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Jennifer C. Sedlachek
Project Manager

ExxonMobil

May 31, 2017

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

RECEIVED
By Alameda County Environmental Health 9:12 am, Jun 01, 2017

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 ***Semi-Annual Soil Vapor Assessment, Second Quarter 2017,*** dated May 31, 2017, 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 ***Semi-Annual Soil Vapor Assessment, Second Quarter 2017,*** dated May 31, 2017

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
Mr. Charles Drexler, Esq.

w/o attachment
Mr. Scott Perkins, Cardno

Semi-Annual Soil Vapor Assessment, Second Quarter 2017

Former Exxon Service Station 79374
Alameda County RO 2974

Cardno 2735C.R15

May 31, 2017

Cardno
Shaping the Future

Semi-Annual Soil Vapor Assessment, Second Quarter 2017

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

Alameda County RO 2974

Cardno 2735C.R15

May 31, 2017

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Appendices

1 Introduction

At the request of ExxonMobil Environmental Services (EMES), on behalf of Exxon Mobil Corporation, Cardno prepared this semi-annual soil vapor assessment for the site. The work was proposed in the *Soil Vapor Assessment*, dated October 27, 2016 (Cardno, 2016). The Alameda County Department of Environmental Health (ACEH) agreed with the recommendation in a letter dated December 20, 2016 (Appendix A). The work included sampling the soil vapor wells at the site to progress the site towards closure and evaluate the risk associated with soil vapor concentrations at the site.

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 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).

In March 2017, a site-specific discharge permit was issued by the Bay Area Air Quality Management District (BAAQMD). An additional HIT event will be scheduled as soon as power is acquired from Pacific Gas & Electric (PG&E). Due to the noise associated with a portable generator, it is not feasible to run the system 24 hours per day without power.

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, screened from 5.4 to 5.6 feet bgs (Cardno ERI, 2014). Shallow wells SVS4 through SVS8, screened from 2.1 to 2.3 feet bgs, were installed in 2016 (Cardno, 2016).

Sampling results indicate that maximum concentrations are present in the deeper wells with concentrations of TPHg and benzene exceeding screening levels. Concentrations in the shallow wells are one to three orders of magnitude lower than the deeper wells. The attenuation shown between approximately 5.5 and 2.2 feet indicate that concentrations decrease to below screening levels prior to reaching the building slabs (Cardno, 2016).

5 Soil Vapor Sampling

On April 5, 2017, 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). Due to wet and/or saturated conditions, samples were not collected from wells SVS2 or SVS5.

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 D.

Cardno submitted soil vapor samples for analysis to H&P Mobil Geochemistry, Inc. and Eurofins Calscience, Inc., California state-certified laboratories, under COC protocol. Laboratory analytical results and sampling methods are summarized in Tables 2A and 2B. Select soil vapor results are illustrated on Plate 3. Laboratory analytical reports are included in Appendix E.

6 Results

The leak detection compound (helium) was reported in well SVS7 at 0.75%, indicating a potential leak in the well annular seal and sampling equipment. The helium concentration was approximately 10% in the shroud, indicating a leak of approximately 7.5%. The California EPA states that ambient air leaks of up to 5% are acceptable (DTSC, 2015). Concentrations reported in well SVS7 were several times lower than the applicable

screening level. A leak of 2.5% greater than the acceptable level is not likely to reduce the reported concentrations enough to reach the screening level.

Oxygen concentrations ranged from 4.6% to 5.5% in the deep wells and in shallow well SVS8. Oxygen concentrations ranged from 17% to 21% in the remaining shallow wells, indicating favorable conditions for bio-attenuation at shallower depths.

6.1 Near On-Site Commercial Building

Vapor-phase concentrations in well SVS3 (screened from 5.4 to 5.6 feet bgs) showed decreasing trends compared to historical results. Concentrations of TPHd, TPHg, benzene, and naphthalene and reporting limits for select constituents exceeded both residential and commercial ESLs in the well.

Vapor-phase concentrations in well SVS8 (screened from 2.1 to 2.3 feet bgs) increased from the previous result with concentrations of TPHd and TPHg and select reporting limits exceeding both residential and commercial ESLs in the well.

Vapor-phase concentrations in well SVS7 (screened from 2.1 to 2.3 feet bgs) were below both residential and commercial ESLs and were one to three orders of magnitude lower than concentrations reported in well SVS3.

6.1.1 Potential Preferential Pathways

The soil vapor wells near the on-site commercial building are not located within 15 feet of known utilities. Maximum concentrations (well SVS3) are located over 30 feet away from the nearest known utility line. Known utility locations are illustrated on Plate 4.

6.2 Near Adjacent Residential Building

Vapor-phase concentrations in well SVS1 (screened from 5.4 to 5.6 feet bgs) show decreasing trends compared to historical results. Concentrations of TPHd and TPHg and reporting limits for select constituents exceeded both residential and commercial ESLs.

Vapor-phase concentrations in wells SVS4 and SVS6 (screened from 2.1 to 2.3 feet bgs) were below ESLs and were two to four orders of magnitude lower than concentrations reported in well SVS1.

During the October 2016 sampling event, concentrations of bromodichloromethane and/or chloroform were reported in the wells SVS4 and SVS5. Bromodichloromethane and chloroform are common byproducts of drinking water chlorination (ATSDR, 1989; ATSDR, 2016). These concentrations were suspected to be related to leaking water pipes and not operations related to EMES. During the current sampling event, these constituents were not reported in the wells.

6.2.1 Potential Preferential Pathways

An underground electrical line (street lighting) runs adjacent to the wells located along the residential building (Plate 4). Maximum concentrations in this area are present in well SVS1. Concentrations decrease both north along the electrical line (well SVS6) and south along the electrical line (well SVS2) from well SVS1, indicating that the electrical line is not acting as a conduit for the migration of concentrations. In addition, the electrical line is associated with street lighting and is not installed to depths where maximum concentrations occur.

7 Conclusions

Cardno concludes that concentrations reported in the soil vapor wells warrant additional sampling and active remediation. The attenuation shown between approximately 5 and 2 feet indicate that concentrations decrease prior to reaching the building slabs. Select concentrations in well SVS8 were reported above applicable screening levels during this event, inconsistent with the previous result for this well and the results of other

shallow wells (screened from 2.1 to 2.3 feet bgs) at the site. Continued sampling to evaluate fluctuations and effectiveness of remediation is warranted.

8 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).

9 Recommendations and Work in Progress

Cardno recommends continued semi-annual soil vapor sampling to further evaluate soil vapor concentrations. Cardno anticipates conducting HIT events at the site as soon as power is acquired from PG&E.

10 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.

11 Document Distribution

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

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12 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.

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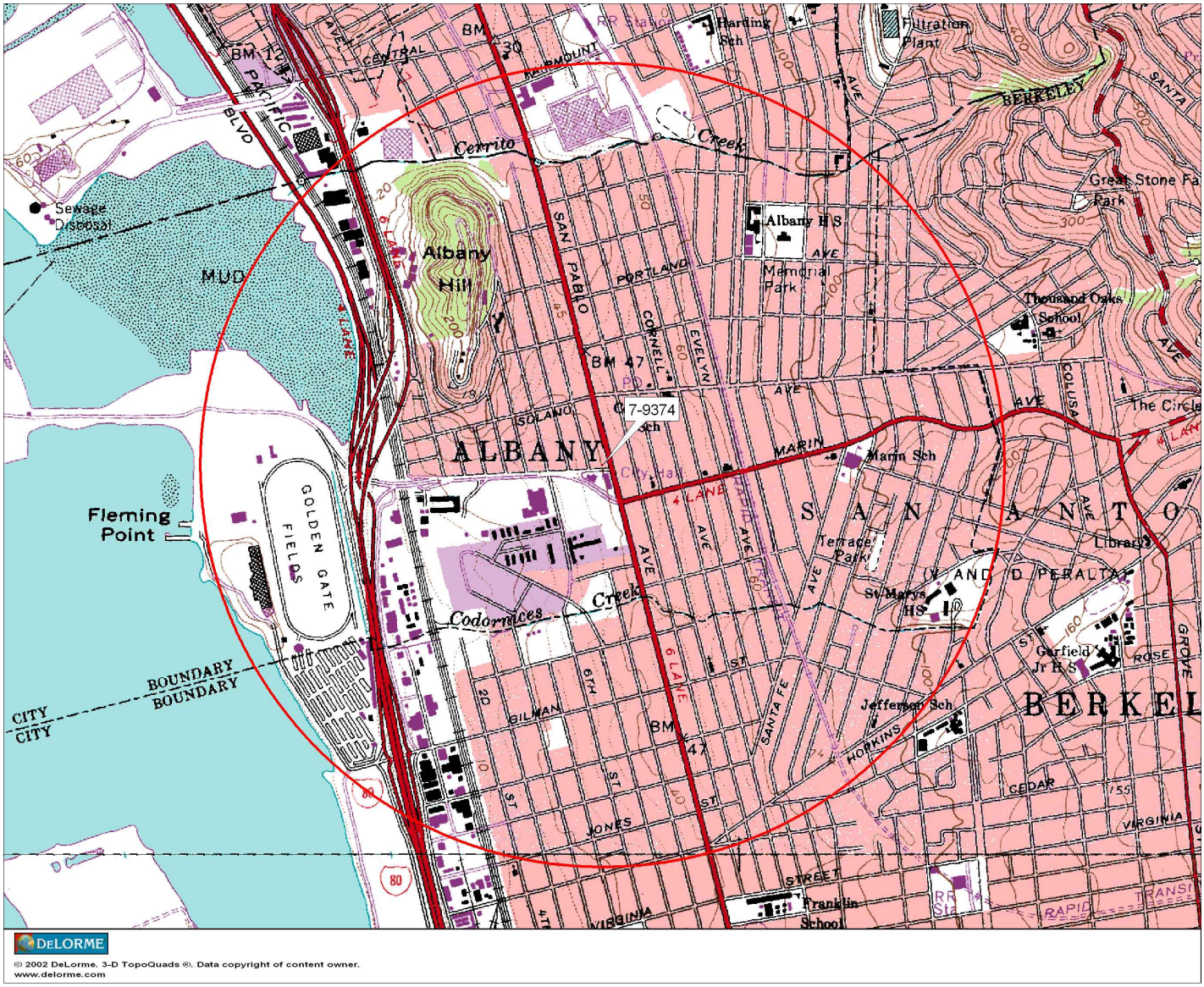
14 Acronym List

