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123b

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September 28, 2004

Mr. Amir Gholami Alameda County Health Care Services Agency 1131 Harbor Bay Parkway, 2<sup>nd</sup> Floor Alameda, California 94502

Subject: Former Mobil Station 04-334, 2492 Castro Valley Boulevard, Castro Valley, California

Dear Mr. Gholami:

Attached for your review and comment is a copy of the *Report of Well Installation* for the above-referenced site. The report, prepared by ETIC Engineering, Inc. of Pleasant Hill, California, details the results of the installation of four groundwater monitoring wells. This work was conducted in accordance with work proposed in TRC's Site Assessment Workplan dated May 16, 2003 and with the well locations proposed in ETIC's February 2004 Subsurface Investigation Report approved by the Alameda County Health Care Services Agency in a letter dated March 5, 2004.

If you have any questions or comments, please contact me at (925) 246-8747.

Sincerely,

Gene N. Ortega Project Manager

Attachment: ETIC Report of Well Installation dated September 2004

c: w/ attachment:

Ms. Paula Floeck - Jiffy Lube International

Mr. Dan McQuillen - Jiffy Lube Remediation Coordinator

Mr. William Slautterback - Cal Lube Real Estate Limited Partnership

Mr. William Peterson - Owner of Castro Valley Lumber Company

c: w/o attachment:

Ms. Christa Marting - ETIC Engineering, Inc.





## Report of Well Installation

## Former Mobil Station 04-334 2492 Castro Valley Boulevard Castro Valley, California

#### Prepared for

ExxonMobil Refining and Supply Company 25A Crescent Drive #407 Pleasant Hill, California 94523

### Prepared by

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

Bryan Campbell
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Date

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September 2004

### **CONTENTS**

		<u>Pa</u>	<u>ze</u>
	OF FIGU CONTAC	RES AND TABLES CTS	
1.	INTRO:	DUCTION	.1
2.	SITE B.	ACKGROUND	.2
	2.1	SITE LOCATION, HISTORY, AND LAND USE	.2
		SUMMARY OF PREVIOUS INVESTIGATIONS	
	2.3	REGIONAL GEOLOGY AND HYDROGEOLOGY	3
	2.4	LOCAL GEOLOGY AND HYDROGEOLOGY	3
3.	SUBSU	RFACE INVESTIGATION	5
	3.1	DRILLING OF SOIL BORINGS	5
	3.2	SOIL SAMPLING	5
	3.3	GROUNDWATER MONITORING WELL INSTALLATIONS	5
	3.4	WELL DEVELOPMENT	6
	3.5	GROUNDWATER SAMPLING	6
	3.6	SURVEYING OF GROUNDWATER MONITORING WELLS	6
	3.7	WASTE CONTAINMENT AND DISPOSAL	6
4.	RESUL	TS	7
	4.1	SITE GEOLOGY AND HYDROGEOLOGY	7
	4.2	SOIL SAMPLE ANALYTICAL METHODS AND RESULTS	7
	4.3	GROUNDWATER SAMPLE ANALYTICAL METHODS AND RESULTS	7
5.	SUMM	ARY	9
REFE	ERENCES	3	10
FIGU TAB			
APPI	ENDIX A	: Regulatory Correspondence	
APPI	ENDIX B		
APPI	ENDIX C		
APP	ENDIX D	: Boring Logs	
APPI	ENDIX E		
APPI	ENDIX F:		
	ENDIX G		
ADDI	T YICIN	· Waste Documentation	

### LIST OF FIGURES AND TABLES

### Former Mobil Station 04-334

Number	<u>Description</u>
Figures	
1	Site location and topography map.
2	Site plan.
3	Site plan showing groundwater elevations and analytical results.
Tables	
1	Soil sample analytical results.
2	Groundwater sample analytical results for temporary borings.
3	Well construction details.
4	Groundwater monitoring data.

#### SITE CONTACTS

Station Number: Former Mobil Station 04-334

Station Address: 2492 Castro Valley Boulevard

Castro Valley, California

ExxonMobil Project Manager: Gene N. Ortega

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#### 1. INTRODUCTION

At the request of ExxonMobil Refining and Supply Company (ExxonMobil), ETIC Engineering, Inc. (ETIC) observed the installation of three onsite groundwater monitoring wells (MW1, MW2, MW3) at former Mobil Station 04-334, located at 2492 Castro Valley Boulevard, Castro Valley, California, and one offsite groundwater monitoring well (MW4), located at 2495 Castro Valley Boulevard.

The well installations were conducted in accordance with the work proposed in TRC's Site Assessment Workplan dated 16 May 2003 (TRC 2003) which was approved by the Alameda County Health Care Services Agency (ACHCSA) in a letter dated 12 September 2003. The well locations outlined in ETIC's Subsurface Investigation Report, dated February 2004, were approved by the ACHCSA in a letter dated 5 March 2004. Correspondence from the ACHCSA is provided in Appendix A. This report documents the results of the well installations.

#### Scope of Work

The investigation consisted of the following activities:

- Between 23 and 25 June 2004, four soil borings (MW1, MW2, MW3, MW4) were drilled to between 15 and 20 feet below ground surface (bgs) and were completed as 2-inch-diameter groundwater monitoring wells.
- Selected soil samples were collected during drilling activities at intervals of 5 feet or less and were analyzed for Total Petroleum Hydrocarbons as gasoline (TPH-g) and as diesel (TPH-d) by EPA Method 8015B, for benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8021B, and for methyl t-butyl ether (MTBE) by EPA Method 8260B.
- The wells were developed on 9 July 2004.
- On 13 August 2004, groundwater samples were collected from the wells during the third quarter monitoring event. The samples were analyzed for TPH-g and TPH-d by EPA Method 8015B, BTEX by EPA Method 8021B, and MTBE by EPA Method 8260B.

#### 2. SITE BACKGROUND

#### 2.1 SITE LOCATION, HISTORY, AND LAND USE

Former Mobil Station 04-334 is an active Jiffy Lube-branded oil change service business located at 2492 Castro Valley Boulevard, on the northwest corner of the intersection of Castro Valley Boulevard and Stanton Avenue (Figures 1 and 2). The site was previously operated as a service station by GP Petroleum from 1956 to 1969. In 1956, two 6,000-gallon underground storage tanks (USTs) and one used-oil UST were installed. The service station was operated by Mobil Oil from 1969 to 1983. An 8,000-gallon UST was installed in 1971. In 1983, the three fuel USTs and one used-oil UST were removed from the site.

The site lies in a predominantly commercial district. To the east, across Stanton Avenue, is a Tosco 76 Service Station which is a former Thrifty Oil station. The former Thrifty Oil site is an active Leaking Underground Storage Tank site under the jurisdiction of the ACHCSA. The former Thrifty Oil site has 12 groundwater monitoring wells, including one well (RS9) which is located adjacent to the east side of the former Mobil site. To the west of the former Mobil site is a Big-O Tire business and to the south across Castro Valley Boulevard is a Wendy's Restaurant. To the southeast of the site is the Castro Valley Lumber Co. business. To the north is a residential area.

The site is situated near the base of the northwest trending foothills separating Castro Valley from Hayward. The site is located at an elevation of approximately 180 feet above mean sea level.

#### 2.2 SUMMARY OF PREVIOUS INVESTIGATIONS

In 1983, three fuel USTs and one used-oil UST were removed from the site. Soil samples were collected for geotechnical and physical properties analysis to determine compaction specifications for backfill of the tank cavity. Petroleum hydrocarbon odor was not noted during backfilling of the tank cavity (Judd Hall and Associates 1983).

In 1986, a geotechnical assessment was conducted by Giles Engineering Associates, Inc. on behalf of California Lubricants Ltd. Six soil borings were advanced onsite and sampled. Slight to moderate petroleum hydrocarbon odor was noted from 3 feet to 8.6 feet bgs while drilling in the backfill and former tank cavity (Alisto 1994). No soil samples were submitted for analysis during this assessment.

In March 1999, TRC advanced five direct-push borings (AB1 through AB5) to total depths ranging between 16 and 20 feet bgs. Selected soil and groundwater samples were analyzed for TPH-g, TPH-d, BTEX, and MTBE. Selected soil and groundwater samples collected from AB2, located near the former used-oil tank, were also analyzed for oil and grease and halogenated volatile organic compounds (HVOCs). Soil samples from AB2 were further analyzed for CAM-17 metals (TRC 1999).

For the soil samples, maximum concentrations of 2,600 milligrams per kilogram (mg/kg)
 TPH-g, 700 mg/kg TPH-d, and 3.4 mg/kg benzene were detected in AB4 (10-11 feet bgs). A maximum concentration of 8 mg/kg MTBE by EPA Method 8021 was detected in AB4 (10-

11 feet bgs); however, the result for the confirmation sample analyzed by EPA Method 8260B was below the laboratory reporting limits.

• For the groundwater samples, maximum concentrations of 4,300 micrograms per liter (μg/L) TPH-g and 210 μg/L benzene were detected in AB3. A maximum concentration of 5,500 μg/L TPH-d was detected in AB4. MTBE was not detected in any groundwater sample above laboratory reporting limits.

In November 2003, ETIC conducted a subsurface investigation. Seven direct-push soil borings (SB1-SB7) were advanced to total depths ranging between 15 and 20 feet bgs (with the exception of SB4 which was terminated at 2 feet bgs). Selected soil samples were collected from SB2, SB3, SB5, and SB6 and groundwater samples were collected from SB2, SB3, SB5, and SB6. The samples were analyzed for TPH-g, TPH-d, BTEX, and MTBE. Selected samples from boring SB2 were also analyzed for Total Recoverable Petroleum Hydrocarbons (TRPH) (ETIC 2004).

- For the soil samples, maximum concentrations of 1,960 mg/kg TPH-g, 876 mg/kg TPH-d, and 2.67 mg/kg benzene were detected in boring SB3 (10.5-11 feet bgs). TRPH was detected at a maximum concentration of 47.4 mg/kg in boring SB2 (5.5-6 feet bgs). MTBE was not detected above laboratory reporting limits in any of the soil samples.
- For the groundwater samples, maximum concentrations of 46,700 μg/L TPH-g, 13,400 μg/L TPH-d, and 1,170 μg/L benzene were detected in boring SB3. Groundwater collected from boring SB2 was analyzed for TRPH, which was not detected above the laboratory reporting limit. MTBE was detected in boring SB2 at a concentration of 2.1 μg/L. MTBE was not detected in samples collected from any other borings.

Soil sample analytical results are presented in Table 1. Groundwater sample analytical results for temporary borings are presented in Table 2.

#### 2.3 REGIONAL GEOLOGY AND HYDROGEOLOGY

The former Mobil site is underlain by Quaternary-age alluvium. Mapped bedrock outcrops near the site include the Panoche Formation, which is described as a conglomerate with a sandstone matrix, and the Knoxville Formation, which is described as a micaceous shale with thin beds of sandstone (Alton 1997). The site is located in the Castro Valley Groundwater Basin, which is a 4-square mile basin that is drained by the San Lorenzo Creek (DWR 1975).

The nearest surface water body to the site is the South Reservoir, located approximately 2,300 feet southeast of the site. San Lorenzo Creek is located approximately 3,500 feet southwest of the site.

#### 2.4 LOCAL GEOLOGY AND HYDROGEOLOGY

The geology and hydrogeology of the site have been evaluated using the boring logs from previous site investigations. The majority of the native soil types encountered during drilling consist of silts and clays to at least 20 feet bgs, the maximum explored depth. Relatively minor lenses of silty sand and silty gravel have been encountered within the major soil types with a thickness of no more than 4 feet beneath the site.

Depth to groundwater at the site ranges between 2 and 10 feet bgs. Groundwater flow direction is generally toward the southeast.

#### 3. SUBSURFACE INVESTIGATION

ETIC observed the installation of four groundwater monitoring wells (MW1 through MW4) between 23 and 25 June 2004. The soil borings for the wells were drilled using hollow-stem auger drilling methods. The wells were installed as 2-inch monitoring wells. The well locations were selected to define the extent of dissolved-phase hydrocarbons in groundwater and were based on the anticipated groundwater flow direction. Permits to install the wells were obtained from the Alameda County Public Works Agency prior to drilling and are included in Appendix B. The locations of the wells are shown on Figure 2.

#### 3.1 DRILLING OF SOIL BORINGS

The borings were drilled on 24 and 25 June 2004 by Cascade Drilling, Inc. of Rancho Cordova, California (C-57 license #717510), using a limited access drill rig equipped with 8.25-inch-diameter hollow-stem augers. Borings MW1, MW2, and MW3 were drilled to a depth of approximately 20 feet bgs, and boring MW4 was drilled to a depth of approximately 15 feet bgs.

The borings were cleared on 23 July 2004 by Cascade Drilling, Inc. with an air vacuum rig to ensure that there were no obstructions near the potential path of the augers. Boring MW1 was cleared to a depth of 5.5 feet bgs, borings MW2 and MW3 were each cleared to a depth of 5 feet bgs, and boring MW4 was cleared to a depth of 8 feet bgs. The borings were continuously logged from the base of the cleared hole to the total depth, and selected soil samples were collected from each boring for laboratory analysis. The hollow-stem augers and downhole equipment were pressure washed before drilling began and upon completion of each borehole. Equipment rinsate was collected in 55-gallon drums and temporarily stored on the site. Field methods and procedures are described in the protocols, presented in Appendix C.

#### 3.2 SOIL SAMPLING

Soil samples were collected by driving an 18-inch-by-2-inch-diameter California-modified split-spoon sampler containing 6-inch brass or stainless steel sleeves ahead of the augers into undisturbed soil. The samples were examined for soil characteristics and screened in the field with an organic vapor analyzer (OVA) to determine the relative hydrocarbon content. The soils are described and the OVA readings are recorded on the soil boring logs presented in Appendix D. Selected soil samples were sealed with Teflon tape, capped, labeled, placed in a cooler with ice, and submitted to a state-certified laboratory for analysis.

#### 3.3 GROUNDWATER MONITORING WELL INSTALLATIONS

The borings were completed as groundwater monitoring wells. The wells were completed in accordance with ETIC's protocols (Appendix C) and the well installation requirements issued by the Alameda County Public Works Agency. The well permits are included in Appendix B. Well construction details are summarized in Table 3 and are shown on the soil boring logs provided in Appendix D.

The wells were constructed with 2-inch-diameter Schedule 40 polyvinyl chloride (PVC) blank well casing and screened with 0.010-inch machine-slotted Schedule 40 PVC casing. The well details,

including screen placement, are provided on the boring logs in Appendix D and are summarized in Table 3. A filter pack of #2/12 sand was placed from the total depth of each boring to approximately 0.5 feet above the top of the screened interval of each well. The wells were then sealed with a 0.5-foot layer of hydrated bentonite chips, followed by neat cement grout to just below ground surface.

#### 3.4 WELL DEVELOPMENT

The wells were developed on 9 July 2004. The wells were surged for approximately 15 minutes using a 2-inch surge block and then purged with a submersible pump. At least 3 casing volumes of water was purged from each well. Well development procedures are described in Appendix C. Field data recorded during development are presented in Appendix E.

#### 3.5 GROUNDWATER SAMPLING

Groundwater samples were collected from the wells on 13 August 2004 during the third quarter groundwater monitoring event. The wells were gauged for depth to water with a water level meter. WaTerra tubing and check valves were installed. The wells were then purged of 3 casing volumes of water and groundwater samples were collected using the WaTerra system. Groundwater pH, temperature, and electrical conductivity were monitored during purging. The samples were submitted to a state certified laboratory for analysis. The groundwater monitoring and sampling procedures are described in Appendix C. Field data recorded during sampling are presented in Appendix E.

#### 3.6 SURVEYING OF GROUNDWATER MONITORING WELLS

On 12 July 2004, the top of casing elevation of each well was surveyed by Morrow Surveying, a licensed land surveyor. The top of casing elevations for all of the wells are listed in Table 3. The surveyor's report is provided in Appendix F.

#### 3.7 WASTE CONTAINMENT AND DISPOSAL

The soil generated during drilling activities was collected in 55-gallon drums and temporarily stored on the site. Soil samples were collected from the drums, submitted to TestAmerica, Inc., a California state-certified laboratory in Nashville, Tennessee, composited by the laboratory, and analyzed for TPH-g, BTEX, and total lead in order to characterize the soil for proper disposal. The laboratory analytical report and chain-of-custody documentation are included in Appendix G. The soil was removed from the site on 30 July 2004 and transported to an ExxonMobil-approved facility. Waste documentation is included in Appendix H.

Equipment rinsate water was placed in 55-gallon drums. The water was removed from the site on 11 August 2004 and transported to an ExxonMobil-approved facility.

Water generated during well development and well sampling was removed directly from the site on 9 July 2004 and 13 August 2004, respectively, and transported to an ExxonMobil-approved facility. Waste documentation is included in Appendix H.

#### 4. RESULTS

#### 4.1 SITE GEOLOGY AND HYDROGEOLOGY

Soils encountered during the drilling of the borings were generally consistent with those observed in previous borings at the site. The majority of the native soils encountered during drilling generally consist of silt, clayey silt, clay, and silty clay down to 20 feet bgs, the maximum explored depth. Lenses of strongly cemented silt were encountered in the borings. Detailed soil descriptions are presented on the boring logs in Appendix D.

On 13 August 2004, water levels in the wells were measured for the third quarter monitoring event. The depths to water in wells MW1 through MW4 were 7.32 feet, 6.96 feet, 5.36 feet, and 6.10 feet below the top of casing, respectively.

#### 4.2 SOIL SAMPLE ANALYTICAL METHODS AND RESULTS

Selected soil samples were submitted to TestAmerica, Inc. in Nashville, Tennessee, and analyzed for TPH-g and TPH-d by EPA Method 8015B, BTEX by EPA Method 8021B, and MTBE by EPA Method 8260B. Analytical results are summarized in Table 1. The laboratory analytical reports and chain-of-custody documentation are included in Appendix G.

- Benzene was detected at a maximum concentration of 2.21 mg/kg in MW3 (8-8.5 feet bgs), and was not detected above laboratory reporting limits in borings MW1, MW2, and MW4.
- TPH-g was detected at a maximum concentration of 1,400 mg/kg in MW3 (8-8.5 feet bgs), and was not detected above laboratory reporting limits in borings MW1, MW2, and MW4.
- TPH-d was detected in MW3 at 5-5.5 feet bgs at a concentration of 18.1 mg/kg, and was not detected above laboratory reporting limits at any other depth in MW3 or in any other boring.
- MTBE was detected at a maximum concentration of 0.0024 mg/kg in MW4 (11.5-12 and 14.5-15 feet bgs), and was not detected above laboratory reporting limits in any other boring.

#### 4.3 GROUNDWATER SAMPLE ANALYTICAL METHODS AND RESULTS

Groundwater samples were collected from the wells during the third quarter groundwater monitoring event. The samples were submitted to TestAmerica, Inc. in Nashville, Tennessee, and analyzed for TPH-g and TPH-d by EPA Method 8015B, BTEX by EPA Method 8021B, and MTBE by EPA Method 8260B. Analytical results are summarized in Figure 3 and Table 4. The laboratory analytical reports and chain-of-custody documentation are included in Appendix G.

- Benzene was detected at a concentration of 100 μg/L in groundwater collected from well MW3 and was not detected above laboratory reporting limits in wells MW1, MW2, and MW4.
- TPH-g was detected at a concentration of 1,440 μg/L in MW3. TPH-g was not detected above laboratory reporting limits in wells MW1, MW2, and MW4.

- TPH-d was detected at concentrations of 71  $\mu$ g/L, 57  $\mu$ g/L, 352  $\mu$ g/L, and 72  $\mu$ g/L in wells MW1, MW2, MW3, and MW4, respectively.
- MTBE was detected at concentrations of 2.80 μg/L in MW4 and 1.20 μg/L in well MW1. MTBE was not detected above laboratory reporting limits in groundwater collected from MW2 and MW3.

#### 5. SUMMARY

Between 23 and 25 June 2004, ETIC observed the installation of three onsite groundwater monitoring wells (MW1, MW2, MW3) at former Mobil Station 04-334, located at 2492 Castro Valley Boulevard, Castro Valley, California, and one offsite groundwater monitoring well (MW4) located at 2495 Castro Valley Boulevard. The wells were installed as 2-inch monitoring wells.

Soils encountered during the drilling of the borings were generally consistent with those observed in previous borings at the site. Soils encountered in the borings consisted primarily of silt and clay down to 20 feet bgs, the total depth explored. Lenses of strongly cemented silt were encountered in the borings.

Soil samples were collected and analyzed for TPH-g, TPH-d, BTEX, and MTBE. The maximum concentrations of benzene, TPH-g, TPH-d, and MTBE were detected at 2.21 mg/kg in MW3 (8-8.5 feet bgs), at 1,400 mg/kg in MW3 (8-8.5 feet bgs), at 18.1 mg/kg in MW3 (5-5.5 feet bgs), and at 0.0024 mg/kg in MW4 (11.5-12 and 14.5-15 feet bgs), respectively.

Groundwater samples were collected from the wells on 13 August 2004 during the third quarter monitoring event. The samples were analyzed for TPH-g, TPH-d, BTEX, and MTBE. Benzene was detected at  $100 \,\mu\text{g/L}$  in well MW3, and TPH-g and TPH-d were detected at maximum concentrations of 1,440  $\,\mu\text{g/L}$  and 352  $\,\mu\text{g/L}$ , respectively, in MW3. MTBE was detected at a maximum concentration of 2.80  $\,\mu\text{g/L}$  in well MW4.

The newly installed wells were incorporated into a quarterly groundwater monitoring program for the site and will be sampled next during the fourth quarter of 2004. A groundwater monitoring report for the third quarter sampling event will be submitted under separate cover.

#### REFERENCES

Alisto (Alisto Engineering Group). 1994. Workplan for Preliminary Site Investigation, Former Mobil Oil Corporation Station 04-334. Alisto, Walnut Creek, California. 3 February.

Alton (Alton Geoscience). 1997. Site Assessment Workplan, Former Mobil Station 04-334. Alton, Livermore, California. 17 July.

DWR (California Department of Water Resources). 1975. California's Ground Water, Bulletin No. 118. September.

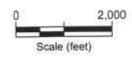
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Judd Hall and Associates. 1983. Backfill of Tank Excavation at 2492 Castro Valley Boulevard, Alameda County, California. Judd Hall and Associates, Hayward, California. 15 November.

TRC (TRC Alton Geoscience). 1999. Initial Site Assessment Report, Former Mobil Station 04-334, 2492 Castro Valley Boulevard, Castro Valley, California. TRC, Concord, California. 3 September.

TRC. 2003. Site Assessment Workplan, Former Mobil Station 04-334, 2492 Castro Valley Boulevard, Castro Valley, California. TRC, Concord, California. 16 May.





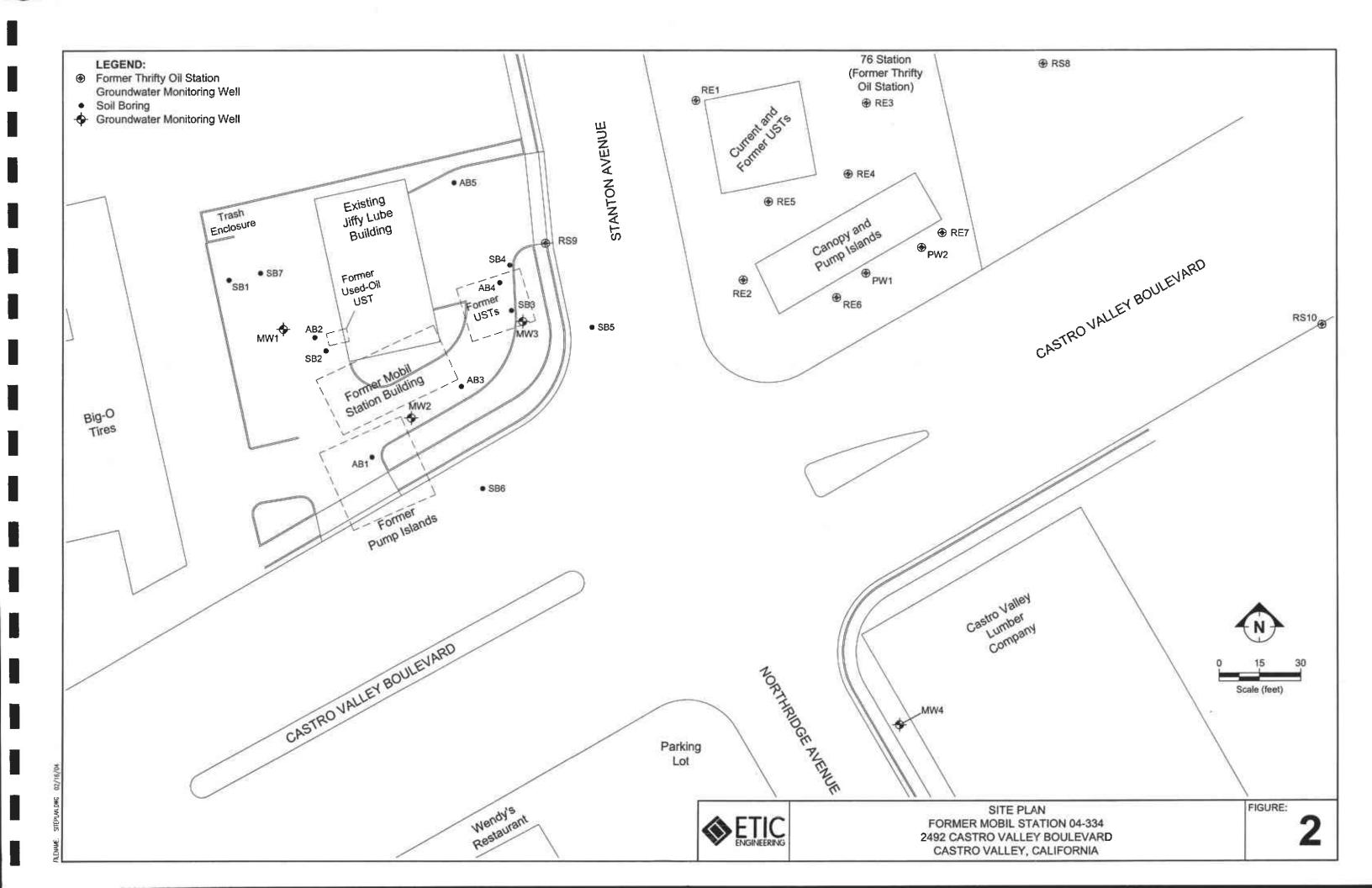


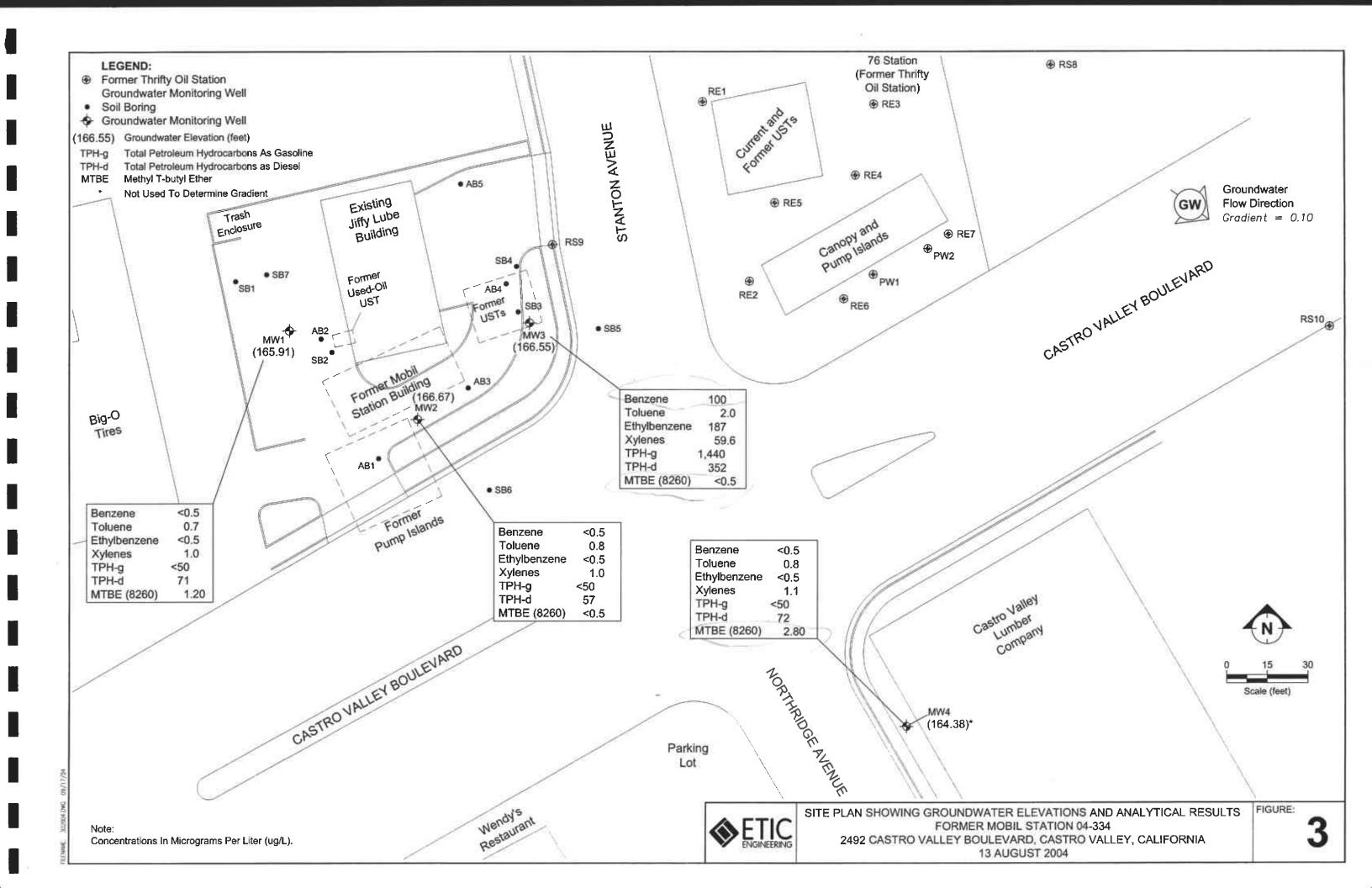
(Map Source: USGS Topography Map)



