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Jennifer C. Sedlachek
Project Manager

RECEIVED
By Alameda County Environmental Health 2:19 pm, Nov 01, 2016

ExxonMobil

October 28, 2016

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

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

Dear Mr. Detterman:

Attached for your review and comment is a copy of the letter report entitled ***Soil Vapor Assessment,*** dated October 28, 2016, for the above-referenced site. The report was prepared by Cardno of Petaluma, California, and details activities related 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's ***Soil Vapor Assessment,*** dated October 28, 2016

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

w/o attachment
Mr. Scott Perkins, Cardno

Soil Vapor Assessment

Former Exxon Service Station 79374
Alameda County RO 2974

Cardno 2735C.R14

October 27, 2016

Cardno
Shaping the Future

Soil Vapor Assessment

Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Alameda County RO 2974

Cardno 2735C.R14

October 27, 2016

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1 Introduction

At the request of ExxonMobil Environmental Services (EMES), on behalf of Exxon Mobil Corporation, Cardno prepared this soil vapor assessment for the site. The work was conducted in accordance with the *Work Plan for Additional Soil Vapor Assessment and Response to Comments* (Work Plan), dated July 28, 2016 (Cardno, 2016), which was approved by the Alameda County Department of Environmental Health (ACEH) in a letter dated August 16, 2016 (Appendix A). The work included the installation and sampling of soil vapor wells at the site to progress the site towards closure.

2 Site Description

Former Exxon Service Station 79374 is located at 990 San Pablo Avenue, on the northwestern corner of the intersection of Buchanan Street and San Pablo Avenue, Albany, California (Plate 1). The site is a retail outlet for paint and painting products and is located in an area of mixed commercial and residential land use. The neighboring properties include another retail paint store, a restaurant, a beauty supply store, the City of Albany police department, the City of Albany Fire Department, and residential housing. A Generalized Site Plan is included as Plate 2. A tabular site conceptual model for the site detailing additional site information is included as Appendix B.

3 Geology and Hydrogeology

The site lies at an approximate elevation of 40 feet above msl, and the local topography slopes toward the southwest. The site is located along the eastern margin of the San Francisco Bay within the East Bay Plain (Hickenbottom and Muir, 1988). The surficial deposits in the site vicinity are mapped as Holocene alluvial fan and fluvial deposits (Graymer, 2000). The site is located approximately 1,630 feet north-northwest of Cordornices Creek and approximately 1½ miles southwest of the active northwest trending Hayward fault.

The East Bay Plain is regionally divided into two major groundwater basins: the San Pablo and the San Francisco Basin. These basins are tectonic depressions that are filled primarily with a sequence of coalescing alluvial fans. The San Francisco Basin is further divided into seven sub-areas. The site is located in the Berkeley Sub-Area, which is filled primarily by alluvial deposits that range from 10 to 300 feet thick with poorly defined aquitards (CRWQCB, 1999). Under natural conditions, the direction of groundwater flow in the East Bay Plain is east to west.

Soil boring logs indicate that the soil beneath the site consists predominantly of silt and clay with an apparently continuous coarse-grained unit 2 to 8 feet thick encountered between approximately 8 and 20 feet bgs (EC&A, 2008; Cardno ERI, 2011; Cardno ERI, 2012a). Fill material was encountered in the boring for well SVE3 (located in the former UST pit) to approximately 7 feet bgs. CPT soil borings indicate the presence of predominantly silt and clay between approximately 20 and 60 feet bgs, the maximum depth explored.

Historical groundwater elevation data indicate that DTW ranges from 5 to 11 feet bgs beneath the site with varying groundwater flow directions. The distribution of dissolved-phase hydrocarbons suggests that the dominant groundwater flow direction is west to southwest.

4 Previous Work

Additional site information is included in the FS/CAP, dated February 4, 2015 (Cardno ERI, 2015b).

4.1 Fueling System Activities

In 1983, one used-oil UST and four gasoline USTs were removed and the resulting tank cavity was backfilled with sand and compacted to 90% (City of Albany, 1983).

4.2 Site Assessment Activities

Six exploratory borings (B1 through B6) were advanced on site in 2008. Maximum residual concentrations of TPHg, TPHd, and benzene were reported in the soil samples collected at 10.5 feet bgs from borings B1 and B2, located near the former USTs. Maximum dissolved-phase TPHg, TPHd, and benzene concentrations were also reported in the samples collected from soil borings B1 and B2, and the laboratory reported an immiscible sheen in the samples (EC&A, 2008).

Monitoring wells MW1 through MW6 and borings CPT1/HP1 and CPT2/HP2 were installed on site in 2010. Maximum residual concentrations of TPHg and TPHd in soil were reported in samples collected at 10.5 feet bgs from borings MW3 and MW5, located west of the former USTs. Dissolved-phase hydrocarbons were adequately delineated vertically at the site with petroleum hydrocarbon concentrations below or near the laboratory reporting limits in groundwater samples collected deeper than 27.5 feet bgs (Cardno ERI, 2011).

In January 2012, Cardno ERI installed SVE wells SVE1 through SVE3, AS well AS1, and monitoring well MW3A to be used during feasibility testing (Cardno ERI, 2012a).

In February and March 2014, Cardno ERI installed soil vapor sampling (SVS) wells SVS1 through SVS3 at the site and advanced on-site and off-site borings B7 through B17 (Cardno ERI, 2014).

In December 2014, Cardno ERI installed off-site monitoring wells MW7 and MW8 (Cardno ERI, 2015a).

Off-site wells MW7 and MW8 were installed in December 2014 to evaluate the lateral extent of dissolved-phase hydrocarbons (Cardno ERI, 2015a). Off-site well MW9 and off-site boring B18 were installed in October 2015 along with on-site wells SVE4 through SVE7 (Cardno, 2015a).

4.3 Remediation Activities

According to City of Albany Building Permit 82-0708, the USTs were removed and the resulting excavation backfilled in 1983 (City of Albany, 1983). It is unknown if over-excavation was performed during UST removal.

Between January 31 and February 1, 2012, Cardno ERI conducted three four-hour feasibility tests: a DPE only test, a combined AS and DPE test, and an AS only test. Approximately 93 pounds of TPHg and 0.09 pound of benzene were removed during feasibility testing (Cardno ERI, 2012b).

Cardno ERI prepared a FS/CAP, dated February 4, 2015. Cardno ERI recommended conducting DPE HIT events at the site to remediate hydrocarbon concentrations in soil, soil vapor, and groundwater and installing four extraction wells along the north and west sides of the site and monitoring wells off site to the southwest (Cardno ERI, 2015b).

Between October 21 and 29, 2015, Cardno conducted a high-intensity targeted (HIT) event at the site using a mobile SVS system. Approximately 75 pounds of TPHg and 0.09 pound of benzene were removed during approximately 40 hours of operation (Cardno, 2015b).

4.4 Groundwater Monitoring Activities

Groundwater monitoring began at the site in 2010 with the installation of wells MW1 through MW6. Maximum concentrations were reported in the UST cavity and southwest of the UST cavity in wells MW3, MW3A, MW4, and MW5. Concentrations of MTBE are typically not reported above the laboratory reporting limit.

4.5 Soil Vapor Monitoring Activities

Soil vapor monitoring began at the site in 2014 with the installation of wells SVS1 through SVS3 (Cardno ERI, 2014). Reported vapor-phase TPHg concentrations are similar in each of the wells and exceed applicable

screening levels by up to three orders of magnitude. Maximum benzene concentrations (22,000 µg/m^3) were reported in well SVS3, located in the northeastern portion of the site near the on-site commercial building.

5 Soil Vapor Well Installation and Sampling

To further assess concentrations of fuel hydrocarbons and related constituents in soil vapor near the commercial building at the site and the residential building adjacent to the subject site and to evaluate potential risks to residents, workers, or patrons posed by the potential intrusion of soil vapor to indoor air, Cardno proposed to install and sampling five shallow soil vapor sampling wells at the site (Cardno, 2016).

The proposed work was performed in October 2016 in accordance with the Work Plan, standard field protocols (Appendix C), a site-specific health and safety plan, and applicable regulatory guidelines under the advisement of a professional geologist.

5.1 Pre-Drilling Activities

Prior to drilling activities, Cardno obtained well installation permits from the Alameda County Public Works Agency (Appendix D). Cardno personnel visited the site to check for obstructions and to mark the proposed locations. ACEH, the Alameda County Public Works Agency, and Underground Service Alert were notified at least 48 hours prior to the onset of field activities. In addition, a private utility location company was employed to identify under groundwater utilities or other obstructions in the proposed well locations.

5.2 Well Installation

On September 28, 2016, Cardno drilled borings SVS4 through SVS8 to a depth of 2.5 feet bgs using 2.25-inch diameter hand augers. Soil samples were collected at total depth from each boring.

Wells were constructed in the borings with a screened interval from approximately 2.1 to 2.3 feet bgs. Well construction details are included in Table 1 and in the boring logs included in Appendix E.

5.3 Soil Vapor Sampling

On October 3, 2016, soil vapor samples were collected from the soil vapor wells installed at the site using a custom-made purging manifold consisting of airtight valves, a flow regulator, pressure and vacuum gauges, and a vacuum pump capable of producing a vacuum of approximately 30 inches of mercury (in Hg). The manifold also includes a port that connects sample collection vessels and/or sorbent tubes (Summa™ canisters).

Prior to purging and sampling, the manifold was connected to each well, and the tubing and fittings downstream from the wellhead valves were vacuum tested at approximately 20 to 30 in Hg. The sampling manifold and tubing held the applied vacuum for five minutes at each well.

Purge volumes were calculated for each well. One volume of vapor was purged from each well. Prior to sampling, a helium leak test was performed at each well, including a Summa™ canister and its fittings, to check for leaks in the annulus. To assess the potential for leaks in the well annulus, a shroud was placed over the well and Summa™ canister, and helium was introduced into the shroud and maintained at a constant concentration. Helium screening was performed in the field by drawing soil gas into a Tedlar bag via a lung-box and screening the contents of the Tedlar bag with a helium meter. The concentration of helium in the sample divided by the concentration of helium in the shroud provides a measure of the proportion of the sample attributable to leakage. A leak that comprises less than 5% of the sample is insignificant. Helium screening was also performed using laboratory analysis of the contents of the Summa™ canister collected under the shroud. Sampling was conducted at approximately the same rate of purging, at 100 to 200 milliliters per minute. Field data sheets are included in Appendix F.

5.4 Laboratory Analyses

Cardno submitted soil and soil vapor samples for analysis to Eurofins Calscience, Inc., a California state-certified laboratory, under COC protocol. Laboratory analytical results and sampling methods are summarized in Tables 2A through 2C and 3A and 3B. Select soil vapor results are illustrated on Plate 3. Laboratory analytical reports are included in Appendix G.

5.5 Site Survey

On October 3, 2016, Cardno observed Morrow Surveying survey the locations and elevations of the newly-installed wells. The survey report is included in Appendix H.

5.6 Waste Containment and Disposal

Soil generated during assessment activities was temporarily stored on site in 55-gallon drums prior to removal to an off-site waste disposal facility. Waste disposal documentation is included in Appendix I.

6 Results and Conclusions

6.1 Geology

Sediments observed during this investigation consisted largely of silts and clays to 3 feet bgs, the maximum depth explored. Sediments west of the adjacent residential building and east of the site (SVS4 and SVS5) were primarily silt while sediments north of the site or along the northern portion of the site (SVS6 through SVS8) were primarily clay, with the exception of a silt layer from 1.5 to 2.5 feet bgs in boring SVS8. Groundwater was not encountered in the borings.

6.2 Concentrations in Soil

Residual petroleum hydrocarbons were below ESLs with the exception of naphthalene in borings SVS5 and SVS8.

6.3 Concentrations in Soil Vapor

The leak detection compound (helium) was reported in well SVS4 at a concentration of 0.94% and in well SVS7 at 0.35%, indicating a potential leak in the well annular seal and sampling equipment. The helium concentration was approximately 10% in the shroud, indicating leaks of approximately 9.4% and 3.5%, respectively. The California EPA states that ambient air leaks of up to 5% are acceptable (DTSC, 2015).

6.3.1 Near On-Site Commercial Building

Vapor-phase concentrations in previously-installed well SVS3 (screened from 5.4 to 5.6 feet bgs) show decreasing trends compared to previous results; however, TPHg and benzene concentrations still exceed residential and commercial ESLs. In addition, reporting limits for select constituents, including naphthalene, exceeded both residential and commercial ESLs.

Vapor-phase concentrations in newly-installed wells SVS7 and SVS8 (screened from 2.1 to 2.3 feet bgs) were one to three orders of magnitude lower than concentrations reported in well SVS3. Petroleum hydrocarbon concentrations in the wells were below ESLs, with the exception of TPHg in well SVS8, which exceeded residential but not commercial ESLs. In addition, reporting limits for select constituents, including benzene and naphthalene, exceeded residential but not commercial ESLs in well SVS8.

6.3.2 Near Adjacent Residential Building

Vapor-phase concentrations in previously-installed wells SVS1 and SVS2 (screened from 5.4 to 5.6 feet bgs) show decreasing trends compared to previous results; however, TPHg concentrations still exceed residential

and commercial ESLs. In addition, reporting limits for select constituents, including benzene and naphthalene, exceeded both residential and commercial ESLs.

Vapor-phase concentrations in newly-installed wells SVS4 through SVS6 (screened from 2.1 to 2.3 feet bgs) were two to four orders of magnitude lower than concentrations reported in wells SVS1 and SVS2. Petroleum hydrocarbon concentrations in the wells were below ESLs, with the exception of bromodichloromethane in wells SVS4 and SVS5 and chloroform in well SVS4, which exceeded residential but not commercial ESLs. Bromodichloromethane and chloroform are common byproducts of drinking water chlorination (ATSDR, 1989; ATSDR, 2016). The concentrations reported in wells SVS4 and SVS5 are most likely related to leaking water pipes and not operations related to EMES.

Oxygen concentrations ranged from 3.7% to 5.4% in the deep wells and were reported at 20% in the five shallow wells, indicating favorable conditions for bio-attenuation at shallower depths.

Cardno concluded that concentrations reported from the shallow wells do not pose an unacceptable risk to human health; therefore, further evaluation and modeling were not conducted at this time. The attenuation shown between approximately 5 and 2 feet indicate that concentrations decrease to below applicable screening levels prior to reaching the building slabs. Additional sampling to evaluate fluctuations and effectiveness of remediation is warranted.

7 Site Conceptual Model

Based on historical data and the results of the current investigation, Cardno updated the tabular site conceptual model for the site (Appendix B).

8 Recommendations

Cardno anticipates receiving a permit to conduct HIT events at the site during fourth quarter 2016. Cardno recommends conducting these events upon receipt of the permit. Cardno also recommends conducting semi-annual soil vapor sampling to further evaluate soil vapor concentrations.

9 Contact Information

The responsible party contact is Ms. Jennifer C. Sedlachek, ExxonMobil Environmental Services Company, 4096 Piedmont Avenue #194, Oakland, California, 94611. The consultant contact is Mr. Scott Perkins, Cardno, 601 North McDowell Boulevard, Petaluma, California, 94954. The agency contact is Mr. Mark Detterman, Alameda County Health Care Services Agency, Environmental Health Services, 1131 Harbor Bay Parkway, Suite 250, Alameda, California, 94502-6577.

10 Document Distribution

Cardno recommends submitted a copy of this report to the following:

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

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

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

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

11 Limitations

For documents cited that were not generated by Cardno, the data taken from those documents is used "as is" and is assumed to be accurate. Cardno does not guarantee the accuracy of this data and makes no warranties for the referenced work performed nor the inferences or conclusions stated in these documents.

This document and the work performed have been undertaken in good faith, with due diligence and with the expertise, experience, capability, and specialized knowledge necessary to perform the work in a good and workmanlike manner and within all accepted standards pertaining to providers of environmental services in California at the time of investigation. No soil engineering or geotechnical references are implied or should be inferred. The evaluation of the geologic conditions at the site for this investigation is made from a limited number of data points. Subsurface conditions may vary away from these data points.

12 References

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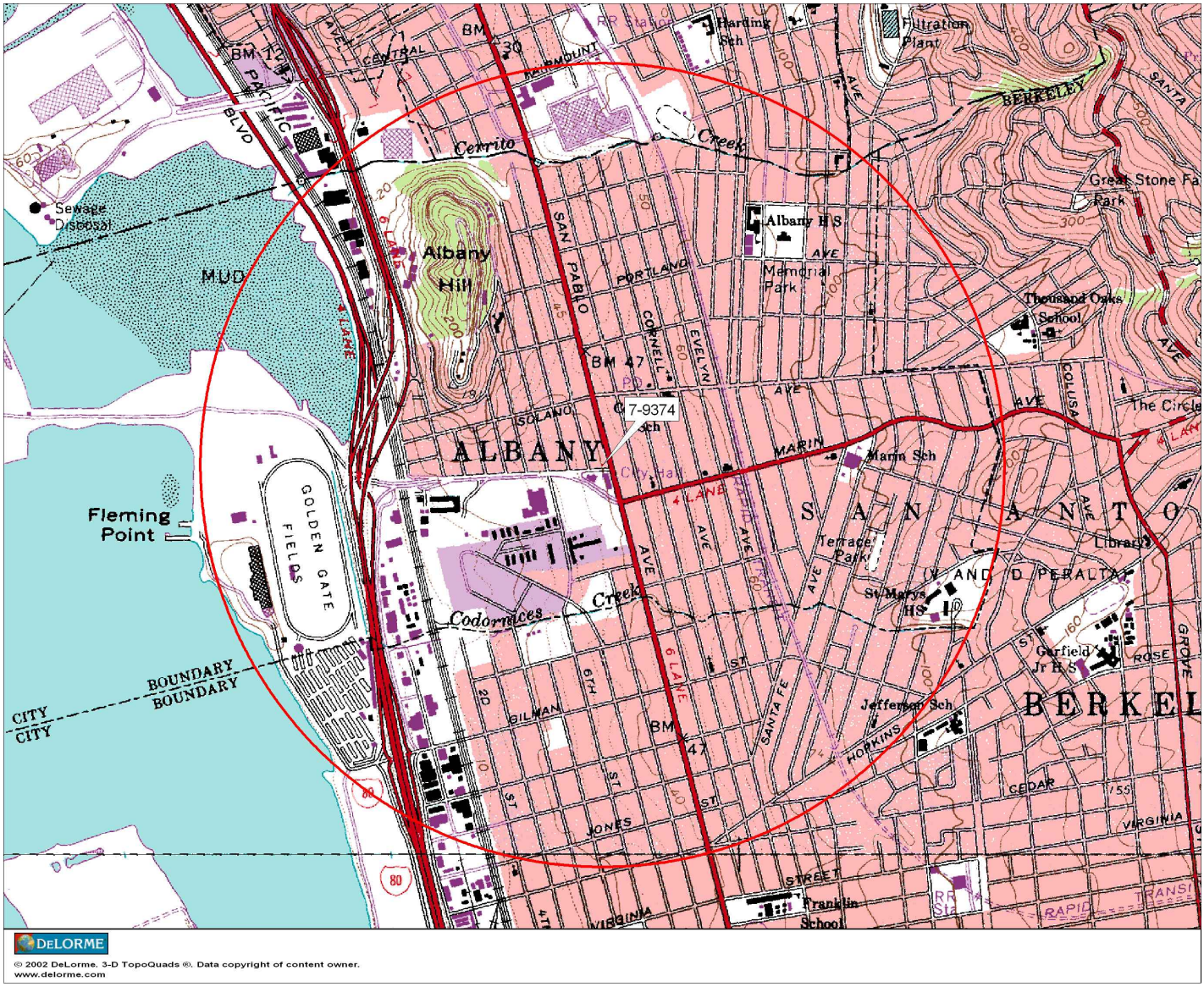
13 Acronym List

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
EPH	Extractable petroleum hydrocarbons
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
GRO	Gasoline-range organics
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	Semi-volatile organic compound
TAME	Tertiary amyl methyl ether
TBA	Tertiary butyl alcohol
TCE	Trichloroethene
TOC	Top of well casing elevation; datum is msl
TOG	Total oil and grease
TPHd	Total petroleum hydrocarbons as diesel
TPHg	Total petroleum hydrocarbons as gasoline
TPHmo	Total petroleum hydrocarbons as motor oil
TPHs	Total petroleum hydrocarbons as stoddard solvent
TRPH	Total recoverable petroleum hydrocarbons
UCL	Upper confidence level
USCS	Unified Soil Classification System
USGS	United States Geologic Survey
UST	Underground storage tank
VCP	Voluntary Cleanup Program
VOC	Volatile organic compound
VPC	Vapor-phase carbon



FN 2735 TOPO

EXPLANATION

1/2-mile radius circle

N

APPROXIMATE SCALE

0 0.5 1 mile

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

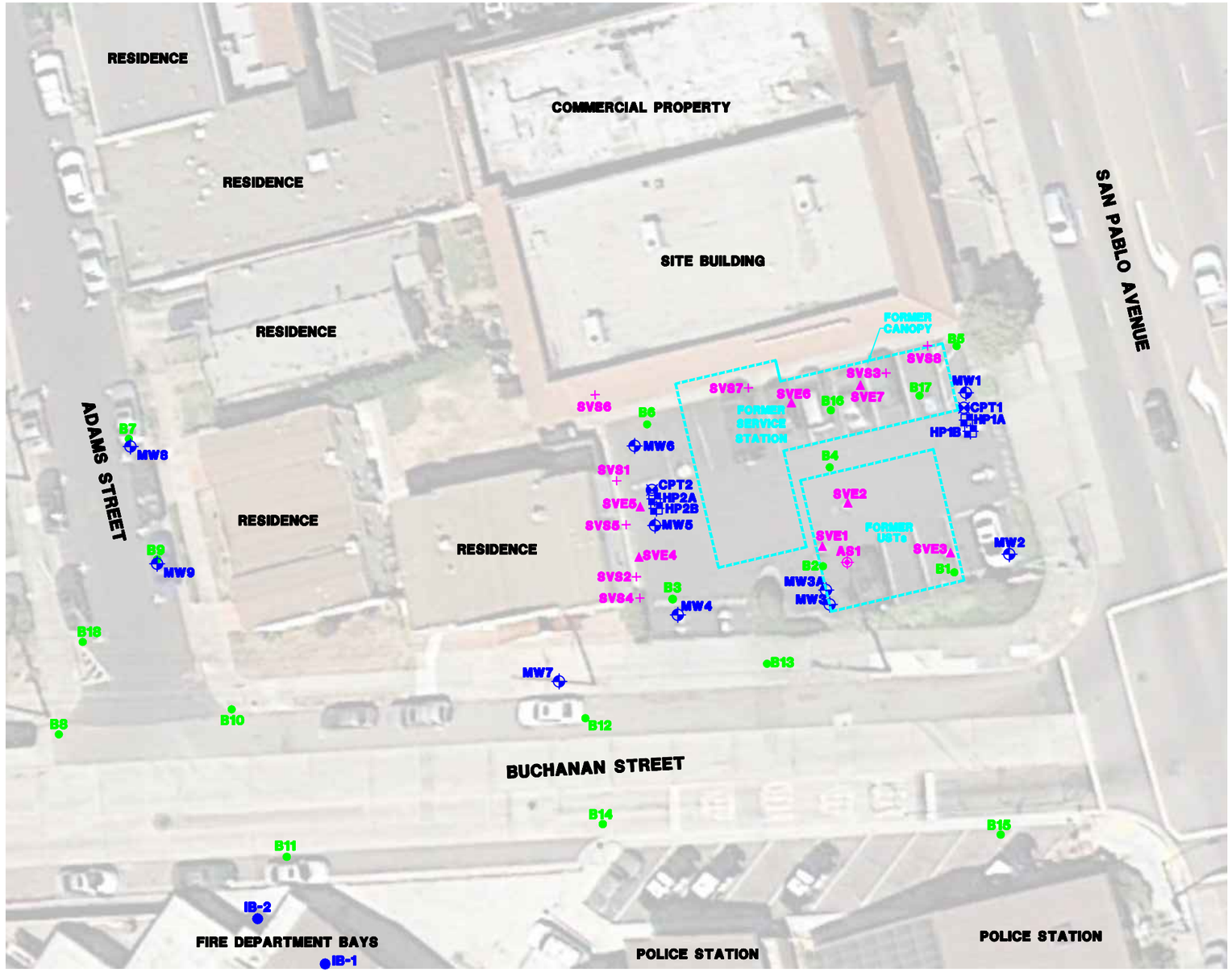
SITE VICINITY MAP

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

Cardno Shaping the Future

PROJECT NO. 2735

PLATE 1



APPROXIMATE SCALE

0 30 60 Feet

FN 2735 GSP AERIAL _SP R14

Cardno
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GENERALIZED SITE PLAN

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

EXPLANATION

- MW9 Groundwater Monitoring Well
- B18 Soil Boring
- IB-2 Soil Boring by Other Consultant for City of Albany
- HP2B Hydropunch Boring
- CPT2 Cone Penetration Test Boring
- SVS8 Soil Vapor Sampling Well
- AS1 Air Sparge Well
- SVE7 Soil Vapor Extraction Well

PROJECT NO. 2735

PLATE 2

Analyte Concentrations in ug/m3

Sample Date
Sample Depth
Total Petroleum Hydrocarbons as diesel
Total Petroleum Hydrocarbons as gasoline
Benzene

<	Less than the Stated Laboratory Reporting Limit
ug/m3	Micrograms per cubic meter
NA	Not analyzed
b	Analyte reported in associated equipment blank.
d	Reporting limits raised due to high level of non-target analytes.
f	Leak detection compound reported. Concentration may have a low bias.
g	TPHg, MTBE, BTEX, and VOCs analyzed using EPA Method 8260.
h	Unable to sample due to elevated diesel concentrations above instrumentation limits.

10/03/16	
5.5 FT.	DUP.
h	h
41,000,000g	34,000,000g
12,000g	11,000g

10/03/16
2.2 FT.
28,000
350,000g
<100g

10/03/16
2.2 FT.
9,000
27,000f
<16f

10/03/16
2.2 FT.
<5,000
440b
<3.2

10/03/16
5.5 FT.
h
43,000,000g
<4,000d,g

10/03/16
2.2 FT.
16,000
3,000
<3.2

10/03/16
5.5 FT.
h
35,000,000g
<4,000d,g

10/03/16
2.2 FT.
9,800
5,900f
<3.2f

COMMERCIAL PROPERTY
RESIDENCE
RESIDENCE
RESIDENCE
RESIDENCE
SITE BUILDING
BUILDING OVERHANG
FORMER CANOPY
FORMER SERVICE STATION
FORMER USTs
DRIVEWAY
DRIVEWAY
SAN PABLO AVENUE
ADAMS STREET
BUCHANNAN STREET
SIGN
POLICE STATION
POLICE STATION
FIRE DEPARTMENT BAYS
FORMER FIRESTONE TIRE STORE

SVS1 SVS2 SVS3 SVS4 SVS5 SVS6 SVS7 SVS8
SVE1 SVE2 SVE3 SVE4 SVE5 SVE6 SVE7
MW1 MW2 MW3 MW3A MW4 MW5 MW6 MW7 MW8 MW9
MW-1 MW-2 MW-3 MW-4 MW-5 MW-6
CPT1 HP1A HP1B CPT2 HP2A HP2B
AS1
B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B14 B15 B16 B17 B18
IB-1 IB-2 IB-3 IB-4

N

APPROXIMATE SCALE
0 30 60 Feet

FN 27350005 R14

Cardno Shaping the Future

SELECT SOIL VAPOR ANALYTICAL RESULTS

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

EXPLANATION

- MW9 Groundwater Monitoring Well
- MW-6 Groundwater Monitoring Well for Firestone
- MW-1 Destroyed Groundwater Monitoring Well for Firestone
- HP2B Hydropunch Boring
- CPT2 Cone Penetration Test Boring
- IB-4 Soil Boring by Other Consultant for City of Albany
- B18 Soil Boring
- AS1 Air Sparge Well
- SVE7 Soil Vapor Extraction Well
- SVS8 Soil Vapor Sampling Well

PROJECT NO. 2735

PLATE 3

TABLE 1
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	44.19	8	17	17	2	Schedule 40 PVC	12-17	0.020	10-17	#3 Sand
MW2	11/04/10	43.99	8	17	17	4	Schedule 40 PVC	12-17	0.020	10-17	#3 Sand
MW3	11/08/10	43.16	8	17	17	4	Schedule 40 PVC	11-16	0.020	9-16	#3 Sand
MW3A	01/18/12	43.42	10	15.5	15.5	4	Schedule 40 PVC	5-15	0.020	4.5-15.5	#2/12 Sand
MW4	11/05/10	42.04	8	17	13	2	Schedule 40 PVC	8-13	0.020	6-13	#3 Sand
MW5	11/05/10	43.12	8	17	14	2	Schedule 40 PVC	9-14	0.020	7-14	#3 Sand
MW6	11/03/10	43.80	10	20	20	2	Schedule 40 PVC	15-20	0.020	13-20	#3 Sand
MW7	12/08/14	41.21	10	15	15	2	Schedule 40 PVC	5-15	0.020	4-15	#3 Sand
MW8	12/08/14	39.65	10	15	15	2	Schedule 40 PVC	5-15	0.020	4-15	#3 Sand
MW9	10/08/15	39.50	10	16	15	2	Schedule 40 PVC	5-15	0.020	4-15	#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	43.32	10	15.5	15.5	4	Schedule 40 PVC	5-15	0.020	4.5-15.5	#2/12 Sand
SVE2	01/17/12	43.68	10	15	15	4	Schedule 40 PVC	5-15	0.020	4.5-15	#2/12 Sand
SVE3	01/17/12	43.67	10	15	15	4	Schedule 40 PVC	5-15	0.020	4.5-15.5	#2/12 Sand
SVE4	10/09/15	43.10	12	16	15	4	Schedule 40 PVC	5-15	0.020	4-15	#3 Sand
SVE5	10/09/15	43.70	12	16	15	4	Schedule 40 PVC	5-15	0.020	4-15	#3 Sand
SVE6	10/09/15	44.37	12	16	15	4	Schedule 40 PVC	5-15	0.020	4-15	#3 Sand
SVE7	10/09/15	44.48	12	16	15	4	Schedule 40 PVC	5-15	0.020	4-15	#3 Sand
SVS1	02/25/14	---	4	5.6	5.6	0.25	PVC	5.4-5.6	0.010	4.6-5.6	#3 Sand
SVS2	02/25/14	---	4	5.6	5.6	0.25	PVC	5.4-5.6	0.010	4.6-5.6	#3 Sand
SVS3	02/25/14	---	4	5.6	5.6	0.25	PVC	5.4-5.6	0.010	4.6-5.6	#3 Sand
SVS4	09/28/16	---	2.25	2.5	2.5	0.25	PVC	2.1-2.3	0.010	2-2.5	#3 Sand
SVS5	09/28/16	---	2.25	2.5	2.5	0.25	PVC	2.1-2.3	0.010	2-2.5	#3 Sand
SVS6	09/28/16	---	2.25	3.0	2.5	0.25	PVC	2.1-2.3	0.010	2-3	#3 Sand
SVS7	09/28/16	---	2.25	2.5	2.5	0.25	PVC	2.1-2.3	0.010	2-2.5	#3 Sand
SVS8	09/28/16	---	2.25	2.5	2.5	0.25	PVC	2.1-2.3	0.010	2-2.5	#3 Sand

Notes:
TOC = Top of well casing elevation; datum is NAVD88.
PVC = Polyvinyl chloride.
feet bgs = Feet below ground surface.

TABLE 2A
CUMULATIVE SOIL ANALYTICAL RESULTS
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Sample ID	Sampling Date	Depth (feet bgs)	TPHmo (mg/kg)	TPHd (mg/kg)	TPHg (mg/kg)	MTBE (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	EDB (mg/kg)	1,2-DCA (mg/kg)	TBA (mg/kg)	TAME (mg/kg)	ETBE (mg/kg)	DIPE (mg/kg)	Lead (mg/kg)
Tier 1 ESLs (Feb 2016)			---	240	100	0.023	0.044	2.9	1.4	2.3	0.00033	0.0045	0.075	---	---	---	80
Soil Borings																	
Soil Borings																	
B-1 (6)	01/06/08	6.0	<5.0	3.7c	<1.0	**<0.05**	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---
B-1 (10.5)	01/06/08	10.5	<100	**1,400b,c**	**7,200b,f**	**<5.0**	**2**	**51**	**110**	400	---	---	---	---	---	---	---
B-2 (5.5)	01/06/08	5.5	<5.0	<1.0	<1.0	**<0.05**	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---
B-2 (10.5)	01/06/08	10.5	<100	**1,400d**	**4,500b,f**	**<5.0**	**13**	**35**	**100**	380	---	---	---	---	---	---	---
B-3 (5.5)	01/06/08	5.5	<5.0	<1.0	<1.0	**<0.50**	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---
B-3 (10.5)	01/06/08	10.5	<5.0	53d	**130e,f**	**<0.50**	**0.37**	0.29	**2.6**	0.44	---	---	---	---	---	---	---
B-4 (5.5)	01/06/08	5.5	<5.0	62d	**140e,f**	**<0.50**	<0.005	1.0	0.066	0.094	---	---	---	---	---	---	---
B-4 (10.5)	01/06/08	10.5	<5.0	15d	**140e,f**	**<0.50**	**0.25**	1.5	1.3	0.11	---	---	---	---	---	---	---
B-5 (5.5)	01/06/08	5.5	<5.0	<1.0	<1.0	**<0.05**	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---
B-5 (11.5)	01/06/08	11.5	<5.0	5.4c,d	32e,f	**<0.25**	0.038	0.24	0.051	0.035	---	---	---	---	---	---	---
B-6 (5.5)	01/06/08	5.5	<5.0	<1.0	<1.0	**<0.05**	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	---	---
B-6 (10.5)	01/06/08	10.5	<5.0	6.0c,d	32e,f	**<0.05**	0.009	0.41	<0.005	0.039	---	---	---	---	---	---	---
S-5-B7	02/27/14	5.0	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.0099	<0.0099	<0.0099	---
S-11.5-B7	02/27/14	11.5	<25	<5.0	<0.49	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-5-B8	02/28/14	5.0	<25	<5.0	<0.52	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-11.5-B8	02/28/14	11.5	<25	<5.0	<0.51	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**<0.0049**	**<0.0049**	<0.049	<0.0098	<0.0098	<0.0098	---
S-15.5-B8	02/28/14	15.5	<26	<5.1	<0.48	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-5-B9	02/27/14	5.0	<25	<5.0	<0.52	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-11.5-B9	02/27/14	11.5	<25	<5.0	<0.52	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**<0.0049**	**<0.0049**	<0.049	<0.0098	<0.0098	<0.0098	---
S-5-B10	02/27/14	5.0	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-11.5-B10	02/27/14	11.5	<24	<4.9	<0.49	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-5-B11	02/28/14	5.0	<25	<5.0	<0.50	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	**<0.0051**	**<0.0051**	<0.051	<0.010	<0.010	<0.010	---
S-11.5-B11	03/05/14	11.5	<25	<5.0	<0.50	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	**<0.0052**	**<0.0052**	<0.052	<0.010	<0.010	<0.010	---
S-15-B11	03/05/14	15.0	<24	<4.9	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-5-B12	02/26/14	5.0	<25	<5.0	<0.50	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**<0.0049**	**<0.0049**	<0.049	<0.0098	<0.0098	<0.0098	---
S-11.5-B12	02/26/14	11.5	<25	<5.0	0.50a	<0.0052	0.00074j	<0.0052	0.00026j	<0.0052	**<0.0052**	**<0.0052**	<0.052	<0.010	<0.010	<0.010	---
S-5-B13	02/25/14	5.0	<24	<4.9	<0.48	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	**<0.0052**	**<0.0052**	<0.052	<0.010	<0.010	<0.010	---
S-11.5-B13	02/28/14	11.5	<25	160a	**1,800**	**<1.0**	**<1.0**	<1.0	**16**	1.5	**<1.0**	**<1.0**	**<10**	<2.0	<2.0	<2.0	---

