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TRANSMITTAL

TO: David De Witt
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2000 Crow Canyon Place, Suite 400
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DATE: August 16, 2000
PROJECT NO. 140158.03
SUBJECT: Tosco 4625
Limited Subsurface
Investigation Report

From: Jed Douglas

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Appendix E of this report contains well location and construction details obtained from water well driller's reports filed with DWR. California Water Code Section 13753 states that these reports are confidential and not for public use or inspection. Therefore, this report or its attachments should not be placed in files accessible to the general public.

Signed: 

COPIES TO: Don Hwang – Alameda County Environmental Health Services

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GETTLER-RYAN INC.

LIMITED SUBSURFACE INVESTIGATION REPORT

For

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


Report No. 140158.03-2

Prepared for:

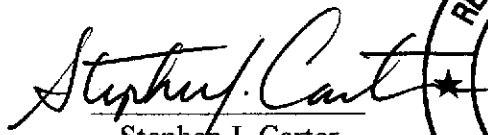
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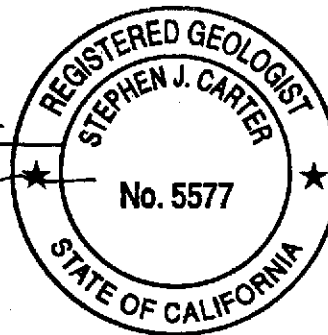
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August 16, 2000

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LIMITED SUBSURFACE INVESTIGATION REPORT

For

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

Report No. 140158.03-2

1.0 INTRODUCTION

At the request of Tosco Marketing Company (Tosco), Gettler-Ryan Inc. (GR), has prepared this report of subsurface investigative work at the subject site. The purpose of this investigation was to evaluate soil and groundwater conditions at the site. This work was originally proposed in GR Report No. 140158.03-1, *Work Plan for Limited Subsurface Investigation*, dated January 13, 2000. This work was performed to assess soil and groundwater conditions beneath the subject site, and to define and quantify the lateral extent of petroleum hydrocarbon constituents in the first encountered groundwater zone. The scope of work included: preparing a site safety plan; obtaining the required well installation permits; advancing four soil borings and installing a groundwater monitoring well in each of the borings; surveying the wellhead elevations; developing and sampling the wells; collecting and submitting selected soil and groundwater samples to a certified analytical laboratory for chemical analysis; arranging for Tosco's contractor to dispose of the waste materials; performing a ½ mile radius well search; and preparing a report presenting the observations associated with the well installation and the analytical results of the soil and groundwater sampling. The GR workplan was approved by Mr. Don Hwang of the Alameda County Environmental Health Services (ACEHS) in a letter dated May 4, 2000.

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 (U.S. Geological Survey, 1959). 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. Four groundwater monitoring wells exist at the site (installed during this investigation). 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.

Based on observations made during UST replacement activities previously performed at the site, the subsurface materials are composed of clay and silt to a depth of approximately 14 feet below ground surface (bgs), the maximum depth exposed during excavation. Groundwater was encountered at a depth of approximately 9 feet bgs in April of 1998. Based on topography in the site vicinity, it is anticipated that regional groundwater flows toward the south-southwest.

2.3 Previous Environmental Investigation

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 was detected in the soil sample at 820 ppm, benzene was detected at 2.7 ppm, Total Petroleum Hydrocarbons as diesel (TPHd) was 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 was overexcavated and transported from the site to the Forward Inc. landfill in Manteca, California. Additionally, 40,000 gallons of groundwater was pumped from the UST pit and transported to the Tosco refinery in Rodeo, California for treatment. 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.

On November 30, 1999, groundwater was measured in the UST pit conductor casing at approximately 10 feet bgs. A grab groundwater sample was collected from the UST conductor casing, and was reported to contain a concentration of MtBE at 740 parts per billion (ppb) (EPA Method 8260). TPHg and benzene, toluene, ethylbenzene, and total xylenes (BTEX) were reported as ND.

3.0 FIELD WORK

Field work was conducted in accordance with GR's approved workplan dated January 13, 2000, Field Methods and Procedures (Appendix A) and the Site Safety Plan dated April 10, 2000. A drilling permit was required for the four groundwater monitoring wells and was obtained from the ACEHS (Permit Number W00-165). A copy of the drilling permit is included in Appendix B.

Underground Service Alert was notified as required prior to drilling at the site (reference No. 100957). In addition, Cruz Brothers Sub-Surface Locators, Inc., a private utility locating service, visited the site prior to drilling, to check and clear the proposed boring locations.

3.1 Drilling Activities

On April 25 and 26, 2000, a GR geologist observed Cascade Drilling, Inc. (C-57 #717510) advance four onsite well borings (MW-1 through MW-4) at the locations shown on Figure 2. Boring MW-1 was drilled and sampled to a depth of 30 feet bgs, and borings MW-2 through MW-4 were drilled and sampled to a depth of 26.5 feet bgs using 8-inch hollow-stem augers driven by a truck-mounted drill rig. Soil samples were collected from the borings approximately every five feet at a minimum. The GR geologist prepared a log of each boring and field screened the soil samples for the presence of volatile organic compounds utilizing a photoionization detector (PID). Field screening data are presented on the boring logs (Appendix B).

Upon completion of soil sampling, borings MW-1 through MW-4 were converted to groundwater monitoring wells by the installation of 2-inch diameter poly-vinyl chloride (PVC) well casing through the hollow-stem augers. The well casing consisted of 5 feet of blank PVC casing from the ground surface to 5 feet bgs, and 20 feet of 0.020-inch machine slotted PVC casing from 5

feet to 25 feet bgs. Lonestar # 3 sand was installed in the annular space from the bottom of the boring to one foot above the top of the screened interval (4 feet bgs). The well was then sealed with hydrated bentonite followed by neat cement to a depth of 1.5 feet bgs, and the remainder of the annular space was filled with concrete and a steel, water-resistant, traffic-rated well box. An expandable locking well cap was placed on the top of the PVC casing and secured with a lock.

Drill cuttings were placed on, and covered with, plastic sheeting and stored on-site pending analysis and disposal. A four-part composite stockpile soil sample was collected from the drill cuttings and submitted to the laboratory for disposal profiling.

3.2 Well Monitoring, Development, and Sampling

Monitoring, development, and sampling of the four newly installed wells was performed by GR personnel. Copies of the well development and field monitoring data sheets are included in Appendix C. Monitoring data are summarized in Table 1.

Wells MW-1 through MW-4 were developed and sampled on May 3, 2000. Depth to groundwater in the wells were measured and each well checked for the presence of floating product prior to development. Floating product was not observed in the four wells. Wells MW-1 and MW-4 dewatered during development, however, each well yielded a minimum of 10 well volumes. After the wells were properly developed, groundwater samples were collected in appropriate containers supplied by the laboratory. Groundwater samples were submitted for chemical analysis under chain-of-custody documentation to Sequoia Analytical in Walnut Creek, California.

3.3 Wellhead Survey

Following installation of the wells, the well casing elevations were surveyed by Virgil Chavez Land Surveying of Vallejo, California, Licensed California Land Surveyor No. 6323. Top of casing and vault box elevations were measured relative to mean sea level (MSL), and the horizontal locations of the wells measured. Well casing elevation data are presented in Table 1. A copy of the surveyor's report is included in Appendix D.

3.4 Well Search

GR contacted the Alameda County Water Resources Department and requested a ½ mile radius well search be performed in the site vicinity. The well search did not identify any municipal, industrial or domestic water wells in the search area. One irrigation well was identified during the search, located approximately 1,700 feet south-southeast of the site. GR delivered a questionnaire to the property in an attempt to determine if the well still exists or is currently in

use. At the time of this report, no response had been received. The well search report is attached in Appendix E.

Appendix E of this report contains well location and construction details obtained from water well driller's reports filed with DWR. California Water Code Section 13753 states that these reports are confidential and not for public use or inspection. Therefore, this report or its attachments should not be placed in files accessible to the general public.

4.0 RESULTS

4.1 Subsurface Conditions

Soil

Detailed descriptions of the subsurface materials encountered during drilling are presented on the boring logs in Appendix B. In general, subsurface soils were composed of clay to depths of approximately 9 to 15 feet bgs, underlain by gravel with varying amounts of clay and sand to depths of approximately 18 to 20 feet bgs, underlain by clay and clayey sand to the total depth of the borings. The exception was well boring MW-1, which encountered only clay to the total depth of the boring.

Groundwater

Groundwater was typically encountered at approximately 10.5 feet bgs, except for well boring MW-1, where groundwater was not encountered during drilling. 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. Depth to groundwater in the four wells was approximately 6.5 to 12 feet below the top of casing, as measured on May 3, 2000, prior to purging and sampling of the wells. Depth to groundwater measurements were also collected on May 16, and again on May 24, 2000. Groundwater flow direction appears to be toward the southwest at a calculated gradient of approximately 0.016 ft/ft (Figure 3).

4.2 Laboratory Analysis

The selected soil and groundwater samples were analyzed by Sequoia Analytical in Walnut Creek, California (ELAP #1271). The soil samples were analyzed for TPHg, BTEX, and MtBE by Environmental Protection Agency (EPA) Methods 5030, 8015 Modified, 8020, and 8260. Additionally, soil samples from MW-3 were analyzed for TPHd, total chromium, total recoverable petroleum hydrocarbons (TRPH) and semi-volatile organic compounds (SVOCs) by EPA Methods 8015 Modified, 200.7, 5520, and 8270. Soil samples from MW-4 were also analyzed for TPHd. The composite soil sample was analyzed for TPHg, BTEX, MtBE, VOCs, SVOCs, TRPH and the metals cadmium, chromium, nickel, lead and zinc by EPA Method 6010.

The groundwater samples were analyzed for TPHg, BTEX, and MtBE. Additionally, groundwater samples from MW-3 were also analyzed for VOCs, SVOCs, TOG and total chromium. Copies of the laboratory analytical reports and chain-of-custody records are included in Appendix F.

4.3 Soil Analytical Results

MtBE was not detected in any of the soil samples analyzed from the four well borings. TPHg and 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 (10) contained TPHg at 1,600 ppm and benzene at 5.1 ppm; MW-3 (10) contained TPHg at 79 ppm and benzene at 0.031 ppm. TPHg and benzene were not detected in the 25 foot samples collected from well borings MW-2 or MW-3. TPHd was detected in each of the soil samples analyzed for this constituent at the following concentrations: MW-3 (10) at 8.4 ppm; MW-3 (25) at 1.3 ppm; and MW-4 (10) at 1.3 ppm. MW-3 (10) also contained detectable concentrations of TRPH at 140 ppm and total chromium at 48 ppm.

The composite soil sample from the stockpile (SS-1) contained TPHg at 56 ppm, TPHd at 3.1 ppm, benzene at 0.11 ppm, TRPH at 180 ppm, and lead at 11 ppm. These results, including the other metals detected, were acceptable for landfill disposal. Soil chemical analytical data are summarized in Table 2.

4.4 Groundwater Analytical Results

MtBE was not detected in wells MW-2 through MW-4. TPHg and BTEX were not detected in wells MW-1, MW-3 or MW-4. However, in well MW-2, TPHg and BTEX were detected at concentrations of 2,400 ppb and 53 ppb, respectively. MtBE was detected in well MW-1 at a concentration of 14 ppb by EPA Method 8260. Additionally, TPHd was detected in well MW-3 at a concentration of 93 ppb. Groundwater chemical data are summarized in Table 1.

4.5 Waste Disposal

Approximately 240 gallons of waste water generated by cleaning the drilling equipment and well development and sampling procedures are currently stored at the site in properly labeled drums, pending approval for transportation to the Tosco Refinery in Rodeo, California, for treatment. Approximately three tons of soil (drill cuttings) were removed from the site on May 30, 2000, by Manley and Sons Trucking of Sacramento, California and transported to Allied Waste Companies Forward Incorporated facility in Manteca, California for disposal. A copy of the Forward landfill acceptance letter is included in Appendix G.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Soil samples collected from well borings MW-2 and MW-3 contained concentrations of TPHg and benzene in the capillary fringe soil samples. Soil samples from MW-3 also contained low concentrations of TPHd and TRPH. Hydrocarbon concentrations attenuate significantly with depth, as evidenced by the lack of detectable hydrocarbons in the 25 foot bgs samples from well borings MW-2 and MW-3, with the exception of a trace concentration of TPHd (1.3 ppm) in well boring MW-3 at 25 feet bgs.

Results of the groundwater sampling indicate low levels of MtBE (14 ppb) in the downgradient well MW-1. TPHg (2,400 ppb) and benzene (53 ppb) were only detected in one well (MW-2) near the northeastern dispenser islands. TPHd was detected at a low concentration (93 ppb) in well MW-3 adjacent to the former waste oil UST.

This work was performed to assess soil and groundwater conditions at the subject site. The specific goals of this investigation were to define and quantify the lateral extent of hydrocarbon constituents in soil and the first encountered groundwater zone.

The vertical and lateral extent of hydrocarbons in soil appears to be defined. The lateral extent of MtBE in groundwater is defined, and the lateral extent of other hydrocarbon constituents is defined except in the vicinity of monitoring well MW-2. A ½ mile radius well search around the site identified one irrigation well located approximately 1,700 feet southeast of the site.

Groundwater flow conditions at the site are difficult to interpret due to the extremely flat potentiometric surface in the eastern portion of the site. Very slow stabilization of the groundwater table was observed after installation of the wells. Well MW-1 was initially dry during construction, but was observed to contain a small volume of groundwater the following day. Depth to groundwater measurements collected seven days after well installation appear to indicate that well MW-1 had not fully equilibrated with the groundwater surface. Depth to groundwater measurements collected two weeks after well development appeared to indicate that well MW-4 had not fully recovered from purging activities. Based on this information, site topography, and the flow directions of nearby creeks, the groundwater flow direction is presumed to be toward the southwest.

GR recommends that groundwater at the subject site be monitored and sampled during the next four consecutive quarters in order to evaluate groundwater chemical conditions and flow direction over the course of one hydrologic cycle.

6.0 REFERENCES

- Gettler-Ryan Inc., 2000, Work Plan for Limited Subsurface Investigation at Tosco (Unocal) Service Station No. 4625, 3070 Fruitvale Avenue, Oakland, California, dated January 13, 2000.
- Gettler-Ryan Inc., 1998, Underground Storage Tank and Product Line Replacement Report for Tosco (Unocal) Service Station 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.
- U.S. Geological Survey, 1959, Oakland East Quadrangle, California, 7.5 Minute Series (Topographic): Scale 1:24,000, photorevised 1980.

TABLE 1 - GROUNDWATER MONITORING AND CHEMICAL ANALYTICAL 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 Elevation (ft. MSL)	TPHg (ppb)	TPHd (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)	MTBE ² (ppb)	MTBE ³ (ppb)	VOC's (ppb)
MW-1	5/3/00	25.06	136.36	7.335	0.0	129.025	ND	NA	ND	ND	ND	ND	11	14	NA
MW-2	5/3/00	24.28	138.64	7.740	0.0	130.900	2,400	NA	53	ND	ND	240	ND	ND	NA
MW-3 ⁴	5/3/00	24.73	137.68	6.815	0.0	130.865	ND	93 ⁵	ND	ND	ND	ND	ND	ND	ND
MW-4	5/3/00	24.65	136.60	8.685	0.0	127.915	ND	NA	ND	ND	ND	ND	ND	ND	NA
Trip Blank	---	---	---	---	---	---	ND	NA	ND	ND	ND	ND	ND	NA	NA

EXPLANATION:

ft. = feet
ft. MSL = feet relative to Mean Sea Level.
ppb = parts per billion
ND = not detected
--- = not applicable
NA = not analyzed

ANALYTICAL LABORATORY:

Sequoia Analytical Walnut Creek (ELAP #1271)
(see laboratory reports for detection limits)

- 1 = Well elevations reported as top of casing (TOC) surveyed by Turner & Associates, Licensed California Land Surveyor No. 4029.
- 2 = MTBE by EPA Method 8020
- 3 = MTBE by EPA Method 8260
- 4 = sample also analyzed for SVOCs (ND), Total chromium (ND) and TOG (ND)
- 5 = laboratory reports unidentified hydrocarbons C9 - C24

ANALYTICAL METHODS:

TPHg = Total Petroleum Hydrocarbons as gasoline according to EPA Method 8015 Modified
TPHd = Total Petroleum Hydrocarbons as diesel according to EPA Method 8015 Modified
Benzene, Toluene, Ethylbenzene, and Total Xylenes according to EPA Method 8020
MTBE = Methyl tertiary butyl ether according to EPA Method 8020/8260
VOCs = volatile organic compounds according to EPA Method 8240
SVOCs = semi-volatile organic compounds according to EPA Method 8270
Total chromium according to EPA Method 200.7
TOG = total oil and grease according to EPA Method 5520

TABLE 2 - SOIL CHEMICAL ANALYTICAL DATA

Tosco (76) Service Station No. 4625

3070 Fruitvale Avenue

Oakland, California

Sample No.	Sample Depth (feet)	Date Collected	TPHg (ppm)	TPHd (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Total Xylenes (ppm)	MTBE (ppm)	8240 (ppm)	8270 (ppm)	TRPH (ppm)	Total Chromium (ppm)	Total Lead (ppm)
MW-1-10	10	4/25/00	ND	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-2-10	10	4/25/00	1,600	NA	5.1	3.0	54	54	ND	NA	NA	NA	NA	NA
MW-2-25	25	4/25/00	ND	NA	ND	0.0061	0.012	0.038	ND	NA	NA	NA	NA	
MW-3-10	10	4/25/00	79	8.4 ¹	0.031	0.24	0.73	0.48	ND	ND	ND	140	48	NA
MW-3-25	25	4/25/00	ND	1.3 ²	ND	ND	ND	ND	ND	NA	NA	NA	NA	
MW-4-10	10	4/26/00	ND	1.3 ²	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
Stockpile														
SS-1	--	4/26/00	56	3.1	0.11	0.26	1.1	4.0	ND	ND ³	ND	180	78 ⁴	11

EXPLANATION:

ppm = parts per million

ND = not detected

NA = not analyzed

-- = not applicable

1 = laboratory reports unidentified hydrocarbons < C16

2 = laboratory reports unidentified hydrocarbons > C16

3 = no 8240 compounds detected other than toluene (1.2 ppm), ethylbenzene (4.4 ppm) and total xylenes (17 ppm).

4 = other metals analyzed include nickel (130 ppm), zinc (56 ppm) and cadmium (ND)

ANALYTICAL LABORATORY:

Sequoia Analytical Walnut Creek (ELAP #1271)

(see laboratory reports for detection limits)

ANALYTICAL METHODS:

TPHg = Total Petroleum Hydrocarbons as gasoline according to EPA Method 8015 Modified

TPHd = Total Petroleum Hydrocarbons as diesel according to EPA Method 8015 Modified

Benzene, Toluene, Ethylbenzene, and Total Xylenes according to EPA Method 8020

MTBE = Methyl tertiary butyl ether according to EPA Method 8020

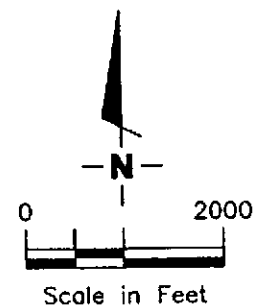
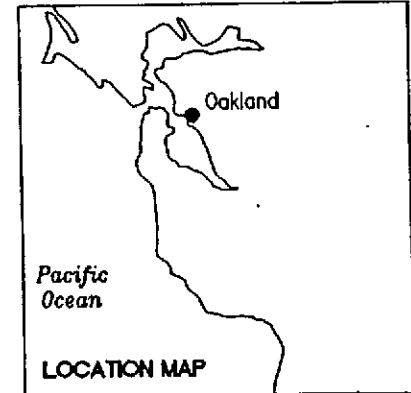
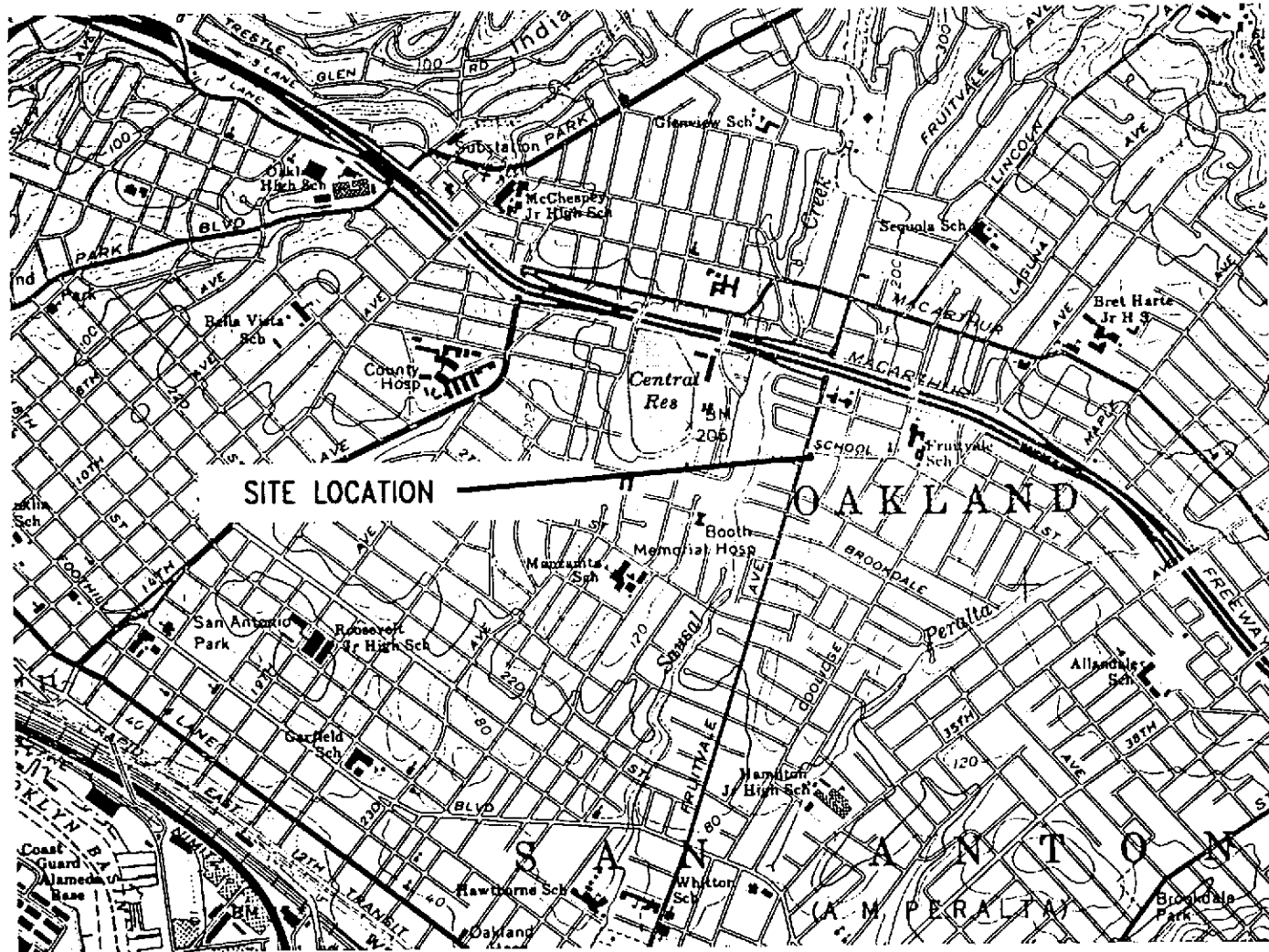
8240 = Volatile Organic Compounds according to EPA Method 8240B

8270 = Semi-Volatile Organic Compounds according to EPA Method 8270B

TRPH = Total recoverable petroleum hydrocarbons according to EPA Method 5520

Total Chromium and other metals according to EPA Method 6010

Total Lead according to EPA Method 6010



Base Map: USGS Topographic Map



Gettler - Ryan Inc.