SITE LOCATION AND TOPOGRAPHY MAP FORMER MOBIL STATION 04-334 2492 CASTRO VALLEY BOULEVARD CASTRO VALLEY, CALIFORNIA FIGURE:

1





Sample ID	Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl- benzene (mg/kg)	Xylenes (mg/kg)	TPH-g (mg/kg)	TPH-d (mg/kg)	MTBE (8021B) (mg/kg)	MTBE (8260B) (mg/kg)	TRPH (mg/kg)	CAM-17 (200.7) (mg/kg)	HVOC (8010) (mg/kg)
AB1	03/04/99	4-5	ND	ND	0.010	ND	3.2	ND	ND				-
AB1	03/04/99	10-11	ND	ND	ND	ND	ND	ND	ND	_			_
AB1	03/04/99	15-16	ND	ND	ND	ND	ND	ND	ND				-
AB1	03/04/99	19-20	ND	ND	ND	ND	ND	ND	ND	-			_
									<b>.</b>		ND	*	ND
AB2	03/04/99	4-5	ND	ND	ND	ND	ND	ND	ND		ND 13	*	ND ND
AB2	03/04/99	10-11	ND	ND	ND	ND	ND	ND	ND ND		ND		ND
AB2	03/04/99	15-16	ND	ND	ND	ND	ND	ND	ND		ND		ND
AB3	03/04/99	4-5	ND	0.09	1.9	ND	280	170	0.4				
AB3	03/04/99	10-11	ND	ND	ND	ND	ND	ND	ND			_	
AB3	03/04/99	15-16	ND	ND	ND	ND	ND	10	ND			_	
4.10.4	02/04/00	4.5	0.7	MD	10	62	1,100	100	ND				
AB4 AB4	03/04/99 03/04/99	4-5 10-11	0.2 3.4	ND 18	18 38	62 170	2,600 <sup>7</sup>	700	8	ND			
AB4 AB4	03/04/99	15-16	0.005	0.011	0.038	0.12	2.8	ND	ND	_	_		
1004	03/04/99	15 10	0.005	0.011	0,020	****							
AB5	03/04/99	4-5	ND	ND	ND	ND	ND	ND	ND	_			_
AB5	03/04/99	10-11	ND	ND	ND	ND	ND	ND	ND	-			
AB5	03/04/99	15-16	ND	ND	ND	ND	ND	ND	ND				
SB1	11/12/03	5.5-6	< 0.001	< 0.001	< 0.001	< 0.001	<5.05	<9.88	_	< 0.002			
SB1	11/12/03	11-11.5	0.002	0.0022	<0.001	< 0.001	<4.88	<10.1	<b>–</b> .	< 0.002	_		
SB1	11/12/03	14.5-15	0.0027	0.0061	<0.001	0.0029	<4.98	<10.1		< 0.002	_		
SB1	11/12/03	17.5-18	0.0051	0.0112	0.0011	0.0039	<5.06	<10	-	< 0.002			-
SB2	11/12/03	5.5-6	<0.001	< 0.001	<0.001	< 0.001	<4.93	<10		< 0.002	47.4	_	
SB2 SB2	11/12/03	10-10.5	0.0013	0.0023	< 0.001	0.0018	<5.07	<9.96	_	< 0.002	30.3		
SB3	11/12/03	5-5.5	0.131	0.0027	0.0456	0.0153	6.19	<9.92		< 0.002			
SB3	11/12/03	10.5-11	2.67	0.782	19.6	32	1,960	876		<0.0502 <0.002		_	
SB3	11/12/03	15.5-16	0.0315 1.83	0.0043 0.529	0.0593 8.13	0.09 14.8	5.49 932	12 178	_	<0.002		-	
SB3 SB3	11/12/03 11/12/03	16.5-17 19.5-20	0.004	0.0042	0.0017	0.0037	<4.97	13.9		< 0.002			
3133	11/12/03	19.5-20	0.007	0.0072	0.0017	0.0057	11127	12.5		••-			
SB4	11/12/03	Boring terr	minated at 1	2 feet bgs. 1	No soil sam	ples collecte	ed.						
SB5	11/13/03	8.5-9	< 0.001	< 0.001	< 0.001	< 0.001	<4.95	<9.84		< 0.002			_
SB5	11/13/03	11.5-12	0.0039	0.0174	0.0098	0.018	14.2	<10.1		< 0.002			
SB5	11/13/03	15.5-16	< 0.001	< 0.001	< 0.001	< 0.001	<5.02	<10.1		<0.002			
SB5	11/13/03	16.5-17	0.0014	< 0.001	< 0.001	< 0.001	<5.03	<10.2		< 0.002			-
SB6	11/13/03	8.5-9	0.0015	< 0.001	0.0011	0.0014	<5.01	<10		< 0.002		_	
SB6	11/13/03	11-11.5	0.0028	0.0016	< 0.001	< 0.001	< 5.02	<9.84		< 0.002			
SB6	11/13/03	14.5-15	0.0019	0.0012	< 0.001	< 0.001	<4.96	<10		< 0.002			
			-0.00*	±0.001	<b>≈0.001</b>	-0.001	~4 DO	~10 1		<0.002			
SB7	11/13/03	6.5-7 9-9.5	<0.001 <0.001	<0.001 <0.001	<0.001 <0.001	<0.001 <0.001	<4.98 <5.07	<10.1 <10		<0.002			
SB7 SB7	11/13/03 11/13/03	9-9.5 16-16.5	<0.001	0.001	< 0.001	<0.001	<4.97	<9.65		< 0.002			_
3.53334	06/22/04			~0 001	~0 001	~0 A01	<4.97	<10		<0.002	-		_
MW1 MW1	06/23/04 06/24/04	5-5.5 8.5-9	<0.001 <0.001	<0.001 <0.001	<0.001 <0.001	<0.001 <0.001	<4.97 <4.98	<10.2	-	<0.002	_	_	_
MW1	06/24/04	16.5-17	< 0.001	< 0.001	< 0.001	< 0.001	<4.96	<10.1	_	<0.002		-	_
MW1	06/24/04	19.5-20	<0.001	<0.001	<0.001	< 0.001	<5.04	<10.1	-	<0.002	-	-	
MW2	06/23/04	5-5.5	<0.001	0.0018	<0.001	0.0039	<4.96	<9.84	_	<0.002	_	-	_
MW2	06/25/04	9-9.5	< 0.001	< 0.001	<0.001	<0.001	<5.01	<10.2	-	<0.002		_	-
MW2	06/25/04	13-13.5	<0.001	<0.001	< 0.001	< 0.001	<5.05	<10	-	<0.002	_	-	
MW2	06/25/04	16.5-17	<0.001	<0.001	< 0.001	<0.001	<4.97	<9.8	-	<0.002	-	-	-
MW2	06/25/04	19.5-20	< 0.001	< 0.001	<0.001	<0.001	<5.04	<10		<0.002	_	_	-
MW3	06/23/04	5-5.5	0.0324	0.0184	3.11	2.22	12.7	18.1		<0.0996	-	-	_
MW3	06/25/04	8-8.5	2.21	1.48	27.4	5.49	1,400	<10	-	<0.002		-	
MW3	06/25/04	10.5-11	0.003	0.0014	0.001	< 0.001	<4.95	<9.88	_	<0.002	_	_	_
MW3	06/25/04	12-12.5	0.0061	0.0059	0.0122	0.0111	<4.96	<10.1	-	<0.002	-		-

Sample ID	Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl- benzene (mg/kg)	Xylenes (mg/kg)	TPH-g (mg/kg)	TPH-d (mg/kg)	MTBE (8021B) (mg/kg)	MTBE (8260B) (mg/kg)	TRPH (mg/kg)	CAM-17 (200.7) (mg/kg)	HVOC (8010) (mg/kg)
MW3 MW3	06/25/04 06/25/04	17-17.5 19-19.5	0.0012 <0.001	<0.001 <0.001	<0.001 <0.001	<0.001 <0.001	<5 <5.03	<10.1 <9.92	-	<0.002 <0.002	_	<del>-</del>	_
MW4	06/24/04	11.5-12	<0.001	<0.001	<0.001	<0.001	<4.97	<9.88	_	0.0024	_	-	_
MW4 MW4	06/24/04 06/24/04	13-13.5 14.5-15	<0.001 <0.001	<0.001 <0.001	<0.001 <0.001	<0.001 <0.001	<4.99 <4.99	<10 <10.1	-	<0.002 0.0024	-	<del>-</del>	<del></del> 

<sup>\*</sup> TRC's Initial Site Assessment report, dated 3 September 1999, states "Results were below preliminary remediation goals for residential soils as required by the USEPA Region 9".

TPH-g Total Petroleum Hydrocarbons as gasoline.
TPH-d Total Petroleum Hydrocarbons as diesel.
TRPH Total Recoverable Petroleum Hydrocarbons.
MTBE Methyl tertiary butyl ether.
HVOC Halogenated Volatile Organic Compounds.
ND Not detected.
-- Not analyzed.

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

TABLE 2 GROUNDWATER SAMPLE ANALYTICAL RESULTS FOR TEMPORARY BORINGS, FORMER MOBIL STATION 04-334, 2492 CASTRO VALLEY BOULEVARD, CASTRO VALLEY, CALIFORNIA

Sample ID	Date	Depth (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Xylenes (μg/L)	TPH-g (μg/L)	ΤΡΗ-d (μg/L)	MTBE (8021B) (μg/L)	MTBE (8260B) (μg/L)	TRPH (µg/L)	HVOC (8010) (μg/L)
AB1	03/05/99	8.7 a	ND	ND	ND	ND	ND	450	ND			
AB2	03/05/99	4.2 a	ND	ND	0.8	ND	ND	730	ND		1.0	ND
AB3	03/05/99	8.3 a	210	7.5	660	34	4,300	2,100	ND			
AB4	03/05/99	3.2 a	100	43	170	260	2,900	5,500	ND			••
AB5	03/05/99	9.65 a	ND	ND	1.9	ND	ND	1,600	ND			
SB1	11/12/03	Boring dry.	No ground	dwater sam	ples were co	ollected.						
SB2	11/13/03	2-17 <sup>b</sup>	<0.5	<0.5	<0.5	<0.5	<50	127		2.1	<100	
SB3	11/12/03	0-12 <sup>b</sup>	1,170	65.0	1,780	2,240	46,700	13,400		<0.5		
SB4	11/12/03	Boring term	ninated at 2	feet bgs. 1	No groundw	ater sample	s were colle	ected.				
SB5	11/13/03	0-12 <sup>b</sup>	6.30	2.6	2.8	1.4	760	173		<0.5		
SB6	11/13/03	0-12 <sup>b</sup>	1.90	6.3	3.6	4.3	1,650	816		<0.5		
SB7	11/13/03	Boring dry.	No ground	dwater sam	ples were co	ollected.						

a Depth to water.

b Interval of screen placed in boring.

TPH-g Total Petroleum Hydrocarbons as gasoline.

TPH-d Total Petroleum Hydrocarbons as diesel.

TRPH Total Recoverable Petroleum Hydrocarbons.

MTBE Methyl t-butyl ether.

HVOC Halogenated Volatile Organic Compounds.

ND Not detected.
-- Not analyzed.

 $<sup>\</sup>begin{array}{ll} bgs & Below \ ground \ surface. \\ \mu g/L & Micrograms \ per \ liter. \end{array}$ 

TABLE 3 WELL CONSTRUCTION DETAILS, FORMER MOBIL STATION 04-334, 2492 CASTRO VALLEY BOULEVARD, CASTRO VALLEY, 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
MWI	a	06/24/04	173.23	PVC	20	20	8.25	2	5 - 20	0.010	4.5 - 20	#2/12 Sand
MW2	a	06/25/04	173.63	PVC	20	20	8.25	2	5 - 20	0.010	4.5 - 20	#2/12 Sand
MW3	a	06/25/04	171.91	PVC	20	20	8.25	2	5 - 20	0.010	4.5 - 20	#2/12 Sand
MW4	a	06/24/04	170.48	PVC	15	14	8.25	2	4 - 14	0.010	3.5 - 15	#2/12 Sand

a Well surveyed on 12 July 2004 by Morrow Surveying.

PVC Polyvinyl chloride.

TOC Top of casing.

TABLE 4 GROUNDWATER MONITORING DATA, FORMER MOBIL STATION 04-334, 2492 CASTRO VALLEY BOULEVARD, CASTRO VALLEY, CALIFORNIA

		Top of Casing	Depth to	Groundwater				Concentration (	[μg/L]		
Well ID	Date	Elevation (feet)	Water (feet)	Elevation (feet)	TPH-g	TPH-d	Benzene	Toluene	Ethyl- benzene	Total Xylenes	МТВЕ
MW1	a 08/13/04	173.23	7.32	165.91	<50	71	<0.5	0.7	<0.5	1.0	1.20
MW2	a 08/13/04	173.63	6.96	166.67	<50	57	<0.5	0.8	<0.5	1.0	<0.5
MW3	a 08/13/04	171.91	5.36	166.55	1,440	352	100	2.0	187	59.6	≤0.5
MW4	a 08/13/04	170.48	6.10	164.38	<50	<u>72</u>	<0.5	0.8	<0.5	1.1	<u>2.80</u>

a Top-of-casing elevation surveyed by Morrow Surveying on 12 July 2004.

Depth-to-water-level measurements in feet from top-of-casing.

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

MTBE Methyl tertiary butyl ether.

µg/L Micrograms per liter.

## Appendix A

**Regulatory Correspondence** 

#### HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



## FILE COPY

RO0000386

RECEIVED

September 12, 2003

SET 2 3 2003

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

Mr. Gene Ortega Exxon Mobil 2300 Clayton Rd, Suite 1250 Concord, CA 94520

RE: Former Mobil Station 04-334 at 2492 Castro Valley Blvd, Castro Valley, CA

Dear Mr. Ortega:

I have completed review of TRC's June 2003 Site Assessment Workplan prepared for the above referenced site. TRC proposed a phased approach to assess contaminants in soil and groundwater beneath the site. The first phase includes the advancement of seven direct-push soil borings to approximate 20 feet bgs. Soil and groundwater data from this phase will be used to determine the optimum number, locations, and depths of monitoring wells. The workplan is acceptable with the following changes/additions:

- Based on the southeasterly groundwater flow direction at 2504 Castro Valley Blvd, the borehole proposed in the vicinity of the former dispenser island should be moved approximately 15 to 20 feet southeast (along Castro Valley Blvd).
- A Phase one report is due for review within 60 days upon completion of field work. This report should include geologic cross sections and a discussion on the reasoning for the proposed groundwater monitoring well locations and screen intervals. This report is due before phase two is implemented.
- A conduit survey should be performed to help determine placement of groundwater monitoring wells.

Phase one should be implemented within 60 days of the date of this letter, or by November 17, 2003. Please provide at least 72 hours advance notice of field activities. If you have any questions, I can be reached at (510) 567-6762 or by email at echu@co.alameda.ca.us.

eva chu

Sr Environmental Health Specialist

c: Donna Drogos, Supervisor LOP Steve Kemnitz, TRC, 5052 Commercial Circle, Concord, CA 94520

mobile4-334-1

# FILE COPY

From:

"Chu, Eva, Env. Health" <eva.chu@acgov.org>

To:

'Bryan Campbell' <BCampbell@eticeng.com>

Date:

5/5/04 11:02AM

Subject:

RE: 04-334: Offsite Well Location

Hi Bryan,

The new well location is fine. And an extension to June 30, 2004 is also acceptable. Please provide at least 72 hours advance notice of field activities.

eva

----Original Message----

From: Bryan Campbell [mailto:BCampbell@eticeng.com]

Sent: Monday, May 03, 2004 10:10 AM

To: eva.chu@acgov.org

Cc: Christa Marting; Doug Oram; Jerry Mitchell; Joe Muehleck; Mark

Peterson; Tracy lob; gene.n.ortega@exxonmobil.com

Subject: 04-334: Offsite Well Location

Eva.

I sent this email on 4/29/04 but I am not sure if it went through to you. I am resending it.

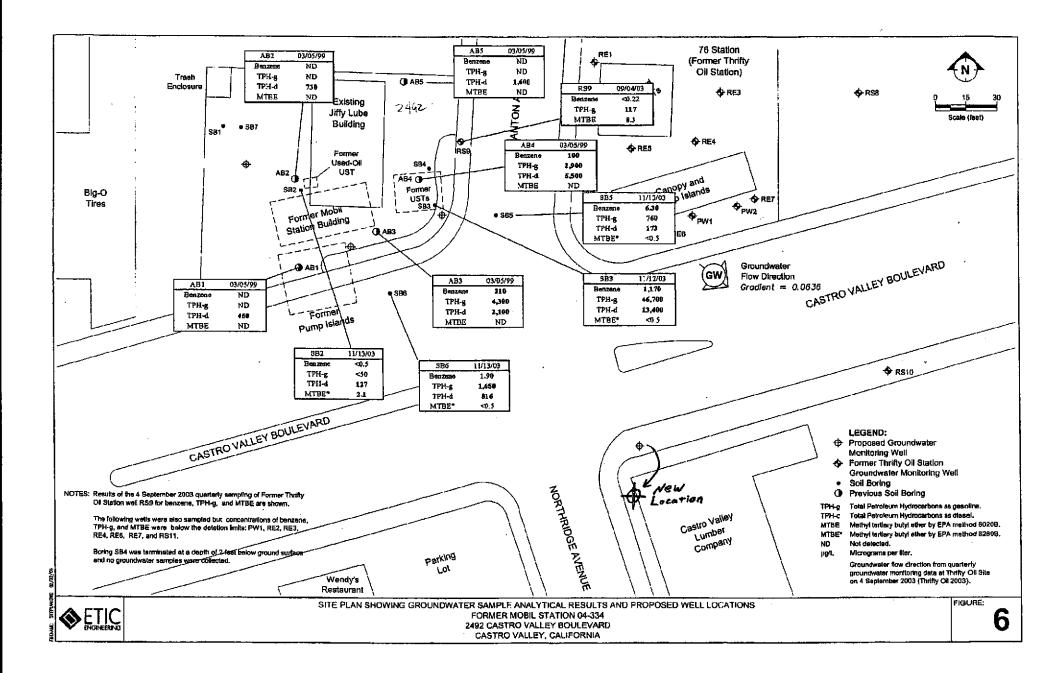
Per our conversation, attached is a site map showing the new proposed location of the offsite well. The installation of the offsite well, along with three onsite wells, was approved in your letter dated 5 March 2004. The original well location was in the sidewalk near the Castro Valley Lumber Company building. We have determined that multiple subsurface utilities are located in the vicinity of the original location and the requirements of the Alameda County Public Works Agency to install a well in the sidewalk may take some time to complete.

As such, we have selected a new location for the offsite well as shown in the attached site map. The new location is on the Castro Valley Lumber Company property and we have obtained an access agreement with the owners for the installation of the well. We are planning on confirming that the well is on the property owned by the Castro Valley Lumber Company by having the nearby property lines surveyed.

We would like additional time to prepare for the well installations including the surveying of the Castro Valley Lumber property lines, obtaining encroachment permits as necessary, providing notifications to the property owners, and scheduling of the drill rig.

We would like your approval of the new proposed offsite well location. We would like to know if extending the due date for the well installations to 30 June 2004 is acceptable. Please let me know. Thank you.

CORRESPONDENCE RECEIVED Bryan Campbell
Geologist
ETIC Engineering, Inc.
2285 Morello Avenue, Pleasant Hill, CA 94523
Phone: 925-602-4710 ext. 24, Fax: 925-602-4720
bcampbell@eticeng.com



#### ALAMEDA COUNTY

#### HEALTH CARE SERVICES

**AGENCY** 



## FILE COPY

DAVID J. KEARS, Agency Director

RO0000386

March 5, 2004

Mr. Gene Ortega Exxon Mobil 25A Crescent Dr #407 Pleasant Hill, CA 94523 ENVIRONMENTAL HEALTH SERVICES ENVIRONMENTAL PROTECTION 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577 (510) 567-6700 FAX (510) 337-9335

RECEIVED

MAR 12 2004 ETIC ENGINEERING

RE: Monitoring Well Installation at 2492 Castro Valley Bl, Castro Valley, CA

Dear Mr. Ortega:

I have completed review of ETIC's February 2004 Subsurface Investigation Report prepared for the above referenced site. In November 2003, seven soil borings were advanced to better characterize subsurface conditions at the site. Based on the results of the investigation, in conjunction with review of environmental investigations conducted at an adjacent site and completion of a conduit survey, the locations of four groundwater monitoring wells were proposed. The locations of the proposed wells are acceptable with the following comment:

 Well screen intervals are anticipated to be from approximately 5 to 20 feet bgs. Be advised that well screens should be kept short so groundwater samples will be representative of actual site conditions (that is, not diluted). A 15-foot screen may be excessive. Please use best professional judgment in the field.

Groundwater monitoring wells should be installed within 60 days of the date of this letter, or by May 10, 2004. Please provide 72 hours advance notice of field activities. If you have any questions, I can be reached at (510) 567-6762 or by email at <a href="mailto:eva.chu@acgov.org">eva.chu@acgov.org</a>.

eva chu

Hazardous Materials Specialist

c: Donna Drogos, Program Manager
Bryan Campbell, ETIC Engineering, 2285 Morello Ave, Pleasant Hill, CA 94523

Appendix B

**Permits** 



WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395 PHONE (510) 670-6633 James You FAX (510) 782-1939

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

#### DRILLING PERMIT APPLICATION

for applicant to complete	for office use
LOCATION OF PROJECT	INI-NIEL
FORMER MEBIL STATION C4-334	PERMIT NUMBER WOA - 0454
2492 CASTRO VALLEY BOULEVARD	APN
2492 CASTRO VALLEY BOWN VORD	A 17
	PERMIT CONDITIONS
Ct trans	Circled Fermit Requirements Apply
CLIENT Name Exaca Heril Corporation	
Address 25A CRESCENT DR. # 407 Phone (925) 240 - 5747	A) GENERAL
CITY PLEASANT HILL. ZIP 94523	1. A permit application should be submitted so as to
	arrive at the ACPWA office five days prior to proposed starting date.
APPLICANT	2. Submit to ACPWA within 60 days after completion of
Name ETIC ENGINEERING, INC.	permitted original Department of Water Resources-
Address 2285 Mareus Avenue Phone (925)602-4920	Well Completion Report
City PLEASANT HILL Zip 94523	3. Permit is void if project not begun within 90 days of
210 <u>777027</u>	approval date
	E. WATER SUPPLY WELLS  1. Minimum surface scal thickness is two incites of
TYPE OF PROJECT	coment grow placed by treme.
Well Construction Geotechnical Investigation	2. Minimum seal depth is 50 feet for municipal and
Cathodic Protection 3 General 3	Industrial wells or 20 feet for domestic and irrigation
Water Supply Contamination	wells unless a lesser depth is specially approved.
Monitoring 🕏 Well Destruction 🚊	C. GROUNDWATER MONITORING WELLS
PROPOSED WATER SUPPLY WELL USE	NCLUDING PIEZOMETERS
New Domestic Z Replacement Domestic	1. Minimum surface seal thickness is two inclues of
Municipal E Irrigation	coment growt placed by tremie.  2.Minimum seal depth for monitoring wells is the
Industrial 2 Other	maximum depth practicable or 20 feet.
	D. GEOTECHNICAL
DRILLING METHOD:	Backfill bote hole by tremis with cement grout or coment
Mud Rotary □ Air Rotary □ Auger   Cable □ Other □	groudsand mixture. Upper two-three feet replaced in kind
Cable 3 Other 5	or with compacted entrings.
DRILLER'S NAME CASCADE DRILLING, INC.	E_ CATHODIC
	Fill hole anode zone with concrete placed by tremie.  F. WELL DESTRUCTION
DRILLER'S LICENSE NO. <u>C51 - 717510</u>	Send a map of work site. A separate permit is required
	for smile dames then 15 fund
Didu Language	G EDECAL CONDITIONS - MWH J
WELL PROJECTS  Orill Hole Diameter 8 in. Maximum	
Cosing Diameter 2 in Ownth 20 a	NOTE: One application must be submitted for each well or well
Surface Seal Depth 5 it Owner's Well Number MWI	destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.
The state of the s	tot geotecanical and contamination investigations.
GEOTECHNICAL PROJECTS	
Number of Borings Maximum	
Hale Diameterin. Depthit.	
STARTING DATE 4. 21.2004	
	A-27-0
COMPLETION DATE 4. 29 2004	Land Armino
EXTENDED TO 6.25.2004 Dex conversation	APPROVED DATE
EXTENDED TO 6.25.2004 per Conversation  I James 400 (6.17.04 1030)  I hereby agree to comply with all requirements of this perny and Alameda Councy Ordina	7/11/1
t nervey agree to comply with all requirements of this perny and Alameda Councy Ordina	mae Nu. 13-a8.
APPLICANT'S SIGNATURE MA COLL DATE 3/	31/04
	<del>7°</del> 7 / \
PLEASE PRINT VAME Marke C. Leterson Rose	18.02



WATER RESOURCES SECTION 399 ELMHURST ST. HAYWARD CA. 94544-1395 PHONE (510) 670-6633 James You FAX (510) 782-1939

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS DESTRUCTION OF WELLS OVER IS FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERM	MIT APPLICATION
for applicant to complete	FOR OFFICE USE
LOCATION OF PROJECT	PERMIT NUMBER WO4-0455
Formation Adams Strong and 54 - 224	WELL NUMBER
2492 CASTRO VALLEY BOULEVARD CASTRO VALLEY CA 94546	APN
CASTRE VALLED , LA SASTICE	PERMIT CONDITIONS
	Circled Permit Requirements Apply
Name Exaga: Mobil Corporation	Annuary 1
Address 25A COSACCAT DR. # 407 Phone (924) 240 - 8141-	(A. GENERAL  1. A permit application should be submitted so as to
Address 25A CRESCENT DR. # 407 Phone (925) 240 - 8747- City PLEASANT HILL Tip 94523	arrive at the ACPWA office five days prior to
	proposed starring data.
APPLICANT Numb ETIC ENGINEERING INC.	Aubmit to ACPWA within 60 days after completion of permitted original Department of Water Resources-
Fax (925)662-4720 Address 2285 MCREULO AVENUE Phone (725)602-4710	Well Completion Report.
Address 2285 MCREILO AVENUE Phone (925) 602-4910	3. Permit is void if project not begun within 90 days of
City PLEA SANT HILL Zip 94523	approval date  B. WATER SUPPLY WELLS
	I. Minimum surface seal thickness is two inches of
TYPE OF PROJECT	cement grout placed by tremie.
Well Construction Geotechnical Investigation Cathodic Protection  General	2. Minimum seal depth is 50 feet for manicipal and industrial wells or 20 feet for domestic and irrigation
Cathodic Protection	wells unless a lesser depth is specially approved.
Monitoring Well Destruction	C. GROUNDWATER MONITORING WELLS
THE RESIDENCE OF THE PROPERTY	DICLUDING PIEZOMETERS
PROPOSED WATER SUPPLY WELL USE  New Domestic	Minimum surface seal thickness is two inches of coment grout placed by tremie.
Municipal I Impation I	2. Minimum seal depth for monitoring wells is the
Industrial 🔾 Other	maximum depth practicable or 20 feet.
ndis tible Meritor.	D. GEOTECHNICAL
DRILLING METHOD:  Mud Rotary 3 Air Rotary 3 Auger F	Backfill bore hole by tremie with coment group or coment groups and mixture. Upper two-three feet replaced in kind
Cable 3 Other 3	or with compacted curings.
	E. CATHODIC
DRILLER'S NAME CASCADE DRILLING, INC.	Fill hale anode zone with concrete placed by tremtic. F. WELL DESTRUCTION
DRILLER'S LICENSE NO. C57 - 717510	Send a map of work site. A separate pennit is required
	for wells deeper than 45 feet.
WELL PROJECTS	GEBECAL CONDITIONS - MWHJ
Onil Hole Diameter 8 in. Maximum	NOTE: One application must be submitted for each well or well
Oral Hole Diumeter 8 in. Maximum Casing Diameter 2 in. Depth 25 ft.	destruction. Multiple borings on one application are acceptable
Surface Seal Depth 5 tt. Owner's Well Number MW2	for geolechnical and communation investigations,
GEOTECHNICAL PROJECTS	
Number of Bonnes Maximum	
Hale Diameterit. Depthft.	
STARTING DATE 4. 27 . 2004	
	(101) Saroy
COMPLETION DATE 4: 29 2004	APPROVED DATE DATE
EXTENDED 76 6.25.2004 per conversation of James Yes (6.17.04, 1630)  I hereby agree to comply with all requirements of this permit and Alameda County Ordin	AFFROVED X
I hereby agree to comply with all requirements of this permit and Alameda County Ordin	nance No. 73-68. / / / /
APPLICANT'S SIGNATURE MACGILL DATE 3/	121/04 111
11 / - 2 /	<del>'//-</del> /
PLEASE PRINT NAME / Marke C. Jetoson Rev. 9	-1K-02 \ \ \
	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \



