

MAR 29 2002

# GETTLER-RYAN INC.

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TO:	David De Witt Tosco Corporation 2000 Crow Canyon Place, Suite 400 San Ramon, California 94583	DATE:	March 26, 2002
		PROJECT NO.	140107.05
		SUBJECT:	Report Tosco SS No. 7376 4191 First Street Pleasanton, California

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## TRANSMITTAL

TO: David De Witt  
Tosco Corporation  
2000 Crow Canyon Place, Suite 400  
San Ramon, California 94583

DATE: January 18, 2002  
PROJECT NO. 140107.05  
SUBJECT: Report  
Tosco SS No. 7376  
4191 First Street  
Pleasanton, California

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COPIES TO: Scott Seery, Alameda County Health Care Services Agency  
Chuck Headlee, Regional Water Quality Control Board -- SF Bay Region



# GETTLER-RYAN Inc.

MAR 29 2002

## OFF-SITE SUBSURFACE INVESTIGATION REPORT

at

Tosco (Unocal) Service Station No. 7376  
4191 First Street  
Pleasanton, California

Report No. 140107.05

### Prepared for:

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March 20, 2002



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## OFF-SITE SUBSURFACE INVESTIGATION REPORT

at

Tosco (Unocal) Service Station No. 7376  
4191 First Street  
Pleasanton, California

Report No. 140107.05

### INTRODUCTION

This report summarizes field activities performed by Gettler-Ryan Inc. (GR) in September 2001, at the subject site. The purpose of this subsurface investigation was to collect data to better understand the local geology/hydrogeology and to delineate the lateral and vertical extent of hydrocarbon-impacted soil and groundwater adjacent to the subject site. The work performed included: drilling two off-site soil borings and constructing groundwater monitoring wells in these borings; collecting soil samples for description and chemical analysis; developing and sampling the newly installed groundwater monitoring wells; surveying all of the wells; analyzing the soil and groundwater samples; and preparing this report. This work was performed at the request of Tosco Corporation (Tosco) and in response to a request by Alameda County Health Care Services Agency (ACHCSA). This work was proposed in the GR Report No. 140107.05-1, *Work Plan for an Off-Site Subsurface Investigation*, dated March 19, 2001. The Work Plan was approved with conditions in a letter from the ACHCSA dated April 2, 2001.

### SITE DESCRIPTION

The subject site is an operating service station located on the north corner of the intersection of First Street and Ray Street in Pleasanton, California (Figure 1). The site is bounded to the northwest by a former Southern Pacific Railroad right-of-way currently owned by Alameda County, to the north and northeast by a commercial building, to the southeast by First Street, and to the southwest by Ray Street. Properties in the immediate site vicinity are used for a mix of residential and commercial purposes that include restaurants and shopping facilities. The site is located at an approximate elevation of 366 feet above sea level. Current site facilities consist of a kiosk with four product dispenser islands and two 12,000-gallon double-wall fiberglass gasoline underground storage tanks (USTs). Locations of the pertinent site features are shown on the Site Plan (Figure 2).

### SITE HISTORY/PREVIOUS ENVIRONMENTAL WORK

The site was developed in 1899 as a warehouse to store grains and hay (Amador-Livermore Valley Historical Society, 1994). According to a Sanborn map, an "in-ground" storage tank for oil was installed on-site in 1907. The first service station was built on the site in 1976 (Enviros, 1995). Between November 8, 1982 and February 8, 1985, the Pleasanton Fire Department (PFD) responded to five separate fuel releases at the site (PFD, 1988).

On June 30, 1987, exploratory soil borings B-1, B-2, and B-3 were drilled at the site and sampled by Applied GeoSystems (AGS). Borings B-1 and B-2 were drilled to a final depth of 46.5 feet below ground surface (bgs) and B-3 was drilled to 55 feet bgs (Figure 2). Three soil samples from each boring were analyzed for Total Petroleum Hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene, and xylenes (BTEX), except for a sample collected at 35 feet bgs from B-1 (sample S-35-B1) which was also analyzed for Total Petroleum Hydrocarbons as diesel (TPHd). A sample collected at 10 feet bgs from B-3 was reported as not detected for all analytes. The remaining samples contained petroleum hydrocarbons at concentrations ranging from 7.72 to 188.8 parts per million (ppm) of TPHg and 0.07 to 17.1 ppm of benzene. Sample S-35-B1 also contained 1,325 ppm of TPHd. Groundwater was not encountered in the borings (AGS, 1987).

On August 21, 1987, soil boring B-4 was advanced by AGS to a total depth of 66.5 feet bgs (Figure 2). One soil sample collected at 35 feet bgs contained 100.5 ppm of TPHg, 1.4 ppm of benzene, and 1,835 ppm of TPHd. A second soil sample collected at 65 feet bgs was reported as not detected for TPHg, TPHd, and BTEX. Groundwater was not encountered in the boring (AGS, 1987a).

On December 2 through 7, 1987, AGS advanced three soil borings (B-5, B-6, B-7) to a total depth of 96.5 feet bgs and completed the borings as groundwater monitoring wells MW-1, MW-2, and MW-3 (Figure 2). The wells were completed at depths of 96.5, 85, and 96.5 feet bgs, respectively. Saturated soil was initially encountered at approximately 80 feet bgs. Two soil samples collected at 35 and 70 feet bgs in boring B-5 were reported as not detected for TPHg, TPHd, and BTEX. One soil sample collected at 35 feet bgs in boring B-6 contained 15.0 ppm of TPHg, 6,300 ppm of TPHd and was not detected for benzene. One soil sample collected at 70 feet bgs in Boring B-6 were reported as not detected for TPHg, TPHd, and BTEX. A sample collected at 55 feet bgs in boring B-7 contained 390 ppm of TPHg, 1.3 ppm of benzene, and 220 ppm of TPHd. A sample collected at 75 feet bgs in boring B-7 contained 5.0 ppm of TPHg, 30.0 ppm of TPHd, and was not detected for BTEX. Groundwater samples collected from well MW-1, MW-2, and MW-3 contained petroleum hydrocarbon concentrations ranging from 0.0500 to 24.000 ppm of TPHg, 0.058 to 2.600 ppm of benzene, and 0.620 to 2.300 ppm of TPHd (AGS, 1987b).

A 1/2-mile radius well survey was performed by AGS in late 1987 or early 1988. A review of the Alameda County Flood Control and Water Conservation District - Zone 7 (Zone 7) files identified five water wells and two cathodic protection wells within the 1/2-mile radius of the site. Four of the five water wells are domestic wells and the fifth appears to be a monitoring well (AGS, 1987b and KEI, 1996).

Reportedly, in December 1987, the four 12,000-gallon USTs were replaced with two 12,000-gallon double-wall USTs. An unknown volume of contaminated soil was reportedly removed and transported to a Class I facility. The property and facilities were sold to the Unocal Corporation in February 1988 (KEI, 1996 and Enviro, 1995).

In September 1994, KEI performed soil sampling services during a dispenser and product piping upgrade at the site. A total of twelve trench soil samples were collected at approximately 3 feet bgs. Petroleum hydrocarbons were detected in the samples at concentrations ranging from not detected to

8,900 ppm of TPHg, and not detected to 65 ppm of benzene. Upon receipt of the analytical data, overexcavation was performed in the area of two soil samples with elevated hydrocarbon concentrations. Three soil samples were collected at approximately 9 feet bgs. The two overexcavation samples were reported to contain 13 and 17 ppm of TPHg and 0.020 to 0.029 ppm of benzene. The third soil sample, collected laterally between the two overexcavation samples contained 4,400 ppm of TPHg and 29 ppm of benzene (KEI, 1994).

On February 6 and 7, 1995, KEI destroyed monitoring well MW-2 and advanced two soil borings (MW-2B and EB-1). Boring MW-2B was completed as a monitoring well. Well MW-2 was destroyed due to asphalt tar being introduced into the well casing during repaving activities at the site. Soil boring EB-1 was drilled to a total depth of 66 feet bgs and well MW-2B was drilled and constructed to a total depth of 91 feet bgs (Figure 2). A total of twenty-nine soil samples were collected during boring EB-1 and MW-2B drilling activities. Samples collected from 5 to 50 feet bgs from EB-1 contained petroleum hydrocarbon concentrations ranging from 27 to 15,000 ppm of TPHg, 0.29 to 340 ppm of benzene, and 55 to 3,600 ppm of TPHd. Samples collected from 55 to 65 feet bgs from EB-1 contained petroleum hydrocarbon concentrations ranging from not detected to 6.4 ppm of TPHg, not detected to 0.89 ppm of benzene, and not detected for TPHd. Soil samples collected from 5 to 65 feet bgs in well boring MW-2B contained petroleum hydrocarbons concentrations ranging from 1.0 to 720 ppm of TPHg, not detected to 9.5 ppm of benzene, and not detected to 2,400 ppm of TPHd. Soil samples collected from 70 to 80 feet bgs in well boring MW-2B were reported as not detected for TPHg, BTEX, and TPHd (KEI, 1995).

Enviros was contracted to perform a Phase I Environmental Site Assessment for the site in early 1995 (Enviros, 1995).

On July 23 and 24, 1996, KEI advanced three soil borings and completed them as groundwater monitoring wells MW-4, MW-5 and MW-6 to total depths of 73.5 to 93 feet bgs. Well MW-4 was installed on-site and wells MW-5 and MW-6 were installed off-site on the former Southern Pacific Railroad right-of-way (Figure 2). A total of forty-seven soil samples were collected from the well borings and analyzed for TPHg, BTEX, and fuel fingerprinting. Soil samples from well boring MW-4 contained low concentrations of petroleum hydrocarbons ranging from not detected to 47 ppm of TPHg, not detected to 0.27 ppm of benzene, not detected to 15 ppm of TPHd. Soil samples collected in the upper 50 feet of well boring and MW-5 were reported as not detected for TPHg and TPHd, and contained benzene in concentrations ranging from not detected to 0.038 ppm. Samples collected between 55 and 65 feet bgs in MW-5 contained petroleum hydrocarbon concentrations ranging from 32 to 560 ppm of TPHg, 0.28 to 3.9 ppm of benzene, and not detected to 450 ppm of TPHd. Samples collected from MW-6 contain petroleum hydrocarbon concentrations ranging from not detected to 5.0 ppm of TPHg, not detected to 1.2 ppm of benzene, and not detected for TPHd except for 200 ppm detected at 55 feet bgs. Petroleum hydrocarbon concentrations in the range of kerosene, motor oil, and unidentified extractable hydrocarbons were also identified in the samples collected from the well borings (KEI, 1996).



Free product was found in well MW-5 during quarterly monitoring activities on June 27, 1997. In December 1997, (Entrix) performed a forensic geochemical analysis of free product extracted from well MW-5. The Entrix study determined that the free product was most likely composed of a mixture of over 50% refined gasoline and 50% heavier hydrocarbons. The gasoline constituents appeared to be relatively fresh according to Entrix. The heavier hydrocarbon mixture had a carbon distribution ranging from about nC13 to nC33. The distribution is similar in nature to a very weathered crude oil or Bunker C fuel, petroleum products such as diesel #2, motor oil, lube oil, etc., or mixtures of any of the above heavier hydrocarbons (Entrix, 1997).

Five onsite soil borings (B-8 through B-12) were advanced and two offsite downgradient groundwater monitoring wells (MW-7, MW-8) were installed by GR between June and August 1998 (Figure 2). A total of forty soil samples were collected from the soil and well borings and analyzed for TPHg, BTEX, MTBE, TPHd, and TPHo. Petroleum hydrocarbon concentrations in the soil samples range from not detected for all analytes for soil boring B-8 and well boring MW-7, to a maximum of 1,700 ppm of TPHg and 21 ppm of benzene (B-12 at 37.5 feet bgs), 14,000 ppm of TPHd, 2.6 ppm of MTBE (B-12 at 28.5 feet bgs), and 5,200 ppm of TPHo (B-11 at 10.5 feet bgs). Elevated concentrations of petroleum hydrocarbons were concentrated at 24.5 and 31 feet bgs in boring B-10, from the surface to 61 feet bgs in boring B-11, at 28.5, 37.5 and 47 feet bgs in boring B-12, and at 45.5 feet bgs in well boring MW-8. In addition, two soil samples containing visible free product were collected from boring B-11 (near the former UST excavation) at 10.5 and 61 feet bgs and submitted to Global Geochemistry Corp. for hydrocarbon fingerprinting chemical analysis. The results of these analyses was that the free product from both samples was composed of approximately 90% highly to severely weathered semi-volatile and high boiling components identified as crude oil and 10% of slightly weathered gasoline (GR, 1999).

In October and November 2000, GR advanced one off-site soil boring (B-13) and advanced and installed two off-site groundwater monitoring wells (MW-9, MW-10). A total of twenty eight soil samples were collected from the soil and well borings and analyzed for TPHg, BTEX, and MtBE. Five soil samples collected from well boring MW-9 between 16 and 60.5 feet bgs were reported as not detected for all analytes. Nine soils samples collected from well boring MW-10 between 5.5 and 90.5 feet bgs were reported as not detected for all analytes except for 9.7 ppm of TPHg and 0.035 ppm of benzene at 38 feet bgs and 240 ppm of TPHg and unidentified hydrocarbons with a carbon range of C6 to C12, 0.71 ppm of benzene, and 1.2 ppm of MtBE by EPA Method 8020 and not detected for MtBE by EPA Method 8260 at 56 feet bgs. Five samples collected from boring B-13 between 85.5 and 126 feet bgs were reported as not detected for all analytes. Nine soil samples collected from boring B-13 between 7.5 and 73.5 feet bgs contained petroleum hydrocarbons at concentrations ranging from not detected to 14,000 ppm of TPHg and unidentified hydrocarbons with a carbon range of greater than C10 (at 28 feet bgs), not detected to 100 ppm of benzene (at 28 feet bgs), and not detected to 0.18 ppm of MtBE (at 57 feet bgs). Grab groundwater samples were collected each of the borings. Groundwater samples B-13-128.5 and B-13-133, collected at 128.5 and 133 feet bgs from boring B-13, contained 150 and 620 ppb of TPHg, 17 and 53 ppb of benzene, and 3.5 and 3.7 ppb of MtBE, respectively. Groundwater sample G-1, collected from well boring MW-9 at 55 feet bgs, contained 66 ppb of MtBE and was reported as not detected for TPHg and MtBE. Groundwater sample MW-10-90, collected at 90 feet bgs from well boring MW-10, was reported as

not detected for TPHg and benzene, and contained 34 ppb of MtBE. Groundwater sample MW-10-95, collected at 95 feet bgs from well boring MW-10, was reported as not detected for benzene, and contained 230 ppb of TPHg and 54 ppb of MtBE (GR, 2000a).

Groundwater has been monitored on a quarterly basis from December 1994 to the present. Groundwater analytical data collected during monitoring events indicate that free product or a product sheen has been present in well MW-5 since December 1996. The origin of this thick, viscous product, composed of approximately equal parts of crude oil and gasoline, has not been identified. Excluding MW-5, petroleum hydrocarbon concentrations in the groundwater on-and off-site have ranged from not detected to 41,000 ppb of TPHg, not detected to 3,200 ppb of benzene, not detected to 12,200 ppb of MtBE, and not detected to 4,380 ppb of TPHd. Depth to groundwater has fluctuated from approximately 49.63 to 92.23 feet bgs (GR, 2000b). Groundwater flow has ranged from southeast to northwest with a hydraulic gradient of approximately 0.07 to 0.2 feet/feet.

## REGIONAL GEOLOGY

The subject site is located at the base of the northwest end of the Valle De San Jose. The site is underlain by Holocene age coarse grain alluvium interpreted to be alluvial fan deposits. These deposits are composed of unconsolidated, well bedded, moderately sorted, permeable sand and silt, with coarse sand and gravel becoming abundant toward fan heads and in narrow canyons (Helley, 1979). The site is also located approximately 1,000 feet west and north of Pliocene and/or Pleistocene non-marine sedimentary Livermore Gravel (Diblee, 1980).

Previous subsurface studies performed by AGS, KEI, and GR indicate the site is underlain by alluvium to a maximum explored depth of 135.5 feet bgs. The alluvium consists of interbedded layers of silts, sands, clays and gravels in both the vadose and saturated zones (KEI, 1996, GR, 2000).

Groundwater has been historically reported at approximately 67.15 to 87.49 feet below top of casing (TOC) in wells MW-1, MW-2B, MW-3, MW-4, and MW-6. Groundwater in well MW-5 has been historically reported at 49.63 to 70.40 feet below TOC. Groundwater in well MW-5 and nearby wells MW-7, MW-8, and MW-9 have historically appeared "perched" and unconfined. Water table elevations in well MW-5 are generally 15 feet higher, compared to nearby well water table elevations (wells MW-6 and MW-2B). The difference in the groundwater elevations may be a result of lithological or structural constraints (or possibly some offset or displacement in the soils beneath the site in the area between MW-2B and MW-5). The encountered water-bearing zone(s) appears to be unconfined. A review of Alameda County Flood Control and Water Conversation District-Zone 7 (1993) groundwater data indicated that the regional groundwater flow direction in the vicinity of the site was toward the northwest. The nearest surface water is Arroyo Valle, located approximately 700 feet northwest of the site.

## **FIELD ACTIVITIES**

Field work was performed in accordance with the GR Site Safety Plan No. 140107.05, dated September 11, 2001. GR Field Methods and Procedures and Site Safety Plan are presented in Appendix A. Underground Service Alert (USA) was notified prior to beginning the drilling activities and a utility locator service was employed to clear each drilling location. Drilling and well installation was performed under Zone 7 Drilling Permit No. 21123. A copy of the permit is included in Appendix B.

Two off-site soil borings were drilled on September 17 through 19, 2001 and completed as groundwater monitoring wells MW-11 and MW-12, respectively. The wells were installed to total depths of approximately 86 and 88 feet bgs, respectively. The purpose of installing these wells was to delineate impacted groundwater down- and cross-gradient. The location of the wells is shown on Figure 2.

