4096 Piedmont Avenue #194 Oakland, California 94611 510 547 8196 Telephone 510 547 8706 Facsimile Jennifer C. Sedlachek Project Manager

# **RECEIVED**

**E**XonMobil

March 28, 2011

2:15 pm, Mar 29, 2011

Alameda County

Environmental Health

Ms. Barbara Jakub Alameda County Health Care Services Agency 1131 Harbor Bay Parkway, 2<sup>nd</sup> Floor Alameda, California 94502

Subject: Fuel Leak Case No. RO0000445

Former Mobil Station 99105, 6301 San Pablo Avenue, Oakland, California

Dear Ms. Jakub:

Attached for your review and comment is a copy of the *Soil Vapor Survey Report* for the above-referenced site. The report, prepared by ETIC Engineering, Inc. of Pleasant Hill, California, details the results of the soil vapor well installation and sampling events in November 2010.

Upon information and belief, I declare, under penalty of perjury, that the information contained in the document is true and correct.

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

Sincerely,

Jennifer C. Sedlachek

Project Manager

Attachment: ETIC Soil Vapor Survey Report

c: w/ attachment:

Ms. Connie Lam (property owner)

c: w/o attachment:

Ms. Christa Marting – ETIC Engineering, Inc.



# Soil Vapor Survey Report

# **Former Mobil Station 99105** 6301 San Pablo Avenue Oakland, California

Prepared for

ExxonMobil Oil Corporation

Prepared by

ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, California 94523 (925) 602-4710

Yuko Mamiya Project Geologist

Thomas E. Neely, PG, CHG, REAI Senior Hydrogeologist

Date

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## SITE CONTACTS

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Oakland, California

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#### 1. INTRODUCTION

At the request of ExxonMobil Environmental Services Company on behalf of ExxonMobil Oil Corporation (ExxonMobil), ETIC Engineering, Inc. (ETIC) has prepared this Soil Vapor Survey Report for former Mobil Station 99105, located at 6301 San Pablo Avenue, Oakland, California (Figure 1).

The investigation was conducted in general accordance with in the Vapor Intrusion Assessment and Well Installation Work Plan dated December 2008 (ETIC 2008) and Work Plan Addendum dated October 2009 (ETIC 2009). The work plan outlined the proposed scope of work for the collection of soil and soil vapor samples to evaluate the potential risk from potential exposure to hydrocarbons beneath the site via vapor intrusion (ETIC 2008). In a letter dated 20 July 2010, ETIC notified the Alameda County Health Care Services Agency (ACHCSA) that the proposed work would be implemented. The regulatory correspondence is attached as Appendix A.

This report documents the installation of five soil vapor monitoring wells and presents the results of the soil vapor sampling and vapor intrusion evaluation.

# Scope of Work

The work consisted of the following activities:

- On 1 and 2 November 2010, a total of five borings were advanced to a total depth of 6 feet below ground surface (bgs) using an air knife and a hand auger.
- Soil samples were collected from each location. Soil samples collected from 5 to 5.5 feet bgs and from 5.5 to 6 feet bgs were submitted for laboratory analysis.
- The borings were completed as soil vapor monitoring wells VW1 through VW5 for the collection of soil vapor samples.
- On 9 November 2010, soil vapor samples were collected from vapor wells VW1 through VW5 in 1-liter SUMMA canisters and submitted for laboratory analysis.
- On 15 December 2010, the wells were surveyed by a licensed land surveying company.

#### 2. SITE BACKGROUND

#### 2.1 SITE LOCATION AND LAND USE

Former Mobil Station 99105 is located at 6301 San Pablo Avenue, Oakland, California, on the northwestern corner of the intersection of San Pablo Avenue and 63<sup>rd</sup> Street (Figure 1). The site was used as a Mobil service station from 1951 to 1980. The site was subsequently used as a car rental lot and is currently an automobile oil change facility. The former four 2,000-gallon gasoline underground storage tanks (USTs) and one 350-gallon used-oil UST were not in use after 1980 and were removed in 1994 (Figure 2). Commercial properties are situated to the north along San Pablo Avenue. To the east, across San Pablo Avenue, is an elementary school, and to the west and south are residential properties.

#### 2.2 REGIONAL GEOLOGY AND HYDROGEOLOGY

The Site is located in the East Bay Plain Subbasin of the Santa Clara Valley Groundwater Basin. The East Bay Plain Subbasin is a northwest trending alluvial plain bounded on the north by San Pablo Bay, on the east by the contact with Franciscan Basement rock, and on the south by the Niles Cone Groundwater Basin. The East Bay Plain Basin extends beneath San Francisco Bay to the west. Numerous creeks including San Pablo Creek, Wildcat Creek, San Leandro Creek, and San Lorenzo Creek flow from the western slope of the Coast Ranges westward across the plain and into the San Francisco Bay. The East Bay Plain Subbasin aquifer system consists of unconsolidated deposits of Quaternary age. Deposits include the early Pleistocene Santa Clara Formation, the late Pleistocene Alameda Formation, the early Holocene Temescal Formation, and Artificial Fill. The cumulative thickness of the unconsolidated deposits is about 1,000 feet (Department of Water Resources [DWR] 2003).

### Early Pleistocene Santa Clara Formation

The Santa Clara Formation consists of alluvial fan deposits inter-fingered with lake, swamp, river channel, and flood plain deposits. The formation ranges from 300 to 600 feet thick (DWR 2003).

# Late Pleistocene Alameda Formation

The Alameda Formation includes a sequence of alluvial fan deposits. The formation was deposited primarily in an estuarine environment and ranges from 26 to 245 feet thick (DWR 2003).

## Early Holocene Temescal Formation

The Temescal Formation is an alluvial deposit consisting primarily of silt and clay with some gravel layers. The formation ranges from 1 to 50 feet thick (DWR 2003).

#### **Artificial Fill**

Artificial fill is found mostly along the bay front and wetlands areas and is derived primarily from dredging as well as quarrying, construction, demolition debris, and municipal waste. The fill ranges in thickness from 1 to 50 feet with the thickest deposits found closer to San Francisco Bay (DWR 2003).

## 2.3 SITE HYDROGEOLOGY

The depth to groundwater beneath the site has ranged from approximately 3 to 12.5 feet bgs. The groundwater flow direction reportedly has varied from the northwest to the southwest. The hydraulic gradient during the most recent groundwater monitoring event in September 2010 was calculated to be 0.07 foot per foot toward the southwest (ETIC 2010). The most recent groundwater flow direction and analytical results are shown on Figure 3.

#### 2.4 SUMMARY OF PREVIOUS INVESTIGATION ACTIVITIES

Previous environmental activities conducted at the site are listed below and were obtained from the Risk-Based Corrective Action Report prepared by TRC Alton Geoscience (TRC), dated October 2002 (TRC 2002). Soil boring and well locations are shown on Figure 2.

In March 1996, four groundwater monitoring wells (MW1 through MW4) were installed (Alisto 1996).

In March 1998, 13 soil borings (AB-1 through AB-13) were drilled to characterize the extent of hydrocarbons in soil and groundwater onsite (Alton 1998).

On 19 November 1998, a dual-phase extraction (DPE) event was conducted. Six temporary monitoring points (MP-1 through MP-6) were advanced to further characterize the extent of hydrocarbon-impacted vadose zone soil and to obtain vacuum readings and groundwater depths during the DPE event. Groundwater and soil vapor were extracted from wells MW3 and MW4. Vacuum response and groundwater depths were measured in the temporary monitoring points and monitoring wells during the DPE event. Approximately 21 pounds of vapor-phase hydrocarbons and 75 gallons of hydrocarbon-impacted groundwater were recovered during the event (Alton 1999). Following the extraction event, monitoring points MP-1 through MP-6 were abandoned in-place.

In early 1999, more than 200 cubic yards of soil was removed from the northeastern portion of the site during redevelopment activities conducted by the property owner. Monitoring well MW4 was inadvertently destroyed during the construction activities (TRC 2002).

In July 1999, MW1 was properly destroyed in preparation for the construction activities (TRC 1999).

In January 2000, one soil boring (HA-1) was advanced in the footprint area of the oil change facility (i.e., prior to construction of the building) to confirm the absence of hydrocarbon impacts in this

area.

In the fall of 2000, two (MW2 and MW3) of the three monitoring wells damaged during construction activities conducted by the property owner in 1999 were rehabilitated and the third well (MW4) was replaced by well MW5. The remaining three wells (MW2, MW3, and MW5) were monitored on a quarterly basis until January 2004.

In September 2010, monitoring wells MW2, MW3, and MW5 were re-developed, and groundwater samples were collected from these wells (ETIC 2010).

Well construction details are presented in Table 1, historical soil sample analytical results are presented in Table 2, historical groundwater sample analytical results for temporary borings are presented in Table 3, and groundwater monitoring data are summarized in Tables 4 and 5.

#### 2.5 SUMMARY OF PREVIOUS INTERIM REMEDIAL MEASURES

In August 1994, four 2,000-gallon gasoline USTs and one 350-gallon used-oil UST were excavated and removed from the site. Holes were observed in two of the gasoline tanks. Analysis of soil samples collected from the bottom of the gasoline tank excavation at 11 feet bgs indicated maximum concentrations of 520 milligrams per kilogram (mg/kg) of Total Petroleum Hydrocarbons as gasoline (TPH-g) and 0.18 mg/kg of benzene. Liquid-phase hydrocarbons were observed in the groundwater of the gasoline tank excavation. Analysis of the soil sample from the bottom of the used-oil tank excavation indicated a maximum concentration of 21 mg/kg of TPH-g, 1.2 mg/kg of Total Petroleum Hydrocarbons as diesel (TPH-d), and 94 mg/kg of Total Oil and Grease (TOG). Benzene was not reported above the laboratory detection limit (Alisto 1996).

In January 1996, additional compliance soil samples were collected from the UST excavations. A total of six soil samples were collected from the sidewalls of the gasoline tank excavation and a total of two soil samples were collected from the bottom of the used-oil tank excavation. Analysis of the soil samples from the gasoline tank excavation indicated maximum concentrations of 9.5 mg/kg of TPH-g, 44 mg/kg of TPH-d, and 0.11 mg/kg of benzene. Analysis of the soil samples from the used-oil tank excavation indicated maximum concentrations of 2.9 mg/kg of TPH-d and 10 mg/kg of TOG. Benzene was not reported above the laboratory detection limit (Alisto 1996).

In February 1996, the standing water in the gasoline tank excavation, which had risen to approximately 3 feet bgs, was pumped from the excavation. Non-hazardous waste manifests in the Alisto Engineering Group 1996 report show a total of 16,170 gallons of water was removed from the site at this time. Additional soil samples were collected from the bottom of the gasoline tank excavation. Analysis of those samples indicated a maximum concentration of 640 mg/kg of TPH-g and 160 mg/kg of TPH-d. Benzene was not reported above the laboratory detection limit (Alisto 1996).

Also in February 1996, three 2-inch-diameter fiberglass and two 2-inch-diameter steel fuel pipelines were excavated and removed from the site. No holes were observed in the fiberglass piping. The steel piping showed signs of rust and staining was apparent at the pipe stub-ups near the northwest

end of the former dispenser island. The excavation of the product lines was approximately 3 feet wide by 3 feet deep by 50 feet long, from the southeastern corner of the gasoline tank excavation to the dispenser islands. An area of approximately 16 feet long by 11 feet wide by 5 feet deep was overexcavated near the northwestern end of the former dispenser island to remove apparent petroleum hydrocarbon-impacted soils. Compliance soil samples were collected every 20 linear feet from the former product line excavation. Analysis of those samples indicated a maximum concentration of 240 mg/kg of TPH-g, 37 mg/kg of TPH-d, and 0.30 mg/kg of benzene (Alisto 1996).

An estimated 367 cubic yards of soil was excavated and removed from the site during the UST and piping removals (Alisto 1996).

On 19 November 1998, a DPE event was conducted. Six temporary monitoring points (MP-1 through MP-6) were advanced to further characterize the extent of hydrocarbon-impacted vadose zone soil and to obtain vacuum readings and groundwater depths during the DPE event. Groundwater and soil vapor were extracted from wells MW3 and MW4. Vacuum response and groundwater depths were measured in the temporary monitoring points and monitoring wells during the DPE event. Approximately 21 pounds of vapor-phase hydrocarbons and 75 gallons of hydrocarbon-impacted groundwater were recovered during the event (Alton 1999). Following the extraction event, monitoring points MP-1 through MP-6 were abandoned in-place.

In early 1999, more than 200 cubic yards of soil were removed from the north area of the site during redevelopment activities conducted by the property owner. Monitoring well MW4 was inadvertently destroyed during the construction activities (TRC 2002).

#### 3. SUBSURFACE INVESTIGATION

On 1 and 2 November 2010, ETIC observed the installation of five soil vapor monitoring wells (VW1 through VW5). A permit was obtained from Alameda County Public Works Agency (ACPWA). A copy of the permit is attached as Appendix B. A site-specific health and safety plan was used for this work. The locations of the soil vapor monitoring wells are shown on Figure 2.

The locations of the proposed soil vapor monitoring wells were selected based on the historical hydrocarbon concentrations beneath the site, groundwater flow direction, and locations of onsite structures.

An advisory published by the Department of Toxic Substances Control (DTSC) and the Los Angeles Regional Water Quality Control Board (DTSC/LARWQCB 2003) and vapor intrusion evaluation guidelines published by the DTSC (DTSC 2004) and Interstate Technology & Regulatory Council (ITRC 2007) were used as guidelines for the work detailed below.

#### 3.1 ADVANCEMENT OF SOIL BORINGS AND SOIL SAMPLING

On 1 and 2 November 2010, soil borings VW1 through VW5 were advanced by Cascade Drilling, LP. of Rancho Cordova, California (C57 license #938110) with an air knife and a hand auger to a depth of approximately 6 feet bgs.

Soil samples were collected in clean liners using a slide hammer hand sampler at depths of 5 to 5.5 feet bgs and 5.5 to 6 feet bgs. Soil was examined and characteristics were recorded on the soil boring logs presented in Appendix C. The soil sample liners were sealed with Teflon tape, capped, labeled, placed in a cooler with ice, and submitted under chain-of-custody protocol to a state-certified laboratory for analysis. Reusable sampling equipment was decontaminated after each use. Field methods and procedures are described in the protocols, presented in Appendix D.

#### 3.2 SOIL VAPOR MONITORING WELL INSTALLATION

Borings VW1 through VW5 were completed as soil vapor monitoring wells. The wells were completed in accordance with the protocols provided in Appendix D. An ACPWA inspector observed and approved the installation of each well.

The soil vapor monitoring wells were constructed with 0.25-inch-diameter stainless steel tubing connected to a 0.4-inch-diameter, 6-inch-long, stainless steel 0.0057-inch pore screen. All connections were sealed with Swagelok®-type fittings. The screen was capped at the bottom, connected to the tubing with a Swagelok®-type fitting, and placed from approximately 5.25 to 5.75 feet bgs in the borehole. A filter pack consisting of #2/12 Sand was placed between approximately 5 and 6 feet bgs. The top of the stainless steel tubing was sealed with a Swagelok®-type valve. A 1-foot layer (from approximately 4 to 5 feet bgs) of dry granular bentonite was placed in the annular space of the borehole to separate the filter pack form the overlying grout seal. Hydrated granular

bentonite was used to fill the annular space of the borehole to just below ground surface. The well construction details are provided in Table 1 and are shown on the boring logs in Appendix C.

### 3.3 SOIL VAPOR SAMPLE COLLECTION

On 9 November 2010, a purge test was conducted for well VW5 which involved purging the well of 1, 3, and 7 purge volumes and screening the samples with a photoionization detector to determine the relative hydrocarbon content. Based on the results of this purge test, a purge volume of 3 purge volumes was determined to be the preferred amount for the remaining samples to be collected at the site.

On 9 November 2010, soil vapor samples were collected after purging 3 volumes from each well using SUMMA canisters. The initial pressure and the final pressure readings taken from the gauges on the SUMMA canisters were recorded. During sampling, helium was used to check for potential leaks. The samples were submitted under chain-of-custody protocol to a state-certified laboratory for analysis. Field protocols are provided in Appendix D. The field documents are included in Appendix E.

#### 3.4 WELL SURVEYING

On 15 December 2010, the location and top of traffic box elevation of each soil vapor monitoring well was surveyed by Morrow Surveying, a licensed land surveyor. The surveyor's report is provided in Appendix F.

## 3.5 WASTE CONTAINMENT AND DISPOSAL

Waste generated during soil vapor monitoring well installation activities was collected in 55-gallon drums and stored onsite. Soil samples were collected from the drums and submitted to Calscience Environmental Laboratories, Inc. (Calscience), a state-certified laboratory in Garden Grove, California. The samples were analyzed for TPH-g, benzene, toluene, ethylbenzene, and total xylenes (BTEX), and total lead in order to characterize the soil for proper disposal. The laboratory analytical reports and chain-of-custody documentation are included in Appendix G. The drums were removed from the site on 15 December 2010 by Dillard Environmental Services and transported for disposal to Republic Landfill in Livermore, California. Waste documentation is included in Appendix H.

#### 4. RESULTS

# 4.1 LOCAL GEOLOGY AND HYDROGEOLOGY

The soil encountered during this investigation generally consisted of clay with gravel to approximately 3 to 4 feet bgs. The clay with gravel was underlain by clay with silt in borings VW1 and VW5, clayey silt with trace sand in borings VW3 and VW4, and sandy gravel in borings VW2 to 6 feet bgs, the total depth explored during this investigation. Groundwater was not encountered during this investigation. Detailed soil descriptions are presented in the boring logs in Appendix C.

# 4.2 SOIL SAMPLE ANALYTICAL METHODS AND RESULTS

Soil samples collected at depths from 5.5 to 6 feet bgs from borings VW1 through VW5 were submitted to Calscience and analyzed for TPH-d and TPH-g by EPA Method 8015B (M), BTEX by EPA Method 8021B, and methyl tertiary butyl ether (MTBE), tertiary butyl alcohol (TBA), 1,2-dichloroethane (1,2-DCA), diisopropyl ether (DIPE), 1,2-dibromoethane (1,2-DBA, ethylene dibromide, or EDB), ethyl tertiary butyl ether (ETBE), and tertiary amyl methyl ether (TAME) by EPA Method 8260B. The analytical results are summarized in Table 2 and Figure 4. The laboratory analytical reports and chain-of-custody documentation are included in Appendix G.

- TPH-g was detected at a maximum concentration of 3.7 mg/kg (VW4).
- Ethylbenzene and total xylenes were each detected at a maximum concentration of 0.0050 mg/kg (VW4).
- No other analytes were detected at or above reporting limits in the soil samples.

Soil samples collected at depths from 5 to 5.5 feet bgs from borings VW1 through VW5 were also submitted to Calscience and analyzed for moisture content by ASTM D2216 and porosity and bulk density by API RP40. The analytical results are summarized in Table 6. The moisture content of the soil samples ranged from 14.6 to 22.0 percent by weight. The bulk density ranged from 1.47 to 1.55 grams per cubic centimeter. The total porosity ranged from 41.7 to 44.6 percent by volume. The laboratory analytical reports and chain-of-custody documentation are included in Appendix G.

# 4.3 SOIL VAPOR SAMPLE ANALYTICAL METHODS AND RESULTS

Soil vapor samples collected from wells VW1 through VW5 were submitted to Calscience for analysis. The samples were analyzed for TPH-g by EPA Method TO-3 (M) and BTEX, MTBE, TBA, 1,2-DCA, DIPE, 1,2-DBA, ETBE, and TAME by EPA Method TO-15. The samples were also analyzed for oxygen, methane, and carbon dioxide by ASTM D1946, and select samples were analyzed for helium by ASTM D1946 (M). Field measurements were collected for helium using a helium detector. The field measurements and analytical results for the soil vapor samples are presented in Table 7 and on Figure 5.

Benzene was detected at concentrations up to 16,000 micrograms per cubic meter (μg/m³)

(VW4).

- Toluene was detected at concentrations up to  $9,200 \mu g/m^3$  (VW4).
- Ethylbenzene was detected at concentrations up to 71,000 μg/m³ (VW4).
- Total xylenes was detected at concentrations up to 60,000 μg/m³ (VW4).
- TPH-g was detected at concentrations up to 250,000,000 μg/m³ (VW4).
- 1,2-DCA was detected at concentrations up to 4.8 μg/m³ (VW2).
- No other analytes were detected at or above reporting limits.
- Methane was detected at concentrations up to 14.2 percent by volume (VW4).
- Helium was detected at concentrations up to 18,000 parts per million in the field measurements when sampling soil vapor from wells VW4 and VW5. The equipment vendor indicated that the helium field instrument can detect and record hydrocarbons if elevated concentrations are present. Laboratory analysis for helium was performed on the samples from VW4 and VW5 to evaluate the field detections.
- Helium was not detected in the laboratory analysis of soil vapor samples from wells VW4 and VW5.

#### 5. VAPOR INTRUSION EVALUATION

As requested by the ACHCSA, the potential health risks associated with hydrocarbon vapor intrusion to indoor air were evaluated. The objective of this evaluation was to assess the potential for risk to human health from exposure to chemicals of potential concern (COPCs) in indoor air via subsurface vapor intrusion. Soil vapor samples were collected from soil vapor monitoring wells VW1 through VW5 to evaluate subsurface concentrations (Figure 2). The primary COPCs for vapor intrusion are identified as BTEX, TPH-g, and 1,2-DCA.

This analysis consisted of comparison of the site maximum soil vapor concentrations to relevant Environmental Screening Levels (ESLs) developed by the Regional Water Quality Control Board San Francisco Bay Region (RWQCB-SF 2008). The ESLs adopted by the RWQCB correspond to a target carcinogenic risk level of 1 x 10<sup>-6</sup> and a target non-carcinogenic hazard quotient of 0.2.

Table 8 lists the lowest relevant ESLs for potential vapor intrusion concerns corresponding to residential and commercial/industrial land use (Table E-2, RWQCB-SF 2008).

# Of the compounds detected:

- Benzene concentrations for soil vapor samples from VW4 and VW5 exceeded the ESLs for residential and commercial land use.
- Ethylbenzene and total xylenes concentrations for soil vapor sample from VW4 exceeded the ESLs for residential and commercial land use.
- TPH-g concentrations exceeded ESLs for commercial land use in samples collected from wells VW1, VW3, VW4, and VW5 and exceeded the ESL for residential land use in the sample collected from wells VW1 through VW5.
- Toluene and 1,2-DCA were not detected at concentrations exceeding the ESLs for residential or commercial land use in the samples collected.

#### 6. SUMMARY

On 1 and 2 November 2010 ETIC observed the installation of five soil vapor monitoring wells (VW1 through VW5) at former Mobil Station 99105, located at 6301 San Pablo Avenue, Oakland, California. Relatively low levels of TPH-g, ethylbenzene, and xylenes were detected in the soil sample collected from boring VW4 at 5.5 to 6 feet bgs. TPH-g, TPH-d, BTEX, MTBE, DIPE, ETBE, TAME, TBA, 1,2-DCA, and EDB were not detected in the other soil samples. Soil samples were also collected from each boring for analysis of physical properties.

On 9 November 2010, soil vapor samples were collected from wells VW1 through VW5. TPH-g, BTEX, and 1,2-DCA were detected in the soil vapor samples. A vapor intrusion evaluation which consisted of a comparison of the site maximum shallow soil vapor concentrations to relevant ESLs was performed. Concentrations of TPH-g, benzene, ethylbenzene, and xylenes in some soil vapor samples exceeded ESLs.

Recommendations based on the vapor intrusion evaluation will be submitted under separate cover.

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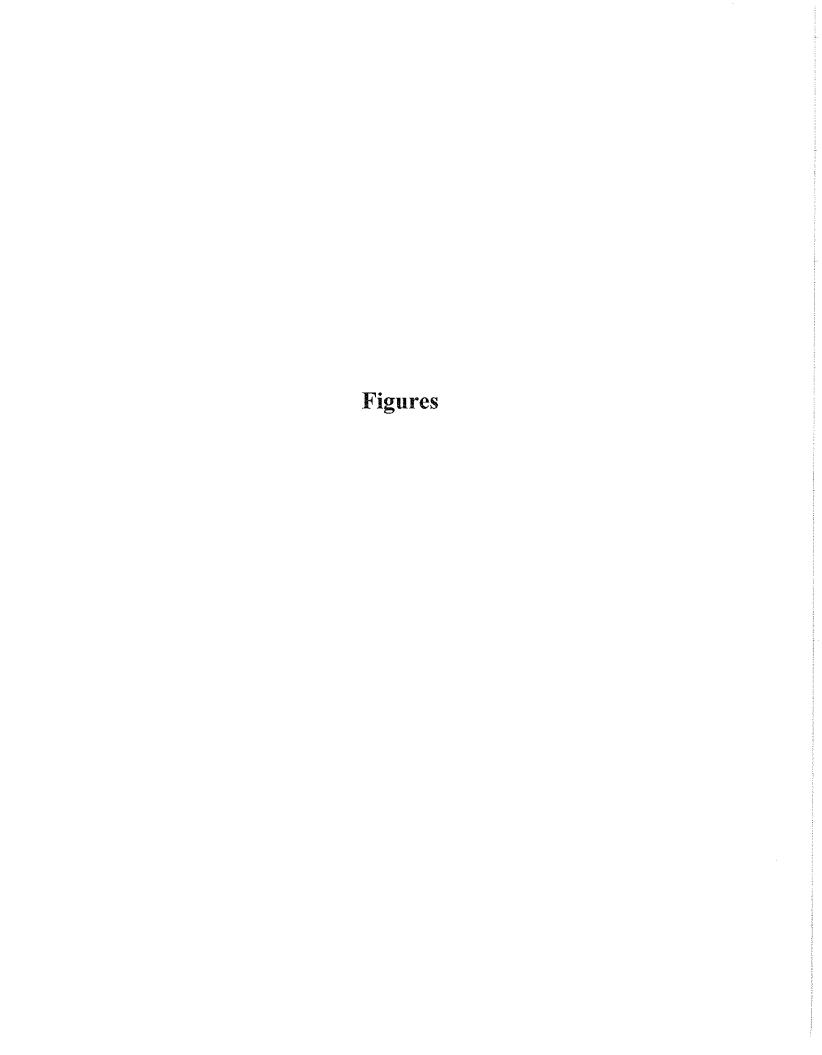
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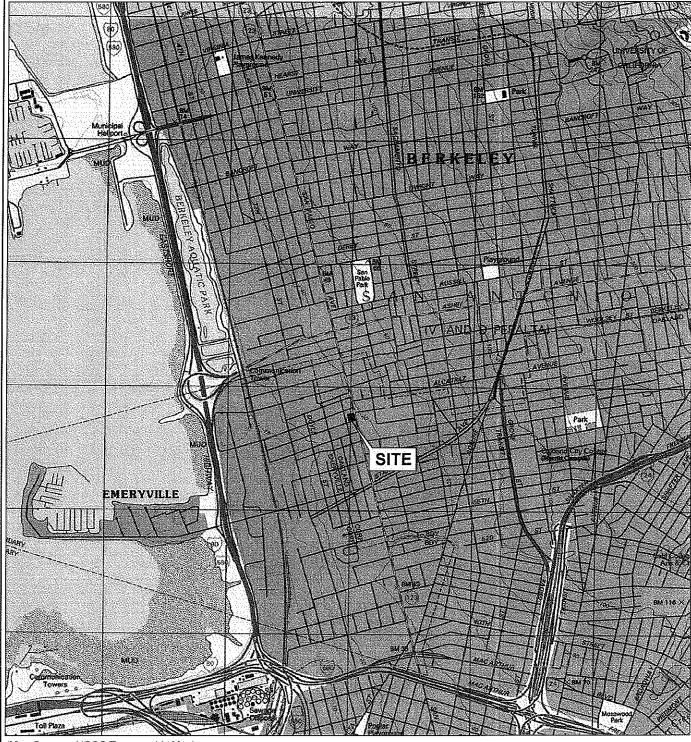
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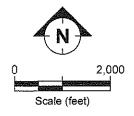
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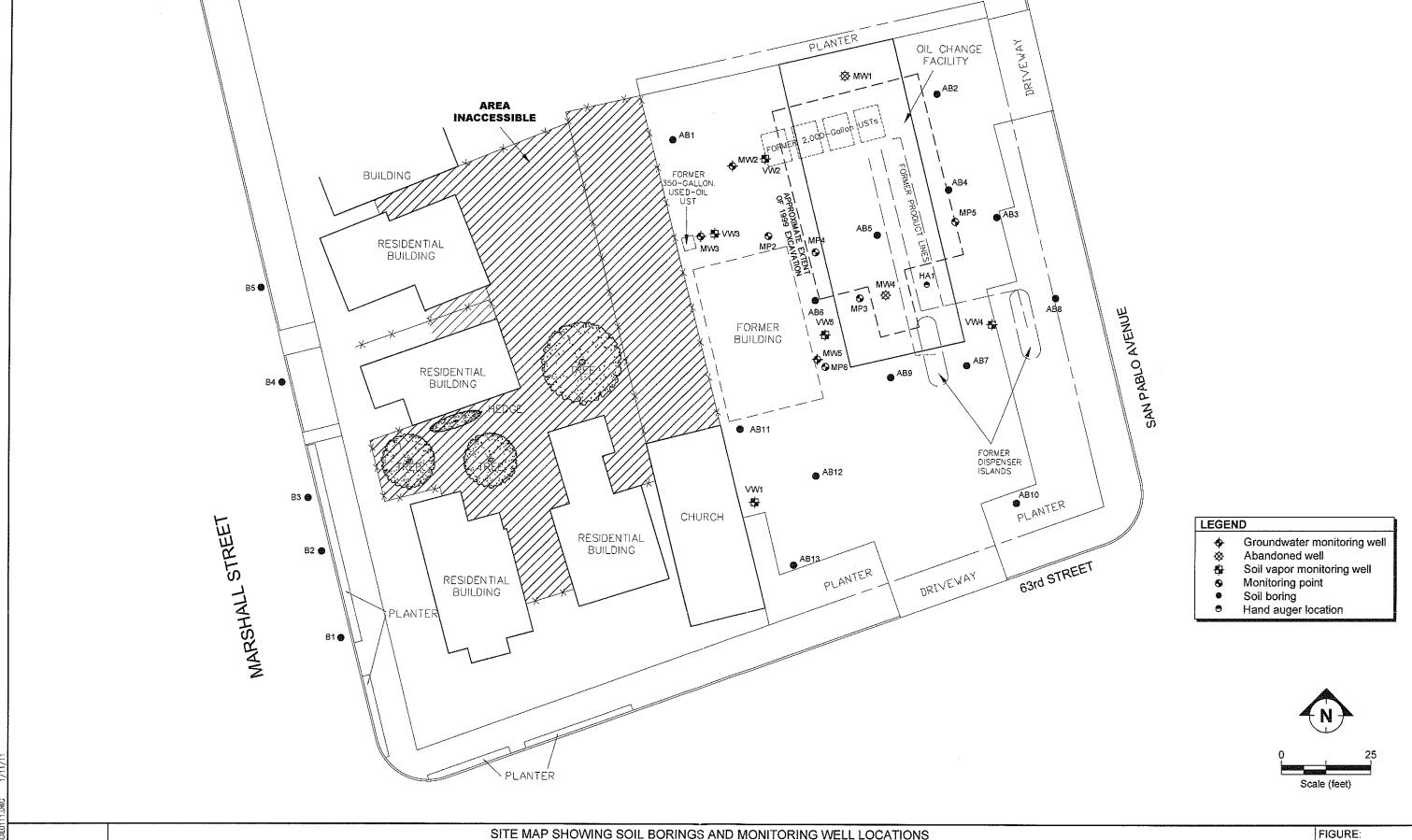


(Map Source: USGS Topographic Map)