WATER RESOURCES SECTION 399 ELMHURST ST. HAYWARD CA. 94544-1395 PHONE (510) 670-6633 James You

FAX (510) 782-1939
APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING FERMIT APPLICATIONS

DRILLING PER	RMIT APPLICATION
FOR APPLICANT TO COMPLETE	FOR OFFICE USE PERMIT NUMBER W4-045-6
FORMER MOBIL STATION 04-334	WELL NUMBER
ASTRO VALLEY, CA 94546	PERMIT CONDITIONS
LIENT	Circled Permit Requirements Apply
ame Exxon Hobit Corporation diress 25A Crescent Dr. # 407 Phone (725) 246 - 8747 by PLEASANT HILL Zip 94523	A GENERAL  1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to
PPLICANT  amo ETIC ENC-INEECING, INC.  For (225) 46224 220	Proposed starting date.  2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-
amo ETIC ENC-INEECING, INC.  Fax (925)602-4720  duress 2255 MORCULO AVENUE Phone (925)602-4710  ity PLEASONT HILL. Zip 94523	Well Completion Report.  3. Pennix is void if project not begun within 90 days of approval date  B. WATER SUPPLY WELLS
YPE OF PROJECT Well Construction Geotochaical Investigation	1. Minimum surface seal thickness is two inches of cement group placed by tremic. 2. Minimum seal depth is 50 feet for municipal and
Cathodic Protection	Industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.  C. GROUNDWATER MONITORING WELLS
ROPOSED WATER SUPPLY WELL USE New Domestic I Replacement Demestic 2	1. Minimum surface seal thickness is two inches of
New Domestic   Replacement Domestic   2	cement grout placed by tremie.  2. Minimum seal depth for monitoring wells is the maximum depth practicable of 20 feet.
RILLING METHOD:	D. GEOTECHNICAL  Backfill bore hole by tremie with cement grout or cemen
Mud Rotary	groudsand mixture. Upper two-three feet replaced in kind or with compacted curings.
RILLER'S NAME CADCADE DRILLING, INC.	E. CATHODIC  Fill hole anode zone with concrete placed by tretraic.
RILLER'S LICENSE NO. <u>C57 - 71751C</u>	F. WELL DESTRUCTION  Send a map of work site. A separate permit is required for wells deeper than 45 feet.
ELL PROJECTS Drill Hole Drumeter 8 in. Maximum	(c) DEZETAC CONDITIONS - MW # I
Drill Hole Drumeter 8 in. Maximum Casing Diameter 2 in. Depth 20 ft. Surface Seal Depth 5 ft. Owner's Well Number MW3	NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.
SOTECHNICAL PROJECTS  Number of Donngs Maximum  Hole Diameter in. Depth (t.	
ARTING DATE 4. 27 . 2004	. /
MPLETION DATE 4.29 2004 TENDED 70 6.25.2004 per conversation th James 400 (6.17.2004, 1630)	APPROVED DATE AU

PLEASE PRINT NAME Mark C. Peterson Rev 9.18-02



WATER RESOURCES SECTION

#### 399 ELMHURST ST. HAYWARD CA. 94544-1195 PHONE (510) 670-6633 James You FAX (510) 782-1939 APPLICANTS: PLEASE ATTACII A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION DRILLING PERMIT APPLICATION FOR APPLICANT TO COMPLETE FOR OFFICE USI LOCATION OF PROJECT PERMIT NUMBER FORMER HOBIL STATION 04-334 WELL NUMBER 2472 CASTRO VALLEY BOULEVARD CASTRO VALLEY CA 94546 APN PERMIT CONDITIONS Circled Permit Requirements Apply CLIENT Name EXACAL MOBIL CORPORATION Address 25A CRESCENT DR. # 407 Phone (925) 246 - 8747 Cit P. FASAAT MILL Zip 94523 **GENERAL** 1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date. APPLICANT 2 Submit to ACPWA within 60 days after corruplation of Name ETIC ENGINEERING INC. permitted original Department of Water Resources-Fax (925)602-4720 Well Completion Report. Address 2285 MCREUC AVENUE Phone (925)602-4910 City PLEASIMT HILL. Zip 94523 3. Permit is void if project not begun within 90 clays of approval date B. WATER SUPPLY WELLS 1. Minimum surface seni thickness is two loches of Type of project coment grout placed by tremis. Well Construction Geotechnical Investigation 2. Minimum seni depth is 50 feet for municipal and Cathodic Protection General Industrial wells or 20 feet for domestic and irrigation Water Supply Contemination wells unless a lesser depth is specially approved. Monitoring Well Destruction c. droundwater monitoring wells INCLUDING PLEZOMETERS PROPOSED WATER SUPPLY WELL USE 1. Minimum surface seal thickness is two inches of New Domestic Ξ Replacement Domestic coment grout placed by tremis. Municipal inigation 2. Minimum seul depth for monitoring wells is the $\Box$ [returnial] Other o maximum depth practicable or 20 feet. D. GEOTECHNICAL DRILLING METHOD: Backfill bore hole by tremie with coment group of coment. Mud Romry ŋ Air Rotary Auger groudsand mixture Upper two-three feat replaced in kind Cable Other or with compacted cuttings. E. CATHODIC DRILLER'S NAME <u>CASCADE DRILLING</u> Fill hole anode zone with concrete placed by tremic. F. WELL DESTRUCTION DRILLER'S LICENSE NO. C54 - 717510 Send a map of work site. A separate permit is required for wells deeper than 45 feet. C. SECUL-CONDITIONS MWH WELL PROJECTS 8\_in\_ Drill Hole Disineter Maximum NOTE: One application must be submitted for each well or well Casing Diameter \_in. destruction. Multiple borings on one application are acceptable Surface Seal Depth ۰**5**\_ ادُر Owner's Well Number MW4 for geoteuhnical and contamination investigations. GEOTECHNICAL PROJECTS Number of Borings Maximum Hole Diameter Depth

EXTENDED TO 6:25-2004 per conversation with APE Tames you (6:17:04, 16:30)
Thereby agree to extraply with all requirements of this permit and Alaneda County Ordinance No. 12:68. APPROVED

APPLICANT'S SIGNATURE

COMPLETION DATE 4.29

PLEASE PRINT NAME

STARTING DATE

4.27.2004

Rev.9-18-02

Appendix C

**Field Protocols** 

## PROTOCOLS FOR WELL DRILLING, COMPLETION, AND DEVELOPMENT

#### SUBSURFACE CLEARANCE SURVEY PROCEDURES

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

Once USA has marked the site, all proposed borehole locations will be 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.

#### DRILLING

Prior to drilling, all boreholes will be 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, and the entire area between the UST field and the product dispenser islands. If only borings are being installed, an 8- to 12-inch-diameter circle will be cut in the surface cover at each boring location. If wells are being installed, a 10-inch circle to a 24-inch circle or a 2-foot by 2-foot square will be cut in the surface cover at each well location. A hole, greater than the diameter of the drilling tool being used, will then be cleared at each boring location, using a hand auger or vacuum excavation system. The vacuum system consists of a water lance, used to disturb native soil by injecting water into the soil, and a vacuum, used to remove the soil.

Boreholes are drilled with a truck-mounted rotary drill, using hollow-stem continuous-flight augers. The diameter of the augers is selected to provide an annular space between the boring wall and the well casing of no less than 2 inches.

All augers are pressure-washed or steam-cleaned before drilling begins and before each new borehole is drilled. All drill cuttings are either placed on and covered with plastic sheeting or contained in sealed 55-gallon drums. All fluids generated during cleaning of drilling equipment are contained in sealed 55-gallon drums. All waste generated during drilling activities is stored onsite until appropriate disposal is arranged. The drums are labeled with the site description (including owner's name) and date. The drill cuttings are disposed of at a proper facility based on results of soil sample analysis.

During drilling, an ETIC geologist generates a soil boring log for each borehole. The boring logs contain detailed geological information, including descriptions of the soils classified according to the Unified Soil Classification System (USCS), blow counts for soil sampling intervals, organic vapor analyzer (OVA) readings, relative moisture content of the soils, and initial and static water levels.

#### SOIL SAMPLING

Soil samples are collected using a 2-inch-diameter by 18- or 24-inch-long modified California split-spoon sampler containing three or four 6-inch-long brass or stainless steel liners. The sampler and liners are scrubbed in potable water and Alconox or equivalent detergent and rinsed with potable water after use at each sampling interval.

At each sample depth, the sampler is driven 18 or 24 inches ahead of the augers into undisturbed soil. When the sampler is retrieved, either the lowermost or the middle sample liner is removed and the ends of the tube are covered with aluminum foil or Teflon tape and sealed with plastic caps. The soil-filled liner is labeled with the borehole number, sample depth, site location, date, and time. The samples are placed in zip-lock bags and stored in a cooler containing ice.

Soil from one of the liners is removed and placed in a sealed plastic bag. The soil is scanned with an OVA equipped with a flame ionization detector (FID) or photoionization detector (PID), and the readings are noted on the soil boring logs. The soil from the remaining liner(s) is examined and classified according to the Unified Soil Classification System.

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

#### WELL INSTALLATION

The boreholes are completed as groundwater monitoring wells, vapor extraction wells, groundwater extraction wells, or air sparging wells. The wells are typically constructed by installing Schedule 40 PVC flush-threaded casing through the inner opening of the auger. The screened interval consists of slotted casing of the appropriate slot size and length placed at depths depending on soil conditions encountered during drilling and the depth to groundwater. A threaded end plug or a slip cap secured with a stainless steel screw is placed on the bottom of the well.

A filter pack of clean sand of appropriate size is placed in the annular space around the well screen to approximately 1 to 3 feet above the top of the screen. The sand is placed through the inner opening of the augers as they are slowly removed. A transitional seal is completed above the sand pack by adding 1 to 2 feet of bentonite pellets and hydrating them with water. A surface seal is then created by placing neat cement grout containing less than 5 percent bentonite from the top of the bentonite seal to just below the ground surface.

The well is finished at the surface with a slightly raised, traffic-rated, watertight steel traffic box set in concrete. The traffic box is secured with bolts and the casing is further secured with a locking well cap.

#### WELL DEVELOPMENT

The wells are developed no less than 72 hours after completion or prior to establishing the bentonite seal during the drilling activities. Development typically consists of surging the screened interval of the well with a flapper valve surge block of the same diameter as the well for approximately

10 minutes. The well is then purged with a vacuum truck and a dedicated PVC stinger or disposable tubing, an inertial pump, a submersible electric pump, a centrifugal pump, an air-lift pump, or a PVC bailer until at least 3 casing volumes are removed and the water is free of silt and apparent turbidity.

A record of the purging methods and volumes of water purged is maintained. All purge water is contained on the site in properly labeled 55-gallon drums. Purged water is transported to an appropriate treatment facility.

#### WELL SURVEY

The elevation of the top of the well casing is surveyed by a state licensed land surveyor. A small notch is cut in the top of the well casing to mark the survey point and establish the point used for all future water level measurements. A loop originating and ending at the datum is closed to  $\pm 0.01$  feet according to standard methods.

## PROTOCOLS FOR QUARTERLY GROUNDWATER MONITORING

#### **GROUNDWATER GAUGING**

Wells are opened prior to gauging to allow the groundwater level in the wells to equilibrate with atmospheric pressure. The depth to groundwater and depth to liquid-phase hydrocarbons, if present, are then measured to the nearest 0.01 feet using an electronic water level meter or optical interface probe. The measurements are made from a permanent reference point at the top of the well casing. If less than 1 foot of water is measured in a well, the water is bailed from the well and, if the well does not recover, the well is considered "functionally dry." Wells with a sheen or measurable liquid-phase hydrocarbons are generally not purged or sampled.

#### WELL PURGING

After the wells are gauged, each well is purged of approximately 3 well casing volumes of water to provide representative groundwater samples for analysis. Field parameters of pH, temperature, and electrical conductance are measured during purging to ensure that these parameters have stabilized before groundwater in a well is sampled. Groundwater in each well is purged using an inertial pump (WaTerra), an electric submersible pump, or a bailer. After the well is purged, the water level is checked to ensure that the well has recharged to at least 80 percent of its original water level.

#### GROUNDWATER SAMPLING

After purging, groundwater in each well is sampled using dedicated tubing and an inertial pump (WaTerra) or a factory-cleaned disposable bailer. Samples from extraction wells are typically collected from sample ports associated with the groundwater remediation system. Samples collected for volatile organic analysis are placed in Teflon septum-sealed 40-milliliter glass vials. Samples collected for diesel analysis are placed in 1-liter amber glass bottles. Each sample bottle is labeled with the site name, well number, date, sampler's initials, and preservative. The samples are placed in a cooler with ice for delivery to a state-certified laboratory. The information for each sample is entered on a chain-of-custody form prior to transport to the laboratory.

Appendix D

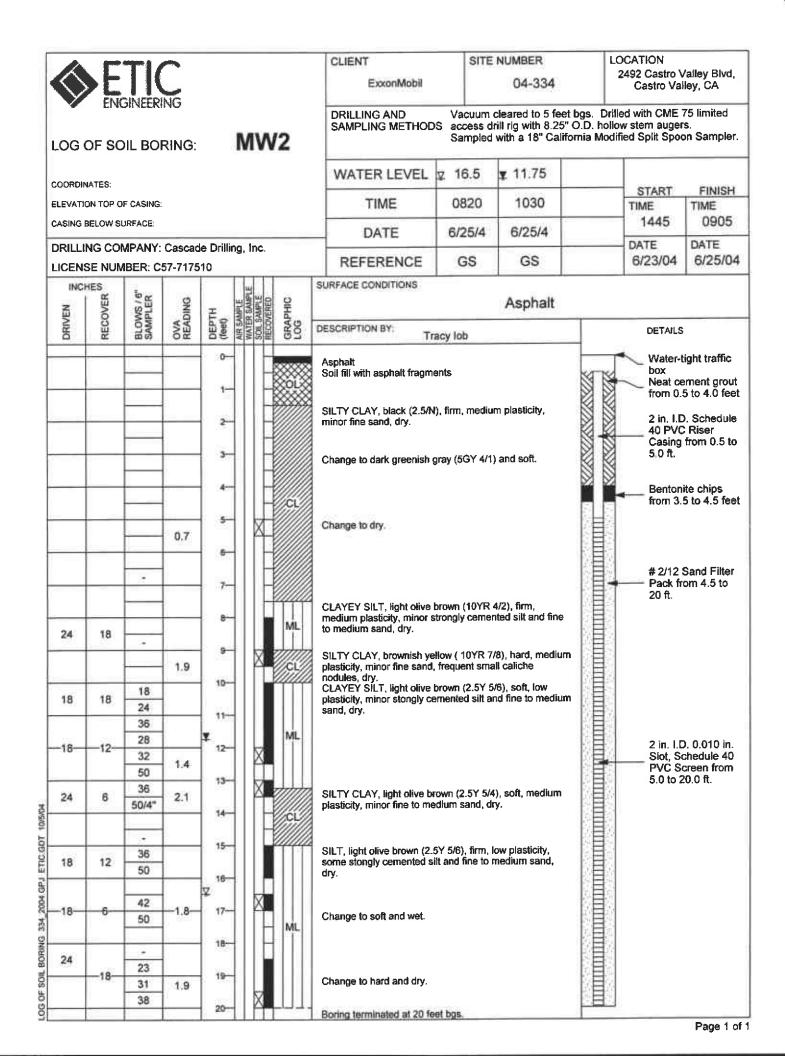
**Boring Logs** 

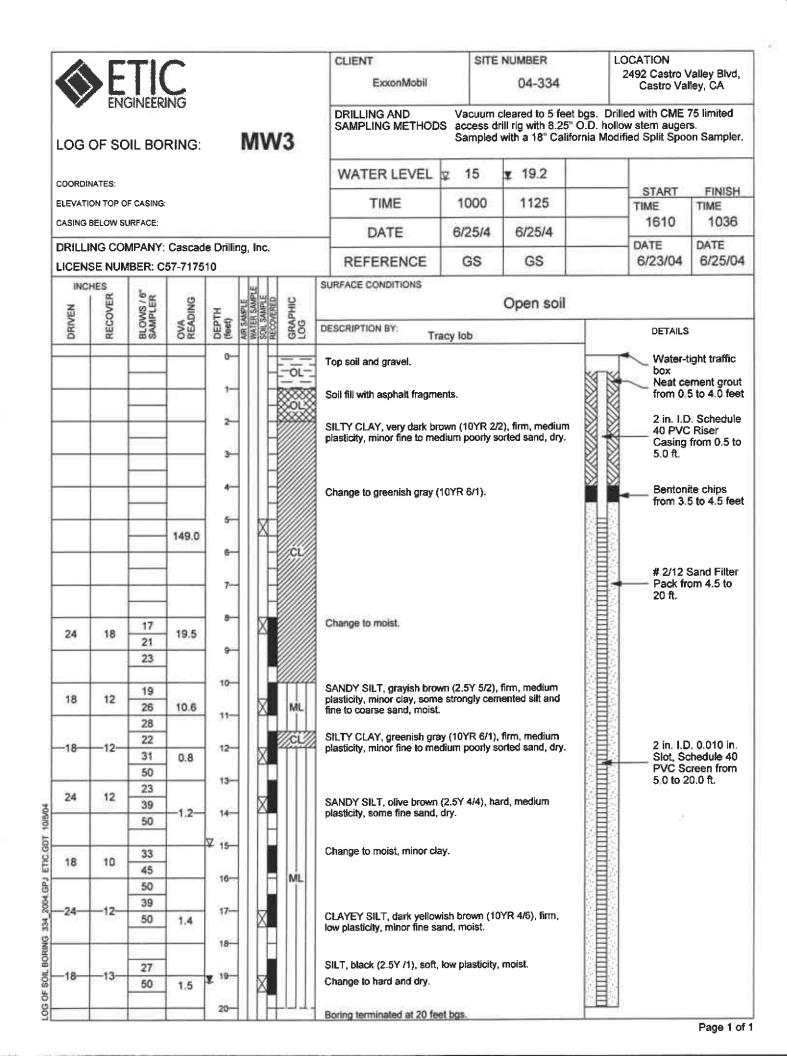
	MAJOR DIVIS	IONS	TYPICAL NAMES
o.		Clean gravels with	GW Well graded gravels with or without sand, little or no fines.
တ	GRAVELS more than half	little or no fines	GP Poorly graded gravels with or without sand, little or no fines.
SOILS barser eve	coarse fraction is larger than No. 4 sieve size	Gravels with	GM Silty gravels, silty gravels with sand.
COARSE-GRAINED SOIL More than half is coarser than No. 200 sieve		over 12% fines	GC Clayey gravels, clayey gravels with sand.
E-GR han h n No.	Clean sands with		SW Well graded sands with or without gravel, little or no fines.
OARS More t	SANDS more than haif	little or no fines	SP Poorly graded sands with or without gravels, little or no fines.
0-	smaller than No. 4 sieve size Sands v		SM Silty sands with or without gravel.
		over 12% fines	SC Clayey sands with or without gravel.
Atsa			ML Inorganic silts and very fine sands, rock flour, silts with sands and gravels.
SOILS s finer ieve	SILTS ANI liquid limit 5		CL Inorganic clays of low to medium plasticity, clays with sands and gravels, lean clays.
(0)			OL Organic silts or clays of low plasticity.
FINE-GRAINED SOILS More than haif is finer than No. 200 sieve			MH Inorganic silts, micaceous or diatomaceous, fine sandy or silty soils, elastic silts.
FINE More tha	SILTS ANI liquid limit grea		CH Inorganic clays of high plasticity, fat clays
			OH Organic clays or clays of medium to high plasticity.
	HIGHLY ORGANIC	SOILS	PT 2 24 14 Peat and other highly organic soils.
	SYMBOL	S e	DRILL LOG ROCK TYPES
Ţ Ţ	First Encountered Ground Gauged Groundwater Lev	Samples	Limestone
	Portland Cement	Air	Dolomite
- ₩	Blank Casing  Bentonite Pellets		Mudstone
8=	Delifornice Legists	Soil	Siltstone
	Filter Pack	Water	Sandstone
•	Screened Casing	Open Hole	Igneous



UNIFIED SOIL CLASSIFICATION SYSTEM DESCRIPTIONS AND SYMBOLS USED ON ETIC DRILL LOGS

♦	E	TI(	) NG						CLIENT ExxonMobil	SITE	NUMBER 04-334	1 -	OCATION 2492 Castro \ Castro Va	
_OG (	OF SO	IL BOF	RING:		N	I۷	V1		DRILLING AND SAMPLING METHOD	S access d	cleared to 5.5 fe rill rig with 8.25" with a 18" Califo	O.D. hollo	w stem auger	S.
COORDIN	ATEQ-								WATER LEVEL	<u>⊽</u> 20	<b>▼</b> 7.6			
	N TOP OF	CASING:						Ì	TIME	1541	0715		TIME	TIME
CASING B	ELOW SU	RFACE:							DATE	6/24/4	6/25/4		1315	1620
	NG COM				ng,	Inc.			REFERENCE	GS	GS		6/23/04	DATE 6/24/0
	E NUMI	BER: C	57-7175	10	П	П	1	SI SI	IRFACE CONDITIONS	93	00		0/20/04	012470
INC!		S/6'	9	_	316	APLE SED	일		IN ACE CONDITIONS		Asphalt			
DRIVEN	RECOVER	BLOWS / 6" SAMPLER	OVA READING	DEPTH (feet)	R SAME	SOIL SAMPLE	GRAPHIC	DE	SCRIPTION BY:	novi loh		1	DETAILS	
	EC	മഗ	022		4	100		-		acy lob		<u> </u>	10/stee /	iaht troffia
						1	XOLX		sphalt oil fill with .75" gravels.			KUTKI	box	ight traffic
				1-	1	1		s	ILTY CLAY, black (2.5/N	), hard, medic	um plasticity,		from 0.	ement grou 5 to 3,5 fe
				2-				П	ninor poorly sorted sand,	ary.				). Schedul
				-		1								Riser from 0,5 t
				3—				S	SILTY CLAY, black (2.5/N	), firm, mediu	ım plasticity,		5.0 ft.	
				4-	$\ $			ī	ninor poorly sorted sand,	dry.			Benton	ite chips
						1		d	Color change to light gree	n gray (10Y 7	/1).	9 5		5 to 4.5 fe
			1.3	5	1	X								
			1.0	6	$\  \ $									
				_		-								Sand Filte
				7-									20 ft.	UI 4.5 IU
_		17		8-	1			s	SILTY CLAY, very dark gr	ay (2.5Y 3,1),	, firm, medium			
24	18	31	-0.8-	9_		X		Ø p	lasticity, minor strongly c and, dry.	emented sitt a	and poorly sorted			
		50/2"	0.0	"				,	CLAYEY SILT, light olive	brown (2 5Y F	5/4), firm, medium			
		21		10-				р	elasticity, minor strongly c and, dry.	emented silt a	and poorly sorted			
18	18	31		11-			ML	"						
		50/6" 17											_	
-18	—18—	30	4.4	12-		X	– ML		SILT, dark olive brown (2.		ured strongly		Slot, St	), 0.010 in chedule 40
		50	1.1	13-	1				emented silt, moist to we CLAYEY SILT, light olive I		i/4) hard madium		PVC Se 5.0 to 2	creen from 20.0 ft.
18	18	37 44						l p	lasticity, minor stongly ce	mented silt a	nd poorly sorted			
		50/3"		14-	1			5	and, dry.					
-18-	-12-	31		15-	$\ $									
		45 50							13					
18	12	36	1.4	16		1	ML							
10	12	50	1.4	17-		X								
, ,		29				X								
-18	-6-	43	-1.7-	18-										
		50/6"		19-	-	1	-	s	same as above, moist.					
12	В	5070	6.6	¥ 20-		X		1	•			ΚĒ		





	E	TI(	C					CLIENT ExxonMobil		SITE	NUMBER 04-334		LOCATION 2492 Castro V Castro Val	
LOG O	F SO	IL BOI	RING:		M	V	<i>1</i> 4	DRILLING AND SAMPLING METHOR	DS acce	ess dr	ill ria with 8.25	" O.D. ho	rilled with CME 7 Illow stern auger odified Split Spoo	S.
COORDINA	TES:							WATER LEVEL	₹ 7.2	2	<b>⊈</b> 6.5			
ELEVATION		CASING:						TIME	115	51	1046		START TIME	FINISH
CASING BE	ELOW SUI	RFACE:						DATE	6/23	3/4	6/24/4		1151	1046
DRILLING					ng, lı	nç.		REFERENCE	GS	S	GS		DATE 6/23/04	DATE 6/24/0
LICENSE			5/-/1/5	10		П		SURFACE CONDITIONS					0.20.0	0.2
î	RECOVER	BLOWS / 6" SAMPLER	OVA READING	F_	MATER SAMPLE	VERED	GRAPHIC LOG				Open soil			
DRIVEN	REC	BLO	Şã	DEPTH (feet)	AIR S/	SOIL SAMP	SR SO SO	DESCRIPTION BY:	racy lob				DETAILS	
				1		200 200	=OL=	Top soil. Base rock with angular gidlameter. SILTY CLAY, very dark b					box Neat ce from 0.5	ight traffic ment grou 5 to 3.0 fe
				3-				plasticity, moist.					40 PVC Casing 4.0 ft. Bentoni	
				5			CL	SILTY CLAY, olive gray ( minor fine to medium poo Color change to light oliv SANDY CLAY, olive brov plasticity, minor strongly poorly sorted sand, moist	orly sorted e brown (2 m (2.5Y 4 cemented	l sand 2.5Y 5 i/4), fil	, moist. /3). m, medium	,   III		
				¥ 7				Change to olive yellow (2						Sand Filte om 3.5 to
				9			ML	SILT, gray (5Y 5/1), fract some medium poorly son	ured stong led sand, i	giy cei wet.	mented slit,	100	Slot, Sc	o. 0.010 in thedule 40 treen from 4.0 ft.
18	0	9 9 10 50/6"	0.1	11-		X		SANDY SILT, olive brown	n (2.5Y 4/4	4), firr	n, low płasticity,			
6-	6		8	12-				some siltstone, some fine	sand, dr	y-			3	
6	6	50/4"	0.1	13-		X	ML							
		50/6"	0.5	14-		Y								
6	6			15—			LJ 4.	Boring terminated 15 feet	bgs.				228-11	
	_			17-										
				18-										
	$\dashv$			19-										
_	_		-	20-										