µg/L	Micrograms per liter
µg/m^3	Micrograms per cubic meter
µs	Microsiemens
1,2-DCA	1,2-dichloroethane
acfm	Actual cubic feet per minute
AS	Air sparge
AST	Aboveground storage tank
bgs	Below ground surface
BTEX	Benzene, toluene, ethylbenzene, and total xylenes
cfm	Cubic feet per minute
COC	Chain-of-Custody
CPT	Cone Penetration (Penetrometer) Test
DIPE	Di-isopropyl ether
DO	Dissolved oxygen
DOT	Department of Transportation
DPE	Dual-phase extraction
DTW	Depth to water
EDB	1,2-dibromoethane
EPA	Environmental Protection Agency
ESL	Environmental screening level
ETBE	Ethyl tertiary butyl ether
FID	Flame-ionization detector
fpm	Feet per minute
GAC	Granular activated carbon
gpd	Gallons per day
gpm	Gallons per minute
GWPTS	Groundwater pump and treat system
HIT	High-intensity targeted
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 and Instrumentation Diagram
PAH	Polycyclic aromatic (or polyaromatic) 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
TPH	Total petroleum hydrocarbons
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

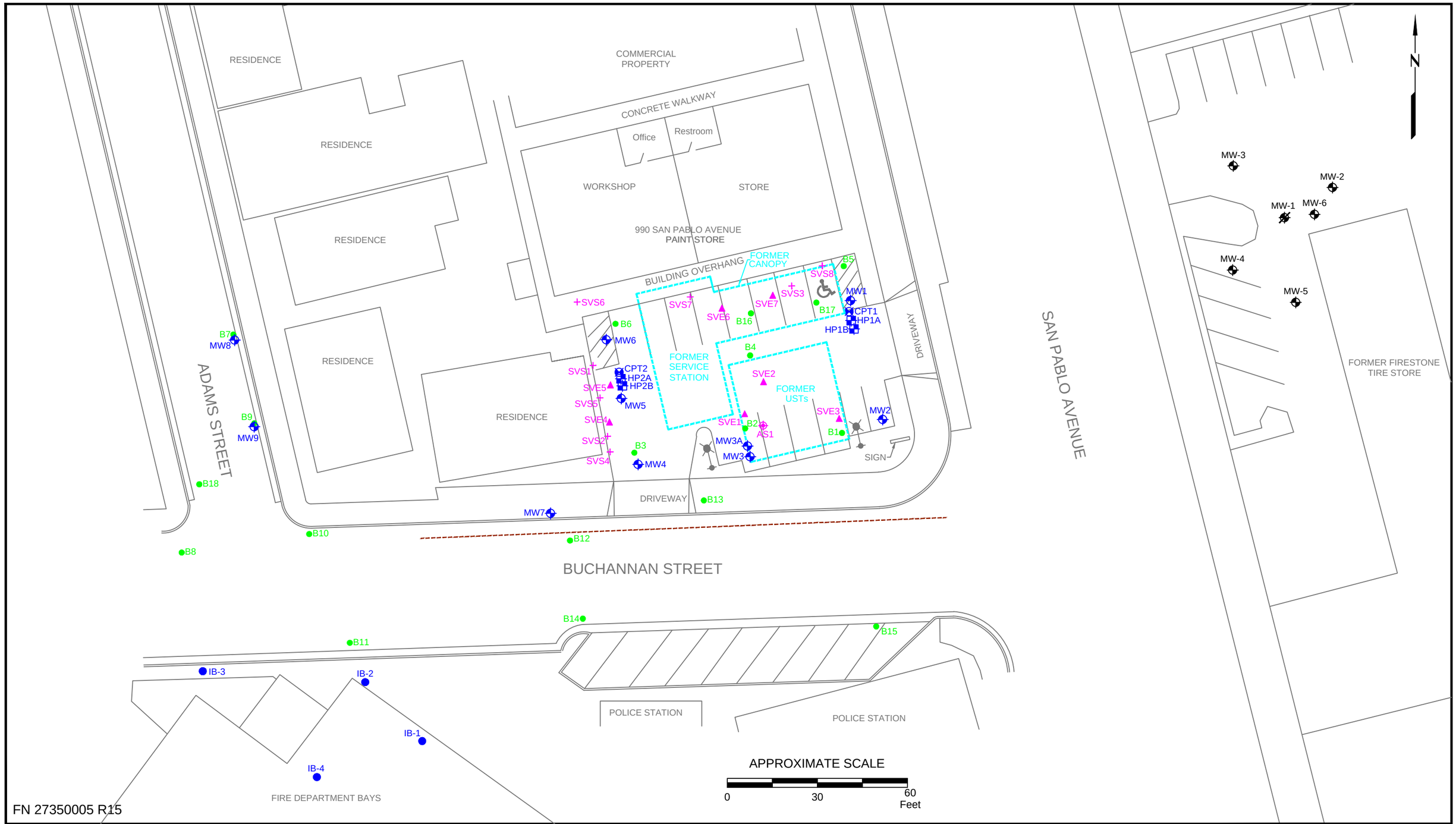
SITE VICINITY MAP

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

Cardno Shaping the Future

PROJECT NO. 2735

PLATE 1



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GENERALIZED SITE PLAN

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

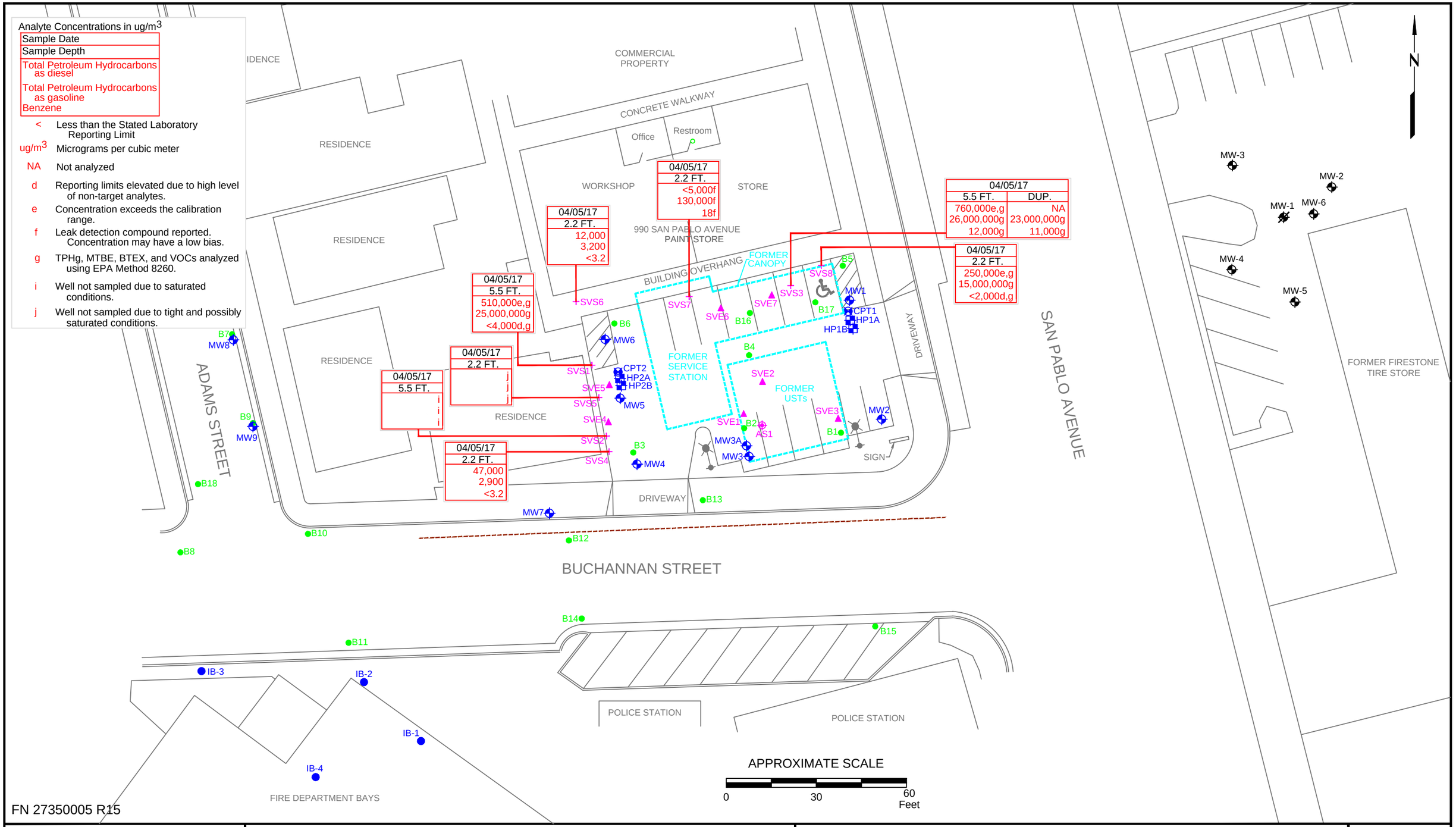
PROJECT NO. 2735

PLATE 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
d	Reporting limits elevated due to high level of non-target analytes.
e	Concentration exceeds the calibration range.
f	Leak detection compound reported. Concentration may have a low bias.
g	TPHg, MTBE, BTEX, and VOCs analyzed using EPA Method 8260.
i	Well not sampled due to saturated conditions.
j	Well not sampled due to tight and possibly saturated conditions.



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SELECT SOIL VAPOR ANALYTICAL RESULTS