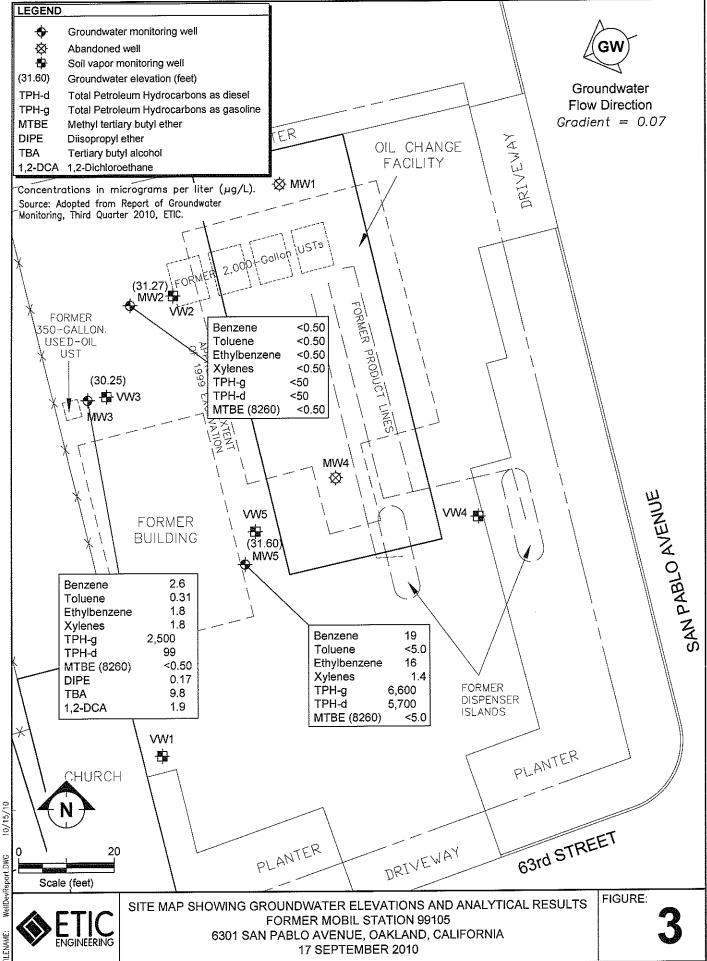


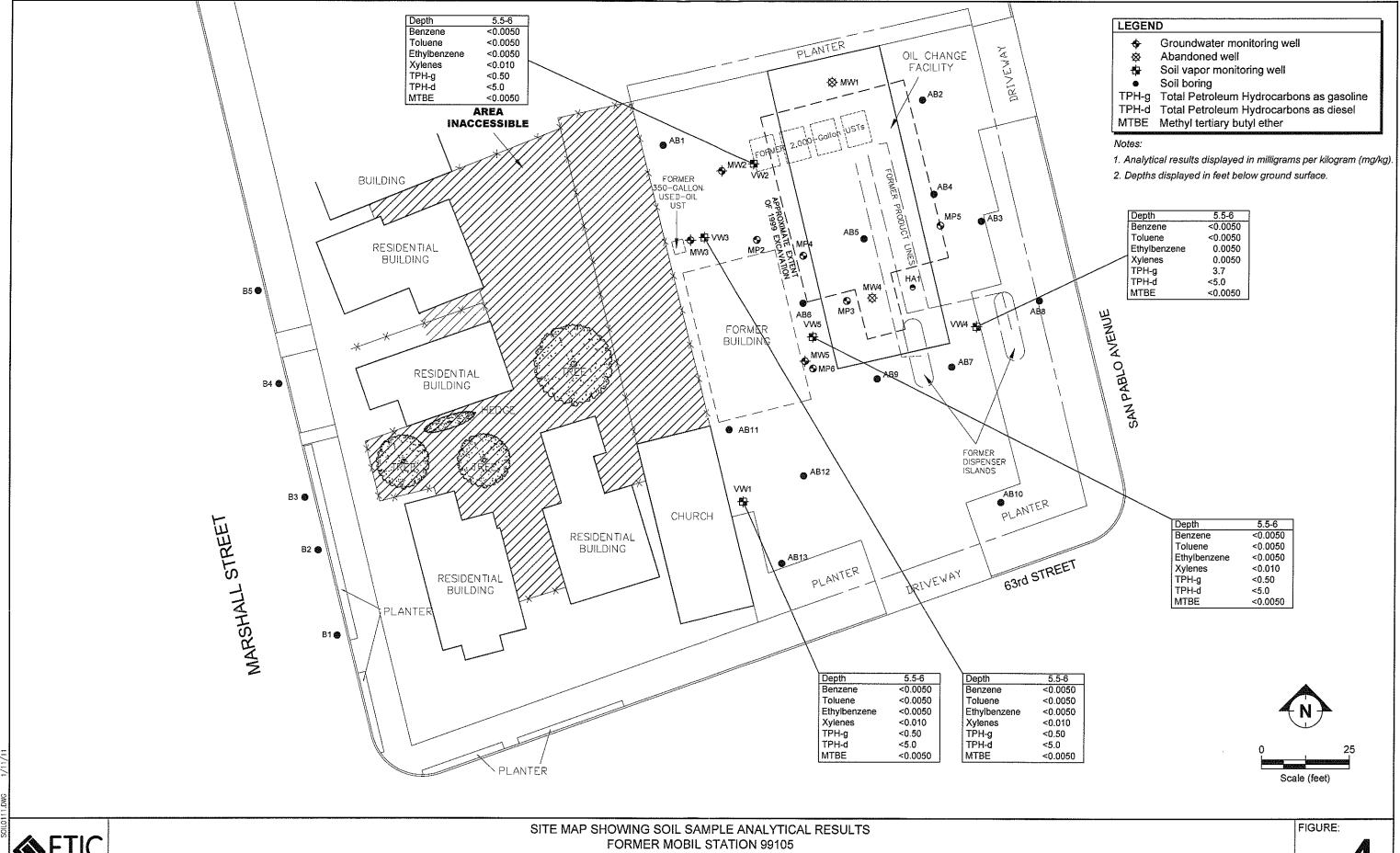
SITE LOCATION AND TOPOGRAPHIC MAP FORMER MOBIL STATION 99105 6301 SAN PABLO AVENUE OAKLAND, CALIFORNIA FIGURE:



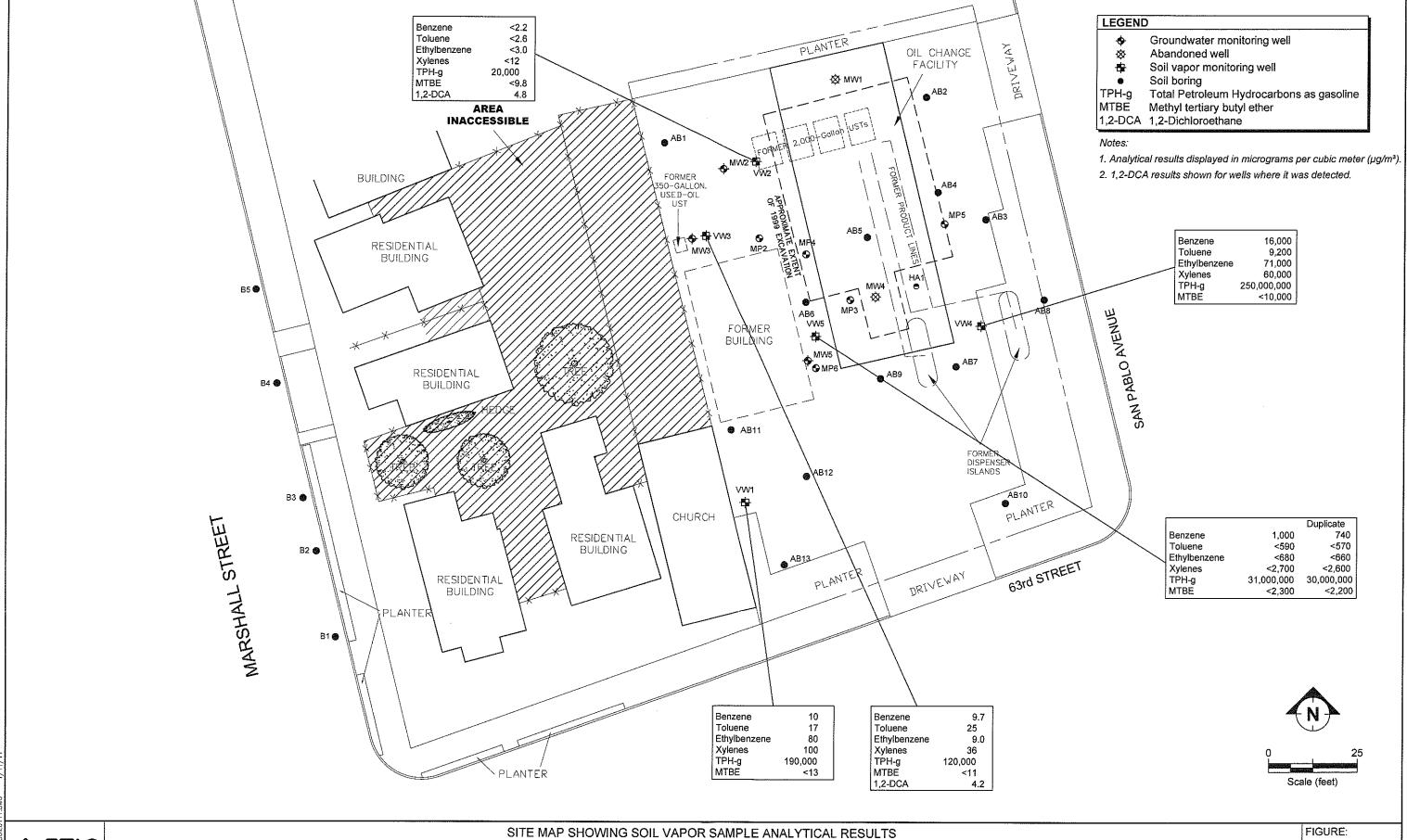
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SITE MAP SHOWING SOIL BORINGS AND MONITORING WELL LOCATIONS
FORMER MOBIL STATION 99105
6301 SAN PABLO AVENUE
OAKLAND, CALIFORNIA





6301 SAN PABLO AVENUE, OAKLAND, CALIFORNIA 1 AND 2 NOVEMBER 2010



ENGINEERIN

SITE MAP SHOWING SOIL VAPOR SAMPLE ANALYTICAL RESULTS FORMER MOBIL STATION 99105 6301 SAN PABLO AVENUE, OAKLAND, CALIFORNIA 9 NOVEMBER 2010



TABLE 1 WELL CONSTRUCTION DETAILS, FORMER MOBIL STATION 99105, 6301 SAN PABLO AVENUE, OAKLAND, CALIFORNIA

Well Number		Well Installation Date	Elevation TOC (feet)	Casing Material	Total Depth (feet)	Well Depth (feet)	Borehole Diameter (inches)	Casing Diameter (inches)	Screened Interval (feet)	Slot Size (inches)	Filter Pack Interval (feet)	Filter Pack Material
MW1	b	03/01/96		PVC	21.5	20	10	4	5 - 20	0.010	4.5 - 21.5	#12 Sand
MW2	a	03/01/96	42.24	PVC	21.5	20	10	4	5 - 20	0.010	4.5 - 21.5	#12 Sand
MW3	a	03/01/96	42.18	PVC	21.5	20	10	4	5 - 20	0.010	4.5 - 21.5	#12 Sand
MW4	b	03/01/96	ww	PVC	26.5	25	10	4	5 - 25	0.010	4.5 - 21.5	#12 Sand
MW5	a	09/06/00	41.86	PVC	21.5	20	10	4	5 - 20	0.010	4 - 21.5	#2/12 Sand
VW1	a	11/01/10		SS	6	6	4	0.25	5.25 - 5.75	0.0057	5 - 6	#2/12 Sand
VW2	a	11/02/10		SS	6	6	4	0.25	5.25 - 5.75	0.0057	5 - 6	#2/12 Sand
VW3	a	11/01/10	<b></b>	SS	6	6	4	0.25	5.25 - 5.75	0.0057	5 - 6	#2/12 Sand
VW4	a	11/02/10		SS	6	6	4	0.25	5.25 - 5.75	0.0057	5 - 6	#2/12 Sand
VW5	a	11/02/10		SS	6	6	4	0.25	5.25 - 5.75	0.0057	5 - 6	#2/12 Sand

a Well surveyed on 12/15/10 by Morrow Surveying.

PVC Polyvinyl chloride. SS Stainless steel. TOC Top of casing,

b Well destroyed.

<sup>--</sup> Information not available.

TABLE 2 SOIL SAMPLE ANALYTICAL RESULTS, FORMER MOBIL STATION 99105, 6301 SAN PABLO AVENUE, OAKLAND, CALIFORNIA

Sample		Sample Depth			Ethyl-	Total			Con	centration MTBE	(mg/kg	)				1.0		1.0
Number	Date	(feet bgs)	Benzene	Toluene	-		TPH-g	TPH-d	MTBE	(8260B)	TOG	Lead	TBA	DIPE	ЕТВЕ	1,2- DCA	TAME	1,2- DBA
MW1	03/01/96	5 - 5.5	< 0.0050	< 0.0050	<0.0050	<0.0050	<1.0	3.4				<2.5						
MW1	03/01/96	10 - 10.5	< 0.0050		< 0.0050		<1.0	<1.0				<2.5						+-
MW1	03/01/96	15 - 15.5	< 0.0050		< 0.0050		<1.0	4.2				<2.5						
******	03,01,70	15 15.5	10.0050	10.0050	<b>*0.0030</b>	<b>\0.0050</b>	<b>\1.0</b>	4.2		<del></del>		~2.3		*** Par				
MW2	03/01/96	5 - 5.5	< 0.0050	< 0.0050	< 0.0050	< 0.0050	<1.0	2.4				<2.5						
MW2	03/01/96	10 - 10.5	1.2	1.4	2.7	14	220	57				<2.5				***		
MW2	03/01/96	15 - 15.5	< 0.0050	< 0.0050	0.0063	0.035	<1.0	<1.0				<2.5		~~				
												22.5						
MW3	03/01/96	5.5 - 6	< 0.0050	< 0.0050	< 0.0050	< 0.0050	<1.0	1.1		•••	9	<2.5						
MW3	03/01/96	10.5 - 11	0.032	0.43	0.65	0.93	53	72			290	<2.5						
MW3	03/01/96	15.5 - 16	< 0.0050		< 0.0050	< 0.0050	<1.0	<1.0			10	<2.5					***	
		10,0 10	-0.0050	-0.0050	10.0050	0.0050	1.0	1.0			10	~2.3		==				
MW4	03/01/96	5.5 - 6	1.2	1	4.1	19	280	34				<2.5						
MW4	03/01/96	10.5 - 11	0.11	< 0.0050	0.11	0.093	6	7.7										
MW4	03/01/96	15.5 - 16	0.076	0.0030	0.083							<2.5					w w	
141 44 -4	03/01/90	15.5 - 10	0.070	0.023	0.083	0.07	6	2.1				<2.5						
AB-1	03/05/98	5 - 6	ND	ND	ND	ND	ND		ND						~~			
AB-2	03/05/98	4 - 5	ND	ND	ND	ND	ND		ND							100 API		
AB-3	03/05/98	5.5	ND	ND	ND	ND	ND		ND					w ex				
AB-4	03/05/98	5 - 6	ND	ND	ND	ND	18		ND			***		<b>100</b> 100			<del>~~</del>	
AB-5	03/05/98	3 - 4	ND	ND	0.65	ND	170		ND									
AB-6	03/05/98	5	ND	ND	ND	ND	230		ND		~-							
AB-7	03/05/98	4-5	ND	ND	0.032	ND	19		ND					-				
AB-8	03/05/98	5'	ND	ND	ND	ND	ND	MU	ND									
AB-9	03/05/98	4	0.006	ND	0.028	ND	16		ND						ww			
AD 10	02/05/00		) TEN	3.775	<b>3.</b> Y <b>3.</b>	<b>4</b> T-40-												
AB-10	03/05/98	4	ND	ND	ND	ND	ND	~~	ND			PPI NA			46			
AB-11	03/05/98	5 - 6	ND	ND	ND	ND	3.9		ND	~-			ww.					

TABLE 2 SOIL SAMPLE ANALYTICAL RESULTS, FORMER MOBIL STATION 99105, 6301 SAN PABLO AVENUE, OAKLAND, CALIFORNIA

Sample		Sample Depth			Ethyl-	Total			Cor	ncentration	(mg/kg	)				1.0		
Number	Date	(feet bgs)	Benzene	Toluene	benzene		TPH-9	TPH-d	MTBE	MTBE (8260B)	TOG	Lead	TBA	DIPE	ETBE	1,2- DCA	TAME	1,2- DBA
						11) 101100		11114	WIIDE	(02001)	100	Lead	IDA	DILE	BIDE	DCA	IAWIE	DBA
AB-12	03/16/98	5 - 6	ND	ND	ND	ND	NITS		ND									
7112	03/10/76	5-0	ND	ND	ND	ND	ND		ND						<del>~~</del>			
AB-13	03/16/98	5 - 6	ND	ND	ND	ND	ND		ND						100 ata			
MP-1	11/16/98	7.5	ND	0.007	0.013	ND	10		ND				7700					
MP-2	11/16/98	7	ND	0.03	0.29	2.1	270		ND	M. ME								
MP-2	11/16/98	10.5	0.08	ND	0.31	ND	140		0.15									
MP-3	11/16/98	7.5	ND	0.1	1.6	ND	230		0.28			~-				~~		<b>u</b>
MP-4	11/16/98	5	ND	ND	0.35	ND	100		0.10									
MP-4	11/16/98	10	ND	0.013	0.33	0.086	120 18		0.19 ND							ww	***	74.76
I	11/10/50	10	ND	0.015	0.07	0.060	10		ND	Re tal				***	77 M			
MP-5	11/16/98	6.5	ND	ND	0.015	0.022	6.4		ND									
MP-5	11/16/98	10.5	ND	ND	1.4	3	220		0.52	77								
MP-6	11/16/98	7	ND	ND	ND	ND	ND		ND	<del></del>						Mar and		
MP-6	11/16/98	10	ND	ND	1.6	4.2	240		0.92	ND					****			
HA-1	01/25/00	5	< 0.0050	< 0.0050	<0.0050	< 0.010	< 0.50		<0.00£									
Comp-1		Composite			<0.0050	< 0.010	< 0.50		<0.025 <0.025			8.04						
•			***********	3,0000	0.0050	10.010	10.50		~0.02 <i>3</i>	~2		0.04	****					Na 144
VW1	11/01/10	5.5-6	<0.0050	<0.0050	<0.0050	<0.010	<0.50	<5.0b		<0.0050			< 0.050	<0.010	<0.010	<0.0050	<0.010	<0.0050
VW2	11/02/10	5.5-6	< 0.0050	<0.0050	<0.0050	<0.010	<0.50	<5.0b	~~	<0.0050			< 0.050	<0.010	<0.010	<0.0050	<0.010	<0.0050
VW3	11/01/10	5.5-6	<0.0050	<0.0050	<0.0050	<0.010	<0.50	<5.0b		<0.0050			<0.050	<0.010	<0.010	<0.0050	<0.010	<0.0050
VW4	11/02/10	5.5-6	<0.0050	<0.0050	0.0050	0.0050a	3.7c	<5.0b		<0.0050			<0.050	< 0.010	<0.010	<0.0050	<0.010	<0.0050
VW5	11/02/10	5.5-6	<0.0050	<0.0050	<0.0050	<0.010	<0.50	<5.0b	MA LA	<0.0050			<0.050	<0.010	<0.010	<0.0050	<0.010	<0.0050

Notes: This table was adapted from the Risk-Based Corrective Action Report, Table 1, dated October 2002 by TRC. Results for B1 through B5 are reported under separate cover.

# TABLE 2 SOIL SAMPLE ANALYTICAL RESULTS, FORMER MOBIL STATION 99105, 6301 SAN PABLO AVENUE, OAKLAND, CALIFORNIA

		Sample						Cor	ncentration	(mg/kg	)							
Sample		Depth		Ethyl-	Total				MTBE	`	,				1,2-		1.2-	
Number	Date	(feet bgs)	Benzene	Toluene benzene	Xylenes	TPH-g	TPH-d	MTBE	(8260B)	TOG	Lead	TBA	DIPE	ETBE	DCA	TAME	DBA	
a	Analyte w	as detected at	a concentr	ration below the rep	orting limi	t and abo	ve the lab	oratory n	ethod dete	ction lir	nit. Rep	orted valu	ie is estim	nated.				

The sample extract was subjected to Silica Gel treatment prior to analysis.

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

Below ground surface. bgs Milligrams per kilogram. mg/kg

1,2-DBA 1,2-Dibromoethane or ethylene dibromide (EDB).

1,2-DCA 1,2-Dichloroethane. DIPE Diisopropyl ether.

ETBE Ethyl tertiary butyl ether.

MTBE Methyl tertiary butyl ether.

ND Not detected.

TAME Tertiary amyl methyl ether.

TBA Tertiary butyl alcohol.

TOG Total Oil and Grease.

TPH-d Total Petroleum Hydrocarbons as diesel.

TPH-g Total Petroleum Hydrocarbons as gasoline.

Not analyzed.

TABLE 3 GROUNDWATER SAMPLE ANALYTICAL RESULTS FOR TEMPORARY BORINGS, FORMER MOBIL STATION 99105, 6301 SAN PABLO AVENUE, OAKLAND, CALIFORNIA

		Concentrations (µg/L)												
Sample Number	Date	ТРН-д	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE (8020 or 8021)							
AB1	03/05/98	1,600	31	5.3	79	130	ND							
AB2	03/05/98	ND	ND	2.9	0.9	5.7	ND							
AB3	03/05/98	6,800	680	100	1,500	2,300	230							
AB4	03/05/98	8,500	240	ND	260	720	ND							
AB6	03/05/98	12,000	350	ND	310	100	ND							
AB9	03/05/98	1,000	57	12	44	93	ND							
AB10	03/05/98	200	3.0	1.2	3.2	2.8	ND							
AB11	03/05/98	ND	ND	ND	ND	ND	ND							
AB12	03/05/98	8,800	660	50	630	940	37							
AB13	03/05/98	210	11	0.8	10	15	ND							
HAI	01/25/00	<500	<0.3	<0.3	<0.3	<0.6	<5.0							

Notes: This table was adapted from the Risk-Based Corrective Action Report, Table 2, dated October 2002 by TRC.

MTBE

Methyl tertiary butyl ether.

ND

Not detected at or above laboratory reporting limit.

TPH-g

Total Petroleum Hydrocarbons as gasoline.

Pro 1000

Not measured/not analyzed.

μg/L

Micrograms per liter.

TABLE 4 GROUNDWATER MONITORING DATA, FORMER MOBIL STATION 99105, 6301 SAN PABLO AVENUE, OAKLAND, CALIFORNIA

		Elevation	Depth to		_				Concen	trations (µg/L)	ı		
Well		TOC	Water	Groundwater	LPH					Ethyl-	Total	MTBE	MTBE
Number	Date	(feet)	(feet)	Elevation (feet)	Thickness	TPH-g	TPH-d	Benzene	Toluene	benzene	Xylenes	(8020/8021)	(8240/8260)
TW1	01/04/96		6.00		0.00	ND	700	ND	ND	ND	ND	<b></b>	
WWI	01/04/96		3.00		0.00	ND		ND	ND	ND	ND		-~
MWI	03/14/96	32.79	4.50	28.29	0.00	610	450	0.75	0.54	1.5	59		MI M
MW1	05/21/96	32.79	5.64	27.15	0.00	ND	ND	ND	ND	ND	ND		
MW1	08/13/96	32.79	9.76	23.03	0.00	ND	ND	ND	ND	ND	ND		
MWI	11/08/96	32.79	10.24	22.55	0.00	ND	ND	ND	0.92	ND	2.1	ND	
MW1	01/31/97	32.79	3.83	28.96	0.00	ND	ND	ND	0.85	ND	ND	2.6	ND
MW1	04/22/97	32.79	9.14	23.65	0.00	ND	ND	ND	ND	ND	ND	ND	
$MW1^a$	07/29/97	32.79	10.18	22.61	0.00	ND	60°	0.84	0.95	ND	1.6	36	
$MW1^a$	10/09/97	32.79	10.46	22.33	0.00	ND	56 <sup>e</sup>	ND	ND	ND	ND	ND	
$MW1^a$	01/23/98	32.79	3.95	28.84	0.00	ND	33	ND	ND				
MW1	04/22/98	32.79	5.33	27.46	0.00	ND	ND	ND ND		ND	ND	ND	
MWI	07/21/98	32.79	9.17	23.62	0.00	ND	1110	ND	ND ND	ND	ND	ND	
MW1	10/20/98	32.79	10.41	22.38	0.00	ND		ND	ND ND	ND	ND	ND	
MW1	01/27/99	32,79	5.51	27.28	0.00	ND		ND ND	ND ND	ND	ND	ND	M M
MWI				ies in April 1999	0.00	ND		ND	ND	ND	ND	ND	501 AM
MW2	03/14/96	32.80	4.51	26.20	0.00	W.C.O.							
MW2	05/14/96	32.80	4.51	28.29	0.00	560	250	2.0	0.96	4.3	11		
			5.65	27.15	0.00	730	560	5.1	1.4	6.7	5.9	~~	
MW2	08/13/96	32.80	10.14	22.66	0.00	490	380 <sup>b</sup>	25	3.5	7.2	13		
MW2	11/08/96	32.80	10.70	22.10	0.00	520	160 <sup>d</sup>	80	2.7	14	66	6.1	•••
MW2	01/31/97	32.80	3.84	28.96	0.00	74	130 <sup>b</sup>	ND	ND	ND	ND	ND	~ w
MW2	04/22/97	32.80	9.61	23.19	0.00	260	430	2.7	ND	2.5	ND	ND	M M
MW2 <sup>a</sup>	07/29/97	32.80	10.53	22.27	0.00	320	150 <sup>d</sup>	28	1.2	10	ND	ND	
MW2 <sup>a</sup>	10/09/97	32.80	10.87	21.93	0.00	460	160 <sup>b</sup>	43	2.8	2.0	2.6	2.6	16 FM
$MW2^a$	01/23/98	32.80	3.75	29.05	0.00	ND	54	ND	ND	ND	ND	ND	
MW2	04/22/98	32.80	5.36	27.44	0.00	180	540	1.2	0.3	0.4			
MW2	07/21/98	32.80	9.55	23.25	0.00	80	5-10 ***	8.9	2.1	0.4	ND 2.5	ND ND	
MW2	10/20/98	32.80	10.75	22.05	0.00	50		0.8	0.7	ND	0.8	ND ND	
MW2	01/27/99	32.80	5.53	27.27	0.00	ND		0.6	ND	ND ND	ND	ND ND	
MW2	07/27/99	32.80	6.20	26.60	0.00	ND		ND	0.6	ND	ND ND	ND ND	
MW2	12/08/99	32.80	9.98	22.82	0.00	ND		1.2	0.43	ND	ND ND	ND ND	
MW2	10/25/00	39.34	11.30	28.04	0.00	<20	NAM AND	2.0	0.43	0.46	1.3	<0.30	
				****	2.30			2.0	0.00	0.40	1.3	~0.30	