## Appendix E

**Well Development and Sampling Forms** 



WELL DEVELOPMENT FORM Project location: 2492 Castro Valley Boulevard, Castro Valley, CA Well No: MW Personnel: C, W, +c TM04334 Task 3 Project No: **GAUGING DATA** TOC WLM Measuring Point Description: Water Level Measuring Method: Total Purge Casing Volume Multiplier for Water Column Depth to Water Total Depth Volume (gal) Casing Diameter (gal) (feet) (feet) (feet) WELL PURGE 6102 (x VOLUME (solid) CALCULATION 20.08(x10) 0.04 0.16 0.64 **PURGING DATA** Purge Method: Grand Los Purge Depth: 12:34 Volume Purge (gal) Temperature ( ) Conductivity (us/cm) Color Turbidity Odor (Y/N) Casing Volumes Dewatered (Y/N) Comments/Observbations: Tot Disposal: (gallons) Total Purge Volume: Weather Conditions: Condition of Well Box and Casing: on-e Well Head Conditions Requiring Correction: Dewatered Problems Encountered During Purging:

G:\Projects\04-334\Public\Well Development\{Well development form03.xls}\Sheet)



WELL DEVELOPMENT FORM -

	2492 Castro Val TM04334 Task 3		astro Valley, CA	Personnel: C _ //		//4/09
GAUGING DATA Water Level Meas		vrm		Measuring Point De	escription: TC	OC
WELL PURGE	Total Depth (feet)	Depth to Water (feet)	Water Column (feet)	Multiplier for Casing Diameter	Casing Volume (gal)	Total Purge Volume (gal)
VOLUME CALCULATION	20.2)	6.99	13.22-0	1 ② 4 6 0.04 0.16 0.64 1.44	2.11	6.34.1x 21.15 (
PURGING DATA Purge Method: (	Sound for	5	Purge Depth: 2	0		
Time (3:15	13:17	13:19	13:22	13:24		
Volume Purge (gal)	2	4'	6	8	10	12
Temperature ( )	22.300	22.28	22.00	21.80		
pН	7.75	7.63	7.65	7.66		
Conductivity (us/cm)	1925,5	20,49,5	2015 n S	1798,5	,	
Color	Brown	Brawn	Brown	Brown		
Turbidity	Solty	2:144	9:14u	9:144		
Odor (Y/N)	N	()	$\mathcal{N}^{j}$	N		
Casing Volumes	,		. /			
Dewatered (Y/N)	11		N	. Y	L,,	
Comments/Obsen	vbations:	DA	water es	1 at	8 gali	
		Total	Deoth o	Fter Sur	re/purge	20.21
Total Purge Volu	ıme: B	(gallons)	0//	Disposal:	. 50	I.a Bolt
Weather Condition			89			
Condition of Wel			11/2			Vi.
Well Head Cond			None		+11 5.7	X.
Problems Encou	intered During Pu	arging:	Vewat	wod 9	(1)	14



WELL DEVELOPMENT FORM

Project location:	2492 Castro Vall	ley Boulevard, C		Well No: M W 2		1/9/07
Project No:	TM04334 Task 3	B #		Personnel: C , J	Nitche	<i>(</i> /
GAUGING DATA Water Level Meas		WLM		Measuring Point De	escription: TO	С
WELL PURGE	Total Depth (feet)	Depth to Water (feet)	Water Column (feet)	Multiplier for Casing Diameter	Casing Volume (gal)	Total Purge Volume (gal)
VOLUME CALCULATION	20.05	5.47	14.5%	1 ② 4 6 0.04 0.16 0.64 1.44	2.33	33.32
PURGING DATA Purge Method:			Purge Depth:	20		
Time /3:聲	13:53	13:58	13:57	13:58	14:00	
Volume Purge (gal)	2	4	6	8	10	12
Temperature ( )	21.78	22196	21.50	21.50	21.50	
pH	7.72	7.67	7.66	7.69	1.5	
Conductivity (us/cm)	225/15	1899,5	207545	2293u5	2337,5	
Color	Brown	Brown,	Brown	Brown	Brown	
Turbidity	Silt	5: 1th	5.1tu	5.144	5,14y	
Odor (Y/N)	N	N	N	$\mathcal{N}^{\mathcal{I}}$	Nº	
Casing Volumes		-	1.		1	
Dewatered (Y/N)	$\mathcal{N}$	()_	W,	$\mathcal{N}_{\mathcal{N}}$	Y	
Comments/Observ	bations:	Da.	na tored	q, F 10	gal	
		1	otal Depth	of ked Sugaffada	20.05	
Total Purge Volum	ne: (0	(gallons)		Disposal:		
Weather Condition	ns:		O.K			
Condition of Well			04			
Well Head Condit	ions Requiring C	orrection:	Don	4 1	11111	//
Problems Encour	tered During Pur	rging:	Vewa	teved	5 Fill 9	20/ty
Comments:	Development (Well developme	nt form03.xts]Sheet1				



WELL DEVELOPMENT FORM

Project location:	2492 Castro Val	ley Boulevard, Ca	astro Valley, CA	Well No: M (/		7/9/09
Project No:	TM04334 Task 3	3		Personnel: C_	M. tchy	11
GAUGING DATA Water Level Mea		NLM		Measuring Point Do	escription: To	C
WELL PURGE	Total Depth (feet)	Depth to Water (feet)	Water Column (feet)	Multiplier for Casing Diameter	Casing Volume (gal)	Total Purge Volume (gal)
VOLUME CALCULATION	14.55 (	6.05	€.500	1 (2) 4 6 0.04 0.16 0.64 1.44	1.36€	13.60 (x
PURGING DATA Purge Method: (	Grundfos		Purge Depth:	14		
Time  /:,05	11:06	11:07	11:08	11:37	11:38	
Volume Purge (gal)	1	2	3	4	5	
Temperature ( )	22.5	23.1%	23.5°C	26.3	24.9	
pH	6.69	7.46	7.50	7,60	7.62	
Conductivity (us/cm)	2110,5	1960,5	19925	2047ns	20670	
Color	3.17	2 Supply	15 rayin	3. July	Brown	
Turbidity	5:14.	S. /K	5,1h	SITY	Silty	
Odor (Y/N)	W	N'	N/	N/	$\mathcal{N}_{-}$	
Casing Volumes		3	1	**		
Dewatered (Y/N)	N	No	W	1	Y	
Comments/Obser	vbations:		1			
		Total De	oth after	V SUVALLY	wge 14.5	5
Total Purge Volu	me: 5	(gallons)		Disposal:	50110 5017	om.
Weather Condition	ons:		04			
Condition of Wel	I Box and Casing	ļ	900			
Well Head Cond	itions Requiring (	Correction:	None		11 5,1	+
	ntered During Pu	irging:	Dewat	14 a M	lata no	Jer Sta
Comments:	ll Development (Well developm	ent form(0) xis [Sheet ]	-12eq	well v	ery 510	w to see
11:2	4	11:40	3.5 "	well s	Toppec	/
	<b>«</b> • =	bus	20 5 /			



MONITORING WELL DATA FORM

Client: Exxon					Date: 8 13	10	
Project Number:	UP04-334				Station Number	. 04-334	
Site Location: 2492 Castro V	alley Blvd , Ca	stro Valley , Ca	ulifomia		Samplers: WK	>	
MONITORING WELL NUMBER	DEPTH TO WATER (TOC)FT.	DEPTH TO PRODUCT (TOC)FT.	APPARENT PRODUCT THICKNESS (FT.)	AMOUNT OF PRODUCT REMOVED(L)	MONITORING WELL INTEGRITY	DEPTH TO BOTTOM (TOC)	WELL CASING DIAMETER
MW1	732					19.83	2"
MW2	6.96					Z = Z =	2"
MW3	55.3%					20.02	2"
MW4	6.10					14.51	2"
-							
				_			



GROUNDWATER PURGE AND SAMPLE Engineering, Inc. Date: 8 13 64 Well No: V/W 1 Exxon 04-334 Project Name: Personnel: UP04-334.1 Project No: **GAUGING DATA** Measuring Point Description: TOC Water Level Measuring Method: WLM / IP Total Purge: Casing Volume Water Column Multiplier for Depth to Water Total Depth Volume (gal) Casing Diameter (gal) WELL PURGE (feet) (leet) (feet) VOLUME CALCULATION 1 6 2 4 6 200 6.00 1256 1983 7-32 0.04 0.16 0.64 1.44 **PURGING DATA** Purge Rate: Z. C **GPM** Purge Method: WATERBA / BAILER / SUB 8:42 8.40 8:41 Time 8 39 6 Z 4 Volume Purpe (gal) 70.9 Temperature (C) ZZO 21.7 7.8Z 7.83 78F 1158 1124 1096 Spec Cond (umhos) sicri/BEN المعلم المعلمة 182J Tistadity/Color N Occur (YAN) Casing Volumes 3 2 N Downsorod (Y/N) Comments/Observbations: SAMPLING DATA Approximate Depth to Water During Sampling: (feet) 8:50 Time Sampled: Comments: Volume Filled Number of Turbidity/ Color | Analysis Method Perservative Container Type Sample Number (mL or L) Containers TPH-g, BTEX, MTBE 40 ml Voa HCL NWI TPH-D 1L HCL AMBERS IWIM 2 SYSTEM Disposal: (gallons) Total Purge Volume: **BOLTS** N Weather Conditions: CV CAP & LOCK (Y) / N Condition of Well Box and Casing at Time of Sampling: N Y GROUT Well Head Conditions Requiring Correction: None N WELL BOX. Problems Encountered During Purging and Sampling: N SECURED Comments: To Proceed Col. 334 Public CM Pro-Postd Poider (Purps Form, 20) Sasset



GROUNDWATER PURGE AND SAMPLE Engineering, Inc. Well No: MWZ Date: \$-13.04 Project Name: Exxon 04-334 Personnel: UP04-334.1 Project No: **GAUGING DATA** Measuring Point Description: TOC Water Level Measuring Method: WLM / Total Purge Casing Volume Multiplier for Water Column Depth to Water Total Depth Volume (gal) Casing Diameter (gal) WELL PURGE (feet) (feet) (feet) VOLUME CALCULATION 1 ( 2 2.11 6.35 6.96 13.24 20.20 0.04 0.16 0.64 **PURGING DATA** Purge Rate: 1.0 GPM Purge Method: (WATERRA )BAILER / SUB 9:16 9:14 Time 5110 9112 4 2 Volume Pumo (gal) 20.6 21.5 21.4 Temperature ( C) 7.74 7.75 7.85 1228 1036 Spec Cond (umhas) 1168 e num/son run/Ren Turbidity/Color Band N 7 Opor (Y/N) Casing Volumes 2 3 1 1 N N Downlered (V/N) Comments/Observbations: SAMPLING DATA Approximate Depth to Water During Sampling: (feet) 9:25 Time Sampled: Comments: Volume Filled Turbidity/ Color Analysis Method Number of Container Type Perservative Sample Number (mL or L) Containers TPH-g, BTEX, MTBE HCL 40 ml Voa MWZ 6 TPH-D HCL 1L MWZ AMBERS 2 SYSTEM Disposal: (gallons) 6 Total Purge Volume: N BOLTS Weather Conditions: CY) N CAP & LOCK Condition of Well Box and Casing at Time of Sampling: N GROUT Well Head Conditions Requiring Correction: No.5 N WELL BOX. Problems Encountered During Purging and Sampling: SECURED Comments: G. Cropent Od 334 Public QM Fre-Field Fedder (Parge Form, clo [Sizes])



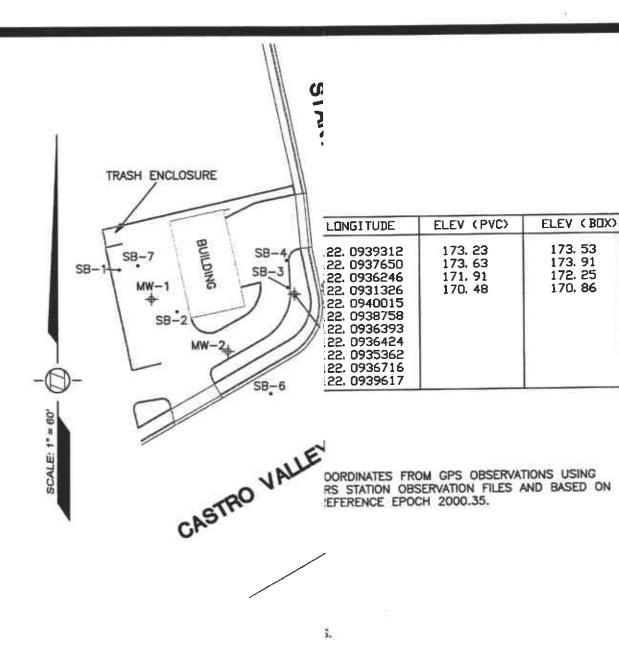
			TER PURGE	Well No:	MW	3	Date: 8	1.5 0	-4
Project Name:	Exxon 04-334			Personnel:	====				
Project No:	UP04-334.1			reisorner.			_		_
GAUGING DAT Water Level Me	TA easuring Method:	WLM / IP		Measuring	Point De	scription: T	ОС	WIE ST	0.00
WELL PURGE	Total Depth (feet)	Depth to Water (feet)	Water Column (feet)	Multiplic Casing Di		Casing Vol. (gal)	ume	Total P Volume	
CALCULATION	Ze.ez C	)5.3 L (	14.66	0.04 0.16	4 6	734		0.F	3
PURGING DAT Purge Method:	WATERRAY BAI	LER / SUB			Puŋ	je Rate: フ	O 0	PM	
Time 10:50	951	9 52	9:53				-		
Volums Purge (ga	Z	4	C				_		_
Temperature ( C)	21.9	21.9	21.2						
Pi de la	7.50	7.49	7.65						
Spec Cand (witho	and the second s	1429	1494				_		
Turbid ty/Color	SILTY/BEN	SILM BRU	51-17/152-1						
Odor (XIN)	7	7	2						_
STATE SALES		2	3						
Casing Volumes	圖 1								
Dawgloud (V/N)	7	2	2						_
Dawglend (Y/N) Comments/Obs	7		2						
Dewatered (V/N) comments/Obs	ervbations:		Approximate Dep	th to Water D	During Sa	mpling: Le		feet)	
Dewatered (Y/N)	ervbations:			th to Water I	Ouring Sa	mpling: Le	1	feet)	
SAMPLING D Time Sampled: Comments:	ATA ( 6 : 60		Approximate Dep	Valum	ouring Sal e Filled or L)	mpling: Le	Color	Analysis	3
SAMPLING D Time Sampled: Comments:	ervbations:	2	Approximate Dep	Valum (mL	Filled	THE REAL PROPERTY.	Color	Amalysis	X, MT
SAMPLING D Time Sampled: Comments:	ervbations:  ATA    Size of Containers	Container Type	Approximate Dep	Volume (ml.	e Filled or L)	THE REAL PROPERTY.	Color	Amalysis	3
SAMPLING D Time Sampled: Comments:	ATA  ATA  ATA  Number of Containers  6	Container Type Voa	Approximate Dep	Volume (ml.	e Fitled or L) ml	Turbidity/	Color	Amalysis	X, MT
SAMPLING D Time Sampled: Comments:	ATA  Number of Containers  6 2	Container Type Voa	Approximate Dep	Volume (ml.	Filled or L) ml	Turbidity/	Color	Analysis TPH-g, BTE	x, mt H-D
SAMPLING D Time Sampled: Comments: Sample Numb  MW3  Total Purge V Weather Cone	ATA  Number of Containers  6 2  olume:  cut ditions:  Cut	Container Type  Voa  AMBERS  (gallons)	Approximate Dep Perservative HCL HCL	Valume (ml.) 40	Filled or L) ml	Turbidity/	Color	Analysis TPH-9, BTE TPI	X, MT H-D
SAMPLING D Time Sampled: Comments: Sample Numb  MW3  Total Purge V Weather Cone	ATA  ATA  Number of Containers  6 2	Container Type  Voa  AMBERS  (gallons)	Approximate Dep Perservative HCL HCL	Valume (ml.) 40	Filled or L) ml	SY BOLTS CAP & LO	Color	Analysis TPH-g, BTE TPH Y) /	X, MT H-D N
SAMPLING D Time Sampled: Comments: Sample Numb  WW3  Total Purge V Weather Condition of V Well Head Co	ATA  Number of Containers  6 2  olume:  cut ditions:  Cut	Container Type  Voa  AMBERS  (gallons)  at Time of Samp Correction:	Approximate Dep Perservative HCL HCL	Valume (ml.) 40	Filled or L) ml	Turbidity/	Color	Analysis TPH-g. BTE TPH Y) / Y) /	X, MT H-D



		- GROUNDWA	TER PURGE	AND SAMPLE	11.1	61 12 11
Project Name:	Exxon 04-334			Well No: NV	VY Date:	8.13.04
Project No:	UP04-334.1			Personnel:		
GAUGING DATA Water Level Mea	suring Method:	WLM) / IP		Measuring Point D	escription: TOC	
WELL PURGE	Total Depth (feet)	Depth to Water (feet)	Water Column (feet)	Multiplier for Casing Diameter	Casing Volume (gal)	Total Purge Volume (gal)
CALCULATION	14.51	16.10	8.41	1 (2 ) 4 6 0.04 0.16 0.64 1.4	1.34	14.03
PURGING DATA Purge Method:	WATERBA/BAI	LER / SUB	9	Pui	rge Rate: 1. c	GРM
Time 7:56	7.57	7:58	7:59			
Volume Purge (gal)	1	2	3			
Temperature ( C)	Z0.5	Zo.5	202			
pli	7.67	7.68	7,70			
Spec Cond.(umhos)	1121	1130	1179			
Turbidity/Color	31 Jan / 32W		siun son			
Odor (Y/N)	N	N	2			
Casing Volumes	1	2	3			
The second second			7			
Dewntered (Y/N)			'~'			
BOARD HORSELL WALL		7	7			
SOUTH THE STATE OF		7	7			
Comments/Observations SAMPLING DAT	vbations:	7		h to Water During Sa	mpling: -1	(feet)
Comments/Obser	vbations:	7		h to Water During Sa	mpling: -1	(feet)
SAMPLING DAT Time Sampled: Comments:	vbations:	Container Type		h to Water During Sa Volume Filled (mL or L)	I was a south a second	(feet)
SAMPLING DAT Time Sampled: Comments:	Volations:	7	Approximate Dept	Volume Filled	I was a south a second	
SAMPLING DAT Time Sampled: Comments:	Volumber of Containers	Container Type	Approximate Dept	Volume Filled (mL or L)	I was a south a second	Analysis Meth
SAMPLING DATTIME Sampled: Comments: Sample Number	Number of Containers	Container Type Voa	Approximate Dept Perservative HCL	Volume Filled (mL or L) 40 ml	I was a south a second	Analysis Meth
SAMPLING DAT Time Sampled: Comments: Sample Number	Number of Containers  6 2	Container Type Voa AMBERS	Approximate Dept Perservative HCL	Volume Filled (mL or L) 40 ml 1L	Turbidity/ Color	Analysis Meth TPH-g, BTEX, MTB TPH-D
SAMPLING DAT Time Sampled: Comments:  Sample Number  MWY  Total Purge Volu	Number of Containers  6 2	Container Type Voa	Approximate Dept Perservative HCL	Volume Filled (mL or L) 40 ml	Turbidity/ Color	Analysis Meth TPH-9, BTEX, MTB TPH-D
SAMPLING DAT Time Sampled: Comments:  Sample Number  NWY  Total Purge Volu Weather Conditi	Number of Containers  6 2  ons: SV	Container Type Voa AMBERS (gallons)	Approximate Dept Perservative HCL HCL	Volume Filled (mL or L) 40 ml 1L	Turbidity/ Color SYSTEM BOLTS	Analysis Meth TPH-g, BTEX, MTB TPH-D
SAMPLING DAT Time Sampled: Comments:  Sample Number  NWY  Total Purge Volu Weather Condition of Wel	Number of Containers  6 2 ume: S ons: SV	Container Type Voa AMBERS  (gallons) at Time of Sample	Approximate Dept Perservative HCL HCL	Volume Filled (mL or L) 40 ml 1L	SYSTEM BOLTS CAP & LOCK	Analysis Meth TPH-g, BTEX, MTB TPH-D
SAMPLING DAT Time Sampled: Comments:  Sample Number  NW +  Total Purge Volu Weather Conditi Condition of Wel Well Head Cond	Number of Containers  6 2  In Box and Casing Citions Requiring Containers	Container Type Voa AMBERS  (gallons) at Time of Sample	Approximate Dept Perservative HCL HCL	Volume Filled (mL or L) 40 ml 1L	Turbidity/ Color SYSTEM BOLTS	Analysis Meth TPH-g, BTEX, MTB TPH-D  Y / N Y / N

Appendix F

**Survey Report** 



or Blvd. Ste. D 120 30 60 SCALE IN FEET

Sacramento omia 95691 ) 372-8124

oweurveying.com

Date: 7-12-04 Scale: 1" = 60" Sheet | of 1

Revised:

Field Book: MW-15 Dug. No. 1893-051 JL

# Appendix G

**Laboratory Analytical Reports** 



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7/ 3/04

CASE NARRATIVE

RECEIVED

JUL 12 2004

ETIC ENGINEERING

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name: EXXONMOBIL 04-334

Project Number: .

Laboratory Project Number: 380330.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. Any QC recoveries outside laboratory control limits are flagged individually with an #. Sample specific comments and quality control statements are included in the Laboratory notes section of the analytical report for each sample report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accredidation.

Sample Identification	Lab Number	Page I Collection Date
MW1,5-5.5 MW2,5-5.5 MW3,5-5.5 MW4,11.5-12 MW4,13-13.5 MW4,14.5-15 MW1,8.5-9 MW1,16.5-17	04-A98689 04-A98690 04-A98691 04-A98692 04-A98693 04-A98694 04-A98695	6/23/04 6/23/04 6/23/04 6/24/04 6/24/04 6/24/04 6/24/04
MW1,19.5-20	04-A98697	6/24/04



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Sample Identification

Lab Number

Page 2 Collection Date

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By:

ROXarrex Corna

Report Date: 7/ 3/04

Johnny A. Mitchell, Operations Manager Michael H. Dunn, M.S., Technical Director Pamela A. Langford, Technical Services Eric S. Smith, QA/QC Director Gail A. Lage, Technical Services Glenn L. Norton, Technical Services Kelly S. Comstock, Technical Services Roxanne L. Connor, Technical Services

Laboratory Certification Number: 01168CA

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## ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: BRYAN CAMPBELL

Lab Number: 04-A98689 Sample ID: MW1,5-5.5 Sample Type: Soil Site ID: 04-334

Date Collected: 6/23/04 Time Collected: 14:00 Date Received: 6/26/04 Time Received: 8:00

Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*GENERAL CHEMISTRY PARAMET	ERS*								
% Dry Weight	79.6	%		1	6/27/04	9:01	Fitzwater	CLP	8907
*ORGANIC PARAMETERS*								00017	5666
Benzene	ND	mg/kg	0.001	1	7/ 1/04		C. Wilson	8021B	
Ethylbenzene	ND	mg/kg	0.001	1	7/ 1/04	23:12	C. Wilson	8021B	5666
Toluene	ND	mg/kg	0.001	· 1	7/ 1/04	23:12	C. Wilson	8021B	5666
Kylenes, total	ND	mg/kg	0.001	1	7/ 1/04	23:12	C. Wilson	8021B	5666
TPH (Gasoline Range)	ND	mg/kg	4.97	1	7/ 1/04	23:12	C. Wilson	8015B	5666
TPH (Diesel Range)	ND	mg/kg	10	1	6/29/04	15:39	M.Jarrett	8015B	1663
*VOLATILE ORGANICS*								0.000	345
Methyl-t-butyl ether	ND	mg/kg	0.002	1	7/ 1/04	0:29	J. Adams	8260B	343

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Wt/Vol Extracted l	Extract Vol	Date	Time	Analyst	Method
EPH/DRO	24.9 gm	1.0 ml	6/28/04		M. Ricke	3550
Volatile Organica	s 5.00 g	5.0 ml	6/29/04	14:55	Fitzwater	5035
BTX Prep	5.03 g	5.0 ml	6/26/04	14:55	C. Wilson	5035



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#### ANALYTICAL REPORT

Laboratory Number: 04-A98689 Sample ID: MW1,5-5.5

Project: Page 2

Surrogate	% Recovery	Target Range		
	100.	60 130.		
UST surr-Trifluorotoluene	100.			
TPH Hi Surr., o-Terphenyl	79.	35 135.		
VOA Surr 1,2-DCA-d4	118.	59 134.		
VOA Surr Toluene-d8	101.	67 129.		
VOA Surr, 4-BFB	99.	60 134.		
VOA Surr, DBFM	107.	67 126.		

#### LABORATORY COMMENTS:

ND - Not detected at the report limit.

B - Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# - Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.



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#### ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: BRYAN CAMPBELL

Lab Number: 04-A98690 Sample ID: MW2,5-5.5 Sample Type: Soil Site ID: 04-334

Date Collected: 6/23/04 Time Collected: 15:54 Date Received: 6/26/04 Time Received: 8:00

Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*GENERAL CHEMISTRY PARAMET	ERS*								000
% Dry Weight	81.9	%		1	6/27/04	9:01	Fitzwater	CLP	8907
ORGANIC PARAMETERS*								0021B	5666
Benzene	ND	mg/kg	0.001	1	7/ 1/04		C. Wilson	8021B	
Sthylbenzene	ND	mg/kg	0.001	1	7/ 1/04	23:41	C. Wilson	8021B	5666
Foluene	0.0018	mg/kg	0.001	1	7/ 1/04	23:41	C. Wilson	8021B	5666
Kylenes, total	0.0039	mg/kg	0.001	1	7/ 1/04	23:41	C. Wilson	8021B	5666
TPH (Gasoline Range)	ND	mg/kg	4.96	1	7/ 1/04	23:41	C. Wilson	8015B	5666
TPH (Gasoffhe Range)	ND	mg/kg	9.84	1	6/29/04	15:56	M.Jarrett	8015B	1663
*VOLATILE ORGANICS*						1.07	I Adomo	8260B	345
Methyl-t-butyl ether	ND	ng/kg	0.002	1	7/ 1/04	1:07	J. Adams	0200B	545

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
EPH/DRO	25.4 gr	n 1.0 ml	6/28/04		M. Ricke	3550
Volatile Organics	s 5.02 g	5.0 ml	6/29/04	15:10	Fitzwater	5035
BTX Prep	5.04 g	5.0 ml	6/26/04	14:55	C. Wilson	5035



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#### ANALYTICAL REPORT

Laboratory Number: 04-A98690

Sample ID: MW2,5-5.5

Project: Page 2

Surrogate	% Recovery	Target Range
UST surr-Trifluorotoluene	101.	60 130.
TPH Hi Surr., o-Terphenyl	80.	35 135.
VOA Surr 1,2-DCA-d4	116.	59 134.
VOA Surr Toluene-d8	100.	67 129.
VOA Surr, 4-BFB	99.	60 134.
VOA Surr, DBFM	109.	67 126.

#### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.



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## ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: BRYAN CAMPBELL

Lab Number: 04-A98691 Sample ID: MW3,5-5.5 Sample Type: Soil Site ID: 04-334

Date Collected: 6/23/04 Time Collected: 16:35 Date Received: 6/26/04 Time Received: 8:00

Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*GENERAL CHEMISTRY PARAME % Dry Weight	ETERS* 82.2	%		1	6/27/04	9:01	Fitzwater	CLP	8907
*ORGANIC PARAMETERS* Benzene Ethylbenzene Toluene Xylenes, total TPH (Gasoline Range) TPH (Diesel Range)	0.0324 3.11 0.0184 2.22 12.7 18.1	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.001 0.0498 0.001 0.0498 4.98	1 50 1 50 1	7/ 2/04 7/ 2/04 7/ 2/04 7/ 2/04 7/ 2/04 6/29/04	11:22 0:10 11:22 0:10	C. Wilson C. Wilson C. Wilson C. Wilson C. Wilson M.Jarrett	8021B 8021B 8021B 8021B 8015B 8015B	5666 5687 5666 5687 5666 1663
*VOLATILE ORGANICS* Methyl-t-butyl ether	ND	mg/k <b>g</b>	0.0996	50	6/30/04	7:29	J. Adams	8260B	3483

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Wt/Vol Extracted E	xtract Vol	Date	Time	Analyst	Method
EPH/DRO Volatile Organic	24.8 gm s 5.02 g 5.02 g	1.0 ml 5.0 ml 5.0 ml	6/28/04 6/29/04 6/26/04	15:17 14:55	M. Ricke Fitzwater C. Wilson	3550 5035 5035



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## ANALYTICAL REPORT

Laboratory Number: 04-A98691 Sample ID: MW3,5-5.5

Project: Page 2

Surrogate	% Recovery	Target Range		
UST surr-Trifluorotoluene	110.	60 130.		
TPH Hi Surr., o-Terphenyl	84.	35 135.		
VOA Surr 1,2-DCA-d4	102.	59 134.		
VOA Surr Toluene-d8	112.	67 129.		
VOA Surr, 4-BFB	106.	60 134.		
VOA Surr, DBFM	102.	67 126.		

#### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J - Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# - Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.

8260 PQL's elevated due to sample matrix.



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## ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04 - 334

Sampler: BRYAN CAMPBELL

Lab Number: 04-A98692 Sample ID: MW4,11.5-12 Sample Type: Soil

Site ID: 04-334

Date Collected: 6/24/04 Time Collected: 11:30 Date Received: 6/26/04 8:00 Time Received:

Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*GENERAL CHEMISTRY PARAM % Dry Weight	ETERS*	%		1	6/27/04	9:01	Fitzwater	CLP	8907
*ORGANIC PARAMETERS*		a	0.001	1	7/ 2/04	0:40	C. Wilson	8021B	566
Benzene	ND	mg/kg	0.001	1	7/ 2/04		C. Wilson	8021B	566
Ethylbenzene	ND	mg/kg	0.001		7/ 2/04		C. Wilson	8021B	566
Toluene	ND	mg/kg	0.001	1	7/ 2/04		C. Wilson	8021B	566
Xylenes, total	ND	mg/kg	0.001	1		•	C. Wilson	8015B	566
TPH (Gasoline Range)	ND	mg/kg	4.97	1	7/ 2/04	-		8015B	166
TPH (Diesel Range)	ND	mg/kg	9.88	1	6/29/04	16:28	M.Jarrett	0017B	100
*VOLATILE ORGANICS* Methyl-t-butyl ether	0.0024	mg/kg	0.002	1	7/ 1/04	1:49	J. Adams	8260B	345

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vo	ol Date	Time	Analyst	Method
EPH/DRO Volatile Organics BTX Prep	25.3 g s 5.02 g 5.03 g	5.0 ml	6/28/04 6/29/04 6/26/04		M. Ricke Fitzwater C. Wilson	3550 5035 5035



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#### ANALYTICAL REPORT

Laboratory Number: 04-A98692 Sample ID: MW4,11.5-12

Project: Page 2

Surrogate	% Recovery	Target Range		
UST surr-Trifluorotoluene	103.	60 130.		
TPH Hi Surr., o-Terphenyl	84.	35 135.		
VOA Surr 1,2-DCA-d4	120.	59 134.		
VOA Surr Toluene-d8	105.	67 129.		
VOA Surr, 4-BFB	119.	60 134.		
VOA Surr. DBFM	107.	67 126.		

#### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B - Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estîmated Value above the calibration limit of the instrument.

# - Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.



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## ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: BRYAN CAMPBELL

Lab Number: 04-A98693 Sample ID: MW4,13-13.5 Sample Type: Soil Site ID: 04-334

Date Collected: 6/24/04 Time Collected: 11:52 Date Received: 6/26/04

8:00 Time Received:

Page: l

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*GENERAL CHEMISTRY PARAME				1	6/27/04	9:01	Fitzwater	CLP	8907
% Dry Weight	87.4	%		1	0/2//04	,			
*ORGANIC PARAMETERS*							C. Wilson	8021B	5666
Benzene	ND	mg/kg	0.001	1	7/ 2/04			8021B	5666
Ethylbenzene	ND	mg/kg	0.001	1	7/ 2/04		C. Wilson		5666
Toluene	ND	mg/kg	0.001	1	7/ 2/04		C. Wilson	8021B	5666
Xylenes, total	ND	mg/kg	0.001	1	7/ 2/04	1:09	C. Wilson	8021B	
TPH (Gasoline Range)	ND	mg/kg	4.99	1	7/ 2/04	1:09	C. Wilson	8015B	5666
TPH (Diesel Range)	ND	mg/kg	10	1	6/29/04	16:45	M.Jarrett	8015B	1663
*VOLATILE ORGANICS*				_	7, 1,01	6:52	J. Yun	8260B	6289
Methyl-t-butyl ether	ND	mg/kg	0.002	1	7/ 1/04	0:32	J. 1411	02000	

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Ext:	ract Vol	Date	Time	Analyst	Method
EPH/DRO Volatile Organic	24.9 g s 5.05 g 5.01 g	<u> </u>	1.0 ml 5.0 ml 5.0 ml	6/28/04 6/29/04 6/26/04	15:27 14:55	M. Ricke Fitzwater C. Wilson	3550 5035 5035



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#### ANALYTICAL REPORT

Laboratory Number: 04-A98693

Sample ID: MW4,13-13.5

Project: Page 2

Surrogate	% Recovery	Target Range		
UST surr-Trifluorotoluene TPH Hi Surr., o-Terphenyl	112. 71.	60 130. 35 135.		
VOA Surr 1,2-DCA-d4	114.	59 134.		
VOA Surr Toluene-d8	103.	67 129.		
VOA Surr, 4-BFB	105.	60 134. 67 126.		
VOA Surr, DBFM	109.	67 120.		

### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J - Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.



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## ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: BRYAN CAMPBELL

Lab Number: 04-A98694 Sample ID: MW4,14.5-15

Sample Type: Soil Site ID: 04-334

Date Collected: 6/24/04 Time Collected: 11:56 Date Received: 6/26/04

Time Received: 8:00

Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*GENERAL CHEMISTRY PARAM % Dry Weight	ETERS* 89.9	%		1	6/27/04	9:01	Fitzwater	CLP	8907
*ORGANIC PARAMETERS* Benzene Ethylbenzene Toluene Xylenes, total TPH (Gasoline Range) TPH (Diesel Range)	ND ND ND ND ND	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.001 0.001 0.001 0.001 4.99	1 1 1 1 1	7/ 2/04 7/ 2/04 7/ 2/04 7/ 2/04 7/ 2/04 6/29/04	1:38 1:38 1:38 1:38	C. Wilson C. Wilson C. Wilson C. Wilson C. Wilson M.Jarrett	8021B 8021B 8021B 8021B 8015B 8015B	5666 5666 5666 5666 166
*VOLATILE ORGANICS* Methyl-t-butyl ether	0.0024	mg/kg	0.002	1	7/ 1/04	7:11	J. Yun	8260B	628

Silica Gel Cleanup performed for TPH-DRO analysis.

#### Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
EPH/DRO Volatile Organic	24.7 gm s 5.02 g	1.0 ml	6/28/04 6/29/04	15:35	M. Ricke Fitzwater	3550 5035
BTX Prep	5.01 g	5.0 ml	6/26/04	14:55	C. Wilson	5035



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## ANALYTICAL REPORT

Laboratory Number: 04-A98694

Sample ID: MW4,14.5-15

Project: Page 2

Surrogate	% Recovery	Target Range
UST surr-Trifluorotoluene	101.	60 130.
TPH Hi Surr., o-Terphenyl	88.	35 135.
VOA Surr 1,2-DCA-d4	117.	59 134.
VOA Surr Toluene-d8	108.	67 129.
VOA Surr, 4-BFB	122.	60 134.
VOA Surr, DBFM	111.	67 126.

#### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E - Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.



### ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: BRYAN CAMPBELL

Lab Number: 04-A98695 Sample ID: MW1,8.5-9 Sample Type: Soil Site ID: 04-334

Date Collected: 6/24/04 Time Collected: 14:40 Date Received: 6/26/04 Time Received: 8:00

Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*GENERAL CHEMISTRY PARAME % Dry Weight	TERS* 78.4	%		1	6/27/04	9:01	Fitzwater	CLP	8907
*ORGANIC PARAMETERS* Benzene Ethylbenzene Toluene Kylenes. total TPH (Gasoline Range) TPH (Diesel Range)	ND ND ND ND ND	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.001 0.001 0.001 0.001 4.98 10.2	1 1 1 1 1	7/ 2/04 7/ 2/04 7/ 2/04 7/ 2/04 7/ 2/04 6/29/04	2:07 2:07 2:07 2:07	C. Wilson C. Wilson C. Wilson C. Wilson C. Wilson M.Jarrett	8021B 8021B 8021B 8021B 8015B 8015B	5666 5666 5666 5666 5666 1663
*VOLATILE ORGANICS* Methyl-t-butyl ether	ИD	mg/kg	0.002	1	7/ 1/04	7:30	J. Yun	8260B	6289

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Wt/Vol Extracted Ex	ctract Vol	Date	Time	Analyst	Method
EPH/DRO	24.6 gm	1.0 ml	6/28/04		M. Ricke	3550
Volatile Organic	•	5.0 ml	6/29/04	15:40	Fitzwater	5035
BTX Prep	5.02 g	5.0 ml	6/26/04	14:55	C. Wilson	5035



### ANALYTICAL REPORT

Laboratory Number: 04-A98695

Sample ID: MW1,8.5-9

Project: Page 2

Surrogate	% Recovery	Target Range
UST surr-Trifluorotoluene TPH Hi Surr., o-Terphenyl VOA Surr 1,2-DCA-d4 VOA Surr Toluene-d8 VOA Surr, 4-BFB VOA Surr, DBFM	100. 87. 118. 97. 101. 106.	60 130. 35 135. 59 134. 67 129. 60 134. 67 126.

#### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.



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### ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: BRYAN CAMPBELL

Lab Number: 04-A98696 Sample ID: MW1,16.5-17

Sample Type: Soil Site ID: 04-334

Date Collected: 6/24/04 Time Collected: 15:20 Date Received: 6/26/04 Time Received: 8:00

Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*GENERAL CHEMISTRY PARAME % Dry Weight	TERS* 87.4	%		1	6/27/04	9:01	Fitzwater	CLP	8907
*ORGANIC PARAMETERS* Benzene Ethylbenzene Toluene Xylenes, total TPH (Gasoline Range) TPH (Diesel Range)	ND ND ND ND ND	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.001 0.001 0.001 0.001 4.96 10.1	1 1 1 1 1	7/ 2/04 7/ 2/04 7/ 2/04 7/ 2/04 7/ 2/04 6/29/04	2:37 2:37 2:37 2:37	C. Wilson C. Wilson C. Wilson C. Wilson C. Wilson M.Jarrett	8021B 8021B 8021B 8021B 8015B 8015B	5666 5666 5666 5666 1663
*VOLATILE ORGANICS* Methyl-t-butyl ether	ИD	mg/k <b>g</b>	0.002	1	7/ 1/04	7:49	J. Yun	8260B	6289

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
EPH/DRO Volatile Organic: BTX Prep	24.8 g s 4.96 g 5.04 g	5.0 ml	6/28/04 6/29/04 6/26/04	15:45 14:55	M. Ricke Fitzwater C. Wilson	3550 5035 5035



### ANALYTICAL REPORT

Laboratory Number: 04-A98696 Sample ID: MW1,16.5-17

Project: Page 2

Surrogate	% Recovery	Target Range
UST surr-Trifluorotoluene TPH Hi Surr., o-Terphenyl VOA Surr 1,2-DCA-d4 VOA Surr Toluene-d8 VOA Surr, 4-BFB VOA Surr, DBFM	99. 83. 133. 135. <b>#</b> 123.	60 130. 35 135. 59 134. 67 129. 60 134. 67 126.

### LABORATORY COMMENTS:

ND - Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E - Estimated Value above the calibration limit of the instrument.

# - Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.

8260 surrogate outside QC range due to sample matrix.



### ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: BRYAN CAMPBELL

Lab Number: 04-A98697 Sample ID: MW1,19.5-20

Sample Type: Soil Site ID: 04-334

Date Collected: 6/24/04 Time Collected: 15:41 Date Received: 6/26/04 Time Received: 8:00

Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*GENERAL CHEMISTRY PARAME % Dry Weight	ETERS* 85.1	%		1	6/27/04	9:01	Fitzwater	CLP	8907
*ORGANIC PARAMETERS*									****
Benzene	ND	mg/kg	0.001	1	7/ 2/04	3:06	C. Wilson	8021B	5666
	ND	mg/kg	0.001	1	7/ 2/04	3:06	C. Wilson	8021B	5666
Ethylbenzene 	ND	mg/kg	0.001	1	7/ 2/04	3:06	C. Wilson	8021B	5666
Toluene			0.001	1	7/ 2/04	3:06	C. Wilson	8021B	5666
Kylenes, total	ND	mg/kg	5.04	1	7/ 2/04	3:06	C. Wilson	8015B	5666
TPH (Gasoline Range)	ND	mg/kg		1	6/29/04		M.Jarrett	8015B	1663
TPH (Diesel Range)	ND	mg/kg	10.1	1	0, 23, 04	17.77			
*VOLATILE ORGANICS*						0-00	J. Yun	8260B	6289
Methyl-t-butyl ether	ND	mg/kg	0.002	1	7/ 1/04	8:08	J. IUH	OZOOD	020

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Wt/Vol Extracted Ex	tract Vol	Date	Time	Analyst	Method
EPH/DRO Volatile Organic BTX Prep	24.7 gm s 5.02 g 4.96 g	1.0 ml 5.0 ml 5.0 ml	6/28/04 6/29/04 6/26/04	15:52 14:55	M. Ricke Fitzwater C. Wilson	3550 5035 5035



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### ANALYTICAL REPORT

Laboratory Number: 04-A98697 Sample ID: MW1,19.5-20

Project: Page 2

Surrogate	% Recovery	Target Range
UST surr-Trifluorotoluene TPH Hi Surr., o-Terphenyl VOA Surr 1,2-DCA-d4 VOA Surr Toluene-d8	100. 84. 119. 110.	60 130. 35 135. 59 134. 67 129.
VOA Surr, 4-BFB VOA Surr, DBFM	136. <i>#</i> 106.	60 134. 67 126.

## LABORATORY COMMENTS:

ND - Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.

8260 surrogate outside QC range due to sample matrix.



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PROJECT QUALITY CONTROL DATA

Project Number:

Project Name: EXXONMOBIL 04-334

Page: 1

Laboratory Receipt Date: 6/26/04

Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

MS/MSD analysis Analyte	units	Orig. Val.		Spike Conc	Recovery	Target Range	Q.C. Batti	Spike Sambie
**UST ANALYSIS**			0.0255	0.0500	52	26 154.	5666	99643
Benzene	mg/kg	0.0093	0.0355	0.0500	48	22 148.	5666	99643
Toluene	mg/kg	0.0071	0.0312	0.0500	67	16 151.	5666	99643
Ethylbenzene	mg/kg	0.0121	0.0454	0.100	42#	45 155.	56 <b>66</b>	99643
Xylenes, total	mg/kg	0.0129	0.0549	10.0	111	25 152.	5666	99643
TPH (Gasoline Range)	mg/kg	< 5.00	11.1	40.0	91	33 146.	1663	04-A98689
TPH (Diesel Range)	mg/kg	< 10.0	36.5	40.0	103	59 - 13	34 3483	
VOA Surr 1,2-DCA-d4	% Rec				98	59 - 13		
VOA Surr 1,2-DCA-d4	% Rec				101		34 6289	
VOA Surr 1,2-DCA-d4	% Rec				104		29 3483	
VOA Surr Toluene-d8	% Rec				104		29 3457	
VOA Surr Toluene-d8	% Rec				103		29 6289	
VOA Surr Toluene-d8	% Rec				103	-	34 3483	
VOA Surr, 4-BFB	% Rec				102	-	34 3457	
VOA Surr, 4-BFB	% Rec				100		34 6289	
VOA Surr, 4-BFB	% Rec				103	-	26 3483	
VOA Surr, DBFM	% Rec				= :	•	26 3457	
VOA Surr, DBFM	% Rec				102	•	26 6289	
VOA Surr, DBFM	% Rec				103	0/ - 1	20 020)	

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	 Q.C. Batch



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PROJECT QUALITY CONTROL DATA

Project Number:

Project Name: EXXONMOBIL Page: 2

Laboratory Receipt Date:

### Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
**UST PARAMETERS**						5006
Benzene	mg/kg	0.0355	< 0.0010	189.04#	34.	5666
Toluene	mg/kg	0.0312	0.0380	19.65	39.	5666
Ethylbenzene	mg/kg	0.0454	0.0828	58.35#	40.	5666
Xylenes, total	mg/kg	0.0549	0.110	66.83#	44.	566 <del>6</del>
TPH (Gasoline Range)	mg/kg	11.1	11.7	5.26	32.	5666
•	mg/kg	36.5	36.0	1.38	50.	1663
TPH (Diesel Range)	% Rec	30.3	102.			3483
VOA Surr 1,2-DCA-d4			95.			3457
VOA Surr 1,2-DCA-d4	% Rec					6289
VOA Surr 1,2-DCA-d4	% Rec		108.			3483
VOA Surr Toluene-d8	% Rec		104.			3457
VOA Surr Toluene-d8	% Rec		105.			
VOA Surr Toluene-d8	% Rec		102.			6289
VOA Surr, 4-BFB	% Rec		103.			3483
VOA Surr, 4-BFB	% Rec		103.			3457
	% Rec		99.			6289
VOA Surr, 4-BFB	% Rec		104.			3483
VOA Surr, DBFM			98.			3457
VOA Surr, DBFM	% Rec					6289
VOA Surr, DBFM	% Rec		102.			

#### Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
**UST PARAMETERS** Benzene Toluene Ethylbenzene	mg/kg	0.100	0.0980	98	71 - 127	5666
	mg/kg	0.100	0.0945	94	73 - 121	5666
	mg/kg	0.100	0.101	101	71 - 127	5666



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PROJECT QUALITY CONTROL DATA

Project Number:

Project Name: EXXONMOBIL Page: 3

Laboratory Receipt Date:

#### Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
			0.10/	106	71 - 127	5687
Ethylbenzene	mg/kg	0.100	0.106	100	72 - 123	5666
Xylenes, total	mg/kg	0.200	0.199		72 - 123	5687
Xylenes, total	mg/kg	0.200	0.208	104		5666
TPH (Gasoline Range)	mg/kg	10.0	11.7	117	76 - 122	1663
TPH (Diesel Range)	mg/kg	40.0	37.8	94	48 - 135	1003
**VOA PARAMETERS**						2/57
Methyl-t-butyl ether	mg/kg	0.0500	0.0555	111	J	3457
Methyl-t-butyl ether	mg/kg	0.0500	0.0466	93	59 - 13 <b>9</b>	3483
Methyl-t-butyl ether	mg/kg	0.0500	0.0470	94	59 - 139	6289
VOA Surr 1,2-DCA-d4	% Rec			102	59 - 134	3457
VOA Surr 1,2-DCA-d4	% Rec			96	59 - 134	3483
	% Rec			96	59 - 134	6289
VOA Surr 1,2-DCA-d4	% Rec			105	67 - 12 <del>9</del>	3457
VOA Surr Toluene-d8	% Rec			104	67 - 129	3483
VOA Surr Toluene-d8				102	67 - 129	6289
VOA Surr Toluene-d8	% Rec			103	60 - 134	3457
VOA Surr, 4-BFB	% Rec			104	60 - 134	3483
VOA Surr, 4-BFB	% Rec			102	60 - 134	6289
VOA Surr, 4-BFB	% Rec			101	67 - 126	3457
VOA Surr, DBFM	% Rec				67 - 126	3483
VOA Surr, DBFM	% Rec			103	67 - 126	6289
VOA Surr, DBFM	% Rec			98	67 - 120	0207

### Duplicates

		<b></b>			 	
Analyte	units	Orig. Val.	Duplicate	RPD		Sample Dup'd



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PROJECT QUALITY CONTROL DATA

Project Number:

Project Name: EXXONMOBIL 04-334

Page: 4

Laboratory Receipt Date: 6/26/04

#### Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	
**UST PARAMETERS**	< 0.0010	mg/kg	5666	7/ 1/04	20:46
Benzene	< 0.0010	mg/kg mg/kg	5666	7/ 1/04	20:46
Toluene	< 0.0010	mg/kg	5666	7/ 1/04	20:46
Ethylbenzene	< 0.0010	mg/kg	5687	7/ 2/04	9:55
Ethylbenzene	< 0.0010	mg/kg	5666	7/ 1/04	20:46
Xylenes, total	< 0.0010	mg/kg	5687	7/ 2/04	9:55
Xylenes, total		mg/kg mg/kg	5666	7/ 1/04	20:46
TPH (Gasoline Range)	< 5.00	J -	1663	6/29/04	14:35
TPH (Diesel Range)	< 10.0	mg/kg % Recovery		7/ 1/04	20:46
UST surr-Trifluorotoluene	104.	_		7/ 2/04	9:55
UST surr-Trifluorotoluene	102.	% Recovery	2007	,, 2, 54	
**VOA PARAMETERS**	0.0005	/	3457	6/30/04	16:46
Methyl-t-butyl ether	< 0.0006	mg/kg	3483	6/30/04	2:44
Methyl-t-butyl ether	< 0.0006	mg/kg	6289	7/ 1/04	6:33
Methyl-t-butyl ether	< 0.0006	mg/kg		6/30/04	16:46
VOA Surr 1,2-DCA-d4	130.	% Rec	3457	6/30/04	2:44
VOA Surr 1,2-DCA-d4	127.	% Rec	3483	7/ 1/04	6:33
VOA Surr 1,2-DCA-d4	126.	% Rec	6289	6/30/04	16:46
VOA Surr Toluene-d8	100.	% Rec	3457	6/30/04	2:44
VOA Surr Toluene-d8	102.	% Rec	3483		6:33
VOA Surr Toluene-d8	100.	% Rec	6289	7/ 1/04	16:46
VOA Surr, 4-BFB	102.	% Rec	3457	6/30/04	2:44
VOA Surr, 4-BFB	98.	% Rec	3483	6/30/04	
VOA Surr, 4-BFB	103.	% Rec	6289	7/ 1/04	6:33
VOA Surr, DBFM	109.	% Rec	3457	6/30/04	16:46
VOA Surr, DBFM	108.	% Rec	3483	6/30/04	2:44
VOA Surr, DBFM	109.	% Rec	6289	7/ 1/04	6:33



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PROJECT QUALITY CONTROL DATA

Project Number:

Project Name: EXXONMOBIL 04-334

Page: 5

Laboratory Receipt Date: 6/26/04

# - Value outside Laboratory historical or method prescribed QC limits.

End of Report for Project 380330





### **COOLER RECEIPT FORM**

BC#

Client Name: ETIC Engineering	
Cooler Received/Opened On: 6/26/04  Accessioned By: Shape Log-in Personnel Sign	
1. Temperature of Cooler when triaged: 5.8 Degrees Celsius	S
2. Were custody seals on outside of cooler?	YESNONA
a. If yes, how many, what kind and where 1/2/3/4 FRONT/B	ACK/SIDE
3. Were custody seals on containers and intact?	NOYESNA
4. Were the seals intact, signed, and dated correctly?	YESNONA
5. Were custody papers inside cooler?	YESNONA
6. Were custody papers properly filled out (ink, signed, etc)?	YESNONA
7. Did you sign the custody papers in the appropriate place?	YESNONA
8. What kind of packing material used? Bubblewrap Peanuts Vermiculite Ot	her None
9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Ot	her None
10. Did all containers arrive in good condition (unbroken)?	YESNONA
11. Were all container labels complete (#, date, signed, pres., etc)?	VES.) NONA
12. Did all container labels and tags agree with custody papers?	(YES)NONA
13. Were correct containers used for the analysis requested?	(YES/NONA
14. a. Were VOA vials received?	YES. (NO.) NA
b. Was there any observable head space present in any VOA vial?	NOYES (.NA)
15. Was sufficient amount of sample sent in each container?	YESNONA
16. Were correct preservatives used?	YES. NONA
If not, record standard ID of preservative used here	
17. Was residual chlorine present?	NOYES.(.NA)
18. Indicate the Airbill Tracking Number (last 4 digits for Fedex only) and Name	e of Courier below:
Fed-Ex UPS Velocity Airborne Route	Off-street Misc.
19. If a Non-Conformance exists, see attached or comments below:	



Nashville Division 2960 Foster Creighton Nashville, TN 37204 CHAIN OF CUSTODY RECORD Phone: 615-726-0177 Toli Free: 800-765-0980

Fax: 615-726-3404

# Ex∕onMobil

380330

	Report To: _	BRYAN CAMPBELL
	Invoice To:	GENE ORTEGA (EXXONMOBIL TM)
	Account #: _	3865
	PO #: _	4504340684
Fax No.: (925) 602-4720	Facility ID # (	04-334
	Site Address 2	2492 Castro Valley Blvd.
	City, State Zip	Castro Valley, CA
	Fax No.: (925) 602-4720	Invoice To: 0

	Date Sampled	Time Sampled	No. of Containers Shipped						9	il)	Laber)								3021B											:hedule)	s. Udys	
Sample ID / Description		Time	No. of C	Grab	Composite	Field Filtered	<u> Se</u>	HNO <sub>3</sub> (Red Label)	HCI (Blue Label)	NaOH ( Orange Label) H-SO, Plastic (Yellow Label)	H-SO, Glass(Yellow Label)	2 Unpreserved Liters	Other (Specify)	Groundwater	Wastewater	Drinking Water	Siuge	Other (specify):	TPH-G/BTEX BY 8015B/8021B	TPH-D BY 80158*	WTBE BY 8260B	TRPH BY 418.1M*	TOTAL LEAD BY 6010B						HOLD	RUSH TAT (Pre-Schedule)	IAI request (in but	Fax Results
MWI 5-5.5	6/03/04	1400	1				X	T		T	T	Ť		П		寸	7	1	X	-	X			9	ç	٤8	9	П		П	X	
MWZ 5-5.5	1	1554	1		$\Box$		X	寸	十	1	$\top$	十	П	П		寸	0	4	×	1	X			Γ.	,	T	0			T	X	abla
1113 -5.5	1,	1635	1				X	寸	十	$\top$	1	1	П		П	7	را		X	X	X				Γ	9	+	П		7	×	
MW4 115-12	6/24/04	·	1				X	1	$\top$	T	Ť	†		П	П	$\top$	1	1	X	×	X		ļ —			a	2	П			7	_
MW1, 5-5.5 MW2, 5-5.5 MW3, 5-5.5 MW4, 11.5-12 MW4, 13-13.5		1152	j				X	7	+	_	+	╁	T			$\dashv$	1	1	X	X	X	T			┞	-	3	П			X	
MW4,14.5-15		1154	1				X		Ť								C		X	X	X					9	И				X	
MW1, 8.5-9		1440	١				X										J	<b>X</b>	X	X	X					9	5				χ	
mw1,12-12.5		1456	1				X		T									$\langle  $											$\checkmark$		B	
MW1,16.5-17		1520	1				K				7		Π				Ţ	<b>4</b>	X	X	X			U	7	19	<b>.</b>				X	$\prod$
		1530	1				X			1							\	4	Τ										X		N V	
MWI, 17.5 - 18 Special Instructions: *USE SILICA-GEL CLEAN-UP		GL	OBAI	L ID#	TO60	0101	278				Ē	DF	FIL	E R	EC	UIR	ED		-		La	Ter Sa	mple	ratu e Co	re U Intai	lpon iners				Y Y	N N	
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Nashville Division 2960 Foster Creighton

Toll Free: 800-765-0980

# ExonMobil

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	INCORPORATED		Nashvi	lle, TN	37204	,			Fax	:: 61	5-726	3-34	04										_	L			
	Consultant Name:	ETIC EN	NGINEE	RING											Rep	ort	To:	E	3RY	ΆN	CAN	<u>ИРВ</u>	ELL				
7	Address:	2285 M	ORELLO	AVEN	IUE										Invo	oice	To:	SENI	E OF	RTEC	GA (E)	NOXX	1MOE	BIL T	M)		
U	City/State/Zip:	PLEASA	ANT HIL	L, CA.	94523										Acc	oun	t #:_	3	865	i							
E	xxonMobil Project Mgr:	BRYAN	САМРВ	ELL												PC	) #: _				450	4340	684				
	Telephone Number:	(925) 60	2-4710	EXT. 2	4	Fa	x No	.: (9:	25) 6	02-47	720				Facil	lity l	D#_	)4-3	34								
	Sampler Name: (Print)	Bev	an_C	"dem 1	open	_									Site A	ddr	ess 2	2492	Cas	stro '	Valley	/ Blvc	d.				
	Sampler Signature:													<u>c</u>	ity, Si	tate	Zip <u>(</u>	Cast	ro V	alley	r, CA						
								Pr	eserv	ative	,	Τ	N	latrix					Α	naly	ze Fo	r:			$\Box$		
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Sample ID / Description	Date Sampled	Time Sampled	No. of Containe	Grab	Composite	Field Filtered	tce	HNO, (Red Label	HCI (Blue Label)	NaOH (Orange L H.SO, Plastic (Ye	H <sub>2</sub> SO <sub>4</sub> Glass(Yell	2 Unpreserved Lite	Other (Specify)	Groundwater	Wastewater	Drinking Water Sludge	Soil	Other (specify):	TPH-G/BTEX BY 8	FPH-D BY 8015B*	ATBE BY 82608	RPH BY 418.1M*	TOTAL LEAD BY 6						HOLD	RUSH TAT (PR	TAT request (in	STD TAT	Fax Results
MW1, 19.5-20	6/24/09	1541	1				X	寸	$\top$		T	ľ	П	П		T	$\overline{x}$	Ħ	X		X			-	7 9	76	9		T			X.	٦
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7/ 6/04

CASE NARRATIVE

RECEIVED

JUL 12 2004

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523 ETIC ENGINEERING

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name: EXXONMOBIL 04-334

Project Number: .