All borings were drilled using a truck-mounted drill rig equipped with eight-inch diameter hollow stem augers. Drilling was performed by Woodward Drilling Company of Rio Vista, California (#C57 710079). A GR geologist observed the drilling and well installation activities, described the encountered soil, and prepared a log of each boring. The upper forty feet of each boring was not logged or sampled, as per an agreement with the ACHSCA. Logs of the soil borings are included in Appendix C. Mr. Scott Seery of ACHSCA was present during some of the drilling activities.

Soil cuttings generated during drilling were placed on and covered with plastic sheeting and stored at the site pending disposal. Sample S-1 Comp was collected from the stockpiled soil cuttings and submitted to the laboratory to be composited and analyzed as one sample. Stockpile sampling procedures are presented in Appendix B. Water generated during the cleaning of the drilling equipment was placed in properly labeled drums and stored at the site pending disposal.

### Well Installation

Each well was constructed using 2-inch diameter Schedule 40 polyvinyl chloride (PVC) casing and 0.02-inch machine-slotted well screen. The annular space around the well screen in each well boring was packed with Lonestar #3 sand to approximately one foot above the top of the well screen. The sandpack in each well was followed by a bentonite transition seal and then completed with neat cement. The top of each well is protected by a vault box, locking well cap, and lock. Due to adjacent underground utilities, a 10-inch diameter by 10 foot long steel conductor casing was installed at the top of each well and drilled through. Well construction details are included on the boring logs in Appendix B.

### Well Monitoring, Development, and Sampling

Monitoring, development, and sampling of the two newly installed and six existing wells were performed by GR personnel. Copies of the well development and field monitoring data sheets are included in Appendix C.

On-and off-site wells were monitored and sampled on September 17, 2001. Wells MW-11 and MW-12 were developed on September 20, 2001 and monitored sampled on September 25, 2001. The remaining site wells were also monitored on September 25, 2001. Well MW-11 dewatered during development after yielding approximately 5 volumes of purge water. Well MW-12 did not dewater during development, and yielded the minimum of 10 well casing volumes of purge water. Quarterly groundwater monitoring was performed and groundwater samples were collected in appropriate containers supplied by the laboratory. Approximately 0.04 and 0.03 feet of floating product was measured in well MW-5 on September 17 and 25, 2001, respectively. Purge water generated during development and sampling procedures was discharged to a truck-mounted tank, then transported to the Tosco Refinery in Rodeo, California for disposal. Monitoring data are summarized in Tables 1 and 2.

#### Wellhead Survey

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

#### **SUBSURFACE CONDITIONS**

The upper 40 feet of each well was not logged or sampled. The unsaturated (vadose) zone is comprised predominantly of fill material overlying a fine-grained unit containing discontinuous strata, overlying a predominantly coarse-grained unit with silt and clay strata. The saturated zone is comprised of interbedded silts, sands, clay and gravels. Regional groundwater was initially encountered at depths of approximately 81 feet bgs. Perched groundwater was encountered at approximately 40 feet bgs. Three geologic cross sections (A-A' on Figure 3, B-B' on Figure 4 and C-C' on Figure 5) were constructed from data generated during recent and previous drilling activities. Cross section locations are shown on Figure 2.

Prior to collection of groundwater samples MW-11 and MW-12 on September 25, 2001, GR personnel measured the depth to groundwater in wells MW-1 through MW-5 and MW-7 through MW-12 at 70.49 to 84.23 feet below top of well casing. Floating product was observed in well MW-5 during the monitoring episode. The depth to water for MW-5 (72.17 feet) is considered anomalous since the total depth of the well is reported as 72 feet bgs. Wells MW-4, MW-6 and MW-10 contained insufficient groundwater to measure. A car was parked over well MW-2B. These data were used to construct a Potentiometric Map (Figure 6). Based on these data, the Potentiometric Map depicts a general groundwater flow of north with a calculated hydraulic gradient of 0.05 to 0.1 feet/feet. This map and previous potentiometric maps suggest the water north of wells MW-2B and MW-6 is topographically higher relative to the other wells. The difference in the groundwater elevations is believed to be a result of lithological or structural constraints, or possibly some offset or displacement in the soils beneath the site in the area between MW-2B and MW-5 (Figures 3, 4, 5). The encountered water-bearing zone(s) appears to be unconfined.

## CHEMICAL ANALYTICAL RESULTS

A total of eight soil samples from the well borings, one composite samples from the stockpiled drill cuttings, one grab groundwater sample and eight groundwater monitoring well samples were collected and submitted for chemical analysis. Soil samples were selected using OVM data and geologic interpretation. Analyses of soil, grab groundwater, and monitoring well groundwater samples were performed by Sequoia Analytical of Redwood City or Petaluma, California (ELAP #1210 or 2384). Copies of the laboratory reports and chain-of-custody forms are included in Appendix E.

### Chemical Analytical Procedures

Selected soil samples from the borings were analyzed for total petroleum hydrocarbons as gasoline (TPHg) and diesel (TPHd), benzene, toluene, ethylbenzene and xylenes (BTEX), and methyl tert-butyl ether (MtBE) according to Environmental Protection Agency (EPA) Method 5030/8015/8020. The grab groundwater sample was analyzed for TPHg, BTEX, and MTBE. Quarterly groundwater samples were analyzed for TPHd, TPHg, BTEX, and MTBE. Soil stockpile sample S-1 Comp was analyzed for TPHg, BTEX, MTBE and total lead. Quarterly groundwater chemical analytical data are summarized in Table 1 and shown on Figure 7. Grab groundwater sample chemical analytical data are summarized in Table 2 and shown on Figure 7. Soil chemical analytical data are summarized in Table 3 and shown on Figure 4.

### Soil Chemical Analytical Results

#### Well Boring MW-11

No petroleum hydrocarbons were detected in four soil samples collected from well boring MW-11 between 41 and 84 feet bgs. Soil chemical analytical data are summarized in Table 3.

#### Well Boring MW-12

No petroleum hydrocarbons were detected in four soil samples collected from well boring MW-12 between 52 and 82.5 feet bgs. Soil chemical analytical data are summarized in Table 3.

### Groundwater Chemical Analytical Results

#### Monitoring Well Groundwater Samples

Groundwater samples MW-1 through MW-3, MW-7 through MW-9, and MW-11 and MW-12 were collected on September 17 and 25, 2001. Approximately 0.04 and 0.03 feet of floating product (crude oil/gasoline mix) was measured in well MW-5. Wells MW-4, MW-6 and MW-10 did not contain adequate groundwater for sample collection. Petroleum hydrocarbons were detected in all groundwater samples at concentrations ranging from not detected to 11,000 ppb (MW-7) of TPHg, not detected to 3,000 ppb (MW-7) of benzene, not detected to 860 ppb (MW-7) of TPHd, and not

detected to 5,100 ppb (MW-2B) of MTBE. TPHg and TPHd concentrations detected also contained discrete peaks and unidentified hydrocarbons outside of normal TPHg and TPHd parameters. See Table 1 for specific notes and explanations. Groundwater analytical data are illustrated on Figure 7.

#### Grab Groundwater Sample

Grab groundwater sample MW-12-Grab, collected from a perched groundwater zone at 40 feet bgs in well boring MW-12, was reported as not detected for TPHg and BTEX, or MTBE. Grab groundwater sample chemical analytical data are summarized in Table 3.

#### Stockpile Chemical Analytical Results

Soil stockpile sample S-1Comp was reported as not detected for TPHg and BTEX, MTBE or total lead. Sample analytical data are summarized in Table 3.

#### **WASTE DISPOSAL**

Approximately 253 gallons of waste water generated by cleaning the drilling equipment and well development procedures were removed from the site by GR, and transported to the Tosco Refinery in Rodeo, California, for treatment. A total of eleven drums of soil (drill cuttings) were removed from the site by Tim Manley Trucking of Sacramento, California and transported to the Forward Incorporated facility in Manteca, California for disposal. A copy of the Forward disposal confirmation form is included in Appendix F.

#### **DISCUSSION**

The purpose of this investigation was to delineate the dissolved hydrocarbons down- and crossgradient of the site.

Geology and soil analytical data for well borings MW-11 and MW-12 resembles previously derived data from MW-7 through MW-9. Petroleum hydrocarbons were not detected in any soil samples collected from the well borings between 41 and 84 feet bgs. A grab groundwater sample collected at 40 feet bgs from MW-12 did not detectable concentrations of petroleum hydrocarbons. The initial groundwater samples for the downgradient wells were reported as not detected for petroleum hydrocarbons except for 9.0 ppb of MTBE in downgradient well MW-11.

Geologic and hydraulic data generated during this and previous investigations suggest the hydrogeologic conditions responsible for the elevated or perched water table identified in wells MW-5 MW-7, MW-8, MW-9, MW-11, and MW-12 as possibly a result of the discontinuous nature of the alluvial fan deposit or some small off-set or displacement of the soils that underlies the site (see cross-sections on Figures 3, 4, and 5). Physical evidence of a possible fault still has not been identified and is suggested based on the cross-section interpretation.

Groundwater data from the grab and quarterly groundwater samples indicate that petroleum hydrocarbons are present in groundwater at low concentrations down- and cross-gradient (north and northeast) of the site. The dissolved groundwater is now defined down- and crossgradient. The vertical extent is most complex, given the imbricated potentiometric surface demonstrated at the site.

## **DISTRIBUTION**

GR recommends that a copy of this report be forwarded to Mr. Chuck Headlee of the California Regional Water Quality Control Board, San Francisco Bay Region at 1515 Clay Street Suite 1400, Oakland, California 94612 and Mr. Scott Seery of the Alameda County Health Care Services Agency at 1131 Harbor Bay Parkway, 2nd Floor, Alameda, California 94502.

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**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #7376  
 4191 First Street  
 Pleasanton, California

WELL ID/ TOC*	DATE	DTW (ft.)	S.L. (ft.bgs)	GWE (msl)	Product								
					Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	
MW-1	12/08/87 <sup>1</sup>	--	65.0-95.0	--	--	2,100 <sup>2</sup>	50 <sup>3</sup>	58	8.0	ND	10	--	
366.99	12/07/94	81.04		285.95	0.00	--	ND	ND	ND	ND	ND	--	
	03/01/95	80.09		286.90	0.00	120	ND	ND	1.1	ND	1.3	--	
	06/01/95	77.53		289.46	0.00	54 <sup>5</sup>	130	1.0	2.9	0.79	4.5	--	
	09/06/95	79.00		287.99	0.00	690	ND	ND	ND	ND	ND	-- <sup>6</sup>	
	12/12/95	77.55		289.44	0.00	190 <sup>5</sup>	ND	ND	ND	ND	ND	--	
	03/01/96	75.09		291.90	0.00	56	ND	ND	ND	ND	ND	370	
	06/15/96	75.07		291.92	0.00	ND	ND	ND	ND	ND	ND	270	
	09/18/96	79.90		287.09	0.00	130 <sup>5</sup>	ND	ND	ND	ND	ND	590	
	12/21/96	78.96		288.03	0.00	ND	ND	ND	ND	ND	ND	150	
	03/07/97	71.49		295.50	0.00	ND	ND	ND	ND	ND	ND	220	
	06/27/97	80.05		286.94	0.00	ND	ND	ND	ND	ND	ND	17	
	09/29/97	80.04		286.95	0.00	ND	ND	ND	ND	ND	ND	24	
	12/15/97	80.07		286.92	0.00	ND	ND	ND	ND	ND	ND	25	
	03/16/98	71.00		295.99	0.00	ND	ND	ND	0.52	ND	0.71	190	
	366.98	06/26/98	79.29		287.69	0.00	ND	59 <sup>13</sup>	0.90	ND	ND	ND	570
		08/18/98	79.93		287.05	0.00	--	--	--	--	--	--	--
		09/22/98	79.99		286.99	0.00	240 <sup>20</sup>	ND	ND	ND	ND	ND	170
12/15/98		80.02		286.96	0.00	ND	ND	ND	ND	ND	ND	63	
12/23/98		80.02		286.96	0.00	--	--	--	--	--	--	--	
03/15/99		78.95		288.03	0.00	67 <sup>24</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	520	
03/23/99		78.69		288.29	0.00	--	--	--	--	--	--	--	
06/07/99		79.82		287.16	0.00	ND	ND	ND	ND	ND	ND	310	
09/03/99		79.74		287.24	0.00	76 <sup>19</sup>	ND	ND	ND	ND	ND	67/55.2 <sup>27</sup>	
12/06/99		79.74		287.24	0.00	ND	ND	ND	ND	ND	ND	120	
03/10/00		79.66		287.32	0.00	51 <sup>19</sup>	ND	ND	ND	ND	ND	100	
06/08/00	79.57		287.41	0.00	68.2 <sup>20</sup>	ND	ND	ND	ND	ND	98.9		
09/25/00	79.48		287.50	0.00	ND	ND	ND	ND	ND	ND	145		
12/19/00	79.64		287.34	0.00	ND	ND	ND	ND	ND	ND	330		
03/05/01	80.03		286.95	0.00	505 <sup>20</sup>	ND	ND	ND	ND	ND	711		

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WELL ID/ TOC*	DATE	DTW (ft.)	S.I. (ft.bgs)	GWE (msl)	Product							
					Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-1 (cont)	06/14/01	79.52	65.0-95.0	287.46	0.00	71 <sup>20</sup>	ND	ND	ND	ND	ND	680
	09/17/01	79.76		287.22	0.00	<50	<50	<0.50	<0.50	<0.50	<0.50	11
	09/25/01	79.71		287.27	0.00	--	--	--	--	--	--	--
MW-2	12/08/87	--	--	--	--	620 <sup>2</sup>	1,800 <sup>3</sup>	910	800	260	1,200	--
	12/07/94 DESTROYED	DAMAGED		--	--	--	--	--	--	--	--	--
MW-2B 365.05	03/01/95	80.80	65.0-85.0	284.25	0.00	320	ND	ND	ND	ND	ND	--
	06/01/95	75.69		289.36	0.00	280	350	19	5.8	ND	7.7	--
	09/06/95	77.54		287.51	0.00	ND	ND	90	ND	ND	ND	-- <sup>6</sup>
	12/12/95	75.96		289.09	0.00	850 <sup>4</sup>	1,200	630	ND	15	57	-- <sup>7</sup>
	03/01/96	73.27		291.78	0.00	870 <sup>4</sup>	1,000	620	ND	ND	5.3	4,300
	06/15/96	73.21		291.84	0.00	420	910	350	ND	ND	ND	3,700
	09/18/96	81.08		283.97	0.00	600	1,200	95	ND	ND	ND	5,200
	12/21/96	77.35		287.70	0.00	470	330 <sup>8</sup>	57	ND	ND	ND	2,900
	03/07/97	69.67		295.38	0.00	870 <sup>4</sup>	190	28	0.64	ND	1.5	4,300
	06/27/97	82.40		282.65	0.00	680 <sup>4</sup>	98	3.4	1.0	0.53	ND	3,100
	09/29/97	82.72		282.33	0.00	430	ND	ND	ND	ND	ND	3,000
	12/15/97	82.57		282.48	0.00	490	54 <sup>9</sup>	ND	ND	ND	ND	4,100
	03/16/98	69.13		295.92	0.00	4,000 <sup>10</sup>	ND <sup>11</sup>	17	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	4,400
365.05	06/26/98	77.78		287.27	0.00	790 <sup>14</sup>	ND	ND	ND	ND	ND	4,000
	08/18/98	83.99		281.06	0.00	--	--	--	--	--	--	--
	09/22/98	83.89		281.16	0.00	930 <sup>20</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	21	4,600
	12/15/98	82.84		282.21	0.00	600	ND	ND	ND	ND	ND	5,100
	12/23/98	82.55		282.50	0.00	--	--	--	--	--	--	--
	03/15/99	77.31		287.74	0.00	390 <sup>25</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	4,300/4,800 <sup>27</sup>

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WELL ID/ TOC*	DATE	DTW (ft.)	S.I. (ft.lgs)	GWE (msl)	Product								
					Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	
MW-2B	03/23/99	77.06	65.0-85.0	287.99	0.00	--	--	--	--	--	--	--	--
(cont)	06/07/99	82.96		282.09	0.00	770 <sup>25</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	5,100
	09/03/99	84.16		280.89	0.00	870 <sup>20</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	6,300/4,400 <sup>27</sup>
	12/06/99	84.41		280.64	0.00	850 <sup>32</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	4,400
	03/10/00	82.42		282.63	0.00	1,500 <sup>20</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	6,900
	06/08/00	82.73		282.32	0.00	-- <sup>34</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	7,780
	09/25/00	84.24		280.81	0.00	2,900 <sup>20</sup>	52.9 <sup>30</sup>	8.83	6.58	0.932	5.60	5.60	12,200
	12/19/00	84.39		280.66	0.00	700 <sup>19</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	6,000
	03/05/01	84.61		280.44	0.00	-- <sup>36</sup>	ND	ND	ND	ND	ND	ND	5,890
NP	06/14/01	83.53		281.52	0.00	570 <sup>20</sup>	ND	ND	ND	ND	ND	ND	6,600
	<b>09/17/01</b>	<b>84.55</b>		<b>280.50</b>	<b>0.00</b>	<b>--<sup>36</sup></b>	<b>&lt;200</b>	<b>&lt;2.0</b>	<b>&lt;2.0</b>	<b>&lt;2.0</b>	<b>&lt;2.0</b>	<b>&lt;2.0</b>	<b>5,100</b>
	<b>09/25/01</b>	<b>INACCESSIBLE - CAR PARKED OVER WELL</b>				<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>MW-3</b>													
	12/08/87	--	76.5-96.5	--	--	2,300 <sup>2</sup>	24,000 <sup>3</sup>	2,600	1,300	160	660	660	--
367.01	12/07/94	85.54		281.47	0.00	--	ND	ND	ND	ND	ND	ND	--
	03/01/95	83.20		283.81	0.00	140 <sup>4</sup>	ND	ND	1.1	ND	1.1	1.1	--
	06/01/95	77.60		289.41	0.00	140 <sup>5</sup>	62	7.8	0.90	ND	1.6	1.6	--
	09/06/95	79.28		287.73	0.00	880 <sup>5</sup>	4,100	380	490	130	710	710	-- <sup>6</sup>
	12/12/95	77.73		289.28	0.00	3,100 <sup>4</sup>	19,000	600	380	2,100	5,300	5,300	-- <sup>7</sup>
	03/01/96	75.18		291.83	0.00	1,500 <sup>5</sup>	3,400	950	3.2	1,900	290	290	59
	06/15/96	75.13		291.88	0.00	400 <sup>4</sup>	780	190	8.8	3.8	4.0	4.0	630
	09/18/96	82.84		284.17	0.00	170	2,800	340	12	11	110	110	2,500
	12/21/96	79.29		287.72	0.00	64 <sup>4</sup>	51	1.3	ND	ND	0.53	0.53	20
	03/07/97	71.58		295.43	0.00	570 <sup>4</sup>	1,400	53	14	29	68	68	220
	06/27/97	83.27		283.74	0.00	ND	ND	ND	ND	ND	ND	ND	27
	09/29/97	83.33		283.68	0.00	ND	ND	ND	ND	ND	ND	ND	11
	12/15/97	83.35		283.66	0.00	ND	ND	ND	ND	ND	ND	ND	19
	03/16/98	71.07		295.94	0.00	670 <sup>10</sup>	130 <sup>12</sup>	6.5	1.9	1.5	1.6	1.6	210
367.03	06/26/98	79.65		287.38	0.00	63 <sup>13</sup>	400 <sup>15</sup>	15	ND <sup>11</sup>	ND <sup>11</sup>	1.9	1.9	490

