ExxonMobil
Environmental Services Company
4096 Piedmont Avenue #194
Oakland, California 94611
510 547 8196 Telephone
510 547 8706 Facsimile

Jennifer C. Sedlachek
Project Manager

ExxonMobil

December 21, 2011

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

RE: Former Exxon RAS #73399/2991 Hopyard Road, Pleasanton, California.

Dear Mr. Wickham:

Attached for your review and comment is a copy of the letter report entitled ***Remediation Status Report, Third Quarter 2011,*** dated December 21, 2011, for the above-referenced site. The report was prepared by Cardno ERI of Petaluma, California, and details activities at the subject site.

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

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

Sincerely,

Jennifer C. Sedlachek
Project Manager

Attachment: Cardno ERI's ***Remediation Status Report, Third Quarter 2011,*** dated December 21, 2011

cc: w/ attachment
Ms. Cherie McCaulou, California Regional Water Quality Control Board, San Francisco Bay Region
Mr. Matthew Katen, Zone 7 Water Agency

w/o attachment
Ms. Paula Sime, Cardno ERI

Cardno ERI
License A/C10-611383

601 N McDowell Boulevard
Petaluma, CA 94954
USA

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December 21, 2011
Cardno ERI 2776C.R01

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

SUBJECT **Remediation Status Report, Third Quarter 2011**
Former Exxon Service Station 73399
2991 Hopyard Road, Pleasanton, California

Alameda County File No. R0362

INTRODUCTION

At the request of ExxonMobil Environmental Services (EMES), on behalf of Exxon Mobil Corporation, Cardno ERI operated a GWPTS at the subject site during third quarter 2011. Relevant plates, tables, and appendices are included at the end of this report. Currently, a Valero-branded service station and an auto repair shop is in operation at the site.

REMEDIAL OPERATIONS

Groundwater Pump and Treat System

A GWPTS was installed in March 2001. Groundwater is pumped through two sediment filter housings and two 1,000-pound GAC vessels prior to being discharged to the sanitary sewer system under permit with the Dublin San Ramon Services District. The GWPTS currently operates using wells MW9A and VR1. Pumping wells OW1 and OW2 were shut down in October 2004.

GWPTS start-up date:	March 2001
GWPTS discharge permit:	Dublin San Ramon Service District Permit No. 10026
GWPTS reporting period:	06/15/11 – 09/06/11
System modifications during reporting period:	None
GWPTS status during reporting period:	Active
Wells used for extraction:	MW9A and VR1

Laboratory: Calscience Environmental Laboratories, Inc. Garden Grove, California

Effluent analyses performed:

EPA Method 8015B	TPHg, TPHd
EPA Method 8260B	BTEX, MTBE

Discharge permit non-compliance events and exceptions: None

GWPTS performance:

Period	Volume of Groundwater Treated (gallons)	Mass of TPHg Removed (pounds)	Mass of Benzene Removed (pounds)	Mass of MTBE Removed (pounds)
06/15/11 – 09/06/11	275,760	0.3906	<0.0096	0.5244
To Date:	10,446,140	<10.2075	<0.2011	<10.6860

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. Paula Sime, Cardno ERI's project manager for this site, at paula.sime@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. 7/31/13
STATE OF CALIFORNIA

Matthew T. Herman
Project Engineer
for Cardno ERI
707 766 2000
Email: matthew.herman@cardno.com

David R. Daniels
P.G. 8737
for Cardno ERI
707 766 2000
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Enclosures:

Acronym List

Plate 1	Site Vicinity Map
Table 1	Operation and Performance Data for Groundwater Pump and Treat System
Appendix A	Laboratory Analytical Reports and Chain-of-Custody Records
Appendix B	SOP-25: "Hydrocarbons Removed from Vadose Well"

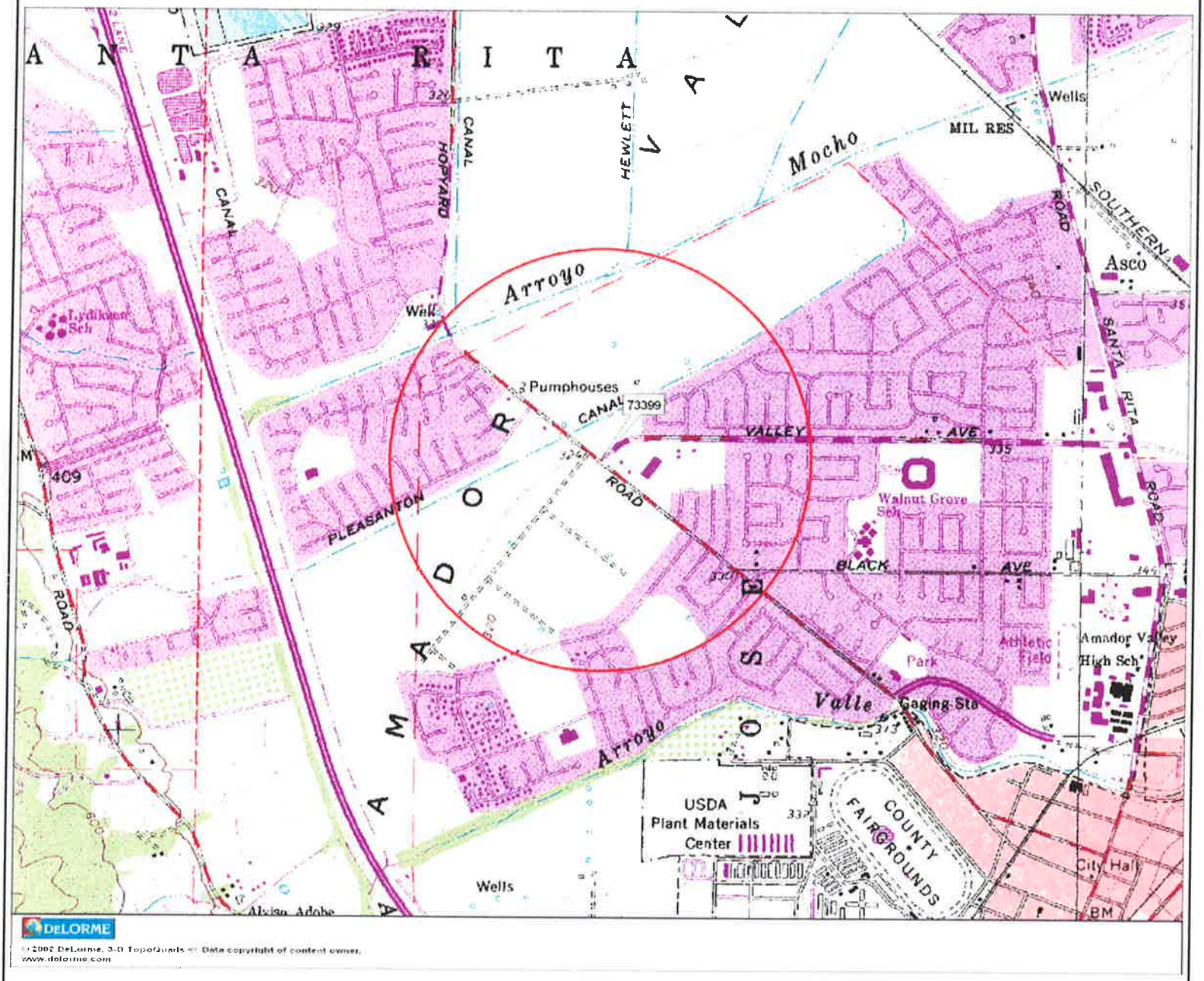
cc: Mr. Jerry T. Wickham, Alameda County Health Care Services Agency, 1131 Harbor Bay Parkway, Alameda, California, 94502-6577

Ms. Cherie McCaulou, California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, California, 94612

Mr. Matthew Katen, Zone 7 Water Agency, 100 North Canyons Parkway, Livermore, California, 94551

