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TRANSMITTAL

TO: Dave DeWitt
ConocoPhillips
76 Broadway
Sacramento, CA 95818

DATE: May 16, 2003
PROJECT NO. 140158.5
LOCATION: Tosco Station No. 4625,
Oakland

Alameda County

MAY 21 2003

Environmental Health

FROM: Jed Douglas

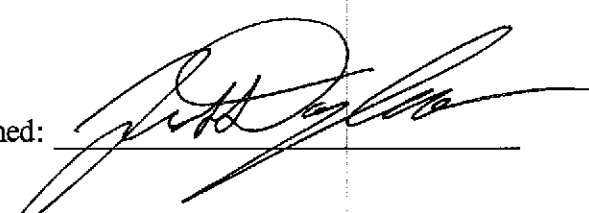
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COMMENTS:

Signed: 

COPIES TO: Don Hwang - Alameda County Environmental Health Services
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May 14, 2003

Mr. Don Hwang
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Alameda County
MAY 21 2003
Environmental Health

Subject: Perjury Statement for the Monitoring Well Installation Report at Tosco
Service Station No. 4625, 3070 Fruitvale Avenue, Oakland, California.

Mr. Hwang:

I declare, under penalty of perjury, that the information and/or recommendation contained in the Gettler-Ryan Inc. Monitoring Well Installation Report dated May 14, 2003, are true and correct to the best of my knowledge.

Sincerely,
ConocoPhillips

David B. DeWitt
Environmental Project Manager



GETTLER-RYAN INC.

SOIL BORING AND MONITORING WELL INSTALLATION REPORT

for

Tosco (76) Service Station No. 4625
3070 Fruitvale Avenue
Oakland, California


Report No. 140158.05

Prepared for:

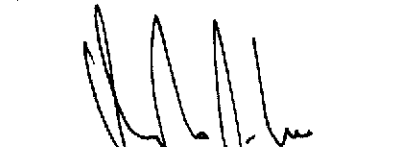
Mr. David B. De Witt
ConocoPhillips
76 Broadway
Sacramento, California 95818

Prepared by:

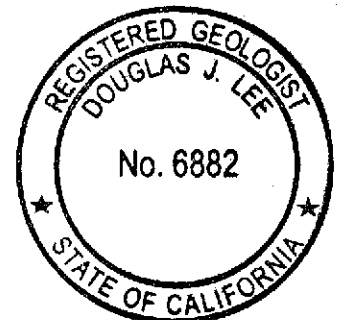
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May14, 2003

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Appendix E:	Laboratory Analytical Reports and Chain-of-Custody Forms

SOIL BORING AND MONITORING WELL INSTALLATION REPORT

for

Tosco (76) Service Station No. 4625
3070 Fruitvale Avenue
Oakland, California

Report No. 140158.05

1.0 INTRODUCTION

At the request of ConocoPhillips, Gettler-Ryan Inc. (GR) has prepared this report presenting the observations associated with the installation of two on-site groundwater monitoring wells and the advancement of two on-site soil borings. The purpose of this investigation was to further evaluate soil and groundwater conditions at subject site. This work was originally proposed in GR report # 140158.05, *Work Plan For limited Subsurface Investigation*, dated May 24, 2002 and amended in the *Work Plan Addendum* dated October 14, 2002. The Work Plan was approved by the Alameda County Health Care Services Agency (ACHCSA) in a letter to Tosco dated September 4, 2002.

The scope of work performed included: updating the site safety plan; obtaining the required drilling permits; installing two on-site groundwater monitoring wells and advancing two on-site soil borings; developing the wells; collecting and submitting selected soil and groundwater samples for chemical analyses; surveying the well head elevations; arranging for ConocoPhillips' contractors to dispose of the waste materials and preparing a report presenting the findings of this investigation.

2.0 SITE DESCRIPTION

2.1 General

The site is currently an active service station located on the southeast corner of Fruitvale Avenue and School Street in Oakland, California (Figure 1). Local topography is southwestern sloping at an elevation of approximately 136 to 139 feet above mean sea level (MSL). The current site facilities include a station building with two automotive service bays equipped with hydraulic lifts, four dispenser islands and two canopies, two 12,000-gallon double-wall fiberglass gasoline underground storage tanks (USTs), and one above ground waste-oil tank. Six groundwater monitoring wells are currently present at the site. Locations of the pertinent site features are shown on Figure 2.

2.2 Geology and Hydrogeology

The site is located on the western flank of the Oakland Hills in an area underlain by Holocene age alluvium. The alluvial deposits are composed of unconsolidated, moderately sorted, permeable silt with coarse sand and gravel. The northwest trending Hayward fault is located approximately 1,500 feet northeast of the site (Helley, 1979). The nearest surface waters are Sausal Creek, located approximately 500 feet west of the site, and Peralta Creek, located 2,300 feet southeast of the site. Additionally, East Bay Municipal Utility District's Central Reservoir is located approximately 1,300 feet west of the site.

In general, subsurface soils are composed of clay to depths of approximately 9 to 15 feet below ground surface (bgs), underlain by gravel with varying amounts of clay and sand to depths of approximately 18 to 20 feet bgs, which in turn is underlain by clay and clayey sand to 25 feet bgs, the total depth of the borings. The exception was well boring MW-1, in which only clay was encountered to 25 feet bgs. During drilling, groundwater was typically encountered at approximately 10.5 feet bgs, except for well boring MW-1, where groundwater was not encountered. Groundwater typically first occurred in a gravel or clayey gravel which ranged in depth from approximately 9 to 15 feet bgs, except in well boring MW-2 where groundwater was encountered in the clay several feet above the gravel zone.

The most recent monitoring and sampling event occurred at the site on November 26, 2002. Depth to water in the monitoring wells on that date ranged from 7.78 to 9.89 feet below the top of well casings (TOC). Groundwater during this event was reported to flow toward the west/southwest, at a calculated gradient of 0.007 to 0.04 ft/ft. A potentiometric map is included as Figure 3.

2.3 Previous Environmental Work

In April and May of 1998, the gasoline USTs, product piping and dispensers were removed and replaced. Four soil samples were collected from the sidewalls of the former gasoline UST pit at a depth of approximately 8.5 feet bgs. Concentrations of Total Petroleum Hydrocarbons as gasoline (TPHg) in the soil samples ranged from 44 to 1,700 parts per million (ppm); benzene concentrations ranged from 0.16 to 17 ppm; and methyl tertiary butyl ether (MTBE) concentrations ranged from not detected (ND) to 16 ppm. Eight soil samples were collected from the beneath the former product dispensers at a depth of approximately 4 feet bgs. Concentrations of TPHg in the soil samples ranged from ND to 660 ppm; benzene concentrations ranged from ND to 5.1 ppm; and MTBE concentrations ranged from ND to 150 ppm.

A 550-gallon waste oil UST and associated piping was also removed in May 1998. One soil sample was collected from beneath the former waste oil UST at a depth of approximately 8.5 feet bgs. TPHg were detected in the soil sample at 820 ppm; benzene was detected at 2.7 ppm, Total Petroleum Hydrocarbons as diesel (TPHd) were detected at 200 ppm; Total Oil and Grease (TOG) was detected at 56 ppm; elevated concentrations of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and metals were also reported. One soil sample was also collected from beneath the piping at a depth of approximately 2 feet bgs. The sample was reported as all ND except for TPHd at 1.5 ppm, and background concentrations of metals.

A total of approximately 1,166 tons of soil were overexcavated and transported from the site to Allied Waste's Forward Landfill in Manteca, California. Additionally, 40,000 gallons of groundwater were pumped from the UST pit and transported to the Tosco Refinery in Rodeo, California for disposal. A conductor casing was installed in the backfill during installation of the replacement gasoline USTs. The waste oil tank was replaced with an above ground tank.

In April of 2000, four groundwater monitoring wells were installed at the site. MTBE was not detected in any of the soil samples analyzed from the four well borings. TPHg and Benzene, Toluene, Ethylbenzene and xylenes (BTEX) were not detected in any of the soil samples analyzed from well borings MW-1 or MW-4. However, TPHg and BTEX were detected in shallow soil samples collected from well borings MW-2 and MW-3 at the following concentrations: MW-2 contained TPHg at 1,600 ppm and benzene at 5.1 ppm; MW-3 contained TPHg at 79 ppm and benzene at 0.031 ppm. Low concentrations of TPHd were detected in the soil samples analyzed from boring MW-3 at concentrations ranging from 1.3 to 8.4 ppm.

Groundwater samples from wells MW-3 and MW-4 have been ND for TPHg, BTEX and MTBE since quarterly sampling began in May of 2000. Groundwater samples from MW-1 have only contained low concentrations of MTBE ranging from 3.9 to 26 parts per billion (ppb). MW-2 initially contained high concentrations of TPHg and benzene, both of which have recently decreased by up to two orders of magnitude. MTBE has not been identified in MW-2. It is GR's understanding that as of January of 2001, Tosco no longer delivers fuel containing MTBE to service stations in northern California.

3.0 FIELD WORK

Field work was conducted in accordance with GR's Field Methods and Procedures (Appendix A), and the Site Safety Plan dated April 10, 2002. The soil borings were advanced under drilling permit numbers W02-1032, W02-1033 and W02-1034, issued on October 24, 2002 by the Alameda County Public Works Agency (ACPWA). Copies of the drilling permits are included in Appendix B.

Underground Service Alert (USA) was notified at least 48 hours prior to drilling at the site (confirmation #470654). As a precautionary measure, a private subsurface utility locator was contracted to identify utilities near the proposed boring locations. The borings were hand excavated for the first five feet bgs to further insure that no utilities were disturbed.

3.1 Soil Boring and Monitoring Well Installation

On November 20, 2002, a GR geologist observed Cascade Drilling Incorporated, of Rancho Cordova, California (C57 #717510), advance four on-site soil borings (B-1, B-2, MW-5, and MW-6) at the locations shown on Figure 2. The well borings were drilled to 25 feet bgs and the soil borings were drilled to 12 feet bgs (B-1) and 15 feet bgs (B-2), using 8-inch diameter hollow-stem augers driven by a truck mounted drill rig. Soil samples were collected at approximately 5-foot intervals beginning at 5 feet bgs. The GR geologist prepared logs of the borings and screened the soil samples in the field for the presence of volatile organic compounds (VOC). Screening data are presented on the boring logs (Appendix B).

Groundwater monitoring wells were constructed in two of the borings using 5-feet of two-inch diameter Schedule 40 PVC blank casing and 20-feet of 0.020-inch machine-slotted well screen. Lonestar #3 graded sand was placed in the annular space of the wells across the entire screened interval and extending one foot above the top of the screen. The wells were then sealed with one foot of hydrated bentonite followed by neat cement grout. The top of each well is protected by a traffic-rated water-resistant, vault box, locking well cap, and lock. Well construction details are presented on the boring logs in Appendix B. Borings B-1 and B-2 were backfilled with neat cement grout to approximately one half a foot bgs and finished to surface with cold asphalt patch. Mr. James Yoo of the ACPWA approved the grouting procedures.

Soil cuttings generated during drilling activities were placed on and covered with plastic, and stored at the site pending disposal options. A composite disposal confirmation sample [Comp-1 (A,B,C,D)] was collected from the stockpiled soil cuttings. Stockpile sampling procedures are presented in Appendix A.

3.2 Hydropunch Groundwater Sampling

Depth discrete groundwater sampling was attempted at borings B-1 and B-2 with the use of a hydropunch sampling tool advanced ahead of the drilling auger. After the hydropunch was driven to the target depth, the body of the tool was opened to expose the hydropunch screen. In boring B-1, a depth discrete hydropunch sample was attempted between 8.5 and 10 feet bgs but was unsuccessful due to insufficient groundwater present at this depth interval. Consequently, the boring was advanced to 12 feet bgs and groundwater sample B-1-W(12) was collected directly from the boring without the use of a hydropunch sampling tool. In boring B-2, the boring was advanced to 14.5 feet bgs where grab groundwater sample B-2-W(14.5) was collected directly from the boring.

Water samples were collected with the use of a cleaned teflon bailer placed through the auger. GR sample handling methods are presented in the GR Field Methods and Procedures in Appendix A.

3.3 Well Monitoring Development and Sampling

On November 26, 2002, static groundwater levels were measured in the new and preexisting wells. All wells were checked for the presence of separate-phase hydrocarbons. Separate-phase hydrocarbons were not present in any of the wells. Static water level data and groundwater elevations are summarized in Table 1.

After the static water levels were measured, the new monitoring wells (MW-5 and MW-6) were developed using a 2-inch diameter stainless steel bailer and a submersible pump. Wells MW-1, through MW-4 were sampled in accordance with the quarterly monitoring and sampling program. Copies of the GR Well Development and Groundwater Sampling Field Data Sheets are included in Appendix C. A Potentiometric Map is included with this report on Figure 2.

After development, groundwater samples were collected from the new monitoring wells as specified by GR's Field Methods and Procedures (Appendix A). Water purged during well development and sampling was transported to the ConocoPhillips Refinery in Rodeo, California, for treatment and disposal.

3.4 Wellhead Survey

Following installation, the well casing elevations and horizontal coordinates of the new wells were surveyed by Virgil Chavez Land Surveying of Vallejo, California (Licensed California Land Surveyor No. 6323). Top of casing (TOC) elevations were measured relative to MSL, and the horizontal locations of the wells were measured using the Global Positioning System (GPS). Well casing elevation data are presented in Table 1. A copy of the surveyor's report is included in Appendix D.

3.5 Waste Disposal

Drill cuttings were placed on and covered with plastic sheeting and stored at the site pending disposal. After completion of drilling, one four-point composite disposal characterization sample was collected from the drill cuttings and submitted to the laboratory for compositing and analysis. The analytical results from the composite soil sample were submitted to Allied Waste's Forward Landfill in Manteca, California, for disposal.

On December 20, 2002, 5.54 tons of soil (drill cuttings) were removed from the site and transported to the Allied Waste Inc. (Allied) Forward Landfill in Manteca, California, by Tim Manley Trucking of Sacramento, California, under disposal approval No. 2736. A copy of the Allied soil acceptance letter is included in Appendix D.

3.6 Laboratory Analysis

Selected soil samples were submitted to Sequoia Analytical in Walnut Creek, California (ELAP #1271) and groundwater samples were sent to Severn Trent Services in Pleasanton California (ELAP #2496), for analysis. Soil and groundwater samples were analyzed for TPHg, Benzene, Toluene, Ethyl-Benzene, Total xylenes (BTEX), Ethanol, tert-Butyl alcohol (TBA), MtBE, Di-isopropyl Ether (DIPE), Ethyl tert-butyl ether (ETBE), 1,2-Dichloroethane (DCA), tert-Amyl methyl ether (TAME) and Ethylene dibromide (EDB) by EPA Method 8260B. The drill cuttings composite sample was analyzed for TPHg, BTEX, and MTBE by EPA Methods 8015/8021, and for total lead by EPA Method 6010B. Copies of the laboratory analytical reports and chain-of-custody forms are included in Appendix E.

4.0 RESULTS

4.1 Subsurface Conditions

Groundwater was encountered in the borings during drilling at depths ranging from approximately 11.5 to 19 feet bgs. Soil encountered during drilling consisted primarily of silt and clay from approximately 0.5 feet bgs to approximately 17 feet bgs. In well borings MW-5 and MW-6, clayey gravel and gravelly clay was observed at approximately 17 feet bgs to approximately 22 feet bgs (MW-5) and approximately 13 to 19 feet bgs (MW-6). In boring B-1, silt with sand was observed from approximately 0.5 feet bgs to the total depth of the boring (14 feet bgs). Silt with sand was observed in boring B-2 from approximately 0.5 feet bgs to approximately 4 feet bgs underlain by clay to the total depth of the boring (12 feet bgs). Detailed descriptions of the soil encountered during drilling are presented in the boring logs in Appendix B.

4.2 Soil Analytical Results

Soil sample B-1-S(8), collected from boring B-1 at 8 feet bgs, contained concentrations of benzene at 0.22 ppm, MtBE at 0.93 ppm and TBA at 0.42 ppm. Soil samples B-2-S(11), MW-5-S(10) and MW-6-S(10) contained TPHg and benzene at concentrations ranging from 190 to 1,300 ppm, and 4.2 to 11 ppm, respectively. Soil sample MW-6-S(10) contained MtBE at 0.39 ppm.

The stockpile soil sample, Comp-1 (A,B,C,D), contained concentrations of BTEX and MtBE that were acceptable for disposal at Allied Waste's Forward Landfill. The chemical analytical results for the soil samples are summarized in Table 2.

4.3 Groundwater Analytical Results

Groundwater samples collected from well MW-5 were reported to contain TPHg at 2,500 ppb, benzene at 350 ppb, and MTBE at 470 ppb. Groundwater collected from well MW-6 contained TPHg at 11,000 ppb, Benzene at 1,200 ppb, and MTBE at 490 ppb. Grab groundwater samples collected from the two soil borings were reported to contain elevated concentrations of petroleum hydrocarbons in both samples. In borings B-1 and B-2, respective concentrations of TPHg were reported at 190,000 and 17,000 ppb, benzene at 19,000 and 1,600 ppb, and MtBE at 57,000 and 240 ppb. Groundwater analytical data are summarized in Table 3.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Elevated concentrations of dissolved petroleum hydrocarbons were detected in grab groundwater samples from the two soil borings. Boring B-1, located approximately 12 feet south of monitoring well MW-2, had the highest reported concentrations. Historical groundwater concentrations in well MW-2 have been three orders of magnitude lower than the reported results for grab groundwater from boring B-1. GR requested that the laboratory re-check the results for the samples from B-1, and the laboratory reported that their results were confirmed. It is GR's experience that hydrocarbon concentrations in grab groundwater samples are typically one order of magnitude higher than concentrations in samples collected from monitoring wells at a given site. Grab groundwater results from boring B-2, located near the UST pit, are one order of magnitude lower than results from B-1, and therefore appear to be more representative of actual groundwater conditions at the site.

The two new groundwater monitoring wells are located in the downgradient groundwater flow direction from the UST pit and dispenser islands. Both new wells were reported to contain detectable concentrations of petroleum hydrocarbons. GR recommends that wells MW-5 and MW-6 be added to the quarterly monitoring and sampling program to further assess groundwater conditions at the site. Once additional groundwater data has been received and interpreted, GR will make recommendations for additional subsurface investigation at the site, as warranted.

6.0 REFERENCES

Gettler - Ryan Inc., 2003, Groundwater Monitoring and Sampling Report, Fourth Quarter - Event of November 26, 2002, dated January 14, 2003.

Gettler - Ryan Inc., 2002, Work Plan Addendum, Tosco (76) Service Station No. 4625, 3070 Fruitvale Avenue, Oakland, California dated October 14, 2002,.

Gettler - Ryan Inc., 2002, Work Plan For limited Subsurface Investigation, Tosco (76) Service Station No. 4625, 3070 Fruitvale Avenue, Oakland, California dated May 24, 2002.

Gettler-Ryan Inc., 2002, Groundwater Monitoring and Sampling Report, First Quarter - Event of February 6, 2002, Tosco (76) Service Station #4625, 3070 Fruitvale Avenue, Oakland, California, dated March 18, 2002.

Gettler-Ryan Inc., 2000, Limited Subsurface Investigation Report, Tosco (76) Service Station No. 4625, 3070 Fruitvale Avenue, Oakland, California, dated August 16, 2000.

Gettler-Ryan Inc., 1998, Underground Storage Tank and Product Line Replacement Report for Tosco (Unocal) Service Station No. 4625, 3070 Fruitvale Avenue, Oakland, California, dated August 10, 1998.

Helley, E. J. and K. R. Lajoie, 1979, Flatland Deposits of the San Francisco Bay Region, California - Their Geology and Engineering Properties, and Their Importance to Comprehensive Planning: U.S. Geological Survey Professional Paper 943.

TABLES

TABLE 1- GROUNDWATER MONITORING DATA

Tosco (76) Service Station No. 4625

3070 Fruitvale Avenue

Oakland, California

Sample No.	Sample Date	Total Well Depth (ft.)	Well ¹ Elev. (ft. MSL)	Depth to Water (ft.)	Floating Product (ft.)	Ground Water Elev. (ft. MSL)
MW-1	11/26/2002	25.10	137.57	7.78	0.00	129.79
MW-2	11/26/2002	19.80	139.85	9.81	0.00	130.04
MW-3	11/26/2002	24.70	138.89	8.79	0.00	130.10
MW-4	11/26/2002	24.65	137.81	8.08	0.00	129.73
MW-5	11/26/2002	24.40	137.66	9.89	0.00	127.77
MW-6	11/26/2002	23.60	138.88	9.19	0.00	129.69

EXPLANATION:

ft. = feet

ft. MSL = feet above to Mean Sea Level

¹ = Well elevations reported as top of casing (TOC) surveyed by Virgil Chavez, Licensed California Land Surveyor No. 6323

TABLE 2- SOIL CHEMICAL ANALYTICAL DATA

Tosco (76) Service Station No. 4625
3070 Fruitvale Avenue
Oakland, California

Sample Location and ID	Date Sampled	Sample Depth (feet)	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Xylenes (ppm)	MtBE (ppm)	TBA (ppm)	DIPE (ppm)	ETBE (ppm)	TAME (ppm)	1,2-DCA (ppm)	EDB (ppm)	Ethanol (ppm)	Lead (ppm)
Soil Borings																
B-1																
B-1-S(8)	11/20/02	8	<2.5	0.022	<0.012	<0.012	<0.012	0.93 ¹	0.42	<0.012	<0.012	<0.012	<0.012	<0.012	<0.50	NA
B-2																
B-2-S(11)	11/20/02	11	1,300	11	81	45	220	<1.2	<12	<1.2	<1.2	<1.2	<1.2	<1.2	<50	NA
Monitoring Wells																
MW-5																
MW-5-S(10)	11/20/02	10	740	2.8	18 ²	32 ²	160 ²	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<20	NA
MW-6																
MW-6-S(10)	11/20/02	10	190	4.2	26	5.3	41	0.39	<2.5	<0.25	<0.25	<0.25	<0.25	<0.25	<10	NA
Stockpile Sample																
Comp-(A,B,C,D)	11/20/02	--	<2.5	0.025	0.031	0.044	0.20	0.072	NA	NA	NA	NA	NA	NA	NA	<10

EXPLANATION:

feet = feet below ground surface

ppm = parts per million

<1.0 = analyte not detected at or above the laboratories listed reported limit.