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					Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-3	08/18/98	83.29	76.5-96.5	283.74	0.00	--	--	--	--	--	--	--
(cont)	09/22/98	83.33		283.70	0.00	95 <sup>20</sup>	ND	ND	ND	ND	ND	24
	12/15/98	83.29		283.74	0.00	ND	ND	ND	ND	ND	ND	18
	12/23/98	83.28		283.75	0.00	--	--	--	--	--	--	--
	03/15/99	79.19		287.84	0.00	3,500 <sup>26</sup>	26,000	3,100	270	2,200	3,100	1,300
	03/23/99	78.92		288.11	0.00	--	--	--	--	--	--	--
	06/07/99	83.22		283.81	0.00	ND	ND	ND	ND	0.63	ND	29
	09/03/99	83.31		283.72	0.00	2,900 <sup>20</sup>	23,000 <sup>30</sup>	770	ND <sup>11</sup>	980	6,400	280/82.4 <sup>27</sup>
	12/06/99	83.41		283.62	0.00	4,200 <sup>20</sup>	41,000 <sup>30</sup>	3,200	3,500	1,300	8,300	ND <sup>11</sup>
	03/10/00	83.23		283.80	0.00	2,500 <sup>20</sup>	5,100 <sup>30</sup>	340	ND <sup>11</sup>	97	450	200
	06/08/00	83.22		283.81	0.00	489 <sup>20</sup>	1,200 <sup>30</sup>	52.0	ND <sup>11</sup>	41.7	356	55.8
	09/25/00	83.37		283.66	0.00	4,380 <sup>20</sup>	3,400 <sup>30</sup>	305	ND <sup>11</sup>	25.4	512	137
	12/19/00	83.27		283.76	0.00	5,600 <sup>35</sup>	6,800 <sup>30</sup>	260	ND <sup>11</sup>	120	950	130
	03/05/01	83.34		283.69	0.00	3,790 <sup>20</sup>	16,800 <sup>30</sup>	1,100	48.6	637	4,260	224
	06/14/01	83.39		283.64	0.00	1,300 <sup>20</sup>	1,800 <sup>30</sup>	260	ND <sup>11</sup>	5.5	25	83
	<b>09/17/01</b>	<b>84.10</b>		<b>282.93</b>	<b>0.00</b>	<b>290<sup>20</sup></b>	<b>&lt;50</b>	<b>0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>71</b>
	<b>09/25/01</b>	<b>84.23</b>		<b>282.80</b>	<b>0.00</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>MW-4</b>												
369.03	09/18/96	73.67	73.0-93.0	295.36	0.00	200	160	14	ND	ND	1.6	ND
	12/21/96	77.69		291.34	0.00	ND	ND	ND	ND	ND	ND	ND
	03/07/97	68.04		300.99	0.00	ND	ND	1.9	0.99	ND	1.5	ND
	06/27/97	79.06		289.97	0.00	ND	ND	ND	ND	ND	ND	ND
	09/29/97	85.83		283.20	0.00	ND	ND	ND	ND	ND	ND	ND
	12/15/97	87.26		281.77	0.00	ND	ND	ND	ND	ND	ND	ND
	03/16/98	75.09		293.94	0.00	ND	ND	ND	0.69	ND	0.82	ND
368.81	06/26/98	73.81		295.00	0.00	630 <sup>16</sup>	100 <sup>13</sup>	62	ND	ND	ND	ND
	08/18/98	78.75		290.06	0.00	--	--	--	--	--	--	--
	09/22/98	83.95		284.86	0.00	74 <sup>20</sup>	ND	ND	ND	ND	ND	2.8
	12/15/98	85.41		283.40	0.00	ND	ND	ND	ND	ND	ND	ND

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					Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-4	12/23/98	84.95	73.0-93.0	283.86	0.00	--	--	--	--	--	--	--
(cont)	03/15/99	78.47		290.34	0.00	ND	ND	ND	ND	ND	ND	ND
	03/23/99	77.37		291.44	0.00	--	--	--	--	--	--	--
	06/07/99	76.60		292.21	0.00	ND	ND	ND	ND	ND	ND	ND
	09/03/99	87.23		281.58	0.00	66 <sup>19</sup>	ND	ND	ND	ND	ND	ND/ND <sup>27</sup>
	12/06/99	92.23		276.58	0.00	95 <sup>13</sup>	ND	ND	ND	ND	ND	ND
	03/10/00	88.54		280.27	0.00	ND	ND	ND	ND	ND	ND	ND
	06/08/00	86.98		281.83	0.00	72.8 <sup>20</sup>	ND	ND	ND	ND	ND	ND
	09/25/00	DRY		--	--	--	--	--	--	--	--	--
	12/19/00	DRY		--	--	--	--	--	--	--	--	--
	03/05/01	DRY		--	--	--	--	--	--	--	--	--
	06/14/01	DRY		--	--	--	--	--	--	--	--	--
	09/17/01	DRY		--	--	--	--	--	--	--	--	--
	09/25/01	DRY		--	--	--	--	--	--	--	--	--
<b>MW-5</b>												
363.23	09/18/96	64.20	52.0-72.0	299.03	0.00	4,700 <sup>5</sup>	36,000	6,700	410	730	6,500	4,100
	12/21/96	61.77		301.46	Sheen	4,700 <sup>4</sup>	25,000	3,200	300	780	3,600	2,600
	03/07/97	56.30		306.93	Sheen	2,100 <sup>4</sup>	14,000	1,300	120	410	1,200	1,700
	06/27/97	68.88		295.03***	0.90	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--
	09/29/97	69.47		294.02***	0.35	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--
	12/15/97	64.92		298.54***	0.30	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--
	03/16/98	49.63		313.67***	0.09	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--
363.21	06/26/98	64.13		299.08	Sheen	230,000 <sup>17</sup>	490 <sup>18</sup>	6.3	2.8	4.2	5.1	10
	08/18/98	70.40		292.81**	0.005	--	--	--	--	--	--	--
	09/22/98	69.10		294.16**	0.06	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--
	12/15/98	68.84		294.50**	0.17	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--
	12/23/98	68.42		295.18**	0.50	--	--	--	--	--	--	--
	03/15/99	63.81		299.59**	0.25	--	--	--	--	--	--	--
	03/23/99	63.59		299.72**	0.13	--	--	--	--	--	--	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #7376  
 4191 First Street  
 Pleasanton, California

WELL ID/ TOC*	DATE	DTW (ft.)	S.I. (ft.bgs)	GWE (msl)	Product							
					Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-5	06/07/99	68.25	52.0-72.0	295.59**	0.82	4,700,000 <sup>26</sup>	210,000	6,700	3,700	5,000	20,000	11,000/4,000 <sup>27</sup>
(cont)	09/03/99	69.38		294.37**	0.70	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--
	12/06/99	70.02		293.82**	0.82	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--
	03/10/00	64.56		299.14**	0.64	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--
	06/08/00	66.47		297.13**	0.51	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--
	09/25/00	69.02		294.65**	0.60	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--
	12/19/00	68.31		295.01**	0.14	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--
	03/05/01	64.19		299.08**	0.08	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--
	06/14/01	64.02		299.27**	0.11	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--
	09/17/01	72.07		291.17**	0.04	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--
	09/25/01	72.17		291.06**	0.03	NOT SAMPLED DUE TO THE PRESENCE OF FREE PRODUCT						--
<b>MW-6</b>												
363.12	09/18/96	79.07	68.0-88.0	284.05	0.00	ND	160	5.4	ND	ND	ND	ND
	12/21/96	75.40		287.72	0.00	ND	300 <sup>8</sup>	96	1.3	ND	1.7	21
	03/07/97	67.61		295.51	0.00	190 <sup>4</sup>	1,800 <sup>8</sup>	920	18	ND	31	290
	06/27/97	80.45		282.67	0.00	73 <sup>5</sup>	ND	0.73	ND	ND	38	38
	09/29/97	86.02		277.10	0.00	ND	62 <sup>9</sup>	ND	ND	ND	ND	43
	12/15/97	84.03		279.09	0.00	ND	78 <sup>9</sup>	ND	ND	ND	ND	39
	03/16/98	67.15		295.97	0.00	100 <sup>10</sup>	210 <sup>12</sup>	36	2.5	ND	3.0	64
363.13	06/26/98	75.71		287.42	0.00	180 <sup>14</sup>	530	300	8.3	2.8	8.7	81
	08/18/98	74.86		288.27	0.00	--	--	--	--	--	--	--
	09/22/98	UNABLE TO LOCATE			--	--	--	--	--	--	--	--
	12/15/98	UNABLE TO LOCATE			--	--	--	--	--	--	--	--
	12/23/98	80.80		282.33	0.00	--	120 <sup>23</sup>	1.1	ND	ND	0.78	25
	01/23/99	80.68		282.45	0.00	ND	--	--	--	--	--	--
	03/15/99	75.29		287.84	0.00	71 <sup>24</sup>	62 <sup>22</sup>	1.4	ND	ND	ND	23
	03/23/99	75.03		288.10	0.00	--	--	--	--	--	--	--
	06/07/99	82.27		280.86	0.00	160 <sup>28</sup>	ND	ND	ND	ND	ND	18
	09/03/99	87.49		275.64	0.00	NOT SAMPLED DUE TO INSUFFICIENT WATER						--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #7376  
 4191 First Street  
 Pleasanton, California

WELL ID/ TOC*	DATE	DTW (ft.)	S.I. (ft.bgs)	GWE (msl)	Product Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-6	12/06/99	DRY	68.0-88.0	--	--	--	--	--	--	--	--	--
(cont)	03/10/00	85.61		277.52	0.00	ND	ND	ND	ND	ND	ND	64
	06/08/00	87.36		275.77	0.00	NOT SAMPLED DUE TO INSUFFICIENT WATER					--	--
	09/25/00	DRY		--	--	--	--	--	--	--	--	--
	12/19/00	87.73		275.40	0.00	NOT SAMPLED DUE TO INSUFFICIENT WATER					--	--
	03/05/01	87.82		275.31	0.00	NOT SAMPLED DUE TO INSUFFICIENT WATER					--	--
	06/14/01	87.69		275.44	0.00	NOT SAMPLED DUE TO INSUFFICIENT WATER					--	--
	<b>09/17/01</b>	<b>87.70</b>		<b>275.43</b>	<b>0.00</b>	<b>NOT SAMPLED DUE TO INSUFFICIENT WATER</b>					--	--
	<b>09/25/01</b>	<b>DRY</b>		--	--	--	--	--	--	--	--	--
<b>MW-7</b>												
355.97	06/26/98	--	55.0-75.0	--	--	--	--	--	--	--	--	--
	08/18/98	68.75		287.22	0.00	1,400 <sup>20</sup>	4,000	1,900	48	160	ND <sup>11</sup>	1,700
	09/22/98	66.35		289.62	0.00	780 <sup>20</sup>	3,200	1,100	ND	22	ND	1,500
	12/15/98	65.03		290.94	0.00	350 <sup>21</sup>	1,900 <sup>22</sup>	180	2.7	2.9	3.8	1,400
	12/23/98	64.82		291.15	0.00	--	--	--	--	--	--	--
	03/15/99	60.44		295.53	0.00	460 <sup>26</sup>	2,700	1,100	ND <sup>11</sup>	30	16	1,400/970 <sup>27</sup>
	03/23/99	60.43		295.54	0.00	--	--	--	--	--	--	--
	06/07/99	64.48		291.49	0.00	550 <sup>25</sup>	2,600 <sup>29</sup>	180	21	ND	13	1,200
	09/03/99	69.98		285.99	0.00	550 <sup>20</sup>	870 <sup>30</sup>	69	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	1,100/872 <sup>27</sup>
	12/06/99	70.18		285.79	0.00	220 <sup>20</sup>	1,900 <sup>31</sup>	350	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	1,100
	03/10/00	67.36		288.61	0.00	930 <sup>20</sup>	2,900 <sup>31</sup>	1,600	ND <sup>11</sup>	40	54	1,100
	06/08/00	69.81		286.16	0.00	463 <sup>20</sup>	625 <sup>30</sup>	30.8	ND	0.761	0.940	1,290 <sup>35</sup>
	09/25/00	70.15		285.82	0.00	1,810 <sup>20</sup>	2,180 <sup>22</sup>	423	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	1,510
	12/19/00	70.11		285.86	0.00	930 <sup>32</sup>	5,900 <sup>31</sup>	1,000	ND <sup>11</sup>	ND <sup>11</sup>	ND <sup>11</sup>	1,300
	03/05/01	68.72		287.25	0.00	801 <sup>20</sup>	13,200 <sup>30</sup>	5,070	195	306	385	1,530
	06/14/01	70.00		285.97	0.00	710 <sup>20</sup>	6,400 <sup>30</sup>	3,300	85	96	170	1,000
	<b>09/17/01</b>	<b>70.28</b>		<b>285.69</b>	<b>0.00</b>	<b>860<sup>20</sup></b>	<b>11,000<sup>37</sup></b>	<b>3,000</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>&lt;50</b>	<b>750</b>
	<b>09/25/01</b>	<b>70.49</b>		<b>285.48</b>	<b>0.00</b>	--	--	--	--	--	--	--

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Tosco (Unocal) Service Station #7376  
4191 First Street  
Pleasanton, California

WELL ID/ TOC*	DATE	DTW (ft.)	S.I. (ft.bgs)	GWE (msl)	Product							MTBE (ppb)
					Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	
<b>MW-8</b>												
362.37	06/26/98	63.00	66.0-86.0	299.37	0.00	80 <sup>19</sup>	ND	6.0	ND	ND	ND	150
	08/18/98	73.38		288.99	0.00	--	--	--	--	--	--	--
	09/22/98	70.89		291.48	0.00	120 <sup>20</sup>	ND	ND	ND	ND	ND	9.5
	12/15/98	70.29		292.08	0.00	ND	ND	ND	ND	ND	ND	3.0
	12/23/98	70.03		292.34	0.00	--	--	--	--	--	--	--
	03/15/99	UNABLE TO LOCATE			--	--	--	--	--	--	--	--
361.83	03/23/99	64.86		296.97	0.00	60 <sup>24</sup>	ND	ND	0.77	ND	0.96	190
	06/07/99	68.30		293.53	0.00	ND	ND	ND	ND	ND	ND	ND
	09/03/99	73.92		287.91	0.00	130 <sup>19</sup>	ND	ND	0.57	ND	ND	170/146 <sup>27</sup>
	12/06/99	74.98		286.85	0.00	160 <sup>19</sup>	ND	ND	ND	ND	ND	150
	03/10/00	71.54		290.29	0.00	61 <sup>19</sup>	ND	ND	ND	ND	ND	150
	06/08/00	72.60		289.23	0.00	135 <sup>20</sup>	ND	ND	ND	ND	ND	42.8
	09/25/00	75.31		286.52	0.00	518 <sup>20</sup>	ND	ND	ND	ND	ND	227
	12/19/00	75.54		286.29	0.00	100 <sup>19</sup>	ND	ND	ND	ND	ND	160
	03/05/01	75.91		285.92	0.00	161 <sup>20</sup>	ND	ND	ND	ND	ND	125
	06/14/01	75.51		286.32	0.00	94 <sup>20</sup>	ND	ND	ND	ND	ND	140
	<b>09/17/01</b>	<b>77.19</b>		<b>284.64</b>	<b>0.00</b>	<b>60<sup>20</sup></b>	<b>&lt;50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>&lt;0.50</b>	<b>110</b>
	<b>09/25/01</b>	<b>77.17</b>		<b>284.66</b>	<b>0.00</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>MW-9</b>												
354.85	11/29/99	74.50	--	280.35	0.00	--	--	--	--	--	--	--
	12/06/99	74.35		280.50	0.00	ND	ND	ND	ND	ND	ND	3.0/2.7 <sup>27</sup>
	03/10/00	65.94		288.91	0.00	150 <sup>19</sup>	ND	ND	ND	ND	ND	2.5
	06/08/00	70.77		284.08	0.00	67.8 <sup>20</sup>	ND	ND	ND	ND	ND	ND
	09/25/00	74.75		280.10	0.00	903 <sup>20</sup>	ND	ND	0.516	ND	ND	10.5
	12/19/00	74.43		280.42	0.00	ND	ND	ND	ND	ND	ND	ND
	03/05/01	74.63		280.22	0.00	96.5 <sup>20</sup>	ND	ND	ND	ND	ND	ND