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 2776TOPO

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

Cardno ERI
Shaping the Future

SITE VICINITY MAP

FORMER EXXON SERVICE STATION 73399
2991 Hopyard Road
Pleasanton, California

PROJECT NO.
2776

PLATE
1

TABLE 1
OPERATION AND PERFORMANCE DATA FOR GROUNDWATER PUMP AND TREAT SYSTEM
Former Exxon Service Station 73399
2991 Hopyard Road
Pleasanton, California

Date	Effluent Totalizer Reading (gallons)	Total Totalizer Reading (gallons)	Average Flow Rate (gpm)	Total Flow Per Period (gallons)	Laboratory Analytical Results								Removal Calculations					
													TPHg		Benzene		MTBE	
					Sample ID	TPHd (µg/L)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Per Period (pounds)	Cumulative (pounds)	Per Period (pounds)	Cumulative (pounds)	Per Period (pounds)	Cumulative (pounds)
03/17/11	Cumulative totals reported by ETIC Engineering, Inc.																	
	1,933,870	9,728,040	3.6	30,530	Influent	<50	160a	3.7	<2.5	0.28b	0.54b	170	0.0407	<9.1866	0.0009	<0.1767	0.0420	<9.3606
					Intermediate	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50						
					Effluent	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50						
03/25/11	Cumulative totals reported by ETIC Engineering, Inc.																	
	1,970,740	9,764,910	3.2	36,870														
03/28/11	Cumulative totals reported by ETIC Engineering, Inc.																	
	1,989,320	9,783,490	4.3	18,580														
04/20/11	System running on arrival and departure.																	
	2,113,610	9,907,780	2.5	124,290	W-HT	<50	170a	3.8	<0.50	<0.50	0.56	220	0.2474	<9.4341	0.0056	<0.1823	0.2924	<9.6530
					W-OUT-WC1	—	—	<0.50	<0.50	<0.50	<0.50	<0.50						
					W-DSCHG	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50						
05/02/11	System running on arrival and departure.																	
	2,178,360	9,972,530	3.7	64,750														
05/16/11	System running on arrival and departure.																	
	2,251,670	10,045,840	3.6	73,310	W-HT	<50	170a	<4.0	<4.0	<4.0	<4.0	230	0.1958	<9.6299	<0.0045	<0.1868	0.2592	<9.9122
					W-OUT-WC1	—	—	<0.50	<0.50	<0.50	<0.50	<0.50						
					W-DSCHG	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50						
06/01/11	System running on arrival and departure.																	
	2,334,320	10,128,490	3.6	82,650														
06/15/11	System down on arrival and running on departure.																	
	2,376,210	10,170,380	2.1	41,890	W-HT	<50	190a	<5.0	<5.0	<5.0	<5.0	250	0.1870	<9.8169	<0.0047	<0.1915	0.2494	<10.1616
					W-OUT-WC1	—	—	<0.50	<0.50	<0.50	<0.50	0.50						
					W-DSCHG	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50						
06/30/11	System down on arrival and running on departure.																	
	2,426,560	10,220,730	2.3	50,350														
07/13/11	System running on arrival and departure.																	
	2,472,180	10,266,350	2.4	45,620	W-HT	<50	130a	<4.0	<4.0	<4.0	<4.0	190	0.1281	<9.9450	<0.0036	<0.1951	0.1762	<10.3377
					W-OUT-WC1	—	—	<0.50	<0.50	<0.50	<0.50	3.3						
					W-DSCHG	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50						
07/26/11	System running on arrival and departure.																	
	2,519,190	10,313,360	2.5	47,010														
08/08/11	System down on arrival and running on departure.																	
	2,550,540	10,344,710	1.7	31,350	W-HT	<50	220a	<4.0	<4.0	<4.0	<4.0	280	0.1144	<10.0594	<0.0026	<0.1977	0.1536	<10.4914
					W-OUT-WC1	—	—	<0.50	<0.50	<0.50	<0.50	3.8						
					W-DSCHG	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50						
08/22/11	System running on arrival and departure.																	
	2,601,380	10,395,550	2.5	50,840														
09/06/11	System running on arrival and departure.																	
	2,651,970	10,446,140	2.3	50,590	W-HT	<50	130	<4.0	<4.0	<4.0	<4.0	180	0.1481	<10.2075	<0.0034	<0.2011	0.1946	<10.6860
					W-OUT-WC1	—	—	<0.50	<0.50	<0.50	<0.50	6.2						
					W-DSCHG	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50						

Notes: If value is below laboratory detection limit, then detection limit is used for removal calculations.

W-INF-HT	=	Water influent.
W-OUT-WC1	=	Water intermediate after first carbon vessel.
W-DSCHG	=	Water effluent.
TPHg	=	Total petroleum hydrocarbons as gasoline analyzed using modified EPA Method 8015B.
TPHd	=	Total petroleum hydrocarbons as diesel analyzed using modified EPA Method 8015B.
BTEX	=	Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8260B.
MTBE	=	Methyl tertiary butyl ether analyzed using EPA Method 8260B.
gpm	=	Gallons per minute.
µg/L	=	Micrograms per liter.
<	=	Less than the stated laboratory reporting limit.
—	=	Not sampled/Not analyzed/Not measured/Not calculated/Not applicable.
a	=	Does not match the typical chromatographic pattern.
b	=	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
c	=	Sample container had air bubbles >6mm diameter.

APPENDIX A

LABORATORY ANALYTICAL REPORS AND CHAIN-OF-CUSTODY RECORDS

Calscience
Environmental & Marine Chemistry Laboratories

CALSCIENCE

WORK ORDER NUMBER: 11-07-1086

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Cardno ERI

Client Project Name: ExxonMobil 73399/022776C

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

Cecile de Guia

Approved for release on 07/25/2011 by:
Cecile deGuia
Project Manager

ResultLink

Email your PM

Calscience Environmental Laboratories 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 provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety. Note that the Chain-of-Custody Record and Sample Receipt Form are integral parts of this report.

Calscience
Environmental & Marine Chemistry Laboratories

Contents

Client Project Name: ExxonMobil 73399/022776C
Work Order Number: 11-07-1086

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Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 07/16/11
Work Order No: 11-07-1086
Preparation: EPA 3510C
Method: EPA 8015B (M)

Project: ExxonMobil 73399/022776C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-DSCHG	**11-07-1086-1-E**	**07/13/11 17:20**	**Aqueous**	**GC 48**	**07/18/11**	**07/19/11 05:53**	**110718B13S**

Comment(s): -The sample extract was subjected to Silica Gel treatment prior to analysis.

Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	ND	50	1	U	ug/L

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	138	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-HT	**11-07-1086-3-E**	**07/13/11 17:40**	**Aqueous**	**GC 48**	**07/18/11**	**07/19/11 06:08**	**110718B13S**

Comment(s): -The sample extract was subjected to Silica Gel treatment prior to analysis.

Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	ND	50	1	U	ug/L

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	125	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-330-1,953**	**N/A**	**Aqueous**	**GC 48**	**07/18/11**	**07/19/11 03:53**	**110718B13S**

Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	ND	50	1	U	ug/L

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	111	68-140	

Return to Contents

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 07/16/11
Work Order No: 11-07-1086
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project: ExxonMobil 73399/022776C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-DSCHG	**11-07-1086-1-D**	**07/13/11 17:20**	**Aqueous**	**GC 18**	**07/18/11**	**07/18/11 14:07**	**110718B01**

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	50	1	U	ug/L

Surrogates:	REC (%)	Control Limits	Qual
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
W-HT	**11-07-1086-3-D**	**07/13/11 17:40**	**Aqueous**	**GC 18**	**07/18/11**	**07/18/11 14:44**	**110718B01**

Comment(s): -The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard. Quantitation of the unknown hydrocarbon(s) in the sample was based upon the specified standard.

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

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	81	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-436-6,410**	**N/A**	**Aqueous**	**GC 18**	**07/18/11**	**07/18/11 10:23**	**110718B01**

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	50	1	U	ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	80	38-134	

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

Return to Contents

Calscience Environmental Laboratories, Inc.