¹ = The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.

² = This sample was originally analyzed within the EPA recommended hold time. Re-analysis for confirmation or dilution was performed past the recommended hold time.

The results may still be useful for their intended purpose.

-- = not applicable

NA = not analyzed

ANALYTICAL METHODS:

TPHg = Total Petroleum Hydrocarbons as gasoline according to EPA Method 8260B

Benzene, Toluene, Ethylbenzene and Xylenes according to EPA Method 8260B

MtBE = methyl tert-butyl ether according to EPA Method 8260B

TBA = tert-butyl alcohol according to EPA Method 8260B

DIPE = di-isopropyl ether according to EPA Method 8260B

1,2-DCA = 1,2-Dichloroethane according to EPA Method 8260B

TAME = tert-amyl methyl ether according to EPA Method 8260B

EDB = ethylene dibromide or 1,2-dibromoethane according to EPA Method 8260B

ETBE = ethyl tert-butyl ether according to EPA Method 8260B

Ethanol according to EPA Method 8260B

Lead according to EPA Method 6010

ANALYTICAL LABORATORY:

Sequoia Analytical Sacramento, CA (ELAP #1624)

TABLE 3 - GROUNDWATER CHEMICAL ANALYTICAL DATA

Former Tosco (76) Service Station No. 4625
3070 Fruitvale Avenue
Oakland, California

Sample No.	Sample Date	Sample Depth (feet)	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)	Ethanol (ppb)
Monitoring Wells															
MW-5	11/26/2002	--	2,500	350	39	32	640	<1,000	470	<20	<20	<20	<20	<20	<5,000
MW-6	11/26/2002	--	11,000	1,200	2,000	400	2,300	<2,000	490	<40	<40	<40	<40	<40	<10,000
Soil Borings															
B-1-W (12)	11/20/2002	12.0	190,000	19,000	38,000	5,900	30,000	<5,000	57,000	<500	<500	<500	<500	<500	<50,000
B-2-W (14.5) ¹	11/20/2002	14.5	17,000	1,600	2,800	590	2,500	<100	240	<10	<10	<10	<10	<10	<1,000

EXPLANATIONS:

feet = feet below ground surface

ppb = parts per billion

-- = not applicable

<50 = analyte not detected at or above laboratories reporting limit

¹ = This sample was originally analyzed with the EPA recommended holding time. Re-analysis for confirmation or dilution was performed past the recommended hold time. The results may still be useful for their intended purpose.

ANALYTICAL LABORATORY:

Severn Trent Laboratories Pleasanton, CA (ELAP # 2496)

Sequoia Analytical Sacramento, CA (ELAP #1624)

ANALYTICAL METHODS:

TPHg = Total Petroleum Hydrocarbons as gasoline according to EPA Method 8260B

Benzene, Toluene, Ethylbenzene and Xylenes according to EPA Method 8260B

TBA = tert-Butyl alcohol by EPA Method 8260B

MTBE = Methyl tert-butyl ether by EPA Method 8260B

DIPE = Di-isopropyl ether by EPA Method 8260B

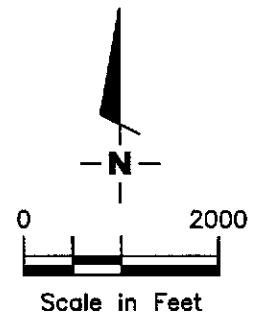
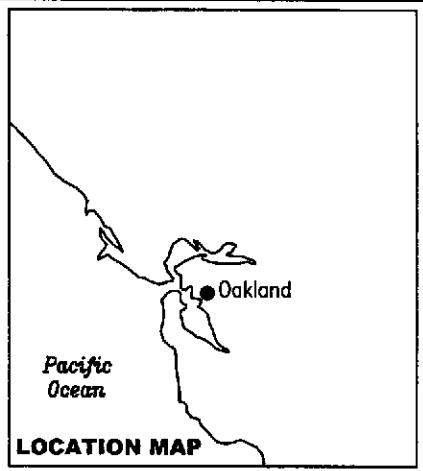
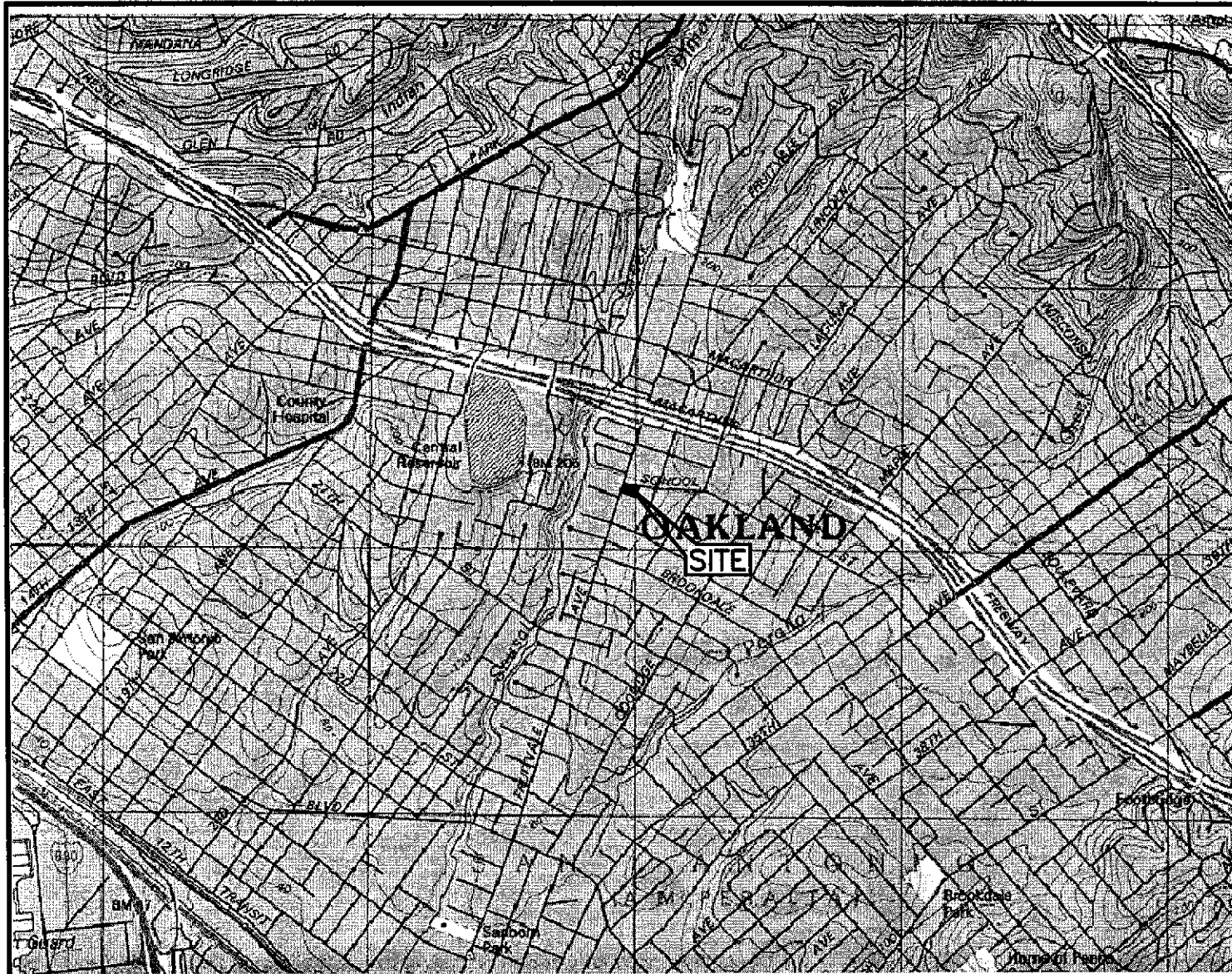
ETBE = Ethyl tert-butyl ether by EPA Method 8260B

TAME = tert-Amyl methyl ether by EPA Method 8260B

1,2-DCA = 1,2-Dichloroethane by EPA Method 8260B

Ethanol by EPA Method 8260B

EDB = Ethylene dibromide by EPA Method 8260B



Source: National Geographic California Seamless USGS Topographic Maps on CD-ROM.

GETTLER - RYAN INC.
 6747 Sierra Ct., Suite J
 Dublin, CA 94568 (925) 551-7555

VICINITY MAP
 Tosco (76) Service Station No. 4625
 3070 Fruitvale Avenue
 Oakland, California

FIGURE
1

PROJECT NUMBER
140158

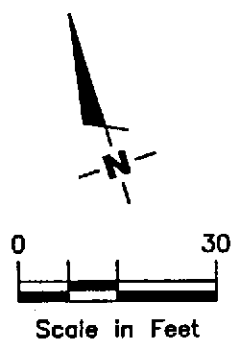
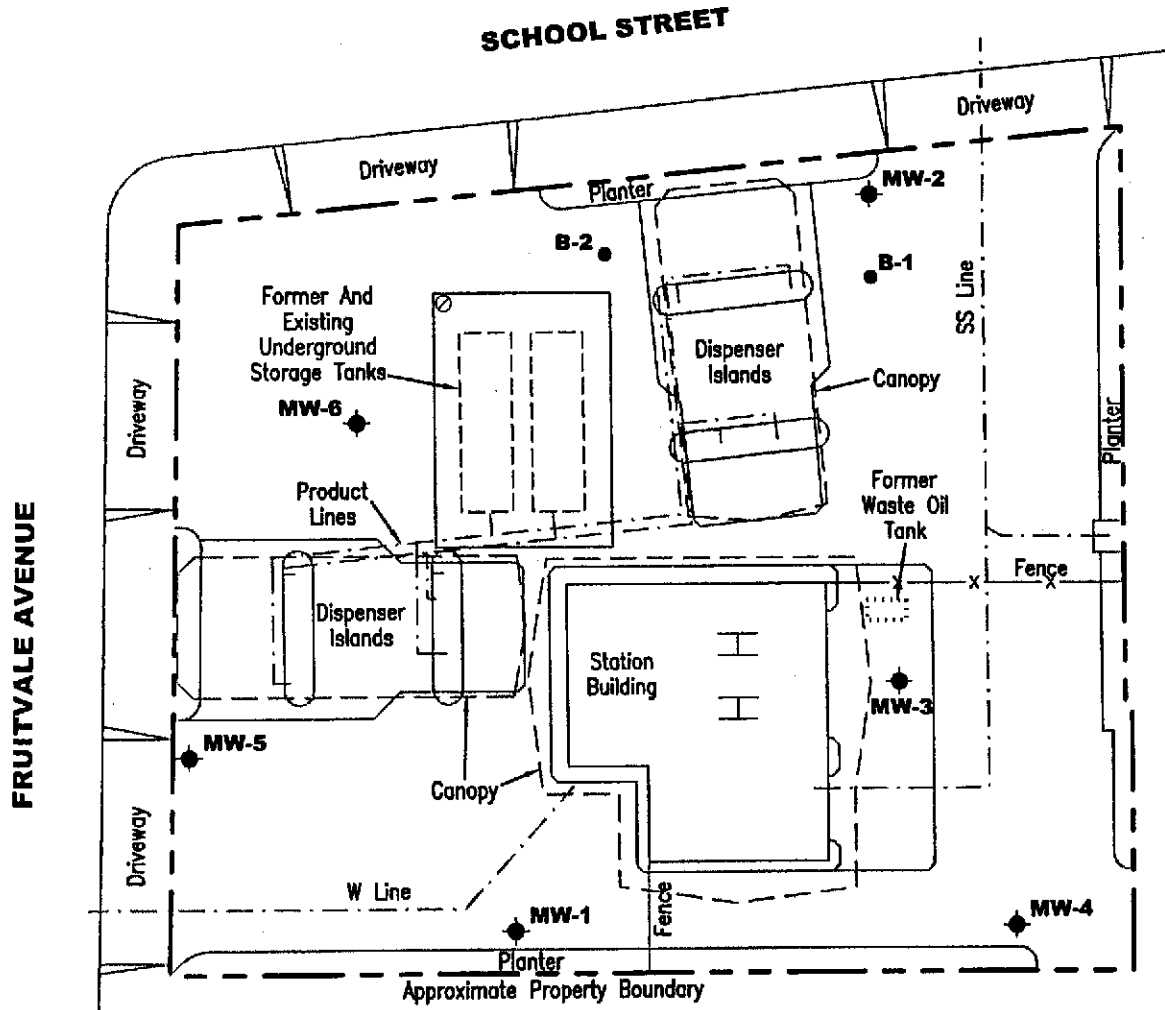
REVIEWED BY

DATE
12/02

REVISED DATE

EXPLANATION

- ◆ Groundwater monitoring well
- UST Observation well
- Soil boring



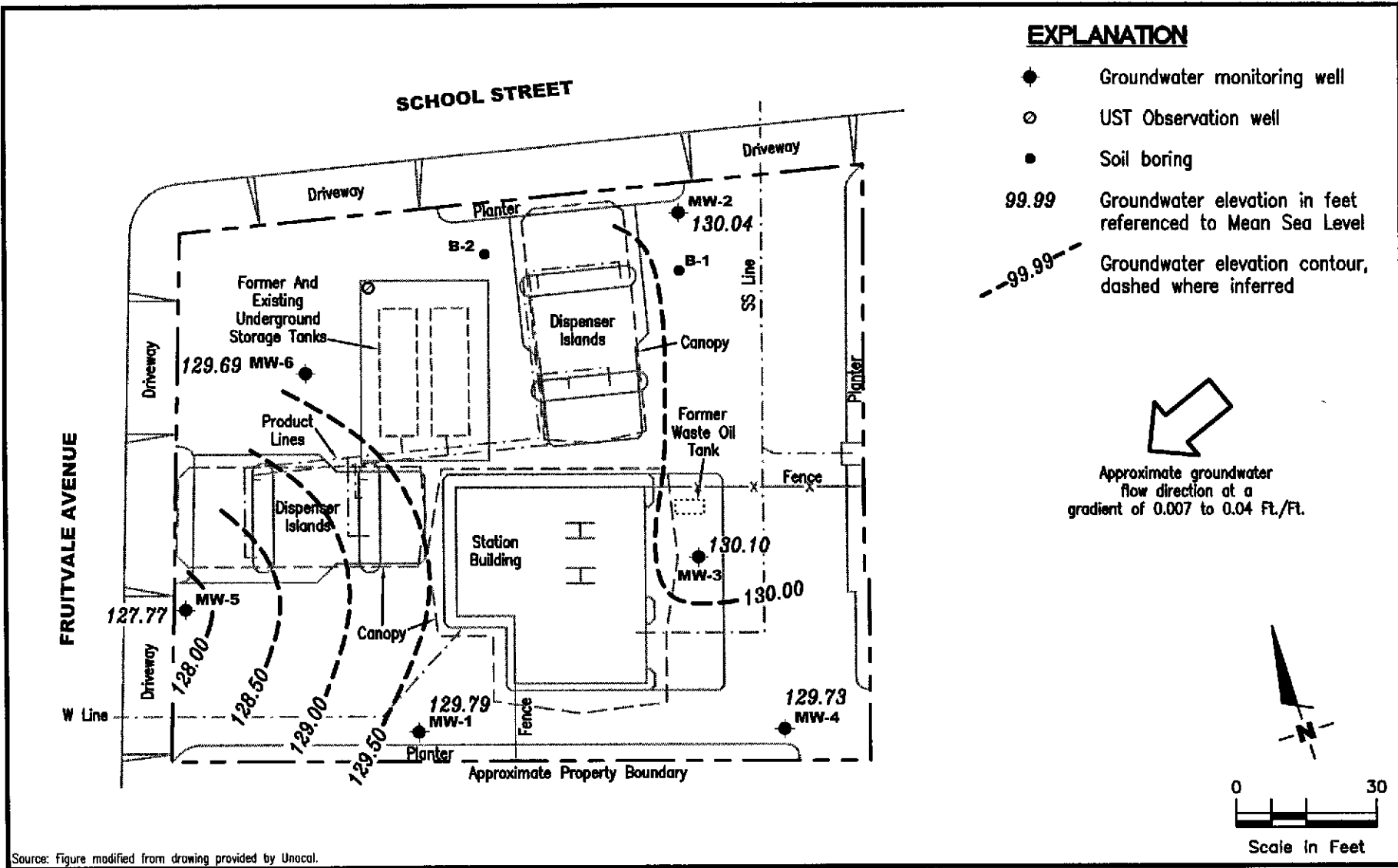
Source: Figure modified from drawing provided by Unocal.

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 6747 Sierra Ct., Suite J
 Dublin, CA 94568 (925) 551-7555

SITE PLAN
 Tosco (76) Service Station No. 4625
 3070 Fruitvale Avenue
 Oakland, California

FIGURE
2

PROJECT NUMBER 140158.05	REVIEWED BY	DATE 12/02	REVISED DATE
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Source: Figure modified from drawing provided by Unocal.

GETTLER - RYAN INC.
 6747 Sierra Ct., Suite J
 Dublin, CA 94568 (925) 551-7555

POTENTIOMETRIC MAP
 Tosco (76) Service Station No. 4625
 3070 Fruitvale Avenue
 Oakland, California

FIGURE
3

PROJECT NUMBER 140158.05	REVIEWED BY	DATE November 26, 2002	REVISED DATE
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APPENDIX A

GR FIELD METHODS AND PROCEDURES

GETTLER-RYAN INC.
FIELD METHODS AND PROCEDURES

Site Safety Plan

Field work performed by Gettler-Ryan Inc. (GR) is conducted in accordance with GR's Health and Safety Plan and the Site Safety Plan. GR personnel and subcontractors who perform work at the site are briefed on the of these plans contents prior to initiating site work. The GR geologist or engineer at the site when the work is performed acts as the Site Safety Officer. GR utilizes a photoionization detector (PID) to monitor ambient conditions as part of the Health and Safety Plan.

Collection of Soil Samples

Exploratory soil borings are drilled by a California-licensed well driller. A GR geologist is present to observe the drilling, collect soil samples for description, physical testing, and chemical analysis, and prepare a log of the exploratory soil boring. Soil samples are collected from the exploratory soil boring with a split-barrel sampler or other appropriate sampling device fitted with clean brass or stainless steel liners. The sampling device is driven approximately 18 inches with a 140-pound hammer falling 30 inches. The number of blows required to advance the sampler each successive 6 inches is recorded on the boring log. The encountered soil is described using the Unified Soil Classification System (ASTM 2488-84) and the Munsell Soil Color Chart.

After removal from the sampling device, soil samples for chemical analysis are covered on both ends with Teflon sheeting or aluminum foil, capped, labeled, and placed in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory. Samples are selected for chemical analysis based on:

- a. depth relative to underground storage tanks and existing ground surface
- b. depth relative to known or suspected groundwater
- c. presence or absence of contaminant migration pathways
- d. presence or absence of discoloration or staining
- e. presence or absence of obvious gasoline hydrocarbon odors
- f. presence or absence of organic vapors detected by headspace analysis

Field Screening of Soil Samples

A PID is used to perform head-space analysis in the field for the presence of organic vapors from the soil sample. This test procedure involves removing some soil from one of the sample tubes not retained for chemical analysis and immediately covering the end of the tube with a plastic cap. The PID probe is inserted into the headspace inside the tube through a hole in the plastic cap. Head-space screening results are recorded on the boring log. Head-space screening procedures are performed and results recorded as reconnaissance data. GR does not consider field screening techniques to be verification of the presence or absence of hydrocarbons.

Stockpile Sampling

Stockpile samples consist of four individual sample liners collected from each 100 cubic yards (yd^3) of stockpiled soil material. Four arbitrary points on the stockpiled material are chosen, and discrete soil sample is collected at each of these points. Each discrete stockpile sample is collected by removing the upper 3 to 6 inches of soil, and then driving the stainless steel or brass tube into the stockpiled material with a wooden mallet or hand driven soil sampling device. The sample tubes are then covered on both ends with Teflon sheeting, capped, labeled, placed in the cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory. Stockpiled soils are covered with plastic sheeting after completion of sampling.

Construction of Monitoring Wells

Monitoring wells are constructed in the exploratory borings with Schedule 40 polyvinyl Chloride (PVC) casing. All joints are thread-joined; no glues, cements, or solvents are used in well construction. The screened interval is constructed of machine-slotted PVC well screen which generally extends from the total well depth to a point above the groundwater. An appropriately-sized sorted sand is placed in the annular space adjacent to the entire screened interval. A bentonite transition seal is placed in the annular space above the sand, and the remaining annular space is sealed with neat cement or cement grout.