**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #7376  
 4191 First Street  
 Pleasanton, California

WELL ID/ TOC*	DATE	DTW (ft.)	S.I. (ft.bgs)	GWE (msl)	Product Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-9	06/14/01	74.75	--	280.10	0.00	ND	ND	ND	ND	ND	ND	ND
(cont)	09/17/01	74.78		280.07	0.00	<50	<50	<0.50	<0.50	<0.50	<0.50	<2.5
	09/25/01	74.83		280.02	0.00	--	--	--	--	--	--	--
<b>MW-10</b>												
362.62	11/29/99	DRY	--	--	--	--	--	--	--	--	--	--
	12/06/99	DRY		--	--	--	--	--	--	--	--	--
	03/10/00 <sup>33</sup>	85.04		277.58	0.00	78 <sup>20</sup>	ND	ND	ND	ND	ND	130/150 <sup>27</sup>
	06/08/00	DRY		--	--	--	--	--	--	--	--	--
	09/25/00	DRY		--	--	--	--	--	--	--	--	--
	12/19/00	DRY		--	--	--	--	--	--	--	--	--
	03/05/01	DRY		--	--	--	--	--	--	--	--	--
	06/14/01	DRY		--	--	--	--	--	--	--	--	--
	09/17/01	DRY		--	--	--	--	--	--	--	--	--
	09/25/01	DRY		--	--	--	--	--	--	--	--	--
<b>MW-11</b>												
354.66	09/25/01	81.24	--	273.42	0.00	<50	<50	<0.50	<0.50	<0.50	<0.50	9.0
<b>MW-12</b>												
354.08	09/25/01	80.78	--	273.30	0.00	<50	<50	<0.50	<0.50	<0.50	<0.50	<2.5
<b>Trip Blank</b>												
TB-LB	03/16/98	--	--	--	--	--	ND	ND	ND	ND	ND	ND
	06/26/98	--		--	--	--	ND	ND	ND	ND	ND	ND
	08/18/98	--		--	--	--	ND	ND	ND	ND	ND	ND

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #7376  
 4191 First Street  
 Pleasanton, California

WELL ID/ TOC*	DATE	DTW (ft.)	S.I. (ft.bgs)	GWE (msl)	Product							
					Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)

	09/22/98	--		--	--	--	ND	ND	ND	ND	ND	ND
--	----------	----	--	----	----	----	----	----	----	----	----	----

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #7376  
 4191 First Street  
 Pleasanton, California

WELL ID/ TOC*	DATE	DTW (ft.)	S.L. (ft.bgs)	GWE (msl)	Product								
					Thickness (ft.)	TPH-D (ppb)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)	
TB-LB	12/15/98	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND
(cont)	12/23/98	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND
	03/15/99	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND
	03/23/99	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND
	06/07/99	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND
	09/03/99	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND
	12/06/99	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND
	03/10/00	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND
	06/08/00	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND
	09/25/00	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND
	12/19/00	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND
	03/05/01	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND
	06/14/01	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND
	09/17/01	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.5
	09/25/01	--	--	--	--	--	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.5

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
 Tosco (Unocal) Service Station #7376  
 4191 First Street  
 Pleasanton, California

**EXPLANATIONS:**

Groundwater monitoring data and laboratory analytical results prior to March 16, 1998, were compiled from reports prepared by MPDS Services, Inc.

TOC = Top of Casing	TPH-D = Total Petroleum Hydrocarbons as Diesel	(ppb) = Parts per billion
DTW = Depth to Water	TPH-G = Total Petroleum Hydrocarbons as Gasoline	ND = Not Detected
(ft.) = Feet	B = Benzene	-- = Not Measured/Not Analyzed
S.I. = Screen Interval	T = Toluene	NP = No Purge
(ft.bgs) = Feet Below Ground Surface	E = Ethylbenzene	
GWE = Groundwater Elevation	X = Xylenes	
(msl) = Mean sea level	MTBE = Methyl tertiary butyl ether	

\* TOC elevations were re-surveyed September 22, 2001, using the previous measurement references, (Benchmark Elevation = 353.92 feet, NGVD 29). On March 22, 1999, MW-8 was re-surveyed and on November 26, 1999, MW-9 and MW-10 were surveyed, the Benchmark was a cut "+" on a concrete transformer pad on the north side of the property to the northwest, (Elevation = 353.92 feet, msl).

TOC elevations have been surveyed relative to msl per City of Pleasanton Benchmark V1, a brass disk on the north curb of Ray Street, approximately 200 feet northwest of the centerline of First Street (Elevation = 367.17 feet msl).

\*\* GWE corrected for the presence of free product; correction factor:  $[(TOC - DTW) + (Product\ Thickness \times 0.77)]$ .

\*\*\* GWE corrected for the presence of free product; correction factor:  $[(TOC - DTW) + (Product\ Thickness \times 0.75)]$ .

1 1,2-Dichloroethene (1,2-DCE) was detected at a concentration of 18 ppb.

2 Reported as Total Extractable Hydrocarbons (TEH).

3 Reported as Total Petroleum Hydrocarbons (TPH).

4 Laboratory report indicates the hydrocarbons detected appeared to be a diesel and non-diesel mixture.

5 Laboratory report indicates the hydrocarbons detected did not appear to be diesel.

6 Laboratory has potentially identified the presence of MTBE at reportable levels in the groundwater sample collected from this well.

7 Laboratory has identified the presence of MTBE at a level above or equal to the taste and odor threshold of 40 ppb in the sample collected from this well.

8 Laboratory report indicates the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.

9 Laboratory report indicates the hydrocarbons detected did not appear to be gasoline.

10 Laboratory report indicates diesel and unidentified hydrocarbons >C16.

11 Detection limit raised. Refer to analytical reports.

12 Laboratory report indicates gasoline and unidentified hydrocarbons <C7.

13 Laboratory report indicates discrete peaks.

14 Laboratory report indicates diesel and unidentified hydrocarbons >C20.

15 Laboratory report indicates discrete peaks and unidentified hydrocarbons <C7.

16 Laboratory report indicates diesel and unidentified hydrocarbons <C15.

**Table 1**  
**Groundwater Monitoring Data and Analytical Results**  
Tosco (Unocal) Service Station #7376  
4191 First Street  
Pleasanton, California

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**EXPLANATIONS: (cont)**

- 17 Laboratory report indicates diesel and unidentified hydrocarbons <C15 and >C20.
- 18 Laboratory report indicates gasoline and unidentified hydrocarbons >C8.
- 19 Laboratory report indicates unidentified hydrocarbons >C16.
- 20 Laboratory report indicates unidentified hydrocarbons C9-C24.
- 21 Laboratory report indicates diesel and unidentified hydrocarbons <C12.
- 22 Laboratory report indicates unidentified hydrocarbons C6-C12.
- 23 Laboratory report indicates unidentified hydrocarbons C6-C9.
- 24 Laboratory report indicates unidentified hydrocarbons >C14.
- 25 Laboratory report indicates unidentified hydrocarbons >C10.
- 26 Laboratory report indicates unidentified hydrocarbons >C9.
- 27 MTBE by EPA Method 8260.
- 28 Laboratory report indicates unidentified hydrocarbons >C15.
- 29 Laboratory report indicates gasoline and unidentified hydrocarbons >C6.
- 30 Laboratory report indicates gasoline C6-C12.
- 31 Laboratory report indicates gasoline C6-C12 + unidentified hydrocarbons <C6.
- 32 Laboratory report indicates unidentified hydrocarbons C9-C40.
- 33 Well re-developed.
- 34 The diesel container for MW-2 was broken at lab, therefore; unable to report diesel result.
- 35 Laboratory report indicates unidentified hydrocarbons <C16.
- 36 Laboratory was unable to report diesel result due to insufficient amount of sample.
- 37 Laboratory report indicates unidentified hydrocarbons C6-C10.

**Table 2**  
**Product Thickness/Removal Data**  
 Tosco (Unocal) Service Station #7376  
 4191 First Street  
 Pleasanton, California

<b>WELL ID</b>	<b>DATE</b>	<b>DTW (ft.)</b>	<b>Product Thickness (ft.)</b>	<b>Amount Bailed (Product + Water) (gallons)</b>
<b>MW-5</b>	03/07/97	56.30	Sheen	--
	06/27/97	68.88	0.90	--
	09/29/97	69.47	0.35	--
	12/15/97	64.92	0.30	--
	03/16/98	49.63	0.09	0.25
	06/26/98	63.00	Sheen	--
	08/18/98	70.40	0.005	--
	09/22/98	69.10	0.06	--
	12/15/98	68.84	0.17	--
	12/23/98	68.42	0.50	--
	03/15/99	63.81	0.25	0.13
	03/23/99	63.59	0.13	0.00
	06/07/99	68.25	0.82	0.94
	09/03/99	69.38	0.70	0.078
	12/06/99	70.02	0.82	0.00
	03/10/00	64.56	0.64	0.00
	06/08/00	66.47	0.51	0.00
	09/25/00	69.02	0.60	0.00
	12/19/00	68.31	0.14	0.00
	03/05/01	64.19	0.08	0.00
	06/14/01	64.02	0.11	0.00
	<b>09/17/01</b>	<b>72.07</b>	<b>0.04</b>	<b>0.00</b>
	<b>09/25/01</b>	<b>72.17</b>	<b>0.03</b>	<b>0.00</b>

**EXPLANATIONS:**

Product thickness/removal data prior to March 16, 1998, were compiled from reports prepared by MPDS Services, Inc.

DTW = Depth to water

(ft.) = Feet

-- = Not Measured/Not Available

**TABLE 3 - SAMPLE CHEMICAL ANALYTICAL DATA**

Tosco (Unocal) Service Station No. 7376

4191 First Street

Pleasanton, California

Sample Location and ID	Sample Depth (feet)	Date Collected	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	MtBE (ppm)	TPHd (ppm)
<b>Well Boring MW-11</b>									
MW-11-41	41	9/17/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<2.5
MW-11-72.5	72.5	9/17/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<2.5
MW-11-80.5	80.5	9/17/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<2.5
MW-11-84	84	9/17/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<2.5
<b>Well Boring MW-12</b>									
MW-12-52	52	9/19/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<2.5
MW-12-68.5	68.5	9/19/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<2.5
MW-12-80.5	80.5	9/19/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<2.5
MW-12-82.5	82.5	9/19/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<2.5
<b>Stockpile</b>									
S-1 Comp <sup>1</sup>	--	9/19/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	<2.5

Sample Location and ID	Sample Depth (feet)	Date Collected	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	MtBE (ppb)
<b>Grab Groundwater Sample</b>								
MW-12-Grab	40	9/19/01	<50	<0.50	<0.50	<0.50	<0.50	<2.5

**ANALYTICAL METHODS:**

TPHg = Total Petroleum Hydrocarbons as gasoline according to EPA Method 8015 Modified.  
 BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes according to EPA Method 8020.  
 MtBE = Methyl t-Butyl Ether according to EPA Method 8020.

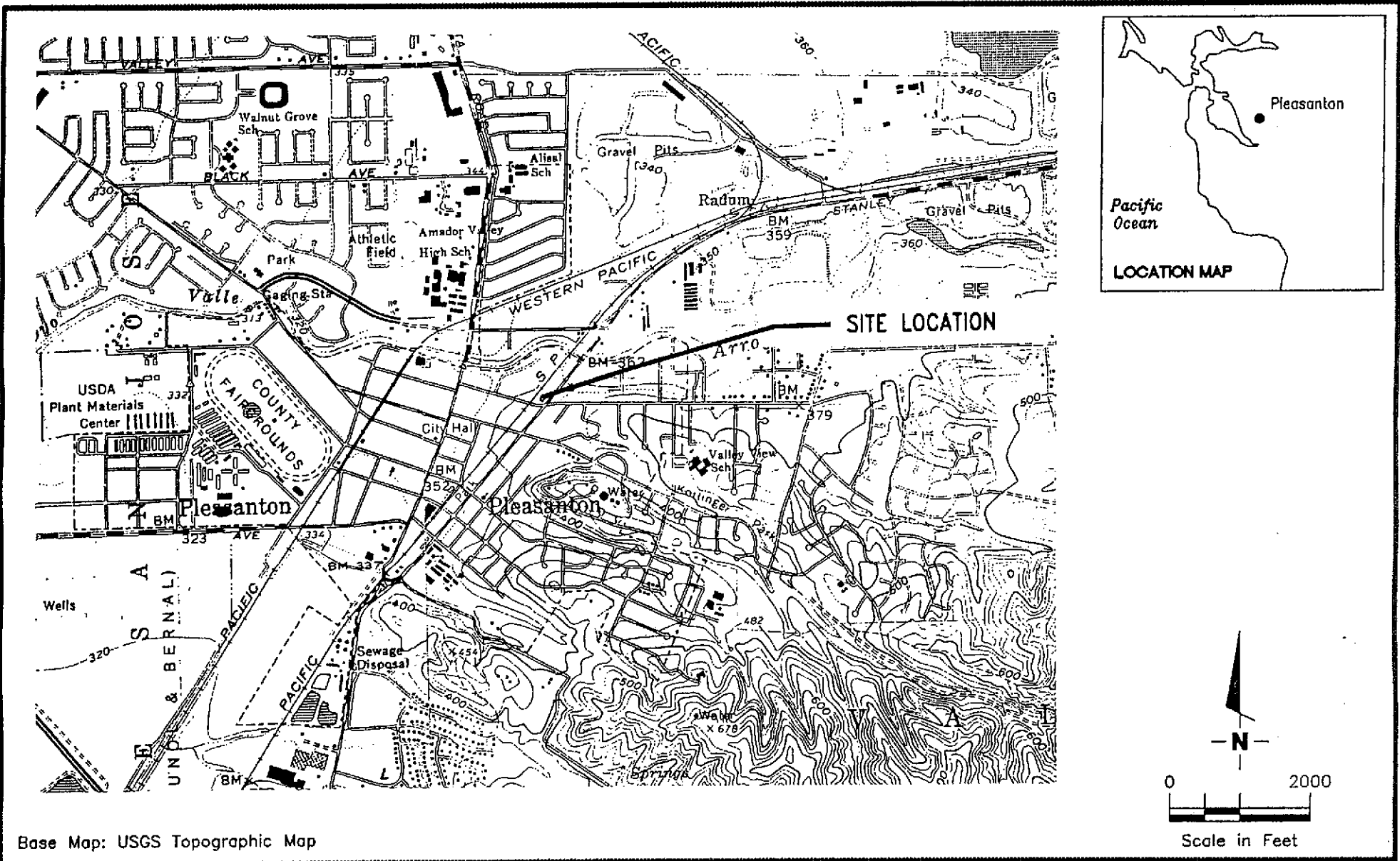
**ANALYTICAL LABORATORY:**

Sequoia Analytical (ELAP #2374)

**EXPLANATION:**

feet = feet below ground surface  
 ppm = parts per million  
 ppb = parts per billion  
 -- = not required

<sup>1</sup> = Sample was also reported as not detected for total lead according to EPA Method 6010.



Base Map: USGS Topographic Map



**Gettler - Ryan Inc.**

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

**VICINITY MAP**

Tosco (Unocal) Service Station No. 7376  
4191 First Street  
Pleasanton, California

FIGURE

**1**

JOB NUMBER  
140107

REVIEWED BY

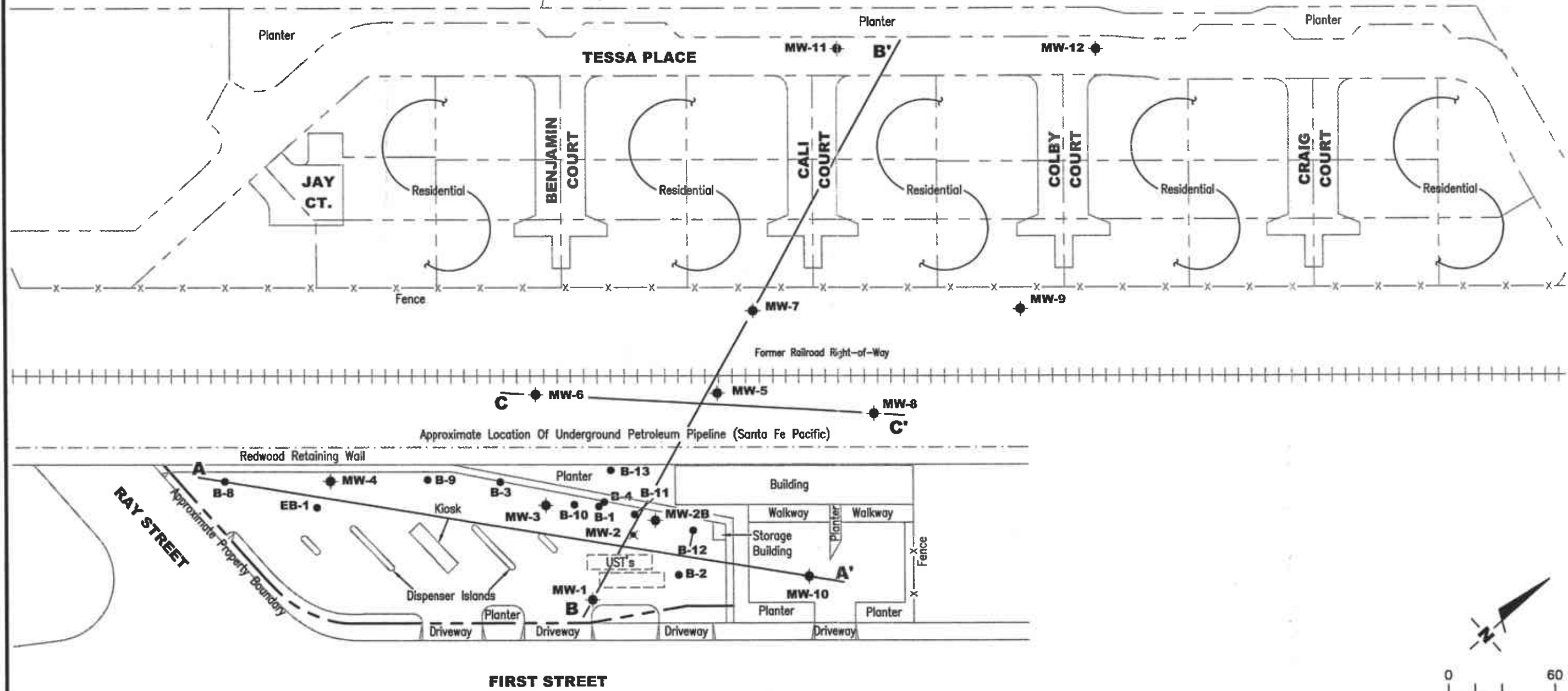
DATE  
February, 1999

REVISED DATE



**EXPLANATION**

- ◆ Groundwater monitoring well
- ✕ Abandoned well
- Soil boring
- A—A' Cross section line



Source: Figure modified from drawing provided by County Assessor's map of surrounding areas and Survey provided by Virgil Chavez Land Surveying. (9-22-01).