Analytical Report

Cardno ERI	Date Received:	07/16/11
601 North McDowell Blvd.	Work Order No:	11-07-1086
Petaluma, CA 94954-2312	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/L

Project: ExxonMobil 73399/022776C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-DSCHG	**11-07-1086-1-A**	**07/13/11 17:20**	**Aqueous**	**GC/MS L**	**07/21/11**	**07/22/11 04:41**	**110721L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1	U	Xylenes (total)	ND	0.50	1	U
Toluene	ND	0.50	1	U	Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	U
Ethylbenzene	ND	0.50	1	U					
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	97	68-120			Dibromofluoromethane	100	80-127		
1,2-Dichloroethane-d4	98	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-OUT-WC1	**11-07-1086-2-A**	**07/13/11 17:30**	**Aqueous**	**GC/MS L**	**07/21/11**	**07/22/11 05:08**	**110721L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1	U	Xylenes (total)	ND	0.50	1	U
Toluene	ND	0.50	1	U	Methyl-t-Butyl Ether (MTBE)	3.3	0.50	1	
Ethylbenzene	ND	0.50	1	U					
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	91	68-120			Dibromofluoromethane	101	80-127		
1,2-Dichloroethane-d4	99	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-HT	**11-07-1086-3-A**	**07/13/11 17:40**	**Aqueous**	**GC/MS L**	**07/21/11**	**07/22/11 05:36**	**110721L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	4.0	8	U	Xylenes (total)	ND	4.0	8	U
Toluene	ND	4.0	8	U	Methyl-t-Butyl Ether (MTBE)	190	4.0	8	
Ethylbenzene	ND	4.0	8	U					
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	94	68-120			Dibromofluoromethane	99	80-127		
1,2-Dichloroethane-d4	95	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
Method Blank	**099-12-880-672**	**N/A**	**Aqueous**	**GC/MS L**	**07/21/11**	**07/21/11 23:38**	**110721L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1	U	Xylenes (total)	ND	0.50	1	U
Toluene	ND	0.50	1	U	Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	U
Ethylbenzene	ND	0.50	1	U					
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	96	68-120			Dibromofluoromethane	102	80-127		
1,2-Dichloroethane-d4	99	80-128			Toluene-d8	98	80-120		

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

Return to Contents

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Cardno ERI	Date Received: 07/16/11
601 North McDowell Blvd.	Work Order No: 11-07-1086
Petaluma, CA 94954-2312	Preparation: EPA 5030C
	Method: EPA 8015B (M)

Project ExxonMobil 73399/022776C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
W-DSCHG	**Aqueous**	**GC 18**	**07/18/11**	**07/18/11**	**110718S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	84	82	68-122	1	0-18	

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RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 07/16/11
Work Order No: 11-07-1086
Preparation: EPA 5030C
Method: EPA 8260B

Project ExxonMobil 73399/022776C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-07-1241-2	**Aqueous**	**GC/MS L**	**07/21/11**	**07/22/11**	**110721S02**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	100	113	76-124	13	0-20	
Toluene	101	100	80-120	1	0-20	
Ethylbenzene	102	110	78-126	7	0-20	
Methyl-t-Butyl Ether (MTBE)	115	122	67-121	6	0-49	HX
Tert-Butyl Alcohol (TBA)	126	116	36-162	8	0-30	
Diisopropyl Ether (DIPE)	107	116	60-138	8	0-45	
Ethyl-t-Butyl Ether (ETBE)	104	123	69-123	17	0-30	
Tert-Amyl-Methyl Ether (TAME)	102	120	65-120	17	0-20	
Ethanol	121	104	30-180	15	0-72	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Cardno ERI		Date Received:	N/A
601 North McDowell Blvd.		Work Order No:	11-07-1086
Petaluma, CA 94954-2312		Preparation:	EPA 3510C
		Method:	EPA 8015B (M)

Project: ExxonMobil 73399/022776C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-330-1,953	**Aqueous**	**GC 48**	**07/18/11**	**07/19/11**	**110718B13S**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	105	105	75-117	0	0-13	

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RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Cardno ERI		Date Received:	N/A
601 North McDowell Blvd.		Work Order No:	11-07-1086
Petaluma, CA 94954-2312		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)

Project: ExxonMobil 73399/022776C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-436-6,410	**Aqueous**	**GC 18**	**07/18/11**	**07/18/11**	**110718B01**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	85	86	78-120	1	0-10	

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RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Cardno ERI		Date Received:	N/A
601 North McDowell Blvd.		Work Order No:	11-07-1086
Petaluma, CA 94954-2312		Preparation:	EPA 5030C
		Method:	EPA 8260B

Project: ExxonMobil 73399/022776C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-880-672	**Aqueous**	**GC/MS L**	**07/21/11**	**07/21/11**	**110721L05**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	108	99	80-120	8	0-20	
Toluene	98	99	80-120	1	0-20	
Ethylbenzene	102	101	80-120	1	0-20	
Methyl-t-Butyl Ether (MTBE)	106	112	69-123	5	0-20	
Tert-Butyl Alcohol (TBA)	102	100	63-123	2	0-20	
Diisopropyl Ether (DIPE)	109	111	59-137	2	0-37	
Ethyl-t-Butyl Ether (ETBE)	105	110	69-123	4	0-20	
Tert-Amyl-Methyl Ether (TAME)	108	103	70-120	4	0-20	
Ethanol	105	113	28-160	7	0-57	

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RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 11-07-1086

Qualifier	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 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.
CJ	Concentration exceeds the calibration range.
DF	Reporting limits elevated due to matrix interferences.
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.
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.
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.
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 LCS ME control limit range.
RV	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
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.

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Calscience Environmental Laboratories, Inc.
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494
Fax: 714-894-7501

1086

ExxonMobil

Consultant Name: Cardno ERI
Consultant Address: 601 North McDowell Blvd
Consultant City/State/Zip: Petaluma, California 94954
ExxonMobil Project Mgr: Jennifer C. Sedlachek
Consultant Project Mgr: Paula Sime
Consultant Telephone Number: (707) 766-2000 Fax No.: (707) 789-0414
Sampler Name (Print): GREG BRUSKI
Sampler Signature:

Account #: NA PO#:
Invoice To: Cardno ERI
Report To: Paula Sime
Project Name: 022776C (JUL)
ExxonMobil Site #: 73399 Major Project (AFE #):
Site Address: 2991 Hopyard Road
Site City, State, Zip: Pleasanton, California
Oversight Agency: Dublin San Ramon Services District

	Sample ID	Field Point Name	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	HCl (Blue Label)	NaOH (Orange Label)	H_2SO_4 Glass (Yellow Label)	H_2SO_4 Plastic (Yellow Label)	HNO_3 (Red Label)	Ice	Other	None (Black Label)	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Air	Other (specify):	Analyze For: 8015B TPHd**	8015B TPHg	BTEX/MTBE 8260						RUSH TAT (Pre-Schedule)	5-day TAT	Standard 10-day TAT	Due Date of Report
1	W-DSCHG	WEFF	7.13.11	1720	(2) 500ml Amber	X										X			X							X										X	
	W-DSCHG	WEFF	7.13.11	1720	(4) 40ml VOAs	X					X					X			X								X	X								X	
2	W-OUT-WC1	WC1	7.13.11	1730	(4) 40ml VOAs	X					X					X			X									X								X	
3	W-HT	WHT	7.13.11	1740	(2) 500ml Amber	X										X			X							X										X	
	W-HT	WHT	7.13.11	1740	(4) 40ml VOAs	X					X					X			X								X	X								X	

Comments/Special Instructions: ** TPHd to include silica gel cleanup.

GLOBAL ID # (T0600100537)

PLEASE E-MAIL ALL PDF FILES TO (NORCALLABS@ERI-US.COM)

Relinquished by:		Date	Time	Received by:	Date	Time
		7/15/11	1150	Tom O'Malley CEL	7/15/11	1150
Relinquished by:		Date	Time	Received by (Lab personnel):	Date	Time
T-O'Malley TO	GSO	7/15/11	1730		7/16/11	0930

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

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(9)

(1086)

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Reference:
CARDNO ERI

Delivery Instructions:

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Tracking #: 516998933

SDS

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D

GARDEN GROVE

D92843A

92701717

Print Date : 07/15/11 16:52 PM

Package 1 of 1

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Calscience Environmental Laboratories, Inc.

