Sparge Well
- SVE3 — Soil Vapor Extraction Well

PROJECT NO. 2735

PLATE 3

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GROUNDWATER ELEVATION MAP
DEEP WATER-BEARING ZONE
December 19, 2013

FORMER EXXON SERVICE STATION 79374
990 San Pablo Avenue
Albany, California

EXPLANATION

MW3 Groundwater Monitoring Well

30.42 Groundwater elevation in feet; datum is mean sea level

NOTE: Wells not contoured due to varying well construction.

HP2B Hydropunch Boring

CPT2 Cone Penetration Test Boring

AS1 Air Sparge Well

SVE3 Soil Vapor Extraction Well

PROJECT NO. 2735

PLATE 4

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TABLE 1A
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Well ID	Sampling Date	Depth (feet)	TOC Elev. (feet)	DTW (feet)	GW Elev.	NAPL (feet)	O&G (µg/L)	TPHmo (µg/L)	TPHd (µg/L)	TPHg (µg/L)	MTBE (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
Monitoring Well Samples															
MW1	11/04/10	---	Well installed.												
MW1	12/01/10	---	41.45	Well surveyed.											
MW1	12/16/10	---	41.45	9.18	32.27	No	---	<250	71a	54	<0.50	1.4	0.65	0.58	1.6
MW1	01/31/11	---	41.45	8.78	32.67	No	---	<250	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW1	04/07/11	---	41.45	8.45	33.00	No	---	<250	65a	160a	<0.50	2.9	0.92	<0.50	1.7
MW1	07/18/11	---	41.45	9.49	31.96	No	---	<250	<50	63a	<0.50	<0.50	<0.50	<0.50	<0.50
MW1	10/13/11	---	41.45	9.86	31.59	No	---	<250	54	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW1	04/06/12	---	41.45	8.11	33.34	No	---	<250	130	130	<0.50	2.1	<0.50	<0.50	<0.50
MW1	10/19/12	---	41.45	10.42	31.03	No	---	<250	<50	<50	<0.50	0.51	2.2	<0.50	0.65
MW1	06/11/13	---	41.45	10.48	30.97	No	---	<250	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW1	**12/19/13**	**---**	**41.45**	**10.67**	**30.78**	**No**	**---**	**<250**	**<50**	**<50**	**<0.50**	**<0.50**	**1.3**	**<0.50**	**0.53**
MW2	11/04/10	---	Well installed.												
MW2	12/01/10	---	41.25	Well surveyed.											
MW2	12/16/10	---	41.25	8.11	33.14	No	---	<250	110a	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW2	01/31/11	---	41.25	9.29	31.96	No	---	<250	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW2	04/07/11	---	41.25	8.21	33.04	No	---	<250	<50	<50	0.51	<0.50	<0.50	<0.50	<0.50
MW2	07/18/11	---	41.25	9.52	31.73	No	---	<250	<50	54a	<0.50	<0.50	<0.50	<0.50	<0.50
MW2	10/13/11	---	41.25	9.56	31.69	No	---	<250	98	75a	<0.50	<0.50	<0.50	<0.50	<0.50
MW2	04/06/12	---	41.25	8.68	32.57	No	---	<250	60	68	<0.50	<0.50	<0.50	<0.50	<0.50
MW2	10/19/12	---	41.25	11.03	30.22	No	---	<250	<50	59a	<0.50	<0.50	<0.50	<0.50	<0.50
MW2	06/11/13	---	41.25	10.67	30.58	No	---	<250	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
MW2	**12/19/13**	**---**	**41.25**	**10.77**	**30.48**	**No**	**---**	**<250**	**<50**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**
MW3	11/08/10	---	Well installed.												
MW3	12/01/10	---	40.42	Well surveyed.											
MW3	12/16/10	---	40.42	8.18	32.24	No	---	<250	2,900a	19,000	<12	350	130	940	290
MW3	01/31/11	---	40.42	7.64	32.78	No	---	390	2,800a	17,000a	<12	540	140	700	270
MW3	04/07/11	---	40.42	5.88	34.54	No	---	<250	2,700a	14,000	<10	600	150	780	230
MW3	07/18/11	---	40.42	8.31	32.11	No	---	<250	1,700a	19,000	<10	650	140	660	220
MW3	10/13/11	---	40.42	8.76	31.66	No	---	<250	1,900a	16,000	<10	520	150	900	270
MW3	04/06/12	---	40.42	8.13	32.29	No	---	<250	3,200a	18,000	<20	300	120	1,100	180
MW3	10/19/12	---	40.42	9.37	31.05	No	---	<250	1,700a	11,000a	<10	380	120	740	150
MW3	06/11/13	---	40.42	9.48	30.94	No	---	<250	2,700a	17,000	<10	270	110	990	140
MW3	**12/19/13**	**---**	**40.42**	**10.00**	**30.42**	**No**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
MW3	**12/20/13**	**---**	**40.42**	**---**	**---**	**---**	**---**	**<250**	**2,000a**	**16,000**	**<10**	**310**	**120**	**710**	**120**
MW3A	01/18/12	---	Well installed.												
MW3A	02/06/12	---	40.68	Well surveyed.											
MW3A	04/06/12	---	40.68	6.02	34.66	No	---	<250	170a	1,300	<2.0	41	7.5	140	38
MW3A	10/19/12	---	40.68	10.44	30.24	No	---	<250	860a	4,400a	<5.0	390	59	410	82
MW3A	06/11/13	---	40.68	9.75	30.93	No	---	<250	160a	1,100	<2.0	99	14	110	3.6
MW3A	**12/19/13**	**---**	**40.68**	**10.05**	**30.63**	**No**	**---**	**<250**	**270a**	**1,800**	**<2.0**	**150**	**18**	**65**	**4.7**