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

EXPLANATION

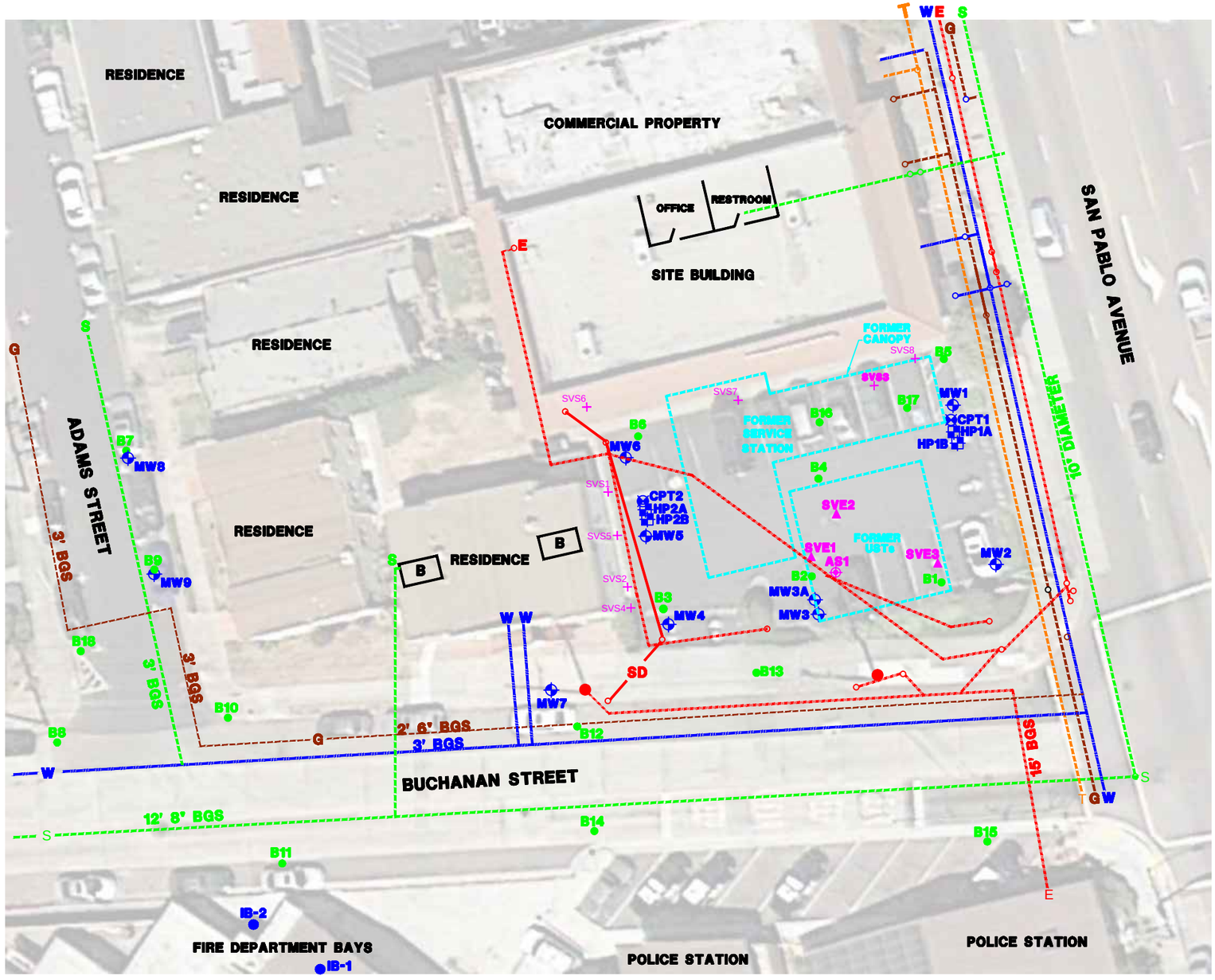
- MW9 — Groundwater Monitoring Well
- MW-6 — Groundwater Monitoring Well for Firestone
- MW-1 — Destroyed Groundwater Monitoring Well for Firestone
- HP2B — Hydropunch Boring
- CPT2 — Cone Penetration Test Boring
- IB-4 — Soil Boring by Other Consultant for City of Albany
- B18 — Soil Boring
- AS1 —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

PROJECT NO. 2735

PLATE 3

UTILITIES LEGEND

- TELEPHONE
- ELECTRICAL
- WATER
- GAS
- SEWER
- STORM DRAIN
- POWER POLE
- B — BATHROOM



APPROXIMATE SCALE

0 30 60 Feet

FN 2735 GSP AERIAL _SP R15

Cardno Shaping the Future

UTILITY LOCATION MAP

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
- SVE3 — Soil Vapor Extraction Well

PROJECT NO. 2735

PLATE 4

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 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
SVS3	04/05/17 g	5.5	**760,000e**	**26,000,000**	**<20,000**	**12,000**	<40,000	**<20,000**	<20,000	<20,000	---	3.6	<0.10	11	---	4.7	81	-5.39
SVS3 Dup	04/05/17 g	5.5	---	**23,000,000**	**<20,000**	**11,000**	<40,000	**<20,000**	<20,000	<20,000	---	3.6	<0.10	11	---	4.6	81	-5.61
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
SVS7	04/05/17 f	2.2	<5,000	130,000	<18	18	34	<22	38	57	---	0.41	0.75	2.5	---	19	78	-8.23
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
SVS8	04/05/17 g	2.2	**250,000e**	**15,000,000**	**<10,000d**	**<2,000d**	<20,000d	**<10,000d**	<10,000d	<10,000d	---	2.6	<0.10	13	---	4.6	81	-4.52
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
SVS1	04/05/17 g	5.5	**510,000e**	**25,000,000**	**<20,000d**	**<4,000d**	<40,000d	**<20,000d**	<20,000d	<20,000d	---	12	<0.10	8.8	---	5.5	76	-5.64
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
SVS2	04/05/17 i	5.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
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
SVS4	04/05/17	2.2	47,000	2,900	<3.6	<3.2	10	4.9	11	18	---	0.0380	<0.10	2.4	---	17	81	-5.11
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
SVS5	04/05/17 j	2.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 2A
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	---	---	---	---	---	---	---	---	---	---
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
SVS6	04/05/17	2.2	12,000	3,200	<3.6	<3.2	16	8.2	15	32	---	0.0010	<0.10	0.37	---	21	79	-4.31

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 = Concentration exceeds the calibration range.
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.
i = Well not sampled due to saturated conditions.
j = Well not sampled due to tight and possibly saturated conditions.
k = 4-Ethyltoluene.

TABLE 2B
ADDITIONAL 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
SVS3	04/05/17 g	5.5	**<20,000**	<20,000	**<4,000**	<20,000	<20,000	<100,000	**<4,000**	**470**	**<4,000**	<20,000	<20,000	**<4,000**	<200,000	ND
SVS3 Dup	04/05/17 g	5.5	**<20,000**	<20,000	**<4,000**	<20,000	<20,000	<100,000	**<4,000**	---	**<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
SVS7	04/05/17 f	2.2	<34	36	<25	<10	<43	<41	<27	<20	<27	<25	<25	<34	120	ND
SVS8	10/03/16 g	2.2	**<500**	<500	**<100**	<500	<500	<2,500	**<100**	<20	<100	<500	<500	<100	<5,000	ND
SVS8	04/05/17 g	2.2	**<10,000d**	<10,000d	**<2,000d**	<10,000d	<10,000d	<40,000d	**<2,000d**	23	**<2,000d**	<10,000d	<10,000d	**<2,000d**	<100,000d	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
SVS1	04/05/17 g	5.5	**<20,000d**	<20,000d	**<4,000d**	<20,000d	<20,000d	<100,000d	**<4,000d**	34	**<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
SVS2	04/05/17 i	5.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---
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	7.5k
SVS4	04/05/17	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
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	16k
SVS5	04/05/17 j	2.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 2B
ADDITIONAL 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	---	---	---	---	---	---
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
SVS6	04/05/17	2.2	<6.8	<6.3	<4.9	<2.1	<8.6	<8.3	<5.3	<20	<5.5	5.0	<5.0	7.5	12	ND

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 = Concentration exceeds the calibration range.
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.
i = Well not sampled due to saturated conditions.
j = Well not sampled due to tight and possibly saturated conditions.
k = 4-Ethyltoluene.

APPENDIX

A

CORRESPONDENCE

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ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
REBECCA GEBHART, Interim Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
LOCAL OVERSIGHT PROGRAM (LOP)
For Hazardous Materials Releases
1131 HARBOR BAY PARKWAY, SUITE 250
ALAMEDA, CA 94502
(510) 567-6700
FAX (510) 337-9335

December 20, 2016

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

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

Subject: Temporal Soil Vapor Fluctuations; 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 *Soil Vapor Assessment*, dated October 28, 2016, and the *Groundwater Monitoring Report, Fourth Quarter 2016*, dated December 13, 2016. The reports were prepared and submitted on your behalf by Cardno. Thank you for submitting them.

Based on the review of the case file ACDEH requests that you address the following technical comments and send us the documents requested below.

TECHNICAL COMMENTS

1. **Temporal Soil Vapor Concentrations** – The referenced soil vapor assessment recommended semi-annual vapor sampling events to further evaluate soil vapor concentrations with time beneath the site. This is appropriate due to potentially sensitive population (residential), and Department of Toxics Substance Control (DTSC) guidance. Please submit the results of the vapor sampling in a report by the dates identified below.

    a. **Onsite Utility Locations** – In order to understand the potential for vapor intrusion through utility preferential pathways beneath the onsite and adjacent site buildings, please locate all underground utility laterals at the two adjacent sites on future vapor figures. Please include sewer, water, gas, electrical, or other underground utilities beneath the buildings. This may require locating service boxes or facilities such as sinks and bathrooms, and plotting them on the figure.

2. **Semi-Annual Groundwater Monitoring** – Please continue to conduct groundwater monitoring and sampling at the site on a semi-annual basis, and submit reports by the dates identified below.

SUBMITTAL ACKNOWLEDGEMENT STATEMENT

Please note that ACDEH has updated its Attachment 1 with regard to report submittals to ACDEH. ACDEH will now be requiring a Submittal Acknowledgement Statement, replacing the Perjury Statement, as a cover letter signed by the Responsible Party (RP). The language for the Submittal Acknowledgement Statement is as follows:

I have read and acknowledge the content, recommendations and/or conclusions contained in the attached document or report submitted on my behalf to ACDEH's FTP server and the SWRCB's Geotracker Website.

Please make this change to your submittals to ACDEH.

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:

- **June 2, 2017 –** Site Vapor Investigation Report
  File to be named: RO2974_SWI_R_yyyy-mm-dd

- **June 23, 2017 –** Semi-Annual Groundwater Monitoring
  File to be named: RO2974_GWM_R_yyyy-mm-dd

- **December 15, 2017 –** Semi-Annual Groundwater Monitoring
  File to be named: RO2974_GWM_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: 2016.12.20 16:38:57 -08'00'

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: Christine Capwell, Cardno, 601 North McDowell Blvd., Petaluma, CA 94954
(Sent via electronic mail to: christine.capwell@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)
Paresh Khatri, ACDEH; (Sent via electronic mail to: paresh.khatri@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 fourth quarter 2016, the groundwater flow direction in the shallow water-bearing zone was towards the southwest with a hydraulic gradient of approximately 0.02 (Cardno, 2016). 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 HIT events and soil vapor sampling 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. December 13, 2016. *Groundwater Monitoring Report, Fourth Quarter 2016, Former Exxon Service Station 79375, 990 San Pablo Avenue, Albany, California.*

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

Cardno ERI. April 12, 2012. *Well Installation Report, Former Exxon Service Station 79374, 990 San Pablo Avenue, Albany, California.*

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

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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

FIELD DATA SHEETS

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Soil Vapor Sampling Datasheet

Site ID: Former Exxon 79374	**Cardno Project #: 2735**
Site Address: 990 San Pablo Ave, Albany, CA	**Weather / Air Temp (F°):** 61
Location ID: SVS1	**Atmospheric Pressure (in Hg):** 30.06"
Date: 4-5-17	**Helium Detector #:** MGD - 2002
Field Personnel: Nadya Vicente	**Purge Volume (mL - 3PV):** 3254 ml

Pre-Sampling Information

Shut In Test : **Start Time:** 0925 **End Time:** 0930 **Initial Vacuum** 20 **(in Hg)** **Final Vacuum** 20 **(in Hg)**

	Start Time	End Time	Maintained % Helium in Shroud	Flow Rate (cc/min)	Down-hole Vacuum (in Hg)	Helium Leak (ppm)	Notes:
Well Purge	0930	0946	+10%	200 cc/min	0	18000	

