

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

RECEIVED

9:50 am, Jun 06, 2012

Alameda County
Environmental Health

ExxonMobil

May 25, 2012

Ms. Barbara Jakub, P.G.
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, Second Quarter 2012*, dated May 25, 2012, for the above-referenced site. The report was prepared by Cardno ERI of Petaluma, California, and details activities pertaining to 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, Second Quarter 2012*, dated May 25, 2012

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

w/o attachment
Ms. Paula Sime, Cardno ERI



May 25, 2012
Cardno ERI 2735C.Q122

Ms. Jennifer C. Sedlachek
ExxonMobil Environmental Services
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Oakland, California 94611

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SUBJECT Groundwater Monitoring Report, Second Quarter 2012
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 second quarter 2012 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:	04/06/12
Wells gauged and sampled:	MW1 through MW6, MW3A
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:	79 gallons purge and decon water delivered to InStrat, Inc., of Rio Vista, California, on 04/19/12

CONCLUSIONS

On January 18, 2012, groundwater monitoring well MW3A was installed at the subject site

May 25, 2012
Cardno ERI 2735C.Q122 Former Exxon Service Station 79374, Albany, California

Concentrations of TPHd and TPHg were reported in wells MW1 through MW6 and MW3A. BTEX constituents were reported in wells MW1, MW3, MW3A, and MW4 through MW6. Concentrations of TPHmo, MTBE, TBA, ETBE, DIPE, TAME, EDB, and 1,2-DCA were not reported in samples collected from wells MW1 through MW6 and MW3A. The analytical results of this sampling event are consistent with historical data. Maximum hydrocarbon concentrations were reported from west of the former USTs.

The groundwater flow direction during the second quarter was away from a broad mound across the central portion of the site with a hydraulic gradient of approximately 0.04. Groundwater flow has been variable during the monitoring and sampling program. The distribution of hydrocarbon concentrations beneath the site suggests that the groundwater flow direction is dominantly towards the west or southwest.

RECOMMENDATIONS

Cardno ERI recommends semi-annual monitoring and sampling of wells MW1 through MW6 and MW3A during second and fourth quarters.

Cardno ERI recommends performing additional off-site assessment at the site and initiating active remediation as recommended in the April 12, 2012, *Air Sparge and Dual-Phase Extraction Feasibility Testing* report.

LIMITATIONS

For any 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 was prepared in accordance with generally accepted standards of environmental, geological, and engineering practices 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
Jennifer Lacy

Jennifer L. Lacy
Senior Staff Scientist
for Cardno ERI
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SCANNED
IMAGE
David R. Daniels

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May 25, 2012
Cardno ERI 2735C.Q122 Former Exxon Service Station 79374, Albany, California

Enclosures:

Acronym List

Plate 1	Site Vicinity Map
Plate 2	Select Analytical Results
Plate 3	Groundwater Elevation Map
Plate 4	Local Area Map
Table 1A	Cumulative Groundwater Monitoring and Sampling Data
Table 1B	Additional Cumulative Groundwater Monitoring and Sampling Data
Table 2	Well Construction Details
Appendix A	Groundwater Sampling Protocol
Appendix B	Field Notes
Appendix C	Laboratory Analytical Report and Chain-of-Custody Record
Appendix D	Waste Disposal Documentation

cc: Ms. Barbara Jakub, Alameda County Health Care Services Agency, 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

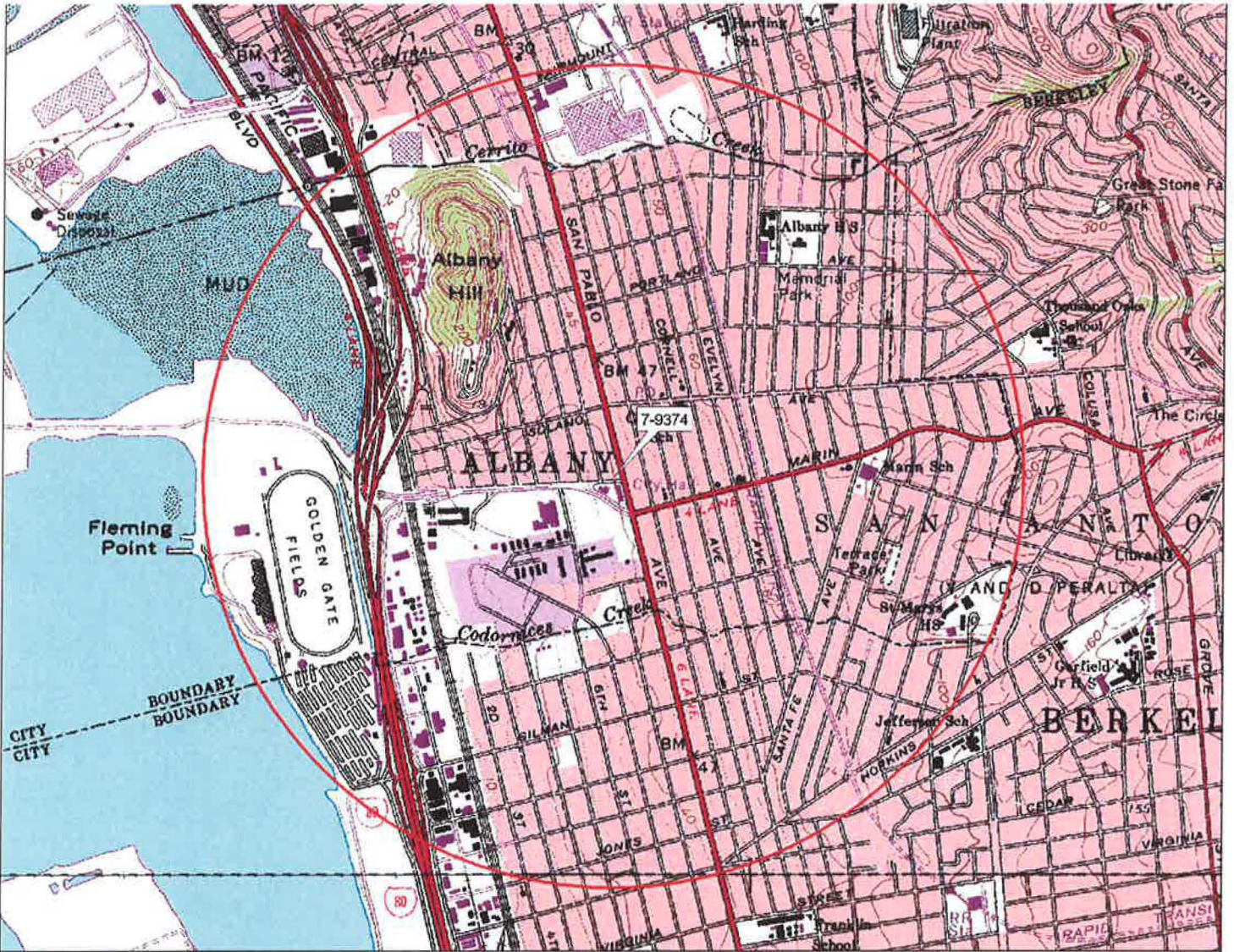
Reverend Deborah Blank, Trustee, The Blank Family Trust, 1563 Solano Avenue, #344, Berkeley,
California, 94707