TABLE 1A
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Well ID	Sampling Date	Depth (feet)	TOC Elev. (feet)	DTW (feet)	GW Elev.	NAPL (feet)	O&G (µg/L)	TPHmo (µg/L)	TPHd (µg/L)	TPHg (µg/L)	MTBE (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
MW4	11/05/10	---	Well installed.												
MW4	12/01/10	---	39.30	Well surveyed.											
MW4	12/16/10	---	39.30	6.10	33.20	No	---	<250	2,000a	9,900	<5.0	440	40	170	380
MW4	01/31/11	---	39.30	6.84	32.46	No	---	260	3,900a	13,000	<10	500	59	320	740
MW4	04/07/11	---	39.30	5.29	34.01	No	---	<250	1,900a	9,600	<10	530	59	250	340
MW4	07/18/11	---	39.30	7.36	31.94	No	---	<250	2,800a	14,000	<10	570	66	320	510
MW4	10/13/11	---	39.30	7.83	31.47	No	---	320	7,200a	14,000	<10	350	43	340	690
MW4	04/06/12	---	39.30	6.21	33.09	No	---	<250	1,800a	9,100a	<10	380	40	220	410
MW4	10/19/12	---	39.30	10.64	28.66	No	---	1,400a	20,000a	270,000	<10	440	88	2,100	3,800
MW4	03/06/13	---	39.30	8.02	31.28	No	---	---	---	---	---	---	---	---	---
MW4	06/11/13	---	39.30	9.05	30.25	No	---	<250	3,400a	16,000	<10	430	48	520	820
MW4	**12/19/13**	**---**	**39.30**	**8.95**	**30.35**	**No**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
MW4	**12/20/13**	**---**	**39.30**	**---**	**---**	**---**	**---**	**<250**	**2,800a**	**13,000**	**<10**	**590**	**41**	**430**	**530**
MW5	11/11/10	---	Well installed.												
MW5	12/01/10	---	40.38	Well surveyed.											
MW5	12/16/10	---	40.38	7.69	32.69	No	---	<250	1,100a	6,200	<2.5	150	96	270	980
MW5	01/31/11	---	40.38	8.00	32.38	No	---	270	4,600a	15,000	<10	520	310	1,100	2,500
MW5	04/07/11	---	40.38	6.73	33.65	No	---	<250	610a	2,500	<2.5	61	32	180	390
MW5	07/18/11	---	40.38	7.63	32.75	No	---	<250	2,000a	11,000	<2.5	340	160	990	1,800
MW5	10/13/11	---	40.38	9.31	31.07	No	---	660	7,600a	23,000	<20	390	160	1,200	3,100
MW5	04/06/12	---	40.38	6.77	33.61	No	---	<250	880a	6,000a	<5.0	62	17	360	680
MW5	10/19/12	---	40.38	10.64	29.74	No	---	280a	2,100a	15,000	<20	580	63	950	1,400
MW5	06/11/13	---	40.38	10.06	30.32	No	---	<250	2,700a	13,000	<20	540	36	930	1,200
MW5	**12/19/13**	**---**	**40.38**	**9.85**	**30.53**	**No**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
MW5	**12/20/13**	**---**	**40.38**	**---**	**---**	**---**	**---**	**<250**	**2,100a**	**21,000**	**<20**	**370**	**36**	**1,500**	**1,400**
MW6	11/03/10	---	Well installed.												
MW6	12/01/10	---	41.06	Well surveyed.											
MW6	12/16/10	---	41.06	8.55	32.51	No	---	<250	110a	1,700	<0.50	2.8	1.2	61	46
MW6	01/31/11	---	41.06	8.52	32.54	No	---	<250	800a	2,000a	<1.0	6.0	<1.0	30	24
MW6	04/07/11	---	41.06	7.78	33.28	No	---	<250	660a	2,000	<0.50	10	1.0	20	19
MW6	07/18/11	---	41.06	9.27	31.79	No	---	<250	350a	1,000a	<0.50	2.5	<0.50	3.8	3.5
MW6	10/13/11	---	41.06	10.21	30.85	No	---	<250	370a	890a	<0.50	2.8	<0.50	7.9	5.5
MW6	04/06/12	---	41.06	7.19	33.87	No	---	<250	440a	1,400a	<0.50	2.4	<0.50	13	15
MW6	10/19/12	---	41.06	11.36	29.70	No	---	<250	99a	510a	<0.50	4.2	1.6	8.0	7.0
MW6	06/11/13	---	41.06	10.81	30.25	No	---	<250	150a	500	<0.50	<0.50	<0.50	2.4	1.1
MW6	**12/19/13**	**---**	**41.06**	**10.78**	**30.28**	**No**	**---**	**<250**	**68a**	**440**	**<0.50**	**<0.50**	**<0.50**	**2.3**	**0.87**
AS1	01/18/12	---	Well installed.												
AS1	10/19/12	---	---	10.32	---	No	---	---	---	---	---	---	---	---	---
AS1	06/11/13	---	---	9.82	---	No	---	---	---	---	---	---	---	---	---
AS1	**12/19/13**	**---**	**---**	**10.12**	**---**	**No**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
SVE1	01/17/12	---	Well installed.												

TABLE 1A
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Well ID	Sampling Date	Depth (feet)	TOC Elev. (feet)	DTW (feet)	GW Elev.	NAPL (feet)	O&G (µg/L)	TPHmo (µg/L)	TPHd (µg/L)	TPHg (µg/L)	MTBE (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
SVE1	02/06/12	---	40.58	Well surveyed.											
SVE1	10/19/12	---	40.58	10.21	30.37	No	---	---	---	---	---	---	---	---	---
SVE1	06/11/13	---	40.58	9.63	30.95	No	---	---	---	---	---	---	---	---	---
SVE1	**12/19/13**	**---**	**40.58**	**9.89**	**30.69**	**No**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
SVE2	01/17/12	---	Well installed.												
SVE2	02/06/12	---	40.94	Well surveyed.											
SVE2	10/19/12	---	40.94	10.48	30.46	No	---	---	---	---	---	---	---	---	---
SVE2	06/11/13	---	40.94	9.94	31.00	No	---	---	---	---	---	---	---	---	---
SVE2	**12/19/13**	**---**	**40.94**	**10.20**	**30.74**	**No**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
SVE3	01/17/12	---	Well installed.												
SVE3	02/06/12	---	40.93	Well surveyed.											
SVE3	10/19/12	---	40.93	10.39	30.54	No	---	---	---	---	---	---	---	---	---
SVE3	06/11/13	---	40.93	9.65	31.28	No	---	---	---	---	---	---	---	---	---
SVE3	**12/19/13**	**---**	**40.93**	**10.31**	**30.62**	**No**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
Grab Groundwater Samples															
B-1W	01/06/08	---	---	---	---	---	26r,s	<5,000	99,000o,n,r	76,000m,p,r	<50	<50	93	3,100	9,600
B-2W	01/06/08	---	---	---	---	---	---	310s	23,000o,r,s	77,000 l,r,s	<50	1,500	300	2,000	6,800
B-3W	01/06/08	---	---	---	---	---	---	<250s	2,000o,s	6,200 l,s	<10	170	32	740	250
B-4W	01/06/08	---	---	---	---	---	---	<250s	3,100o,s	7,700 l,s	<10	360	<10	240	20
B-5W	01/06/08	---	---	---	---	---	---	<250s	120o,s	120q,s	<0.5	<0.5	<0.5	<0.5	<0.5
B-6W	01/06/08	---	---	---	---	---	---	<250s	830o,s	1,700 l,s	<2.5	5.2	<2.5	100	8.6
DR-W	01/06/08	---	---	---	---	---	---	<250	96o	730m,p	<0.5	<0.5	<0.5	6.9	14
W-27.5-HP1A	10/28/10	27.5	---	---	---	---	---	260	330a	63a	<0.50	<0.50	<0.50	<0.50	<0.50
W-36-HP1A	10/28/10	36	---	---	---	---	---	<250	220a	<50	<0.50	<0.50	<0.50	<0.50	<0.50
W-46.5-HP1A	10/28/10	46.5	---	---	---	---	---	<420	<83	<50	<0.50	<0.50	<0.50	<0.50	<0.50
W-59-HP1B	10/27/10	59	---	---	---	---	---	<250	130	<50	<0.50	<0.50	<0.50	<0.50	<0.50
W-27.5-HP2A	10/29/10	27.5	---	---	---	---	---	<250	100a	340	<0.50	1.7	2.1	20	46
W-52-HP2A	10/29/10	52	---	---	---	---	---	<250	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50
W-60.5-HP2B	10/27/10	60.5	---	---	---	---	---	<250	62	<50	<0.50	<0.50	<0.50	<0.50	<0.50
W-10-SVE1-2	01/31/12	10	---	---	---	---	---	890a	1,500a	1,400	<1.0	46	2.0	24	23
W-10-SVE1-1	01/31/12	10	---	---	---	---	---	990a	1,900a	2,000	<2.0	87	2.1	13	23

TABLE 1A
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Notes:

TOC	=	Top of well casing elevation; datum is mean sea level.
DTW	=	Depth to water.
GW Elev.	=	Groundwater elevation; datum is mean sea level. If liquid-phase hydrocarbons present, elevation adjusted using TOC - [DTW - (PT x 0.76)].
NAPL	=	Non-aqueous phase liquid.
O&G	=	Oil and grease with silica gel clean-up analyzed using Standard Method 5520B/F.
TPHmo	=	Total petroleum hydrocarbons as motor oil analyzed using EPA Method 8015 (modified).
TPHd	=	Total petroleum hydrocarbons as diesel analyzed using EPA Method 8015 (modified).
TPHg	=	Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8015 (modified).
MTBE	=	Methyl tertiary butyl ether analyzed using EPA Method 8260B.
BTEX	=	Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8260B.
EDB	=	1,2-dibromoethane analyzed using EPA Method 8260B.
1,2-DCA	=	1,2-dichloroethane analyzed using EPA Method 8260B.
TAME	=	Tertiary amyl methyl ether analyzed using EPA Method 8260B.
TBA	=	Tertiary butyl alcohol analyzed using EPA Method 8260B.
ETBE	=	Ethyl tertiary butyl ether analyzed using EPA Method 8260B.
DIPE	=	Di-isopropyl ether analyzed using EPA Method 8260B.
Add'l VOCs	=	Additional volatile organic carbons analyzed using EPA Method 8260B.
Add'l SVOCs	=	Additional semi-volatile organic carbons analyzed using EPA Method 8270C.
µg/L	=	Micrograms per liter.
ND	=	Not detected at or above laboratory reporting limits.
---	=	Not measured/Not sampled/Not analyzed.
<	=	Less than the stated laboratory reporting limit.
a	=	The chromatographic pattern does not match that of the specified standard.
b	=	n-butylbenzene.
c	=	sec-butylbenzene.
d	=	Isopropylbenzene.
e	=	n-propylbenzene.
f	=	1,2,4-trimethylbenzene.
g	=	1,3,5-trimethylbenzene.
h	=	Naphthalene.
i	=	1-butanone.
j	=	1,2-dibromo-3-chloropropane.
k	=	2-methylnapthalene.
l	=	Unmodified or weakly modified gasoline is significant.
m	=	Heavier gasoline range compounds are significant.
n	=	Diesel range compounds are significant; no recognizable pattern.
o	=	Gasoline range compounds are significant.
p	=	No recognizable pattern.
q	=	Strongly aged gasoline or diesel compounds are significant.
r	=	Lighter than water immiscible sheen/product is present.
s	=	Liquid sample that contains greater than approximately 1 volume % sediment.

TABLE 1B
ADDITIONAL CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Well ID	Sampling Date	Depth (feet)	EDB (µg/L)	1,2-DCA (µg/L)	TAME (µg/L)	TBA (µg/L)	ETBE (µg/L)	DIPE (µg/L)	Add'l VOCs (µg/L)	Add'l SVOCs (µg/L)
Monitoring Well Samples										
MW1	11/04/10	---	Well installed.							
MW1	12/16/10	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW1	01/31/11	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW1	04/07/11	---	<0.50	<0.50	<0.50	10	<0.50	<0.50	---	---
MW1	07/18/11	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW1	10/13/11	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW1	04/06/12	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW1	10/19/12	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW1	06/11/13	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW1	**12/19/13**	**---**	**<0.50**	**<0.50**	**<0.50**	**<5.0**	**<0.50**	**<0.50**	**---**	**---**
MW2	11/04/10	---	Well installed.							
MW2	12/16/10	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW2	01/31/11	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW2	04/07/11	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW2	07/18/11	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW2	10/13/11	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW2	04/06/12	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW2	10/19/12	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW2	06/11/13	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW2	**12/19/13**	**---**	**<0.50**	**<0.50**	**<0.50**	**<5.0**	**<0.50**	**<0.50**	**---**	**---**
MW3	11/08/10	---	Well installed.							
MW3	12/16/10	---	<12	<12	<12	<120	<12	<12	---	---
MW3	01/31/11	---	<12	<12	<12	<120	<12	<12	---	---
MW3	04/07/11	---	<10	<10	<10	<100	<10	<10	---	---
MW3	07/18/11	---	<10	<10	<10	<100	<10	<10	---	---
MW3	10/13/11	---	<10	<10	<10	<100	<10	<10	---	---
MW3	04/06/12	---	<20	<20	<20	<200	<20	<20	---	---
MW3	10/19/12	---	<10	<10	<10	<100	<10	<10	---	---
MW3	06/11/13	---	<10	<10	<10	<100	<10	<10	---	---
MW3	**12/20/13**	**---**	**<10**	**<10**	**<10**	**<100**	**<10**	**<10**	**---**	**---**
MW3A	01/18/12	---	Well installed.							
MW3A	04/06/12	---	<2.0	<2.0	<2.0	<20	<2.0	<2.0	---	---
MW3A	10/19/12	---	<5.0	<5.0	<5.0	<50	<5.0	<5.0	---	---
MW3A	06/11/13	---	<2.0	<2.0	<2.0	<20	<2.0	<2.0	---	---
MW3A	**12/19/13**	**---**	**<2.0**	**<2.0**	**<2.0**	**<20**	**<2.0**	**<2.0**	**---**	**---**
MW4	11/05/10	---	Well installed.							
MW4	12/16/10	---	<5.0	<5.0	<5.0	<50	<5.0	<5.0	---	---
MW4	01/31/11	---	<10	<10	<10	<100	<10	<10	---	---
MW4	04/07/11	---	<10	<10	<10	<100	<10	<10	---	---

TABLE 1B
ADDITIONAL CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Well ID	Sampling Date	Depth (feet)	EDB (µg/L)	1,2-DCA (µg/L)	TAME (µg/L)	TBA (µg/L)	ETBE (µg/L)	DIPE (µg/L)	Add'l VOCs (µg/L)	Add'l SVOCs (µg/L)
MW4	07/18/11	---	<10	<10	<10	<100	<10	<10	---	---
MW4	10/13/11	---	<10	<10	<10	<100	<10	<10	---	---
MW4	04/06/12	---	<10	<10	<10	<100	<10	<10	---	---
MW4	10/19/12	---	<10	<10	<10	<100	<10	<10	---	---
MW4	06/11/13	---	<10	<10	<10	<100	<10	<10	---	---
MW4	**12/20/13**	**---**	**<10**	**<10**	**<10**	**<100**	**<10**	**<10**	**---**	**---**
MW5	11/11/10	---	Well installed.							
MW5	12/16/10	---	<2.5	<2.5	<2.5	<25	<2.5	<2.5	---	---
MW5	01/31/11	---	<10	<10	<10	<100	<10	<10	---	---
MW5	04/07/11	---	<2.5	<2.5	<2.5	<25	<2.5	<2.5	---	---
MW5	07/18/11	---	<2.5	<2.5	<2.5	<25	<2.5	<2.5	---	---
MW5	10/13/11	---	<20	<20	<20	<200	<20	<20	---	---
MW5	04/06/12	---	<0.50	<5.0	<5.0	<50	<5.0	<5.0	---	---
MW5	10/19/12	---	<20	<20	<20	<200	<20	<20	---	---
MW5	06/11/13	---	<20	<20	<20	<200	<20	<20	---	---
MW5	**12/20/13**	**---**	**<20**	**<20**	**<20**	**<200**	**<20**	**<20**	**---**	**---**
MW6	11/03/10	---	Well installed.							
MW6	12/16/10	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW6	01/31/11	---	<1.0	<1.0	<1.0	<10	<1.0	<1.0	---	---
MW6	04/07/11	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW6	07/18/11	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW6	10/13/11	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW6	04/06/12	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW6	10/19/12	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW6	06/11/13	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
MW6	**12/19/13**	**---**	**<0.50**	**<0.50**	**<0.50**	**<5.0**	**<0.50**	**<0.50**	**---**	**---**
AS1	01/18/12	---	Well installed.							
AS1	10/19/12	- Present Not sampled.								
SVE1	01/17/12	---	Well installed.							
SVE1	10/19/12	- Present Not sampled.								
SVE2	01/17/12	---	Well installed.							
SVE2	10/19/12	- Present Not sampled.								
SVE3	01/17/12	---	Well installed.							
SVE3	10/19/12	- Present Not sampled.								
Grab Groundwater Samples										
B-1W	01/06/08	---	<50	<50	<50	<200	<50	<50	210b, 68c, 370d, 1,100e, 3,800f, 1,300g, 1,500h	4,000h, 3,900k
B-2W	01/06/08	---	<50	<50	<50	<200	<50	<50	110b, 140e, 440f, 2,400g, 730h, 610i, 32j	---