Sample Information

Sample ID	Start Time	End Time	Maintained % Helium in Shroud	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Down-hole Vacuum (in Hg)
SVS1	0949	0952	+10%	307	002	-30	-5	0
Duplicate								

Sorbant Tube ID # G0137972 **Time:** 0953

Comments:	

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Soil Vapor Sampling Datasheet

Site ID: Former Exxon 79374	**Cardno Project #: 2735**
Site Address: 990 San Pablo Ave, Albany, CA	**Weather / Air Temp (F°):** 61
Location ID: SVS2	**Atmospheric Pressure (in Hg):** 30.06"
Date: 4-5-17	**Helium Detector #:** MGD-2002
Field Personnel: Nadya Vicente	**Purge Volume (mL - 3PV):** 3254 ml

Pre-Sampling Information

Shut In Test : **Start Time:**_____ **End Time:**_____ **Initial Vacuum**_____ **(in Hg)** **Final Vacuum**_____ **(in Hg)**

	Start Time	End Time	Maintained % Helium in Shroud	Flow Rate (cc/min)	Down-hole Vacuum (in Hg)	Helium Leak (ppm)	Notes:
Well Purge	WET						Well Saturated. No sample

Sample Information

Sample ID	Start Time	End Time	Maintained % Helium in Shroud	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Down-hole Vacuum (in Hg)
Duplicate								

Sorbant Tube ID # **Time:**

Comments:	

Cardno
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Soil Vapor Sampling Datasheet

Site ID: Former Exxon 79374	**Cardno Project #: 2735**
Site Address: 990 San Pablo Ave, Albany, CA	**Weather / Air Temp (F°):** 69
Location ID: SVS 3	**Atmospheric Pressure (in Hg):** 30.03"
Date: 4-5-17	**Helium Detector #:** MGD-2002
Field Personnel: Nadya Vicente	**Purge Volume (mL - 3PV):** 3254ml

Pre-Sampling Information

Shut In Test : **Start Time:** 1252 **End Time:** 1257 **Initial Vacuum** 20 **(in Hg)** **Final Vacuum** 20 **(in Hg)**

	Start Time	End Time	Maintained % Helium in Shroud	Flow Rate (cc/min)	Down-hole Vacuum (in Hg)	Helium Leak (ppm)	Notes:
Well Purge	1257	1313	+10%.	200cc/min	0	0	

Sample Information

Sample ID	Start Time	End Time	Maintained % Helium in Shroud	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Down-hole Vacuum (in Hg)
SVS3	1313	1315	+10%	462	101	-29	-5	0
Duplicate	1313	1315	+10%	037	101	-29	-5	0

Sorbant Tube ID # G0141373 **Time:** 1330

Comments:	

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Soil Vapor Sampling Datasheet

Site ID: Former Exxon 79374	**Cardno Project #: 2735**
Site Address: 990 San Pablo Ave, Albany, CA	**Weather / Air Temp (F°):** 62
Location ID: SVS 4	**Atmospheric Pressure (in Hg):** 30.06"
Date: 4-5-17	**Helium Detector #:** MGD-2002
Field Personnel: Nadya Vicente	**Purge Volume (mL - 3PV):** 889 ml

Pre-Sampling Information

Shut In Test : **Start Time:**_____ **End Time:**_____ **Initial Vacuum**_____ **(in Hg)** **Final Vacuum**_____ **(in Hg)**

	Start Time	End Time	Maintained % Helium in Shroud	Flow Rate (cc/min)	Down-hole Vacuum (in Hg)	Helium Leak (ppm)	Notes:
Well Purge	1025	1035	+10%	100 cc/min	0-6.5	0	Tight condition - step test (vac) to purge. Purge @ approx. 100 cc/min.

Sample Information

Sample ID	Start Time	End Time	Maintained % Helium in Shroud	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Down-hole Vacuum (in Hg)
SVS 4	1040	1050	+10%	368	146	-30	-5	0-6
Duplicate								

Sorbant Tube ID # G0161886 **Time:** 1055

Comments:	

Soil Vapor Sampling Datasheet

Site ID: Former Exxon 79374	**Cardno Project #: 2735**
Site Address: 990 San Pablo Ave, Albany, CA	**Weather / Air Temp (F°):** 62
Location ID: SVS 5	**Atmospheric Pressure (in Hg):** 30.02
Date: 4-5-17	**Helium Detector #:** MGD-2002
Field Personnel: Nadya Vicente	**Purge Volume (mL - 3PV):** 889

Pre-Sampling Information

Shut In Test : **Start Time:** 1005 **End Time:** 1010 **Initial Vacuum** 20 **(in Hg)** **Final Vacuum** 20 **(in Hg)**

	Start Time	End Time	Maintained % Helium in Shroud	Flow Rate (cc/min)	Down-hole Vacuum (in Hg)	Helium Leak (ppm)	Notes:
Well Purge	NO SAMPLE — WELL			CONDITIONS			Vac + 7.5 "/Hg. Tight conditions, possible H2O

Sample Information

Sample ID	Start Time	End Time	Maintained % Helium in Shroud	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Down-hole Vacuum (in Hg)
Duplicate								

Sorbant Tube ID # **Time:**

Comments:	

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Soil Vapor Sampling Datasheet

Site ID: Former Exxon 79374	**Cardno Project #: 2735**
Site Address: 990 San Pablo Ave, Albany, CA	**Weather / Air Temp (F°):** 65
Location ID: SVS 6	**Atmospheric Pressure (in Hg):** 30.02"
Date: 4-5-17	**Helium Detector #:** MGD-2002
Field Personnel: Nadya Vicente	**Purge Volume (mL - 3PV):** 889 ml

Pre-Sampling Information

Shut In Test : **Start Time:** 1105 **End Time:** 1110 **Initial Vacuum** 20 **(in Hg)** **Final Vacuum** 20 **(in Hg)**

	Start Time	End Time	Maintained % Helium in Shroud	Flow Rate (cc/min)	Down-hole Vacuum (in Hg)	Helium Leak (ppm)	Notes:
Well Purge	1112	1118	+10%	200 cc/min	0	300	

Sample Information

Sample ID	Start Time	End Time	Maintained % Helium in Shroud	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Down-hole Vacuum (in Hg)
SVS 6	1121	1127	+10%	328	152	-30	-5	0
Duplicate								

Sorbant Tube ID # G0187186 **Time:** 1135

Comments:	

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Soil Vapor Sampling Datasheet

Site ID: Former Exxon 79374	**Cardno Project #: 2735**
Site Address: 990 San Pablo Ave, Albany, CA	**Weather / Air Temp (F°):** 62°
Location ID: SVS 7	**Atmospheric Pressure (in Hg):** 30.02"
Date: 4-5-17	**Helium Detector #:** MGD-2002
Field Personnel: Nadya Vicente	**Purge Volume (mL - 3PV):** 889ml

Pre-Sampling Information

Shut In Test : **Start Time:** 1140 **End Time:** 1145 **Initial Vacuum** 20 **(in Hg)** **Final Vacuum** 20 **(in Hg)**

	Start Time	End Time	Maintained % Helium in Shroud	Flow Rate (cc/min)	Down-hole Vacuum (in Hg)	Helium Leak (ppm)	Notes:
Well Purge	1146	1155	+10%	100cc/min	0-7	0	

Sample Information

Sample ID	Start Time	End Time	Maintained % Helium in Shroud	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Down-hole Vacuum (in Hg)
SVS 7	1159	1204	+10%	040	090	-30	-7.5	0-7"
Duplicate								

Sorbant Tube ID # G0189605 **Time:** 1210

Comments:	2.5 mins @ 100 cc/min = 250
	3 mins @ 50 cc/min = 150

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Soil Vapor Sampling Datasheet

Site ID: Former Exxon 79374	**Cardno Project #: 2735**
Site Address: 990 San Pablo Ave, Albany, CA	**Weather / Air Temp (F°):** 66
Location ID: SVS8	**Atmospheric Pressure (in Hg):** 30.02"
Date: 4-5-17	**Helium Detector #:** MGD-2002
Field Personnel: Nadya Vicente	**Purge Volume (mL - 3PV):** 889 ml

Pre-Sampling Information

Shut In Test : **Start Time:** 1220 **End Time:** 1225 **Initial Vacuum** 20 **(in Hg)** **Final Vacuum** 20 **(in Hg)**

	Start Time	End Time	Maintained % Helium in Shroud	Flow Rate (cc/min)	Down-hole Vacuum (in Hg)	Helium Leak (ppm)	Notes:
Well Purge	1227	1233	+10%.	200 cc/min	0	200	

Sample Information

Sample ID	Start Time	End Time	Maintained % Helium in Shroud	Canister ID	Flow Controller #	Initial Vacuum (in Hg)	Final Vacuum (in Hg)	Down-hole Vacuum (in Hg)
SVS8	1239	1242	+10%.	104	063	-30	-3	0
Duplicate								

Sorbant Tube ID # G0188328 **Time:** 1250

Comments:	

APPENDIX

E

LABORATORY ANALYTICAL REPORTS

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WORK ORDER NUMBER: 17-04-0727

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 04/24/2017 by:
Cecile deGuia
Project Manager

ResultLink

Email your PM

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Contents

Client Project Name: ExxonMobil 79374/022735C
Work Order Number: 17-04-0727

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Work Order Narrative

Work Order: 17-04-0727 Page 1 of 1

Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 04/10/17. They were assigned to Work Order 17-04-0727.

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 results for TO-17(M) for TPH as Diesel has "E" qualifier for samples 16-10-0320-1 (ST-SVS1), -2 (ST-SVS3) and -6 (ST-SVS8). E qualifer means concentration exceeds the calibration range. Normally, the lab will re-analyze the sample for dilution analysis but for sorbent tube, our instrument does not have the capability of running lower sample volume. Therefore, the sample result is flagged with a qualifier.