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

May 25, 2012
 Cardno ERI 2735C.Q122 Former Exxon Service Station 79374, Albany, California

ACRONYM LIST

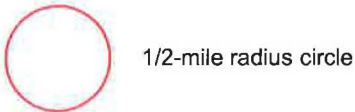
µg/L	Micrograms per liter	NEPA	National Environmental Policy Act
µs	Microsiemens	NGVD	National Geodetic Vertical Datum
1,2-DCA	1,2-dichloroethane	NPDES	National Pollutant Discharge Elimination System
acfm	Actual cubic feet per minute	O&M	Operations and Maintenance
AS	Air sparge	ORP	Oxidation-reduction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



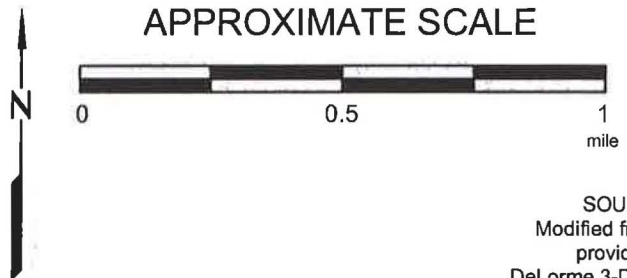
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 www.delorme.com

FN 2735 TOPO

EXPLANATION



APPROXIMATE SCALE



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



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

PROJECT NO.
 2735
PLATE
 1

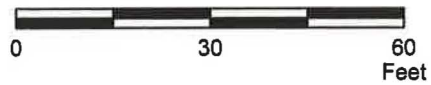
Analyte Concentrations in ug/L
 Sampled April 6, 2012

Total Petroleum Hydrocarbons
 as gasoline
 Benzene
 Methyl Tertiary Butyl Ether

- < Less Than the Stated Laboratory Reporting Limit
- ug/L Micrograms per Liter
- a Sample chromatographic pattern does not match that of the specified standard.



APPROXIMATE SCALE



FN 2735 12 2QTR QM



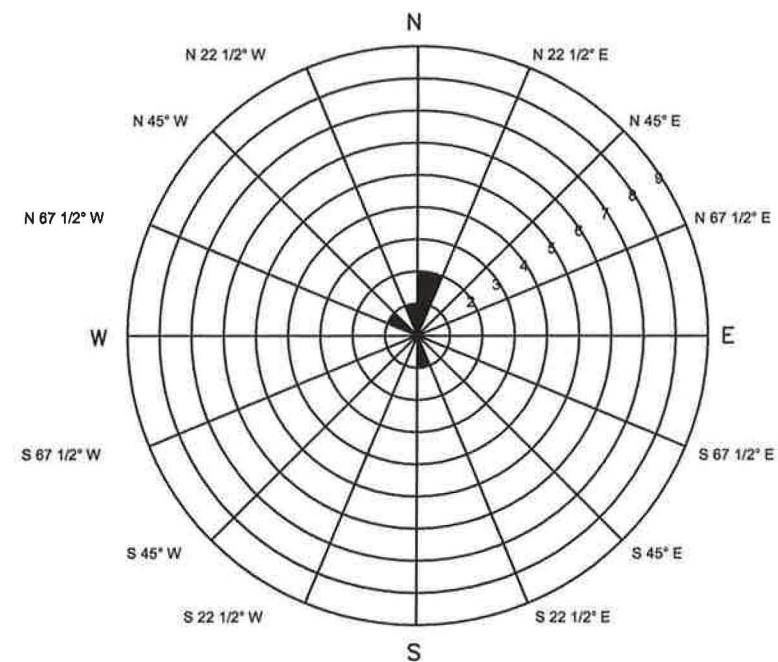
SELECT ANALYTICAL RESULTS
 April 6, 2012
 FORMER EXXON SERVICE STATION 79374
 990 San Pablo Avenue
 Albany, California

EXPLANATION

- MW6 Groundwater Monitoring Well
- HP2B Hydropunch Boring
- AS1 Air Sparge Well
- B6 Soil Boring
- CPT2 Cone Penetration Test Boring
- SVE3 Soil Vapor Extraction Well

PROJECT NO.
 2735

PLATE
 2



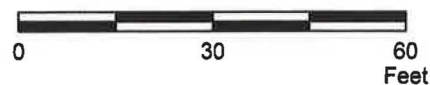
Rose diagram developed by evaluating the groundwater gradient direction from the quarterly monitoring data. Each circle on the rose diagram represents the number of monitoring events that the gradient plotted in that 22 1/2 degree sector.