TABLE 2A
CUMULATIVE SOIL ANALYTICAL RESULTS
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Sample ID	Sampling Date	Depth (feet bgs)	TPHmo (mg/kg)	TPHd (mg/kg)	TPHg (mg/kg)	MTBE (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	EDB (mg/kg)	1,2-DCA (mg/kg)	TBA (mg/kg)	TAME (mg/kg)	ETBE (mg/kg)	DIPE (mg/kg)	Lead (mg/kg)
Tier 1 ESLs (Feb 2016)			---	240	100	0.023	0.044	2.9	1.4	2.3	0.00033	0.0045	0.075	---	---	---	80
S-5-B14	03/05/14	5.0	<25	<5.0	<0.53	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-11.5-B14	03/05/14	11.5	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-15.5-B14	03/05/14	15.5	<24	<4.9	<0.51	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	**<0.0051**	**<0.0051**	<0.051	<0.010	<0.010	<0.010	---
S-19-B14	03/05/14	19.0	<25	<5.0	<0.50	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	**<0.0048**	**<0.0048**	<0.048	<0.0096	<0.0096	<0.0096	---
S-5-B15	03/05/14	5.0	<25	<5.0	<0.49	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	**<0.0051**	**<0.0051**	<0.051	<0.010	<0.010	<0.010	---
S-10-B15	03/05/14	10.0	<24	<4.9	<0.52	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-14.0-B15	03/05/14	14.0	<25	<5.0	<0.48	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-5-B16	02/26/14	5.0	<25	<5.0	0.62a	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	0.030j	<0.0099	<0.0099	<0.0099	---
S-10-B16	02/26/14	10.0	<24	43a	**530**	**<0.49**	0.026j	<0.49	0.10j	0.058j	**<0.49**	**<0.49**	**<4.9**	<0.97	<0.97	<0.97	---
S-15.5-B16	02/26/14	15.5	<25	<5.0	<0.51	<0.0050	<0.0050	<0.0050	0.00021j	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-5-B17	02/26/14	5.0	<25	<5.0	<0.48	<0.0050	0.00014j	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	0.011j	<0.010	<0.010	<0.010	---
S-10-B17	02/26/14	10.0	<25	<5.0	8.4a	<0.0050	0.0063	<0.0050	<0.0050	0.00081j	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-15.5-B17	02/26/14	15.5	<24	<4.9	<0.51	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	**<0.0052**	**<0.0052**	<0.052	<0.010	<0.010	<0.010	---
S-5-B18	10/08/15	5.0	---	<5.0	<0.51	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**<0.0049**	**<0.0049**	<0.049	<0.0099	<0.0099	<0.0099	---
S-10-B18	10/08/15	10.0	---	<4.9	<0.49	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**<0.0049**	**<0.0049**	<0.049	<0.0098	<0.0098	<0.0098	---
S-15-B18	10/08/15	15.0	---	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.0099	<0.0099	<0.0099	---
Cone Penetration Testing Borings																	
S-5-CPT1	10/20/10	5.0	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-5-CPT2	10/20/10	5.0	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
Monitoring Well Borings																	
S-5-MW1	10/20/10	5.0	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-10-MW1	11/04/10	10.0	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-14.5-MW1	11/04/10	14.5	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-10-MW2	11/04/10	10.0	<25	<5.0	3.1a	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-15-MW2	11/04/10	15.0	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-5-MW3	10/20/10	5.0	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-10.5-MW3	11/08/10	10.5	<25	11a	**220**	**<0.50**	**<0.50**	<0.50	**2.0**	1.1	**<0.50**	**<0.50**	**<5.0**	<1.0	<1.0	<1.0	---
S-15.5-MW3	11/08/10	15.5	<25	<5.0	2.2	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-8-MW3A	01/18/12	8.0	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-14.5-MW3A	01/18/12	14.5	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	0.015	0.0052	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---

TABLE 2A
CUMULATIVE SOIL ANALYTICAL RESULTS
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Sample ID	Sampling Date	Depth (feet bgs)	TPHmo (mg/kg)	TPHd (mg/kg)	TPHg (mg/kg)	MTBE (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	EDB (mg/kg)	1,2-DCA (mg/kg)	TBA (mg/kg)	TAME (mg/kg)	ETBE (mg/kg)	DIPE (mg/kg)	Lead (mg/kg)
Tier 1 ESLs (Feb 2016)			---	240	100	0.023	0.044	2.9	1.4	2.3	0.00033	0.0045	0.075	---	---	---	80
S-5-MW4	10/20/10	5.0	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-10-MW4	11/05/10	10.0	<25	<5.0	44a	**<0.50**	**<0.50**	<0.50	<0.50	<0.50	**<0.50**	**<0.50**	**<5.0**	<1.0	<1.0	<1.0	---
S-15-MW4	11/05/10	15.0	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-16.5-MW4	11/05/10	16.5	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-5-MW5	10/20/10	5.0	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-10.5-MW5	11/05/10	10.5	29	93a	**450a**	**<0.050**	**<0.050**	1.5	<0.50	<0.50	**<0.50**	**<0.50**	**<5.0**	<1.0	<1.0	<1.0	---
S-16.5-MW5	11/05/10	16.5	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-5-MW6	10/20/10	5.0	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-10-MW6	11/02/10	10.0	<25	8.2a	8.7a	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-14.5-MW6	11/02/10	14.5	<25	<5.0	1.8a	<0.0050	<0.0050	<0.0050	<0.0093	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-20-MW6	11/02/10	20.0	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-5-MW7	12/08/14	5.0	---	<5.0	<0.52	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	---	---	<0.048	<0.0096	<0.0096	<0.0096	---
S-10-MW7	12/08/14	10.0	---	120a	**540a**	**<2.0**	**<2.0**	<2.0	**<2.0**	<2.0	---	---	**<20**	<4.0	<4.0	<4.0	---
S-15-MW7	12/08/14	15.0	---	<5.0	<0.51	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	---	---	<0.048	<0.0096	<0.0096	<0.0096	---
S-5-MW8	12/08/14	5.0	---	<5.0	<0.48	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	---	---	<0.051	<0.010	<0.010	<0.010	---
S-10-MW8	12/08/14	10.0	---	<5.0	<0.52	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	---	---	<0.048	<0.0096	<0.0096	<0.0096	---
S-15-MW8	12/08/14	15.0	---	<5.0	<0.49	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	---	---	<0.049	<0.0097	<0.0097	<0.0097	---
S-5-MW9	10/08/15	5.0	---	<5.1	<0.49	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-10.5-MW9	10/08/15	10.5	---	6.3a	36a	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**<0.0049**	**<0.0049**	<0.049	<0.0098	<0.0098	<0.0098	---
S-15.5-MW9	10/08/15	15.5	---	<5.0	<0.49	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**<0.0049**	**<0.0049**	<0.049	<0.0099	<0.0099	<0.0099	---
Remediation Well Borings																	
S-10-AS1	01/18/12	10.0	<25	**800a**	**2,900**	**<2.5**	**<2.5**	<2.5	**47**	<2.5	**<2.5**	**<2.5**	**<25**	<5.0	<5.0	<5.0	---
S-8.5-SVE1	01/17/12	8.5	<25	87a	**480a**	**<0.50**	**<0.50**	<0.50	<0.50	<0.50	**<0.50**	**<0.50**	**<5.0**	<1.0	<1.0	<1.0	---
S-11.5-SVE1	01/17/12	11.5	<25	<5.0	18	<0.0050	**<0.50**	0.010	0.084	0.11	**<0.0050**	**<0.0050**	**<0.50**	<0.010	<0.010	<0.010	---
S-10-SVE2	01/17/12	10.0	53a	37a	**390a**	**<0.50**	**<0.50**	<0.50	<0.50	<0.50	**<0.50**	**<0.50**	**<5.0**	<1.0	<1.0	<1.0	---
S-14-SVE2	01/17/12	14.0	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	**<0.50**	<0.010	<0.010	<0.010	---
S-12.5-SVE3	01/17/12	12.5	57a	**760a**	**1,900a**	**<2.5**	**<2.5**	<2.5	**<2.5**	<2.5	**<0.50**	**<0.50**	**<5.0**	<1.0	<1.0	<1.0	---
S-15-SVE3	01/17/12	15.0	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	0.015	0.033	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-5-SVE4	10/09/15	5.0	---	<5.0	<0.49	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**<0.0049**	**<0.0049**	<0.049	<0.0099	<0.0099	<0.0099	---
S-9.5-SVE4	10/09/15	9.5	---	9.2a	82a	**<0.50h**	**<0.50h**	<0.50h	<0.50h	<0.50h	**<0.50h**	**<0.50h**	**<5.0h**	<1.0h	<1.0h	<1.0h	---
S-15.5-SVE4	10/09/15	15.5	---	<4.9	<0.51	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-5-SVE5	10/09/15	5.0	---	<5.0	<0.49	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.0099	<0.0099	<0.0099	---
S-11.5-SVE5	10/09/15	11.5	---	160a	**390**	**<0.49**	**<0.49**	<0.49	**5.1**	7.0	**<0.49**	**<0.49**	**<4.9**	<0.98	<0.98	<0.98	---
S-15.5-SVE5	10/09/15	15.5	---	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---

TABLE 2A
CUMULATIVE SOIL ANALYTICAL RESULTS
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Sample ID	Sampling Date	Depth (feet bgs)	TPHmo (mg/kg)	TPHd (mg/kg)	TPHg (mg/kg)	MTBE (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	EDB (mg/kg)	1,2-DCA (mg/kg)	TBA (mg/kg)	TAME (mg/kg)	ETBE (mg/kg)	DIPE (mg/kg)	Lead (mg/kg)
Tier 1 ESLs (Feb 2016)			---	240	100	0.023	0.044	2.9	1.4	2.3	0.00033	0.0045	0.075	---	---	---	80
S-5-SVE6	10/09/15	5.0	---	<4.9	<0.51	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	**<0.0048**	**<0.0048**	<0.048	<0.0097	<0.0097	<0.0097	---
S-12-SVE6	10/09/15	12.0	---	76a	**520**	**<1.0**	**<1.0**	<1.0	**17**	11	**<1.0**	**<1.0**	**<10**	<2.0	<2.0	<2.0	---
S-5-SVE7	10/09/15	5.0	---	<4.9	<0.50	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**<0.0049**	**<0.0049**	<0.049	<0.0098	<0.0098	<0.0098	---
S-10-SVE7	10/09/15	10.0	---	<5.0	2.0a	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.0099	<0.0099	<0.0099	---
S-12-SVE7	10/09/15	12.0	---	<5.0	11	**<0.49i**	**<0.49i**	<0.49i	<0.49i	<0.49i	**<0.49i**	**<0.49i**	**<4.9i**	<0.98i	<0.98i	<0.98i	---
S-15.5-SVE7	10/09/15	15.5	---	<5.0	<0.50	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**<0.0049**	**<0.0049**	<0.049	<0.0099	<0.0099	<0.0099	---
Soil Vapor Well Borings																	
S-5-SVS1	02/25/14	5.0	<25	<5.0	<0.50	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	**<0.0049**	**<0.0049**	<0.049	<0.0099	<0.0099	<0.0099	---
S-5-SVS2	02/25/14	5.0	<25	<5.0	<0.49	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	**<0.0048**	**<0.0048**	<0.048	<0.0096	<0.0096	<0.0096	---
S-5-SVS3	02/25/14	5.0	<25	<5.0	5.0a	<0.0050	0.00036j	<0.0050	0.0030j	0.00088j	**<0.0050**	**<0.0050**	0.016j	<0.010	<0.010	<0.010	---
S-2-SVS4	09/28/16	2.0	<25	<5.0	<0.50	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	**<0.0051**	**<0.0051**	<0.051	<0.010	<0.010	<0.010	---
S-2-SVS5	09/28/16	2.0	<25	<5.0	<0.50	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-2-SVS6	09/28/16	2.0	32a	<5.0	<0.51	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	**<0.0051**	**<0.0051**	<0.051	<0.010	<0.010	<0.010	---
S-2-SVS7	09/28/16	2.0	<25	<5.0	0.97a	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	---
S-2-SVS8	09/28/16	2.0	250a	19a	0.99	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	**<0.0051**	**<0.0051**	<0.051	<0.010	<0.010	<0.010	---
Waste Characterization Samples																	
Drum Samples																	
DR-1	01/06/08	---	<5.0	2.5c,d	4.9e,f	**<0.050**	<0.005	0.027	0.035	0.035	---	---	---	---	---	---	9.7
Soil Stockpile Samples																	
COMP(S-Profile-1-4)	11/08/10	---	<25	7.1a	14a	<0.0050	<0.0050	<0.0050	0.069	0.049	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	6.93
S-SP1 (1-4)	01/18/12	---	190a	39a	**230**	<0.0050	**0.20**	0.66	**4.3**	14	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	37.6
SP1	03/05/14	---	<24	<4.9	<0.49	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	5.34
SP-1	10/08/15	---	---	<4.9	0.79a	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	**<0.0050**	**<0.0050**	<0.050	<0.010	<0.010	<0.010	5.74

TABLE 2A
CUMULATIVE SOIL ANALYTICAL RESULTS
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Notes:		Highlighted sample representative of soil removed from site.
TPHmo	=	Total petroleum hydrocarbons as motor oil analyzed using EPA Method 8015B.
TPHd	=	Total petroleum hydrocarbons as diesel analyzed using EPA Method 8015B.
TPHg	=	Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8015B.
MTBE	=	Methyl tertiary butyl ether analyzed using EPA Method 8260B; analyzed using EPA Method 8020 in 2008.
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-Dicholorethane analyzed using EPA Method 8260B.
TBA	=	Tertiary butyl alcohol analyzed using EPA Method 8260B.
DIPE	=	Di-isopropyl ether analyzed using EPA Method 8260B.
ETBE	=	Ethyl tertiary butyl ether analyzed using EPA Method 8260B.
TAME	=	Tertiary amyl methyl ether analyzed using EPA Method 8260B.
Lead	=	Total lead analyzed using EPA Method 6010B.
VOCs	=	Volatile organic compounds analyzed using EPA Method 8260B.
SVOCs	=	Semi-volatile organic compounds analyzed using EPA Method 8270C.
PAHs	=	Polyaromatic hydrocarbons analyzed using EPA Method 8310.
feet bgs	=	Feet below ground surface.
Tier 1 ESLs	=	Tier 1 Environmental Screening Levels established by the California Regional Water Quality Control Board.
ND	=	Not detected.
---	=	Not analyzed/Not applicable
<	=	Less than the laboratory reporting limit.
a	=	The chromatographic pattern does not match that of the specified standard.
b	=	Heavier gasoline range compounds are significant.
c	=	Diesel range compounds are significant; no recognizable pattern.
d	=	Gasoline range compounds are significant.
e	=	Strongly aged gasoline or diesel range compounds are significant.
f	=	No recognizable pattern.
g	=	Ethanol.
h	=	The reporting limit is elevated resulting from matrix interference.
i	=	Reporting limits raised due to high level of non-target analytes.
j	=	Estimated value; analyte present at concentration above the method detection limit but below the reporting limit.

TABLE 2B
ADDITIONAL CUMULATIVE SOIL ANALYTICAL RESULTS - VOCs AND SVOCs
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Sample ID	Sampling Date	Depth (feet bgs)	VOCs									SVOCs (mg/kg)
			1,2,4-trimethyl-benzene (mg/kg)	1,3,5-trimethyl-benzene (mg/kg)	Isopropyl-benzene (mg/kg)	Naph-thalene (mg/kg)	n-Butyl-benzene (mg/kg)	p-Isopropyl-toluene (mg/kg)	sec-Butyl-benzene (mg/kg)	t-Butyl-benzene (mg/kg)	VOCs (mg/kg)	
Tier 1 ESLs (Feb 2016)			---	---	---	0.023	---	---	---	---	---	---
Soil Borings												
Soil Borings												
B-1 (6)	01/06/08	6.0	---	---	---	---	---	---	---	---	---	---
B-1 (10.5)	01/06/08	10.5	---	---	---	---	---	---	---	---	---	---
B-2 (5.5)	01/06/08	5.5	---	---	---	---	---	---	---	---	---	---
B-2 (10.5)	01/06/08	10.5	---	---	---	---	---	---	---	---	---	---
B-3 (5.5)	01/06/08	5.5	---	---	---	---	---	---	---	---	---	---
B-3 (10.5)	01/06/08	10.5	---	---	---	---	---	---	---	---	---	---
B-4 (5.5)	01/06/08	5.5	---	---	---	---	---	---	---	---	---	---
B-4 (10.5)	01/06/08	10.5	---	---	---	---	---	---	---	---	---	---
B-5 (5.5)	01/06/08	5.5	---	---	---	---	---	---	---	---	---	---
B-5 (11.5)	01/06/08	11.5	---	---	---	---	---	---	---	---	---	---
B-6 (5.5)	01/06/08	5.5	---	---	---	---	---	---	---	---	---	---
B-6 (10.5)	01/06/08	10.5	---	---	---	---	---	---	---	---	---	---
S-5-B7	02/27/14	5.0	---	---	---	**<0.050**	---	---	---	---	---	---
S-11.5-B7	02/27/14	11.5	---	---	---	---	---	---	---	---	---	---
S-5-B8	02/28/14	5.0	---	---	---	**<0.050**	---	---	---	---	---	---
S-11.5-B8	02/28/14	11.5	---	---	---	---	---	---	---	---	---	---
S-15.5-B8	02/28/14	15.5	---	---	---	---	---	---	---	---	---	---
S-5-B9	02/27/14	5.0	---	---	---	**<0.050**	---	---	---	---	---	---
S-11.5-B9	02/27/14	11.5	---	---	---	---	---	---	---	---	---	---
S-5-B10	02/27/14	5.0	---	---	---	**<0.050**	---	---	---	---	---	---
S-11.5-B10	02/27/14	11.5	---	---	---	---	---	---	---	---	---	---
S-5-B11	02/28/14	5.0	---	---	---	**<0.051**	---	---	---	---	---	---
S-11.5-B11	03/05/14	11.5	---	---	---	---	---	---	---	---	---	---
S-15-B11	03/05/14	15.0	---	---	---	---	---	---	---	---	---	---
S-5-B12	02/26/14	5.0	---	---	---	**<0.049**	---	---	---	---	---	---
S-11.5-B12	02/26/14	11.5	---	---	---	---	---	---	---	---	---	---
S-5-B13	02/25/14	5.0	---	---	---	**<0.052**	---	---	---	---	---	---
S-11.5-B13	02/28/14	11.5	---	---	---	---	---	---	---	---	---	---

TABLE 2B
ADDITIONAL CUMULATIVE SOIL ANALYTICAL RESULTS - VOCs AND SVOCs
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Sample ID	Sampling Date	Depth (feet bgs)	VOCs									SVOCs (mg/kg)
			1,2,4-trimethyl-benzene (mg/kg)	1,3,5-trimethyl-benzene (mg/kg)	Isopropyl-benzene (mg/kg)	Naph-thalene (mg/kg)	n-Butyl-benzene (mg/kg)	p-Isopropyl-toluene (mg/kg)	sec-Butyl-benzene (mg/kg)	t-Butyl-benzene (mg/kg)	VOCs (mg/kg)	
Tier 1 ESLs (Feb 2016)			---	---	---	0.023	---	---	---	---	---	---
S-5-B14	03/05/14	5.0	---	---	---	**<0.050**	---	---	---	---	---	---
S-11.5-B14	03/05/14	11.5	---	---	---	---	---	---	---	---	---	---
S-15.5-B14	03/05/14	15.5	---	---	---	---	---	---	---	---	---	---
S-19-B14	03/05/14	19.0	---	---	---	---	---	---	---	---	---	---
S-5-B15	03/05/14	5.0	---	---	---	**<0.051**	---	---	---	---	---	---
S-10-B15	03/05/14	10.0	---	---	---	---	---	---	---	---	---	---
S-14.0-B15	03/05/14	14.0	---	---	---	---	---	---	---	---	---	---
S-5-B16	02/26/14	5.0	---	---	---	**<0.050**	---	---	---	---	---	---
S-10-B16	02/26/14	10.0	---	---	---	**0.84j**	---	---	---	---	---	---
S-15.5-B16	02/26/14	15.5	---	---	---	---	---	---	---	---	---	---
S-5-B17	02/26/14	5.0	---	---	---	0.0021j	---	---	---	---	---	---
S-10-B17	02/26/14	10.0	---	---	---	**<0.050**	---	---	---	---	---	---
S-15.5-B17	02/26/14	15.5	---	---	---	---	---	---	---	---	---	---
S-5-B18	10/08/15	5.0	---	---	---	---	---	---	---	---	---	---
S-10-B18	10/08/15	10.0	---	---	---	---	---	---	---	---	---	---
S-15-B18	10/08/15	15.0	---	---	---	---	---	---	---	---	---	---
Cone Penetration Testing Borings												
S-5-CPT1	10/20/10	5.0	---	---	---	---	---	---	---	---	---	---
S-5-CPT2	10/20/10	5.0	---	---	---	---	---	---	---	---	---	---
Monitoring Well Borings												
S-5-MW1	10/20/10	5.0	---	---	---	---	---	---	---	---	---	---
S-10-MW1	11/04/10	10.0	---	---	---	---	---	---	---	---	---	---
S-14.5-MW1	11/04/10	14.5	---	---	---	---	---	---	---	---	---	---
S-10-MW2	11/04/10	10.0	---	---	---	---	---	---	---	---	---	---
S-15-MW2	11/04/10	15.0	---	---	---	---	---	---	---	---	---	---
S-5-MW3	10/20/10	5.0	---	---	---	---	---	---	---	---	---	---
S-10.5-MW3	11/08/10	10.5	---	---	---	---	---	---	---	---	---	---
S-15.5-MW3	11/08/10	15.5	---	---	---	---	---	---	---	---	---	---
S-8-MW3A	01/18/12	8.0	---	---	---	---	---	---	---	---	---	---
S-14.5-MW3A	01/18/12	14.5	---	---	---	---	---	---	---	---	---	---

TABLE 2B
ADDITIONAL CUMULATIVE SOIL ANALYTICAL RESULTS - VOCs AND SVOCs
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Sample ID	Sampling Date	Depth (feet bgs)	VOCs									SVOCs (mg/kg)
			1,2,4-trimethyl-benzene (mg/kg)	1,3,5-trimethyl-benzene (mg/kg)	Isopropyl-benzene (mg/kg)	Naph-thalene (mg/kg)	n-Butyl-benzene (mg/kg)	p-Isopropyl-toluene (mg/kg)	sec-Butyl-benzene (mg/kg)	t-Butyl-benzene (mg/kg)	VOCs (mg/kg)	
Tier 1 ESLs (Feb 2016)			---	---	---	0.023	---	---	---	---	---	---
S-5-MW4	10/20/10	5.0	---	---	---	---	---	---	---	---	---	---
S-10-MW4	11/05/10	10.0	---	---	---	---	---	---	---	---	---	---
S-15-MW4	11/05/10	15.0	---	---	---	---	---	---	---	---	---	---
S-16.5-MW4	11/05/10	16.5	---	---	---	---	---	---	---	---	---	---
S-5-MW5	10/20/10	5.0	---	---	---	---	---	---	---	---	---	---
S-10.5-MW5	11/05/10	10.5	---	---	---	---	---	---	---	---	---	---
S-16.5-MW5	11/05/10	16.5	---	---	---	---	---	---	---	---	---	---
S-5-MW6	10/20/10	5.0	---	---	---	---	---	---	---	---	---	---
S-10-MW6	11/02/10	10.0	---	---	---	---	---	---	---	---	---	---
S-14.5-MW6	11/02/10	14.5	---	---	---	---	---	---	---	---	---	---
S-20-MW6	11/02/10	20.0	---	---	---	---	---	---	---	---	---	---
S-5-MW7	12/08/14	5.0	---	---	---	---	---	---	---	---	---	---
S-10-MW7	12/08/14	10.0	---	---	---	---	---	---	---	---	---	---
S-15-MW7	12/08/14	15.0	---	---	---	---	---	---	---	---	---	---
S-5-MW8	12/08/14	5.0	---	---	---	---	---	---	---	---	---	---
S-10-MW8	12/08/14	10.0	---	---	---	---	---	---	---	---	---	---
S-15-MW8	12/08/14	15.0	---	---	---	---	---	---	---	---	---	---
S-5-MW9	10/08/15	5.0	---	---	---	---	---	---	---	---	---	---
S-10.5-MW9	10/08/15	10.5	---	---	---	---	---	---	---	---	---	---
S-15.5-MW9	10/08/15	15.5	---	---	---	---	---	---	---	---	---	---
Remediation Well Borings												
S-10-AS1	01/18/12	10.0	---	---	---	---	---	---	---	---	---	---
S-8.5-SVE1	01/17/12	8.5	---	---	---	---	---	---	---	---	---	---
S-11.5-SVE1	01/17/12	11.5	---	---	---	---	---	---	---	---	---	---
S-10-SVE2	01/17/12	10.0	---	---	---	---	---	---	---	---	---	---
S-14-SVE2	01/17/12	14.0	---	---	---	---	---	---	---	---	---	---
S-12.5-SVE3	01/17/12	12.5	---	---	---	---	---	---	---	---	---	---
S-15-SVE3	01/17/12	15.0	---	---	---	---	---	---	---	---	---	---
S-5-SVE4	10/09/15	5.0	---	---	---	---	---	---	---	---	---	---
S-9.5-SVE4	10/09/15	9.5	---	---	---	---	---	---	---	---	---	---
S-15.5-SVE4	10/09/15	15.5	---	---	---	---	---	---	---	---	---	---

TABLE 2B
ADDITIONAL CUMULATIVE SOIL ANALYTICAL RESULTS - VOCs AND SVOCs
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Sample ID	Sampling Date	Depth (feet bgs)	VOCs									SVOCs (mg/kg)
			1,2,4-trimethyl-benzene (mg/kg)	1,3,5-trimethyl-benzene (mg/kg)	Isopropyl-benzene (mg/kg)	Naph-thalene (mg/kg)	n-Butyl-benzene (mg/kg)	p-Isopropyl-toluene (mg/kg)	sec-Butyl-benzene (mg/kg)	t-Butyl-benzene (mg/kg)	VOCs (mg/kg)	
Tier 1 ESLs (Feb 2016)			---	---	---	0.023	---	---	---	---	---	---
S-5-SVE5	10/09/15	5.0	---	---	---	---	---	---	---	---	---	---
S-11.5-SVE5	10/09/15	11.5	---	---	---	---	---	---	---	---	---	---
S-15.5-SVE5	10/09/15	15.5	---	---	---	---	---	---	---	---	---	---
S-5-SVE6	10/09/15	5.0	---	---	---	---	---	---	---	---	---	---
S-12-SVE6	10/09/15	12.0	---	---	---	---	---	---	---	---	---	---
S-5-SVE7	10/09/15	5.0	---	---	---	---	---	---	---	---	---	---
S-10-SVE7	10/09/15	10.0	---	---	---	---	---	---	---	---	---	---
S-12-SVE7	10/09/15	12.0	---	---	---	---	---	---	---	---	---	---
S-15.5-SVE7	10/09/15	15.5	---	---	---	---	---	---	---	---	---	---
Soil Vapor Well Borings												
S-5-SVS1	02/25/14	5.0	---	---	---	**<0.049**	---	---	---	---	---	---
S-5-SVS2	02/25/14	5.0	---	---	---	**<0.048**	---	---	---	---	---	---
S-5-SVS3	02/25/14	5.0	---	---	---	0.0038j	---	---	---	---	---	---
S-2-SVS4	09/28/16	2.0	---	---	---	---	---	---	---	---	---	---
S-2-SVS5	09/28/16	2.0	---	---	---	---	---	---	---	---	---	---
S-2-SVS6	09/28/16	2.0	---	---	---	---	---	---	---	---	---	---
S-2-SVS7	09/28/16	2.0	<0.0050	<0.0050	<0.0050	**<0.050**	<0.0050	<0.0050	<0.0050	<0.0050	ND	---
S-2-SVS8	09/28/16	2.0	<0.0051	<0.0051	<0.0051	**<0.051**	<0.0051	<0.0051	<0.0051	<0.0051	ND	---
Waste Characterization Samples												
Drum Samples												
DR-1	01/06/08	---	---	---	---	---	---	---	---	---	---	---
Soil Stockpile Samples												
COMP(S-Profile-1-4)	11/08/10	---	0.0053	0.062	0.061	**0.098**	0.14	0.012	0.053	0.018	ND	---
S-SP1 (1-4)	01/18/12	---	8.3	2.2	0.12	**<5.0**	0.20	0.018	0.051	<0.0050	2.5j	---
SP1	03/05/14	---	---	---	---	**<0.050**	---	---	---	---	ND	---
SP-1	10/08/15	---	---	---	---	---	---	---	---	---	<0.25g	ND

TABLE 2B
ADDITIONAL CUMULATIVE SOIL ANALYTICAL RESULTS - VOCs AND SVOCs
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Notes:		Highlighted sample representative of soil removed from site.
TPHmo	=	Total petroleum hydrocarbons as motor oil analyzed using EPA Method 8015B.
TPHd	=	Total petroleum hydrocarbons as diesel analyzed using EPA Method 8015B.
TPHg	=	Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8015B.
MTBE	=	Methyl tertiary butyl ether analyzed using EPA Method 8260B; analyzed using EPA Method 8020 in 2008.
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-Dicholorethane analyzed using EPA Method 8260B.
TBA	=	Tertiary butyl alcohol analyzed using EPA Method 8260B.
DIPE	=	Di-isopropyl ether analyzed using EPA Method 8260B.
ETBE	=	Ethyl tertiary butyl ether analyzed using EPA Method 8260B.
TAME	=	Tertiary amyl methyl ether analyzed using EPA Method 8260B.
Lead	=	Total lead analyzed using EPA Method 6010B.
VOCs	=	Volatile organic compounds analyzed using EPA Method 8260B.
SVOCs	=	Semi-volatile organic compounds analyzed using EPA Method 8270C.
PAHs	=	Polyaromatic hydrocarbons analyzed using EPA Method 8310.
feet bgs	=	Feet below ground surface.
Tier 1 ESLs	=	Tier 1 Environmental Screening Levels established by the California Regional Water Quality Control Board.
ND	=	Not detected.
---	=	Not analyzed/Not applicable
<	=	Less than the laboratory reporting limit.
a	=	The chromatographic pattern does not match that of the specified standard.
b	=	Heavier gasoline range compounds are significant.
c	=	Diesel range compounds are significant; no recognizable pattern.
d	=	Gasoline range compounds are significant.
e	=	Strongly aged gasoline or diesel range compounds are significant.
f	=	No recognizable pattern.
g	=	Ethanol.
h	=	The reporting limit is elevated resulting from matrix interference.
i	=	Reporting limits raised due to high level of non-target analytes.
j	=	Estimated value; analyte present at concentration above the method detection limit but below the reporting limit.

TABLE 2C
ADDITIONAL CUMULATIVE SOIL ANALYTICAL RESULTS - PAHs
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Sample ID	Sampling Date	Depth (feet bgs)	Naph-thalene (mg/kg)	Acenaph-thylene (mg/kg)	Acenaph-thene (mg/kg)	Fluorene (mg/kg)	Phen-anthrene (mg/kg)	Anth-racene (mg/kg)	Fluor-anthene (mg/kg)	Pyrene (mg/kg)	Benzo (a) Anthr-acene (mg/kg)	Chrysene (mg/kg)	Benzo (b) Fluor-anthene (mg/kg)	Benzo (k) Fluor-anthene (mg/kg)	Benzo (a) Pyrene (mg/kg)	Dibenz (a,h) Anthracene (mg/kg)	Benzo (g,h,i) Perylene (mg/kg)	Indeno (1,2,3-c,d) Pyrene (mg/kg)	1-Methyl-naph-thalene (mg/kg)	2-Methyl-naph-thalene (mg/kg)
Tier 1 ESLs (Feb 2016)			0.023	13	16	8.9	11	2.8	60	85	0.70	3.8	0.70	2.6	0.070	0.070	2.5	0.70	---	---
Soil Borings																				
Soil Borings																				
B-1 (6)	01/06/08	6.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-1 (10.5)	01/06/08	10.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-2 (5.5)	01/06/08	5.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-2 (10.5)	01/06/08	10.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-3 (5.5)	01/06/08	5.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-3 (10.5)	01/06/08	10.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-4 (5.5)	01/06/08	5.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-4 (10.5)	01/06/08	10.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-5 (5.5)	01/06/08	5.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-5 (11.5)	01/06/08	11.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-6 (5.5)	01/06/08	5.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-6 (10.5)	01/06/08	10.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-B7	02/27/14	5.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-11.5-B7	02/27/14	11.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-B8	02/28/14	5.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-11.5-B8	02/28/14	11.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-15.5-B8	02/28/14	15.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-B9	02/27/14	5.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-11.5-B9	02/27/14	11.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-B10	02/27/14	5.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-11.5-B10	02/27/14	11.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-B11	02/28/14	5.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-11.5-B11	03/05/14	11.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-15-B11	03/05/14	15.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-B12	02/26/14	5.0	<0.015	<0.030	<0.015	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	---	---
S-11.5-B12	02/26/14	11.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-B13	02/25/14	5.0	<0.015	<0.030	<0.015	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	---	---
S-11.5-B13	02/28/14	11.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 2C
ADDITIONAL CUMULATIVE SOIL ANALYTICAL RESULTS - PAHs
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Sample ID	Sampling Date	Depth (feet bgs)	Naph-thalene (mg/kg)	Acenaph-thylene (mg/kg)	Acenaph-thene (mg/kg)	Fluorene (mg/kg)	Phen-anthrene (mg/kg)	Anth-racene (mg/kg)	Fluor-anthene (mg/kg)	Pyrene (mg/kg)	Benzo (a) Anthr-acene (mg/kg)	Chrysene (mg/kg)	Benzo (b) Fluor-anthene (mg/kg)	Benzo (k) Fluor-anthene (mg/kg)	Benzo (a) Pyrene (mg/kg)	Dibenz (a,h) Anthracene (mg/kg)	Benzo (g,h,i) Perylene (mg/kg)	Indeno (1,2,3-c,d) Pyrene (mg/kg)	1-Methyl-naph-thalene (mg/kg)	2-Methyl-naph-thalene (mg/kg)
Tier 1 ESLs (Feb 2016)			0.023	13	16	8.9	11	2.8	60	85	0.70	3.8	0.70	2.6	0.070	0.070	2.5	0.70	---	---
S-5-B14	03/05/14	5.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-11.5-B14	03/05/14	11.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-15.5-B14	03/05/14	15.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-19-B14	03/05/14	19.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-B15	03/05/14	5.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-10-B15	03/05/14	10.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-14.0-B15	03/05/14	14.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-B16	02/26/14	5.0	<0.015	<0.030	<0.015	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	---	---
S-10-B16	02/26/14	10.0	<0.015	<0.030	<0.015	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	---	---
S-15.5-B16	02/26/14	15.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-B17	02/26/14	5.0	<0.015	<0.030	<0.015	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	---	---
S-10-B17	02/26/14	10.0	<0.015	<0.030	<0.015	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	---	---
S-15.5-B17	02/26/14	15.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-B18	10/08/15	5.0	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
S-10-B18	10/08/15	10.0	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
S-15-B18	10/08/15	15.0	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Cone Penetration Testing Borings																				
S-5-CPT1	10/20/10	5.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-CPT2	10/20/10	5.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Monitoring Well Borings																				
S-5-MW1	10/20/10	5.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-10-MW1	11/04/10	10.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-14.5-MW1	11/04/10	14.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-10-MW2	11/04/10	10.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-15-MW2	11/04/10	15.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-MW3	10/20/10	5.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-10.5-MW3	11/08/10	10.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-15.5-MW3	11/08/10	15.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-8-MW3A	01/18/12	8.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-14.5-MW3A	01/18/12	14.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 2C
ADDITIONAL CUMULATIVE SOIL ANALYTICAL RESULTS - PAHs
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Sample ID	Sampling Date	Depth (feet bgs)	Naph-thalene (mg/kg)	Acenaph-thylene (mg/kg)	Acenaph-thene (mg/kg)	Fluorene (mg/kg)	Phen-anthrene (mg/kg)	Anth-racene (mg/kg)	Fluor-anthene (mg/kg)	Pyrene (mg/kg)	Benzo (a) Anthr-acene (mg/kg)	Chrysene (mg/kg)	Benzo (b) Fluor-anthene (mg/kg)	Benzo (k) Fluor-anthene (mg/kg)	Benzo (a) Pyrene (mg/kg)	Dibenz (a,h) Anthracene (mg/kg)	Benzo (g,h,i) Perylene (mg/kg)	Indeno (1,2,3-c,d) Pyrene (mg/kg)	1-Methyl-naph-thalene (mg/kg)	2-Methyl-naph-thalene (mg/kg)
Tier 1 ESLs (Feb 2016)			0.023	13	16	8.9	11	2.8	60	85	0.70	3.8	0.70	2.6	0.070	0.070	2.5	0.70	---	---
S-5-MW4	10/20/10	5.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-10-MW4	11/05/10	10.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-15-MW4	11/05/10	15.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-16.5-MW4	11/05/10	16.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-MW5	10/20/10	5.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-10.5-MW5	11/05/10	10.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-16.5-MW5	11/05/10	16.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-MW6	10/20/10	5.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-10-MW6	11/02/10	10.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-14.5-MW6	11/02/10	14.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-20-MW6	11/02/10	20.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-MW7	12/08/14	5.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-10-MW7	12/08/14	10.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-15-MW7	12/08/14	15.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-MW8	12/08/14	5.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-10-MW8	12/08/14	10.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-15-MW8	12/08/14	15.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-MW9	10/08/15	5.0	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
S-10.5-MW9	10/08/15	10.5	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
S-15.5-MW9	10/08/15	15.5	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Remediation Well Borings																				
S-10-AS1	01/18/12	10.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-8.5-SVE1	01/17/12	8.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-11.5-SVE1	01/17/12	11.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-10-SVE2	01/17/12	10.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-14-SVE2	01/17/12	14.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-12.5-SVE3	01/17/12	12.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-15-SVE3	01/17/12	15.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-5-SVE4	10/09/15	5.0	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
S-9.5-SVE4	10/09/15	9.5	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.060	0.14
S-15.5-SVE4	10/09/15	15.5	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