Wellheads are protected with water-resistant traffic rated vault boxes placed flush with the ground surface. The top of the well casing is sealed with a locking cap. A lock is placed on the well cap to prevent vandalism and unintentional introduction of materials into the well.

Storing and Sampling of Drill Cuttings

Drill cuttings are stockpiled on plastic sheeting or stored in drums depending on site conditions and regulatory requirements. Stockpile samples are collected and analyzed on the basis of one composite sample per 50 cubic yards of soil. Stockpile samples are composed of four discrete soil samples, each collected from an arbitrary location on the stockpile. The four discrete samples are then composited in the laboratory prior to analysis.

Each discrete stockpile sample is collected by removing the upper 3 to 6 inches of soil, and then driving the stainless or brass sample tube into the stockpiled material with a hand, mallet, or drive sampler. The sample tubes are then covered on both ends with Teflon sheeting, capped, labeled, and placed in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory. Stockpiled soils are covered with plastic sheeting after completion of sampling.

Wellhead Survey

The top of the newly-installed well casing is surveyed by a California-licensed Land Surveyor to mean sea level (MSL).

Well Development

The purpose of well development is to improve hydraulic communication between the well and surrounding aquifer. Prior to development, each well is monitored for the presence of separate-phase hydrocarbons and the depth-to-water is recorded. Wells are then developed by alternately surging the well with the bailer, then purging the well with a pump to remove accumulated sediments and draw groundwater into the well. Development continues until the groundwater parameters (temperature, pH, and conductivity) have stabilized.

Groundwater Monitoring and Sampling

Decontamination Procedures

All physical parameter measuring and sampling equipment are decontaminated prior to sample collection using Alconox or equivalent detergent followed by steam cleaning with deionized water. During field sampling, equipment placed in a well are decontaminated before purging or sampling the next well by cleaning with Alconox or equivalent detergent followed by steam cleaning with deionized water.

Water-Level Measurements

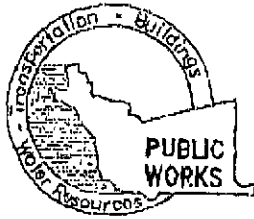
Prior to sampling each well, the static water level is measured using an electric sounder and/or calibrated portable oil-water interface probe. Both static water-level and separate-phase product thickness are measured to the nearest ± 0.01 foot. The presence of separate-phase product is confirmed using a clean, acrylic or polyvinylchloride (PVC) bailer, measured to the nearest ± 0.01 foot with a decimal scale tape. The monofilament line used to lower the bailer is replaced between borings with new line to preclude the possibility of cross-contamination. Field observations (e.g. product color, turbidity, water color, odors, etc.) are noted. Water-levels are measured in wells with known or suspected lowest dissolved chemical concentrations to the highest dissolved concentrations.

Sample Collection and Labeling

A temporary PVC screen is installed in the boring to facilitate a grab groundwater sample collection. Samples of groundwater are collected from the surface of the water in each well or boring using the Teflon bailer or a pump. The water samples are then gently poured into laboratory-cleaned containers and sealed with Teflon-lined caps, and inspected for air bubbles to check for headspace. The samples are then labeled by an adhesive label, noted in permanent ink, and promptly placed in an ice storage. A Chain-of-Custody Record is initiated and updated throughout handling of the samples, and accompanies the samples to the laboratory certified by the State of California for analyses requested.

APPENDIX B

PERMITS AND BORING LOGS



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION

399 ELMHURST ST. HAYWARD CA. 94544-1396

PHONE (510) 670-3654 ~~670-3654~~ ~~670-3783~~

FAX (510) 782-1939 *Since you 510-670-6633*

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT Tosco station No. 4625
3070 Fruitvale Ave
Oakland, CA

CLIENT Tosco Corporation
Name
Address 2000 Crow Canyon Pl. Phone 925-277-2384
City San Ramon Zip 94583

APPLICANT Gettler-Ryan
Name
Address 364 N. McDaniel St. Phone 707-789-3255
City Petaluma Zip 94954

TYPE OF PROJECT
Well Construction Geotechnical Investigation
Cathodic Protection General
Water Supply Contamination
Monitoring Well Destruction

PROPOSED WATER SUPPLY WELL USE
New Domestic Replacement Domestic
Municipal Irrigation
Industrial Other

DRILLING METHOD:
Mud Rotary Air Rotary Auger
Cable Other

DRILLER'S LICENSE NO. 717510

WELL PROJECTS
Drill Hole Diameter _____ in. Maximum _____
Casing Diameter _____ in. Depth _____ ft.
Surface Seal Depth _____ ft. Number _____

GEOTECHNICAL PROJECTS
Number of Borings 2 Maximum _____
Hole Diameter 8 in. Depth 10 ft.

ESTIMATED STARTING DATE 11-20-02
ESTIMATED COMPLETION DATE 11-21-02

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68

APPLICANT'S SIGNATURE [Signature] DATE 10-22-02

FOR OFFICE USE

PERMIT NUMBER W02-1032
WELL NUMBER _____
APN _____

PERMIT CONDITIONS Circled Permit Requirements Apply

A. GENERAL

1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted work the original Department of Water Resources- Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date.

B. WATER SUPPLY WELLS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL

Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC

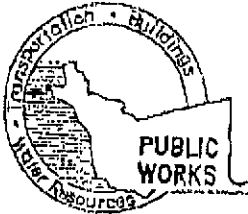
Fill hole above anode zone with concrete placed by tremie.

F. WELL DESTRUCTION

See attached.

G. SPECIAL CONDITIONS

APPROVED [Signature] DATE 10-24-02



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-3555 ~~ARLON MAGALLANES PERMIT CODE (510) 670-5783~~
FAX (510) 782-1939 *James Yau 510-670-6633*

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT Tosco Station No. 4625
3070 Fruitville Ave
Oakland, CA

PERMIT NUMBER W02-1033
WELL NUMBER _____
APN _____

PERMIT CONDITIONS

Circled Permit Requirements Apply

CLIENT Name Tosco Corporation
Address 2000 Gray Canyon Pl. Phone 925-277-7384
City San Ramon Zip 94583

A. GENERAL

1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted work the original Department of Water Resources - Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date.

APPLICANT Name Gettner Ryan
Address 364 N. McDevitt Phone 707-287-3255
City Petaluma Zip 94954

B. WATER SUPPLY WELLS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 30 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	<input type="checkbox"/>	General	<input type="checkbox"/>
Water Supply	<input checked="" type="checkbox"/>	Contamination	<input checked="" type="checkbox"/>
Monitoring	<input checked="" type="checkbox"/>	Well Destruction	<input type="checkbox"/>

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

PROPOSED WATER SUPPLY WELL USE

New Domestic	<input checked="" type="checkbox"/>	Replacement Domestic	<input type="checkbox"/>
Municipal	<input type="checkbox"/>	Irrigation	<input type="checkbox"/>
Industrial	<input type="checkbox"/>	Other _____	<input type="checkbox"/>

D. GEOTECHNICAL

Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

DRILLING METHOD:

Mud Rotary	<input type="checkbox"/>	Air Rotary	<input type="checkbox"/>	Auger	<input checked="" type="checkbox"/>
Cable	<input type="checkbox"/>	Other	<input type="checkbox"/>		

E. CATHODIC

Fill hole above anode zone with concrete placed by tremie.

DRILLER'S LICENSE NO. 717510

F. WELL DESTRUCTION

See attached.

WELL PROJECTS

Drill Hole Diameter	<u>8</u> in.	Maximum	
Casing Diameter	<u>2</u> in.	Depth	<u>25</u> ft.
Surface Seal Depth	<u>4.5</u> ft.	Number	<u>MW-5</u>

G. SPECIAL CONDITIONS

GEOTECHNICAL PROJECTS

Number of Borings	_____	Maximum	
Hole Diameter	_____ in.	Depth	_____ ft.

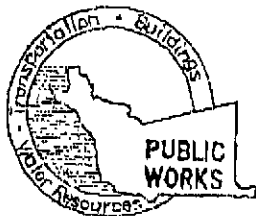
ESTIMATED STARTING DATE 11-20-02
ESTIMATED COMPLETION DATE 11-21-02

APPROVED _____

DATE 10-24-02

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [Signature] DATE 10-22-02



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION

399 ELMHURST ST. HAYWARD CA. 94544-1395

PHONE (510) 670-6554 ~~NEARLON MAGALLANES~~ ~~FRANK CODD~~ (510) 670-5783

FAX (510) 782-1939

James Va 510-670-6633

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT Tosco station No. 4625
3070 Fruitvale Ave
Oakland, CA

FOR OFFICE USE

PERMIT NUMBER W02-1034
WELL NUMBER _____
APN _____

PERMIT CONDITIONS

Circled Permit Requirements Apply

CLIENT Tosco Corporation
Name _____
Address 2000 Crow Canyon Pl. Phone 925-277-2384
City San Ramon Zip 94583

APPLICANT Gettler Ryan
Name SEL CIVIL
Address 164 N. McDevitt #22 Phone 707-787-3255
City Petaluma Zip 94954

TYPE OF PROJECT
Well Construction Geotechnical Investigation
Cathodic Protection General
Water Supply Contamination
Monitoring Well Destruction

PROPOSED WATER SUPPLY WELL USE
New Domestic Replacement Domestic
Municipal Irrigation
Industrial Other _____

DRILLING METHOD:
Mud Rotary Air Rotary Auger
Cable Other

DRILLER'S LICENSE NO. 717510

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum _____
Casing Diameter 2 in. Depth 25 ft.
Surface Seal Depth 4.5 ft. Number _____

GEOTECHNICAL PROJECTS
Number of Borings _____ Maximum _____
Hole Diameter _____ in. Depth 10-6

ESTIMATED STARTING DATE 11-20-02
ESTIMATED COMPLETION DATE 11-21-02

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68

APPLICANT'S SIGNATURE [Signature] DATE 10-22-02

A. GENERAL

1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted work the original Department of Water Resources- Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date.

B. WATER SUPPLY WELLS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL

Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC

Fill hole above anode zone with concrete placed by tremie.

F. WELL DESTRUCTION





See attached.

G. SPECIAL CONDITIONS

APPROVED [Signature] DATE 10-24-02

MAJOR DIVISIONS		TYPICAL NAMES	
COARSE-GRAINED SOILS MORE THAN HALF IS COARSER THAN NO. 200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW Well graded gravels with or without sand, little or no fines
			GP Poorly graded gravels with or without sand, little or no fines
		GRAVELS WITH OVER 15% FINES	GM Silty gravels, silty gravels with sand
			GC Clayey gravels, clayey gravels with sand
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE	CLEAN SANDS WITH LITTLE OR NO FINES	SW Well graded sands with or without gravel, little or no fines
			SP Poorly graded sands with or without gravel, little or no fines
		SANDS WITH OVER 15% FINES	SM Silty sands with or without gravel
			SC Clayey sands with or without gravel
FINE-GRAINED SOILS MORE THAN HALF IS FINER THAN NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT 50% OR LESS	ML Inorganic silts and very fine sands, rock flour, silts with sands and gravels	
		CL Inorganic clays of low to medium plasticity, clays with sands and gravels, lean clays	
		OL Organic silts or clays of low plasticity	
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50%	MH Inorganic silts, micaceous or diatomaceous, fine sandy or silty soils, elastic silts	
		CH Inorganic clays of high plasticity, fat clays	
		OH Organic silts or clays of medium to high plasticity	
HIGHLY ORGANIC SOILS	PT Peat and other highly organic soils		

PID Volatile vapors in ppm
bgs below ground surface
(2.5YR 6/2) Soil color according to Munsell Soil Color Charts (1993 Edition)
BLOWS/FT. Sample drive hammer weight – 140 pounds falling 30 inches. Blows required to drive sampler 1 foot are indicated on the logs.

————— Observed contact
- - - - - Inferred contact
 No soil sample recovered
 "Undisturbed" sample
 First encountered groundwater level
 Static groundwater level



GETTLER - RYAN INC.

6747 Sierra Ct., Suite J
Dublin, CA 94568 (925) 551-7555

UNIFIED SOIL CLASSIFICATION
ASTM D 2488-85
AND
KEY TO SAMPLING DATA

Gettler-Ryan, Inc.

Log of Boring B-1

PROJECT: *Tosco (76) Service Station No. 4625*

LOCATION: *3070 Fruitvale Avenue, Oakland, California*

GR PROJECT NO.: *140158.05*

SURFACE ELEVATION:

DATE STARTED: *11/20/02*

WL (ft. bgs): *11.5* DATE: *11/20/02* TIME: *12:00*

DATE FINISHED: *11/20/02*

WL (ft. bgs): DATE: TIME:

DRILLING METHOD: *8 in. Hollow Stem Auger*

TOTAL DEPTH: *12 feet*

DRILLING COMPANY: *Cascade Drilling*

GEOLOGIST: *Andrew Smith*

DEPTH (feet)	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
0						ML	Asphalt and baserock.	Boring backfilled with neat cement to ground surface.
0 - 4						ML	SILT WITH SAND (ML) - dark brown (7.5YR 3/3), moist, medium stiff; 70% silt, 20% fine sand, 10% gravel.	
4 - 8						CL	CLAY (CL) - dark brown (7.5YR 3/3), moist, stiff; 85-90% clay, 10-15% silt, trace gravel.	
8		13					Color changes to grayish green (5G 4/2).	Hydropunch from 8.5 to 10 feet. No water encountered.
8		28	B-1-S (8)					
12		109	B-1-W (12)				Bottom of boring at 12 feet bgs.	Grab groundwater sample B-1-W (12).
12 - 28							(* = Converted to equivalent standard penetration blows/foot.)	

Gettler-Ryan, Inc.

Log of Boring B-2

PROJECT: *Tosco (76) Service Station No. 4625*

LOCATION: *3070 Fruitvale Avenue, Oakland, California*

GR PROJECT NO.: *140158.05*

SURFACE ELEVATION:

DATE STARTED: *11/20/02*

WL (ft. bgs): *14.5* DATE: *11/20/02* TIME: *13:20*

DATE FINISHED: *11/20/02*









WL (ft. bgs): DATE: TIME:

DRILLING METHOD: *8 in. Hollow Stem Auger*

TOTAL DEPTH: *15 feet*

DRILLING COMPANY: *Cascade Drilling*

GEOLOGIST: *Andrew Smith*

DEPTH (feet)	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
0							Asphalt and baserock.	Boring backfilled with neat cement to ground surface.
1.6						CL	CLAY (CL) - dark gray (10YR 4/1), moist, very stiff; 95% clay, 5% silt, trace gravel.	
4	3.3							
20								
78		53					Color changes to greenish gray (5G 5/1), becomes hard; 85-90% clay, 10-15% silt.	
8								
211	18		B-2-S (11)				Becomes very stiff; 95% clay, 5% silt.	
12	17	30					Color changes to brown (7.5YR 4/3), becomes hard.	
68			B-2-W (14.5)			∇		
16							Bottom of boring at 15 feet bgs.	
16							(* = Converted to equivalent standard penetration blows/foot.)	Grab groundwater sample B-2-W (14.5).
20								
24								
28								

Gettler-Ryan, Inc.

Log of Boring MW-5

PROJECT: *Tosco (76) Service Station No. 4625*

LOCATION: *3070 Fruitvale Avenue, Oakland, California*

GR PROJECT NO.: *140158.05*

CASING ELEVATION:

DATE STARTED: *11/20/02*

WL (ft. bgs): *19.0* DATE: *11/20/02* TIME: *14:40*

DATE FINISHED: *11/20/02*

WL (ft. bgs): *9.5* DATE: *11/20/02* TIME: *17:00*

DRILLING METHOD: *8 in. Hollow Stem Auger*

TOTAL DEPTH: *25 feet*

DRILLING COMPANY: *Cascade Drilling*

GEOLOGIST: *Andrew Smith*

DEPTH (feet)	PTD (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
0						CL	Asphalt and baserock. CLAY (CL) - dark greenish gray (7.5YR 2.5/1), moist, medium stiff; 100% clay, trace silt and gravel.	
4					ML	Color changes to dark greenish gray (5GY 4/1), becomes stiff; 95% clay, 5% silt, trace plant roots. SILT (ML) - grayish green (5G 4/2), moist, hard; 80% clay, 20% silt, trace gravel.		
6.5		49	MW-5-S (5.5)				Color changes to dark brown (7.5YR 3/3), becomes medium stiff; 90-95% silt, 5-10% fine sand.	
8							Color changes to grayish green (5G 4/2), becomes 80-90% silt, 10-20% fine sand.	
12							Becomes 75-80% silt, 10-25% fine sand.	
16							Becomes hard.	
17		45	MW-5-S (15)			CL	GRAVELLY CLAY (CL) - grayish green (5G 4/2), wet, hard; 60% clay, 40% gravel.	
20						ML	SILT (ML) - strong brown (7.5YR 4/6), moist, hard; 80-90% silt, 10-20% clay.	
24							Bottom of boring at 25 feet bgs. (* = Converted to equivalent standard penetration blows/foot.)	
28								

Gettler-Ryan, Inc.

Log of Boring MW-6

PROJECT: *Tosco (76) Service Station No. 4625*

LOCATION: *3070 Fruitvale Avenue, Oakland, California*

GR PROJECT NO.: *140158.05*

CASING ELEVATION:

DATE STARTED: *11/20/02*

WL (ft. bgs): *15.0* DATE: *11/20/02* TIME: *11:20*

DATE FINISHED: *11/20/02*

WL (ft. bgs): *8.6* DATE: *11/20/02* TIME: *16:00*

DRILLING METHOD: *8 in. Hollow Stem Auger*

TOTAL DEPTH: *25 feet*

DRILLING COMPANY: *Cascade Drilling*

GEOLOGIST: *Andrew Smith*

DEPTH (feet)	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
0							Asphalt and baserock.	
1.7						CL	CLAY (CL) - black (10YR 2/1), moist, medium stiff; 95% clay, 5% silt, trace gravel.	
4							trace roots.	
107		63					Color changes to dark brown (7.5YR 3/2), becomes hard; 90-95% clay, 5-10% silt.	
8						ML	SILT (ML) - grayish brown (7.5YR 4/3), moist, very stiff; 85-90% silt, 10-15% clay.	
111		17	MW-6-S (10)					
12						GC	CLAYEY GRAVEL (GC) - light brown (7.5YR 6/3), wet, very dense; 60% medium to coarse gravel, 30% clay, 10% fine sand.	
16		>100	MW-6-S (15)					
8.7						CL	CLAY (CL) - strong brown (7.5YR 5/6), wet, hard; 85-90% clay, 10-15% silt.	
20		>100						
24								
25							Bottom of boring at 25 feet bgs.	
28							(* = Converted to equivalent standard penetration blows/foot.)	

APPENDIX C

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD DATA SHEETS



GETTLER-RYAN INC.

GROUNDWATER MONITORING SUMMARY SHEET

CLIENT/
 FACILITY: Tosco #4625
 ADDRESS: 3070 Fruitvale Avenue
 CITY: Oakland, CA

JOB #: 180255
 DATE: 11-26-02 (inclusive)
 SAMPLER: GR

Well ID	Total Well Depth	Depth to Water	Product Thickness (ft)	List Item IN Well	Additional Comments
MW-1	25.10	7.78	↓		9
MW-2	19.80	9.81		5	
MW-3	24.70	8.79		8.5	
MW-4	24.65	8.08		8.5	
MW-5	27.40	9.89		29	
MW-6	23.60	9.19		21	
USTW	15.20	9.16		m. only	

Comments New well depths

WELL MONITORING/DEVELOPMENT FIELD DATA SHEET

Client/Facility #: Tosco #4625 Job Number: 180255
 Site Address: 3070 Fruitvale Avenue Event Date: 11-26-07
 City: Oakland, CA Sampler: G.R

Well ID: MW-5 Well Condition: OK
 Well Diameter: 2 in.
 Initial Total Depth: 24.00 ft.
 Final Total Depth: 24.40 ft.
 Depth to Water: 9.89 ft.
 $14.11 \times VF 0.17 = 2.39^{10}$ (case volume) = Estimated Purge Volume: 24 gal.

Volume Factor (VF)	3/4"= 0.02	1"= 0.04	2"= 0.17	3"= 0.38
	4"= 0.66	5"= 1.02	6"= 1.50	12"= 5.80

Purge Equipment:
 Disposable Bailer _____
 Stainless Steel Bailer ✓
 Stack Pump _____
 Suction Pump _____
 Grundfos _____
 Other: _____

Sampling Equipment:
 Disposable Bailer ✓
 Pressure Bailer _____
 Discrete Bailer _____
 Other: _____

Time Started: _____ (2400 hrs)
 Time Bailed: _____ (2400 hrs)
 Depth to Product: _____ ft
 Depth to Water: _____ ft
 Hydrocarbon Thickness: 0 ft
 Visual Confirmation/Description: _____
 Skimmer / Absorbant Sock (circle one)
 Amt Removed from Skimmer: _____ gal
 Amt Removed from Well: _____ gal
 Product Transferred to: _____

Start Time (purge): 0840 Weather Conditions: Clear
 Sample Time/Date: 0930 / 11-26-07 Water Color: Light Brown Odor: NO
 Purging Flow Rate: _____ gpm. Sediment Description: _____
 Did well de-water? NO If yes, Time: _____ Volume: _____ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (°F)	D.O. (mg/L)	ORP (mV)
	<u>2</u>					
<u>0850</u>	<u>4</u>	<u>7.56</u>	<u>285</u>	<u>29.8</u>		
	<u>6</u>					
<u>0855</u>	<u>8</u>	<u>7.36</u>	<u>517</u>	<u>29.7</u>		
	<u>10</u>					
<u>0900</u>	<u>12</u>	<u>7.38</u>	<u>511</u>	<u>29.8</u>		
	<u>14</u>					
<u>0905</u>	<u>16</u>	<u>7.35</u>	<u>514</u>	<u>29.7</u>		
	<u>18</u>					
<u>0910</u>	<u>24</u>	<u>7.38</u>	<u>516</u>	<u>30.0</u>		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-5</u>	<u>5 x vva vial</u>	<u>YES</u>	<u>HCL</u>	<u>STL Pleasanton</u>	<u>TPH-G/BTEX/MTBE/8 Oxy's(B260)</u>

COMMENTS: _____

Add/Replaced Lock: _____ Add/Replaced Plug: _____ Size: _____

WELL MONITORING/DEVELOPMENT FIELD DATA SHEET

Client/Facility #: Tosco #4625 Job Number: 180255
 Site Address: 3070 Fruitvale Avenue Event Date: 11-26-07
 City: Oakland, CA Sampler: GR

Well ID: MW-6 Well Condition: OK
 Well Diameter: 2 in.
 Initial Total Depth: 21.60 ft.
 Final Total Depth: 23.60 ft.
 Depth to Water: 9.19 ft.
 $17' \times VF = 0.17 = 2.11^{10}$ Estimated Purge Volume: 21 gal.