5 Data Point Shown
Shown for 04/06/12

GROUNDWATER FLOW DIRECTION
ROSE DIAGRAM



APPROXIMATE SCALE



FN 2735 12 2QTR QM

34.5----- Line of Equal Groundwater Elevation;
datum is mean sea level



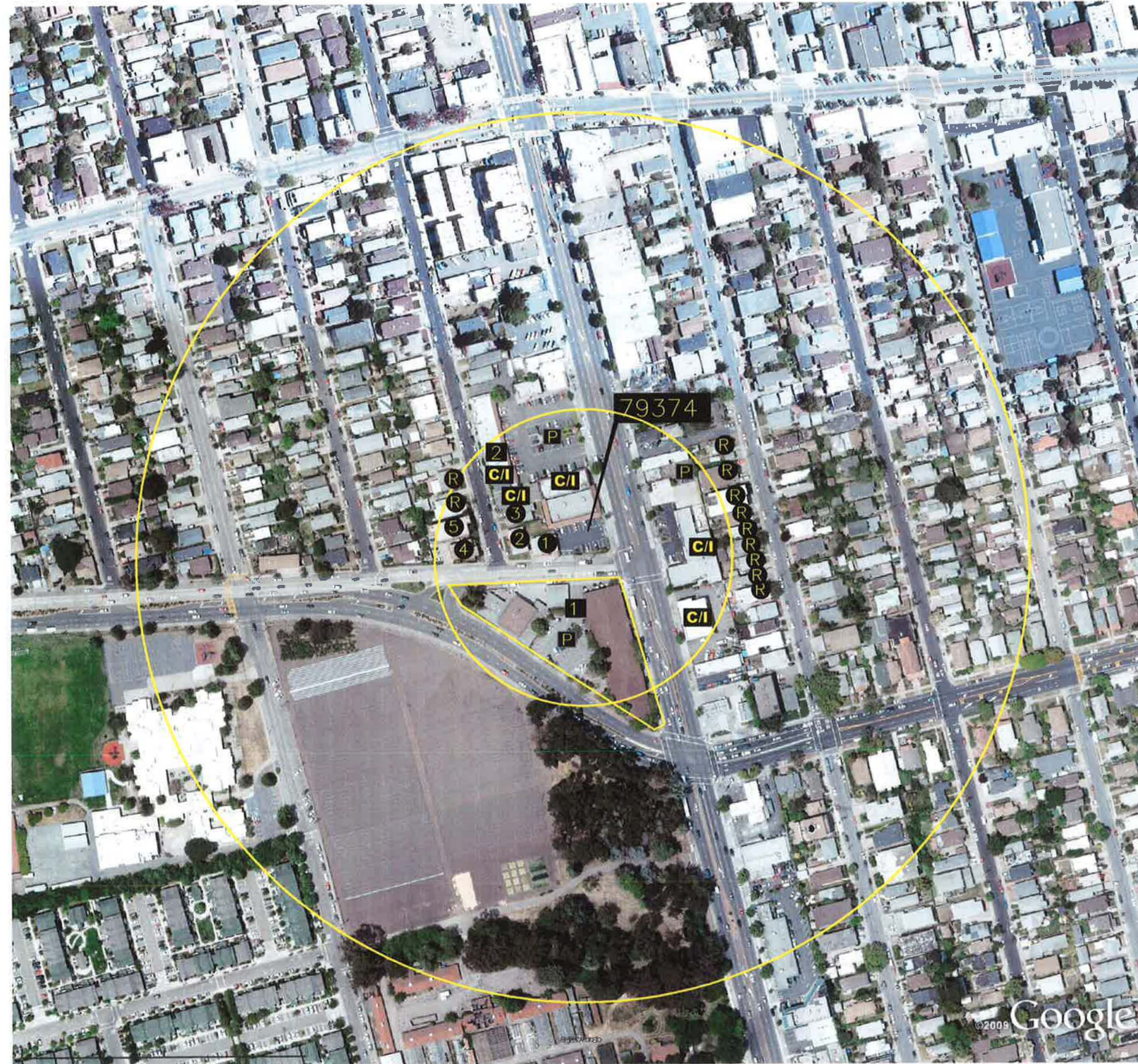
GROUNDWATER ELEVATION MAP
April 6, 2012
FORMER EXXON SERVICE STATION 79374
990 San Pablo Avenue
Albany, California

EXPLANATION

- MW6 Groundwater Monitoring Well
- 33.87 Groundwater elevation in feet;
datum is mean sea level
- B6 Soil Boring

- AS1 Air Sparge Well
- SVE3 Soil Vapor Extraction Well

PROJECT NO.
2735
PLATE
3



LEGEND

- C/I** Commercial / Industrial
- VAC** Vacant Lot
- P** Parking Lot
- R** Additional Residential

WELLS

▲ Private wells are not located within a 300-meter radius. See the Regional Area Map.

WELLS (SPECIAL USE OR MUNICIPAL)

▲ Public wells are not located within a 300-meter radius.

RESIDENCES

- 1** 1041/1043 Buchanan Street (Duplex)
- 2** 973/975 Adams Street (Duplex)
- 3** 971 Adams Street
- 4** 970 Adams Street (Apartments)
- 5** 960/962 Adams Street (Duplex)

PUBLIC USE AREAS

- 1** City of Albany Police/Fire/City Offices
- 2** Physical Therapy

SURFACE WATER

◆ Surface water is not located within a 300-meter radius.

LOCAL AREA MAP

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



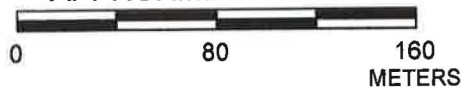
PROJECT NO.

2735

PLATE

4

APPROXIMATE SCALE



FN 2735 12 2QTR SRS AERIAL_QM



100-Meter and 300-Meter Radius

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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. (feet)	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
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
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
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
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

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. (feet)	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)	
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	
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	
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	

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. (feet)	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)
W-10-SVE1-1	01/31/12	10	---	---	---	---	---	990a	1,900a	2,000	<2.0	87	2.1	13	23
W-10-SVE1-2	01/31/12	10	---	---	---	---	---	890a	1,500a	1,400	<1.0	46	2.0	24	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	= Sample 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-methylnaphthalene.
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	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	---	---
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	---	---
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	---	---
MW3A	04/06/12	---	<2.0	<2.0	<2.0	<20	<2.0	<2.0	---	---
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	---	---
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	---	---
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	---	---
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	---	---

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)
MW6	04/06/12	---	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	---	---
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	---
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).
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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	= Sample 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-methylnaphthalene.
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 NOTES

DAILY FIELD REPORT



PROJECT: 79374 JOB # + ACTIVITY: 2735
SUBJECT: Q.M. DATE: 4-6-12
EQUIPMENT USED: _____ SHEET: 1 OF _____
NAME: Steve PROJECT MNGR: _____

Onsite 430	H&S 430-445
OPEN 445-500	Purge 54
DTW 500-515	Decon 20 25
Purge 515-725	Total 79
Sample 810-930	

Vanparke on mwg so purged out of order

Offsite 1000

GROUNDWATER SAMPLING FIELD LOG

Client Name: Exxon/Mobile
 Location: 79374
 Field Crew: Steve

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

Date: 4-6-12 Page 1 of _____
 Case Volume = (TD - DTW) x F where F =
 0.163 for 2" inside-diameter well casing
 0.652 for 4" inside-diameter well casing
 1.457 for 6" inside-diameter well casing

Well ID	Time	Case Volume	Purge Volume	Temp	Cond	pH	Post-Purge DTW	80% Recharge	BB	40mil	Amber	DO	ORP	Comments Well Box Condition
MW1	521	1.38	2				8.37			6	2			OK - Water in well
	522		2	16.3	816	7.75	9	810						
	524		4	17.7	740	7.48								
	526		6											
MW3	540	4.60	5			9.51								
542	5		16.7	624	7.06	10	820						Dry @ 8 gal	
	10													
	15													
MW2	554	4.25	5			9.16			6	2				OK
	557		5	16.8	686	7.13	10	830						Dry @ 9 gal
			10											
MW4	620	1.12	2				7.58			6	2			OK
	622	1.23	2	16.5	694	7.28	6	840						Dry @ 4
	624		6	17.8	667	7.02								
			8											
	9													
MW5	638	1.08	2			8.07			6	2				OK
	640		2	16.7	398	7.34	9	900						Dry @ 4 gal
			4											
			6											
MW6	652	1.96	2			9.05			6	2				OK
	653		2	16.7	495	7.20	10	915						
	654		4	17.4	504	7.11								
	656		6	17.9	528	7.16								
MW3A	717	5.84	6			7.78			6	2				OK
	720		6	16.2	594	7.37	8	930						
	722		12	17.2	651	7.35								
	725		18	17.4	646	7.39								

WATER SAMPLING SITE STATUS

Date: 4-6-12

Inspected by: Steve

Cardno ERI Job No.: 2735 Station No.: 79374

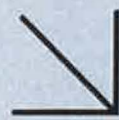
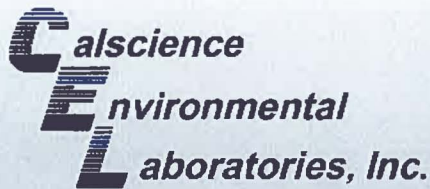
Site Address: 990 San Pablo ave Albany

Well ID	Well Head Screws	Rubber Gasket	Well Cap Locking	Lock on Well Cap	Concrete Well Seal	Well Head PVC	Water in Well Vault	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	
MW1	OK		OK	ok	OK	OK	Y	OK	OK				OK	
MW3							N							
MW2														
MW4														
MW5														
MW6														
MW3A	v		v	v	v	v	v	v					v	

N = Not repairable in time available-see comments. Y = Yes. s = Soil. g = Graffiti on walls.
 R = Repaired-see comments N = No. w = Water. v = Vagrants (or evidence of).
 ok = No action needed. e = Empty. o = Open (not secured).