TABLE 2C
ADDITIONAL CUMULATIVE SOIL ANALYTICAL RESULTS - PAHs
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Sample ID	Sampling Date	Depth (feet bgs)	Naph-thalene (mg/kg)	Acenaph-thylene (mg/kg)	Acenaph-thene (mg/kg)	Fluorene (mg/kg)	Phen-anthrene (mg/kg)	Anth-racene (mg/kg)	Fluor-anthene (mg/kg)	Pyrene (mg/kg)	Benzo (a) Anthr-acene (mg/kg)	Chrysene (mg/kg)	Benzo (b) Fluor-anthene (mg/kg)	Benzo (k) Fluor-anthene (mg/kg)	Benzo (a) Pyrene (mg/kg)	Dibenz (a,h) Anthracene (mg/kg)	Benzo (g,h,i) Perylene (mg/kg)	Indeno (1,2,3-c,d) Pyrene (mg/kg)	1-Methyl-naph-thalene (mg/kg)	2-Methyl-naph-thalene (mg/kg)
Tier 1 ESLs (Feb 2016)			0.023	13	16	8.9	11	2.8	60	85	0.70	3.8	0.70	2.6	0.070	0.070	2.5	0.70	---	---
S-5-SVE5	10/09/15	5.0	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
S-11.5-SVE5	10/09/15	11.5	**1.2**	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	<0.099	1.0	2.1
S-15.5-SVE5	10/09/15	15.5	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
S-5-SVE6	10/09/15	5.0	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
S-12-SVE6	10/09/15	12.0	**0.39**	<0.020	<0.020	<0.020	0.024	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.38	0.81
S-5-SVE7	10/09/15	5.0	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
S-10-SVE7	10/09/15	10.0	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
S-12-SVE7	10/09/15	12.0	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
S-15.5-SVE7	10/09/15	15.5	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Soil Vapor Well Borings																				
S-5-SVS1	02/25/14	5.0	<0.015	<0.030	<0.015	<0.010	<0.010	<0.010	<0.010	0.011	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	---	---
S-5-SVS2	02/25/14	5.0	<0.015	<0.030	<0.015	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	---	---
S-5-SVS3	02/25/14	5.0	<0.015	<0.030	<0.015	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	---	---
S-2-SVS4	09/28/16	2.0	<0.015	<0.030	<0.015	<0.0099	<0.0099	<0.0099	<0.0099	<0.0099	<0.0099	<0.0099	<0.0099	<0.0099	<0.0099	<0.0099	<0.0099	<0.0099	---	---
S-2-SVS5	09/28/16	2.0	**0.120**	<0.029	0.070	0.022	0.360	0.030	0.330	0.330	0.084	0.085	0.079	0.040	0.092	<0.0098	0.086	<0.0098	---	---
S-2-SVS6	09/28/16	2.0	<0.015	<0.030	<0.015	<0.010	0.024	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	---	---
S-2-SVS7	09/28/16	2.0	<0.015	<0.030	<0.015	<0.0099	<0.0099	<0.0099	<0.0099	<0.0099	<0.0099	<0.0099	<0.0099	<0.0099	<0.0099	<0.0099	<0.0099	<0.0099	---	---
S-2-SVS8	09/28/16	2.0	**0.026**	<0.030	<0.015	<0.0099	0.018	<0.0099	0.017	0.014	<0.0099	0.016	<0.0099	0.048	0.019	<0.0099	<0.0099	0.045	---	---
Waste Characterization Samples																				
Drum Samples																				
DR-1	01/06/08	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Soil Stockpile Samples																				
COMP(S-Profile-1-4)	11/08/10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S-SP1 (1-4)	01/18/12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SP1	03/05/14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SP-1	10/08/15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 2C
ADDITIONAL CUMULATIVE SOIL ANALYTICAL RESULTS - PAHs
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Notes:		Highlighted sample representative of soil removed from site.
TPHmo	=	Total petroleum hydrocarbons as motor oil analyzed using EPA Method 8015B.
TPHd	=	Total petroleum hydrocarbons as diesel analyzed using EPA Method 8015B.
TPHg	=	Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8015B.
MTBE	=	Methyl tertiary butyl ether analyzed using EPA Method 8260B; analyzed using EPA Method 8020 in 2008.
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-Dicholorethane analyzed using EPA Method 8260B.
TBA	=	Tertiary butyl alcohol analyzed using EPA Method 8260B.
DIPE	=	Di-isopropyl ether analyzed using EPA Method 8260B.
ETBE	=	Ethyl tertiary butyl ether analyzed using EPA Method 8260B.
TAME	=	Tertiary amyl methyl ether analyzed using EPA Method 8260B.
Lead	=	Total lead analyzed using EPA Method 6010B.
VOCs	=	Volatile organic compounds analyzed using EPA Method 8260B.
SVOCs	=	Semi-volatile organic compounds analyzed using EPA Method 8270C.
PAHs	=	Polyaromatic hydrocarbons analyzed using EPA Method 8310.
feet bgs	=	Feet below ground surface.
Tier 1 ESLs	=	Tier 1 Environmental Screening Levels established by the California Regional Water Quality Control Board.
ND	=	Not detected.
---	=	Not analyzed/Not applicable
<	=	Less than the laboratory reporting limit.
a	=	The chromatographic pattern does not match that of the specified standard.
b	=	Heavier gasoline range compounds are significant.
c	=	Diesel range compounds are significant; no recognizable pattern.
d	=	Gasoline range compounds are significant.
e	=	Strongly aged gasoline or diesel range compounds are significant.
f	=	No recognizable pattern.
g	=	Ethanol.
h	=	The reporting limit is elevated resulting from matrix interference.
i	=	Reporting limits raised due to high level of non-target analytes.
j	=	Estimated value; analyte present at concentration above the method detection limit but below the reporting limit.

TABLE 3A
CUMULATIVE SOIL VAPOR ANALYTICAL RESULTS
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Sample ID	Sampling Date	Depth (feet)	TPHd (µg/m³)	TPHg (µg/m³)	MTBE (µg/m³)	B (µg/m³)	T (µg/m³)	E (µg/m³)	o-X (µg/m³)	pm-X (µg/m³)	X (µg/m³)	Methane (%V)	Helium (%V)	CO_2 (%V)	O_2+ Ar (%V)	O_2 (%V)	Nitrogen (%V)	Vacuum (in Hg)
Environmental Screening Levels, Subslab/Soil Gas, Table SG-1 (February 2016)																		
Residential			68,000	300,000	5,400	48	160,000	560	52,000c	52,000c	52,000	---	---	---	---	---	---	---
Commercial/Industrial			570,000	2,500,000	47,000	420	1,300,000	4,900	440,000c	440,000c	440,00	---	---	---	---	---	---	---
Media-Specific Criteria for Vapor Intrusion to Indoor Air, No Bioattenuation Zone (SWRCB, 2012)																		
Residential			---	---	---	85	---	1,100	---	---	---	---	---	---	---	---	---	---
Commercial			---	---	---	280	---	3,600	---	---	---	---	---	---	---	---	---	---
Media-Specific Criteria for Vapor Intrusion to Indoor Air, With Bioattenuation Zone (SWRCB, 2012)																		
Residential			---	---	---	85,000	---	1,100,000	---	---	---	---	---	---	---	---	---	---
Commercial			---	---	---	280,000	---	3,600,000	---	---	---	---	---	---	---	---	---	---
Near Commercial Building on the Site																		
SVS3	03/07/14	5.5	---	**150,000,000**	**<5,800**	**15,000**	<1,500	**15,000**	<1,700	<6,900	<1,700	6.29	<0.0100	13.3	4.41	---	---	-5.00
SVS3 Dup	03/07/14	5.5	---	**150,000,000**	**<5,800**	**22,000**	<1,500	**23,000**	<1,700	<6,900	<1,700	6.73	<0.0100	14.4	3.10	---	---	-5.00
SVS3	08/28/14	5.5	---	**87,000,000**	**<36,000**	**21,000**	13,000	**31,000**	<11,000	<43,000	<11,000	5.11	<0.0100	14.7	5.49	---	---	-5.00
SVS3	10/03/16 g	5.5	h	**41,000,000**	**<20,000**	**12,000**	<40,000	**<20,000**	<20,000	<20,000	---	3.5	<0.10	14	---	5.4	77	-5.39
SVS3 Dup	10/03/16 g	5.5	h	**34,000,000**	**<20,000**	**11,000**	<40,000	**<20,000**	<20,000	<20,000	---	3.9	<0.10	15	---	4.6	77	-5.37
SVS7	10/03/16 f	2.2	9,000	27,000	42	<16	40	<22	190	71	---	0.0057	0.35	0.93	---	20	79	-2.93
SVS8	10/03/16 g	2.2	28,000	**350,000**	<500	**<100**	<1,000	<500	<500	<500	---	0.030	<0.10	1.0	---	20	79	-3.18
Near Residential Building Adjacent to the Site																		
SVS1	03/06/14	5.5	---	**180,000,000**	**<12,000d**	**<2,600d**	<3,000d	**<3,500d**	<3,500d	<14,000d	<3,500d	15.5	<0.0100	10.0	2.58	---	---	-5.00
SVS1	08/28/14	5.5	---	**90,000,000**	**<36,000**	**<8,000**	12,000	**<11,000**	<11,000	<43,000	<11,000	15.3	<0.0100	13.2	2.49	---	---	-5.00
SVS1	10/03/16 g	5.5	h	**43,000,000**	**<20,000d**	**<4,000d**	<40,000d	**<20,000d**	<20,000d	<20,000d	---	12	<0.10	11	---	4.8	73	-5.81
SVS2	03/06/14	5.5	---	**190,000,000**	<1,800	**1,700**	740	**650**	<540	3,100	3,100	11.4	<0.0100	8.31	3.62	---	---	-5.00
SVS2	08/28/14	5.5	---	**80,000,000**	**<36,000**	**<8,000**	13,000	**<11,000**	<11,000	<43,000	<11,000	11.5	<0.0100	9.67	5.54	---	---	-5.00
SVS2 Dup	08/28/14	5.5	---	**89,000,000**	**<36,000**	**<8,000**	13,000	**<11,000**	<11,000	<43,000	<11,000	13.5	<0.0100	11.3	2.82	---	---	-5.00
SVS2	10/03/16 g	5.5	h	**35,000,000**	**<20,000d**	**<4,000d**	<40,000d	**<20,000d**	<20,000d	<20,000d	---	16	<0.10	11	---	3.7	72	-3.26
SVS4	10/03/16 f	2.2	9,800	5,900	19	<3.2	11	8.1	16	15	---	0.0031	0.94	0.86	---	20	79	--3.83
SVS5	10/03/16	2.2	16,000	3,000	38	<3.2	82	24	230	97	---	<0.0010	<0.10	1.2	---	20	79	-4.52
SVS6	10/03/16	2.2	<5,000	440b	4.6	<3.2	4.2	<4.4	4.7	<8.8	---	<0.0010	<0.10	0.44	---	20	79	-3.43

TABLE 3A
CUMULATIVE SOIL VAPOR ANALYTICAL RESULTS
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Notes:

TPHd	=	Total petroleum hydrocarbons as gasoline analyzed using EPA Method TO-17(M).
TPHg	=	Total petroleum hydrocarbons as gasoline analyzed using EPA Method TO-3M (March 2014), TO-17 (August 2014), or TO-15 (2016).
MTBE	=	Methyl tertiary butyl ether analyzed using EPA Method TO-15.
BTEX	=	Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method TO-15.
VOCs	=	Volatile organic compounds analyzed using EPA Method TO-15. Naphthalene analyzed using both EPA Method TO-15 and TO-17(M).
Methane	=	Methane analyzed using ASTM Method D-1946 (2014) or EPA Method 8015M (2016).
Helium	=	Helium analyzed using ASTM Method D-1946 (M).
CO_2	=	Carbon dioxide analyzed using ASTM Method D-1946.
O_2 + Ar	=	Oxygen plus argon analyzed using ASTM Method D-1946.
O_2	=	Oxygen analyzed using ASTM Method D-1946.
Nitrogen	=	Nitrogen analyzed using ASTM Method D-1946.
Vacuum	=	Vacuum measured using a vacuum gauge.
µg/m³	=	Micrograms per cubic meter.
%V	=	Percent by volume.
in Hg	=	Inches of mercury.
ND	=	Not detected. March 2014 samples analyzed for 1,2-dibromoethane , 1,2-dichloroethane, tertiary butyl alcohol, tertiary amyl methyl ether, ethyl tertiary butyl ether, and di-isopropyl only.
Bold	=	Greater than or equal to the most stringent, applicable screening level.
<	=	Less than the stated method detection limit.
---	=	Not applicable.
a	=	Possibly biased high due to results of associated standard.
b	=	Analyte reported in associated equipment blank.
c	=	Screening level for total xylenes.
d	=	Reporting limits elevated due to high levels of non-target analytes.
e	=	4-Ethyltoluene.
f	=	Leak detection compound reported. Concentration may have a low bias.
g	=	TPHg, MTBE, BTEX, and VOCs analyzed using EPA Method 8260.
h	=	Unable to sample due to elevated diesel concentrations above instrumentation limits.

TABLE 3B
CUMULATIVE SOIL VAPOR ANALYTICAL RESULTS - VOCs
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Sample ID	Sampling Date	Depth (feet)	Bromo-dichloro-methane (µg/m³)	Carbon Disulfide (µg/m³)	Chloro-form (µg/m³)	Chloro-methane (µg/m³)	Dibromo-chloro-methane (µg/m³)	4-Methyl-2-Pentanone (µg/m³)	Naph-thalene TO-15 (µg/m³)	Naph-thalene TO-17 (µg/m³)	Tri-chloro-ethane (µg/m³)	1,2,4-Trimethyl-benzene (µg/m³)	1,3,5-Trimethyl-benzene (µg/m³)	Tetra-chloro-ethane (µg/m³)	Tertiary Butyl Alcohol (µg/m³)	Add'l VOCs (µg/m³)
Environmental Screening Levels, Subslab/Soil Gas, Table SG-1 (February 2016)																
Residential			38	---	61	47,000	---	---	41	41	340	---	---	240	---	---
Commercial/Industrial			330	---	530	390,000	---	---	360	360	3,000	---	---	2,100	---	---
Media-Specific Criteria for Vapor Intrusion to Indoor Air, No Bioattenuation Zone (SWRCB, 2012)																
Residential			---	---	---	---	---	---	93	93	---	---	---	---	---	---
Commercial			---	---	---	---	---	---	310	310	---	---	---	---	---	---
Media-Specific Criteria for Vapor Intrusion to Indoor Air, With Bioattenuation Zone (SWRCB, 2012)																
Residential			---	---	---	---	---	---	93,000	93,000	---	---	---	---	---	---
Commercial			---	---	---	---	---	---	310,000	310,000	---	---	---	---	---	---
Near Commercial Building on the Site																
SVS3	03/07/14	5.5	---	---	---	---	---	---	---	1.1	---	---	---	---	<4,900	ND
SVS3 Dup	03/07/14	5.5	---	---	---	---	---	---	---	---	---	---	---	---	<4,900	ND
SVS3	08/28/14	5.5	**<17,000**	<31,000	**<12,000**	<5,200	<21,000	<31,000	---	**820a**	**<13,000**	<12,000	<12,000	**<17,000**	<30,000	ND
SVS3	10/03/16 g	5.5	**<20,000**	<20,000	**<4,000**	<20,000	<20,000	<100,000	**<4,000**	**390**	**<4,000**	<20,000	<20,000	**<4,000**	<200,000	ND
SVS3 Dup	10/03/16 g	5.5	**<20,000**	<20,000	**<4,000**	<20,000	<20,000	<100,000	**<4,000**	**480**	**<4,000**	<20,000	<20,000	**<4,000**	<200,000	ND
SVS7	10/03/16 f	2.2	<34	42	58	<10	<43	51	<27	28	<27	55	38	<34	49	ND
SVS8	10/03/16 g	2.2	**<500**	<500	**<100**	<500	<500	<2,500	**<100**	<20	<100	<500	<500	<100	<5,000	ND
Near Residential Building Adjacent to the Site																
SVS1	03/06/14	5.5	---	---	---	---	---	---	---	<0.020	---	---	---	---	<9,700d	ND
SVS1	08/28/14	5.5	**<17,000**	<31,000	**<12,000**	<5,200	<21,000	<31,000	---	<20	**<13,000**	<12,000	<12,000	**<17,000**	<30,000	ND
SVS1	10/03/16 g	5.5	**<20,000d**	<20,000d	**<4,000d**	<20,000d	<20,000d	<100,000d	**<4,000d**	<20	**<4,000d**	<20,000d	<20,000d	**<4,000d**	<200,000d	ND
SVS2	03/06/14	5.5	---	---	---	---	---	---	---	<0.020	---	---	---	---	<1,500	ND
SVS2	08/28/14	5.5	**<17,000**	<31,000	**<12,000**	<5,200	<21,000	<31,000	---	<20	**<13,000**	<12,000	<12,000	**<17,000**	<30,000	ND
SVS2 Dup	08/28/14	5.5	**<17,000**	<31,000	**<12,000**	<5,200	<21,000	<31,000	---	---	**<13,000**	<12,000	<12,000	**<17,000**	<30,000	ND
SVS2	10/03/16 g	5.5	**<20,000d**	<20,000d	**<4,000d**	<20,000d	<20,000d	<100,000d	**<4,000d**	<20	**<4,000d**	<20,000d	<20,000d	**<4,000d**	<200,000d	ND
SVS4	10/03/16 f	2.2	**48**	<6.3	**63**	2.3	21	8.9	<5.3	<20	<5.5	23	19	<6.9	<6.1	7.5e
SVS5	10/03/16	2.2	**38**	<6.3	54	<2.1	14	<8.3	<5.3	<20	<5.5	86	34	<6.9	<6.1	16e
SVS6	10/03/16	2.2	<6.8	<6.3	<4.9	<2.1	<8.6	<8.3	<5.3	<20	<5.5	<5.0	<5.0	<6.9	<6.1	ND

TABLE 3B
CUMULATIVE SOIL VAPOR ANALYTICAL RESULTS - VOCs
Former Exxon Service Station 79374
990 San Pablo Avenue
Albany, California

Notes:

TPHd	=	Total petroleum hydrocarbons as gasoline analyzed using EPA Method TO-17(M).
TPHg	=	Total petroleum hydrocarbons as gasoline analyzed using EPA Method TO-3M (March 2014), TO-17 (August 2014), or TO-15 (2016).
MTBE	=	Methyl tertiary butyl ether analyzed using EPA Method TO-15.
BTEX	=	Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method TO-15.
VOCs	=	Volatile organic compounds analyzed using EPA Method TO-15. Naphthalene analyzed using both EPA Method TO-15 and TO-17(M).
Methane	=	Methane analyzed using ASTM Method D-1946 (2014) or EPA Method 8015M (2016).
Helium	=	Helium analyzed using ASTM Method D-1946 (M).
CO_2	=	Carbon dioxide analyzed using ASTM Method D-1946.
O_2 + Ar	=	Oxygen plus argon analyzed using ASTM Method D-1946.
O_2	=	Oxygen analyzed using ASTM Method D-1946.
Nitrogen	=	Nitrogen analyzed using ASTM Method D-1946.
Vacuum	=	Vacuum measured using a vacuum gauge.
µg/m³	=	Micrograms per cubic meter.
%V	=	Percent by volume.
in Hg	=	Inches of mercury.
ND	=	Not detected. March 2014 samples analyzed for 1,2-dibromoethane , 1,2-dichloroethane, tertiary butyl alcohol, tertiary amyl methyl ether, ethyl tertiary butyl ether, and di-isopropyl only.
Bold	=	Greater than or equal to the most stringent, applicable screening level.
<	=	Less than the stated method detection limit.
---	=	Not applicable.
a	=	Possibly biased high due to results of associated standard.
b	=	Analyte reported in associated equipment blank.
c	=	Screening level for total xylenes.
d	=	Reporting limits elevated due to high levels of non-target analytes.
e	=	4-Ethyltoluene.
f	=	Leak detection compound reported. Concentration may have a low bias.
g	=	TPHg, MTBE, BTEX, and VOCs analyzed using EPA Method 8260.
h	=	Unable to sample due to elevated diesel concentrations above instrumentation limits.

APPENDIX

A

CORRESPONDENCE

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Shaping the Future

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
REBECCA GEBHART, Interim Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

August 16, 2016

Ms. Jennifer Sedlachek
ExxonMobil
4096 Piedmont Ave., #194
Oakland, CA 94611
(Sent via E-mail to:
jennifer.c.sedlachek@exxonmobil.com)

Ms. Muriel Blank
Blank Family Trust
1164 Solano Ave., #406
Albany, CA 94706

Subject: Modified Work Plan Approval; Fuel Leak Case No. RO0002974 and GeoTracker Global ID T0619716673, Exxon, 990 San Pablo Ave., Albany, CA 94706

Dear Ms. Sedlachek and Ms. Blank:

Alameda County Department of Environmental Health (ACDEH) staff has reviewed the case file for the above referenced site including the *Groundwater Monitoring Report, Second Quarter 2016*, dated June 22, 2016, and the *Work Plan for Additional Soil Vapor Assessment and Response to Comments*, dated July 28, 2016. The reports were prepared and submitted on your behalf by Cardno. Thank you for submitting them.

Based on ACDEH staff review of the work plan, the proposed scope of work is conditionally approved for implementation provided that the technical comments below are incorporated during the proposed work. Submittal of a revised work plan or a work plan addendum is not required unless an alternate scope of work outside that described in the work plan or these technical comments is proposed. We request that you address the following technical comments, perform the proposed work, and send us the report described below. Please provide 72-hour advance written notification to this office (e-mail preferred to: mark.detterman@acgov.org) prior to the start of field activities.

TECHNICAL COMMENTS

1. **Work Plan Modifications –** The referenced work plan proposes a reasonable series of actions with which ACDEH is in general agreement of undertaking; however, ACDEH requests several modifications to the approach. Please submit the results of the investigation in a report by the date identified below.

   a. **Naphthalene Vapor Analysis –** In addition to the analysis of Total Petroleum Hydrocarbons as diesel (TPHd) by EPA Method TO-15, ACDEH additionally requests the analysis of naphthalene by TO-17. The Department of Toxic Substance Control (DTSC) guidance has identified preferential absorption of naphthalene by vapor well tubing and other concerns related to naphthalene analysis by TO-15. This request is intended to eliminate concerns over vapor sampling protocols which have been identified as problematic over time, and additionally provides multiple lines of evidence at a site.

   b. **VOC Vapor Suite –** The work plan proposed vapor analysis for tetrachloroethene (PCE) and trichloroethene (TCE) at SVS7 and SVS8. To help prevent miscommunication, please conduct an analysis for the full Volatile Organic Compound (VOC) suite by an appropriate method at these two wells for a minimum of one time.

   c. **Vapor Well Depth –** The work plan proposes to install onsite vapor wells SVS4 to SVS8 to a depth of 2 feet below grade surface (bgs) to determine a vertical vapor profile at the site in an effort to determine if more invasive investigations are needed on- or offsite. Bore logs for existing vapor wells SVS1 to SVS3 indicate that a sandy gravel unit, presumed to be baserock, extends to

a depth of approximately 1 to 1.5 feet bgs in parking areas, and ACDEH is concerned that the vapor results at SVS4 to SVS8 may not be fully representative of conditions beneath on-and offsite buildings with dissimilar soil profiles. In an effort to generate more representative samples for on- and offsite areas, it appears reasonable to install the proposed vapor wells to a minimum depth of 2.5 feet, and adjusting the proposed well construction details a similar distance downwards.

TECHNICAL REPORT REQUEST

Please upload technical reports to the ACDEH ftp site (Attention: Mark Detterman), and to the State Water Resources Control Board's Geotracker website, in accordance with the specified file naming convention below, according to the following schedule:

- **September 23, 2016** – Remedial Progress Report
  File to be named: RO2974_REM_R_yyyy-mm-dd

- **October 28, 2016–** Site Investigation Report
  File to be named: RO2974_SWI_R_yyyy-mm-dd

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

Online case files are available for review at the following website: http://www.acgov.org/aceh/index.htm. If your email address is not listed on the first page of this letter, or in the list of cc's listed below, ACDEH is requesting your email address to help expedite communications and to help lower overall costs.

ACDEH appreciates work progress at the site and your cooperation. Should you have additional questions, please contact me at (510) 567--6876 or send me an electronic mail message at mark.detterman@acgov.org.

Sincerely,

Digitally signed by Mark Detterman
DN: cn=Mark Detterman, o=ACEH, ou=ACEH, email=mark.detterman@acgov.org, c=US
Date: 2016.08.16 11:14:15 -07'00'

Mark E. Detterman, PG, CEG
Senior Hazardous Materials Specialist

Enclosures: Attachment 1 – Responsible Party (ies) Legal Requirements / Obligations and Electronic Report Upload (ftp) Instructions

cc: Scott Perkins, Cardno, 601 North McDowell Blvd., Petaluma, CA 94954
(Sent via electronic mail to: scott.perkins@cardno.com)

David Daniels, Cardno, 601 North McDowell Blvd., Petaluma, CA 94954
(Sent via electronic mail to: david.daniels@cardno.com)

Mrs. Marcia B. Kelly, 641 SW Morningside Rd., Topeka, KS 66615
(Sent via electronic mail to: marciabkelly@earthlink.net)

Rev. Deborah Blank, 1563 Solano Ave. #344, Berkeley, CA 94707
(Sent via electronic mail to: miracoli@earthlink.net)

Dilan Roe, ACDEH, (Sent via electronic mail to: dilan.roe@acgov.org)
Mark Detterman, ACDEH, (Sent via electronic mail to: mark.detterman@acgov.org)
Electronic File, GeoTracker

APPENDIX

B

SITE CONCEPTUAL MODEL

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Element	Description	Data Gaps
Geology and Hydrogeology		
Regional Geology and Hydrogeology	The site lies at an approximate elevation of 40 feet above msl, and the local topography slopes toward the southwest. The site is located along the eastern margin of the San Francisco Bay within the East Bay Plain (Hickenbottom and Muir, 1988). The surficial deposits in the site vicinity are mapped as Holocene alluvial fan and fluvial deposits (Graymer, 2000). The active northwest trending Hayward fault is located approximately 1.5 miles northeast of the site. The East Bay Plain is regionally divided into two major groundwater basins: the San Pablo and the San Francisco Basin. These basins are tectonic depressions that are filled primarily with a sequence of coalescing alluvial fans. The San Francisco Basin is further divided into seven sub-areas. The site is located in the Berkeley Sub-Area, which is filled primarily by alluvial deposits that range from 10 to 300 feet thick with poorly defined aquitards (CRWQCB, 1999). Under natural conditions, the direction of groundwater flow in the East Bay Plain is east to west.	None
Site Geology, Hydrogeology, Hydraulic Flow, and Groundwater Gradient	Soil boring logs indicate that the soil beneath the site consists predominantly of silt and clay with an apparently continuous coarse-grained unit 2 to 8 feet thick encountered between approximately 8 and 20 feet bgs. Fill material was encountered in the boring for well SVE3 (located in the former UST pit) to approximately 7 feet bgs. CPT borings indicate the presence of predominantly silt and clay between approximately 20 and 60 feet bgs, the maximum depth explored. Coarse-grained layers up to 3 feet thick are interbedded with the silt and clay (EC&A, 2008; Cardno ERI, 2011; Cardno ERI, 2012). Historical groundwater elevation data indicate that DTW ranges from 5 to 11 feet bgs beneath the site with varying groundwater flow directions. The distribution of dissolved-phase hydrocarbons suggests that the dominant groundwater flow direction is west to southwest (Cardno ERI, 2014b). Due to varying well construction, Cardno ERI separated the wells into shallow and deep water-bearing zones. Wells MW3A, MW4, MW5, and SVE1 through SVE3 are screened no deeper than 15 feet bgs and are referred to as the shallow water-bearing zone; wells MW1 through MW3 and MW6 have screened intervals that extend deeper than 15 feet bgs and are referred to as the deep water-bearing zone. The groundwater elevations in wells screened deeper than 15 feet are commonly irregular and do not agree with the distribution of petroleum hydrocarbon concentrations. Although the water-bearing zones are referred to as shallow and deep, they likely do not represent unique water-bearing zones. During second quarter 2015, the groundwater flow direction in the shallow water-bearing zone was towards the southwest with a hydraulic gradient of approximately 0.038 (Cardno, 2015). Due to varying well construction, the groundwater flow in the deep water-bearing zone is not calculated (Cardno ERI, 2014b).	None
Facility History		
Facility Structures and Site Operations	In 1945, a service station owned by Signal Oil Company occupied the site. Humble Oil company acquired the site in 1967 from Standard Oil Company of California (Chevron), rebranding the site as an Enco station. The station was rebranded as an Exxon service station in 1975 (EDR, 2009a; EDR, 2009b). The service station was demolished in 1983. During demolition activities, one used-oil UST and four gasoline USTs were removed and the resulting tank cavity was backfilled with sand and compacted to 90% (City of Albany, 1983). Cardno ERI reviewed eight aerial photographs of the site and site vicinity dated from September 6, 1949, to June 21, 1983 (EDR, 2009b). Based on these photographs, the dispenser islands appeared to be located beneath the station canopy on the northern portion of the site and the former USTs appeared to be located on the southern portion of the site, east of the station's service bays. The location of the former used-oil UST is unknown. The approximate location of the former USTs are shown on Plate 2. A retail outlet for Benjamin Moore paints and painting products and associated asphalt parking currently occupy the site.	None

Element	Description	Data Gaps
Sensitive Receptors, Land Use, and Nearby Sites		
Surface Water Bodies	The site is located approximately 1,630 feet north-northwest of Cordornices Creek. No other surface water bodies have been located within a 300-meter radius of the site.	None
Nearby Wells	There are not public water supply, municipal, or domestic wells located within a ¼-mile radius of the site.	None
Public Use Areas	Two public use areas are present within a 100-meter radius of the site: the City of Albany Police, Fire, and City offices located across Buchanan Street at 1000 San Pablo Avenue and a physical therapy office located in the strip mall approximately 50 meters north of the site.	None
Residences	Sixteen residential buildings have been identified within a 300-meter radius of the site; five of those buildings are located within a 100-meter radius of the site.	None
Sub-Grade	Sub-grade structures have not been identified within a 100-meter radius of the site.	None
Utility Vaults	Twenty-three vaults have been identified on or immediately adjacent to the site. Vault uses include: water, telephone, gas meter, electric, sewer, traffic box, traffic signal, and anode.	None
Storm and Sanitary Sewers	Three storm drains are located on or adjacent to the site. The storm drains daylight along the curb and water flows west along Buchanan Street. The City of Albany Public Works Department confirmed that the storm drains discharge directly into the Bay. Two sanitary sewer cleanout vaults are located on site. The City of Albany Public Works Department confirmed that sewage is discharged at the East Bay Municipal Utilities District Treatment Plant, located 4.5 miles south of the site, at the entrance to the San Francisco Bay Bridge.	None
Other	Other site receptors have not been identified.	None
Nearby Sites	The surrounding areas consist of residential and commercial properties. The City of Albany Fire Department and Police Department are located south of the site on Buchanan Street. ACEH case number RO0000119, identified as Firestone #3655 in the GeoTracker™ database, is located across San Pablo Avenue to the east. A Shell Service Station and an Atlantic Richfield Company Service Station (Arco) are located approximately 350 and 500 feet away, respectively, south-southeast of the site.	None
Release Information		
Release History	The primary sources of petroleum hydrocarbons at the site are the former used-oil UST and the four former gasoline USTs. The USTs were removed in 1983 (City of Albany, 1983).	None
Extent and Distribution of Petroleum Hydrocarbon Concentrations	**Non-Aqueous Phase Liquid** An immiscible sheen was reported in groundwater samples collected from borings B1 and B2 (EC&A, 2008). Neither NAPL nor sheen have been observed in the groundwater monitoring wells at the site; however, during fourth quarter 2012, concentrations of TPHg (270,000 µg/L) reported in well MW4 were potentially indicative of the presence of NAPL. Although the TPHg concentrations increased, BTEX concentrations were consistent with previous data. Concentrations of TPHg reported since fourth quarter 2012 are not indicative of the presence of NAPL and second quarter 2015 (22,000 µg/L) data is consistent with historical results. The fourth quarter 2012 TPHd result for well MW4 appears to have been anomalous.	None

Element	Description	Data Gaps
	Hydrocarbons in Groundwater Current and historic maximum dissolved-phase petroleum hydrocarbon concentrations have been reported in well MW3, located in the vicinity of the former USTs, and wells MW4 and MW5, located west of the former USTs. Concentrations are delineated to the east of the site by wells MW1 and MW2 and to the south of the site by borings B11 and B15. Dissolved-phase hydrocarbons are adequately vertically delineated at the site with petroleum hydrocarbon concentrations below or near the laboratory reporting limits in groundwater samples collected deeper than 27.5 feet bgs (Cardno ERI, 2011). **Data Gap:** Dissolved-phase petroleum hydrocarbons require monitoring off site to the west and southwest near borings B9 and B12. **How to Address:** Cardno installed off-site wells MW7 through MW9 to monitor dissolved-phase petroleum hydrocarbons west and southwest of the site. Monitoring and sampling activities in these wells are ongoing. The need for installation of additional wells will be evaluated.	**Yes**
	Hydrocarbons in Soil Maximum residual petroleum hydrocarbon concentrations are present at approximately 10.5 feet bgs in the vicinity of the former USTs. With the exception of naphthalene by EPA Method 8310 in boring B13 (5 feet bgs) and TPHg in borings B4 (5 feet bgs) and SVE1 (8.5 feet bgs), residual petroleum hydrocarbon concentrations have been near or below reporting limits in the shallow soil samples collected at the site, including samples collected in the vicinity of the former UST and suspected dispenser island locations. Residual petroleum hydrocarbon concentrations are adequately delineated in both shallow (less than 10 feet bgs) and deep (greater than or equal to 10 feet bgs) soil to the northeast, the northwest, the west, the east, the southwest, and the south by borings B5 through B11, B14, B15, MW1, MW2, and CPT1. Residual TPHg (530 mg/kg) is present to the north at 10 feet bgs in boring B16, but is near or below reporting limits at 5 and 15.5 feet bgs (EC&A, 2008; Cardno ERI, 2011; Cardno ERI, 2014a).	None
	Hydrocarbons in Soil Vapor Maximum vapor-phase concentrations are present in well SVS3, located in the vicinity of the suspected locations of the former dispenser islands. Petroleum hydrocarbons exceed ESLs by up to three orders of magnitude in wells SVS1 through SVS3. **Data Gap:** Vapor-phase concentrations exceed applicable screening levels. **How to Address:** DPE high-intensity targeted (HIT) events are ongoing.	**Yes**
Exposure Routes and Potential Receptors		
Exposure Routes and Potential Receptors	Utility trench backfill material is not acting as a preferential pathway for petroleum hydrocarbon concentrations (Cardno ERI, 2014a). There are not public water supply, municipal, or domestic wells located within a quarter mile of the site. The nearest surface water body (Cordornices Creek) is located approximately 1,630 feet south-southeast of the site. Residual and dissolved-phase petroleum hydrocarbons are delineated south and east of the site and are not likely to migrate to Cordornices Creek. A construction worker excavating soil at the site is a potential receptor; however, since the site is paved, direct exposure (via ingestion or dermal contact) to chemicals of concern released during Exxon's operations is not likely. The potential exposure route of vapor inhalation may exist in the commercial/industrial setting for workers in the on-site retail outlet. Users of shallow and deep groundwater are potential receptors. **Data Gap:** See the groundwater and soil vapor data gaps in the Release Information section.	**Yes**

REFERENCES

California Regional Water Quality Control Board San Francisco Bay Region Groundwater Committee (CRWQCB). June 1999. *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report, Alameda and Contra Costa Counties, CA.*

Cardno. July 9, 2015. *Groundwater Monitoring Report, Second Quarter 2015, Former Exxon Service Station 79375, 990 San Pablo Avenue, Albany, California.*

*C*ardno ERI. February 28, 2011. *Site Assessment Report, Former Exxon Service Station 79374, 990 San Pablo Avenue, Albany, California.*

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Cardno ERI. July 7, 2014a. *Work Plan for Well Installation, Former Exxon Service Station 79374, 990 San Pablo Avenue, Albany, California.*

Cardno ERI. September 5, 2014b. *Response to Comments and Request for Extension, Former Exxon Service Station 79374, 990 San Pablo Avenue, Albany, California.*

City of Albany. March 28, 1983. *Building Permit 82-0708.*

Edd Clark & Associates (EC&A). January 31, 2008. *Report of Phase II Environmental Assessment, 990 San Pablo Avenue, Albany, California.*

Environmental Data Resources Inc. (EDR). December 1, 2009a. *The EDR-City Directory Abstract, 990 San Pablo Avenue, Albany, CA 94706. Inquiry Number:2648519.6.*

Environmental Data Resources Inc. (EDR). December 1, 2009b. *Certified Sanborn® Map Report, 990 San Pablo Avenue, Albany, CA 94706. Inquiry Number 2648519.36.*

Graymer, R.W. 2000. *Geological map and map database of the Oakland metropolitan area, Alameda, Contra Costa, and San Francisco Counties, California. USGS, Miscellaneous Field Studies MF-2342.*

Hickenbottom, Kelvin and Muir, Kenneth S. June 1988. *Geohydrogeology and Groundwater Quality Overview of the East Bay Plain Area, Alameda County, CA. Alameda County Flood Control and Water Conservation District. 83p.*

APPENDIX

C

FIELD PROTOCOLS

Cardno
Shaping the Future

Soil Vapor Sampling Well Installation and Sampling Field Protocol

Preliminary Activities

Prior to the onset of field activities at the site, Cardno obtains the appropriate permit(s) from the governing agency(s). Advance notification is made as required by the agency(s) prior to the start of work. Cardno marks the borehole locations and contacts the local one call utility locating service at least 48 hours prior to the start of work to mark buried utilities. Borehole locations may also be checked for buried utilities by a private geophysical surveyor. Prior to drilling, the borehole location is cleared in accordance with the client's procedures. Fieldwork is conducted under the advisement of a registered professional geologist and in accordance with an updated site-specific safety plan prepared for the project, which is available at the job site during field activities.