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Dublin, CA 94568

VICINITY MAP

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

FIGURE

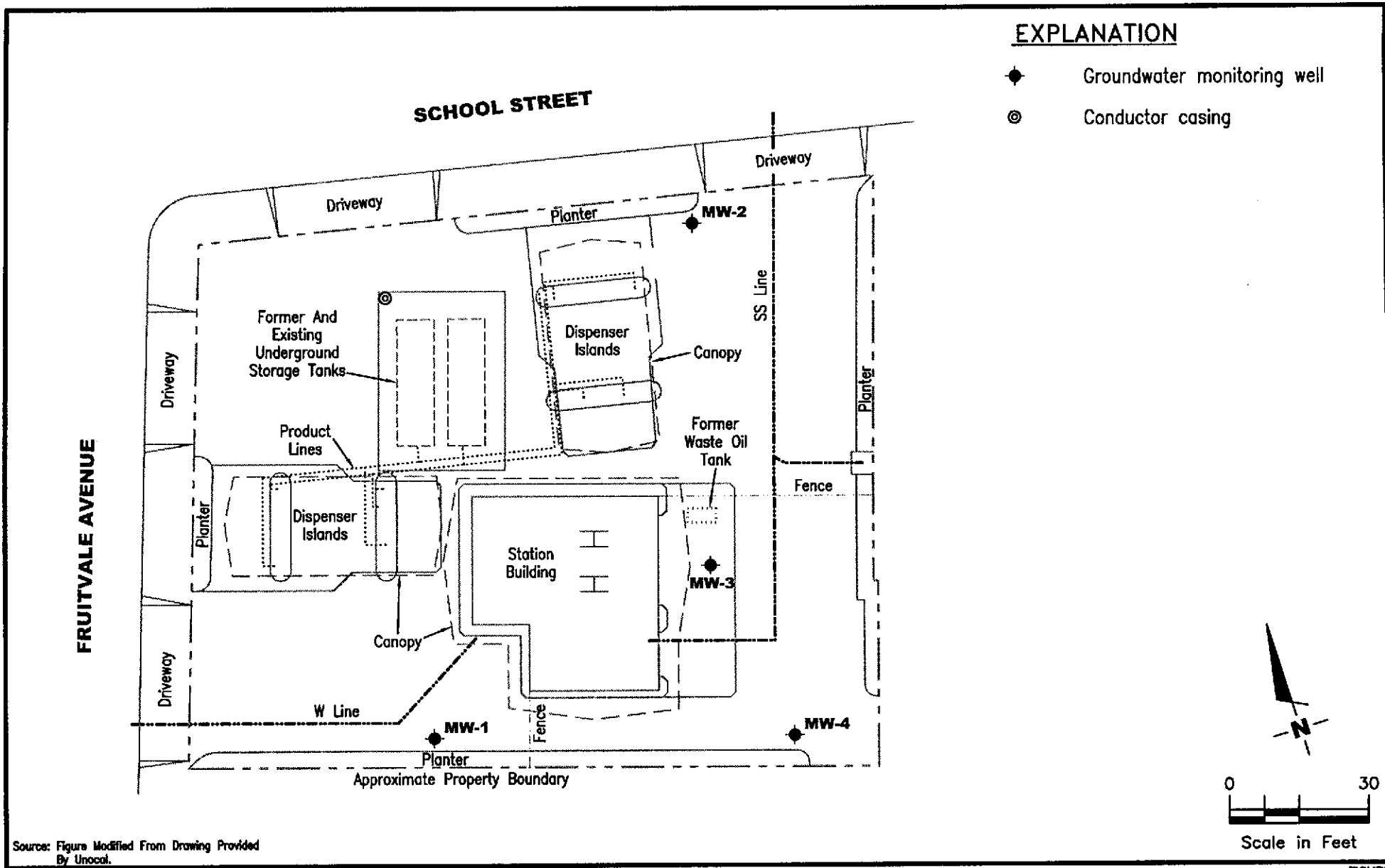
1

JOB NUMBER
140158

REVIEWED BY

DATE
01/00

REVISED DATE



Gettler - Ryan Inc.

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

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

FIGURE
2

JOB NUMBER
140158.03

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DATE
6/00

REVISED DATE

SCHOOL STREET

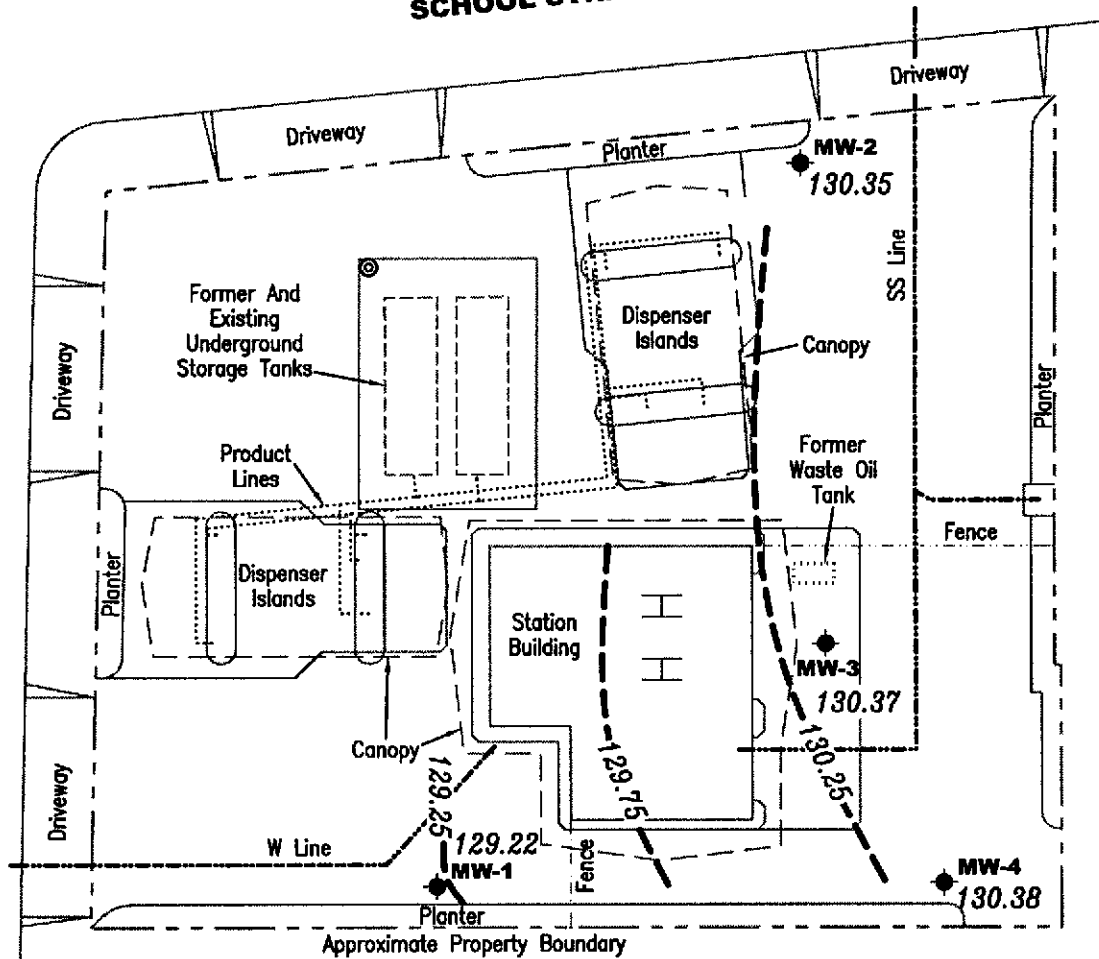
EXPLANATION

- ◆ Groundwater monitoring well
- ⊙ Conductor casing
- 99.99 Groundwater elevation in feet referenced to Mean Sea Level (MSL)
- 99.99--- Groundwater elevation contour, dashed where inferred.



Approximate groundwater flow direction at a gradient of 0.016 Ft./Ft.

FRUITVALE AVENUE



Source: Figure Modified From Drawing Provided By Unocal.



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

FIGURE

3

JOB NUMBER
140158.03

REVIEWED BY

DATE
May 24, 2000

REVISED DATE

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 (yd³) 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.

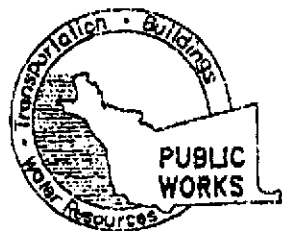
Water-Level Measurements

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. 94544-1395
PHONE (510) 670-5554 MARLON MAGALLANES/FRANK CODD (510) 670-5783
FAX (510)782-1939

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT Tosco Station No. 4625
3070 Fruitvale Ave
Cross St School Street
Oakland California

FOR OFFICE USE
PERMIT NUMBER W00-165
WELL NUMBER _____
APN _____

PERMIT CONDITIONS
Circled Permit Requirements Apply

CLIENT Tosco Marketing Company
Name _____
Address 2000 Crow Canyon Pl. Phone 925-277-2384
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 Better-Ryan Inc.
Name _____
Address 7100 Redwood Blvd. Phone 415-893-1577
City Novato Zip 94945

- 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.

TYPE OF PROJECT

Well Construction	<input type="checkbox"/>	Geotechnical Investigation	<input type="checkbox"/>
Cathodic Protection	<input type="checkbox"/>	General	<input type="checkbox"/>
Water Supply	<input type="checkbox"/>	Contamination	<input 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 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.
- F. WELL DESTRUCTION
See attached.
- G. SPECIAL CONDITIONS

DRILLER'S LICENSE NO. C57-717510

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>5</u> ft.	Number	<u>5</u>

APPROVED Frank Codd DATE 4-13-00

GEOTECHNICAL PROJECTS

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

ESTIMATED STARTING DATE 4-25-00
ESTIMATED COMPLETION DATE 4-26-00

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

APPLICANT'S SIGNATURE [Signature] DATE 4-6-00
Rev. 4-4-00

Gettler-Ryan, Inc.

Log of Boring MW-1

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

LOCATION: *3070 Fruitvale Avenue, Oakland, California*

GR PROJECT NO.: *140158.02*

CASING ELEVATION:

DATE STARTED: *04/25/00*

WL (ft. bgs): *23.35* DATE: *04/26/00* TIME: *12:00*

DATE FINISHED: *04/25/00*

WL (ft. bgs): DATE: TIME:

DRILLING METHOD: *8 in. Hollow Stem Auger*

TOTAL DEPTH: *30 feet*

DRILLING COMPANY: *Cascade Drilling*

GEOLOGIST: *Jed Douglas*

DEPTH (feet)	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
0							Asphalt and baserock.	<p>The well diagram shows a vertical cross-section of the boring. At the top is a cap. Below it is a section of 2" blank schedule 40 PVC casing. This is followed by a section of 2" machine slotted PVC (0.020 inch) casing. Below the slotted casing is a layer of #3 Lonestar sand. At the bottom of the casing is a layer of bentonite heat cement. The soil layers are shown as dark greenish gray clay at the top, transitioning to dark yellowish brown clay with sand and silt, and finally to dark yellowish brown clay at the bottom.</p>
5	0	>100	MW-1-5			CL	<p>CLAY (CL) - dark greenish gray (5GY 4/1), dry, medium stiff, medium plasticity; 80% clay, 20% silt.</p> <p>At 2.5 feet grades with 50% clay, 30% sand, 20% silt.</p> <p>Includes occasional gravel and wood debris. at 3 feet.</p> <p>Color changes to very dark gray (N3) at 4 feet.</p> <p>Sample refusal at 6 feet, cobble and concrete.</p>	
10	0	31	MW-1-10				<p>Color changes to dark yellowish brown (10YR 4/6), becomes dry, hard, low plasticity; 50% clay, 40% sand, 10% silt, occasional coarse gravel to 4 cm, subangular chert clasts.</p>	
15	0	30	MW-1-15				<p>Color changes to strong brown (7.5YR 4/6); includes trace of medium to coarse sand grains.</p>	
20	0	30	MW-1-20				<p>Becomes 50% clay, 30% silt, 20% fine sand, no occasional coarse gravel to 4 cm, no subangular chert clasts.</p>	
25	0	36	MW-1-25				<p>Color changes to dark yellowish brown (10YR 4/4).</p>	
30							<p>Bottom of boring at 30 feet bgs.</p> <p>* Converted to equivalent standard penetration blows/foot.</p>	
35								

Gettler-Ryan, Inc.

Log of Boring MW-2

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

LOCATION: *3070 Fruitvale Avenue, Oakland, California*

GR PROJECT NO.: *140158.02*

CASING ELEVATION:

DATE STARTED: *04/25/00*

WL (ft. bgs): *10.5* DATE: *04/25/00* TIME: *12:40*

DATE FINISHED: *04/25/00*

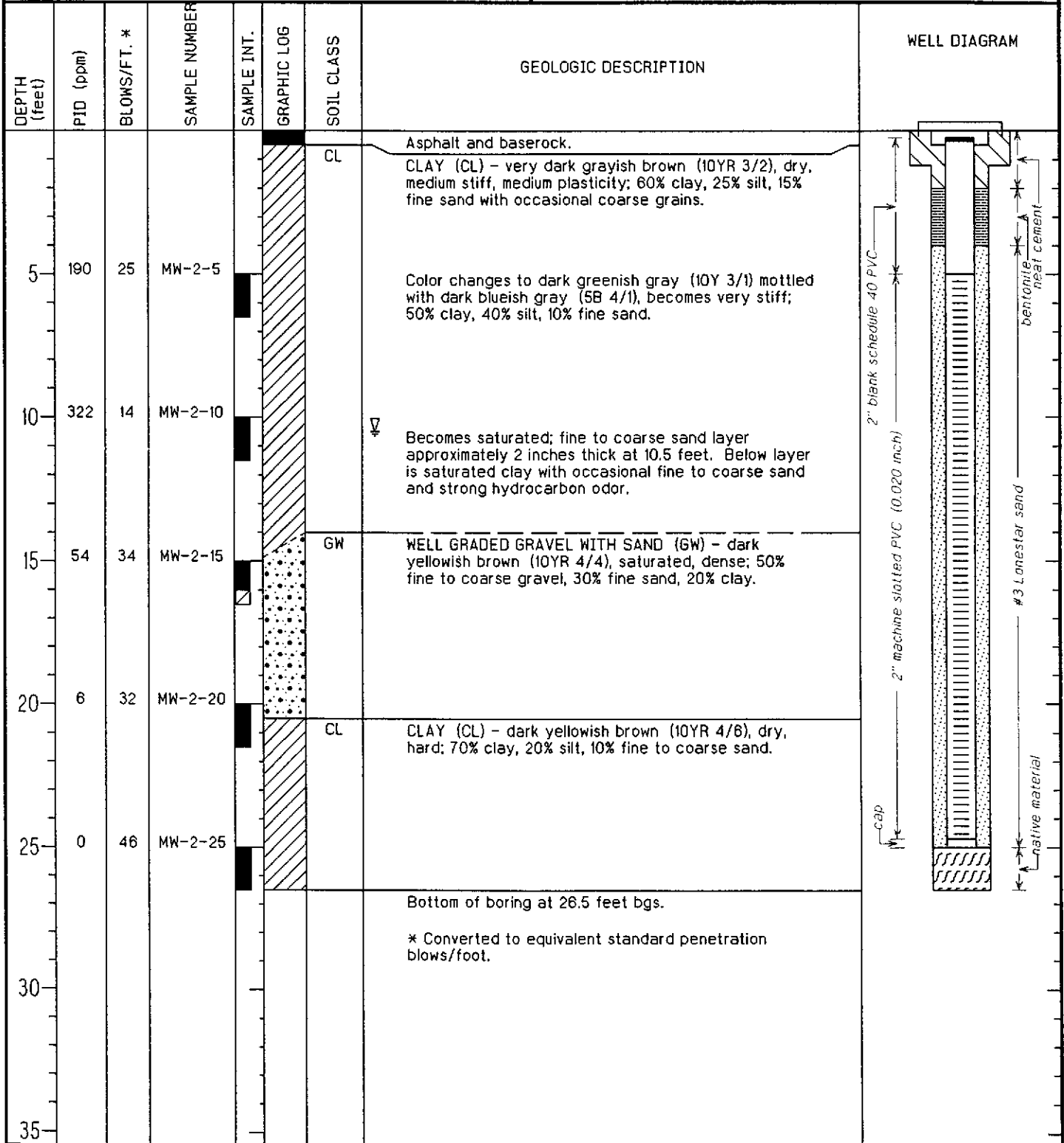
WL (ft. bgs): DATE: TIME:

DRILLING METHOD: *8 in. Hollow Stem Auger*

TOTAL DEPTH: *26.5 feet*

DRILLING COMPANY: *Cascade Drilling*

GEOLOGIST: *Jed Douglas*



Gettler-Ryan, Inc.

Log of Boring MW-3

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

LOCATION: *3070 Fruitvale Avenue, Oakland, California*

GR PROJECT NO.: *140158.02*

CASING ELEVATION:

DATE STARTED: *04/25/00*

WL (ft. bgs): *11.0* DATE: *04/25/00* TIME: *16:55*

DATE FINISHED: *04/25/00*

WL (ft. bgs): DATE: TIME:

DRILLING METHOD: *8 in. Hollow Stem Auger*

TOTAL DEPTH: *26.5 feet*

DRILLING COMPANY: *Cascade Drilling*

GEOLOGIST: *Jed Douglas*

DEPTH (feet)	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
0						CL	Concrete slab.	
5	3	28	MW-3-5			CL	CLAY (CL) - very dark brown (10YR 2/2), dry, medium stiff, medium plasticity; 90% clay, 10% silt. Color changes to brown (10YR 4/3) mottled with dark blueish gray (5B 4/1), becomes very stiff; 60% clay, 30% silt, 10% fine sand.	
10	14	30	MW-3-10			GC	CLAYEY GRAVEL (GC) - dark greenish gray (5GY 4/1), saturated, very stiff; 40% fine to coarse gravel, 30% fine sand, 30% clay. Color changes to dark yellowish brown (10YR 4/6) at 11.5 feet.	
15	0	36	MW-3-15			CL	Becomes dense; 50% fine gravel, 25% fine to coarse sand, 25% clay, clasts predominantly rounded.	
20	0	58	MW-3-20			CL	CLAY (CL) - dark yellowish brown (10YR 4/4), dry, hard; 70% clay, 20% silt, 10% fine sand.	
25	0	42	MW-3-25			SC	CLAYEY SAND (SC) - strong brown (7.5YR 4/6) moist, dense; 50% fine to medium sand, 30% clay, 20% gravel.	
26.5							Bottom of boring at 26.5 feet bgs.	
30							* Converted to equivalent standard penetration blows/foot.	
35								

Gettler-Ryan, Inc.

Log of Boring MW-4

PROJECT: <i>Tosco (Unocal) Service Station No. 4625</i>	LOCATION: <i>3070 Fruitvale Avenue, Oakland, California</i>
GR PROJECT NO.: <i>140158.02</i>	CASING ELEVATION:
DATE STARTED: <i>04/26/00</i>	WL (ft. bgs): <i>11.5</i> DATE: <i>04/26/00</i> TIME: <i>11:05</i>
DATE FINISHED: <i>04/26/00</i>	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: <i>8 in. Hollow Stem Auger</i>	TOTAL DEPTH: <i>26 feet</i>
DRILLING COMPANY: <i>Cascade Drilling</i>	GEOLOGIST: <i>Jed Douglas</i>

DEPTH (feet)	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
0							Asphalt and baserock.	
5	0	22	MW-4-5		CL	Gravel to 1 foot. CLAY (CL) - black (N 2.5), dry, medium stiff, medium plasticity; 90% clay, 10% silt. Color changes to strong brown (7.5YR 4/6) at 3 feet. Color changes to dark yellowish brown (10YR 4/6) mottled with greenish gray (10Y 5/1), becomes very stiff; 70% clay, 20% silt, 10% fine to coarse sand.		
10	0	46	MW-4-10		GC	CLAYEY GRAVEL (GC) - dark yellowish brown (10YR 4/4) wet, hard; 50% fine to coarse gravel, 25% fine sand, 25% clay, trace of free water.		
15	0	26	MW-4-15		CL	CLAY (CL) - yellowish red (5YR 4/6), dry, hard; 70% clay, 20% silt, 10% fine to medium sand.		
20	0	49	MW-4-20		CL	Color changes to strong brown (7.5YR 4/6) mottled with gray (N 5/1).		
25	0	>100	MW-4-25		SC	CLAYEY SAND (SC) - strong brown (7.5YR 4/6), dry, very dense; 50% fine sand, 30% clay, 20% silt, occasional medium and coarse sand grains.		
26							Bottom of boring at 26 feet bgs.	
30							* Converted to equivalent standard penetration blows/foot.	
35								

APPENDIX C

WELL DEVELOPMENT AND GROUNDWATER SAMPLING FIELD DATA SHEETS



GETTLER-RYAN INC.

DAILY SAMPLING REPORT

Site Location: TOSCO # 4625
3070 FRUITVALE AVE.
OAKLAND, CA

Job # 140158.03
 Date: 5/3/2000

DESCRIPTION OF WORK PERFORMED:

Monitor 4 Wells + UST Well
 Purge 4 Wells
 Sample 4 Wells
 Develop 4 Wells

CHECK LIST:

Transfer Purge Water To:
 Drums on site: 4
 Holding tank: _____
 Total Purge Water (gals): 110 gal.
 Sampling Truck: MP4
 Purge water trailer: _____
 Traffic Control: _____
 Arrow board/road signs/cones _____

Total # of Wells @ site: 4
 Water levels only: UST OBSERVATION Well
 Monitored/Sampled: 4 / 4
 Bailed Product: Ø

SAMPLING EQUIPMENT:

Teflon bailer _____
 Disposable bailer 4
 Grab sample _____
 Pressure bailer _____

PURGING EQUIPMENT:

Disposal bailer _____
 Teflon bailer ✓
 3/8" stack pumps ✓
 1" double diaphragm _____
 Grundfo's _____

SPECIAL EQUIPMENT: SOUNDER TRIPLE CHECK
 Turbidity Meter _____
 D O Meter _____
 Re-Dox Meter _____
 Alkalinity test _____

OTHER EQUIPMENT:

Gloves 9 PAIRS
 Bailer cord ≈ 110'
 Well plug size _____ # _____

COMMENTS: IN ADDITION, ONE WATER SAMPLE, LABELED W(R-149) WAS COLLECTED FROM MW-1 FOR A TOSCO REFINERY ACCEPTANCE.