APPENDIX C

LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY RECORD



CALSCIENCE

WORK ORDER NUMBER: 12-04-0558

The difference is service



RECEIVED
APR 24 2012

AIR | SOIL | WATER | MARINE CHEMISTRY

BY: _____

Analytical Report For

Client: Cardno ERI

Client Project Name: ExxonMobil 79374/022735C

Attention: Paula Sime
601 North McDowell Blvd.
Petaluma, CA 94954-2312

Cecile L. de Guia

Approved for release on 04/20/2012 by:
Cecile deGuia
Project Manager

ResultLink ▶

Email your PM ▶



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



Contents

Client Project Name: ExxonMobil 79374/022735C

Work Order Number: 12-04-0558

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1.2	EPA 8015B (M) TPH Motor Oil (Aqueous)	5
1.3	EPA 8015B (M) TPH Gasoline (Aqueous)	7
1.4	EPA 8260B Volatile Organics (Aqueous)	9
2	Quality Control Sample Data	12
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Analytical Report



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

Date Received: 04/10/12
Work Order No: 12-04-0558
Preparation: EPA 3510C
Method: EPA 8015B (M)

Project: ExxonMobil 79374/022735C

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-9-MW1	12-04-0558-2-G	04/06/12 08:10	Aqueous	GC 47	04/11/12	04/12/12 20:54	120411B13S

Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	130	50	1	SG	ug/L

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	109	68-140	

W-10-MW2	12-04-0558-3-G	04/06/12 08:30	Aqueous	GC 47	04/11/12	04/12/12 21:09	120411B13S
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Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	60	50	1	SG	ug/L

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	99	68-140	

W-10-MW3	12-04-0558-4-G	04/06/12 08:20	Aqueous	GC 47	04/11/12	04/12/12 21:24	120411B13S
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Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	3200	50	1	SG,HD	ug/L

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	98	68-140	

W-8-MW3A	12-04-0558-5-G	04/06/12 09:30	Aqueous	GC 47	04/11/12	04/12/12 21:39	120411B13S
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Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	170	50	1	SG,HD	ug/L

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	97	68-140	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



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

Date Received: 04/10/12
Work Order No: 12-04-0558
Preparation: EPA 3510C
Method: EPA 8015B (M)

Project: ExxonMobil 79374/022735C

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-6-MW4	12-04-0558-6-G	04/06/12 08:40	Aqueous	GC 47	04/11/12	04/12/12 21:54	120411B13S

Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	1800	50	1	SG,HD	ug/L

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	96	68-140	

W-9-MW5	12-04-0558-7-G	04/06/12 09:00	Aqueous	GC 47	04/11/12	04/12/12 22:09	120411B13S
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Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	880	50	1	SG,HD	ug/L

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	100	68-140	

W-10-MW6	12-04-0558-8-G	04/06/12 09:15	Aqueous	GC 47	04/11/12	04/12/12 22:23	120411B13S
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Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	440	50	1	SG,HD	ug/L

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	101	68-140	

Method Blank	099-12-330-2,195	N/A	Aqueous	GC 47	04/11/12	04/12/12 15:41	120411B13S
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Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	ND	50	1	U	ug/L

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	94	68-140	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



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

Date Received: 04/10/12
Work Order No: 12-04-0558
Preparation: EPA 3510C
Method: EPA 8015B (M)

Project: ExxonMobil 79374/022735C

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-9-MW1	12-04-0558-2-G	04/06/12 08:10	Aqueous	GC 47	04/11/12	04/12/12 20:54	120411B14S

Parameter	Result	RL	DF	Qual	Units
TPH as Motor Oil	ND	250	1	SG,U	ug/L

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	109	68-140	

W-10-MW2	12-04-0558-3-G	04/06/12 08:30	Aqueous	GC 47	04/11/12	04/12/12 21:09	120411B14S
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Parameter	Result	RL	DF	Qual	Units
TPH as Motor Oil	ND	250	1	SG,U	ug/L

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	99	68-140	

W-10-MW3	12-04-0558-4-G	04/06/12 08:20	Aqueous	GC 47	04/11/12	04/12/12 21:24	120411B14S
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Parameter	Result	RL	DF	Qual	Units
TPH as Motor Oil	ND	250	1	SG,U	ug/L

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	98	68-140	

W-8-MW3A	12-04-0558-5-G	04/06/12 09:30	Aqueous	GC 47	04/11/12	04/12/12 21:39	120411B14S
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Parameter	Result	RL	DF	Qual	Units
TPH as Motor Oil	ND	250	1	SG,U	ug/L

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	97	68-140	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



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

Date Received: 04/10/12
Work Order No: 12-04-0558
Preparation: EPA 3510C
Method: EPA 8015B (M)

Project: ExxonMobil 79374/022735C

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-6-MW4	12-04-0558-6-G	04/06/12 08:40	Aqueous	GC 47	04/11/12	04/12/12 21:54	120411B14S

Parameter	Result	RL	DF	Qual	Units
TPH as Motor Oil	ND	250	1	SG,U	ug/L

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	96	68-140	

W-9-MW5	12-04-0558-7-G	04/06/12 09:00	Aqueous	GC 47	04/11/12	04/12/12 22:09	120411B14S
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Parameter	Result	RL	DF	Qual	Units
TPH as Motor Oil	ND	250	1	SG,U	ug/L

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	100	68-140	

W-10-MW6	12-04-0558-8-G	04/06/12 09:15	Aqueous	GC 47	04/11/12	04/12/12 22:23	120411B14S
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Parameter	Result	RL	DF	Qual	Units
TPH as Motor Oil	ND	250	1	SG,U	ug/L

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	101	68-140	

Method Blank	099-12-234-1,077	N/A	Aqueous	GC 47	04/11/12	04/12/12 15:41	120411B14S
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Parameter	Result	RL	DF	Qual	Units
TPH as Motor Oil	ND	250	1	U	ug/L

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	94	68-140	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



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

Date Received: 04/10/12
Work Order No: 12-04-0558
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project: ExxonMobil 79374/022735C