TABLE 1B
ADDITIONAL CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Well ID	Sampling Date	Depth (feet)	EDB (µg/L)	1,2-DCA (µg/L)	TAME (µg/L)	TBA (µg/L)	ETBE (µg/L)	DIPE (µg/L)	Add'l VOCs (µg/L)	Add'l SVOCs (µg/L)
B-3W	01/06/08	---	<10	<10	<10	<40	<10	<10	25b, 11c, 74d, 190e, 290f, 49g, 55i	---
B-4W	01/06/08	---	<10	<10	<10	<40	<10	<10	46b, 19c, 48d, 160e, 16f, 100h	---
B-5W	01/06/08	---	ND	<0.5	<0.5	<2.0	<0.5	<0.5	2.6b, 0.83e, 4.8f, 1.2g, 6.5h	---
B-6W	01/06/08	---	<2.5	<2.5	<2.5	<10	<2.5	<2.5	14b, 5.6c, 17d, 60e, 32f, 5.8g, 38h, 10i	---
DR-W	01/06/08	---	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	6.9b, 2.4c, 2.5d, 11e, 17f, 5.5g, 7.0h	---
W-27.5-HP1A	10/28/10	27.5	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
W-36-HP1A	10/28/10	36	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
W-46.5-HP1A	10/28/10	46.5	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
W-59-HP1B	10/27/10	59	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
W-27.5-HP2A	10/29/10	27.5	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
W-52-HP2A	10/29/10	52	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
W-60.5-HP2B	10/27/10	60.5	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
W-10-SVE1-1	01/31/12	10	<2.0	<2.0	<2.0	62	<2.0	<2.0	---	---
W-10-SVE1-2	01/31/12	10	<1.0	<1.0	<1.0	57	<1.0	<1.0	---	---

TABLE 1B
ADDITIONAL CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Notes:

TOC	=	Top of well casing elevation; datum is mean sea level.
DTW	=	Depth to water.
GW Elev.	=	Groundwater elevation; datum is mean sea level. If liquid-phase hydrocarbons present, elevation adjusted using TOC - [DTW - (PT x 0.76)].
NAPL	=	Non-aqueous phase liquid.
O&G	=	Oil and grease with silica gel clean-up analyzed using Standard Method 5520B/F.
TPHmo	=	Total petroleum hydrocarbons as motor oil analyzed using EPA Method 8015 (modified).
TPHd	=	Total petroleum hydrocarbons as diesel analyzed using EPA Method 8015 (modified).
TPHg	=	Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8015 (modified).
MTBE	=	Methyl tertiary butyl ether analyzed using EPA Method 8260B.
BTEX	=	Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8260B.
EDB	=	1,2-dibromoethane analyzed using EPA Method 8260B.
1,2-DCA	=	1,2-dichloroethane analyzed using EPA Method 8260B.
TAME	=	Tertiary amyl methyl ether analyzed using EPA Method 8260B.
TBA	=	Tertiary butyl alcohol analyzed using EPA Method 8260B.
ETBE	=	Ethyl tertiary butyl ether analyzed using EPA Method 8260B.
DIPE	=	Di-isopropyl ether analyzed using EPA Method 8260B.
Add'l VOCs	=	Additional volatile organic carbons analyzed using EPA Method 8260B.
Add'l SVOCs	=	Additional semi-volatile organic carbons analyzed using EPA Method 8270C.
µg/L	=	Micrograms per liter.
ND	=	Not detected at or above laboratory reporting limits.
---	=	Not measured/Not sampled/Not analyzed.
<	=	Less than the stated laboratory reporting limit.
a	=	The chromatographic pattern does not match that of the specified standard.
b	=	n-butylbenzene.
c	=	sec-butylbenzene.
d	=	Isopropylbenzene.
e	=	n-propylbenzene.
f	=	1,2,4-trimethylbenzene.
g	=	1,3,5-trimethylbenzene.
h	=	Naphthalene.
i	=	1-butanone.
j	=	1,2-dibromo-3-chloropropane.
k	=	2-methylnapthalene.
l	=	Unmodified or weakly modified gasoline is significant.
m	=	Heavier gasoline range compounds are significant.
n	=	Diesel range compounds are significant; no recognizable pattern.
o	=	Gasoline range compounds are significant.
p	=	No recognizable pattern.
q	=	Strongly aged gasoline or diesel compounds are significant.
r	=	Lighter than water immiscible sheen/product is present.
s	=	Liquid sample that contains greater than approximately 1 volume % sediment.

TABLE 2
WELL CONSTRUCTION DETAILS
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Well ID	Well Installation Date	TOC Elevation (feet)	Borehole Diameter (inches)	Total Depth of Boring (feet bgs)	Well Depth (feet bgs)	Casing Diameter (inches)	Well Casing Material	Screened Interval (feet bgs)	Slot Size (inches)	Filter Pack Interval (feet bgs)	Filter Pack Material
MW1	11/04/10	41.45	8	17	17	2	Schedule 40 PVC	12-17	0.020	10-17	#3 Sand
MW2	11/04/10	41.25	8	17	17	4	Schedule 40 PVC	12-17	0.020	10-17	#3 Sand
MW3	11/08/10	40.42	8	17	17	4	Schedule 40 PVC	11-16	0.020	9-16	#3 Sand
MW3A	01/18/12	40.68	10	15.5	15.5	4	Schedule 40 PVC	5-15	0.020	4.5-15.5	#2/12 Sand
MW4	11/05/10	39.30	8	17	13	2	Schedule 40 PVC	8-13	0.020	6-13	#3 Sand
MW5	11/05/10	40.38	8	17	14	2	Schedule 40 PVC	9-14	0.020	7-14	#3 Sand
MW6	11/03/10	41.06	10	20	20	2	Schedule 40 PVC	15-20	0.020	13-20	#3 Sand
AS1	01/18/12	---	8	15.5	15.5	1	Schedule 80 PVC	10.25-13.5	#60 mesh	10.5-15.5	#2/12 Sand
SVE1	01/17/12	40.58	10	15.5	15.5	4	Schedule 40 PVC	5-15	0.020	4.5-15.5	#2/12 Sand
SVE2	01/17/12	40.94	10	15	15	4	Schedule 40 PVC	5-15	0.020	4.5-15	#2/12 Sand
SVE3	01/17/12	40.93	10	15	15	4	Schedule 40 PVC	5-15	0.020	4.5-15.5	#2/12 Sand

Notes:
TOC = Top of well casing elevation; datum is mean sea level.
PVC = Polyvinyl chloride.
feet bgs = Feet below ground surface.

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

PROJECT: 79374 JOB # + ACTIVITY: 2735

SUBJECT: Monitoring & Sampling DATE: 12/19/13 - 12/20/13

EQUIPMENT USED: DTW Tape, Sub. pump, disp. bailers SHEET: 1 OF 1

NAME: Scott Elder PROJECT MNGR: R. Westrup

On Site	- 1815
H & S Meeting	- 1815 - 1830
Opened wells	- 1830 - 1845
Decon Equipment	- 1845 - 1915
DTW wells	- 1915 - 1945
Purged wells: MW1, MW2, MW6, MW3A, MW3, MW5, MW4	- 2004 - 2144
Sampled wells: MW1, MW2, MW6, MW3A, MW3, MW5, MW4	- 2225 - 100
Off Site	- 130

Decon water - 24 gal.
Purge water - 31 gal.
Total water - 55 gal.