Sampled by: HAIG KEVORK
 Assistant: N/A

Time Billed: 5.75 Hrs



MONITORING WELL
OBSERVATION SUMMARY SHEET

CLIENT FACILITY #: TOSCO 76 #4625

G-R JOB #: 140158.03

LOCATION: 3070 FRUITVALE AVE.

DATE: 5/3/2000

CITY: OAKLAND, CA

TIME: _____

Well ID	Total Depth	Depth to Water	Product Thickness	TOB or TOC	Comments VOLUME PURGED
<u>MW-1</u>	<u>25.06</u>	<u>11.81'</u>	<u>Ø</u>	<u>TOC</u>	<u>23 gal.</u>
<u>MW-2</u>	<u>24.28</u>	<u>8.59'</u>	<u>Ø</u>	<u> </u>	<u>27 gal.</u>
<u>MW-3</u>	<u>24.73</u>	<u>7.60'</u>	<u>Ø</u>	<u> </u>	<u>30 gal.</u>
<u>MW-4</u>	<u>24.65</u>	<u>6.48'</u>	<u>Ø</u>	<u>↓</u>	<u>30 gal.</u>
<u>UST OBSERVATION WELL</u>		<u>8.00'</u>	<u>Ø</u>	<u>TOC</u>	<u>Ø</u>

Comments: FOUR DRUMS FULL OF H2O ON-SITE PENDING REFINERY APPROVAL FOR DISPOSAL.

Sampler: HAIG KEVORK

Assistant: N/A

**WELL MONITORING/DEVELOPMENT
FIELD DATA SHEET**

Client/Facility: TOSCO 46 # 4625 Job#: 140158.03
 Address: 3070 FRUITVALE AVE. Date: 5/3/00
 City: OAKLAND, CA Sampler: HAIG KEVORK

Well ID: MW-1 Well Condition: NEW
 Well Diameter: 2 in. Hydrocarbon Thickness: Ø Ft. Amount Bailed (product/water): Ø (gal.)
 Total Depth: 25.06 ft. Volume 2" = 0.17 3" = 0.38 4" = 0.66
 Depth to Water: 11.81 ft. Factor (VF) 6" = 1.50 12" = 5.80

13.25 x VF 0.17 = 2.210 (case volume) = Estimated Purge Volume: 22 (gal.)

Purge Equipment: Disposable Bailer
 Bailer Stack
 Suction
 Grundfos
 Other: _____

Sampling Equipment: Disposable Bailer
 Bailer
 Pressure Bailer
 Grab Sample
 Other: _____

Starting Time: 11:32 Weather Conditions: SUNNY
 Sampling Time: 14:30 Water Color: CLEAR Odor: _____
 Purging Flow Rate: STACK 1/2 - 3/4 gpm. Sediment Description: _____
 Did well de-water? YES If yes; Time: 12:12 Volume: ~15 (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature °C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>11:37</u>	<u>3</u>	<u>7.46</u>	<u>1514</u>	<u>22.8</u>			
<u>11:48</u>	<u>8</u>	<u>6.98</u>	<u>1552</u>	<u>22.0</u>			
<u>12:12</u>	<u>15</u>	<u>7.21</u>	<u>1370</u>	<u>21.7</u>			
<u>13:17</u>	<u>20</u>	<u>7.10</u>	<u>1298</u>	<u>21.4</u>			
<u>14:10</u>	<u>23</u>	<u>7.15</u>	<u>1272</u>	<u>19.9</u>			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-1</u>	<u>3 VOA</u>	<u>YES</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>G/BTEX/MTBE</u>

COMMENTS: VERY SLOW RECOVERY

**WELL MONITORING/DEVELOPMENT
FIELD DATA SHEET**

Client/
Facility TOSCO #4625
Address: 3040 FRUITVALE AVE
City: OAKLAND, CA

Job#: 140158.03
Date: 5/3/00
Sampler: HAIG KEVORK

Well ID MW-2

Well Condition: NEW

Well Diameter 2 in.

Hydrocarbon Thickness: Ø Ft. Amount Bailed (product/water): Ø (gal.)

Total Depth 24.28 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

Depth to Water 8.59 ft.

15.69 x VF 0.17 = 2.67 (case volume) = Estimated Purge Volume: 26 (gal.)

Purge Equipment: Disposable Bailer
 Bailer
 Stack
 Suction
 Grundfos
Other: _____

Sampling Equipment: Disposable Bailer
 Bailer
 Pressure Bailer
 Grab Sample
Other: _____

Starting Time: 9:15

Weather Conditions: SUNNY

Sampling Time: 10:25

Water Color: CLOUDY Odor: _____

Purging Flow Rate: STACK 1/2 - 3/4 gpm.

Sediment Description: _____

Did well de-water? NO

If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature °C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
9:20	3	8.11	529	25.7			
9:28	8	7.29	610	25.0			
9:46	15	6.96	673	24.6			
9:58	22	6.84	694	24.3			
10:13	27	6.80	702	24.1			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-2	3VOA	YES	HCl	SEIQUOIA	G/BTEX/MTBE

COMMENTS: _____

**WELL MONITORING/DEVELOPMENT
FIELD DATA SHEET**

Client/Facility: TOSCO #6 #4625 Job#: 140158.03
 Address: 3070 FRUITVALE AVE. Date: 5/3/00
 City: OAKLAND, CA Sampler: HAIG KEVORAK

Well ID: MW-3 Well Condition: NEW
 Well Diameter: 2 in. Hydrocarbon Thickness: Ø Ft. Amount Bailed: Ø (gal.)
 Total Depth: 24.73 ft. Volume Factor (VF): 2" = 0.17, 3" = 0.38, 4" = 0.66, 6" = 1.50, 12" = 5.80
 Depth to Water: 7.60 ft.
17.13 x VF 0.17 = 2.9 x 10 (case volume) = Estimated Purge Volume: 29 (gal.)

Purge Equipment: Disposable Bailer Stack Suction Grundfos Other: _____
 Sampling Equipment: Disposable Bailer Bailer Pressure Bailer Grab Sample Other: _____

Starting Time: 10:33 Weather Conditions: SUNNY
 Sampling Time: 11:20 Water Color: CLOUDY Odor: _____
 Purging Flow Rate: STACK 1/2 - 3/4 gpm. Sediment Description: _____
 Did well de-water? NO If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature $^{\circ}$ C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
10:38	3	7.62	479	19.2			
10:42	9	7.41	450	18.6			
10:54	17	7.37	438	18.9			
11:02	23	7.25	420	18.4			
11:08	27	7.16	398	18.2			
11:13	30	7.11	386	18.1			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-3	6 VOA	YES	HCP	SEQUOIA	6/BTEX/MTBE/8240
↓	2 AMBER	↓	N/A	↓	TPH-D/8240
↓	1 GLASS + 1 PLASTIC	↓		↓	TOG / CHROMIUM

COMMENTS: _____

**WELL MONITORING/DEVELOPMENT
FIELD DATA SHEET**

Client/Facility: TOSCO 176 # 4625 Job#: 140158.03
 Address: 3070 FRUITVALE AVE, Date: 5/3/00
 City: OAKLAND, CA Sampler: HAIG KEVORK

Well ID: MW-4 Well Condition: NEW

Well Diameter: 2 in. Hydrocarbon Thickness: Ø Ft. Amount Bailed (product/water): Ø (gal.)

Total Depth: 24.65 ft.
 Depth to Water: 6.48 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

18.17 x VF 0.17 = 3.0 x 10 (case volume) = Estimated Purge Volume: 30 (gal.)

Purge Equipment: Disposable Bailer Bailer Stack Suction Grundfos Other: _____

Sampling Equipment: Disposable Bailer Bailer Pressure Bailer Grab Sample Other: _____

Starting Time: 12:25 Weather Conditions: SUNNY
 Sampling Time: 14:45 Water Color: CLEAR Odor: _____
 Purging Flow Rate: STACK 1/2 - 3/4 gpm Sediment Description: _____
 Did well de-water? YES If yes; Time: 13:00 Volume: ~14 (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature °C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
12:29	3	7.28	896	18.3			
12:41	8	6.92	852	17.8			
13:00	14	6.77	835	17.4			
13:36	22	6.72	828	17.0			
14:22	27	6.68	814	17.2			
14:34	30	6.71	821	17.0			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-4	3 VDA	YES	HCl	SECAUDIA	G/BTEX/MTBE

COMMENTS: SLOW RECOVERY

Virgil Chavez Land Surveying

312 Georgia Street, Suite 200
Vallejo, California 94590-5907
(707) 553-2476 • Fax (707) 553-8698

May 12, 2000
Project No. 1824-08

Jed Douglas
Gettler-Ryan Inc.
7100 Redwood Blvd., Ste. 104
Novato, CA. 94945

Subject: Monitoring Well Survey
Unocal Service Station No. 4625
3070 Fruitvale Avenue
Oakland, Ca.

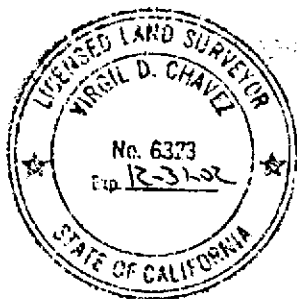
Dear Jed:

This is to confirm that we have proceeded at your request to survey the monitoring wells located at the above referenced location. The survey was performed on May 4, 2000. The benchmark for the survey was a cut square on School Street, City of Oakland Benchmark No. 3783. The station and offset data are relative to the existing station building. Measurements were taken at approximate north side of top of box and top of casing.
Benchmark Elevation = 136.99 feet MSL.

<u>Well No.</u>	<u>Rim Elevation</u>	<u>TOC Elevation</u>	<u>Station</u>	<u>Offset</u>
MW - 1	136.63'	136.36'	0-05.58	52.89 (Rt)
MW - 2	138.94'	138.64'	0+45.51	-58.54 (Lt)
MW - 3	137.93'	137.68'	0+50.57	20.60 (Rt)
MW - 4	136.92'	136.60'	0+65.97	53.34 (Rt)
NW Bldg Cor			0+00	0.00
NE Bldg Cor			0+41.39	0.00

Sincerely,

Virgil D. Chavez
Virgil D. Chavez, PLS 6323





Permit	Tr	Section	Address	Longcity	Owner	Update	Xcoord	Ycoord	Matchlevel	Tsrqq	Rec code
	1S/3W	32P 1	2950 Fruitvale Avenue	Oakland	Harry Beddig	07/03/1990	122,217,498	37,793,944	0	1S/3W 32F	438
	1S/3W	32P 2	2964 Fruitvale Ave	Oakland	Frances Beddig MW2	04/08/1993	122,217,438	37,794,066	1	1S/3W 32F	8,377
	1S/3W	32P 3	2964 Fruitvale Ave	Oakland	Frances Beddig MW3	04/08/1993	122,217,438	37,794,066	1	1S/3W 32F	8,378
	1S/3W	32P	2964 Fruitvale Ave	Oakland	Frances Beddig	07/16/1993	122,217,438	37,794,067	1	1S/3W 32F	0
95314	1S/3W	32K 1	2504 MacArthur Blvd	Oakland	Michael Marr & Associat	01/04/1999	122,211,657	37,799,428	1	1S/3W 32K	0
95314	1S/3W	32K 2	2504 MacArthur Blvd	Oakland	Michael Marr & Associat	01/04/1999	122,211,657	37,799,428	1	1S/3W 32k	0
95314	1S/3W	32K 3	2504 MacArthur Blvd	Oakland	Michael Marr & Associat	01/04/1999	122,211,657	37,799,428	1	1S/3W 32k	0
	1S/3W	32N	25TH AVE & 29TH STR	Oakland	EBMUD CENTRAL RESE	02/23/1988	122,221,609	37,795,056	9	1S/3W 32N	2,182
94537	1S/3W	32P 4	2964 Fruitvale Av	Oakland	Frances Beddig	02/24/1998	122,217,436	37,794,006	1	1S/3W 32F	0
94537	1S/3W	32P 5	2958 Fruitvale Av	Oakland	Frances Beddig	07/21/1998	122,217,451	37,793,981	1	1S/3W 32F	0

Phone	City	Drilldate	Elevation	Totaldepth	Waterdepth	Diameter	Use	Log	W	WI	Yield	Dtwcalc	Old_dbase
0	OAK	9/89	0	30	16	2	MON	G	0	0	0	0	D
0	OAK	1/93	0	22	7	2	MON	D	1	0	0	0	D
0	OAK	1/93	0	25	7	2	MON	D	1	0	0	0	D
0	OAK	1/93	0	11	6	0	BOR	G	1	0	0	0	D
0	OAK	6/95	0	31	34	2	MON	G	2	1	0	0	D
0	OAK	6/95	0	25	34	2	MON	G	2	1	0	0	D
0	OAK	6/95	0	15	0	2	MON	G	2	1	0	0	D
0	OAK	2/87	0	27	23	2	BOR	G	0	0	0	0	L
0	OAK	9/94	0	24	16	2	MON	G	2	0	0	0	D
0	OAK	9/94	0	24	0	2	MON	D	0	0	0	0	D

PURCH	FF	SECTION	ADDRESS	Longitude	Owner	Update	Xcoord	Ycoord	Matchlevel	Tsq	Rec_code
	1S/3W	32J	2801 MacArthur Blvd.	Oakland	Call France Corporation	06/08/1990	122,208,151	37,798,502	9	1S/3W 32J	274
	2S/3W	5C10	2682 Fruitvale Road	Oakland	Chevron USA	08/31/1990	122,218,977	37,791,555	9	2S/3W 5C	837
	1S/3W	32J 1	2801 MacArthur Blvd.	Oakland	Califrance	02/27/1991	122,208,151	37,798,502	9	1S/3W 32J	1,036
	1S/3W	32J 2	2801 MacArthur Blvd.	Oakland	Califrance	02/27/1991	122,208,151	37,798,502	9	1S/3W 32J	1,037
	1S/3W	32J 3	2801 MacArthur Blvd.	Oakland	Califrance	02/27/1991	122,208,151	37,798,502	9	1S/3W 32J	1,038
	1S/3W	32J	2801 MacArthur Blvd.	Oakland	Califrance	03/15/1991	122,208,151	37,798,502	9	1S/3W 32J	1,295
	1S/3W	32J 4	2801 MacArthur Blvd	Oakland	Califrance	06/07/1991	122,208,151	37,798,502	9	1S/3W 32J	1,652
	1S/3W	32J 5	2801 MacArthur Blvd	Oakland	Califrance	06/07/1991	122,208,151	37,798,502	9	1S/3W 32J	1,653
	2S/3W	5B 1	3112 COOLIDGE	Oakland	TERRY	07/30/1984	122,212,532	37,791,547	9	2S/3W 5B	2,892
	2S/3W	5C 2	2681 2681 FRUITVALE	Oakland	CHEVRON U.S.A. INC.	09/01/1989	122,216,877	37,791,555	9	2S/3W 5C	2,895
	1S/3W	32E 1	MACARTHUR & WOODI	Oakland	EBMUD	07/31/1984	122,221,595	37,801,972	9	1S/3W 32E	2,180

0	0AK	7/89	0	0	30	8	BOR	G	0	0	0	0	D
0	OAK	07/90	0	25	15	2	MON	D	0	0	0	0	D
0	OAK	11/90	0	23	9	2	MON	G	0	0	0	0	D
0	OAK	10/90	1,000	45	37	2	MON	G	0	0	0	963	D
0	OAK	10/90	1,000	39	38	2	MON	G	0	0	0	962	D
0	OAK	10/84	0	27	5	2	MON	G	0	0	0	0	D
0	OAK	3/91	82	27	9	2	MON	G	0	0	0	73	D
0	OAK	3/91	0	0	18	8	BOR	G	0	0	0	0	D
0	OAK	7	0	0	14	8	IRR	7	0	1	0	0	L
0	OAK	02/89	0	22	13	4	MON	D	0	0	0	0	L
0	OAK	2/76	0	65	0	0	CAT	D	0	0	0	0	L

APPENDIX F

LABORATORY ANALYTICAL REPORTS AND
CHAIN-OF-CUSTODY RECORDS



16 May, 2000

RECEIVED
MAY 30 2000

Jed Douglas
Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato, CA 94945

**GETTLER-RYAN, INC.
GENERAL CONTRACTOR**

RE: Tosco
Sequoia Report W005002

Enclosed are the results of analyses for samples received by the laboratory on 26-Apr-00 14:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Charlie Westwater
Project Manager

CA ELAP Certificate #1271





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW1-10	W005002-01	Soil	25-Apr-00 10:45	26-Apr-00 14:10
MW1-15	W005002-02	Soil	25-Apr-00 00:00	26-Apr-00 14:10
MW2-10	W005002-03	Soil	25-Apr-00 12:40	26-Apr-00 14:10
MW2-15	W005002-04	Soil	25-Apr-00 00:00	26-Apr-00 14:10
MW2-25	W005002-05	Soil	25-Apr-00 13:00	26-Apr-00 14:10
MW3-10	W005002-06	Soil	25-Apr-00 16:55	26-Apr-00 14:10
MW3-25	W005002-07	Soil	25-Apr-00 17:20	26-Apr-00 14:10
MW4-10	W005002-08	Soil	26-Apr-00 11:05	26-Apr-00 14:10

Sequoia Analytical - Walnut Creek

Charlie Westwater, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite 104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW1-10 (W005002-01) Soil Sampled: 25-Apr-00 10:45 Received: 26-Apr-00 14:10									
Purgeable Hydrocarbons	ND	1.0	mg/kg	20	0E09002	09-May-00	09-May-00	EPA 8015/8020	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.050	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		95.7 %	40-140		"	"	"	"	
MW2-10 (W005002-03) Soil Sampled: 25-Apr-00 12:40 Received: 26-Apr-00 14:10 P-01									
Purgeable Hydrocarbons	1600	100	mg/kg	2000	0E09002	09-May-00	09-May-00	EPA 8015/8020	
Benzene	5.1	0.50	"	"	"	"	"	"	
Toluene	3.0	0.50	"	"	"	"	"	"	
Ethylbenzene	54	0.50	"	"	"	"	"	"	
Xylenes (total)	54	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		%	40-140		"	"	"	"	S-01
MW2-25 (W005002-05) Soil Sampled: 25-Apr-00 13:00 Received: 26-Apr-00 14:10									
Purgeable Hydrocarbons	ND	1.0	mg/kg	20	0E09002	09-May-00	09-May-00	EPA 8015/8020	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	0.0061	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.012	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.038	0.0050	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.050	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		95.3 %	40-140		"	"	"	"	





Gettler Ryan, Inc. - Novato 7100 Redwood Blvd., Suite104 Novato CA, 94945	Project: Tosco Project Number: Tosco # 4625 Project Manager: Jed Douglas	Reported: 16-May-00 09:55
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Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW3-10 (W005002-06) Soil Sampled: 25-Apr-00 16:55 Received: 26-Apr-00 14:10									
Purgeable Hydrocarbons	79	5.0	mg/kg	100	0E09002	09-May-00	09-May-00	EPA 8015/8020	P-01
Benzene	0.031	0.025	"	"	"	"	"	"	
Toluene	0.24	0.025	"	"	"	"	"	"	
Ethylbenzene	0.73	0.025	"	"	"	"	"	"	
Xylenes (total)	0.48	0.025	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.25	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		67.0 %	40-140		"	"	"	"	
MW3-25 (W005002-07) Soil Sampled: 25-Apr-00 17:20 Received: 26-Apr-00 14:10									
Purgeable Hydrocarbons	ND	1.0	mg/kg	20	0E09002	09-May-00	09-May-00	EPA 8015/8020	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.050	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		94.0 %	40-140		"	"	"	"	
MW4-10 (W005002-08) Soil Sampled: 26-Apr-00 11:05 Received: 26-Apr-00 14:10									
Purgeable Hydrocarbons	ND	1.0	mg/kg	20	0E09002	09-May-00	09-May-00	EPA 8015/8020	
Benzene	ND	0.0050	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.050	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		98.3 %	40-140		"	"	"	"	





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

Diesel Hydrocarbons (C9-C24) by DHS LUFT
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW3-10 (W005002-06) Soil Sampled: 25-Apr-00 16:55 Received: 26-Apr-00 14:10									
Diesel Range Hydrocarbons	8.4	1.0	mg/kg	1	0E09029	09-May-00	15-May-00	DHS LUFT	D-11
Surrogate: n-Pentacosane		107 %	50-150		"	"	"	"	
MW3-25 (W005002-07) Soil Sampled: 25-Apr-00 17:20 Received: 26-Apr-00 14:10									
Diesel Range Hydrocarbons	1.3	1.0	mg/kg	1	0E09029	09-May-00	15-May-00	DHS LUFT	D-12
Surrogate: n-Pentacosane		101 %	50-150		"	"	"	"	
MW4-10 (W005002-08) Soil Sampled: 26-Apr-00 11:05 Received: 26-Apr-00 14:10									
Diesel Range Hydrocarbons	1.3	1.0	mg/kg	1	0E09029	09-May-00	15-May-00	DHS LUFT	D-12
Surrogate: n-Pentacosane		110 %	50-150		"	"	"	"	





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW3-10 (W005002-06) Soil Sampled: 25-Apr-00 16:55 Received: 26-Apr-00 14:10									
Chromium	48	0.50	mg/kg	1	OE02009	02-May-00	09-May-00	EPA 6010A	





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

Volatile Organic Compounds by EPA Method 8240B Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW3-10 (W005002-06) Soil Sampled: 25-Apr-00 16:55 Received: 26-Apr-00 14:10									
Chloromethane	ND	0.10	mg/kg	100	0E04024	04-May-00	05-May-00	EPA 8240B	
Vinyl chloride	ND	0.10	"	"	"	"	"	"	"
Bromomethane	ND	0.10	"	"	"	"	"	"	"
Chloroethane	ND	0.10	"	"	"	"	"	"	"
Trichlorofluoromethane	ND	0.10	"	"	"	"	"	"	"
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	"
Acetone	ND	0.50	"	"	"	"	"	"	"
Carbon disulfide	ND	0.10	"	"	"	"	"	"	"
Methylene chloride	ND	0.50	"	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	"
Vinyl acetate	ND	0.10	"	"	"	"	"	"	"
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	"
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	"
2-Butanone	ND	0.50	"	"	"	"	"	"	"
Chloroform	ND	0.10	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	"
Carbon tetrachloride	ND	0.10	"	"	"	"	"	"	"
Benzene	ND	0.10	"	"	"	"	"	"	"
1,2-Dichloroethane	ND	0.10	"	"	"	"	"	"	"
Trichloroethene	ND	0.10	"	"	"	"	"	"	"
1,2-Dichloropropane	ND	0.10	"	"	"	"	"	"	"
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	0.10	"	"	"	"	"	"	"
4-Methyl-2-pentanone	ND	0.50	"	"	"	"	"	"	"
Toluene	ND	0.10	"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	0.10	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	"
Tetrachloroethene	ND	0.10	"	"	"	"	"	"	"
2-Hexanone	ND	0.50	"	"	"	"	"	"	"
Dibromochloromethane	ND	0.10	"	"	"	"	"	"	"
Chlorobenzene	ND	0.10	"	"	"	"	"	"	"
Ethylbenzene	ND	0.10	"	"	"	"	"	"	"
Total Xylenes	ND	0.10	"	"	"	"	"	"	"
Styrene	ND	0.10	"	"	"	"	"	"	"
Bromoform	ND	0.10	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	"