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Sample Summary

Client:	Cardno	Work Order:	17-04-0727
	601 North McDowell Blvd.	Project Name:	ExxonMobil 79374/022735C
	Petaluma, CA 94954-2312	PO Number:	CAR041017-CEL
		Date/Time Received:	04/10/17 18:20
		Number of Containers:	6
Attn:	Scott Perkins		

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
ST-SVS1	17-04-0727-1	04/05/17 09:53	1	Air
ST-SVS3	17-04-0727-2	04/05/17 13:30	1	Air
ST-SVS4	17-04-0727-3	04/05/17 10:55	1	Air
ST-SVS6	17-04-0727-4	04/05/17 11:35	1	Air
ST-SVS7	17-04-0727-5	04/05/17 12:10	1	Air
ST-SVS8	17-04-0727-6	04/05/17 12:50	1	Air

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Analytical Report

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

Project: ExxonMobil 79374/022735C

Date Received: 04/10/17
Work Order: 17-04-0727
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	**17-04-0727-1-A**	**04/05/17 09:53**	**Air**	**GC/MS MMM**	**N/A**	**04/14/17 19:54**	**170414L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	34	20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	1135	57-129	AZ

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS3	**17-04-0727-2-A**	**04/05/17 13:30**	**Air**	**GC/MS MMM**	**N/A**	**04/14/17 20:37**	**170414L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	470	20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	903	57-129	AZ

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS4	**17-04-0727-3-A**	**04/05/17 10:55**	**Air**	**GC/MS MMM**	**N/A**	**04/14/17 21:20**	**170414L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	63	57-129	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS6	**17-04-0727-4-A**	**04/05/17 11:35**	**Air**	**GC/MS MMM**	**N/A**	**04/14/17 22:02**	**170414L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	98	57-129	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS7	**17-04-0727-5-A**	**04/05/17 12:10**	**Air**	**GC/MS MMM**	**N/A**	**04/14/17 22:45**	**170414L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	ND	20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	101	57-129	

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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: 04/10/17
Work Order: 17-04-0727
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	**17-04-0727-6-A**	**04/05/17 12:50**	**Air**	**GC/MS MMM**	**N/A**	**04/14/17 23:26**	**170414L01**

Parameter	Result	RL	DF	Qualifiers
Naphthalene	23	20	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	577	57-129	AZ

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-178-59**	**N/A**	**Air**	**GC/MS MMM**	**N/A**	**04/14/17 17:46**	**170414L01**

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	101	57-129	

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

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Analytical Report

Cardno		Date Received:	04/10/17
601 North McDowell Blvd.		Work Order:	17-04-0727
Petaluma, CA 94954-2312		Preparation:	N/A
		Method:	EPA TO-17 (M)
		Units:	ug/m3
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
ST-SVS1	**17-04-0727-1-A**	**04/05/17 09:53**	**Air**	**GC/MS MMM**	**N/A**	**04/14/17 19:54**	**D170414L01**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel (C10-C21)	510000	5000	1.00	E

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	103	50-150	
Toluene-d8	121684	50-150	AZ

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS3	**17-04-0727-2-A**	**04/05/17 13:30**	**Air**	**GC/MS MMM**	**N/A**	**04/14/17 20:37**	**D170414L01**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel (C10-C21)	760000	5000	1.00	E

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	1471	50-150	AZ
Toluene-d8	9874	50-150	AZ

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS4	**17-04-0727-3-A**	**04/05/17 10:55**	**Air**	**GC/MS MMM**	**N/A**	**04/14/17 21:20**	**D170414L01**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel (C10-C21)	47000	5000	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	65	50-150	
Toluene-d8	184	50-150	AZ

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS6	**17-04-0727-4-A**	**04/05/17 11:35**	**Air**	**GC/MS MMM**	**N/A**	**04/14/17 22:02**	**D170414L01**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel (C10-C21)	12000	5000	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	99	50-150	
Toluene-d8	123	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: 04/10/17
Work Order: 17-04-0727
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-SVS7	**17-04-0727-5-A**	**04/05/17 12:10**	**Air**	**GC/MS MMM**	**N/A**	**04/14/17 22:45**	**D170414L01**

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

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	90	50-150	
Toluene-d8	115	50-150	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
ST-SVS8	**17-04-0727-6-A**	**04/05/17 12:50**	**Air**	**GC/MS MMM**	**N/A**	**04/14/17 23:26**	**D170414L01**

Parameter	Result	RL	DF	Qualifiers
TPH as Diesel (C10-C21)	250000	5000	1.00	E

Surrogate	Rec. (%)	Control Limits	Qualifiers
1,4-Bromofluorobenzene	42	50-150	AZ
Toluene-d8	520	50-150	AZ

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-15-426-124**	**N/A**	**Air**	**GC/MS MMM**	**N/A**	**04/14/17 17:46**	**D170414L01**

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	93	50-150	
Toluene-d8	100	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: 04/10/17
601 North McDowell Blvd.	Work Order: 17-04-0727
Petaluma, CA 94954-2312	Preparation: N/A
	Method: EPA TO-17 (M)
Project: ExxonMobil 79374/022735C	Page 1 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-15-178-59	**LCS**	**Air**	**GC/MS MMM**	**N/A**	**04/14/17 14:58**	**170414L01**
099-15-178-59	**LCSD**	**Air**	**GC/MS MMM**	**N/A**	**04/14/17 15:39**	**170414L01**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Naphthalene	100.0	125.3	125	121.6	122	40-190	3	0-35	

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RPD: Relative Percent Difference. CL: Control Limits

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Quality Control - LCS/LCSD

Cardno		Date Received:	04/10/17
601 North McDowell Blvd.		Work Order:	17-04-0727
Petaluma, CA 94954-2312		Preparation:	N/A
		Method:	EPA TO-17 (M)
Project: ExxonMobil 79374/022735C			Page 2 of 2

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-15-426-124	**LCS**	**Air**	**GC/MS MMM**	**N/A**	**04/14/17 12:52**	**D170414L01**
099-15-426-124	**LCSD**	**Air**	**GC/MS MMM**	**N/A**	**04/14/17 13:34**	**D170414L01**

Parameter	Spike Added	LCS Conc.	LCS %Rec.	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
TPH as Diesel (C10-C21)	2000	2309	115	2279	114	50-150	1	0-25	

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RPD: Relative Percent Difference. CL: Control Limits

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Sample Analysis Summary Report

Work Order: 17-04-0727 Page 1 of 1

Method	Extraction	Chemist ID	Instrument	Analytical Location
EPA TO-17 (M)	N/A	884	GC/MS MMM	2

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Glossary of Terms and Qualifiers

Work Order: 17-04-0727 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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CA R041017 - CEL 170244.02 KRI

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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.

WO # / LAB USE ONLY
17-04-0727

AIR CHAIN OF CUSTODY RECORD

DATE: 4/5/2017

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.:
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**

☐ EDD ☐ UNITS _____

SPECIAL INSTRUCTIONS:
All correspondance CC: H&P: Kristin.Beckley@handpmg.com
Invoice H&P: noah.unsworth@handpmg.com

Reporting Limits - ug/m^3
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 #	Sampling Equipment: Tube Size	Sampling Equipment: Flow Controller ID #	Start Sampling Information: Date	Start Sampling Information: Time (24 hr clock)	Start Sampling Information: Canister Pressure ("Hg)	Stop Sampling Information: Date	Stop Sampling Information: Time (24 hr clock)	Stop Sampling Information: Canister Pressure ("Hg)	REQUESTED ANALYSES: TO-17 Napthalene	TO-17 TPHd		
1	ST-SVS1	SVS1	SV	G0137972	100ml	NA	4/5/2017	NA	NA	4/5/2017	0953	NA	X	X		
2	ST-SVS3	SVS3	SV	G0141373	100ml	NA	4/5/2017	NA	NA	4/5/2017	1330	NA	X	X		
3	ST-SVS4	SVS4	SV	G0161886	100ml	NA	4/5/2017	NA	NA	4/5/2017	1055	NA	X	X		
4	ST-SVS6	SVS6	SV	G0187186	100ml	NA	4/5/2017	NA	NA	4/5/2017	1135	NA	X	X		
5	ST-SVS7	SVS7	SV	G0189605	100ml	NA	4/5/2017	NA	NA	4/5/2017	1210	NA	X	X		
6	ST-SVS8	SVS8	SV	G0188328	100ml	NA	4/5/2017	NA	NA	4/5/2017	1250	NA	X	X		

Relinquished by: (Signature)	Received by: (Signature/Affiliation) Jon Unsworth	Date: 4/10/17	Time: 10:30
Relinquished by: (Signature) Jon Unsworth	Received by: (Signature/Affiliation) ECI	Date: 04-10-17	Time: 1400
Relinquished by: (Signature)	Received by: (Signature/Affiliation) Danny Le ECI	Date: 4/10/17	Time: 18:20

H&P Notes: Received at 18° due to UPS error; proceed with analysis per Nadya 4/10/17 kri

06/02/14 Revision

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WORK ORDER NUMBER: 17-04- 0427

SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: _____ DATE: 04 / 10 / 2017

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

Thermometer ID: SC (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, Labeled/Checked by: 1053

s = H_2SO_4, **u** = ultra-pure, **x** = Na_2SO_3+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH Reviewed by: 681

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H&P Mobile Geochemistry Inc.

24 April 2017

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

H&P Project: CAR041017-10
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 10-Apr-17 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 and the National Environmental Laboratory Accreditation Conference (NELAC). H&P is approved as an Environmental Testing Laboratory and Mobile Laboratory in accordance with the DoD-ELAP Program and ISO/IEC 17025:2005 programs, accreditation number 69070 for EPA Method TO-15, H&P Method TO-15, EPA Method 8260B and H&P 8260SV.

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Cardno ERI - Petaluma	Project: CAR041017-10	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	24-Apr-17 14:28

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SVS1	E704030-01	Vapor	05-Apr-17	10-Apr-17
SVS3	E704030-02	Vapor	05-Apr-17	10-Apr-17
SVS3 DUP	E704030-03	Vapor	05-Apr-17	10-Apr-17
SVS4	E704030-04	Vapor	05-Apr-17	10-Apr-17
SVS6	E704030-05	Vapor	05-Apr-17	10-Apr-17
SVS7	E704030-06	Vapor	05-Apr-17	10-Apr-17
SVS8	E704030-07	Vapor	05-Apr-17	10-Apr-17
QCEB	E704030-08	Vapor	05-Apr-17	10-Apr-17
QCTB	E704030-09	Vapor	05-Apr-17	10-Apr-17

The following samples were analyzed by H&P 8260SV rather than EPA Method TO-15:
SVS1
SVS3
SVS3 DUP
SVS8

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

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DETECTIONS SUMMARY

Sample ID: **SVS1** Laboratory ID: **E704030-01**

Analyte	Result	Reporting Limit	Units	Method	Notes
Carbon dioxide	**8.8**	0.20	%	ASTM D1945	
Oxygen	**5.5**	0.20	%	ASTM D1945	
Nitrogen	**76**	0.20	%	ASTM D1945	
Methane	**120000**	1000	ppmv	EPA 8015M	
TPHv (C6-C12)	**25000000**	800000	ug/m3	H&P 8260SV	

Sample ID: **SVS3** Laboratory ID: **E704030-02**

Analyte	Result	Reporting Limit	Units	Method	Notes
Carbon dioxide	**11**	0.20	%	ASTM D1945	
Oxygen	**4.7**	0.20	%	ASTM D1945	
Nitrogen	**81**	0.20	%	ASTM D1945	
Methane	**36000**	100	ppmv	EPA 8015M	
Benzene	**12000**	4000	ug/m3	H&P 8260SV	
TPHv (C6-C12)	**26000000**	800000	ug/m3	H&P 8260SV	