- No NAPL present in MW4

601 N. McDowell Boulevard, Petaluma, California 94954 707 766 2000 (Fax 707 789 0414)

ERI Groundwater M+S
Depth To Water

Case Volume= H(r^2x0.163)

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
2735	79374	12/19/13	Scott Elder

WELL ID	WELL DIAMETER inches	ODOR? SHEEN?	TOTAL DEPTH feet	Pre-Purge DTW feet	CASE VOLUME gallons	80% RECHARGE feet	COMMENTS
AS1	1		—	10.12	—	—	
SVE1	4		—	9.89	—	—	
SVE2	4		—	10.20	—	—	
SVE3	4		—	10.31	—	—	
MW1	2		16.61	10.67	0.97	11.86	
MW2	4		16.89	10.77	3.99	11.99	
MW6	2		19.26	10.78	1.38	12.48	
MW3A	4		14.98	10.05	3.21	11.04	
MW3	4		15.20	10.00	3.39	11.04	
MW5	2		13.40	9.85	0.58	10.56	
MW4	2		13.10	8.95	0.68	9.78	

WATER GAUGING SITE STATUS

Inspected by: Scott Elder

Cardno ERI Job No.: 2735 Station No.: 79374 Site Address: 990 San Pablo Ave, Albany, 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	
AS1	ok	ok	ok	N	ok	ok	N	ok	ok	NA	NA	NA	NA	ok	No Lock
SVE1	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	No Lock
SVE2	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	No Lock
SVE3	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	No Lock
MW1	↓	↓	↓	↓	↓	↓	Y	↓	↓	↓	↓	↓	↓	↓	No Lock
MW2	↓	↓	↓	↓	↓	↓	N	↓	↓	↓	↓	↓	↓	↓	No Lock
MW6	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	No Lock
MW3A	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	No Lock
MW3	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	No Lock
MW5	↓	↓	↓	ok	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	
MW4	↓	↓	↓	N	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	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: Exxon Mob: 1
Location: 79374
Field Crew: Scott Elder

Cardno ERI Job #: 2735
Field Cleaning Performed:
Analysis:

Date: 12/14/13 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
MW1	2004	0.97					10.79	Y						
	2004	1	1	14.1	347	8.07	w-11 - MW1 @ 2225							
	2005		2	14.4	345	7.66								
	2005		3	15.0	340	7.61								
MW2	2018	3.99					10.89	Y						Dry @ 7 gal.
	2020	4	4	14.1	393	7.85	w-11 - MW2 @ 2245							
			8											
			12											
MW6	2033	1.38					14.39	N						Dry @ 5 gal.
	2034	2	2	13.4	300	8.18	w-14 - MW6 @ 2310							Slow recharge
	2035		4	14.2	289	7.84								
			6											
MW3A	2052	3.21					13.99	N						Dry @ 7 gal.
	2054	4	4	14.6	328	7.80	w-14 - MW3A @ 2335							Slow recharge
			8											
			12											
MW3	2105	3.39					13.66	N						Dry @ 5 gal.
	2107	4	4	14.2	336	7.81	w-14 - MW3 @ 0005							Slow recharge
			8											
			12											
MW5	2122	0.58					10.54	Y						Dry @ 2 gal.
	2123	1	1	13.5	296	7.96	w-11 - MW5 @ 035							
			2	14.1	301	7.66								
			3											
MW4	2143	0.68					9.51	Y						Dry @ 2 gal.
	2144	1	1	14.4	343	7.83	w-10 - MW4 @ 100							
	2144		2	14.6	344	7.52								
			3											

APPENDIX C

LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY RECORD

Calscience Environmental Laboratories, Inc.

CALSCIENCE

WORK ORDER NUMBER: 13-12-1795

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Cardno ERI

Client Project Name: ExxonMobil 79374/022735C

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

RECEIVED
JAN 0 8 2014

BY: .....

Cecile L deGuia

Approved for release on 01/07/2014 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 79374/022735C
Work Order Number: 13-12-1795

Calscience Environmental Laboratories, Inc.

Work Order Narrative

Work Order: 13-12-1795

Condition Upon Receipt:

Samples were received under Chain of Custody (COC) on 12/21/13. They were assigned to Work Order 13-12-1795.

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.

Calscience Environmental Laboratories, Inc.

Sample Summary

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

Work Order: 13-12-1795
Project Name: ExxonMobil 79374/022735C
PO Number: 022735C
Date/Time Received: 12/21/13 09:50
Number of Containers: 58

Attn: Rebekah Westrup

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
QCBB	13-12-1795-1	12/20/13 01:10	2	Aqueous
W-11-MW1	13-12-1795-2	12/19/13 22:25	8	Aqueous
W-11-MW2	13-12-1795-3	12/19/13 22:45	8	Aqueous
W-14-MW3	13-12-1795-4	12/20/13 00:05	8	Aqueous
W-14-MW3A	13-12-1795-5	12/19/13 23:35	8	Aqueous
W-10-MW4	13-12-1795-6	12/20/13 01:00	8	Aqueous
W-11-MW5	13-12-1795-7	12/20/13 00:35	8	Aqueous
W-14-MW6	13-12-1795-8	12/19/13 23:10	8	Aqueous

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 3510C
Method: EPA 8015B (M)
Units: ug/L

Project: ExxonMobil 79374/022735C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-11-MW1	**13-12-1795-2-G**	**12/19/13 22:25**	**Aqueous**	**GC 48**	**12/23/13**	**12/27/13 17:49**	**131223B21**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	250	1	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	104	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-11-MW2	**13-12-1795-3-G**	**12/19/13 22:45**	**Aqueous**	**GC 48**	**12/23/13**	**12/27/13 18:05**	**131223B21**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	250	1	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	114	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-14-MW3	**13-12-1795-4-G**	**12/20/13 00:05**	**Aqueous**	**GC 48**	**12/23/13**	**12/27/13 18:21**	**131223B21**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	250	1	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	114	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-14-MW3A	**13-12-1795-5-G**	**12/19/13 23:35**	**Aqueous**	**GC 48**	**12/23/13**	**12/27/13 19:10**	**131223B21**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	250	1	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	103	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-10-MW4	**13-12-1795-6-G**	**12/20/13 01:00**	**Aqueous**	**GC 48**	**12/23/13**	**12/27/13 19:26**	**131223B21**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	250	1	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	100	68-140	

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: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 3510C
Method: EPA 8015B (M)
Units: ug/L

Project: ExxonMobil 79374/022735C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-11-MW5	13-12-1795-7-G	12/20/13 00:35	Aqueous	GC 48	12/23/13	12/27/13 19:42	131223B21

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	250	1	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	109	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-14-MW6	13-12-1795-8-G	12/19/13 23:10	Aqueous	GC 48	12/23/13	12/27/13 19:57	131223B21

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	250	1	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	100	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-15-278-495	N/A	Aqueous	GC 48	12/23/13	12/27/13 14:35	131223B21

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	250	1	

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

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: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 3510C
Method: EPA 8015B (M)
Units: ug/L

Project: ExxonMobil 79374/022735C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-11-MW1	**13-12-1795-2-G**	**12/19/13 22:25**	**Aqueous**	**GC 48**	**12/23/13**	**12/27/13 17:49**	**131223B20**

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

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	104	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-11-MW2	**13-12-1795-3-G**	**12/19/13 22:45**	**Aqueous**	**GC 48**	**12/23/13**	**12/27/13 18:05**	**131223B20**