Sequoia Analytical - Walnut Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite 104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

Volatile Organic Compounds by EPA Method 8240B
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW3-10 (W005002-06) Soil Sampled: 25-Apr-00 16:55 Received: 26-Apr-00 14:10									
1,2-Dichlorobenzene	ND	0.10	mg/kg	100	0E04024	04-May-00	05-May-00	EPA 8240B	
<i>Surrogate: Dibromofluoromethane</i>		98.0 %	50-150		"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		96.0 %	50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.0 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %	50-150		"	"	"	"	





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

Semivolatile Organic Compounds by EPA Method 8270B

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW3-10 (W005002-06) Soil Sampled: 25-Apr-00 16:55 Received: 26-Apr-00 14:10									
Acenaphthene	ND	0.10	mg/kg	1	0E01016	01-May-00	03-May-00	EPA 8270B	
Acenaphthylene	ND	0.10	"	"	"	"	"	"	
Anthracene	ND	0.10	"	"	"	"	"	"	
Aniline	ND	0.10	"	"	"	"	"	"	
Benzoic acid	ND	0.50	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.10	"	"	"	"	"	"	
Benzo (ghi) perylene	ND	0.10	"	"	"	"	"	"	
Benzo[a]pyrene	ND	0.10	"	"	"	"	"	"	
Benzyl alcohol	ND	0.10	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	0.10	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	0.10	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	0.10	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	0.50	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.10	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	0.10	"	"	"	"	"	"	
4-Chloroaniline	ND	0.50	"	"	"	"	"	"	
2-Chloronaphthalene	ND	0.10	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	0.10	"	"	"	"	"	"	
2-Chlorophenol	ND	0.10	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	0.10	"	"	"	"	"	"	
Chrysene	ND	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.10	"	"	"	"	"	"	
Dibenzofuran	ND	0.10	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
3,3'-Dichlorobenzidine	ND	0.50	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	0.10	"	"	"	"	"	"	
Diethyl phthalate	ND	0.10	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	0.10	"	"	"	"	"	"	
Dimethyl phthalate	ND	0.10	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	0.50	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	0.50	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	0.10	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	0.10	"	"	"	"	"	"	

Sequoia Analytical - Walnut Creek

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Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite 104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

Semivolatile Organic Compounds by EPA Method 8270B
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW3-10 (W005002-06) Soil Sampled: 25-Apr-00 16:55 Received: 26-Apr-00 14:10									
Di-n-octyl phthalate	ND	0.10	mg/kg	1	0E01016	01-May-00	03-May-00	EPA 8270B	
Fluoranthene	ND	0.10	"	"	"	"	"	"	
Fluorene	ND	0.10	"	"	"	"	"	"	
Hexachlorobenzene	ND	0.10	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.10	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.10	"	"	"	"	"	"	
Hexachloroethane	ND	0.10	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.10	"	"	"	"	"	"	
Isophorone	ND	0.10	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.10	"	"	"	"	"	"	
2-Methylphenol	ND	0.10	"	"	"	"	"	"	
4-Methylphenol	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.10	"	"	"	"	"	"	
2-Nitroaniline	ND	0.50	"	"	"	"	"	"	
3-Nitroaniline	ND	0.50	"	"	"	"	"	"	
4-Nitroaniline	ND	0.50	"	"	"	"	"	"	
Nitrobenzene	ND	0.10	"	"	"	"	"	"	
2-Nitrophenol	ND	0.10	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	0.10	"	"	"	"	"	"	
4-Nitrophenol	ND	0.50	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.10	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	0.10	"	"	"	"	"	"	
Pentachlorophenol	ND	0.50	"	"	"	"	"	"	
Phenanthrene	ND	0.10	"	"	"	"	"	"	
Phenol	ND	0.10	"	"	"	"	"	"	
Pyrene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	0.50	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	0.10	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol		54.6 %	25-121	"	"	"	"	"	
Surrogate: Phenol-d6		51.8 %	24-113	"	"	"	"	"	
Surrogate: Nitrobenzene-d5		55.9 %	23-120	"	"	"	"	"	
Surrogate: 2-Fluorobiphenyl		59.2 %	30-115	"	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		60.4 %	19-122	"	"	"	"	"	
Surrogate: p-Terphenyl-d14		65.5 %	18-137	"	"	08-May-00	"	"	





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite 104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

**Conventional Chemistry Parameters by APHA/EPA Methods
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW1-15 (W005002-02) Soil Sampled: 25-Apr-00 11:00 Received: 26-Apr-00 14:10									
Moisture	14	0.010% by Weight		1	0E02037	02-May-00	04-May-00	EPA 160.3	
pH	7.8	0.10	pH Units	"	0E09007	05-May-00	05-May-00	EPA 9045B	
MW2-15 (W005002-04) Soil Sampled: 25-Apr-00 12:45 Received: 26-Apr-00 14:10									
Moisture	14	0.010% by Weight		1	0E02037	02-May-00	04-May-00	EPA 160.3	
pH	7.6	0.10	pH Units	"	0E09007	05-May-00	05-May-00	EPA 9045B	
MW3-10 (W005002-06) Soil Sampled: 25-Apr-00 16:55 Received: 26-Apr-00 14:10									
TRPH	140	50	mg/kg	1	0E11012	11-May-00	11-May-00	SM 5520E/F	





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

**Conventional Chemistry Parameters by APHA/EPA Methods
Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW1-15 (W005002-02) Soil Sampled: 25-Apr-00 00:00 Received: 26-Apr-00 14:10									
Total Organic Carbon	ND	200	mg/kg	1	0050288	10-May-00	10-May-00	ASA 90-3	
MW2-15 (W005002-04) Soil Sampled: 25-Apr-00 00:00 Received: 26-Apr-00 14:10									
Total Organic Carbon	794	200	mg/kg	1	0050288	10-May-00	10-May-00	ASA 90-3	





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E09002 - EPA 5030B [MeOH]

Blank (0E09002-BLK1)

Prepared & Analyzed: 09-May-00

Purgeable Hydrocarbons	ND	1.0	mg/kg							
Benzene	ND	0.0050	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
Methyl tert-butyl ether	ND	0.050	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	0.614		"	0.600		102	40-140			

LCS (0E09002-BS1)

Prepared & Analyzed: 09-May-00

Benzene	0.632	0.0050	mg/kg	0.800		79.0	50-150			
Toluene	0.676	0.0050	"	0.800		84.5	50-150			
Ethylbenzene	0.728	0.0050	"	0.800		91.0	50-150			
Xylenes (total)	2.15	0.0050	"	2.40		89.6	50-150			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	0.710		"	0.600		118	40-140			

LCS Dup (0E09002-BSD1)

Prepared & Analyzed: 09-May-00

Benzene	0.732	0.0050	mg/kg	0.800		91.5	50-150	14.7	20	
Toluene	0.778	0.0050	"	0.800		97.2	50-150	14.0	20	
Ethylbenzene	0.826	0.0050	"	0.800		103	50-150	12.6	20	
Xylenes (total)	2.43	0.0050	"	2.40		101	50-150	12.2	20	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	0.780		"	0.600		130	40-140			





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

**Diesel Hydrocarbons (C9-C24) by DHS LUFT - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0E09029 - EPA 3510B										
Blank (0E09029-BLK1) Prepared: 09-May-00 Analyzed: 12-May-00										
Diesel Range Hydrocarbons	ND	1.0	mg/kg							
Surrogate: n-Pentacosane	1.16		"	1.11		105	50-150			
LCS (0E09029-BS1) Prepared: 09-May-00 Analyzed: 12-May-00										
Diesel Range Hydrocarbons	11.1	1.0	mg/kg	15.0		74.0	60-140			
Surrogate: n-Pentacosane	1.21		"	1.11		109	50-150			
LCS Dup (0E09029-BSD1) Prepared: 09-May-00 Analyzed: 12-May-00										
Diesel Range Hydrocarbons	11.5	1.0	mg/kg	15.0		76.7	60-140	3.54	40	
Surrogate: n-Pentacosane	1.13		"	1.11		102	50-150			





Gettler Ryan, Inc. - Novato 7100 Redwood Blvd., Suite104 Novato CA, 94945	Project: Tosco Project Number: Tosco # 4625 Project Manager: Jed Douglas	Reported: 16-May-00 09:55
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**Total Metals by EPA 6000/7000 Series Methods - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 0E02009 - EPA 3050B									
Blank (0E02009-BLK1)				Prepared: 02-May-00 Analyzed: 09-May-00					
Chromium	ND	0.50	mg/kg						
LCS (0E02009-BS1)				Prepared: 02-May-00 Analyzed: 09-May-00					
Chromium	51.8	0.50	mg/kg	50.0		104 80-120			
LCS Dup (0E02009-BSD1)				Prepared: 02-May-00 Analyzed: 09-May-00					
Chromium	53.3	0.50	mg/kg	50.0		107 80-120	2.85	20	





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

**Volatile Organic Compounds by EPA Method 8240B - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E04024 - EPA 5030B [MeOH]

Blank (0E04024-BLK1)

Prepared: 04-May-00 Analyzed: 05-May-00

Chloromethane	ND	0.10	mg/kg							
Vinyl chloride	ND	0.10	"							
Bromomethane	ND	0.10	"							
Chloroethane	ND	0.10	"							
Trichlorofluoromethane	ND	0.10	"							
1,1-Dichloroethene	ND	0.10	"							
Acetone	ND	0.50	"							
Carbon disulfide	ND	0.10	"							
Methylene chloride	ND	0.50	"							
trans-1,2-Dichloroethene	ND	0.10	"							
Vinyl acetate	ND	0.10	"							
1,1-Dichloroethane	ND	0.10	"							
cis-1,2-Dichloroethene	ND	0.10	"							
2-Butanone	ND	0.50	"							
Chloroform	ND	0.10	"							
1,1,1-Trichloroethane	ND	0.10	"							
Carbon tetrachloride	ND	0.10	"							
Benzene	ND	0.10	"							
1,2-Dichloroethane	ND	0.10	"							
Trichloroethene	ND	0.10	"							
1,2-Dichloropropane	ND	0.10	"							
Bromodichloromethane	ND	0.10	"							
cis-1,3-Dichloropropene	ND	0.10	"							
4-Methyl-2-pentanone	ND	0.50	"							
Toluene	ND	0.10	"							
trans-1,3-Dichloropropene	ND	0.10	"							
1,1,2-Trichloroethane	ND	0.10	"							
Tetrachloroethene	ND	0.10	"							
2-Hexanone	ND	0.50	"							
Dibromochloromethane	ND	0.10	"							
Chlorobenzene	ND	0.10	"							
Ethylbenzene	ND	0.10	"							
Total Xylenes	ND	0.10	"							
Styrene	ND	0.10	"							

Sequoia Analytical - Walnut Creek

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Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

Volatile Organic Compounds by EPA Method 8240B - Quality Control
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E04024 - EPA 5030B [MeOH]

Blank (0E04024-BLK1)

Prepared: 04-May-00 Analyzed: 05-May-00

Bromoform	ND	0.10	mg/kg							
1,1,2,2-Tetrachloroethane	ND	0.10	"							
1,3-Dichlorobenzene	ND	0.10	"							
1,4-Dichlorobenzene	ND	0.10	"							
1,2-Dichlorobenzene	ND	0.10	"							
Surrogate: Dibromofluoromethane	2.40		"	2.50		96.0	50-150			
Surrogate: 1,2-Dichloroethane-d4	2.40		"	2.50		96.0	50-150			
Surrogate: Toluene-d8	2.45		"	2.50		98.0	50-150			
Surrogate: 4-Bromofluorobenzene	2.55		"	2.50		102	50-150			

LCS (0E04024-BS1)

Prepared: 04-May-00 Analyzed: 05-May-00

1,1-Dichloroethene	2.75	0.10	mg/kg	2.50		110	65-135			
Benzene	2.66	0.10	"	2.50		106	70-130			
Trichloroethene	2.79	0.10	"	2.50		112	70-130			
Toluene	2.70	0.10	"	2.50		108	70-130			
Chlorobenzene	2.76	0.10	"	2.50		110	70-130			
Surrogate: Dibromofluoromethane	2.40		"	2.50		96.0	50-150			
Surrogate: 1,2-Dichloroethane-d4	2.40		"	2.50		96.0	50-150			
Surrogate: Toluene-d8	2.50		"	2.50		100	50-150			
Surrogate: 4-Bromofluorobenzene	2.55		"	2.50		102	50-150			

Matrix Spike (0E04024-MS1)

Source: W005125-02

Prepared: 04-May-00 Analyzed: 05-May-00

1,1-Dichloroethene	2.83	0.10	mg/kg	2.50	ND	113	60-140			
Benzene	3.22	0.10	"	2.50	0.37	114	60-140			
Trichloroethene	2.77	0.10	"	2.50	ND	111	60-140			
Toluene	2.76	0.10	"	2.50	ND	110	60-140			
Chlorobenzene	13.9	0.10	"	2.50	11	116	60-140			
Surrogate: Dibromofluoromethane	2.50		"	2.50		100	50-150			
Surrogate: 1,2-Dichloroethane-d4	2.40		"	2.50		96.0	50-150			
Surrogate: Toluene-d8	2.50		"	2.50		100	50-150			
Surrogate: 4-Bromofluorobenzene	2.80		"	2.50		112	50-150			





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite 104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

**Volatile Organic Compounds by EPA Method 8240B - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E04024 - EPA 5030B [MeOH]

Matrix Spike Dup (0E04024-MSD1)

Source: W005125-02

Prepared: 04-May-00 Analyzed: 05-May-00

1,1-Dichloroethene	2.79	0.10	mg/kg	2.50	ND	112	60-140	1.42	25	
Benzene	3.12	0.10	"	2.50	0.37	110	60-140	3.15	25	
Trichloroethene	2.80	0.10	"	2.50	ND	112	60-140	1.08	25	
Toluene	2.77	0.10	"	2.50	ND	111	60-140	0.362	25	
Chlorobenzene	13.5	0.10	"	2.50	11	100	60-140	2.92	25	
Surrogate: Dibromofluoromethane	2.45		"	2.50		98.0	50-150			
Surrogate: 1,2-Dichloroethane-d4	2.40		"	2.50		96.0	50-150			
Surrogate: Toluene-d8	2.50		"	2.50		100	50-150			
Surrogate: 4-Bromofluorobenzene	2.45		"	2.50		98.0	50-150			





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite 104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

**Semivolatile Organic Compounds by EPA Method 8270B - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E01016 - EPA 3510B

Blank (0E01016-BLK1)

Prepared: 01-May-00 Analyzed: 03-May-00

Acenaphthene	ND	0.10	mg/kg							
Acenaphthylene	ND	0.10	"							
Anthracene	ND	0.10	"							
Aniline	ND	0.10	"							
Benzoic acid	ND	0.50	"							
Benzo (a) anthracene	ND	0.10	"							
Benzo (b) fluoranthene	ND	0.10	"							
Benzo (k) fluoranthene	ND	0.10	"							
Benzo (ghi) perylene	ND	0.10	"							
Benzo[a]pyrene	ND	0.10	"							
Benzyl alcohol	ND	0.10	"							
Bis(2-chloroethoxy)methane	ND	0.10	"							
Bis(2-chloroethyl)ether	ND	0.10	"							
Bis(2-chloroisopropyl)ether	ND	0.10	"							
Bis(2-ethylhexyl)phthalate	ND	0.50	"							
4-Bromophenyl phenyl ether	ND	0.10	"							
Butyl benzyl phthalate	ND	0.10	"							
4-Chloroaniline	ND	0.50	"							
2-Chloronaphthalene	ND	0.10	"							
4-Chloro-3-methylphenol	ND	0.10	"							
2-Chlorophenol	ND	0.10	"							
4-Chlorophenyl phenyl ether	ND	0.10	"							
Chrysene	ND	0.10	"							
Dibenz (a,h) anthracene	ND	0.10	"							
Dibenzofuran	ND	0.10	"							
Di-n-butyl phthalate	ND	0.50	"							
1,2-Dichlorobenzene	ND	0.10	"							
1,3-Dichlorobenzene	ND	0.10	"							
1,4-Dichlorobenzene	ND	0.10	"							
3,3'-Dichlorobenzidine	ND	0.50	"							
2,4-Dichlorophenol	ND	0.10	"							
Diethyl phthalate	ND	0.10	"							
2,4-Dimethylphenol	ND	0.10	"							
Dimethyl phthalate	ND	0.10	"							

Sequoia Analytical - Walnut Creek

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Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

**Semivolatile Organic Compounds by EPA Method 8270B - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E01016 - EPA 3510B

Blank (0E01016-BLK1)

Prepared: 01-May-00 Analyzed: 03-May-00

4,6-Dinitro-2-methylphenol	ND	0.50	mg/kg							
2,4-Dinitrophenol	ND	0.50	"							
2,4-Dinitrotoluene	ND	0.10	"							
2,6-Dinitrotoluene	ND	0.10	"							
Di-n-octyl phthalate	ND	0.10	"							
Fluoranthene	ND	0.10	"							
Fluorene	ND	0.10	"							
Hexachlorobenzene	ND	0.10	"							
Hexachlorobutadiene	ND	0.10	"							
Hexachlorocyclopentadiene	ND	0.10	"							
Hexachloroethane	ND	0.10	"							
Indeno (1,2,3-cd) pyrene	ND	0.10	"							
Isophorone	ND	0.10	"							
2-Methylnaphthalene	ND	0.10	"							
2-Methylphenol	ND	0.10	"							
4-Methylphenol	ND	0.10	"							
Naphthalene	ND	0.10	"							
2-Nitroaniline	ND	0.50	"							
3-Nitroaniline	ND	0.50	"							
4-Nitroaniline	ND	0.50	"							
Nitrobenzene	ND	0.10	"							
2-Nitrophenol	ND	0.10	"							
N-Nitrosodimethylamine	ND	0.10	"							
4-Nitrophenol	ND	0.50	"							
N-Nitrosodiphenylamine	ND	0.10	"							
N-Nitrosodi-n-propylamine	ND	0.10	"							
Pentachlorophenol	ND	0.50	"							
Phenanthrene	ND	0.10	"							
Phenol	ND	0.10	"							
Pyrene	ND	0.10	"							
1,2,4-Trichlorobenzene	ND	0.10	"							
2,4,5-Trichlorophenol	ND	0.50	"							
2,4,6-Trichlorophenol	ND	0.10	"							
Surrogate: 2-Fluorophenol	3.70		"	5.00		74.0	25-121			





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

Semivolatile Organic Compounds by EPA Method 8270B - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E01016 - EPA 3510B

Blank (0E01016-BLK1)

Prepared: 01-May-00 Analyzed: 03-May-00

Surrogate: Phenol-d6	3.50		mg/kg	5.00		70.0	24-113			
Surrogate: Nitrobenzene-d5	2.49		"	3.33		74.8	23-120			
Surrogate: 2-Fluorobiphenyl	2.53		"	3.33		76.0	30-115			
Surrogate: 2,4,6-Tribromophenol	3.70		"	5.00		74.0	19-122			
Surrogate: p-Terphenyl-d14	2.78		"	3.33		83.5	18-137			

LCS (0E01016-BS1)

Prepared: 01-May-00 Analyzed: 03-May-00

Acenaphthene	2.56	0.10	mg/kg	3.33		76.9	31-137			
4-Chloro-3-methylphenol	3.70	0.10	"	5.00		74.0	26-103			
2-Chlorophenol	3.70	0.10	"	5.00		74.0	25-102			
1,4-Dichlorobenzene	2.53	0.10	"	3.33		76.0	28-104			
2,4-Dinitrotoluene	2.51	0.10	"	3.33		75.4	28-89			
4-Nitrophenol	3.37	0.50	"	5.00		67.4	11-114			
N-Nitrosodi-n-propylamine	2.76	0.10	"	3.33		82.9	41-126			
Pentachlorophenol	3.73	0.50	"	5.00		74.6	17-109			
Phenol	3.60	0.10	"	5.00		72.0	26-90			
Pyrene	2.93	0.10	"	3.33		88.0	35-142			
1,2,4-Trichlorobenzene	2.50	0.10	"	3.33		75.1	38-107			
Surrogate: 2-Fluorophenol	3.93		"	5.00		78.6	25-121			
Surrogate: Phenol-d6	3.80		"	5.00		76.0	24-113			
Surrogate: Nitrobenzene-d5	2.69		"	3.33		80.8	23-120			
Surrogate: 2-Fluorobiphenyl	2.70		"	3.33		81.1	30-115			
Surrogate: 2,4,6-Tribromophenol	4.03		"	5.00		80.6	19-122			
Surrogate: p-Terphenyl-d14	2.89		"	3.33		86.8	18-137			

LCS Dup (0E01016-BSD1)

Prepared: 01-May-00 Analyzed: 03-May-00

Acenaphthene	2.67	0.10	mg/kg	3.33		80.2	31-137	4.21	40	
4-Chloro-3-methylphenol	3.80	0.10	"	5.00		76.0	26-103	2.67	40	
2-Chlorophenol	3.83	0.10	"	5.00		76.6	25-102	3.45	40	
1,4-Dichlorobenzene	2.64	0.10	"	3.33		79.3	28-104	4.26	40	
2,4-Dinitrotoluene	2.63	0.10	"	3.33		79.0	28-89	4.67	40	
4-Nitrophenol	3.70	0.50	"	5.00		74.0	11-114	9.34	40	
N-Nitrosodi-n-propylamine	2.88	0.10	"	3.33		86.5	41-126	4.26	40	
Pentachlorophenol	3.80	0.50	"	5.00		76.0	17-109	1.86	40	
Phenol	3.73	0.10	"	5.00		74.6	26-90	3.55	40	
Pyrene	2.87	0.10	"	3.33		86.2	35-142	2.07	40	





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

Semivolatile Organic Compounds by EPA Method 8270B - Quality Control
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E01016 - EPA 3510B

LCS Dup (0E01016-BSD1)

Prepared: 01-May-00 Analyzed: 03-May-00

1,2,4-Trichlorobenzene	2.60	0.10	mg/kg	3.33		78.1	38-107	3.92	40	
<i>Surrogate: 2-Fluorophenol</i>	4.03		"	5.00		80.6	25-121			
<i>Surrogate: Phenol-d6</i>	3.83		"	5.00		76.6	24-113			
<i>Surrogate: Nitrobenzene-d5</i>	2.72		"	3.33		81.7	23-120			
<i>Surrogate: 2-Fluorobiphenyl</i>	2.77		"	3.33		83.2	30-115			
<i>Surrogate: 2,4,6-Tribromophenol</i>	4.17		"	5.00		83.4	19-122			
<i>Surrogate: p-Terphenyl-d14</i>	2.78		"	3.33		83.5	18-137			

Matrix Spike (0E01016-MS1)