Sample ID: **SVS3 DUP** Laboratory ID: **E704030-03**

Analyte	Result	Reporting Limit	Units	Method	Notes
Carbon dioxide	**11**	0.20	%	ASTM D1945	
Oxygen	**4.6**	0.20	%	ASTM D1945	
Nitrogen	**81**	0.20	%	ASTM D1945	
Methane	**36000**	100	ppmv	EPA 8015M	
Benzene	**11000**	4000	ug/m3	H&P 8260SV	
TPHv (C6-C12)	**23000000**	800000	ug/m3	H&P 8260SV	

Sample ID: **SVS4** Laboratory ID: **E704030-04**

Analyte	Result	Reporting Limit	Units	Method	Notes
Carbon dioxide	**2.4**	0.20	%	ASTM D1945	
Oxygen	**17**	0.20	%	ASTM D1945	
Nitrogen	**81**	0.20	%	ASTM D1945	
Methane	**380**	10	ppmv	EPA 8015M	
Toluene	**10**	3.8	ug/m3	EPA TO-15	
Ethylbenzene	**4.9**	4.4	ug/m3	EPA TO-15	
m,p-Xylene	**18**	8.8	ug/m3	EPA TO-15	
o-Xylene	**11**	4.4	ug/m3	EPA TO-15	

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Sample ID: **SVS4** Laboratory ID: **E704030-04**

Analyte	Result	Reporting Limit	Units	Method	Notes
TPHv (C6 - C12)	**2900**	100	ug/m3	EPA TO-15	

Sample ID: **SVS6** Laboratory ID: **E704030-05**

Analyte	Result	Reporting Limit	Units	Method	Notes
Carbon dioxide	**0.37**	0.20	%	ASTM D1945	
Oxygen	**21**	0.20	%	ASTM D1945	
Nitrogen	**79**	0.20	%	ASTM D1945	
Tertiary-butyl alcohol (TBA)	**12**	6.1	ug/m3	EPA TO-15	
Toluene	**16**	3.8	ug/m3	EPA TO-15	
Tetrachloroethene	**7.5**	6.9	ug/m3	EPA TO-15	
Ethylbenzene	**8.2**	4.4	ug/m3	EPA TO-15	
m,p-Xylene	**32**	8.8	ug/m3	EPA TO-15	
o-Xylene	**15**	4.4	ug/m3	EPA TO-15	
1,2,4-Trimethylbenzene	**5.0**	5.0	ug/m3	EPA TO-15	
TPHv (C6 - C12)	**3200**	100	ug/m3	EPA TO-15	

Sample ID: **SVS7** Laboratory ID: **E704030-06**

Analyte	Result	Reporting Limit	Units	Method	Notes
Helium (LCC)	**0.75**	0.10	%	ASTM D1945M	
Carbon dioxide	**2.5**	0.20	%	ASTM D1945	
Oxygen	**19**	0.20	%	ASTM D1945	
Nitrogen	**78**	0.20	%	ASTM D1945	
Methane	**4100**	10	ppmv	EPA 8015M	
Tertiary-butyl alcohol (TBA)	**120**	31	ug/m3	EPA TO-15	
Carbon disulfide	**36**	32	ug/m3	EPA TO-15	
Benzene	**18**	16	ug/m3	EPA TO-15	
Toluene	**34**	19	ug/m3	EPA TO-15	
m,p-Xylene	**57**	44	ug/m3	EPA TO-15	
o-Xylene	**38**	22	ug/m3	EPA TO-15	
TPHv (C6 - C12)	**130000**	500	ug/m3	EPA TO-15	E

Sample ID: **SVS8** Laboratory ID: **E704030-07**

Analyte	Result	Reporting Limit	Units	Method	Notes
Carbon dioxide	**13**	0.20	%	ASTM D1945	
Oxygen	**4.6**	0.20	%	ASTM D1945	
Nitrogen	**81**	0.20	%	ASTM D1945	

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Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	24-Apr-17 14:28

Sample ID: **SVS8** Laboratory ID: **E704030-07**

Analyte	Result	Reporting Limit	Units	Method	Notes
Methane	**26000**	100	ppmv	EPA 8015M	
TPHv (C6-C12)	**15000000**	400000	ug/m3	H&P 8260SV	

Sample ID: **QCEB** Laboratory ID: **E704030-08**

Analyte	Result	Reporting Limit	Units	Method	Notes
Oxygen	**21**	0.20	%	ASTM D1945	
Nitrogen	**79**	0.20	%	ASTM D1945	
Carbon disulfide	**6.3**	6.3	ug/m3	EPA TO-15	
TPHv (C6 - C12)	**500**	100	ug/m3	EPA TO-15	

Sample ID: **QCTB** Laboratory ID: **E704030-09**

Analyte	Result	Reporting Limit	Units	Method	Notes
Oxygen	**1.1**	0.20	%	ASTM D1945	
Nitrogen	**99**	0.20	%	ASTM D1945	
Tetrachloroethene	**17**	6.9	ug/m3	EPA TO-15	

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Soil Gas and Vapor Analysis

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS1 (E704030-01) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Carbon dioxide	**8.8**	0.20	%	1	ED71315	13-Apr-17	13-Apr-17	ASTM D1945	
Oxygen	**5.5**	0.20	"	"	"	"	"	"	
Nitrogen	**76**	0.20	"	"	"	"	"	"	
Helium (LCC)	ND	0.10	"	"	ED71316	13-Apr-17	13-Apr-17	ASTM D1945M	
Methane	**120000**	1000	ppmv	100	ED71314	13-Apr-17	13-Apr-17	EPA 8015M	
SVS3 (E704030-02) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Carbon dioxide	**11**	0.20	%	1	ED71315	13-Apr-17	13-Apr-17	ASTM D1945	
Oxygen	**4.7**	0.20	"	"	"	"	"	"	
Nitrogen	**81**	0.20	"	"	"	"	"	"	
Helium (LCC)	ND	0.10	"	"	ED71316	13-Apr-17	13-Apr-17	ASTM D1945M	
Methane	**36000**	100	ppmv	10	ED71314	13-Apr-17	13-Apr-17	EPA 8015M	
SVS3 DUP (E704030-03) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Carbon dioxide	**11**	0.20	%	1	ED71315	13-Apr-17	13-Apr-17	ASTM D1945	
Oxygen	**4.6**	0.20	"	"	"	"	"	"	
Nitrogen	**81**	0.20	"	"	"	"	"	"	
Helium (LCC)	ND	0.10	"	"	ED71316	13-Apr-17	13-Apr-17	ASTM D1945M	
Methane	**36000**	100	ppmv	10	ED71314	13-Apr-17	13-Apr-17	EPA 8015M	
SVS4 (E704030-04) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Carbon dioxide	**2.4**	0.20	%	1	ED71315	13-Apr-17	13-Apr-17	ASTM D1945	
Oxygen	**17**	0.20	"	"	"	"	"	"	
Nitrogen	**81**	0.20	"	"	"	"	"	"	
Helium (LCC)	ND	0.10	"	"	ED71316	13-Apr-17	13-Apr-17	ASTM D1945M	
Methane	**380**	10	ppmv	"	ED71314	13-Apr-17	13-Apr-17	EPA 8015M	

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Soil Gas and Vapor Analysis

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS6 (E704030-05) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Carbon dioxide	**0.37**	0.20	%	1	ED71315	13-Apr-17	13-Apr-17	ASTM D1945	
Oxygen	**21**	0.20	"	"	"	"	"	"	
Nitrogen	**79**	0.20	"	"	"	"	"	"	
Helium (LCC)	ND	0.10	"	"	ED71316	13-Apr-17	13-Apr-17	ASTM D1945M	
Methane	ND	10	ppmv	"	ED71314	13-Apr-17	13-Apr-17	EPA 8015M	
SVS7 (E704030-06) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Carbon dioxide	**2.5**	0.20	%	1	ED71315	13-Apr-17	13-Apr-17	ASTM D1945	
Oxygen	**19**	0.20	"	"	"	"	"	"	
Nitrogen	**78**	0.20	"	"	"	"	"	"	
Helium (LCC)	**0.75**	0.10	"	"	ED71316	13-Apr-17	13-Apr-17	ASTM D1945M	
Methane	**4100**	10	ppmv	"	ED71314	13-Apr-17	13-Apr-17	EPA 8015M	
SVS8 (E704030-07) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Carbon dioxide	**13**	0.20	%	1	ED71315	13-Apr-17	13-Apr-17	ASTM D1945	
Oxygen	**4.6**	0.20	"	"	"	"	"	"	
Nitrogen	**81**	0.20	"	"	"	"	"	"	
Helium (LCC)	ND	0.10	"	"	ED71316	13-Apr-17	13-Apr-17	ASTM D1945M	
Methane	**26000**	100	ppmv	10	ED71314	13-Apr-17	13-Apr-17	EPA 8015M	
QCEB (E704030-08) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Carbon dioxide	ND	0.20	%	1	ED71315	13-Apr-17	13-Apr-17	ASTM D1945	
Oxygen	**21**	0.20	"	"	"	"	"	"	
Nitrogen	**79**	0.20	"	"	"	"	"	"	
Helium (LCC)	ND	0.10	"	"	ED71316	13-Apr-17	13-Apr-17	ASTM D1945M	
Methane	ND	10	ppmv	"	ED71314	13-Apr-17	13-Apr-17	EPA 8015M	

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Soil Gas and Vapor Analysis

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
QCTB (E704030-09) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Carbon dioxide	ND	0.20	%	1	ED71315	13-Apr-17	13-Apr-17	ASTM D1945	
Oxygen	**1.1**	0.20	"	"	"	"	"	"	
Nitrogen	**99**	0.20	"	"	"	"	"	"	
Helium (LCC)	ND	0.10	"	"	ED71316	13-Apr-17	13-Apr-17	ASTM D1945M	
Methane	ND	10	ppmv	"	ED71314	13-Apr-17	13-Apr-17	EPA 8015M	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS4 (E704030-04) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Dichlorodifluoromethane (F12)	ND	5.0	ug/m3	1	ED71811	13-Apr-17	18-Apr-17	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	**10**	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	"	"	"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR041017-10	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	24-Apr-17 14:28

Volatile Organic Compounds by EPA TO-15

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS4 (E704030-04) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Chlorobenzene	ND	4.7	ug/m3	1	ED71811	13-Apr-17	18-Apr-17	EPA TO-15	
Ethylbenzene	**4.9**	4.4	"	"	"	"	"	"	
m,p-Xylene	**18**	8.8	"	"	"	"	"	"	
Styrene	ND	4.3	"	"	"	"	"	"	
o-Xylene	**11**	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		*111 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*108 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*95.9 %*		*77-127*	"	"	"	"	
SVS6 (E704030-05) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Dichlorodifluoromethane (F12)	ND	5.0	ug/m3	1	ED71811	13-Apr-17	18-Apr-17	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)	**12**	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: CAR041017-10	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	24-Apr-17 14:28