**EXTENDED SITE PLAN**  
 Tosco (76) Service Station No. 7376  
 4191 First Street  
 Pleasanton, California

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

PROJECT NUMBER: 140107  
 REVIEWED BY: [Signature]  
 DATE: 10/01  
 REVISED DATE: [Blank]

SW  
A

NE  
A

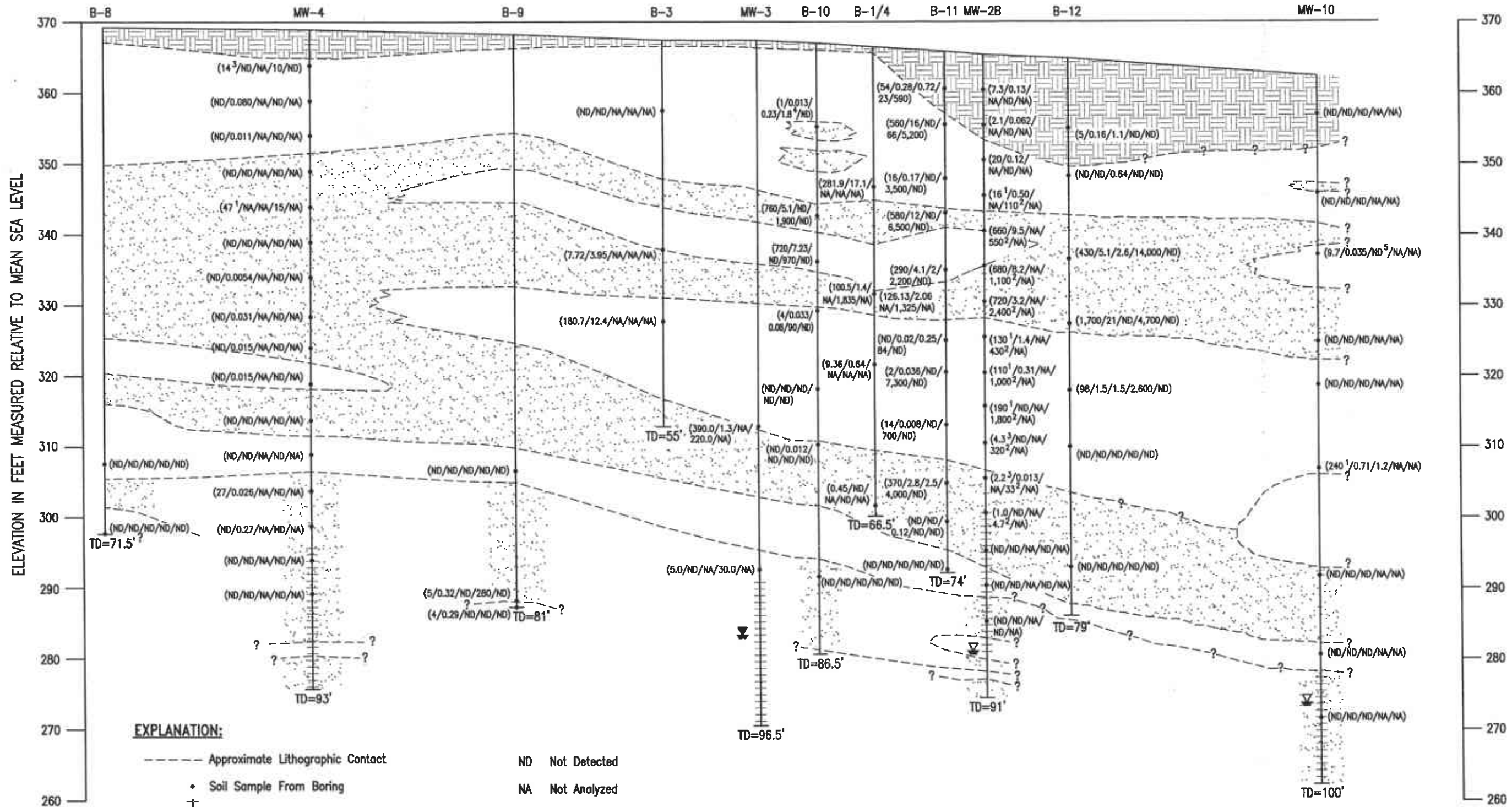


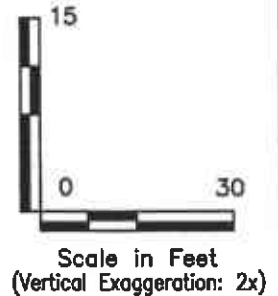
FIGURE 3

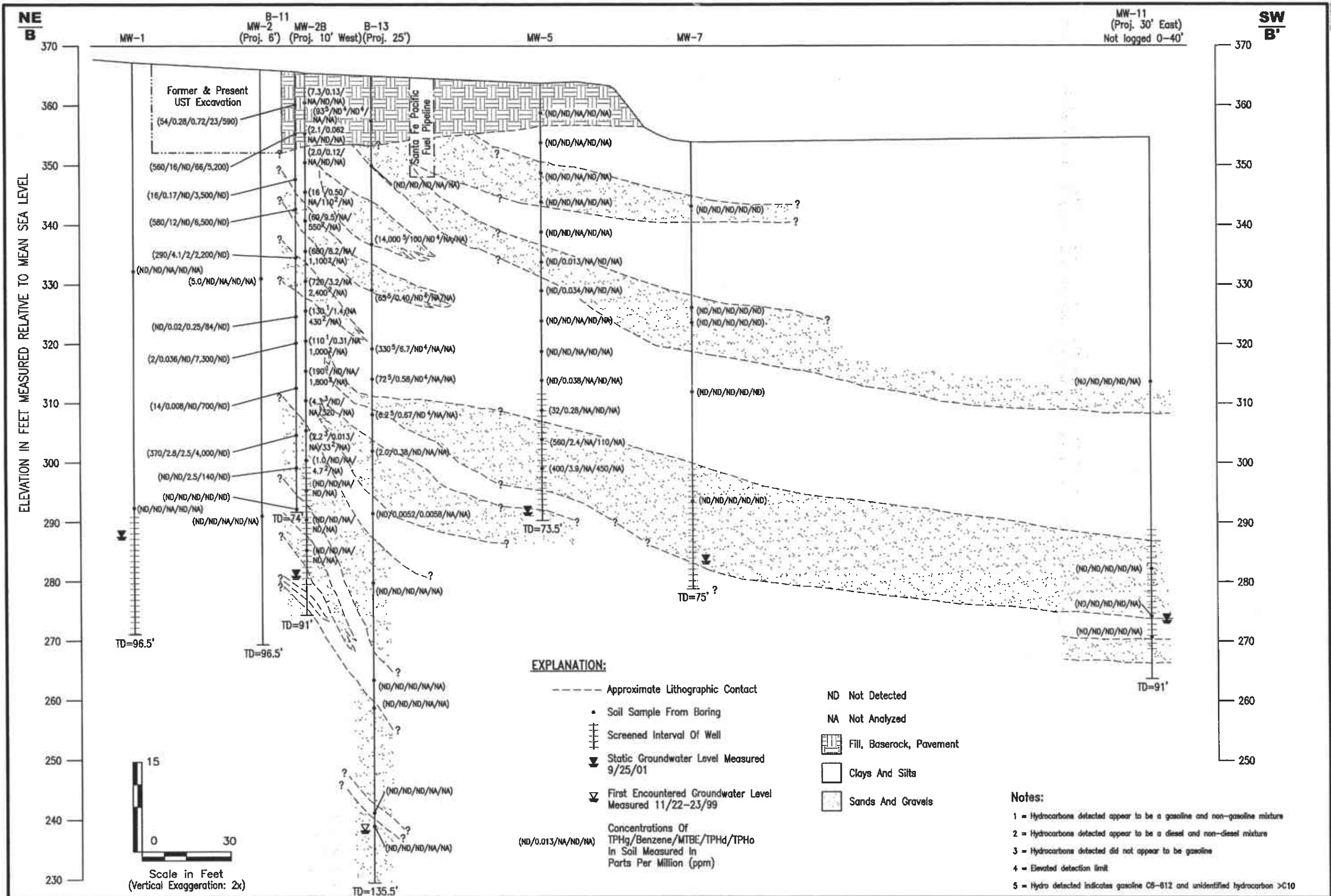
CROSS SECTION A-A  
Tosco (76) Service Station No. 7376  
4191 First Street  
Pleasanton, California

DATE 10/98  
REVISED DATE 5/00

REVIEWED BY  
PROJECT NUMBER 140107  
FILE NAME: P:\CADD\TOSCO\7376\A01-7376.DWG | Layout tab: A-sect A 10-01

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





Former & Present UST Excavation  
(54/0.28/0.72/23/590)

Santa Fe Pacific Fuel Pipeline

**EXPLANATION:**

- Approximate Lithographic Contact
- Soil Sample From Boring
- ||| Screened Interval Of Well
- ▼ Static Groundwater Level Measured 9/25/01
- ▽ First Encountered Groundwater Level Measured 11/22-23/99
- ND Not Detected
- NA Not Analyzed
- ▒ Fill, Baserock, Pavement
- Clays And Silts
- ▒ Sands And Gravels

Concentrations Of TPHg/Benzene/MTBE/TPHd/TPHo In Soil Measured In Parts Per Million (ppm)

**Notes:**

- 1 = Hydrocarbons detected appear to be a gasoline and non-gasoline mixture
- 2 = Hydrocarbons detected appear to be a diesel and non-diesel mixture
- 3 = Hydrocarbons detected did not appear to be gasoline
- 4 = Elevated detection limit
- 5 = Hydro detected indicates gasoline C6-812 and unidentified hydrocarbon >C10

FIGURE 4

**CROSS SECTION B-B'**  
Tosco (76) Service Station No. 7376  
4191 First Street  
Pleasanton, California

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

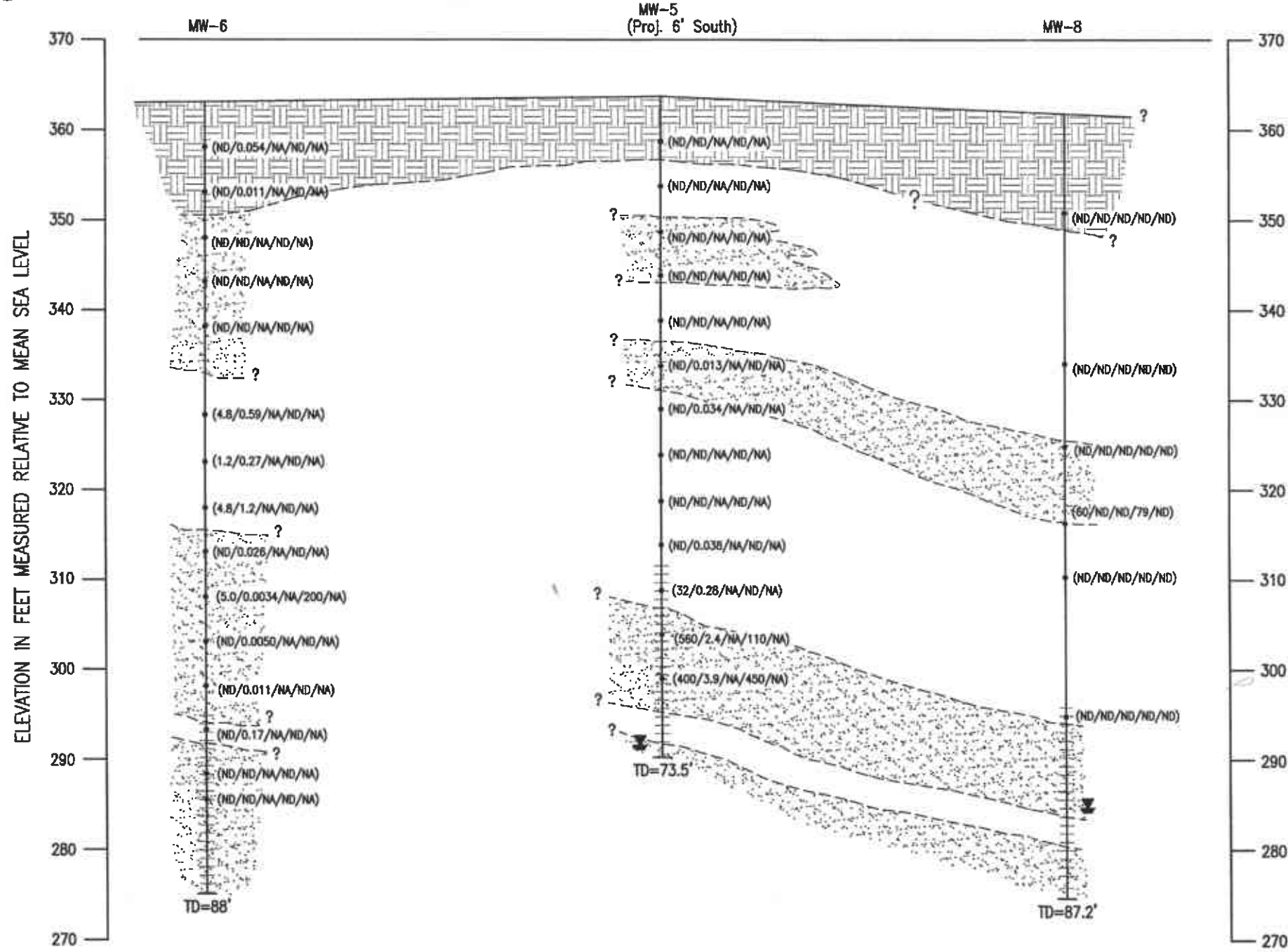
REVISOR DATE  
10/98 5/00 & 10/01

PROJECT NUMBER  
140107

FILE NAME: P:\ENVIRO\TOSCO\3376\401-3376.DWG | Layout Tab: X-sect B 10-01

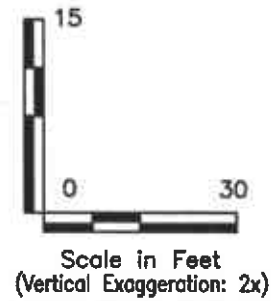
SW  
C

NE  
C



**EXPLANATION:**

- Approximate Lithographic Contact
- Soil Sample From Boring
- ┆ Screened Interval Of Well
- ▼ Static Groundwater Level Measured 9/25/01
- ▼ First Encountered Groundwater Level Measured 11/22-23/99
- (ND/ND/NA/ND/NA) Concentrations Of TPHg/Benzene/MTBE/TPHd/TPHo In Soil Measured In Parts Per Million (ppm)
- ND Not Detected
- NA Not Analyzed
- ▨ Fill, Baserock, Pavement
- Clays And Silts
- Sands And Gravels



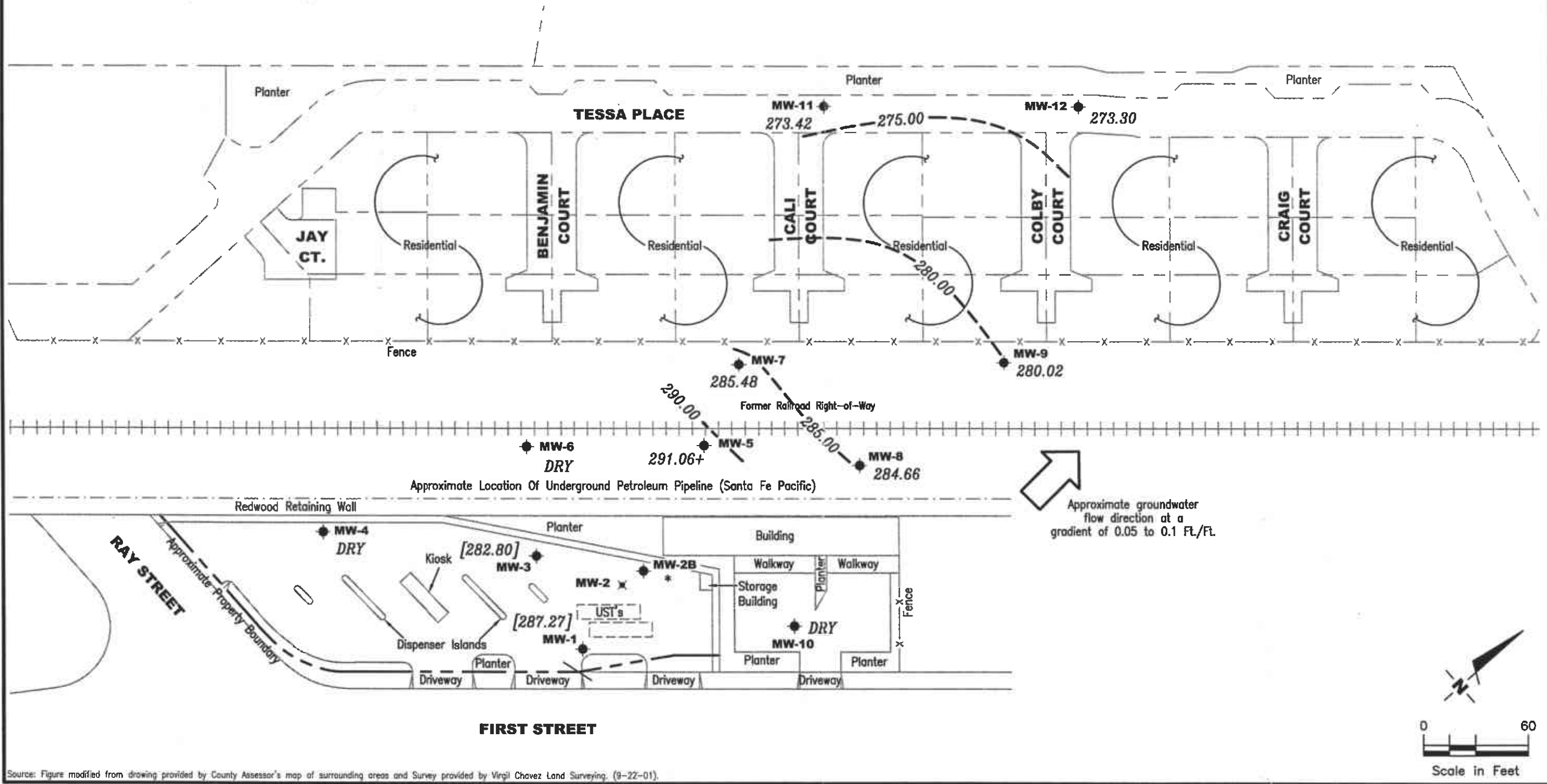
**CROSS SECTION C-C'**  
 Tosco (76) Service Station No. 7376  
 4191 First Street  
 Pleasanton, California