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-9-MW1	12-04-0558-2-E	04/06/12 08:10	Aqueous	GC 24	04/18/12	04/18/12 13:35	120418B01

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
TPH as Gasoline	130	50	1		ug/L

<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>
1,4-Bromofluorobenzene	84	38-134	

W-10-MW2	12-04-0558-3-E	04/06/12 08:30	Aqueous	GC 24	04/18/12	04/18/12 15:16	120418B01
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
TPH as Gasoline	68	50	1		ug/L

<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>
1,4-Bromofluorobenzene	74	38-134	

W-10-MW3	12-04-0558-4-E	04/06/12 08:20	Aqueous	GC 24	04/18/12	04/18/12 18:03	120418B01
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
TPH as Gasoline	18000	1000	20		ug/L

<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>
1,4-Bromofluorobenzene	88	38-134	

W-8-MW3A	12-04-0558-5-E	04/06/12 09:30	Aqueous	GC 24	04/18/12	04/18/12 15:49	120418B01
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
TPH as Gasoline	1300	50	1		ug/L

<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>
1,4-Bromofluorobenzene	102	38-134	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



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

Date Received: 04/10/12
Work Order No: 12-04-0558
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project: ExxonMobil 79374/022735C

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-6-MW4	12-04-0558-6-F	04/06/12 08:40	Aqueous	GC 24	04/18/12	04/18/12 17:29	120418B01

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	9100	100	2	HD	ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	133	38-134	

W-9-MW5	12-04-0558-7-F	04/06/12 09:00	Aqueous	GC 24	04/18/12	04/18/12 16:23	120418B01
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Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	6000	50	1	HD	ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	156	38-134	AZ

W-10-MW6	12-04-0558-8-E	04/06/12 09:15	Aqueous	GC 24	04/18/12	04/18/12 16:56	120418B01
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Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	1400	50	1	HD	ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	107	38-134	

Method Blank	099-12-436-7,336	N/A	Aqueous	GC 24	04/18/12	04/18/12 10:34	120418B01
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Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	50	1	U	ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	76	38-134	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report


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

Date Received: 04/10/12
Work Order No: 12-04-0558
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 79374/022735C

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-9-MW1	12-04-0558-2-A	04/06/12 08:10	Aqueous	GC/MS L	04/10/12	04/11/12 04:05	120410L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	2.1	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	U
Toluene	ND	0.50	1	U	Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	U
Ethylbenzene	ND	0.50	1	U	Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	U
Xylenes (total)	ND	0.50	1	U	1,2-Dibromoethane	ND	0.50	1	U
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	U	1,2-Dichloroethane	ND	0.50	1	U
Tert-Butyl Alcohol (TBA)	ND	5.0	1	U					
Surrogates:	REC (%)	Control Limits	Qual		Surrogates:	REC (%)	Control Limits	Qual	
1,4-Bromofluorobenzene	98	68-120			Dibromofluoromethane	100	80-127		
1,2-Dichloroethane-d4	107	80-128			Toluene-d8	95	80-120		

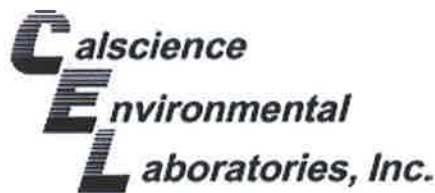
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-10-MW2	12-04-0558-3-A	04/06/12 08:30	Aqueous	GC/MS L	04/10/12	04/11/12 04:32	120410L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1	U	Diisopropyl Ether (DIPE)	ND	0.50	1	U
Toluene	ND	0.50	1	U	Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	U
Ethylbenzene	ND	0.50	1	U	Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	U
Xylenes (total)	ND	0.50	1	U	1,2-Dibromoethane	ND	0.50	1	U
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	U	1,2-Dichloroethane	ND	0.50	1	U
Tert-Butyl Alcohol (TBA)	ND	5.0	1	U					
Surrogates:	REC (%)	Control Limits	Qual		Surrogates:	REC (%)	Control Limits	Qual	
1,4-Bromofluorobenzene	93	68-120			Dibromofluoromethane	103	80-127		
1,2-Dichloroethane-d4	106	80-128			Toluene-d8	98	80-120		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-10-MW3	12-04-0558-4-A	04/06/12 08:20	Aqueous	GC/MS L	04/10/12	04/11/12 04:59	120410L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	300	20	40		Diisopropyl Ether (DIPE)	ND	20	40	U
Toluene	120	20	40		Ethyl-t-Butyl Ether (ETBE)	ND	20	40	U
Ethylbenzene	1100	20	40		Tert-Amyl-Methyl Ether (TAME)	ND	20	40	U
Xylenes (total)	180	20	40		1,2-Dibromoethane	ND	20	40	U
Methyl-t-Butyl Ether (MTBE)	ND	20	40	U	1,2-Dichloroethane	ND	20	40	U
Tert-Butyl Alcohol (TBA)	ND	200	40	U					
Surrogates:	REC (%)	Control Limits	Qual		Surrogates:	REC (%)	Control Limits	Qual	
1,4-Bromofluorobenzene	102	68-120			Dibromofluoromethane	95	80-127		
1,2-Dichloroethane-d4	98	80-128			Toluene-d8	101	80-120		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



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

Date Received: 04/10/12
Work Order No: 12-04-0558
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 79374/022735C

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-8-MW3A	12-04-0558-5-B	04/06/12 09:30	Aqueous	GC/MS L	04/11/12	04/11/12 20:38	120411L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	41	2.0	4		Diisopropyl Ether (DIPE)	ND	2.0	4	U
Toluene	7.5	2.0	4		Ethyl-t-Butyl Ether (ETBE)	ND	2.0	4	U
Ethylbenzene	140	2.0	4		Tert-Amyl-Methyl Ether (TAME)	ND	2.0	4	U
Xylenes (total)	38	2.0	4		1,2-Dibromoethane	ND	2.0	4	U
Methyl-t-Butyl Ether (MTBE)	ND	2.0	4	U	1,2-Dichloroethane	ND	2.0	4	U
Tert-Butyl Alcohol (TBA)	ND	20	4	U					
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>	
1,4-Bromofluorobenzene	102	68-120			Dibromofluoromethane	101	80-127		
1,2-Dichloroethane-d4	104	80-128			Toluene-d8	98	80-120		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-6-MW4	12-04-0558-6-A	04/06/12 08:40	Aqueous	GC/MS L	04/10/12	04/11/12 05:54	120410L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	380	10	20		Diisopropyl Ether (DIPE)	ND	10	20	U
Toluene	40	10	20		Ethyl-t-Butyl Ether (ETBE)	ND	10	20	U
Ethylbenzene	220	10	20		Tert-Amyl-Methyl Ether (TAME)	ND	10	20	U
Xylenes (total)	410	10	20		1,2-Dibromoethane	ND	10	20	U
Methyl-t-Butyl Ether (MTBE)	ND	10	20	U	1,2-Dichloroethane	ND	10	20	U
Tert-Butyl Alcohol (TBA)	ND	100	20	U					
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>	
1,4-Bromofluorobenzene	99	68-120			Dibromofluoromethane	95	80-127		
1,2-Dichloroethane-d4	103	80-128			Toluene-d8	97	80-120		