WORK ORDER #: 11-07-1086

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: Cardno ERI

DATE: 07/16/11

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

Temperature 2.1 °C + 0.5 °C (CF) = 2.6 °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: YC

CUSTODY SEALS INTACT:

☑ Cooler ☐_____ ☐ No (Not Intact) ☐ Not Present ☐ N/A Initial: YC

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Initial: YC

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	☑	☐	☐
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	☐	☐	☑
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® ☐_____

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

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

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

Preservative: h: HCL n: HNO_3 na_2:$Na_2S_2O_3$ na: NaOH p: H_3PO_4 s: H_2SO_4 znna: $ZnAc_2$+NaOH f: Field-filtered **Scanned by:**

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Calscience
Environmental & Marine Chemistry Laboratories

CALSCIENCE
WORK ORDER NUMBER: 11-08-0702

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Cardno ERI
Client Project Name: ExxonMobil 73399/022776C
Attention: Paula Sime
601 North McDowell Blvd.
Petaluma, CA 94954-2312

Cecile de Guia

Approved for release on 08/18/2011 by:
Cecile deGuia
Project Manager

ResultLink ▸

Email your PM ▸

Calscience Environmental Laboratories 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 provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety. Note that the Chain-of-Custody Record and Sample Receipt Form are integral parts of this report.

Calscience
Environmental & Marine Chemistry Laboratories

Contents

Client Project Name: ExxonMobil 73399/022776C
Work Order Number: 11-08-0702

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Calscience Environmental Laboratories, Inc.

Analytical Report

Cardno ERI		Date Received:	08/10/11
601 North McDowell Blvd.		Work Order No:	11-08-0702
Petaluma, CA 94954-2312		Preparation:	EPA 3510C
		Method:	EPA 8015B (M)

Project: ExxonMobil 73399/022776C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-DSCHG	**11-08-0702-1-F**	**08/08/11 12:00**	**Aqueous**	**GC 48**	**08/13/11**	**08/15/11 23:09**	**110813B05**

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

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	104	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-HT	**11-08-0702-3-F**	**08/08/11 12:30**	**Aqueous**	**GC 48**	**08/13/11**	**08/15/11 23:25**	**110813B05**

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

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	105	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-330-1,980**	**N/A**	**Aqueous**	**GC 48**	**08/13/11**	**08/15/11 21:53**	**110813B05**

Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	ND	50	1	U	ug/L

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	111	68-140	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Cardno ERI		Date Received:	08/10/11
601 North McDowell Blvd.		Work Order No:	11-08-0702
Petaluma, CA 94954-2312		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)

Project: ExxonMobil 73399/022776C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-DSCHG	**11-08-0702-1-C**	**08/08/11 12:00**	**Aqueous**	**GC 57**	**08/12/11**	**08/12/11 13:15**	**110812B01**

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	50	1	U	ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	71	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-HT	**11-08-0702-3-C**	**08/08/11 12:30**	**Aqueous**	**GC 57**	**08/12/11**	**08/12/11 14:49**	**110812B01**

Comment(s): -The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard. Quantitation of the unknown hydrocarbon(s) in the sample was based upon the specified standard.

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	220	50	1		ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	93	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-436-6,502**	**N/A**	**Aqueous**	**GC 57**	**08/12/11**	**08/12/11 11:41**	**110812B01**

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	50	1	U	ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	93	38-134	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Cardno ERI	Date Received: 08/10/11
601 North McDowell Blvd.	Work Order No: 11-08-0702
Petaluma, CA 94954-2312	Preparation: EPA 5030C
	Method: EPA 8260B
	Units: ug/L

Project: ExxonMobil 73399/022776C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-DSCHG	**11-08-0702-1-B**	**08/08/11 12:00**	**Aqueous**	**GC/MS FFF**	**08/16/11**	**08/16/11 21:06**	**110816L03**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1	U	Xylenes (total)	ND	0.50	1	U
Toluene	ND	0.50	1	U	Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	U
Ethylbenzene	ND	0.50	1	U					

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	106	68-120		Dibromofluoromethane	99	80-127	
1,2-Dichloroethane-d4	114	80-128		Toluene-d8	99	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-OUT-WC1	**11-08-0702-2-B**	**08/08/11 12:15**	**Aqueous**	**GC/MS FFF**	**08/16/11**	**08/16/11 21:34**	**110816L03**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1	U	Xylenes (total)	ND	0.50	1	U
Toluene	ND	0.50	1	U	Methyl-t-Butyl Ether (MTBE)	3.8	0.50	1	
Ethylbenzene	ND	0.50	1	U					

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	107	68-120		Dibromofluoromethane	99	80-127	
1,2-Dichloroethane-d4	112	80-128		Toluene-d8	101	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-HT	**11-08-0702-3-A**	**08/08/11 12:30**	**Aqueous**	**GC/MS BB**	**08/11/11**	**08/11/11 19:25**	**110811L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	4.0	8	U	Xylenes (total)	ND	4.0	8	U
Toluene	ND	4.0	8	U	Methyl-t-Butyl Ether (MTBE)	280	4.0	8	
Ethylbenzene	ND	4.0	8	U					

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	97	68-120		Dibromofluoromethane	82	80-127	
1,2-Dichloroethane-d4	91	80-128		Toluene-d8	96	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-880-682**	**N/A**	**Aqueous**	**GC/MS BB**	**08/11/11**	**08/11/11 14:04**	**110811L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1	U	Xylenes (total)	ND	0.50	1	U
Toluene	ND	0.50	1	U	Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	U
Ethylbenzene	ND	0.50	1	U					

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	94	68-120		Dibromofluoromethane	85	80-127	
1,2-Dichloroethane-d4	89	80-128		Toluene-d8	96	80-120	

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

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Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 08/10/11
Work Order No: 11-08-0702
Preparation: EPA 5030C
Method: EPA 8260B
Units: ug/L

Project: ExxonMobil 73399/022776C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-880-687**	**N/A**	**Aqueous**	**GC/MS FFF**	**08/16/11**	**08/16/11 16:59**	**110816L03**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1	U	Xylenes (total)	ND	0.50	1	U
Toluene	ND	0.50	1	U	Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	U
Ethylbenzene	ND	0.50	1	U					

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	105	68-120		Dibromofluoromethane	100	80-127	
1,2-Dichloroethane-d4	109	80-128		Toluene-d8	100	80-120	

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

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Cardno ERI	Date Received: 08/10/11
601 North McDowell Blvd.	Work Order No: 11-08-0702
Petaluma, CA 94954-2312	Preparation: EPA 5030C
	Method: EPA 8015B (M)

Project ExxonMobil 73399/022776C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
W-DSCHG	**Aqueous**	**GC 57**	**08/12/11**	**08/12/11**	**110812S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	88	87	68-122	2	0-18	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 08/10/11
Work Order No: 11-08-0702
Preparation: EPA 5030C
Method: EPA 8260B

Project ExxonMobil 73399/022776C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-08-0536-1	**Aqueous**	**GC/MS BB**	**08/11/11**	**08/11/11**	**110811S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	110	107	76-124	3	0-20	
Toluene	105	102	80-120	3	0-20	
Ethylbenzene	115	108	78-126	6	0-20	
Methyl-t-Butyl Ether (MTBE)	91	90	67-121	1	0-49	
Tert-Butyl Alcohol (TBA)	113	103	36-162	8	0-30	
Diisopropyl Ether (DIPE)	96	95	60-138	1	0-45	
Ethyl-t-Butyl Ether (ETBE)	92	91	69-123	1	0-30	
Tert-Amyl-Methyl Ether (TAME)	96	95	65-120	0	0-20	
Ethanol	139	103	30-180	30	0-72	

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RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Cardno ERI	Date Received: 08/10/11
601 North McDowell Blvd.	Work Order No: 11-08-0702
Petaluma, CA 94954-2312	Preparation: EPA 5030C
	Method: EPA 8260B