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



**EXPLANATION**

- ◆ Groundwater monitoring well
- ✕ Abandoned well
- 99.99 Groundwater elevation in feet referenced to Mean Sea Level (MSL)
- 99.99- Groundwater elevation contour, dashed where inferred
- + Groundwater elevation corrected for the presence of free product
- \* Inaccessible
- [99.99] Not used in contouring



**POTENTIOMETRIC MAP**  
 Tosco (76) Service Station No. 7376  
 4191 First Street  
 Pleasanton, California

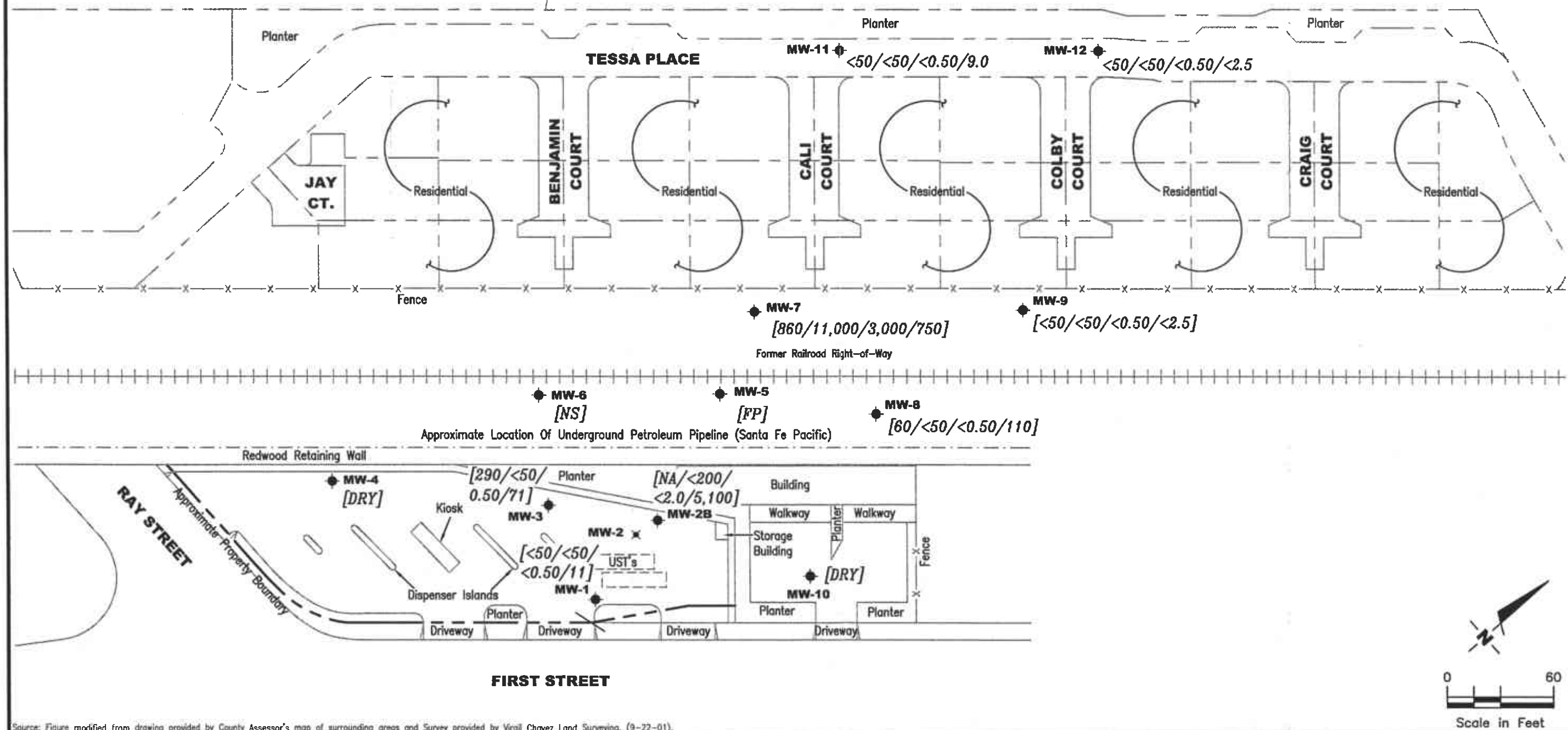
**GETTLER - RYAN INC.**  
 6747 Sierra Ct., Suite J  
 Dublin, CA 94568  
 (925) 551-7555

PROJECT NUMBER 140107  
 DATE September 25, 2001  
 REVISED DATE

Source: Figure modified from drawing provided by County Assessor's map of surrounding areas and Survey provided by Virgil Chavez Land Surveying. (9-22-01).

**EXPLANATION**

- ◆ Groundwater monitoring well
- ✕ Abandoned well
- A/B/C/D TPH(D) (Total Petroleum Hydrocarbons as Diesel)/TPH(G) (Total Petroleum Hydrocarbons as Gasoline)/Benzene/MTBE concentrations in ppb
- NS Not Sampled
- FP Free Product
- NA Not Analyzed
- \* Inaccessible
- [A/B/C/D] Sampled on 09/17/01



Source: Figure modified from drawing provided by County Assessor's map of surrounding areas and Survey provided by Virgil Chavez Land Surveying, (9-22-01).

**CONCENTRATION MAP**  
 Tosco (76) Service Station No. 7376  
 4191 First Street  
 Pleasanton, California

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

PROJECT NUMBER: 140107  
 REVIEWED BY: [Signature]  
 DATE: September 25, 2001  
 REVISED DATE: [Blank]

FILE NAME: P:\ENVIRO\TOSCO\7376\01-7376.DWG | Layout tab: Con3\_10-01

## **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 contents of these plans prior to initiating site work. The GR geologist or engineer at the site when the work is performed acts as the Site Safety Officer. GR utilizes a photoionization detector (PID) to monitor ambient conditions as part of the Health and Safety Plan.

**Collection of Soil Samples**

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

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

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

**Field Screening of Soil Samples**

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

**Stockpile Sampling**

Stockpile samples consist of four individual sample liners collected from each 100 cubic yards (yd<sup>3</sup>) 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 or aluminum foil, 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 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. 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  $\pm 0.01$  foot. The presence of separate-phase product is confirmed using a clean, acrylic or polyvinylchloride (PVC) bailer, measured to the nearest  $\pm 0.01$  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.



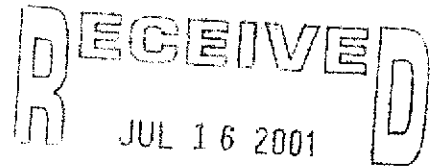
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE

PLEASANTON, CALIFORNIA 94588-5127

PHONE (925) 484-2600 FAX (925) 462-3914

July 12, 2001



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

Mr. Clyde Galantine  
Gettler-Ryan, Inc.  
1364 N. McDowell Boulevard, Suite B2  
Petaluma, CA 94954

Dear Mr. Galantine:

Enclosed is drilling permit 21123 for a monitoring well construction project at Tessa Place and Colby Court. Also enclosed are current drilling permit applications for your files

Please note that permit condition A-2 requires that a well construction report be submitted after completion of the work. The report should include drilling and completion logs, location sketch, and permit number. Please submit the original of your completion report. We will forward your submittal to the California Department of Water Resources.

If you have any questions, please contact me at extension 235 or Matt Katen at extension 234.

Sincerely,

A handwritten signature in black ink that reads "Wyman Hong". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Wyman Hong  
Water Resources Technician II

Enc.



# ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE, PLEASANTON, CALIFORNIA 94588-5127 PHONE (510) 484-2600 X235  
FAX (510) 462-3914

RECEIVED  
JUL 5 2001

## DRILLING PERMIT APPLICATION

ZONE 7, AUGUST 2001

### FOR APPLICANT TO COMPLETE

### FOR OFFICE USE

LOCATION OF PROJECT Planter on west side of  
Tessa Place, Pleasanton CA - Opposite  
Calli Court & Colby Court, PLEASANTON

PERMIT NUMBER 21123  
WELL NUMBER 3S/1E 21C20 & 21C21  
APN 94 0219 033 00

California Coordinates Source \_\_\_\_\_ ft. Accuracy ± \_\_\_\_\_ ft.  
CCN \_\_\_\_\_ ft. CCE \_\_\_\_\_ ft.  
APN 94-219-33

### PERMIT CONDITIONS

Circled Permit Requirements Apply

CLIENT  
Name Tosco Marketing Company  
Address 2000 Crow Canyon Pl, Suite 400 Phone 925 277-2888  
City San Ramon CA Zip 94583

A.

APPLICANT  
Name Gottler-Ryan Inc  
Clyde Galantine Fax (707) 789-3218  
Address 364 N. McDowell Blvd, Suite B2 Phone (707) 789-3255  
City Petaluma, CA Zip 94954

### TYPE OF PROJECT

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

### PROPOSED WATER SUPPLY WELL USE

New Domestic  Replacement Domestic   
Municipal  Irrigation   
Industrial  Other \_\_\_\_\_

### DRILLING METHOD:

Mud Rotary  Air Rotary  Auger   
Cable  Other

DRILLER'S LICENSE NO. C-57 710079

### WELL PROJECTS

Drill Hole Diameter 8 in. Maximum  
Casing Diameter 2 in. Depth 110 ft.  
Surface Seal Depth 88 ft. Number 2

### GEOTECHNICAL PROJECTS

Number of Borings 2 Maximum  
Hole Diameter \_\_\_\_\_ in. Depth \_\_\_\_\_ ft.

ESTIMATED STARTING DATE 8/7/01

ESTIMATED COMPLETION DATE 8/9/01

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

Agent for Tosco

APPLICANT'S SIGNATURE Clyde Galantine Date 7/3/01

- GENERAL  
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.  
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.  
3. Permit is void if project not begun within 90 days of approval date.
- B. WATER SUPPLY WELLS  
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.  
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.
- C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS  
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.  
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
- D. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.
- E. CATHODIC. Fill hole above anode zone with concrete placed by tremie.
- F. WELL DESTRUCTION. See attached.
- G. SPECIAL CONDITIONS

Approved Wyman Hong Date 7/12/01  
Wyman Hong

# Gettler-Ryan, Inc.

# Log of Boring MW-II

PROJECT: *Tosco (76) Service Station No. 7376*

LOCATION: *4191 First Street, Pleasanton, California*

GR PROJECT NO.: *140107.05*

CASING ELEVATION:

DATE STARTED: *09/17/01*

WL (ft. bgs): *81.1*    DATE: *09/17/01*    TIME: *08:00*

DATE FINISHED: *09/17/01*

WL (ft. bgs):    DATE:    TIME:

DRILLING METHOD: *8 in. Hollow Stem Auger*

TOTAL DEPTH: *91 feet*

DRILLING COMPANY: *Woodward Drilling*

GEOLOGIST: *Clyde Galantine*

DEPTH (feet)	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
5							Well not logged to 40 feet.	<p>2" blank schedule 40 PVC</p> <p>10" steel casing</p> <p>neat cement</p>
10								
15								
20								
25								
30								
35								

# Gettler-Ryan, Inc.

# Log of Boring MW-II

PROJECT: *Tosco (76) Service Station No. 7376*

LOCATION: *4191 First Street, Pleasanton, California*

DEPTH (feet)	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
40	0	>100	MW-11-41			SM	SILTY SAND WITH GRAVEL (SM) - yellowish brown (10YR 5/4), saturated, very dense; 50% subangular to rounded fine to very coarse sand, 35% subangular to rounded fine gravel, 15% silt.	
40	0	>100	MW-11-42.5			GC		
45		>100				GC	CLAYEY GRAVEL WITH SILT (GC) - yellowish brown (10YR 5/4), saturated, very dense; 50% subangular to rounded fine gravel, 30% fine to very coarse sand, 20% clay.	
50	0	48	MW-11-49			CL	CLAY (CL) - brown (7.5YR 4/4), moist, hard, plastic; 80% clay, 15% silt, 5% fine sand.	
50	0	17	MW-11-52				Becomes very stiff; 60% clay, 35% silt, 5% fine sand.	
55		>100					Becomes hard.	
55	0	31	MW-11-57				Becomes very stiff; 80% clay, 15% silt, 5% fine sand.	
60	0	35	MW-11-59				Becomes hard.	
60	0	28	MW-11-61.5				Becomes very stiff.	
65	0	>100	MW-11-63.5				Becomes hard.	
70	0	>100	MW-11-66					
70	0	>100	MW-11-68.5			SM	SILTY SAND (SM) - yellowish brown (10YR 5/4) and pale brown (10YR 6/3), moist, very dense; 65% subangular to rounded fine sand, 35% silt.	
70	0	>100	MW-11-71.5				SILTY SAND WITH GRAVEL (SM) - yellowish brown (10YR 5/4) and pale brown (10YR 6/3), moist, very dense; 80% sand, 20% fine gravel, 20% silt.	
75	-	>100	MW-11-72.5			SW-SC	SAND WITH CLAY AND GRAVEL (SW-SC) - brown (10YR 4/3), saturated, very dense; 80% subangular to rounded fine to coarse sand, 30% fine gravel, 10% clay.	

# Gettler-Ryan, Inc.

# Log of Boring MW-11

PROJECT: *Tosco (76) Service Station No. 7376*

LOCATION: *4191 First Street, Pleasanton, California*

DEPTH (feet)	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
>100		>100				SW-SC		<p>Cap 2" machine slotted PVC (0.020 inch) #3 Lonestar sand bentonite</p>
>100		>100			GW-GC	GRAVEL WITH CLAY AND SAND (GW-GC) - brown (10YR 4/3), saturated, very dense; 50% subangular to rounded fine gravel, 40% fine to coarse sand, 10% clay.		
80	-	>100	MW-11-80.5		GW-GM	GRAVEL WITH SILT AND SAND (GW-GM) - brown (10YR 4/3), saturated, very dense; 65% subangular to rounded fine gravel, 25% fine to coarse sand, 10% silt.		
0	>100	>100	MW-11-84		CL	CLAY WITH SAND (CL) - dark yellowish brown (10YR 4/4), moist, hard, non-plastic; 40% clay, 30% silt, 20% fine to medium sand, 10% fine gravel.		
85	0	>100	MW-11-86		SC	CLAYEY SAND (SC) - dark yellowish brown (10YR 4/4), moist, very dense; 70% subangular to rounded fine to coarse sand, 20% clay, 10% fine gravel.		
0	>100	>100	MW-11-88			Clay lens from 87.25 to 87.75 feet.		
90	0	>100	MW-11-91		CL	CLAY (CL) - dark yellowish brown (10YR 4/4), moist, hard, plastic; 60% clay, 40% silt.		
							Bottom of boring at 91 feet bgs.  (* = converted to equivalent standard penetration blows/foot.)	
95								
100								
105								
110								
115								

# Gettler-Ryan, Inc.

# Log of Boring MW-12

PROJECT: <i>Tosco (76) Service Station No. 7376</i>	LOCATION: <i>4191 First Street, Pleasanton, California</i>
GR PROJECT NO.: <i>140107.05</i>	CASING ELEVATION:
DATE STARTED: <i>09/18/01</i>	WL (ft. bgs): <i>81.0</i> DATE: <i>09/20/01</i> TIME: <i>07:40</i>
DATE FINISHED: <i>09/19/01</i>	WL (ft. bgs):    DATE:    TIME:
DRILLING METHOD: <i>8 in. Hollow Stem Auger</i>	TOTAL DEPTH: <i>88 feet</i>
DRILLING COMPANY: <i>Woodward Drilling</i>	GEOLOGIST: <i>Clyde Galantine</i>

DEPTH (feet)	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
5							Well not logged to 40 feet.	<p>2" blank schedule 40 PVC</p> <p>10" steel casing</p> <p>neat cement</p>
10								
15								
20								
25								
30								
35								