Volume	3/4" = 0.02	1" = 0.04	2" = 0.17	3" = 0.38
Factor (VF)	4" = 0.66	5" = 1.02	6" = 1.50	12" = 5.80

Purge Equipment:
 Disposable Bailer _____
 Stainless Steel Bailer
 Stack Pump _____
 Suction Pump _____
 Grundfos _____
 Other: _____

Sampling Equipment:
 Disposable Bailer
 Pressure Bailer _____
 Discrete Bailer _____
 Other: _____

Time Started: _____ (2400 hrs)
 Time Bailed: _____ (2400 hrs)
 Depth to Product: _____ ft
 Depth to Water: _____ ft
 Hydrocarbon Thickness: 0 ft
 Visual Confirmation/Description: _____
 Skimmer / Absorbant Sock (circle one)
 Amt Removed from Skimmer: _____ gal
 Amt Removed from Well: _____ gal
 Product Transferred to: _____

Start Time (purge): 0730 Weather Conditions: Clear
 Sample Time/Date: 0825 11-26-07 Water Color: Brown Odor: NO
 Purging Flow Rate: _____ gpm. Sediment Description: _____
 Did well de-water? NO If yes, Time: _____ Volume: _____ gal.

Time (2400 hr.)	Volume (gal.)	pH	Conductivity (umhos/cm)	Temperature (C/F)	D.O. (mg/L)	ORP (mV)
	<u>2</u>					
<u>0740</u>	<u>4</u>	<u>7.25</u>	<u>544</u>	<u>29.3</u>		
	<u>6</u>					
<u>0745</u>	<u>8</u>	<u>7.18</u>	<u>503</u>	<u>30.4</u>		
	<u>10</u>					
<u>0750</u>	<u>12</u>	<u>7.26</u>	<u>499</u>	<u>28.9</u>		
	<u>14</u>					
<u>0755</u>	<u>16</u>	<u>7.35</u>	<u>440</u>	<u>29.7</u>		
	<u>18</u>					
<u>0800</u>	<u>21</u>	<u>7.31</u>	<u>436</u>	<u>29.9</u>		

LABORATORY INFORMATION

SAMPLE ID	(#) CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-6</u>	<u>5</u> x vva vial	<u>YES</u>	<u>HCL</u>	<u>STL Pleasanton</u>	<u>TPH-G/BTEX/MTBE/8 Oxy's (B260)</u>

COMMENTS: _____

Add/Replaced Lock: X Add/Replaced Plug: _____ Size: _____

APPENDIX D

SURVEYOR'S REPORT AND LANDFILL ACCEPTANCE LETTER

Virgil Chavez Land Surveying

312 Georgia Street, Suite 225
Vallejo, California 94590-5907
(707) 553-2476 • Fax (707) 553-8698

January 13, 2003
Project No.: 1824-08

Jed Douglas
Gettler-Ryan Inc.
1364 N. McDowell Blvd., Suite B2
Petaluma, CA 94954

RECEIVED
JAN 16 2003

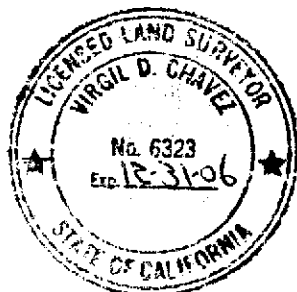
Subject: Monitoring Well Survey
Tosco Service Station No. 4625
3070 Fruitvale Avenue
Oakland, CA

GETTLER-RYAN, INC.
GENERAL CONTRACTOR

Dear Jed:

This is to confirm that we have proceeded at your request to survey the ground water monitoring wells located at the above referenced location. The survey was completed on January 6, 2003. The benchmark for this survey was a City of Oakland Benchmark, being a disk monument at approximate centerline of easterly southwest of Fruitvale and Montana Streets. The latitude, longitude and coordinates are for top of casings and are based on the California State Coordinate System, Zone III (NAD83).
Benchmark Elevation = 157.127 feet (NGVD 29).

<u>Latitude</u>	<u>Longitude</u>	<u>Northing</u>	<u>Easting</u>	<u>Elev.</u>	<u>Desc.</u>
				137.84	RIM MW-1
37.7953954	-122.2177974	2116638.52	6065350.61	137.57	TOC MW-1
				140.15	RIM MW-2
37.7956463	-122.2175145	2116728.36	6065434.01	139.85	TOC MW-2
				139.14	RIM MW-3
37.7954345	-122.2175787	2116651.61	6065414.05	138.89	TOC MW-3
				138.13	RIM MW-4
37.7953361	-122.2175613	2116615.70	6065418.43	137.81	TOC MW-4
				138.01	RIM MW-5
37.7955058	-122.2179381	2116679.46	6065310.69	137.66	TOC MW-5
				139.31	RIM MW-6
37.7956132	-122.2178094	2116717.89	6065348.61	138.88	TOC MW-6



Sincerely,

Virgil D. Chavez
Virgil D. Chavez, PLS 6323



NORTHERN CALIFORNIA SALES OFFICE • SPECIAL WASTE

Forward • Keller Canyon • Newby Island • Ox Mountain



ALLIED WASTE COMPANIES



June 10, 2003

Gentler-Ryan
1364 N. McDowell Blvd #B2
Petaluma, CA 94954

Attn: Mr. Smith

Re: Approval No. 2736
Gasoline Contaminated Soil
3070 Fruitvale Ave. / Station# 4625, OAKLAND

Dear Mr. Smith:

FORWARD INC. is pleased to inform you that the approximately 1 tons of Gasoline Contaminated Soil from the referenced site has been approved for acceptance at our Manteca, California Landfill as a Class 2 waste. This approval has been based on the information provided in the waste profile and associated materials submitted on behalf of Tosco Marketing Company (Generator). Acceptance of the waste is subject to regulatory requirements, and is also subject to the "Terms and Conditions" agreed to and signed by Generator in the waste profile.

Your approval number for this project will be 2736. This number should be used in all scheduling and correspondence with **FORWARD, INC.** regarding this waste profile.

This profile shall remain in effect until December 10, 2002, or until any significant changes in the waste stream occur. At that time, **FORWARD, INC.** will re-evaluate the profile, and current analytical data and requirements will be reviewed.

Please schedule all waste shipments with the Landfill (209-982-4298) at least 24 hours in advance. The landfills hours of operation are Monday through Friday 6:00 am to 6:00 pm for soil, 6:00 am to 3:00 pm for asbestos, 6:00 am to 5:00 pm for all other waste types.

Thank you for the opportunity to be of service. Should you have any questions, please do not hesitate to contact me or our Customer Service at (800) 204-4242.

Sincerely,

Allied Waste Industries

Brad J. Bonner
Special Waste Sales Manager
Northern, CA

BJB/ss

FAFORWARD\MERGE\FORMS\ACCEPT.DOC

1145 West Charter Way, Stockton, CA 95206 Phone 800.204.4242 Fax 209.466.1067

TIM A. MANLEY TRUCKING, INC.
9151 GERBER ROAD
SACRAMENTO, CA 95829
916-689-4464 Fax 681-0924

SOIL CONFIRMATION

LOCATION	# 4625 3070 FRUITVALE AVE - OAKLAND, CA
DATE OF PICK UP	12/20/2002
ESTIMATED YARDAGE	2 YARDS
ACTUAL YARDAGE	6.54 TONS
DISPOSAL FACILITY	FORWARD LANDFILL
CONSULTANT \ CONTACT	JED DOUGLAS \ GETTLER-RYAN
PHONE \ FAX	707-789-3255 707-789-3218

APPENDIX E

LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY RECORDS



9 December, 2002

Jed Douglas
Gettler-Ryan - Petaluma
1364 N McDowell Blvd. Ste B2
Petaluma, CA 94954

RE: Tosco 4625, Oakland, CA
Sequoia Work Order: S211629

Enclosed are the results of analyses for samples received by the laboratory on 11/22/02 12:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ron Chew
Client Services Representative

CA ELAP Certificate #1624

Gettler-Ryan - Petaluma
1364 N McDowell Blvd. Ste B2
Petaluma CA, 94954

Project: Tosco 4625, Oakland, CA
Project Number: N/A
Project Manager: Jed Douglas

S211629
Reported:
12/09/02 18:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-1-S(8)	S211629-01	Soil	11/20/02 09:50	11/22/02 12:45
B-2-S(11)	S211629-02	Soil	11/20/02 13:10	11/22/02 12:45
MW-5-S(10)	S211629-03	Soil	11/20/02 14:30	11/22/02 12:45
MW-6-S(10)	S211629-04	Soil	11/20/02 11:20	11/22/02 12:45

Gettler-Ryan - Petaluma 1364 N McDowell Blvd. Ste B2 Petaluma CA, 94954	Project: Tosco 4625, Oakland, CA Project Number: N/A Project Manager: Jed Douglas	S211629 Reported: 12/09/02 18:50
-------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------	-----------------------------------------------

Gasoline\BTEX\Oxygenates by EPA method 8260B
Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-1-S(8) (S211629-01) Soil Sampled: 11/20/02 09:50 Received: 11/22/02 12:45									
Ethanol	ND	0.50	mg/kg	2.5	2120040	12/03/02	12/03/02	EPA 8260B	
Tert-butyl alcohol	0.42	0.12	"	"	"	"	"	"	
Methyl tert-butyl ether	0.93	0.012	"	"	"	"	"	"	E
Di-isopropyl ether	ND	0.012	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.012	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	0.012	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.012	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.012	"	"	"	"	"	"	
Benzene	0.022	0.012	"	"	"	"	"	"	
Ethylbenzene	ND	0.012	"	"	"	"	"	"	
Toluene	ND	0.012	"	"	"	"	"	"	
Xylenes (total)	ND	0.012	"	"	"	"	"	"	
Gasoline (C6-C10)	ND	2.5	"	"	"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		103 %		60-140	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		104 %		60-140	"	"	"	"	
<i>Surrogate: 4-BFB</i>		113 %		60-140	"	"	"	"	
B-2-S(11) (S211629-02) Soil Sampled: 11/20/02 13:10 Received: 11/22/02 12:45									
Ethanol	ND	50	mg/kg	5	2120041	12/03/02	12/04/02	EPA 8260B	
Tert-butyl alcohol	ND	12	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	1.2	"	"	"	"	"	"	
Di-isopropyl ether	ND	1.2	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	1.2	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	1.2	"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.2	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.2	"	"	"	"	"	"	
Benzene	11	1.2	"	"	"	"	"	"	
Gasoline (C6-C10)	1300	250	"	"	"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		97 %		60-140	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		103 %		60-140	"	"	"	"	
<i>Surrogate: 4-BFB</i>		102 %		60-140	"	"	"	"	

Gettler-Ryan - Petaluma
1364 N McDowell Blvd. Ste B2
Petaluma CA, 94954

Project: Tosco 4625, Oakland, CA
Project Number: N/A
Project Manager: Jed Douglas

S211629
Reported:
12/09/02 18:50

Gasoline\BTEX\Oxygenates by EPA method 8260B
Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-2-S(11) (S211629-02RE1) Soil Sampled: 11/20/02 13:10 Received: 11/22/02 12:45									
Ethylbenzene	45	12	mg/kg	50	2120041	12/03/02	12/04/02	EPA 8260B	
Toluene	81	12	"	"	"	"	"	"	
Xylenes (total)	220	12	"	"	"	"	"	"	
Surrogate: 1,2-DCA-d4		103 %	60-140		"	"	"	"	
Surrogate: Toluene-d8		109 %	60-140		"	"	"	"	
Surrogate: 4-BFB		118 %	60-140		"	"	"	"	
MW-5-S(10) (S211629-03) Soil Sampled: 11/20/02 14:30 Received: 11/22/02 12:45									
Ethanol	ND	20	mg/kg	2	2120041	12/03/02	12/04/02	EPA 8260B	
Tert-butyl alcohol	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.50	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
Benzene	2.8	0.50	"	"	"	"	"	"	
Gasoline (C6-C10)	740	100	"	"	"	"	"	"	
Surrogate: 1,2-DCA-d4		92 %	60-140		"	"	"	"	
Surrogate: Toluene-d8		102 %	60-140		"	"	"	"	
Surrogate: 4-BFB		98 %	60-140		"	"	"	"	
MW-5-S(10) (S211629-03RE1) Soil Sampled: 11/20/02 14:30 Received: 11/22/02 12:45 HT-RS									
Ethylbenzene	32	5.0	mg/kg	20	2120041	12/03/02	12/05/02	EPA 8260B	
Toluene	18	5.0	"	"	"	"	"	"	
Xylenes (total)	160	5.0	"	"	"	"	"	"	
Surrogate: 1,2-DCA-d4		122 %	60-140		"	"	"	"	
Surrogate: Toluene-d8		136 %	60-140		"	"	"	"	
Surrogate: 4-BFB		166 %	60-140		"	"	"	"	S-01



Gettler-Ryan - Petaluma
1364 N McDowell Blvd. Ste B2
Petaluma CA, 94954

Project: Tosco 4625, Oakland, CA
Project Number: N/A
Project Manager: Jed Douglas

S211629
Reported:
12/09/02 18:50

**Gasoline\BTEX\Oxygenates by EPA method 8260B
Sequoia Analytical - Sacramento**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6-S(10) (S211629-04) Soil Sampled: 11/20/02 11:20 Received: 11/22/02 12:45									
Ethanol	ND	10	mg/kg	1	2120041	12/03/02	12/04/02	EPA 8260B	
Tert-butyl alcohol	ND	2.5	"	"	"	"	"	"	
Methyl tert-butyl ether	0.39	0.25	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.25	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.25	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	0.25	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.25	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.25	"	"	"	"	"	"	
Benzene	4.2	0.25	"	"	"	"	"	"	
Ethylbenzene	5.3	0.25	"	"	"	"	"	"	
Gasoline (C6-C10)	190	50	"	"	"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		98 %		60-140	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		107 %		60-140	"	"	"	"	
<i>Surrogate: 4-BFB</i>		108 %		60-140	"	"	"	"	

MW-6-S(10) (S211629-04RE1) Soil Sampled: 11/20/02 11:20 Received: 11/22/02 12:45									
Toluene	26	2.5	mg/kg	10	2120041	12/03/02	12/04/02	EPA 8260B	
Xylenes (total)	41	2.5	"	"	"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		117 %		60-140	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		117 %		60-140	"	"	"	"	
<i>Surrogate: 4-BFB</i>		130 %		60-140	"	"	"	"	

Gettler-Ryan - Petaluma
 1364 N McDowell Blvd. Ste B2
 Petaluma CA, 94954

 Project: Tosco 4625, Oakland, CA
 Project Number: N/A
 Project Manager: Jed Douglas

 S211629
Reported:
 12/09/02 18:50

Gasoline\BTEX\Oxygenates by EPA method 8260B - Quality Control

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 2120040 - EPA 5030B [P/T]
Blank (2120040-BLK1)

Prepared & Analyzed: 12/03/02

Ethanol	ND	0.20	mg/kg							
Tert-butyl alcohol	ND	0.050	"							
Methyl tert-butyl ether	ND	0.0050	"							
Di-isopropyl ether	ND	0.0050	"							
Ethyl tert-butyl ether	ND	0.0050	"							
Tert-amyl methyl ether	ND	0.0050	"							
1,2-Dichloroethane	ND	0.0050	"							
1,2-Dibromoethane (EDB)	ND	0.0050	"							
Benzene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Toluene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
Gasoline (C6-C10)	ND	1.0	"							
<i>Surrogate: 1,2-DCA-d4</i>	<i>0.0520</i>		"	<i>0.0500</i>		<i>104</i>	<i>60-140</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0538</i>		"	<i>0.0500</i>		<i>108</i>	<i>60-140</i>			
<i>Surrogate: 4-BFB</i>	<i>0.0567</i>		"	<i>0.0500</i>		<i>113</i>	<i>60-140</i>			

Laboratory Control Sample (2120040-BS1)

Prepared & Analyzed: 12/03/02

Methyl tert-butyl ether	0.0438	0.0050	mg/kg	0.0436		100	60-140			
Benzene	0.0280	0.0050	"	0.0268		104	70-130			
Toluene	0.168	0.0050	"	0.162		104	70-130			
Gasoline (C6-C10)	1.82	1.0	"	2.20		83	70-130			
<i>Surrogate: 1,2-DCA-d4</i>	<i>0.0511</i>		"	<i>0.0500</i>		<i>102</i>	<i>60-140</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0514</i>		"	<i>0.0500</i>		<i>103</i>	<i>60-140</i>			
<i>Surrogate: 4-BFB</i>	<i>0.0539</i>		"	<i>0.0500</i>		<i>108</i>	<i>60-140</i>			

Matrix Spike (2120040-MS1)

Source: S211705-15

Prepared & Analyzed: 12/03/02

Methyl tert-butyl ether	0.0501	0.0050	mg/kg	0.0436	ND	114	60-140			
Benzene	0.0285	0.0050	"	0.0268	ND	106	60-140			
Toluene	0.152	0.0050	"	0.162	ND	93	60-140			
Gasoline (C6-C10)	1.64	1.0	"	2.20	ND	75	60-140			
<i>Surrogate: 1,2-DCA-d4</i>	<i>0.0608</i>		"	<i>0.0500</i>		<i>122</i>	<i>60-140</i>			

Sequoia Analytical - Sacramento

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Unless otherwise stated, results are reported on a wet weight basis. This analytical report must be reproduced in its entirety.