Laboratory Project Number: 380478.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. Any QC recoveries outside laboratory control limits are flagged individually with an #. Sample specific comments and quality control statements are included in the Laboratory notes section of the analytical report for each sample report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accredidation.

Sample Identification	Lab Number	Page l Collection Date
MW2 9-9.5	04-A99473	6/25/04
MW2 13-13.5	04-A99474	6/25/04 6/25/04
MW2 16.5-17 MW2 19.5-20	04-A99475 04-A99476	6/25/04
MW3 8-8.5	04-A99477	6/25/04
MW3 10.5-11	04-A99478	6/25/04
MW3 12-12.5	04-A99479	6/25/04
MW3 17-17.5	04-A99480	6/25/04 6/25/04
MW3 19-19.5	04-A99481	0/25/04



Sample Identification

Lab Number

Page 2 Collection Date

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By:

Monutal

Johnny A. Mitchell, Operations Manager Michael H. Dunn, M.S., Technical Director Pamela A. Langford, Technical Services Eric S. Smith, QA/QC Director Report Date: 7/6/04

Gail A. Lage, Technical Services Glenn L. Norton, Technical Services Kelly S. Comstock, Technical Services Roxanne L. Connor, Technical Services

Laboratory Certification Number: 01168CA

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### ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL

Sampler: TRACY IOB

Lab Number: 04-A99473 Sample ID: MW2 9-9.5 Sample Type: Soil Site ID: 04-334

6/25/04 Date Collected: 7:43 Time Collected: 6/29/04 Date Received: Time Received: 8:00

Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*GENERAL CHEMISTRY PARAM % Dry Weight	ETERS* 83.9	%		1	6/30/04	14:34	Fitzwater	CLP	511:
*ORGANIC PARAMETERS*				_	7 . 0 .0 .	10.52	C. Wilson	8021B	695
Benzene	ND	mg/kg	0.001	1	7/ 2/04		-	8021B	695
Ethylbenzene	ND	ng∕kg	0.001	1	7/ 2/04		C. Wilson		695.
Toluene	ND	mg/kg	0.001	1	7/ 2/04		C. Wilson	8021B	
Kylenes, total	ND	mg/kg	0.001	1	7/ 2/04	10:53	C. Wilson	8021B	695
TPH (Gasoline Range)	ND	mg/kg	5.01	1	7/ 2/04	10:53	C. Wilson	8015B	695
TPH (Diesel Range)	ND	mg/kg	10.2	1	7/ 1/04	16:09	Weatherly	8015B	425
*VOLATILE ORGANICS*								9260B	630
Methyl-t-butyl ether	ND	mg/kg	0.002	1	7/ 1/04	21:50	J. Yun	8260B	630

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
EPH/DRO Volatile Organic:		5.0 ml	6/30/04	16:02	K. Turner Fitzwater	3550 5035 5035
BTX Prep	4.99 g	5.0 ml	6/29/04	16:02	C. Wilson	2022



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### ANALYTICAL REPORT

Laboratory Number: 04-A99473 Sample ID: MW2 9-9.5

Project: Page 2

Surrogate	% Recovery	Target Range
NST surr-Trifluorotoluene	98.	60 130.
TPH Hi Surr., o-Terphenyl	89.	35 135.
VOA Surr 1,2-DCA-d4	103.	59 134.
VOA Surr Toluene-d8	108.	67 12 <del>9</del> .
VOA Surr, 4-BFB	110.	60 134.
VOA Surr, DBFM	94.	67 126.

### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# - Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.



### ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: TRACY IOB

Lab Number: 04-A99474 Sample ID: MW2 13-13.5

Sample Type: Soil Site ID: 04-334

Date Collected: 6/25/04 Time Collected: 8:06 Date Received: 6/29/04 Time Received: 8:00

Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*GENERAL CHEMISTRY PARAME	TERS*								
% Dry Weight	84.3	%		1	6/30/04	14:34	Fitzwater	CLP	5115
*ORGANIC PARAMETERS*									
Benzene	ND	mg/kg	0.001	1	7/ 2/04	11:52	C. Wilson	8021B	6955
Ethylbenzene	ND	ng/kg	0.001	1	7/ 2/04	11:52	C. Wilson	80213	6955
Toluene	ND	mg/kg	0.001	1	7/ 2/04	11:52	C. Wilson	8021B	6955
Xylenes, total	ND	mg/kg	0.001	1	7/ 2/04	11:52	C. Wilson	8021B	6955
TPH (Gasoline Range)	ND	mg/kg	5.05	1	7/ 2/04	11:52	C. Wilson	8015B	6955
TPH (Diesel Range)	ND	mg/kg	10	1	7/ 1/04	16:29	Weatherly	8015B	4258
*VOLATILE ORGANICS*								00.000	£20E
Methyl-t-butyl ether	ND	mg/kg	0.002	1	7/ 2/04	4:21	J. Yun	8260B	6305

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Wt/Vol Extracted I	Extract Vol	Date	Time	Analyst	Method
EPH/DRO Volatile Organic: BTX Prep	25.0 gm s 5.02 g 4.95 g	1.0 ml 5.0 ml 5.0 ml	6/30/04 6/29/04 6/29/04	16:10 16:02	K. Turner Fitzwater C. Wilson	3550 5035 5035



### ANALYTICAL REPORT

Laboratory Number: 04-A99474

Sample ID: MW2 13-13.5

Project: Page 2

Surrogate	% Recovery	Target Range
UST surr-Trifluorotoluene	100.	60 130.
TPH Hi Surr., o-Terphenyl	119.	35 135.
VOA Surr 1,2-DCA-d4	91.	59 134.
VOA Surr Toluene-d8	108.	67 129.
VOA Surr, 4-BFB	110.	60 134.
VOA Surr, DBFM	88.	67 126.

#### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.



### ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: TRACY IOB

Lab Number: 04-A99475 Sample ID: MW2 16.5-17

Sample Type: Soil Site ID: 04-334

Date Collected: 6/25/04 Time Collected: 8:20 Date Received: 6/29/04 Time Received: 8:00

Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*GENERAL CHEMISTRY PARAMET	ERS*								<b>5115</b>
% Dry Weight	83.5	%		1	6/30/04	14:34	Fitzwater	CLP	5115
*ORGANIC PARAMETERS*									
Benzen <del>e</del>	ND	mg/kg	0.001	1	7/ 2/04	12:21	C. Wilson	8021B	6955
Ethylbenzene	ND	mg/kg	0.001	1	7/ 2/04	12:21	C. Wilson	8021B	6955
Toluene	ND	mg/kg	0.001	1	7/ 2/04	12:21	C. Wilson	8021B	6955
Xylenes, total	ND	mg/kg	0.001	1	7/ 2/04	12:21	C. Wilson	8021B	6955
TPH (Gasoline Range)	ND	mg/kg	4.97	1	7/ 2/04	12:21	C. Wilson	8015B	6955
TPH (Diesel Range)	ND	mg/kg	9.8	1	7/ 1/04	16:49	Weatherly	8015B	4258
*VOLATILE ORGANICS*									
Methyl-t-butyl ether	ND	mg/kg	0.002	1	7/ 2/04	2:21	J. Yun	8260B	6305

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
EPH/DRO	25.5 gm	1.0 ml	6/30/04		K. Turner	3550
Volatile Organic BTX Prep	s 5.05 g 5.03 g	5.0 ml 5.0 ml	6/29/04 6/29/04	16:15 16:02	Fitzwater C. Wilson	5035 5035



## ANALYTICAL REPORT

Laboratory Number: 04-A99475

Sample ID: MW2 16.5-17

Project: Page 2

Surrogate	% Recovery	Target Range
	•••••	
UST surr-Trifluorotoluene	100.	60 130.
TPH Hi Surr., o-Terphenyl	97.	35 135.
VOA Surr 1,2-DCA-d4	111.	59 134.
VOA Surr Toluene-d8	108.	67 129.
VOA Surr, 4-BFB	115.	60 134.
WOA Surr DRFM	97.	67 126.

#### LABORATORY COMMENTS:

ND - Not detected at the report limit.

B = Analyte was detected in the method blank.

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E - Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.



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### ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: TRACY IOB

Lab Number: 04-A99476 Sample ID: MW2 19.5-20

Sample Type: Soil Site ID: 04-334

Date Collected: 6/25/04 Time Collected: 8:30 Date Received: 6/29/04 Time Received: 8:00

Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*GENERAL CHEMISTRY PARAM	eters*								E11E
% Dry Weight	89.3	%		1	6/30/04	14:34	Fitzwater	CLP	5115
*ORGANIC PARAMETERS*							<b>-</b>	20012	6955
Benzene	ND	mg/kg	0.001	1	7/ 2/04		C. Wilson	8021B	
Ethylbenzene	ND	mg/kg	0.001	1	7/ 2/04	12:50	C. Wilson	8021B	6955
Toluene	ND	mg/kg	0.001	1	7/ 2/04	12:50	C. Wilson	8021B	6955
Xylenes, total	ND	mg/kg	0.001	1	7/ 2/04	12:50	C. Wilson	8021B	6955
TPH (Gasoline Range)	ND	mg/kg	5,04	1	7/ 2/04	12:50	C. Wilson	8015B	6955
TPH (Diesel Range)	ND	mg/kg	10	1	7/ 1/04	17:09	Weatherly	8015B	4258
*VOLATILE ORGANICS*						0.51	T W	8260B	630!
Methyl-t-butyl ether	ND	mg/kg	0.002	1	7/ 2/04	2:51	J. Yun	620UB	0,00_

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Wt/Vol Extracted E	Extract Vol	Date	Time	Analyst	Method
		-	_			
EPH/DRO	24.9 gm	1.0 ml	6/30/04		K. Turner	3550
Volatile Organic	s 4.96 g	5.0 ml	6/29/04	16:21	Fitzwater	5035
BTX Prep	4.96 g	5.0 ml	6/29/04	16:02	C. Wilson	5035



### ANALYTICAL REPORT

Laboratory Number: 04-A99476

Sample ID: MW2 19.5-20

Project: Page 2

Surrogate	% Recovery	Target Range
		******
UST surr-Trifluorotoluene	98.	60 130.
TPH Hi Surr., o-Terphenyl	80.	35 135.
VOA Surr 1,2-DCA-d4	114.	59 134.
VOA Surr Toluene-d8	108.	67 129.
VOA Surr, 4-BFB	114.	60 134.
VOA Surr, DBFM	99.	67 126.

#### LABORATORY COMMENTS:

ND - Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# - Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.



### ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: TRACY IOB

Lab Number: 04-A99477 Sample ID: MW3 8-8.5 Sample Type: Soil Site ID: 04-334

Date Collected: 6/25/04 Time Collected: 9:51 Date Received: 6/29/04 Time Received: 8:00

Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*GENERAL CHEMISTRY PARAM	ETERS*								F 1 1 E
% Dry Weight	67.8	%		1	6/30/04	14:34	Fitzwater	CLP	5115
*ORGANIC PARAMETERS*									
Benzene	2.21	mg/kg	0.0505	50	7/ 3/04	17:37	C. Wilson	8021B	6971
Ethylbenzene	27.4	mg/kg	0.253	250	7/ 6/04	11:56	C. Wilson	8021B	8388
Toluene	1.48	mg/kg	0.0505	50	7/ 3/04	17:37	C. Wilson	8021B	6971
Kylenes, total	5.49	mg/kg	0.0505	50	7/ 3/04	17:37	C. Wilson	8021B	6971
TPH (Gasoline Range)	1400	лg/kg	253	50	7/ 3/04	17:37	C. Wilson	8015B	6971
TPH (Diesel Range)	ND	mg/kg	10	1	7/ 1/04	17:29	Weatherly	8015B	4258
*VOLATILE ORGANICS*									620
Methyl-t-butyl ether	ND	ng/kg	0,002	1	7/ 2/04	3:21	J. Yun	8260B	6303

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Wt/Vol	D	Data	Tri mo	Analust	Method
Extracted	Extract VOI	Date	TIME	Midiyat	110 01100
					+
25.0 gm	1.0 ml	6/30/04		K. Turner	3550
s 4.97 g	5.0 ml	6/29/04	16:34	Fitzwater	5035
4.95 g	5.0 ml	6/29/04	16:02	C. Wilson	5035
	Extracted25.0 gm s 4.97 g	Extracted Extract Vol  25.0 gm 1.0 ml 4.97 g 5.0 ml	Extracted Extract Vol Date  25.0 gm 1.0 ml 6/30/04 s 4.97 g 5.0 ml 6/29/04	Extracted Extract Vol Date Time  25.0 gm 1.0 ml 6/30/04  5 4.97 g 5.0 ml 6/29/04 16:34	25.0 gm 1.0 ml 6/30/04 K. Turner 5 4.97 g 5.0 ml 6/29/04 16:34 Fitzwater



### ANALYTICAL REPORT

Laboratory Number: 04-A99477

Sample ID: MW3 8-8.5

Project: Page 2

Surrogate	% Recovery	Target Range
UST surr-Trifluorotoluene	142. #	60 130.
TPH Hi Surr., o-Terphenyl	108.	35 135.
VOA Surr 1,2-DCA-d4	103.	59 134.
VOA Surr Toluene-d8	110.	67 129.
VOA Surr, 4-BFB	120.	60 134.
VOA Surr, DBFM	86.	67 126.

#### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E - Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.

8021:surrogate outside QC range high due to sample matrix.



### ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: TRACY IOB

Lab Number: 04-A99478 Sample ID: MW3 10.5-11

Sample Type: Soil Site ID: 04-334

Date Collected: 6/25/04 Time Collected: 9:57 Date Received: 6/29/04

Time Received:

8:00

Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*GENERAL CHEMISTRY PARAM	ETERS*								6115
% Dry Weight	90.4	%		1	6/30/04	14:34	Fitzwater	CLP	5115
*ORGANIC PARAMETERS*									
Benzene	0.003	mg/kg	0.001	1	7/ 3/04	16:08	C. Wilson	8021B	6971
Ethylbenzene	0.001	mg/kg	0.001	1	7/ 3/04	16:08	C. Wilson	8021B	6971
Foluene	0.0014	mg/kg	0.001	1	7/ 3/04	16:08	C. Wilson	8021B	6971
Kylenes, total	ND	mg/kg	0.001	1	7/ 3/04	16:08	C. Wilson	8021B	6971
TPH (Gasoline Range)	ND	mg/kg	4.95	1	7/ 3/04	16:08	C. Wilson	8015B	6971
TPH (Diesel Range)	ND	mg/kg	9.88	1	7/ 1/04	17:49	Weatherly	8015B	4258
*VOLATILE ORGANICS*									
Methyl-t-butyl ether	ND	mg/kg	0.002	1	7/ 2/04	3:51	J. Yun	8260B	6305

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
EPH/DRO Volatile Organic: BTX Prep	25.3 gr s 4.97 g 5.05 g	n 1.0 ml 5.0 ml 5.0 ml	6/30/04 6/29/04 6/29/04	16:40 16:02	<ul><li>K. Turner</li><li>Fitzwater</li><li>C. Wilson</li></ul>	3550 5035 5035



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### ANALYTICAL REPORT

Laboratory Number: 04-A99478

Sample ID: MW3 10.5-11

Project: Page 2

Surrogate	% Recovery	Target Range
UST surr-Trifluorotoluene	98.	60 130.
TPH Hi Surr., o-Terphenyl	106.	35 135.
VOA Surr 1,2-DCA-d4	92.	59 134.
VOA Surr Toluene-d8	108.	67 129.
VOA Surr, 4-BFB	109.	60 134.
VOA Surr, DBFM	90.	67 126.

#### LABORATORY COMMENTS:

ND - Not detected at the report limit.

B - Analyte was detected in the method blank.

J - Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.



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### ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: TRACY IOB

Lab Number: 04-A99479 Sample ID: MW3 12-12.5

Sample Type: Soil Site ID: 04-334

Date Collected: 6/25/04 Time Collected: 10:08 Date Received: 6/29/04 Time Received: 8:00

Page: 1

nalyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
GENERAL CHEMISTRY PARAMET	ERS*							CT D	5115
Dry Weight	86.6	%		1	6/30/04	14:34	Fitzwater	CLP	7117
ORGANIC PARAMETERS*						16.00	g ##1	8021B	6971
Benzene	0.0061	mg/kg	0.001	1	7/ 3/04		C. Wilson		6971
Ithylbenzene	0.0122	mg/kg	0.001	1	7/ 3/04		C. Wilson	8021B	
Coluene	0.0059	mg/kg	0.001	1	7/ 3/04	16:38	C. Wilson	8021B	6971
Mylenes, total	0.0111	mg/kg	0.001	1	7/ 3/04	16:38	C. Wilson	8021B	6971
TPH (Gasoline Range)	ND	mg/kg	4.96	1	7/ 3/04	16:38	C. Wilson	8015B	6971
PH (Diesel Range)	ND	mg/kg	10.1	1	7/ 1/04	18:08	Weatherly	8015B	4258
*VOLATILE ORGANICS*				,	7/ 2/04	4:51	J. Yun	8260B	6305
Methyl-t-butyl ether	ND	mg/kg	0.002	1	// 2/04	4:31	n' Thu	02000	3302

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Wt/Vol Extracted E	xtract Vol	Date	Time	Analyst	Method
EPH/DRO Volatile Organic	24.7 gm s 5.04 g	1.0 ml 5.0 ml	6/30/04 6/29/04	16:48	K. Turner Fitzwater	3550 5035
BTX Prep	5.04 g	5.0 ml	6/29/04	16:02	C. Wilson	5035



### ANALYTICAL REPORT

Laboratory Number: 04-A99479

Sample ID: MW3 12-12.5

Project: Page 2

Surrogate	% Recovery	Target Range
UST surr-Trifluorotoluene	105.	60 130.
TPH Hi Surr., o-Terphenyl	133.	35 135.
VOA Surr 1,2-DCA-d4	95.	59 134.
VOA Surr Toluene-d8	108.	67 129.
VOA Surr, 4-BFB	112.	60 134.
VOA Surr DRFM	88.	67 126.

#### LABORATORY COMMENTS:

ND - Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.



### ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: TRACY IOB

Lab Number: 04-A99480 Sample ID: MW3 17-17.5

Sample Type: Soil Site ID: 04-334

Date Collected: 6/25/04 Time Collected: 10:26 Date Received: 6/29/04 Time Received: 8:00

Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*GENERAL CHEMISTRY PARAM	ETERS*								F11E
% Dry Weight	84.4	%		1	6/30/04	14:34	Fitzwater	CLP	5115
*ORGANIC PARAMETERS*									6071
Benzen <b>e</b>	0.0012	mg/kg	0.001	1	7/ 3/04	17:07	C. Wilson	8021B	6971
Ethylbenzene	ND	mg/kg	0.001	1	7/ 3/04	17:07	C. Wilson	8021B	6971
Toluene	ND	mg/kg	0.001	1	7/ 3/04	17:07	C. Wilson	8021B	6971
Xylenes, total	ND	mg/kg	0.001	1	7/ 3/04	17:07	C. Wilson	8021B	6971
TPH (Gasoline Range)	ND	mg/kg	5	1	7/ 3/04	17:07	C. Wilson	8015B	6971
TPH (Diesel Range)	ND	mg/kg	10.1	1	7/ 1/04	18:28	Weatherly	8015B	4258
*VOLATILE ORGANICS*									
Methyl-t-butyl ether	ND	mg/kg	0.002	1	7/ 2/04	5:21	J. Yun	8260B	6305

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
			•			0550
EPH/DRO	24.8 gm	1.0 ml	6/30/04		K. Turner	3550
Volatile Organica	s 4.97 g	5.0 ml	6/29/04	16:58	Fitzwater	5035
BTX Prep	5.00 g	5.0 ml	6/29/04	16:02	C. Wilson	5035



### ANALYTICAL REPORT

Laboratory Number: 04-A99480

Sample ID: MW3 17-17.5

Project: Page 2

<del></del>		
Surrogate	% Recovery	Target Range
UST surr-Trifluorotoluene	107.	60 130.
TPH Hi Surr., o-Terphenyl	99.	35 135.
VOA Surr 1,2-DCA-d4	99.	59 134.
VOA Surr Toluene-d8	107.	67 129.
VOA Surr, 4-BFB	109.	60 134.
VOA Surr, DBFM	94.	67 126.

#### LABORATORY COMMENTS:

ND - Not detected at the report limit.

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J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# - Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.



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### ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: TRACY IOB

Lab Number: 04-A99481 Sample ID: MW3 19-19.5

Sample Type: Soil Site ID: 04-334

Date Collected: 6/25/04 Time Collected: 10:28 Date Received: 6/29/04 Time Received: 8:00

Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*GENERAL CHEMISTRY PARAM	eters*								
% Dry Weight	87.0	%		1	6/30/04	14:34	Fitzwater	CLP	5115
*ORGANIC PARAMETERS*									(05)
Benzen <b>e</b>	ND	mg/kg	0.001	1	7/ 2/04	15:16	C. Wilson	8021B	6955
Ethylbenzene	ND	mg/kg	0.001	1	7/ 2/04	15:16	C. Wilson	8021B	6955
Toluene	ND	mg/kg	0.001	1	7/ 2/04	15:16	C. Wilson	8021B	6955
Xylenes, total	ND	mg/kg	0.001	1	7/ 2/04	15:16	C. Wilson	8021B	6959
•	ND	mg/kg	5.03	1	7/ 2/04	15:16	C. Wilson	8015B	695
TPH (Gasoline Range) TPH (Diesel Range)	ND	mg/kg	9.92	1	7/ 1/04	18:48	Weatherly	8015B	4258
*VOLATILE ORGANICS*		fl. m	0.002	1	7/ 2/04	1:51	J. Yun	8260B	630
Methyl-t-butyl ether	ND	mg/kg	0.002	1	,, 2,0-		- · · · ·		

Silica Gel Cleanup performed for TPH-DRO analysis.

Sample Extraction Data

Parameter	Wt/Vol Extracted E	extract Vol	Date	Time	Analyst	Method
EPH/DRO Volatile Organic	25.2 gm s 4.97 g	1.0 ml 5.0 ml	6/30/04 6/29/04	17:04	K. Turner Fitzwater	3550 5035
RTX Prep	4.97 g	5.0 ml	6/29/04	16:02	C. Wilson	5035



### ANALYTICAL REPORT

Laboratory Number: 04-A99481

Sample ID: MW3 19-19.5

Project: Page 2

Surrogate	% Recovery	Target Range		
UST surr-Trifluorotoluene	100.	60 130.		
TPH Hi Surr., o-Terphenyl	101.	35 135.		
VOA Surr 1,2-DCA-d4	111.	59 134.		
VOA Surr Toluene-d8	109.	67 129.		
VOA Surr, 4-BFB	118.	60 134.		
VOA Surr, DBFM	95.	67 126.		

#### LABORATORY COMMENTS:

ND - Not detected at the report limit.

B - Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# - Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.



PROJECT QUALITY CONTROL DATA

Project Number: Project Name: EXXONMOBIL

Page: 1

Laboratory Receipt Date: 6/29/04

Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
	••••							
**UST ANALYSIS**								
Benzene	mg/kg	0.0255	0.0819	0.0500	113	26 154.	6955	101246
TPH (Gasoline Range)	mg/kg	< 5.00	11.5	10.0	115	25 152.	6955	blank
TPH (Diesel Range)	mg/kg	< 10.0	34.0	40.0	85	33 146.	4258	04- <b>A</b> 99474
VOA Surr 1,2-DCA-d4	% Rec				103	59 - 134	6300	
VOA Surr 1,2-DCA-d4	% Rec				91	59 - 134	6305	
VOA Surr Toluene-d8	% Rec				112	67 - 129	6300	
VOA Surr Toluene-d8	% Rec				110	67 - 129	6305	
VOA Surr, 4-BFB	% Rec				113	60 - 134	6300	
VOA Surr, 4-BFB	% Rec				109	60 - 134	6305	
VOA Surr, DBFM	% Rec				93	67 - 126	6300	
VOA Surr, DBFM	% Rec				87	67 - 126	6305	

#### Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
**UST PARAMETERS**						4000
Benzene	mg/kg	0.0819	0.0662	21.20	34.	6955
TPH (Gasoline Range)	mg/kg	11.5	10.6	8.14	32.	6955
TPH (Diesel Range)	mg/kg	34.0	28.6	17.25	50.	4258



PROJECT QUALITY CONTROL DATA

Project Number:

Project Name: EXXONMOBIL 04-334
Page: 2
Laboratory Receipt Date: 6/29/04

VOA Surr 1,2-DCA-d4	% Rec	103.	6300
VOA Surr 1,2-DCA-d4	% Rec	100.	6305
VOA Surr Toluene-d8	% Rec	112.	6300
VOA Surr Toluene-d8	% Rec	111.	6305
VOA Surr. 4-BFB	% Rec	110.	6300
VOA Surr, 4-BFB	% Rec	115.	6305
VOA Surr, DBFM	% Rec	92.	6300
VOA Surr, DBFM	% Rec	86.	6305

#### Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
**********						
**UST PARAMETERS**						
Benzene	mg/kg	0.100	0.108	108	71 - 127	6955
Benzene	mg/kg	0.100	0.106	106	71 - 127	6971
Toluene	mg/kg	0.100	0.105	105	73 - 121	6955
Toluene	mg/kg	0.100	0.103	103	73 - 121	6971
Ethylbenzene	mg/kg	0.100	0.112	112	71 - 127	6955
Ethylbenzene	mg/kg	0.100	0.112	112	71 - 127	6971
Ethylbenzene	mg/kg	0.100	0.117	117	71 - 127	8388
Xylenes, total	mg/kg	0.200	0.221	110	72 - 123	6955
Xylenes, total	mg/kg	0.200	0.220	110	72 - 123	6971
TPH (Gasoline Range)	mg/kg	10.0	10.6	106	76 - 122	6955
TPH (Gasoline Range)	mg/kg	10.0	11.8	118	76 - 122	6971
TPH (Diesel Range)	mg/kg	40.0	35.1	88	48 - 135	4258
**VOA PARAMETERS**	÷ •					
Methyl-t-butyl ether	mg/kg	0.0500	0.0475	95	59 - 139	6300
Methyl-t-butyl ether	mg/kg	0.0500	0.0475	95	59 - 139	6305



PROJECT QUALITY CONTROL DATA

Project Number:

Project Name: EXXONMOBIL Page: 3 04-334

Laboratory Receipt Date: 6/29/04

84	59 - 134	6300
84	59 - 134	6305
107	67 - 129	6300
107	67 - 129	6305
111	60 - 134	6300
111	60 - 134	6305
88	67 - 126	6300
88	67 - 126	6305
	84 107 107 111 111 88	84 59 - 134 107 67 - 129 107 67 - 129 111 60 - 134 111 60 - 134 88 67 - 126

#### Duplicates

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch	Sample Dup'd

#### Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
**UST PARAMETERS**					
Benzene	< 0.0010	mg/kg	6955	7/ 2/04	9:55
Benzene	< 0.0010	mg/kg	6971	7/ 3/04	13:07
Toluene	< 0.0010	mg/kg	6955	7/ 2/04	9:55
Toluene	< 0.0010	mg/kg	6971	7/ 3/04	13:07
Ethylbenzene	< 0.0010	mg/kg	6955	7/ 2/04	9:55
Ethylbenzene	< 0.0010	mg/kg	6971	7/ 3/04	13:07
Ethylbenzene	< 0.0010	mg/kg	8388	7/ 6/04	11:24
Xylenes, total	< 0.0010	mg/kg	6955	7/ 2/04	9:55
Xylenes, total	< 0.0010	mg/kg	6971	7/ 3/04	13:07
TPH (Gasoline Range)	< 5.00	mg/kg	6955	7/ 2/04	9:55
TPH (Gasoline Range)	< 5.00	ng/kg	6971	7/ 3/04	13:07



PROJECT QUALITY CONTROL DATA Project Number:

Project Name: EXXONMOBIL

Page: 4 Laboratory Receipt Date:

#### Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Analysis Date	Analysis Time
TPH (Diesel Range)	< 10.0	mg/kg	4258	7/ 1/04	14:50
UST surr-Trifluorotoluene	102.	% Recovery	6955	7/ 2/04	9:55
UST surr-Trifluorotoluene	97.	% Recovery	6 <del>9</del> 71	7/ 3/04	13:07
UST surr-Trifluorotoluene	95.	% Recovery	8388	7/ 6/04	11:24
**VOA PARAMETERS**					
Methyl-t-butyl ether	< 0.0006	mg/kg	6300	7/ 1/04	13:18
Methyl-t-butyl ether	< 0.0006	mg/kg	6305	7/ 2/04	1:21
VOA Surr 1,2-DCA-d4	93.	% Rec	6300	7/ 1/04	13:18
VOA Surr 1,2-DCA-d4	110.	% Rec	6305	7/ 2/04	1:21
VOA Surr Toluene-d8	106.	% Rec	6300	7/ 1/04	13:18
VOA Surr Toluene-d8	107.	% Rec	6305	7/ 2/04	1:21
VOA Surr, 4-BFB	110.	% Rec	6300	7/ 1/04	13:18
VOA Surr. 4-BFB	116.	% Rec	6305	7/ 2/04	1:21
VOA Surr, DBFM	87.	% Rec	6300	7/ 1/04	13:18
VOA Surr, DBFM	96.	% Rec	6305	7/ 2/04	1:21

<sup># -</sup> Value outside Laboratory historical or method prescribed QC limits.