# Gettler-Ryan, Inc.

# Log of Boring MW-12

PROJECT: *Tosco (76) Service Station No. 7376*

LOCATION: *4191 First Street, Pleasanton, California*

DEPTH (feet)	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
40						SM	CLAYEY SAND WITH GRAVEL (SM) - yellowish brown (10YR 4/4), saturated, very dense; 50% subangular to rounded fine to coarse sand, 30% clay, 20% fine gravel.	
42	0	50	MW-12-44					
43	-	>100	MW-12-44.5					
45						CL	CLAY (CL) - dark yellowish brown (10YR 4/6), saturated to moist, very stiff, plastic; 70% clay, 25% silt, 5% fine sand.	
47	0	16	MW-12-47					
49	0	16	MW-12-49					
51								
53	0	23	MW-12-52					
54	0	>100	MW-12-53.5					
56							Color changes to yellowish brown (10YR 5/4) mottled with dark brown (10YR 3/3).	
58	0	>100	MW-12-58					
60								
62	0	35	MW-12-62					
64	0	>100	MW-12-63.5			ML	SILT WITH SAND (ML) - dark yellowish brown (10YR 4/4), moist, very dense; 50% silt, 30% clay, 20% fine sand.	
66								
68	0	53	MW-12-67			SM	SILTY SAND (SM) - dark yellowish brown (10YR 4/4), moist, very dense; 60% subangular to rounded fine very fine to medium sand, 25% silt, 15% clay.	
69	0	>100	MW-12-68.5			SW	SAND (SW) - dark yellowish brown (10YR 4/4), moist, very dense; 95% subangular to rounded very fine to medium sand, 5% silt.	
70							Becomes 95% fine to very coarse sand, 5% silt, trace of fine gravel.	
71	0	>100					SAND WITH GRAVEL (SW) - dark yellowish brown (10YR 4/4), moist, very dense; 75% fine to coarse sand, 20% fine gravel, 5% clay.	
72								
73	0	>100						
74								
75								

# Gettler-Ryan, Inc.

# Log of Boring MW-12

PROJECT: *Tosco (76) Service Station No. 7376*

LOCATION: *4191 First Street, Pleasanton, California*

DEPTH (feet)	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
		>100				SW		
0		>100	MW-12-77.5			SW-SC	SAND WITH CLAY AND GRAVEL (SW-SC) - dark brown (10YR 3/3), saturated, very dense; 50% subangular to rounded fine to coarse sand, 40% fine gravel, 10% clay.	
80		>100	MW-12-80.5			GW-GC	GRAVEL WITH CLAY AND SAND (GW-GC) - dark brown (10YR 3/3), saturated, very dense; 50% rounded fine gravel, 40% subangular to rounded fine to coarse sand, 10% clay.	
0		>100	MW-12-81.5					
0		>100	MW-12-82.5			CL	CLAY (CL) - dark yellowish brown (10YR 4/6), moist, very stiff, plastic; 75% clay, 20% silt, 5% fine sand.	
85		>100	MW-12-85.5				CLAY WITH SAND (CL) - dark yellowish brown (10YR 4/6), moist, very stiff, plastic; 60% clay, 25% fine to coarse sand, 15% clay, trace of fine gravel.	
		>100	MW-12-86.5				Fine gravel lens from 86.1 to 86.3 feet.	
90							Bottom of boring at 88 feet bgs.  (* = converted to equivalent standard penetration blows/foot.)	
95								
100								
105								
110								
115								

**Virgil Chavez Land Surveying**

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

October 12, 2001  
Project No. 1604-20c

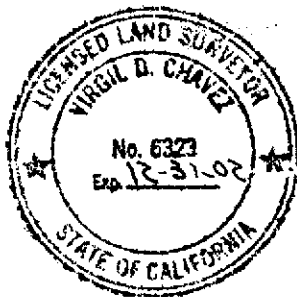
Clyde Galantine  
Gettler-Ryan, Inc.  
1364 North Mcdowell Blvd., Suite B2  
Petaluma Ca. 94954-1116

Subject: Monitoring Well Survey  
Unocal Service Sta. #7376  
4191 First Street  
Pleasanton, Ca.

Dear Clyde:

This is to confirm that we have proceeded at your request to survey the new monitoring wells at the above referenced site. The survey was performed on September 22, 2001. Measurements were taken at notches on the top of casing. The benchmark for the survey was a cut "+" on a concrete transformer pad on the north side of the Condominium project adjacent to this site. The coordinates are for top of casing based on California State Coordinate System, Zone 3 (NAD 83). Measurements taken at approximate north side of top of box and top of casing.  
Benchmark Elev. = 353.92 feet, NGVD 29.

<u>Well No.</u>	<u>Rim/Ground Elevation</u>	<u>TOC Elevation</u>	<u>Northing</u>	<u>Easting</u>
MW-1	367.45	366.98	2067662.96	6163796.64
MW-2B	365.64	365.05	2067720.26	6163792.35
MW-3	367.47	367.03	2067684.79	6163741.71
MW-4	369.09	368.81	2067612.93	6163642.70
MW-5	363.67	363.21	2067796.03	6163770.03
MW-6	363.72	363.13	2067727.47	6163695.84
MW-7	353.82 Grd	355.97	2067843.85	6163753.37
MW-8	362.61	361.83	2067847.09	6163842.90
MW-9	352.68 Grd	354.85	2067945.97	6163863.78
MW-10	363.14	362.62	2067753.91	6163876.99
MW-11	354.93	354.66	2067986.43	6163689.47
MW-12	354.28	354.08	2068083.54	6163795.79



Sincerely,

*Virgil D. Chavez*  
Virgil D. Chavez, PLS 6323

WELL DEVELOPMENT DATA #

JOB NO. 140107.05

LOCATION Tosco 7376

NAME MW-12

4191 First St, Pleasanton, CA

DATE 9/20/01

TIME	WATER LEVEL	pH	TEMP	CONDUCTIVITY	PURGE	SURGE	AMOUNT REMOVED GALLONS	COMMENTS (odor, color, sediments, etc.)
start: <u>9:20</u> <u>9:40</u> stop: <u>9:50</u>	<u>80.75</u>					X		Surge well Butterscotch H <sub>2</sub> O
start: <u>9:50</u> stop: <u>10:00</u>							5   Total 5	Butterscotch
start: stop: <u>10:15</u>							5   10	brown H <sub>2</sub> O
start: stop: <u>10:30</u>							5   15	brown H <sub>2</sub> O
start: stop: <u>10:45</u>							5   20	H brown H <sub>2</sub> O

DTW BEFORE DEVELOPMENT 80.75

TOTAL DEPTH BEFORE DEVELOPMENT 89.55

DTW AFTER DEVELOPMENT 80.82

TOTAL DEPTH AFTER DEVELOPMENT 89.55

DEVELOPMENT METHOD

SURGE surge block / drill rig

PURGE 5' steel boiler / drill rig

INJECTION

AMT. INJECTED

INITIAL WELL VOLUME:

$$\frac{89.55}{80.75} \times \frac{8.80}{0.17} = 1.5$$

TOTAL DEPTH INITIAL      DTW (INITIAL)      CONVERSION FACTOR      (1 WELL VOL)

CONVERSION FACTORS

- 2" = 0.17
- 3" = 0.38
- 4" = 0.66
- 6" = 1.50

WELL DEVELOPMENT DATA

JOB NO. 140107.05  
 NAME MW-11  
 DATE 9/20/01

LOCATION Toxob #7376  
4191 First St, Pleasanton

TIME	WATER LEVEL	pH	TEMP	CONDUCTIVITY	PURGE	SURGE	AMOUNT REMOVED GALLONS	COMMENTS (odor, color, sediments, etc.)
8:20								
start: 8:20	81.06					X	—	Surge w/ drill rig / surge block
stop: 8:30								Butter scotch
start: 8:35					X		5	Dewatered
stop: 9:15								
start:								
stop:								
start:								
stop:								
start:								
stop:								

DTW BEFORE DEVELOPMENT 81.06

TOTAL DEPTH BEFORE DEVELOPMENT 86.5

DTW AFTER DEVELOPMENT 83.51 10:50

TOTAL DEPTH AFTER DEVELOPMENT 86.33

DEVELOPMENT METHOD

SURGE surge block / drill rig  
 PURGE 5' steel bailer / drill rig  
 INJECTION \_\_\_\_\_  
 AMT. INJECTED \_\_\_\_\_

INITIAL WELL VOLUME:

$$\frac{(86.5)}{\text{TOTAL DEPTH INITIAL}} \times \frac{(81.06)}{\text{DTW (INITIAL)}} \times (0.17) = \frac{0.92}{(1 \text{ WELL VOL})}$$

CONVERSION FACTORS

- 2" = 0.17
- 3" = 0.38
- 4" = 0.66
- 6" = 1.50



**Sequoia  
Analytical**

1455 McDowell Blvd, North Ste D  
Petaluma, CA 94954  
(707) 792-1865  
FAX (707) 792-0342  
[www.sequoialabs.com](http://www.sequoialabs.com)

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28 September, 2001

Clyde Galantine  
Gettler - Ryan Inc.  
1364 North Mc Dowell Blvd., Suite B2  
Petaluma, CA 94954-1116

RE: TOSCO  
Sequoia Report: P109337

Enclosed are the results of analyses for samples received by the laboratory on 09/21/01 14:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angelee Cari  
Client Services Representative

CA ELAP Certificate #2374



Gettler - Ryan Inc.  
1364 North Mc Dowell Blvd., Suite B2  
Petaluma CA, 94954-1116

Project: TOSCO  
Project Number: 7376/Pleasanton, Ca  
Project Manager: Clyde Galantine

**Reported:**  
09/28/01 17:25

**ANALYTICAL REPORT FOR SAMPLES**

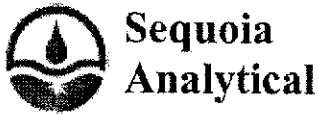
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-11-41	P109337-01	Soil	09/17/01 11:55	09/21/01 14:00
MW-11-72.5	P109337-02	Soil	09/17/01 13:50	09/21/01 14:00
MW-11-80.5	P109337-03	Soil	09/17/01 14:20	09/21/01 14:00
MW-11-84	P109337-04	Soil	09/17/01 14:30	09/21/01 14:00
MW-12-52	P109337-05	Soil	09/19/01 09:35	09/21/01 14:00
MW-12-68.5	P109337-06	Soil	09/19/01 10:10	09/21/01 14:00
MW-12-80.5	P109337-07	Soil	09/19/01 10:35	09/21/01 14:00
MW-12-82.5	P109337-08	Soil	09/19/01 10:45	09/21/01 14:00
MW-12-Grab	P109337-09	Water	09/19/01 08:00	09/21/01 14:00
S-1 comp	P109337-10	Soil	09/19/01 15:50	09/21/01 14:00

Sequoia Analytical - Petaluma

*Angelee Cari*

Angelee Cari, Client Services Representative

*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.*



1455 McDowell Blvd, North Ste D  
 Petaluma, CA 94954  
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 FAX (707) 792-0342  
 www.sequoialabs.com

Gettler - Ryan Inc.  
 1364 North Mc Dowell Blvd., Suite B2  
 Petaluma CA, 94954-1116

Project: TOSCO  
 Project Number: 7376/Pleasanton, Ca  
 Project Manager: Clyde Galantine

Reported:  
 09/28/01 17:25

**Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M**

**Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-11-41 (P109337-01) Soil Sampled: 09/17/01 11:55 Received: 09/21/01 14:00</b>									
Gasoline (C6-C12)	ND	1.0	mg/kg	1	1090462	09/24/01	09/24/01	EPA 8015M/8020M	
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		99.3 %		65-135	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.0 %		65-135	"	"	"	"	
<b>MW-11-72.5 (P109337-02) Soil Sampled: 09/17/01 13:50 Received: 09/21/01 14:00</b>									
Gasoline (C6-C12)	ND	1.0	mg/kg	1	1090462	09/24/01	09/24/01	EPA 8015M/8020M	
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		107 %		65-135	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.8 %		65-135	"	"	"	"	
<b>MW-11-80.5 (P109337-03) Soil Sampled: 09/17/01 14:20 Received: 09/21/01 14:00</b>									
Gasoline (C6-C12)	ND	1.0	mg/kg	1	1090462	09/24/01	09/24/01	EPA 8015M/8020M	
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		100 %		65-135	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %		65-135	"	"	"	"	

Sequoia Analytical - Petaluma

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.  
1364 North Mc Dowell Blvd., Suite B2  
Petaluma CA, 94954-1116

Project: TOSCO  
Project Number: 7376/Pleasanton, Ca  
Project Manager: Clyde Galantine

Reported:  
09/28/01 17:25

**Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M**

**Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-11-84 (P109337-04) Soil Sampled: 09/17/01 14:30 Received: 09/21/01 14:00</b>									
Gasoline (C6-C12)	ND	1.0	mg/kg	1	1090462	09/24/01	09/24/01	EPA 8015M/8020M	
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		106 %	65-135	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.3 %	65-135	"	"	"	"	"	
<b>MW-12-52 (P109337-05) Soil Sampled: 09/19/01 09:35 Received: 09/21/01 14:00</b>									
Gasoline (C6-C12)	ND	1.0	mg/kg	1	1090462	09/24/01	09/24/01	EPA 8015M/8020M	
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		101 %	65-135	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.3 %	65-135	"	"	"	"	"	
<b>MW-12-68.5 (P109337-06) Soil Sampled: 09/19/01 10:10 Received: 09/21/01 14:00</b>									
Gasoline (C6-C12)	ND	1.0	mg/kg	1	1090462	09/24/01	09/24/01	EPA 8015M/8020M	
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		108 %	65-135	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	65-135	"	"	"	"	"	



Gettler - Ryan Inc.  
1364 North Mc Dowell Blvd., Suite B2  
Petaluma CA, 94954-1116

Project: TOSCO  
Project Number: 7376/Pleasanton, Ca  
Project Manager: Clyde Galantine

Reported:  
09/28/01 17:25

**Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M**

**Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-12-80.5 (P109337-07) Soil Sampled: 09/19/01 10:35 Received: 09/21/01 14:00</b>									
Gasoline (C6-C12)	ND	1.0	mg/kg	1	1090462	09/24/01	09/24/01	EPA 8015M/8020M	
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		99.5 %	65-135		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	65-135		"	"	"	"	
<b>MW-12-82.5 (P109337-08) Soil Sampled: 09/19/01 10:45 Received: 09/21/01 14:00</b>									
Gasoline (C6-C12)	ND	1.0	mg/kg	1	1090462	09/24/01	09/24/01	EPA 8015M/8020M	
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		101 %	65-135		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.5 %	65-135		"	"	"	"	
<b>MW-12-Grab (P109337-09) Water Sampled: 09/19/01 08:00 Received: 09/21/01 14:00</b>									
Gasoline (C6-C12)	ND	50	ug/l	1	1090258	09/24/01	09/24/01	EPA 8015M/8020M	
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: a,a,a-Trifluorotoluene		99.7 %	65-135		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.0 %	65-135		"	"	"	"	



Gettler - Ryan Inc.  
1364 North Mc Dowell Blvd., Suite B2  
Petaluma CA, 94954-1116

Project: TOSCO  
Project Number: 7376/Pleasanton, Ca  
Project Manager: Clyde Galantine

**Reported:**  
09/28/01 17:25

**Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M**

**Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>S-1 comp (P109337-10) Soil Sampled: 09/19/01 15:50 Received: 09/21/01 14:00</b>									
Gasoline (C6-C12)	ND	1.0	mg/kg	1	1090462	09/24/01	09/24/01	EPA 8015M/8020M	
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>		99.0 %		65-135	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.0 %		65-135	"	"	"	"	

Gettler - Ryan Inc.  
 1364 North Mc Dowell Blvd., Suite B2  
 Petaluma CA, 94954-1116

 Project: TOSCO  
 Project Number: 7376/Pleasanton, Ca  
 Project Manager: Clyde Galantine

 Reported:  
 09/28/01 17:25

**Total Petroleum Hydrocarbons as Diesel & others by EPA 8015M**  
**Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-11-41 (P109337-01) Soil Sampled: 09/17/01 11:55 Received: 09/21/01 14:00</b>									
Diesel (C10-C24)	ND	2.5	mg/kg	1	1090468	09/24/01	09/25/01	EPA 8015M-SVOA	
Surrogate: o-Terphenyl		116 %	50-150		"	"	"	"	
<b>MW-11-72.5 (P109337-02) Soil Sampled: 09/17/01 13:50 Received: 09/21/01 14:00</b>									
Diesel (C10-C24)	ND	2.5	mg/kg	1	1090468	09/24/01	09/25/01	EPA 8015M-SVOA	
Surrogate: o-Terphenyl		94.0 %	50-150		"	"	"	"	
<b>MW-11-80.5 (P109337-03) Soil Sampled: 09/17/01 14:20 Received: 09/21/01 14:00</b>									
Diesel (C10-C24)	ND	2.5	mg/kg	1	1090468	09/24/01	09/25/01	EPA 8015M-SVOA	
Surrogate: o-Terphenyl		105 %	50-150		"	"	"	"	
<b>MW-11-84 (P109337-04) Soil Sampled: 09/17/01 14:30 Received: 09/21/01 14:00</b>									
Diesel (C10-C24)	ND	2.5	mg/kg	1	1090468	09/24/01	09/25/01	EPA 8015M-SVOA	
Surrogate: o-Terphenyl		82.0 %	50-150		"	"	"	"	
<b>MW-12-52 (P109337-05) Soil Sampled: 09/19/01 09:35 Received: 09/21/01 14:00</b>									
Diesel (C10-C24)	ND	2.5	mg/kg	1	1090468	09/24/01	09/25/01	EPA 8015M-SVOA	
Surrogate: o-Terphenyl		76.6 %	50-150		"	"	"	"	
<b>MW-12-68.5 (P109337-06) Soil Sampled: 09/19/01 10:10 Received: 09/21/01 14:00</b>									
Diesel (C10-C24)	ND	2.5	mg/kg	1	1090468	09/24/01	09/25/01	EPA 8015M-SVOA	
Surrogate: o-Terphenyl		101 %	50-150		"	"	"	"	
<b>MW-12-80.5 (P109337-07) Soil Sampled: 09/19/01 10:35 Received: 09/21/01 14:00</b>									
Diesel (C10-C24)	ND	2.5	mg/kg	1	1090468	09/24/01	09/25/01	EPA 8015M-SVOA	
Surrogate: o-Terphenyl		101 %	50-150		"	"	"	"	



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1364 North Mc Dowell Blvd., Suite B2  
Petaluma CA, 94954-1116

Project: TOSCO  
Project Number: 7376/Pleasanton, Ca  
Project Manager: Clyde Galantine