Gettler-Ryan - Petaluma
 1364 N McDowell Blvd. Ste B2
 Petaluma CA, 94954

 Project: Tosco 4625, Oakland, CA
 Project Number: N/A
 Project Manager: Jed Douglas

 S211629
Reported:
 12/09/02 18:50

Gasoline\BTEX\Oxygenates by EPA method 8260B - Quality Control Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2120040 - EPA 5030B [P/T]
Matrix Spike (2120040-MS1)

Source: S211705-15

Prepared & Analyzed: 12/03/02

Surrogate: Toluene-d8	0.0496		mg/kg	0.0500		99	60-140			
Surrogate: 4-BFB	0.0534		"	0.0500		107	60-140			

Matrix Spike Dup (2120040-MSD1)

Source: S211705-15

Prepared & Analyzed: 12/03/02

Methyl tert-butyl ether	0.0423	0.0050	mg/kg	0.0436	ND	96	60-140	17	25	
Benzene	0.0256	0.0050	"	0.0268	ND	96	60-140	11	25	
Toluene	0.154	0.0050	"	0.162	ND	95	60-140	1	25	
Gasoline (C6-C10)	1.70	1.0	"	2.20	ND	77	60-140	4	25	

Surrogate: 1,2-DCA-d4	0.0570		"	0.0500		114	60-140			
Surrogate: Toluene-d8	0.0542		"	0.0500		108	60-140			
Surrogate: 4-BFB	0.0552		"	0.0500		110	60-140			

Batch 2120041 - EPA 5030B [MeOH]
Blank (2120041-BLK1)

Prepared: 12/03/02 Analyzed: 12/04/02

Ethanol	ND	10	mg/kg							
Tert-butyl alcohol	ND	2.5	"							
Methyl tert-butyl ether	ND	0.25	"							
Di-isopropyl ether	ND	0.25	"							
Ethyl tert-butyl ether	ND	0.25	"							
Tert-amyl methyl ether	ND	0.25	"							
1,2-Dichloroethane	ND	0.25	"							
1,2-Dibromoethane (EDB)	ND	0.25	"							
Benzene	ND	0.25	"							
Ethylbenzene	ND	0.25	"							
Toluene	ND	0.25	"							
Xylenes (total)	ND	0.25	"							
Gasoline (C6-C10)	ND	50	"							

Surrogate: 1,2-DCA-d4	1.24		"	1.25		99	60-140			
Surrogate: Toluene-d8	1.35		"	1.25		108	60-140			
Surrogate: 4-BFB	1.28		"	1.25		102	60-140			

Gettler-Ryan - Petaluma
 1364 N McDowell Blvd. Ste B2
 Petaluma CA, 94954

 Project: Tosco 4625, Oakland, CA
 Project Number: N/A
 Project Manager: Jed Douglas

 S211629
 Reported:
 12/09/02 18:50

Gasoline\BTEX\Oxygenates by EPA method 8260B - Quality Control Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2120041 - EPA 5030B [MeOH]

Blank (2120041-BLK2)	Prepared: 12/03/02 Analyzed: 12/04/02									
Ethanol	ND	10	mg/kg							
Tert-butyl alcohol	ND	2.5	"							
Methyl tert-butyl ether	ND	0.25	"							
Di-isopropyl ether	ND	0.25	"							
Ethyl tert-butyl ether	ND	0.25	"							
Tert-amyl methyl ether	ND	0.25	"							
1,2-Dichloroethane	ND	0.25	"							
1,2-Dibromoethane (EDB)	ND	0.25	"							
Benzene	ND	0.25	"							
Ethylbenzene	ND	0.25	"							
Toluene	ND	0.25	"							
Xylenes (total)	ND	0.25	"							
Gasoline (C6-C10)	ND	50	"							
<hr/>										
Surrogate: 1,2-DCA-d4	1.28		"	1.25		102	60-140			
Surrogate: Toluene-d8	1.34		"	1.25		107	60-140			
Surrogate: 4-BFB	1.47		"	1.25		118	60-140			

Blank (2120041-BLK3)	Prepared: 12/04/02 Analyzed: 12/05/02									
Ethanol	ND	10	mg/kg							
Tert-butyl alcohol	ND	2.5	"							
Methyl tert-butyl ether	ND	0.25	"							
Di-isopropyl ether	ND	0.25	"							
Ethyl tert-butyl ether	ND	0.25	"							
Tert-amyl methyl ether	ND	0.25	"							
1,2-Dichloroethane	ND	0.25	"							
1,2-Dibromoethane (EDB)	ND	0.25	"							
Benzene	ND	0.25	"							
Ethylbenzene	ND	0.25	"							
Toluene	ND	0.25	"							
Xylenes (total)	ND	0.25	"							
Gasoline (C6-C10)	ND	50	"							
<hr/>										
Surrogate: 1,2-DCA-d4	1.25		"	1.25		100	60-140			
Surrogate: Toluene-d8	1.27		"	1.25		102	60-140			
Surrogate: 4-BFB	1.42		"	1.25		114	60-140			

Sequoia Analytical - Sacramento

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Gettler-Ryan - Petaluma
1364 N McDowell Blvd. Ste B2
Petaluma CA, 94954

Project: Tosco 4625, Oakland, CA
Project Number: N/A
Project Manager: Jed Douglas

S211629
Reported:
12/09/02 18:50

**Gasoline\BTEX\Oxygenates by EPA method 8260B - Quality Control
Sequoia Analytical - Sacramento**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2120041 - EPA 5030B [MeOH]

Blank (2120041-BLK3)

Prepared: 12/04/02 Analyzed: 12/05/02

Laboratory Control Sample (2120041-BS1)

Prepared & Analyzed: 12/03/02

Methyl tert-butyl ether	1.55	0.25	mg/kg	1.64		95	60-140			
Benzene	1.08	0.25	"	1.00		108	70-130			
Toluene	6.07	0.25	"	6.08		100	70-130			
Gasoline (C6-C10)	60.7	50	"	82.5		74	70-130			
<i>Surrogate: 1,2-DCA-d4</i>	<i>1.26</i>		<i>"</i>	<i>1.25</i>		<i>101</i>	<i>60-140</i>			
<i>Surrogate: Toluene-d8</i>	<i>1.36</i>		<i>"</i>	<i>1.25</i>		<i>109</i>	<i>60-140</i>			
<i>Surrogate: 4-BFB</i>	<i>1.31</i>		<i>"</i>	<i>1.25</i>		<i>105</i>	<i>60-140</i>			

Laboratory Control Sample (2120041-BS2)

Prepared: 12/03/02 Analyzed: 12/04/02

Methyl tert-butyl ether	0.552	0.25	mg/kg	0.545		101	60-140			
Benzene	0.366	0.25	"	0.335		109	70-130			
Toluene	1.96	0.25	"	2.02		97	70-130			
<i>Surrogate: 1,2-DCA-d4</i>	<i>1.26</i>		<i>"</i>	<i>1.25</i>		<i>101</i>	<i>60-140</i>			
<i>Surrogate: Toluene-d8</i>	<i>1.31</i>		<i>"</i>	<i>1.25</i>		<i>105</i>	<i>60-140</i>			
<i>Surrogate: 4-BFB</i>	<i>1.43</i>		<i>"</i>	<i>1.25</i>		<i>114</i>	<i>60-140</i>			

Laboratory Control Sample (2120041-BS3)

Prepared: 12/04/02 Analyzed: 12/05/02

Methyl tert-butyl ether	1.57	0.25	mg/kg	1.64		96	60-140			
Benzene	1.19	0.25	"	1.00		119	70-130			
Toluene	5.94	0.25	"	6.08		98	70-130			
Gasoline (C6-C10)	61.1	50	"	82.5		74	70-130			
<i>Surrogate: 1,2-DCA-d4</i>	<i>1.29</i>		<i>"</i>	<i>1.25</i>		<i>103</i>	<i>60-140</i>			
<i>Surrogate: Toluene-d8</i>	<i>1.32</i>		<i>"</i>	<i>1.25</i>		<i>106</i>	<i>60-140</i>			
<i>Surrogate: 4-BFB</i>	<i>1.49</i>		<i>"</i>	<i>1.25</i>		<i>119</i>	<i>60-140</i>			

Laboratory Control Sample Dup (2120041-BSD1)

Prepared & Analyzed: 12/03/02

Methyl tert-butyl ether	1.57	0.25	mg/kg	1.64		96	60-140	1	25	
Benzene	1.09	0.25	"	1.00		109	70-130	0.9	25	
Toluene	6.40	0.25	"	6.08		105	70-130	5	25	
Gasoline (C6-C10)	64.5	50	"	82.5		78	70-130	6	25	

Sequoia Analytical - Sacramento

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Gettler-Ryan - Petaluma
1364 N McDowell Blvd. Ste B2
Petaluma CA, 94954

Project: Tosco 4625, Oakland, CA
Project Number: N/A
Project Manager: Jed Douglas

S211629
Reported:
12/09/02 18:50

**Gasoline\BTEX\Oxygenates by EPA method 8260B - Quality Control
Sequoia Analytical - Sacramento**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2120041 - EPA 5030B [MeOH]

Laboratory Control Sample Dup (2120041-BSD1)

Prepared & Analyzed: 12/03/02

Surrogate: 1,2-DCA-d4	1.26		mg/kg	1.25		101	60-140			
Surrogate: Toluene-d8	1.41		"	1.25		113	60-140			
Surrogate: 4-BFB	1.32		"	1.25		106	60-140			

N^o 007647
TOSCO

- 885 Jarvis Drive • Morgan Hill, CA 95037 • (408) 776-9600 • FAX (408) 782-6308
- 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600 • FAX (916) 921-0100
- 404 N. Wigot Lane • Walnut Creek, CA 94598 • (925) 988-9600 • FAX (925) 988-9673
- 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865 • FAX (707) 792-0342
- 1551 Industrial Road • San Carlos, CA 94070 • (650) 232-9600 • FAX (650) 232-9612

Consultant Company: <u>Gottler-Ryan Inc. 140158.05</u>		Tosco Engineer: <u>David B. De Witt</u>	
Address: <u>1364 North McDowell Blvd, Suite B2</u>		Site #: <u>4625, GIO T0600102156</u>	
City: <u>Petaluma</u>	State: <u>CA</u>	Zip Code: <u>94954</u>	Site Address: <u>3070 Fruitvale Ave.</u>
Telephone: <u>707-789-3255</u>		Fax #: <u>707-789-3210</u>	
Report To: <u>Jed Douglas</u>		Sampler: <u>Andrew Smith</u>	
Turnaround <input type="checkbox"/> 10 Work Days <input checked="" type="checkbox"/> 5 Work Days <input type="checkbox"/> 3 Work Days		QC Data: <input checked="" type="checkbox"/> Level D (Standard) <input type="checkbox"/> Level C <input type="checkbox"/> Level B <input type="checkbox"/> Level A	
Time: <input type="checkbox"/> 2 Work Days <input type="checkbox"/> 1 Work Day <input type="checkbox"/> 2-8 Hours			

Project Coding: _____

Drinking Water
 Waste Water
 Other

Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	Analyses Requested							Comments			
						TPH/BTEX/MIBG*	TPH Diesel (8015)	TOB (418.1)	Oxygenates (6) (260)	Drypoint (6) (260)	1,2-DCA (8285)					
1. B-1-S(8)	11/20/02 950	Soil	1	6" core	SA11629-01	X					X					TPH & BTEX by EPA Method 8260B.
2. B-2-S(11)	11/13/02		1		02	X					X					
3. MW-5-S(10)	11/14/02		1		03	X					X					
4. MW-6-S(10)	11/20		1		04	X					X					
5.																
6.																
7.																
8.																
9.																
10.																

Relinquished By: <u>[Signature]</u>	Date: <u>11/21/02</u>	Time: <u>1710</u>	Received By: <u>Michael Gavin</u>	Date: <u>11/21/02</u>	Time: <u>1710</u>
Relinquished By: <u>[Signature]</u>	Date: <u>11-22-02</u>	Time: <u>1100</u>	Received By: <u>[Signature]</u>	Date: <u>11-22-02</u>	Time: <u>1100</u>
Relinquished By: <u>[Signature]</u>	Date: <u>11-22-02</u>	Time: <u>1245</u>	Received By: <u>Provice Gregan</u>	Date: <u>11/22/02</u>	Time: <u>1245</u>

Were Samples Received in Good Condition? Yes No Samples on Ice? Yes No Method of Shipment _____ Page _____ of _____

To be completed upon receipt of report:

1) Were the analyses requested on the Chain of Custody reported? Yes No If no, what analyses are still needed? _____

2) Was the report issued within the requested turnaround time? Yes No If no, what was the turnaround time? _____

Approved by: _____ Signature: _____ Company: _____ Date: _____

Pink - Client
Yellow - Sequoia
White - Sequoia

paid 11/24

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: Gottler Ryan
 REC. BY (PRINT) msmice
 WORKORDER: SA11629

DATE Received at Lab: 11/22/02
 TIME Received at Lab: 12:45
 LOG IN DATE: 11/22/02

(Drinking water) for regulatory purposes: YES/NO NO
 (Wastewater) for regulatory purposes: YES/NO NO

CIRCLE THE APPROPRIATE RESPONSE		LAB SAMPLE #	#	CLIENT ID	DESCRIPTION	SAMPLE MATRIX	DATE SAMPLKD	CONDITION (ETC.)
1. Custody Seal(s)	Present / <u>Absent</u> Intact / Broken*							
2. Chain-of-Custody	<u>Present</u> / Absent*							
3. Traffic Reports or Packing List:	Present / <u>Absent</u>							
4. Airbill:	Airbill / Sticker Present / <u>Absent</u>							
5. Airbill #:								
6. Sample Labels:	<u>Present</u> / Absent							
7. Sample IDs:	<u>Listed</u> / Not Listed on Chain-of-Custody			<u>see cex</u>				
8. Sample Condition:	<u>Intact</u> / Broken* / Leaking*							
9. Does information on custody reports, traffic reports and sample labels agree?	<u>Yes</u> / No*							
10. Sample received within hold time:	<u>Yes</u> / No*							
11. Proper Preservatives used:	<u>Yes</u> / No*							
12. Temp Rec. of Lab: (Acceptance range for samples requiring thermal pres.: 4+-2°C)	<u>11.1°C</u> Yes / No*							

***If Circled, contact Project Manager and attach record of resolution.**



December 16, 2002

Jed Douglas
Gettler-Ryan - Petaluma
1364 N McDowell Blvd. Ste. B2
Petaluma, CA 94954

RE: S211785 / Tosco 4625

Enclosed are the results of analyses for sample(s) received by the laboratory on 11/20/02.

Please note the analysis requested for the samples were performed at ETS.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ron Chew
Project Manager

CA ELAP Certificate Number 1624





Gettler-Ryan Petaluma 1364 N McDowell Blvd. Ste B2 Petaluma, CA 94954	Project: Tosco 4625 Project Number: n/a Project Manager: Jed Douglas	Reported: 12/16/02
-----------------------------------------------------------------------------	----------------------------------------------------------------------------	--------------------

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW - 5 - S (5.5)	S211785 -01	Soil	11/20/02
MW - 5 - S (15)	S211785 -02	Soil	11/20/02
MW - 6 - S (15)	S211785 -03	Soil	11/20/02





ETS

1343 Redwood Way
Petaluma, CA 94954

(707) 795-9605/FAX 795-9384

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CLIENT: Sequoia Analytical, 918 Striker Avenue, Suite 8, Sacramento	ANALYST(S) G. Hundt W. Zuo	SUPERVISOR D. Jacobson LAB DIRECTOR G. Conrad PhD
ATTN: Ron Chew	DATE COLLECTED 11/20/02	DATE RECEIVED 12/2/02
JOB/SITE: Tosco, Oakland, California	DATE of COMPLETION 12/12/02	
PROJ. NO.: S211785		

LAB SAMPLE NUMBER	SAMPLE ID	AREA/TYPE of SAMPLE	MOISTURE CONTENT %	DRY BULK DENSITY lbs/cuft	SPECIFIC GRAVITY gm/cc	POROSITY (Volume) %	AIR/WATER (Vol/Vol) %/%	GROSS (USGS) SOIL/SED TEXTURE
02-12-0001	211785-01	MW-5-S(5.5)	24.2	99	2.76	42.6	18.4/24.2	Sandy Mud
02-12-0002	211785-02	MW-5-S(15)	21.3	104	2.70	38.2	16.9/21.3	Sandy Mud
02-12-0003	211785-03	MW-6-S(15)	20.6	109	2.78	37.0	16.4/20.6	Sandy Mud (w/ gravel)

LAB SAMPLE NUMBER	SAMPLE ID	AREA/TYPE of SAMPLE	GRAVEL TOTAL %	SAND TOTAL %	FINES TOTAL %	SOLUTE DIFFUSIVITY sqcm/sec	INFILTRATION RATE cm/sec	HYDRAULIC CONDUCTIVITY cm/sec
02-12-0001	211785-01	MW-5-S(5.5)	<1	17.0	83.0	-	-	-
02-12-0002	211785-02	MW-5-S(15)	Ø	38.0	62.0	-	-	-
02-12-0003	211785-03	MW-6-S(15)	19.5	39.0	41.5	-	-	-

COMMENTS

These soils are mostly silt and clay, however there is some considerable variability in actual percentages of each major textural component present. Fines content varies from 40 to 85% with sand being the balance in two of the samples. However, in one sample (-03) gravel content is significant; in the other two gravel was zero to less than 1%; (in the -01 sample gravel was one stone in the measured portion of sample). Due to minimal material, one sample (-03) was done as a -200 test with gravel so that all analyses could be completed. In any event, all materials classify as clays. Porosities are accordingly high to very high as a result of the high clay content. But also consistent with the percentages of clay (and densities, silt, etc.) are their very low permeabilities. Specific gravities are above average (i.e., 2.65), but bulk densities are pretty typical and do correlate nicely with depth.

\\ NOTES: Samples are prepared according to appropriate methods as required, requested, and/or found in one of the following references: American Society for Testing and Materials (ASTM), and/or Methods of Soil Analysis (ASA/SSSA), ç 1986, 2nd ed., or other appropriate and/or acceptable methodologies (eg. USGS, EPA, USDA, etc.): density - ASTM D 2937; specific Gravity - ASTM D 854; Capillary Moisture - ASTM D 3152/D 2325; Hydraulic Conductivity - ASTM D 5084; Sand Equivalent - ASTM D 2419; Fines Total - ASTM D 422; fluid penetration measures - Methods of Soil Analysis



ETS

1343 Redwood Way
Petaluma, CA 94954

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CLIENT: Sequoia Analytical, 918 Striker Avenue, Suite 8, Sacramento	ANALYST(S)	SUPERVISOR
ATTN: Ron Chew	G. Hundt	D. Jacobson
JOB/SITE: Tosco, Oakland, California	R. Conrad	LAB DIRECTOR
PROJ. NO.: S211785	S. Banwait	G. Conrad PhD
DATE COLLECTED: 11/20/02	DATE RECEIVED: 12/2/02	DATE of COMPLETION: 12/13/02

LAB SAMPLE NUMBER	SAMPLE ID	AREA/TYPE of SAMPLE	PARTICLE SIZE ANALYSIS				ASTM SOIL & SEDIMENT CLASS
			% SAND	% SILT	% CLAY	% GRAVEL	
02-12-0001	211785-01	MW-5-S(5.5)	17.0	35.8	47.2	<1	Brown Fat Clay (CH)
02-12-0002	211785-02	MW-5-S(15)	38.0	33.8	28.2	Ø	Brown Sandy Lean Clay (CL)
02-12-0003	211785-03	MW-6-S(15)	-	-	-	-	Grey Brown Sandy Fat Clay w/ Gravel (CH)

LAB SAMPLE NUMBER	SAMPLE ID	AREA/TYPE of SAMPLE	MOISTURE CONTENT	FINES TOTAL (-200)	SAND CONTENT	GRAVEL CONTENT	SOIL pH	FRACTION ORG. CAR.
			%	%	%	%	-log[H ⁺]	mg/kg
02-12-0001	211785-01	MW-5-S(5.5)	24.2	83.0	17.0	<1	7.16	3053
02-12-0002	211785-02	MW-5-S(15)	21.3	62.0	38.0	Ø	7.08	2316
02-12-0003	211785-03	MW-6-S(15)	20.6	41.5	39.0	19.5	7.15	1579

COMMENTS

The ASTM classification of these three samples is based on the permeability data, results & observations, and were not analytically determined (i.e., from Atterbergs). As a result, it is possible for there to be some differences. For example, the middle sample (-02) could be a CL-ML, i.e., a sandy silty clay. Nevertheless, the estimated classifications seem to be the best "fit" for now. Considering sample size and all the testing requesting, sieving was not practical, especially for the third sample (-03). But more than that, it would be unnecessary especially for the first two samples (-01 & -02) which were well accommodated as PSAs by hydrometer. In any event, fines are in the 40-85% range with clay in the 25-50% range. Clay content is analytically determined for two samples at about 28% and 47%; the third (-03) is most likely to be in the 20-30% range which would be similar to the middle sample (-02). This sample (-03) was run as a -200 w/ gravel test due to its especially small size. Despite this, it is clear from perm & other data (as well as general observations), this is a clay dominated material; this is also despite its significant gravel content as well. By observation, in the first two samples (-01 & -02), sand content was mostly fine and to very fine with very little medium and virtually no coarse sand. By contrast, the coarse sand fraction in the third sample (-03) was minor but obvious; all gravel was in the fine category.

\\\\\\ NOTES: Sample are dried, disaggregated, and screen through a nested set of sieves. The standard set for sand fractions is #10, #20, #40, #60, #140, and #200, or #10, #20, #35, #60, #120 and #230 plus the pan. Fines are analyzed by hydrometer; 2 to 12 point depending on requirement as per ASTM D 422, D 1140, etc. The various physical methods represented above are done mostly according to ASTM or CalTrans protocols, although other appropriate methodologies are used rarely.