End of Report for Project 380478



## COOLER RECEIPT FORM

BC#



Client Name: ETIC Engineering
Cooler Received/Opened On: 6/29/04 Accessioned By: Shane Gambill
Log-in Personnel Signature
1. Temperature of Cooler when triaged: Degrees Celsius
2. Were custody seals on outside of cooler?
a. If yes, how many, what kind and where 1/2/3/4 FRONT/BACK/SIDE
3. Were custody seals on containers and intact?
4. Were the seals intact, signed, and dated correctly?
5. Were custody papers inside cooler?YESNONA
6. Were custody papers properly filled out (ink, signed, etc)?
7. Did you sign the custody papers in the appropriate place?
8. What kind of packing material used? Bubblewrap Peanuts Vermiculite Other None
9. Cooling process: (Ice ) Ice-pack   Ice (direct contact)   Dry ice   Other   None
10. Did all containers arrive in good condition (unbroken)?
11. Were all container labels complete (#, date, signed, pres., etc)? YES).NONA
12. Did all container labels and tags agree with custody papers? (YES.).NONA
13. Were correct containers used for the analysis requested?
14. a. Were VOA vials received?
b. Was there any observable head space present in any VOA vial? NOYESNA
15. Was sufficient amount of sample sent in each container?
16. Were correct preservatives used?
If not, record standard ID of preservative used here
17. Was residual chlorine present?
18. Indicate the Airbill Tracking Number (last 4 digits for Fedex only) and Name of Courier below:
<u> </u>
Fed-Ey UPS Velocity Airborne Route Off-street Misc
10 If a Nan-Conformance exists, see attached or comments below:



G:\Projects\04-334\Public\2004 Well Installations\04334 COC.xls

Nashville Division 2960 Foster Creighton Nashville, TN 37204 CHAIN OF CUSTODY RECORD Phone: 615-726-0177 Toll Free: 800-765-0980

Fax: 615-726-3404

# E**x**onMobil

Consultant Na	ne: <u>ETIC E</u>	NGINEE	RING														_	Rep	ort	To:		BR	YA	<u> 1 C</u>	CAM	<u>IPB</u>	<u>ELL</u>					
30478 Addre	ss: <u>2285 M</u>	ORELLO	AVE	NUE				_										lnvc	oice	To:	GEI	NE C	DRTE	G/	(EX	(XOI	MOE	31L T	ГМ)			
City/State/	Zip: PLEAS	ANT HILI	_, CA	. 9452	23												_	Acc	oun	t #:		386	55									
⊏xxonMobil Project N	lgr: <u>BRYAN</u>	CAMPB	ELL																P	) #:					4504	1340	684					
Telephone Numi	er: <u>(</u> 925) 6	02-4710 I	EXT.	24		Fa	x N	0.:	(92	5) 6	02-	472	0				_ F	aci	lity I	D #	04-	334	4									
Sampler Name: (Pr	int) TR	LACY	I	<u> </u>													_Si	te A	ddr	ess	249	2 C	astro	<u> ۷</u> ۲	alley	Blv	d					
Sampler Signati	ıre:	sasy		De													City	y, S	tate	Zip	Cas	tro '	Valle	эу, (	CA							
	,	0			, <u>.</u>	,			Pre	serv	/ativ	/e	_			Mai	rix	_					Ana	yze	For	Ξ		二	口	-AT		<del></del>
Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	lce	HNO <sub>3</sub> (Red Label)	HCI (Blue Label)	NaOH ( Orange Label)	H <sub>2</sub> SO <sub>4</sub> Plastic (Yellow Label)	H <sub>2</sub> SO <sub>4</sub> Glass(Tellow Label)	Other (Specify)	Groundwater	Wastewater	Drinking Water	Sludge Soil	Other (specify):	TPH-G/BTEX BY 8015B/8021B	TPH-D BY 80158*	MTBE BY 8260B	TRPH BY 418.1M*	TOTAL LEAD BY 6010B				: :		HOLD	RUSH TAT (Pre-Schedule	IAT request (in bus. ∪ays c⊤n ⊤∆⊤	Fax Results
MW2 9-9.5	4/25/4	0743	i				Х		П		7	1	T	T	Γ		X			×	X			9	ЯЧ	73		$\neg$		<u> </u>	X	7
MW2 12-12.5	4/25/4	0757	1				Х		П	$\top$	T	T	T	T	Γ	П	У	1						「	Ť	ľ		ヿ	$\forall$	十	Ť	T
MW2 13-13.5	625/4	0806	j				Х				十	┪	T	✝		H	$\overline{\mathbf{x}}$			X	又		_	亣		74				十	λ	十
MW2 16.5-17	6/25/4	0820	1				X		П		7	T	T	T	T		$\overline{x}$	1	文	X	Х			П		75	目	一			X	
MW2 19.5-20		0830					X		П	T	$\dagger$	T	T	T		П		1	X	X	Х			Π		<b>7</b> ,	$\Box$			$\top$	X	1
MW3 8-8,5		095	ì				K		П		T	1	1	T	T	П	X		X	X	X	_		Π		77				$\sqcap$	K	
MW3 10.5-11		0157	T				X		П		7		1	1		$\Box$	У	1	X	×	X			$\sqcap$	1	78			$\square$	Π	K	1,
MW3 12-12.5	6/25/	1008	ì				X				1			1	T	П	X		X	—	X	Г		П		74			П	П	D	1
MW3 13.5-14		1010	ì				K		П					T			>	⇃						П		Τ			X	$\sqcap$		T
MW3 17-17.5		1026					X		П			T	T	Τ		П	×	1	X	>				U	4	80		П		П	$\overline{\lambda}$	$\langle T \rangle$
Special Instructions: *USE SILICA-GEL CLEAN-		GL	OBA	L, ID#	TO6	00101	1278	3				EDF	FI	LEI	REC	QUIF	RED			•	Lal	Ter Sar	mpe mple	ratu e Co	ontai	Jpon iners	s: Reco Intac dspac	ct?		Y Y	N	
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Nashville Division 2960 Foster Creighton Nashville, TN 37204

CHAIN OF CUSTODY RECORD Phone: 615-726-0177 Toll Free: 800-765-0980

Fax: 615-726-3404

# Ex∕onMobil

380478" ddre	ne: <u>ETIC EI</u>	NGINEE	RING														_	₹ep	ort '	Го:		BR'	YAN	1 C	AMI	PBE	LL					
SOU4/8 ddre	ss: 2285 M	ORELLO	AVE	NUE													11	างอ	ce '	To:	GEN	IE O	RTE	GA	(EXX	ON	мов	LT	M)			
, late/	Zip: PLEAS	ANT HILI	L, CA	. 9452	23													lcc	oun	t #: _	:	386	5									_
ExxonMobil Project N	lgr: BRYAN	САМРВ	ELL																PC	<b>)</b> #:_				4	5043	3406	84_					
Telephone Numi	per: (925) 60	02-4710	EXT.	24		Fa	x N	o.: ı	(925	5) 60	2-4	720					F	acili	ty II	D#	04-	334										
Sampler Name: (P						,		-									- Sit	e A	ddre	988	249	2 Ca	stro	Val	ley E	3lvd						
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Sample ID / Description MW3 19-19.5	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	X so	HNO <sub>3</sub> (Red Label)	-	Т	H <sub>2</sub> SO <sub>4</sub> Glass(Yellow Label)	BIS	Other ( Specify)	Groundwater		Sludge		Other (specify):	X TPH-G/BTEX BY 8015B/8021B	X TPH-D BY 80158*	X MTBE BY 8260B	TRPH BY 418.1M"	TOTAL LEAD BY 6010B		9	1 4	81		HOLD	TAT request (in Bus, Davs)		Fax Results
Special Instructions		Gi	OBA		TOGG	0101	275				F	DE		EPP	EQL	11DE					Lat	Ora	tory	Co	mmee	ents						
Special Instructions: *USE SILICA-GEL CLEAN- Relinquished by:  TRACY IDIS Relinquished by:	6/2	eate 28/4	TI [5"	ime	Rece	eived	by:		Ame	rica:		DF	F <b>1L</b> 1			Date	·		Tim	<del>e</del>		Ten San	nper nple	atur Cor	e Up ntain	on ers	: Rece Intac spac	t?		Y Y	NN	
GNProjecteVM-334VPublicV00M-Well Inc	i dell'alterna (AVISE	1.000.44							~	//							' '	_	-										>д(	<del></del>	₹	وليجان



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AUG 3 0 2004

ETIC ENGINEERING

8/23/04

CASE NARRATIVE

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name: EXXONMOBIL 04-334

Project Number: .

Laboratory Project Number: 386269.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. Any QC recoveries outside laboratory control limits are flagged individually with an #. Sample specific comments and quality control statements are included in the Laboratory notes section of the analytical report for each sample report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accredidation.

Sample Identification	Lab Number	Page 1 Collection Date
MW1	04-A127034	8/13/04
MW2	04-A127035	8/13/04
MW3	04-A127036	8/13/04
MW4	04-A127037	8/13/04



Sample Identification

Lab Number

Page 2 Collection Date

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By:

Johnny A. Mitchell, Operations Manager Michael H. Dunn, M.S., Technical Director Pamela A. Langford, Technical Services

Eric S. Smith, QA/QC Director Sandra McMillin, Technical Services Report Date: 8/23/04

Gail A. Lage, Technical Services Glenn L. Norton, Technical Services Kelly S. Comstock, Technical Services Roxanne L. Connor, Technical Services

Laboratory Certification Number: 01168CA

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## ANALYTICAL REPORT

ETIC ENGINEERING 3865

BRYAN CAMPBELL

2285 MORELLO AVENUE

PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: WYNN PACULBA

Lab Number: 04-A127034

Sample ID: MW1

Sample Type: Water Site ID: 04-334

Date Collected: 8/13/04

Time Collected:

Date Received: 8/17/04 Time Received: 8:00

Page: 1

nalyte		Result	Units	Report Limit	Dil Factor	Analysis Date	Time		Method	Batch
*ORGANIC PARAM	METERS*									
Benzene		ND	ug/l	0.50	1.0	8/19/04	5:22	A. Cobbs	8021B	4828
Ethylbenzene		ND	ug/l	0.5	1.0	8/19/04		A. Cobbs	8021B	4828
Toluene		0.7	ug/l	D.5	1.0	B/19/0 <b>4</b>	5:22	A. Cobbs	8021B	4828
Xylenes (Tota)	1)	1.0	ug/l	0.5	1.0	8/19/04	5:22	A. Cobbs		4B2B
TPH (Gasoline	Range)	ND	ug/1	50.0	1.0	8/19/04	5:22	A. Cobbs	8015B	4828
TPH (Diesel Ra	ange)	71.	ug/l	53.	1.D	8/21/04	4:54	B. Yanna	8D15B/3510	8374
	> NT CC+									
*VOLATILE ORG	ANT CS-								****	7077
Methyl-t-buty	l ether	1.20 for TPH-DR	ug/l O analysis.	0.50	1.0	8/19/04	21:17	B.Herford	8260B	7867
Methyl-t-buty	l ether	for TPH-DR	O analysis.							7867
Methyl-t-buty	l ether	for TPH-DR	O analysis.							7867
Methyl-t-buty	l ether nup performed on Data	for TPH-DR	O analysis.							7867
Methyl-t-buty	nup performed on Data wt/Vol Extracted	for TPH-DR	O analysis.	Time		Metho	d			7867
Methyl-t-buty	nup performed on Data Wt/Vol Extracted	for TPH-DR	O analysis.	Time	Analyst	Metho	d			7867
Methyl-t-buty	nup performed on Data Wt/Vol Extracted	for TPH-DR	O analysis.	Time	Analyst K. Turner	Metho	d			7867

Sample report continued . . .

TPH Hi Surr., o-Terphenyl

96.

50. - 141.



## ANALYTICAL REPORT

Laboratory Number: 04-A127034

Sample ID: MW1

Project: Page 2

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-TFT	86.	62 136.
VOA Surr 1,2-DCA-d4	103.	71 128.
VOA Surr Toluene-dB	92.	77 119.
VOA Surr, 4-BFB	107.	79 123.
VOA Surr, DBFM	106.	78 124.

#### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.



## ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: WYNN PACULBA

Lab Number: 04-A127035

Sample ID: MW2

Sample Type: Water Site ID: 04-334

Date Collected: 8/13/04

Time Collected:

Date Received: 8/17/04 Time Received: 8:00

Page: 1

Target Range

-----

5D. - 141.

nalyte		Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method I	Batch
********										
*ORGANIC PARAME	eters*									
Benzene		ND	ug/l	0.50	1.0	B/19/04	5:52	A. Cobbs	B021B	4828
Ethylbenzene		ND	ug/l	0.5	1.0	B/19/04	5:52	A. Cobbs	B021B	482B
Toluene		0.B	ug/l	0.5	1.0	8/19/04	5:52	A. Cobbs	8021B	4828
Xylenes (Total)	)	1.0	ug/l	0.5	1.0	8/19/04	5:52	A. Cobbs	80213	4828
TPH (Gasoline F		ND	ug/l	50.0	1.0	8/19/04	5:52	A. Cobbs	8015B	4828
TPH (Diesel Ran	_	57.	ug/l	51.	1.0	8/21/04	5:10	B. Yanna	B015B/3510	8374
*VOLATILE ORGAN	NICS*									
			17	0.50	1.0	B/19/04	9:17	B.Herford	B260B	5417
Methyl-t-butyl	ether	ND	ug/l	0.50						
Methyl-t-butyl				0.30		,,,				
Methyl-t-butyl	up performed	for TPH-Di	RO analysis.						. <b></b>	
Methyl-t-butyl	up performed	for TPH-Di	RO analysis.			· · · · · · · · · · · · · · · · · · ·				••••
Methyl-t-butyl	up performed	for TPH-Di	RO analysis.					<del>-</del>	. <u></u>	<b></b> -
Methyl-t-butyl	up performed  n Data Wt/Vol	for TPH-D	RO analysis.				a		<del></del>	<b></b>

Sample report continued . . .

TPH Hi Surr., o-Terphenyl

Surrogate

% Recovery

B1.



## ANALYTICAL REPORT

Laboratory Number: 04-A127035

Sample ID: MW2

Project: Page 2

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-TFT	89.	62 136.
VOA SUFF 1,2-DCA-d4	99.	71, - 128.
VOA Surr Toluene-d8	91.	77 119.
VOA Surr, 4-BFB	107.	79 123.
VOA SULT. DEFM	102.	78 124.

#### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.



## ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: WYNN PACULBA

Lab Number: 04-A127036

Sample ID: MW3
Sample Type: Water
Site ID: 04-334

Date Collected: 8/13/04

Time Collected:

Date Received: 8/17/04
Time Received: 8:00

Page: 1

nalyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Time	Analyst	Method I	atch
ORGANIC PARAMETERS*									
Benzene	100.	ug/l	0.50	1.0	B/19/04		A. Cobbs	8021B	482B
Ethylbenzene	187.	ug/l	0.5	1.0	B/19/04	6;22	A. Cobbs	8021B	4828
Toluene	2.0	ug/l	0.5	1.0	8/19/04		A. Cobbs	8021B	4828
Xylenes (Total)	59.6	ug/l	0.5	1.0	8/19/04	6:22	A. Cobbs	B021B	4828
TPH (Gasoline Range)	1440	ug/l	50.0	1.D	8/19/04	6:22	A. Cobbs	8015B	4828
TPH (Diesel Range)	352.	ug/l	51.	1.0	B/21/04	5:26	B. Yanna	8015B/3510	8374
*VOLATILE ORGANICS*									
Methyl-t-butyl ether	ND	ug/l	0.50	1.0	8/19/04	9:47	B.Herford	8260B	6417
		analysis.			••••• <del>•</del>	, <del>.</del>		· · · · · · · · · · · · · · · · · · ·	<b>* * * *</b> * * * * * * * * * * * * * * *
Sample Extraction Data Wt/Vol Parameter Extracted	Extract Vo	ol Date	Time	Analyst	Metho	d		·····	<b></b>
Sample Extraction Data  Wt/Vol Parameter Extracted	Extract Vo	ol Date	Time	Analyst	Metho	d		· · · · · · · · · · · · · · · · · · ·	
Sample Extraction Data  Wt/Vol Parameter Extracted	Extract Vo	ol Date	Time	Analyst	Metho	d			

Sample report continued . . .

TPH Hi Surr., o-Terphenyl

67.

5D. - 141.



#### ANALYTICAL REPORT

Laboratory Number: 04-A127036

Sample ID: MW3

Project: Page 2

Surrogate	% Recovery	Target Range		
BTEX/GRO Surr., a,a,a-TFT VOA Surr 1,2-DCA-d4	103. 98.	62 136. 71 128.		
VOA Surr Toluene-d8	97.	77 119.		
VOA Surr, 4-BFB VOA Surr, DBFM	101. 102.	79 123. 78 124.		

#### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.



#### ANALYTICAL REPORT

ETIC ENGINEERING 3865

BRYAN CAMPBELL

2285 MORELLO AVENUE

PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04 - 334

Sampler: WYNN PACULBA

Lab Number: 04-A127037

Sample ID: MW4

Sample Type: Water Site ID: 04-334

Date Collected: 8/13/04

Time Collected:

Date Received: 8/17/04 Time Received: 8:00

Page: 1

analyte	Result	Units	Report Limit	Dil Pactor	Analysis Date	Analysis Time	Analyst	Method	Batch
*ORGANIC PARAMETERS*									
Benzen <del>e</del>	ND	ug/l	0.50	1.0	8/19/04	6:52	A. Cobbs	B021B	482
Ethylbenzene	ND	ug/l	D.5	1.0	8/19/04	6:52	A. Cobbs	8021B	482
Toluene	D.B	ug/l	0.5	1.0	8/19/04	6:52	A. Cobbs	8021B	482
Xylenes (Total)	1.1	ug/l	0.5	1.0	8/19/04	6:52	A. Cobbs	8021B	482
TPH (Gasoline Range)	ND	ug/l	50.0	1.0	8/19/04	6:52	A. Cobbs	8015B	482
TPH (Diesel Range)	72.	ug/l	56.	1.0	8/21/04	5:42	B. Yanna	8015B/351	0 B37
*VOLATILE ORGANICS*									
Methyl-t-butyl ether	2.80	ug/l	0.50	1.0	8/19/D4	21:47	B.Herford	6260B	786

Sample Extraction Data

Surrogate			% Rec	overy	Target	: Range
EPH	900. m	1.00 ml	8/19/04		K. Turner	3510
Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method

TPH Hi Surr., o-Terphenyl

81.

50. - 141.

Sample report continued . . .



## ANALYTICAL REPORT

Laboratory Number: 04-A127037

Sample ID: MW4

Project: Page 2

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-TFT	B7.	62 136.
VOA Surr 1,2-DCA-d4	205.	71 128.
VOA Surr Toluene-d8	92.	77 119.
VOA Surr, 4-BFB	107.	79 123.
VOA SUTT, DBFM	111.	78 124.

## LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.



ROJECT QUALITY CONTROL DATA

Project Number:

Project Name: EXXONMOBIL 04-334

Page: 1

aboratory Receipt Date: 8/17/04

## Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

MS/MSD analysis on	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
**UST ANALYSIS**								
	mg/l	< 0.DDD50	0.0461	0.0500	92	53 159.	4828	04-A126940
Benzene	mg/l	< 0.0005	0.0459	0.0500	92	54 156.	4828	D4-A126940
Coluene	mg/l	< 0.0005	0.0465	0.0500	93	50 159.	4828	04-A126940
Ethylbenzene	mg/1	< 0.0005	0.0881	0.100	88	53 151.	4828	04-A126940
(ylenes (Total)	mg/1	< 0.0500	1.09	1.00	109	70 157.	4828	04-A12694
TPH (Gasoline Range)	mg/l	< 0.050	0.730	1.00	73	10 143.	8374	blank
rph (Diesel Range)	% Recovery				94	62 - 136	4828	
STEX/GRO Surr., a,a,a-TFT	% Recovery				110	71 - 12	8 6417	
VOA Surr 1,2-DCA-d4	* Rec				108	71 - 12	8 7867	
VOA Surr 1,2-DCA-d4	% Rec				100	77 - 11	9 6417	
VOA Surr Toluene-d8					102	77 - 11	9 7867	
VOA Surr Toluene-d8	% Rec				93	79 - 12	3 6417	
VOA Surr, 4-BFB	% Rec				94	79 - 12	3 7867	
VOA Surr, 4-BFB	% Rec				115	78 - 12	4 6417	
VOA Surr, DBFM	₹ Rec				114	78 - 12	24 786 <b>7</b>	
VOA Surr, DBFM	% Rec				44.5			

## Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
**UST PARAMETERS** Benzene Toluene	mg/l	0.0461	0.D499	7.92	21.	482B
	mg/l	0.0459	D.D496	7.75	25.	482B



ROJECT QUALITY CONTROL DATA

Project Number:

Project Name: EXXONMOBIL 04-334

age: 2

aboratory Receipt Date: 8/17/04

## Matrix Spike Duplicate

Analyte	units	Orig, Val.	Duplicate	RPD	Limit	Q.C. Batch
	mg/l	0.0465	0.0503	7.85	25.	4828
Ethylbenzene	-	0.0881	0.0945	7.01	24.	482B
Xylenes (Total)	mg/l	0.0881				
TPH (Gasoline Range)	mg/l	1.09	1.05	3.74	24.	4828
TPH (Diesel Range)	mg/l	D.730	D.B16	11.13	57.	B374
BTEX/GRO Surr., a,a,a-TFT	& Recovery		95.			4828
VOA Surr 1,2-DCA-d4	* Rec		107.			6417
VOA Surr 1,2-DCA-d4	% Rec		98.			78 <b>67</b>
VOA Surr Toluene-dB	% Rec		99.			6417
VOA Surr Toluene-dB	% Rec		100.			7867
VOA Surr, 4-BFB	% Rec		95.			6417
VOA Surr, 4-BFB	% Rec		92.			7867
VOA SUIT, DEFM	% Rec		112.			6417
VOA SUIT, DBFM	% Rec		104.			7867

## Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch	
**UST PARAMETERS**							
Benzene	mg/l	0.100	0.0905	90	76 - 118	4828	
Toluene	mg/l	0.100	0.0904	90	72 - 119	4828	
Ethylbenzene	mg/1	0.100	0.0894	89	72 - 119	4828	
Xylenes (Total)	mg/1	0.200	0.176	88	71 - 123	4828	
TPH (Gasoline Range)	mg/l	1.00	1.09	109	72 - 122	4828	



ROJECT QUALITY CONTROL DATA

Project Number:

Project Name: EXXONMOBIL 04-334

age: 3

aboratory Receipt Date: 8/17/04

BTEX/GRO Surr., a,a,a-TFT	* Recovery			96	62 - 136	4828
**UST PARAMETERS**						0274
TPH (Diesel Range)	mg/l	1.00	0.786	79	10 - 143	8374
**VOA PARAMETERS**						
Methyl-t-butyl ether	mg/l	0.0500	0.0592	118	70 - 130	6417
Methyl-t-butyl ether	mg/l	0.0500	0.0607	121	70 - 130	7867
VOA Surr 1,2-DCA-d4	% Rec			97	71 - 128	6417
VOA Surr 1,2-DCA-d4	% Rec			104	71 - 128	7867
VOA Surr Toluene-d8	% Rec			99	77 - 119	6417
VOA Surr Toluene-d8	ት Rec			99	77 - 119	7867
	% Rec			95	79 - 123	6417
VOA Surr, 4-BFB				92	79 - 123	7867
VOA Surr, 4-BFB	% Rec				· -	6417
VOA Surr, DBFM	% Rec			105	78 - 12 <b>4</b>	
VOA Surr, DBFM	% Rec			112	78 - 124	7867

#### Duplicates

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch	Sample Dup'd

#### Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
**UST PARAMETERS**					
Benzene	< 0.00050	mg/l	482B	B/18/04	20:48
Toluene	< 0.0005	mg/l	4B2B	8/18/04	20:48
Ethylbenzene	< 0.0005	mg/l	4828	8/18/04	20:48
Xylenes (Total)	< 0.0005	mg/l	4828	8/18/04	20:48
TPH (Gasoline Range)	< 0.050D	mg/l	4828	8/18/04	20:48



PROJECT QUALITY CONTROL DATA

Project Number:

Project Name: EXXONMOBIL 04-334

Page: 4 Laboratory Receipt Date: 8/17/04

#### Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Analysis Date	Analysis Time
TPH (Diesel Range)	< 0.050	mg/l	B374	8/21/04	1:43
BTEX/GRO Surr., a,a,a-TFT	вв.	% Recovery	4828	8/18/04	20:48
**VOA PARAMETERS**					
Methyl-t-butyl ether	< 0.00013	mg/l	6417	B/19/04	2:46
Methyl-t-butyl ether	< 0.00013	mg/l	7867	B/19/04	16:45
VOA Surr 1,2-DCA-d4	107.	% Rec	6417	8/19/04	2:46
VOA Surr 1,2-DCA-d4	111.	% Rec	7867	8/19/04	16:45
VOA Surr Toluene-d8	96.	% Rec	6417	8/19/04	2:46
VOA Surr Toluene-d8	99.	% Rec	7867	8/19/04	16:45
VOA Surr, 4-BFB	106.	% Rec	6417	8/19/04	2:46
VOA Surr, 4-BFB	102.	* Rec	7867	8/19/04	16:45
VOA Surr, DBFM	112.	% Rec	6417	8/19/04	2:46
VOA SUTT, DBFM	113.	% Rec	7867	8/19/04	16:45

<sup># =</sup> Value outside Laboratory historical or method prescribed QC limits.

End of Report for Project 386269



# COOLER RECEIPT FORM

BC#



ient Name: Fuc	
oler Received/Opened On: 8/17/04 Accessioned By: M	like McBride
111122	. <u> </u>
Log-in Personnel Sign	nature
Temperature of Cooler when triaged: 25 Degrees Celsiu	S
Were custody seals on outside of cooler?	YES)NONA
a. If yes, how many, what kind and where: (1) H7011+	
Were custody seals on containers and intact?	NO.YESNA
Were the seals intact, signed, and dated correctly?	YESNONA
Were custody papers inside cooler?	YES NO NA
Were custody papers properly filled out (ink, signed, etc)?	YESNONA
Did you sign the custody papers in the appropriate place?	YESNONA
What kind of packing material used? Bubblewrap Peanuts Vermiculite O	ther None
Cooling process: Ice Ice-pack Ice (direct contact) Dry ice C	other None
0. Did all containers arrive in good condition (unbroken)?	YES)NONA
1. Were all container labels complete (#, date, signed, pres., etc)?	TESNONA
2. Did all container labels and tags agree with custody papers?	YES).NONA
3. Were correct containers used for the analysis requested?	YES .NONA
4. 2. Were VOA vials received?	(TES)NONA
b. Was there any observable head space present in any VOA vial?	YESNA
5. Was sufficient amount of sample sent in each container?	(ES).NONA
6. Were correct preservatives used?	YES).NONA
If not, record standard ID of preservative used here	
17. Was residual chlorine present?	NOYES. NA
<ol> <li>Was residual chloring present</li></ol>	me of Courier below:
Fed-Ex) UPS Velocity Airborne Route	Off-street Mi
19. If a Non-Conformance exists, see attached or comments below:	

# Test/America

Nashville Division 2960 Foster Creighton Nashville, TN 37204 CHAIN OF CUSTODY RECORD

Toll Free: 800-765-0980 Fax: 615-726-3404 Ex∕onMobil

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	City/State/Zip:	PLEAS	ANT HILL,	CA 8	94523													Acc									—					
Ex	xonMobil Project Mgr:	BRYAN	CAMPBE	LL							_			_			_			•			0684			—						-
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Sample ID /	<b>Description</b>	Date Sampled	Time Sampled	oc oo No. of Containers Shipped	Grab	Composite	Field Filtered	Sol X	┰	NaOH (Orange Label)	H <sub>2</sub> SO <sub>4</sub> Plastic (Yelfow Label)	H <sub>2</sub> SO <sub>4</sub> Glass(Yellow Label)	None (Black Label)		X X	Drinking Water	Sludge	Soil Other (specify):	X X TPH-G BY 80158	X	1	Х	-		σIA	(2	00	34 35		TAT reguest (in Bus. Days)	X X STD TAT	
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7/ 7/04

CASE NARRATIVE

RECEIVED

JUL 16 2004

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523 ETIC ENGINEERING

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name: EXXONMOBIL 04-334

Project Number: .