Well Construction

The borehole is advanced to the desired depth using either a direct-push rig, hand auger, or air vacuum rig. Lithologic conditions are recorded on a boring log during borehole advancement, and select soil matrix sampling may be conducted based on soil characteristics.

Each soil vapor sampling (SVS) well is constructed using inert screen material attached to $^1/_8$- to ¼-inch outer diameter inert tubing. A gas-tight vacuum fitting or valve is attached to the top of each length of tubing using a female compression fitting. Each screen is set within a minimum of a 12-inch thick appropriately sized sand pack, with a minimum of 3 inches of sand pack above the top of the screen. A minimum of 4 inches of dry granular bentonite is set above each screen and associated sand pack. In SVS wells with multiple and separate casings and screens, the annular space between the top of the dry granular bentonite above the deep screen and the bottom of the sand pack associated with the shallow screen is sealed with a minimum of 18 inches of hydrated bentonite. The remainder of the annular space of the well is sealed with hydrated bentonite to 1 foot below ground surface. Wellheads are finished with traffic-rated well boxes set in concrete flush with the surrounding grade. No glues, chemical cements, or solvents are used in well construction.

A boring log is completed with the construction details for each well, including the materials of construction, depth of the borehole, screen length, and annular seal thickness.

Soil Vapor Sampling

Samples are collected using a soil vapor purging and sampling manifold consisting of a flow regulator, vacuum gauges, vacuum pump, shroud, and laboratory-prepared, gas-tight, opaque containers such as Summa™ canisters. Samples may also be collected using a syringe and analyzed by a mobile laboratory. Prior to use, Summa™ canisters are checked to ensure they are under the laboratory induced vacuum between 31 and 25 inches of mercury (in. Hg). New inert tubing is used to purge and sample each well. Prior to purging and sampling each SVS well, the sampling manifold is connected to the gas-tight vacuum fitting or valve at the wellhead, and the downstream tubing and fittings are vacuum tested at approximately 24 to 28 in. Hg. Purging and sampling are conducted only on SVS wells when the tubing and fittings hold the applied vacuum for 5 minutes per vacuum gauge reading.

When required, Cardno conducts a purge volume versus constituent concentration test on at least one SVS well prior to purging and sampling activities. The purge volume test well is selected based on the location of the anticipated source of chemical constituents at the site and on the location of anticipated maximum soil vapor concentrations based on lithologic conditions. If the SVS well has been in place for more than 1 week, it is assumed that soil vapor in the sand pack has equilibrated with the surrounding soil, and only the screen and tubing volumes are included in the purge volume calculation. If the SVS well has been in place for less than 1 week, the volume of the sand pack around the screen is included in the purge volume calculation. A photo-ionization detector (PID) or on-site mobile laboratory is used to evaluate concentrations of chemical constituents in the vapor stream after 1, 3, and 10 volumes of vapor have been purged from the SVS well. Purging is conducted at a rate of 100 to 200

milliliters per minute (ml/min). The purge volume exhibiting the highest concentration is the volume of vapor purged from each SVS well prior to sampling. If the three separate purge volumes produce equal concentrations a default of 3 purge volumes is extracted prior to sampling.

Prior to sampling, a helium leak test is performed at each SVS well, including a summa canister and its fittings, to check for leaks in the SVS annulus. To assess the potential for leaks in the SVS well annulus, a shroud is placed over the SVS well and summa canister and the shroud is filled with a measured amount of helium. Helium screening is performed in the field by drawing soil gas into a Tedlar bag via a lung-box and screening the contents of the Tedlar bag with a helium meter. The concentration of helium in the sample divided by the concentration of helium in the shroud provides a measure of the proportion of the sample attributable to leakage. A leak that comprises less than 5% of the sample is insignificant. Helium screening is also performed using laboratory analysis of the contents of the summa canister collected under the shroud. Sampling is conducted at approximately the same rate of purging, at 100 to 200 ml/min. Soil vapor samples are submitted under chain-of-custody protocol for the specified laboratory analyses.

At a minimum, weather conditions (temperature, barometric pressure and precipitation), the sampling flow rate, the purge volume, the helium leak detection percentage results, the sample canister identification number, the method of sample collection, and the vacuum of the sampling canister at the start and end of sample collection (if applicable) are recorded on a log for each SVS well purged and sampled.

Decontamination Procedures

If soil samples are collected, Cardno or the contracted driller decontaminates the soil sampling equipment between each sampling interval using a non-phosphate solution, followed by a minimum of two tap water rinses. De-ionized water may be used for the final rinse. Downhole drilling equipment is steam-cleaned or triple-rinsed prior to advancing each borehole.

Waste Treatment and Disposal

Soil cuttings generated from the well installation are stored on site in labeled, Department of Transportation-approved, 55-gallon drums or other appropriate storage container. The soil is removed from the site and transported under manifest to a client- and regulatory-approved facility for recycling or disposal. Decontamination water is stored on site in labeled, regulatory-approved storage containers, and is subsequently transported under manifest to a client- and regulatory-approved facility for disposal or treated with a permitted mobile or fixed-base carbon treatment system.

APPENDIX

D

PERMITS

Cardno
Shaping the Future

Alameda County Public Works Agency - Water Resources Well Permit

Public Works Agency
Alameda County

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 08/24/2016 By jamesy

Permit Numbers: W2016-0623
Permits Valid from 09/07/2016 to 09/09/2016

Application Id:	1471536099399	**City of Project Site:** Albany
Site Location:	990 San Pablo Ave	
Project Start Date:	09/07/2016	**Completion Date:** 09/09/2016
Assigned Inspector:	Contact Minh Ngo at (510) 670-5759 or Minh@acpwa.org	
Applicant:	Cardno - Nadya Vicente 601 North McDowell Blvd, Petaluma, CA 94954	**Phone:** 707-766-2000
Property Owner:	The Blank Family Trust 1164 Solano Ave,, Albany, CA 94707	**Phone:** 510-527-4337
Client:	Ms. Jennifer Sedlachek ExxonMobil Corp. 4096 Piedmont Ave, # 194, Oakland, CA 94611	**Phone:** 510-547-8196
Contact:	Scott Perkins	**Phone:** 707-766-2000 **Cell:** 925-580-2455

	Total Due:	$265.00
Receipt Number: WR2016-0423	**Total Amount Paid:**	$265.00
Payer Name : Nadya m vicente	Paid By: MC	**PAID IN FULL**

Works Requesting Permits:

Well Construction-Vapor monitoring well-Vapor monitoring well - 5 Wells
Driller: Cardno, Inc - Lic #: 997036 - Method: Hand

Work Total: $265.00

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2016-0623	08/24/2016	12/06/2016	SVS4	2.00 in.	0.25 in.	1.50 ft	2.50 ft
W2016-0623	08/24/2016	12/06/2016	SVS5	2.00 in.	0.25 in.	1.50 ft	2.50 ft
W2016-0623	08/24/2016	12/06/2016	SVS6	2.00 in.	0.25 in.	1.50 ft	2.50 ft
W2016-0623	08/24/2016	12/06/2016	SVS7	2.00 in.	0.25 in.	1.50 ft	2.50 ft
W2016-0623	08/24/2016	12/06/2016	SVS8	2.00 in.	0.25 in.	1.50 ft	2.50 ft

Specific Work Permit Conditions

1. Drilling Permit(s) can be voided/ cancelled only in writing. It is the applicant's responsibility to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.

2. Compliance with the above well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate state reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 30 days, including permit number and site map.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to,

properly damage, personal injury and wrongful death.

4. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

5. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

6. No changes in construction procedures or well type shall change, as described on this permit application. This permit may be voided if it contains incorrect information.

7. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

8. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.

9. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

10. Electronic Reporting Regulations (Chapter 30, Division 3 of Title 23 & Division 3 of Title 27, CCR) require electronic submission of any report or data required by a regulatory agency from a cleanup site. Submission dates are set by a Regional Water Board or by a regulatory agency. Once a report/data is successfully uploaded, as required, you have met the reporting requirement (i.e. the compliance measure for electronic submittals is the actual upload itself). The upload date should be on or prior to the regulatory due date.

11. Vapor monitoring wells above water level constructed with tubing maybe be backfilled with pancake-batter consistency bentonite. Minimum surface seal thickness is two inches of cement grout around well box.

Vapor monitoring wells above water level constructed with pvc pipe shall have a minimum seal depth (Neat Cement Seal) of 2 feet below ground surface (BGS). Minimum surface seal thickness is two inches of cement grout around well box. All other conditions for monitoring well construction shall apply.

APPENDIX

E

BORING LOGS

Cardno
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BORING LOG SVS4

(Page 1 of 1)

Project No.:	Former Exxon Service Station 79374
Site:	990 San Pablo Avenue, Albany, California
Logged By:	Nadya M. Vicente
Reviewed By:	David R. Daniels, P.G 8737
Signature:	

Dates Drilled:	09/28/2016
Drilling Co.:	Cardno Inc
Drilling Method:	Hand Auger
Sampling Method:	Hand Auger
Borehole Diameter:	2.25"
Casing Diameter:	0.25"
Location N-S	37.88789621
Location E-W	122.2987211
Total Depth:	2.5' bgs
First GW Depth:	Not Encountered

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: NA; Not Encountered

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION
0						5" Asphalt.
					GW	GRAVEL with Sand (FILL): dark brown, wet, fine-to coarse-grained sand, well graded, gravel up to 1.5" diameter, angular (0,0,40,60)
		0.0			MH	SILT: yellow-brown with orange mottle, damp, medium to high plasticity, soft (0,100,0,0)
		0.0				
5						

Total Depth = 2.5' bgs 09/28/16
No Free Groundwater Encountered

Well: SVS4

BORING LOG SVS5

(Page 1 of 1)

Project No.:	Former Exxon Service Station 79374
Site:	990 San Pablo Avenue, Albany, California
Logged By:	Nadya M. Vicente
Reviewed By:	David R. Daniels, P.G 8737
Signature:	

Dates Drilled:	09/28/2016
Drilling Co.:	Cardno Inc
Drilling Method:	Hand Auger
Sampling Method:	Hand Auger
Borehole Diameter:	2.25"
Casing Diameter:	0.25"
Location N-S	37.88794547
Location E-W	122.298734
Total Depth:	2.5' bgs
First GW Depth:	Not Encountered

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- NA
- Not Encountered

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION
0						5" Asphalt.
					GW	GRAVEL with Sand (FILL): dark brown, wet, fine-to coarse-grained sand, well graded, gravel up to 1.5" diameter, angular (0,0,40,60)
		0.0			MH	SILT: yellow-brown with orange mottle, damp, medium to high plasticity, soft (0,95,5,0)
		0.0				
5						Total Depth = 2.5' bgs 09/28/16 No Free Groundwater Encountered

Well: SVS5

BORING LOG SVS6

(Page 1 of 1)

Project No.:	Former Exxon Service Station 79374
Site:	990 San Pablo Avenue, Albany, California
Logged By:	Nadya M. Vicente
Reviewed By:	David R. Daniels, P.G 8737
Signature:	

Dates Drilled:	09/28/2016
Drilling Co.:	Cardno Inc
Drilling Method:	Hand Auger
Sampling Method:	Hand Auger
Borehole Diameter:	2.25"
Casing Diameter:	0.25"
Location N-S	37.88803275
Location E-W	122.2987625
Total Depth:	3' bgs
First GW Depth:	Not Encountered

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: NA; Not Encountered

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION
0						5" Concrete
					GW	GRAVEL with Sand (FILL): green-brown, wet, fine-to coarse-grained sand, well graded, gravel up to 1.5" diameter, angular (0,0,45,65)
						Sandy CLAY: dark brown with orange mottle, damp, low plasticity, soft, fine- to medium-grained sand (65,0,35,0)
		0.0			CL	
5						Total Depth = 3' bgs 09/28/16 No Free Groundwater Encountered

Well: SVS6

10-25-2016 L:\EXXONMOBIL\ExxonMobil Projects\022735C (79374) Albany\2735 AutoCad\Boring Logs\SVS6.bor

BORING LOG SVS7

(Page 1 of 1)

Project No.:	: Former Exxon Service Station 79374
Site:	: 990 San Pablo Avenue, Albany, California
Logged By:	: Nadya M. Vicente
Reviewed By:	: David R. Daniels, P.G 8737
Signature:	:

Dates Drilled:	: 09/28/2016
Drilling Co.:	: Cardno Inc
Drilling Method:	: Hand Auger
Sampling Method:	: Hand Auger
Borehole Diameter:	: 2.25"
Casing Diameter:	: 0.25"
Location N-S	: 37.88803934
Location E-W	: 122.2986322
Total Depth:	: 2.5' bgs
First GW Depth:	: Not Encountered

Sample Condition
- No Recovery
- Sampled Interval
- Described Sample
- Preserved Sample

Water Levels
- NA
- Not Encountered

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION
0						3" Asphalt
					GW	GRAVEL with Sand (FILL): green-brown, wet, fine- to coarse-grained sand, well graded, gravel up to 1.5" diameter, angular (0,0,45,55)
		0.0			CL	CLAY with Sand: dark brown with slight orange mottle, damp, low to medium plasticity, fine-grained sand (85,0,15,0)
		3.7			ML	CLAY: dark yellow-brown, damp, medium plasticity, soft, minor fine-grained sand (95,0,5,0)
5						Total Depth = 2.5' bgs 09/28/16 No Free Groundwater Encountered

Well: SVS7

BORING LOG SVS8

(Page 1 of 1)

Project No.:	Former Exxon Service Station 79374
Site:	990 San Pablo Avenue, Albany, California
Logged By:	Nadya M. Vicente
Reviewed By:	David R. Daniels, P.G 8737
Signature:	

Dates Drilled:	09/28/2016
Drilling Co.:	Cardno Inc
Drilling Method:	Hand Auger
Sampling Method:	Hand Auger
Borehole Diameter:	2.25"
Casing Diameter:	0.25"
Location N-S	37.8880701
Location E-W	122.2984805
Total Depth:	2.5' bgs
First GW Depth:	Not Encountered

Sample Condition: No Recovery; Sampled Interval; Described Sample; Preserved Sample

Water Levels: NA; Not Encountered

Depth (ft)	Blow Count	OVM/PID (ppmv)	Sample	Column	USCS	DESCRIPTION
0						5" Asphalt
					GW	GRAVEL with Sand (FILL): green-brown, wet, fine- to coarse-grained sand, well graded, gravel up to 1.5" diameter, angular (0,0,45,55)
		34.2			CL	CLAY with Sand: dark brown, damp, low plasticity, fine-grained sand (80,0,20,0)
					ML	SILT: green-gray, damp, medium plasticity, soft, minor fine-grained sand (0,95,5,0)
		40.7				
5						Total Depth = 2.5' bgs 09/28/16 No Free Groundwater Encountered

Well: SVS8

APPENDIX

F

FIELD DATA SHEETS

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Soil Vapor Sampling Datasheet

Former Exxon Service Station 79374
990 San Pablo Ave, Albany, CA

Date: 10/3/16

Sampler: MMW

SVS Point: 1

	Start time	End time	Inches Hg (start/stop)	Flow Setting	He Shroud (%)	He Leak (ppm)	Down-hole Vacuum (in/Hg)
Shut In Test	1348	1353	20/20				
Purge	1353	1409	—	200cc/min	+10%	2%	0
Sample	1411	1413	30/5	150-200cc/min	+10%		0

Summa ID#: 261

Flow Regulator ID#: 071

Sorbant Tube ID #: G0183805

Sample time: 1415

Dup.	Start time	End time	Inches Hg (start/stop)	Flow Setting	He Shroud (%)	He Leak (ppm)	Down-hole Vacuum (in/Hg)
Sample							

Summa ID#: _____

Flow Regulator ID#: _____

Cardno
Shaping the Future

Soil Vapor Sampling Datasheet

Former Exxon Service Station 79374
990 San Pablo Ave, Albany, CA

Date 10-3-16

Sampler NMV

SVS Point 2

	Start time	End time	Inches Hg (start/stop)	Flow Setting	He Shroud (%)	He Leak (ppm)	Down-hole Vacuum (in/Hg)
Shut In Test	1300	1305	20/20				
Purge	1306	13 22		200	+10 %	7000 ppm	0
Sample	1322	1324	30/5	150-200	+10 %		0

Summa ID# 466

Flow Regulator ID# 080

Sorbant Tube ID # GO1 50672

Sample time: 1330

Dup.	Start time	End time	Inches Hg (start/stop)	Flow Setting	He Shroud (%)	He Leak (ppm)	Down-hole Vacuum (in/Hg)
Sample							

Summa ID# _____

Flow Regulator ID# _____

Cardno
Shaping the Future

Soil Vapor Sampling Datasheet

Former Exxon Service Station 79374
990 San Pablo Ave, Albany, CA

Date: 10/3/16

Sampler: NMV

SVS Point: 3

	Start time	End time	Inches Hg (start/stop)	Flow Setting	He Shroud (%)	He Leak (ppm)	Down-hole Vacuum (in/Hg)
Shut In Test	1135	1140	20/20				
Purge	1142	1158	—	200 cc/min	+ 10%.	0 ppm	0
Sample	1159	1202	30/5	150-200cc/min	+ 10%.		0

Summa ID#: 247

Flow Regulator ID#: 226

Sorbant Tube ID #: G0185867

Sample time: 1205

+dup - G0188328

Dup.	Start time	End time	Inches Hg (start/stop)	Flow Setting	He Shroud (%)	He Leak (ppm)	Down-hole Vacuum (in/Hg)
Sample	1159	1202	30/5	150-200cc/min	+ 10%.		0

Summa ID#: 259

Flow Regulator ID#: -

Cardno
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Soil Vapor Sampling Datasheet

Former Exxon Service Station 79374
990 San Pablo Ave, Albany, CA

Date: 10-3-16

Sampler: NMV

SVS Point: 4

	Start time	End time	Inches Hg (start/stop)	Flow Setting	He Shroud (%)	He Leak (ppm)	Down-hole Vacuum (in/Hg)
Shut In Test	1240	1245	20/20				
Purge	1245	1251	—	150 cc/min	+10%	7300 ppm	0
Sample	1251	1253	30/5	150-200	+10		0

Summa ID#: 242

Flow Regulator ID#: 109

Sorbant Tube ID #: G0188325

Sample time: 1258

Dup.	Start time	End time	Inches Hg (start/stop)	Flow Setting	He Shroud (%)	He Leak (ppm)	Down-hole Vacuum (in/Hg)
Sample							

Summa ID#:

Flow Regulator ID#:

Cardno
Shaping the Future

Soil Vapor Sampling Datasheet

Former Exxon Service Station 79374
990 San Pablo Ave, Albany, CA

Date: 10-3-16

SVS Point: 5

Sampler: NMV

	Start time	End time	Inches Hg (start/stop)	Flow Setting	He Shroud (%)	He Leak (ppm)	Down-hole Vacuum (in/Hg)
Shut In Test	1327	1332	20/20				
Purge	1333	1339	—	150 cc/min	+10%	3000 ppm	0
Sample	1340	1342	30/5	150-200 cc/min	+10%		0

Summa ID#: 469

Flow Regulator ID#: 049

Sorbant Tube ID #: G0188631

Sample time: 1345

Dup.	Start time	End time	Inches Hg (start/stop)	Flow Setting	He Shroud (%)	He Leak (ppm)	Down-hole Vacuum (in/Hg)
Sample							

Summa ID#: _____

Flow Regulator ID#: _____

Cardno
Shaping the Future

Soil Vapor Sampling Datasheet

Former Exxon Service Station 79374
990 San Pablo Ave, Albany, CA

Date: 10/3/16

Sampler: NMW

SVS Point: 6

	Start time	End time	Inches Hg (start/stop)	Flow Setting	He Shroud (%)	He Leak (ppm)	Down-hole Vacuum (in/Hg)
Shut In Test	1425	1430	20/20				
Purge	1430	1436	—	150cc/min	+10%	400ppm	0
Sample	1436	1438	30/5	150-200cc/m	+10%		0

Summa ID#: 465

Flow Regulator ID#: 132

Sorbant Tube ID #: G0189622

Sample time: 1440

Dup.	Start time	End time	Inches Hg (start/stop)	Flow Setting	He Shroud (%)	He Leak (ppm)	Down-hole Vacuum (in/Hg)
Sample							

Summa ID#: _____

Flow Regulator ID#: _____

Cardno
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Soil Vapor Sampling Datasheet

Former Exxon Service Station 79374
990 San Pablo Ave, Albany, CA

Date: 10/3/16

Sampler: NMV

SVS Point: 7

	Start time	End time	Inches Hg (start/stop)	Flow Setting	He Shroud (%)	He Leak (ppm)	Down-hole Vacuum (in/Hg)
Shut In Test	1020	1025	20/20				
Purge	1026	1031	–	150 cc/min	± 10 %	3350 ppm	0
Sample	1036	1038	30/5	150-200	± 10%		0

Summa ID# 472

Flow Regulator ID# 017

Sorbant Tube ID # G0185295

Sample time: 1044

Dup.	Start time	End time	Inches Hg (start/stop)	Flow Setting	He Shroud (%)	He Leak (ppm)	Down-hole Vacuum (in/Hg)
Sample							

Summa ID# _____

Flow Regulator ID# _____

Cardno
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Soil Vapor Sampling Datasheet

Former Exxon Service Station 79374
990 San Pablo Ave, Albany, CA

Date: 10/3/16

Sampler: NMV

SVS Point: 8

	Start time	End time	Inches Hg (start/stop)	Flow Setting	He Shroud (%)	He Leak (ppm)	Down-hole Vacuum (in/Hg)
Shut In Test	1055	1100	20/20				
Purge	1101	1107	–	150cc/min	+10%	100ppm	0
Sample	1108	1110	30/5	150-200	+10%		0

Summa ID#: 234

Flow Regulator ID#: 115

Sorbant Tube ID #: G0141346

Sample time: 1112

Dup.	Start time	End time	Inches Hg (start/stop)	Flow Setting	He Shroud (%)	He Leak (ppm)	Down-hole Vacuum (in/Hg)
Sample							

Summa ID#: _____

Flow Regulator ID#: _____

H&P Mobile Geochemistry Inc.

Purge Volume Calculation Worksheet

H&P Project: 2735

Probe ID: SVS 1-3

Soil Vapor Probe Construction Specifications

Sand Pack Height	12.00	inches
Sand Pack Diameter	3.250	inches
Dry Bentonite Zone Height	6.00	inches
Dry Bentonite Zone Diameter	3.250	inches
Tubing Length	5.00	feet
Tubing Inner Diameter*	0.177	inches

Tubing Chart (Nylaflow)

Outer Diameter	Inner Diameter
1/4"	0.177"
1/8"	0.078"

	1PV	3PV	10PV
Volume of Tubing:	24	73	242
Volume of Sand Pack (40% porosity):	653	1958	6525
Volume of assumed Dry Bentonite Zone (50% porosity):	408	1223	4078
Total System Volume (tubing + sand + bentonite):	**1085**	**3254**	**10846**

Purge Time Calculations (for using a pump)

Collection Volume	0	cc
Pump Flow Rate	200	mL/min

Pump Time Calculations

	Min	Sec
1PV	5	25
3PV	16	16
10PV	54	14

Pump Time For Difference of Volumes

	Volume Diff.	Min	Sec
1PV	N/A	5	25
3PV-1PV Collection Vol.	2169	10	51
10PV-3PV Collection Vol.	7592	37	58

H&P Mobile Geochemistry Inc.

Purge Volume Calculation Worksheet

H&P Project: 2735

Probe ID: SVS 4-8

Soil Vapor Probe Construction Specifications

Sand Pack Height	6.00	inches
Sand Pack Diameter	2.250	inches
Dry Bentonite Zone Height	4.00	inches
Dry Bentonite Zone Diameter	2.250	inches
Tubing Length	2.00	feet
Tubing Inner Diameter*	0.177	inches

Tubing Chart (Nylaflow)

Outer Diameter	Inner Diameter
1/4"	0.177"
1/8"	0.078"

	1PV	3PV	10PV
Volume of Tubing:	10	29	97
Volume of Sand Pack (40% porosity):	156	469	1564
Volume of assumed Dry Bentonite Zone (50% porosity):	130	391	1303
Total System Volume (tubing + sand + bentonite):	**296**	**889**	**2964**

Purge Time Calculations (for using a pump)

Collection Volume	0	cc
Pump Flow Rate	50	mL/min

Pump Time Calculations

	Min	Sec
1PV	5	56
3PV	17	47
10PV	59	16

Pump Time For Difference of Volumes

	Volume Diff.	Min	Sec
1PV	N/A	5	56
3PV-1PV Collection Vol.	593	11	51
10PV-3PV Collection Vol.	2075	41	29

H&P Mobile Geochemistry Inc.

Purge Volume Calculation Worksheet

H&P Project: 2735

Probe ID: SVS 4-8

Soil Vapor Probe Construction Specifications

Sand Pack Height	6.00	inches
Sand Pack Diameter	2.250	inches
Dry Bentonite Zone Height	4.00	inches
Dry Bentonite Zone Diameter	2.250	inches
Tubing Length	2.00	feet
Tubing Inner Diameter*	0.177	inches

Tubing Chart (Nylaflow)

Outer Diameter	Inner Diameter
1/4"	0.177"
1/8"	0.078"

	1PV	3PV	10PV
Volume of Tubing:	10	29	97
Volume of Sand Pack (40% porosity):	156	469	1564
Volume of assumed Dry Bentonite Zone (50% porosity):	130	391	1303
Total System Volume (tubing + sand + bentonite):	**296**	**889**	**2964**

Purge Time Calculations (for using a pump)

Collection Volume	0	cc
Pump Flow Rate	100	mL/min

Pump Time Calculations

	Min	Sec
1PV	2	58
3PV	8	53
10PV	29	38

Pump Time For Difference of Volumes

	Volume Diff.	Min	Sec
1PV	N/A	2	58
3PV-1PV Collection Vol.	593	5	56
10PV-3PV Collection Vol.	2075	20	45

H&P Mobile Geochemistry Inc.

Purge Volume Calculation Worksheet

H&P Project: 2735

Probe ID: SVS 4-8

Soil Vapor Probe Construction Specifications

Sand Pack Height	6.00	inches
Sand Pack Diameter	2.250	inches
Dry Bentonite Zone Height	4.00	inches
Dry Bentonite Zone Diameter	2.250	inches
Tubing Length	2.00	feet
Tubing Inner Diameter*	0.177	inches

Tubing Chart (Nylaflow)

Outer Diameter	Inner Diameter
1/4"	0.177"
1/8"	0.078"

	1PV	3PV	10PV
Volume of Tubing:	10	29	97
Volume of Sand Pack (40% porosity):	156	469	1564
Volume of assumed Dry Bentonite Zone (50% porosity):	130	391	1303
Total System Volume (tubing + sand + bentonite):	**296**	**889**	**2964**

Purge Time Calculations (for using a pump)

Collection Volume	0	cc
Pump Flow Rate	150	mL/min

Pump Time Calculations

	Min	Sec
1PV	1	59
3PV	5	56
10PV	19	45

Pump Time For Difference of Volumes

	Volume Diff.	Min	Sec
1PV	N/A	1	59
3PV-1PV Collection Vol.	593	3	57
10PV-3PV Collection Vol.	2075	13	50

APPENDIX

G

LABORATORY ANALYTICAL REPORTS

Cardno
Shaping the Future

eurofins | Calscience

Supplemental Report 1

The original report has been revised/corrected.

WORK ORDER NUMBER: 16-10-0343

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Cardno

Client Project Name: ExxonMobil 79374/022735C

Attention: Scott Perkins
601 North McDowell Blvd.
Petaluma, CA 94954-2312

Approved for release on 10/20/2016 by:
Cecile deGuia
Project Manager

ResultLink

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Client Project Name: ExxonMobil 79374/022735C
Work Order Number: 16-10-0343

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Work Order Narrative

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Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 10/06/16. They were assigned to Work Order 16-10-0343.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

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

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

Please note that the report has been amended to reflect the corrected laboratory qualifiers in the QC pages to match the glossary page.

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Sample Summary

Client:	Cardno	Work Order:	16-10-0343
	601 North McDowell Blvd.	Project Name:	ExxonMobil 79374/022735C
	Petaluma, CA 94954-2312	PO Number:	022735C
		Date/Time Received:	10/06/16 10:00
		Number of Containers:	5
Attn:	Scott Perkins		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
S-2-SVS4	16-10-0343-1	09/28/16 10:00	1	Solid
S-2-SVS5	16-10-0343-2	09/28/16 10:20	1	Solid
S-2-SVS6	16-10-0343-3	09/28/16 10:35	1	Solid
S-2-SVS7	16-10-0343-4	09/28/16 09:25	1	Solid
S-2-SVS8	16-10-0343-5	09/28/16 08:50	1	Solid

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Analytical Report

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

Project: ExxonMobil 79374/022735C

Date Received: 10/06/16
Work Order: 16-10-0343
Preparation: EPA 3545
Method: EPA 8310
Units: ug/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS4	**16-10-0343-1-A**	**09/28/16 10:00**	**Solid**	**HPLC 5**	**10/07/16**	**10/10/16 15:55**	**161007L15**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	15	1.00	
Acenaphthylene	ND	30	1.00	
Acenaphthene	ND	15	1.00	
Fluorene	ND	9.9	1.00	
Phenanthrene	ND	9.9	1.00	
Anthracene	ND	9.9	1.00	
Fluoranthene	ND	9.9	1.00	
Pyrene	ND	9.9	1.00	
Benzo (a) Anthracene	ND	9.9	1.00	
Chrysene	ND	9.9	1.00	
Benzo (b) Fluoranthene	ND	9.9	1.00	
Benzo (k) Fluoranthene	ND	9.9	1.00	
Benzo (a) Pyrene	ND	9.9	1.00	
Dibenz (a,h) Anthracene	ND	9.9	1.00	
Benzo (g,h,i) Perylene	ND	9.9	1.00	
Indeno (1,2,3-c,d) Pyrene	ND	9.9	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decafluorobiphenyl	94	8-120	

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

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Analytical Report

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

Project: ExxonMobil 79374/022735C

Date Received: 10/06/16
Work Order: 16-10-0343
Preparation: EPA 3545
Method: EPA 8310
Units: ug/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS5	**16-10-0343-2-A**	**09/28/16 10:20**	**Solid**	**HPLC 5**	**10/07/16**	**10/10/16 16:27**	**161007L15**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	120	15	1.00	
Acenaphthylene	ND	29	1.00	
Acenaphthene	70	15	1.00	
Fluorene	22	9.8	1.00	
Phenanthrene	360	9.8	1.00	
Anthracene	30	9.8	1.00	
Fluoranthene	330	9.8	1.00	
Pyrene	330	9.8	1.00	
Benzo (a) Anthracene	84	9.8	1.00	
Chrysene	85	9.8	1.00	
Benzo (b) Fluoranthene	79	9.8	1.00	
Benzo (k) Fluoranthene	40	9.8	1.00	
Benzo (a) Pyrene	92	9.8	1.00	
Dibenz (a,h) Anthracene	ND	9.8	1.00	
Benzo (g,h,i) Perylene	86	9.8	1.00	
Indeno (1,2,3-c,d) Pyrene	ND	9.8	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decafluorobiphenyl	79	8-120	

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

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Analytical Report

Cardno		Date Received:	10/06/16
601 North McDowell Blvd.		Work Order:	16-10-0343
Petaluma, CA 94954-2312		Preparation:	EPA 3545
		Method:	EPA 8310
		Units:	ug/kg
Project: ExxonMobil 79374/022735C			Page 3 of 6

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS6	**16-10-0343-3-A**	**09/28/16 10:35**	**Solid**	**HPLC 5**	**10/07/16**	**10/10/16 17:00**	**161007L15**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	15	1.00	
Acenaphthylene	ND	30	1.00	
Acenaphthene	ND	15	1.00	
Fluorene	ND	10	1.00	
Phenanthrene	24	10	1.00	
Anthracene	ND	10	1.00	
Fluoranthene	ND	10	1.00	
Pyrene	ND	10	1.00	
Benzo (a) Anthracene	ND	10	1.00	
Chrysene	ND	10	1.00	
Benzo (b) Fluoranthene	ND	10	1.00	
Benzo (k) Fluoranthene	ND	10	1.00	
Benzo (a) Pyrene	ND	10	1.00	
Dibenz (a,h) Anthracene	ND	10	1.00	
Benzo (g,h,i) Perylene	ND	10	1.00	
Indeno (1,2,3-c,d) Pyrene	ND	10	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decafluorobiphenyl	83	8-120	

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

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Analytical Report

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

Project: ExxonMobil 79374/022735C

Date Received: 10/06/16
Work Order: 16-10-0343
Preparation: EPA 3545
Method: EPA 8310
Units: ug/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS7	**16-10-0343-4-A**	**09/28/16 09:25**	**Solid**	**HPLC 5**	**10/07/16**	**10/10/16 17:32**	**161007L15**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	15	1.00	
Acenaphthylene	ND	30	1.00	
Acenaphthene	ND	15	1.00	
Fluorene	ND	9.9	1.00	
Phenanthrene	ND	9.9	1.00	
Anthracene	ND	9.9	1.00	
Fluoranthene	ND	9.9	1.00	
Pyrene	ND	9.9	1.00	
Benzo (a) Anthracene	ND	9.9	1.00	
Chrysene	ND	9.9	1.00	
Benzo (b) Fluoranthene	ND	9.9	1.00	
Benzo (k) Fluoranthene	ND	9.9	1.00	
Benzo (a) Pyrene	ND	9.9	1.00	
Dibenz (a,h) Anthracene	ND	9.9	1.00	
Benzo (g,h,i) Perylene	ND	9.9	1.00	
Indeno (1,2,3-c,d) Pyrene	ND	9.9	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decafluorobiphenyl	66	8-120	

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

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Analytical Report

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

Date Received: 10/06/16
Work Order: 16-10-0343
Preparation: EPA 3545
Method: EPA 8310
Units: ug/kg

Project: ExxonMobil 79374/022735C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS8	**16-10-0343-5-A**	**09/28/16 08:50**	**Solid**	**HPLC 5**	**10/07/16**	**10/10/16 18:04**	**161007L15**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	26	15	1.00	
Acenaphthylene	ND	30	1.00	
Acenaphthene	ND	15	1.00	
Fluorene	ND	9.9	1.00	
Phenanthrene	18	9.9	1.00	
Anthracene	ND	9.9	1.00	
Fluoranthene	17	9.9	1.00	
Pyrene	14	9.9	1.00	
Benzo (a) Anthracene	ND	9.9	1.00	
Chrysene	16	9.9	1.00	
Benzo (b) Fluoranthene	ND	9.9	1.00	
Benzo (k) Fluoranthene	48	9.9	1.00	
Benzo (a) Pyrene	19	9.9	1.00	
Dibenz (a,h) Anthracene	ND	9.9	1.00	
Benzo (g,h,i) Perylene	ND	9.9	1.00	
Indeno (1,2,3-c,d) Pyrene	45	9.9	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decafluorobiphenyl	72	8-120	

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

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Analytical Report

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

Date Received: 10/06/16
Work Order: 16-10-0343
Preparation: EPA 3545
Method: EPA 8310
Units: ug/kg

Project: ExxonMobil 79374/022735C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-07-002-1889**	**N/A**	**Solid**	**HPLC 5**	**10/07/16**	**10/10/16 11:04**	**161007L15**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	15	1.00	
Acenaphthylene	ND	30	1.00	
Acenaphthene	ND	15	1.00	
Fluorene	ND	10	1.00	
Phenanthrene	ND	10	1.00	
Anthracene	ND	10	1.00	
Fluoranthene	ND	10	1.00	
Pyrene	ND	10	1.00	
Benzo (a) Anthracene	ND	10	1.00	
Chrysene	ND	10	1.00	
Benzo (b) Fluoranthene	ND	10	1.00	
Benzo (k) Fluoranthene	ND	10	1.00	
Benzo (a) Pyrene	ND	10	1.00	
Dibenz (a,h) Anthracene	ND	10	1.00	
Benzo (g,h,i) Perylene	ND	10	1.00	
Indeno (1,2,3-c,d) Pyrene	ND	10	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decafluorobiphenyl	99	8-120	