ETS

1343 Redwood Way
Petaluma, CA 94954

**Environmental
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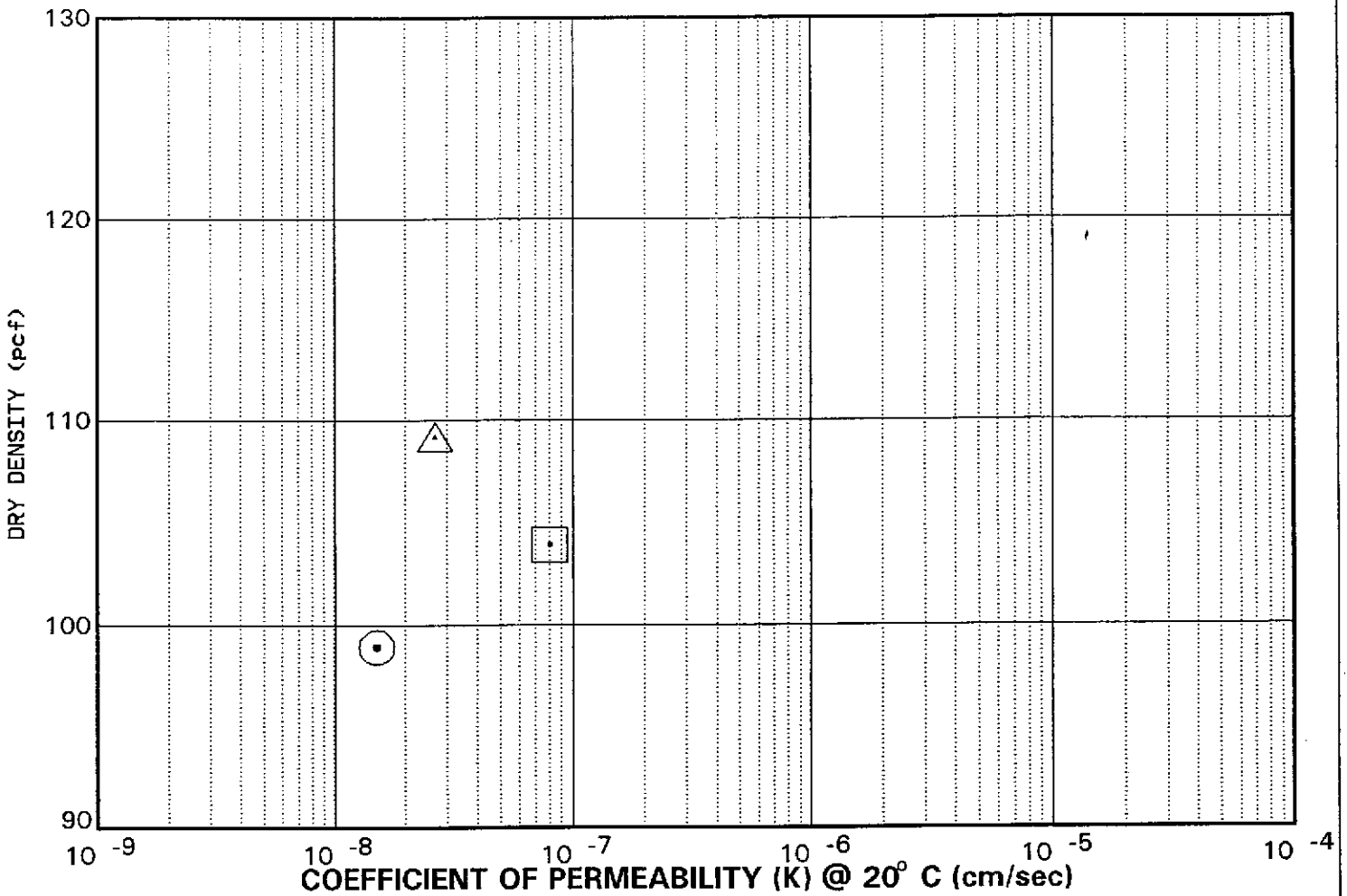
CLIENT: Sequoia Analytical, 918 Striker Avenue, Suite 8, Sacramento	DATE COLLECTED	DATE RECEIVED	DATE of REPORT
ATTN: Ron Chew	11/20/02	12/2/02	12/12/02
PROJECT NO.: S211785	JOB/SITE: Tosco, Oakland, California		

PERMEABILITY AND HYDRAULIC CONDUCTIVITY TEST RESULTS									
SAMPLE ID	SAMPLE ID	AREA/TYPE of SAMPLE	DRY DENSITY lbs/cuft	PERCENT WATER CONTENT	SPECIFIC GRAVITY gm/cc	CONSOLIDATION PRESSURE lbs/sqin	PERMEABILITY (triax/falling head) cm/sec	VOID RATIO (initial)	SATURATION PERCENT (Initial)
02-12-0001	211785-01	MW-5-S(5.5)	99	24.2	2.76	4.0	1.5 x E-08	0.743	90
02-12-0002	211785-02	MW-5-S(15)	104	21.3	2.70	4.0	8.0 x E-08	0.622	92
02-12-0003	211785-03	MW-6-S(15)	109	20.6	2.78	4.0	2.7 x E-08	0.589	97

COMMENTS/NOTES:

Notice that all three samples have very low permeabilities. These low rates are a consequence of the high silt and clay content with some sand (and a smaller but significant percentage of gravel in one sample [-03]). While there was more than adequate column to run perms on two of these samples, one (-03) was barely enough (considering other testing). As result, it was felt that there would not be enough ("unaltered") sample to execute all other tests, thus the textural analysis was confined to a -200 test with gravel separation (since significant gravel was present in this particular sample). Nevertheless, all three samples "behave" as clay materials do despite a 20-25% difference in clay content.

\\\\\\ NOTES: Testing follows methodology as per the Association of Testing Materials (ASTM) protocols as follows: ASTM D-2434 Test Method for Permeability of Granular Soils (Constant Head); or ASTM D-5084 Standard Test Method for Measuring Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter.



Test Type: *FALLING HEAD*

Saturation Method: *BACKPRESSURE*

Symbol	⊙	□	△	
INITIAL	Diameter (mm)	48.90	48.90	48.90
	Height (mm)	57.15	67.31	41.28
	Moisture Content (%)	24.2	21.3	20.6
	Dry Density (pcf)	99	104	109
	Void Ratio	0.743	0.622	0.589
	Saturation (%)	90	92	97
FINAL	Consol. Pressure (psi)	4.00	4.00	4.00
	Water Content (%)	27.5	20.8	17.8
	Dry Density (pcf)	98	108	116
	Void Ratio	0.758	0.560	0.495
	Saturation (%)	100	100	100
Permeability (cm/sec)	1.5E-08	8.0E-08	2.7E-08	
Sample Source:	01A @ 5.5'	02A @ 15.0'	03A @ 15.0'	
Classification:	Brown Fat Clay (CH)	Brown Sandy Lean Clay (CL)	Grey Brown Sandy Fat Clay W/Gravel (CH)	
Specimen Type:	Undisturbed	Undisturbed	Undisturbed	



Environmental Technical Services

LOCATION: Oakland, Calif.
 PROJECT: Tosco (S211785)
 DATE: December 2002

SAMPLE IDs
 01A = MW-5-S(5.5)
 02A = MW-5-S(15)
 03A = MW-6-S(15)

PLATE

1

Permeability Test Results

Sequoia Analytical - Sacramento
S211785

SENDING LABORATORY:

Sequoia Analytical - Sacramento
819 Striker Avenue, Ste. 8
Sacramento, CA 95834
Phone: (916) 921-9600
Fax: (916) 921-0100
Project Manager: Ron Chew
Sending lab received dat 11/26/02 12:50

RECEIVING LABORATORY:

ETS
1343 Redwood Road
Petaluma, CA 94954
Phone: 707-795-9605
Fax: 707-795-9384

- Drinking Water
- Waste Water
- Other

Please use standard TAT unless specific due date is requested -> Due date:

Initials:

Analysis	SLD Date	Expires	Laboratory ID	Comments
----------	----------	---------	---------------	----------

Sample ID: S211785-01 (Soil sampled on 11/20/02 00:00)

Frac. Org. Content	12/05/02 16:00	12/18/02 00:00		ETS - Fractional Organic Carbon
Misc. Subcontract	12/05/02 16:00	05/19/03 00:00		ETS - Permeability, Porosity and Sieve Analysis
pH-9045C	12/05/02 16:00	11/21/02 00:00		ETS

Containers Supplied:

Metal Core (A)

Sample ID: S211785-02 (Soil sampled on 11/20/02 00:00)

Frac. Org. Content	12/05/02 16:00	12/18/02 00:00		ETS - Fractional Organic Carbon
Misc. Subcontract	12/05/02 16:00	05/19/03 00:00		ETS - Permeability, Porosity and Sieve Analysis
pH-9045C	12/05/02 16:00	11/21/02 00:00		ETS

Containers Supplied:

Metal Core (A)

Sample ID: S211785-03 (Soil sampled on 11/20/02 00:00)

May not be sufficient sample for all analyses

Frac. Org. Content	12/05/02 16:00	12/18/02 00:00		ETS - Fractional Organic Carbon
Misc. Subcontract	12/05/02 16:00	05/19/03 00:00		ETS - Permeability, Porosity and Sieve Analysis
pH-9045C	12/05/02 16:00	11/21/02 00:00		ETS

Containers Supplied:

Metal Core (A)

COOLER CUSTODY SEALS INTACT

NOT INTACT

COOLER TEMPERATURE 4.8 °C

Released By <i>Michael Gravin</i>	Date <u>12/02/02</u>	Time	Received By <i>[Signature]</i>	Date <u>12-2-02</u>	Time <u>1200</u>
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Released By <i>[Signature]</i>	Date <u>12-02-02</u>	Time	Received By <i>[Signature]</i>	Date <u>12/2/02</u>	Time <u>1330</u>
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Released By <i>[Signature]</i>	Date <u>12/2/02</u>	Time	Received By <i>David R. Johnson</i>	Date <u>12-02-02</u>	Time <u>2:55 P.M.</u>
--------------------------------	---------------------	------	-------------------------------------	----------------------	-----------------------

N^o 007660
TOSCO

885 Jarvis Drive • Morgan Hill, CA 95037 • (408) 776-9600 • FAX (408) 782-6308
 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600 • FAX (916) 921-0100
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 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865 • FAX (707) 792-0342
 1551 Industrial Road • San Carlos, CA 94070 • (650) 232-9600 • FAX (650) 232-9612

Consultant Company: <i>Gettler-Ryan Inc. 140 158.05</i>		Tosco Engineer: <i>David B. DeWitt</i>	
Address: <i>1364 North McDowell Boulevard, Suite B2</i>		Site #: <i>4625, GID TO 600102156</i>	
City: <i>Petaluma</i>	State: <i>CA</i>	Zip Code: <i>94954</i>	Site Address: <i>3070 Fruitvale Ave</i>
Telephone: <i>707-789-3255</i>		City, State: <i>Oakland, CA</i>	
Fax #: <i>707-789-3218</i>		QC Data: <input checked="" type="checkbox"/> Level D (Standard) <input type="checkbox"/> Level C <input type="checkbox"/> Level B <input type="checkbox"/> Level A	
Report To: <i>Scott Douglas</i>	Sampler: <i>Andrew Smith</i>		

Turnaround 10 Work Days AS 5 Work Days 3 Work Days
 Time: 2 Work Days 1 Work Day 2-8 Hours

Drinking Water
 Waste Water
 Other

Analyses Requested *5211785*

Project Coding:

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	Analyses Requested										Comments	
						TPH _g /BTEX/MTBE	TPH Diesel (8015)	TOG (418.1)	Oxygenates (6) 8260	Oxygenates (6)+EDB 1,2 DCA (8260)	Styrene analysis	pH	Fraction Organic Carbon	Permeability	Porosity		
1. MW-5-5(55)	11/20/02	Soil	1	6" Core	01							X	X	X	X		
2. MW-5-S(15)	11/20/02	↓	1	6" Core	02							X	X	X	X		
3. MW-6-5(15)	11/20/02	√	1	2" Core	03							X	X	X	X		
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

Relinquished By: <i>Andrew Smith</i>	Date: <i>11/20/02</i>	Time: <i>1250</i>	Received By: <i>Michael Gorn</i>	Date: <i>11/26/02</i>	Time: <i>1250</i>
Relinquished By: _____	Date: _____	Time: _____	Received By: _____	Date: _____	Time: _____
Relinquished By: _____	Date: _____	Time: _____	Received By: _____	Date: _____	Time: _____

Were Samples Received in Good Condition? Yes No Samples on Ice? Yes No Method of Shipment _____ Page _____ of _____

To be completed upon receipt of report:

1) Were the analyses requested on the Chain of Custody reported? Yes No If no, what analyses are still needed? _____

2) Was the report issued within the requested turnaround time? Yes No If no, what was the turnaround time? _____

Approved by: _____ Signature: _____ Company: _____ Date: _____

Pink - Client
Yellow - Sequoia
White - Sequoia



3 December, 2002

Jed Douglas
Gettler-Ryan - Petaluma
1364 N McDowell Blvd. Ste B2
Petaluma, CA 94954

RE: Tosco 4625, Oakland, CA
Sequoia Work Order: S211627

Enclosed are the results of analyses for samples received by the laboratory on 11/22/02 12:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ron Chew
Client Services Representative

CA ELAP Certificate #1624



Gettler-Ryan - Petaluma
1364 N McDowell Blvd. Ste B2
Petaluma CA, 94954

Project: Tosco 4625, Oakland, CA
Project Number: N/A
Project Manager: Jed Douglas

S211627
Reported:
12/03/02 17:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Comp-1 (A,B,C,D)	S211627-01	Soil	11/20/02 16:20	11/22/02 12:45

Gettler-Ryan - Petaluma
 1364 N McDowell Blvd. Ste B2
 Petaluma CA, 94954

 Project: Tosco 4625, Oakland, CA
 Project Number: N/A
 Project Manager: Jed Douglas

 S211627
Reported:
 12/03/02 17:02

Total Purgeable Hydrocarbon, BTEX and MTBE by DHS LUFT
Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Comp-1 (A,B,C,D) (S211627-01) Soil Sampled: 11/20/02 16:20 Received: 11/22/02 12:45									
Purgeable Hydrocarbons	ND	2.5	mg/kg	1	2110395	11/25/02	11/25/02	DHS LUFT	
Benzene	0.025	0.025	"	"	"	"	"	"	
Toluene	0.031	0.025	"	"	"	"	"	"	
Ethylbenzene	0.044	0.025	"	"	"	"	"	"	
Xylenes (total)	0.20	0.025	"	"	"	"	"	"	
Methyl tert-butyl ether	0.072	0.025	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		96 %	60-140		"	"	"	"	



Gettler-Ryan - Petaluma
1364 N McDowell Blvd. Ste B2
Petaluma CA, 94954

Project: Tosco 4625, Oakland, CA
Project Number: N/A
Project Manager: Jed Douglas

S211627
Reported:
12/03/02 17:02

**Total Metals by EPA 6000/7000 Series Methods
Sequoia Analytical - Sacramento**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Comp-1 (A,B,C,D) (S211627-01) Soil Sampled: 11/20/02 16:20 Received: 11/22/02 12:45									
Lead	ND	10	mg/kg	4	2110371	11/25/02	11/25/02	EPA 6010B	



Gettler-Ryan - Petaluma
1364 N McDowell Blvd. Ste B2
Petaluma CA, 94954

Project: Tosco 4625, Oakland, CA
Project Number: N/A
Project Manager: Jed Douglas

S211627
Reported:
12/03/02 17:02

**Total Purgeable Hydrocarbon, BTEX and MTBE by DHS LUFT - Quality Control
Sequoia Analytical - Sacramento**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 2110395 - EPA 5030B (MeOH)

Blank (2110395-BLK1)

Prepared & Analyzed: 11/25/02

Purgeable Hydrocarbons	ND	0.50	mg/kg							
Benzene	ND	0.0050	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
Methyl tert-butyl ether	ND	0.0050	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	0.0201		"	0.0200		100	60-140			

Laboratory Control Sample (2110395-BS1)

Prepared & Analyzed: 11/25/02

Benzene	0.0144	0.0050	mg/kg	0.0200		72	70-130			
Toluene	0.0182	0.0050	"	0.0200		91	70-130			
Ethylbenzene	0.0207	0.0050	"	0.0200		104	70-130			
Xylenes (total)	0.0639	0.0050	"	0.0600		106	70-130			
Methyl tert-butyl ether	0.0153	0.0050	"	0.0200		76	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	0.0206		"	0.0200		103	60-140			



Gettler-Ryan - Petaluma
1364 N McDowell Blvd. Ste B2
Petaluma CA, 94954

Project: Tosco 4625, Oakland, CA
Project Number: N/A
Project Manager: Jed Douglas

S211627
Reported:
12/03/02 17:02

**Total Metals by EPA 6000/7000 Series Methods - Quality Control
Sequoia Analytical - Sacramento**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2110371 - EPA 3050B										
Blank (2110371-BLK1) Prepared & Analyzed: 11/25/02										
Lead	ND	10	mg/kg							
Laboratory Control Sample (2110371-BS1) Prepared & Analyzed: 11/25/02										
Lead	44.0	10	mg/kg	50.0		88	80-120			
Matrix Spike (2110371-MS1) Source: S211656-01 Prepared & Analyzed: 11/25/02										
Lead	45.5	10	mg/kg	50.0	ND	91	80-120			
Matrix Spike Dup (2110371-MSD1) Source: S211656-01 Prepared & Analyzed: 11/25/02										
Lead	46.3	10	mg/kg	50.0	ND	93	80-120	2	20	



Gettler-Ryan - Petaluma
1364 N McDowell Blvd. Ste B2
Petaluma CA, 94954

Project: Tosco 4625, Oakland, CA
Project Number: N/A
Project Manager: Jed Douglas

S211627
Reported:
12/03/02 17:02

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

N^o 007643
TOSCO

- 885 Jarvis Drive • Morgan Hill, CA 95037 • (408) 776-9600 • FAX (408) 782-6308
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- 1551 Industrial Road • San Carlos, CA 94070 • (650) 232-9600 • FAX (650) 232-9612

Consultant Company: <u>Gottler-Ryan Inc. 146158.05</u>		Tosco Engineer: <u>David B. De Witt</u>	
Address: <u>1364 N. McDowell Blvd, suite B2</u>		Site #: <u>GED T0600102156 4625</u>	
City: <u>Petaluma</u>	State: <u>CA</u>	Zip Code: <u>94954</u>	
Telephone: <u>(707) 789-3255</u> Fax #: <u>(707) 789-3218</u>		Site Address: <u>3070 Fruitvale Ave</u>	
Report To: <u>Jud Douglas</u>		City, State: <u>Oakland, CA</u>	
Sampler: <u>Andrew Smith</u>		QC Data: <input checked="" type="checkbox"/> Level D (Standard) <input type="checkbox"/> Level C <input type="checkbox"/> Level B <input type="checkbox"/> Level A	

Turnaround Time: <input checked="" type="checkbox"/> 10 Work Days <input checked="" type="checkbox"/> 5 Work Days <input type="checkbox"/> 3 Work Days	<input type="checkbox"/> Drinking Water
<input type="checkbox"/> 2 Work Days <input type="checkbox"/> 1 Work Day <input type="checkbox"/> 2-8 Hours	<input type="checkbox"/> Waste Water
	<input checked="" type="checkbox"/> Other

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Typo	Sequoia's Sample #	Analyses Requested							Comments	
						TPH/PT/TEX/MTBE	TPH Diesel (9015)	TOC (418.1)	Oxygenates (6) (3260)	Oxygenates (6) + ED8 (2.0) (3260)	TPH + Lead	EPA 6016		
1. Comp-1 (A,B,C,D)	11/20/02/1520	Soil	4	6" Core	SAL1627-01	X						X		
2.														
3.														
4.														
5.														
6.														
7.														
8.														
9.														
10.														

Relinquished By: <u>[Signature]</u>	Date: <u>11/20/02</u>	Time: <u>1710</u>	Received By: <u>Michael Kavin</u>	Date: <u>11/21/02</u>	Time: <u>1710</u>
Relinquished By: <u>[Signature]</u>	Date: <u>11/22/02</u>	Time: <u>1100</u>	Received By: <u>John Jones</u>	Date: <u>11/22/02</u>	Time: <u>1100</u>
Relinquished By: <u>[Signature]</u>	Date: <u>11/22/02</u>	Time: <u>1245</u>	Received By: <u>Monica Gregson</u>	Date: <u>11/22/02</u>	Time: <u>1245</u>

Were Samples Received in Good Condition? Yes No Samples on Ice? Yes No Method of Shipment _____ Page _____ of _____

To be completed upon receipt of report:

1) Were the analyses requested on the Chain of Custody reported? Yes No If no, what analyses are still needed? _____

2) Was the report issued within the requested turnaround time? Yes No If no, what was the turnaround time? _____

Approved by: _____ Signature: _____ Company: _____ Date: _____

Pink - Client
 Yellow - Sequoia
 White - Sequoia

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME:	<u>Getler Ryan</u>	DATE Received at Lab:	<u>11/22/02</u>	(Drinking water) for regulatory purposes:	YES/NO
REC. BY (PRINT)	<u>Moloco</u>	TIME Received at Lab:	<u>1245</u>	(Wastewater) for regulatory purposes:	YES/NO
WORKORDER:	<u>5211627</u>	LOG IN DATE:	<u>11/22/02</u>		

CIRCLE THE APPROPRIATE RESPONSE	LAB SAMPLE #	#	CLIENT ID	DESCRIPTION	SAMPLE MATRIX	DATE SAMPLED	CONDITION (ETC.)
1. Custody Seal(s) Present / <u>Absent</u> Intact / <u>Broken*</u>							/
2. Chain-of-Custody <u>Present</u> / Absent*							
3. Traffic Reports or Packing List: Present / <u>Absent</u>							
4. Airbill: Airbill / Sticker Present / <u>Absent</u>							
5. Airbill #:							
6. Sample Labels: <u>Present</u> / Absent							
7. Sample IDs: <u>Listed</u> / Not Listed on Chain-of-Custody							
8. Sample Condition: <u>Intact</u> / Broken* / Leaking*							
9. Does information on custody reports, traffic reports and sample labels agree? <u>Yes</u> / No*							
10. Sample received within hold time: <u>Yes</u> / No*							
11. Proper Preservatives used: <u>Yes</u> / No*							
12. Temp Rec. at Lab: <u>HC</u> (Acceptance range for samples requiring thermal pres. $\pm 2^{\circ}\text{C}$) Yes / No*							

see cc

DA

***If Circled, contact Project Manager and attach record of resolution.**



10 December, 2002

Jed Douglas
Gettler-Ryan - Petaluma
1364 N McDowell Blvd. Ste B2
Petaluma, CA 94954

RE: Tosco 4625, Oakland, CA
Sequoia Work Order: S211628

Enclosed are the results of analyses for samples received by the laboratory on 11/22/02 12:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ron Chew
Client Services Representative

CA ELAP Certificate #1624



Gettler-Ryan - Petaluma
1364 N McDowell Blvd. Ste B2
Petaluma CA, 94954

Project: Tosco 4625, Oakland, CA
Project Number: N/A
Project Manager: Jed Douglas

S211628
Reported:
12/10/02 18:43

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-1-W (12)	S211628-01	Water	11/20/02 12:00	11/22/02 12:45
B-2-W (14.5)	S211628-02	Water	11/20/02 13:20	11/22/02 12:45

Gettler-Ryan - Petaluma
1364 N McDowell Blvd. Ste B2
Petaluma CA, 94954

Project: Tosco 4625, Oakland, CA
Project Number: N/A
Project Manager: Jed Douglas