Volatile Organic Compounds by EPA TO-15

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS6 (E704030-05) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
cis-1,2-Dichloroethene	ND	4.0	ug/m3	1	ED71811	13-Apr-17	18-Apr-17	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	**16**	3.8	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.5	"	"	"	"	"	"	
2-Hexanone (MBK)	ND	8.3	"	"	"	"	"	"	
Dibromochloromethane	ND	8.6	"	"	"	"	"	"	
Tetrachloroethene	**7.5**	6.9	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	7.8	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	7.0	"	"	"	"	"	"	
Chlorobenzene	ND	4.7	"	"	"	"	"	"	
Ethylbenzene	**8.2**	4.4	"	"	"	"	"	"	
m,p-Xylene	**32**	8.8	"	"	"	"	"	"	
Styrene	ND	4.3	"	"	"	"	"	"	
o-Xylene	**15**	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	**5.0**	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: CAR041017-10	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	24-Apr-17 14:28

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 (E704030-05) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Surrogate: 1,2-Dichloroethane-d4		*111 %*		*76-134*	*ED71811*	*13-Apr-17*	*18-Apr-17*	*EPA TO-15*	
Surrogate: Toluene-d8		*106 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*93.0 %*		*77-127*	"	"	"	"	
SVS7 (E704030-06) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Dichlorodifluoromethane (F12)	ND	25	ug/m3	5	ED71811	13-Apr-17	18-Apr-17	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)	**120**	31	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane (F113)	ND	39	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	18	"	"	"	"	"	"	
Carbon disulfide	**36**	32	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	40	"	"	"	"	"	"	
Methyl tertiary-butyl ether (MTBE)	ND	18	"	"	"	"	"	"	
1,1-Dichloroethane	ND	21	"	"	"	"	"	"	
2-Butanone (MEK)	ND	150	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	20	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	21	"	"	"	"	"	"	
Chloroform	ND	25	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	21	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	28	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	21	"	"	"	"	"	"	
Benzene	**18**	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)	ND	41	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	23	"	"	"	"	"	"	
Toluene	**34**	19	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	28	"	"	"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR041017-10	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	24-Apr-17 14:28

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 (E704030-06) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
2-Hexanone (MBK)	ND	41	ug/m3	5	ED71811	13-Apr-17	18-Apr-17	EPA TO-15	
Dibromochloromethane	ND	43	"	"	"	"	"	"	
Tetrachloroethene	ND	34	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	39	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	35	"	"	"	"	"	"	
Chlorobenzene	ND	23	"	"	"	"	"	"	
Ethylbenzene	ND	22	"	"	"	"	"	"	
m,p-Xylene	**57**	44	"	"	"	"	"	"	
Styrene	ND	22	"	"	"	"	"	"	
o-Xylene	**38**	22	"	"	"	"	"	"	
Bromoform	ND	52	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	35	"	"	"	"	"	"	
4-Ethyltoluene	ND	25	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	25	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	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		*107 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*102 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.5 %*		*77-127*	"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR041017-10	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	24-Apr-17 14:28

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
QCEB (E704030-08) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Dichlorodifluoromethane (F12)	ND	5.0	ug/m3	1	ED71811	13-Apr-17	19-Apr-17	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	**6.3**	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	"	"	"	"	"	"	
Dibromochloromethane	ND	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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Cardno ERI - Petaluma	Project: CAR041017-10	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	24-Apr-17 14:28

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
QCEB (E704030-08) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Chlorobenzene	ND	4.7	ug/m3	1	ED71811	13-Apr-17	19-Apr-17	EPA TO-15	
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		*108 %*		*76-134*	"	"	"	"	
Surrogate: Toluene-d8		*120 %*		*78-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*89.2 %*		*77-127*	"	"	"	"	
QCTB (E704030-09) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Dichlorodifluoromethane (F12)	ND	5.0	ug/m3	1	ED71811	13-Apr-17	19-Apr-17	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: CAR041017-10	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	24-Apr-17 14:28

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
QCTB (E704030-09) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
cis-1,2-Dichloroethene	ND	4.0	ug/m3	1	ED71811	13-Apr-17	19-Apr-17	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	**17**	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: CAR041017-10	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	24-Apr-17 14:28

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
QCTB (E704030-09) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Surrogate: 1,2-Dichloroethane-d4		*109 %*	*76-134*		*ED71811*	*13-Apr-17*	*19-Apr-17*	*EPA TO-15*	
Surrogate: Toluene-d8		*106 %*	*78-125*		*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene		*95.2 %*	*77-127*		*"*	*"*	*"*	*"*	

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Cardno ERI - Petaluma	Project: CAR041017-10	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	24-Apr-17 14:28

Volatile Organic Compounds by H&P 8260SV

H&P Mobile Geochemistry, Inc.

SVS1 (E704030-01) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17 **R-05**

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
2-Butanone (MEK)	ND	100000	ug/m3	2	ED71205	11-Apr-17	11-Apr-17	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: CAR041017-10	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	24-Apr-17 14:28

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 (E704030-01) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									**R-05**
m,p-Xylene	ND	20000	ug/m3	2	ED71205	11-Apr-17	11-Apr-17	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		*97.3 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*110 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*108 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*110 %*		*75-125*	"	"	"	"	
SVS3 (E704030-02) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
2-Butanone (MEK)	ND	100000	ug/m3	2	ED71205	11-Apr-17	11-Apr-17	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: CAR041017-10	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	24-Apr-17 14:28

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 (E704030-02) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Ethyl tert-butyl ether (ETBE)	ND	40000	ug/m3	2	ED71205	11-Apr-17	11-Apr-17	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	**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	"	"	"	"	"	"	
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		*99.5 %*	*75-125*		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*110 %*	*75-125*		"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR041017-10	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	24-Apr-17 14:28

Volatile Organic Compounds by H&P 8260SV

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS3 (E704030-02) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Surrogate: Toluene-d8		*119 %*		*75-125*	*ED71205*	*11-Apr-17*	*11-Apr-17*	*H&P 8260SV*	
Surrogate: 4-Bromofluorobenzene		*112 %*		*75-125*	"	"	"	"	
SVS3 DUP (E704030-03) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
2-Butanone (MEK)	ND	100000	ug/m3	2	ED71205	11-Apr-17	11-Apr-17	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	**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	"	"	"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR041017-10	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	24-Apr-17 14:28

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 (E704030-03) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
Dibromochloromethane	ND	20000	ug/m3	2	ED71205	11-Apr-17	11-Apr-17	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		*103 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*108 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*117 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*108 %*		*75-125*	"	"	"	"	
SVS8 (E704030-07) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									**R-05**
2-Butanone (MEK)	ND	50000	ug/m3	1	ED71205	11-Apr-17	11-Apr-17	H&P 8260SV	
2-Hexanone (MBK)	ND	50000	"	"	"	"	"	"	
4-Methyl-2-pentanone (MIBK)	ND	50000	"	"	"	"	"	"	
Dichlorodifluoromethane (F12)	ND	10000	"	"	"	"	"	"	
Chloromethane	ND	10000	"	"	"	"	"	"	
Vinyl chloride	ND	1000	"	"	"	"	"	"	
Bromomethane	ND	10000	"	"	"	"	"	"	
Chloroethane	ND	10000	"	"	"	"	"	"	
Trichlorofluoromethane (F11)	ND	10000	"	"	"	"	"	"	
1,1-Dichloroethene	ND	10000	"	"	"	"	"	"	
1,1,2 Trichlorotrifluoroethane (F113)	ND	10000	"	"	"	"	"	"	
Carbon disulfide	ND	10000	"	"	"	"	"	"	
Methylene chloride (Dichloromethane)	ND	10000	"	"	"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR041017-10	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	24-Apr-17 14:28

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 (E704030-07) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									**R-05**
Methyl tertiary-butyl ether (MTBE)	ND	10000	ug/m3	1	ED71205	11-Apr-17	11-Apr-17	H&P 8260SV	
trans-1,2-Dichloroethene	ND	10000	"	"	"	"	"	"	
Diisopropyl ether (DIPE)	ND	20000	"	"	"	"	"	"	
1,1-Dichloroethane	ND	10000	"	"	"	"	"	"	
Ethyl tert-butyl ether (ETBE)	ND	20000	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	10000	"	"	"	"	"	"	
Chloroform	ND	2000	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	10000	"	"	"	"	"	"	
Carbon tetrachloride	ND	2000	"	"	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	2000	"	"	"	"	"	"	
Tertiary-amyl methyl ether (TAME)	ND	20000	"	"	"	"	"	"	
Benzene	ND	2000	"	"	"	"	"	"	
Trichloroethene	ND	2000	"	"	"	"	"	"	
1,2-Dichloropropane	ND	10000	"	"	"	"	"	"	
Bromodichloromethane	ND	10000	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	10000	"	"	"	"	"	"	
Toluene	ND	20000	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	10000	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	10000	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	10000	"	"	"	"	"	"	
Tetrachloroethene	ND	2000	"	"	"	"	"	"	
Dibromochloromethane	ND	10000	"	"	"	"	"	"	
Chlorobenzene	ND	2000	"	"	"	"	"	"	
Ethylbenzene	ND	10000	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	10000	"	"	"	"	"	"	
m,p-Xylene	ND	10000	"	"	"	"	"	"	
o-Xylene	ND	10000	"	"	"	"	"	"	
Styrene	ND	10000	"	"	"	"	"	"	
Bromoform	ND	10000	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	10000	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	10000	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	10000	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10000	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10000	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10000	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	10000	"	"	"	"	"	"	
Hexachlorobutadiene	ND	10000	"	"	"	"	"	"	
Naphthalene	ND	2000	"	"	"	"	"	"	

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Cardno ERI - Petaluma	Project: CAR041017-10	
601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	24-Apr-17 14:28

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 (E704030-07) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									**R-05**
Tertiary-butyl alcohol (TBA)	ND	100000	ug/m3	1	ED71205	11-Apr-17	11-Apr-17	H&P 8260SV	
Surrogate: Dibromofluoromethane		*105 %*		*75-125*	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*111 %*		*75-125*	"	"	"	"	
Surrogate: Toluene-d8		*121 %*		*75-125*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*110 %*		*75-125*	"	"	"	"	

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Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	24-Apr-17 14:28