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

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Analytical Report

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

Project: ExxonMobil 79374/022735C

Date Received: 10/06/16
Work Order: 16-10-0343
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS4	**16-10-0343-1-A**	**09/28/16 10:00**	**Solid**	**GC 48**	**10/12/16**	**10/12/16 19:44**	**161012B08S**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	73	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS5	**16-10-0343-2-A**	**09/28/16 10:20**	**Solid**	**GC 48**	**10/12/16**	**10/12/16 20:00**	**161012B08S**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	84	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS6	**16-10-0343-3-A**	**09/28/16 10:35**	**Solid**	**GC 48**	**10/12/16**	**10/12/16 20:47**	**161012B08S**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	32	25	1.00	HD,SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	77	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS7	**16-10-0343-4-A**	**09/28/16 09:25**	**Solid**	**GC 48**	**10/12/16**	**10/12/16 20:15**	**161012B08S**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	76	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS8	**16-10-0343-5-AA**	**09/28/16 08:50**	**Solid**	**GC 48**	**10/12/16**	**10/12/16 21:03**	**161012B08S**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	250	25	1.00	SG,HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	88	61-145	

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

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Analytical Report

Cardno		Date Received:	10/06/16
601 North McDowell Blvd.		Work Order:	16-10-0343
Petaluma, CA 94954-2312		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
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
Method Blank	**099-15-420-2038**	**N/A**	**Solid**	**GC 48**	**10/12/16**	**10/12/16 18:56**	**161012B08S**

Parameter	Result	RL	DF	Qualifiers
TPH as Motor Oil	ND	25	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	81	61-145	

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

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Analytical Report

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

Project: ExxonMobil 79374/022735C

Date Received: 10/06/16
Work Order: 16-10-0343
Preparation: EPA 3550B
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS4	**16-10-0343-1-A**	**09/28/16 10:00**	**Solid**	**GC 48**	**10/12/16**	**10/12/16 19:44**	**161012B07S**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	73	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS5	**16-10-0343-2-A**	**09/28/16 10:20**	**Solid**	**GC 48**	**10/12/16**	**10/12/16 20:00**	**161012B07S**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	84	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS6	**16-10-0343-3-A**	**09/28/16 10:35**	**Solid**	**GC 48**	**10/12/16**	**10/12/16 20:47**	**161012B07S**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	77	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS7	**16-10-0343-4-A**	**09/28/16 09:25**	**Solid**	**GC 48**	**10/12/16**	**10/12/16 20:15**	**161012B07S**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	SG

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	76	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS8	**16-10-0343-5-AA**	**09/28/16 08:50**	**Solid**	**GC 48**	**10/12/16**	**10/12/16 21:03**	**161012B07S**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	19	5.0	1.00	SG,HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	88	61-145	

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

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Analytical Report

Cardno		Date Received:	10/06/16
601 North McDowell Blvd.		Work Order:	16-10-0343
Petaluma, CA 94954-2312		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
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
Method Blank	**099-15-422-2726**	**N/A**	**Solid**	**GC 48**	**10/12/16**	**10/12/16 18:56**	**161012B07S**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel	ND	5.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
n-Octacosane	81	61-145	

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

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Analytical Report

Cardno		Date Received:	10/06/16
601 North McDowell Blvd.		Work Order:	16-10-0343
Petaluma, CA 94954-2312		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
		Units:	mg/kg
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
S-2-SVS4	**16-10-0343-1-A**	**09/28/16 10:00**	**Solid**	**GC 56**	**10/06/16**	**10/07/16 14:09**	**161007L075**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	ND	0.50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene - FID	49	42-126	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS5	**16-10-0343-2-A**	**09/28/16 10:20**	**Solid**	**GC 57**	**10/10/16**	**10/10/16 19:25**	**161010L031**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	ND	0.50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene - FID	75	42-126	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS6	**16-10-0343-3-A**	**09/28/16 10:35**	**Solid**	**GC 57**	**10/10/16**	**10/10/16 19:57**	**161010L031**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	ND	0.51	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene - FID	72	42-126	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS7	**16-10-0343-4-A**	**09/28/16 09:25**	**Solid**	**GC 56**	**10/06/16**	**10/07/16 17:21**	**161007L075**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	0.97	0.52	1.00	HD

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene - FID	80	42-126	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS8	**16-10-0343-5-A**	**09/28/16 08:50**	**Solid**	**GC 56**	**10/06/16**	**10/07/16 17:21**	**161007L075**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	0.99	0.53	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene - FID	80	42-126	

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

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Analytical Report

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

Project: ExxonMobil 79374/022735C

Date Received: 10/06/16
Work Order: 16-10-0343
Preparation: EPA 5030C
Method: EPA 8015B (M)
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-571-3335**	**N/A**	**Solid**	**GC 56**	**10/07/16**	**10/07/16 11:19**	**161007L075**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	ND	0.50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene - FID	70	42-126	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-14-571-3328**	**N/A**	**Solid**	**GC 57**	**10/10/16**	**10/10/16 18:21**	**161010L031**

Parameter	Result	RL	DF	Qualifiers
TPH as Gasoline	ND	0.50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene - FID	74	42-126	

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

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Analytical Report

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

Project: ExxonMobil 79374/022735C

Date Received: 10/06/16
Work Order: 16-10-0343
Preparation: EPA 5030C
Method: EPA 8260B
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS7	**16-10-0343-4-A**	**09/28/16 09:25**	**Solid**	**GC/MS OO**	**10/06/16**	**10/11/16 19:06**	**161011L034**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.0050	1.00	
Toluene	ND	0.0050	1.00	
Ethylbenzene	ND	0.0050	1.00	
o-Xylene	ND	0.0050	1.00	
p/m-Xylene	ND	0.0050	1.00	
Xylenes (total)	ND	0.0050	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1.00	
Tert-Butyl Alcohol (TBA)	ND	0.050	1.00	
Diisopropyl Ether (DIPE)	ND	0.010	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.010	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.010	1.00	
1,1,1,2-Tetrachloroethane	ND	0.0050	1.00	
1,1,1-Trichloroethane	ND	0.0050	1.00	
1,1,2,2-Tetrachloroethane	ND	0.0050	1.00	
1,1,2-Trichloroethane	ND	0.0050	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	1.00	
1,1-Dichloroethane	ND	0.0050	1.00	
1,1-Dichloroethene	ND	0.0050	1.00	
1,1-Dichloropropene	ND	0.0050	1.00	
1,2,3-Trichlorobenzene	ND	0.010	1.00	
1,2,3-Trichloropropane	ND	0.0050	1.00	
1,2,4-Trichlorobenzene	ND	0.0050	1.00	
1,2,4-Trimethylbenzene	ND	0.0050	1.00	
1,3,5-Trimethylbenzene	ND	0.0050	1.00	
c-1,2-Dichloroethene	ND	0.0050	1.00	
1,2-Dibromo-3-Chloropropane	ND	0.010	1.00	
1,2-Dibromoethane	ND	0.0050	1.00	
1,2-Dichlorobenzene	ND	0.0050	1.00	
1,2-Dichloroethane	ND	0.0050	1.00	
1,2-Dichloropropane	ND	0.0050	1.00	
t-1,2-Dichloroethene	ND	0.0050	1.00	
c-1,3-Dichloropropene	ND	0.0050	1.00	
1,3-Dichlorobenzene	ND	0.0050	1.00	
1,3-Dichloropropane	ND	0.0050	1.00	
t-1,3-Dichloropropene	ND	0.0050	1.00	

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

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Analytical Report

Cardno	Date Received:	10/06/16
601 North McDowell Blvd.	Work Order:	16-10-0343
Petaluma, CA 94954-2312	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	mg/kg
Project: ExxonMobil 79374/022735C		Page 2 of 9

Parameter	Result	RL	DF	Qualifiers
1,4-Dichlorobenzene	ND	0.0050	1.00	
2,2-Dichloropropane	ND	0.0050	1.00	
2-Chlorotoluene	ND	0.0050	1.00	
4-Chlorotoluene	ND	0.0050	1.00	
4-Methyl-2-Pentanone	ND	0.050	1.00	
Acetone	ND	0.13	1.00	
Bromobenzene	ND	0.0050	1.00	
Bromochloromethane	ND	0.0050	1.00	
Bromoform	ND	0.0050	1.00	
Bromomethane	ND	0.025	1.00	
Carbon Disulfide	ND	0.050	1.00	
Carbon Tetrachloride	ND	0.0050	1.00	
Chlorobenzene	ND	0.0050	1.00	
Dibromochloromethane	ND	0.0050	1.00	
Chloroethane	ND	0.0050	1.00	
Chloroform	ND	0.0050	1.00	
Chloromethane	ND	0.025	1.00	
Dibromomethane	ND	0.0050	1.00	
Bromodichloromethane	ND	0.0050	1.00	
Dichlorodifluoromethane	ND	0.0050	1.00	
Hexachloro-1,3-Butadiene	ND	0.10	1.00	
Isopropylbenzene	ND	0.0050	1.00	
2-Butanone	ND	0.050	1.00	
Methylene Chloride	ND	0.050	1.00	
2-Hexanone	ND	0.050	1.00	
Naphthalene	ND	0.050	1.00	
n-Butylbenzene	ND	0.0050	1.00	
n-Propylbenzene	ND	0.0050	1.00	
p-Isopropyltoluene	ND	0.0050	1.00	
sec-Butylbenzene	ND	0.0050	1.00	
Styrene	ND	0.0050	1.00	
tert-Butylbenzene	ND	0.0050	1.00	
Tetrachloroethene	ND	0.0050	1.00	
Trichloroethene	ND	0.0050	1.00	
Trichlorofluoromethane	ND	0.050	1.00	
Vinyl Chloride	ND	0.0050	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	104	60-132	

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

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Analytical Report

Cardno	Date Received:	10/06/16
601 North McDowell Blvd.	Work Order:	16-10-0343
Petaluma, CA 94954-2312	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	mg/kg
Project: ExxonMobil 79374/022735C		Page 3 of 9

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	110	63-141	
1,2-Dichloroethane-d4	116	62-146	
Toluene-d8	106	80-120	

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

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Analytical Report

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

Project: ExxonMobil 79374/022735C

Date Received: 10/06/16
Work Order: 16-10-0343
Preparation: EPA 5030C
Method: EPA 8260B
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS8	**16-10-0343-5-A**	**09/28/16 08:50**	**Solid**	**GC/MS OO**	**10/06/16**	**10/11/16 19:34**	**161011L034**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.0051	1.00	
Toluene	ND	0.0051	1.00	
Ethylbenzene	ND	0.0051	1.00	
o-Xylene	ND	0.0051	1.00	
p/m-Xylene	ND	0.0051	1.00	
Xylenes (total)	ND	0.0051	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.0051	1.00	
Tert-Butyl Alcohol (TBA)	ND	0.051	1.00	
Diisopropyl Ether (DIPE)	ND	0.010	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.010	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.010	1.00	
1,1,1,2-Tetrachloroethane	ND	0.0051	1.00	
1,1,1-Trichloroethane	ND	0.0051	1.00	
1,1,2,2-Tetrachloroethane	ND	0.0051	1.00	
1,1,2-Trichloroethane	ND	0.0051	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.051	1.00	
1,1-Dichloroethane	ND	0.0051	1.00	
1,1-Dichloroethene	ND	0.0051	1.00	
1,1-Dichloropropene	ND	0.0051	1.00	
1,2,3-Trichlorobenzene	ND	0.010	1.00	
1,2,3-Trichloropropane	ND	0.0051	1.00	
1,2,4-Trichlorobenzene	ND	0.0051	1.00	
1,2,4-Trimethylbenzene	ND	0.0051	1.00	
1,3,5-Trimethylbenzene	ND	0.0051	1.00	
c-1,2-Dichloroethene	ND	0.0051	1.00	
1,2-Dibromo-3-Chloropropane	ND	0.010	1.00	
1,2-Dibromoethane	ND	0.0051	1.00	
1,2-Dichlorobenzene	ND	0.0051	1.00	
1,2-Dichloroethane	ND	0.0051	1.00	
1,2-Dichloropropane	ND	0.0051	1.00	
t-1,2-Dichloroethene	ND	0.0051	1.00	
c-1,3-Dichloropropene	ND	0.0051	1.00	
1,3-Dichlorobenzene	ND	0.0051	1.00	
1,3-Dichloropropane	ND	0.0051	1.00	
t-1,3-Dichloropropene	ND	0.0051	1.00	

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

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Analytical Report

Cardno	Date Received:	10/06/16
601 North McDowell Blvd.	Work Order:	16-10-0343
Petaluma, CA 94954-2312	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	mg/kg
Project: ExxonMobil 79374/022735C		Page 5 of 9

Parameter	Result	RL	DF	Qualifiers
1,4-Dichlorobenzene	ND	0.0051	1.00	
2,2-Dichloropropane	ND	0.0051	1.00	
2-Chlorotoluene	ND	0.0051	1.00	
4-Chlorotoluene	ND	0.0051	1.00	
4-Methyl-2-Pentanone	ND	0.051	1.00	
Acetone	ND	0.13	1.00	
Bromobenzene	ND	0.0051	1.00	
Bromochloromethane	ND	0.0051	1.00	
Bromoform	ND	0.0051	1.00	
Bromomethane	ND	0.025	1.00	
Carbon Disulfide	ND	0.051	1.00	
Carbon Tetrachloride	ND	0.0051	1.00	
Chlorobenzene	ND	0.0051	1.00	
Dibromochloromethane	ND	0.0051	1.00	
Chloroethane	ND	0.0051	1.00	
Chloroform	ND	0.0051	1.00	
Chloromethane	ND	0.025	1.00	
Dibromomethane	ND	0.0051	1.00	
Bromodichloromethane	ND	0.0051	1.00	
Dichlorodifluoromethane	ND	0.0051	1.00	
Hexachloro-1,3-Butadiene	ND	0.10	1.00	
Isopropylbenzene	ND	0.0051	1.00	
2-Butanone	ND	0.051	1.00	
Methylene Chloride	ND	0.051	1.00	
2-Hexanone	ND	0.051	1.00	
Naphthalene	ND	0.051	1.00	
n-Butylbenzene	ND	0.0051	1.00	
n-Propylbenzene	ND	0.0051	1.00	
p-Isopropyltoluene	ND	0.0051	1.00	
sec-Butylbenzene	ND	0.0051	1.00	
Styrene	ND	0.0051	1.00	
tert-Butylbenzene	ND	0.0051	1.00	
Tetrachloroethene	ND	0.0051	1.00	
Trichloroethene	ND	0.0051	1.00	
Trichlorofluoromethane	ND	0.051	1.00	
Vinyl Chloride	ND	0.0051	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	102	60-132	

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

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Analytical Report

Cardno	Date Received:	10/06/16
601 North McDowell Blvd.	Work Order:	16-10-0343
Petaluma, CA 94954-2312	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	mg/kg
Project: ExxonMobil 79374/022735C		Page 6 of 9

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	106	63-141	
1,2-Dichloroethane-d4	110	62-146	
Toluene-d8	103	80-120	

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

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Analytical Report

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

Date Received: 10/06/16
Work Order: 16-10-0343
Preparation: EPA 5030C
Method: EPA 8260B
Units: mg/kg

Project: ExxonMobil 79374/022735C

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-882-1914**	**N/A**	**Solid**	**GC/MS OO**	**10/11/16**	**10/11/16 16:23**	**161011L034**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.0050	1.00	
Toluene	ND	0.0050	1.00	
Ethylbenzene	ND	0.0050	1.00	
o-Xylene	ND	0.0050	1.00	
p/m-Xylene	ND	0.0050	1.00	
Xylenes (total)	ND	0.0050	1.00	
Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1.00	
Tert-Butyl Alcohol (TBA)	ND	0.050	1.00	
Diisopropyl Ether (DIPE)	ND	0.010	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.010	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.010	1.00	
1,1,1,2-Tetrachloroethane	ND	0.0050	1.00	
1,1,1-Trichloroethane	ND	0.0050	1.00	
1,1,2,2-Tetrachloroethane	ND	0.0050	1.00	
1,1,2-Trichloroethane	ND	0.0050	1.00	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	1.00	
1,1-Dichloroethane	ND	0.0050	1.00	
1,1-Dichloroethene	ND	0.0050	1.00	
1,1-Dichloropropene	ND	0.0050	1.00	
1,2,3-Trichlorobenzene	ND	0.010	1.00	
1,2,3-Trichloropropane	ND	0.0050	1.00	
1,2,4-Trichlorobenzene	ND	0.0050	1.00	
1,2,4-Trimethylbenzene	ND	0.0050	1.00	
1,3,5-Trimethylbenzene	ND	0.0050	1.00	
c-1,2-Dichloroethene	ND	0.0050	1.00	
1,2-Dibromo-3-Chloropropane	ND	0.010	1.00	
1,2-Dibromoethane	ND	0.0050	1.00	
1,2-Dichlorobenzene	ND	0.0050	1.00	
1,2-Dichloroethane	ND	0.0050	1.00	
1,2-Dichloropropane	ND	0.0050	1.00	
t-1,2-Dichloroethene	ND	0.0050	1.00	
c-1,3-Dichloropropene	ND	0.0050	1.00	
1,3-Dichlorobenzene	ND	0.0050	1.00	
1,3-Dichloropropane	ND	0.0050	1.00	
t-1,3-Dichloropropene	ND	0.0050	1.00	

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

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Analytical Report

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

Project: ExxonMobil 79374/022735C

Date Received: 10/06/16
Work Order: 16-10-0343
Preparation: EPA 5030C
Method: EPA 8260B
Units: mg/kg

Parameter	Result	RL	DF	Qualifiers
1,4-Dichlorobenzene	ND	0.0050	1.00	
2,2-Dichloropropane	ND	0.0050	1.00	
2-Chlorotoluene	ND	0.0050	1.00	
4-Chlorotoluene	ND	0.0050	1.00	
4-Methyl-2-Pentanone	ND	0.050	1.00	
Acetone	ND	0.12	1.00	
Bromobenzene	ND	0.0050	1.00	
Bromochloromethane	ND	0.0050	1.00	
Bromoform	ND	0.0050	1.00	
Bromomethane	ND	0.025	1.00	
Carbon Disulfide	ND	0.050	1.00	
Carbon Tetrachloride	ND	0.0050	1.00	
Chlorobenzene	ND	0.0050	1.00	
Dibromochloromethane	ND	0.0050	1.00	
Chloroethane	ND	0.0050	1.00	
Chloroform	ND	0.0050	1.00	
Chloromethane	ND	0.025	1.00	
Dibromomethane	ND	0.0050	1.00	
Bromodichloromethane	ND	0.0050	1.00	
Dichlorodifluoromethane	ND	0.0050	1.00	
Hexachloro-1,3-Butadiene	ND	0.10	1.00	
Isopropylbenzene	ND	0.0050	1.00	
2-Butanone	ND	0.050	1.00	
Methylene Chloride	ND	0.050	1.00	
2-Hexanone	ND	0.050	1.00	
Naphthalene	ND	0.050	1.00	
n-Butylbenzene	ND	0.0050	1.00	
n-Propylbenzene	ND	0.0050	1.00	
p-Isopropyltoluene	ND	0.0050	1.00	
sec-Butylbenzene	ND	0.0050	1.00	
Styrene	ND	0.0050	1.00	
tert-Butylbenzene	ND	0.0050	1.00	
Tetrachloroethene	ND	0.0050	1.00	
Trichloroethene	ND	0.0050	1.00	
Trichlorofluoromethane	ND	0.050	1.00	
Vinyl Chloride	ND	0.0050	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	104	60-132	

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

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Analytical Report

Cardno	Date Received:	10/06/16
601 North McDowell Blvd.	Work Order:	16-10-0343
Petaluma, CA 94954-2312	Preparation:	EPA 5030C
	Method:	EPA 8260B
	Units:	mg/kg
Project: ExxonMobil 79374/022735C		Page 9 of 9

Surrogate	Rec. (%)	Control Limits	Qualifiers
Dibromofluoromethane	107	63-141	
1,2-Dichloroethane-d4	113	62-146	
Toluene-d8	103	80-120	

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

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Analytical Report

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

Project: ExxonMobil 79374/022735C

Date Received: 10/06/16
Work Order: 16-10-0343
Preparation: EPA 5030C
Method: EPA 8260B
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS4	**16-10-0343-1-A**	**09/28/16 10:00**	**Solid**	**GC/MS OO**	**10/06/16**	**10/06/16 23:26**	**161006L061**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.0051	1.00	
Toluene	ND	0.0051	1.00	
Ethylbenzene	ND	0.0051	1.00	
o-Xylene	ND	0.0051	1.00	
p/m-Xylene	ND	0.0051	1.00	
Xylenes (total)	ND	0.0051	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	100	60-132	
Dibromofluoromethane	96	63-141	
1,2-Dichloroethane-d4	104	62-146	
Toluene-d8	101	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS5	**16-10-0343-2-A**	**09/28/16 10:20**	**Solid**	**GC/MS OO**	**10/06/16**	**10/06/16 23:53**	**161006L061**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.0050	1.00	
Toluene	ND	0.0050	1.00	
Ethylbenzene	ND	0.0050	1.00	
o-Xylene	ND	0.0050	1.00	
p/m-Xylene	ND	0.0050	1.00	
Xylenes (total)	ND	0.0050	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	99	60-132	
Dibromofluoromethane	100	63-141	
1,2-Dichloroethane-d4	108	62-146	
Toluene-d8	101	80-120	

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

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Analytical Report

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

Project: ExxonMobil 79374/022735C

Date Received: 10/06/16
Work Order: 16-10-0343
Preparation: EPA 5030C
Method: EPA 8260B
Units: mg/kg

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS6	**16-10-0343-3-A**	**09/28/16 10:35**	**Solid**	**GC/MS OO**	**10/06/16**	**10/07/16 00:20**	**161006L061**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.0051	1.00	
Toluene	ND	0.0051	1.00	
Ethylbenzene	ND	0.0051	1.00	
o-Xylene	ND	0.0051	1.00	
p/m-Xylene	ND	0.0051	1.00	
Xylenes (total)	ND	0.0051	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	99	60-132	
Dibromofluoromethane	99	63-141	
1,2-Dichloroethane-d4	104	62-146	
Toluene-d8	101	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-882-1913**	**N/A**	**Solid**	**GC/MS OO**	**10/06/16**	**10/06/16 15:35**	**161006L061**

Parameter	Result	RL	DF	Qualifiers
Benzene	ND	0.0050	1.00	
Toluene	ND	0.0050	1.00	
Ethylbenzene	ND	0.0050	1.00	
o-Xylene	ND	0.0050	1.00	
p/m-Xylene	ND	0.0050	1.00	
Xylenes (total)	ND	0.0050	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	101	60-132	
Dibromofluoromethane	103	63-141	
1,2-Dichloroethane-d4	108	62-146	
Toluene-d8	102	80-120	

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

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Analytical Report

Cardno		Date Received:	10/06/16
601 North McDowell Blvd.		Work Order:	16-10-0343
Petaluma, CA 94954-2312		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	mg/kg
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
S-2-SVS4	**16-10-0343-1-A**	**09/28/16 10:00**	**Solid**	**GC/MS OO**	**10/06/16**	**10/06/16 23:26**	**161006L061**

Parameter	Result	RL	DF	Qualifiers
Methyl-t-Butyl Ether (MTBE)	ND	0.0051	1.00	
Tert-Butyl Alcohol (TBA)	ND	0.051	1.00	
Diisopropyl Ether (DIPE)	ND	0.010	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.010	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.010	1.00	
1,2-Dibromoethane	ND	0.0051	1.00	
1,2-Dichloroethane	ND	0.0051	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	100	60-132	
Dibromofluoromethane	96	63-141	
1,2-Dichloroethane-d4	104	62-146	
Toluene-d8	101	80-120	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
S-2-SVS5	**16-10-0343-2-A**	**09/28/16 10:20**	**Solid**	**GC/MS OO**	**10/06/16**	**10/06/16 23:53**	**161006L061**

Parameter	Result	RL	DF	Qualifiers
Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1.00	
Tert-Butyl Alcohol (TBA)	ND	0.050	1.00	
Diisopropyl Ether (DIPE)	ND	0.010	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.010	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.010	1.00	
1,2-Dibromoethane	ND	0.0050	1.00	
1,2-Dichloroethane	ND	0.0050	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	99	60-132	
Dibromofluoromethane	100	63-141	
1,2-Dichloroethane-d4	108	62-146	
Toluene-d8	101	80-120	

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

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Analytical Report

Cardno		Date Received:	10/06/16
601 North McDowell Blvd.		Work Order:	16-10-0343
Petaluma, CA 94954-2312		Preparation:	EPA 5030C
		Method:	EPA 8260B
		Units:	mg/kg
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
S-2-SVS6	**16-10-0343-3-A**	**09/28/16 10:35**	**Solid**	**GC/MS OO**	**10/06/16**	**10/07/16 00:20**	**161006L061**

Parameter	Result	RL	DF	Qualifiers
Methyl-t-Butyl Ether (MTBE)	ND	0.0051	1.00	
Tert-Butyl Alcohol (TBA)	ND	0.051	1.00	
Diisopropyl Ether (DIPE)	ND	0.010	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.010	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.010	1.00	
1,2-Dibromoethane	ND	0.0051	1.00	
1,2-Dichloroethane	ND	0.0051	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	99	60-132	
Dibromofluoromethane	99	63-141	
1,2-Dichloroethane-d4	104	62-146	
Toluene-d8	101	80-120	

Method Blank	099-12-882-1913	N/A	Solid	GC/MS OO	10/06/16	10/06/16 15:35	161006L061

Parameter	Result	RL	DF	Qualifiers
Methyl-t-Butyl Ether (MTBE)	ND	0.0050	1.00	
Tert-Butyl Alcohol (TBA)	ND	0.050	1.00	
Diisopropyl Ether (DIPE)	ND	0.010	1.00	
Ethyl-t-Butyl Ether (ETBE)	ND	0.010	1.00	
Tert-Amyl-Methyl Ether (TAME)	ND	0.010	1.00	
1,2-Dibromoethane	ND	0.0050	1.00	
1,2-Dichloroethane	ND	0.0050	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	101	60-132	
Dibromofluoromethane	103	63-141	
1,2-Dichloroethane-d4	108	62-146	
Toluene-d8	102	80-120	

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

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Quality Control - Spike/Spike Duplicate

Cardno		Date Received:	10/06/16
601 North McDowell Blvd.		Work Order:	16-10-0343
Petaluma, CA 94954-2312		Preparation:	EPA 3545
		Method:	EPA 8310
Project: ExxonMobil 79374/022735C			Page 1 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
16-10-0610-6	**Sample**	**Solid**	**HPLC 5**	**10/07/16**	**10/10/16 12:41**	**161007S15**
16-10-0610-6	**Matrix Spike**	**Solid**	**HPLC 5**	**10/07/16**	**10/10/16 15:22**	**161007S15**
16-10-0610-6	**Matrix Spike Duplicate**	**Solid**	**HPLC 5**	**10/07/16**	**10/10/16 14:18**	**161007S15**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Naphthalene	178.0	100.0	171.6	0	169.5	0	23-167	1	0-46	HX
Acenaphthylene	ND	100.0	55.90	56	61.54	62	24-120	10	0-47	
Acenaphthene	ND	100.0	52.40	52	55.89	56	16-120	6	0-46	
Fluorene	ND	100.0	51.89	52	54.25	54	32-120	4	0-44	
Phenanthrene	ND	100.0	56.06	56	59.50	59	34-120	6	0-38	
Anthracene	ND	100.0	46.20	46	48.93	49	27-120	6	0-45	
Fluoranthene	ND	100.0	56.38	56	55.64	56	32-122	1	0-41	
Pyrene	ND	100.0	50.69	51	45.79	46	31-127	10	0-38	
Benzo (a) Anthracene	ND	100.0	53.28	53	51.81	52	32-122	3	0-43	
Chrysene	ND	100.0	52.30	52	53.77	54	30-132	3	0-42	
Benzo (b) Fluoranthene	ND	100.0	47.96	48	51.23	51	33-120	7	0-44	
Benzo (k) Fluoranthene	ND	100.0	44.64	45	50.24	50	23-149	12	0-44	
Benzo (a) Pyrene	ND	100.0	43.18	43	44.18	44	12-132	2	0-48	
Dibenz (a,h) Anthracene	ND	100.0	45.31	45	47.89	48	29-125	6	0-43	
Benzo (g,h,i) Perylene	ND	100.0	47.22	47	50.07	50	24-132	6	0-42	
Indeno (1,2,3-c,d) Pyrene	ND	100.0	46.97	47	48.91	49	29-143	4	0-42	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Cardno		Date Received:	10/06/16
601 North McDowell Blvd.		Work Order:	16-10-0343
Petaluma, CA 94954-2312		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: ExxonMobil 79374/022735C			Page 2 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
S-2-SVS4	**Sample**	**Solid**	**GC 48**	**10/12/16**	**10/12/16 19:44**	**161012S08**
S-2-SVS4	**Matrix Spike**	**Solid**	**GC 48**	**10/12/16**	**10/12/16 22:22**	**161012S08**
S-2-SVS4	**Matrix Spike Duplicate**	**Solid**	**GC 48**	**10/12/16**	**10/12/16 22:38**	**161012S08**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Motor Oil	ND	400.0	536.6	134	558.4	140	64-130	4	0-15	HX

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Cardno		Date Received:	10/06/16
601 North McDowell Blvd.		Work Order:	16-10-0343
Petaluma, CA 94954-2312		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: ExxonMobil 79374/022735C			Page 3 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
S-2-SVS4	**Sample**	**Solid**	**GC 48**	**10/12/16**	**10/12/16 19:44**	**161012S07**
S-2-SVS4	**Matrix Spike**	**Solid**	**GC 48**	**10/12/16**	**10/12/16 21:51**	**161012S07**
S-2-SVS4	**Matrix Spike Duplicate**	**Solid**	**GC 48**	**10/12/16**	**10/12/16 22:06**	**161012S07**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel	ND	400.0	423.3	106	409.4	102	64-130	3	0-15	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Cardno		Date Received:	10/06/16
601 North McDowell Blvd.		Work Order:	16-10-0343
Petaluma, CA 94954-2312		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
Project: ExxonMobil 79374/022735C			Page 4 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
S-2-SVS4	**Sample**	**Solid**	**GC 56**	**10/06/16**	**10/07/16 14:09**	**161007S031**
S-2-SVS4	**Matrix Spike**	**Solid**	**GC 56**	**10/06/16**	**10/07/16 14:41**	**161007S031**
S-2-SVS4	**Matrix Spike Duplicate**	**Solid**	**GC 56**	**10/06/16**	**10/07/16 15:13**	**161007S031**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	ND	10.00	2.306	23	6.543	65	48-114	96	0-23	HX,BA

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Cardno		Date Received:	10/06/16
601 North McDowell Blvd.		Work Order:	16-10-0343
Petaluma, CA 94954-2312		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
Project: ExxonMobil 79374/022735C			Page 5 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
S-2-SVS5	**Sample**	**Solid**	**GC 57**	**10/10/16**	**10/10/16 19:25**	**161010S014**
S-2-SVS5	**Matrix Spike**	**Solid**	**GC 57**	**10/10/16**	**10/10/16 20:28**	**161010S014**
S-2-SVS5	**Matrix Spike Duplicate**	**Solid**	**GC 57**	**10/10/16**	**10/10/16 21:00**	**161010S014**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	ND	10.00	9.474	95	10.44	104	48-114	10	0-23	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Cardno		Date Received:	10/06/16
601 North McDowell Blvd.		Work Order:	16-10-0343
Petaluma, CA 94954-2312		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: ExxonMobil 79374/022735C			Page 6 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
16-10-0749-1	**Sample**	**Solid**	**GC/MS OO**	**10/11/16**	**10/11/16 17:18**	**161011S013**
16-10-0749-1	**Matrix Spike**	**Solid**	**GC/MS OO**	**10/11/16**	**10/11/16 17:45**	**161011S013**
16-10-0749-1	**Matrix Spike Duplicate**	**Solid**	**GC/MS OO**	**10/11/16**	**10/11/16 18:12**	**161011S013**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	0.05000	0.03919	78	0.03869	77	61-127	1	0-20	
Toluene	ND	0.05000	0.03880	78	0.03733	75	63-123	4	0-20	
Ethylbenzene	ND	0.05000	0.03597	72	0.03369	67	57-129	7	0-22	
o-Xylene	ND	0.05000	0.03747	75	0.03486	70	70-130	7	0-30	
p/m-Xylene	ND	0.1000	0.07199	72	0.06661	67	70-130	8	0-30	HX
Methyl-t-Butyl Ether (MTBE)	ND	0.05000	0.04901	98	0.04708	94	57-123	4	0-21	
Tert-Butyl Alcohol (TBA)	ND	0.2500	0.2391	96	0.2162	86	30-168	10	0-34	
Diisopropyl Ether (DIPE)	ND	0.05000	0.04870	97	0.04753	95	57-129	2	0-20	
Ethyl-t-Butyl Ether (ETBE)	ND	0.05000	0.04645	93	0.04499	90	55-127	3	0-20	
Tert-Amyl-Methyl Ether (TAME)	ND	0.05000	0.04356	87	0.04250	85	58-124	2	0-20	
1,1-Dichloroethene	ND	0.05000	0.03707	74	0.03712	74	47-143	0	0-25	
1,2-Dibromoethane	ND	0.05000	0.04208	84	0.04074	81	64-124	3	0-20	
1,2-Dichlorobenzene	ND	0.05000	0.03277	66	0.02916	58	35-131	12	0-25	
1,2-Dichloroethane	ND	0.05000	0.04414	88	0.04293	86	80-120	3	0-20	
Carbon Tetrachloride	ND	0.05000	0.04099	82	0.03967	79	51-135	3	0-29	
Chlorobenzene	ND	0.05000	0.03707	74	0.03511	70	57-123	5	0-20	
Trichloroethene	ND	0.05000	0.03917	78	0.03787	76	44-158	3	0-20	
Vinyl Chloride	ND	0.05000	0.04941	99	0.04993	100	49-139	1	0-47	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - Spike/Spike Duplicate

Cardno		Date Received:	10/06/16
601 North McDowell Blvd.		Work Order:	16-10-0343
Petaluma, CA 94954-2312		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: ExxonMobil 79374/022735C			Page 7 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
16-10-0293-2	**Sample**	**Solid**	**GC/MS OO**	**10/05/16**	**10/06/16 16:38**	**161006S014**
16-10-0293-2	**Matrix Spike**	**Solid**	**GC/MS OO**	**10/05/16**	**10/06/16 17:05**	**161006S014**
16-10-0293-2	**Matrix Spike Duplicate**	**Solid**	**GC/MS OO**	**10/05/16**	**10/06/16 17:32**	**161006S014**

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Benzene	ND	0.05000	0.04350	87	0.03958	79	61-127	9	0-20	
Toluene	ND	0.05000	0.04315	86	0.03962	79	63-123	9	0-20	
Ethylbenzene	ND	0.05000	0.04209	84	0.03832	77	57-129	9	0-22	
o-Xylene	ND	0.05000	0.04416	88	0.03991	80	70-130	10	0-30	
p/m-Xylene	ND	0.1000	0.08476	85	0.07676	77	70-130	10	0-30	
Methyl-t-Butyl Ether (MTBE)	ND	0.05000	0.04904	98	0.04697	94	57-123	4	0-21	
Tert-Butyl Alcohol (TBA)	ND	0.2500	0.2443	98	0.2255	90	30-168	8	0-34	
Diisopropyl Ether (DIPE)	ND	0.05000	0.04973	99	0.04721	94	57-129	5	0-20	
Ethyl-t-Butyl Ether (ETBE)	ND	0.05000	0.04780	96	0.04495	90	55-127	6	0-20	
Tert-Amyl-Methyl Ether (TAME)	ND	0.05000	0.04552	91	0.04253	85	58-124	7	0-20	
1,2-Dibromoethane	ND	0.05000	0.04628	93	0.04382	88	64-124	5	0-20	
1,2-Dichloroethane	ND	0.05000	0.04605	92	0.04281	86	80-120	7	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Cardno		Date Received:	10/06/16
601 North McDowell Blvd.		Work Order:	16-10-0343
Petaluma, CA 94954-2312		Preparation:	EPA 3545
		Method:	EPA 8310
Project: ExxonMobil 79374/022735C			Page 1 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-07-002-1889	**LCS**	**Solid**	**HPLC 5**	**10/07/16**	**10/10/16 11:36**	**161007L15**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Naphthalene	100.0	88.98	89	17-203	0-234	
Acenaphthylene	100.0	81.24	81	50-120	38-132	
Acenaphthene	100.0	74.36	74	41-120	28-133	
Fluorene	100.0	76.43	76	51-120	40-132	
Phenanthrene	100.0	77.69	78	56-120	45-131	
Anthracene	100.0	74.84	75	49-120	37-132	
Fluoranthene	100.0	78.34	78	60-120	50-130	
Pyrene	100.0	87.36	87	61-121	51-131	
Benzo (a) Anthracene	100.0	79.72	80	61-121	51-131	
Chrysene	100.0	77.97	78	61-121	51-131	
Benzo (b) Fluoranthene	100.0	77.74	78	61-121	51-131	
Benzo (k) Fluoranthene	100.0	74.20	74	57-129	45-141	
Benzo (a) Pyrene	100.0	57.96	58	43-120	30-133	
Dibenz (a,h) Anthracene	100.0	73.24	73	59-125	48-136	
Benzo (g,h,i) Perylene	100.0	76.82	77	57-123	46-134	
Indeno (1,2,3-c,d) Pyrene	100.0	75.44	75	64-130	53-141	