Source: W004601-01

Prepared: 01-May-00 Analyzed: 04-May-00

Acenaphthene	2.43	0.10	mg/kg	3.33	ND	73.0	31-137			
4-Chloro-3-methylphenol	3.57	0.10	"	5.00	ND	71.4	26-103			
2-Chlorophenol	3.07	0.10	"	5.00	ND	61.4	25-102			
1,4-Dichlorobenzene	2.06	0.10	"	3.33	ND	61.9	28-104			
2,4-Dinitrotoluene	2.51	0.10	"	3.33	ND	75.4	28-89			
4-Nitrophenol	3.27	0.50	"	5.00	ND	65.4	11-114			
N-Nitrosodi-n-propylamine	2.41	0.10	"	3.33	ND	72.4	41-126			
Pentachlorophenol	3.47	0.50	"	5.00	ND	69.4	17-109			
Phenol	3.05	0.10	"	5.00	ND	61.0	26-90			
Pyrene	2.93	0.10	"	3.33	ND	88.0	35-142			
1,2,4-Trichlorobenzene	2.14	0.10	"	3.33	ND	64.3	38-107			
<i>Surrogate: 2-Fluorophenol</i>	3.10		"	5.00		62.0	25-121			
<i>Surrogate: Phenol-d6</i>	3.14		"	5.00		62.8	24-113			
<i>Surrogate: Nitrobenzene-d5</i>	2.24		"	3.33		67.3	23-120			
<i>Surrogate: 2-Fluorobiphenyl</i>	2.38		"	3.33		71.5	30-115			
<i>Surrogate: 2,4,6-Tribromophenol</i>	3.87		"	5.00		77.4	19-122			
<i>Surrogate: p-Terphenyl-d14</i>	2.80		"	3.33		84.1	18-137			

Matrix Spike Dup (0E01016-MSD1)

Source: W004601-01

Prepared: 01-May-00 Analyzed: 04-May-00

Acenaphthene	2.46	0.10	mg/kg	3.33	ND	73.9	31-137	1.23	40	
4-Chloro-3-methylphenol	3.60	0.10	"	5.00	ND	72.0	26-103	0.837	40	
2-Chlorophenol	3.17	0.10	"	5.00	ND	63.4	25-102	3.21	40	
1,4-Dichlorobenzene	2.10	0.10	"	3.33	ND	63.1	28-104	1.92	40	
2,4-Dinitrotoluene	2.53	0.10	"	3.33	ND	76.0	28-89	0.794	40	
4-Nitrophenol	3.37	0.50	"	5.00	ND	67.4	11-114	3.01	40	
N-Nitrosodi-n-propylamine	2.48	0.10	"	3.33	ND	74.5	41-126	2.86	40	
Pentachlorophenol	3.43	0.50	"	5.00	ND	68.6	17-109	1.16	40	





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

**Semivolatile Organic Compounds by EPA Method 8270B - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E01016 - EPA 3510B

Matrix Spike Dup (0E01016-MSD1)

Source: W004601-01

Prepared: 01-May-00 Analyzed: 04-May-00

Phenol	3.14	0.10	mg/kg	5.00	ND	62.8	26-90	2.91	40	
Pyrene	2.83	0.10	"	3.33	ND	85.0	35-142	3.47	40	
1,2,4-Trichlorobenzene	2.15	0.10	"	3.33	ND	64.6	38-107	0.466	40	
<i>Surrogate: 2-Fluorophenol</i>	3.22		"	5.00		64.4	25-121			
<i>Surrogate: Phenol-d6</i>	3.26		"	5.00		65.2	24-113			
<i>Surrogate: Nitrobenzene-d5</i>	2.28		"	3.33		68.5	23-120			
<i>Surrogate: 2-Fluorobiphenyl</i>	2.45		"	3.33		73.6	30-115			
<i>Surrogate: 2,4,6-Tribromophenol</i>	3.87		"	5.00		77.4	19-122			
<i>Surrogate: p-Terphenyl-d14</i>	2.74		"	3.33		82.3	18-137			





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite 104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0E02037 - General Preparation										
Duplicate (0E02037-DUP1)		Source: W005002-04		Prepared: 02-May-00		Analyzed: 04-May-00				
Moisture	13	0.010	% by Weight		14			7.4	30	
Batch 0E09007 - General Preparation										
Duplicate (0E09007-DUP1)		Source: W004579-02		Prepared & Analyzed: 05-May-00						
pH	7.3	0.10	pH Units		7.2			1.4	30	
Batch 0E11012 - EPA 3550A										
Blank (0E11012-BLK1)		Prepared & Analyzed: 11-May-00								
TRPH	ND	50	mg/kg							
LCS (0E11012-BS1)		Prepared & Analyzed: 11-May-00								
TRPH	4920	50	mg/kg	5000		98.4	70-130			
Matrix Spike (0E11012-MS1)		Source: W004543-01		Prepared & Analyzed: 11-May-00						
TRPH	6360	50	mg/kg	5000	78	126	60-140			
Matrix Spike Dup (0E11012-MSD1)		Source: W004543-01		Prepared & Analyzed: 11-May-00						
TRPH	5830	50	mg/kg	5000	78	115	60-140	8.70	30	





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control
Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0050288 - General Preparation										
Blank (0050288-BLK1)										
Prepared & Analyzed: 10-May-00										
Total Organic Carbon	ND	200	mg/kg							
LCS (0050288-BS1)										
Prepared & Analyzed: 10-May-00										
Total Organic Carbon	8660	200	mg/kg	10000		86.6	80.0-120			
Matrix Spike (0050288-MS1)										
Source: W005002-02 Prepared & Analyzed: 10-May-00										
Total Organic Carbon	6150	200	mg/kg	5000	ND	123	75.0-125			
Matrix Spike Dup (0050288-MSD1)										
Source: W005002-02 Prepared & Analyzed: 10-May-00										
Total Organic Carbon	6550	200	mg/kg	5000	ND	131	75.0-125	6.30	35.0	QM-05





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite 104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 09:55

Notes and Definitions

- D-11 Chromatogram Pattern: Unidentified Hydrocarbons < C16
- D-12 Chromatogram Pattern: Unidentified Hydrocarbons > C16
- P-01 Chromatogram Pattern: Gasoline C6-C12
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
- S-01 The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interferences.
- 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





13 June, 2000

Jed Douglas
Gettler Ryan, Inc. - Petaluma
1364 North McDowell Boulevard, Suite B2
Petaluma, CA 94954-1175

RE: Tosco
Sequoia Report: W005002

Enclosed are the results of analyses for samples received by the laboratory on 26-Apr-00 14:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Charlie Westwater
Project Manager

CA ELAP Certificate #1271

RECEIVED
JUN 14 2000
GETTLER-RYAN, INC.
GENERAL CONTRACTOR





Sequoia Analytical - Walnut Creek(TOSCO) 404 North Wiget Lane Walnut Creek, CA 94598	Project: TOSCO Project Number: W005002 Project Manager: Alan Kemp	Sampled: 04/25/00 11:00 Received: 04/26/00 Reported: 5/8/00 18:00
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ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
W005002-01	MJE0022-01	Soil	04/25/00
W005002-04	MJE0022-02	Soil	04/25/00

Sequoia Analytical - Morgan Hill

*The results in this report apply to the samples analyzed in accordance with the chain of custody document.
This analytical report must be reproduced in its entirety.*

Ron Chew, Project Manager

REVISED
6/9/02





Sequoia Analytical - Walnut Creek(TOSCO) 404 North Wiget Lane Walnut Creek, CA 94598	Project: TOSCO Project Number: W005002 Project Manager: Alan Kemp	Sampled: 04/25/00 11:00 Received: 04/26/00 Reported: 5/8/00 18:00
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**PSD- Sieve D422
Sequoia Analytical - Morgan Hill**

Sample Number :	MJE0022-01		MJE0022-02	
	Sieve #	Weight	% Dist.	Weight
4 (4.75mm)	0.00	0.0	1.91	3.1
6 (3.327mm)	0.00	0.0	0.73	1.2
8 (2.36mm)	0.00	0.0	2.35	3.8
12 (1.651mm)	0.01	0.0	3.36	5.5
16 (1.18mm)	0.01	0.0	1.78	2.9
20 (0.850mm)	0.04	0.1	1.52	2.5
30 (0.589mm)	0.09	0.2	3.41	5.5
40 (0.425mm)	0.29	0.7	3.37	5.5
48 (0.295mm)	2.15	5.2	7.34	11.9
70 (0.212mm)	3.27	7.9	4.39	7.2
Total in Pan	35	85.8	31	50.9
Final Total	41	100	61	100.0

REVISED
RD 6/9/00





Sequoia Analytical - Walnut Creek(TOSCO) 404 North Wiget Lane Walnut Creek, CA 94598	Project: TOSCO Project Number: W005002 Project Manager: Alan Kemp	Sampled: 04/25/00 11:00 Received: 04/26/00 Reported: 5/8/00 18:00
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Notes and Definitions

#	Note
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- 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
- Recov. Recovery
- RPD Relative Percent Difference

REVISED
KCB 6/9/00



NO 002164



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: <i>Gertler-Ryan</i>		Project Name: <i>140158.03</i>	
Address: <i>7100 Redwood Blvd #104</i>		TOSCO Engineer (required) <i>David DeWitt</i>	
City: <i>Novato</i>	State: <i>CA</i>	Zip Code: <i>94945</i>	<i>W005002</i>
Telephone: <i>415-893-1515</i>		Site #, City, State: <i>4625, Oakland CA</i>	
FAX #: <i>415-893-1517</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>Jed Douglas</i>	Sampler: <i>J. Douglas</i>		

Turnaround Time: <input checked="" type="checkbox"/> 10 Work Days <input type="checkbox"/> 5 Work Days <input type="checkbox"/> 3 Work Days <input type="checkbox"/> 2 Work Days <input type="checkbox"/> 1 Work Day <input type="checkbox"/> 2-8 Hours	<input type="checkbox"/> Drinking Water <input type="checkbox"/> Waste Water <input type="checkbox"/> Other	Analyses Requested TPH (EPA 8015 Mod. Gas) BTEX (EPA 8020) MTBE (EPA 8020) TPH (EPA 8015 Mod. Diesel) Volatile Organics (EPA 8260) MTBE Confirmation (EPA 8260) moisture porosity bulk density pH grain size permeability Total Organic Carbon
CODE: <input type="checkbox"/> Misc. <input type="checkbox"/> Detect. <input type="checkbox"/> Eval. <input type="checkbox"/> Remed. <input type="checkbox"/> Demol. <input type="checkbox"/> Closure		

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	TPH (EPA 8015 Mod. Gas)	BTEX (EPA 8020)	MTBE (EPA 8020)	TPH (EPA 8015 Mod. Diesel)	Volatile Organics (EPA 8260)	MTBE Confirmation (EPA 8260)	moisture porosity	bulk density	pH grain size	permeability	Total Organic Carbon	Comments	
1. MW1-5	4-25-00/1030	Soil	one	6" liner														Hard Copy of data to be received by 5-11-00
2. MW1-10	1045				D1A	X	X	X		X								
3. MW1-15	1100				O2A					X	X	X						
4. MW1-20	1115																	
5. MW1-25	1120																	
6. MW2-5	1230																	Hold other Samples
7. MW2-10	1240				O3A	X	X	X		X								
8. MW2-15	1245				O4A					X	X	X						
9. MW2-20	1250																	
10. MW2-25	1300				O5A	X	X	X		X								

Relinquished By: <i>[Signature]</i>	Date: <i>4-26-00</i>	Time: <i>1410</i>	Received By: <i>Paul Herrmann</i>	Date: <i>4/26/00</i>	Time: <i>1410</i>
Relinquished By: <i>Paul Herrmann</i>	Date: <i>4/26/00</i>	Time: <i>1530</i>	Received By: <i>[Signature]</i>	Date: <i>4-26-00</i>	Time: <i>1452</i>
Relinquished By: <i>[Signature]</i>	Date: <i>4-26-00</i>	Time: <i>1600</i>	Received By: <i>[Signature]</i>	Date: <i>4/26/00</i>	Time: <i>16:20</i>

Were Samples Received in Good Condition? Yes No
 Samples on Ice? Yes No
 Method of Shipment *drop off*
 Page *1* of *2*

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? _____

Pink - Client
 Yellow - Sequoia
 White - Sequoia

SUBCONTRACT ORDER
Sequoia Analytical - Walnut Creek
W005002

MH

SENDING LABORATORY:

Sequoia Analytical - Walnut Creek
 404 N. Wiget Lane
 Walnut Creek, CA 94598
 Phone: (925) 988-9600
 Fax: (925) 988-9673
 Project Manager: Charlie Westwater

RECEIVING LABORATORY:

Sequoia Analytical - Morgan Hill
 885 Jarvis Drive
 Morgan Hill, CA 95037
 Phone :408-776-9600
 Fax: 408-782-6308

MJE0022

Received: 26-Apr-00 14:10

Project originally received in PET Subbed Bulk Den/Porosity/Perm. to Core Subbed Grain Size to MH Subbed TOC to PET

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: W005002-02	Soil	Sampled: 25-Apr-00 11:00	1	
PSD-Sieve D422	10-May-00 12:00	23-May-00 11:00		
Sample ID: W005002-04	Soil	Sampled: 25-Apr-00 12:45	2	
PSD-Sieve D422	10-May-00 12:00	23-May-00 12:45		

wc
 Released By W.C. Jensen 5/1/00 Date 5-1-00 10:35
 Received By [Signature] Date 5-1-00 10:35
 Released By [Signature] 5-1-00 Date 5-1-00 12:35
 Received By [Signature] 5/1/00 Date 5/1/00 3:00
 Released By Duff 5/1/00 4:00 Date 5/1/00 17:20 ¹ of 1
 Received By [Signature] 5/1/00 Date 5/1/00 17:20 ¹ of 1

SUBCONTRACT ORDER
Sequoia Analytical - Walnut Creek
W005002

CORE

SENDING LABORATORY:

Sequoia Analytical - Walnut Creek
 404 N. Wiget Lane
 Walnut Creek, CA 94598
 Phone: (925) 988-9600
 Fax: (925) 988-9673
 Project Manager: Charlie Westwater

RECEIVING LABORATORY:

Core Laboratory
 3430 Unicorn Road
 Bakersfield, CA 93308
 Phone :805-392-8600
 Fax: -

805-392-8600

Received: 26-Apr-00 14:10

Project originally received in PET Subbed Bulk Den/Porosity/Perm. to Core Subbed Grain Size to MH Subbed TOC to PET

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: W005002-02	Soil	Sampled: 25-Apr-00 11:00	[REDACTED]	
Bulk Density	10-May-00 12:00	22-Sep-00 11:00		
Misc. Subcontract	10-May-00 12:00	22-Oct-00 11:00		Analyze for permeability
Porosity	10-May-00 12:00	22-Sep-00 11:00		
Sample ID: W005002-04	Soil	Sampled: 25-Apr-00 12:45	[REDACTED]	
Bulk Density	10-May-00 12:00	22-Sep-00 12:45		
Misc. Subcontract	10-May-00 12:00	22-Oct-00 12:45		Analyze for permeability
Porosity	10-May-00 12:00	22-Sep-00 12:45		

Released By	<i>WC</i> <i>Ronald Jensen</i>	Date	<i>5/1/00</i>	Received By	<i>UPS</i>	Date	<i>5/1/00</i>
Released By	<i>UPS</i>	Date	<i>5/2/00</i>	Received By		Date	



Sequoia Analytical
(Walnut Creek)
W005002

CL File 57111-00099

Sample		Permeability Vertical (Kair)		Porosity (Total) %	Bulk Density		Matrix Density g/cc	Description
ID	Desc.	mD	cm/sec		Dry g/cc	Natural g/cc		
W005002-02	25-Apr-00	26*	2.2E-05*	31.5	1.84	2.16	2.69	Gray clayey silt
W005002-04	25-Apr-00	367	3.15E-04	27.5	2.00	2.28	2.76	Gray vsilty gravelly sand

*Sample developed micro-fractures upon drying
Permeability to air, total porosity, grain and pore volumes were determined as per API RP-40.



16 May, 2000

Jed Douglas
Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato, CA 94945

RECEIVED
MAY 18 2000

GETTLER-RYAN, INC.
GENERAL CONTRACTOR

RE: Tosco
Sequoia Report: W004601

Enclosed are the results of analyses for samples received by the laboratory on 26-Apr-00 14:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Charlie Westwater
Project Manager

CA ELAP Certificate #1271





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 07:45

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS-1	W004601-01	Soil	26-Apr-00 12:30	26-Apr-00 14:10





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 07:45

**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SS-1 (W004601-01) Soil Sampled: 26-Apr-00 12:30 Received: 26-Apr-00 14:10									P-01
Purgeable Hydrocarbons	56	5.0	mg/kg	100	0E03002	03-May-00	04-May-00	EPA 8015/8020	
Benzene	0.11	0.025	"	"	"	"	"	"	
Toluene	0.26	0.025	"	"	"	"	"	"	
Ethylbenzene	1.1	0.025	"	"	"	"	"	"	
Xylenes (total)	4.0	0.025	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.25	"	"	"	"	"	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene		75.7 %		40-140	"	"	"	"	





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 07:45

**Diesel Hydrocarbons (C9-C24) by DHS LUFT
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SS-1 (W004601-01) Soil Sampled: 26-Apr-00 12:30 Received: 26-Apr-00 14:10									
Diesel Range Hydrocarbons	3.1	1.0	mg/kg	1	0E09029	09-May-00	15-May-00	DHS LUFT	D-06
Surrogate: n-Pentacosane		102 %	50-150		"	"	"	"	





Gettler Ryan, Inc. - Novato 7100 Redwood Blvd., Suite 104 Novato CA, 94945	Project: Tosco Project Number: Tosco # 4625 Project Manager: Jed Douglas	Reported: 16-May-00 07:45
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**Metals Scan by ICP
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SS-1 (W004601-01) Soil Sampled: 26-Apr-00 12:30 Received: 26-Apr-00 14:10									
Cadmium	ND	0.50	mg/kg	1	0D27017	27-Apr-00	27-Apr-00	ICP Scan	
Chromium	78	1.0	"	"	"	"	27-Apr-00	"	
Lead	11	2.5	"	"	"	"	27-Apr-00	"	
Nickel	130	1.0	"	"	"	"	27-Apr-00	"	
Zinc	56	2.5	"	"	"	"	27-Apr-00	"	





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite 104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 07:45

Volatile Organic Compounds by EPA Method 8240B Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SS-1 (W004601-01) Soil Sampled: 26-Apr-00 12:30 Received: 26-Apr-00 14:10									
Chloromethane	ND	0.10	mg/kg	100	0D27031	27-Apr-00	28-Apr-00	EPA 8240B	
Vinyl chloride	ND	0.10	"	"	"	"	"	"	
Bromomethane	ND	0.10	"	"	"	"	"	"	
Chloroethane	ND	0.10	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Acetone	ND	0.50	"	"	"	"	"	"	
Carbon disulfide	ND	0.10	"	"	"	"	"	"	
Methylene chloride	ND	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
Vinyl acetate	ND	0.10	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.10	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.10	"	"	"	"	"	"	
2-Butanone	ND	0.50	"	"	"	"	"	"	
Chloroform	ND	0.10	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.10	"	"	"	"	"	"	
Benzene	ND	0.10	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.10	"	"	"	"	"	"	
Trichloroethene	ND	0.10	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.10	"	"	"	"	"	"	
Bromodichloromethane	ND	0.10	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.10	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	0.50	"	"	"	"	"	"	
Toluene	1.2	0.10	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.10	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.10	"	"	"	"	"	"	
Tetrachloroethene	ND	0.10	"	"	"	"	"	"	
2-Hexanone	ND	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.10	"	"	"	"	"	"	
Chlorobenzene	ND	0.10	"	"	"	"	"	"	
Ethylbenzene	4.4	0.10	"	"	"	"	"	"	
Total Xylenes	17	0.10	"	"	"	"	"	"	
Styrene	ND	0.10	"	"	"	"	"	"	
Bromoform	ND	0.10	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.10	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 07:45

**Volatile Organic Compounds by EPA Method 8240B
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SS-1 (W004601-01) Soil Sampled: 26-Apr-00 12:30 Received: 26-Apr-00 14:10									
1,2-Dichlorobenzene	ND	0.10	mg/kg	100	0D27031	27-Apr-00	28-Apr-00	EPA 8240B	
Surrogate: Dibromofluoromethane	94.0 %	50-150			"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	92.0 %	50-150			"	"	"	"	
Surrogate: Toluene-d8	100 %	50-150			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %	50-150			"	"	"	"	





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 07:45

Semivolatile Organic Compounds by EPA Method 8270B

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SS-1 (W004601-01) Soil Sampled: 26-Apr-00 12:30 Received: 26-Apr-00 14:10									
Acenaphthene	ND	0.10	mg/kg	1	0E01016	01-May-00	04-May-00	EPA 8270B	
Acenaphthylene	ND	0.10	"	"	"	"	"	"	
Anthracene	ND	0.10	"	"	"	"	"	"	
Aniline	ND	0.10	"	"	"	"	"	"	
Benzoic acid	ND	0.50	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.10	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.10	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.10	"	"	"	"	"	"	
Benzo (ghi) perylene	ND	0.10	"	"	"	"	"	"	
Benzo[a]pyrene	ND	0.10	"	"	"	"	"	"	
Benzyl alcohol	ND	0.10	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	0.10	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	0.10	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	0.10	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	0.50	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.10	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	0.10	"	"	"	"	"	"	
4-Chloroaniline	ND	0.50	"	"	"	"	"	"	
2-Chloronaphthalene	ND	0.10	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	0.10	"	"	"	"	"	"	
2-Chlorophenol	ND	0.10	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	0.10	"	"	"	"	"	"	
Chrysene	ND	0.10	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.10	"	"	"	"	"	"	
Dibenzofuran	ND	0.10	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.10	"	"	"	"	"	"	
3,3'-Dichlorobenzidine	ND	0.50	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	0.10	"	"	"	"	"	"	
Diethyl phthalate	ND	0.10	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	0.10	"	"	"	"	"	"	
Dimethyl phthalate	ND	0.10	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	0.50	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	0.50	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	0.10	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	0.10	"	"	"	"	"	"	