TABLE 4 GROUNDWATER MONITORING DATA, FORMER MOBIL STATION 99105, 6301 SAN PABLO AVENUE, OAKLAND, CALIFORNIA

Number   Date   (feet   Clevation (feet)   Clevation (feet)   Clevation (feet)   Thickness   TPH-g   TPH-d   Benzene   Date   Clevation   Clevation (feet)   Clevation (feet)   Clevation (feet)   Thickness   TPH-g   TPH-d   Benzene   Date   Clevation   Clevation (feet)   Clevat			Elevation	Depth to		_				Concen	trations (µg/L)	•		
Mirary   M				Water	Groundwater	LPH							MTBE	MTBE
MW2	Number	Date	(feet)	(feet)	Elevation (feet)	Thickness	TPH-g	TPH-d	Benzene	Toluene	benzene			
MW2 04/10/01 39.34		0.4 (4 # 10 -												
MW2         07/24/01         39.34         10.70         28.64         0.80         <50          <0.20         0.93         <0.20         0.82         <0.30            MW2         11/27/01         39.34         10.15         29.19         0.00         <50          <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50         <0.50										0.46	< 0.20	< 0.60	< 0.30	
MW2											< 0.20	< 0.60	<1.0	We do.
MW2 01/18/02 41.99 5.46 36.53 0.00 \$50.0 \$0.50 \$0.										0.93	< 0.20	0.82	< 0.30	
MW2 04/10/02 41.99 6.48 35.51 0.00 <50.0 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.5										0.22	< 0.20	< 0.60	< 0.30	
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MW2   10/08/03   41.99   11.20   30.79   0.00   <50     <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5   <0.5									< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
MW2 01/15/04 41.99 5.36 36.63 0.00 63.3 0.70 <0.5 <0.5 <0.5 <0.5 <0.5 <0.5 <0.5 <0.										< 0.5	< 0.5	< 0.5	< 0.5	
MW2         09/17/10         41.99         10.72         31.27         0.00         <50         <0.50         <0.50         <0.50         <0.50          <0.50           MW3         03/14/96         32.80         9.55         23.25         0.00         4,200         1,200         220         30         140         520             MW3         05/21/96         32.80         10.16         22.64         0.00         8,500         2,800         710         110         440         1,700             MW3         08/13/96         32.80         11.18         21.62         0.00         5,000         2,300°         430         ND         200         360             MW3         11/08/96         32.80         11.51         21.29         0.00         8,400         2,900°         890         82         790         1,700         73         ND           MW3         01/31/97         32.80         7.90         24.90         0.00         16,000         7,500°         660         85         960         1,800         ND            MW3         01/23/97         32.80         1								PIM	< 0.5	< 0.5	< 0.5	< 0.5	<0.5	
MW3 03/14/96 32.80 9.55 23.25 0.00 4.200 1.200 220 30 140 520									0.70	< 0.5	< 0.5	< 0.5	1.0	
MW3 05/21/96 32.80 10.16 22.64 0.00 8,500 2,800 710 110 440 1,700	MW2	09/17/10	41.99	10.72	31.27	0.00	< 50	<50	< 0.50	< 0.50	< 0.50	<0.50		< 0.50
MW3 05/21/96 32.80 10.16 22.64 0.00 8,500 2,800 710 110 440 1,700	MW/2	02/14/06	22.00	0.55	02.06	0.00								
MW3 08/13/96 32.80 11.18 21.62 0.00 5.000 2,300° 430 ND 200 360													₩.	
MW3 11/08/96 32.80 11.51 21.29 0.00 8,400 2,900° 890 82 790 1,700 73 ND  MW3 01/31/97 32.80 7.90 24.90 0.00 16,000 7,500° 660 85 960 1,800 ND  MW3 04/22/97 32.80 10.64 22.16 0.00 8,000 2,700 340 33 400 490 200 ND  MW3° 07/29/97 32.80 11.36 21.44 0.00 9,800 2,300° 330 ND 530 530 ND  MW3° 10/09/97 32.80 11.52 21.28 0.00 7,300 2,600° 300 ND 430 460 270 ND  MW3° 01/23/98 32.80 7.50 25.30 0.00 6,100 2,300 190 23 330 320 ND  MW3 04/22/98 32.80 6.81 25.99 0.00 4,900 2,600 140 12 250 230 ND ND  MW3 07/21/98 32.80 10.65 22.15 0.00 7,400 250 16 400 370 74 ND  MW3 01/27/99 32.80 11.57 21.23 0.00 6,700 250 16 400 370 74 ND  MW3 01/27/99 32.80 11.57 21.23 0.00 6,700 250 18 350 350 ND ND  MW3 01/27/99 32.80 9.11 23.69 0.00 3,100 74 4 94 39 13  MW3 01/27/99 32.80 10.63 22.17 0.00 4,800 74 4 94 39 13  MW3 01/25/90 32.80 10.63 22.17 0.00 4,800 74 4 94 39 13  MW3 01/25/90 32.80 10.63 22.17 0.00 4,800 74 4 94 39 13  MW3 10/25/00 39.27 12.08 27.19 0.00 3,800 63 2.9 100 65 550 55  MW3 01/15/01 39.27 10.29 28.98 0.00 4,300 76 9.5 47 76 5.0  MW3 01/15/01 39.27 10.29 28.98 0.00 3,100 76 9.5 47 76 5.0  MW3 01/27/10 39.27 10.29 28.98 0.00 2,400 55 4.4 100 37 52.0  MW3 01/27/10 39.27 10.93 28.34 0.00 2,400 55 4.4 100 37 52.0  MW3 01/15/01 39.27 10.93 28.34 0.00 2,400 55 4.4 100 37 52.0  MW3 01/15/01 39.27 10.93 28.34 0.00 2,400 55 4.4 100 37 52.0  MW3 01/15/01 39.27 10.93 28.34 0.00 2,400 55 4.4 100 37 52.0  MW3 01/15/01 39.27 10.93 28.34 0.00 2,400 55 55 4.4 100 37 52.0  MW3 01/15/01 39.27 10.93 28.34 0.00 2,400 47 8.9 25 35 50.00									710	110	440	1,700		
MW3 01/31/97 32.80 7.90 24.90 0.00 16,000 7,500 <sup>b</sup> 660 85 960 1,800 ND MW3 04/22/97 32.80 10.64 22.16 0.00 8,000 2,700 340 33 400 490 200 ND MW3 <sup>a</sup> 07/29/97 32.80 11.36 21.44 0.00 9,800 2,300 <sup>b</sup> 330 ND 530 530 ND MW3 <sup>a</sup> 10/09/97 32.80 11.52 21.28 0.00 7,300 2,600 <sup>b</sup> 300 ND 430 460 270 ND MW3 <sup>a</sup> 01/23/98 32.80 7.50 25.30 0.00 6,100 2,300 190 23 330 320 ND MW3 04/22/98 32.80 6.81 25.99 0.00 4,900 2,600 140 12 250 230 ND ND MW3 07/21/98 32.80 10.65 22.15 0.00 7,400 250 16 400 370 74 ND MW3 01/27/99 32.80 11.57 21.23 0.00 6,700 200 18 350 350 ND ND MW3 01/27/99 32.80 9.11 23.69 0.00 3,100 74 4 4 94 39 13 MW3 01/27/99 32.80 10.63 22.17 0.00 8,900 170 21 360 440 ND MW3 07/21/98 32.80 10.63 22.17 0.00 4,800 94 13 170 210 ND MW3 12/08/99 32.80 10.63 22.17 0.00 4,800 94 13 170 210 ND MW3 10/25/00 39.27 12.08 27.19 0.00 3,800 63 2.9 100 65 <50 <5 MW3 04/10/01 39.27 10.11 29.16 0.00 2,400 75 5 44 100 37 <20 MW3 04/10/01 39.27 10.11 29.16 0.00 2,400 110 6.9 110 81 <1.0 MW3 11/27/01 39.27 10.93 28.83 0.00 2,400 47 8.9 25 35 <0.30				11.18	21.62	0.00	5,000	2,300°	430	ND	200	360		
MW3         01/31/97         32.80         7.90         24.90         0.00         16,000         7,500b         660         85         960         1,800         ND            MW3         04/22/97         32.80         10.64         22.16         0.00         8,000         2,700         340         33         400         490         200         ND           MW3***         07/29/97         32.80         11.36         21.44         0.00         9,800         2,300*         330         ND         530         530         ND            MW3***         10/09/97         32.80         11.52         21.28         0.00         7,300         2,600*         300         ND         430         460         270         ND           MW3***         01/23/98         32.80         7.50         25.30         0.00         6,100         2,300         190         23         330         320         ND         ND           MW3***         04/22/98         32.80         6.81         25.99         0.00         4,900         2,600         140         12         250         230         ND         ND           MW3***         07/21/98 <t< td=""><td>MW3</td><td>11/08/96</td><td>32.80</td><td>11.51</td><td>21.29</td><td>0.00</td><td>8,400</td><td>2,900<sup>b</sup></td><td>890</td><td>82</td><td>790</td><td>1.700</td><td>73</td><td>ND</td></t<>	MW3	11/08/96	32.80	11.51	21.29	0.00	8,400	2,900 <sup>b</sup>	890	82	790	1.700	73	ND
MW3 04/22/97 32.80 10.64 22.16 0.00 8,000 2,700 340 33 400 490 200 ND MW3 07/29/97 32.80 11.36 21.44 0.00 9,800 2,300b 330 ND 530 530 ND  MW3 10/09/97 32.80 11.52 21.28 0.00 7,300 2,600b 300 ND 430 460 270 ND MW3 04/22/98 32.80 7.50 25.30 0.00 6,100 2,300 190 23 330 320 ND  MW3 04/22/98 32.80 6.81 25.99 0.00 4,900 2,600 140 12 250 230 ND ND MW3 07/21/98 32.80 10.65 22.15 0.00 7,400 250 16 400 370 74 ND MW3 10/20/98 32.80 11.57 21.23 0.00 6,700 250 16 400 370 74 ND MW3 07/27/99 32.80 9.11 23.69 0.00 3,100 74 4 4 94 39 13 MW3 07/27/99 32.80 7.27 25.53 0.00 8,900 170 21 360 440 ND MW3 12/08/99 32.80 10.63 22.17 0.00 4,800 94 13 170 210 ND MW3 10/25/00 39.27 12.08 27.19 0.00 4,800 94 13 170 210 ND MW3 10/25/00 39.27 12.08 27.19 0.00 4,300 94 13 170 210 ND MW3 01/15/01 39.27 10.29 28.98 0.00 4,300 76 9.5 4.4 100 37 <20 MW3 04/10/01 39.27 10.11 29.16 0.00 2,700 55 4.4 100 37 <20 MW3 07/24/01 39.27 10.11 29.16 0.00 2,400 110 6.9 110 81 <1.0 MW3 11/27/01 39.27 10.93 28.34 0.00 2,400 47 8.9 25 35 <0.30	MW3	01/31/97	32.80	7.90	24.90	0.00	16.000	7,500 <sup>b</sup>	660					
MW3 <sup>a</sup> 07/29/97 32.80 11.36 21.44 0.00 9,800 2,300 <sup>b</sup> 330 ND 530 530 ND  MW3 <sup>a</sup> 10/09/97 32.80 11.52 21.28 0.00 7,300 2,600 <sup>b</sup> 300 ND 430 460 270 ND  MW3 <sup>a</sup> 01/23/98 32.80 7.50 25.30 0.00 6,100 2,300 190 23 330 320 ND  MW3 04/22/98 32.80 6.81 25.99 0.00 4,900 2,600 140 12 250 230 ND ND  MW3 07/21/98 32.80 10.65 22.15 0.00 7,400 250 16 400 370 74 ND  MW3 10/20/98 32.80 11.57 21.23 0.00 6,700 250 16 400 370 74 ND  MW3 01/27/99 32.80 9.11 23.69 0.00 3,100 74 4 4 94 39 13  MW3 07/27/99 32.80 7.27 25.53 0.00 8,900 170 21 360 440 ND  MW3 12/08/99 32.80 10.63 22.17 0.00 4,800 94 13 170 210 ND  MW3 10/25/00 39.27 12.08 27.19 0.00 3,800 63 2.9 100 65 <50  MW3 01/15/01 39.27 10.29 28.98 0.00 4,300 76 9.5 47 76 \$5.0  MW3 07/24/01 39.27 10.11 29.16 0.00 2,400 75 44 10 0 37 \$20  MW3 11/27/01 39.27 10.93 28.34 0.00 2,400 75 47 8.9 25 35 \$0.30  MW3 11/27/01 39.27 10.93 28.34 0.00 2,400 47 8.9 25 35 \$0.30	MW3	04/22/97	32.80	10.64										
MW3	MW3 <sup>a</sup>	07/29/97	32.80	11.36			ŕ							
MW3 01/23/98 32.80 7.50 25.30 0.00 6,100 2,300 190 23 330 320 ND  MW3 04/22/98 32.80 6.81 25.99 0.00 4,900 2,600 140 12 250 230 ND ND ND MW3 07/21/98 32.80 10.65 22.15 0.00 7,400 250 16 400 370 74 ND MW3 10/20/98 32.80 11.57 21.23 0.00 6,700 200 18 350 350 ND ND ND MW3 01/27/99 32.80 9.11 23.69 0.00 3,100 74 4 94 39 13 MW3 07/21/99 32.80 7.27 25.53 0.00 8,900 170 21 360 440 ND MW3 12/08/99 32.80 10.63 22.17 0.00 4,800 94 13 170 210 ND MW3 10/25/00 39.27 12.08 27.19 0.00 3,800 94 13 170 210 ND MW3 10/25/00 39.27 12.08 27.19 0.00 3,800 63 2.9 100 65 <50 <50 MW3 01/15/01 39.27 10.29 28.98 0.00 4,300 76 9.5 47 76 <5.0 MW3 04/10/01 39.27 10.11 29.16 0.00 2,700 55 4.4 100 37 <20 MW3 07/24/01 39.27 10.93 28.34 0.00 3,100 76 9.5 4.4 100 37 <20 MW3 01/28/03 39.27 11.57 27.70 0.00 3,100 76 9.5 4.4 100 37 <20 MW3 01/28/03 39.27 10.93 28.34 0.00 2,400 110 6.9 110 81 <1.0 MW3 11/27/01 39.27 10.93 28.34 0.00 2,400 47 8.9 25 35 <0.30 MW3 01/18/03 39.27 10.93 28.34 0.00 2,400 47 8.9 25 35 <0.30														
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MW3 07/21/98 32.80 10.65 22.15 0.00 7,400 250 16 400 370 74 ND MW3 10/20/98 32.80 11.57 21.23 0.00 6,700 200 18 350 350 ND ND MW3 01/27/99 32.80 9.11 23.69 0.00 3,100 74 4 94 39 13 MW3 07/27/99 32.80 7.27 25.53 0.00 8,900 170 21 360 440 ND MW3 12/08/99 32.80 10.63 22.17 0.00 4,800 94 13 170 210 ND MW3 10/25/00 39.27 12.08 27.19 0.00 3,800 63 2.9 100 65 <50 <5 MW3 01/15/01 39.27 10.29 28.98 0.00 4,300 76 9.5 47 76 <5.0 MW3 04/10/01 39.27 10.11 29.16 0.00 2,700 55 4.4 100 37 <20 MW3 07/24/01 39.27 11.57 27.70 0.00 3,100 110 6.9 110 81 <1.0 MW3 11/27/01 39.27 10.93 28.34 0.00 2,400 47 8.9 25 35 <0.30 MW3 11/27/01 39.27 10.93 28.34 0.00 2,400 47 8.9 25 35 <0.30									190	23	330	320	ND	
MW3 10/20/98 32.80 11.57 21.23 0.00 6,700 200 18 350 350 ND ND ND MW3 01/27/99 32.80 9.11 23.69 0.00 3,100 74 4 94 94 39 13 MW3 12/08/99 32.80 7.27 25.53 0.00 8,900 170 21 360 440 ND MW3 12/08/99 32.80 10.63 22.17 0.00 4,800 94 13 170 210 ND MW3 10/25/00 39.27 12.08 27.19 0.00 3,800 63 2.9 100 65 <50 <5 MW3 01/15/01 39.27 10.29 28.98 0.00 4,300 76 9.5 47 76 <5.0 MW3 04/10/01 39.27 10.11 29.16 0.00 2,700 55 4.4 100 37 <20 MW3 07/24/01 39.27 11.57 27.70 0.00 3,100 110 6.9 110 81 <1.0 MW3 11/27/01 39.27 10.93 28.34 0.00 2,400 47 8.9 25 35 <0.30 MW3 01/18/02 41.71 0.47 8.9								2,600		12	250	230	ND	ND
MW3 01/27/99 32.80 9.11 23.69 0.00 3,100 74 4 94 39 13 MW3 07/27/99 32.80 7.27 25.53 0.00 8,900 170 21 360 440 ND MW3 12/08/99 32.80 10.63 22.17 0.00 4,800 94 13 170 210 ND MW3 10/25/00 39.27 12.08 27.19 0.00 3,800 63 2.9 100 65 <50 <5 MW3 01/15/01 39.27 10.29 28.98 0.00 4,300 76 9.5 47 76 <5.0 MW3 04/10/01 39.27 10.11 29.16 0.00 2,700 55 4.4 100 37 <20 MW3 07/24/01 39.27 11.57 27.70 0.00 3,100 110 6.9 110 81 <1.0 MW3 11/27/01 39.27 10.93 28.34 0.00 2,400 47 8.9 25 35 <0.30										16	400	370	74	
MW3 01/27/99 32.80 9.11 23.69 0.00 3,100 74 4 94 39 13 MW3 07/27/99 32.80 7.27 25.53 0.00 8,900 170 21 360 440 ND MW3 12/08/99 32.80 10.63 22.17 0.00 4,800 94 13 170 210 ND MW3 10/25/00 39.27 12.08 27.19 0.00 3,800 63 2.9 100 65 <50 <5 MW3 01/15/01 39.27 10.29 28.98 0.00 4,300 76 9.5 47 76 <5.0 MW3 04/10/01 39.27 10.11 29.16 0.00 2,700 55 4.4 100 37 <20 MW3 07/24/01 39.27 11.57 27.70 0.00 3,100 110 6.9 110 81 <1.0 MW3 11/27/01 39.27 10.93 28.34 0.00 2,400 47 8.9 25 35 <0.30 MW3 01/18/03 41.71 0.47 0.47 0.047							6,700		200	18	350	350	ND	
MW3 12/08/99 32.80 10.63 22.17 0.00 4,800 94 13 170 210 ND MW3 10/25/00 39.27 12.08 27.19 0.00 3,800 63 2.9 100 65 <50 <5 MW3 01/15/01 39.27 10.29 28.98 0.00 4,300 76 9.5 47 76 <5.0 MW3 04/10/01 39.27 10.11 29.16 0.00 2,700 55 4.4 100 37 <20 MW3 07/24/01 39.27 11.57 27.70 0.00 3,100 110 6.9 110 81 <1.0 MW3 11/27/01 39.27 10.93 28.34 0.00 2,400 47 8.9 25 35 <0.30 MW3 01/18/03 41.71 0.47						0.00	•		74	4	94	39	13	
MW3 10/25/00 39.27 12.08 27.19 0.00 3,800 63 2.9 100 65 <50 <5 MW3 01/15/01 39.27 10.29 28.98 0.00 4,300 76 9.5 47 76 <5.0 MW3 04/10/01 39.27 10.11 29.16 0.00 2,700 55 4.4 100 37 <20 MW3 07/24/01 39.27 11.57 27.70 0.00 3,100 110 6.9 110 81 <1.0 MW3 11/27/01 39.27 10.93 28.34 0.00 2,400 47 8.9 25 35 <0.30									170	21	360	440	ND	***
MW3 10/25/00 39.27 12.08 27.19 0.00 3,800 63 2.9 100 65 <50 <5 MW3 01/15/01 39.27 10.29 28.98 0.00 4,300 76 9.5 47 76 <5.0 MW3 04/10/01 39.27 10.11 29.16 0.00 2,700 55 4.4 100 37 <20 MW3 07/24/01 39.27 11.57 27.70 0.00 3,100 110 6.9 110 81 <1.0 MW3 11/27/01 39.27 10.93 28.34 0.00 2,400 47 8.9 25 35 <0.30						0.00			94	13	170	210	ND	
MW3 01/15/01 39.27 10.29 28.98 0.00 4,300 76 9.5 47 76 <5.0 MW3 04/10/01 39.27 10.11 29.16 0.00 2,700 55 4.4 100 37 <20 MW3 07/24/01 39.27 11.57 27.70 0.00 3,100 110 6.9 110 81 <1.0 MW3 11/27/01 39.27 10.93 28.34 0.00 2,400 47 8.9 25 35 <0.30 MW3 01/18/03 41.71 0.47 20.24 0.00 2.400 47 8.9 25 35 <0.30 MW3 01/18/03 41.71 0.47 20.24 0.00 2.400 47 8.9 25 35 <0.30 MW3 01/18/03 41.71 0.47 20.24 0.00 2.400 47 8.9 25 35 <0.30 MW3 01/18/03 41.71 0.47 20.24 0.00 2.400 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 2						00,0			63	2.9	100	65		<5
MW3 04/10/01 39.27 10.11 29.16 0.00 2,700 55 4.4 100 37 <20 MW3 07/24/01 39.27 11.57 27.70 0.00 3,100 110 6.9 110 81 <1.0 MW3 11/27/01 39.27 10.93 28.34 0.00 2,400 47 8.9 25 35 <0.30 MW3 01/18/03 41.71 0.47 20.24 0.00 2,400 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47						0.00	-		76	9.5	47			
MW3 07/24/01 39.27 11.57 27.70 0.00 3,100 110 6.9 110 81 <1.0 MW3 11/27/01 39.27 10.93 28.34 0.00 2,400 47 8.9 25 35 <0.30 MW3 01/18/03 41.71 0.47 20.24 0.00 2.400 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 35 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 47 8.9 25 <0.30 4									55	4.4	100			
MW3 11/27/01 39.27 10.93 28.34 0.00 2,400 47 8.9 25 35 <0.30						0.00	3,100		110	6.9	110			··-
$MW^2 = 0.1/19/00 = 41.71 = 0.47 = 20.04 = 0.00$							2,400		47	8.9	25			***
	MW3	01/18/02	41.71	9.47	32,24	0.00	1,130		15.3	2.30	42.0			

TABLE 4 GROUNDWATER MONITORING DATA, FORMER MOBIL STATION 99105, 6301 SAN PABLO AVENUE, OAKLAND, CALIFORNIA

		Elevation	Depth to		_				Concen	trations (µg/L)	<b>)</b>		
Well		TOC	Water	Groundwater	LPH					Ethyl-	Total	MTBE	MTBE
Number	Date	(feet)	(feet)	Elevation (feet)	Thickness	TPH-g	TPH-d	Benzene	Toluene	benzene	Xylenes	(8020/8021)	(8240/8260)
MW3	04/10/00	41.71	10.14										
	04/10/02	41.71	10.14	31.57	0.00	916		35.1	3.00	22.5	13.8	11.2	
MW3	07/12/02	41.71	11.34	30.37	0.00	2,330		60.5	2.90	39.8	50.9	15.4	
MW3	10/14/02	41.71	12.10	29.61	0.00	2,550		36,9	3.8	20.3	48.0	< 0.5	
MW3	01/20/03	41.71	9.20	32.51	0.00	1,750		20.4	304.0	60.7	22.0	10.7	
MW3	04/28/03	41.71	9.37	32.34	0.00	2,730		10.0	2.7	42.7	20.1	11.2	
MW3	07/15/03	41.71	11.15	30.56	0.00	1,790		68.8	3.6	39.0	44.7	5.6	
MW3	10/08/03	41.71	11.89	29.82	0.00	1,320		35.1	4.0	23.6	31.8	7.1	
MW3	01/15/04	41.71	9.16	32.55	0.00	791		24.4	1.3	40.1	14,7	3.4	
MW3	09/17/10	41.71	11.46	30,25	0.00	2,500	99	2.6	0.31	1.8	1.8		< 0.50
MW4	03/14/96	31.50	4.92	26.58	0.00	12,000	3,500	2,200	140	880	2,000		
MW4	05/21/96	31,50	8.60	22.90	0.00	11,000	4,200	1,700	ND	930	2,000 470		
MW4	08/13/96	31.50	10.02	21.50	0.02		1,200						****
MW4	11/08/96	31.50	10.28	21.33	0.15	***							
MW4	01/31/97	31.50	7.88	23.62	0.00	23,000	8,200 <sup>b</sup>						
MW4	04/22/97	31.50	7.40	24.10	0.00	· · · · · · · · · · · · · · · · · · ·		980	68	1,100	1,400	ND	
MW4	07/29/97	31.50	9.85	21.74	0.00	8,800	4,500	950	ND	610	130	ND	
MW4	10/09/97	31.50	10.35	21.74	0.12							449 444	
MW4	01/23/98	31.50	4.68	27.51	0.30		No. 144			***			
MW4	04/22/98	31.50	6.39	25.22	0.92			u		***			
MW4	07/21/98	31.50	7.10	24.55		***			No. 444				10.00
MW4	10/20/98	31.50	9.03	22.60	0.20						***		
MW4	01/27/99	31.50	5.37	26.18	0.17					<b>-</b>			
MW4				ies in April 1999	0.07	w=					~~		
	Desiroyeu u	umig constru	ction activiti	les in April 1999									
MW5	10/25/00	39.18	10.92	28.26	0.00	2,500		79	3.8	66	<20	<20	
MW5	01/15/01	39.18	8.32	30.86	0.00	3,900		120	7.9	280	52	<5.0	
MW5	04/10/01	39.18	7.21	31.97	0.00	8,000		280	4.4	410	100	<50	<5
MW5	07/24/01	39.18	9,54	29.64	0.00	7,000		360	7.4	380	67	<1.0	<u>-</u> -
MW5	11/27/01	39.18	8.84	30.34	0.00	5,000		64	11	340	52	8.9	<2
MW5	01/18/02	41.59	6.52	35.07	0.00	6,330		99.1	2.30	103	19.6	21.8	
MW5	04/10/02	41.59	7.20	34.39	0.00	2,140		275	8.00	183	24.5	<2.50	 
MW5	07/12/02	41.59	8.83	32.76	0.00	3,940		350	< 0.50	268	14	20	<0.50
MW5	10/14/02	41.59	10.74	30.85	0.00	4,040		98.5	9.0	169	29,0	<2.5	~0.50 
MW5	01/20/03	41,59	6.45	35.14	0.00	7,660		421	10.0	743	96.0	59	<0.50
MW5	04/28/03	41.59	6.68	34.91	0.00	7,510		403	5.5	524	50.5	47	< 0.50
MW5	07/15/03	41.59	8.68	32.91	0.00	6,080		406	19.8	412	34.7	52.9	<2.5
						-,		100	12.0	714	J <b>4.</b> I	32.7	<2.5

TABLE 4 GROUNDWATER MONITORING DATA, FORMER MOBIL STATION 99105, 6301 SAN PABLO AVENUE, OAKLAND, CALIFORNIA

		Elevation	Depth to		_				Concen	trations (µg/L)			
Well Number	Date	TOC (feet)	Water (feet)	Groundwater Elevation (feet)	LPH Thickness	ТРН-g	TPH-d	Benzene	Toluene	Ethyl- benzene	Total Xylenes	MTBE (8020/8021)	MTBE (8240/8260)
MW5	10/08/03	41.59	10.56	31.03	0.00	2,460		160	12.8	173	31.7	54.3	<0.5
MW5	01/15/04	41.59	6.56	35.03	0.00	4,630		181	6.0	312	38.5	37.4	<0.5
MW5	09/17/10	41.59	9.99	31.60	0.00	6,600	5,700	19	<5.0	16	$1.4^{ m f}$		<5.0

Notes: Adapted from Report of Groundwater Mon	nitoring, Third	Quarter 2010, F	ETIC.
---	-----------------	-----------------	-------

a Well sampled using no-purge metho	od.
-------------------------------------	-----

b Diesel and unidentified hydrocarbons <C15.

LPH Liquid-phase hydrocarbons.
MTBE Methyl tertiary butyl ether.

ND Not detected at or above laboratory reporting limit.

TOC Top of casing.

TPH-d Total Petroleum Hydrocarbons as diesel.
TPH-g Total Petroleum Hydrocarbons as gasoline.

-- Not measured/not analyzed.

μg/L Micrograms per liter.

c Diesel and unidentified hydrocarbons <C15>C25.

d Diesel and unidentified hydrocarbons >C20.

e Unidentified hydrocarbons >C18.

f Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit.

TABLE 5 GROUNDWATER SAMPLE ANALYTICAL RESULTS FOR OXYGENATES AND ADDITIVES, FORMER MOBIL STATION 99105, 6301 SAN PABLO AVENUE, OAKLAND, CALIFORNIA

Well Number	Date	MTBE	DIPE	ETBE	oncentrations (µg/l	TBA	1,2-DCA	1,2-DBA
MW2	09/17/10	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50
MW3	09/17/10	<0.50	0.17 <sup>a</sup>	<0.50	< 0.50	9.8ª	1.9	< 0.50
MW5	09/17/10	<5.0	<5.0	<5.0	<5.0	<100	<5.0	<5.0
a	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.							
1,2-DBA 1,2-DCA DIPE ETBE MTBE FAME	1,2-Dibromoethan 1,2-Dichloroethan Diisopropyl ether. Ethyl tertiary buty Methyl tertiary bu	e or ethylene dibre. e. d ether. tyl ether.			ove the laboratory	mediod detection	annit. Reported va	ide is estimated
r AME. rBA	Tertiary amyl methyl ether. Tertiary butyl alcohol.							
ıg/L	Micrograms per liter.							

TABLE 6 PHYSICAL PROPERTIES ANALYTICAL RESULTS FOR SOIL SAMPLES, FORMER MOBIL STATION 99105, 6301 SAN PABLO AVENUE, OAKLAND, CALIFORNIA

Boring ID	Sample Date	Sample Depth (feet bgs)	Moisture Content (% by weight)	Total Porosity (% of bulk volume)	Bulk Density (gm/cc)
VW1	11/01/10	5-5.5	22.0	44.5	1.47
VW2	11/02/10	5-5.5	14.6	41.7	1.55
VW3	11/01/10	5-5.5	17.2	44.6	1.47
VW4	11/02/10	5-5.5	21.6	43.8	1.49
VW5	11/02/10	5-5.5	22.0	42.0	1.54

feet bgs gm/cc Feet below ground surface. Grams per cubic centimeter.

% Percent.

TABLE 7 SOIL VAPOR SAMPLE ANALYTICAL RESULTS, FORMER MOBIL STATION 99105, 6301 SAN PABLO AVENUE, OAKLAND, CALIFORNIA

					y Volume)	-				****		Concente	ation (μg/ı	n <sup>3</sup> )					
Boring ID	Depth (feet bgs)	Date	Oxygen and Argon	Methane	Carbon Dioxide	Field Helium (ppm)	Lab Helium	Benzene	Toluene	Ethyl- benzene	Total Xylenes	TPH-g	МТВЕ	ТВА	DIPE	ETBE	l,2-DCA	TAME	1,2-DBA
VWI	5 - 6	11/9/10	3.75	<0.895	14.0	0.0		10	17	80	100	190,000	<13	<11	<15	<15	<3.6	<15	<6.9
VW2	5 - 6	11/9/10	18.5	<0.680	3.02	0.0		<2.2	<2.6	<3.0	<12	20,000	<9.8	<8.2	<11	<11	4.8	<11	<5.2
VW3	5 - 6	11/9/10	1.55	<0.765	16.6	0.0		9.7	25	9.0	36	120,000	<11	<9.3	<13	<13	4.2	<13	<5.9
VW4	5 - 6	11/9/10	1.59	14,2	14.1	18,000	<16,400	16,000	9,200	71,000	60,000	250,000,000	<10,000	<8,500	<12,000	<12,000	<2,900	<12,000	<5,400
VW5	5 - 6	11/9/10	10.3	6.61	12.5	10,000	<16,400	1,000	< 590	<680	<2,700	31,000,000	<2,300	<1,900	<2,600	<2,600	<640	<2,600	<1,200
VW5 (DUP	5 - 6	11/9/10	9.10	6.44	13.1		<16,400	740	<570	<660	<2,600	30,000,000	<2,200	<1,800	<2,500	<2,500	<610	<2,500	<1,200

#### Notes:

feet bgs Feet below ground surface.

1,2-DBA 1,2-Dibromoethane or ethylene dibromide (EDB).

1,2-DCA 1,2-Dichloroethane.

DIPE Diisopropyl ether.

DUP Duplicate.

ETBE Ethyl tertiary butyl ether.

MTBE Methyl tertiary butyl ether.

ppm Parts per milion.

TAME Tertiary amyl methyl ether.

TBA Tertiary butyl alcohol.

TPH-g Total Petroleum Hydrocarbons as gasoline.

-- Not analyzed, not measured, or not applicable.

μg/m³ Micrograms per cubic meter.

TABLE 8 TIER I ENVIRONMENTAL SCREENING LEVELS FOR SHALLOW SOIL VAPOR FORMER MOBIL STATION 99105, 6301 SAN PABLO AVENUE, OAKLAND, CALIFORNIA

				-	Tier	I ESLs for Potential V	apor Intrusion Co	ncern*
				-	Residenti	al Land Use	Commercial/Ir	idustrial Land Use
Chemical	Date	Sample ID	Depth (feet bgs)	Maximum Detected Soil Vapor Concentration (μg/m³)	Carcinogenic Effects (µg/m³)	Non-Carcinogenic Effects (μg/m³)	Carcinogenic Effects (µg/m³)	Non-Carcinogenic Effects (μg/m³)
Benzene	11/09/10	VW4	5-6	16,000	84	6,300	280	
Toluene	11/09/10	VW4	5-6	9,200	NA	63,000	NA	18,000 180,000
Ethylbenzene	11/09/10	VW4	5-6	71,000	980	210,000	3,300	580,000
Total Xylenes	11/09/10	VW4	5-6	60,000	NA	21,000	NA	58,000
TPH-g	11/09/10	VW4	5-6	250,000,000	NA	10,000	NA	29,000
1,2-DCA**	11/09/10	VW2	5-6	4.8	94	1,000	310	2,900

Notes:

bgs

Below ground surface.

ESL

Environmental Screening Level.

1,2-DCA

1,2-Dichloroethane.

TPH-g

Total Petroleum Hydrocarbons as gasoline.

NA

Not applicable.

μg/m<sup>3</sup>

Micrograms per cubic meter.

\*

From Table E-2: Shallow soil gas screening levels for evaluation of potential vapor intrusion concerns.

All other oxygenates and additives were not detected above the laboratory reporting limits.

Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater - Interim Final, San Francisco Regional Water Quality Control Board, November, 2007 (Revised May 2008).

Tier I ESLs adopted by RWQCB correspond to a 1 X 10<sup>-6</sup> target risk level and a target hazard quotient of 0.2.

# Appendix A

**Regulatory Correspondence** 



20 July 2010

Ms. Barbara Jakub Alameda County Health Care Services Agency 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577

Subject:

Implementation of Vapor Intrusion Assessment and Well Installation Work

Plan and Work Plan Addendum

Former Mobil Station 99105, 6301 San Pablo Avenue, Oakland, California Fuel Leak Case No. RO0000445 / GeoTracker Global ID T0600101855

Dear Ms. Jakub:

At the request of ExxonMobil Environmental Services Company on behalf of ExxonMobil Oil Corporation, ETIC Engineering, Inc. (ETIC) submitted a Vapor Intrusion Assessment and Well Installation Work Plan dated December 2008 and Work Plan Addendum dated October 2009 for the above referenced site to the Alameda County Health Care Services Agency (ACHCSA).

The scope of work outlined in these documents includes vapor intrusion assessment with the collection of soil vapor samples following the installation of soil vapor wells, the advancement of offsite borings and the redevelopment and sampling of the existing groundwater monitoring wells.

As of the date of this letter, the ACHCSA has not issued a written response to the referenced Work Plan Addendum. Therefore, ETIC hereby notifies ACHCSA of its intent to invoke the "60-day policy" under Title 23, Chapter 16, Section 2722 of the California Underground Storage Tank Regulations, and implement the proposed scope of work outlined in the Vapor Intrusion Assessment and Well Installation Work Plan dated December 2008 and Work Plan Addendum dated October 2009. The proposed work including the submittal of all necessary permits will begin on or after 30 July 2010.

Unless we hear otherwise from you, ETIC trusts that this notification meets your requirement. Should you need additional information regarding this project, please contact me at (925) 602-4710 ext. 24.

Sincerely,

Bryan Campbell Program Manager

cc: Ms. Jennifer Sedlachek, ExxonMobil Environmental Services Company

Ms. Connie Lam, Property Owner

Appendix B

**Permits** 

## Alameda County Public Works Agency - Water Resources Well Permit



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

Application Approved on: 10/22/2010 By jamesy

Permit Numbers: W2010-0779

Permits Valid from 11/01/2010 to 11/02/2010

Application Id:

1287181534981

Site Location:

Former Mobil Station 99105,

City of Project Site: Oakland

6301 San Pablo Avenue, Oakland, CA

Completion Date: 11/02/2010

**Project Start Date:** Assigned Inspector:

11/01/2010 Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org

Applicant:

ETIC Engineering, Inc. - Bryan Campbell

Phone: 925-602-4710 x24

**Property Owner:** 

2285 Morello Avenue, Pleasant Hill, CA 94523 Connie Lam

Phone: 510-654-5550

200 Dorado Terrace, San Francisco, CA 94112

Client:

ExxonMobil Environmental Services Agency

Phone: 510-547-8196

4096 Piedmont Avenue, #194, Oakland, CA 94611

Phone: 925-602-4710 x34

Cell: --

Contact:

Hamidou Barry

**Total Due:** 

\$265.00

Receipt Number: WR2010-0360 Payer Name: ETIC Engineering, Inc.

**Total Amount Paid:** Paid By: CHECK

\$265.00

**PAID IN FULL** 

#### **Works Requesting Permits:**

Well Construction-Vapor monitoring well-Vapor monitoring well - 5 Wells

Driller: Cascade Drilling, L.P. - Lic #: 938110 - Method: Hand

Work Total: \$265.00

#### Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2010- 0779	10/22/2010	01/30/2011	VW1	4.00 in.	0.25 in.	4.00 ft	6.00 ft
W2010- 0779	10/22/2010	01/30/2011	VW2	4.00 in.	0.25 in.	4.00 ft	6.00 ft
W2010- 0779	10/22/2010	01/30/2011	VW3	4.00 in.	0.25 in.	4.00 ft	6.00 ft
W2010- 0779	10/22/2010	01/30/2011	VW4	4.00 in.	0.25 in.	4.00 ft	6.00 ft
W2010- 0779	10/22/2010	01/30/2011	VW5	4.00 in.	0.25 in.	4.00 ft	6.00 ft

#### **Specific Work Permit Conditions**

- 1. Drilling Permit(s) can be voided/ cancelled only in writing. It is the applicant's responsibility to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.
- 2. Compliance with the above well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate state reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days, including permit number and site map.
- 3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend

## Alameda County Public Works Agency - Water Resources Well Permit

and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

- 4. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.
- 5. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.
- 6. No changes in construction procedures or well type shall change, as described on this permit application. This permit may be voided if it contains incorrect information.
- 7. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
- 8. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.
- 9. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
- 10. Vapor monitoring wells above water level constructed with tubing maybe be backfilled with pancake-batter consistency bentonite. Minimum surface seal thickness is two inches of cement grout around well box.