Petroleum Hydrocarbon Analysis

H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
SVS1 (E704030-01) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
TPHv (C6-C12)	**25000000**	800000	ug/m3	2	ED71205	11-Apr-17	11-Apr-17	H&P 8260SV	
SVS3 (E704030-02) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
TPHv (C6-C12)	**26000000**	800000	ug/m3	2	ED71205	11-Apr-17	11-Apr-17	H&P 8260SV	
SVS3 DUP (E704030-03) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
TPHv (C6-C12)	**23000000**	800000	ug/m3	2	ED71205	11-Apr-17	11-Apr-17	H&P 8260SV	
SVS4 (E704030-04) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
TPHv (C6 - C12)	**2900**	100	ug/m3	1	ED71811	13-Apr-17	18-Apr-17	EPA TO-15	
SVS6 (E704030-05) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
TPHv (C6 - C12)	**3200**	100	ug/m3	1	ED71811	13-Apr-17	18-Apr-17	EPA TO-15	
SVS7 (E704030-06) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
TPHv (C6 - C12)	**130000**	500	ug/m3	5	ED71811	13-Apr-17	18-Apr-17	EPA TO-15	E
SVS8 (E704030-07) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
TPHv (C6-C12)	**15000000**	400000	ug/m3	1	ED71205	11-Apr-17	11-Apr-17	H&P 8260SV	
QCEB (E704030-08) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
TPHv (C6 - C12)	**500**	100	ug/m3	1	ED71811	13-Apr-17	19-Apr-17	EPA TO-15	
QCTB (E704030-09) Vapor Sampled: 05-Apr-17 Received: 10-Apr-17									
TPHv (C6 - C12)	ND	100	ug/m3	1	ED71811	13-Apr-17	19-Apr-17	EPA TO-15	

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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	24-Apr-17 14:28

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 ED71314 - GC										
Blank (ED71314-BLK1)				Prepared & Analyzed: 13-Apr-17						
Methane	ND	10	ppmv							
Batch ED71315 - GC										
Blank (ED71315-BLK1)				Prepared & Analyzed: 13-Apr-17						
Carbon dioxide	ND	0.20	%							
Batch ED71316 - GC										
Blank (ED71316-BLK1)				Prepared & Analyzed: 13-Apr-17						
Helium (LCC)	ND	0.10	%							

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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 ED71811 - TO-15										
Blank (ED71811-BLK1)				Prepared & Analyzed: 18-Apr-17						
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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601 N. McDowell Blvd	Project Number: Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager: Mr. Scott Perkins	24-Apr-17 14:28

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 ED71811 - TO-15										
Blank (ED71811-BLK1)				Prepared & Analyzed: 18-Apr-17						
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	*233*		*"*	*214*		*109*	*76-134*			
Surrogate: Toluene-d8	*218*		*"*	*207*		*105*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*338*		*"*	*364*		*92.6*	*77-127*			
LCS (ED71811-BS1)				Prepared & Analyzed: 18-Apr-17						
Dichlorodifluoromethane (F12)	100	5.0	ug/m3	101		104	59-128			
Vinyl chloride	46	2.6	"	52.0		89.2	64-127			
Chloroethane	43	8.0	"	53.6		81.0	63-127			
Trichlorofluoromethane (F11)	110	5.6	"	113		95.9	62-126			
1,1-Dichloroethene	71	4.0	"	80.8		88.3	61-133			
1,1,2-Trichlorotrifluoroethane (F113)	140	7.7	"	155		90.2	66-126			
Methylene chloride (Dichloromethane)	67	3.5	"	70.8		94.3	62-115			
trans-1,2-Dichloroethene	60	8.0	"	80.8		74.7	67-124			

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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 ED71811 - TO-15										
LCS (ED71811-BS1)				Prepared & Analyzed: 18-Apr-17						
1,1-Dichloroethane	66	4.1	ug/m3	82.4		80.5	68-126			
cis-1,2-Dichloroethene	64	4.0	"	80.0		79.5	70-121			
Chloroform	100	4.9	"	99.2		100	68-123			
1,1,1-Trichloroethane	110	5.5	"	111		96.3	68-125			
1,2-Dichloroethane (EDC)	80	4.1	"	82.4		97.5	65-128			
Benzene	52	3.2	"	64.8		79.6	69-119			
Carbon tetrachloride	97	6.4	"	128		76.0	68-132			
Trichloroethene	110	5.5	"	110		99.3	71-123			
Toluene	67	3.8	"	76.8		87.6	66-119			
1,1,2-Trichloroethane	100	5.5	"	111		92.0	73-119			
Tetrachloroethene	130	6.9	"	138		94.6	66-124			
1,1,1,2-Tetrachloroethane	120	7.0	"	140		87.3	67-129			
Ethylbenzene	72	4.4	"	88.4		81.4	70-124			
m,p-Xylene	72	8.8	"	88.4		81.7	61-134			
o-Xylene	72	4.4	"	88.4		81.3	67-125			
1,1,2,2-Tetrachloroethane	100	7.0	"	140		74.3	65-127			
Surrogate: 1,2-Dichloroethane-d4	*236*		*"*	*214*		*110*	*76-134*			
Surrogate: Toluene-d8	*211*		*"*	*207*		*102*	*78-125*			
Surrogate: 4-Bromofluorobenzene	*355*		*"*	*364*		*97.4*	*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 ED71205 - EPA 5030										
Blank (ED71205-BLK1)				Prepared & Analyzed: 11-Apr-17						
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 ED71205 - EPA 5030										
Blank (ED71205-BLK1)				Prepared & Analyzed: 11-Apr-17						
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	*2670*		*"*	*2500*		*107*	*75-125*			
Surrogate: 1,2-Dichloroethane-d4	*2840*		*"*	*2500*		*114*	*75-125*			
Surrogate: Toluene-d8	*2520*		*"*	*2500*		*101*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*2600*		*"*	*2500*		*104*	*75-125*			
LCS (ED71205-BS1)				Prepared & Analyzed: 11-Apr-17						
Dichlorodifluoromethane (F12)	5000	500	ug/m3	5000		101	70-130			
Vinyl chloride	5100	50	"	5000		103	70-130			
Chloroethane	4900	500	"	5000		98.6	70-130			
Trichlorofluoromethane (F11)	5100	500	"	5000		101	70-130			
1,1-Dichloroethene	4900	500	"	5000		98.9	70-130			
1,1,2 Trichlorotrifluoroethane (F113)	5900	500	"	5000		119	70-130			
Methylene chloride (Dichloromethane)	5300	500	"	5000		105	70-130			
trans-1,2-Dichloroethene	5200	500	"	5000		104	70-130			
1,1-Dichloroethane	4700	500	"	5000		93.8	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 ED71205 - EPA 5030										
LCS (ED71205-BS1)				Prepared & Analyzed: 11-Apr-17						
cis-1,2-Dichloroethene	5400	500	ug/m3	5000		107	70-130			
Chloroform	4900	100	"	5000		98.9	70-130			
1,1,1-Trichloroethane	5100	500	"	5000		103	70-130			
Carbon tetrachloride	5500	100	"	5000		110	70-130			
1,2-Dichloroethane (EDC)	5500	100	"	5000		109	70-130			
Benzene	4800	100	"	5000		96.5	70-130			
Trichloroethene	5200	100	"	5000		104	70-130			
Toluene	5100	1000	"	5000		103	70-130			
1,1,2-Trichloroethane	5200	500	"	5000		104	70-130			
Tetrachloroethene	5200	100	"	5000		104	70-130			
Ethylbenzene	5500	500	"	5000		109	70-130			
1,1,1,2-Tetrachloroethane	5700	500	"	5000		114	70-130			
m,p-Xylene	11000	500	"	10000		111	70-130			
o-Xylene	5300	500	"	5000		107	70-130			
1,1,2,2-Tetrachloroethane	4900	500	"	5000		98.1	70-130			
Surrogate: Dibromofluoromethane	*2590*		*"*	*2500*		*104*	*75-125*			
Surrogate: 1,2-Dichloroethane-d4	*2580*		*"*	*2500*		*103*	*75-125*			
Surrogate: Toluene-d8	*2570*		*"*	*2500*		*103*	*75-125*			
Surrogate: 4-Bromofluorobenzene	*2550*		*"*	*2500*		*102*	*75-125*			

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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 ED71205 - EPA 5030										
Blank (ED71205-BLK1)				Prepared & Analyzed: 11-Apr-17						
TPHv (C6-C12)	ND	200000	ug/m3							
Batch ED71811 - TO-15										
Blank (ED71811-BLK1)				Prepared & Analyzed: 18-Apr-17						
TPHv (C6 - C12)	ND	100	ug/m3							

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760-804-9159 Fax

Cardno ERI - Petaluma	Project:	CAR041017-10	
601 N. McDowell Blvd	Project Number:	Former Exxon 79374 / 990 San Pablo Ave.	Reported:
Petaluma, CA 94954	Project Manager:	Mr. Scott Perkins	24-Apr-17 14:28

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.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate (CLP E-flag).
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 Program and ISO/IEC 17025:2005 programs, accreditation number 69070 for EPA Method TO-15, H&P Method TO-15, EPA Method 8260B and H&P 8260SV.

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.
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& Field Office - Signal Hill, CA
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P 760.804.9678 F 760.804.9159

VAPOR / AIR Chain of Custody

DATE: 4/5/17
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: 4/10/17	Control #: 170244.01
H&P Project #	CAR041017-10
Lab Work Order #	E704030
Sample Intact: ☒ Yes ☐ No ☐ See Notes Below	
Receipt Gauge ID: 11167	Temp: RT
Outside Lab:	
Receipt Notes/Tracking #: 1293TT6190498448 52	
Lab PM Initials: KRI	

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: 4/5/17

Additional Instructions to Laboratory:

☐ Check if Project Analyte List is Attached

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

* SEE KRISTIN BECKLEY*
EDF deliverable to norcallabs@eri-us.com
QCEB = Equipment Blank QCTB=Trip Blank
TPHg using GC/MS C6-C12

(*) Analyzed by H&P 8260B JEC 4/24/17

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-15M	Oxygenates ☐ 8260SV ☒ TO-15	Naphthalene ☒ TO-15M ☐	TPHv as Gas ☐ ☒ ~~TO-3m~~ TO-15 KRI 4/10/17	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	4/5/2017	0952	SV	400mL Summa	307	-5.64	x	x	x	x		x	x	x	
SVS3 (*)	SVS3	4/5/2017	1315	SV	400mL Summa	462	-5.39	x	x	x	x		x	x	x	
SVS3 DUP (*)	SVS3	4/5/2017	1315	SV	400mL Summa	037	-5.61	x	x	x	x		x	x	x	
SVS4	SVS4	4/5/2017	1050	SV	400mL Summa	368	-5.11	x	x	x	x		x	x	x	
SVS6	SVS6	4/5/2017	1127	SV	400mL Summa	328	-4.31	x	x	x	x		x	x	x	
SVS7	SVS7	4/5/2017	1204	SV	400mL Summa	040	-8.23	x	x	x	x		x	x	x	
SVS8 (*)	SVS8	4/5/2017	1242	SV	400mL Summa	104	-4.52	x	x	x	x		x	x	x	
QCEB	QCEB	4/5/2017	1400	SV	400mL Summa	286	-3.98	x	x	x	x		x	x	x	
QCTB	QCTB	4/5/2017	NA	SV	400mL Summa	~~NA~~ 549 KRI 4/10/17	30.3	x	x	x	x		x	x	x	

Approved/Relinquished by:	Company: Cardno	Date: 4/6/17	Time: 0900	Received by: Jon Unsworth	Company: H&P	Date: 4/10/17	Time: 10:30
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