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-9-MW5	12-04-0558-7-B	04/06/12 09:00	Aqueous	GC/MS L	04/11/12	04/11/12 21:06	120411L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	62	5.0	10		Diisopropyl Ether (DIPE)	ND	5.0	10	U
Toluene	17	5.0	10		Ethyl-t-Butyl Ether (ETBE)	ND	5.0	10	U
Ethylbenzene	360	5.0	10		Tert-Amyl-Methyl Ether (TAME)	ND	5.0	10	U
Xylenes (total)	680	5.0	10		1,2-Dibromoethane	ND	5.0	10	U
Methyl-t-Butyl Ether (MTBE)	ND	5.0	10	U	1,2-Dichloroethane	ND	5.0	10	U
Tert-Butyl Alcohol (TBA)	ND	50	10	U					
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>	
1,4-Bromofluorobenzene	102	68-120			Dibromofluoromethane	96	80-127		
1,2-Dichloroethane-d4	103	80-128			Toluene-d8	98	80-120		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



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

Date Received: 04/10/12
 Work Order No: 12-04-0558
 Preparation: EPA 5030C
 Method: EPA 8260B
 Units: ug/L

Project: ExxonMobil 79374/022735C

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-10-MW6	12-04-0558-8-A	04/06/12 09:15	Aqueous	GC/MS L	04/10/12	04/11/12 06:49	120410L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	2.4	0.50	1		Diisopropyl Ether (DIPE)	ND	0.50	1	U
Toluene	ND	0.50	1	U	Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	U
Ethylbenzene	13	0.50	1		Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	U
Xylenes (total)	15	0.50	1		1,2-Dibromoethane	ND	0.50	1	U
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	U	1,2-Dichloroethane	ND	0.50	1	U
Tert-Butyl Alcohol (TBA)	ND	5.0	1	U					
Surrogates:	REC (%)	Control Limits	Qual		Surrogates:	REC (%)	Control Limits	Qual	
1,4-Bromofluorobenzene	101	68-120			Dibromofluoromethane	91	80-127		
1,2-Dichloroethane-d4	97	80-128			Toluene-d8	101	80-120		

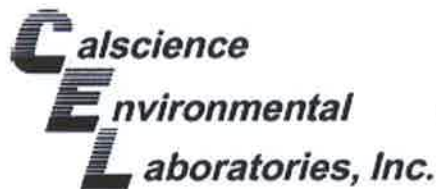
Method Blank	099-12-884-837	N/A	Aqueous	GC/MS L	04/10/12	04/10/12 23:30	120410L02
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1	U	Diisopropyl Ether (DIPE)	ND	0.50	1	U
Toluene	ND	0.50	1	U	Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	U
Ethylbenzene	ND	0.50	1	U	Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	U
Xylenes (total)	ND	0.50	1	U	1,2-Dibromoethane	ND	0.50	1	U
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	U	1,2-Dichloroethane	ND	0.50	1	U
Tert-Butyl Alcohol (TBA)	ND	5.0	1	U					
Surrogates:	REC (%)	Control Limits	Qual		Surrogates:	REC (%)	Control Limits	Qual	
1,4-Bromofluorobenzene	95	68-120			Dibromofluoromethane	111	80-127		
1,2-Dichloroethane-d4	106	80-128			Toluene-d8	92	80-120		

Method Blank	099-12-884-838	N/A	Aqueous	GC/MS L	04/11/12	04/11/12 11:56	120411L01
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Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1	U	Diisopropyl Ether (DIPE)	ND	0.50	1	U
Toluene	ND	0.50	1	U	Ethyl-t-Butyl Ether (ETBE)	ND	0.50	1	U
Ethylbenzene	ND	0.50	1	U	Tert-Amyl-Methyl Ether (TAME)	ND	0.50	1	U
Xylenes (total)	ND	0.50	1	U	1,2-Dibromoethane	ND	0.50	1	U
Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	U	1,2-Dichloroethane	ND	0.50	1	U
Tert-Butyl Alcohol (TBA)	ND	5.0	1	U					
Surrogates:	REC (%)	Control Limits	Qual		Surrogates:	REC (%)	Control Limits	Qual	
1,4-Bromofluorobenzene	93	68-120			Dibromofluoromethane	102	80-127		
1,2-Dichloroethane-d4	110	80-128			Toluene-d8	94	80-120		

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Quality Control - Spike/Spike Duplicate



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

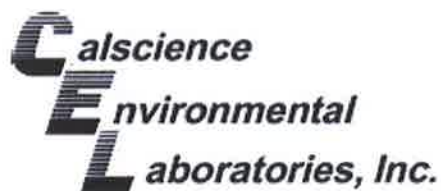
Date Received: 04/10/12
Work Order No: 12-04-0558
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project ExxonMobil 79374/022735C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
W-9-MW1	Aqueous	GC 24	04/18/12	04/18/12	120418S01

<u>Parameter</u>	<u>SPIKE ADDED</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
TPH as Gasoline	2000	105	101	68-122	4	0-18	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - Spike/Spike Duplicate



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

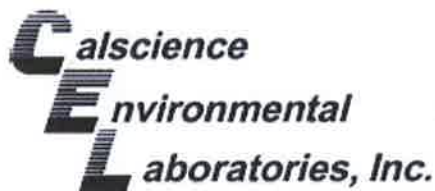
Date Received: 04/10/12
Work Order No: 12-04-0558
Preparation: EPA 5030C
Method: EPA 8260B

Project ExxonMobil 79374/022735C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
12-04-0555-1	Aqueous	GC/MS L	04/10/12	04/11/12	120410S02

<u>Parameter</u>	<u>SPIKE ADDED</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Benzene	10.00	105	97	76-124	8	0-20	
Toluene	10.00	99	101	80-120	1	0-20	
Ethylbenzene	10.00	106	105	78-126	1	0-20	
Methyl-t-Butyl Ether (MTBE)	10.00	85	92	67-121	9	0-49	
Tert-Butyl Alcohol (TBA)	50.00	187	188	36-162	1	0-30	HX
Diisopropyl Ether (DIPE)	10.00	79	109	60-138	33	0-45	
Ethyl-t-Butyl Ether (ETBE)	10.00	106	118	69-123	11	0-30	
Tert-Amyl-Methyl Ether (TAME)	10.00	101	99	65-120	2	0-20	
Ethanol	100.0	101	118	30-180	15	0-72	
1,2-Dibromoethane	10.00	105	101	80-120	4	0-20	
1,2-Dichloroethane	10.00	102	104	80-120	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - Spike/Spike Duplicate