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

# Appendix C

Soil Boring Logs, Well Completion Diagrams, and DWR Forms

	MAJOR DIVIS	IONS			TYPICAL NAMES
		Clean gravels with	GW		Well graded gravels with or without sand, little or no fines.
ω.	GRAVELS more than half	little or no fines	GP		Poorly graded gravels with or without sand, little or no fines.
COARSE-GRAINED SOILS More than half is coarser than No. 200 sieve	coarse fraction is larger than No. 4 sieve size	Gravels with	GM		Silty gravels, silty gravels with sand.
AINED alf is co		over 12% fines	GC		Clayey gravels, clayey gravels with sand.
E-GR/ han ha n No. 2		Clean sands with	sw		Well graded sands with or without gravel, little or no fines.
OARS More t	SANDS more than half coarse fraction is	little or no fines	SP		Poorly graded sands with or without gravels, little or no fines.
5-	smaller than No. 4	Sands with	SM	77277	Silty sands with or without gravel.
		over 12% fines	sc		Clayey sands with or without gravel.
			ML		Inorganic silts and very fine sands, rock flour, silts with sands and gravels.
SOILS finer eve	<b>SILTS AN</b> liquid limit 5		CL		Inorganic clays of low to medium plasticity, clays with sands and gravels, lean clays.
NED S half is 200 si			OL		Organic silts or clays of low plasticity.
FINE-GRAINED SOILS More than half is finer than No. 200 sieve			мн		Inorganic silts, micaceous or diatomaceous, fine sandy or silty soils, elastic silts.
FINE More tha	SILTS AN liquid limit grea		СН		Inorganic clays of high plasticity, fat clays
	de la		ОН		Organic clays or clays of medium to high plasticity.
	HIGHLY ORGANIC	SOILS	PT	1 77 77	Peat and other highly organic soils.
	SYMBOL	S			DRILL LOG ROCK TYPES
<b>∑</b>		Campics			Limestone
	Portland Cement				Dolomite
	Blank Casing Bentonite Pellets	Soil			Mudstone
	Filter Pack	Water			Siltstone
		Open		· · · · · · · · · · · · · · · · · · ·	Sandstone
	Screened Casing		Y'I'	1010	SYSTEM DESCRIPTIONS



								С	LIENT		SITE	NUMBER	L	OCATION	
		»FT							ExxonMobil			99105		3301 San F Oakland, 0	
LOG	OF SC	ENGINI	eering ORING:	:	V	V	V1		RILLING AND AMPLING METHOD	S anda	nole ad 4-inch n long l	vanced to 6 feet diameter hand a iners.	below ground	surface using a	n air knife
COOL	RDINA	ATFS:	N2135	321 4	i ·Fi	804	16250.4	<sub>1</sub> V	WATER LEVEL						
ELEV	'ATIOI	N TOP	OF C	ASING			.0200.	•	TIME					START TIME	FINISH TIME
			SURF			<b>-</b>	11:		DATE					1050 DATE	1300
			ANY: ( ER: C5				ıırıg	I	REFERENCE					11/1/10	DATE 11/1/10
t	RECOVER <sup>©</sup>	BLOWS / 6" SAMPLER	OVA READING	H.	AMPLE R SAMPI E	AMPLE	GRAPHIC	SURF	ACE CONDITIONS			Concrete			
DRIVEN	REC	BLO	REA	DEPTH (feet)	AIR SAI	SOILS	GRA	DESC	RIPTION BY: Yuko	Mamiya	3			DETAILS	
				0			ONCRE	CLA brow	NCRETE from surface and surface. Y WITH SOME GRA vn (10YR 4/4), very s in diameter, slightly	<b>VEL</b> - da	ark ve	llowish		set in co Swagek and cap Hydrate bentonit below g	n well box, oncrete. ok valve d granular e to 4 feet round
				3-4-			CL	CLA' to me	<b>Y WITH SOME SILT</b> edium plasticity, sligI	- olive (£ htly mois	5Y 5/4 st.	l), hard, łow		316L sta  steel tub feet belo surface.  Dry gran bentonite	iameter e. h diameter sinless bing to 5.25 bw ground sular e from 4 to
6	6		-0.2-	5— 6—		X		Borel	hole terminated at 6	feet belo	ow gro	ound surface.		to 6 feet ground s 0.4-inch 0.0057-ii size staii screen fr	surface. and from 5 below surface. diameter ach pore aless steel om 5.25 eet below urface.
				8											
				9											
				10—											

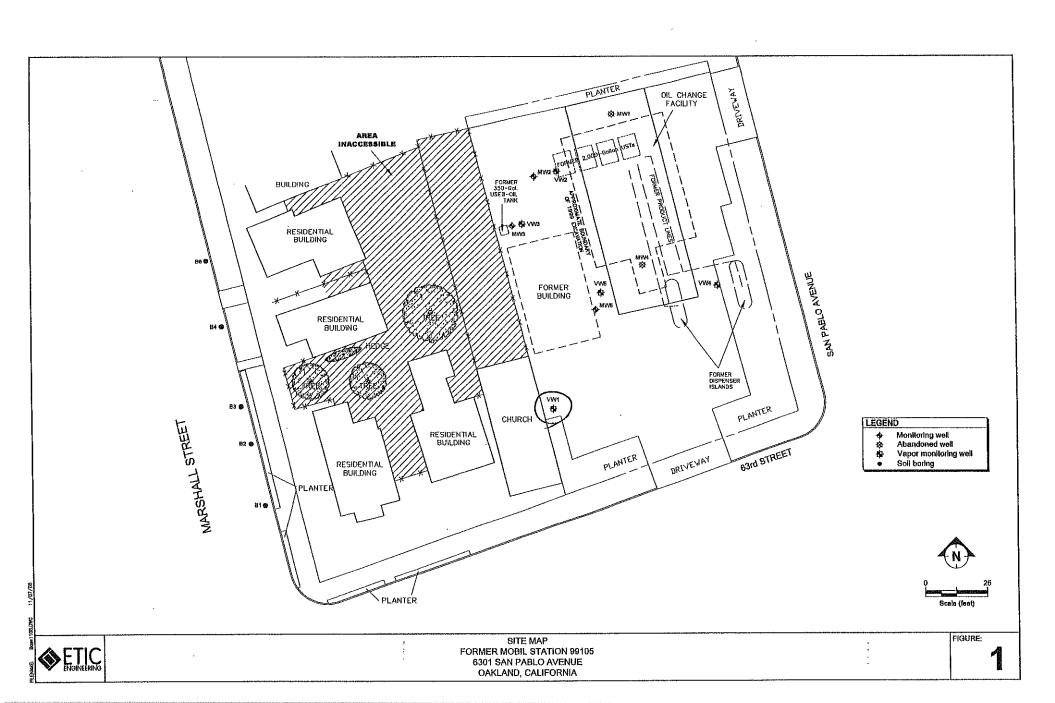
COORDINATES: N2135416.9 :E6046252.6  ELEVATION TOP OF CASING: CASING BELOW SURFACE: DRILLING COMPANY: Cascade Drilling LICENSE NUMBER: C57-938110  INCHES  INC	
SAMPLING METHODS and a 4-inch diameter hand auger. Sampled with a selection for post of the selection of the	n Pablo Ave. I, California
CONCRET From surface to 6 inches below CONCRET Eground surface.  CLAY WITH GRAVEL - dark yellowish brown (10YR 4/4), medium dense, fine to coarse grained sand, subangular gravel up to 0.5 inches in diameter.	ng an air knife
ELEVATION TOP OF CASING:  CASING BELOW SURFACE:  DRILLING COMPANY: Cascade Drilling LICENSE NUMBER: C57-938110  INCHES  NAME  OUT  OUT  OUT  OUT  OUT  OUT  OUT  OU	
DRILLING COMPANY: Cascade Drilling  INCHES  IN	T FINISH TIME
ICENSE NUMBER: C57-938110  REFERENCE  SURFACE CONDITIONS  Concrete  DESCRIPTION BY: Yuko Mamiya  CONCRETE ground surface.  CLAY WITH GRAVEL - dark yellowish brown (10YR 4/4), hard, low plasticity, angular gravel up to 1 inch in diameter, moist.  SANDY GRAVEL - dark yellowish brown (10YR 4/4), medium dense, fine to coarse grained sand, susquandular gravel up to 0.5 inches in diameter.  Dry SANDY GRAVEL - dark yellowish brown (10YR 4/4), medium dense, fine to coarse grained sand, susquandular gravel up to 0.5 inches in diameter.  Dry SANDY GRAVEL - dark yellowish brown (10YR 4/4), medium dense, fine to coarse grained sand, susquandular gravel up to 0.5 inches in diameter.  Dry SANDY GRAVEL - dark yellowish brown (10YR 4/4), medium dense, fine to coarse grained sand, susquandular gravel up to 0.5 inches in diameter.	) 1000 DATE
NAME OF SET OF S	I
CONCRETE from surface to 6 inches below CONCRETE ground surface.  CLAY WITH GRAVEL - dark yellowish brown (10YR 4/4), hard, low plasticity, angular gravel up to 1 inch in diameter, moist.  SANDY GRAVEL - dark yellowish brown (10YR 4/4), medium dense, fine to coarse grained sand, subangular gravel up to 0.5 inches in diameter.  Dry subangular gravel up to 0.5 inches in diameter.	
CONCRETE from surface to 6 inches below CONCRETE ground surface.  CLAY WITH GRAVEL - dark yellowish brown (10YR 4/4), hard, low plasticity, angular gravel up to 1 inch in diameter, moist.  SANDY GRAVEL - dark yellowish brown (10YR 4/4), medium dense, fine to coarse grained sand, subangular gravel up to 0.5 inches in diameter.  Dry Subangular gravel up to 0.5 inches in diameter.	ILS
6 6 6 O.1 6 Borehole terminated at 6 feet below ground surface.	le-bolt, ison well box, in concrete. gelok valve cap rated granular onite to 4 feet w ground ice.  Inch diameter stainless tubing to 5.25 below ground ice.  Inch diameter stainless tubing to 5.25 below ground ice.  Inch diameter stainless tubing to 5.25 below ground ice.  Inch diameter stainless steel in from 5.25 feet below in disurface. In from 5.25 feet below i

									CLIENT		SITE	NUMBER	L	OCATION	
		ET							ExxonMobil			99105		6301 San P Oakland, 0	
LOG	OF SC	ENGINE	ERING RING:		1	<b>/</b> \/	<b>V</b> 3		DRILLING AND SAMPLING METHOD	S and	rehole ad d a 4-inch nch long	n diameter hand a	below groun auger. Samp	d surface using a led with a slide ha	n air knife
COO	שואוס	TES.	N)2125	305 0	a ·⊏	:60 <i>/</i>	16238.8	2	WATER LEVEL						
			OF C			.00-	,0 <u>2</u> 00.0	,	TIME					START TIME	FINISH TIME
			SURF						DATE					1310	1430
			ANY: ( R: C5				lling		REFERENCE					DATE 11/1/10	11/1/10
INCE	RECOVER S	BLOWS / 6" SAMPLER	OVA READING	H	MPLE	R SAMPLE SAMPLE	GRAPHIC	SI	JRFACE CONDITIONS		•	Concrete			
DRIVEN	REC	BLO/ SAM	REAL	DEPTH (feet)	AIR SA	SOIL SAN	GRA	DE	ESCRIPTION BY: Yuko	Mam	iiya			DETAILS	
				0-		C	ONCRE	TEg	CONCRETE from surface round surface.  CLAY WITH GRAVEL - d 10YR 4/4), hard, low to	ark ye	ellowish	brown		∖ set in co	n well box, oncrete ok valve
				1-				9	ravel up to 2 inches in c	liame	ter, sligl	itly moist.		Hydrate	d granular e to 4 feet round
				2-			CL							4-inch d borehole	€.
				3-										316L sta	oing to 5.25 ow ground
				4				5,	LAYEY SILT WITH TRA (4), very stiff, low to med rained sand, dry to sligh	dium p	plasticity	live (5Y /, coarse		Dry gran bentonite 5 feet be ground s	e from 4 to slow
6	6			5			ML							to 6 feet ground s 0.4-inch 0.0057-ii	urface. diameter
6-	6		<del></del> 0.1	6—				В	orehole terminated at 6	feet b	elow gr	ound surface.		∖ screen fi	rom 5.25 set below urface.
				7—											
				8											
				9											
				10											

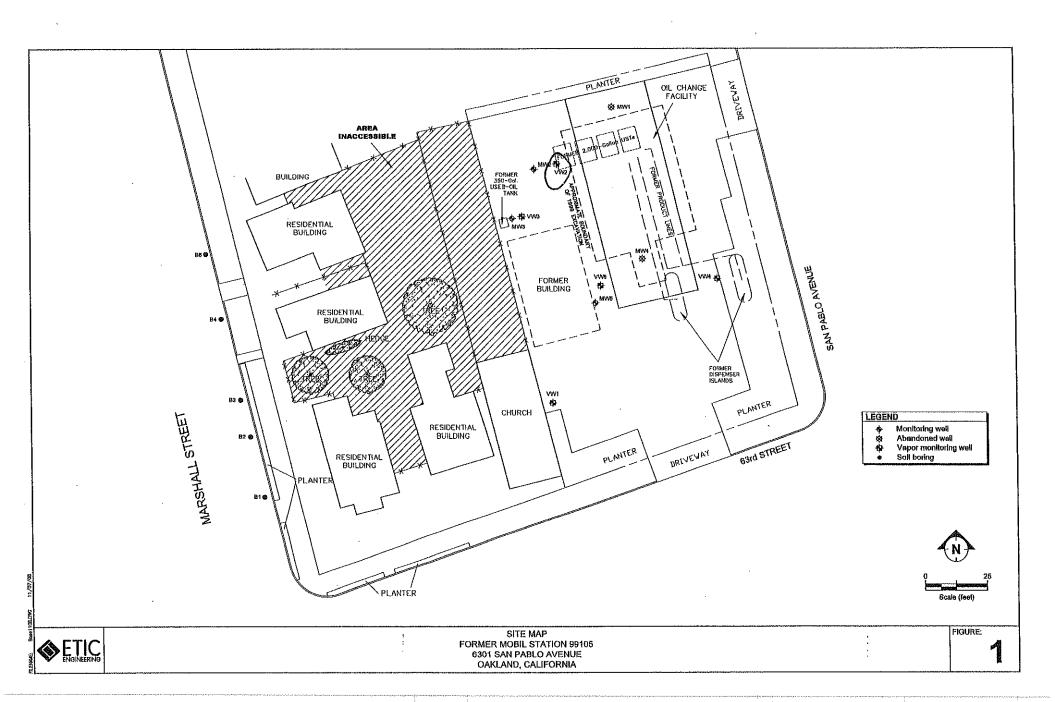
									CLIENT	SIT	TE N	UMBER		LO	CATION	
			IC.						ExxonMobil			99105		1	301 San P Dakland, C	
LOG (	OF SO	ENGINE	ERING		V	W	<b>14</b>		DRILLING AND SAMPLING METHOD		inch c	anced to 6 feet liameter hand a ers,	below gr auger. S	round :	n air knife	
COOF	RDINA	TES: I	N2135	370.9	:E6	304	6316.5	5	WATER LEVEL							
ELEV	ATION	TOP	OF CA	ASINO					TIME						START TIME	FINISH TIME
	NG BE				-1 - F	<b>3</b> :0	·		DATE						1300 DATE	1435 DATE
	JNG C ISE NI						ing		REFERENCE						11/2/10	11/2/10
INCH	RECOVER S	BLOWS / 6" SAMPLER	OVA READING	E	MPLE R SAMPLE	AMPLE /ERED	GRAPHIC LOG	SL	JRFACE CONDITIONS		<b>!</b>	Concrete			<b>1</b>	
DRIVEN	REC(	BLOV	OVA	DEPTH (feet)	AIR SAMPLE WATER SAMF	SOIL SAMPLE RECOVERED	GRAI	DE	SCRIPTION BY: Yuko	Mamiya					DETAILS	
				0-		Ç	ONCRE		ONCRETE from surface round surface.	e to 6 inch	es be	elow			Single-b Morrison set in co	n well box,
							AC/AB		GGREGATE BASE fron round surface.	n 6 inches	to 1	foot below			∖_ Swagek and cap	ok valve
				1—				(1	LAY WITH GRAVEL - d 10YR 4/4), very stiff, low p to 2 inches in diamete	plasticity.	, ang	ular gravel			Hydrate bentonit below g surface.	
				2-	_		CL								4-inch d borehole	
				3				5/	LAYEY SILT WITH TRA (4), hard, low plasticity, loist.	.CE SAND fine graine	- oliv ed sa	ve (5Y nd, slightly			316L sta	ing to 5.25 w ground
			10	4			ML								5 feet be	e from 4 to slow
6	6			5	N A										to 6 feet ground s 0.4-inch 0.0057-i	ind from 5 below surface. diameter nch pore
6	6		0.4	6—				В	orehole terminated at 6	feet below	v groi	und surface.			∖ screen fi	
				7-												
				8—												
				9—												
				10—												

									CLIENT		SITE	NUMBER		LC	CATION				
		ENGINE							ExxonMobil			99105			301 San P Oakland, C				
LOG	OF SC	ENGINE OIL BO			I	/V	<b>V</b> 5		DRILLING AND SAMPLING METHOD	s and	ehole ad a 4-inch ch long	vanced to 6 feet n diameter hand a liners.	below i	ground Sample	surface using a d with a slide ha	n air knife ammer and			
COOL	RDINA	TFS: I	N2135	367 9	) :E	604	16269.8	3	WATER LEVEL										
ELEV	'ATIOI	N TOP	OF CA	ASIN	<b>3</b> :				TIME						TIME	TIME			
		COMP				Dri	lling		DATE						1015 DATE	1100 DATE			
LICE	NSE N	UMBE					1	Lei	REFERENCE JRFACE CONDITIONS						11/2/10	11/2/10			
DRIVEN	RECOVER S	BLOWS / 6" SAMPLER	OVA READING	DEPTH (feet)	AIR SAMPLE	L SAMPLE	GRAPHIC		ESCRIPTION BY:			Concrete	1						
A.	RE	J. S.	SA	<del>                                     </del>	11	SOI	59	DE	ESCRIPTION BY: Yuko	Mami	ya				DETAILS				
				1-		C	ONCRE	TEg	CONCRETE from surface pround surface. CLAY WITH GRAVEL - d 10YR 4/4), hard, low pla inch in diameter, moist	lark ye ısticitv.	llowish	brown	W. W. W. W. K.		set in co Swagek and cap Hydrate bentonit	n well box, oncrete. ok valve d granular e to 4 feet			
				2	_		CL							below ground surface.  4-inch diamet borehole.  0.25-inch diamet 316L stainless steel tubing to feet below ground					
				3				C	CLAY WITH SOME SILT nedium plasticity, slightly	- olive y moist	(5Y 5/- t to mo	4), hard, ist.			steel tub	oing to 5.25 ow ground			
6	6			5			CL								5 feet be ground s #2/12 sa to 6 feet ground s	e from 4 to elow surface. and from 5 below			
6	6		0.2	6				В	orehole terminated at 6	feet be	elow gr	ound surface.			∖ ¯ screen fr	nless steel rom 5.25 eet below urface.			
				7															
				9—															
				10-															

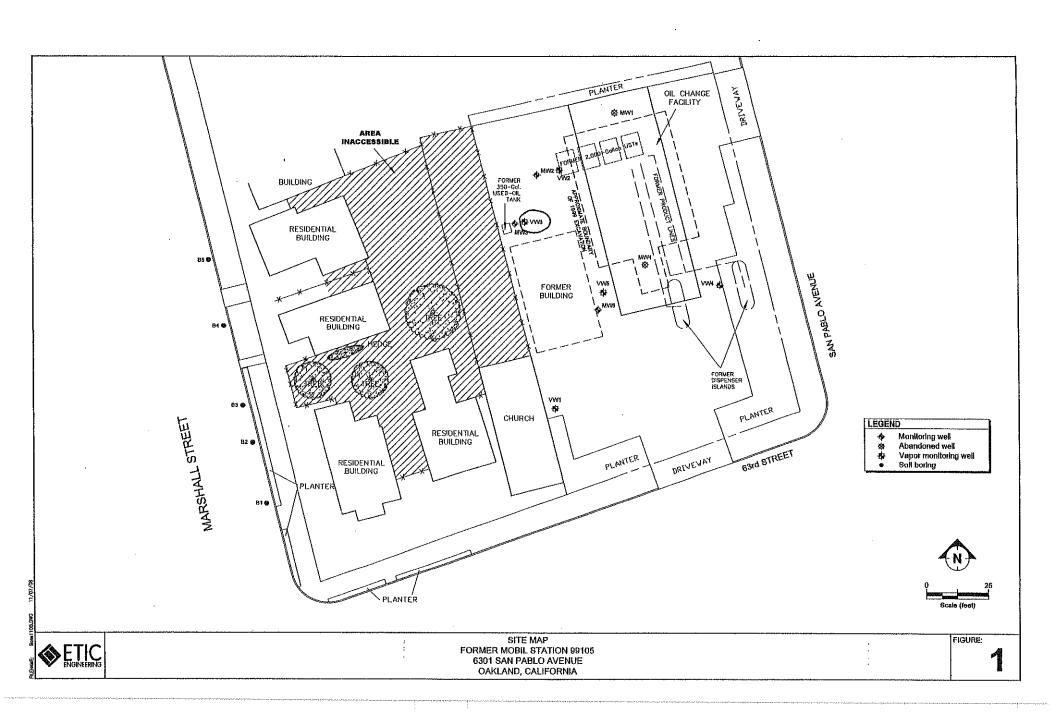
STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)



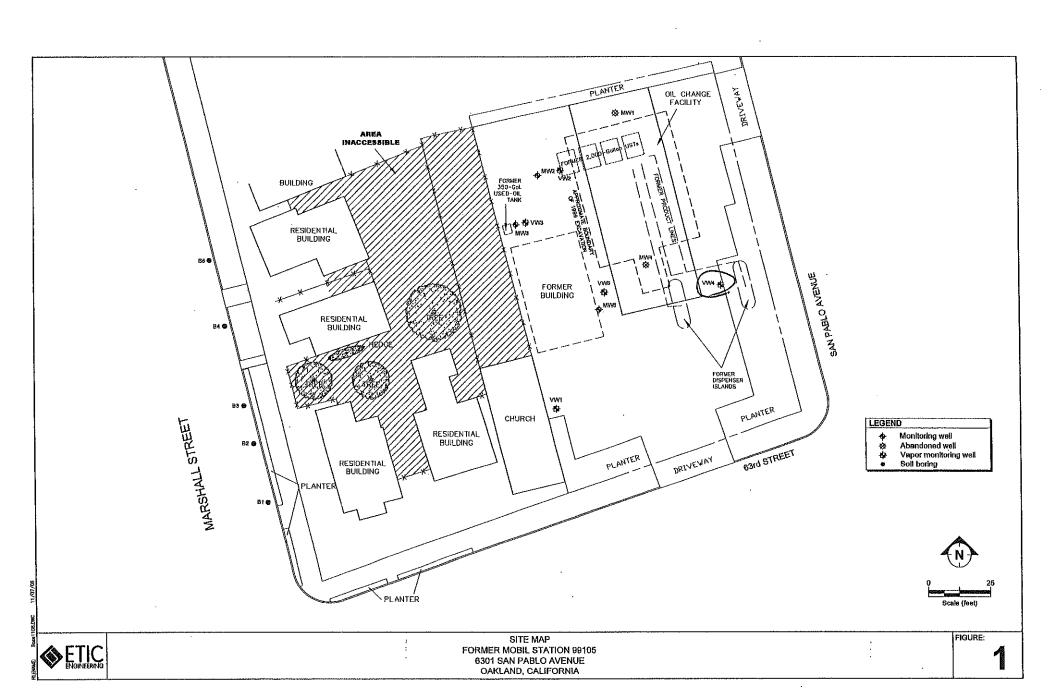
STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)



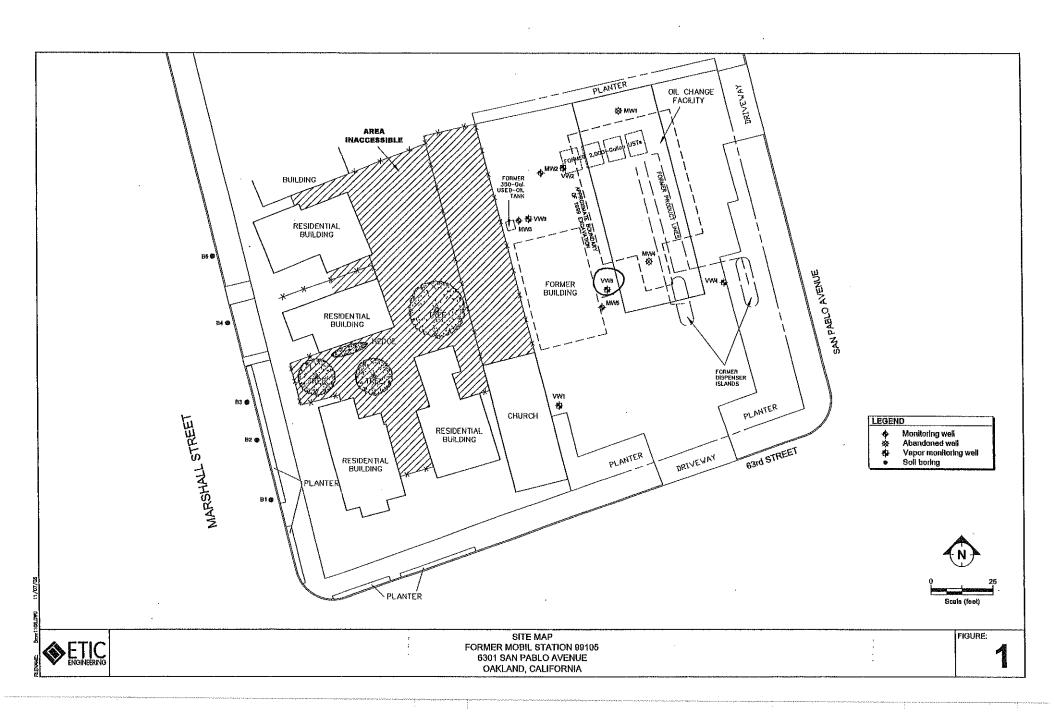
STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)



STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)



STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)



Appendix D

**Field Protocols** 

# PROTOCOLS FOR INSTALLATION AND SAMPLING OF SOIL VAPOR WELLS

### SUBSURFACE CLEARANCE SURVEY PROCEDURES

Prior to drilling, the proposed locations of borings are marked with white paint. Underground Service Alert (USA) is contacted prior to subsurface activities and a "ticket" is issued for this investigation. USA members mark underground utilities in the delineated areas using standard color code identifiers.

Once USA has marked the site, all proposed borehole locations are investigated by subsurface clearance surveys to identify possible buried hazards (pipelines, drums, tanks). Subsurface clearance surveys use several geophysical methods to locate shallow buried man-made objects. The geophysical methods include electromagnetic induction (EMI) profiling, ground penetrating radar (GPR), and/or magnetic surveying. The choice of methods depends on the target object and potential interference from surrounding features.

Prior to drilling, all boreholes are cleared of underground utilities to a depth of at least 4 feet below ground surface (bgs) in "non-critical zones" and to 8 feet bgs in "critical zones". Critical zones are defined as locations that are within 10 feet from the furthest edge of any underground storage tank (UST), within 10 feet of the product dispenser islands, the entire area between the UST field and the product dispenser islands, and within 10 feet of any suspected underground line. An 8- to 12-inch-diameter circle is cut in the surface cover at each boring location. A hole is then cleared at each boring location using a 4-inch diameter hand auger.

#### SOIL SAMPLING

Shallow soil samples are collected using a 6-inch long sample barrel connected to a slide hammer, containing a 6-inch long stainless steel sample liner. After driving the hammer 6 inches, the rods and sample barrel are withdrawn from the borehole and the sample liner is removed.

Soil from the hand auger is removed and placed in a sealed plastic bag. The soil is scanned with an organic vapor analyzer (OVA) equipped with a flame ionization detector (FID) or photoionization detector (PID) and the readings are noted on the soil boring logs. The remaining soil from the hand auger is examined and classified according to the Unified Soil Classification System (USCS).

Soil samples are delivered, under chain of custody, to a laboratory certified by the California Department of Health Services (DHS) for analyses.

## SOIL VAPOR MONITORING WELL INSTALLATION PROCEDURES

The soil vapor monitoring wells are constructed with 0.25-inch-diameter stainless steel tubing connected to 0.4-inch-diameter vapor sampling implant with a 6-inch-long, 0.0057-inch pore size stainless steel screen and bottom implant anchor. All connections are sealed with Swagelok® type fittings. A filter pack of 1 foot of #2/12 sand is placed at the screened interval and approximately 3 inches above and below the screen for each well. The filter pack is separated from the annular grout

seal, using 1 foot of dry granular bentonite. Hydrated granular bentonite is used to fill and seal the annular space in the borehole to near ground surface. The tubing is sealed at the surface with a stainless steel Swagelok® valve and a stainless steel cap.

The wells are finished at the surface with a slightly raised, steel traffic-rated box set in concrete. The lid on the traffic-rated box is bolted to the rim of the well box.

#### SOIL VAPOR SAMPLING PROCEDURES

To allow for subsurface conditions to equilibrate, the wells are not disturbed for a period of at least 48 hours.

To ensure air-tight connections between the tubing, sampling port, valves, and other connections, a vacuum tightness test is performed on each well. The test consists of the application of a vacuum and monitoring of vacuum tightness using vacuum gauges and/or flow meter for 5 to 10 minutes. A leak would be evident if the vacuum gauges registered a decrease in the vacuum or flow was recorded on the meter.

A purge test is conducted for one well to determine the purge volume for subsequent wells. The selected well should be the one with the highest expected concentrations. The test consists of the collection of soil vapor samples using Tedlar bags after purging the well of one (1), three (3), and seven (7) purge volumes by drawing vapor into the Tedlar bag using a vacuum chamber and vacuum pump. The purge volume is estimated based on the internal volume of the tubing used, the volume of the screen, and the voids in the sand pack within the annular space around the screen. The samples are collected through a particulate filter and flow controller which regulates the flow of soil vapor to no more than 200 milliliters per minute. The purge test samples are analyzed in the field using a PID. The results of the purge test are used to dictate the purge volume to be used during the sampling of subsequent wells.

The soil vapor samples are collected in 1-liter stainless steel Summa canisters. The samples are collected through a particulate filter and flow controller which regulates the flow of soil vapor to no more than 200 milliliters per minute. To ensure an air-tight connection at the well head and that ambient air does not enter the well at the well head, a tracer is applied. The tracer used is helium gas. To apply the tracer, a small shroud is placed over the well head and the tracer gas is allowed to fill the shroud at a constant rate. A hand-held helium detector is used in the field to measure the tracer within the shroud. Soil vapor is drawn into a Tedlar bag from the well using a vacuum chamber and vacuum pump. A leak would be evident if the concentration of the tracer in the well exceeds 10% of the concentration of the tracer in the shroud.

The 1-liter Summa canisters are labeled and packaged for delivery to a state-certified laboratory for chemical analysis. The initial pressure and the final vacuum readings taken from the gauges on the Summa canisters are recorded. A small vacuum of about 5 inches of mercury is left inside the sample canister and is recorded on the chain-of-custody. Upon receipt, the laboratory checks the pressure in the sample canister and compare it to the pressure recorded on the chain-of-custody for quality control purposes.

# Appendix E

**Field Documents** 



# **Purge Volume Test Form**

	ENGINEERING						· · · · ·			
Site:	99105		,	Project #:	UP99105 6.12				Page:	/ of /
Date:	11/9/	2010	Р	ersonnel;	Yuko Mamiya			Purge Test Well:	VW	5
Purgo	Volume Calcu	ulation								
uige	WELL-PURG	Tubing Volumes E (ML)		Volume (L)	Pore Space Volume (ML)	Volume: (ML)	Rurge Volumes	Total Purge Volume (ML)	Flow Rate (ML/minute)	Estimated Time to Purge (Minutes)
	VOLUM CALGULATIO	N	12	.35	810.98	846.75	1 vol. 3 vol. 7 vol.	847 2,540 5,927	200 200 200 200	4 8 21
Purge	Data				Enns II-s than Sees some	SENHERRERUNGSERHURRERSSE		Cannister Volume:		L
Pu	rge Volumesi	Purge Canister Serial Number		egulator Number	Initial Purge Canister Vacuur (Inches Hg)	η   Start Time	Stop Time	Final Rurge Canister Vacuum (Inches Hg)	PIDR	eading-
	1	0302	A28	8	-30	1135	1143	- 25	18.6	5
	3	0302	AZ	288	- 25	1151	1227	-16	190	
	7	0302	AZ	288	-16	1235		-0.5		
Notes	: Leak	check.	Init Pur	ia l ge ca	nister Va	TC.			•	
					30 @ 1	<u> 131 -&gt;</u>	-30 G	9 1135		
				CInches	<u>-</u>		Inches Hg)			
Di	ne to a	slow purged	je ra	te.	Purge to	est for	7 purge	volumes	ups no	<del>/</del>



G:\Projects\ExxonMobil\Sites\99105\Public\2010 Drilling\Vapor sampling\99105 SV Summa Sampling Form

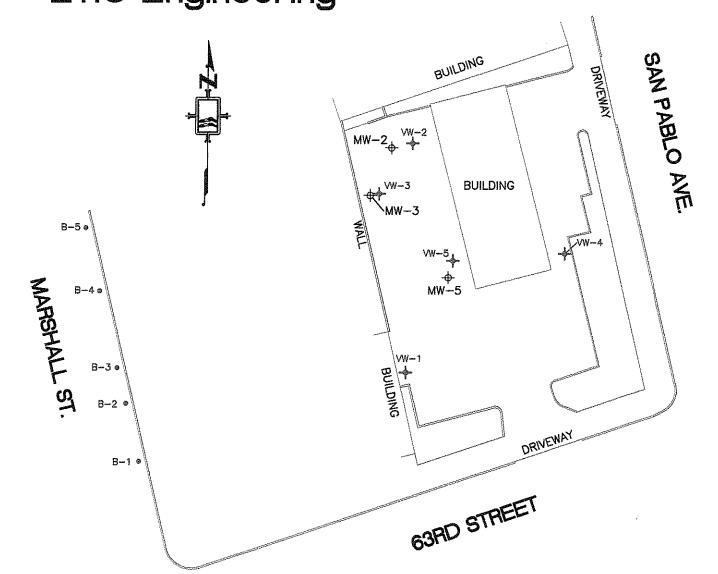
# **SUMMA Canister Soil Vapor Sampling Form**

	Site:		Former M	lobil Station 991	05			Personnel		Yuko Mamiya	a		Temperatur	e: ~	61	. °F	
	Address:	630	1 San Pabl	o Avenue, Oakl	and, CA			Page:	1	of			Barometric	Pressure: "	-30-10	) inches Hg	
	Project #:			99105 6.12				Purge Can	ister Volum	ne (liters):	6		Precipitation	n:	0.0	,	
	Date:		11/	19/201	10			Sample Ca	ınister Volu	ıme (liters):	1		Relative Hu	midity:	~ 50	. %	
													Purge Volu	me :	3_		
						1							Flow Rate :		200	liters/minu	te
	_			Leak C	heck 1			Leak C	heck 2		Vapor	Purge		Initial	Vapor	Sample	Final
Sampling Location	Purge Canister Serial Number	Sample Canister Serial Number	Flow Regulator Serial Number	Ambient He Concentration (ppm)	Tubir Concer (pp	tration	Initial Purge Canister Vacuum (Inches Hg)	Start Time	Stop Time	Purge Canister Vacuum (Inches Hg)	Start Time	Stop Time	Final Purge Canister Vacuum (Inches Hg)	Sample Canister Vacuum (Inches Hg)	Start Time	Stop Time	Sample Canister Vacuum (Inches Hg)
VW1	0215	LC 247	A33/	40,000	0 -	0	-30	1607	1615	-30	1615	1636	-17	-30	1636	1646	-5
VW2	0252	LC165	A253	80, DOO	0.	$\mathcal{D}$	-30	1435	1440	-30	1440	1504	-/2	-30	1504	1519	-(
VW3	D246	LC297	A07	30,000	0		-30	1355	1400	-30	1400	14-21	-14.5	-30	1421	1427	-2
VW4	0691	LC164	A272	X - / -	Hydro -18,	DOO	-30	1523	1528	-30		1545	-16.5	-30	1552	1552 WHY	-
VW5	0302	LC456	A288	(00,000 80,000	10,1 Hydri	000 10140	-30	1131	1135	See Pur	the ge To	=5t P	orm	-30	14/6	1439	-5
VW5 (DUP)			A288				-30	1531	1536					-30	1536	1610	5
<del></del>									·								
		Veather Co	nditions:	Sunny													
	Other:						W 100 4 4 4					***************************************					

Appendix F

**Survey Data** 

# Monitoring Well Exhibit Prepared For: ETIC Engineering



BASIS OF COORDINATES AND ELEVATIONS:

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

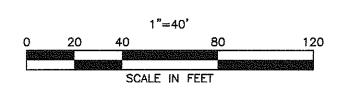
COORDINATE DATUM IS NAD 83.