Total number of LCS compounds: 16
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Cardno		Date Received:	10/06/16
601 North McDowell Blvd.		Work Order:	16-10-0343
Petaluma, CA 94954-2312		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: ExxonMobil 79374/022735C			Page 2 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-420-2038	**LCS**	**Solid**	**GC 48**	**10/12/16**	**10/12/16 19:27**	**161012B08S**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Motor Oil	400.0	459.5	115	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Cardno		Date Received:	10/06/16
601 North McDowell Blvd.		Work Order:	16-10-0343
Petaluma, CA 94954-2312		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
Project: ExxonMobil 79374/022735C			Page 3 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-15-422-2726	**LCS**	**Solid**	**GC 48**	**10/12/16**	**10/12/16 19:12**	**161012B07S**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Diesel	400.0	358.4	90	75-123	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Cardno		Date Received:	10/06/16
601 North McDowell Blvd.		Work Order:	16-10-0343
Petaluma, CA 94954-2312		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
Project: ExxonMobil 79374/022735C			Page 4 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-14-571-3335	**LCS**	**Solid**	**GC 56**	**10/07/16**	**10/07/16 10:47**	**161007L075**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Gasoline	10.00	10.97	110	70-124	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Cardno		Date Received:	10/06/16
601 North McDowell Blvd.		Work Order:	16-10-0343
Petaluma, CA 94954-2312		Preparation:	EPA 5030C
		Method:	EPA 8015B (M)
Project: ExxonMobil 79374/022735C			Page 5 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-14-571-3328	**LCS**	**Solid**	**GC 57**	**10/10/16**	**10/10/16 17:49**	**161010L031**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	Qualifiers
TPH as Gasoline	10.00	11.47	115	70-124	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Cardno		Date Received:	10/06/16
601 North McDowell Blvd.		Work Order:	16-10-0343
Petaluma, CA 94954-2312		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: ExxonMobil 79374/022735C			Page 6 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-882-1914	**LCS**	**Solid**	**GC/MS OO**	**10/11/16**	**10/11/16 15:17**	**161011L034**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	0.05000	0.04095	82	78-120	71-127	
Toluene	0.05000	0.04094	82	77-120	70-127	
Ethylbenzene	0.05000	0.03983	80	76-120	69-127	
o-Xylene	0.05000	0.04195	84	75-125	67-133	
p/m-Xylene	0.1000	0.08023	80	75-125	67-133	
Methyl-t-Butyl Ether (MTBE)	0.05000	0.04724	94	77-120	70-127	
Tert-Butyl Alcohol (TBA)	0.2500	0.2323	93	68-122	59-131	
Diisopropyl Ether (DIPE)	0.05000	0.04934	99	78-120	71-127	
Ethyl-t-Butyl Ether (ETBE)	0.05000	0.04728	95	78-120	71-127	
Tert-Amyl-Methyl Ether (TAME)	0.05000	0.04501	90	75-120	68-128	
1,1-Dichloroethene	0.05000	0.03924	78	74-122	66-130	
1,2-Dibromoethane	0.05000	0.04216	84	80-120	73-127	
1,2-Dichlorobenzene	0.05000	0.04176	84	75-120	68-128	
1,2-Dichloroethane	0.05000	0.04451	89	80-120	73-127	
Carbon Tetrachloride	0.05000	0.04396	88	49-139	34-154	
Chlorobenzene	0.05000	0.04058	81	79-120	72-127	
Trichloroethene	0.05000	0.04124	82	80-120	73-127	
Vinyl Chloride	0.05000	0.05706	114	68-122	59-131	

Total number of LCS compounds: 18
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS

Cardno		Date Received:	10/06/16
601 North McDowell Blvd.		Work Order:	16-10-0343
Petaluma, CA 94954-2312		Preparation:	EPA 5030C
		Method:	EPA 8260B
Project: ExxonMobil 79374/022735C			Page 7 of 7

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-882-1913	**LCS**	**Solid**	**GC/MS OO**	**10/06/16**	**10/06/16 14:34**	**161006L061**

Parameter	Spike Added	Conc. Recovered	LCS %Rec.	%Rec. CL	ME CL	Qualifiers
Benzene	0.05000	0.04213	84	78-120	71-127	
Toluene	0.05000	0.04192	84	77-120	70-127	
Ethylbenzene	0.05000	0.04164	83	76-120	69-127	
o-Xylene	0.05000	0.04272	85	75-125	67-133	
p/m-Xylene	0.1000	0.08394	84	75-125	67-133	
Methyl-t-Butyl Ether (MTBE)	0.05000	0.04548	91	77-120	70-127	
Tert-Butyl Alcohol (TBA)	0.2500	0.2282	91	68-122	59-131	
Diisopropyl Ether (DIPE)	0.05000	0.04711	94	78-120	71-127	
Ethyl-t-Butyl Ether (ETBE)	0.05000	0.04454	89	78-120	71-127	
Tert-Amyl-Methyl Ether (TAME)	0.05000	0.04272	85	75-120	68-128	
1,2-Dibromoethane	0.05000	0.04295	86	80-120	73-127	
1,2-Dichloroethane	0.05000	0.04401	88	80-120	73-127	

Total number of LCS compounds: 12
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 16-10-0343 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
EPA 8015B (M)	EPA 3550B	972	GC 48	1
EPA 8015B (M)	EPA 5030C	607	GC 56	2
EPA 8015B (M)	EPA 5030C	933	GC 57	2
EPA 8260B	EPA 5030C	849	GC/MS OO	2
EPA 8310	EPA 3545	834	HPLC 5	1

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Glossary of Terms and Qualifiers

Qualifiers	Definition
AZ	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
B	Analyte was present in the associated method blank.
BA	The MS/MSD RPD was out of control due to suspected matrix interference.
BB	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
DF	Reporting limits elevated due to matrix interferences.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
GE	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
HD	Chromat. profile inconsistent with pattern(s) of ref. fuel stnds.
HO	High concentration matrix spike recovery out of limits
HT	Analytical value calculated using results from associated tests.
HX	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS was in control.
IL	Relative percent difference out of control.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
LD	Analyte presence was not confirmed by second column or GC/MS analysis.
LP	The LCS and/or LCSD recoveries for this analyte were above the upper control limit. The associated sample was non-detected. Therefore, the sample data was reported without further clarification.
LQ	LCS recovery above method control limits.
LR	LCS recovery below method control limits.
ND	Parameter not detected at the indicated reporting limit.
QO	Compound did not meet method-described identification guidelines. Identification was based on additional GC/MS characteristics.
RU	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
SG	A silica gel cleanup procedure was performed.
SN	See applicable analysis comment.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494
For courier service / sample drop off information, contact us26_sales@eurofinsus.com or call us.

CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: **16-10-0343**

DATE: 09/28/16

PAGE: 1 OF 1

LABORATORY CLIENT: **Cardno / ExxonMobil**

ADDRESS: 601 N. McDowell Blvd

CITY: Petaluma STATE: CA ZIP: 94954

TEL: (707) 766-2000 E-MAIL: scott.perkins@cardno.com

CLIENT PROJECT NAME / NUMBER: **Former Exxon 79374**

P.O. NO.: **02 2735CX**

PROJECT CONTACT: Scott Perkins

SAMPLER(S): (PRINT) Nadya Vicente

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

☐ COELT EDF GLOBAL ID: **T0619716673** LOG CODE:

SPECIAL INSTRUCTIONS:

***TPHd - Silica Gel Cleanup**
****Oxys by 8260B: MTBE, DIPE, ETBE, TAME, and TBA**
***** Lead Scavengers (1,2-DCA and EDB)**
Please email PDF files to: norcallabs@eri-us.com

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	Field Point Name	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☒ TPH(g) (8015B)	☒ TPH(d) (8015B)	☒ TPH(mo) (8015B)	BTEX 8260B ☒	Full Scan VOC (8260B)	Oxygenates (8260B)**	Lead Scavengers (8260B) ***	PAHs ☒ 8310	Napthalene (8260B)
1	S-2-SVS4	SVS4	9/28/2016	1000	soil	1				X	X	X	X		X	X	X	X
2	S-2-SVS5	SVS5	9/28/2016	1020	soil	1				X	X	X	X		X	X	X	X
3	S-2-SVS6	SVS6	9/28/2016	1035	soil	1				X	X	X	X		X	X	X	X
4	S-2-SVS7	SVS7	9/28/2016	0925	soil	1				X	X	X	X	X	X	X	X	X
5	S-2-SVS8	SVS8	9/28/2016	0850	soil	1				X	X	X	X	X	X	X	X	X

Relinquished by: (Signature)	Received by: (Signature/Affiliation) Tom O'Malley ECI	Date: 10/5/16	Time: 1305
Relinquished by: (Signature) Tom O'Malley to GSO 10/5/16 1730	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 10/6/16	Time: 1000

06/02/14 Revision

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GSO
GOLDEN STATE OVERNIGHT

800-322-5555 www.gso.com

Tracking #: 533535956

NPS

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

0343

ORC A
GARDEN GROVE

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

D92845A

COD: $0.00
Weight: 0 lb(s)
Reference:
CARDNO ERI
Delivery Instructions:

57370619

Signature Type: REQUIRED

Print Date: 10/5/2016 3:21 PM

Print Date: 10/5/2016 3:21 PM

Package 1 of 5

LABEL INSTRUCTIONS:

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

Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer. Securely attach this label to your package, do not cover the barcode.

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WORK ORDER NUMBER: 16-10-0343

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: CARDNO ERI

DATE: 10 / 06 / 2016

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

Thermometer ID: SC3B (CF: 0.0°C); Temperature (w/o CF): 2.7 °C (w/ CF): 2.7 °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

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter

Checked by: 15

CUSTODY SEAL:

Cooler ☑ Present and Intact ☐ Present but Not Intact ☐ Not Present ☐ N/A Checked by: 15

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 1013

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOAh ☐ VOAna_2 ☐ 100PJ ☐ 100PJna_2 ☐ 125AGB ☐ 125AGBh ☐ 125AGBp ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGBs ☐ 250PB ☐ 250PBn ☐ 500AGB ☐ 500AGJ ☐ 500AGJs

☐ 500PB ☐ 1AGB ☐ 1AGBna_2 ☐ 1AGBs ☐ 1PB ☐ 1PBna ☐ _____ ☐ _____ ☐ _____ ☐ _____

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

Air: ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

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

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na_2** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 1013

Reviewed by: TB

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Mobile Geochemistry Inc.

18 October 2016

Mr. Scott Perkins
Cardno ERI - Petaluma
601 N. McDowell Blvd
Petaluma, CA 94954

H&P Project: CAR100616-13
Client Project: Former Exxon 79374 / 990 San Pablo Ave.

Dear Mr. Scott Perkins:

Enclosed is the analytical report for the above referenced project. The data herein applies to samples as received by H&P Mobile Geochemistry, Inc. on 06-Oct-16 which were analyzed in accordance with the attached Chain of Custody record(s).

The results for all sample analyses and required QA/QC analyses are presented in the following sections and summarized in the documents:

- Sample Summary
- Case Narrative (if applicable)
- Sample Results
- Quality Control Summary
- Notes and Definitions / Appendix
- Chain of Custody
- Sampling Logs (if applicable)

Unless otherwise noted, I certify that all analyses were performed and reviewed in compliance with our Quality Systems Manual and Standard Operating Procedures. This report shall not be reproduced, except in full, without the written approval of H&P Mobile Geochemistry, Inc.

We at H&P Mobile Geochemistry, Inc. sincerely appreciate the opportunity to provide analytical services to you on this project. If you have any questions or concerns regarding this analytical report, please contact me at your convenience at 760-804-9678.

Sincerely,

Janis La Roux
Laboratory Director

H&P Mobile Geochemistry, Inc. is certified under the California ELAP, the National Environmental Laboratory Accreditation Conference (NELAC) and the Department of Defense Accreditation Programs.

H&P Mobile
Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SVS1	E610041-01	Vapor	03-Oct-16	06-Oct-16
SVS2	E610041-02	Vapor	03-Oct-16	06-Oct-16
SVS3	E610041-03	Vapor	03-Oct-16	06-Oct-16
SVS3 DUP	E610041-04	Vapor	03-Oct-16	06-Oct-16
SVS4	E610041-05	Vapor	03-Oct-16	06-Oct-16
SVS5	E610041-06	Vapor	03-Oct-16	06-Oct-16
SVS6	E610041-07	Vapor	03-Oct-16	06-Oct-16
SVS7	E610041-08	Vapor	03-Oct-16	06-Oct-16
SVS8	E610041-09	Vapor	03-Oct-16	06-Oct-16
EB	E610041-10	Vapor	03-Oct-16	06-Oct-16
TB	E610041-11	Vapor	03-Oct-16	06-Oct-16

Due to elevated concentrations of petroleum hydrocarbons, the following samples were analyzed by H&P 8260SV rather than EPA Method TO-15:
SVS1
SVS2
SVS3
SVS3 Dup
SVS8

The following EPA Method TO-15 analytes are not reported using H&P 8260SV:
Dichlorotetrafluoroethane
4-Ethyltoluene

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Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

DETECTIONS SUMMARY

Sample ID: **SVS1** Laboratory ID: **E610041-01**

Analyte	Result	Reporting Limit	Units	Method	Notes
Carbon dioxide	**11**	0.20	%	ASTM D1945	
Oxygen	**4.8**	0.20	%	ASTM D1945	
Nitrogen	**73**	0.20	%	ASTM D1945	
Methane	**120000**	1000	ppmv	EPA 8015M	
TPHv (C6-C12)	**43000000**	800000	ug/m3	H&P 8260SV	

Sample ID: **SVS2** Laboratory ID: **E610041-02**

Analyte	Result	Reporting Limit	Units	Method	Notes
Carbon dioxide	**11**	0.20	%	ASTM D1945	
Oxygen	**3.7**	0.20	%	ASTM D1945	
Nitrogen	**72**	0.20	%	ASTM D1945	
Methane	**160000**	1000	ppmv	EPA 8015M	
TPHv (C6-C12)	**35000000**	800000	ug/m3	H&P 8260SV	

Sample ID: **SVS3** Laboratory ID: **E610041-03**

Analyte	Result	Reporting Limit	Units	Method	Notes
Carbon dioxide	**14**	0.20	%	ASTM D1945	
Oxygen	**5.4**	0.20	%	ASTM D1945	
Nitrogen	**77**	0.20	%	ASTM D1945	
Methane	**35000**	100	ppmv	EPA 8015M	
Benzene	**12000**	4000	ug/m3	H&P 8260SV	
TPHv (C6-C12)	**41000000**	800000	ug/m3	H&P 8260SV	

Sample ID: **SVS3 DUP** Laboratory ID: **E610041-04**

Analyte	Result	Reporting Limit	Units	Method	Notes
Carbon dioxide	**15**	0.20	%	ASTM D1945	
Oxygen	**4.6**	0.20	%	ASTM D1945	
Nitrogen	**77**	0.20	%	ASTM D1945	
Methane	**39000**	100	ppmv	EPA 8015M	
Benzene	**11000**	4000	ug/m3	H&P 8260SV	
TPHv (C6-C12)	**34000000**	800000	ug/m3	H&P 8260SV	

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Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Sample ID: **SVS4** Laboratory ID: **E610041-05**

Analyte	Result	Reporting Limit	Units	Method	Notes
Helium (LCC)	**0.94**	0.10	%	ASTM D1945M	
Carbon dioxide	**0.86**	0.20	%	ASTM D1945	
Oxygen	**20**	0.20	%	ASTM D1945	
Nitrogen	**79**	0.20	%	ASTM D1945	
Methane	**31**	10	ppmv	EPA 8015M	
Chloromethane	**2.3**	2.1	ug/m3	EPA TO-15	
Methyl tertiary-butyl ether (MTBE)	**19**	3.6	ug/m3	EPA TO-15	
Chloroform	**63**	4.9	ug/m3	EPA TO-15	
Bromodichloromethane	**48**	6.8	ug/m3	EPA TO-15	
4-Methyl-2-pentanone (MIBK)	**8.9**	8.3	ug/m3	EPA TO-15	
Toluene	**11**	3.8	ug/m3	EPA TO-15	
Dibromochloromethane	**21**	8.6	ug/m3	EPA TO-15	
Ethylbenzene	**8.1**	4.4	ug/m3	EPA TO-15	
m,p-Xylene	**15**	8.8	ug/m3	EPA TO-15	
o-Xylene	**16**	4.4	ug/m3	EPA TO-15	
4-Ethyltoluene	**7.5**	5.0	ug/m3	EPA TO-15	
1,3,5-Trimethylbenzene	**19**	5.0	ug/m3	EPA TO-15	
1,2,4-Trimethylbenzene	**23**	5.0	ug/m3	EPA TO-15	
TPHv (C6 - C12)	**5900**	100	ug/m3	EPA TO-15	

Sample ID: **SVS5** Laboratory ID: **E610041-06**

Analyte	Result	Reporting Limit	Units	Method	Notes
Carbon dioxide	**1.2**	0.20	%	ASTM D1945	
Oxygen	**20**	0.20	%	ASTM D1945	
Nitrogen	**79**	0.20	%	ASTM D1945	
Methyl tertiary-butyl ether (MTBE)	**38**	3.6	ug/m3	EPA TO-15	
Chloroform	**54**	4.9	ug/m3	EPA TO-15	
Bromodichloromethane	**38**	6.8	ug/m3	EPA TO-15	
Toluene	**82**	3.8	ug/m3	EPA TO-15	
Dibromochloromethane	**14**	8.6	ug/m3	EPA TO-15	
Ethylbenzene	**24**	4.4	ug/m3	EPA TO-15	
m,p-Xylene	**97**	8.8	ug/m3	EPA TO-15	
o-Xylene	**230**	4.4	ug/m3	EPA TO-15	
4-Ethyltoluene	**16**	5.0	ug/m3	EPA TO-15	
1,3,5-Trimethylbenzene	**34**	5.0	ug/m3	EPA TO-15	
1,2,4-Trimethylbenzene	**86**	5.0	ug/m3	EPA TO-15	
TPHv (C6 - C12)	**3000**	100	ug/m3	EPA TO-15	

H&P Mobile
Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Sample ID: **SVS6** Laboratory ID: **E610041-07**

Analyte	Result	Reporting Limit	Units	Method	Notes
Carbon dioxide	**0.44**	0.20	%	ASTM D1945	
Oxygen	**20**	0.20	%	ASTM D1945	
Nitrogen	**79**	0.20	%	ASTM D1945	
Methyl tertiary-butyl ether (MTBE)	**4.6**	3.6	ug/m3	EPA TO-15	
Toluene	**4.2**	3.8	ug/m3	EPA TO-15	
o-Xylene	**4.7**	4.4	ug/m3	EPA TO-15	
TPHv (C6 - C12)	**440**	100	ug/m3	EPA TO-15	

Sample ID: **SVS7** Laboratory ID: **E610041-08**

Analyte	Result	Reporting Limit	Units	Method	Notes
Helium (LCC)	**0.35**	0.10	%	ASTM D1945M	
Carbon dioxide	**0.93**	0.20	%	ASTM D1945	
Oxygen	**20**	0.20	%	ASTM D1945	
Nitrogen	**79**	0.20	%	ASTM D1945	
Methane	**57**	10	ppmv	EPA 8015M	
Tertiary-butyl alcohol (TBA)	**49**	31	ug/m3	EPA TO-15	
Carbon disulfide	**42**	32	ug/m3	EPA TO-15	
Methyl tertiary-butyl ether (MTBE)	**42**	18	ug/m3	EPA TO-15	
Chloroform	**58**	25	ug/m3	EPA TO-15	
4-Methyl-2-pentanone (MIBK)	**51**	41	ug/m3	EPA TO-15	
Toluene	**40**	19	ug/m3	EPA TO-15	
m,p-Xylene	**71**	44	ug/m3	EPA TO-15	
o-Xylene	**190**	22	ug/m3	EPA TO-15	
1,3,5-Trimethylbenzene	**38**	25	ug/m3	EPA TO-15	
1,2,4-Trimethylbenzene	**55**	25	ug/m3	EPA TO-15	
TPHv (C6 - C12)	**27000**	500	ug/m3	EPA TO-15	

Sample ID: **SVS8** Laboratory ID: **E610041-09**

Analyte	Result	Reporting Limit	Units	Method	Notes
Carbon dioxide	**1.0**	0.20	%	ASTM D1945	
Oxygen	**20**	0.20	%	ASTM D1945	
Nitrogen	**79**	0.20	%	ASTM D1945	
Methane	**300**	10	ppmv	EPA 8015M	
TPHv (C6-C12)	**350000**	200000	ug/m3	H&P 8260SV	

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Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Sample ID: **EB** Laboratory ID: **E610041-10**

Analyte	Result	Reporting Limit	Units	Method	Notes
Oxygen	**21**	0.20	%	ASTM D1945	
Nitrogen	**79**	0.20	%	ASTM D1945	
TPHv (C6 - C12)	**170**	100	ug/m3	EPA TO-15	

Sample ID: **TB** Laboratory ID: **E610041-11**

Analyte	Result	Reporting Limit	Units	Method	Notes
Oxygen	**2.2**	0.20	%	ASTM D1945	
Nitrogen	**98**	0.20	%	ASTM D1945	

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Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Soil Gas and Vapor Analysis

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS1 (E610041-01) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Carbon dioxide	**11**	0.20	%	1	EJ60706	07-Oct-16	07-Oct-16	ASTM D1945	
Oxygen	**4.8**	0.20	"	"	"	"	"	"	
Nitrogen	**73**	0.20	"	"	"	"	"	"	
Helium (LCC)	ND	0.10	"	"	EJ60707	07-Oct-16	07-Oct-16	ASTM D1945M	
Methane	**120000**	1000	ppmv	100	EJ60705	07-Oct-16	07-Oct-16	EPA 8015M	
SVS2 (E610041-02) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Carbon dioxide	**11**	0.20	%	1	EJ60706	07-Oct-16	07-Oct-16	ASTM D1945	
Oxygen	**3.7**	0.20	"	"	"	"	"	"	
Nitrogen	**72**	0.20	"	"	"	"	"	"	
Helium (LCC)	ND	0.10	"	"	EJ60707	07-Oct-16	07-Oct-16	ASTM D1945M	
Methane	**160000**	1000	ppmv	100	EJ60705	07-Oct-16	07-Oct-16	EPA 8015M	
SVS3 (E610041-03) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Carbon dioxide	**14**	0.20	%	1	EJ60706	07-Oct-16	07-Oct-16	ASTM D1945	
Oxygen	**5.4**	0.20	"	"	"	"	"	"	
Nitrogen	**77**	0.20	"	"	"	"	"	"	
Helium (LCC)	ND	0.10	"	"	EJ60707	07-Oct-16	07-Oct-16	ASTM D1945M	
Methane	**35000**	100	ppmv	10	EJ60705	07-Oct-16	07-Oct-16	EPA 8015M	
SVS3 DUP (E610041-04) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Carbon dioxide	**15**	0.20	%	1	EJ60706	07-Oct-16	07-Oct-16	ASTM D1945	
Oxygen	**4.6**	0.20	"	"	"	"	"	"	
Nitrogen	**77**	0.20	"	"	"	"	"	"	
Helium (LCC)	ND	0.10	"	"	EJ60707	07-Oct-16	07-Oct-16	ASTM D1945M	
Methane	**39000**	100	ppmv	10	EJ60705	07-Oct-16	07-Oct-16	EPA 8015M	

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Soil Gas and Vapor Analysis

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS4 (E610041-05) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Carbon dioxide	**0.86**	0.20	%	1	EJ60706	07-Oct-16	07-Oct-16	ASTM D1945	
Oxygen	**20**	0.20	"	"	"	"	"	"	
Nitrogen	**79**	0.20	"	"	"	"	"	"	
Helium (LCC)	**0.94**	0.10	"	"	EJ60707	07-Oct-16	07-Oct-16	ASTM D1945M	
Methane	**31**	10	ppmv	"	EJ60705	07-Oct-16	07-Oct-16	EPA 8015M	
SVS5 (E610041-06) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Carbon dioxide	**1.2**	0.20	%	1	EJ60706	07-Oct-16	07-Oct-16	ASTM D1945	
Oxygen	**20**	0.20	"	"	"	"	"	"	
Nitrogen	**79**	0.20	"	"	"	"	"	"	
Helium (LCC)	ND	0.10	"	"	EJ60707	07-Oct-16	07-Oct-16	ASTM D1945M	
Methane	ND	10	ppmv	"	EJ60705	07-Oct-16	07-Oct-16	EPA 8015M	
SVS6 (E610041-07) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Carbon dioxide	**0.44**	0.20	%	1	EJ60706	07-Oct-16	07-Oct-16	ASTM D1945	
Oxygen	**20**	0.20	"	"	"	"	"	"	
Nitrogen	**79**	0.20	"	"	"	"	"	"	
Helium (LCC)	ND	0.10	"	"	EJ60707	07-Oct-16	07-Oct-16	ASTM D1945M	
Methane	ND	10	ppmv	"	EJ60705	07-Oct-16	07-Oct-16	EPA 8015M	
SVS7 (E610041-08) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Carbon dioxide	**0.93**	0.20	%	1	EJ60706	07-Oct-16	07-Oct-16	ASTM D1945	
Oxygen	**20**	0.20	"	"	"	"	"	"	
Nitrogen	**79**	0.20	"	"	"	"	"	"	
Helium (LCC)	**0.35**	0.10	"	"	EJ60707	07-Oct-16	07-Oct-16	ASTM D1945M	
Methane	**57**	10	ppmv	"	EJ60705	07-Oct-16	07-Oct-16	EPA 8015M	

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Soil Gas and Vapor Analysis

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS8 (E610041-09) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Carbon dioxide	**1.0**	0.20	%	1	EJ60706	07-Oct-16	07-Oct-16	ASTM D1945	
Oxygen	**20**	0.20	"	"	"	"	"	"	
Nitrogen	**79**	0.20	"	"	"	"	"	"	
Helium (LCC)	ND	0.10	"	"	EJ60707	07-Oct-16	07-Oct-16	ASTM D1945M	
Methane	**300**	10	ppmv	"	EJ60705	07-Oct-16	07-Oct-16	EPA 8015M	
EB (E610041-10) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Carbon dioxide	ND	0.20	%	1	EJ60706	07-Oct-16	07-Oct-16	ASTM D1945	
Oxygen	**21**	0.20	"	"	"	"	"	"	
Nitrogen	**79**	0.20	"	"	"	"	"	"	
Helium (LCC)	ND	0.10	"	"	EJ60707	07-Oct-16	07-Oct-16	ASTM D1945M	
Methane	ND	10	ppmv	"	EJ60705	07-Oct-16	07-Oct-16	EPA 8015M	
TB (E610041-11) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Carbon dioxide	ND	0.20	%	1	EJ60706	07-Oct-16	07-Oct-16	ASTM D1945	
Oxygen	**2.2**	0.20	"	"	"	"	"	"	
Nitrogen	**98**	0.20	"	"	"	"	"	"	
Helium (LCC)	ND	0.10	"	"	EJ60707	07-Oct-16	07-Oct-16	ASTM D1945M	
Methane	ND	10	ppmv	"	EJ60705	07-Oct-16	07-Oct-16	EPA 8015M	

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Volatile Organic Compounds by EPA TO-15

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS4 (E610041-05) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Dichlorodifluoromethane (F12)	ND	5.0	ug/m3	1	EJ61314	13-Oct-16	13-Oct-16	EPA TO-15	
Chloromethane	**2.3**	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	2.6	"	"	"	"	"	"	
Bromomethane	ND	16	"	"	"	"	"	"	
Chloroethane	ND	8.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.6	"	"	"	"	"	"	
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	3.5	"	"	"	"	"	"	
Carbon disulfide	ND	6.3	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	**19**	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	ND	30	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	4.2	"	"	"	"	"	"	
Chloroform	**63**	4.9	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4.1	"	"	"	"	"	"	
Benzene	ND	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	6.4	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	4.2	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	9.4	"	"	"	"	"	"	
Bromodichloromethane	**48**	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**8.9**	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
Toluene	**11**	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	8.3	"	"	"	"	"	"	
Dibromochloromethane	**21**	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	

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601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by EPA TO-15

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS4 (E610041-05) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Chlorobenzene	ND	4.7	ug/m3	1	EJ61314	13-Oct-16	13-Oct-16	EPA TO-15	
Ethylbenzene	**8.1**	4.4	"	"	"	"	"	"	
m,p-Xylene	**15**	8.8	"	"	"	"	"	"	
Styrene	ND	4.3	"	"	"	"	"	"	
o-Xylene	**16**	4.4	"	"	"	"	"	"	
Bromoform	ND	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
4-Ethyltoluene	**7.5**	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**19**	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**23**	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	12	"	"	"	"	"	"	
Naphthalene	ND	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	38	"	"	"	"	"	"	
Hexachlorobutadiene	ND	54	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*100 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*108 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*115 %*		*77-127*	"	"	"	"	
SVS5 (E610041-06) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Dichlorodifluoromethane (F12)	ND	5.0	ug/m3	1	EJ61314	13-Oct-16	13-Oct-16	EPA TO-15	
Chloromethane	ND	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	2.6	"	"	"	"	"	"	
Bromomethane	ND	16	"	"	"	"	"	"	
Chloroethane	ND	8.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.6	"	"	"	"	"	"	
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	3.5	"	"	"	"	"	"	
Carbon disulfide	ND	6.3	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	**38**	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	ND	30	"	"	"	"	"	"	

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Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by EPA TO-15

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS5 (E610041-06) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
cis-1,2-Dichloroethene	ND	4.0	ug/m3	1	EJ61314	13-Oct-16	13-Oct-16	EPA TO-15	
Diisopropyl ether (DIPE)	ND	4.2	"	"	"	"	"	"	
Chloroform	**54**	4.9	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4.1	"	"	"	"	"	"	
Benzene	ND	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	6.4	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	4.2	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	9.4	"	"	"	"	"	"	
Bromodichloromethane	**38**	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
Toluene	**82**	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	8.3	"	"	"	"	"	"	
Dibromochloromethane	**14**	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	4.7	"	"	"	"	"	"	
Ethylbenzene	**24**	4.4	"	"	"	"	"	"	
m,p-Xylene	**97**	8.8	"	"	"	"	"	"	
Styrene	ND	4.3	"	"	"	"	"	"	
o-Xylene	**230**	4.4	"	"	"	"	"	"	
Bromoform	ND	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
4-Ethyltoluene	**16**	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**34**	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**86**	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	12	"	"	"	"	"	"	
Naphthalene	ND	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	38	"	"	"	"	"	"	
Hexachlorobutadiene	ND	54	"	"	"	"	"	"	

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Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by EPA TO-15

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS5 (E610041-06) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Surrogate: 1,2-Dichloroethane-d4		*96.5 %*		*76-134*	*EJ61314*	*13-Oct-16*	*13-Oct-16*	*EPA TO-15*	
Surrogate: Toluene-d8		*108 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*112 %*		*77-127*	"	"	"	"	
SVS6 (E610041-07) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Dichlorodifluoromethane (F12)	ND	5.0	ug/m3	1	EJ61314	13-Oct-16	13-Oct-16	EPA TO-15	
Chloromethane	ND	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	2.6	"	"	"	"	"	"	
Bromomethane	ND	16	"	"	"	"	"	"	
Chloroethane	ND	8.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.6	"	"	"	"	"	"	
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	3.5	"	"	"	"	"	"	
Carbon disulfide	ND	6.3	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	**4.6**	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	ND	30	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	4.2	"	"	"	"	"	"	
Chloroform	ND	4.9	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4.1	"	"	"	"	"	"	
Benzene	ND	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	6.4	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	4.2	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	9.4	"	"	"	"	"	"	
Bromodichloromethane	ND	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
Toluene	**4.2**	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.5	"	"	"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS6 (E610041-07) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
2-Hexanone (MBK)	ND	8.3	ug/m3	1	EJ61314	13-Oct-16	13-Oct-16	EPA TO-15	
Dibromochloromethane	ND	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	4.7	"	"	"	"	"	"	
Ethylbenzene	ND	4.4	"	"	"	"	"	"	
m,p-Xylene	ND	8.8	"	"	"	"	"	"	
Styrene	ND	4.3	"	"	"	"	"	"	
o-Xylene	**4.7**	4.4	"	"	"	"	"	"	
Bromoform	ND	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	12	"	"	"	"	"	"	
Naphthalene	ND	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	38	"	"	"	"	"	"	
Hexachlorobutadiene	ND	54	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*98.5 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*107 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*117 %*		*77-127*	"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS7 (E610041-08) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Dichlorodifluoromethane (F12)	ND	25	ug/m3	5	EJ61314	13-Oct-16	13-Oct-16	EPA TO-15	
Chloromethane	ND	10	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	35	"	"	"	"	"	"	
Vinyl chloride	ND	13	"	"	"	"	"	"	
Bromomethane	ND	79	"	"	"	"	"	"	
Chloroethane	ND	40	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	28	"	"	"	"	"	"	
1,1-Dichloroethene	ND	20	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	**49**	31	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	39	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	18	"	"	"	"	"	"	
Carbon disulfide	**42**	32	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	40	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	**42**	18	"	"	"	"	"	"	
1,1-Dichloroethane	ND	21	"	"	"	"	"	"	
2-Butanone (MEK)	ND	150	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	20	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	21	"	"	"	"	"	"	
Chloroform	**58**	25	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	21	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	28	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	21	"	"	"	"	"	"	
Benzene	ND	16	"	"	"	"	"	"	
Carbon tetrachloride	ND	32	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	21	"	"	"	"	"	"	
Trichloroethene	ND	27	"	"	"	"	"	"	
1,2-Dichloropropane	ND	47	"	"	"	"	"	"	
Bromodichloromethane	ND	34	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	23	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	**51**	41	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	23	"	"	"	"	"	"	
Toluene	**40**	19	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	28	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	41	"	"	"	"	"	"	
Dibromochloromethane	ND	43	"	"	"	"	"	"	
Tetrachloroethene	ND	34	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	39	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	35	"	"	"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by EPA TO-15

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS7 (E610041-08) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Chlorobenzene	ND	23	ug/m3	5	EJ61314	13-Oct-16	13-Oct-16	EPA TO-15	
Ethylbenzene	ND	22	"	"	"	"	"	"	
m,p-Xylene	**71**	44	"	"	"	"	"	"	
Styrene	ND	22	"	"	"	"	"	"	
o-Xylene	**190**	22	"	"	"	"	"	"	
Bromoform	ND	52	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	35	"	"	"	"	"	"	
4-Ethyltoluene	ND	25	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**38**	25	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**55**	25	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	61	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	61	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	61	"	"	"	"	"	"	
Naphthalene	ND	27	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	190	"	"	"	"	"	"	
Hexachlorobutadiene	ND	270	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*96.8 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*102 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*114 %*		*77-127*	"	"	"	"	
EB (E610041-10) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Dichlorodifluoromethane (F12)	ND	5.0	ug/m3	1	EJ61314	13-Oct-16	13-Oct-16	EPA TO-15	
Chloromethane	ND	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	2.6	"	"	"	"	"	"	
Bromomethane	ND	16	"	"	"	"	"	"	
Chloroethane	ND	8.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.6	"	"	"	"	"	"	
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	3.5	"	"	"	"	"	"	
Carbon disulfide	ND	6.3	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	ND	30	"	"	"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by EPA TO-15