Laboratory Project Number: 380482.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. Any QC recoveries outside laboratory control limits are flagged individually with an #. Sample specific comments and quality control statements are included in the Laboratory notes section of the analytical report for each sample report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accredidation.

Sample Identification	Lab Number	Page 1 Collection Date
DRUM 1,2,3	04-A99641	6/23/04
DRUM 4,5,6	04-A99642	6/24/04
DRUM 7,8,9	04-A99643	6/25/04



Sample Identification

Lab Number \_\_\_\_\_ Page 2 Collection Date

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By: Karach Consu

Report Date: 7/7/04

Johnny A. Mitchell, Operations Manager Michael H. Dunn, M.S., Technical Director Pamela A. Langford, Technical Services Eric S. Smith, QA/QC Director

Gail A. Lage, Technical Services Glenn L. Norton, Technical Services Kelly S. Comstock, Technical Services Roxanne L. Connor, Technical Services

Laboratory Certification Number: 01168CA

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## ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: BRYAN CAMPBELL

Lab Number: 04-A99641 Sample ID: DRUM 1,2,3 Sample Type: Soil

Site ID: 04-334

Date Collected: 6/23/04 Time Collected: 16:55 Date Received: 6/29/04 Time Received: 8:00

Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*GENERAL CHEMISTRY PARAM % Dry Weight	ETERS* 82.5	%		1	6/29/04	14:32	B.Plett	CLP	5127
*ORGANIC PARAMETERS* Benzene Ethylbenzene Toluene Xylenes, total TPH (Gasoline Range)	ND 0.0017 ND 0.0016 ND	mg/kg mg/kg mg/kg mg/kg mg/kg	0.001 0.001 0.001 0.001 4.97	1 1 1 1	7/ 3/04 7/ 3/04 7/ 3/04 7/ 3/04 7/ 3/04	20:04 20:04 20:04	C. Wilson C. Wilson C. Wilson C. Wilson C. Wilson	8021B 8021B 8021B 8021B 8015B	8086 8086 8086 8086 8086
*METALS* Lead	8.46	mg/kg	0.98	1	6/30/04	15:49	G.McCord	6010B	2028

## Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
BTX Prep	5.03 g	5.0 ml	6/29/04	15:35	C. Wilson	5035

Sample report continued . . .



## ANALYTICAL REPORT

Laboratory Number: 04-A99641 Sample ID: DRUM 1,2,3

Project: Page 2

Surrogate	% Recovery	Target Range
UST surr-Trifluorotoluene	99.	60 130.

## LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.

End of Sample Report.



## ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: BRYAN CAMPBELL

Lab Number: 04-A99642 Sample ID: DRUM 4,5,6 Sample Type: Soil

Sample Type: Soil Site ID: 04-334

Date Collected: 6/24/04 Time Collected: 17:53 Date Received: 6/29/04 Time Received: 8:00

Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*GENERAL CHEMISTRY PARAMET	ERS*					14.00	B Bl	CLP	5127
% Dry Weight	84.5	%		1	6/29/04	14:32	B.Plett	CLIF	7141
*ORGANIC PARAMETERS*								00015	5666
Benzene	ND	mg/kg	0.001	1	7/ 2/04	6:01	C. Wilson	8021B	· •
Ethylbenzene	ND	mg/kg	0.001	1	7/ 2/04	6:01	C. Wilson	8021B	5666
Toluene	ND	mg/kg	0.001	1	7/ 2/04	6:01	C. Wilson	8021B	5666
Xylenes, total	ND	mg/kg	0.001	1	7/ 2/04	6:01	C. Wilson	8021B	5666
TPH (Gasoline Range)	ND	mg/kg	5.03	1	7/ 2/04	6:01	C. Wilson	8015B	5666
*METALS*							1	(010th	2028
Lead	11.5	mg/kg	0.96	1	6/30/04	15:49	G.McCord	6010B	2028

#### Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
RTY Prep	4.97 g	5.0 ml	6/29/04	15:35	C. Wilson	5035

Sample report continued . . .



## ANALYTICAL REPORT

Laboratory Number: 04-A99642 Sample ID: DRUM 4,5,6

Project: Page 2

Surrogate	% Recovery	Target Range
UST surr-Trifluorotoluene	101.	60 130.

#### LABORATORY COMMENTS:

ND - Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# - Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.

End of Sample Report.



## ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE 94523 PLEASANT HILL, CA

Project:

Project Name: EXXONMOBIL

Sampler: BRYAN CAMPBELL

Lab Number: 04-A99643 Sample ID: DRUM 7,8,9

Sample Type: Soil Site ID: 04-334

Date Collected: 6/25/04 Time Collected: 11:23 Date Received: 6/29/04 Time Received:

Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
*GENERAL CHEMISTRY PARAM % Dry Weight	ETERS* 91.6	%		1	6/29/04	14:32	B.Plett	CLP	5127
*ORGANIC PARAMETERS* Benzene Ethylbenzene Toluene Xylenes, total TPH (Gasoline Range)	ND 0.0035 ND 0.0042 ND	mg/kg mg/kg mg/kg mg/kg mg/kg	0.001 0.001 0.001 0.001 5.02	1 1 1 1	7/ 6/04 7/ 6/04 7/ 6/04 7/ 6/04	13:33 13:33 13:33	C. Wilson C. Wilson C. Wilson C. Wilson C. Wilson	8021B 8021B 8021B 8021B 8021B	8097 8097 8097 8097 8097
*METALS* Lead	167	mg/kg	0.96	1	6/30/04	15:49	G.McCord	6010B	2028

#### Sample Extraction Data

Parameter	Wt/Vol Extracted E	Extract Vol	Date	Time	Analyst	Method
BTX Prep	4.98 g	5.0 ml	6/29/04	15:35	C. Wilson	5035

Sample report continued . . .



## ANALYTICAL REPORT

Laboratory Number: 04-A99643

Sample ID: DRUM 7,8,9

Project: Page 2

Surrogate	% Recovery	Target Range
UST surr-Trifluorotoluene	114.	60 130.

## LABORATORY COMMENTS:

ND - Not detected at the report limit.

B - Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# - Recovery outside Laboratory historical or method prescribed limits.

All results reported on a wet weight basis.

End of Sample Report.



PROJECT QUALITY CONTROL DATA

Project Number: Project Name: EXXONMOBIL

Page: 1

6/29/04 Laboratory Receipt Date:

#### Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

MS/MSD analysis of Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
	•••••						p	
**UST ANALYSIS**								
Benzene	mg/kg	0.0093	0.0355	0.0500	52	26 154.	5666	99643
Benzene	mg/kg	< 0.0010	0.0551	0.0500	110	26 154.	8086	blank
Toluene	mg/kg	0.0071	0.0312	0.0500	48	22 148.	5666	99643
Toluene	mg/kg	< 0.0010	< 0.0010	0.0500	N/A	22 148.	8086	blank
Ethylbenzene	mg/kg	0.0121	0.0454	0.0500	67	16 151.	566 <b>6</b>	99643
=	mg/kg	< 0.0010	0.0647	0.0500	129	16 151.	8086	blank
Ethylbenzene	mg/kg mg/kg	0.0129	0.0549	0.100	42#	45 155.	5666	99643
Xylenes, total	mg/kg	< 0.0010	0.0566	0.100	57	45 155.	8086	blank
Xylenes, total		< 5.00	11.1	10.0	111	25 152.	566 <b>6</b>	99643
TPH (Gasoline Range)	mg/kg	< 5.00	12.0	10.0	120	25 152.	8086	blank
TPH (Gasoline Range)	mg/kg	< 3.00	12.0	10,0				
**METALS** Lead	mg/kg	12.3	107.	100.	95	80 - 120	2028	100384

#### Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
**UST PARAMETERS**						
Benzene	mg/kg	0.0355	< 0.0010	189.04#	34.	5666
Benzene	mg/kg	0.0551	0.0532	3.51	34.	8086
	mg/kg	0.0312	0.0380	19.65	39.	5666
Toluene				37.74	39.	8086
Toluene	mg∕kg	< 0.0010	< 0.0010	N/A	37.	=
Ethylbenzene	mg/kg	0.0454	0.0828	58.35#	40.	5666



PROJECT QUALITY CONTROL DATA

Project Number:

Project Name: EXXONMOBIL 04-334

Page: 2

Laboratory Receipt Date: 6/29/04

## Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
Water I have no	mg/kg	0.0647	0.0631	2.50	40.	8086
Ethylbenzene Xylenes, total	mg/kg	0.0549	0.110	66.83#	44.	5666
Xylenes, total	mg/kg	0.0566	0.0550	2.87	44.	8086 5666
TPH (Gasoline Range)	mg/kg	11.1	11.7 11.6	5.26 3.39	32. 32.	8086
TPH (Gasoline Range)	mg/kg	12.0	11.0	3.37	321	
**METALS** Lead	mg/kg	107.	106.	0.94	20	2028

#### Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
LATER DAD INCOME.						
**UST PARAMETERS**	mg/kg	0.100	0.0980	98	71 - 127	5666
Benzene	mg∕kg	0.100	0.104	104	71 - 127	8086
Benzene	mg/kg	0.100	0.0947	95	71 - 127	8097
Benzene	mg/kg	0.100	0.0945	94	73 - 121	5666
Toluene	mg/kg	0.100	0.101	101	73 - 121	8086
Toluene	mg/kg	0.100	0.0958	96	73 - 121	8097
Toluene	mg/kg	0.100	0.101	101	71 <b>- 1</b> 27	5666
Ethylbenzene	mg/kg	0.100	0.108	108	71 - 127	8086
Ethylbenzene	mg/kg mg/kg	0.100	0.102	102	71 - 127	8097
Ethylbenzene	шg/∧g mg/kg	0.200	0.199	100	72 - 123	5666
Xylenes, total		0.200	0.210	105	72 - 123	8086
Xylenes, total	mg/kg	0.200	0.194	97	72 - 123	8097
Xylenes, total	mg/kg	10.0	11.7	117	76 - 122	5666
TPH (Gasoline Range)	mg/kg	10.0	11.6	116	76 - 122	8086
TPH (Gasoline Range)	mg/kg	10.0	10.2	102	76 - 122	8097
TPH (Gasoline Range)	mg/kg	10.0	10.2			



PROJECT QUALITY CONTROL DATA

Project Number:

Project Name: EXXONMOBIL

Page: 3

aboratory Receipt Date: 6/29/04

\*\*METALS\*\*

Lead

mg/kg

100.

100.

100

80 - 120

2028

Duplicates

Analyte

units

Orig. Val. Duplicate

Limit Q.C. Batch Sample Dup'd

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
**UST PARAMETERS**	< 0.0010	mg/kg	5666	7/ 1/04	20:46
Benzene	< 0.0010	mg/kg	8086	7/ 3/04	19:34
Benzene	< 0.0010	ng/kg	8097	7/ 6/04	13:01
Benzene Toluene	< 0.0010	mg/kg	5666	7/ 1/04	20:46
Toluene	< 0.0010	mg/kg	8086	7/ 3/04	19:34
Toluene	< 0.0010	mg/kg	8097	7/ 6/04	13:01
Ethylbenzene	< 0.0010	mg/kg	5666	7/ 1/04	20:4 <b>6</b>
Ethylbenzene	< 0.0010	mg/kg	8086	7/ 3/04	19:34
Ethylbenzene Ethylbenzene	< 0.0010	mg/kg	8097	7/ 6/04	13:01
Xylenes, total	< 0.0010	mg/kg	566 <del>6</del>	7/ 1/04	20:46
Xylenes, total	< 0.0010	mg/kg	8086	7/ 3/04	19:34
Xylenes, total	< 0.0010	mg/kg	8097	7/ 6/04	13:01
TPH (Gasoline Range)	< 5.00	mg/kg	5666	7/ 1/04	20:46
TPH (Gasoline Range)	< 5.00	mg/kg	8086	7/ 3/04	19:34
TPH (Gasoline Range)	< 5.00	mg/kg	8097	7/ 6/04	13:01



PROJECT QUALITY CONTROL DATA

Project Number:

Project Name: EXXONMOBIL 04-334

Page: 4

Laboratory Receipt Date: 6/29/04

Lead	i	< 0.36	mg/kg	2028	6/30/04	15:49
**	METALS**				6 100 101	15:49
UST	surr-Trifluorotoluene	96.	% Recovery	8097	// 6/04	13:01
021	SULL-IIIII DOLOCOLUENC			0007	7/ 6/04	13:01
TICH	surr-Trifluorotoluene	100.	% Recovery	808 <del>6</del>	7/ 3/04	19:34
UST	surr-Trifluorotoluene	104	% ICCOVCLY			
	m ///1	104.	% Recovery	5666	7/ 1/04	20:46

# - Value outside Laboratory historical or method prescribed QC limits.

End of Report for Project 380482



## **COOLER RECEIPT FORM**

BC#



Client Name: ETIC Engineering
Cooler Received/Opened On: 6/29/04  Accessioned By: Shane Gambill  Log-in Personnel Signature
1. Temperature of Cooler when triaged: 0 9 Degrees Celsius
2. Were custody seals on outside of cooler?
a. If yes, how many, what kind and where 12/3/4 FRONT/BACK/SIDE
3. Were custody seals on containers and intact?
4. Were the seals intact, signed, and dated correctly?
5. Were custody papers inside cooler?
6. Were custody papers properly filled out (ink, signed, etc)?
7. Did you sign the custody papers in the appropriate place?
8. What kind of packing material used? Rubblewrap Peanuts Vermiculite Other None
9. Cooling process: (ce Ice-pack Ice (direct contact) Dry ice Other None
10. Did all containers arrive in good condition (unbroken)?
11. Were all container labels complete (#, date, signed, pres., etc)?
12. Did all container labels and tags agree with custody papers?
13. Were correct containers used for the analysis requested?
14. a. Were VOA vials received?
b. Was there any observable head space present in any VOA vial?
15. Was sufficient amount of sample sent in each container?
16. Were correct preservatives used?
If not, record standard ID of preservative used here
17. Was residual chlorine present?
18. Indicate the Airbill Tracking Number (last 4 digits for Fedex only) and Name of Courier below:
0521
Fed-Ex UPS Velocity Airborne Route Off-street Mis
19. If a Non-Conformance exists, see attached or comments below:



Nashville Division 2960 Foster Creighton Nashville, TN 37204 CHAIN OF CUSTODY RECORD Phone: 615-726-0177 Toll Free: 800-765-0980

Fax: 615-726-3404

# E‰onMobil

380482

Consultant Name:	ETIC ENGINEERING		Report To:	BRYAN CAMPBELL	
Address:	2285 MORELLO AVENUE		Invoice To: <u>C</u>	GENE ORTEGA (EXXONMOBIL TM)	
City/State/Zip:	PLEASANT HILL, CA. 94523		Account #: _	3865	
Nobil Project Mgr:	BRYAN CAMPBELL		PO #: _	4504340684	
Telephone Number:	(925) 602-4710 EXT. 24	Fax No.: (925) 602-4720	Facility ID # (	04-334	
Sampler Name: (Print)	Biyan Compball		Site Address	2492 Castro Valley Blvd.	
Sampler Signature:			City, State Zip	Castro Valley, CA	

Sampler Signature		Preservative Matrix Analyze For:										_	$\overline{-}$	$\overline{}$		_																
							<b>.</b>	F	res	serv	ative	<del>)</del>	_	1		latri	X	H	1	- 1	_	-1	-∖na	ıyze	FOI	<u> </u>	т	т—	/	ক্লা'	ו ומ	7
Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	lçe	HNO <sub>3</sub> (Red Label)	HCI (Blue Label)	NaOH (Orange Label)	H <sub>2</sub> SO <sub>4</sub> Glass(Yellow Label)	2 Unpreserved Liters	Other ( Specify)	Groundwater	Wastewater	Uninking water	Soil	Other (specify):	TPH-G/BTEX BY 8015B/8021B	TPH-D BY 8015B*	MTBE BY 8260B	TRPH BY 418.1M*	TOTAL LEAD BY 6010B						HOLD		IAI request (in Bus. Days, STD TAT	I da Nasuus
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DRumy 642		1720					X					<u> </u>				$\perp$	X		X				X	Ļ		$oldsymbol{\perp}$		1		Ц	N.	
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	6/28	3104	15	30																												
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RECEIVED

AUG 13 2004

8/5/04

CASE NARRATIVE

ETIC ENGINEERING

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE PLEASANT HILL, CA 94523

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name: EXXONMOBIL 04-334

Project Number: .

Laboratory Project Number: 384364.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. Any QC recoveries outside laboratory control limits are flagged individually with an #. Sample specific comments and quality control statements are included in the Laboratory notes section of the analytical report for each sample report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accredidation.

Sample Identification	Lab Number	Page 1 Collection Date
DRUM 7.8.9	04-A117628	6/25/04



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Sample Identification

Lab Number

Page 2 Collection Date

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By:

Mais a Dage

Johnny A. Mitchell, Operations Manager Michael H. Dunn, M.S., Technical Director Pamela A. Langford, Technical Services Eric S. Smith, QA/QC Director Sandra McMillin, Technical Services

Report Date: 8/5/04

Gail A. Lage, Technical Services Glenn L. Norton, Technical Services Kelly S. Comstock, Technical Services Roxanne L. Connor, Technical Services

Laboratory Certification Number: 01168CA

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#### ANALYTICAL REPORT

ETIC ENGINEERING 3865 BRYAN CAMPBELL 2285 MORELLO AVENUE

PLEASANT HILL, CA 94523

Project:

Project Name: EXXONMOBIL 04-334

Sampler: BRYAN CAMPBELL

Lab Number: 04-A117628
Sample ID: DRUM 7,8,9
Sample Type: Solid waste

Site ID: 04-334

Date Collected: 6/25/04 Time Collected: 11:26 Date Received: 6/29/04 Time Received: 8:00

Page: 1

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
*METALS* Lead	0.0590	mg/l	0.0050	0.0050	1	8/ 5/04	9:58	C. Martin	6010B	2104

Sample Extraction Data

Wt/Vol

Parameter Extracted Extract Vol Date Time Analyst Method

SPLP Extraction 8/ 2/04 B.Minor 1312

#### LABORATORY COMMENTS:

ND = Not detected at the report limit.

- B = Analyte was detected in the method blank.
- J = Estimated Value below Report Limit.
- E = Estimated Value above the calibration limit of the instrument.
- # = Recovery outside Laboratory historical or method prescribed limits.
- All results reported on a wet weight basis.
- All water analysis performed on a STLC (CA WET) extraction.

End of Sample Report.



2960 Foster Creighton Drive . Nashville, Tennessee 37204 800-765-0980 • 615-726-3404 Fax

ROJECT QUALITY CONTROL DATA

Project Number:

Project Name: EXXONMOBIL 04-334

Page: 1

aboratory Receipt Date: 7/30/04

P.	atrix	Spike	R	ec.	yΣ	re	y	
_	_						-	

Note:	If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for
	MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

MS/MSD analysis	on an true sample	e matrix. Lab	oratory, reag	ent water was	used for QC	purposes.		
Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
	••							
ŀ								
**METALS**								
Lead	mg/l	0.0590	0.0920	0.0500	66#	75 125.	2104	04-A117628
	Matrix Spike D	uplicate						

0.0880

Limit Q.C. Batch

20

2104

Analyte	units	Orig. Val. Dup	licate	RPD	Limit	Q.C. Batch
**METALS**						

0.0920

### Laboratory Control Data

mg/1

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
**METALS**						
Lead	mg/l	0.0500	D.0500	100	80 - 120	2104

Project QC continued . . .

Lead



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PROJECT	QUALITY	CONTROL	DATA
---------	---------	---------	------

Project Number:

Project Name: EXXONMOBIL 04-334

Page: 2

Laboratory Receipt Date: 7/30/04

Duplicates

Analyte units Orig. Val. Duplicate RPD Limit Q.C. Batch Sample Dup'd

Blank Data

Analyte Blank Value Units Q.C. Batch Date Analyzed Time Analyzed

\*\*METALS\*\*

Lead < 0.0029 mg/l 2104 B/ 5/04 9:58

# = Value outside Laboratory historical or method prescribed QC limits.

End of Report for Project 384364



COOLER RECEIPT FORM

**BC**#



Client Name: ETIC Engineering
Cooler Received/Opened On: 6/29/04  Accessioned By: Shane Gambill  Log-in Personnel Signature
1. Temperature of Cooler when triaged: 0.9 Degrees Celsius
2. Were custody seals on outside of cooler?
a. If yes, how many, what kind and where 12/3/4 FRONT/BACK/SIDE
3. Were custody seals on containers and intact?
4. Were the seals intact, signed, and dated correctly?
5. Were custody papers inside cooler?
6. Were custody papers properly filled out (ink, signed, etc)?
7. Did you sign the custody papers in the appropriate place?
8. What kind of packing material used? Rubblewrap Peanuts Vermiculite Other None
9. Cooling process: (ce Ice-pack Ice (direct contact) Dry ice Other None
10. Did all containers arrive in good condition (unbroken)?
11. Were all container labels complete (#, date, signed, pres., etc)?
12. Did all container labels and tags agree with custody papers? YESNONA
13. Were correct containers used for the analysis requested?
14. 2. Were VOA vials received?
b. Was there any observable head space present in any VOA vial? NOYES
15. Was sufficient amount of sample sent in each container?
16. Were correct preservatives used? YES NONA
If not, record standard ID of preservative used here
17. Was residual chlorine present?
18. Indicate the Airbill Tracking Number (last 4 digits for Fedex only) and Name of Courier below:
Fed-Ex UPS Velocity Airborne Route Off-street Misc.
19. If a Non-Conformance exists, see attached or comments below:

1

# Test/America

Nashville Division 2960 Foster Creighton Nashville, TN 37204 CHAIN OF CUSTODY RECORD Phone: 615-726-0177

Toll Free: 800-765-0980 Fax: 615-726-3404 384364

ExonMobil

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### Test/\merica

### Sample NonConformance/COC Revision Form

Initiated by:

Lklingensmith

Phone:

925-602-4710

NC Closed **Date Closed**  Y

8/2/2004

Client Name:

ETIC ENGINEERI Bryan Campbell

Sample Range:

99643

**Client Contact:** Client Account:

Date Created:

3865

SDG:

380482 224

7/30/2004

Analyst: Supervisor:

Mark Hollingsworth

NC #:

Project Name:

04-334

NC Type:

Terminal Manager:

GENE ORTEGA

Project Number: **Project Origin** 

Regulatory:

Process: Retag for additional analysis (Sample already completed)

Corrected By:

Jim Jacobs

**Process Completed** 

Closed: 🗹

Lklingensmith

Comments:

Comment added by: Lklingensmith on 8/2/2004 7:53:37 AM

NC closed with out comments

Comment added by: Lklingensmith on 8/2/2004 7:53:29 AM

Process Closed without Comment

Comment added by: jdjacobs on 7/30/2004 5:26:34 PM

DONE SDG 384364 117628

For sample 99643, please, re-tag and run STLC for Pb. Tag for 3 day TAT with 100% rush

charges. ETIC(3865)

From: Bryan Campbell [mailto:BCampbell@eticeng.com]

Sent: Friday, July 30, 2004 4:30 PM

To: Leah Klingensmith

Cc: Mark Peterson; Tracy lob Subject: 04-334: Drum Samples

Leah.

For laboratory project number 380482, the landfill wants us to run lead

STLC for the sample called "DRUM 7,8,9". Please let me know how soon we can run that sample so that we can have the waste removed from the site

as soon as possible.

8/2/2004 7:53:39 AM

Appendix H
Waste Documentation



## REPUBLIC SERVICES VASCO ROAD, LLC 4001 N. Vasco Road, Livermore, California 94551 • (925) 447-0491

TICKET:

554162

CUSTOMER: DILL / DILLARD/EXXON

TRUCK:

60

5007814 ACCT#: PROFILE #:

1002636

DATE: 07/30/2004

TIME: 12:33 - 12:33

GENERATOR: 1002636 / EXXDN MOBIL STATION 4-334

2 / CASTRO VALLEY

GROSS:

Ø LBS

ORIGIN:

TARE:

LICENSE: COMMENT:

NET:

Ø LBS 0 LBS

WASTE:

QUANTITY UNIT

RATE

**AMOUNT** 

SOILD / SOIL DRUMS

Tax

I certify that I have not disposed of any liquid or hazardous waste.

Total:

Raywond Yulo

Weighmaster:

DRIVER

DRIVER

Weighmaster:

DRIVER

	1					SHIPP	ER NO	B UU	3/11
STR	AIGHT BILL OF LADING—SH	ORT FORM—Ori	gin <b>al—</b> l	Not Negotiab	le		IER NO.		
						DATE	7/	9/09	/
GANGE	RERING INC.				(SCAC)				
IGNEE			FRC SHIPP						
ΕT	ROMIC ENVIRONMENTAL T 2081 BAY ROAD		STRE	EI	EXXONN 25A CRE	SENT D	RIVE#	<b>10</b> 7	
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O. O. PING HM	Description of articles, spe	cial marks, and	dexce	ptions	WEI (Subjection)	#t to	ass or Rate (F	CHARGE for carrier us	CONTRACTOR DESIGNATION OF THE PERSON OF THE
4	GROUNDWATER MONITO PROFILE #: 301560	RING WELL GALLO			<u>*</u> ₹		*		
.8	HANDLING CODE:	<u>[</u> ]. 07	10	59 (04	8		÷		
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	STORE NAME#: _ O 4 -	334	-						
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a that the bill of where the rate sally in writing the	is between two ports by a carrier by water, the law is taking shall state whether it is "carrier's or shipper's is dependent on value, shippers are required to state as agreed or declared value of the property. It was to the property is hereby specifically stated by	Subject to Section shipment is to be of consignor, the corns The carrier shall not freight and all other	delivered ignor sha ot make	to the consign ill sign the follow delivery of this s arges.	ee without rect ing statement:	Duise on the	CHARGE	Prepaid when ght	Check box if charges to be collect
consigned, and a agrees to carry to y of said property as not prohibited to	e classifications and tariffs in effect on the date of this Bill of I destined as indicated above, which said company (the wo to its usual place of delivery at said destination, if on its own over all or any portion of said route to destination, and as a by text, whether privited or written, herein contained (as speci	rd company being under road or its own water line, to each party at any time fied in Appendix B to Part	otherwise Interested 1035) whi	ignout the comme to deliver to anoth in all or any of sai ich are heraby agre	ter carrier on the r d property, that en ed to by the shipp	outs to said de very service to er and accepts	conation. It is m	utually agreed a erounder shall b	s to each carrier o
to certify the	at the above-named materials are properly cia tion for transportation according to the applica	ssified, described, able regulations of t	package he Depa	ed, marked, an artment of Train	nd labeled, an insportation F	PER:	8		
ER: (	Day Fame	)2	CARR	$\sim$	RTIC PNG	NEER IN	Q INC		
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NGINERING INC.			(SCAC)		
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e shipment moves between two ports by a carrier bress that the bill of lading shall state whether it is "can of".  - where the rate is dependent on value, shippers are incally in writing the agreed or declared value of the property is hereby up agreed or declared value of the property is hereby up appear to be not exceeding.  INTEL, subject to the described as indicated above, which is of, correspond, and described as indicated above, which is not appropriate to the carry to its usual place of delivery at said dealing any of said property over all or say portion of said rought loads not provided by low, whose planted or writtent, here is to carrylly that the above-named materials in proper consolition for transportation according PPER:	inequired to state operity. The carrifolding the date of this Bill of Lading, the pro- and occupanty, this word company to be word company to be word company to be streamford, and as to each party is contained that specified in Appending to the applicable regular.	to be delivered to the the consignor shall sign or shall red make delivered all other iswful charges.  perty described above in any one, and other iswful charges.  perty described above in any one, otherwise to define any time intensited is all other than the perty of the perty of the perty of the perty of the Department of the Depart	consigned without recount the following statement by of this shipment without places of the same of the policy of the shipment of the policy o	er on the syment of service to be serviced to be service	TOTAL  CHARGES: \$  FREIGHT CHARGES  Prolight Prepaid secept when box at right is checked to be if charges unknown is checked or the property unnetted. It is multisely agreed as to each of performed hereunder shall be subject to for himself and his assigns.  INC.