Project ExxonMobil 73399/022776C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-08-0986-3	**Aqueous**	**GC/MS FFF**	**08/16/11**	**08/16/11**	**110816S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	102	99	76-124	3	0-20	
Toluene	101	99	80-120	2	0-20	
Ethylbenzene	102	100	78-126	2	0-20	
Methyl-t-Butyl Ether (MTBE)	112	109	67-121	3	0-49	
Tert-Butyl Alcohol (TBA)	123	148	36-162	18	0-30	
Diisopropyl Ether (DIPE)	107	104	60-138	4	0-45	
Ethyl-t-Butyl Ether (ETBE)	107	102	69-123	4	0-30	
Tert-Amyl-Methyl Ether (TAME)	107	104	65-120	3	0-20	
Ethanol	100	121	30-180	20	0-72	

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RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Cardno ERI		Date Received:	N/A
601 North McDowell Blvd.		Work Order No:	11-08-0702
Petaluma, CA 94954-2312		Preparation:	EPA 3510C
		Method:	EPA 8015B (M)

Project: ExxonMobil 73399/022776C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-330-1,980	**Aqueous**	**GC 48**	**08/13/11**	**08/15/11**	**110813B05**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	91	91	75-117	0	0-13	

RPD - Relative Percent Difference , CL - Control Limit

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Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Cardno ERI	Date Received: N/A
601 North McDowell Blvd.	Work Order No: 11-08-0702
Petaluma, CA 94954-2312	Preparation: EPA 5030C
	Method: EPA 8015B (M)

Project: ExxonMobil 73399/022776C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-436-6,502	**Aqueous**	**GC 57**	**08/12/11**	**08/12/11**	**110812B01**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	87	89	78-120	3	0-10	

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RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

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

Date Received: N/A
Work Order No: 11-08-0702
Preparation: EPA 5030C
Method: EPA 8260B

Project: ExxonMobil 73399/022776C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-880-682	Aqueous	GC/MS BB	08/11/11	08/11/11	110811L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	97	107	80-120	10	0-20	
Toluene	95	105	80-120	10	0-20	
Ethylbenzene	100	111	80-120	10	0-20	
Methyl-t-Butyl Ether (MTBE)	87	93	69-123	6	0-20	
Tert-Butyl Alcohol (TBA)	89	110	63-123	21	0-20	
Diisopropyl Ether (DIPE)	89	96	59-137	8	0-37	
Ethyl-t-Butyl Ether (ETBE)	86	92	69-123	7	0-20	
Tert-Amyl-Methyl Ether (TAME)	86	97	70-120	12	0-20	
Ethanol	98	117	28-160	18	0-57	

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RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Cardno ERI		Date Received:	N/A
601 North McDowell Blvd.		Work Order No:	11-08-0702
Petaluma, CA 94954-2312		Preparation:	EPA 5030C
		Method:	EPA 8260B

Project: ExxonMobil 73399/022776C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-880-687	Aqueous	GC/MS FFF	08/16/11	08/16/11	110816L03

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	108	99	80-120	9	0-20	
Toluene	109	100	80-120	8	0-20	
Ethylbenzene	109	99	80-120	10	0-20	
Methyl-t-Butyl Ether (MTBE)	113	104	69-123	8	0-20	
Tert-Butyl Alcohol (TBA)	99	100	63-123	1	0-20	
Diisopropyl Ether (DIPE)	111	102	59-137	8	0-37	
Ethyl-t-Butyl Ether (ETBE)	111	102	69-123	8	0-20	
Tert-Amyl-Methyl Ether (TAME)	110	102	70-120	8	0-20	
Ethanol	99	89	28-160	11	0-57	

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RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 11-08-0702

Qualifier	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 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.
CJ	Concentration exceeds the calibration range.
DF	Reporting limits elevated due to matrix interferences.
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.
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.
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.
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.
RV	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
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.

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Calscience Environmental Laboratories, Inc.

7440 Lincoln Way
Garden Grove, CA 92841

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

ExxonMobil

11-08-0702

Consultant Name: Cardno ERI
Consultant Address: 601 North McDowell Blvd
Consultant City/State/Zip: Petaluma, California 94954
ExxonMobil Project Mgr: Jennifer C. Sedlachek
Consultant Project Mgr: Paula Sime
Consultant Telephone Number: (707) 766-2000 Fax No.: (707) 789-0414
Sampler Name (Print): Jeff Herman
Sampler Signature:

Account #: NA PO#:
Invoice To: Cardno ERI
Report To: Paula Sime
Project Name: 022776C (AUG)
ExxonMobil Site #: 73399 Major Project (AFE #):
Site Address: 2991 Hopyard Road
Site City, State, Zip: Pleasanton, California
Oversight Agency: Dublin San Ramon Services District

	Sample ID	Field Point Name	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	HCl (Blue Label)	NaOH (Orange Label)	H_2SO_4 Plastic (Yellow Label)	H_2SO_4 Glass (Yellow Label)	HNO_3 (Red Label)	Ice	Other	None (Black Label)	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Air	Other (specify):	Analyze For: 8015B TPHd**	8015B TPHg	BTEX/MTBE 8260					RUSH TAT (Pre-Schedule)	5-day TAT	Standard 10-day TAT	Due Date of Report
1	W-DSCHG ✓	WEFF	8/8/11	1200	(2) 500ml Amber	X										X			X							X									X	
	W-DSCHG ✓	WEFF	8/8/11	1200	(4) 40ml VOAs	X					X					X			X								X	X							X	
																																		X	
2	W-OUT-WC1	WC1	8/8/11	1215	(4) 40ml VOAs	X					X					X			X									X							X	
																																		X	
3	W-HT	WHT	8/8/11	1230	(2) 500ml Amber	X										X			X							X										
	W-HT	WHT	8/8/11	1230	(4) 40ml VOAs	X					X					X			X								X	X							X	
																																		X	

Comments/Special Instructions: ** TPHd to include silica gel cleanup.

GLOBAL ID # (T0600100537)

PLEASE E-MAIL ALL PDF FILES TO (NORCALLABS@ERI-US.COM)

Relinquished by:		Date	Time	Received by:	Date	Time
J Herman		8/9/11	1020	Tom Malley CER	8/9/11	1020
[illegible]	GSD	8/9/11	1730	[illegible]	8/10/11	1100

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

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0702

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:
BTS, CARDNO ERI

Delivery Instructions:

Signature Type:
SIGNATURE REQUIRED

Tracking #: 517162165

NPS

ORC

D

GARDEN GROVE

D92843A

93326215

Print Date : 08/09/11 16:04 PM

Package 1 of 1

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

LABEL INSTRUCTIONS:

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

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

ADDITIONAL OPTIONS:

Send Label Via Email | Create Return Label

TERMS AND CONDITIONS:

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

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Calscience Environmental Laboratories, Inc.

WORK ORDER #: 11-08-0702

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: CardnoERI

DATE: 08/10/11

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

Temperature 2.6 °C + 0.5 °C (CF) = 3.1 °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: JP

CUSTODY SEALS INTACT:

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

☐ Sample ☐ _____ ☐ No (Not Intact) ☑ Not Present Initial: PS

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	☑	☐	☐
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	☐	☐	☑
Proper preservation noted on COC or sample container	☑	☐	☐
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☑ JP 8/11/11	☑	☐
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

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

Water: ☐VOA (2) ☑VOAh (4) ☐VOAna_2 ☐125AGB ☐125AGBh ☐125AGBp ☐1AGB ☐1AGBna_2 ☐1AGBs

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

☐250PB ☐250PBn ☐125PB ☐125PBznna ☐100PJ ☐100PJna_2 ☐_____ ☐_____ ☐_____

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

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

Preservative: h: HCL n: HNO_3 na_2:$Na_2S_2O_3$ na: NaOH p: H_3PO_4 s: H_2SO_4 znna: $ZnAc_2$+NaOH f: Field-filtered **Scanned by:** YC

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Calscience Environmental Laboratories, Inc.