S211628
Reported:
12/10/02 18:43

**BTEX by EPA Method 8260B
Sequoia Analytical - Sacramento**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-1-W (12) (S211628-01) Water Sampled: 11/20/02 12:00 Received: 11/22/02 12:45									
Ethanol	ND	50000	ug/l	1000	2120057	12/04/02	12/04/02	EPA 8260B	
Tert-butyl alcohol	ND	5000	"	"	"	"	"	"	
Methyl tert-butyl ether	57000	500	"	"	"	"	"	"	
Di-isopropyl ether	ND	500	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	500	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	500	"	"	"	"	"	"	
1,2-Dichloroethane	ND	500	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	500	"	"	"	"	"	"	
Benzene	19000	500	"	"	"	"	"	"	
Ethylbenzene	5900	500	"	"	"	"	"	"	
Toluene	38000	500	"	"	"	"	"	"	
Xylenes (total)	30000	500	"	"	"	"	"	"	
Gasoline (C6-C10)	190000	50000	"	"	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		105 %	60-140	"	"	"	"	"	
<i>Surrogate: 4-BFB</i>		102 %	60-140	"	"	"	"	"	
<i>Surrogate: 1,2-DCA-d4</i>		123 %	60-140	"	"	"	"	"	
B-2-W (14.5) (S211628-02) Water Sampled: 11/20/02 13:20 Received: 11/22/02 12:45									
Ethanol	ND	1000	ug/l	20	2120135	12/09/02	12/09/02	EPA 8260B	HT-RS
Tert-butyl alcohol	ND	100	"	"	"	"	"	"	HT-RS
Methyl tert-butyl ether	240	10	"	"	"	"	"	"	HT-RS
Di-isopropyl ether	ND	10	"	"	"	"	"	"	HT-RS
Ethyl tert-butyl ether	ND	10	"	"	"	"	"	"	HT-RS
Tert-amyl methyl ether	ND	10	"	"	"	"	"	"	HT-RS
1,2-Dichloroethane	ND	10	"	"	"	"	"	"	HT-RS
1,2-Dibromoethane (EDB)	ND	10	"	"	"	"	"	"	HT-RS
Benzene	1600	10	"	"	"	"	"	"	HT-RS
Ethylbenzene	590	10	"	"	"	"	"	"	HT-RS
Toluene	2800	10	"	"	"	"	"	"	HT-RS
Xylenes (total)	2500	20	"	"	"	"	"	"	HT-RS
Gasoline (C6-C10)	17000	1000	"	"	"	"	"	"	HT-RS
<i>Surrogate: Toluene-d8</i>		104 %	60-140	"	"	"	"	"	HT-RS
<i>Surrogate: 4-BFB</i>		108 %	60-140	"	"	"	"	"	HT-RS
<i>Surrogate: 1,2-DCA-d4</i>		128 %	60-140	"	"	"	"	"	HT-RS



Gettler-Ryan - Petaluma
1364 N McDowell Blvd. Ste B2
Petaluma CA, 94954

Project: Tosco 4625, Oakland, CA
Project Number: N/A
Project Manager: Jed Douglas

S211628
Reported:
12/10/02 18:43

**BTEX by EPA Method 8260B - Quality Control
Sequoia Analytical - Sacramento**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2120057 - EPA 5030B [P/T]

Blank (2120057-BLK1)

Prepared & Analyzed: 12/04/02

Ethanol	ND	50	ug/l
Tert-butyl alcohol	ND	5.0	"
Methyl tert-butyl ether	ND	0.50	"
Di-isopropyl ether	ND	0.50	"
Ethyl tert-butyl ether	ND	0.50	"
Tert-amyl methyl ether	ND	0.50	"
1,2-Dichloroethane	ND	0.50	"
1,2-Dibromoethane (EDB)	ND	0.50	"
Benzene	ND	0.50	"
Ethylbenzene	ND	0.50	"
Toluene	ND	0.50	"
Xylenes (total)	ND	0.50	"
Gasoline (C6-C10)	ND	50	"

Surrogate: Toluene-d8	25.8	"	25.0	103	60-140
Surrogate: 4-BFB	25.9	"	25.0	104	60-140
Surrogate: 1,2-DCA-d4	30.5	"	25.0	122	60-140

Laboratory Control Sample (2120057-BS1)

Prepared & Analyzed: 12/04/02

Methyl tert-butyl ether	21.0	0.50	ug/l	21.8	96	60-140
Benzene	12.2	0.50	"	13.4	91	70-130
Toluene	76.4	0.50	"	81.0	94	70-130
Gasoline (C6-C10)	816	50	"	1100	74	70-130

Surrogate: Toluene-d8	26.1	"	25.0	104	60-140
Surrogate: 4-BFB	26.7	"	25.0	107	60-140
Surrogate: 1,2-DCA-d4	31.3	"	25.0	125	60-140

Batch 2120135 - EPA 5030B [P/T]

Blank (2120135-BLK1)

Prepared & Analyzed: 12/09/02

Ethanol	ND	50	ug/l
Tert-butyl alcohol	ND	5.0	"
Methyl tert-butyl ether	ND	0.50	"
Di-isopropyl ether	ND	0.50	"
Ethyl tert-butyl ether	ND	0.50	"

Sequoia Analytical - Sacramento

The results in this report apply to the samples analyzed in accordance with the chain of custody document. Unless otherwise stated, results are reported on a wet weight basis. This analytical report must be reproduced in its entirety.



Gettler-Ryan - Petaluma
1364 N McDowell Blvd. Ste B2
Petaluma CA, 94954

Project: Tosco 4625, Oakland, CA
Project Number: N/A
Project Manager: Jed Douglas

S211628
Reported:
12/10/02 18:43

BTEX by EPA Method 8260B - Quality Control
Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2120135 - EPA 5030B [P/T]

Blank (2120135-BLK1)

Prepared & Analyzed: 12/09/02

Tert-amyl methyl ether	ND	0.50	ug/l							
1,2-Dichloroethane	ND	0.50	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
Benzene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Toluene	ND	0.50	"							
Xylenes (total)	ND	1.0	"							
Gasoline (C6-C10)	ND	50	"							

Surrogate: Toluene-d8	25.4		"	25.0		102	60-140			
Surrogate: 4-BFB	25.6		"	25.0		102	60-140			
Surrogate: 1,2-DCA-d4	28.2		"	25.0		113	60-140			

Laboratory Control Sample (2120135-BS1)

Prepared & Analyzed: 12/09/02

Methyl tert-butyl ether	18.0	0.50	ug/l	21.8		83	60-140			
Benzene	12.6	0.50	"	13.4		94	70-130			
Toluene	70.8	0.50	"	81.0		87	70-130			
Gasoline (C6-C10)	825	50	"	1100		75	70-130			

Surrogate: Toluene-d8	26.9		"	25.0		108	60-140			
Surrogate: 4-BFB	27.9		"	25.0		112	60-140			
Surrogate: 1,2-DCA-d4	31.7		"	25.0		127	60-140			

Matrix Spike (2120135-MS1)

Source: S211772-03

Prepared & Analyzed: 12/09/02

Methyl tert-butyl ether	16.0	0.50	ug/l	21.8	ND	73	60-140			
Benzene	11.2	0.50	"	13.4	ND	80	70-130			
Toluene	64.1	0.50	"	81.0	0.51	79	70-130			
Gasoline (C6-C10)	857	50	"	1100	240	56	60-140			QM-07

Surrogate: Toluene-d8	26.0		"	25.0		104	60-140			
Surrogate: 4-BFB	27.3		"	25.0		109	60-140			
Surrogate: 1,2-DCA-d4	31.5		"	25.0		126	60-140			



Gottler-Ryan - Petaluma
1364 N McDowell Blvd. Ste B2
Petaluma CA, 94954

Project: Tosco 4625, Oakland, CA
Project Number: N/A
Project Manager: Jed Douglas

S211628
Reported:
12/10/02 18:43

**BTEX by EPA Method 8260B - Quality Control
Sequoia Analytical - Sacramento**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2120135 - EPA 5030B [P/T]

Matrix Spike Dup (2120135-MSD1)

Source: S211772-03

Prepared & Analyzed: 12/09/02

Methyl tert-butyl ether	18.7	0.50	ug/l	21.8	ND	86	60-140	16	25	
Benzene	12.4	0.50	"	13.4	ND	89	70-130	10	25	
Toluene	74.7	0.50	"	81.0	0.51	92	70-130	15	25	
Gasoline (C6-C10)	994	50	"	1100	240	69	60-140	15	25	
<i>Surrogate: Toluene-d8</i>	<i>25.7</i>		<i>"</i>	<i>25.0</i>		<i>103</i>	<i>60-140</i>			
<i>Surrogate: 4-BFB</i>	<i>26.6</i>		<i>"</i>	<i>25.0</i>		<i>106</i>	<i>60-140</i>			
<i>Surrogate: 1,2-DCA-d4</i>	<i>31.2</i>		<i>"</i>	<i>25.0</i>		<i>125</i>	<i>60-140</i>			



Gettler-Ryan - Petaluma
1364 N McDowell Blvd. Ste B2
Petaluma CA, 94954

Project: Tosco 4625, Oakland, CA
Project Number: N/A
Project Manager: Jed Douglas

S211628
Reported:
12/10/02 18:43

Notes and Definitions

- HT-RS This sample was originally analyzed within the EPA recommended hold time. Re-analysis for confirmation or dilution was performed past the recommended hold time. The results may still be useful for their intended purpose.
- QM-07 The spike recovery was outside control limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

N^o 007649
TOSCO

- 885 Jarvis Drive • Morgan Hill, CA 95037 • (408) 776-9600 • FAX (408) 782-6308
- 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600 • FAX (916) 921-0100
- 404 N. Wiget Lane • Walnut Creek, CA 94598 • (925) 988-9600 • FAX (925) 988-9673
- 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865 • FAX (707) 792-0342
- 1551 Industrial Road • San Carlos, CA 94070 • (650) 232-9600 • FAX (650) 232-9612

Consultant Company: <u>Goffler-Ryan Inc. 140158.05</u>		Tosco Engineer: <u>David B. De Witt</u>	
Address: <u>1364 N. Mc Dowell BLVD, Suite D2</u>		Site #: <u>4625, GID T0600102156</u>	
City: <u>Petaluma</u>	State: <u>CA</u>	Zip Code: <u>94954</u>	Site Address: <u>3070 Fruitvale Ave.</u>
Telephone: <u>707-789-3255</u>		Fax #: <u>707-789-3218</u>	
Report To: <u>John Douglas</u>	Sampler: <u>Anden Smith</u>		QC Data: <input checked="" type="checkbox"/> Level D (Standard) <input type="checkbox"/> Level C <input type="checkbox"/> Level B <input type="checkbox"/> Level A

Turnaround ~~10 Work Days AS~~ 5 Work Days 3 Work Days
 Time: 2 Work Days 1 Work Day 2-8 Hours

Analyses Requested

Drinking Water
 Waste Water
 Other

Project Coding:

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	Analyses Requested					Comments
						TPH/BTEX/MTBE *	TPH Diesel (8015)	TO6 (418.1)	Oxygenates (8) 8260	Oxygenates (9) 8260 [2 DCA (8260)]	
1. B-1-W (12)	11/20/02/1200	H ₂ O	6	VOAS	52116280	X			X		* THTg
2. B-2-W (14.9)	11/20/02/1320	H ₂ O	6	VOAS	-02	X			X		# BTEX by EPA Method 8260B
3.											
4.											
5.											
6.											
7.											
8.											
9.											
10.											rad 194

Relinquished By: <u>[Signature]</u>	Date: <u>11/20/02</u>	Time: <u>1710</u>	Received By: <u>Michael Garcia</u>	Date: <u>11/21/02</u>	Time: <u>1710</u>
Relinquished By: <u>[Signature]</u>	Date: <u>11/20/02</u>	Time: <u>1100</u>	Received By: <u>[Signature]</u>	Date: <u>11-22-02</u>	Time: <u>1100</u>
Relinquished By: <u>[Signature]</u>	Date: <u>11-22-02</u>	Time: <u>1248</u>	Received By: <u>[Signature]</u>	Date: <u>11/22/02</u>	Time: <u>1248</u>

Were Samples Received in Good Condition? Yes No Samples on Ice? Yes No Method of Shipment _____ Page _____ of _____

To be completed upon receipt of report:

1) Were the analyses requested on the Chain of Custody reported? Yes No If no, what analyses are still needed? _____

2) Was the report issued within the requested turnaround time? Yes No If no, what was the turnaround time? _____

Approved by: _____ Signature: _____ Company: _____ Date: _____

Pink - Client
Yellow - Sequoia
White - Sequoia

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: Bettler Bean
 REC. BY (PRINT) Monika
 WORKORDER: 2211628

DATE Received at Lab: 11/22/02
 TIME Received at Lab: 12:48
 LOG IN DATE: 11/22/02

(Drinking water) for regulatory purposes: YES/NO NO
 (Wastewater) for regulatory purposes: YES/NO NO

CIRCLE THE APPROPRIATE RESPONSE	LAB SAMPLE #	#	CLIENT ID	DESCRIPTION	SAMPLE MATRIX	DATE SAMPLED	CONDITION (ETC.)
1. Custody Seal(s) Present / <u>Absent</u> Intact / Broken*							
2. Chain-of-Custody <u>Present</u> / Absent*							
3. Traffic Reports or Packing List: Present / <u>Absent</u>							
4. Airbill: Airbill / Sticker Present / <u>Absent</u>							
5. Airbill #:							
6. Sample Labels: <u>Present</u> / Absent							
7. Sample IDs: <u>Listed</u> / Not Listed on Chain-of-Custody				<u>See COC</u>			
8. Sample Condition: <u>Intact</u> / Broken* / Leaking*							
9. Does information on custody reports, traffic reports and sample labels agree? <u>Yes</u> / No*							
10. Sample received within hold time: <u>Yes</u> / No*							
11. Proper Preservatives used: <u>Yes</u> / No*							
12. Temp Rec. at Lab: (Acceptance range for samples requiring thermal pres.: 4+/-2°C) <u>7.8°C</u> Yes / No*							

***If Circled, contact Project Manager and attach record of resolution.**

No 007649
TOSCO

- 885 Jarvis Drive • Morgan Hill, CA 95037 • (408) 776-9600 • FAX (408) 782-6308
- 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600 • FAX (916) 921-0100
- 404 N. Wiget Lane • Walnut Creek, CA 94598 • (925) 988-9600 • FAX (925) 988-9673
- 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865 • FAX (707) 792-0342
- 1551 Industrial Road • San Carlos, CA 94070 • (650) 232-9600 • FAX (650) 232-9612

Consultant Company: <u>Goffler-Ryan Inc. 140158.05</u>		Tosco Engineer: <u>David B. De Witt</u>	
Address: <u>1364 N. Mc Dowell BLVD, Suite D2</u>		Site #: <u>4625, GID T0600102156</u>	
City: <u>Petaluma</u>	State: <u>CA</u>	Zip Code: <u>94954</u>	Site Address: <u>3070 Fruitvale Ave.</u>
Telephone: <u>707-789-3255</u>		Fax #: <u>707-789-3218</u>	
Report To: <u>John Douglas</u>	Sampler: <u>Andrew Smith</u>		City, State: <u>Oakland, CA</u>
Turnaround: <input checked="" type="checkbox"/> 5 Work Days		QC Data: <input checked="" type="checkbox"/> Level D (Standard)	
Time: <input type="checkbox"/> 2 Work Days		<input type="checkbox"/> Level C	
<input type="checkbox"/> 3 Work Days		<input type="checkbox"/> Level B	
<input type="checkbox"/> 1 Work Day		<input type="checkbox"/> Level A	
<input type="checkbox"/> 2-8 Hours			

Analyses Requested

Drinking Water
 Waste Water
 Other

Project Coding:

TPH/BTEX/MTBE *	TPH Diesel (8015)	TDS (118.1)	Oxygenates (6) 8260	Oxygenates (9) EDB	1,2 DCA (8260)
-----------------	-------------------	-------------	---------------------	--------------------	----------------

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequola's Sample #	TPH/BTEX/MTBE *	TPH Diesel (8015)	TDS (118.1)	Oxygenates (6) 8260	Oxygenates (9) EDB	1,2 DCA (8260)	Comments
1. B-1-W (12)	11/20/02/1200	H ₂ O	6	VOAS	S211(28-0)	X			X			* Telling
2. B-2-W (14.9)	11/20/02/1320	H ₂ O	6	VOAS	-02	X			X			* BTEX by EPA Method 8260B
3.												
4.												
5.												
6.												
7.												
8.												
9.												
10.												rod 7.94

Relinquished By: <u>[Signature]</u>	Date: <u>11/21/02</u>	Time: <u>1710</u>	Received By: <u>Michael Garcia</u>	Date: <u>11/21/02</u>	Time: <u>1710</u>
Relinquished By: <u>[Signature]</u>	Date: <u>11-22-02</u>	Time: <u>1100</u>	Received By: <u>[Signature]</u>	Date: <u>11-22-02</u>	Time: <u>1100</u>
Relinquished By: <u>[Signature]</u>	Date: <u>11-22-02</u>	Time: <u>1248</u>	Received By: <u>Monica Eriksen</u>	Date: <u>11/22/02</u>	Time: <u>1218</u>

Were Samples Received in Good Condition? Yes No Samples on Ice? Yes No Method of Shipment _____ Page _____ of _____

To be completed upon receipt of report:

1) Were the analyses requested on the Chain of Custody reported? Yes No If no, what analyses are still needed? _____

2) Was the report issued within the requested turnaround time? Yes No If no, what was the turnaround time? _____

Approved by: _____ Signature: _____ Company: _____ Date: _____

Pink - Client

Yellow - Sequoia

White - Sequoia

SEQUOIA ANALYTICAL SAMPLE RECEIPT LOG

CLIENT NAME: <u>Rettler Ryan</u>	DATE Received at Lab: <u>11/25/02</u>	(Drinking water) for regulatory purposes: YES/NO <u>NO</u>
REC. BY (PRINT): <u>Momilo</u>	TIME Received at Lab: <u>12:48</u>	(Wastewater) for regulatory purposes: YES/NO <u>NO</u>
WORKORDER: <u>521628</u>	LOG IN DATE: <u>11/25/02</u>	

CIRCLE THE APPROPRIATE RESPONSE	LAB SAMPLE #	#	CLIENT ID	DESCRIPTION	SAMPLE MATRIX	DATE SAMPLED	CONDITION (ETC.)
1. Custody Seal(s) Present / <u>Absent</u> Intact / Broken*							
2. Chain-of-Custody Present / <u>Absent*</u>							
3. Traffic Reports or Packing List: Present / <u>Absent</u>							
4. Airbill: Airbill / Sticker Present / <u>Absent</u>							
5. Airbill #:							
6. Sample Labels: <u>Present</u> / Absent							
7. Sample IDs: Listed / Not Listed on Chain-of-Custody							
8. Sample Condition: <u>Intact</u> / Broken* / Leaking*							
9. Does information on custody reports, traffic reports and sample labels agree? <u>Yes</u> / No*							
10. Sample received within hold time: <u>Yes</u> / No*							
11. Proper Preservatives used: <u>Yes</u> / No*							
12. Temp Rec. at Lab: <u>7.8°C</u> (Acceptance range for samples requiring thermal pres.: 4+/-2°C)							

Self C/C

*If Circled, contact Project Manager and attach record of resolution.

Gettler Ryan

December 19, 2002

6747 Sierra Court Suite J
Dublin, CA 94568

Attn.: Deanna Harding

Project#: 180255.80

Project: Tosco #4625

Site: 3070 Fruitvale Ave.
Oakland, CA

Dear Ms. Harding,

Attached is our report for your samples received on 11/27/2002 13:25

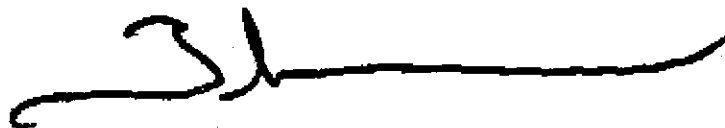
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 01/11/2003 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.

You can also contact me via email. My email address is: tgranicher@stl-inc.com

Sincerely,



Tod Granicher
Project Manager

Gas/BTEX Fuel Oxygenates by 8260B

Gettler Ryan
Attn.: Deanna Harding

6747 Sierra Court Suite J
Dublin, CA 94568
Phone: (925) 551-7444 Fax: (925) 551-7899

Project: 180255.80
Tosco #4625

Received: 11/27/2002 13:25

Site: 3070 Fruitvale Ave.
Oakland, CA

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
QA	11/26/2002	Water	1
MW-1	11/26/2002 06:35	Water	2
MW-2	11/26/2002 07:20	Water	3
MW-3	11/26/2002 11:10	Water	4
MW-4	11/26/2002 10:25	Water	5
MW-5	11/26/2002 09:30	Water	6
MW-6	11/26/2002 08:25	Water	7

Gas/BTEX Fuel Oxygenates by 8260B

Gettler Ryan

Attn.: Deanna Harding

6747 Sierra Court Suite J

Dublin, CA 94568

Phone: (925) 551-7444 Fax: (925) 551-7899

Project: 180255.80

Tosco #4625

Received: 11/27/2002 13:25

Site: 3070 Fruitvale Ave.
Oakland, CA

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	QA	Lab ID:	2002-11-0628 - 1
Sampled:	11/26/2002	Extracted:	12/6/2002 20:42
Matrix:	Water	QC Batch#:	2002/12/06-01.27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	12/06/2002 20:42	
Benzene	ND	0.50	ug/L	1.00	12/06/2002 20:42	
Toluene	ND	0.50	ug/L	1.00	12/06/2002 20:42	
Ethylbenzene	ND	0.50	ug/L	1.00	12/06/2002 20:42	
Total xylenes	ND	1.0	ug/L	1.00	12/06/2002 20:42	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L	1.00	12/06/2002 20:42	
Surrogates(s)						
1,2-Dichloroethane-d4	92.4	76-114	%	1.00	12/06/2002 20:42	
Toluene-d8	96.8	88-110	%	1.00	12/06/2002 20:42	

Severn Trent Laboratories, Inc.