REFERENCE GEOID IS GEOIDO3.

VERTICAL DATUM IS NAVD 88 FROM GPS OBSERVATIONS.

DESC.	NORTHING	EASTING	LATITUDE	LONGITUDE	EL, PVC	EL RIM
MW-2	2135415. 1	6046243, 7	37. 8459707	-122. 2851518	42, 24	42. 54
MW-3	2135395. 2	6046234, 9	37. 8459157	-122. 2851810	42, 18	42. 44
MW-5	2135361. 0	6046267, 8	37. 8458234	-122. 2850651	41, 86	42. 21
VW-1	2135321. 4	6046250. 4	37. 8457136	-122. 2851225		41. 03
VW-2	2135416. 9	6046252. 6	37. 8459762	-122. 2851214		42. 49
VW-3	2135395. 9	6046238. 8	37. 8459177	-122. 2851677		42. 38
VW-4	2135370. 9	6046316. 5	37. 8458532	-122. 2848969		42. 44
VW-5	2135367. 9	6046269. 8	37. 8458426	-122. 2850585		42. 29
B-1 B-2 B-3 B-4 B-5	2135284, 3 2135308, 4 2135323, 3 2135355, 4 2135381, 7	6046139. 2 6046133. 7 6046129. 8 6046122. 4 6046116. 4	37, 8456062 37, 8456721 37, 8457127 37, 8458004 37, 8458724	-122. 2855053 -122. 2855259 -122. 2855402 -122. 2855681 -122. 2855905		

\*\*NOTE: SITE FEATURES AND ALL WELLS DEPICTED ON THIS EXHIBIT WERE SURVEYED ON 12-15-10.



Former Mobile Station 99105 6301 San Pablo Ave. Oakland Alameda County California

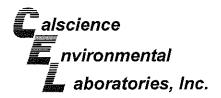


1255 Starboard Drive
West Sacramento
California 95691
(916) 372—8124
mark@morrowsurveying.com

Date: December, 2010
Scale: 1"=40'
Sheet 1 of 1
Field Survey: 12-15-10
Revised:
Field Book: MW-52
Dwg. No. 1893-070 MAM

# Appendix G

**Laboratory Analytical Reports and Chain-of-Custody Documentation** 





November 18, 2010

Hamidou Barry ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill. CA 94523-1850

Subject: Calscience Work Order No.: 10-11-0371

Client Reference: ExxonMobil 99105

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 11/4/2010 and analyzed in accordance with the attached chain-of-custody.

Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

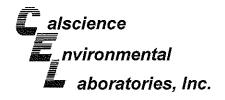
Note that the Chain-of-Custody Record and Sample Receipt Form are integral parts of this report.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Cecile & se Soia

Calscience Environmental Laboratories, Inc. Cecile deGuia Project Manager



## **Analytical Report**



ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method:

11/04/10 10-11-0371 **EPA 3550B** EPA 8015B (M)

Project: ExxonMobil 99105

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
VW1@5.5-6.0	10-11-0371-1-A	11/01/10 11:33	Solid	GC-48	11/05/10	11/07/10 04:27	101105B16

-Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Result MDL DF Qual <u>Units</u> Parameter <u>RL</u> ND 5.0 4.8 1 U mg/kg TPH as Diesel Qual Surrogates: REC (%) **Control Limits** Decachlorobiphenyl 113 61-145

11/07/10 101105B16 VW3@5.5-6.0 10-11-0371-2-A 11/01/10 Solid GC 48 11/05/10 04:42

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

-Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

<u>DF</u> Result <u>MDL</u> Qual <u>Units</u> <u>Parameter</u> RL ND 5.0 1 U mg/kg TPH as Diesel Qual Surrogates: **REC (%)** Control Limits 61-145 Decachlorobiphenyl 117

11/07/10 101105B16 11/02/10 09:25 Solid GC 48 11/05/10 10-11-0371-3-A VW2@5.5-6.0 04:57

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

-Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

DF Qual <u>Units</u> <u>MDL</u> Result <u>Parameter</u> U TPH as Diesel ND 5.0 4.8 1 mg/kg Qual Surrogates: REC (%) Control Limits 61-145 Decachlorobiphenyl 112

11/07/10 GC 48 11/05/10 101105B16 10-11-0371-4-A 11/02/10 Solid VW5@5.5-6.0 05:12

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

-Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

<u>Units</u> Result <u>MDL</u> DF Parameter RL mg/kg ND 5.0 4.8 U TPH as Diesel Qual

Surrogates: REC (%) Control Limits 108 61-145 Decachlorobiphenyl

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



## **Analytical Report**



ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: 11/04/10 10-11-0371 EPA 3550B EPA 8015B (M)

Project: ExxonMobil 99105

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
The second secon	10-11-0371-5-A	14:20	Solid		11/05/10	11/07/10 05:27	101105B16

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

-Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter Result <u>RL</u> **MDL** DF Qual <u>Units</u> ND 5.0 U TPH as Diesel 4.8 1 mg/kg Qual Surrogates: REC (%) Control Limits Decachlorobiphenvl 61-145 108

 Method Blank
 099-12-275-3,738
 N/A
 Solid
 GC 48
 11/05/10
 11/06/10
 101105B16

 22:06

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

<u>Parameter</u> Result <u>RL</u> <u>MDL</u> <u>DF</u> Qual <u>Units</u> U TPH as Diesel ND 5.0 4.8 mg/kg Qual Surrogates: REC (%) **Control Limits** Decachlorobiphenyl 63 61-145







11/09/10

18:49

11/09/10

101109B01

ETIC Engineering, Inc.						Date Received	:			11	/04/1	0
2285 Morello Avenue						Work Order No	o:			10-1	1-037	<b>'</b> 1
Pleasant Hill, CA 94523-	1850					Preparation:				EPA	5030	С
,						Method:				EPA	8021	В
						Units:					mg/k	
Project: ExxonMobil 991	05									Page	_	_
Troject. Exxonition of			1 - 2 - 0			Data Cina		Doto	Do	te/Time	. 0.	_
Client Sample Number			Lab Sa Num			Date/Time Collected Matrix	Instrumen	Date t Prepare		alyzed	QC Ba	tch ID
VW1@5.5-6.0	A Company of the Comp		10-11-	0371-	1-4	11/01/10 Solid	GC 21	11/09/1		/09/10 17:38	10110	9B01
Comment(s): -Results were ev	aluated to th	ne MDL. c	oncentrati	ons >=	to the i	MDL but < RL, if found, a	are qualified w	ith a "J" flag.				
<u>Parameter</u>	Result	RL	MDL	<u>DF</u>	Qual	<u>Parameter</u>	•	Result	<u>RL</u>	MDL	DE	<u>Qual</u>
Benzene	ND	0.0050	0.0012	1	U	Ethylbenzene		ND	0.0050	0.0011	1	U
Toluene	ND	0.0050	0.0012	1	U	Xylenes (total)		ND	0.010	0.0023	1	U
Surrogates:	REC (%)	Control Limits	Qua	<u>al</u>								
1,4-Bromofluorobenzene	98	51-129										
1,7 DIGITIONGOLODENZENE	50											
VW3@5.5-6.0	No. 2 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	The state of the s	10-11-	0371-2	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	11/01/10 Solid 14:25	GC 21	11/09/1		/09/10  5:51	101109	)B01
VW3@5.5-6.0		The second secon	And the second s		The second secon		The state of the s	Personal Control of the Control of t			10110	PB01 - WALLANDER
VW3@5.5-6.0		The second secon	And the second s		The second secon	14:25	The state of the s	ith a "J" flag.			<b>10110</b> 5	Grands <b>9B01</b> To the state of
VW3@5.5-6.0  Comment(s): -Results were ev	aluated to th	ne MDL, c	oncentrati	ons >=	to the i	14:25 ADL but < RL, if found, a	The state of the s	ith a "J" flag. <u>Result</u>	Commence of the control of the contr	15:51	<u>DF</u> 1	Ante man Marine of a 18 de la Colombia del Colombia de la Colombia de la Colombia del Colombia de la Colombia del Colombia de la Colombia del Colomb
VW3@5.5-6.0  Comment(s): -Results were every example of the comment of the commen	aluated to th	ne MDL, c	oncentrati <u>MDL</u>	ons >= <u>DF</u>	to the N	14:25  MDL but < RL, if found, a  Parameter	The state of the s	ith a "J" flag. <u>Result</u> ND	RL	15:51 <u>MDL</u>	DE	Qual
VW3@5.5-6.0  Comment(s): -Results were every example and the series of t	aluated to the Result	ne MDL, c RL 0.0050 0.0050	oncentrati MDL 0.0012	ons >= <u>DF</u> 1 1	to the N Qual U	14:25  MDL but < RL, if found, a  Parameter  Ethylbenzene	The state of the s	ith a "J" flag. <u>Result</u> ND	<u>RL</u> 0.0050	<b>MDL</b> 0.0011	<u>DF</u> 1	Qual  U
Comment(s): -Results were experiments  Parameter Benzene Toluene	aluated to tr <u>Result</u> ND ND	ne MDL, c RL 0.0050 0.0050 Control	oncentrati <u>MDL</u> 0.0012 0.0012	ons >= <u>DF</u> 1 1	to the N Qual U	14:25  MDL but < RL, if found, a  Parameter  Ethylbenzene	The state of the s	ith a "J" flag. <u>Result</u> ND	<u>RL</u> 0.0050	<b>MDL</b> 0.0011	<u>DF</u> 1	Qual  U
Comment(s): -Results were exparameter Benzene Toluene Surrogates:	aluated to the Result ND ND REC (%)	ne MDL, c RL 0.0050 0.0050 Control Limits	oncentrati <u>MDL</u> 0.0012 0.0012	ons >= <u>DF</u> 1 1	to the N Qual U U	14:25  MDL but < RL, if found, a  Parameter  Ethylbenzene	The state of the s	ith a "J" flag. <u>Result</u> ND	RL 0.0050 0.010	MDL 0.0011 0.0023	<u>DF</u> 1	Qual U U
Comment(s): -Results were exparameter Benzene Toluene Surrogates: 1,4-Bromofluorobenzene  VW2@5.5-6.0	aluated to the Result ND ND REC (%)	ne MDL, c RL 0.0050 0.0050 Control Limits 51-129	oncentrati MDL 0.0012 0.0012 Qua	ons >= <u>DF</u> 1 1	to the f	14:25  MDL but < RL, if found, a  Parameter  Ethylbenzene  Xylenes (total)	re qualified w	ith a "J" flag. <u>Result</u> ND ND	RL 0.0050 0.010	MDL 0.0011 0.0023	DF 1	Qual U U
Comment(s): -Results were exparameter Benzene Toluene Surrogates: 1,4-Bromofluorobenzene  VW2@5.5-6.0	aluated to the Result ND ND REC (%)	ne MDL, c RL 0.0050 0.0050 Control Limits 51-129	oncentrati MDL 0.0012 0.0012 Qua	ons >= <u>DF</u> 1 1	to the f	14:25  MDL but < RL, if found, a Parameter Ethylbenzene Xylenes (total)  11/02/10 Solid 09:25	re qualified w	ith a "J" flag. Result ND ND 11/09/10	RL 0.0050 0.010	MDL 0.0011 0.0023	DF 1	Qual U U
Comment(s): -Results were every example of the series of t	aluated to the Result ND ND REC (%) 91	ne MDL, c RL 0.0050 0.0050 Control Limits 51-129	oncentrati MDL 0.0012 0.0012 Qua 10-11- oncentrati MDL 0.0012	ons >= <u>DF</u> 1 1 0371-3 ons >= <u>DF</u> 1	to the N	14:25  MDL but < RL, if found, a  Parameter Ethylbenzene Xylenes (total)  11/02/10 09:25  MDL but < RL, if found, a	re qualified w	ith a "J" flag. Result ND ND 11/09/10 th a "J" flag. Result	RL 0.0050 0.010	MDL 0.0011 0.0023 (09/10 8:13 MDL 0.0011	DF 1 1 101109	Qual U U Qual U
Comment(s): -Results were every example of the series of t	aluated to the Result ND ND REC (%) 91	ne MDL, c RL 0.0050 0.0050 Control Limits 51-129	oncentrati  MDL 0.0012 0.0012 Qua  10-11-	ons >= <u>DF</u> 1 1 1 0371-3 ons >= <u>DF</u>	to the N	14:25  MDL but < RL, if found, a Parameter Ethylbenzene Xylenes (total)  11/02/10 Solid 09:25  MDL but < RL, if found, a Parameter	re qualified w	ith a "J" flag. Result ND ND 11/09/10 th a "J" flag. Result ND	RL 0.0050 0.010 <b>)</b> 11.	MDL 0.0011 0.0023 /09/10 8:13	DF 1 1	Qual U U

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

10-11-0371-4-A

<u>RL</u> <u>MDL</u> <u>DF</u> Qual <u>Parameter</u> RL<u>MDL</u> <u>DF</u> <u>Qual</u> <u>Result</u> <u>Result</u> <u>Parameter</u> ND 0.0050 0.0012 1 U Ethylbenzene ND 0.0050 0.0011 1 U Benzene 1 Toluene ND 0.0050 0.0012 U Xylenes (total) ND 0.010 0.0023 U

11/02/10 11:00

Solid

GC 21

Surrogates: REC (%) Control Qual Limits

90

1,4-Bromofluorobenzene 93 51-129

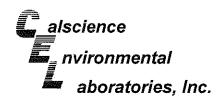
RL - Reporting Limit ,

1,4-Bromofluorobenzene

VW5@5.5-6.0

DF - Dilution Factor

51-129





ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received:
Work Order No:
Preparation:
Method:
Units:

10-11-0371 EPA 5030C EPA 8021B mg/kg

11/04/10

Project: ExxonMobil 99105

1,4-Bromofluorobenzene

Page 2 of 2

Client Sample Number			Lab Sa Num			Date/Time Collected Matrix	Instrument	Dat Prepa		e/Time alyzed	QC Bat	ich ID
VW4@5.5-6.0			10-11-	0371-5			GC 21			/09/10 9:24	101109	B01
Comment(s): -Results were eva	aluated to th	ne MDL, c	oncentratio	ons >=	to the M	/IDL but < RL, if found, a	e qualified wi	th a "J" fla	g.			
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qual	<u>Parameter</u>		<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qual</u>
Benzene	ND	0.0050	0.0012	1	U	Ethylbenzene		0.0050	0.0050	0.0011	1	
Toluene	ND	0.0050	0.0012	1	U	Xylenes (total)		0.0050	0.010	0.0023	1	J
Surrogates:	REC (%)	Control Limits	Qua	<u>l</u>								

Method Blank 099.12.557.551 N/A Solid GC.21 11/09/10 10/109801
E-MAHO-BIAND
Method Blank 099-12-657-651 N/A Solid GC-21 11/09/10 11/09/10 101109B01
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

Commont(e).	-Populte were evaluated to the MOI	, concentrations >= to the MDL but < RL	if found are qualified with a " l" flag
Commongs.	-17conito Mete evaluated to the INDE	, concentrations > to the MDL but > IXL	, is loutiu, are quasined with a 3 may.

51-129

<u>Parameter</u>	Result	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qual</u>	<u>Parameter</u>	Result	<u>RL</u>	MDL	DF	Qual
Benzene	ND	0.0050	0.0012	1	U	Ethylbenzene	ND	0.0050	0.0011	1	U
Toluene	ND	0.0050	0.0012	1	U	Xylenes (total)	ND	0.010	0.0023	1	U

Surrogates: REC (%) Control Qual Limits

98

1,4-Bromofluorobenzene 97 51-129

RL - Reporting Limit . 7440





ETIC Engineering, Inc. 2285 Morello Avenue

Pleasant Hill, CA 94523-1850

Date Received:

11/04/10 Work Order No: 10-11-0371

Preparation:

**EPA 5030C** 

Method:

EPA 8015B (M)

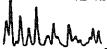
Project: ExxonMobil 99105

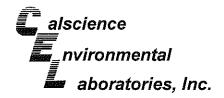
Page 1 of 2

Floject. Exxonivioni 9	9105									age rorz
Client Sample Number		Lab Samp Number	Lab Sample Number 10-11-0371-1-A		Matrix	Instru	ment	Date Prepared	Date/Time Analyzed 11/09/10 21:52	QC Batch IE
VW1@5.5-6.0	1@5.5-6.0				Solid	GC	4	11/09/10		101109B01
Comment(s): -Results were ev	aluated to the MDI	., concentrations >	= to the	MDL but < RL,	if found,	are qualif	ed with	a "J" flag.		·
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>		<u>Qual</u>	<u>u</u>	<u>nits</u>		
TPH as Gasoline	ND	0.50	0.42	1		U	mg	/kg		
Surrogates:	REC (%)	Control Limits				Qual				
1,4-Bromofiuorobenzene	83	42-126								
VW3@5.5-6.0		10-11-03	71-2-A	11/01/10 14:25	Solid	The second secon	A	11/09/10	11/09/10 22:24	101109B01
Comment(s): -Results were ev	aluated to the MDL	., concentrations >	= to the I	VIDL but < RL,	if found,	are qualifi	ed with	a "J" flag.		
Parameter Parameter	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>		Qual	<u>Uı</u>	nits		
TPH as Gasoline	ND	0.50	0.42	1		U	mg	/kg		
Surrogates:	REC (%)	Control Limits				<u>Qual</u>				
1,4-Bromofluorobenzene	83	42-126								
VW2@5.5-6.0		10-11-037	71-3-A	11/02/10 09:25	Solid	GC	4	11/09/10	11/09/10 22:57	101109B01
Comment(s): -Results were ev	aluated to the MDL	., concentrations >=	to the f	VIDL but < RL,	if found,	are qualifi	ed with	a "J" flag.		
Parameter Parameter	<u>Result</u>	<u>RL</u>	<u>MDL</u>	DF		<u>Qual</u>	<u>U</u>	<u>nits</u>		
TPH as Gasoline	ND	0.50	0.42	1		U	mg.	/kg		
Surrogates:	REC (%)	Control Limits				Qual				
1,4-Bromofiuorobenzene	85	42-126								
VW5@5.5-6.0		10-11-037	'1-4-A	11/02/10 11:00	Solid	GC	4	11/09/10	11/09/10 23:29	101109B01
The second secon										
Comment(s): -Results were eva	aluated to the MDL	, concentrations >=	to the N	/IDL but < RL,	if found,	are qualific	ed with	a "J" flag.		
Comment(s): -Results were eva	aluated to the MDL <u>Result</u>	, concentrations >= <u>Rt.</u>	to the M	ADL but < RL, <u>DF</u>		are qualific <u>Qual</u>		a "J" flag. i <u>its</u>		
								<u>iits</u>		
<u>Parameter</u>	Result	<u>RL</u>	MDL	<u>DF</u>		Qual	<u>Ur</u>	<u>iits</u>		

RL - Reporting Limit ,

DF - Dilution Factor ,







ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method:

mg/kg

11/04/10 10-11-0371 EPA 5030C EPA 8015B (M)

Project: ExxonMobil 99105

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
VW4@5,5-6,0		11/02/10 14:20		<b>G6</b> 4		11/10/10 00:01	101109B01

Comment(s): -The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard.

Quantitation of the unknown hydrocarbon(s) in the sample was based upon the specified standard.

-Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if round\_arequalified with a "J" flag:

<u>Parameter</u> Result <u>RL</u> <u>iviDL</u> <u>DF</u> <u>Units</u> TPH as Gasoline 3.7 0.50 0.42 mg/kg <u>Qual</u> Surrogates: REC (%) Control Limits 1,4-Bromofluorobenzene 87 42-126

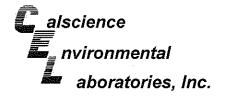
Method Blank		nga	12-279-4 078 K	I/A Sc	uid GC	4 11/09/1	n 11/09/10	101109B01
Carlot Control							10:34	101103001
The state of the s	deli i i i i i i i i i i i i i i i i i i	And the second s	And And Andrea Comment of the control of the contro		And Annual Control of the Control of		has the second of the second o	ment in the second of the second
Comment(s): -Results were e	evaluated to the MD	L, concentration	ons >= to the MDL t	out < RL, if for	und, are qualifi	ed with a "J" flag		
Darameter	Desult		MDI	DF	Oual	Linito		
<u>Parameter</u>	<u>Result</u>	RL	<u>MDL</u>	<u>0r</u>	Qual	<u>Units</u>		

TPH as Gasoline ND 0.50 0.42 1 U

Surrogates: REC (%) Control Limits Qual

1,4-Bromofluorobenzene - FID 93 42-126







ETIC Engineering, Inc. 2285 Morello Avenue

Pleasant Hill, CA 94523-1850

Date Received:

11/04/10

Work Order No:

10-11-0371

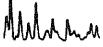
Preparation:

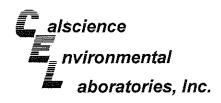
**EPA 5030C** 

Mothod

						Method:			EPA 8	3260	В
						Units:				mg/k	a
Project: ExxonMobil 99	105								Page	_	-
1 roject. Exxemment of			1 .1. 0			D 1.7	5.1			1 01	_
Client Sample Number			Lab Sa Num			Date/Time Collected Matrix Instrumen	Dat <sup>t</sup> Prepa		te/Time alyzed	QC Bat	tch ID
VW1@5.5-6.0		And the second s	10-11-	0371-	1-A	11/01/10 Solid GC/MS V 11:33	V 11/04		/06/10 18:09	101106	SL01
Comment(s): -Results were	evaluated to ti	he MDL, d	concentrati	ons >:	= to the N	MDL but < RL, if found, are qualified w	ith a "J" fla	q.			
<u>Parameter</u>	Result	RL	MDL	<u>DF</u>	Qual	Parameter	Result	<u>RL</u>	MDL	DF	Quai
1,2-Dibromoethane	ND	0.0050	0.00025		U	Diisopropyl Ether (DIPE)	ND	0.010	0.00034	_	U
1,2-Dichloroethane	ND	0.0050	0.00026	1	Ū	Ethyl-t-Butyl Ether (ETBE)	ND	0.010	0.00028		Ũ
Methyi-t-Butyi Ether (MTBE)	ND	0.0050	0.00025	1	U	Tert-Amyl-Methyl Ether (TAME)	ND	0.010	0.00026	: 1	U
Tert-Butyl Alcohol (TBA)	ND	0.050	0.022	1	U	, , ,					
Surrogates:	REC (%)	Control Limits	Qua	<u>ul</u>		Surrogates:	REC (%)	Control Limits	Qu	<u>al</u>	
Dibromofluoromethane	104	63-141				1,2-Dichloroethane-d4	100	62-146			
Toluene-d8	99	80-120				1,4-Bromofluorobenzene	97	60-132			
VW3@5.5-6:0	The state of the s	A CANADA A C	10-11-	0374-	American Samuel	11/01/10 Solid GC/MS V \ 14:25	/ 1		06/10 1 5:31	101106	EQT such the
Comment(s): -Results were e	evaluated to the	ne MDL, c	oncentration	ons >=	to the N	ADL but < RL, if found, are qualified w	ith a "J" fla	<b>g</b> .			
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qual</u>	<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qual</u>
1,2-Dibromoethane	ND	0.0050	0.00025	1	U	Diisopropyl Ether (DIPE)	ND	0.010	0.00034	1	U
1,2-Dichloroethane	ND	0.0050	0.00026	1	U	Ethyl-t-Butyl Ether (ETBE)	ND	0.010	0.00028	1	Ų
Methyl-t-Butyl Ether (MTBE)	ND	0.0050	0.00025	1	U	Tert-Amyl-Methyl Ether (TAME)	ND	0.010	0.00026	1	Ų
Tert-Butyi Alcohol (TBA)	ND	0.050	0.022	1	U						
Surrogates:	REC (%)	Control Limits	<u>Qua</u>	<u>!</u>		Surrogates:	<u>REC (%)</u>	Control Limits	Qua	<u>al</u>	
Dibromofiuoromethane	105	63-141				1,2-Dichloroethane-d4	102	62-146			
Toluene-d8	99	80-120				1,4-Bromofluorobenzene	97	60-132			
VW2@5.5-6.0		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10-11-0	371-3		11/02/10 Solid GC/MS V V 09:25	1104/		06/10 1 8:36	01106	A STATE OF THE STA
Comment(s): -Results were e	valuated to th	e MDL, c	oncentratio	กร >=	to the M	IDL but < RL, if found, are qualified wi	th a "J" flag	l <sub>-</sub>			
Parameter	Result	<u>RL</u>	MDL	<u>DF</u>	<u>Qual</u>	Parameter	Result	RL	MDL	DF	Qual
1,2-Dibromoethane	ND	0.0050	0.00025	1	U	Diisopropyl Ether (DIPE)	ND	0.010	0.00034	1	U
1,2-Dichloroethane	ND	0.0050	0.00026	1	U	Ethyl-t-Butyl Ether (ETBE)	ND	0.010	0.00028	1	U
Methyl-t-Butyl Ether (MTBE)	ND	0.0050	0.00025	1	U	Tert-Amyl-Methyl Ether (TAME)	ND	0.010	0.00026	1	U
Tert-Butyl Alcohol (TBA)	ND	0.050	0.022	1	U	, ,	•				
Surrogates:	REC (%)	Control Limits	Qual			Surrogates:	REC (%)	Control Limits	<u>Qua</u>	<u>l</u>	
Dibromofluoromethane	105	63-141				1,2-Dichlorcethane-d4	102	62-146			
Toluene-d8	100	80-120				1,4-Bromofluorobenzene	97	60-132			
						.,					

DF - Dilution Factor ,







ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: 11/04/10 10-11-0371 EPA 5030C EPA 8260B

r leasant rilli, OA 34323	1000					roparat	1011.						_
						Method: EPA 8260B					3		
						Units:						mg/k	a
Dustant Franklichii 000	IOE											_	•
Project: ExxonMobil 991	เบอ										Page	Z 01 .	_
			Lab Sa	mple		Date/Time			Date	e Dat	e/Time		_
Client Sample Number			Num			Collected	Matrix	Instrument	Prepa	red An	alyzed <sup>(</sup>	QC Bat	ch ID
**************************************	1111 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Control of the second s	10-11-	1274	**************************************	11/02/10	Solid	GC/MS V V	11/04/	in 11	/06/10	101106	101
1   1   2   2   3   3   3   3   3   3   3   3	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				11:00	The same of the same	Figure 1 and 1 and 2 and	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		9:02		7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7
Section for the Control of Section 1. From No. 115 Section 1. Sect				* * * * * * * * * * * * * * * * * * * *									
Comment(s): -Results were ev	aluated to th						f found, ar	e qualified wit				·	<b>.</b> .
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	MDL	<u>DF</u>	<u>Qual</u>	<u>Parameter</u>			<u>Result</u>	<u>RL</u>	MDL.	<u>DF</u>	Qual
1,2-Dibromoethane	ND	0.0050	0.00025	1	Ų	Diisopropyl Et	•	•	ND	0.010	0.00034		U
1,2-Dichloroethane	ND.	0.0050	0.00026		Ü	Ethyl-t-Butyl E	•	•	ND	0.010	0.00028		U
Methyl-t-Butyl Ether (MTBE)	ND	0.0050	0.00025	1	Ü	Tert-Amyl-Me	thyl Ether	(TAME)	ND	0.010	0.00026	1	U
Tert-Butyl Alcohol (TBA)	ND	0.050	0.022	1	Ų								
Surrogates:	REC (%)	Control	Qua	I		Surrogates:			<b>REC (%)</b>	Control	Qua	<u>al</u>	
<u></u>	<u>,,</u>	Limits		-						Limits			
Dibromofluoromethane	108	63-141				1,2-Dichloroel	than <del>e-d4</del>		106	62-146			
Toluene-d8	100	80-120				1,4-Bromofluc	robenzen	е	99	60-132			
				and Se Vi	TT65 (T. 1993)		CONTRACTORIANA		77 1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				ALGO SW
VW4@5.5-6.0	**************************************	(100 to 100 to 1	10-11-0	)371- <del>(</del>	JA III	11/02/10	Solid	GC/MS V V	11/04/		06/10	101106	L01
11 million 12 million		A to the second		N de		14:20					9:29		
Comment(s): -Results were ev	aluated to th	ne MDL ic	oncentratio	nns >=	to the N	//DI but < RI if	found, an	e qualified wit	h a "J" flac	I.			
Parameter	Result	RL RL	MDL	DF	Qual	Parameter	,	- 1	Result	RL	MDL	DF	Qual
***************************************		0.0050	0.00025	1	U	Diisopropyl Et	hor (DIDE	`	ND	0.010	0.00034		U
1,2-Dibromoethane	ND ND	0.0050	0.00025	1	U	Ethyl-t-Butyl E	•		ND	0.010	0.00028		Ü
1,2-Dichloroethane	ND ND	0.0050	0.00025	1	U	Tert-Amyl-Mei	•		ND	0.010	0.00026		U
Methyl-t-Butyl Ether (MTBE)	ND .	0.0050	0.00025	1	U	i eit-Airiyi-ivie	iliyi Eulei	(TAIVIL)	ND	0.010	0.00020	•	0
Tert-Butyl Alcohol (TBA)	ND		0.022	,	U						_		
Surrogates:	REC (%)		Qua	<u>l</u>		Surrogates:			REC (%)		<u>Qua</u>	<u>al</u>	
		<u>Limits</u>								<u>Limits</u>			
Dibromofluoromethane	105	63-141				1,2-Dichloroet			101	62-146			
Toluene-d8	102	80-120				1,4-Bromofluo	robenzene	•	100	60-132			
	A GODEN BLOG					A CONTROL OF THE PARTY OF THE P		COMENIA	11/06/1	<b>6</b> 11/	06/10 1	011061	04
Method Blank		A Committee of the Comm	099-12	796-4	,080	NA	Solid	GC/MS V V	FIVO		5:04	V I IVOI	
							1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -						
Comment(s): -Results were ev	aluated to th	e MDL, co	oncentratio	ns >=	to the M	fDL but < RL, if	found, are	e qualified with	n a "J" flag				
<u>Parameter</u>	Result	<u>RL</u>	<u>MDL</u>	DF	Qual	<u>Parameter</u>			Result	<u>RL</u>	MDL	<u>DF</u>	Qual
1,2-Dibromoethane	ND	0.0050	0.00025	1	U	Diisopropyl Eti	her (DIPE)	)	ND	0.010	0.00034	1	U
1,2-Dichloroethane	ND	0.0050	0.00026	1	U	Ethyl-t-Butyl E	ther (ETB	E)	ND	0.010	0.00028	1	U
Methyl-t-Butyl Ether (MTBE)	ND	0.0050	0.00025	1	U	Tert-Amyl-Met	hyl Ether (	(TAME)	ND	0.010	0.00026	1	U
Tert-Butyl Alcohol (TBA)	ND	0.050	0.022	1	U	-		-					
• • • •	DEC /9/\	Control	Ougl			Surrogates:			REC (%)	Control	Qua	ı	
Surrogates:	REC (%)	Limits	Qual			<u>ounogates.</u>			1.LO (70)	Limits	<u>uzuc</u>	ш	
Dibramaficaramathana	102	63-141				1,2-Dichloroeth	hano.da		99	62-146			
Dibromofluoromethane		80-120				1,2-Dichloroea			98	60-132			
Toluene-d8	99	00-120				1,44-DIO!!!O!!U!!	ionelizelle	<del>,</del>	<i>5</i> 0	00-102			