WORK ORDER #: 11-08-0702

SAMPLE ANOMALY FORM

SAMPLES - CONTAINERS & LABELS:

- ☐ **Sample(s)/Container(s) NOT RECEIVED but listed on COC**
- ☐ **Sample(s)/Container(s) received but NOT LISTED on COC**
- ☐ **Holding time expired** – list sample ID(s) and test
- ☐ **Insufficient quantities for analysis** – list test
- ☐ **Improper container(s) used** – list test
- ☐ **Improper preservative used** – list test
- ☐ **No preservative noted on COC or label** – list test & notify lab
- ☐ **Sample labels illegible** – note test/container type
- ☐ **Sample label(s) do not match COC** – Note in comments
  - ☐ **Sample ID**
  - ☐ **Date and/or Time Collected**
  - ☐ **Project Information**
  - ☐ **# of Container(s)**
  - ☐ **Analysis**
- ☐ **Sample container(s) compromised** – Note in comments
  - ☐ **Water present in sample container**
  - ☐ **Broken**
- ☐ **Sample container(s) not labeled**
- ☐ **Air sample container(s) compromised** – Note in comments
  - ☐ **Flat**
  - ☐ **Very low in volume**
  - ☐ **Leaking (Not transferred - duplicate bag submitted)**
  - ☐ **Leaking (transferred into Calscience Tedlar® Bag*)**
  - ☐ **Leaking (transferred into Client's Tedlar® Bag*)**
- ☐ **Other:** _____

Comments:

HEADSPACE – Containers with Bubble > 6mm or ¼ inch:

Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Cont. received	Analysis
2	D	4							
3	B, D	4							

Comments: _____

*Transferred at Client's request.

Initial / Date: PC 08/10/11

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Calscience
Environmental & Marine Chemistry Laboratories

CALSCIENCE
WORK ORDER NUMBER: 11-09-0391

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For
Client: Cardno ERI
Client Project Name: ExxonMobil 73399/022776C
Attention: Paula Sime
601 North McDowell Blvd.
Petaluma, CA 94954-2312

Cecile L deGuia

Approved for release on 09/19/2011 by:
Cecile deGuia
Project Manager

ResultLink ▸

Email your PM ▸

Calscience Environmental Laboratories 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 provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety. Note that the Chain-of-Custody Record and Sample Receipt Form are integral parts of this report.

Calscience
Environmental & Marine Chemistry Laboratories

Client Project Name: ExxonMobil 73399/022776C
Work Order Number: 11-09-0391

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Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 09/08/11
Work Order No: 11-09-0391
Preparation: EPA 3510C
Method: EPA 8015B (M)

Project: ExxonMobil 73399/022776C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-DSCHG	**11-09-0391-1-G**	**09/06/11 11:45**	**Aqueous**	**GC 47**	**09/12/11**	**09/13/11 01:17**	**110912B08S**

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

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	121	68-140	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-HT	**11-09-0391-3-E**	**09/06/11 12:30**	**Aqueous**	**GC 47**	**09/12/11**	**09/13/11 01:32**	**110912B08S**

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

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

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-330-2,007**	**N/A**	**Aqueous**	**GC 47**	**09/12/11**	**09/12/11 22:32**	**110912B08S**

Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	ND	50	1	U	ug/L

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 09/08/11
Work Order No: 11-09-0391
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project: ExxonMobil 73399/022776C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-DSCHG	**11-09-0391-1-C**	**09/06/11 11:45**	**Aqueous**	**GC 18**	**09/09/11**	**09/10/11 06:26**	**110909B02**

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	50	1	U	ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	86	38-134	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-HT	**11-09-0391-3-C**	**09/06/11 12:30**	**Aqueous**	**GC 18**	**09/09/11**	**09/10/11 07:03**	**110909B02**

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	130	50	1	HD	ug/L

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

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-436-6,606**	**N/A**	**Aqueous**	**GC 18**	**09/09/11**	**09/10/11 03:57**	**110909B02**

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	50	1	U	ug/L

Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	82	38-134	

Return to Contents

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Cardno ERI	Date Received:	09/08/11
601 North McDowell Blvd.	Work Order No:	11-09-0391
Petaluma, CA 94954-2312	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	ug/L

Project: ExxonMobil 73399/022776C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
W-DSCHG	**11-09-0391-1-A**	**09/06/11 11:45**	**Aqueous**	**GC/MS BB**	**09/09/11**	**09/10/11 05:09**	**110909L06**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1	U	Xylenes (total)	ND	0.50	1	U
Toluene	ND	0.50	1	U	Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	U
Ethylbenzene	ND	0.50	1	U					

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	90	68-120		Dibromofluoromethane	88	80-127	
1,2-Dichloroethane-d4	103	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-OUT-WC1	**11-09-0391-2-A**	**09/06/11 12:00**	**Aqueous**	**GC/MS BB**	**09/09/11**	**09/10/11 05:39**	**110909L06**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1	U	Xylenes (total)	ND	0.50	1	U
Toluene	ND	0.50	1	U	Methyl-t-Butyl Ether (MTBE)	6.2	0.50	1	
Ethylbenzene	ND	0.50	1	U					

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	90	68-120		Dibromofluoromethane	88	80-127	
1,2-Dichloroethane-d4	103	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-HT	**11-09-0391-3-A**	**09/06/11 12:30**	**Aqueous**	**GC/MS BB**	**09/09/11**	**09/10/11 06:08**	**110909L06**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	4.0	8	U	Xylenes (total)	ND	4.0	8	U
Toluene	ND	4.0	8	U	Methyl-t-Butyl Ether (MTBE)	180	4.0	8	
Ethylbenzene	ND	4.0	8	U					

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	92	68-120		Dibromofluoromethane	89	80-127	
1,2-Dichloroethane-d4	100	80-128		Toluene-d8	96	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-880-701**	**N/A**	**Aqueous**	**GC/MS BB**	**09/09/11**	**09/10/11 02:13**	**110909L06**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	0.50	1	U	Xylenes (total)	ND	0.50	1	U
Toluene	ND	0.50	1	U	Methyl-t-Butyl Ether (MTBE)	ND	0.50	1	U
Ethylbenzene	ND	0.50	1	U					

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	93	68-120		Dibromofluoromethane	95	80-127	
1,2-Dichloroethane-d4	100	80-128		Toluene-d8	98	80-120	

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

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Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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

Date Received: 09/08/11
Work Order No: 11-09-0391
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project ExxonMobil 73399/022776C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-09-0384-1	Aqueous	GC 18	09/09/11	09/10/11	110909S02

Parameter	SPIKE ADDED	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	2000	86	84	68-122	2	0-18	

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RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Cardno ERI		Date Received:	09/08/11
601 North McDowell Blvd.		Work Order No:	11-09-0391
Petaluma, CA 94954-2312		Preparation:	EPA 5030C
		Method:	EPA 8260B

Project ExxonMobil 73399/022776C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
11-09-0474-2	**Aqueous**	**GC/MS BB**	**09/09/11**	**09/10/11**	**110909S02**

Parameter	SPIKE ADDED	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	10.00	94	96	76-124	2	0-20	
Toluene	10.00	97	99	80-120	2	0-20	
Ethylbenzene	10.00	92	93	78-126	0	0-20	
Methyl-t-Butyl Ether (MTBE)	10.00	33	55	67-121	3	0-49	HX
Tert-Butyl Alcohol (TBA)	50.00	71	90	36-162	10	0-30	
Diisopropyl Ether (DIPE)	10.00	92	96	60-138	4	0-45	
Ethyl-t-Butyl Ether (ETBE)	10.00	89	93	69-123	4	0-30	
Tert-Amyl-Methyl Ether (TAME)	10.00	84	86	65-120	3	0-20	
Ethanol	100.0	93	111	30-180	18	0-72	

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RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Cardno ERI		Date Received:	N/A
601 North McDowell Blvd.		Work Order No:	11-09-0391
Petaluma, CA 94954-2312		Preparation:	EPA 3510C
		Method:	EPA 8015B (M)

Project: ExxonMobil 73399/022776C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-330-2,007	**Aqueous**	**GC 47**	**09/12/11**	**09/12/11**	**110912B08S**

Parameter	SPIKE ADDED	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	2000	85	90	75-117	6	0-13	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

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

Date Received: N/A
Work Order No: 11-09-0391
Preparation: EPA 5030C
Method: EPA 8015B (M)