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
EB (E610041-10) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
cis-1,2-Dichloroethene	ND	4.0	ug/m3	1	EJ61314	13-Oct-16	13-Oct-16	EPA TO-15	
Diisopropyl ether (DIPE)	ND	4.2	"	"	"	"	"	"	
Chloroform	ND	4.9	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4.1	"	"	"	"	"	"	
Benzene	ND	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	6.4	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	4.2	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	9.4	"	"	"	"	"	"	
Bromodichloromethane	ND	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
Toluene	ND	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	8.3	"	"	"	"	"	"	
Dibromochloromethane	ND	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	4.7	"	"	"	"	"	"	
Ethylbenzene	ND	4.4	"	"	"	"	"	"	
m,p-Xylene	ND	8.8	"	"	"	"	"	"	
Styrene	ND	4.3	"	"	"	"	"	"	
o-Xylene	ND	4.4	"	"	"	"	"	"	
Bromoform	ND	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	12	"	"	"	"	"	"	
Naphthalene	ND	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	38	"	"	"	"	"	"	
Hexachlorobutadiene	ND	54	"	"	"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
EB (E610041-10) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Surrogate: 1,2-Dichloroethane-d4		*104 %*		*76-134*	*EJ61314*	*13-Oct-16*	*13-Oct-16*	*EPA TO-15*	
Surrogate: Toluene-d8		*107 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*112 %*		*77-127*	"	"	"	"	
TB (E610041-11) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Dichlorodifluoromethane (F12)	ND	5.0	ug/m3	1	EJ61314	13-Oct-16	14-Oct-16	EPA TO-15	
Chloromethane	ND	2.1	"	"	"	"	"	"	
Dichlorotetrafluoroethane (F114)	ND	7.1	"	"	"	"	"	"	
Vinyl chloride	ND	2.6	"	"	"	"	"	"	
Bromomethane	ND	16	"	"	"	"	"	"	
Chloroethane	ND	8.0	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	5.6	"	"	"	"	"	"	
1,1-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	6.1	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	3.5	"	"	"	"	"	"	
Carbon disulfide	ND	6.3	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	8.0	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	3.6	"	"	"	"	"	"	
1,1-Dichloroethane	ND	4.1	"	"	"	"	"	"	
2-Butanone (MEK)	ND	30	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	4.0	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	4.2	"	"	"	"	"	"	
Chloroform	ND	4.9	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	4.2	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.5	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4.1	"	"	"	"	"	"	
Benzene	ND	3.2	"	"	"	"	"	"	
Carbon tetrachloride	ND	6.4	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	4.2	"	"	"	"	"	"	
Trichloroethene	ND	5.5	"	"	"	"	"	"	
1,2-Dichloropropane	ND	9.4	"	"	"	"	"	"	
Bromodichloromethane	ND	6.8	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	8.3	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	4.6	"	"	"	"	"	"	
Toluene	ND	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.5	"	"	"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
TB (E610041-11) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
2-Hexanone (MBK)	ND	8.3	ug/m3	1	EJ61314	13-Oct-16	14-Oct-16	EPA TO-15	
Dibromochloromethane	ND	8.6	"	"	"	"	"	"	
Tetrachloroethene	ND	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	4.7	"	"	"	"	"	"	
Ethylbenzene	ND	4.4	"	"	"	"	"	"	
m,p-Xylene	ND	8.8	"	"	"	"	"	"	
Styrene	ND	4.3	"	"	"	"	"	"	
o-Xylene	ND	4.4	"	"	"	"	"	"	
Bromoform	ND	10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	12	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	12	"	"	"	"	"	"	
Naphthalene	ND	5.3	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	38	"	"	"	"	"	"	
Hexachlorobutadiene	ND	54	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*107 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*109 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*104 %*		*77-127*	"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

SVS1 (E610041-01) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16 **R-05**

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
2-Butanone (MEK)	ND	100000	ug/m3	2	EJ61403	12-Oct-16	12-Oct-16	H&P 8260SV	
2-Hexanone (MBK)	ND	100000	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	100000	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	ND	20000	"	"	"	"	"	"	
Chloromethane	ND	20000	"	"	"	"	"	"	
Vinyl chloride	ND	2000	"	"	"	"	"	"	
Bromomethane	ND	20000	"	"	"	"	"	"	
Chloroethane	ND	20000	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	20000	"	"	"	"	"	"	
1,1-Dichloroethene	ND	20000	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	20000	"	"	"	"	"	"	
Carbon disulfide	ND	20000	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	20000	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	20000	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	20000	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	40000	"	"	"	"	"	"	
1,1-Dichloroethane	ND	20000	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	40000	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	20000	"	"	"	"	"	"	
Chloroform	ND	4000	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	20000	"	"	"	"	"	"	
Carbon tetrachloride	ND	4000	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4000	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	40000	"	"	"	"	"	"	
Benzene	ND	4000	"	"	"	"	"	"	
Trichloroethene	ND	4000	"	"	"	"	"	"	
1,2-Dichloropropane	ND	20000	"	"	"	"	"	"	
Bromodichloromethane	ND	20000	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	20000	"	"	"	"	"	"	
Toluene	ND	40000	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	20000	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	20000	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	20000	"	"	"	"	"	"	
Tetrachloroethene	ND	4000	"	"	"	"	"	"	
Dibromochloromethane	ND	20000	"	"	"	"	"	"	
Chlorobenzene	ND	4000	"	"	"	"	"	"	
Ethylbenzene	ND	20000	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	20000	"	"	"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS1 (E610041-01) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									**R-05**
m,p-Xylene	ND	20000	ug/m3	2	EJ61403	12-Oct-16	12-Oct-16	H&P 8260SV	
o-Xylene	ND	20000	"	"	"	"	"	"	
Styrene	ND	20000	"	"	"	"	"	"	
Bromoform	ND	20000	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	20000	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	20000	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	20000	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	20000	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	20000	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	20000	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20000	"	"	"	"	"	"	
Hexachlorobutadiene	ND	20000	"	"	"	"	"	"	
Naphthalene	ND	4000	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	200000	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*93.0 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*91.8 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*106 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*109 %*		*75-125*	"	"	"	"	
SVS2 (E610041-02) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									**R-05**
2-Butanone (MEK)	ND	100000	ug/m3	2	EJ61403	12-Oct-16	12-Oct-16	H&P 8260SV	
2-Hexanone (MBK)	ND	100000	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	100000	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	ND	20000	"	"	"	"	"	"	
Chloromethane	ND	20000	"	"	"	"	"	"	
Vinyl chloride	ND	2000	"	"	"	"	"	"	
Bromomethane	ND	20000	"	"	"	"	"	"	
Chloroethane	ND	20000	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	20000	"	"	"	"	"	"	
1,1-Dichloroethene	ND	20000	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	20000	"	"	"	"	"	"	
Carbon disulfide	ND	20000	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	20000	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	20000	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	20000	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	40000	"	"	"	"	"	"	
1,1-Dichloroethane	ND	20000	"	"	"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS2 (E610041-02) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									**R-05**
Ethyl tert-butyl ether (ETBE)	ND	40000	ug/m3	2	EJ61403	12-Oct-16	12-Oct-16	H&P 8260SV	
cis-1,2-Dichloroethene	ND	20000	"	"	"	"	"	"	
Chloroform	ND	4000	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	20000	"	"	"	"	"	"	
Carbon tetrachloride	ND	4000	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4000	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	40000	"	"	"	"	"	"	
Benzene	ND	4000	"	"	"	"	"	"	
Trichloroethene	ND	4000	"	"	"	"	"	"	
1,2-Dichloropropane	ND	20000	"	"	"	"	"	"	
Bromodichloromethane	ND	20000	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	20000	"	"	"	"	"	"	
Toluene	ND	40000	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	20000	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	20000	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	20000	"	"	"	"	"	"	
Tetrachloroethene	ND	4000	"	"	"	"	"	"	
Dibromochloromethane	ND	20000	"	"	"	"	"	"	
Chlorobenzene	ND	4000	"	"	"	"	"	"	
Ethylbenzene	ND	20000	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	20000	"	"	"	"	"	"	
m,p-Xylene	ND	20000	"	"	"	"	"	"	
o-Xylene	ND	20000	"	"	"	"	"	"	
Styrene	ND	20000	"	"	"	"	"	"	
Bromoform	ND	20000	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	20000	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	20000	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	20000	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	20000	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	20000	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	20000	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20000	"	"	"	"	"	"	
Hexachlorobutadiene	ND	20000	"	"	"	"	"	"	
Naphthalene	ND	4000	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	200000	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*88.7 %*	*75-125*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*96.5 %*	*75-125*		"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS2 (E610041-02) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									**R-05**
Surrogate: Toluene-d8		*116 %*		*75-125*	*EJ61403*	*12-Oct-16*	*12-Oct-16*	*H&P 8260SV*	
Surrogate: 4-Bromofluorobenzene		*107 %*		*75-125*	*"*	*"*	*"*	*"*	
SVS3 (E610041-03) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
2-Butanone (MEK)	ND	100000	ug/m3	2	EJ61403	12-Oct-16	12-Oct-16	H&P 8260SV	
2-Hexanone (MBK)	ND	100000	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	100000	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	ND	20000	"	"	"	"	"	"	
Chloromethane	ND	20000	"	"	"	"	"	"	
Vinyl chloride	ND	2000	"	"	"	"	"	"	
Bromomethane	ND	20000	"	"	"	"	"	"	
Chloroethane	ND	20000	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	20000	"	"	"	"	"	"	
1,1-Dichloroethene	ND	20000	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	20000	"	"	"	"	"	"	
Carbon disulfide	ND	20000	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	20000	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	20000	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	20000	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	40000	"	"	"	"	"	"	
1,1-Dichloroethane	ND	20000	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	40000	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	20000	"	"	"	"	"	"	
Chloroform	ND	4000	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	20000	"	"	"	"	"	"	
Carbon tetrachloride	ND	4000	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4000	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	40000	"	"	"	"	"	"	
Benzene	**12000**	4000	"	"	"	"	"	"	
Trichloroethene	ND	4000	"	"	"	"	"	"	
1,2-Dichloropropane	ND	20000	"	"	"	"	"	"	
Bromodichloromethane	ND	20000	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	20000	"	"	"	"	"	"	
Toluene	ND	40000	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	20000	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	20000	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	20000	"	"	"	"	"	"	
Tetrachloroethene	ND	4000	"	"	"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS3 (E610041-03) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Dibromochloromethane	ND	20000	ug/m3	2	EJ61403	12-Oct-16	12-Oct-16	H&P 8260SV	
Chlorobenzene	ND	4000	"	"	"	"	"	"	
Ethylbenzene	ND	20000	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	20000	"	"	"	"	"	"	
m,p-Xylene	ND	20000	"	"	"	"	"	"	
o-Xylene	ND	20000	"	"	"	"	"	"	
Styrene	ND	20000	"	"	"	"	"	"	
Bromoform	ND	20000	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	20000	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	20000	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	20000	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	20000	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	20000	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	20000	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20000	"	"	"	"	"	"	
Hexachlorobutadiene	ND	20000	"	"	"	"	"	"	
Naphthalene	ND	4000	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	200000	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*90.7 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*93.7 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*120 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*105 %*		*75-125*	"	"	"	"	
SVS3 DUP (E610041-04) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
2-Butanone (MEK)	ND	100000	ug/m3	2	EJ61404	13-Oct-16	13-Oct-16	H&P 8260SV	
2-Hexanone (MBK)	ND	100000	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	100000	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	ND	20000	"	"	"	"	"	"	
Chloromethane	ND	20000	"	"	"	"	"	"	
Vinyl chloride	ND	2000	"	"	"	"	"	"	
Bromomethane	ND	20000	"	"	"	"	"	"	
Chloroethane	ND	20000	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	20000	"	"	"	"	"	"	
1,1-Dichloroethene	ND	20000	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	20000	"	"	"	"	"	"	
Carbon disulfide	ND	20000	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	20000	"	"	"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS3 DUP (E610041-04) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Methyl tertiary-butyl ether (MTBE)	ND	20000	ug/m3	2	EJ61404	13-Oct-16	13-Oct-16	H&P 8260SV	
trans-1,2-Dichloroethene	ND	20000	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	40000	"	"	"	"	"	"	
1,1-Dichloroethane	ND	20000	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	40000	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	20000	"	"	"	"	"	"	
Chloroform	ND	4000	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	20000	"	"	"	"	"	"	
Carbon tetrachloride	ND	4000	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	4000	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	40000	"	"	"	"	"	"	
Benzene	**11000**	4000	"	"	"	"	"	"	
Trichloroethene	ND	4000	"	"	"	"	"	"	
1,2-Dichloropropane	ND	20000	"	"	"	"	"	"	
Bromodichloromethane	ND	20000	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	20000	"	"	"	"	"	"	
Toluene	ND	40000	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	20000	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	20000	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	20000	"	"	"	"	"	"	
Tetrachloroethene	ND	4000	"	"	"	"	"	"	
Dibromochloromethane	ND	20000	"	"	"	"	"	"	
Chlorobenzene	ND	4000	"	"	"	"	"	"	
Ethylbenzene	ND	20000	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	20000	"	"	"	"	"	"	
m,p-Xylene	ND	20000	"	"	"	"	"	"	
o-Xylene	ND	20000	"	"	"	"	"	"	
Styrene	ND	20000	"	"	"	"	"	"	
Bromoform	ND	20000	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	20000	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	20000	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	20000	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	20000	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	20000	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	20000	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20000	"	"	"	"	"	"	
Hexachlorobutadiene	ND	20000	"	"	"	"	"	"	
Naphthalene	ND	4000	"	"	"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS3 DUP (E610041-04) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
Tertiary-butyl alcohol (TBA)	ND	200000	ug/m3	2	EJ61404	13-Oct-16	13-Oct-16	H&P 8260SV	
Surrogate: Dibromofluoromethane		*78.4 %*	*75-125*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*99.4 %*	*75-125*		"	"	"	"	
Surrogate: Toluene-d8		*96.7 %*	*75-125*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*116 %*	*75-125*		"	"	"	"	
SVS8 (E610041-09) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
2-Butanone (MEK)	ND	2500	ug/m3	0.05	EJ61403	12-Oct-16	12-Oct-16	H&P 8260SV	
2-Hexanone (MBK)	ND	2500	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	2500	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	ND	500	"	"	"	"	"	"	
Chloromethane	ND	500	"	"	"	"	"	"	
Vinyl chloride	ND	50	"	"	"	"	"	"	
Bromomethane	ND	500	"	"	"	"	"	"	
Chloroethane	ND	500	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	500	"	"	"	"	"	"	
1,1-Dichloroethene	ND	500	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	500	"	"	"	"	"	"	
Carbon disulfide	ND	500	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	500	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	500	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	500	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	1000	"	"	"	"	"	"	
1,1-Dichloroethane	ND	500	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	1000	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	500	"	"	"	"	"	"	
Chloroform	ND	100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	500	"	"	"	"	"	"	
Carbon tetrachloride	ND	100	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	100	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	1000	"	"	"	"	"	"	
Benzene	ND	100	"	"	"	"	"	"	
Trichloroethene	ND	100	"	"	"	"	"	"	
1,2-Dichloropropane	ND	500	"	"	"	"	"	"	
Bromodichloromethane	ND	500	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	500	"	"	"	"	"	"	
Toluene	ND	1000	"	"	"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS8 (E610041-09) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
trans-1,3-Dichloropropene	ND	500	ug/m3	0.05	EJ61403	12-Oct-16	12-Oct-16	H&P 8260SV	
1,1,2-Trichloroethane	ND	500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	500	"	"	"	"	"	"	
Tetrachloroethene	ND	100	"	"	"	"	"	"	
Dibromochloromethane	ND	500	"	"	"	"	"	"	
Chlorobenzene	ND	100	"	"	"	"	"	"	
Ethylbenzene	ND	500	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	500	"	"	"	"	"	"	
m,p-Xylene	ND	500	"	"	"	"	"	"	
o-Xylene	ND	500	"	"	"	"	"	"	
Styrene	ND	500	"	"	"	"	"	"	
Bromoform	ND	500	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	500	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	500	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	500	"	"	"	"	"	"	
Hexachlorobutadiene	ND	500	"	"	"	"	"	"	
Naphthalene	ND	100	"	"	"	"	"	"	
Tertiary-butyl alcohol (TBA)	ND	5000	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		*92.8 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*90.2 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*101 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*		*75-125*	"	"	"	"	

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601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Petroleum Hydrocarbon Analysis

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS1 (E610041-01) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
TPHv (C6-C12)	**43000000**	800000	ug/m3	2	EJ61403	12-Oct-16	12-Oct-16	H&P 8260SV	
SVS2 (E610041-02) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
TPHv (C6-C12)	**35000000**	800000	ug/m3	2	EJ61403	12-Oct-16	12-Oct-16	H&P 8260SV	
SVS3 (E610041-03) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
TPHv (C6-C12)	**41000000**	800000	ug/m3	2	EJ61403	12-Oct-16	12-Oct-16	H&P 8260SV	
SVS3 DUP (E610041-04) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
TPHv (C6-C12)	**34000000**	800000	ug/m3	2	EJ61404	13-Oct-16	13-Oct-16	H&P 8260SV	
SVS4 (E610041-05) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
TPHv (C6 - C12)	**5900**	100	ug/m3	1	EJ61314	13-Oct-16	13-Oct-16	EPA TO-15	
SVS5 (E610041-06) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
TPHv (C6 - C12)	**3000**	100	ug/m3	1	EJ61314	13-Oct-16	13-Oct-16	EPA TO-15	
SVS6 (E610041-07) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
TPHv (C6 - C12)	**440**	100	ug/m3	1	EJ61314	13-Oct-16	13-Oct-16	EPA TO-15	
SVS7 (E610041-08) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
TPHv (C6 - C12)	**27000**	500	ug/m3	5	EJ61314	13-Oct-16	13-Oct-16	EPA TO-15	
SVS8 (E610041-09) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
TPHv (C6-C12)	**350000**	200000	ug/m3	0.05	EJ61403	12-Oct-16	12-Oct-16	H&P 8260SV	

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Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Petroleum Hydrocarbon Analysis

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
EB (E610041-10) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
TPHv (C6 - C12)	**170**	100	ug/m3	1	EJ61314	13-Oct-16	13-Oct-16	EPA TO-15	
TB (E610041-11) Vapor Sampled: 03-Oct-16 Received: 06-Oct-16									
TPHv (C6 - C12)	ND	100	ug/m3	1	EJ61314	13-Oct-16	14-Oct-16	EPA TO-15	

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Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Soil Gas and Vapor Analysis - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ60705 - GC										
Blank (EJ60705-BLK1)				Prepared & Analyzed: 07-Oct-16						
Methane	ND	10	ppmv							
Batch EJ60706 - GC										
Blank (EJ60706-BLK1)				Prepared & Analyzed: 07-Oct-16						
Carbon dioxide	ND	0.20	%							
Batch EJ60707 - GC										
Blank (EJ60707-BLK1)				Prepared & Analyzed: 07-Oct-16						
Helium (LCC)	ND	0.10	%							

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Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ61314 - TO-15										
Blank (EJ61314-BLK1)				Prepared & Analyzed: 13-Oct-16						
Dichlorodifluoromethane (F12)	ND	5.0	ug/m3							
Chloromethane	ND	2.1	"							
Dichlorotetrafluoroethane (F114)	ND	7.1	"							
Vinyl chloride	ND	2.6	"							
Bromomethane	ND	16	"							
Chloroethane	ND	8.0	"							
Trichlorofluoromethane (F11)	ND	5.6	"							
1,1-Dichloroethene	ND	4.0	"							
Tertiary-butyl alcohol (TBA)	ND	6.1	"							
1,1,2-Trichlorotrifluoroethane (F113)	ND	7.7	"							
Methylene chloride (Dichloromethane)	ND	3.5	"							
Carbon disulfide	ND	6.3	"							
trans-1,2-Dichloroethene	ND	8.0	"							
Methyl tertiary-butyl ether (MTBE)	ND	3.6	"							
1,1-Dichloroethane	ND	4.1	"							
2-Butanone (MEK)	ND	30	"							
cis-1,2-Dichloroethene	ND	4.0	"							
Diisopropyl ether (DIPE)	ND	4.2	"							
Chloroform	ND	4.9	"							
Ethyl tert-butyl ether (ETBE)	ND	4.2	"							
1,1,1-Trichloroethane	ND	5.5	"							
1,2-Dichloroethane (EDC)	ND	4.1	"							
Benzene	ND	3.2	"							
Carbon tetrachloride	ND	6.4	"							
Tertiary-amyl methyl ether (TAME)	ND	4.2	"							
Trichloroethene	ND	5.5	"							
1,2-Dichloropropane	ND	9.4	"							
Bromodichloromethane	ND	6.8	"							
cis-1,3-Dichloropropene	ND	4.6	"							
4-Methyl-2-pentanone (MIBK)	ND	8.3	"							
trans-1,3-Dichloropropene	ND	4.6	"							
Toluene	ND	3.8	"							
1,1,2-Trichloroethane	ND	5.5	"							
2-Hexanone (MBK)	ND	8.3	"							

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Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ61314 - TO-15										
Blank (EJ61314-BLK1)				Prepared & Analyzed: 13-Oct-16						
Dibromochloromethane	ND	8.6	ug/m3							
Tetrachloroethene	ND	6.9	"							
1,2-Dibromoethane (EDB)	ND	7.8	"							
1,1,1,2-Tetrachloroethane	ND	7.0	"							
Chlorobenzene	ND	4.7	"							
Ethylbenzene	ND	4.4	"							
m,p-Xylene	ND	8.8	"							
Styrene	ND	4.3	"							
o-Xylene	ND	4.4	"							
Bromoform	ND	10	"							
1,1,2,2-Tetrachloroethane	ND	7.0	"							
4-Ethyltoluene	ND	5.0	"							
1,3,5-Trimethylbenzene	ND	5.0	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
1,3-Dichlorobenzene	ND	12	"							
1,4-Dichlorobenzene	ND	12	"							
1,2-Dichlorobenzene	ND	12	"							
Naphthalene	ND	5.3	"							
1,2,4-Trichlorobenzene	ND	38	"							
Hexachlorobutadiene	ND	54	"							
Surrogate: 1,2-Dichloroethane-d4	*224*		*"*	*214*		*104*	*76-134*			
Surrogate: Toluene-d8	*220*		*"*	*207*		*106*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*399*		*"*	*364*		*109*	*77-127*			
LCS (EJ61314-BS1)				Prepared & Analyzed: 13-Oct-16						
Dichlorodifluoromethane (F12)	110	5.0	ug/m3	101		105	59-128			
Vinyl chloride	51	2.6	"	52.0		98.4	64-127			
Chloroethane	53	8.0	"	53.6		98.8	63-127			
Trichlorofluoromethane (F11)	120	5.6	"	113		106	62-126			
1,1-Dichloroethene	87	4.0	"	80.8		108	61-133			
1,1,2-Trichlorotrifluoroethane (F113)	180	7.7	"	155		114	66-126			
Methylene chloride (Dichloromethane)	62	3.5	"	70.8		87.9	62-115			
trans-1,2-Dichloroethene	79	8.0	"	80.8		98.1	67-124			

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Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ61314 - TO-15										
LCS (EJ61314-BS1)				Prepared & Analyzed: 13-Oct-16						
1,1-Dichloroethane	89	4.1	ug/m3	82.4		108	68-126			
cis-1,2-Dichloroethene	83	4.0	"	80.0		104	70-121			
Chloroform	110	4.9	"	99.2		112	68-123			
1,1,1-Trichloroethane	120	5.5	"	111		106	68-125			
1,2-Dichloroethane (EDC)	86	4.1	"	82.4		104	65-128			
Benzene	70	3.2	"	64.8		109	69-119			
Carbon tetrachloride	130	6.4	"	128		99.2	68-132			
Trichloroethene	110	5.5	"	110		101	71-123			
Toluene	68	3.8	"	76.8		88.6	66-119			
1,1,2-Trichloroethane	110	5.5	"	111		99.5	73-119			
Tetrachloroethene	120	6.9	"	138		86.9	66-124			
1,1,1,2-Tetrachloroethane	140	7.0	"	140		98.7	67-129			
Ethylbenzene	92	4.4	"	88.4		104	70-124			
m,p-Xylene	89	8.8	"	88.4		101	61-134			
o-Xylene	88	4.4	"	88.4		99.1	67-125			
1,1,2,2-Tetrachloroethane	140	7.0	"	140		98.9	65-127			
Surrogate: 1,2-Dichloroethane-d4	*240*		*"*	*214*		*112*	*76-134*			
Surrogate: Toluene-d8	*214*		*"*	*207*		*104*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*451*		*"*	*364*		*124*	*77-127*			

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Volatile Organic Compounds by H&P 8260SV - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ61403 - EPA 5030										
Blank (EJ61403-BLK1)				Prepared & Analyzed: 12-Oct-16						
2-Butanone (MEK)	ND	2500	ug/m3							
2-Hexanone (MBK)	ND	2500	"							
4-Methyl-2-pentanone (MIBK)	ND	2500	"							
Dichlorodifluoromethane (F12)	ND	500	"							
Chloromethane	ND	500	"							
Vinyl chloride	ND	50	"							
Bromomethane	ND	500	"							
Chloroethane	ND	500	"							
Trichlorofluoromethane (F11)	ND	500	"							
1,1-Dichloroethene	ND	500	"							
1,1,2 Trichlorotrifluoroethane (F113)	ND	500	"							
Carbon disulfide	ND	500	"							
Methylene chloride (Dichloromethane)	ND	500	"							
Methyl tertiary-butyl ether (MTBE)	ND	500	"							
trans-1,2-Dichloroethene	ND	500	"							
Diisopropyl ether (DIPE)	ND	1000	"							
1,1-Dichloroethane	ND	500	"							
Ethyl tert-butyl ether (ETBE)	ND	1000	"							
cis-1,2-Dichloroethene	ND	500	"							
Chloroform	ND	100	"							
1,1,1-Trichloroethane	ND	500	"							
Carbon tetrachloride	ND	100	"							
1,2-Dichloroethane (EDC)	ND	100	"							
Tertiary-amyl methyl ether (TAME)	ND	1000	"							
Benzene	ND	100	"							
Trichloroethene	ND	100	"							
1,2-Dichloropropane	ND	500	"							
Bromodichloromethane	ND	500	"							
cis-1,3-Dichloropropene	ND	500	"							
Toluene	ND	1000	"							
trans-1,3-Dichloropropene	ND	500	"							
1,1,2-Trichloroethane	ND	500	"							
1,2-Dibromoethane (EDB)	ND	500	"							
Tetrachloroethene	ND	100	"							

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Volatile Organic Compounds by H&P 8260SV - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ61403 - EPA 5030										
Blank (EJ61403-BLK1)				Prepared & Analyzed: 12-Oct-16						
Dibromochloromethane	ND	500	ug/m3							
Chlorobenzene	ND	100	"							
Ethylbenzene	ND	500	"							
1,1,1,2-Tetrachloroethane	ND	500	"							
m,p-Xylene	ND	500	"							
o-Xylene	ND	500	"							
Styrene	ND	500	"							
Bromoform	ND	500	"							
1,1,2,2-Tetrachloroethane	ND	500	"							
1,3,5-Trimethylbenzene	ND	500	"							
1,2,4-Trimethylbenzene	ND	500	"							
1,3-Dichlorobenzene	ND	500	"							
1,4-Dichlorobenzene	ND	500	"							
1,2-Dichlorobenzene	ND	500	"							
1,2,4-Trichlorobenzene	ND	500	"							
Hexachlorobutadiene	ND	500	"							
Naphthalene	ND	100	"							
Tertiary-butyl alcohol (TBA)	ND	5000	"							
Surrogate: Dibromofluoromethane	*2280*		*"*	*2500*		*91.2*	*75-125*			
Surrogate: 1,2-Dichloroethane-d4	*2240*		*"*	*2500*		*89.8*	*75-125*			
Surrogate: Toluene-d8	*2260*		*"*	*2500*		*90.5*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*2480*		*"*	*2500*		*99.1*	*75-125*			
LCS (EJ61403-BS1)				Prepared & Analyzed: 12-Oct-16						
Dichlorodifluoromethane (F12)	3300	500	ug/m3	5000		66.8	70-130			QL-1L
Vinyl chloride	4700	50	"	5000		93.6	70-130			
Chloroethane	4700	500	"	5000		94.9	70-130			
Trichlorofluoromethane (F11)	4200	500	"	5000		84.2	70-130			
1,1-Dichloroethene	4200	500	"	5000		85.0	70-130			
1,1,2 Trichlorotrifluoroethane (F113)	4900	500	"	5000		98.8	70-130			
Methylene chloride (Dichloromethane)	4600	500	"	5000		92.9	70-130			
trans-1,2-Dichloroethene	4800	500	"	5000		95.2	70-130			
1,1-Dichloroethane	4300	500	"	5000		86.4	70-130			

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Volatile Organic Compounds by H&P 8260SV - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ61403 - EPA 5030										
LCS (EJ61403-BS1)				Prepared & Analyzed: 12-Oct-16						
cis-1,2-Dichloroethene	4800	500	ug/m3	5000		96.0	70-130			
Chloroform	4600	100	"	5000		91.3	70-130			
1,1,1-Trichloroethane	4500	500	"	5000		89.9	70-130			
Carbon tetrachloride	4300	100	"	5000		86.1	70-130			
1,2-Dichloroethane (EDC)	4700	100	"	5000		93.8	70-130			
Benzene	4600	100	"	5000		91.2	70-130			
Trichloroethene	5100	100	"	5000		102	70-130			
Toluene	4700	1000	"	5000		93.3	70-130			
1,1,2-Trichloroethane	5300	500	"	5000		105	70-130			
Tetrachloroethene	5300	100	"	5000		107	70-130			
Ethylbenzene	5200	500	"	5000		105	70-130			
1,1,1,2-Tetrachloroethane	5100	500	"	5000		103	70-130			
m,p-Xylene	9900	500	"	10000		98.5	70-130			
o-Xylene	5000	500	"	5000		100	70-130			
1,1,2,2-Tetrachloroethane	4600	500	"	5000		91.9	70-130			
Surrogate: Dibromofluoromethane	*2280*		*"*	*2500*		*91.0*	*75-125*			
Surrogate: 1,2-Dichloroethane-d4	*2240*		*"*	*2500*		*89.7*	*75-125*			
Surrogate: Toluene-d8	*2310*		*"*	*2500*		*92.5*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*2340*		*"*	*2500*		*93.6*	*75-125*			
Batch EJ61404 - EPA 5030										
Blank (EJ61404-BLK1)				Prepared & Analyzed: 13-Oct-16						
2-Butanone (MEK)	ND	2500	ug/m3							
2-Hexanone (MBK)	ND	2500	"							
4-Methyl-2-pentanone (MIBK)	ND	2500	"							
Dichlorodifluoromethane (F12)	ND	500	"							
Chloromethane	ND	500	"							
Vinyl chloride	ND	50	"							
Bromomethane	ND	500	"							
Chloroethane	ND	500	"							
Trichlorofluoromethane (F11)	ND	500	"							
1,1-Dichloroethene	ND	500	"							

H&P Mobile
Geochemistry Inc.

2470 Impala Drive
Carlsbad, CA 92010
760-804-9678 Phone
760-804-9159 Fax

Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by H&P 8260SV - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ61404 - EPA 5030										
Blank (EJ61404-BLK1)				Prepared & Analyzed: 13-Oct-16						
1,1,2 Trichlorotrifluoroethane (F113)	ND	500	ug/m3							
Carbon disulfide	ND	500	"							
Methylene chloride (Dichloromethane)	ND	500	"							
Methyl tertiary-butyl ether (MTBE)	ND	500	"							
trans-1,2-Dichloroethene	ND	500	"							
Diisopropyl ether (DIPE)	ND	1000	"							
1,1-Dichloroethane	ND	500	"							
Ethyl tert-butyl ether (ETBE)	ND	1000	"							
cis-1,2-Dichloroethene	ND	500	"							
Chloroform	ND	100	"							
1,1,1-Trichloroethane	ND	500	"							
Carbon tetrachloride	ND	100	"							
1,2-Dichloroethane (EDC)	ND	100	"							
Tertiary-amyl methyl ether (TAME)	ND	1000	"							
Benzene	ND	100	"							
Trichloroethene	ND	100	"							
1,2-Dichloropropane	ND	500	"							
Bromodichloromethane	ND	500	"							
cis-1,3-Dichloropropene	ND	500	"							
Toluene	ND	1000	"							
trans-1,3-Dichloropropene	ND	500	"							
1,1,2-Trichloroethane	ND	500	"							
1,2-Dibromoethane (EDB)	ND	500	"							
Tetrachloroethene	ND	100	"							
Dibromochloromethane	ND	500	"							
Chlorobenzene	ND	100	"							
Ethylbenzene	ND	500	"							
1,1,1,2-Tetrachloroethane	ND	500	"							
m,p-Xylene	ND	500	"							
o-Xylene	ND	500	"							
Styrene	ND	500	"							
Bromoform	ND	500	"							
1,1,2,2-Tetrachloroethane	ND	500	"							
1,3,5-Trimethylbenzene	ND	500	"							

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Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by H&P 8260SV - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ61404 - EPA 5030										
Blank (EJ61404-BLK1)				Prepared & Analyzed: 13-Oct-16						
1,2,4-Trimethylbenzene	ND	500	ug/m3							
1,3-Dichlorobenzene	ND	500	"							
1,4-Dichlorobenzene	ND	500	"							
1,2-Dichlorobenzene	ND	500	"							
1,2,4-Trichlorobenzene	ND	500	"							
Hexachlorobutadiene	ND	500	"							
Naphthalene	ND	100	"							
Tertiary-butyl alcohol (TBA)	ND	5000	"							
Surrogate: Dibromofluoromethane	*2400*		*"*	*2500*		*95.8*	*75-125*			
Surrogate: 1,2-Dichloroethane-d4	*2340*		*"*	*2500*		*93.4*	*75-125*			
Surrogate: Toluene-d8	*2240*		*"*	*2500*		*89.7*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*2400*		*"*	*2500*		*96.1*	*75-125*			
LCS (EJ61404-BS1)				Prepared & Analyzed: 13-Oct-16						
Dichlorodifluoromethane (F12)	3300	500	ug/m3	5000		65.4	70-130			QL-1L
Vinyl chloride	4600	50	"	5000		91.6	70-130			
Chloroethane	4600	500	"	5000		91.4	70-130			
Trichlorofluoromethane (F11)	4300	500	"	5000		85.8	70-130			
1,1-Dichloroethene	4200	500	"	5000		84.3	70-130			
1,1,2 Trichlorotrifluoroethane (F113)	4700	500	"	5000		94.3	70-130			
Methylene chloride (Dichloromethane)	4300	500	"	5000		86.9	70-130			
trans-1,2-Dichloroethene	4600	500	"	5000		91.7	70-130			
1,1-Dichloroethane	4300	500	"	5000		85.6	70-130			
cis-1,2-Dichloroethene	4600	500	"	5000		92.9	70-130			
Chloroform	4600	100	"	5000		91.9	70-130			
1,1,1-Trichloroethane	4500	500	"	5000		90.1	70-130			
Carbon tetrachloride	4400	100	"	5000		87.4	70-130			
1,2-Dichloroethane (EDC)	4400	100	"	5000		88.6	70-130			
Benzene	4500	100	"	5000		89.6	70-130			
Trichloroethene	4900	100	"	5000		97.1	70-130			
Toluene	4500	1000	"	5000		90.5	70-130			
1,1,2-Trichloroethane	5000	500	"	5000		100	70-130			
Tetrachloroethene	5100	100	"	5000		103	70-130			

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Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Volatile Organic Compounds by H&P 8260SV - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ61404 - EPA 5030										
LCS (EJ61404-BS1)				Prepared & Analyzed: 13-Oct-16						
Ethylbenzene	5000	500	ug/m3	5000		101	70-130			
1,1,1,2-Tetrachloroethane	4900	500	"	5000		98.8	70-130			
m,p-Xylene	9700	500	"	10000		96.9	70-130			
o-Xylene	4800	500	"	5000		95.0	70-130			
1,1,2,2-Tetrachloroethane	4600	500	"	5000		92.6	70-130			
Surrogate: Dibromofluoromethane	*2300*		*"*	*2500*		*92.2*	*75-125*			
Surrogate: 1,2-Dichloroethane-d4	*2220*		*"*	*2500*		*88.8*	*75-125*			
Surrogate: Toluene-d8	*2230*		*"*	*2500*		*89.2*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*2430*		*"*	*2500*		*97.1*	*75-125*			

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Cardno ERI - Petaluma	Project: CAR100616-13	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	18-Oct-16 13:08

Petroleum Hydrocarbon Analysis - Quality Control

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ61314 - TO-15										
Blank (EJ61314-BLK1)				Prepared & Analyzed: 13-Oct-16						
TPHv (C6 - C12)	ND	100	ug/m3							
Batch EJ61403 - EPA 5030										
Blank (EJ61403-BLK1)				Prepared & Analyzed: 12-Oct-16						
TPHv (C6-C12)	ND	200000	ug/m3							
Batch EJ61404 - EPA 5030										
Blank (EJ61404-BLK1)				Prepared & Analyzed: 13-Oct-16						
TPHv (C6-C12)	ND	200000	ug/m3							

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Cardno ERI - Petaluma	Project:	CAR100616-13	
601 N. McDowell Blvd	Project Number:	Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager:	Mr. Scott Perkins	18-Oct-16 13:08

Notes and Definitions

R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.
QL-1L	The LCS and/or LCSD recoveries fell below the established control specifications for this analyte. Any result for this compound is qualified and should be considered biased low.
LCC	Leak Check Compound
ND	Analyte NOT DETECTED at or above the reporting limit
MDL	Method Detection Limit
%REC	Percent Recovery
RPD	Relative Percent Difference

Appendix

H&P Mobile Geochemistry, Inc. is approved as an Environmental Testing Laboratory and Mobile Laboratory in accordance with the DoD-ELAP and the ISO 17025 programs, certification number L15-279-R1

H&P is approved by the State of Arizona as an Environmental Testing Laboratory and Mobile Laboratory, certification numbers AZM758 and AZ0779.

H&P is approved by the State of California as an Environmental Laboratory and Mobile Laboratory in conformance with the Environmental Laboratory Accreditation Program (ELAP) for the category of Volatile and Semi-Volatile Organic Chemistry of Hazardous Waste, certification numbers 2740, 2741, 2743, 2744, 2745, 2754 & 2930.