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

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	114	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-14-MW3	**13-12-1795-4-G**	**12/20/13 00:05**	**Aqueous**	**GC 48**	**12/23/13**	**12/27/13 18:21**	**131223B20**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	2000	50	1	HD,SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	114	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-14-MW3A	**13-12-1795-5-G**	**12/19/13 23:35**	**Aqueous**	**GC 48**	**12/23/13**	**12/27/13 19:10**	**131223B20**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	270	50	1	HD,SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	103	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-10-MW4	**13-12-1795-6-G**	**12/20/13 01:00**	**Aqueous**	**GC 48**	**12/23/13**	**12/27/13 19:26**	**131223B20**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	2800	50	1	HD,SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	100	68-140	

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: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 3510C
Method: EPA 8015B (M)
Units: ug/L

Project: ExxonMobil 79374/022735C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-11-MW5	**13-12-1795-7-G**	**12/20/13 00:35**	**Aqueous**	**GC 48**	**12/23/13**	**12/27/13 19:42**	**131223B20**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	2100	50	1	HD,SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	109	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-14-MW6	**13-12-1795-8-G**	**12/19/13 23:10**	**Aqueous**	**GC 48**	**12/23/13**	**12/27/13 19:57**	**131223B20**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	68	50	1	HD,SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	100	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-304-558**	**N/A**	**Aqueous**	**GC 48**	**12/23/13**	**12/27/13 14:35**	**131223B20**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	50	1	

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

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: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 5030C
Method: EPA 8015B (M)
Units: ug/L

Project: ExxonMobil 79374/022735C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-11-MW1	**13-12-1795-2-E**	**12/19/13 22:25**	**Aqueous**	**GC 42**	**12/30/13**	**12/30/13 13:14**	**131230B01**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	ND	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	72	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-11-MW2	**13-12-1795-3-E**	**12/19/13 22:45**	**Aqueous**	**GC 42**	**12/30/13**	**12/30/13 14:59**	**131230B01**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	ND	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	66	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-14-MW3	**13-12-1795-4-E**	**12/20/13 00:05**	**Aqueous**	**GC 42**	**12/30/13**	**12/30/13 15:34**	**131230B01**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	16000	500	10	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	108	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-14-MW3A	**13-12-1795-5-E**	**12/19/13 23:35**	**Aqueous**	**GC 42**	**12/30/13**	**12/30/13 16:08**	**131230B01**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	1800	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	114	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-10-MW4	**13-12-1795-6-E**	**12/20/13 01:00**	**Aqueous**	**GC 42**	**12/30/13**	**12/30/13 16:43**	**131230B01**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	13000	250	5	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	116	38-134	

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: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 5030C
Method: EPA 8015B (M)
Units: ug/L

Project: ExxonMobil 79374/022735C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-11-MW5	**13-12-1795-7-E**	**12/20/13 00:35**	**Aqueous**	**GC 42**	**12/30/13**	**12/30/13 17:18**	**131230B01**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	21000	500	10	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	107	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-14-MW6	**13-12-1795-8-E**	**12/19/13 23:10**	**Aqueous**	**GC 42**	**12/30/13**	**12/30/13 17:53**	**131230B01**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	440	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	80	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-436-9057**	**N/A**	**Aqueous**	**GC 42**	**12/30/13**	**12/30/13 12:05**	**131230B01**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	ND	50	1	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	65	38-134	

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: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 79374/022735C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-11-MW1	13-12-1795-2-A	12/19/13 22:25	Aqueous	GC/MS L	12/31/13	01/01/14 03:54	131231L04

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1	
Toluene	1.3	0.50	1	
Ethylbenzene	ND	0.50	1	
o-Xylene	ND	0.50	1	
p/m-Xylene	0.53	0.50	1	
Xylenes (total)	0.53	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	100	68-120	
Dibromofluoromethane	104	80-127	
1,2-Dichloroethane-d4	120	80-128	
Toluene-d8	103	80-120	

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: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 79374/022735C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-11-MW2	13-12-1795-3-A	12/19/13 22:45	Aqueous	GC/MS L	12/31/13	01/01/14 04:22	131231L04

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	103	68-120	
Dibromofluoromethane	106	80-127	
1,2-Dichloroethane-d4	124	80-128	
Toluene-d8	100	80-120	

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: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 79374/022735C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-14-MW3	13-12-1795-4-B	12/20/13 00:05	Aqueous	GC/MS FFF	01/02/14	01/02/14 19:52	140102L02

Parameter	Result	RL	DF	Qualifiers
Benzene	310	10	20	
Toluene	120	10	20	
Ethylbenzene	710	10	20	
o-Xylene	21	10	20	
p/m-Xylene	97	10	20	
Xylenes (total)	120	10	1	
Methyl-t-Butyl Ether (MTBE)	ND	10	20	
Tert-Butyl Alcohol (TBA)	ND	100	20	
Diisopropyl Ether (DIPE)	ND	10	20	
Ethyl-t-Butyl Ether (ETBE)	ND	10	20	
Tert-Amyl-Methyl Ether (TAME)	ND	10	20	
1,2-Dibromoethane	ND	10	20	
1,2-Dichloroethane	ND	10	20	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	98	68-120	
Dibromofluoromethane	101	80-127	
1,2-Dichloroethane-d4	96	80-128	
Toluene-d8	112	80-120	

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: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 79374/022735C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-14-MW3A	**13-12-1795-5-A**	**12/19/13 23:35**	**Aqueous**	**GC/MS L**	**12/31/13**	**01/01/14 05:18**	**131231L04**

Parameter	Result	RL	DF	Qualifiers
Toluene	18	2.0	4	
Ethylbenzene	65	2.0	4	
o-Xylene	ND	2.0	4	
p/m-Xylene	4.7	2.0	4	
Xylenes (total)	4.7	2.0	1	
Methyl-t-Butyl Ether (MTBE)	ND	2.0	4	
Tert-Butyl Alcohol (TBA)	ND	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	103	68-120	
Dibromofluoromethane	108	80-127	
1,2-Dichloroethane-d4	120	80-128	
Toluene-d8	100	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-14-MW3A	**13-12-1795-5-B**	**12/19/13 23:35**	**Aqueous**	**GC/MS FFF**	**01/02/14**	**01/02/14 21:13**	**140102L02**

Parameter	Result	RL	DF	Qualifiers
Benzene	150	5.0	10	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	99	68-120	
Dibromofluoromethane	105	80-127	
1,2-Dichloroethane-d4	96	80-128	
Toluene-d8	108	80-120	

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: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 79374/022735C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-10-MW4	13-12-1795-6-A	12/20/13 01:00	Aqueous	GC/MS L	12/31/13	01/01/14 05:45	131231L04

Parameter	Result	RL	DF	Qualifiers
Benzene	590	10	20	
Toluene	41	10	20	
Ethylbenzene	430	10	20	
o-Xylene	110	10	20	
p/m-Xylene	430	10	20	
Xylenes (total)	530	10	1	
Methyl-t-Butyl Ether (MTBE)	ND	10	20	
Tert-Butyl Alcohol (TBA)	ND	100	20	
Diisopropyl Ether (DIPE)	ND	10	20	
Ethyl-t-Butyl Ether (ETBE)	ND	10	20	
Tert-Amyl-Methyl Ether (TAME)	ND	10	20	
1,2-Dibromoethane	ND	10	20	
1,2-Dichloroethane	ND	10	20	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	103	68-120	
Dibromofluoromethane	104	80-127	
1,2-Dichloroethane-d4	113	80-128	
Toluene-d8	102	80-120	

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: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 79374/022735C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-11-MW5	**13-12-1795-7-A**	**12/20/13 00:35**	**Aqueous**	**GC/MS L**	**12/31/13**	**01/01/14 06:13**	**131231L04**