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 07:45

Semivolatle Organic Compounds by EPA Method 8270B Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SS-1 (W004601-01) Soil Sampled: 26-Apr-00 12:30 Received: 26-Apr-00 14:10									
Di-n-octyl phtalate	ND	0.10	mg/kg	1	0E01016	01-May-00	04-May-00	EPA 8270B	
Fluoranthene	ND	0.10	"	"	"	"	"	"	
Fluorene	ND	0.10	"	"	"	"	"	"	
Hexachlorobenzene	ND	0.10	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.10	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.10	"	"	"	"	"	"	
Hexachloroethane	ND	0.10	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.10	"	"	"	"	"	"	
Isophorone	ND	0.10	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.10	"	"	"	"	"	"	
2-Methylphenol	ND	0.10	"	"	"	"	"	"	
4-Methylphenol	ND	0.10	"	"	"	"	"	"	
Naphthalene	ND	0.10	"	"	"	"	"	"	
2-Nitroaniline	ND	0.50	"	"	"	"	"	"	
3-Nitroaniline	ND	0.50	"	"	"	"	"	"	
4-Nitroaniline	ND	0.50	"	"	"	"	"	"	
Nitrobenzene	ND	0.10	"	"	"	"	"	"	
2-Nitrophenol	ND	0.10	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	0.10	"	"	"	"	"	"	
4-Nitrophenol	ND	0.50	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.10	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	0.10	"	"	"	"	"	"	
Pentachlorophenol	ND	0.50	"	"	"	"	"	"	
Phenanthrene	ND	0.10	"	"	"	"	"	"	
Phenol	ND	0.10	"	"	"	"	"	"	
Pyrene	ND	0.10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.10	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	0.50	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	0.10	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol		60.6 %	25-121	"	"	"	"	"	
Surrogate: Phenol-d6		58.0 %	24-113	"	"	"	"	"	
Surrogate: Nitrobenzene-d5		64.0 %	23-120	"	"	"	"	"	
Surrogate: 2-Fluorobiphenyl		69.4 %	30-115	"	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		71.4 %	19-122	"	"	"	"	"	
Surrogate: p-Terphenyl-d14		81.7 %	18-137	"	"	"	"	"	





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite 104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 07:45

Conventional Chemistry Parameters by APHA/EPA Methods

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SS-1 (W004601-01) Soil Sampled: 26-Apr-00 12:30 Received: 26-Apr-00 14:10									
TRPH	180	50	mg/kg	1	0E11012	11-May-00	11-May-00	SM 5520E/F	





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Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 07:45

**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Notes
Batch 0E03002 - EPA 5030B [MeOH]										
Blank (0E03002-BLK1)										
Prepared & Analyzed: 03-May-00										
Purgeable Hydrocarbons	ND	20	mg/kg							
Benzene	ND	10	"							
Toluene	ND	10	"							
Ethylbenzene	ND	10	"							
Xylenes (total)	ND	10	"							
Methyl tert-butyl ether	ND	1.0	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	0.682		"	0.600		114	70-130			
LCS (0E03002-BS1)										
Prepared & Analyzed: 03-May-00										
Benzene	0.778	0.10	mg/kg	0.800		97.2	70-130			
Toluene	0.802	0.10	"	0.800		100	70-130			
Ethylbenzene	0.834	0.10	"	0.800		104	70-130			
Xylenes (total)	2.46	0.10	"	2.40		102	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	0.652		"	0.600		109	70-130			
Matrix Spike (0E03002-MS1)										
Source: W004628-11										
Prepared & Analyzed: 03-May-00										
Benzene	0.816	0.10	mg/kg	0.800	ND	102	70-130			
Toluene	0.854	0.10	"	0.800	ND	107	70-130			
Ethylbenzene	0.880	0.10	"	0.800	ND	110	70-130			
Xylenes (total)	2.60	0.10	"	2.40	ND	108	70-130			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	0.578		"	0.600		96.3	70-130			
Matrix Spike Dup (0E03002-MSD1)										
Source: W004628-11										
Prepared & Analyzed: 03-May-00										
Benzene	0.844	0.10	mg/kg	0.800	ND	105	70-130	3.37	20	
Toluene	0.882	0.10	"	0.800	ND	110	70-130	3.23	20	
Ethylbenzene	0.906	0.10	"	0.800	ND	113	70-130	2.91	20	
Xylenes (total)	2.64	0.10	"	2.40	ND	110	70-130	1.53	20	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	0.606		"	0.600		101	70-130			





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 07:45

**Diesel Hydrocarbons (C9-C24) by DHS LUFT - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0E09029 - EPA 3510B										
Blank (0E09029-BLK1)										
					Prepared: 09-May-00 Analyzed: 12-May-00					
Diesel Range Hydrocarbons	ND	1.0	mg/kg							
Surrogate: n-Pentacosane	1.16		"	1.11		105	50-150			
LCS (0E09029-BS1)										
					Prepared: 09-May-00 Analyzed: 12-May-00					
Diesel Range Hydrocarbons	11.1	1.0	mg/kg	15.0		74.0	60-140			
Surrogate: n-Pentacosane	1.21		"	1.11		109	50-150			
LCS Dup (0E09029-BSD1)										
					Prepared: 09-May-00 Analyzed: 12-May-00					
Diesel Range Hydrocarbons	11.5	1.0	mg/kg	15.0		76.7	60-140	3.54	40	
Surrogate: n-Pentacosane	1.13		"	1.11		102	50-150			





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7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 07:45

Metals Scan by ICP - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0D27017 - EPA 3050B

Blank (0D27017-BLK1)

Prepared & Analyzed: 27-Apr-00

Cadmium	ND	0.50	mg/kg							
Chromium	ND	1.0	"							
Lead	ND	2.5	"							
Nickel	3.15	1.0	"							
Zinc	3.20	2.5	"							

LCS (0D27017-BS1)

Prepared & Analyzed: 27-Apr-00

Cadmium	51.7	0.50	mg/kg	50.0		103	80-120			
Chromium	51.4	1.0	"	50.0		103	80-120			
Lead	52.0	2.5	"	50.0		104	80-120			
Nickel	52.0	1.0	"	50.0		104	80-120			
Zinc	49.2	2.5	"	50.0		98.4	80-120			

LCS Dup (0D27017-BSD1)

Prepared & Analyzed: 27-Apr-00

Cadmium	54.6	0.50	mg/kg	50.0		109	80-120	5.46	20	
Chromium	53.9	1.0	"	50.0		108	80-120	4.75	20	
Lead	55.0	2.5	"	50.0		110	80-120	5.61	20	
Nickel	55.5	1.0	"	50.0		111	80-120	6.51	20	
Zinc	48.8	2.5	"	50.0		97.6	80-120	0.816	20	

Matrix Spike (0D27017-MS1)

Source: W004596-02

Prepared & Analyzed: 27-Apr-00

Cadmium	53.3	0.50	mg/kg	50.0	ND	107	80-120			
Chromium	78.3	1.0	"	50.0	30	96.6	80-120			
Lead	57.2	2.5	"	50.0	7.4	99.6	80-120			
Nickel	79.9	1.0	"	50.0	35	89.8	80-120			
Zinc	98.8	2.5	"	50.0	49	99.6	80-120			

Matrix Spike Dup (0D27017-MSD1)

Source: W004596-02

Prepared & Analyzed: 27-Apr-00

Cadmium	54.8	0.50	mg/kg	50.0	ND	110	80-120	2.78	20	
Chromium	80.1	1.0	"	50.0	30	100	80-120	2.27	20	
Lead	60.0	2.5	"	50.0	7.4	105	80-120	4.78	20	
Nickel	81.9	1.0	"	50.0	35	93.8	80-120	2.47	20	
Zinc	103	2.5	"	50.0	49	108	80-120	4.16	20	





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 07:45

**Volatile Organic Compounds by EPA Method 8240B - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0D27031 - EPA 5030B [MeOH]

Blank (0D27031-BLK1)

Prepared & Analyzed: 25-Apr-00

Chloromethane	ND	0.10	mg/kg							
Vinyl chloride	ND	0.10	"							
Bromomethane	ND	0.10	"							
Chloroethane	ND	0.10	"							
Trichlorofluoromethane	ND	0.10	"							
1,1-Dichloroethene	ND	0.10	"							
Acetone	ND	0.50	"							
Carbon disulfide	ND	0.10	"							
Methylene chloride	ND	0.50	"							
trans-1,2-Dichloroethene	ND	0.10	"							
Vinyl acetate	ND	0.10	"							
1,1-Dichloroethane	ND	0.10	"							
cis-1,2-Dichloroethene	ND	0.10	"							
2-Butanone	ND	0.50	"							
Chloroform	ND	0.10	"							
1,1,1-Trichloroethane	ND	0.10	"							
Carbon tetrachloride	ND	0.10	"							
Benzene	ND	0.10	"							
1,2-Dichloroethane	ND	0.10	"							
Trichloroethene	ND	0.10	"							
1,2-Dichloropropane	ND	0.10	"							
Bromodichloromethane	ND	0.10	"							
cis-1,3-Dichloropropene	ND	0.10	"							
4-Methyl-2-pentanone	ND	0.50	"							
Toluene	ND	0.10	"							
trans-1,3-Dichloropropene	ND	0.10	"							
1,1,2-Trichloroethane	ND	0.10	"							
Tetrachloroethene	ND	0.10	"							
2-Hexanone	ND	0.50	"							
Dibromochloromethane	ND	0.10	"							
Chlorobenzene	ND	0.10	"							
Ethylbenzene	ND	0.10	"							
Total Xylenes	ND	0.10	"							
Styrene	ND	0.10	"							





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Volatile Organic Compounds by EPA Method 8240B - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0D27031 - EPA 5030B [MeOH]

Blank (0D27031-BLK1)

Prepared & Analyzed: 25-Apr-00

Bromoform	ND	0.10	mg/kg							
1,1,2,2-Tetrachloroethane	ND	0.10	"							
1,3-Dichlorobenzene	ND	0.10	"							
1,4-Dichlorobenzene	ND	0.10	"							
1,2-Dichlorobenzene	ND	0.10	"							
<i>Surrogate: Dibromofluoromethane</i>	2.35		"	2.50		94.0	50-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.45		"	2.50		98.0	50-150			
<i>Surrogate: Toluene-d8</i>	2.50		"	2.50		100	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.50		"	2.50		100	50-150			

Blank (0D27031-BLK2)

Prepared & Analyzed: 27-Apr-00

Chloromethane	ND	0.10	mg/kg							
Vinyl chloride	ND	0.10	"							
Bromomethane	ND	0.10	"							
Chloroethane	ND	0.10	"							
Trichlorofluoromethane	ND	0.10	"							
1,1-Dichloroethene	ND	0.10	"							
Acetone	ND	0.50	"							
Carbon disulfide	ND	0.10	"							
Methylene chloride	ND	0.50	"							
trans-1,2-Dichloroethene	ND	0.10	"							
Vinyl acetate	ND	0.10	"							
1,1-Dichloroethane	ND	0.10	"							
cis-1,2-Dichloroethene	ND	0.10	"							
2-Butanone	ND	0.50	"							
Chloroform	ND	0.10	"							
1,1,1-Trichloroethane	ND	0.10	"							
Carbon tetrachloride	ND	0.10	"							
Benzene	ND	0.10	"							
1,2-Dichloroethane	ND	0.10	"							
Trichloroethene	ND	0.10	"							
1,2-Dichloropropane	ND	0.10	"							
Bromodichloromethane	ND	0.10	"							
cis-1,3-Dichloropropene	ND	0.10	"							
4-Methyl-2-pentanone	ND	0.50	"							





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite 104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 07:45

Volatile Organic Compounds by EPA Method 8240B - Quality Control
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0D27031 - EPA 5030B [MeOH]

Blank (0D27031-BLK2)

Prepared & Analyzed: 27-Apr-00

Toluene	ND	0.10	mg/kg							
trans-1,3-Dichloropropene	ND	0.10	"							
1,1,2-Trichloroethane	ND	0.10	"							
Tetrachloroethene	ND	0.10	"							
2-Hexanone	ND	0.50	"							
Dibromochloromethane	ND	0.10	"							
Chlorobenzene	ND	0.10	"							
Ethylbenzene	ND	0.10	"							
Total Xylenes	ND	0.10	"							
Styrene	ND	0.10	"							
Bromoform	ND	0.10	"							
1,1,2,2-Tetrachloroethane	ND	0.10	"							
1,3-Dichlorobenzene	ND	0.10	"							
1,4-Dichlorobenzene	ND	0.10	"							
1,2-Dichlorobenzene	ND	0.10	"							
<i>Surrogate: Dibromofluoromethane</i>	2.30		"	2.50		92.0	50-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.40		"	2.50		96.0	50-150			
<i>Surrogate: Toluene-d8</i>	2.45		"	2.50		98.0	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.45		"	2.50		98.0	50-150			

Blank (0D27031-BLK3)

Prepared & Analyzed: 28-Apr-00

Chloromethane	ND	0.10	mg/kg							
Vinyl chloride	ND	0.10	"							
Bromomethane	ND	0.10	"							
Chloroethane	ND	0.10	"							
Trichlorofluoromethane	ND	0.10	"							
1,1-Dichloroethene	ND	0.10	"							
Acetone	ND	0.50	"							
Carbon disulfide	ND	0.10	"							
Methylene chloride	ND	0.50	"							
trans-1,2-Dichloroethene	ND	0.10	"							
Vinyl acetate	ND	0.10	"							
1,1-Dichloroethane	ND	0.10	"							
cis-1,2-Dichloroethene	ND	0.10	"							
2-Butanone	ND	0.50	"							





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
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**Volatile Organic Compounds by EPA Method 8240B - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0D27031 - EPA 5030B [MeOH]

Blank (0D27031-BLK3)

Prepared & Analyzed: 28-Apr-00

Chloroform	ND	0.10	mg/kg							
1,1,1-Trichloroethane	ND	0.10	"							
Carbon tetrachloride	ND	0.10	"							
Benzene	ND	0.10	"							
1,2-Dichloroethane	ND	0.10	"							
Trichloroethene	ND	0.10	"							
1,2-Dichloropropane	ND	0.10	"							
Bromodichloromethane	ND	0.10	"							
cis-1,3-Dichloropropene	ND	0.10	"							
4-Methyl-2-pentanone	ND	0.50	"							
Toluene	ND	0.10	"							
trans-1,3-Dichloropropene	ND	0.10	"							
1,1,2-Trichloroethane	ND	0.10	"							
Tetrachloroethene	ND	0.10	"							
2-Hexanone	ND	0.50	"							
Dibromochloromethane	ND	0.10	"							
Chlorobenzene	ND	0.10	"							
Ethylbenzene	ND	0.10	"							
Total Xylenes	ND	0.10	"							
Styrene	ND	0.10	"							
Bromoform	ND	0.10	"							
1,1,1,2-Tetrachloroethane	ND	0.10	"							
1,3-Dichlorobenzene	ND	0.10	"							
1,4-Dichlorobenzene	ND	0.10	"							
1,2-Dichlorobenzene	ND	0.10	"							
<i>Surrogate: Dibromofluoromethane</i>	2.40		"	2.50		96.0	50-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.40		"	2.50		96.0	50-150			
<i>Surrogate: Toluene-d8</i>	2.50		"	2.50		100	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	3.25		"	2.50		130	50-150			





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**Volatile Organic Compounds by EPA Method 8240B - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0D27031 - EPA 5030B [MeOH]										
LCS (0D27031-BS1) Prepared & Analyzed: 25-Apr-00										
1,1-Dichloroethene	2.10	0.10	mg/kg	2.50		84.0	65-135			
Benzene	2.57	0.10	"	2.50		103	70-130			
Trichloroethene	2.83	0.10	"	2.50		113	70-130			
Toluene	2.71	0.10	"	2.50		108	70-130			
Chlorobenzene	2.78	0.10	"	2.50		111	70-130			
<i>Surrogate: Dibromofluoromethane</i>	2.40		"	2.50		96.0	50-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.35		"	2.50		94.0	50-150			
<i>Surrogate: Toluene-d8</i>	2.50		"	2.50		100	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.55		"	2.50		102	50-150			
LCS (0D27031-BS2) Prepared & Analyzed: 27-Apr-00										
1,1-Dichloroethene	2.01	0.10	mg/kg	2.50		80.4	65-135			
Benzene	2.46	0.10	"	2.50		98.4	70-130			
Trichloroethene	2.60	0.10	"	2.50		104	70-130			
Toluene	2.62	0.10	"	2.50		105	70-130			
Chlorobenzene	2.69	0.10	"	2.50		108	70-130			
<i>Surrogate: Dibromofluoromethane</i>	2.35		"	2.50		94.0	50-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.35		"	2.50		94.0	50-150			
<i>Surrogate: Toluene-d8</i>	2.45		"	2.50		98.0	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.50		"	2.50		100	50-150			
LCS (0D27031-BS3) Prepared & Analyzed: 28-Apr-00										
1,1-Dichloroethene	1.82	0.10	mg/kg	2.50		72.8	65-135			
Benzene	2.22	0.10	"	2.50		88.8	70-130			
Trichloroethene	2.29	0.10	"	2.50		91.6	70-130			
Toluene	2.31	0.10	"	2.50		92.4	70-130			
Chlorobenzene	2.43	0.10	"	2.50		97.2	70-130			
<i>Surrogate: Dibromofluoromethane</i>	2.35		"	2.50		94.0	50-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	2.35		"	2.50		94.0	50-150			
<i>Surrogate: Toluene-d8</i>	2.55		"	2.50		102	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	3.20		"	2.50		128	50-150			





Gettler Ryan, Inc. - Novato 7100 Redwood Blvd., Suite104 Novato CA, 94945	Project: Tosco Project Number: Tosco # 4625 Project Manager: Jed Douglas	Reported: 16-May-00 07:45
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Volatile Organic Compounds by EPA Method 8240B - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0D27031 - EPA 5030B [MeOH]

Matrix Spike (0D27031-MS1)		Source: W004419-04		Prepared: 25-Apr-00		Analyzed: 26-Apr-00	
1,1-Dichloroethene	1.93	0.10	mg/kg	2.50	ND	77.2	60-140
Benzene	2.37	0.10	"	2.50	ND	94.8	60-140
Trichloroethene	2.45	0.10	"	2.50	ND	98.0	60-140
Toluene	2.41	0.10	"	2.50	ND	96.4	60-140
Chlorobenzene	2.43	0.10	"	2.50	ND	97.2	60-140
Surrogate: Dibromofluoromethane	2.50		"	2.50		100	50-150
Surrogate: 1,2-Dichloroethane-d4	2.60		"	2.50		104	50-150
Surrogate: Toluene-d8	2.60		"	2.50		104	50-150
Surrogate: 4-Bromofluorobenzene	2.50		"	2.50		100	50-150

Matrix Spike Dup (0D27031-MSD1)		Source: W004419-04		Prepared: 25-Apr-00		Analyzed: 26-Apr-00	
1,1-Dichloroethene	2.08	0.10	mg/kg	2.50	ND	83.2	60-140 7.48 25
Benzene	2.59	0.10	"	2.50	ND	104	60-140 8.87 25
Trichloroethene	2.65	0.10	"	2.50	ND	106	60-140 7.84 25
Toluene	2.68	0.10	"	2.50	ND	107	60-140 10.6 25
Chlorobenzene	2.68	0.10	"	2.50	ND	107	60-140 9.78 25
Surrogate: Dibromofluoromethane	2.55		"	2.50		102	50-150
Surrogate: 1,2-Dichloroethane-d4	2.55		"	2.50		102	50-150
Surrogate: Toluene-d8	2.60		"	2.50		104	50-150
Surrogate: 4-Bromofluorobenzene	2.55		"	2.50		102	50-150





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 07:45

**Semivolatile Organic Compounds by EPA Method 8270B - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E01016 - EPA 3510B

Blank (0E01016-BLK1)

Prepared: 01-May-00 Analyzed: 03-May-00

Acenaphthene	ND	0.10	mg/kg							
Acenaphthylene	ND	0.10	"							
Anthracene	ND	0.10	"							
Aniline	ND	0.10	"							
Benzoic acid	ND	0.50	"							
Benzo (a) anthracene	ND	0.10	"							
Benzo (b) fluoranthene	ND	0.10	"							
Benzo (k) fluoranthene	ND	0.10	"							
Benzo (ghi) perylene	ND	0.10	"							
Benzo[a]pyrene	ND	0.10	"							
Benzyl alcohol	ND	0.10	"							
Bis(2-chloroethoxy)methane	ND	0.10	"							
Bis(2-chloroethyl)ether	ND	0.10	"							
Bis(2-chloroisopropyl)ether	ND	0.10	"							
Bis(2-ethylhexyl)phthalate	ND	0.50	"							
4-Bromophenyl phenyl ether	ND	0.10	"							
Butyl benzyl phthalate	ND	0.10	"							
4-Chloroaniline	ND	0.50	"							
2-Chloronaphthalene	ND	0.10	"							
4-Chloro-3-methylphenol	ND	0.10	"							
2-Chlorophenol	ND	0.10	"							
4-Chlorophenyl phenyl ether	ND	0.10	"							
Chrysene	ND	0.10	"							
Dibenz (a,h) anthracene	ND	0.10	"							
Dibenzofuran	ND	0.10	"							
Di-n-butyl phthalate	ND	0.50	"							
1,2-Dichlorobenzene	ND	0.10	"							
1,3-Dichlorobenzene	ND	0.10	"							
1,4-Dichlorobenzene	ND	0.10	"							
3,3'-Dichlorobenzidine	ND	0.50	"							
2,4-Dichlorophenol	ND	0.10	"							
Diethyl phthalate	ND	0.10	"							
2,4-Dimethylphenol	ND	0.10	"							
Dimethyl phthalate	ND	0.10	"							





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16-May-00 07:45

**Semivolatile Organic Compounds by EPA Method 8270B - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E01016 - EPA 3510B

Blank (0E01016-BLK1)

Prepared: 01-May-00 Analyzed: 03-May-00

4,6-Dinitro-2-methylphenol	ND	0.50	mg/kg							
2,4-Dinitrophenol	ND	0.50	"							
2,4-Dinitrotoluene	ND	0.10	"							
2,6-Dinitrotoluene	ND	0.10	"							
Di-n-octyl phthalate	ND	0.10	"							
Fluoranthene	ND	0.10	"							
Fluorene	ND	0.10	"							
Hexachlorobenzene	ND	0.10	"							
Hexachlorobutadiene	ND	0.10	"							
Hexachlorocyclopentadiene	ND	0.10	"							
Hexachloroethane	ND	0.10	"							
Indeno (1,2,3-cd) pyrene	ND	0.10	"							
Isophorone	ND	0.10	"							
2-Methylnaphthalene	ND	0.10	"							
2-Methylphenol	ND	0.10	"							
4-Methylphenol	ND	0.10	"							
Naphthalene	ND	0.10	"							
2-Nitroaniline	ND	0.50	"							
3-Nitroaniline	ND	0.50	"							
4-Nitroaniline	ND	0.50	"							
Nitrobenzene	ND	0.10	"							
2-Nitrophenol	ND	0.10	"							
N-Nitrosodimethylamine	ND	0.10	"							
4-Nitrophenol	ND	0.50	"							
N-Nitrosodiphenylamine	ND	0.10	"							
N-Nitrosodi-n-propylamine	ND	0.10	"							
Pentachlorophenol	ND	0.50	"							
Phenanthrene	ND	0.10	"							
Phenol	ND	0.10	"							
Pyrene	ND	0.10	"							
1,2,4-Trichlorobenzene	ND	0.10	"							
2,4,5-Trichlorophenol	ND	0.50	"							
2,4,6-Trichlorophenol	ND	0.10	"							
Surrogate: 2-Fluorophenol	3.70		"	5.00		74.0			25-121	

Sequoia Analytical - Walnut Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 07:45

Semivolatile Organic Compounds by EPA Method 8270B - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E01016 - EPA 3510B

Blank (0E01016-BLK1)