Project: ExxonMobil 73399/022776C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-436-6,606	Aqueous	GC 18	09/09/11	09/10/11	110909B02

Parameter	SPIKE ADDED	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	2000	97	96	78-120	0	0-10	

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RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

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

Date Received: N/A
Work Order No: 11-09-0391
Preparation: EPA 5030C
Method: EPA 8260B

Project: ExxonMobil 73399/022776C

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-880-701	Aqueous	GC/MS BB	09/09/11	09/10/11	110909L06

Parameter	SPIKE ADDED	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	10.00	96	95	80-120	1	0-20	
Toluene	10.00	99	94	80-120	4	0-20	
Ethylbenzene	10.00	95	94	80-120	1	0-20	
Methyl-t-Butyl Ether (MTBE)	10.00	90	91	69-123	1	0-20	
Tert-Butyl Alcohol (TBA)	50.00	82	92	63-123	11	0-20	
Diisopropyl Ether (DIPE)	10.00	97	96	59-137	1	0-37	
Ethyl-t-Butyl Ether (ETBE)	10.00	92	93	69-123	1	0-20	
Tert-Amyl-Methyl Ether (TAME)	10.00	86	86	70-120	0	0-20	
Ethanol	100.0	89	105	28-160	17	0-57	

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RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 11-09-0391

Qualifier	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 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.
CJ	Concentration exceeds the calibration range.
DF	Reporting limits elevated due to matrix interferences.
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.
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.
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.
RV	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
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.

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Sandy Tat

From: Judy Hutton [judy.hutton@cardno.com]
Sent: Monday, September 12, 2011 12:56 PM
To: Cecile de Guia
Cc: Sandy Tat
Subject: RE: ExxonMobil 73399/022776C (11-09-0391)

HI Cecile,

I talk to the crew about this sample. Jon Herman stated that all the samples for W-DSCHG should be 11:45. Please make all samples time for 11:45. Sorry for all the confusion. Jon will do a better job writing the correct time on the COC and sample container.

Thank you,
Judy

Judy Hutton
Operations & Maintenance Administrator
Cardno ERI
601 North McDowell Blvd., Petaluma, CA 94954
Phone: 707 766 2000 **Direct:** 707 766 2016 **Mobile:** 707 338 8399 **Fax:** 707 789 0414

From: Cecile de Guia [mailto:cdeguia@calscience.com]
Sent: Friday, September 09, 2011 2:58 PM
To: Judy Hutton
Cc: Sandy Tat
Subject: FW: ExxonMobil 73399/022776C (11-09-0391)
Importance: High

Hi Judy,

Please verify the sampling time for W-DSCHG samples? The Diesel containers have 12:00 collection time on the label while the VOA vials have 11:45 collection time on the labels. Please advice.
Thank you.

Cecile de Guia
Project Manager
Calscience Environmental Laboratories, Inc.
7440 Lincoln Way
Garden Grove, CA 92841-1427
Phone: 714-895-5494 x221
Fax: 714-894-7501
cdeguia@calscience.com

From: Judy Hutton [mailto:judy.hutton@cardno.com]
Sent: Friday, September 09, 2011 11:37 AM
To: Sandy Tat
Subject: RE: ExxonMobil 73399/022776C (11-09-0391)

HI Sandy,

Please go with the container label time of 12:00. Thank you

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Thank you,
Judy

Judy Hutton
Operations & Maintenance Administrator
Cardno ERI
601 North McDowell Blvd., Petaluma, CA 94954
Phone: 707 766 2000 **Direct:** 707 766 2016 **Mobile:** 707 338 8399 **Fax:** 707 789 0414

From: Sandy Tat [mailto:stat@calscience.com]
Sent: Friday, September 09, 2011 10:37 AM
To: Judy Hutton
Subject: ExxonMobil 73399/022776C (11-09-0391)
Importance: High

Hi Judy,

Please verify the sampling time for sample (W-DSCHG). On the COC, it labeled as 11:45, but on the containers, it labeled as 12:00. Therefore, which sampling time should we follow? Thanks!

Best Regards,

Sandy Tat
Project Manager Assistant
Calscience Environmental Laboratories, Inc.
7440 Lincoln Way
Garden Grove, CA 92841-1427
Phone: 714-895-5494 x220
Fax: 714-894-7501
stat@calscience.com

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Calscience Environmental Laboratories, Inc.
7440 Lincoln Way
Garden Grove, CA 92841
Phone: 714-895-5494
Fax: 714-894-7501

ExxonMobil

11-09-0391

Consultant Name: Cardno ERI
Consultant Address: 601 North McDowell Blvd
Consultant City/State/Zip: Petaluma, California 94954
ExxonMobil Project Mgr: Jennifer C. Sedlachek
Consultant Project Mgr: Paula Sime
Consultant Telephone Number: (707) 766-2000
Fax No.: (707) 789-0414
Sampler Name (Print): Jon Herman
Sampler Signature: Jon Herman

Account #: NA
PO#:
Invoice To: Cardno ERI
Report To: Paula Sime
Project Name: 022776C (SEPT)
ExxonMobil Site #: 73399
Major Project (AFE #):
Site Address: 2991 Hopyard Road
Site City, State, Zip: Pleasanton, California
Oversight Agency: Dublin San Ramon Services District

	Sample ID	Field Point Name	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	HCl (Blue Label)	NaOH (Orange Label)	H_2SO_4 Plastic (Yellow Label)	H_2SO_4 Glass (Yellow Label)	HNO_3 (Red Label)	Ice	Other	None (Black Label)	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Air	Other (specify):	Analyze For: 8015B TPHd**	8015B TPHg	BTEX/MTBE 8260	RUSH TAT (Pre-Schedule)	5-day TAT	Standard 10-day TAT	Due Date of Report
1	W-DSCHG	WEFF	9/4/11	1145	(2) 500ml Amber	X										X			X							X					X	
	W-DSCHG	WEFF	9/6/11	1145	(6) 40ml VOAs	X					X					X			X								X	X			X	
2	W-OUT-WC1	WC1	9/6/11	12⁰⁰	(2) 40ml VOAs	X					X					X			X									X			X	
3	W-HT	WHT	9/6/11	1230	(2) 500ml Amber	X										X			X							X					X	
	W-HT	WHT	9/6/11	1230	(4) 40ml VOAs	X					X					X			X								X	X			X	

Comments/Special Instructions: ** TPHd to include silica gel cleanup.

GLOBAL ID # (T0600100537)

PLEASE E-MAIL ALL PDF FILES TO (NORCALLABS@ERIUS.COM)

Relinquished by:	Date	Time	Received by:	Date	Time
J Herman	9/7/11	1045	Tom O'Malley CEL	9/7/11	1045
Relinquished by: [illegible] (CEL)	9/7/11	1730	Received by (Lab personnel): [illegible] CA	09/08/11	1030

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

Calscience Environmental Laboratories, Inc.

7440 Lincoln Way
Garden Grove, CA 92841

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

ExxonMobil

11-09-0391

Consultant Name: Cardno ERI
Consultant Address: 601 North McDowell Blvd
Consultant City/State/Zip: Petaluma, California 94954
ExxonMobil Project Mgr: Jennifer C. Sedlachek
Consultant Project Mgr: Paula Sime
Consultant Telephone Number: (707) 766-2000 Fax No.: (707) 789-0414
Sampler Name (Print): Jon Herman
Sampler Signature: Jo Herman

Account #: NA PO#:
Invoice To: Cardno ERI
Report To: Paula Sime
Project Name: 022776C (SEPT)
ExxonMobil Site #: 73399 Major Project (AFE #):
Site Address: 2991 Hopyard Road
Site City, State, Zip: Pleasanton, California
Oversight Agency: Dublin San Ramon Services District

	Sample ID	Field Point Name	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Methanol	Sodium Bisulfate	HCl (Blue Label)	NaOH (Orange Label)	H_2SO_4 Plastic (Yellow Label)	H_2SO_4 Glass (Yellow Label)	HNO_3 (Red Label)	Ice	Other	None (Black Label)	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Air	Other (specify):	Analyze For: 8015B TPHd**	8015B TPHg	BTEX/MTBE 8260						RUSH TAT (Pre-Schedule)	5-day TAT	Standard 10-day TAT	Due Date of Report
1	W-DSCHG	WEFF	9/6/11	1145	(2) 500ml Amber	X										X			X																X	
	W-DSCHG	WEFF	9/6/11	1145	(4) 40ml VOAs	X					X					X			X							X	X								X	
2	W-OUT-WC1	WC1	9/6/11	1200	(4) 40ml VOAs	X					X					X			X								X	X							X	
	W-HT	WHT	9/6/11	1230	(2) 500ml Amber	X										X			X							X									X	
3	W-HT	WHT	9/6/11	1230	(4) 40ml VOAs	X					X					X			X								X	X							X	

Comments/Special Instructions: ** TPHd to include silica gel cleanup.