Parameter	Result	RL	DF	Qualifiers
Benzene	370	20	40	
Toluene	36	20	40	
Ethylbenzene	1500	20	40	
o-Xylene	230	20	40	
p/m-Xylene	1200	20	40	
Xylenes (total)	1400	20	1	
Methyl-t-Butyl Ether (MTBE)	ND	20	40	
Tert-Butyl Alcohol (TBA)	ND	200	40	
Diisopropyl Ether (DIPE)	ND	20	40	
Ethyl-t-Butyl Ether (ETBE)	ND	20	40	
Tert-Amyl-Methyl Ether (TAME)	ND	20	40	
1,2-Dibromoethane	ND	20	40	
1,2-Dichloroethane	ND	20	40	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	103	68-120	
Dibromofluoromethane	106	80-127	
1,2-Dichloroethane-d4	112	80-128	
Toluene-d8	100	80-120	

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: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 79374/022735C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-14-MW6	**13-12-1795-8-A**	**12/19/13 23:10**	**Aqueous**	**GC/MS L**	**12/31/13**	**01/01/14 06:41**	**131231L04**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.50	1	
Toluene	ND	0.50	1	
Ethylbenzene	2.3	0.50	1	
o-Xylene	ND	0.50	1	
p/m-Xylene	0.87	0.50	1	
Xylenes (total)	0.87	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	102	68-120	
Dibromofluoromethane	105	80-127	
1,2-Dichloroethane-d4	115	80-128	
Toluene-d8	101	80-120	

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: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 79374/022735C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-884-1116**	**N/A**	**Aqueous**	**GC/MS L**	**12/31/13**	**01/01/14 00:12**	**131231L04**

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	102	68-120	
Dibromofluoromethane	112	80-127	
1,2-Dichloroethane-d4	128	80-128	
Toluene-d8	104	80-120	

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: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 79374/022735C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-884-1117**	**N/A**	**Aqueous**	**GC/MS FFF**	**01/02/14**	**01/02/14 18:31**	**140102L02**

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	92	68-120	
Dibromofluoromethane	104	80-127	
1,2-Dichloroethane-d4	99	80-128	
Toluene-d8	98	80-120	

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 79374/022735C

Date Received: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 5030C
Method: EPA 8015B (M)
Page 1 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
W-11-MW1	Sample	Aqueous	GC 42	12/30/13	12/30/13 13:14	131230S01
W-11-MW1	Matrix Spike	Aqueous	GC 42	12/30/13	12/30/13 13:49	131230S01
W-11-MW1	Matrix Spike Duplicate	Aqueous	GC 42	12/30/13	12/30/13 14:24	131230S01

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	ND	2000	1915	96	1898	95	68-122	1	0-18	

RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Project: ExxonMobil 79374/022735C

Date Received: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 5030C
Method: EPA 8260B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
13-12-1820-5	**Sample**	**Aqueous**	**GC/MS L**	**12/31/13**	**01/01/14 00:40**	**131231S02**
13-12-1820-5	**Matrix Spike**	**Aqueous**	**GC/MS L**	**12/31/13**	**01/01/14 01:08**	**131231S02**
13-12-1820-5	**Matrix Spike Duplicate**	**Aqueous**	**GC/MS L**	**12/31/13**	**01/01/14 01:36**	**131231S02**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	5000	5263	105	5279	106	76-124	0	0-20	
Toluene	299.8	5000	5483	104	5484	104	80-120	0	0-20	
Ethylbenzene	ND	5000	5086	102	5180	104	78-126	2	0-20	
o-Xylene	ND	5000	4757	95	4851	97	70-130	2	0-30	
p/m-Xylene	ND	10000	9807	98	10080	101	70-130	3	0-30	
Methyl-t-Butyl Ether (MTBE)	ND	5000	6434	129	5827	117	67-121	10	0-49	HX
Tert-Butyl Alcohol (TBA)	ND	25000	27650	111	26420	106	36-162	5	0-30	
Diisopropyl Ether (DIPE)	ND	5000	6109	122	6220	124	60-138	2	0-45	
Ethyl-t-Butyl Ether (ETBE)	ND	5000	5838	117	5956	119	69-123	2	0-30	
Tert-Amyl-Methyl Ether (TAME)	ND	5000	5424	108	5587	112	65-120	3	0-20	
1,2-Dibromoethane	ND	5000	5318	106	5492	110	80-120	3	0-20	
1,2-Dichloroethane	ND	5000	6119	122	6044	121	80-120	1	0-20	HX

RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Project: ExxonMobil 79374/022735C

Date Received: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 5030C
Method: EPA 8260B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
13-12-1936-1	**Sample**	**Aqueous**	**GC/MS FFF**	**01/02/14**	**01/02/14 19:25**	**140102S01**
13-12-1936-1	**Matrix Spike**	**Aqueous**	**GC/MS FFF**	**01/02/14**	**01/02/14 20:19**	**140102S01**
13-12-1936-1	**Matrix Spike Duplicate**	**Aqueous**	**GC/MS FFF**	**01/02/14**	**01/02/14 20:46**	**140102S01**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	6.978	10.00	17.20	102	17.28	103	76-124	0	0-20	
Toluene	2.220	10.00	11.94	97	11.77	96	80-120	1	0-20	
Ethylbenzene	2.060	10.00	12.34	103	12.23	102	78-126	1	0-20	
o-Xylene	1.085	10.00	10.91	98	10.83	97	70-130	1	0-30	
p/m-Xylene	5.101	20.00	24.89	99	24.67	98	70-130	1	0-30	
Methyl-t-Butyl Ether (MTBE)	ND	10.00	9.687	97	8.541	85	67-121	13	0-49	
Tert-Butyl Alcohol (TBA)	ND	50.00	67.28	135	50.01	100	36-162	29	0-30	
Diisopropyl Ether (DIPE)	ND	10.00	9.762	98	8.579	86	60-138	13	0-45	
Ethyl-t-Butyl Ether (ETBE)	ND	10.00	9.896	99	9.911	99	69-123	0	0-30	
Tert-Amyl-Methyl Ether (TAME)	ND	10.00	10.02	100	9.856	99	65-120	2	0-20	
1,2-Dibromoethane	ND	10.00	9.466	95	9.456	95	80-120	0	0-20	
1,2-Dichloroethane	ND	10.00	10.15	102	10.05	101	80-120	1	0-20	

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 79374/022735C

Date Received: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 3510C
Method: EPA 8015B (M)

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-15-278-495	LCS	Aqueous	GC 48	12/23/13	12/27/13 15:23	131223B21
099-15-278-495	LCSD	Aqueous	GC 48	12/23/13	12/27/13 15:39	131223B21

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Motor Oil	2000	2203	110	2195	110	75-117	0	0-13	

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 79374/022735C

Date Received: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 3510C
Method: EPA 8015B (M)
Page 2 of 5

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-15-304-558	LCS	Aqueous	GC 48	12/23/13	12/27/13 14:51	131223B20
099-15-304-558	LCSD	Aqueous	GC 48	12/23/13	12/27/13 15:06	131223B20

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	2000	2345	117	2196	110	75-117	7	0-13	

RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - LCS

Cardno ERI		Date Received:	12/21/13
601 North McDowell Blvd.		Work Order:	13-12-1795
Petaluma, CA 94954-2312		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
Project: ExxonMobil 79374/022735C			Page 3 of 5

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-436-9057	LCS	Aqueous	GC 42	12/30/13	12/30/13 12:40	131230B01

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Gasoline	2000	1824	91	78-120	

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 79374/022735C

Date Received: 12/21/13
Work Order: 13-12-1795
Preparation: EPA 5030C
Method: EPA 8260B