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

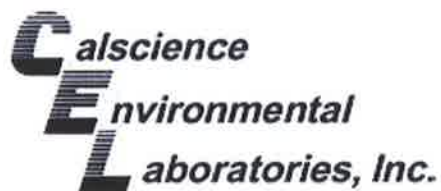
Date Received: 04/10/12
Work Order No: 12-04-0558
Preparation: EPA 5030C
Method: EPA 8260B

Project ExxonMobil 79374/022735C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
12-04-0624-2	Aqueous	GC/MS L	04/11/12	04/11/12	120411S01

Parameter	SPIKE ADDED	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	10.00	118	103	76-124	2	0-20	
Toluene	10.00	104	93	80-120	11	0-20	
Ethylbenzene	10.00	107	115	78-126	7	0-20	
Methyl-t-Butyl Ether (MTBE)	10.00	98	107	67-121	10	0-49	
Tert-Butyl Alcohol (TBA)	50.00	149	109	36-162	31	0-30	BA
Diisopropyl Ether (DIPE)	10.00	99	105	60-138	6	0-45	
Ethyl-t-Butyl Ether (ETBE)	10.00	97	106	69-123	8	0-30	
Tert-Amyl-Methyl Ether (TAME)	10.00	97	111	65-120	13	0-20	
Ethanol	100.0	82	81	30-180	1	0-72	
1,2-Dibromoethane	10.00	99	110	80-120	10	0-20	
1,2-Dichloroethane	10.00	138	145	80-120	5	0-20	HX

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



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

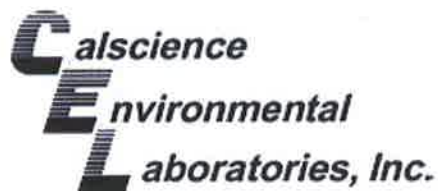
Date Received: N/A
Work Order No: 12-04-0558
Preparation: EPA 3510C
Method: EPA 8015B (M)

Project: ExxonMobil 79374/022735C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-234-1,077	Aqueous	GC 47	04/11/12	04/12/12	120411B14S

Parameter	SPIKE ADDED	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Motor Oil	2000	95	91	75-117	4	0-13	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



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

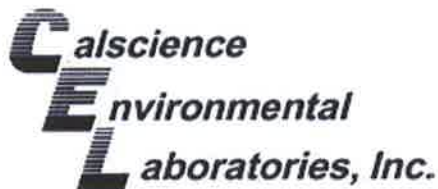
Date Received: N/A
Work Order No: 12-04-0558
Preparation: EPA 3510C
Method: EPA 8015B (M)

Project: ExxonMobil 79374/022735C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-330-2,195	Aqueous	GC 47	04/11/12	04/12/12	120411B13S

Parameter	SPIKE ADDED	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	2000	94	94	75-117	1	0-13	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



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

Date Received: N/A
Work Order No: 12-04-0558
Preparation: EPA 5030C
Method: EPA 8015B (M)

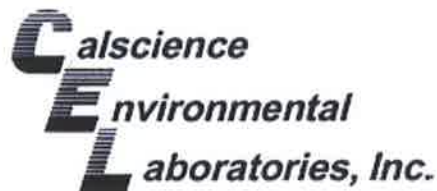
Project: ExxonMobil 79374/022735C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-436-7,336	Aqueous	GC 24	04/18/12	04/18/12	120418B01

Parameter	SPIKE ADDED	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	2000	111	110	78-120	0	0-10	

RPD - Relative Percent Difference , CL - Control Limit





Quality Control - LCS/LCS Duplicate



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

Date Received: N/A
Work Order No: 12-04-0558
Preparation: EPA 5030C
Method: EPA 8260B

Project: ExxonMobil 79374/022735C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number			
099-12-884-837	Aqueous	GC/MS L	04/10/12	04/10/12	120410L02			
Parameter	SPIKE ADDED	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	10.00	118	103	80-120	73-127	13	0-20	
Toluene	10.00	108	105	80-120	73-127	2	0-20	
Ethylbenzene	10.00	109	101	80-120	73-127	8	0-20	
Methyl-t-Butyl Ether (MTBE)	10.00	96	110	69-123	60-132	14	0-20	
Tert-Butyl Alcohol (TBA)	50.00	102	98	63-123	53-133	4	0-20	
Diisopropyl Ether (DIPE)	10.00	107	90	59-137	46-150	17	0-37	
Ethyl-t-Butyl Ether (ETBE)	10.00	110	96	69-123	60-132	14	0-20	
Tert-Amyl-Methyl Ether (TAME)	10.00	103	99	70-120	62-128	3	0-20	
Ethanol	100.0	88	65	28-160	6-182	30	0-57	
1,2-Dibromoethane	10.00	106	99	79-121	72-128	7	0-20	
1,2-Dichloroethane	10.00	109	108	80-120	73-127	1	0-20	

Total number of LCS compounds : 11

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 Limit



Quality Control - LCS/LCS Duplicate



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

Date Received: N/A
Work Order No: 12-04-0558
Preparation: EPA 5030C
Method: EPA 8260B

Project: ExxonMobil 79374/022735C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number			
099-12-884-838	Aqueous	GC/MS L	04/11/12	04/11/12	120411L01			
Parameter	SPIKE ADDED	LCS %REC	LCSD %REC	%REC CL	ME CL	RPD	RPD CL	Qualifiers
Benzene	10.00	103	96	80-120	73-127	7	0-20	
Toluene	10.00	106	102	80-120	73-127	4	0-20	
Ethylbenzene	10.00	109	105	80-120	73-127	4	0-20	
Methyl-t-Butyl Ether (MTBE)	10.00	94	113	69-123	60-132	18	0-20	
Tert-Butyl Alcohol (TBA)	50.00	95	95	63-123	53-133	0	0-20	
Diisopropyl Ether (DIPE)	10.00	122	86	59-137	46-150	35	0-37	
Ethyl-t-Butyl Ether (ETBE)	10.00	112	96	69-123	60-132	16	0-20	
Tert-Amyl-Methyl Ether (TAME)	10.00	102	99	70-120	62-128	3	0-20	
Ethanol	100.0	88	88	28-160	6-182	1	0-57	
1,2-Dibromoethane	10.00	103	105	79-121	72-128	2	0-20	
1,2-Dichloroethane	10.00	106	105	80-120	73-127	0	0-20	

Total number of LCS compounds : 11

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 Limit

Work Order Number: 12-04-0558

<u>Qualifier</u>	<u>Definition</u>
AZ	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
B	Analyte was present in the associated method blank.
BA	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
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.
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 a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
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 and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
IL	Relative percent difference out of control.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
LD	Analyte presence was not confirmed by second column or GC/MS analysis.
LP	The LCS and/or LCSD recoveries for this analyte were above the upper control limit. The associated sample was non-detected. Therefore, the sample data was reported without further clarification.
LQ	LCS recovery above method control limits.
LR	LCS recovery below method control limits.
ND	Parameter not detected at the indicated reporting limit.
QO	Compound did not meet method-described identification guidelines. Identification was based on additional GC/MS characteristics.
RU	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
SG	A silica gel cleanup procedure was performed.
SN	See applicable analysis comment.
U	Undetected at detection limit.