H&P is approved by the State of Florida Department of Health under the National Environmental Laboratory Accreditation Conference (NELAC) certification number E871100.

The complete list of stationary and mobile laboratory certifications along with the fields of testing (FOTs) and analyte lists are available at www.handpmg.com/about/certifications.

H&P Mobile Geochemistry Inc.
2470 Impala Drive, Carlsbad, CA 92010
& Field Office - Signal Hill, CA
W handpmg.com E info@handpmg.com
P 760.804.9678 F 760.804.9159

VAPOR / AIR Chain of Custody

DATE: 10/3/16
Page 1 of 1

Lab Client and Project Information

Lab Client/Consultant:	Cardno	Project Name / #:	Former Exxon 79374
Lab Client Project Manager:	Scott Perkins	Project Location:	990 San Pablo Ave, Albany, CA
Lab Client Address:	601 N.McDowell Blvd	Report E-Mail(s):	scott.perkins@cardno.com
Lab Client City, State, Zip:	Petaluma, CA, 94954		norcallabs@cardno.com
Phone Number:	(707) 766-2000		

Sample Receipt (Lab Use Only)

Date Rec'd: 10/6/16	Control #: 160871.02
H&P Project #	CAR100616-13
Lab Work Order #	E610041
Sample Intact: ☒ Yes ☐ No ☐ See Notes Below	
Receipt Gauge ID: 11167	Temp: RT
Outside Lab:	
Receipt Notes/Tracking #: 1293TT6190493985 86	
Lab PM Initials: KRL	

Reporting Requirements

- ☒ Standard Report ☐ Level III ☐ Level IV
- ☒ Excel EDD ☐ Other EDD:
- ☒ CA Geotracker Global ID: T0619716673

Turnaround Time

- ☒ 5-7 day Stnd ☐ 24-Hr Rush
- ☐ 3-day Rush ☐ Mobile Lab
- ☐ 48-Hr Rush ☐ Other:

Sampler Information

Sampler(s): Nadya Vicente
Signature:
Date: 10/3/16

Additional Instructions to Laboratory:

☐ Check if Project Analyte List is Attached

* SEE KRISTIN BECKLEY*
EDF deliverable to norcallabs@eri-us.com

(*) Analyze for VOCs+TPH by H&P 8260SV per JE 10/17/16

* Preferred VOC units (please choose one):
☐ µg/L ☒ µg/m³ ☐ ppbv ☐ ppmv

EB = Equipment Blank TB=Trip Blank

TPHg using GC/MS C6-C12

SAMPLE NAME	FIELD POINT NAME (if applicable)	DATE mm/dd/yy	TIME 24hr clock	SAMPLE TYPE Indoor Air (IA), Ambient Air (AA), Subslab (SS), Soil Vapor (SV)	CONTAINER SIZE & TYPE 400mL/1L/6L Summa or Tedlar or Tube	CONTAINER ID (###)	Lab use only: Receipt Vac	VOCs Standard Full List ☒ TO-15	Oxygenates ☐ 8260SV ☒ TO-15	Naphthalene ☒ TO-15 ☐	TPHv as Gas ☒ TO-3m	TPHv as Diesel (sorbent tube) ☐ TO-17m	Leak Check Compound ☒ He	Methane by EPA 8015m	Fixed Gases by ASTM D1945 ☒ CO2 ☒ O2 ☒ N2	
SVS1 (*)	SVS1	10/3/2016	1413	SV	400mL Summa	261	-5.81	x	x	x	x		x	x	x	
SVS2 (*)	SVS2	10/3/2016	1324	SV	400mL Summa	466	-3.26	x	x	x	x		x	x	x	
SVS3 (*)	SVS3	10/3/2016	1202	SV	400mL Summa	247	-5.39	x	x	x	x		x	x	x	
SVS3 DUP (*)	SVS3	10/3/2016	1202	SV	400mL Summa	259	-5.37	x	x	x	x		x	x	x	
SVS4	SVS4	10/3/2016	1253	SV	400mL Summa	242	-3.83	x	x	x	x		x	x	x	
SVS5	SVS5	10/3/2016	1342	SV	400mL Summa	469	-4.52	x	x	x	x		x	x	x	
SVS6	SVS6	10/3/2016	1438	SV	400mL Summa	465	-3.43	x	x	x	x		x	x	x	
SVS7	SVS7	10/3/2016	1038	SV	400mL Summa	472	-2.93	x	x	x	x		x	x	x	
SVS8 (*)	SVS8	10/3/2016	1110	SV	400mL Summa	234	-3.18	x	x	x	x		x	x	x	
EB	EB	10/3/2016	1447	SV	400mL Summa	267	-4.31	x	x	x	x		x	x	x	
TB	TB	10/3/2016	N/A	SV	400mL Summa	—	+29	x	x	x	x		x	x	x	

Approved/Relinquished by:	Company: Cardno	Date: 10-3-16	Time: 1700	Received by: Jori Unswarth	Company: H&P	Date: 10/6/16	Time: 11:10
Approved/Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:
Approved/Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:

*Approval constitutes as authorization to proceed with analysis and acceptance of conditions on back

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WORK ORDER NUMBER: 16-10-0320

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For
Client: Cardno
Client Project Name: ExxonMobil 79374/022735C
Attention: Scott Perkins
601 North McDowell Blvd.
Petaluma, CA 94954-2312

Approved for release on 10/26/2016 by:
Cecile deGuia
Project Manager

ResultLink

Email your PM

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Contents

Client Project Name: ExxonMobil 79374/022735C
Work Order Number: 16-10-0320

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Work Order Narrative

Work Order: 16-10-0320 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 10/05/16. They were assigned to Work Order 16-10-0320.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Subcontractor Information:

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

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

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Sample Summary

Client:	Cardno	Work Order:	16-10-0320
	601 North McDowell Blvd.	Project Name:	ExxonMobil 79374/022735C
	Petaluma, CA 94954-2312	PO Number:	022735C
		Date/Time Received:	10/05/16 19:00
		Number of Containers:	9
Attn:	Scott Perkins		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
ST-SVS1	16-10-0320-1	10/03/16 14:15	1	Air
ST-SVS2	16-10-0320-2	10/03/16 13:30	1	Air
ST-SVS3	16-10-0320-3	10/03/16 12:05	1	Air
ST-SVS3 DUP	16-10-0320-4	10/03/16 12:05	1	Air
ST-SVS4	16-10-0320-5	10/03/16 12:58	1	Air
ST-SVS5	16-10-0320-6	10/03/16 13:45	1	Air
ST-SVS6	16-10-0320-7	10/03/16 14:40	1	Air
ST-SVS7	16-10-0320-8	10/03/16 10:44	1	Air
ST-SVS8	16-10-0320-9	10/03/16 11:12	1	Air

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Analytical Report

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

Project: ExxonMobil 79374/022735C

Date Received: 10/05/16
Work Order: 16-10-0320
Preparation: N/A
Method: EPA TO-17 (M)
Units: ug/m3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS1	**16-10-0320-1-A**	**10/03/16 14:15**	**Air**	**GC/MS MMM**	**N/A**	**10/07/16 18:24**	**161007L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	999	57-129	AZ

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS2	**16-10-0320-2-A**	**10/03/16 13:30**	**Air**	**GC/MS MMM**	**N/A**	**10/07/16 19:06**	**161007L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	1709	57-129	AZ

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS3	**16-10-0320-3-A**	**10/03/16 12:05**	**Air**	**GC/MS MMM**	**N/A**	**10/07/16 19:48**	**161007L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	390	20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	291	57-129	AZ

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS3 DUP	**16-10-0320-4-A**	**10/03/16 12:05**	**Air**	**GC/MS MMM**	**N/A**	**10/07/16 20:30**	**161007L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	480	20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	1549	57-129	AZ

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS4	**16-10-0320-5-A**	**10/03/16 12:58**	**Air**	**GC/MS MMM**	**N/A**	**10/07/16 21:13**	**161007L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	93	57-129	

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

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Analytical Report

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

Project: ExxonMobil 79374/022735C

Date Received: 10/05/16
Work Order: 16-10-0320
Preparation: N/A
Method: EPA TO-17 (M)
Units: ug/m3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS5	**16-10-0320-6-A**	**10/03/16 13:45**	**Air**	**GC/MS MMM**	**N/A**	**10/07/16 21:56**	**161007L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	105	57-129	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS6	**16-10-0320-7-A**	**10/03/16 14:40**	**Air**	**GC/MS MMM**	**N/A**	**10/07/16 22:38**	**161007L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	95	57-129	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS7	**16-10-0320-8-A**	**10/03/16 10:44**	**Air**	**GC/MS MMM**	**N/A**	**10/07/16 23:21**	**161007L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	28	20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	99	57-129	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS8	**16-10-0320-9-A**	**10/03/16 11:12**	**Air**	**GC/MS MMM**	**N/A**	**10/08/16 00:03**	**161007L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	84	57-129	

Return to Contents

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

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Analytical Report

Cardno		Date Received:	10/05/16
601 North McDowell Blvd.		Work Order:	16-10-0320
Petaluma, CA 94954-2312		Preparation:	N/A
		Method:	EPA TO-17 (M)
		Units:	ug/m3
Project: ExxonMobil 79374/022735C			Page 3 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-178-49**	**N/A**	**Air**	**GC/MS MMM**	**N/A**	**10/07/16 15:51**	**161007L01**

Comment(s): - MB data is reported in ng/sample.

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	2.0	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	91	57-129	

Return to Contents

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

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Analytical Report

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

Project: ExxonMobil 79374/022735C

Date Received: 10/05/16
Work Order: 16-10-0320
Preparation: N/A
Method: EPA TO-17 (M)
Units: ug/m3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS4	**16-10-0320-5-A**	**10/03/16 12:58**	**Air**	**GC/MS MMM**	**N/A**	**10/20/16 00:10**	**161019L01**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel (C10-C21)	9800	5000	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	90	50-150	
Toluene-d8	124	50-150	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS5	**16-10-0320-6-A**	**10/03/16 13:45**	**Air**	**GC/MS MMM**	**N/A**	**10/20/16 00:53**	**161019L01**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel (C10-C21)	16000	5000	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	94	50-150	
Toluene-d8	102	50-150	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS6	**16-10-0320-7-A**	**10/03/16 14:40**	**Air**	**GC/MS MMM**	**N/A**	**10/22/16 01:54**	**161021L01**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel (C10-C21)	ND	5000	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	105	50-150	
Toluene-d8	101	50-150	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS7	**16-10-0320-8-A**	**10/03/16 10:44**	**Air**	**GC/MS MMM**	**N/A**	**10/22/16 00:30**	**161021L01**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel (C10-C21)	9000	5000	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	90	50-150	
Toluene-d8	99	50-150	

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

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Analytical Report

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

Project: ExxonMobil 79374/022735C

Date Received: 10/05/16
Work Order: 16-10-0320
Preparation: N/A
Method: EPA TO-17 (M)
Units: ug/m3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS8	**16-10-0320-9-A**	**10/03/16 11:12**	**Air**	**GC/MS MMM**	**N/A**	**10/20/16 03:27**	**161019L01**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel (C10-C21)	28000	5000	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	82	50-150	
Toluene-d8	109	50-150	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-426-113**	**N/A**	**Air**	**GC/MS MMM**	**N/A**	**10/19/16 18:40**	**161019L01**

Comment(s): - MB data is reported in ng/sample.

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel (C10-C21)	ND	500	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	101	50-150	
Toluene-d8	97	50-150	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-426-112**	**N/A**	**Air**	**GC/MS MMM**	**N/A**	**10/21/16 21:36**	**161021L01**

Comment(s): - MB data is reported in ng/sample.

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel (C10-C21)	ND	500	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	103	50-150	
Toluene-d8	98	50-150	

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

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Quality Control - LCS/LCSD

Cardno	Date Received: 10/05/16
601 North McDowell Blvd.	Work Order: 16-10-0320
Petaluma, CA 94954-2312	Preparation: N/A
	Method: EPA TO-17 (M)
Project: ExxonMobil 79374/022735C	Page 1 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-15-178-49	**LCS**	**Air**	**GC/MS MMM**	**N/A**	**10/07/16 13:01**	**161007L01**
099-15-178-49	**LCSD**	**Air**	**GC/MS MMM**	**N/A**	**10/07/16 13:42**	**161007L01**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Naphthalene	100.0	99.09	99	98.89	99	40-190	0	0-35	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

Cardno		Date Received:	10/05/16
601 North McDowell Blvd.		Work Order:	16-10-0320
Petaluma, CA 94954-2312		Preparation:	N/A
		Method:	EPA TO-17 (M)
Project: ExxonMobil 79374/022735C			Page 2 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-15-426-113	**LCS**	**Air**	**GC/MS MMM**	**N/A**	**10/19/16 15:09**	**161019L01**
099-15-426-113	**LCSD**	**Air**	**GC/MS MMM**	**N/A**	**10/19/16 15:50**	**161019L01**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel (C10-C21)	2000	1978	99	1798	90	50-150	10	0-25	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

Cardno		Date Received:	10/05/16
601 North McDowell Blvd.		Work Order:	16-10-0320
Petaluma, CA 94954-2312		Preparation:	N/A
		Method:	EPA TO-17 (M)
Project: ExxonMobil 79374/022735C			Page 3 of 3

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-15-426-112	**LCS**	**Air**	**GC/MS MMM**	**N/A**	**10/21/16 20:13**	**161021L01**
099-15-426-112	**LCSD**	**Air**	**GC/MS MMM**	**N/A**	**10/21/16 20:54**	**161021L01**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel (C10-C21)	2000	2195	110	2314	116	50-150	5	0-25	

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RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 16-10-0320 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
EPA TO-17 (M)	N/A	953	GC/MS MMM	2

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Glossary of Terms and Qualifiers

Work Order: 16-10-0320 Page 1 of 1

Qualifiers	Definition
AZ	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
B	Analyte was present in the associated method blank.
BA	The MS/MSD RPD was out of control due to suspected matrix interference.
BB	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
DF	Reporting limits elevated due to matrix interferences.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
GE	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
HD	Chromat. profile inconsistent with pattern(s) of ref. fuel stnds.
HO	High concentration matrix spike recovery out of limits
HT	Analytical value calculated using results from associated tests.
HX	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS was in control.
IL	Relative percent difference out of control.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
LD	Analyte presence was not confirmed by second column or GC/MS analysis.
LP	The LCS and/or LCSD recoveries for this analyte were above the upper control limit. The associated sample was non-detected. Therefore, the sample data was reported without further clarification.
LQ	LCS recovery above method control limits.
LR	LCS recovery below method control limits.
ND	Parameter not detected at the indicated reporting limit.
QO	Compound did not meet method-described identification guidelines. Identification was based on additional GC/MS characteristics.
RU	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
SG	A silica gel cleanup procedure was performed.
SN	See applicable analysis comment.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

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Cecile L de Guia

From: Scott Perkins <Scott.Perkins@cardno.com>
Sent: Wednesday, October 19, 2016 9:51 AM
To: Cecile L de Guia; Nadya Vicente
Subject: RE: Former Exxon 79374
Attachments: 16-10-0320 revised TPHd.pdf

Cecile,

Attached is the revised COC. 5 day please. That will give me 2 days to meet the deliverable deadline of 10/28.

Scott Perkins
SENIOR PROJECT MANAGER
ENGINEERING & ENVIRONMENTAL SERVICES DIVISION
CARDNO

Direct +1 707 766 2000 Mobile +1 925 580 2455 Fax +1 707 789 0414
Address 601 North McDowell Boulevard, Petaluma, CA 94954
Email scott.perkins@cardno.com Web www.cardno.com

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From: Cecile L de Guia [mailto:CecileLdeGuia@eurofinsUS.com]
Sent: Wednesday, October 19, 2016 9:38 AM
To: Nadya Vicente <nadya.vicente@cardno.com>
Cc: Scott Perkins <Scott.Perkins@cardno.com>
Subject: RE: Former Exxon 79374

Good Morning Nadya,
Attached is the COC for the above project. Please add TO-17 for TPH as Diesel (C10-C21) for samples 5 through 9. We cannot perform the Diesel analysis for samples 1 through 4 due to heavy concentration of diesel in the sample and will jeopardize our instrument.
Sample #6 has been analyzed twice already for confirmation. The lab will try to analyze again but couldn't guarantee if we can get a valid result. We will let you know on this one.
Please send back the revised COC.
Thank you.

Best regards,
Cecile de Guia
Project Manager

Eurofins Calscience
(714) 895-5494

From: Nadya Vicente [mailto:nadya.vicente@cardno.com]
Sent: Tuesday, October 18, 2016 3:02 PM
To: Cecile L de Guia
Subject: Former Exxon 79374
Importance: High

Hi Cecile,

We submitted a batch of sorbent tube samples for Former Exxon 79374 (Albany,CA) . Is it possible to get diesel results using these samples? (TO-17)
I have attached a draft copy of the COC submitted on 10/3/16
Thank you

Nadya Vicente
SENIOR STAFF GEOLOGIST
ENGINEERING & ENVIRONMENTAL SERVICES DIVISION
CARDNO

Cardno
Shaping the Future

Office +1 707 766 2000 Direct +1 707 766 2015 Mobile +1 707 280 7487
Address 601 North McDowell Boulevard, Petaluma, CA 94954-2312
Email nadya.vicente@cardno.com Web www.cardno.com

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H&P Subcontract: CAR100516-CEL / 160871.01

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AIR CHAIN OF CUSTODY RECORD

WO # / LAB USE ONLY: **16-10-0320**

DATE: 10/3/2016

PAGE: 1 OF 1

LABORATORY CLIENT: ~~Exxon-Mobil~~/ Cardno	CLIENT PROJECT NAME / NUMBER: Former Exxon Service Station 79374
ADDRESS: 601 N. McDowell Blvd	PROJECT ADDRESS: 990 San Pablo Avenue
CITY: Petaluma STATE: CA ZIP: 94954	CITY: Albany STATE: CA ZIP:
TEL: 707-766-2000 E-MAIL: scott.perkins@cardno.com	PROJECT CONTACT: Scott Perkiins
P.O. NO.: 022735CX	LAB CONTACT OR QUOTE NO.: Lori Thompon PM (H&P Subcontract)
	SAMPLER(S): (PRINT) Nadya Vicente

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

EDF
☒ EDD ☒ UNITS ug/m3

SPECIAL INSTRUCTIONS:
cc Kristin.Beckley@HandPmg.com on Report + all Coresponcane
Invoice to H&P: noah.unsworth@HandPmg.com

Reporting Limits - ug/m3
Global ID = T0619716673
EDF deliverable to norcallabs@eri-us.com

LAB USE ONLY	SAMPLE ID	FIELD ID / POINT OF COLLECTION	Air Type (I) Indoor (SV) Soil Vap. (A) Ambient	Sampling Equipment: Media ID #	Tube ~~Size~~ Vol	Flow Controller ID #	Start Sampling: Date	Start Sampling: Time (24 hr clock)	Start Sampling: Canister Pressure ("Hg)	Stop Sampling: Date	Stop Sampling: Time (24 hr clock)	Stop Sampling: Canister Pressure ("Hg)	REQUESTED ANALYSES: TO-17 Napthalene	TO-17 TPHd		
1	ST-SVS1	SVS1	SV	G0183805	100ml	NA	10/3/2016	NA	NA	10/3/2016	1415	NA	X			
2	ST-SVS2	SVS2	SV	G0150672	100ml	NA	10/3/2016	NA	NA	10/3/2016	1330	NA	X			
3	ST-SVS3	SVS3	SV	G0185867	100ml	NA	10/3/2016	NA	NA	10/3/2016	1205	NA	X			
4	ST-SVS3 DUP	SVS3	SV	G0188328	100ml	NA	10/3/2016	NA	NA	10/3/2016	1205	NA	X			
5	ST-SVS4	SVS4	SV	G0188325	100ml	NA	10/3/2016	NA	NA	10/3/2016	1258	NA	X	X		
6	ST-SVS5	SVS5	SV	G0188631	100ml	NA	10/3/2016	NA	NA	10/3/2016	1345	NA	X	↓		
7	ST-SVS6	SVS6	SV	G0189622	100ml	NA	10/3/2016	NA	NA	10/3/2016	1440	NA	X			
8	ST-SVS7	SVS7	SV	G0185295	100ml	NA	10/3/2016	NA	NA	10/3/2016	1044	NA	X			
9	ST-SVS8	SVS8	SV	G0141346	100ml	NA	10/3/2016	NA	NA	10/3/2016	1112	NA	X			

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 10/5/16	Time: 10:10
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECI	Date: 10/05/16	Time: 1305
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECI	Date: 10/5/16	Time: 19:00

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H&P Subcontract: CAR100516-CEL / 160871.01

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WO # / LAB USE ONLY: **16-10-0320**

AIR CHAIN OF CUSTODY RECORD

DATE: 10/3/2016

PAGE: 1 OF 1

LABORATORY CLIENT: ~~Exxon-Mobil~~/ Cardno	CLIENT PROJECT NAME / NUMBER: Former Exxon Service Station 79374	P.O. NO.: 022735CX
ADDRESS: 601 N. McDowell Blvd	PROJECT ADDRESS: 990 San Pablo Avenue	LAB CONTACT OR QUOTE NO.: Lori Thompson PM (H&P Subcontract)
CITY: Petaluma STATE: CA ZIP: 94954	CITY: Albany STATE: CA ZIP:	SAMPLER(S): (PRINT) Nadya Vicente
TEL: 707-766-2000 E-MAIL: scott.perkins@cardno.com	PROJECT CONTACT: Scott Perkiins	

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

EDF
☒ EDD ☒ UNITS ug/m3

SPECIAL INSTRUCTIONS:
cc Kristin.Beckley@HandPMG.com on Report + all Coresponcane
Invoice to H&P: noah.unsworth@HandPmg.com

Reporting Limits - ug/m3
Global ID = T0619716673
EDF deliverable to norcallabs@eri-us.com

LAB USE ONLY	SAMPLE ID	FIELD ID / POINT OF COLLECTION	Air Type (I) Indoor (SV) Soil Vap. (A) Ambient	Sampling Equipment: Media ID #	Tube ~~Size~~ Vol	Flow Controller ID #	Start Sampling Information: Date	Time (24 hr clock)	Canister Pressure ("Hg)	Stop Sampling Information: Date	Time (24 hr clock)	Canister Pressure ("Hg)	REQUESTED ANALYSES: TO-17 Napthalene
1	ST-SVS1	SVS1	SV	G0183805	100ml	NA	10/3/2016	NA	NA	10/3/2016	1415	NA	X
2	ST-SVS2	SVS2	SV	G0150672	100ml	NA	10/3/2016	NA	NA	10/3/2016	1330	NA	X
3	ST-SVS3	SVS3	SV	G0185867	100ml	NA	10/3/2016	NA	NA	10/3/2016	1205	NA	X
4	ST-SVS3 DUP	SVS3	SV	G0188328	100ml	NA	10/3/2016	NA	NA	10/3/2016	1205	NA	X
5	ST-SVS4	SVS4	SV	G0188325	100ml	NA	10/3/2016	NA	NA	10/3/2016	1258	NA	X
6	ST-SVS5	SVS5	SV	G0188631	100ml	NA	10/3/2016	NA	NA	10/3/2016	1345	NA	X
7	ST-SVS6	SVS6	SV	G0189622	100ml	NA	10/3/2016	NA	NA	10/3/2016	1440	NA	X
8	ST-SVS7	SVS7	SV	G0185295	100ml	NA	10/3/2016	NA	NA	10/3/2016	1044	NA	X
9	ST-SVS8	SVS8	SV	G0141346	100ml	NA	10/3/2016	NA	NA	10/3/2016	1112	NA	X

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date: 10/5/16	Time: 10:10
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECL	Date: 10/05/16	Time: 1305
Relinquished by: (Signature)	Received by: (Signature/Affiliation) ECL	Date: 10/5/16	Time: 19:00

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WORK ORDER NUMBER: 16-10-0320

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: CARDNO

DATE: 10 / 05 / 2016

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

Thermometer ID: SC3B (CF: 0.0°C); Temperature (w/o CF): 3.2 °C (w/ CF): 3.2 °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

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter

Checked by: 671

CUSTODY SEAL:

Cooler	☐ Present and Intact	☐ Present but Not Intact	☑ Not Present	☐ N/A	Checked by: 671
Sample(s)	☐ Present and Intact	☐ Present but Not Intact	☑ Not Present	☐ N/A	Checked by: 1053

SAMPLE CONDITION:	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers			
☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and in good condition	☑	☐	☐
Proper containers for analyses requested	☑	☐	☐
Sufficient volume/mass for analyses requested	☑	☐	☐
Samples received within holding time	☑	☐	☐
Aqueous samples for certain analyses received within 15-minute holding time			
☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen	☐	☐	☑
Proper preservation chemical(s) noted on COC and/or sample container	☐	☐	☑
Unpreserved aqueous sample(s) received for certain analyses			
☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals			
Container(s) for certain analysis free of headspace	☐	☐	☑
☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500)			
☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE: (Trip Blank Lot Number: _____)

Aqueous: ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

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

Air: ☐ Tedlar™ ☐ Canister ☑ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

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

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = HNO_3, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = H_3PO_4, **s** = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 1053

Reviewed by: 689

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APPENDIX

H

SURVEY DATA

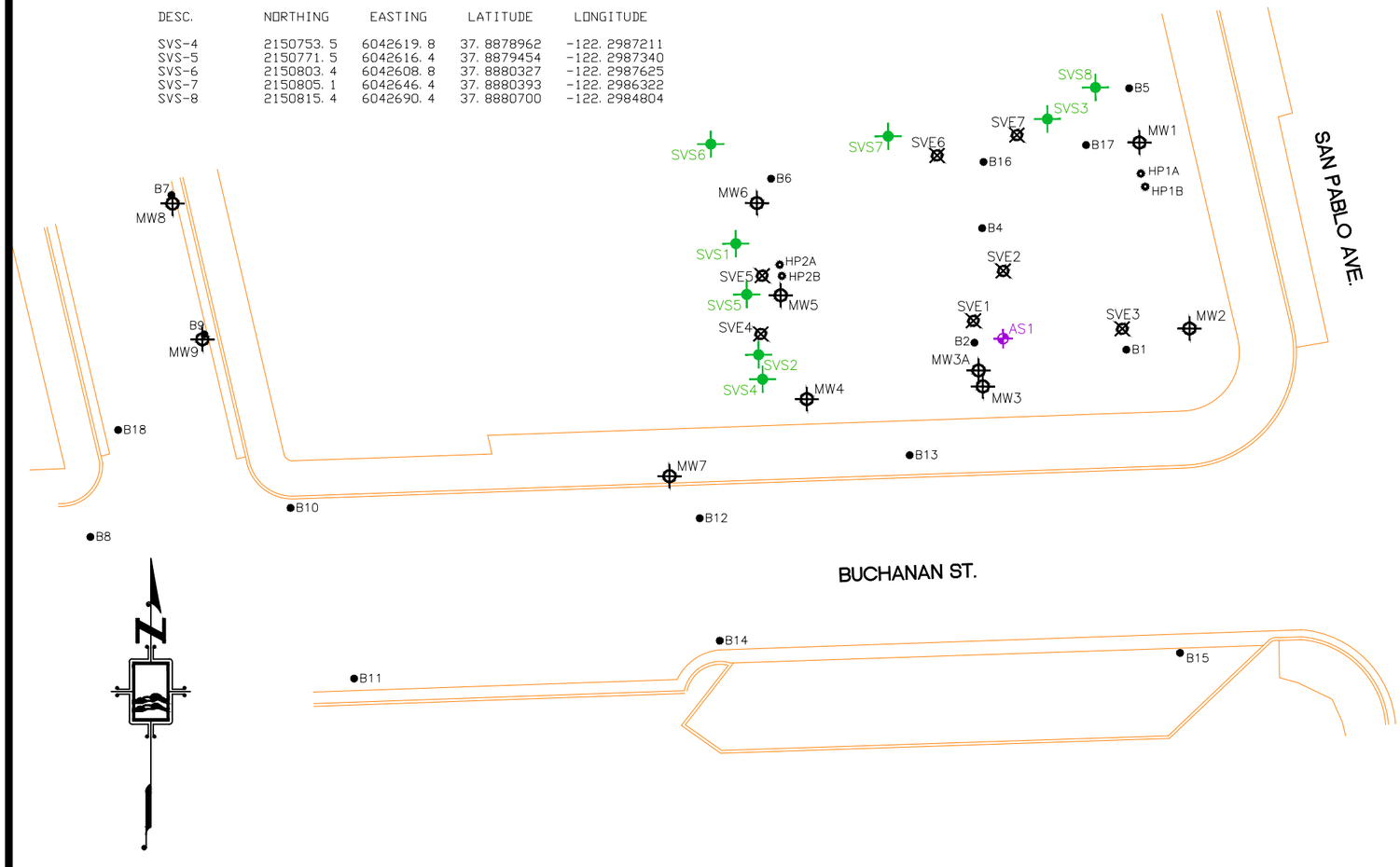
Cardno
Shaping the Future

WELLS SURVEYED ON 10-26-15

DESC.	NORTHING	EASTING	LATITUDE	LONGITUDE	EL. PVC	EL. RIM
MW-9	2150762.1	6042501.0	37.8879136	-122.2991332	39.50	39.80
SVE-4	2150763.1	6042619.4	37.8879226	-122.2987229	43.10	42.53
SVE-5	2150775.5	6042619.7	37.8879566	-122.2987228	43.70	43.07
SVE-6	2150801.0	6042656.8	37.8880287	-122.2985959	44.37	43.93
SVE-7	2150805.3	6042673.8	37.8880414	-122.2985373	44.48	43.94
B-18	2150742.7	6042483.0	37.8878594	-122.2991943		

WELLS SURVEYED ON 10-3-16

DESC.	NORTHING	EASTING	LATITUDE	LONGITUDE
SVS-4	2150753.5	6042619.8	37.8878962	-122.2987211
SVS-5	2150771.5	6042616.4	37.8879454	-122.2987340
SVS-6	2150803.4	6042608.8	37.8880327	-122.2987625
SVS-7	2150805.1	6042646.4	37.8880393	-122.2986322
SVS-8	2150815.4	6042690.4	37.8880700	-122.2984804



DESC.	NORTHING	EASTING	LATITUDE	LONGITUDE	EL. PVC	EL. RIM	EL. GND
WELLS BORINGS PREVIOUSLY SURVEYED BY CARDNO, CONVERTED TO NAVD 88 BY MORROW:							
B1	2150759.8	6042697.0	37.8879174	-122.2984540			44.1
B2	2150761.3	6042664.8	37.8879199	-122.2985658			43.7
B4	2150785.6	6042666.4	37.8879867	-122.2985617			44.0
B5	2150815.3	6042697.6	37.8880700	-122.2984557			44.7
B6	2150796.1	6042621.6	37.8880132	-122.2987177			44.3
HP1A	2150797.2	6042700.1	37.8880203	-122.2984458			44.5
HP1B	2150794.4	6042701.0	37.8880128	-122.2984424			44.5
HP2A	2150777.8	6042623.4	37.8879631	-122.2987101			43.6
HP2B	2150775.5	6042623.9	37.8879566	-122.2987083			43.5
MW1	2150803.8	6042699.8	37.8880384	-122.2984473	44.19	44.49	
MW2	2150764.3	6042710.4	37.8879305	-122.2984079	43.99	44.37	
MW3	2150752.0	6042666.5	37.8878945	-122.2985590	43.16	43.66	
MW4	2150749.3	6042629.2	37.8878851	-122.2986883	42.04	42.46	
MW5	2150771.3	6042623.6	37.8879453	-122.2987089	43.12	43.40	
MW6	2150790.9	6042618.6	37.8879988	-122.2987277	43.80	44.11	
WELLS SURVEYED BY MORROW ON 2-6-12: (CONVERTED TO NAVD 88 BASED ON 4-3-14 SURVEY)							
MW3A	2150755.4	6042665.6	37.8879037	-122.2985623	43.42	43.69	
SVE1	2150765.9	6042664.6	37.8879326	-122.2985668	43.32	43.77	
SVE2	2150776.5	6042670.9	37.8879620	-122.2985456	43.68	43.95	
SVE3	2150764.2	6042696.1	37.8879296	-122.2984573	43.67	44.18	
AS1	2150762.2	6042670.8	37.8879226	-122.2985448		43.81	
WELLS AND BORINGS SURVEYED BY MORROW ON 4-3-14:							
SVS1	2150782.3	6042614.1	37.8879749	-122.2987427		43.87	
SVS2	2150758.7	6042618.9	37.8879104	-122.2987244		42.90	
SVS3	2150808.8	6042680.3	37.8880511	-122.2985153		44.47	
B7	2150792.6	6042494.3	37.8879969	-122.2991584			40.1
B8	2150720.0	6042477.1	37.8877967	-122.2992132			39.5
B9	2150763.0	6042501.3	37.8879160	-122.2991323			39.9
B10	2150726.2	6042519.6	37.8878158	-122.2990665			40.1
B11	2150689.9	6042533.1	37.8877171	-122.2990172			40.2
B12	2150724.0	6042606.4	37.8878144	-122.2987654			41.6
B13	2150737.4	6042651.0	37.8878535	-122.2986119			42.6
B14	2150698.0	6042610.7	37.8877432	-122.2987489			41.6
B15	2150695.4	6042708.4	37.8877413	-122.2984102			43.1
B16	2150799.7	6042666.7	37.8880253	-122.2985617			44.4
B17	2150803.2	6042688.5	37.8880363	-122.2984865			44.4
WELLS SURVEYED ON 12-23-14:							
MW7	2150732.9	6042600.0	37.8878386	-122.2987881	41.21	41.63	
MW8	2150790.8	6042494.5	37.8879920	-122.2991575	39.65	40.06	

0 15 30 60 90

SCALE IN FEET

Morrow Surveying
LAND SURVEYORS

1255 Starboard Drive
West Sacramento ~ CA ~ 95691
Phone: 916-372-8124
Fax: 916-372-8538
Email: matt@morrowsurveying.com
www.morrowsurveying.com

DATE: APRIL, 2014
DATE SURVEYED: 4-3-14 SF, 12-23-14 MS, 10-26-15 SF, 10-3-16
SCALE: 1"=30'
SHEET 1 OF 1
DRAWING NO. : 1873-155
DRAWN BY: MM

BASIS OF COORDINATES & ELEVATIONS:

COORDINATES ARE CALIFORNIA STATE PLANE ZONE 3 COORDINATES FROM GPS OBSERVATIONS USING CSDS VIRTUAL SURVEY NETWORK.

COORDINATE DATUM IS NAD 83.

REFERENCE GEOID IS GEOID03.

VERTICAL DATUM IS NAVD 88 FROM GPS OBSERVATIONS.

MONITORING WELL EXHIBIT

Prepared for:
CARDNO

FORMER EXXON 79374

990 San Pablo Ave.
City of Albany Alameda County
California

APPENDIX

I

WASTE DISPOSAL DOCUMENTATION

Cardno
Shaping the Future

Manifest

SOIL SAFE OF CA – TPST
Non-Hazardous Soils

↓ Manifest # ↓

Date of Shipment:	Responsible for Payment:	Transport Truck #:	Facility #:	Approval Number:	Load #
/ /		876/176	A07	45110	002

Generator and/or Consultant

Generator's Name and Billing Address:
EXXONMOBIL OIL CORPORATION
C/O CARDNO
601 NORTH MCDOWELL BOULEVARD
PETALUMA, CA 94954

Generator's Phone #: 707-766-2000
Person to Contact:
FAX#:
N/A
Customer Account Number

Consultant's Name and Billing Address:

Consultant's Phone #:
Person to Contact:
FAX#:
Customer Account Number

Generation Site (Transport from): *(name & address)*
EXXONMOBIL 79374
990 SAN PABLO AVE
ALBANY, CA 94706

Site Phone #:
Person to Contact:
FAX#:

Designated Facility (Transport to): *(name & address)*
SOIL SAFE
12328 HIBISCUS AVENUE
ADELANTO, CA 92301

Facility Phone #: (800) 862-8001
Person to Contact: JOE PROVANSAL
FAX#: (760) 246-8004

Transporter Name and Mailing Address:
BELSHIRE
25971 TOWNE CENTRE DRIVE
FOOTHILL RANCH, CA 92610
BESI: 272670

Transporter's Phone #: 949-460-5200
CAR000183013
Person to Contact: LARRY MOOTHART
450647
FAX#: 949-460-5210
Customer Account Number

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐	1 DM	Soil	37800	37200	600
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					30

List any exception to items listed above: Bin # 38 CT 43 CT
Scale Ticket # 1084183

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils descried in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☐ Consultant ☑ ON BEHALF OF EXXONMOBIL SCOTT PERKINS
Signature and date:
Month 9 Day 29 Year 16

Transporter

Transporter's certification: I/We acknowledge receipt of the soil referenced above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that the soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: Ron Green
Signature and date:
Month 10 Day 03 Year 16

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: J. PROVANSAL
Signature and date: 10.20.16

Please print or type.

79374 / 1425649

TRANSPORTER COPY