GLOBAL ID # (T0600100537)

PLEASE E-MAIL ALL PDF FILES TO (NORCALLABS@ERI-US.COM)

Relinquished by:		Date	Time	Received by:	Date	Time
J Herman		9/7/11	1045	Tom O'Malley CEC	9/7/11	1045
[illegible]		9/7/11	1730	Received by (Lab personnel) [illegible] ca	09/08/11	1030

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

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0391

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, CONOCO PHILLIPS, CURTIS & TOM, PARSONS

Delivery Instructions:

Signature Type:
SIGNATURE REQUIRED

Tracking #: 517355640

NPS

ORC

D

GARDEN GROVE

D92843A

94084752

Print Date : 09/07/11 15:56 PM

Package 1 of 1

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Calscience Environmental Laboratories, Inc.

WORK ORDER #: 11-09-0391

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: Cardno ERI DATE: 09/08/11

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

Temperature 1.1 °C + 0.5 °C (CF) = 1.6 °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: NC

CUSTODY SEALS INTACT:

☑ Cooler ☐_____ ☐ No (Not Intact) ☐ Not Present ☐ N/A Initial: NC

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Initial: PT

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	☑	☐	☐
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	☐	☐	☑
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® ☐_____

Water: ☐VOA ☑VOAh ☐VOAna_2 ☐125AGB ☐125AGBh ☐125AGBp ☐1AGB ☐1AGBna_2 ☐1AGBs ☐500AGB ☑500AGJ (2 #1,3) ☐500AGJs ☐250AGB ☐250CGB ☐250CGBs ☐1PB ☐500PB ☐500PBna ☐250PB ☐250PBn ☐125PB ☐125PBznna ☐100PJ ☐100PJna_2 ☐_____ ☐_____ ☐_____

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

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

Preservative: h: HCL n: HNO_3 na_2: $Na_2S_2O_3$ na: NaOH p: H_3PO_4 s: H_2SO_4 znna: $ZnAc_2$+NaOH f: Field-filtered **Scanned by:** PT

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Calscience Environmental Laboratories, Inc.

WORK ORDER #: 11-09-0391

SAMPLE ANOMALY FORM

SAMPLES - CONTAINERS & LABELS:

- ☐ **Sample(s) NOT RECEIVED but listed on COC**
- ☐ **Sample(s) received but NOT LISTED on COC**
- ☐ **Holding time expired** – list sample ID(s) and test
- ☐ **Insufficient quantities for analysis** – list test
- ☐ **Improper container(s) used** – list test
- ☐ **Improper preservative used** – list test
- ☐ **No preservative noted on COC or label** – list test & notify lab
- ☐ **Sample labels illegible** – note test/container type
- ☑ **Sample label(s) do not match COC** – Note in comments
  - ☐ **Sample ID**
  - ☑ **Date and/or Time Collected**
  - ☐ **Project Information**
  - ☑ **# of Container(s)**
  - ☐ **Analysis**
- ☐ **Sample container(s) compromised** – Note in comments
  - ☐ **Water present in sample container**
  - ☐ **Broken**
- ☐ **Sample container(s) not labeled**
- ☐ **Air sample container(s) compromised** – Note in comments
  - ☐ **Flat**
  - ☐ **Very low in volume**
  - ☐ **Leaking (Not transferred - duplicate bag submitted)**
  - ☐ **Leaking (transferred into Calscience Tedlar® Bag*)**
  - ☐ **Leaking (transferred into Client's Tedlar® Bag*)**
- ☐ **Other:** _____

Comments:

(-1) 2x500 AGJ collection time per label is 12:00.

(-1) received 6 x VOA w/ HCl.

(-2) received 2 x VOA w/ HCl.

HEADSPACE – Containers with Bubble > 6mm or ¼ inch:

Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Cont. received	Analysis
1	D-F	6							
2	A-B	2							
3	B-D	4							

Comments: _____

*Transferred at Client's request.

Initial / Date: PT 09/08/11

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APPENDIX B

SOP-25: "HYDROCARBONS REMOVED FROM A VADOSE WELL"

HYDROCARBON REMOVAL FROM A VADOSE WELL
SOP-25

Rev: JO'C

POUNDS OF HYDROCARBON IN A VAPOR STREAM

INPUT DATA:

1) Vapor flow rate acfm (usually by Pitot tube)
2) Vapor pressure at the flow measuring device (in inches of H_2O) (use {-} for vacuum)
3) Vapor temperature at the flow-measuring device.
4) Hydrocarbon content of vapor (usually in mg/M^3) for ppmv you need molecular weight.
5) Length of time (usually hours) over which flow rate occurred)

From periodic measurements, a calculation of total pounds of hydrocarbons removed from a well or from a system is calculated. The input data listed above are measured at a point in time. To calculate quantities removed, some assumptions must be made about what was happening between measurements. The following assumptions will be used for the sake of consistency:

ASSUMPTIONS:

1) Vapor flow for the period equals the average of the initial and final reading for the period.
2) Pressure and temperature for the entire period will be the final reading.
3) Hydrocarbon concentration for the period equals the average of the initial and final reading.
4) The hours of operation can be taken from an hour meter, an electric meter or will be assumed to be equal to the time between measurements.
5) If the unit is found down - try to determine how many hours it did operate and use the data taken for the previous period to make the calculations. Restart the unit and then take data to start the next period.

SAMPLE DATA AND CALCULATIONS

Date	Time	Temp deg F	Press in H_2O	HC conc mg/M3	Vapor flow acfm	Calc. lb. rem.	
1/6/95	11:00	70	-46	2000		120	
1/7/95	13:00	55	-50	1350		90	
1/8/95	10:00	80	-13	750		100	7.4

Calculate the pounds of hydrocarbon removed from the system during the basis period from 13:00 (1:00 pm) on the 7th to 10 am on the 8th. Pressure and temperature of the measurements (at the flow meter) must be corrected to the P and T used to report the HC concentration (which are P = 1 atm and T = 70 deg F). 1 atm = 14.7psia, 760 mm Hg, or 407 in H_2O. T_{abs} = 460 + T deg F

Hours of operation = 21, T = 80, P = -13, HC = (1350+750)/2 = 1050 mg/M^3, Flow = 95

$$21 \times 60 \times 95 \times \frac{(460+70)}{(460+80)} \times \frac{(407-13)}{407} \times \frac{28.3}{1000} \times \frac{1050}{1000} \times \frac{1}{454} = 7.4 \text{ lb}$$

$$\frac{\text{hr}}{\text{basis}} \times \frac{\text{min}}{\text{hr}} \times \frac{\text{cu ft}}{\text{min}} \times T_{Corr} \times P_{Corr} \times \frac{M^3}{\text{cu ft}} \times \frac{\text{g}}{M^3} \times \frac{\text{lb}}{\text{g}} = \frac{\text{lb}}{\text{basis}}$$

$$21 \times 60 \times 95 \times 0.98 \times 0.97 \times 0.0283 \times 1.050 \times 1/454 = 7.4 \text{ lb.}$$

cumulative lbs. (the running total) = the sum of all the previous periods.
Note: If results are given in ppm, an assumption about the molecular weight of the hydrocarbon must be made to convert ppm into mg/M^3. ppmv x molecular wt. /24.1 = mg/M^3. (Use 102 for gasoline)