STL San Francisco * 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 * www.stl-inc.com * CA DHS ELAP# 2496

12/10/2002 17:50

Page 2 of 15

Gas/BTEX Fuel Oxygenates by 8260B

Gettler Ryan

Attn.: Deanna Harding

6747 Sierra Court Suite J

Dublin, CA 94568

Phone: (925) 551-7444 Fax: (925) 551-7899

Project: 180255.80

Tosco #4625

Received: 11/27/2002 13:25

 Site: 3070 Fruitvale Ave.
Oakland, CA

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-1	Lab ID:	2002-11-0628 - 2
Sampled:	11/26/2002 06:35	Extracted:	12/6/2002 21:03
Matrix:	Water	QC Batch#:	2002/12/06-01.27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	12/06/2002 21:03	
Benzene	ND	0.50	ug/L	1.00	12/06/2002 21:03	
Toluene	ND	0.50	ug/L	1.00	12/06/2002 21:03	
Ethylbenzene	ND	0.50	ug/L	1.00	12/06/2002 21:03	
Total xylenes	ND	1.0	ug/L	1.00	12/06/2002 21:03	
tert-Butyl alcohol (TBA)	ND	100	ug/L	1.00	12/06/2002 21:03	
Methyl tert-butyl ether (MTBE)	23	2.0	ug/L	1.00	12/06/2002 21:03	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	1.00	12/06/2002 21:03	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	1.00	12/06/2002 21:03	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	1.00	12/06/2002 21:03	
1,2-DCA	ND	2.0	ug/L	1.00	12/06/2002 21:03	
EDB	ND	2.0	ug/L	1.00	12/06/2002 21:03	
Ethanol	ND	500	ug/L	1.00	12/06/2002 21:03	
Surrogates(s)						
1,2-Dichloroethane-d4	93.7	76-114	%	1.00	12/06/2002 21:03	
Toluene-d8	100.1	88-110	%	1.00	12/06/2002 21:03	

Gas/BTEX Fuel Oxygenates by 8260B

Gettler Ryan

Attn.: Deanna Harding

6747 Sierra Court Suite J

Dublin, CA 94568

Phone: (925) 551-7444 Fax: (925) 551-7899

Project: 180255.80

Tosco #4625

Received: 11/27/2002 13:25

Site: 3070 Fruitvale Ave.
Oakland, CA

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-2	Lab ID:	2002-11-0628 - 3
Sampled:	11/26/2002 07:20	Extracted:	12/9/2002 13:51
Matrix:	Water	QC Batch#:	2002/12/09-01.27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	340	50	ug/L	1.00	12/09/2002 13:51	
Benzene	87	0.50	ug/L	1.00	12/09/2002 13:51	
Toluene	ND	0.50	ug/L	1.00	12/09/2002 13:51	
Ethylbenzene	33	0.50	ug/L	1.00	12/09/2002 13:51	
Total xylenes	23	1.0	ug/L	1.00	12/09/2002 13:51	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L	1.00	12/09/2002 13:51	
Surrogates(s)						
1,2-Dichloroethane-d4	89.9	76-114	%	1.00	12/09/2002 13:51	
Toluene-d8	99.0	88-110	%	1.00	12/09/2002 13:51	

Gas/BTEX Fuel Oxygenates by 8260B

Gettler Ryan

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Project: 180255.80

Tosco #4625

Received: 11/27/2002 13:25

Site: 3070 Fruitvale Ave.

Oakland, CA

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-3	Lab ID:	2002-11-0628 - 4
Sampled:	11/26/2002 11:10	Extracted:	12/9/2002 14:13
Matrix:	Water	QC Batch#:	2002/12/09-01.27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	12/09/2002 14:13	
Benzene	ND	0.50	ug/L	1.00	12/09/2002 14:13	
Toluene	ND	0.50	ug/L	1.00	12/09/2002 14:13	
Ethylbenzene	ND	0.50	ug/L	1.00	12/09/2002 14:13	
Total xylenes	ND	1.0	ug/L	1.00	12/09/2002 14:13	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L	1.00	12/09/2002 14:13	
Surrogates(s)						
1,2-Dichloroethane-d4	90.3	76-114	%	1.00	12/09/2002 14:13	
Toluene-d8	99.9	88-110	%	1.00	12/09/2002 14:13	

Gas/BTEX Fuel Oxygenates by 8260B

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Project: 180255.80

Tosco #4625

Received: 11/27/2002 13:25

Site: 3070 Fruitvale Ave.
Oakland, CA

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-4	Lab ID:	2002-11-0628 - 5
Sampled:	11/26/2002 10:25	Extracted:	12/9/2002 14:35
Matrix:	Water	QC Batch#:	2002/12/09-01.27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	12/09/2002 14:35	
Benzene	ND	0.50	ug/L	1.00	12/09/2002 14:35	
Toluene	ND	0.50	ug/L	1.00	12/09/2002 14:35	
Ethylbenzene	ND	0.50	ug/L	1.00	12/09/2002 14:35	
Total xylenes	ND	1.0	ug/L	1.00	12/09/2002 14:35	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L	1.00	12/09/2002 14:35	
Surrogates(s)						
1,2-Dichloroethane-d4	89.0	76-114	%	1.00	12/09/2002 14:35	
Toluene-d8	99.2	88-110	%	1.00	12/09/2002 14:35	

Severn Trent Laboratories, Inc.

STL San Francisco * 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 * www.stl-inc.com * CA DHS ELAP# 2496

12/10/2002 17:50

Gas/BTEX Fuel Oxygenates by 8260B

Gettler Ryan

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Dublin, CA 94568

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Project: 180255.80

Tosco #4625

Received: 11/27/2002 13:25

Site: 3070 Fruitvale Ave.

Oakland, CA

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-5	Lab ID:	2002-11-0628 - 6
Sampled:	11/26/2002 09:30	Extracted:	12/10/2002 13:21
Matrix:	Water	QC Batch#:	2002/12/10-01.27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	2500	500	ug/L	10.00	12/10/2002 13:21	
Benzene	350	5.0	ug/L	10.00	12/10/2002 13:21	
Toluene	39	5.0	ug/L	10.00	12/10/2002 13:21	
Ethylbenzene	32	5.0	ug/L	10.00	12/10/2002 13:21	
Total xylenes	640	10	ug/L	10.00	12/10/2002 13:21	
tert-Butyl alcohol (TBA)	ND	1000	ug/L	10.00	12/10/2002 13:21	
Methyl tert-butyl ether (MTBE)	470	20	ug/L	10.00	12/10/2002 13:21	
Di-isopropyl Ether (DIPE)	ND	20	ug/L	10.00	12/10/2002 13:21	
Ethyl tert-butyl ether (ETBE)	ND	20	ug/L	10.00	12/10/2002 13:21	
tert-Amyl methyl ether (TAME)	ND	20	ug/L	10.00	12/10/2002 13:21	
1,2-DCA	ND	20	ug/L	10.00	12/10/2002 13:21	
EDB	ND	20	ug/L	10.00	12/10/2002 13:21	
Ethanol	ND	5000	ug/L	10.00	12/10/2002 13:21	
Surrogates(s)						
1,2-Dichloroethane-d4	85.1	76-114	%	10.00	12/10/2002 13:21	
Toluene-d8	95.8	88-110	%	10.00	12/10/2002 13:21	

Gas/BTEX Fuel Oxygenates by 8260B

Gettler Ryan

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Project: 180255.80

Tosco #4625

Received: 11/27/2002 13:25

 Site: 3070 Fruitvale Ave.
Oakland, CA

Prep(s):	5030B	Test(s):	8260FAB
Sample ID:	MW-6	Lab ID:	2002-11-0628 - 7
Sampled:	11/26/2002 08:25	Extracted:	12/10/2002 13:48
Matrix:	Water	QC Batch#:	2002/12/10-01.27

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	11000	1000	ug/L	20.00	12/10/2002 13:48	
Benzene	1200	10	ug/L	20.00	12/10/2002 13:48	
Toluene	2000	10	ug/L	20.00	12/10/2002 13:48	
Ethylbenzene	400	10	ug/L	20.00	12/10/2002 13:48	
Total xylenes	2300	20	ug/L	20.00	12/10/2002 13:48	
tert-Butyl alcohol (TBA)	ND	2000	ug/L	20.00	12/10/2002 13:48	
Methyl tert-butyl ether (MTBE)	490	40	ug/L	20.00	12/10/2002 13:48	
Di-isopropyl Ether (DIPE)	ND	40	ug/L	20.00	12/10/2002 13:48	
Ethyl tert-butyl ether (ETBE)	ND	40	ug/L	20.00	12/10/2002 13:48	
tert-Amyl methyl ether (TAME)	ND	40	ug/L	20.00	12/10/2002 13:48	
1,2-DCA	ND	40	ug/L	20.00	12/10/2002 13:48	
EDB	ND	40	ug/L	20.00	12/10/2002 13:48	
Ethanol	ND	10000	ug/L	20.00	12/10/2002 13:48	
Surrogates(s)						
1,2-Dichloroethane-d4	87.0	76-114	%	20.00	12/10/2002 13:48	
Toluene-d8	99.4	88-110	%	20.00	12/10/2002 13:48	

Gas/BTEX Fuel Oxygenates by 8260B

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Project: 180255.80
Tosco #4625

Received: 11/27/2002 13:25

Site: 3070 Fruitvale Ave.
Oakland, CA

Batch QC Report					
Prep(s): 5030B				Test(s): 8260FAB	
Method Blank		Water		QC Batch # 2002/12/06-01.27	
MB: 2002/12/06-01.27-008				Date Extracted: 12/06/2002 11:53	

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	12/06/2002 11:53	
Benzene	ND	0.5	ug/L	12/06/2002 11:53	
Toluene	ND	0.5	ug/L	12/06/2002 11:53	
Ethylbenzene	ND	0.5	ug/L	12/06/2002 11:53	
Total xylenes	ND	1.0	ug/L	12/06/2002 11:53	
tert-Butyl alcohol (TBA)	ND	100	ug/L	12/06/2002 11:53	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L	12/06/2002 11:53	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	12/06/2002 11:53	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	12/06/2002 11:53	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	12/06/2002 11:53	
1,2-DCA	ND	2.0	ug/L	12/06/2002 11:53	
EDB	ND	2.0	ug/L	12/06/2002 11:53	
Ethanol	ND	500	ug/L	12/06/2002 11:53	
Surrogates(s)					
1,2-Dichloroethane-d4	86.0	76-114	%	12/06/2002 11:53	
Toluene-d8	98.8	88-110	%	12/06/2002 11:53	

Gas/BTEX Fuel Oxygenates by 8260B

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Project: 180255.80
Tosco #4625

Received: 11/27/2002 13:25

Site: 3070 Fruitvale Ave.
Oakland, CA

Batch QC Report

Prep(s): 5030B
Method Blank
MB: 2002/12/09-01 27-017

Water

Test(s): 8260FAB
QC Batch # 2002/12/09-01.27
Date Extracted: 12/09/2002 12:15

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	12/09/2002 12:15	
Benzene	ND	0.5	ug/L	12/09/2002 12:15	
Toluene	ND	0.5	ug/L	12/09/2002 12:15	
Ethylbenzene	ND	0.5	ug/L	12/09/2002 12:15	
Total xylenes	ND	1.0	ug/L	12/09/2002 12:15	
tert-Butyl alcohol (TBA)	ND	100	ug/L	12/09/2002 12:15	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L	12/09/2002 12:15	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	12/09/2002 12:15	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	12/09/2002 12:15	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	12/09/2002 12:15	
1,2-DCA	ND	2.0	ug/L	12/09/2002 12:15	
EDB	ND	2.0	ug/L	12/09/2002 12:15	
Ethanol	ND	500	ug/L	12/09/2002 12:15	
Surrogates(s)					
1,2-Dichloroethane-d4	83.4	76-114	%	12/09/2002 12:15	
Toluene-d8	98.0	88-110	%	12/09/2002 12:15	

Gas/BTEX Fuel Oxygenates by 8260B

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Project: 180255.80
Tosco #4625

Received: 11/27/2002 13:25

Site: 3070 Fruitvale Ave.
Oakland, CA

Batch QC Report					
Prep(s): 5030B Method Blank MB: 2002/12/10-01.27-006			Water		Test(s): 8260FAB QC Batch # 2002/12/10-01.27 Date Extracted: 12/10/2002 12:54
Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	12/10/2002 12:54	
Benzene	ND	0.5	ug/L	12/10/2002 12:54	
Toluene	ND	0.5	ug/L	12/10/2002 12:54	
Ethylbenzene	ND	0.5	ug/L	12/10/2002 12:54	
Total xylenes	ND	1.0	ug/L	12/10/2002 12:54	
tert-Butyl alcohol (TBA)	ND	100	ug/L	12/10/2002 12:54	
Methyl tert-butyl ether (MTBE)	ND	2.0	ug/L	12/10/2002 12:54	
Di-isopropyl Ether (DIPE)	ND	2.0	ug/L	12/10/2002 12:54	
Ethyl tert-butyl ether (ETBE)	ND	2.0	ug/L	12/10/2002 12:54	
tert-Amyl methyl ether (TAME)	ND	2.0	ug/L	12/10/2002 12:54	
1,2-DCA	ND	2.0	ug/L	12/10/2002 12:54	
EDB	ND	2.0	ug/L	12/10/2002 12:54	
Ethanol	ND	500	ug/L	12/10/2002 12:54	
Surrogates(s)					
1,2-Dichloroethane-d4	85.4	76-114	%	12/10/2002 12:54	
Toluene-d8	96.9	88-110	%	12/10/2002 12:54	

Gas/BTEX Fuel Oxygenates by 8260B

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Phone: (925) 551-7444 Fax: (925) 551-7899

Project: 180255.80
Tosco #4625

Received: 11/27/2002 13:25

Site: 3070 Fruitvale Ave.
Oakland, CA

Batch QC Report										
Prep(s): 5030B							Test(s): 8260FAB			
Laboratory Control Spike			Water			QC Batch # 2002/12/06-01.27				
LCS	2002/12/06-01.27-004		Extracted: 12/06/2002			Analyzed: 12/06/2002 11:04				
LCSD	2002/12/06-01.27-005		Extracted: 12/06/2002			Analyzed: 12/06/2002 11:30				
Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Benzene	25.4	25.3	25.0	101.6	101.2	0.4	69-129	20		
Toluene	24.8	25.1	25.0	99.2	100.4	1.2	70-130	20		
Methyl tert-butyl ether (MTBE)	23.3	24.4	25.0	93.2	97.6	4.6	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	428	420	500	85.6	84.0		76-114			
Toluene-d8	501	504	500	100.2	100.8		88-110			

Gas/BTEX Fuel Oxygenates by 8260B

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Project: 180255.80

Tosco #4625

Received: 11/27/2002 13:25

Site: 3070 Fruitvale Ave.
Oakland, CA

Batch QC Report

Prep(s): 5030B

Test(s): 8260FAB

Laboratory Control Spike

Water

QC Batch # 2002/12/09-01.27

LCS 2002/12/09-01.27-004

Extracted: 12/09/2002

Analyzed: 12/09/2002 11:25

LCSD 2002/12/09-01.27-005

Extracted: 12/09/2002

Analyzed: 12/09/2002 11:54

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Benzene	24.9	25.4	25.0	99.6	101.6	2.0	69-129	20		
Toluene	24.5	24.7	25.0	98.0	98.8	0.8	70-130	20		
Methyl tert-butyl ether (MTBE)	23.9	27.3	25.0	95.6	109.2	13.3	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	424	431	500	84.8	86.2		76-114			
Toluene-d8	481	476	500	96.2	95.2		88-110			

Gas/BTEX Fuel Oxygenates by 8260B

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Project: 180255.80

Tosco #4625

Received: 11/27/2002 13:25

Site: 3070 Fruitvale Ave.
Oakland, CA

Batch QC Report

Prep(s): 5030B

Test(s): 8260FAB

Laboratory Control Spike

Water

QC Batch # 2002/12/10-01.27

LCS 2002/12/10-01.27-004

Extracted: 12/10/2002

Analyzed: 12/10/2002 12:11

LCSD 2002/12/10-01.27-005

Extracted: 12/10/2002

Analyzed: 12/10/2002 12:37

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Benzene	25.1	26.0	25.0	100.4	104.0	3.5	69-129	20		
Toluene	24.4	25.0	25.0	97.6	100.0	2.4	70-130	20		
Methyl tert-butyl ether (MTBE)	26.0	29.1	25.0	104.0	116.4	11.3	65-165	20		
Surrogates(s)										
1,2-Dichloroethane-d4	446	454	500	89.2	90.8		76-114			
Toluene-d8	481	492	500	96.2	98.4		88-110			

Severn Trent Laboratories, Inc.

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Tel 925 484 1919 Fax 925 484 1096 * www.stl-inc.com * CA DHS ELAP# 2496

12/10/2002 17:50

Gas/BTEX Fuel Oxygenates by 8260B

Gettler Ryan
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Phone: (925) 551-7444 Fax: (925) 551-7899
Project: 180255.80
Tosco #4625

Received: 11/27/2002 13:25

Site: 3070 Fruitvale Ave.
Oakland, CA

Batch QC Report			
Prep(s): 5030B	Test(s): 8260FAB		
Matrix Spike (MS / MSD)	Water	QC Batch # 2002/12/09-01.27	
MW-6 >> MS		Lab ID:	2002-11-0628 - 007
MS: 2002/12/09-01.27-015	Extracted: 12/09/2002	Analyzed:	12/09/2002 15:39
		Dilution:	1.00
MSD: 2002/12/09-01.27-016	Extracted: 12/09/2002	Analyzed:	12/09/2002 16:01
		Dilution:	1.00

Compound	Conc. ug/L			Spk.Level ug/L	Recovery			Limits %		Flags	
	MS	MSD	Sample		MS	MSD	RPD	Rec.	RPD	MS	MSD
Benzene	31000	0.1	ND	25.0	12400	0.4	200.	69-129	20	msl	msl
Toluene	ND		0.500	25.0	*			70-130	20	msl	
Methyl tert-butyl ether	442	38.7	403	25.0	156.0	-1457.	-248	65-165	20		msl
Surrogate(s)											
1,2-Dichloroethane-d4	410	413		500	82.1	82.7		76-114			
Toluene-d8	489	487		500	97.8	97.3		88-110			

2002-11-0628

7050
Gettler-Ryan Inc., Chain-of-Custody

Tosco Corp./ Phillips 66 Co. 2000 Crow Canyon Place Suite 400 San Ramon, CA 94583	Facility Number	#4625	Laboratory Name	STL - PLEASANTON, CA
	Facility Address	3070 FRUITVALE AVE., OAKLAND, CA	Consultant	GETTLER-RYAN, INC. DEANNA L. HARDING
	Global ID	T0600102156 Project 180255.80	Address	6747 SIERRA CT., SUITE J, DUBLIN CA 94568
	Client Contact	MR. DAVID B. DEWITT	Phone	(925) 551-7555 Fax (925) 551-7899
	Phone	(925) 277-2384	Samples Collected by	G. Rogeev

SAMPLE ID	Number of Containers Matrix	S = Soil A = Air W = Water C = Chertool	Sample Preservation	Date/Time (2400 Hrs)	TPH-GAS/BTEX/MTBE EPA 8015/8021B	TPH-DIESEL EPA 8015	TPH-DIESEL w/Silica gel EPA 8015	TPH-GAS EPA 8015	TPH-GAS/BTEX/MTBE EPA 8260	B OXYGENATES EPA 8260	METHANOL EPA 8015	TOTAL OIL & GREASE EPA 5520	METALS Cd, Cr, Pb, Zn, Ni	NITRATE/SULFATE/ALKALINITY EPA 300 SERIES	HMOC'S (8010) EPA 8021B	VOC'S (8240) EPA 8260	SVOC'S EPA 8270	Total Chromium	Remarks
QA	1	W	HCL	11-26-02					✓										Run 8 Oxy's by 8260 on all 826 MTBE hits. When not
MW-1	3	W	HCL	0635					✓										Running Oxy's
MW-2	3	W	HCL	0720					✓										
MW-3	11	W		1110		✓			✓		✓					✓	✓	✓	
MW-4	3	W	HCL	1025					✓										
MW-5	3	W	HCL	0930					✓	✓									
MW-6	3	W	HCL	0825					✓	✓									

- OXYGENATES 8260
- 1 - MTBE
 - 2 - TBA
 - 3 - TAME
 - 4 - DIPE
 - 5 - ETBE
 - 6 - 1,2-DCA
 - 7 - EDB
 - 8 - ETHANOL

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Iced Y/N	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 72 Hrs. 5 Days 10 Days As Contracted
<i>[Signature]</i>	Gettler-Ryan	11/26/02 1330	<i>[Signature]</i>				
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Iced Y/N	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time	Iced Y/N	
			<i>[Signature]</i>		11-27-02	1325	