RL - Reporting Limit ,

DF - Dilution Factor ,





ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: 11/04/10 10-11-0371 EPA 3550B EPA 8015B (M)

### Project ExxonMobil 99105

Quality Control Sample ID	Matrix	Instrument	Date Prepared	4	Date Analyzed	MS/MSD Batch Number
10-11-0475-79	Solid	GC 48	11/05/10	The second secon	11/06/10	101105\$16
<u>Parameter</u>	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	100	112	64-130	11	0-15	

•

RPD - Relative Percent Difference,

CL - Control Limit





ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: 11/04/10 10-11-0371 EPA 5030C EPA 8021B

#### Project ExxonMobil 99105

Quality Control Sample ID	Matrix	Instrument	Date Prepare	ed /	Date Analyzed	MS/MSD Batch Number
VW3@5.5-6.0	Solid	GC21	11/09/10	former of the property of the property of	11/09/10	101109501
<u>Parameter</u>	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	105	106	58-118	1	0-24	
Toluene	96	97	61-109	1	0-20	
Ethylbenzene	95	96	59-113	1	0-20	
Xylenes (total)	95	97	56-110	2	0-20	

KPD - Kelative Percent Difference

CL - Control Limit





ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: 11/04/10 10-11-0371 EPA 5030C EPA 8015B (M)

#### Project ExxonMobil 99105

Quality Control Sample ID	Matrix	Instrument	Date Prepare		Analyzed	MS/MSD Batch Number
10-11-0701-1	Solid	GC4	-11/09/10	For a price of the specific sp	11/09/10	101109801
<u>Parameter</u>	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	<u>Qualifiers</u>
TPH as Gasoline	89	89	48-114	0	0-23	

Muhan\_

ice, CL - Control Limit





ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: 11/04/10 10-11-0371 EPA 5030C EPA 8260B

#### Project ExxonMobil 99105

Quality Control Sample ID	Matrix	Instrument	Date Prepare	d	Date Analyzed	MS/MSD Batch Number
VW3@5.5-8.0	Solid	GC/MS V V	11/04/10	Parties Andrews	11/06/10	_101106801
Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,2-Dibromoethane	94	96	64-124	2	0-20	
1,2-Dichloroethane	92	91	80-120	1	0-20	
Methyl-t-Butyl Ether (MTBE)	87	88	57-123	1	0-21	
Tert-Butyl Alcohol (TBA)	92	90	30-168	2	0-34	
Diisopropyl Ether (DIPE)	89	87	57-129	3	0-20	
Ethyl-t-Butyl Ether (ETBE)	93	91	55-127	3	0-20	
Tert-Amyl-Methyl Ether (TAME)	90	89	58-124	2	0-20	
Ethanol	93	89	17-167	4	0-47	

RPD-Relai





ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: N/A 10-11-0371 EPA 3550B EPA 8015B (M)

Project: ExxonMobil 99105

Quality Control Sample ID	Matrix In	nstrument	Date Prepared	Date Analyzed	LCS/LCSD Bat Number	ch
099-12-275-3;738	Solid	GC 48	11/05/10	11/06/10	101105B16	Additional continues and the second of the s
<u>Parameter</u>	LCS %REC	LCSD %F	REC %RE	C CL RPD	RPD CL	Qualifiers
TPH as Diesel	97	92	75-	123 6	0-12	

Muhm





ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: N/A 10-11-0371 EPA 5030C EPA 8021B

Project: ExxonMobil 99105

Quality Control Sample ID	Matrix Ir	nstrument	Date Prepared	Date Analyzed	LCS/LCSD Bate Number	ch
099-12-657-651	Solid	GC 21	11/09/10	11/09/10	101109B01	The state of the s
<u>Parameter</u>	LCS %REC	LCSD %RE	<u>C %REC</u>	CL RPD	RPD CL	Qualifiers
Benzene	109	110	70-11	8 1	0-7	
Toluene	102	102	71-10	7 0	0-8	
Ethylbenzene	101	101	66-12	0 0	0-7	
Xylenes (total)	101	101	66-11	4 0	8-0	

<u>Muha</u>



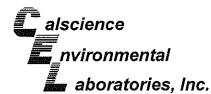


ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: N/A 10-11-0371 EPA 5030C EPA 8015B (M)

Project: ExxonMobil 99105

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Bato Number	:h
099-12-279-4,078	Solid	GC 4	11/09/10	11/09/10	101109B01	1
<u>Parameter</u>	LCS %	REC LCSD	%REC %R	EC CL RPI	D RPD CL	Qualifiers
TPH as Gasoline	108	108	3 70	0-124 0	0-18	

Muhn





ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: N/A 10-11-0371 EPA 5030C EPA 8260B

Project: ExxonMobil 99105

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Bat Number	ch
099-12-796-4,080	Solid	GC/MS V V	11/06/10	11/06/10	101106L01	The second secon
<u>Parameter</u>	LCS %RE	C LCSD %	REC %REC	CCL RPD	RPD CL	<u>Qualifiers</u>
1,2-Dibromoethane	105	106	80-	120 1	0-20	
1,2-Dichloroethane	99	101	-08	120 1	0-20	
Methyl-t-Butyl Ether (MTBE)	96	99	77-	120 3	0-20	
Tert-Butyl Alcohol (TBA)	97	96	68-	122 2	0-20	
Diisopropyl Ether (DIPE)	92	94	78-	120 3	0-20	
Ethyl-t-Butyl Ether (ETBE)	98	100	78-	120 2	0-20	
Tert-Amyl-Methyl Ether (TAME)	97	100	75-	120 2	0-20	
Ethanol	93	90	56-	140 3	0-20	

RPD - Rela



## Glossary of Terms and Qualifiers



Work Order Number: 10-11-0371

Qualifier	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution,
	therefore, the sample data was reported without further clarification.
2	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.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out
	of control due to matrix interference. The associated LCS and/or LCSD was in control
	and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD
_	was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control
	due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
	Compound did not meet method-described identification guidelines. Identification was
I	based on additional GC/MS characteristics.
J	Analyte was detected at a concentration below the reporting limit and above the
Ü	laboratory method detection limit. Reported value is estimated.
ME	LCS recovery percentage is within LCS ME control limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	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.
U	Undetected at detection limit.
Χ	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not
	corrected for % moisture.

Calscience
Environmental
Laboratories, inc.

7440 LINCOLN WAY

GARDEN GROVE, CA 92841-1432

TEL: (714) 895-5494 . FAX: (714) 894-7501

Site Name	
Provide MRN for retail or	AY E for major projects
Retail Project (MRN)	
Major Project (AFE)	E1.1996.60135
D	4-1-1-00405

**CHAIN OF CUSTODY RECORD** 

DATE:		11	12	110	
PAGE:	1	OF	-	1	****

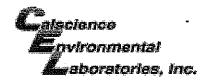
ExxonMobil Engr:	Project Na			mer M			and any and the second and				
LABORATORY CLIENT:  ExxonMobil c/o ETIC Engineering  ADDRESS:				COELT LOG		NAOSS	***************************************		••••••••••••••••••••••••••••••••••••••		P.O. <b>4512012692</b>
2285 Morello Avenue			JECT CO	L ID# 7	06007	U1855			<del></del> -		LAB USE ONLY
CITY:		l <sub>Ha</sub>	amide	vu Rarr	v FTIC	Engin	eering, l	20			11-0377
Pleasant Hill, CA 94523		SAME	PLER(S):	(SIGNATU	<b>y, L</b> 110	<u> </u>	eemg, n		:		COOLER RECEIPT
925-602-4710 Ext. 34 925-602-4720 TURNAROUND TIME				(				·····			Temp≃°C
SAME DAY 24 HR 48 HR 72 HR 5 DAYS  SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)	☑ 10 DAYS						REQI	JESTED	AMA	LYSI	S
RWQCB REPORTING ARCHIVE SAMPLES UNTIL  SPECIAL INSTRUCTIONS:	/	3(M)		8260B							
edf file required, GLOBAL ID# T0600101855 email report to eticlabreports@eticeng.com * 7 Oxygenates include MTBE, TBA, TAME, ETBE, DIPE, EDB, AND LOCATION/ SAMPLING	No. of	TPH-g/TPH-d BY 8015B(M)		OXYGENATES* BY						V. (2)	
USE SAMPLE ID LOCATION/ DESCRIPTION DATE TIM	MAT- CONT.	TPH	BTE	Š							CONTAINER TYPE
1 WIGGS-60 11/1/10 1/3	Soil 1	X	X	X					_		6" ss sleeve
2 VW3055-60 11/1/10 142	Soil 1	Х	Х	Х							6" ss sleeve
> VW2055-60 U/2/10 072	5 Soil 1	Х	Х	X					1	-	6" ss sleeve
4 VW5@55-6.0 1110		Х		Х							6" ss sleeve
S VW405.5-6.0 14:	20 Soil 1	Х	X	х						ļ	6" ss sleeve
						-			-		
									-		
Relinquished by: (Signature)  Received by: (Signature)  Received by: (Signature)		<b></b>	<u>^</u>	lle	y. (	160	,			·	Date, & Time: 1/3/10 /235 Date, & Time:
Relinquished by: (Signature)  COC\99105 COC soil								M	(La)	<b>V</b>	11 4/10 1020





A SECRETAR OF EACH OF SERVICE CONFIDENCE PROPERTY OF SERVICE PROPE

Package 1 of 1



WORK ORDER #: 10-11- 2 3 7

## SAMPLE RECEIPT FORM

Cooler | of | ETIC DATE: 11/04/10 CLIENT: TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C - 6.0 °C, not frozen) Temperature 3  $\cdot$  1 °C + 0.5 °C (CF) = 3  $\cdot$ 6 °C Blank ☐ Sample ☐ Sample(s) outside temperature criteria (PM/APM contacted by: ). ☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling. ☐ Received at ambient temperature, placed on ice for transport by Courier. Ambient Temperature: 

Air ☐ Filter Initial: CUSTØDY SEALS INTACT: €Cooler ☐ No (Not Intact) □ Not Present □ N/A ☑ Not Present □ Sample ☐ No (Not Intact) Initial: SAMPLE CONDITION: Yes No N/A Chain-Of-Custody (COC) document(s) received with samples..... COC document(s) received complete...... ☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels. ☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished. Sampler's name indicated on COC..... Sample container label(s) consistent with COC..... Sample container(s) intact and good condition..... Proper containers and sufficient volume for analyses requested.....  $\Box$ Analyses received within holding time..... pH / Residual Chlorine / Dissolved Sulfide received within 24 hours...... Proper preservation noted on COC or sample container...... ☐ Unpreserved vials received for Volatiles analysis Volatile analysis container(s) free of headspace...... □ Tedlar bag(s) free of condensation..... **CONTAINER TYPE:** Solid: □4ozCGJ □8ozCGJ □16ozCGJ ☑Sleeve (\_5 ) □EnCores® □TerraCores® □ Water: □VOA □VOAh □VOAna₂ □125AGB □125AGBh □125AGBp □1AGB □1AGBna₂ □1AGBs □500AGB □500AGJ □500AGJs □250AGB □250CGB □250CGBs □1PB □500PB □500PBna □250PB □250PBn □125PB □125PBznna □100PJ □100PJna<sub>2</sub> □ □ Air: □Tedlar® □Summa® Other: □ Trip Blank Lot#:\_\_\_\_\_ Labeled/Checked bv: WG Container: C: Clear- A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: Preservative: h: HCL n: HNO<sub>3</sub> na<sub>2</sub>:Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> na: NaOH p: H<sub>3</sub>PO<sub>4</sub> s: H<sub>2</sub>SO<sub>4</sub> znna: ZnAc<sub>2</sub>+NaOH f: Field-filtered Scanned by: X

of the control of the

SOP T100 090 (09/13/10)





December 07, 2010

Hamidou Barry 🛼 🛹 📑 ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850

Subject: Calscience Work Order No.: 10-11-0370

Client Reference:

ExxonMobil 99105

#### Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 11/04/2010 and analyzed in accordance with the attached chain-of-custody.

Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

Note that the Chain-of-Custody Record and Sample Receipt Form are integral parts of this report.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Pecile & se Soia

Calscience Environmental Laboratories, Inc. Cecile deGuia **Project Manager** 

alscience pylranmental aboratories, inc.

ExxonMobil Engr:

7440 LINCOLN WAY

GARDEN GROVE, CA 92841-1432

TEL: (714) 895-5494 . FAX: (714) 894-7501

Site Name		
Provide MRN to	netalkor.	ALE for major projects
Retail Project (M	IRN)	
Major Project (A		E1.1996.60135
Proiect Name	Former	Mabil 99105

**CHAIN OF CUSTODY RECORD** 

DATE:	1	1/2	2/10
PAGE:	1	OF	1

LABORATORY CLIENT:					GLOPA	L ID#/ CO	FLTLOG	CODE						***		
ExxonMobil c/o ETIC E	ngineering				1											P.O.
2285 Morello Avenue						LOBAL		T0600	1018	55						4512012692
CITY:	***************************************				┧╻	mida		FT	10 F.	•						LABUSE ONLY
Pleasant Hill, CA 94523	3				SAME	LER(S): (S	IGNATU	ry, EI RE)	IC En	gineer	ing, inc	<del>).</del>				COOLER RECEIPT
TEL: 925-602-4710 Ext. 34 TURNAROUND TIME	925-602-4720															Temp = °C
SAME DAY 24 HR	□ 48 HR □ 72 HF	R 🔲 5 DA	YS ☑1	LO DAYS							REQU	JESTE	D AN	ALY	SIS	
RWQCB REPORTING	ARCHIVE SAMPLES U	NTIL/			ВУ											
edf file required, GLOE email report to eticlabre	BAL ID# T0600101855 ports@eticeng.com				CONTENT	POROSITY AND BULK DENSITY BY API RP40										
LAB USE SAMPLE ID ONLY	LOCATION/ DESCRIPTION	SAMP DATE	LING TIME	MAT- CONT	MOISTURE ( D2216	POROS										CONTAINTO TYPE
1 VW 1@5.0-5.5		11/1/10	1125	Soil 1	Х	Х										CONTAINER TYPE 6" ss sleeve
2 VW2050-55			1415	Soil 1	Х	X						_				6" ss sleeve
7 VW2050-95		11/2/10	920	Soil 1	Х	Х										6" ss sleeve
			1055	Soil 1	Х	X										6" ss sleeve
3 VW465.0-55		<u> </u>	1415	Soil 1	X	X										6" ss sleeve
		······				<u> </u>										
					↓											
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					<del> </del>	<del> </del>	╂┈┼									
Relinquished by: (Signature)			<u> </u>	Received by:	(Signatur	e)		, 0	257	<u> </u>						Date, & Tinge:
Relinquished by; (Signature)				Received by:	Signatur		Lly	1	<u> </u>	· · · · · · · · · · · · · · · · · · ·				:		Date & Time: 1235
Retiriodished by: (Signature)	680 11-3-	10 17	30	Received by:					····			Jy,	2/1	ab		11/4/10 1030
CUC\99105 COC soil						,						10	1			Date, & Time:

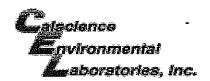
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11.4 - 12.4



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Package 1 of 1



WORK ORDER #: 10-11-0 3 7 0

# PLE RECEIPT FORM Cooler 1 of 1

CLIENT: ETTC	DATE:	11/04/10
TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen)		i kang saman kang uga man merikata pelagah kang sama sa man sama menanta
Temperature $3 \cdot 1 ^{\circ}C + 0.5 ^{\circ}C (CF) = 3 \cdot 6 ^{\circ}C$	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 samplir	ng,
☐ Received at ambient temperature, placed on ice for transport by Cou	rier.	
Ambient Temperature: 🗆 Air 🕒 Filter	÷	Initial: <u></u>
ALLOWANIA ALLOWANIA		and the second s
CUSTODY SEALS INTACT:	- N/A	10
□ Cooler □ □ No (Not Intact) □ Not Present	□ N/A	Initial:
□ Sample □ □ No (Not Intact) ☑ Not Present		Initial: <u>WZ</u>
SAMPLE CONDITION:	es	No N/A
Chain-Of-Custody (COC) document(s) received with samples	<u> </u>	· •
COC document(s) received complete		
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.		
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.		
Sampler's name indicated on COC	7	
Sample container label(s) consistent with COC		
Sample container(s) intact and good condition	-	
Proper containers and sufficient volume for analyses requested E		
Analyses received within holding time		
pH / Residual Chlorine / Dissolved Sulfide received within 24 hours		
Proper preserved viola received for Valetiles applying	-J	لسا ها
☐ Unpreserved vials received for Volatiles analysis	7	
Volatile analysis container(s) free of headspace		
Tedlar bag(s) free of condensation  CONTAINER TYPE:		
Solid: □4ozCGJ □8ozCGJ □16ozCGJ ☑Sleeve (S) □EnCores®	□TerraC	ores <sup>®</sup> □
Water: □VOA □VOAh □VOAna₂ □125AGB □125AGBh □125AGBp □	1AGB □	1AGBna₂ □1AGBs
□500AGB □500AGJ □500AGJs □250AGB □250CGB □250CGBs I	□1PB □	500PB □500PB <b>na</b>
□250PB □250PBn □125PB □125PBznna □100PJ □100PJna <sub>2</sub> □	П	
Air: DTedlar® DSumma® Other: D Trip Blank Lot#: Incontainer: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Environment Environment Environment	relope <b>Re</b>	viewed by: <u>∦</u>

SOP T100\_090 (09/13/10)



8100 Secura Way \* Santa Fe Springs, CA 90670 Telephone (562) 347-2500 \* Fax (562) 907-3610

December 7, 2010

Cecile de Guia Calscience 7440 Lincoln Way Garden Grove, CA 92841-1432

Re:

PTS File No: 40818 Physical Properties Data

10-11-0370

Dear Ms. de Guia:

Please find enclosed report for Physical Properties analyses conducted upon cores received from your 10-11-0370 project. All analyses were performed by applicable ASTM, EPA, or API methodologies. An electronic version of the report has previously been sent to your attention via the internet. The samples are currently in storage and will be retained for thirty days past completion of testing at no charge. Please note that the samples will be disposed of at that time. You may contact me regarding storage, disposal, or return of the samples.

PTS Laboratories appreciates the opportunity to be of service. If you have any questions or require additional information, please give Rachel Spitz a call at (562) 347-2504.

Sincerely, PTS Laboratories

Michael Mark Brady, P.G.

District Manager

Encl.

# PTS Laboratories

Project Name:

N/A

Project Number: 10-11-0370

PTS File No: 40818

Client: Calscience

## **TEST PROGRAM**

CORE ID	Depth ft.	Core Recovery ft.	Moisture Content ASTM D2216	Dry Bulk Density API RP 40	Total Porosity API RP 40	Notes
	CHARLES CONTROL OF THE CONTROL OF TH	Plugs:	Grah	Vert. 1*	Vert 1"	
ate Received: 11/5/10						
VW1 @ 5.0-5.5	N/A	0.50	X	Х	x	
VW3 @ 5.0-5.5	N/A	0.50	X	Χ	x	
VW2 @ 5.0-5.5	N/A	0.50	X	Х	x	
VW5 @ 5.0-5.5	N/A	0.50	X	X	X	
VW4 @ 5.0-5.5	N/A	0.50	X	X	X	
TOTALS:	5 cores	2,50	5	8	Ę	MANUAL TO A TO

PTS File No: Client: 40818 Calscience

## PHYSICAL PROPERTIES DATA

PROJECT NAME: N/A

PROJECT NO: 10-11-0370

API RP 40 /

		METHODS:	ASTM D2216	API RP 40	API RP 40
		SAMPLE	MOISTURE	BULK	TOTAL
SAMPLE	DEPTH,	ORIENTATION	CONTENT,	DENSITY,	POROSITY,
ID.	ft.	(1)	% weight	g/cc	%Vb (2)
VW1 @ 5.0-5.5	N/A	V	22.0	1.47	44.5
VW3 @ 5.0-5.5	N/A	٧	17.2	1.47	44.6
VW2 @ 5.0-5.5	N/A	V	14.6	1.55	41.7
VW5 @ 5.0-5.5	N/A	V	22.0	1.54	42.0
VW4 @ 5.0-5.5	N/A	V	21.6	1.49	43.8

<sup>(1)</sup> Sample Orientation: H = horizontal; V = vertical

<sup>(2)</sup> Total Porosity = all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids Vb = Bulk Volume, cc

Purctures (1) Leaboratories, Inc.

7440 LINCOLN WAY

GARDEN GROVE, CA 92841-1432

PTS - SFS TO:

CHAIN OF CUSTODY RECORD DATE: 11/05/10

Water to an array (mile)	amm: (% see ampedebe . )	'Aa: (714) 854-7	501	- Complete (Ca)	THE PERSON NAMED IN	MANAGE STATE		usina fisiante	***********	en maria	EL CONTRACTOR DE LA CON				·P	AGE:	***************************************	1	OF		1	***************************************	
CALS	TORY CUEST: CIENCE ENVIRONMENTAL LABORAT( 19:	ORIES, INC.				£ .	107 FACUR - <b>1</b> 1 <b>- C</b>			MULTICE MULTIPLE		***************************************	······································			liarakenanggap	***************************************	P.C.	<b>(</b> 2)				
7440	INCOLN WAY					PRO	UECT DO!	VTACT:		w		*******	***********	····		<del>i tri qua</del> nnessente	************	LA	E USE ON		The state of the state of the state of		
GARE	EN GROVE, CA 92841-1427						cile d				******************************	Maria de la composición dela composición de la composición de la composición de la composición dela composición de la composición dela composición dela composición de la composición de la composición dela composición de la composición dela composición de	· · · · · · · · · · · · · · · · · · ·	<del></del>	**********************	<del></del>							
TEL: TERMA	714-895-5494 FAX:	E-MAL. Cdequi	a@calsc	ience.	com			P. Arbert 2	ant seminant								og co	mmma:	OLER RE	CEIPT 202	to Land	c	
s	AME DAY 24 HR 48HR 721	HR 5 DA	YS x	STANI	DARD							R	EQL	JEST	ED	ANA	LYS	ilS			***************************************		
	WOCE REPORTING COELT EDF				***************************************	Bug		A CONTRACTOR OF THE PARTY OF TH	N. W. W.	•	NOV-ALIAN-LAN	-		at visit in the second	TANK PROPERTY OF	MCANCAGO E		**************************************	William Manager Confe	<del></del>	**************************************		
			oli (Mariana)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	***************************************	API RP40; Total Porosity and Bulk Donalty	ASTM D2216 Moisturo Content	ALEGE SHIP LEED AND AND AND AND ALL AND	THE REPLY AND THE PROPERTY OF	eawe datament was die toeken een de word die Stocke bie een het Hoose TANDE een TANDE een TANDE een TANDE een T	- Marie - Andrews - Andrew	ACOMPANIA PROPERTY AND		AND STANDARD SINGLE FEBRUARY STANDARD S	empakanistanisma marathajamperare panetrio ilikano makishiki	«Ви-Комина фосминан-Рома Билиминантична профессор об пр						THE COLUMN TWO IS NOT THE OWNER OF THE PERSON OF THE PERSO	
USE	sample 10	SAMPLE DATE	YG Time	Mat. Rix	MO. OF CONT.	日本	STM I	STATE OF THE STATE	- Personal Principles	SHOW AND SHO	***************************************			ennerkamentenine		WINDS TO SERVICE OF SE						***	
1	VW1 @ 5.0-5.5	11/01/10	1125	soil	1	X	X						······································	1	<u> </u>	+	7	***************************************	***************************************	UNERT S slee	*****	***************************************	
	VW3 @ 5.0-5.5	11/01/10	1415	soil	1	X	x							1				<del></del>	MARKATA CANADA	***********	***************		
i de la companya de	VW2 @ 5.0-5.5	11/02/10	0920	soil	1 1	Х	X	1-1		-				-	<u> </u>		Andrew States			s siee	The same of the sa		
	VW5 @ 5.0-5.5	11/02/10	1055	soil		Х	X						<del></del>		<u> </u>			Maria Maria (Maria)		s slee	***********	mmenning 1	
Approx.	VW4 @ 5.0-5.5	11/02/10	1415	soil	1	X	X	-	·	<u> </u>			······································		<u> </u>	-		######################################	·	s slee	<del>(12)2-12-12-12-13-13-13-13-13-13-13-13-13-13-13-13-13-</del>	~~~~~~~~~~~ <u></u>	
		***************************************	1413	200	1		<u>  ^ </u>						<del></del>		ļ		The second secon	······································	6" s	s slee	Ve		
			,										· · · · · · · · · · · · · · · · · · ·	***	<u> </u>			··· ··· ··· ··· ··· ··· ··· ··· ··· ··	<del>/////////////////////////////////////</del>	······			
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					-						211100							***************************************		<del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>	<del></del>		
Resinqu		William Control of the Control of th		Marinian marini		-															Medicaria Sangarania III.	- Interest	
A SECTION	Seed by (Signature)	CALSCIE	NCE		_ ST /	A Thirties	A JAMESIS /// INC. A ARTONIA	ا بعینسویونسوی	عر	75_	LAB	* / /	h.c.	~~~~~~~~~~	***********		A CONTRACTOR OF STREET	Classe: //// S Classe: /	Los	Tonas // Time	برشكا تتمد		
Peinc	isined by: (Signature)		**************************************	Receive	ed by: dE	lignatu	ra / Aźlijia	tlion)			**********	THE STATE OF THE S	<del>(11 ,</del>	<del></del>		TT-MININGER HAND		Date:	references remarkables gradually	Turpe	· · · · · · · · · · · · · · · · · · ·		





November 29, 2010

Hamidou Barry ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850

Subject:

Calscience Work Order No.: 10-11-0931

Client Reference:

ExxonMobil 99105

#### Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 11/11/2010 and analyzed in accordance with the attached chain-of-custody.

Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

Note that the Chain-of-Custody Record and Sample Receipt Form are integral parts of this report.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Calscience Environmental Laboratories, Inc.

Cecile deGuia Project Manager

NELAP ID: 03220CA • DoD-ELAP ID: L10-41

CSDLAC ID: 10109

SCAQMD ID: 93LA0830

7440 Lincoln Way, Garden Grove, CA 92841-1427 • TEL:(714) 895-5494 •

FAX: (714) 894-7501

#### **Case Narrative**

## Work Order # 10-11-0931 Modified EPA TO-14A or EPA TO-15

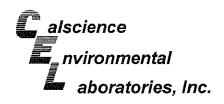
EPA Methods TO-14A and TO-15 describe gas chromatographic procedures that will allow for that separation of volatile organic compounds and their qualitative and quantitative analysis by mass spectrometry (GC/MS). A known volume of sample is directed from the container (Summa® canister or Tedlar™ bag) through a solid multi-module (glass beads, tenex, cryofocuser) concentrator. Following concentration, the VOCs are thermally desorbed onto a gas chromatographic column for separation and then detected on a mass selective detector.

## Comparison of EPA TO-14A/TO-15 versus Calscience EPA TO-14A/TO-15 (Modified)

Requirement	EPA Method	Calscience Modifications
BFB Acceptance Criteria	CLP Protocol	SW846 Protocol
Initial Calibration	Allowable % RSD for each Target Analyte <= 30%, two analytes allowed <= 40%	Allowable % RSD for each Target Analyte <= 30%, 10% of analytes allowed <= 40%
Initial Calibration Verification (ICV) - Second Source Standard (LCS)	Not Mentioned	Analytes contained in the LCS standard evaluated against historical control limits for the LCS
Daily Calibration Verification (CCV)	Allowable % Difference for each Target Analyte is <= 30%	Full List Analysis: Allowable % Difference for each CCC analyte is <= 30%
		Target List Analysis: Allowable % Difference for each target analytes is <= 30%
Daily Calibration Verification (CCV) - Internal Standard Area Response	Allowable +/- 40% (Range: 60% to 140%)	Allowable +/- 50% (Range: 50% to 150%)
Method Blank, Laboratory Control Sample and Sample - Internal Standard Area Response	Allowable +/- 40% of the mean area response of most recent Initial Calibration (Range: 60% to 140%)	Allowable +/- 50% of the mean area response of the most recent Calibration Verification (Range: 50% to 150%)
Surrogates	Not Mentioned	1,4-Bromoflurobenzene, 1,2-Dichloroethane-d4 and Toluene-d8 - % Recoveries based upon historical control limits +/-3S









ETIC Engineering, Inc. 2285 Morello Avenue

Pleasant Hill, CA 94523-1850

Date Received:

Work Order No: Preparation:

Method: Units: 11/11/10 10-11-0931

N/A

ASTM D-1946 %v

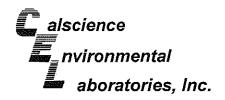
Project: ExxonMobil 99105

Page 1 of 1

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			,	Date/Time Collected	Matrix	Instrument	Date Prepared			QC Batch ID
And the second s	- 1	10-11	0931-1-A	11/09/10 16:46	Al	GC 36	N/A			101111L01
Result	<u>RL</u>	<u>DF</u>	Qual	<u>Parameter</u>			Result	<u>RL</u>	<u>DF</u>	Qual
ND 14.0	0.895 0.895	1.79 1.79	U	Oxygen + Argor	ì		3.75	0.895	1.79	
The state of the s	1000   1	****	0931-2-A	11/09/10 15:19	Air	66.36				101111L01
Daeult	DI	DE	Oual	Parameter	and the second s	and the property of the second state of the se	Recult	RI	DF	Qual
ND	0.680	1.36	U				18.5	0.680		******
3.UZ	U.08U	garanta (maganasa)	0931-3-A	11/09/10	ALE	<b>GC 36</b>	The state of the s			101111L01
Result	RI	DF	Oual	Parameter		1995 - Vanigar is shown spike it Emmy	Result	RL.	DF	Qual
ND	0.765	1.53	U				1.55	0.765		
	W. V. S. V. S. Far Paramona (1)		0931-4-A	11/09/10 15:52	Air	GC 36	NA N			101111L01
Result	RL	DF	Qual	Parameter			Result	RL	<u>DF</u>	Qual
14.2 14.1	0.705 0.705	1.41		Oxygen + Argon			1.59	0.705	1.41	
The state of the s	10 1 7 200 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		0931-5-A	11/09/10 14:39	Alt	GC 36	A A A A A A A A A A A A A A A A A A A			101111L01
Result	RL	DF	Qual	Parameter		1 Sare Mr. A Samuel Control of A A company	Result	RL	DF	Qual
6.61	0.785	1.57		Oxygen + Argon			10.3	0.785	1.57	
1	100 P		)931-6-A	11/09/10 16:10	Alr	GC 36	N/A			101111E01
Result	RL	<u>DF</u>	Qual	Parameter		A Pala Sana	Result	RL	<u>DF</u>	Qual
6.44 13.1	0.755 0.755	1.51 1.51		Oxygen + Argon			9.10	0.755	1.51	
	100 100 100 100 100 100 100 100 100 100		-002-1,173	NA	Air	GC 36	N/A			101111L01
Result	<u>RL</u>	<u>DF</u>	Qual	Parameter		······································	Result	<u>RL</u>	<u>DF</u>	Qual
ND ND	0.500 0.500	1	U	Oxygen + Argon			ND	0.500	1	U
	Result ND 14.0  Result ND 3.02  Result ND 16.6  Result 14.2 14.1  Result 6.61 12.5  Result 6.44 13.1	Result   RL   ND   0.895   14.0   0.895   14.0   0.895   14.0   0.680   3.02   0.680   Result   RL   ND   0.765   16.6   0.765   14.1   0.705   14.1   0.705   12.5   0.785   12.5   0.785   13.1   0.755   13.1   0.755   13.1   0.755   13.1   0.500   Result   RL   ND   0.500   RL   ND   0.500   RL   ND   0.500   Result   RL   ND   0.500   RL   ND   0.500   RL   ND   0.500   Result   RL   ND   0.500   RL   RL   RL   RL   RL   RL   RL	Result   RL   DF	Result   RL   DF   Qual	Lab Sample   Number   Collected	Lab Sample   Number   Collected   Matrix	Lab Sample Number   Date/Time Collected   Matrix Instrument	Lab Sample   Number   Date/Time   Collected   Matrix   Instrument   Date   Prepared	Lab Sample Number   Collected   Matrix   Instrument   Date   Prepared   Anal	Lab Sample Number   Collected   Matrix   Instrument   Prepared   Analyzed



DF - Dilution Factor ,





ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: 11/11/10 10-11-0931 N/A EPA TO-3M