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.
MPN - Most Probable Number

Calscience Environmental Laboratories, Inc.

7440 Lincoln Way
Garden Grove, CA 92841

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



12-04-0558

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: Paula Sime
 ExxonMobil Project Mgr: Jennifer Sedlachek Project Name: 02 2735 C
 Consultant Project Mgr: Paula Sime ExxonMobil Site #: 79374 Major Project (AFE #):
 Consultant Telephone Number: 707-766-2000 Fax No.: 707-789-0414 Site Address: 990 San Pablo Avenue
 Sampler Name (Print): Steven Church Site City, State, Zip: Albany, California
 Sampler Signature: [Signature] 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										Matrix						Analyze For:											RUSH TAT (Pre-Schedule 5-day TAT)	Standard 10-day TAT	Due Date of Report
								Methanol	Sodium Bisulfate	HCl	NaOH	H ₂ SO ₄ , Plastic	H ₂ SO ₄ , Glass	HNO ₃	Ice	Other: Unpreserved	None	Groundwater	Wastewater	Drinking Water	Sludge	Soil	Air	Other (specify): Distilled Water	TPHg 8015M	TPHd 8015M	TPHmo 8015M	BTEX 8260B	7 Oxygenates 8260B								
1 QCB8		4-6-12	940	2																																	
2 W-9 -MW1	MW1		816	8															2A	X						X	X	X	X	X				X			
3 W-10 -MW2	MW2		830	8															2A	X						X	X	X	X	X				X			
4 W-10 -MW3	MW3		820	8															2A	X						X	X	X	X	X				X			
5 W-8 -MW3A	MW3A		930	8															2A	X						X	X	X	X	X				X			
6 W-6 -MW4	MW4		840	8															2A	X						X	X	X	X	X				X			
7 W-9 -MW5	MW5		900	8															2A	X						X	X	X	X	X				X			
8 W-10 -MW6	MW6		915	8															2A	X						X	X	X	X	X				X			

Comments/Special Instructions:
 PLEASE E-MAIL ALL PDF FILES TO
 norcallabs@eri-us.com; ERI-EIMLABS@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: Y N
 Sample Containers Intact? Y N
 VOCs Free of Headspace? Y N
 QC Deliverables (please circle one)

Relinquished by:	<u>[Signature]</u>	Date	Time	Received by:	<u>Tom O'Malley, CER</u>	Date	Time
		<u>4/9/12</u>	<u>1455</u>			<u>4/9/12</u>	<u>1455</u>
Relinquished by:	<u>Tom O'Malley TOGSO</u>	Date	Time	Received by (Lab personnel):	<u>[Signature]</u>	Date	Time
		<u>4/9/12</u>	<u>1730</u>			<u>4/10/12</u>	<u>0800</u>

0558



< WebShip > > > > >

800-322-5555 www.gso.com

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

Tracking #: 518854125



NPS

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

ORC
GARDEN GROVE

A

COD:
\$0.00

D92841A



229129

Reference:
CARDNO ERI

Delivery Instructions:

Signature Type:
SIGNATURE REQUIRED

Print Date : 04/09/12 16:22 PM

Package 1 of 1

Send Label To Printer: Print All Edit Shipment Finish

LABEL INSTRUCTIONS:

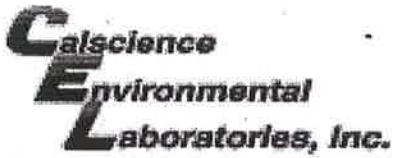
- Do not copy or reprint this label for additional shipments - each package must have a unique barcode.
- STEP 1 - Use the "Send Label to Printer" button on this page to print the shipping label on a laser or inkjet printer.
- STEP 2 - Fold this page in half.
- STEP 3 - Securely attach this label to your package, do not cover the barcode.
- STEP 4 - Request an on-call pickup for your package, if you do not have scheduled daily pickup service or Drop-off your package at the nearest GSO drop box. Locate nearest GSO dropbox locations using this link.

ADDITIONAL OPTIONS:

Send Label Via Email Create Return Label

TERMS AND CONDITIONS:

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



WORK ORDER #: 12-04-0558

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: CardnoEKI

DATE: 04/10/12

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

Temperature 2.2 °C - 0.3 °C (CF) = 1.9 °C Blank Sample

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

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

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

Ambient Temperature: Air Filter Initial: AP

CUSTODY SEALS INTACT:

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

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

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
<input type="checkbox"/> No analysis requested. <input type="checkbox"/> Not relinquished. <input type="checkbox"/> No date/time relinquished.			
Sampler's name indicated on COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers and sufficient volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours...	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation noted on COC or sample container.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:

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

Water: VOA VOAh VOAna₂ 125AGB 125AGBh 125AGBp 1AGB 1AGBna₂ 1AGBs

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

250PB 250PBn 125PB 125PBz₂na 100PJ 100PJna₂ _____ _____ _____

Air: Tedlar® Summa® Other: _____ Trip Blank Lot#: N/A Labeled/Checked by: JP

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

Preservative: h: HCL n: HNO₃ na₂: Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure z₂na: ZnAc₂+NaOH f: Filtered Scanned by: WJL

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. ER12735	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 ()		6. US EPA ID Number		A. State Transporter's ID			
5. Transporter 1 Company Name CARDNO ERI		8. US EPA ID Number		B. Transporter 1 Phone			
7. Transporter 2 Company Name		10. US EPA ID Number		C. State Transporter's ID			
9. Designated Facility Name and Site Address INSTRAT INC 1155 C AIRPORT RD FEB VISTA, CA 94571		10. US EPA ID Number		D. Transporter 2 Phone			
				E. State Facility's ID			
				F. Facility's Phone (707) 824-8884			
11. WASTE DESCRIPTION			12. Containers		13. Total Quantity		
			No.	Type	14. Unit Wt./Vol.		
			a.	01	Poly	79	Gal
			b.				
			c.				
d.							
G. Additional Descriptions for Materials Listed Above BROWN, No SOLIDS / ODOR			H. Handling Codes for Wastes Listed Above				
15. Special Handling Instructions and Additional Information							
<p>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.</p>							
Printed/Typed Name				Signature			
Date							
Month Day Year							
17. Transporter 1 Acknowledgement of Receipt of Materials							
Printed/Typed Name Steven Church				Signature <i>[Signature]</i>			
Date							
Month Day Year				4/19/12			
18. Transporter 2 Acknowledgement of Receipt of Materials							
Printed/Typed Name				Signature			
Date							
Month Day Year							
19. Discrepancy Indication Space							
20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.							
Printed/Typed Name INSTRAT INC				Signature <i>[Signature]</i>			
Date							
Month Day Year				4/19/12			

NON-HAZARDOUS WASTE

GENERATOR

TRANSPORTER

FACILITY