Prepared: 01-May-00 Analyzed: 03-May-00

Surrogate: Phenol-d6	3.50		mg/kg	5.00		70.0	24-113			
Surrogate: Nitrobenzene-d5	2.49		"	3.33		74.8	23-120			
Surrogate: 2-Fluorobiphenyl	2.53		"	3.33		76.0	30-115			
Surrogate: 2,4,6-Tribromophenol	3.70		"	5.00		74.0	19-122			
Surrogate: p-Terphenyl-d14	2.78		"	3.33		83.5	18-137			

LCS (0E01016-BS1)

Prepared: 01-May-00 Analyzed: 03-May-00

Acenaphthene	2.56	0.10	mg/kg	3.33		76.9	31-137			
4-Chloro-3-methylphenol	3.70	0.10	"	5.00		74.0	26-103			
2-Chlorophenol	3.70	0.10	"	5.00		74.0	25-102			
1,4-Dichlorobenzene	2.53	0.10	"	3.33		76.0	28-104			
2,4-Dinitrotoluene	2.51	0.10	"	3.33		75.4	28-89			
4-Nitrophenol	3.37	0.50	"	5.00		67.4	11-114			
N-Nitrosodi-n-propylamine	2.76	0.10	"	3.33		82.9	41-126			
Pentachlorophenol	3.73	0.50	"	5.00		74.6	17-109			
Phenol	3.60	0.10	"	5.00		72.0	26-90			
Pyrene	2.93	0.10	"	3.33		88.0	35-142			
1,2,4-Trichlorobenzene	2.50	0.10	"	3.33		75.1	38-107			
Surrogate: 2-Fluorophenol	3.93		"	5.00		78.6	25-121			
Surrogate: Phenol-d6	3.80		"	5.00		76.0	24-113			
Surrogate: Nitrobenzene-d5	2.69		"	3.33		80.8	23-120			
Surrogate: 2-Fluorobiphenyl	2.70		"	3.33		81.1	30-115			
Surrogate: 2,4,6-Tribromophenol	4.03		"	5.00		80.6	19-122			
Surrogate: p-Terphenyl-d14	2.89		"	3.33		86.8	18-137			

LCS Dup (0E01016-BSD1)

Prepared: 01-May-00 Analyzed: 03-May-00

Acenaphthene	2.67	0.10	mg/kg	3.33		80.2	31-137	4.21	40	
4-Chloro-3-methylphenol	3.80	0.10	"	5.00		76.0	26-103	2.67	40	
2-Chlorophenol	3.83	0.10	"	5.00		76.6	25-102	3.45	40	
1,4-Dichlorobenzene	2.64	0.10	"	3.33		79.3	28-104	4.26	40	
2,4-Dinitrotoluene	2.63	0.10	"	3.33		79.0	28-89	4.67	40	
4-Nitrophenol	3.70	0.50	"	5.00		74.0	11-114	9.34	40	
N-Nitrosodi-n-propylamine	2.88	0.10	"	3.33		86.5	41-126	4.26	40	
Pentachlorophenol	3.80	0.50	"	5.00		76.0	17-109	1.86	40	
Phenol	3.73	0.10	"	5.00		74.6	26-90	3.55	40	
Pyrene	2.87	0.10	"	3.33		86.2	35-142	2.07	40	





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 07:45

Semivolatile Organic Compounds by EPA Method 8270B - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E01016 - EPA 3510B

LCS Dup (0E01016-BSD1)

Prepared: 01-May-00 Analyzed: 03-May-00

1,2,4-Trichlorobenzene	2.60	0.10	mg/kg	3.33		78.1	38-107	3.92	40	
Surrogate: 2-Fluorophenol	4.03		"	5.00		80.6	25-121			
Surrogate: Phenol-d6	3.83		"	5.00		76.6	24-113			
Surrogate: Nitrobenzene-d5	2.72		"	3.33		81.7	23-120			
Surrogate: 2-Fluorobiphenyl	2.77		"	3.33		83.2	30-115			
Surrogate: 2,4,6-Tribromophenol	4.17		"	5.00		83.4	19-122			
Surrogate: p-Terphenyl-d14	2.78		"	3.33		83.5	18-137			

Matrix Spike (0E01016-MS1)

Source: W004601-01

Prepared: 01-May-00 Analyzed: 04-May-00

Acenaphthene	2.43	0.10	mg/kg	3.33	ND	73.0	31-137			
4-Chloro-3-methylphenol	3.57	0.10	"	5.00	ND	71.4	26-103			
2-Chlorophenol	3.07	0.10	"	5.00	ND	61.4	25-102			
1,4-Dichlorobenzene	2.06	0.10	"	3.33	ND	61.9	28-104			
2,4-Dinitrotoluene	2.51	0.10	"	3.33	ND	75.4	28-89			
4-Nitrophenol	3.27	0.50	"	5.00	ND	65.4	11-114			
N-Nitrosodi-n-propylamine	2.41	0.10	"	3.33	ND	72.4	41-126			
Pentachlorophenol	3.47	0.50	"	5.00	ND	69.4	17-109			
Phenol	3.05	0.10	"	5.00	ND	61.0	26-90			
Pyrene	2.93	0.10	"	3.33	ND	88.0	35-142			
1,2,4-Trichlorobenzene	2.14	0.10	"	3.33	ND	64.3	38-107			
Surrogate: 2-Fluorophenol	3.10		"	5.00		62.0	25-121			
Surrogate: Phenol-d6	3.14		"	5.00		62.8	24-113			
Surrogate: Nitrobenzene-d5	2.24		"	3.33		67.3	23-120			
Surrogate: 2-Fluorobiphenyl	2.38		"	3.33		71.5	30-115			
Surrogate: 2,4,6-Tribromophenol	3.87		"	5.00		77.4	19-122			
Surrogate: p-Terphenyl-d14	2.80		"	3.33		84.1	18-137			

Matrix Spike Dup (0E01016-MSD1)

Source: W004601-01

Prepared: 01-May-00 Analyzed: 04-May-00

Acenaphthene	2.46	0.10	mg/kg	3.33	ND	73.9	31-137	1.23	40	
4-Chloro-3-methylphenol	3.60	0.10	"	5.00	ND	72.0	26-103	0.837	40	
2-Chlorophenol	3.17	0.10	"	5.00	ND	63.4	25-102	3.21	40	
1,4-Dichlorobenzene	2.10	0.10	"	3.33	ND	63.1	28-104	1.92	40	
2,4-Dinitrotoluene	2.53	0.10	"	3.33	ND	76.0	28-89	0.794	40	
4-Nitrophenol	3.37	0.50	"	5.00	ND	67.4	11-114	3.01	40	
N-Nitrosodi-n-propylamine	2.48	0.10	"	3.33	ND	74.5	41-126	2.86	40	
Pentachlorophenol	3.43	0.50	"	5.00	ND	68.6	17-109	1.16	40	

Sequoia Analytical - Walnut Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 07:45

**Semivolatile Organic Compounds by EPA Method 8270B - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0E01016 - EPA 3510B										
Matrix Spike Dup (0E01016-MSD1)		Source: W004601-01			Prepared: 01-May-00		Analyzed: 04-May-00			
Phenol	3.14	0.10	mg/kg	5.00	ND	62.8	26-90	2.91	40	
Pyrene	2.83	0.10	"	3.33	ND	85.0	35-142	3.47	40	
1,2,4-Trichlorobenzene	2.15	0.10	"	3.33	ND	64.6	38-107	0.466	40	
<i>Surrogate: 2-Fluorophenol</i>	3.22		"	5.00		64.4	25-121			
<i>Surrogate: Phenol-d6</i>	3.26		"	5.00		65.2	24-113			
<i>Surrogate: Nitrobenzene-d5</i>	2.28		"	3.33		68.5	23-120			
<i>Surrogate: 2-Fluorobiphenyl</i>	2.45		"	3.33		73.6	30-115			
<i>Surrogate: 2,4,6-Tribromophenol</i>	3.87		"	5.00		77.4	19-122			
<i>Surrogate: p-Terphenyl-d14</i>	2.74		"	3.33		82.3	18-137			





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 07:45

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch 0E11012 - EPA 3550A									
Blank (0E11012-BLK1)				Prepared & Analyzed: 11-May-00					
TRPH	ND	50	mg/kg						
LCS (0E11012-BS1)				Prepared & Analyzed: 11-May-00					
TRPH	4920	50	mg/kg	5000		98.4 70-130			
Matrix Spike (0E11012-MS1)				Source: W004543-01		Prepared & Analyzed: 11-May-00			
TRPH	6360	50	mg/kg	5000	78	126 60-140			
Matrix Spike Dup (0E11012-MSD1)				Source: W004543-01		Prepared & Analyzed: 11-May-00			
TRPH	5830	50	mg/kg	5000	78	115 60-140	8.70	30	





Gettler Ryan, Inc. - Novato
7100 Redwood Blvd., Suite 104
Novato CA, 94945

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Jed Douglas

Reported:
16-May-00 07:45

Notes and Definitions

D-06 Discrete peaks.
P-01 Chromatogram Pattern: Gasoline C6-C12
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



№ 002165

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: <i>Getter-Ryan</i>			Project Name: <i>140158.03</i>		
Address: <i>7100 Redwood Blvd #104</i>			TOSCO Engineer (required) <i>David DeWitt</i>		
City: <i>Novato</i>	State: <i>CA</i>	Zip Code: <i>94945</i>	<i>W004601</i>		
Telephone: <i>415-893-1515</i>		FAX #: <i>415-893-1517</i>	Site #, City, State: <i>4625, Oakland CA</i>		
Report To: <i>Jed Douglas</i>	Sampler: <i>J. Douglas</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		

Turnaround Time: <input checked="" type="checkbox"/> 10 Work Days <input type="checkbox"/> 5 Work Days <input type="checkbox"/> 3 Work Days <input type="checkbox"/> 2 Work Days <input type="checkbox"/> 1 Work Day <input type="checkbox"/> 2-8 Hours	Analyses Requested	
CODE: <input type="checkbox"/> Misc. <input type="checkbox"/> Detect. <input type="checkbox"/> Eval. <input type="checkbox"/> Remed. <input type="checkbox"/> Demol. <input type="checkbox"/> Closure	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Waste Water
	<input type="checkbox"/> Other	

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	TPH (EPA 8015 Mod. Gas)	BTEX (EPA 8020)	MTBE (EPA 8020)	TPH (EPA 8015 Mod. Diesel)	Volatile Organics	MTBE Confirmation (EPA 8020)	Comments
1. <i>SS-1</i>	<i>4-26-00/1230</i>	<i>Soil</i>	<i>4</i>	<i>4" liner</i>	<i>01A-D</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>Composite</i>
2.												<i>4 liners to</i>
3.												<i>one sample</i>
4.												<i>prior to</i>
5.												<i>analyses</i>
6.												
7.												<i>7⁰⁰</i>
8.												<i>Hard Copy of</i>
9.												<i>data to be</i>
10.												<i>received by</i>
												<i>5-11-00</i>

Relinquished By: <i>[Signature]</i>	Date: <i>4-26-00</i>	Time: <i>14:10</i>	Received By: <i>Paul Hermann</i>	Date: <i>4/26/00</i>	Time: <i>14:10</i>
Relinquished By: <i>Paul Hermann</i>	Date: <i>4/26/00</i>	Time: <i>15:30</i>	Received By: <i>[Signature]</i>	Date: <i>4/26/00</i>	Time: <i>16:00</i>
Relinquished By: <i>[Signature]</i>	Date: <i>4-26-00</i>	Time: <i>16:20</i>	Received By: <i>[Signature]</i>	Date: <i>4/26/00</i>	Time: <i>16:20</i>

Were Samples Received in Good Condition? Yes No Samples on Ice? Yes No Method of Shipment *drop off* Page *1* of *1*

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



22 May, 2000

Deanna L. Harding
Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin, CA 94568

RE: Tosco
Sequoia Report: W005115 .

Enclosed are the results of analyses for samples received by the laboratory on 03-May-00 19:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Charlie Westwater
Project Manager

CA ELAP Certificate #1271





Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

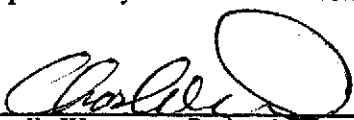
Reported:
22-May-00 10:18

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-LB	W005115-01	Water	03-May-00 00:00	03-May-00 19:05
MW-1	W005115-02	Water	03-May-00 14:30	03-May-00 19:05
MW-2	W005115-03	Water	03-May-00 10:25	03-May-00 19:05
MW-3	W005115-04	Water	03-May-00 11:20	03-May-00 19:05
MW-4	W005115-05	Water	03-May-00 14:45	03-May-00 19:05

Sequoia Analytical - Walnut Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.


Charlie Westwater, Project Manager





Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB-LB (W005115-01) Water Sampled: 03-May-00 00:00 Received: 03-May-00 19:05									
Purgeable Hydrocarbons	ND	50	ug/l	1	0E16001	16-May-00	16-May-00	EPA 8015M/8020	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		112 %	70-130	"	"	"	"	"	
MW-1 (W005115-02) Water Sampled: 03-May-00 14:30 Received: 03-May-00 19:05									
Purgeable Hydrocarbons	ND	50	ug/l	1	0E16001	16-May-00	16-May-00	EPA 8015M/8020	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	11	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		92.3 %	70-130	"	"	"	"	"	
MW-2 (W005115-03) Water Sampled: 03-May-00 10:25 Received: 03-May-00 19:05 P-01									
Purgeable Hydrocarbons	2400	1000	ug/l	20	0E16001	16-May-00	16-May-00	EPA 8015M/8020	
Benzene	53	10	"	"	"	"	"	"	
Toluene	ND	10	"	"	"	"	"	"	
Ethylbenzene	ND	10	"	"	"	"	"	"	
Xylenes (total)	240	10	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	50	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		109 %	70-130	"	"	"	"	"	





Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (W005115-04) Water Sampled: 03-May-00 11:20 Received: 03-May-00 19:05									
Purgeable Hydrocarbons	ND	50	ug/l	1	0E16001	16-May-00	16-May-00	EPA 8015M/8020	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		97.0 %	70-130		"	"	"	"	
MW-4 (W005115-05) Water Sampled: 03-May-00 14:45 Received: 03-May-00 19:05									
Purgeable Hydrocarbons	ND	50	ug/l	1	0E16001	16-May-00	16-May-00	EPA 8015M/8020	
Benzene	ND	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
Xylenes (total)	ND	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.5	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		92.7 %	70-130		"	"	"	"	





Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

Diesel Hydrocarbons (C9-C24) by DHS LUFT
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (W005115-04) Water Sampled: 03-May-00 11:20 Received: 03-May-00 19:05									
Diesel Range Hydrocarbons	93	50	ug/l	1	0E16010	16-May-00	18-May-00	EPA 8015M	D-14
Surrogate: n-Pentacosane		61.0 %	50-150		"	"	"	"	





Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

**MTBE by EPA Method 8260A
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (W005115-02) Water Sampled: 03-May-00 14:30 Received: 03-May-00 19:05									
Methyl tert-butyl ether	14	2.0	ug/l	1	0E12023	09-May-00	09-May-00	EPA 8260A	
Surrogate: Dibromofluoromethane		104 %	50-150		"	"	"	"	
MW-2 (W005115-03) Water Sampled: 03-May-00 10:25 Received: 03-May-00 19:05									
Methyl tert-butyl ether	ND	2.0	ug/l	1	0E12023	09-May-00	09-May-00	EPA 8260A	
Surrogate: Dibromofluoromethane		100 %	50-150		"	"	"	"	
MW-4 (W005115-05) Water Sampled: 03-May-00 14:45 Received: 03-May-00 19:05									
Methyl tert-butyl ether	ND	2.0	ug/l	1	0E12023	09-May-00	10-May-00	EPA 8260A	
Surrogate: Dibromofluoromethane		100 %	50-150		"	"	"	"	





Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

**Total Metals by EPA 200 Series Methods
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (W005115-04) Water Sampled: 03-May-00 11:20 Received: 03-May-00 19:05									
Chromium	ND	0.010	mg/l	1	0E10023	10-May-00	15-May-00	EPA 200.7	





Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

Volatile Organic Compounds by EPA Method 8240B Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (W005115-04) Water Sampled: 03-May-00 11:20 Received: 03-May-00 19:05									
Chloromethane	ND	2.0	ug/l	1	0E05016	10-May-00	10-May-00	EPA 8240B	
Vinyl chloride	ND	2.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	2.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	2.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	2.0	"	"	"	"	"	"	
Acetone	ND	10	"	"	"	"	"	"	
Carbon disulfide	ND	2.0	"	"	"	"	"	"	
Methylene chloride	ND	10	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	2.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	2.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	2.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	2.0	"	"	"	"	"	"	
2-Butanone	ND	10	"	"	"	"	"	"	
Chloroform	ND	2.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	2.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	2.0	"	"	"	"	"	"	
Benzene	ND	2.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	2.0	"	"	"	"	"	"	
Trichloroethene	ND	2.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	2.0	"	"	"	"	"	"	
Bromodichloromethane	ND	2.0	"	"	"	"	"	"	
2,2,5,5-Tetramethyltetrahydrofuran	ND	2.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	2.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	10	"	"	"	"	"	"	
Toluene	ND	2.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	2.0	"	"	"	"	"	"	
Tetrachloroethene	ND	2.0	"	"	"	"	"	"	
2-Hexanone	ND	10	"	"	"	"	"	"	
Dibromochloromethane	ND	2.0	"	"	"	"	"	"	
Chlorobenzene	ND	2.0	"	"	"	"	"	"	
Ethylbenzene	ND	2.0	"	"	"	"	"	"	
Total Xylenes	ND	2.0	"	"	"	"	"	"	
Styrene	ND	2.0	"	"	"	"	"	"	
Bromoform	ND	2.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	2.0	"	"	"	"	"	"	





Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

**Volatile Organic Compounds by EPA Method 8240B
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (W005115-04) Water Sampled: 03-May-00 11:20 Received: 03-May-00 19:05									
1,3-Dichlorobenzene	ND	2.0	ug/l	1	0E05016	10-May-00	10-May-00	EPA 8240B	
1,4-Dichlorobenzene	ND	2.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	2.0	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		98.0 %	50-150		"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		106 %	50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		100 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %	50-150		"	"	"	"	





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Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

Semivolatile Organic Compounds by EPA Method 8270B
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (W005115-04) Water Sampled: 03-May-00 11:20 Received: 03-May-00 19:05									
Acenaphthene	ND	5.0	ug/l	1	0E05010	05-May-00	17-May-00	EPA 8270B	
Acenaphthylene	ND	5.0	"	"	"	"	"	"	
Aniline	ND	5.0	"	"	"	"	"	"	
Anthracene	ND	5.0	"	"	"	"	"	"	
Benzoic acid	ND	10	"	"	"	"	"	"	
Benzo (a) anthracene	ND	5.0	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	5.0	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	5.0	"	"	"	"	"	"	
Benzo (ghi) perylene	ND	5.0	"	"	"	"	"	"	
Benzo[a]pyrene	ND	5.0	"	"	"	"	"	"	
Benzyl alcohol	ND	5.0	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	5.0	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	5.0	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	5.0	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	10	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	5.0	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	5.0	"	"	"	"	"	"	
4-Chloroaniline	ND	10	"	"	"	"	"	"	
2-Chloronaphthalene	ND	5.0	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	5.0	"	"	"	"	"	"	
2-Chlorophenol	ND	5.0	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	5.0	"	"	"	"	"	"	
Chrysene	ND	5.0	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	5.0	"	"	"	"	"	"	
Dibenzofuran	ND	5.0	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.0	"	"	"	"	"	"	
3,3'-Dichlorobenzidine	ND	10	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	5.0	"	"	"	"	"	"	
Diethyl phthalate	ND	5.0	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	5.0	"	"	"	"	"	"	
Dimethyl phthalate	ND	5.0	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	10	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	10	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	5.0	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	5.0	"	"	"	"	"	"	





Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

Semivolatile Organic Compounds by EPA Method 8270B

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (W005115-04) Water Sampled: 03-May-00 11:20 Received: 03-May-00 19:05									
Di-n-octyl phthalate	ND	5.0	ug/l	1	OE05010	05-May-00	17-May-00	EPA 8270B	
Fluoranthene	ND	5.0	"	"	"	"	"	"	
Fluorene	ND	5.0	"	"	"	"	"	"	
Hexachlorobenzene	ND	5.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	5.0	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	10	"	"	"	"	"	"	
Hexachloroethane	ND	5.0	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	5.0	"	"	"	"	"	"	
Isophorone	ND	5.0	"	"	"	"	"	"	
2-Methylnaphthalene	ND	5.0	"	"	"	"	"	"	
2-Methylphenol	ND	5.0	"	"	"	"	"	"	
4-Methylphenol	ND	5.0	"	"	"	"	"	"	
Naphthalene	ND	5.0	"	"	"	"	"	"	
2-Nitroaniline	ND	10	"	"	"	"	"	"	
3-Nitroaniline	ND	10	"	"	"	"	"	"	
4-Nitroaniline	ND	10	"	"	"	"	"	"	
Nitrobenzene	ND	5.0	"	"	"	"	"	"	
2-Nitrophenol	ND	5.0	"	"	"	"	"	"	
4-Nitrophenol	ND	10	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	5.0	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	5.0	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	5.0	"	"	"	"	"	"	
Pentachlorophenol	ND	10	"	"	"	"	"	"	
Phenanthrene	ND	5.0	"	"	"	"	"	"	
Phenol	ND	5.0	"	"	"	"	"	"	
Pyrene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	5.0	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	10	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	5.0	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol		40.7 %		21-110	"	"	"	"	
Surrogate: Phenol-d6		25.8 %		10-110	"	"	"	"	
Surrogate: Nitrobenzene-d5		67.5 %		35-114	"	"	"	"	
Surrogate: 2-Fluorobiphenyl		73.4 %		43-116	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		76.7 %		10-123	"	"	"	"	
Surrogate: p-Terphenyl-d14		79.3 %		33-141	"	"	"	"	





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Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

**Conventional Chemistry Parameters by APHA/EPA Methods
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (W005115-04) Water Sampled: 03-May-00 11:20 Received: 03-May-00 19:05									
TRPH	ND	5.0	mg/l	1	0E21002	21-May-00	22-May-00	SM 5520B/F	





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Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control
Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E16001 - EPA 5030B [P/T]

Blank (0E16001-BLK1)

Prepared & Analyzed: 16-May-00

Purgeable Hydrocarbons	ND	50	ug/l							
Benzene	ND	0.50	"							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: <i>a, a, a</i> -Trifluorotoluene	30.6		"	30.0		102	70-130			

LCS (0E16001-BS1)

Prepared & Analyzed: 16-May-00

Benzene	18.4	0.50	ug/l	20.0		92.0	70-130			
Toluene	20.1	0.50	"	20.0		101	70-130			
Ethylbenzene	22.1	0.50	"	20.0		111	70-130			
Xylenes (total)	65.1	0.50	"	60.0		108	70-130			
Surrogate: <i>a, a, a</i> -Trifluorotoluene	28.3		"	30.0		94.3	70-130			

LCS Dup (0E16001-BSD1)

Prepared & Analyzed: 16-May-00

Benzene	18.5	0.50	ug/l	20.0		92.5	70-130	0.542	20	
Toluene	20.0	0.50	"	20.0		100	70-130	0.499	20	
Ethylbenzene	21.4	0.50	"	20.0		107	70-130	3.22	20	
Xylenes (total)	65.0	0.50	"	60.0		108	70-130	0.154	20	
Surrogate: <i>a, a, a</i> -Trifluorotoluene	27.3		"	30.0		91.0	70-130			