Project: ExxonMobil 99105

Page 1 of 2

Project: Exxoniviodii 99105							Pa	ige rorz
Client Sample Number	. 1864 a 1964 a 196	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>W</b> i		10-11-0931-1-A	11/09/10 16:46	Air	GC 53	NA	11/11/10 19:06	1011111 03
Parameter	Result	RL	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
TPH as Gasoline	190000	13000	1.79		ug/m3			
W2		10-11-0931-2-A	11/09/10 15:19	Air	GC 53	N/A	11/11/10 19:19	101111L03
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
TPH as Gasoline	20000	9500	1.36		ug/m3			
W3		10-11-0931-3-A	11/09/10 14:27	ALL STATES	GC 53	NA	11/11/10 19:35	101111L03
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
TPH as Gasoline	120000	11000	1.53		ug/m3			
W4		10-11-0931-4-A	11/09/10 15:52	AIP	GG 53	- (m.) he <b>N/A</b> (fee 1974)	11/11/10 21:07	5101111E03
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
TPH as Gasoline	250000000	2000000	282		ug/m3			
VWs	### 1	10-11-0931-5-A	11/09/10 14:39	The second secon		NA	11/11/10 21:29	01111L03
Parameter	Resuit	<u>RL</u>	DF	Qual	<u>Units</u>			
TPH as Gasoline	31000000	550000	78.5		ug/m3			
VW5(DUP)		10-11-0931-6-A	11/09/10 16:10	Ale	GC 53	N/A	11/11/10 21:57	101111L03
<u>Parameter</u>	Result	RL	<u>DF</u>	Qual	<u>Units</u>			
TPH as Gasoline	30000000	530000	75.5		ug/m3			

RL - Reporting Limit ,

DF - Dilution Factor ,





ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method:

11/11/10 10-11-0931 N/A EPA TO-3M

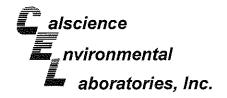
Project: ExxonMobil 99105

Page 2 of 2

Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank		098-01-005-2,737	the two transferences and the same of	A				101111E03
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
TPH as Gasoline	ND	7000	1	U	ug/m3			

RL - Reporting Limit

DF - Dilution Factor ,





ETIC Engineering, Inc. 2285 Morello Avenue

Pleasant Hill, CA 94523-1850

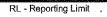
Date Received: Work Order No: Preparation: Method: Units: 11/11/10 0-11-0931

10-11-0931 N/A EPA TO-15 ug/m3

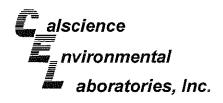
Project: ExxonMobil 99105

Page 1 of 3

Project: ExxonMobil 99	9105									Pag	je 1 of 3
Client Sample Number				b Sample lumber	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/ I Analy		QC Batch ID
VW1			10-11-0	931-1-A	11/09/10 16:46	Air	GC/MS K	N/A	11/16		101115E01
Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Parameter</u>			Result	RL	DE	<u>Qual</u>
Benzene	10	2.9	1.79		Methyl-t-Butyl	Ether (MTE	3E)	ND	13	1.79	U
Diisopropyl Ether (DIPE)	ND	15	1.79	U	Xylenes (total)			100	16	1.79	
1,2-Dibromoethane	ND	6.9	1.79	U	Tert-Amyl-Met	hyl Ether (T	AME)	ND	15	1.79	υ
1,2-Dichloroethane	ND	3.6	1.79	Ų	Tert-Butyl Alco	ohol (TBA)		ND	11	1.79	U
Ethyl-t-Butyl Ether (ETBE)	ND	15	1.79	U	Toluene			17	3.4	1.79	
Ethylbenzene	80	3.9	1.79								
Surrogates:	<u>REC (%)</u>	Control Limits	Qual		Surrogates:			REC (%)	Control Limits	<u>Q</u> :	<u>ual</u>
1,4-Bromofluorobenzene	114	57-129			1,2-Dichloroeth	nane-d4		130	47-137		
Toluene-d8	74	78-156		2							
VW2		We and A to A t	10-11-0	931-2-A	11/09/10 15:19	AIF	GC/MS K	NA NA	11/13		101113L01
Parameter	Result	RL	DE	Qual	Parameter		···	Result	RL	DE	Qual
							_,				
Benzene	ND	2.2	1.36	U	Methyl-t-Butyl	Etner (WIB	E)	ND	9.8	1.36	U
Diisopropyl Ether (DIPE)	ND	11	1.36	U	Xylenes (total)			ND	12	1.36	U
1,2-Dibromoethane	ND	5.2	1.36	U	Tert-Amyl-Metl	-	AME)	ND	11	1.36	U
1,2-Dichioroethane	4.8	2.8	1.36		Tert-Butyl Alco	nol (TBA)		ND	8.2	1.36	U
Ethyl-t-Butyl Ether (ETBE)	ND	11	1.36	U	Toluene			ND	2.6	1.36	Ü
Ethylbenzene	ND	3.0	1.36	U	_					_	
Surrogates:	<u>REC (%)</u>	Control Limits	<u>Quai</u>		Surrogates:			REC (%)	Limits	<u>Qt</u>	<u>ıal</u>
1,4-Bromofluorobenzene	106	57-129			1,2-Dichloroeth	nane-d4		109	47-137		
Toluene-d8	104	78-156									
VW3		A second page of a control of a	10-11-0	)31-3-A	11/09/10 14:27	AE	GC/MSK	WA	1:1/16 16:4		101116L01
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Parameter</u>			Result	<u>RL</u>	<u>DF</u>	Qual
Benzene	9.7	2.4	1.53		Methyl-t-Butyl E	Ether (MTB	E)	ND	11	1.53	U
Diisopropyl Ether (DIPE)	ND	13	1.53	U	Xylenes (total)	,	-	36	13	1.53	
1,2-Dibromoethane	ND	5.9	1.53	U	Tert-Amyl-Meth	yl Ether (T	AME)	ND	13	1.53	U
1,2-Dichloroethane	4.2	3.1	1.53		Tert-Butyl Alcoi	•	-	ND	9.3	1.53	υ
Ethyl-t-Butyl Ether (ETBE)	ND	13	1.53	U	Toluene	. ,		25	2.9	1.53	
Ethylbenzene	9.0	3.3	1.53								
Surrogates:	REC (%)	Control Limits	Qual		Surrogates:			REC (%)	Control Limits	Qu	<u>al</u>
1,4-Bromofluorobenzene	105	57-129			1,2-Dichloroeth	ane-d4		100	47-137		
Toluene-d8	78	78-156			,						
i diddiro do	, -										



DF - Dilution Factor ,





ETIC Engineering, Inc. 2285 Morello Avenue

Pleasant Hill, CA 94523-1850

Date Received: Work Order No:

Preparation: Method:

Units:

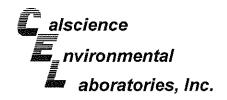
11/11/10

10-11-0931 N/A

**EPA TO-15** ug/m3

Project: ExxonMobil 9910	5									Pag	ge 2 of 3
Client Sample Number				b Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/ I Anal		QC Batch ID
<b>VW4</b>	1   1   1   1   1   1   1   1   1   1		10-11-0	)931-4-A	11/09/10 15:52	Alt	GC/MS K	NA	11/1 21:		101115E01
Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Parameter</u>			Result	<u>RL</u>	<u>DF</u>	Qual
Benzene	16000	2300	1410		Methyl-t-Butyl	Ether (MTE	BE)	ND	10000	1410	0 U
Diisopropyl Ether (DIPE)	ND	12000	1410	U	Xylenes (total)			60000	12000	1410	0
1,2-Dibromoethane	ND	5400	1410	U	Tert-Amyl-Met	hyl Ether (1	AME)	ND	12000	1410	
1,2-Dichloroethane	ND	2900	1410	U	Tert-Butyl Alco	ohol (TBA)		ND	8500	141	0 U
Ethyl-t-Butyl Ether (ETBE)	ND	12000	1410	U	Toluene			9200	2700	1410	0
Ethylbenzene	71000	3100	1410								
Surrogates:	REC (%)		<u>Qua</u>	<u>l</u>	Surrogates:			<u>REC (%)</u>		<u>Q</u>	ual
	400	<u>Limits</u>						400	<u>Limits</u>		
1,4-Bromofluorobenzene	102	57-129			1,2-Dichloroeth	nane-d4		102	47-137		
Toluene-d8	92	78-156									
VW5	A second	A Comment of the Comm	10-11-0	931-5-A	11/09/10 14:39	Ale	GC/MSK	N/A	11/15 19:		101115L01
Appropriate to a fig. from a fixed at a second many at a great at a fixed manager in the second many at a fixed manager in the second manager in the secon	The second secon	And the state of t		- North Company Congress y and the control of the c	a "a (Familia " a ta	And the American Control of th	The second secon	The second secon			A CONTRACT OF A
Parameter	Result	RL	DF	Qual	<u>Parameter</u>			Result	<u>RL</u>	DF	Qual
Benzene	1000	500	314		Methyl-t-Butyl I	Ether (MTB	Ë)	ND	2300	314	U
Diisopropyl Ether (DIPE)	ND	2600	314	υ	Xylenes (total)			ND	2700	314	U
1,2-Dibromoethane	ND	1200	314	Ų	Tert-Amyl-Meti		'AME)	ND	2600	314	U
1,2-Dichloroethane	ND	640	314	U	Tert-Butyl Alco	hol (TBA)		ND	1900	314	U
Ethyl-t-Butyl Ether (ETBE)	ND	2600	314	U	Toluene			ND	590	314	U
Ethylbenzene	ND	680	314	U						_	_
Surrogates:	REC (%)	Control Limits	Qual	<u>!</u>	Surrogates:			REC (%)	Control Limits	Qı	<u>ual</u>
1,4-Bromofluorobenzene	105	57-129			1,2-Dichloroeth	ane-d4		109	47-137		
Toluene-d8	97	78-156			1,2 21011101000						
VW5(DUP)	**************************************	Annual Company of the	10-11-0	931-6-A	11/09/10 16:10	Air	GC/MS K	N/A	11/15 20:1		101115E01
Parameter	Result	RL	<u>DF</u>	Qual	Parameter			Result	RL	<u>DF</u>	Qual
				<u>secral</u>		They MATE	<b>!"</b> \	ND			<u>Quai</u>
Benzene	740	480	302		Methyl-t-Butyl E	ther (W i B	E)		2200	302	_
Diisopropyl Ether (DIPE)	ND	2500	302	U U	Xylenes (total)	ul Ethar (T	VWE)	ND ND	2600 2500	302 302	U
1,2-Dibromoethane	ND ND	1200	302	U	Tert-Amyl-Meth		AME)	ND	1800		U
1,2-Dichloroethane	ND ND	610	302	U	Tert-Butyl Alcol Toluene	iiui ( i DM)		ND	570	302 302	Ü
Ethyl-t-Butyl Ether (ETBE)	ND ND	2500 660	302 302	U	Outile			NO	370	302	J
Ethylbenzene		Control	30∠ Qual		Surrogates:			REC (%)	Control	QL	ıat
Surrogates:	REC (%)	Limits	<u>นนส</u>		Surroyales.			110 (70)	Limits	<u> </u>	45AI
1.4-Bromofluorobenzene	104	57-129			1,2-Dichloroeth	ane_d4		105	47-137		
Toluene-d8	97	78-156			.,E-DIGINOTOCHI	u.10-44			., .01		
i diuene-do	31	10-100									

RL - Reporting Limit , DF - Dilution Factor ,





ETIC Engineering, Inc. 2285 Morello Avenue

Pleasant Hill, CA 94523-1850

Date Received:

Work Order No:

Preparation: Method:

Units:

11/11/10

10-11-0931 N/A

EPA TO-15

ug/m3

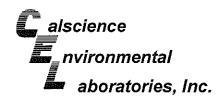
Project: ExxonMobil 99105

Page 3 of 3

Troject. Exxonivious of	·									. ~;	9000.0
Client Sample Number				ab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/ d Anal		QC Batch IE
Method Blank	The second secon	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	095-01	-021-8,823	NA	Air	GC/MS K	N/A	11/1: 13:		101113L01
1				**************************************	The second secon		A STATE OF THE PROPERTY OF T		13.	A Lineary	**************************************
Parameter	Result	<u>RL</u>	DF	Qual	Parameter			Result	RL	DE	Qual
Benzene	ND	1.6	1	U	Methyl-t-Butyl	Ether (MT)	RF)	ND	7.2	1	U
Diisopropyl Ether (DIPE)	ND	8.4	1	Ū	Xylenes (total)	•	,	ND	8.7	1	Ū
1.2-Dibromoethane	ND	3.8	1	Ŭ	Tert-Amyl-Me		TAMF)	ND	8.4	1	ū
1,2-Dichloroethane	ND	2.0	1	Ü	Tert-Butyl Alc	•	.,	ND	6.1	1	Ū
Ethyl-t-Butyl Ether (ETBE)	ND	8.4	1	Ü	Toluene	01101 (1 1111)		ND	1.9	1	Ŭ
Ethylbenzene	ND	2.2	1	Ŭ	Tolderie			110	1.5	•	Ŭ
			' Qua	-	Surrogates:			REC (%)	Control	_	)ual
Surrogates:	<u>REC (%)</u>	Limits	<u>Q</u> (1)	<u> </u>	<u>ourrogates.</u>			IXEO (70)	Limits	<u></u>	<u>tua</u>
4.4.0	103	57-129			4.0 Diabless	L		110	47-137		
1,4-Bromofluorobenzene	99	78-156			1,2-Dichloroet	nane-04		110	47-137		
Toluene-d8	99	70-130	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Table Manager State of the addition of the state of the s		-0001-000,200,0	of Dispersion Control of the Control	and the second s		1 - 7 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
Method Blank	A COMMISSION OF THE PROPERTY O		095-01	-021-8,835	NA	Alt	GC/MS K	NA	11/11 13:		101115L01
The state of the s					A SAMAN SAMA				The second second second		NATIONAL TO AN ARRANGA (NATIONAL ARRA)
Parameter	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	Parameter			Result	RL	<u>DF</u>	Qual
Benzene	ND	1.6	1	υ	Methyi-t-Butyi	Ether (MTE	BE)	ND	7.2	1	U
Diisopropyl Ether (DIPE)	ND	8.4	1	Ū	Xylenes (total)		_,	ND	8.7	1	Ū
1,2-Dibromoethane	ND	3.8	1	Ũ	Tert-Amyi-Met		TAME)	ND	8.4	1	Ū
1,2-Dichloroethane	ND	2.0	1	Ü	Tert-Butyl Aice	, ,	· ···,	ND	6.1	1	Ü
Ethyl-t-Butyl Ether (ETBE)	ND	8.4	1	υ	Toluene			ND	1.9	1	Ū
Ethylbenzene	ND	2.2	1	Ü					1.0	•	_
Surrogates:	REC (%)	Control	, Qua	_	Surrogates:			REC (%)	Control	Q	ual
<u>Garrogakoo.</u>	1,100 1,701	Limits		-					Limits		
1,4-Bromofluorobenzene	105	57-129			1,2-Dichloroet	hane-d4		107	47-137		
Toluene-d8	98	78-156									
Method Blank	A		095-01	-021-8,836	N/A	Air	GC/MS K	N/A	11/16		101116L01
Martin   M	A Same and Assembly and Assembl	1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1			The second secon		1000		13:0	12	And the second s
Doromotor	Poquit	DI	DF.	Ougl	Davameter			Popult	RL	DF	Qual
Parameter	Result	<u>RL</u>		<u>Qual</u>	<u>Parameter</u>			Result			
Benzene	ND	1.6	1	U	Methyl-t-Butyl	⊨iner (M ΓΒ	i <b>∟</b> )	ND	7.2	1	U
Diisopropyl Ether (DIPE)	ND	8.4	1	U	Xylenes (total)			ND	8.7	1	U
1,2-Dibromoethane	ND	3.8	1	U	Tert-Amyl-Met	•	AME)	ND	8.4	1	U
1,2-Dichloroethane	ND	2.0	1	U	Tert-Butyl Alco	nol (TBA)		ND	6.1	1	U
Ethyl-t-Butyl Ether (ETBE)	ND	8.4	1	U	Toluene			ND	1.9	1	υ
Ethylbenzene	ND	2.2	1	U						_	
Surrogates:	<u>REC (%)</u>	Control Limits	Qua	<u>!</u>	Surrogates:			REC (%)	Control Limits	Q	<u>uai</u>
d Depositionshappan	105	57-129			1.2 Diablasast	one di		114	47-137		
1,4-Bromofluorobenzene					1,2-Dichloroeth	iane-04			41-101		
Toluene-d8	98	78-156									
Sido io-do	•••	. 5 100									



DF - Dilution Factor ,





ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation:

10-11-0931 N/A

11/11/10

Method:

ASTM D-1946 (M)

Project: ExxonMobil 99105

Pa	ae	1	Ωf	1

Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
<b>VW4</b>		10-11-0931-4-A	11/09/10 15:52	Air	GC 55	was NA	11/11/10 - 00:00	101111E01
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Helium	ND	16400	1	U	ug/m3			
VW5		10-11-0931-5-A	11/09/10 14:39	APPARAMENTAL APPAR	GC 55	The second secon	11/11/10 00:00	1011111L01
Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Helium	ND	16400	1	U	ug/m3			
VW5(DUP)		10-11-0931-6-A	11/09/10 16:10	Air	GC 55	NA ************************************	11/11/10 00:00	101111L01
<u>Parameter</u>	Result	RL	<u>DF</u>	Qual	<u>Units</u>			
Helium	ND	16400	1	U	ug/m3			
Method Blank		099-12-872-59	NA	Alt	GC 55	A STATE OF THE STA	11/11/10 00:00	101111L01
<u>Parameter</u>	Result	RL	<u>DF</u>	Qual	<u>Units</u>			
Helium Hydrogen	ND ND	16400 8 <b>2</b> 50	1 1	U U	ug/m3 ug/m3			

RL - Reporting Limit ,

DF - Dilution Factor ,



## **Quality Control - Duplicate**



ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: 11/11/10 10-11-0931 N/A EPA TO-3M

Project: ExxonMobil 99105

Quality Control Sample ID	Matrix	Instrument	Date Prepared:	Date Analyzed:	Duplicate Batch Number
10-11-0926-2	Air	GC 53	N/A	11/11/10	101111D03
<u>Parameter</u>	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
TPH as Gasoline	144000	143400	0	0-20	





ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation:

Method:

N/A 10-11-0931 N/A ASTM D-1946

Project: ExxonMobil 99105

Quality Control Sample ID		Instrument	Date Prepared	Date Analyzed	LCS/LCSD Bato Number	h
099-03-002-1;173	Af	GC 36		11/11/10	101111L01	
Parameter	LCS %RE	C LCSD %	REC %REC	CCL RPD	RPD CL	<u>Qualifiers</u>
Carbon Dioxide	98	97	80-	120 0	0-30	
Oxygen + Argon	90	90	80-	120 0	0-30	
Nitrogen	90	91	80-	120 1	0-30	





ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850

Date Received: Work Order No: Preparation: Method:

10-11-0931 N/A

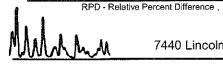
N/A

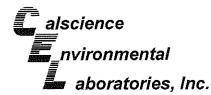
**EPA TO-15** 

Project: ExxonMobil 99105

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed		LCS/LCSD I Numbe	
095-01-021-8,823	Air	GC/MS K	NÁ	11/13	/10	101113E	The second secon
Parameter	LCS %REC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
Benzene	99	96	60-156	44-172	3	0-40	
Carbon Tetrachloride	114	110	64-154	49-169	3	0-32	
1,2-Dibromoethane	113	107	54-144	39-159	5	0-36	
1,2-Dichlorobenzene	91	86	34-160	13-181	6	0-47	
1,2-Dichloroethane	107	105	69-153	55-167	1	0-30	
1,2-Dichloropropane	102	99	67-157	52-172	3	0-35	
1,4-Dichlorobenzene	92	87	36-156	16-176	5	0-47	
c-1,3-Dichloropropene	124	120	61-157	45-173	3	0-35	
Ethylbenzene	115	109	52-154	35-171	5	0-38	
Xylenes (total)	111	105	52-148	36-164	5	0-38	
Tetrachloroethene	107	101	56-152	40-168	6	0-40	
Toluene	106	100	56-146	41-161	6	0-43	
Trichloroethene	102	99	63-159	47-175	2	0-34	
1,1,2-Trichloroethane	101	98	65-149	51-163	3	0-37	
Vinyl Chloride	117	115	45-177	23-199	2	0-36	

Total number of LCS compounds: 15 Total number of ME compounds: 0 Total number of ME compounds allowed: LCS ME CL validation result: Pass







ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method:

10-11-0931 N/A EPA TO-15

N/A

Project: ExxonMobil 99105

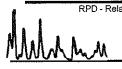
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed 11/15/10		LCS/LCSD Batch Number		
095-01-021-8,835 Parameter	Alc	GC/MS K				101115L	Management of the second of th	
	LCS %REC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers	
Benzene	106	106	60-156	44-172	0	0-40		
Carbon Tetrachloride	120	121	64-154	49-169	1	0-32		
1,2-Dibromoethane	116	117	54-144	39-159	1	0-36		
1,2-Dichlorobenzene	98	97	34-160	13-181	1	0-47		
1,2-Dichloroethane	114	116	69-153	55-167	1	0-30		
1,2-Dichloropropane	110	110	67-157	52-172	0	0-35		
1,4-Dichlorobenzene	99	97	36-156	16-176	2	0-47		
c-1,3-Dichloropropene	132	132	61-157	45-173	0	0-35		
Ethylbenzene	121	119	52-154	35-171	1	0-38		
Xylenes (total)	118	115	52-148	36-164	2	0-38		
Tetrachloroethene	110	110	56-152	40-168	0	0-40		
Toluene	109	110	56-146	41-161	0	0-43		
Trichloroethene	109	108	63-159	47-175	0	0-34		
1,1,2-Trichloroethane	105	106	65-149	51-163	1	0-37		
Vinyl Chloride	127	128	45-177	23-199	1	0-36		

Total number of LCS compounds: 15

Total number of ME compounds: 0

Total number of ME compounds allowed: 1

LCS ME CL validation result: Pass







ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: N/A 10-11-0931 N/A

EPA TO-15

Project: ExxonMobil 99105

Quality Control Sample ID	Date Matrix Instrument Prepared			Da Anal	ate yzed	LCS/LCSD Batch Number		
095-01-021-8,836	Air	GC/MS K	ŇA	11/16/10		101116L	A Comment of Section 1997 (1997) (199	
<u>Parameter</u>	LCS %REC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers	
Benzene	101	101	60-156	44-172	0	0-40		
Carbon Tetrachloride	115	116	64-154	49-169	1	0-32		
1,2-Dibromoethane	112	112	54-144	39-159	0	0-36		
1,2-Dichlorobenzene	95	92	34-160	13-181	3	0-47		
1,2-Dichloroethane	110	111	69-153	55-167	1	0-30		
1,2-Dichloropropane	105	105	67-157	52-172	0	0-35		
1,4-Dichlorobenzene	95	92	36-156	16-176	3	0-47		
c-1,3-Dichloropropene	125	126	61-157	45-173	1	0-35		
Ethylbenzene	113	114	52-154	35-171	1	0-38		
Xylenes (total)	110	110	52-148	36-164	0	0-38		
Tetrachloroethene	106	106	56-152	40-168	0	0-40		
Toluene	104	104	56-146	41-161	1	0-43		
Trichloroethene	104	103	63-159	47-175	0	0-34		
1,1,2-Trichloroethane	101	101	65-149	51-163	1	0-37		
Vinyl Chloride	123	123	45-177	23-199	0	0-36		

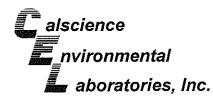
Total number of LCS compounds: 15

Total number of ME compounds: 0

Total number of ME compounds allowed:

LCS ME CL validation result : Pass







ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: N/A 10-11-0931 N/A

ASTM D-1946 (M)

Project: ExxonMobil 99105

Quality Control Sample ID		nstrument	Date Prepared	Date Analyzed	LCS/LCSD Bato Number	
099-12-872-59	March   1997	GC 55	N/A	11/11/10	101111L01	The state of the s
<u>Parameter</u>	LCS %REC	LCSD %RI	EC %REC	CL RPD	RPD CL	Qualifiers
Helium	113	101	80-12	20 11	0-30	
Hydrogen	112	99	80-12	20 12	0-30	

RPD - Rel



## **Glossary of Terms and Qualifiers**



Work Order Number: 10-11-0931

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution,
	therefore, the sample data was reported without further clarification.
2	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.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out
	of control due to matrix interference. The associated LCS and/or LCSD was in control
	and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD
_	was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control
	due to a matrix interference effect. The associated batch LCS/LCSD was in control and,
n	hence, the associated sample data was reported without further clarification.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
<u>E</u>	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
i	Compound did not meet method-described identification guidelines. Identification was
	based on additional GC/MS characteristics.
J	Analyte was detected at a concentration below the reporting limit and above the
ME	laboratory method detection limit. Reported value is estimated.
ME	LCS recovery percentage is within LCS ME control limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	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.
U	Undetected at detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not
	corrected for % moisture.

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aboratories.	inc.

7440 LINCOLN WAY

GARDEN GROVE, CA 92841-1432

TEL: (714) 895-5494 . FAX: (714) 894-7501

Site Name					
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DATE:	11/9	12010
PAGE:	OF	

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LABORATORY CLIENT:  EXXONMODII C/O ETIC E ADDRESS:	Engineering			ı			G CODE:	01855						P.O. 4512012692
2285 Morello Avenue				PROJ <b>Ha</b>	PROJECT CONTACT: LAB USE DNLY									
Pleasant Hill, CA 9452 TEL: 925-602-4710 Ext. 34 TURNAROUND TIME	3 FAX: 925-602-4720			SAMP	PLER(S):	(SIGNAT	URE)							GOOLER RECEIPT / Temp ≈ %C
SAME DAY 24 HR		☐ 5 DAYS ☑	10 DAYS						R	EQUE	STE	) AN	ALYSIS	
RWQCB REPORTING  SPECIAL INSTRUCTIONS:  edf file required, GLOI email report to eticlabrepo Please use µg/m3 for TPHg,	ARCHIVE SAMPLES UNBAL ID# T0600101855 orts@eticeng.com	elium.	DCA.	(EPA TO-3(M))	Oxygenates (EPA TO-15)*	(TO-15)	& argon, Methane, dioxide (ASTM D-	Helium (ASTM D-1946 [M])						
LAR USE SAMPLE ID ONLY	LOCATION/ DESCRIPTION	SAMPLING DATE TIME	MAT- RIX	TPHg (E	7 Oxyge	втех (1	Oxygen ( Carbon o	Hellum [M])						CONTAINER TYPE
IWI		11/9/2010 1646	Vapor 1	Х	Х	Х	Х							1-Liter Summa Canister
2 VW2		11/9/2010 /5/7	Vapor 1	Х	X	Х	Х							1-Liter Summa Canister
3 VW3		11/9/2010 4-27	Vapor 1	Х	X	Х	Х							1-Liter Summa Canister
4 VW4		11/9/2010 /552	Vapor 1	Х	Х	Х	Х	X						1-Liter Summa Canister
5 VW5		11/9/2010 1439	Vapor 1	X	X	X	Х	$\geq$						1-Liter Summa Canister
6 VW 5 CDUP)	-5"Hz vac let	11/9/2010 16 (0	Vapor 1	X	X	Х	X	$\prec$						1-Liter Summa Canister
										++		-	<del>                                     </del>	
	,									11		1-		
Palinguished by (Signature)														
Relinquished by: (Signature)  Relinquished by: (Signature)	<u></u>		Received by (		<u>/</u>		>	CE	L		•			Date, & Time: 11-10-10 1345
Relinquished by: (Signature)			Received by: (	W	sul	<u>\\                                   </u>				Â	2_			Dâte, & Time: \\-\ -\ O \    \COO \  \&
			Received by: (	aignatu	16)									Date, & Time:

Calscience	
givironmental	
aboratories,	inc.

7440 LINCOLN WAY

**GARDEN GROVE, CA 92841-1432** 

TEL: (714) 895-5494 . FAX: (714) 894-7501

Site Name	and a second of the consequence			
Provide MRIVIO	stellall or ci	E tormaj	on oncolect	4.6
Retail Project (M	IRN)			
Major Project (A	FE)	E1.1996.60		
Project Nama	Former Mo	shil 00105	NICHTON CONTROL OF	

HAIN OF	CUSTODY	RECORD
---------	---------	--------

DATE:	11	19	12010
PAGE:	1	OF	1

ExxonMobil Engr:		Project Na	me Former Mobil 99105		
LABORATORY CLIENT: EXXONMObil c/o ETIC E	ngineering		GLOBAL ID #/ COELT LOG CODE:		P.O.
ADDRESS: 2285 Morello Avenue			GLOBAL ID# T0600101855	5	4512012692
CITY:			Hamidou Barry, ETIC Engi	inantina lua	1 1 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Pleasant Hill, CA 9452	3		SAMPLER(S): (SIGNATURE)	meering, inc.	GOOLER RECEIPT
925-602-4710 Ext. 34	925-602-4720		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		Temp =°C
☐ SAME DAY ☐ 24 HR	☐ 48 HR ☐ 72 HR ☐ 5 D	AYS 2 10 DAYS		REQUESTED ANALYS	
SPECIAL REQUIREMENTS (ADDITIONA RWQCB REPORTING SPECIAL INSTRUCTIONS:	L COSTS MAY APPLY) ARCHIVE SAMPLES UNTIL	<i>J</i>			
SPECIAL INSTRUCTIONS:					
USE SAMPLE ID	LOCATION/ SAM DESCRIPTION DATE	PLING MAT- CONT.			
7 VW5			DO NOT ANNUVES		CONTAINER TYPE
8 VW 1 9 VW 2 10 VW 3	-12 inches Hg lets 11/9/10 -17 inches Hg lets -12" Hg lets	Vapor 1	DO NOT ANALYZE		6-Liter Summa Canister
9 VW 2	in " He love	Vapor 1	DO NOT ANALYZE		6-Liter Summa Canister
10 VW3	-14.5" Ha- 1604	Vapor 1	DO NOT ANALYZE		6-Liter Summa Canister
11 vw4	-16.5" Ha. left		DO NOT ANALYZE		6-Liter Summa Canister
7 7 7 7	-10.9 Hg. lets		DO NOT ANALYZE		6-Liter Summa Canister
		Vapor 1	DO NOT ANALYZE		6-Liter Summa Canister
Relinquished by: (Signature)		Regently: (	Signature		
Relinquished by: (Signature)					Date, & Time:  11-10-10 1345 0  Date & Time:
Police tiphed by (Discotter)		Received by: (	A Color	C6L	Date, & Time: (D) (D) (D) (D) (D)
Relinquished by: (Signature)  COC\73326 COC_vapor		Received by: (	Signature)	<u></u>	
C COOK OCCO COO VADOI					

## **〈WebShip〉〉〉〉〉**

800-322-5555 www.gso.com

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

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

\$0.00

Reference: ETIC

Delivery Instructions:

Signature Type: SIGNATURE RÉQUIRED Tracking #: 515334923 **NPS** 

GARDEN GROVE

D92843A



Package 1 of 3

630

*〈WebShip〉〉〉〉〉* 800-322-5555 WWW.gso.com

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

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

COD: \$0.00

Reference:

Delivery Instructions:

Signature Type:

Tracking #: 515334924 

**NPS** 

GARDEN GROVE

D92843A



Print Date: 11/10/10 14:36 PM

Package 2 of 3

Send Label To Printer

☑ Print All

Edit Shipment

Finish

LABEL INSTRUCTIONS:

630

**〈WebShip〉〉〉〉〉** 800-322-5555 www.gso.com

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

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

COD: \$0.00

> Reference: ETIC

Delivery Instructions:

Signature Type: SIGNATURE REQUIRED

515334925 Tracking #: 

**NPS** 

GARDEN GROVE

D92843A



Print Date: 11/10/10 14:36 PM

Package 3 of 3

Send Label To Printer

Print All

Edit Shipment

Finish

LABEL INSTRUCTIONS:

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

STEP 1 - Use the "Send Label to Printer" button on this page to print the shipping label on a laser or inkjet printer.

STEP 2 - Fold this page in half.

STEP 3 - Securely attach this label to your package, do not cover the barcode.

STEP 4 - Request an on-call pickup for your package, if you do not have scheduled daily pickup service or Drop-off your package at the nearest GSO drop box. Locate nearest GSO dropbox locations using this link.