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-884-1116	**LCS**	**Aqueous**	**GC/MS L**	**12/31/13**	**12/31/13 23:17**	**131231L04**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	10.00	10.15	102	80-120	73-127	
Toluene	10.00	10.12	101	80-120	73-127	
Ethylbenzene	10.00	9.967	100	80-120	73-127	
o-Xylene	10.00	9.634	96	75-125	67-133	
p/m-Xylene	20.00	19.07	95	75-125	67-133	
Methyl-t-Butyl Ether (MTBE)	10.00	11.15	112	69-123	60-132	
Tert-Butyl Alcohol (TBA)	50.00	47.61	95	63-123	53-133	
Diisopropyl Ether (DIPE)	10.00	11.52	115	59-137	46-150	
Ethyl-t-Butyl Ether (ETBE)	10.00	11.21	112	69-123	60-132	
Tert-Amyl-Methyl Ether (TAME)	10.00	11.00	110	70-120	62-128	
1,2-Dibromoethane	10.00	10.81	108	79-121	72-128	
1,2-Dichloroethane	10.00	11.79	118	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

RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Quality Control - LCS

Cardno ERI		Date Received:	12/21/13
601 North McDowell Blvd.		Work Order:	13-12-1795
Petaluma, CA 94954-2312		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: ExxonMobil 79374/022735C			Page 5 of 5

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-884-1117	**LCS**	**Aqueous**	**GC/MS FFF**	**01/02/14**	**01/02/14 16:35**	**140102L02**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	10.00	10.20	102	80-120	73-127	
Toluene	10.00	9.688	97	80-120	73-127	
Ethylbenzene	10.00	9.914	99	80-120	73-127	
o-Xylene	10.00	9.553	96	75-125	67-133	
p/m-Xylene	20.00	19.42	97	75-125	67-133	
Methyl-t-Butyl Ether (MTBE)	10.00	8.958	90	69-123	60-132	
Tert-Butyl Alcohol (TBA)	50.00	47.19	94	63-123	53-133	
Diisopropyl Ether (DIPE)	10.00	9.000	90	59-137	46-150	
Ethyl-t-Butyl Ether (ETBE)	10.00	8.749	87	69-123	60-132	
Tert-Amyl-Methyl Ether (TAME)	10.00	10.27	103	70-120	62-128	
1,2-Dibromoethane	10.00	9.870	99	79-121	72-128	
1,2-Dichloroethane	10.00	9.841	98	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

RPD: Relative Percent Difference. CL: Control Limits

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order: 13-12-1795

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.

Calscience Environmental Laboratories, Inc.

7440 Lincoln Way
Garden Grove, CA 92841

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

ExxonMobil 13-12-1795

Consultant Name: Cardno ERI | **Account #:** NA | **PO#:** Direct Bill Cardno ERI
Consultant Address: 601 N. McDowell Boulevard | **Invoice To:** Direct Bill Cardno ERI
Consultant City/State/Zip: Petaluma, California, 94954 | **Report To:** Rebekah Westrup
ExxonMobil Project Mgr: Jennifer Sedlachek | **Project Name:** 02 2735 C
Consultant Project Mgr: Rebekah Westrup | **ExxonMobil Site #:** 79374 | **ajor Project (AFE #**
Consultant Telephone Number: 707-766-2000 | **Fax No.:** 707-789-0414 | **Site Address:** 990 San Pablo Avenue
Sampler Name (Print): Scott Elder | **Site City, State, Zip:** Albany, California
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: Unpreserved	None	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Air	Other (specify): Distilled Water	Analyze For: TPHg 8015M	TPHd 8015M	TPHmo 8015M	BTEX 8260B	7 Oxygenates 8260B				RUSH TAT (Pre-Schedule)	5-day TAT	Standard 10-day TAT	Due Date of Report
1	QCBB	QCBB	12/20/13	110	2						2v														X		H	O	L	D							
2	W- 11 -MW1	MW1	12/19/13	2225	8						6v						2A		X							X	X	X	X	X						X	
3	W- 11 -MW2	MW2	12/19/13	2245	8						6v						2A		X							X	X	X	X	X						X	
4	W- 14 -MW3	MW3	12/20/13	0005	8						6v						2A		X							X	X	X	X	X						X	
5	W- 14 -MW3A	MW3A	12/19/13	2335	8						6v						2A		X							X	X	X	X	X						X	
6	W- 10 -MW4	MW4	12/20/13	100	8						6v						2A		X							X	X	X	X	X						X	
7	W- 11 -MW5	MW5	12/20/13	035	8						6v						2A		X							X	X	X	X	X						X	
8	W- 14 -MW6	MW6	12/19/13	2310	8						6v						2A		X							X	X	X	X	X						X	
9																																						
10																																						
11																																						
12																																						

Comments/Special Instructions:
PLEASE E-MAIL ALL PDF FILES TO
norcallabs@eri-us.com
GLOBAL ID # T0619716673

Use silica gel cleanup on all TPHd analyses
Oxygenates = MTBE, ETBE, DIPE, TAME, TBA, 1,2-DCA, EDB
Set TBA reporting limit at or below 12 ug/L.

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/ TestAmerica Project Manager or attach specific instructions

Relinquished by:		Date	Time	Received by:	Date	Time
Scott Elder		12/20/13	1000	Toomalley CER	12/20/13	1000
Toomalley TO GSO		12/20/13	1730	Received by (Lab personnel):	12/21/13	0950

1795

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:
CARDNO ERI

Delivery Instructions:

Signature Type:
SIGNATURE REQUIRED

Tracking #: 523527252

SDS

ORC

A

GARDEN GROVE

D92841A

19473261

Print Date : 12/20/13 15:47 PM

Package 1 of 2

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.

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 13-12-[1][7][4][5]

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: Cardno ERT

DATE: 12/21/13

TEMPERATURE: Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)

Temperature 3.0 °C - 0.2 °C (CF) = 2.8 °C ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

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

Ambient Temperature: ☐ Air ☐ Filter Checked by: 802

CUSTODY SEALS INTACT:

☑ Cooler ☐_____ ☐ No (Not Intact) ☐ Not Present ☐ N/A Checked by: 802

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Checked by: 220

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 ☑6VOAh ☐VOA**na**$_2$ ☐125AGB ☐125AGB**h** ☐125AGB**p** ☐1AGB ☐1AGB**na**$_2$ ☐1AGB**s** ☐500AGB ☑2500AGJ ☐500AGJ**s** ☐250AGB ☐250CGB ☐250CGB**s** ☐1PB ☐1PB**na** ☐500PB ☐250PB ☐250PB**n** ☐125PB ☐125PB**znna** ☐100PJ ☐100PJ**na**$_2$ ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Canister **Other:** ☐_____ **Trip Blank Lot#:**_____ Labeled/Checked by: 220

Container: **C:** Clear **A:** Amber **P:** Plastic **G:** Glass **J:** Jar **B:** Bottle **Z:** Ziploc/Resealable Bag **E:** Envelope Reviewed by: 239

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: 239

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 2735

2. Page 1 of 1

3. Generator's Name and Mailing Address
EM# 79374
990 SAN PABLO AVE
ALBANY, CA

CARDNO ERI

4. Generator's Phone ( )

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
INSTRAT, INC.
1106 C AIRPORT RD.
RIO VISTA, CA 94571

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone (707) 374-3834

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZ PURGE WATER	1	POLY	55	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)

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Daria Einhell | Signature: Daria Einhell | Date (Month / Day / Year): 1 / 15 / 14

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date (Month / Day / Year)

FACILITY

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: MICHAEL WHITEHEAD | Signature | Date (Month / Day / Year): 1 / 15 / 14

NON-HAZARDOUS WASTE

Rev. 3/95