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Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

**Diesel Hydrocarbons (C9-C24) by DHS LUFT - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0E16010 - EPA 3510B										
Blank (0E16010-BLK1)										
					Prepared: 16-May-00 Analyzed: 18-May-00					
Diesel Range Hydrocarbons	ND	50	ug/l							
Surrogate: <i>n</i> -Pentacosane	21.3		"	33.3		64.0	50-150			
LCS (0E16010-BS1)										
					Prepared: 16-May-00 Analyzed: 18-May-00					
Diesel Range Hydrocarbons	423	50	ug/l	500		84.6	60-140			
Surrogate: <i>n</i> -Pentacosane	20.3		"	33.3		61.0	50-150			
LCS Dup (0E16010-BSD1)										
					Prepared: 16-May-00 Analyzed: 18-May-00					
Diesel Range Hydrocarbons	437	50	ug/l	500		87.4	60-140	3.26	50	
Surrogate: <i>n</i> -Pentacosane	17.7		"	33.3		53.2	50-150			





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Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

**MTBE by EPA Method 8260A - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0E12023 - EPA 5030B [P/T]										
Blank (0E12023-BLK1) Prepared & Analyzed: 09-May-00										
Methyl tert-butyl ether	ND	2.0	ug/l							
<i>Surrogate: Dibromofluoromethane</i>	49.0		"	50.0		98.0	50-150			
Blank (0E12023-BLK3) Prepared & Analyzed: 15-May-00										
Methyl tert-butyl ether	ND	2.0	ug/l							
<i>Surrogate: Dibromofluoromethane</i>	49.0		"	50.0		98.0	50-150			
LCS (0E12023-BS1) Prepared & Analyzed: 09-May-00										
Methyl tert-butyl ether	54.2	2.0	ug/l	50.0		108	70-130			
<i>Surrogate: Dibromofluoromethane</i>	48.0		"	50.0		96.0	50-150			
LCS (0E12023-BS3) Prepared & Analyzed: 15-May-00										
Methyl tert-butyl ether	48.9	2.0	ug/l	50.0		97.8	70-130			
<i>Surrogate: Dibromofluoromethane</i>	50.0		"	50.0		100	50-150			
Matrix Spike (0E12023-MS1) Source: W005114-02 Prepared & Analyzed: 09-May-00										
Methyl tert-butyl ether	51.7	2.0	ug/l	50.0	ND	103	60-150			
<i>Surrogate: Dibromofluoromethane</i>	48.0		"	50.0		96.0	50-150			
Matrix Spike Dup (0E12023-MSD1) Source: W005114-02 Prepared & Analyzed: 09-May-00										
Methyl tert-butyl ether	58.0	2.0	ug/l	50.0	ND	116	60-150	11.5	25	
<i>Surrogate: Dibromofluoromethane</i>	49.0		"	50.0		98.0	50-150			





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Reported:
22-May-00 10:18

**Total Metals by EPA 200 Series Methods - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0E10023 - 200.7										
Blank (0E10023-BLK1)										
Prepared: 10-May-00 Analyzed: 15-May-00										
Chromium	ND	0.010	mg/l							
LCS (0E10023-BS1)										
Prepared: 10-May-00 Analyzed: 15-May-00										
Chromium	1.00	0.010	mg/l	1.00		100	80-120			
LCS Dup (0E10023-BSD1)										
Prepared: 10-May-00 Analyzed: 15-May-00										
Chromium	1.00	0.010	mg/l	1.00		100	80-120	0	20	
Matrix Spike (0E10023-MS1)										
Source: W005217-01 Prepared: 10-May-00 Analyzed: 15-May-00										
Chromium	1.00	0.010	mg/l	1.00	ND	100	80-120			
Matrix Spike Dup (0E10023-MSD1)										
Source: W005217-01 Prepared: 10-May-00 Analyzed: 15-May-00										
Chromium	0.970	0.010	mg/l	1.00	ND	97.0	80-120	3.05	20	





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Reported:
22-May-00 10:18

**Volatile Organic Compounds by EPA Method 8240B - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E05016 - EPA 5030B [P/T]

Blank (0E05016-BLK4)

Prepared & Analyzed: 09-May-00

Chloromethane	ND	2.0	ug/l							
Vinyl chloride	ND	2.0	"							
Bromomethane	ND	5.0	"							
Chloroethane	ND	2.0	"							
Trichlorofluoromethane	ND	2.0	"							
1,1-Dichloroethene	ND	2.0	"							
Acetone	ND	10	"							
Carbon disulfide	ND	2.0	"							
Methylene chloride	ND	10	"							
Methyl tert-butyl ether	ND	2.0	"							
trans-1,2-Dichloroethene	ND	2.0	"							
Vinyl acetate	ND	5.0	"							
1,1-Dichloroethane	ND	2.0	"							
cis-1,2-Dichloroethane	ND	2.0	"							
2-Butanone	ND	10	"							
Chloroform	ND	2.0	"							
1,1,1-Trichloroethane	ND	2.0	"							
Carbon tetrachloride	ND	2.0	"							
Benzene	ND	2.0	"							
1,2-Dichloroethane	ND	2.0	"							
Trichloroethene	ND	2.0	"							
1,2-Dichloropropane	ND	2.0	"							
Bromodichloromethane	ND	2.0	"							
2,2,5,5-Tetramethyltetrahydrofuran	ND	2.0	"							
cis-1,3-Dichloropropene	ND	2.0	"							
4-Methyl-2-pentanone	ND	10	"							
Toluene	ND	2.0	"							
trans-1,3-Dichloropropene	ND	5.0	"							
1,1,2-Trichloroethane	ND	2.0	"							
Tetrachloroethene	ND	2.0	"							
2-Hexanone	ND	10	"							
Dibromochloromethane	ND	2.0	"							
Chlorobenzene	ND	2.0	"							
Ethylbenzene	ND	2.0	"							

Sequoia Analytical - Walnut Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





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Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

Volatile Organic Compounds by EPA Method 8240B - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E05016 - EPA 5030B [P/T]

Blank (0E05016-BLK4)

Prepared & Analyzed: 09-May-00

Total Xylenes	ND	2.0	ug/l							
Styrene	ND	2.0	"							
Bromoform	ND	2.0	"							
1,1,2,2-Tetrachloroethane	ND	2.0	"							
1,3-Dichlorobenzene	ND	2.0	"							
1,4-Dichlorobenzene	ND	2.0	"							
1,2-Dichlorobenzene	ND	2.0	"							
<i>Surrogate: Dibromofluoromethane</i>	48.0		"	50.0		96.0	50-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	48.0		"	50.0		96.0	50-150			
<i>Surrogate: Toluene-d8</i>	48.0		"	50.0		96.0	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	51.0		"	50.0		102	50-150			

LCS (0E05016-BS4)

Prepared & Analyzed: 09-May-00

1,1-Dichloroethene	54.1	2.0	ug/l	50.0		108	65-135			
Methyl tert-butyl ether	54.2	2.0	"	50.0		108	70-130			
Benzene	53.8	2.0	"	50.0		108	70-130			
Trichloroethene	56.1	2.0	"	50.0		112	70-130			
Toluene	54.9	2.0	"	50.0		110	70-130			
Chlorobenzene	54.2	2.0	"	50.0		108	70-130			
<i>Surrogate: Dibromofluoromethane</i>	48.0		"	50.0		96.0	50-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	48.0		"	50.0		96.0	50-150			
<i>Surrogate: Toluene-d8</i>	48.0		"	50.0		96.0	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	51.0		"	50.0		102	50-150			

Matrix Spike (0E05016-MS1)

Source: W005093-01

Prepared & Analyzed: 05-May-00

1,1-Dichloroethene	51.9	2.0	ug/l	50.0	ND	104	60-140			
Methyl tert-butyl ether	52.2	2.0	"	50.0	ND	104	60-140			
Benzene	52.7	2.0	"	50.0	ND	105	60-140			
Trichloroethene	53.3	2.0	"	50.0	ND	107	60-140			
Toluene	53.0	2.0	"	50.0	ND	106	60-140			
Chlorobenzene	52.3	2.0	"	50.0	ND	105	60-140			
<i>Surrogate: Dibromofluoromethane</i>	49.0		"	50.0		98.0	50-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	48.0		"	50.0		96.0	50-150			
<i>Surrogate: Toluene-d8</i>	48.0		"	50.0		96.0	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	50.0		"	50.0		100	50-150			





Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

**Volatile Organic Compounds by EPA Method 8240B - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E05016 - EPA 5030B [P/T]

Matrix Spike Dup (0E05016-MSD1)	Source: W005093-01			Prepared & Analyzed: 08-May-00						
1,1-Dichloroethene	54.6	2.0	ug/l	50.0	ND	109	60-140	5.07	25	
Methyl tert-butyl ether	57.0	2.0	"	50.0	ND	114	60-140	8.79	25	
Benzene	55.3	2.0	"	50.0	ND	111	60-140	4.81	25	
Trichloroethene	56.1	2.0	"	50.0	ND	112	60-140	5.12	25	
Toluene	54.8	2.0	"	50.0	ND	110	60-140	3.34	25	
Chlorobenzene	54.1	2.0	"	50.0	ND	108	60-140	3.38	25	
Surrogate: Dibromofluoromethane	50.0		"	50.0		100	50-150			
Surrogate: 1,2-Dichloroethane-d4	50.0		"	50.0		100	50-150			
Surrogate: Toluene-d8	48.0		"	50.0		96.0	50-150			
Surrogate: 4-Bromofluorobenzene	52.0		"	50.0		104	50-150			





Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

**Semivolatile Organic Compounds by EPA Method 8270B - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E05010 - EPA 3510B

Blank (0E05010-BLK1)

Prepared: 05-May-00 Analyzed: 09-May-00

Acenaphthene	ND	5.0	ug/l							
Acenaphthylene	ND	5.0	"							
Aniline	ND	5.0	"							
Anthracene	ND	5.0	"							
Benzoic acid	ND	10	"							
Benzo (a) anthracene	ND	5.0	"							
Benzo (b) fluoranthene	ND	5.0	"							
Benzo (k) fluoranthene	ND	5.0	"							
Benzo (ghi) perylene	ND	5.0	"							
Benzo[a]pyrene	ND	5.0	"							
Benzyl alcohol	ND	5.0	"							
Bis(2-chloroethoxy)methane	ND	5.0	"							
Bis(2-chloroethyl)ether	ND	5.0	"							
Bis(2-chloroisopropyl)ether	ND	5.0	"							
Bis(2-ethylhexyl)phthalate	ND	10	"							
4-Bromophenyl phenyl ether	ND	5.0	"							
Butyl benzyl phthalate	ND	5.0	"							
4-Chloroaniline	ND	10	"							
2-Chloronaphthalene	ND	5.0	"							
4-Chloro-3-methylphenol	ND	5.0	"							
2-Chlorophenol	ND	5.0	"							
4-Chlorophenyl phenyl ether	ND	5.0	"							
Chrysene	ND	5.0	"							
Dibenz (a,h) anthracene	ND	5.0	"							
Dibenzofuran	ND	5.0	"							
Di-n-butyl phthalate	ND	10	"							
1,2-Dichlorobenzene	ND	5.0	"							
1,3-Dichlorobenzene	ND	5.0	"							
1,4-Dichlorobenzene	ND	5.0	"							
3,3'-Dichlorobenzidine	ND	10	"							
2,4-Dichlorophenol	ND	5.0	"							
Diethyl phthalate	ND	5.0	"							
2,4-Dimethylphenol	ND	5.0	"							
Dimethyl phthalate	ND	5.0	"							





Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

**Semivolatile Organic Compounds by EPA Method 8270B - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E05010 - EPA 3510B

Blank (0E05010-BLK1)

Prepared: 05-May-00 Analyzed: 09-May-00

4,6-Dinitro-2-methylphenol	ND	10	ug/l							
2,4-Dinitrophenol	ND	10	"							
2,4-Dinitrotoluene	ND	5.0	"							
2,6-Dinitrotoluene	ND	5.0	"							
Di-n-octyl phthalate	ND	5.0	"							
Fluoranthene	ND	5.0	"							
Fluorene	ND	5.0	"							
Hexachlorobenzene	ND	5.0	"							
Hexachlorobutadiene	ND	5.0	"							
Hexachlorocyclopentadiene	ND	10	"							
Hexachloroethane	ND	5.0	"							
Indeno (1,2,3-cd) pyrene	ND	5.0	"							
Isophorone	ND	5.0	"							
2-Methylnaphthalene	ND	5.0	"							
2-Methylphenol	ND	5.0	"							
4-Methylphenol	ND	5.0	"							
Naphthalene	ND	5.0	"							
2-Nitroaniline	ND	10	"							
3-Nitroaniline	ND	10	"							
4-Nitroaniline	ND	10	"							
Nitrobenzene	ND	5.0	"							
2-Nitrophenol	ND	5.0	"							
4-Nitrophenol	ND	10	"							
N-Nitrosodimethylamine	ND	5.0	"							
N-Nitrosodiphenylamine	ND	5.0	"							
N-Nitrosodi-n-propylamine	ND	5.0	"							
Pentachlorophenol	ND	10	"							
Phenanthrene	ND	5.0	"							
Phenol	ND	5.0	"							
Pyrene	ND	5.0	"							
1,2,4-Trichlorobenzene	ND	5.0	"							
2,4,5-Trichlorophenol	ND	10	"							
2,4,6-Trichlorophenol	ND	5.0	"							
<i>Surrogate: 2-Fluorophenol</i>	67.1		"	130		44.7	21-110			

Sequoia Analytical - Walnut Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

Semivolatile Organic Compounds by EPA Method 8270B - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E05010 - EPA 3510B

Blank (0E05010-BLK1)

Prepared: 05-May-00 Analyzed: 09-May-00

Surrogate: Phenol-d6	39.7		ug/l	150		26.5	10-110			
Surrogate: Nitrobenzene-d5	75.1		"	100		75.1	35-114			
Surrogate: 2-Fluorobiphenyl	78.7		"	100		78.7	43-116			
Surrogate: 2,4,6-Tribromophenol	109		"	150		72.7	10-123			
Surrogate: p-Terphenyl-d14	82.1		"	100		82.1	33-141			

LCS (0E05010-BS1)

Prepared: 05-May-00 Analyzed: 09-May-00

Acenaphthene	79.2	5.0	ug/l	100		79.2	46-118			
4-Chloro-3-methylphenol	106	5.0	"	150		70.7	23-97			
2-Chlorophenol	104	5.0	"	150		69.3	27-123			
1,4-Dichlorobenzene	74.5	5.0	"	100		74.5	36-97			
2,4-Dinitrotoluene	74.7	5.0	"	100		74.7	24-96			
4-Nitrophenol	28.3	10	"	150		18.9	10-80			
N-Nitrosodi-n-propylamine	77.0	5.0	"	100		77.0	41-116			
Pentachlorophenol	109	10	"	150		72.7	9-103			
Phenol	36.9	5.0	"	150		24.6	12-110			
Pyrene	84.9	5.0	"	100		84.9	26-127			
1,2,4-Trichlorobenzene	77.7	5.0	"	100		77.7	39-98			
Surrogate: 2-Fluorophenol	63.7		"	150		42.5	21-110			
Surrogate: Phenol-d6	36.1		"	150		24.1	10-110			
Surrogate: Nitrobenzene-d5	79.2		"	100		79.2	35-114			
Surrogate: 2-Fluorobiphenyl	82.2		"	100		82.2	43-116			
Surrogate: 2,4,6-Tribromophenol	117		"	150		78.0	10-123			
Surrogate: p-Terphenyl-d14	84.6		"	100		84.6	33-141			

LCS Dup (0E05010-BSD1)

Prepared: 05-May-00 Analyzed: 09-May-00

Acenaphthene	78.3	5.0	ug/l	100		78.3	46-118	1.14	30	
4-Chloro-3-methylphenol	105	5.0	"	150		70.0	23-97	0.948	30	
2-Chlorophenol	105	5.0	"	150		70.0	27-123	0.957	30	
1,4-Dichlorobenzene	76.7	5.0	"	100		76.7	36-97	2.91	30	
2,4-Dinitrotoluene	76.8	5.0	"	100		76.8	24-96	2.77	30	
4-Nitrophenol	34.5	10	"	150		23.0	10-80	19.7	30	
N-Nitrosodi-n-propylamine	78.0	5.0	"	100		78.0	41-116	1.29	30	
Pentachlorophenol	113	10	"	150		75.3	9-103	3.60	30	
Phenol	39.9	5.0	"	150		26.6	12-110	7.81	30	
Pyrene	82.2	5.0	"	100		82.2	26-127	3.23	30	

Sequoia Analytical - Walnut Creek

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Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

**Semivolatile Organic Compounds by EPA Method 8270B - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0E05010 - EPA 3510B

LCS Dup (0E05010-BSD1)

Prepared: 05-May-00 Analyzed: 09-May-00

1,2,4-Trichlorobenzene	77.0	5.0	ug/l	100		77.0	39-98	0.905	30	
Surrogate: 2-Fluorophenol	65.2		"	150		43.5	21-110			
Surrogate: Phenol-d6	38.7		"	150		25.8	10-110			
Surrogate: Nitrobenzene-d5	78.4		"	100		78.4	35-114			
Surrogate: 2-Fluorobiphenyl	80.1		"	100		80.1	43-116			
Surrogate: 2,4,6-Tribromophenol	119		"	150		79.3	10-123			
Surrogate: p-Terphenyl-d14	79.8		"	100		79.8	33-141			





Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control
Sequoia Analytical - Walnut Creek**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0E21002 - EPA 3510B										
Blank (0E21002-BLK1)										
Prepared: 21-May-00 Analyzed: 22-May-00										
TRPH	ND	5.0	mg/l							
LCS (0E21002-BS1)										
Prepared: 21-May-00 Analyzed: 22-May-00										
TRPH	115	5.0	mg/l	100		115	70-130			
LCS Dup (0E21002-BSD1)										
Prepared: 21-May-00 Analyzed: 22-May-00										
TRPH	95.3	5.0	mg/l	100		95.3	70-130	18.7	30	





Gettler Ryan, Inc. - Dublin
6747 Sierra Court Suite J
Dublin CA, 94568

Project: Tosco
Project Number: Tosco # 4625
Project Manager: Deanna L. Harding

Reported:
22-May-00 10:18

Notes and Definitions

D-14 Chromatogram Pattern: Unidentified Hydrocarbons C9-C24
P-01 Chromatogram Pattern: Gasoline C6-C12
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





Tosco Marketing Company
2000 Cow Canyon Pl., Ste. 400
San Ramon, California 94543

Facility Number 4625 - OAKLAND, CA
 Facility Address 3070 FRUITVALE AVE., OAKLAND
 Consultant Project Number 140158.03
 Consultant Name Gettler-Ryan Inc. (G-R Inc.)
 Address 6747 Sierra Court, Suite J, Dublin, CA 94568
 Project Contact (Name) Deanna L. Harding
 (Phone) 925-551-7555 (Fax Number) 925-551-7888

Contact (Name) _____
 (Phone) _____
 Laboratory Name Sequoia Analytical
 Laboratory Release Number W005115
 Samples Collected by (Name) HAIG KEVORK
 Collection Date 5/3/2000
 Signature [Handwritten Signature]

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Lead (Yes or No)	Analytes To Be Performed										Remarks						
								TPH Gas + BTEX w/MTBE (8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)	MTBE by 8260	TOTAL CHROMIUM							
TB-LB	01A	1	W	G		Hcl	YES	✓																
MW-1	02A-C	3	W	G	14:30	Hcl		✓																
MW-2	03A-D	3	W	G	10:55	Hcl		✓																
MW-3	04A-D	10	W	G	11:20	Hcl (6 Vol)		✓	✓	✓			✓	✓										
MW-4	05A-C	3	W	G	14:45	Hcl		✓																

DO NOT BILL
TB-LB ANALYSIS

Relinquished By (Signature) <u>[Handwritten Signature]</u>	Organization G-R Inc.	Date/Time 5/3/00 19:05	Received By (Signature) <u>[Handwritten Signature]</u>	Organization	Date/Time	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days 10 Days <u>As Contracted</u>
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <u>[Handwritten Signature]</u>	Organization	Date/Time 5/3/00 19:05	



Facility Number 4625 - OAKLAND
 Facility Address 3070 Fruitvale Ave, Oak., CA
 Consultant Project Number 140158.03
 Consultant Name Gettler-Ryan Inc. (G-R Inc.)
 Address 6747 Sierra Ct. Ste. j Dublin, CA
 Project Contact (Name) JED DOUGLAS
 (Phone) 925-551-7556 (Fax Number) 925-551-7888

Contact (Name) _____
 (Phone) _____
 Laboratory Name Sequoia Analytical
 Laboratory Release Number _____
 Samples Collected by (Name) HAIG KEVORK
 Collection Date 5/3/2000
 Signature [Signature]

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iod (Yes or No)	Analyses To Be Performed											Remarks				
								TPH Gas + NPEX w/MTBE (8018)	TPH Diesel (8015)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Metals CAM 17	TTLC	RCI	96 hr. Fish Toxicity	Total Cyanide	Total Sulfide		MTBE by 8260			
<u>W(R-149)</u>		<u>12</u>	<u>W</u>	<u>G</u>	<u>14:25</u>	<u>HCL (6VDA)</u>	<u>Y</u>	<u>X</u>					<u>X</u>		<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>R-149 (water quality)</u>

DO NOT BILL TB-LB ANALYSIS

Relinquished By (Signature) <u>[Signature]</u>	Organization <u>E-R Inc.</u>	Date/Time <u>5/3/00 19:05</u>	Received By (Signature) _____	Organization _____	Date/Time _____	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days 10 Days <u>As Contracted</u>
Relinquished By (Signature) _____	Organization _____	Date/Time _____	Received By (Signature) _____	Organization _____	Date/Time _____	
Relinquished By (Signature) _____	Organization _____	Date/Time _____	Received For Laboratory By (Signature) <u>[Signature]</u>	Organization _____	Date/Time <u>5/3/00 19:05</u>	

APPENDIX G

FORWARD LANDFILL WASTE ACCEPTANCE LETTER



NORTHERN CALIFORNIA SALES OFFICE • SPECIAL WASTE

Forward • Keller Canyon • Newby Island • Ox Mountain



ALLIED WASTE COMPANIES

RECEIVED
JUN 02 2000

Gettler-Ryan, Inc.
7100 Redwood Blvd, Ste 104
Novato, CA 94583

Attn: Mr. Douglas

Re: Approval No. 952200
Gasoline Contaminated Soil
Station #4625 3070 Fruitvale Ave

GETTLER-RYAN, INC.
GENERAL CONTRACTOR

Dear Mr. Douglas:

FORWARD INC. is pleased to inform you that the approximately 5 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 952200. This number should be used in all scheduling and correspondence with **FORWARD, INC.** regarding this waste profile.

This profile shall remain in effect until May 24, 2001, 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/dc

F:\FORWARD\MERGE FORMS\ACCEPT.DOC