ADDITIONAL OPTIONS:

Send Label Via Email:

Create Return Label

TERMS AND CONDITIONS:

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

Page 3

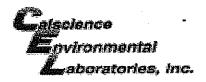


WORK ORDER #: 10-11- 4 3 1

# SAMPLE RECEIPT FORM

Box  $\perp$  of 3

CLIENT: ETIC	DATE:	11/11/10
TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C - 6.0 °C, not frozer	n)	
	□ Blank	☐ Sample
☐ Sample(s) outside temperature criteria (PM/APM contacted by:).		
☐ Sample(s) outside temperature criteria but received on ice/chilled on same da	ay of sampl	ing.
☐ Received at ambient temperature, placed on ice for transport by Co		
Ambient Temperature: ☑ Air ☐ Filter		Initial:
CUSTODY SEALS INTACT:	b:/A	17
Box	□ N/A	Initial: NC
☐ Sample ☐ ☐ No (Not Intact) ☐ Not Present		Initial: <u>V(</u>
SAMPLE CONDITION:	Yes	No N/A
Chain-Of-Custody (COC) document(s) received with samples	. 🖅	
COC document(s) received complete	. 🖅	□ □
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.		
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.		
Sampler's name indicated on COC		
Sample container label(s) consistent with COC		
Sample container(s) intact and good condition		
Proper containers and sufficient volume for analyses requested	_	
Analyses received within holding time		
pH / Residual Chlorine / Dissolved Sulfide received within 24 hours		o Z
Proper preservation noted on COC or sample container		
☐ Unpreserved vials received for Volatiles analysis		
Volatile analysis container(s) free of headspace	. 🗆	
Tedlar bag(s) free of condensation  CONTAINER TYPE:		
Solid:	s <sup>®</sup> □Terra	Cores <sup>®</sup> □
Water: □VOA □VOAh □VOAna₂ □125AGB □125AGBh □125AGBp	□1AGB [	]1AGB <b>na₂</b>
□500AGB □500AGJ □500AGJs □250AGB □250CGB □250CGBs	□1PB [	⊒500PB
□250PB □250PBn □125PB □125PB <b>znna</b> □100PJ □100PJ <b>na</b> ₂ □	· □_	
Air: ☐Tedlar® ☑Summa® Other: ☐ Trip Blank Lot#: Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: E		Checked by: 2



# WORK ORDER #: 10-11- 4 9 3 1

# SAMPLE RECEIPT FORM

Box <u>2</u> of <u>3</u>

CLIENT: ETIC DA	ATE:	11/11/10
☐ Sample(s) outside temperature criteria (PM/APM contacted by:). ☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of	f sampling.	Sample
☐ Received at ambient temperature, placed on ice for transport by Courie  Ambient Temperature: ☑ Air ☐ Filter	r.	Initial:
CUSTODY SEALS INTACT:  ☐ Box ☐ ☐ No (Not Intact) ☐ Not Present ☐ ☐ Sample ☐ ☐ No (Not Intact) ☐ Not Present	□ N/A	Initial: W
SAMPLE CONDITION: Yes	-	No N/A
Chain-Of-Custody (COC) document(s) received with samples		<b>-</b>
COC document(s) received complete	L	<b>–</b>
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.		
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.		
Sampler's name indicated on COC 🗹	_	
Sample container label(s) consistent with COC		
Sample container(s) intact and good condition	<b>^</b> [	
Proper containers and sufficient volume for analyses requested 🗹	, 	
Analyses received within holding time	· .	3 0
pH / Residual Chlorine / Dissolved Sulfide received within 24 hours		
Proper preservation noted on COC or sample container		
☐ Unpreserved vials received for Volatiles analysis		
Volatile analysis container(s) free of headspace □		
Tedlar bag(s) free of condensation		
Solid: □4ozCGJ □8ozCGJ □16ozCGJ □Sleeve () □EnCores® □	lTerraCore	es <sup>®</sup> 🗆
Water: □VOA □VOAh □VOAna₂ □125AGB □125AGBh □125AGBp □1A	AGB □1A	GB <b>na₂</b> □1AGBs
□500AGB □500AGJ □500AGJs □250AGB □250CGB □250CGBs □1		
□250PB □250PBn □125PB □125PB <b>znna</b> □100PJ □100PJ <b>na₂</b> □		
	beled/Chec	wed by:

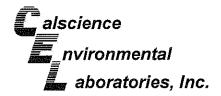


WORK ORDER #: 10-11- 4 3 1

## SAMPLE RECEIPT FORM

Box 3 of 3

CLIENT: ETIC	DATE:	11/11	<u>/10</u>
TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not froze	n)		
Temperature °C + 0.5 °C (CF) = °C	☐ Blank	☐ Sample	
☐ Sample(s) outside temperature criteria (PM/APM contacted by:).			
☐ Sample(s) outside temperature criteria but received on ice/chilled on same of	lay of sampli	ina	
☐ Received at ambient temperature, placed on ice for transport by Co		9.	
Ambient Temperature: ☑ Air ☐ Filter	Juliel.	Initial:	NC-
Amaione Tompo, deate. El Am.		milliai.	
CUSTODY SEALS INTACT:			
Box □ □ No (Not Intact) □ Not Present	□ N/A	Initial:	_R
□ Sample □ □ □ !No (Not Intact) □ Not Present		Initial:	NC
SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples			
COC document(s) received complete	. 🖅		
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.	•		
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC			
Sample container label(s) consistent with COC			
Sample container(s) intact and good condition			
Proper containers and sufficient volume for analyses requested			
Analyses received within holding time		· 🔲	
pH / Residual Chlorine / Dissolved Sulfide received within 24 hours			
Proper preservation noted on COC or sample container			
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace			
Tedlar bag(s) free of condensationCONTAINER TYPE:			4
Solid:   4ozCGJ   8ozCGJ   16ozCGJ   Sleeve ()   EnCores	® □TerraC	Cores® □	
Water: □VOA □VOAh □VOAna₂ □125AGB □125AGBp	□1AGB □	 I1AGB <b>na</b> ₂	IAGBs
□500AGB □500AGJ □500AGJs □250AGB □250CGBs			8
□250PB □250PBn □125PB □125PBznna □100PJ □100PJna₂ □			
Air: Tedlar® Summa® Other: Trip Blank Lot#:  Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: E  Preservative: h: HCL n: HNO3 na2:Na2S2O3 na: NaOH p: H3PO4 s: H2SO4 znna: ZnAC2*NaOH f:	_Labeled/C	viewed by:	<u>V</u>





November 16, 2010

Hamidou Barry ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850

Subject:

Calscience Work Order No.: 10-11-0372

Client Reference:

ExxonMobil 99105

#### Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 11/4/2010 and analyzed in accordance with the attached chain-of-custody.

Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

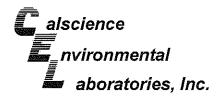
Note that the Chain-of-Custody Record and Sample Receipt Form are integral parts of this report.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Cecile & se Socia

Calscience Environmental Laboratories, Inc. Cecile deGuia Project Manager





ETIC Engineering, Inc. 2285 Morello Avenue

Pleasant Hill, CA 94523-1850

Date Received: Work Order No:

Preparation: Method: 11/04/10

10-11-0372 EPA 5030C EPA 8015B (M)

,

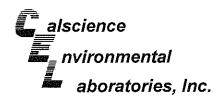
Project: ExxonMobil 99105

1,4-Bromofluorobenzene - FID

Page 1 of 1

Client Sample Number		Lab Sample Number	e	Date/Time Collected	Matrix	Instrume	Date nt Prepared	Date/Time Analyzed	QC Batch ID
Composite (Drum 2&3)		10-11-037	'2-3-A	11/02/10 00:00	Solid	GC 4	11/09/10	11/09/10 18:39	101109B02
Comment(s): -Results were evalua-	ated to the MDL,	concentrations >=	to the M	DL but < RL,	if found,	are qualified	with a "J" flag.		
Parameter	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>		Qual	<u>Units</u>		
TPH as Gasoline	140	20	17	40			mg/kg		
Surrogates:	REC (%)	Control Limits				Qual			
1,4-Bromofluorobenzene	102	42-126							
Method Blank		099-12-27	9-4,079	NAA	Solid	GC 4	11/09/10	11/09/10 12:11	101109B02
Comment(s): -Results were evalua-	ated to the MDL,	concentrations >=	to the M	DL but < RL,	if found,	are qualified	with a "J" flag.		
<u>Parameter</u>	Result	<u>RL</u>	<u>MDL</u>	<u>DF</u>		Qual	<u>Units</u>		
TPH as Gasoline	ND	4.0	3.4	8		U	mg/kg		
Surrogates:	REC (%)	Control Limits				Qual			

42-126





62-146

60-132

97

96

ETIC Engineering, Inc.						Date Received:				1 .	1/04/1	0
2285 Morello Avenue						Work Order No:				10-1	1-037	2
Pleasant Hill, CA 9452	3-1850					Preparation:					50300	
Tieasant Till, OA 0402	0-1000					•						
						Method:				EPA	82601	
						Units:					mg/k	g
Project: ExxonMobil 99	9105									Page	1 of	1
Client Sample Number			Lab S Nun			Date/Time Collected Matrix	Instrument	Date Prepar		e/Time alyzed	QC Bat	ch ID
Composite (Drum 2&3)	A STATE OF THE STA		10-11	0372-3	<b>A</b>	11/02/10 Solid 00:00	GC/MS Z	11/04/		/10/10 )6:28	101109	L02
Comment(s): -Results were	evaluated to th	ie MDL, c	oncentrat	ions >=	to the I	MDL but < RL, if found, an	e qualified wi	th a "J" flag	].			
Parameter	Result	<u>RL</u>	MDL	<u>DF</u>	Qual	Parameter		Result	<u>RL</u>	MDL	<u>DF</u>	Qu
Benzene	0.035	0.50	0.020	100	J	Toluene		ND	0.50	0.029	100	U
Ethylbenzene	1.1	0.50	0.016	100		Xylenes (total)		1.6	0.50	0.032	100	
Surrogates:	REC (%)	Control Limits	Qua	<u>al</u>		Surrogates:		REC (%)	Control Limits	<u>Q</u>	ual	
Dibromofluoromethane	97	63-141				1,2-Dichloroethane-d4		91	62-146			
Toluene-d8	101	80-120				1,4-Bromofluorobenzene	•	98	60-132			
Method Blank	A second of the	Approximate the second	099-12	2-796-4	,096	Solid	GC/MS Z	11/09/1		/10/10 /2:37	101109	LO2
Comment(s): -Results were	evaluated to th	e MDL, c	oncentrati	ons >=	to the N	ADL but < RL, if found, are	qualified wit	th a "J" flag				
Parameter	Result	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qual	<u>Parameter</u>		Result	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qua
Benzene	ND	0.50	0.020	100	U	Toluene		ND	0.50	0.029	100	U
Ethylbenzene	ND	0.50	0.016	100	U	Xylenes (total)		ND	0.50	0.032	100	U
Surrogates:	REC (%)	Control Limits	<u>Qua</u>	<u>al</u>		Surrogates:		REC (%)	Control Limits	Qı	<u>ual</u>	

Dibromofluoromethane

Toluene-d8

63-141

80-120

103 100 1,2-Dichloroethane-d4

1,4-Bromofluorobenzene





ETIC Engineering, Inc.

2285 Morello Avenue

Pleasant Hill, CA 94523-1850

Date Received:

Work Order No:

Preparation:

Method:

11/04/10

10-11-0372

**EPA 3050B** 

**EPA 6010B** 

Project: ExxonMobil 99105

Page 1 of 1

Client Sample Number		Lab Sa Numb		Date/Time Collected M	atrix Instru	Date ment Prepared	Date/Time Analyzed	QC Batch ID
Composite (Drum 2&3)	The second secon	10-11		11/02/10 S 00:00	olid JCP	5300 11/05/10	11/06/10 14:32	101105L07
Comment(s): -Results were ev	aluated to the MD	L, concentration	s >= to the MD	L but < RL, if f	ound, are qualif	ied with a "J" flag.		
<u>Parameter</u>	Result	<u>RL</u>	MDL.	<u>DF</u>	Qual	<u>Units</u>		
Lead	17.2	0.500	0.181	1		mg/kġ		
Method Blank	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	097-0	1-002-14,284	N/A S	olid ICP	5300 11/05/10		101105L07
	A consistent of the control of the c	7-10-10-10-10-10-10-10-10-10-10-10-10-10-	The second secon	The state of the s			21:13	The second secon
Comment(s): -Results were ev	alusted to the MD	I concentration	s >= to the MC	hut <ri fo<="" if="" td=""><td>nund are qualif</td><td>ied with a ".I" flan</td><td></td><td></td></ri>	nund are qualif	ied with a ".I" flan		

<u>Parameter</u>

Lead

<u>Result</u> ND

<u>RL</u> 0.500 **MDL** 0.181 <u>DF</u>

<u>Quai</u> U

<u>Units</u> mg/kg

DF - Dilution Factor ,



## Quality Control - Spike/Spike Duplicate



ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: 11/04/10 10-11-0372 EPA 3050B EPA 6010B

### Project ExxonMobil 99105

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
10-11-0475-66	Solid	ICP 5300	11/05/10	11/05/10	101105807
<u>Parameter</u>	MS %REC	MSD %REC	%REC CL	<u>RPD</u> <u>RPD</u> (	CL Qualifiers
Lead	100	102	75-125	1 0-20	ı

CL - Control Limit



## Quality Control - PDS / PDSD



ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received Work Order No: Preparation: Method:

11/04/10 10-11-0372 EPA 3050B EPA 6010B

Project: ExxonMobil 99105

Quality Control Sample ID	Matrix	Instrument	Date Prepare	Date	Analyzed	PDS / PDSD_Batch Number	
10-11-0475-66	Solid	ICP 5300	11/05/10		1/05/10	101105807	
Parameter	PDS %REC	PDSD %REC	%REC CL	RPD	RPD CI	<u>L</u> <u>Qualifiers</u>	
Lead	101	100	75-125	1	0-20		



## **Quality Control - Spike/Spike Duplicate**



ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: 11/04/10 10-11-0372 EPA 5030C EPA 8260B

## Project ExxonMobil 99105

Quality Control Sample ID	Matrix	Instrument	Date Prepared		Date Analyzed	MS/MSD Batch Number	
10-11-0759-1	Solid		11/09/10	1	11/09/10		
<u>Parameter</u>	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers	
Benzene	108	103	61-127	5	0-20		
Ethylbenzene	106	100	57-129	6	0-22		
Toluene	103	99	63-123	4	0-20		

All Revenue Re





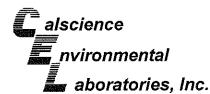
ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: N/A 10-11-0372 EPA 3050B EPA 6010B

Project: ExxonMobil 99105

Overlike Control Socials ID	** **	1	Date	Date	LCS/LCSD Batch
Quality Control Sample ID	Matrix	Instrument	Prepared	Analyzed	Number
097-01-002-14,284	Solid	ICP 5300	11/05/10	11/05/10	101105L07

<u>Parameter</u>	LCS %REC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	<u>Qualifiers</u>
Lead	107	107	80-120	1	0-20	

MMMM\_





ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: N/A 10-11-0372 EPA 5030C EPA 8015B (M)

Project: ExxonMobil 99105

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Bar Number	tch
099-12-279-4,079	Solid	GC4	11/09/10	11/09/10	101109B02	A CONTROL OF THE PROPERTY OF T
<u>Parameter</u>	<u>LCS %f</u>	REC LCSD	%REC %RE	EC CL RPD	RPD CL	Qualifiers
TPH as Gasoline	108	108	70	)-124 0	0-18	

RPD - Rela





ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: N/A 10-11-0372 EPA 5030C EPA 8260B

Project: ExxonMobil 99105

Quality Control Sample ID		Instrument	Date Prepared	Date Analyzed		LCS/LCSD Batc Number	h
099-12-796-4,096	Solid	GC/MS Z	11/09/10	11/10/10		101109L02	
<u>Parameter</u>	LCS %REG	C LCSD %	REC %R	EC CL	<u>RPD</u>	RPD CL	<u>Qualifiers</u>
Benzene	102	98	78	3-120	3	0-20	
Ethylbenzene	84	84	76	S-120	0	0-20	
Taluene	92	91	77	<b>7-</b> 120	1	0-20	

Mulma



## Glossary of Terms and Qualifiers



Work Order Number: 10-11-0372

Qualifier	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution,
	therefore, the sample data was reported without further clarification.
2	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.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out
	of control due to matrix interference. The associated LCS and/or LCSD was in control
4	and, therefore, the sample data was reported without further clarification.  The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD
7	was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control
-	due to a matrix interference effect. The associated batch LCS/LCSD was in control and,
	hence, the associated sample data was reported without further clarification.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
1	Compound did not meet method-described identification guidelines. Identification was
	based on additional GC/MS characteristics.
J	Analyte was detected at a concentration below the reporting limit and above the
BAC*	laboratory method detection limit. Reported value is estimated.
ME ND	LCS recovery percentage is within LCS ME control limit range.  Parameter not detected at the indicated reporting limit.
	Spike recovery and RPD control limits do not apply resulting from the parameter
Q	concentration in the sample exceeding the spike concentration by a factor of four or
	greater.
U	Undetected at detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture.

alscience pvironmental aboratories, inc.

ExxonMobil Engr:

7440 LINCOLN WAY

GARDEN GROVE, CA 92841-1432

TEL: (714) 895-5494 . FAX: (714) 894-7501

Site Name	p t mer staan han had die			
Provide MRN for	retail or A	FE for maj	or project	
Retail Project (M				
Major Project (A	FE)	E1.1996.6	)135	
Project Name	Former Mo	obil 99105		

**CHAIN OF CUSTODY RECORD** 

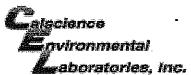
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AGE:	1	OF	1

LABORATORY CLIENT:					GLOBA	AL ID#	COF	TLOG	CODE										P.O.
ExxonMobil c/o ETIC E  ADDRESS:	ngineering										1955								4512012692
2285 Morello Avenue													CAB USE ONLY						
CITY:					Hamidou Barry, ETIC Engineering, Inc.									11-037-2					
Pleasant Hill, CA 94523		ŞAMI	PLER(S	S): (SIG	NATUR	E)	1101	Liigi	11100	ıııy	, 1110	•				COOLER RECEIPT			
TEL: 925-602-4710 Ext. 34 TURNAROUND TIME	925-602-4720				ORTHOGRAPH CO.				_	2		*							Temp =°C
☐ SAME DAY ☐ 24 HR		R 5 DAYS	2 10 DAYS						-				REC	JUE	STE	ĒD A	ANAI	LYSI	s
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edf file required, GLOB	AL ID# T0600101855				5B	ا بح	BY 6010												
email report to eticlabrep	orts@eticeng.com				BY 8015B	BTEX BY 8260B	LEAD												
LAB ÜSE SAMPLE ID	LOCATION/ DESCRIPTION	SAMPLING	MAI-	NO, OF CONT,	TPH-g	EX B	TOTAL												
ONEX	DESCRIPTION	DATE	TIME RIX		ТР	BT	임												CONTAINER TYPE
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						ved by: (Signature)  What the string of the													





Package 1 of 1



WORK ORDER #: 10-11- @ 3 72

#### SAMPLE RECEIPT FORM Cooler of l DATE: 11/04/10 CLIENT: TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C - 6.0 °C, not frozen) Temperature 3 $\cdot 1^{\circ}C + 0.5^{\circ}C$ (CF) = 3 $\cdot 6^{\circ}C$ Blank ☐ Sample ☐ Sample(s) outside temperature criteria (PM/APM contacted by: \_\_\_\_\_). ☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling. ☐ Received at ambient temperature, placed on ice for transport by Courier. Ambient Temperature: Air ☐ Filter Initial: **CUSTØDY SEALS INTACT:** Cooler ☐ No (Not Intact) □ Not Present □ N/A Initial: ☑ Not Present □ Sample ☐ No (Not Intact) Initial: **SAMPLE CONDITION:** Yes No N/A Chain-Of-Custody (COC) document(s) received with samples..... COC document(s) received complete...... Collection date/time, matrix, and/or # of containers logged in based on sample labels. ☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished. Sampler's name indicated on COC...... Sample container label(s) consistent with COC...... Sample container(s) intact and good condition...... Proper containers and sufficient volume for analyses requested...... Analyses received within holding time..... pH / Residual Chlorine / Dissolved Sulfide received within 24 hours...... Proper preservation noted on COC or sample container...... ☐ Unpreserved vials received for Volatiles analysis Volatile analysis container(s) free of headspace..... Tedlar bag(s) free of condensation..... □ **CONTAINER TYPE:** Solid: □4ozCGJ □8ozCGJ □16ozCGJ ☑Sleeve ( ) □EnCores® □TerraCores® □ Water: □VOA □VOAh □VOAna2 □125AGB □125AGBh □125AGBp □1AGB □1AGBna2 □1AGBs □500AGB □500AGJ □500AGJs □250AGB □250CGB □250CGBs □1PB □500PB □500PBna □250PB □250PBn □125PB □125PBznna □100PJ □100PJna<sub>2</sub> □ □ Air: □Tedlar® □Summa® Other: □ \_\_\_\_ Trip Blank Lot#:\_\_\_\_ Labeled/Checked by: Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by:

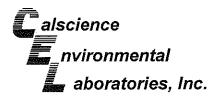
Preservative: h: HCL n: HNO3 na2:Na2S2O3 na: NaOH p: H3PO4 s: H2SO4 znna: ZnAc2+NaOH f: Fleid-filtered Scanned by:

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November 29, 2010

Hamidou Barry ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850

Subject:

Calscience Work Order No.: 10-11-1701

Client Reference:

ExxonMobil 99105

#### Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 11/20/2010 and analyzed in accordance with the attached chain-of-custody.

Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

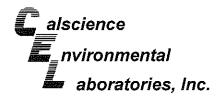
Note that the Chain-of-Custody Record and Sample Receipt Form are integral parts of this report.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Cecile & se Sain

Calscience Environmental Laboratories, Inc. Cecile deGuia **Project Manager** 





ETIC Engineering, Inc. 2285 Morello Avenue

Pleasant Hill, CA 94523-1850

Date Received:

Work Order No:

Preparation:

Method:

11/20/10

10-11-1701

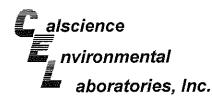
EPA 5030C

EPA 8015B (M)

Project: ExxonMobil 99105

Page 1 of 1

Client Sample Number		Lab Sampl Number		Date/Time Collected	Matrix	Instrume	Date int Prepared	Date/Time Analyzed	QC Batch ID
Drum 4		10-11-170	)1-1-A	11/17/10 16:10	Solid	GC 22	11/22/10	11/22/10 20:46	101122801
Comment(s): -Results were eval	luated to the MDL	, concentrations >:	= to the ME	DL but < RL,	if found,	are qualified	with a "J" flag.		
Parameter	Result	<u>RL</u>	MDL	<u>DF</u>		<u>Qual</u>	<u>Units</u>		
TPH as Gasoline	ND	0.50	0.42	1		U	mg/kg		
Surrogates:	REC (%)	Control Limits				<u>Qual</u>			
1,4-Bromofluorobenzene	78	42-126							
Method Blank		099-12-27	'9-4,111	NA	Solid	GC 22	11/22/10	11/22/10 13:49	101122B01
Comment(s): -Results were eval	uated to the MDL	, concentrations >=	to the ME	L but < Rt.,	if found,	are qualified	with a "J" flag.		
<u>Parameter</u>	Result	<u>RL</u>	MDL	<u>DF</u>		<u>Qual</u>	<u>Units</u>		
TPH as Gasoline	ND	0.50	0.42	1		U	mg/kg		
Surrogates:	REC (%)	Control Limits				<u>Qual</u>			
1.4-Bromofluorobenzene - FID	80	42-126							





0.0050 0.00032 1

Qual

Control

<u>Limits</u>

62-146

60-132

ND

113

98

REC (%)

U

ETIC Engineering, Inc.						Date Re	ceived:				11	/20/1	0
2285 Morello Avenue						Work Or	rder No:				10-11	-170	1
Pleasant Hill, CA 94523-	1850					Prepara	tion:				EPA 5	5030	С
						Method:					EPA 8	3260	В
						Units:						mg/k	g
Project: ExxonMobil 991	105										Page	1 of	1
Client Sample Number			Lab Sa Numi	•		Date/Time Collected	Matrix	Instrument	Date Prepa		te/Time alyzed	QC Bat	tch ID
Drum 4	A second		10-11-	1701-1	l-A	11/17/10 16:10	Solid	GC/MS QC	11/20/		/22/10 14:40	101122	LO1
Comment(s): -Results were ev	aluated to th	ne MDL, c	oncentratio	ons >=	to the N	MDL but < RL, i	if found, ar	e qualified wi	th a "J" flaç	<b>3</b> .			
<u>Parameter</u>	Result	RL	<u>MDL</u>	<u>DF</u>	<u>Qual</u>	<u>Parameter</u>			Result	<u>RL</u>	MDL	DF	<u>Qual</u>
Benzene	ND	0.0050	0.00020	1	U	Toluene			ND	0.0050	0.00029		U
Ethylbenzene	ND	0.0050	0.00016	1	U	Xylenes (tota	ıl)		ND	0.0050	0.00032	1	U
Surrogates:	REC (%)	Control Limits	Qua	Ī		Surrogates:			REC (%)	Control Limits	Qu	<u>al</u>	
Dibromofluoromethane	99	63-141				1,2-Dichloroe	ethane-d4		116	62-146			
Toluene-d8	98	80-120				1,4-Bromoflu	orobenzen	е	98	60-132			
Method Blank	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	The second secon	099-12	796-4	,185	N/A	Solid	GC/MS QC	11/22/		/22/10  3:47	101122	<b>E0</b> 4
Comment(s): -Results were ev	aluated to th	e MDL, c	oncentratio	ns >=	to the N	MDL but < RL, i	if found, are	e qualified wi	th a "J" flag				
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	MDL	<u>DF</u>	<u>Qual</u>	<u>Parameter</u>			<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qual</u>
Benzene	ND	0.0050	0.00020	1	Ų	Toluene			ND	0.0050	0.00029	1	U

Xylenes (total)

1,2-Dichloroethane-d4

1,4-Bromofluorobenzene

Surrogates:

RL - Reporting Limit ,
7440

Ethylbenzene

Dibromofluoromethane

Surrogates:

Toluene-d8

DF - Dilution Factor ,

0.0050 0.00016 1

<u>Qual</u>

Control

<u>Limits</u>

63-141

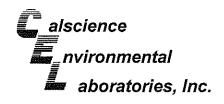
80-120

ND

99

100

Qual - Qualifiers





ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation:

Method:

10-11-1701 EPA 3050B EPA 6010B

11/20/10

Project: ExxonMobil 99105

Page 1 of 1

Client Sample Number		Lab Sa Numb		ite/Time ollected M	atrix Instr	ument	Date Prepared	Date/Time Analyzed	QC Batch ID
Drum 4	And the second s	10-11		/17/10 S 16:10			11/22/10	17:11	101122L01
Comment(s): -Results were	evaluated to the MD	L, concentration	s >= to the MDL	.but < RL, if f	ound, are qual	ified with a	a "J" flag.		
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	<u>Qual</u>	<u>Un</u>	<u>its</u>		
Lead	6.12	0.500	0.181	1		mg/l	kg		
Method Blank		097.0	i-002-14,378	N/A S		5300	11/22/10	11/22/10 17:07	10112

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

<u>Parameter</u> Lead Result ND <u>RL</u> 0.500 MDL 0.181 <u>DF</u>

<u>Qual</u> U <u>Units</u> mg/kg



## **Quality Control - Spike/Spike Duplicate**



ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: 11/20/10 10-11-1701 EPA 3050B EPA 6010B

## Project ExxonMobil 99105

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Da Anal)		MS/MSD Batch Number		
10-11-0093-3	Solid	ICP 5300	11/22/10	11/2	2/10	101122801		
<u>Parameter</u>	MS %REC	MSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers		
Lead	102	105	75-125	3	0-20			

RPD - Relative Percent Difference , CL - Contri



## **Quality Control - PDS / PDSD**



ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received Work Order No: Preparation: Method: 11/20/10 10-11-1701 EPA 3050B EPA 6010B

Project: ExxonMobil 99105

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date	Analyzed	PDS / PDSD_Batch Number
10-11-0093-3	Solid	ICP 5300	11/22/10		1/22/10	101122801
<u>Parameter</u>	PDS %REC	PDSD %REC	%REC CL	<u>RPD</u>	RPD C	L Qualifiers
Lead	103	104	75-125	1	0-20	

RPD - Relative Percent Difference ,



## Quality Control - Spike/Spike Duplicate



ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: 11/20/10 10-11-1701 EPA 5030C EPA 8015B (M)

Project ExxonMobil 99105

Quality Control Sample ID	Matrix	Instrument	Date Prepared	I ,	Date Analyzed	MS/MSD Batch Number
10-11-1503-1	Solid	GC 22	11/22/10		11/22/10	101122501
<u>Parameter</u>	MS %REC	MSD %REC	%REC CL	RPD	RPD CI	<u>Qualifiers</u>
TPH as Gasoline	68	75	48-114	8	0-23	

1



## **Quality Control - Spike/Spike Duplicate**



ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: 11/20/10 10-11-1701 EPA 5030C EPA 8260B

### Project ExxonMobil 99105

Quality Control Sample ID	Matrix	Instrument	Date Prepared		Date Analyzed	MS/MSD Batch Number
Drum4	Solid	GC/MS/QQ	11/20/10		11/22/10	101122801
<u>Parameter</u>	MS %REC	MSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Benzene	81	79	61-127	2	0-20	
Ethylbenzene	84	84	57-129	0	0-22	
Toluene	81	79	63-123	2	0-20	

RPD - Relative Percent Difference ,





ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: N/A 10-11-1701 EPA 3050B EPA 6010B

Project: ExxonMobil 99105

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Bate Number	ch
097-01-002-14,378	Solid	ICP 5300	11/22/10	11/22/10	1011221 01	10 m 1 m 2 m 2 m 2 m 2 m 3 m 3 m 3 m 3 m 3 m 3
<u>Parameter</u>	LCS %REC	C LCSD %	KREC %REC	CCL RPD	RPD CL	Qualifiers
Lead	112	112	80-1	120 0	0-20	

RPD - Rela



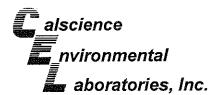


ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: N/A 10-11-1701 EPA 5030C EPA 8015B (M)

Project: ExxonMobil 99105

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Ba Number	atch
099-12-279-4,111	Solid	GC 22	11/22/10	11/22/10	101122801	No. 2010 (1997)
<u>Parameter</u>	LCS %RE	EC LCSD 9	%REC %R	EC CL RPI	<u>RPD CL</u>	Qualifiers
TPH as Gasoline	102	100	70	)-124 2	0-18	

Muh. \_\_\_\_





ETIC Engineering, Inc. 2285 Morello Avenue Pleasant Hill, CA 94523-1850 Date Received: Work Order No: Preparation: Method: N/A 10-11-1701 EPA 5030C EPA 8260B

Project: ExxonMobil 99105

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Bate Number	ch
099-12-796-4,185	Solid	C/MS QQ	11/22/10	11/22/10	101122L01	The second secon
<u>Parameter</u>	LCS %RE(	<u>LCSD 9</u>	<u> 6REC %RI</u>	EC CL RP	<u>D</u> <u>RPD CL</u>	Qualifiers
Benzene	88	86	78	-120 1	0-20	
Ethylbenzene	92	92	76	-120 0	0-20	
Toluene	89	89	77	-120 1	0-20	

RPD - Rela



## **Glossary of Terms and Qualifiers**



Work Order Number: 10-11-1701

Qualifier	Definition
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	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.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
l	Compound did not meet method-described identification guidelines. Identification was based on additional GC/MS characteristics.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS recovery percentage is within LCS ME control limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	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.
U	Undetected at detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for $\%$ moisture.

Calgalence	-
<b>F</b> pvironmental	
amaboratories,	Inc.

7440 LINCOLN WAY

**GARDEN GROVE, CA 92841-1432** 

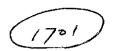
TEL: (714) 895-5494 , FAX: (714) 894-7501

# Site Name Provide MRN for retail or AFE for major projects Retail Project (MRN) Major Project (AFE) E1.1996.60135

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CITY:					1 н	amio	dou F	Barry	FTIC	Fnair	neerin	g, Inc.			727707
Pleasant Hill, CA 9452	1 FAX:	·			SAM	PLER(	S): (SIGI	NATURE	)	g.,	100111	y, mc.			COOLER RECEIPT
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COC\99105 COC soil			Re	ceived by: (	Signatu	ire)									Date, & Time:
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# **〈WebShip〉〉〉〉〉**

800-322-5555 www.gso.com

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

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

COD: \$0.00

Reference:

Delivery Instructions;

Signature Type: SIGNATURE REQUIRED Tracking #: 515398969

ORC

**GARDEN GROVE** 

D92843A



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Print Date: 11/19/10 14:45 PM

Package 1 of 1

SDS



WORK ORDER #: 10-11- □ □ □ □

# SAMPLE RECEIPT FORM Cooler / of /

CLIENT: ETIC	DATE:	11/20/10
TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C − 6.0 °C, not frozent Temperature	Blank  ay of samplir	□ Sample  ng.  Initial:
CUSTODY SEALS INTACT:  Cooler	□ N/A	Initial: <u>Y</u> ム Initial: <u>4</u> らく
Chain-Of-Custody (COC) document(s) received with samples		No N/A □ □
COC document(s) received complete	<b>2</b>	
Sampler's name indicated on COC  Sample container label(s) consistent with COC		
Sample container(s) intact and good condition		
Analyses received within holding timepH / Residual Chlorine / Dissolved Sulfide received within 24 hours	<b>a</b>	
Proper preservation noted on COC or sample container		0 0
Volatile analysis container(s) free of headspace		
CONTAINER TYPE:  Solid: □4ozCGJ □8ozCGJ □16ozCGJ □Sleeve ( ) □EnCores®		ores <sup>®</sup> □
Water: □VOA □VOAh □VOAna₂ □125AGB □125AGBh □125AGBp □ □500AGB □500AGJ □500AGJs □250AGB □250CGB □250CGBs		
□ 250PB □ 250PBn □ 125PB □ 125PBznna □ 100PJ □ 100PJna₂ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	Labeled/Ch /elope Rev	necked by:

# Appendix H

Waste Documentation

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Non Hazaro	ous Waste Solid, (Construction	n Debdā)			1	DM	580	£.			
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