Reported:  
09/28/01 17:25

**Total Petroleum Hydrocarbons as Diesel & others by EPA 8015M**

**Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-12-82.5 (P109337-08) Soil Sampled: 09/19/01 10:45 Received: 09/21/01 14:00</b>									
Diesel (C10-C24)	ND	2.5	mg/kg	1	1090468	09/24/01	09/25/01	EPA 8015M-SVOA	
Surrogate: o-Terphenyl		84.4 %	50-150		"	"	"	"	
<b>S-1 comp (P109337-10) Soil Sampled: 09/19/01 15:50 Received: 09/21/01 14:00</b>									
Diesel (C10-C24)	ND	2.5	mg/kg	1	1090468	09/24/01	09/25/01	EPA 8015M-SVOA	
Surrogate: o-Terphenyl		70.7 %	50-150		"	"	"	"	



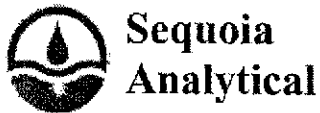
Gettler - Ryan Inc.  
1364 North Mc Dowell Blvd., Suite B2  
Petaluma CA, 94954-1116

Project: TOSCO  
Project Number: 7376/Pleasanton, Ca  
Project Manager: Clyde Galantine

**Reported:**  
09/28/01 17:25

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

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>S-1 comp (P109337-10) Soil Sampled: 09/19/01 15:50 Received: 09/21/01 14:00</b>										
Lead	ND	5.5		mg/kg	1	1090302	09/24/01	09/25/01	EPA 6010B	



**Sequoia  
Analytical**

1455 McDowell Blvd, North Ste D  
Petaluma, CA 94954  
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Gettler - Ryan Inc.  
1364 North Mc Dowell Blvd., Suite B2  
Petaluma CA, 94954-1116

Project: TOSCO  
Project Number: 7376/Pleasanton, Ca  
Project Manager: Clyde Galantine

**Reported:**  
09/28/01 17:25

**Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M - Quality Control**  
**Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1090258 - EPA 5030, waters**

**Blank (1090258-BLK1)**

Prepared & Analyzed: 09/14/01

Gasoline (C6-C12)	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	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	318		"	300		106	65-135			
<i>Surrogate: 4-Bromofluorobenzene</i>	284		"	300		94.7	65-135			

**Blank (1090258-BLK2)**

Prepared & Analyzed: 09/24/01

Gasoline (C6-C12)	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	"							
<i>Surrogate: a,a,a-Trifluorotoluene</i>	306		"	300		102	65-135			
<i>Surrogate: 4-Bromofluorobenzene</i>	291		"	300		97.0	65-135			

**LCS (1090258-BS1)**

Prepared & Analyzed: 09/14/01

Gasoline (C6-C12)	2410	50	ug/l	2750		87.6	65-135			
Benzene	34.7	0.50	"	33.0		105	65-135			
Toluene	191	0.50	"	198		96.5	65-135			
Ethylbenzene	48.8	0.50	"	46.0		106	65-135			
Xylenes (total)	218	0.50	"	230		94.8	65-135			
Methyl tert-butyl ether	66.1	2.5	"	52.5		126	65-135			
<i>Surrogate: a,a,a-Trifluorotoluene</i>	326		"	300		109	65-135			
<i>Surrogate: 4-Bromofluorobenzene</i>	307		"	300		102	65-135			

Sequoia Analytical - Petaluma

*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.  
1364 North Mc Dowell Blvd., Suite B2  
Petaluma CA, 94954-1116

Project: TOSCO  
Project Number: 7376/Pleasanton, Ca  
Project Manager: Clyde Galantine

Reported:  
09/28/01 17:25

**Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M - Quality Control**  
**Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1090258 - EPA 5030, waters</b>										
<b>LCS (1090258-BS2)</b>										
				Prepared & Analyzed: 09/24/01						
Gasoline (C6-C12)	2270	50	ug/l	2750		82.5	65-135			
Benzene	42.8	0.50	"	33.0		130	65-135			
Toluene	190	0.50	"	198		96.0	65-135			
Ethylbenzene	48.0	0.50	"	46.0		104	65-135			
Xylenes (total)	226	0.50	"	230		98.3	65-135			
Methyl tert-butyl ether	65.2	2.5	"	52.5		124	65-135			
Surrogate: a,a,a-Trifluorotoluene	316		"	300		105	65-135			
Surrogate: 4-Bromofluorobenzene	299		"	300		99.7	65-135			
<b>Matrix Spike (1090258-MS1)</b>										
				Source: P109171-02		Prepared & Analyzed: 09/14/01				
Gasoline (C6-C12)	2750	50	ug/l	2750	72	97.4	65-135			
Benzene	36.9	0.50	"	33.0	ND	111	65-135			
Toluene	218	0.50	"	198	ND	110	65-135			
Ethylbenzene	55.2	0.50	"	46.0	ND	119	65-135			
Xylenes (total)	256	0.50	"	230	0.52	111	65-135			
Methyl tert-butyl ether	68.9	2.5	"	52.5	ND	131	65-135			
Surrogate: a,a,a-Trifluorotoluene	357		"	300		119	65-135			
Surrogate: 4-Bromofluorobenzene	304		"	300		101	65-135			
<b>Matrix Spike Dup (1090258-MSD1)</b>										
				Source: P109171-02		Prepared & Analyzed: 09/14/01				
Gasoline (C6-C12)	2710	50	ug/l	2750	72	95.9	65-135	1.47	20	
Benzene	38.6	0.50	"	33.0	ND	116	65-135	4.50	20	
Toluene	211	0.50	"	198	ND	106	65-135	3.26	20	
Ethylbenzene	54.5	0.50	"	46.0	ND	118	65-135	1.28	20	
Xylenes (total)	249	0.50	"	230	0.52	108	65-135	2.77	20	
Methyl tert-butyl ether	73.1	2.5	"	52.5	ND	139	65-135	5.92	20	QM-07
Surrogate: a,a,a-Trifluorotoluene	351		"	300		117	65-135			
Surrogate: 4-Bromofluorobenzene	306		"	300		102	65-135			





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Petaluma CA, 94954-1116

Project: TOSCO  
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Project Manager: Clyde Galantine

Reported:  
09/28/01 17:25

**Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M - Quality Control  
Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1090462 - EPA 5030, soils</b>										
<b>Blank (1090462-BLK1)</b>					Prepared & Analyzed: 09/24/01					
Gasoline (C6-C12)	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	"							
Surrogate: a,a,a-Trifluorotoluene	0.580		"	0.600		96.7	65-135			
Surrogate: 4-Bromofluorobenzene	0.600		"	0.600		100	65-135			
<b>LCS (1090462-BS1)</b>					Prepared & Analyzed: 09/24/01					
Gasoline (C6-C12)	4.98	1.0	mg/kg	5.50		90.5	65-135			
Benzene	0.0774	0.0050	"	0.0660		117	65-135			
Toluene	0.379	0.0050	"	0.397		95.5	65-135			
Ethylbenzene	0.0885	0.0050	"	0.0920		96.2	65-135			
Xylenes (total)	0.487	0.0050	"	0.461		106	65-135			
Methyl tert-butyl ether	0.132	0.050	"	0.105		126	65-135			
Surrogate: a,a,a-Trifluorotoluene	0.590		"	0.600		98.3	65-135			
Surrogate: 4-Bromofluorobenzene	0.614		"	0.600		102	65-135			
<b>Matrix Spike (1090462-MS1)</b>					Source: P109337-01		Prepared & Analyzed: 09/24/01			
Gasoline (C6-C12)	5.74	1.0	mg/kg	5.50	ND	104	65-135			
Benzene	0.0763	0.0050	"	0.0660	ND	116	65-135			
Toluene	0.477	0.0050	"	0.397	ND	120	65-135			
Ethylbenzene	0.108	0.0050	"	0.0920	ND	117	65-135			
Xylenes (total)	0.588	0.0050	"	0.461	ND	128	65-135			
Methyl tert-butyl ether	0.137	0.050	"	0.105	ND	130	65-135			
Surrogate: a,a,a-Trifluorotoluene	0.611		"	0.600		102	65-135			
Surrogate: 4-Bromofluorobenzene	0.614		"	0.600		102	65-135			



Gettler - Ryan Inc.  
1364 North Mc Dowell Blvd., Suite B2  
Petaluma CA, 94954-1116

Project: TOSCO  
Project Number: 7376/Pleasanton, Ca  
Project Manager: Clyde Galantine

Reported:  
09/28/01 17:25

**Total Petroleum Hydrocarbons as Gasoline and BTEX by EPA 8015M/8020M - Quality Control**  
**Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1090462 - EPA 5030, soils</b>										
<b>Matrix Spike Dup (1090462-MSD1)</b>		<b>Source: P109337-01</b>			<b>Prepared &amp; Analyzed: 09/24/01</b>					
Gasoline (C6-C12)	5.09	1.0	mg/kg	5.50	ND	92.5	65-135	12.0	20	
Benzene	0.0801	0.0050	"	0.0660	ND	121	65-135	4.86	20	
Toluene	0.401	0.0050	"	0.397	ND	101	65-135	17.3	20	
Ethylbenzene	0.0913	0.0050	"	0.0920	ND	99.2	65-135	16.8	20	
Xylenes (total)	0.501	0.0050	"	0.461	ND	109	65-135	16.0	20	
Methyl tert-butyl ether	0.132	0.050	"	0.105	ND	126	65-135	3.72	20	
Surrogate: a,a,a-Trifluorotoluene	0.608		"	0.600		101	65-135			
Surrogate: 4-Bromofluorobenzene	0.614		"	0.600		102	65-135			



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Project Manager: Clyde Galantine

**Reported:**  
09/28/01 17:25

**Total Petroleum Hydrocarbons as Diesel & others by EPA 8015M - Quality Control  
Sequoia Analytical - Petaluma**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1090468 - CA LUFT - orb shaker</b>									
<b>Blank (1090468-BLK1)</b>					Prepared: 09/24/01 Analyzed: 09/25/01				
Diesel (C10-C24)	ND	2.5	mg/kg						
Surrogate: o-Terphenyl	1.33		"	1.67		79.6	50-150		
<b>LCS (1090468-BS1)</b>					Prepared: 09/24/01 Analyzed: 09/25/01				
Diesel (C10-C24)	21.6	2.5	mg/kg	33.3		64.9	50-150		
Surrogate: o-Terphenyl	1.21		"	1.67		72.5	50-150		
<b>Matrix Spike (1090468-MS1)</b>					Source: P109337-04 Prepared: 09/24/01 Analyzed: 09/25/01				
Diesel (C10-C24)	26.9	2.5	mg/kg	33.3	ND	80.8	50-150		
Surrogate: o-Terphenyl	1.48		"	1.67		88.6	50-150		
<b>Matrix Spike Dup (1090468-MSD1)</b>					Source: P109337-04 Prepared: 09/24/01 Analyzed: 09/25/01				
Diesel (C10-C24)	23.4	2.5	mg/kg	33.3	ND	70.3	50-150	13.9	35
Surrogate: o-Terphenyl	1.35		"	1.67		80.8	50-150		



Gettler - Ryan Inc.  
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Petaluma CA, 94954-1116

Project: TOSCO  
Project Number: 7376/Pleasanton, Ca  
Project Manager: Clyde Galantine

**Reported:**  
09/28/01 17:25

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1090302 - EPA 3050B</b>										
<b>Blank (1090302-BLK1)</b>										
										Prepared: 09/24/01 Analyzed: 09/25/01
Lead	ND	7.5	mg/kg							
<b>LCS (1090302-BS1)</b>										
										Prepared: 09/24/01 Analyzed: 09/25/01
Lead	49.6	7.5	mg/kg	50.0		99.2	80-120			
<b>Matrix Spike (1090302-MS1)</b>										
										Source: P109192-01 Prepared: 09/24/01 Analyzed: 09/25/01
Lead	43.3	6.6	mg/kg	43.9	ND	85.4	75-125			
<b>Matrix Spike Dup (1090302-MSD1)</b>										
										Source: P109192-01 Prepared: 09/24/01 Analyzed: 09/25/01
Lead	45.3	6.8	mg/kg	45.5	ND	86.8	75-125	4.51	35	



Gettler - Ryan Inc.  
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Petaluma CA, 94954-1116

Project: TOSCO  
Project Number: 7376/Pleasanton, Ca  
Project Manager: Clyde Galantine

**Reported:**  
09/28/01 17:25

### Notes and Definitions

- QM-07 The spike recovery was outside control limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference



002710

# 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: Gettler-Ryan 1450705 Project Name: Tosco # 7376

Address: \_\_\_\_\_ TOSCO Engineer (required) Dave Delbert #

City: Petaluma State: CA Zip Code: 94454

Telephone: (707) 781-3255 FAX #: 781-3210 Site #, City, State: # 7376 Pleasanton CA

Report To: Clyde Galantieri Sampler: Clyde Galantieri QC Data:  Level D (Standard)  Level C  Level B  Level A

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

CODE:  Misc.  Detect.  Eval.  Remed.  Demol.  Closure

Analyses Requested

Drinking Water  Waste Water  Other

TPH (EPA 8015 Method)  BTEX (EPA 8020)  MTBE (EPA 8021)  TPH (EPA 8015 Method Diesel)  Volatile Organics (EPA 8030)  MTBE Confirmation (EPA 8021)

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	TPH (EPA 8015 Method)	BTEX (EPA 8020)	MTBE (EPA 8021)	TPH (EPA 8015 Method Diesel)	Volatile Organics (EPA 8030)	MTBE Confirmation (EPA 8021)	Comments
1. MW-11-71.5	7/17/01 1:45	soil	1	toxic								
2. MW-11-72.5	1:50				P109332-02	X	X	X	X			11/18
3. MW-11-80.5	2:20				8-02	X	X	X	X			10/21/01
4. MW-11-84	2:30				8-09	X	X	X	X			
5. MW-11-86	2:40											
6. MW-11-87	2:45											
7. MW-11-91	2:50											
8.												
9.												
10.												

COOLER CUSTODY SEALS INTACT

NOT INTACT

COOLER TEMPERATURE 3.3 °C

Relinquished By: <u>Clyde Galantieri</u>	Date: <u>7/17/01</u>	Time: <u>17:30</u>	Received By: <u>[Signature]</u>	Date: <u>7/17/01</u>	Time: <u>17:30</u>
Relinquished By: _____	Date: _____	Time: _____	Received By: _____	Date: _____	Time: _____
Relinquished By: _____	Date: _____	Time: _____	Received By: _____	Date: _____	Time: _____

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

To be completed upon receipt of report:

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

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

Approved by: \_\_\_\_\_ Signature: \_\_\_\_\_ Company: \_\_\_\_\_ Date: \_\_\_\_\_

Pink - Client  
Yellow - Sequoia  
White - Sequoia





NO 002574  
**TOSCO**

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

Consultant Company: Gettler-Ryan 140107.05 Project Name: Tosco 7376  
 Address: \_\_\_\_\_ TOSCO Engineer (required) Dave DeWitt  
 City: Petaluma State: CA Zip Code: 94954  
 Telephone: (707) 789-3255 FAX #: (707) 789-3218 Site #, City, State: 7376 Pleasanton, CA  
 Report To: Clyde Galantine Sampler: Clyde Galantine QC Data:  Level D (Standard)  Level C  Level B  Level A

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

Analyses Requested  
 Drinking Water  
 Waste Water  
 Other

CODE:  Misc.  Detect.  Eval.  Remed.  Demol.  Closure

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	Analyses Requested										Comments		
						TPH (EPA 8015 Method)	BTEX (EPA 8020)	MTBE (EPA 8020)	TPH (EPA 8015 Method)	Volatiles Organics (EPA 8020)	MTBE Confirmation (EPA 8020)	Total Pb	COOLER TEMPERATURE	COOLER CUSTODY SEALS INTACT				
1. MW-12-67	9/19/01 10:05	soil	1	tube														
2. MW-12-68.5	10:10				10937-06	X	X	X	X									
3. MW-12-77.5	10:30					<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>									
4. MW-12-80.5	10:35				-07	X	X	X	X									
5. MW-12-81.5	10:40																	
6. MW-12-82.5	10:45				-08	X	X	X	X									
7. MW-12-85.5	10:50																	
8. MW-12-86.5	10:55																	
9. MW-12-Grub	9/11/01 8:00	flow	7	6" line	-09	X	X	X										
10. S-1 comp	9/11/01 3:50	soil	4	tube	-10	X	X	X	X									

Relinquished By: <u>Clyde Galantine</u>	Date: <u>9/11/01</u>	Time: <u>1:00</u>	Received By: <u>[Signature]</u>	Date: <u>9/11/01</u>	Time: <u>1:00</u>
Relinquished By: _____	Date: _____	Time: _____	Received By: _____	Date: _____	Time: _____
Relinquished By: _____	Date: _____	Time: _____	Received By: _____	Date: _____	Time: _____

Were Samples Received in Good Condition?  Yes  No Samples on Ice?  Yes  No Method of Shipment Client Page \_\_\_ of \_\_\_

To be completed upon receipt of report:  
 1) Were the analyses requested on the Chain of Custody reported?  Yes  No If no, what analyses are still needed? \_\_\_\_\_  
 2) Was the report issued within the requested turnaround time?  Yes  No If no, what was the turnaround time? \_\_\_\_\_  
 Approved by: \_\_\_\_\_ Signature: \_\_\_\_\_ Company: \_\_\_\_\_ Date: \_\_\_\_\_

Pink - Client  
 Yellow - Sequoia  
 White - Sequoia



**NORTHERN CALIFORNIA SALES OFFICE • SPECIAL WASTE**

Forward • Keller Canyon • Newby Island • Ox Mountain



Via Fax (925) 551-7888

November 30, 2001

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

Re: **FORWARD, INC.** Approval No. 1229  
Contaminated Soil from  
4191 First St. - Tosco# 7376  
PLEASANTON, CA

Dear Mr. Galantine:

**FORWARD, INC.** is pleased to confirm the disposal of 11 55-Gallon drums of material as referenced above. The material was received at our Manteca, California facility for disposal on October 27, 2001. The material was placed in a Class 2 waste management unit.

Approval for this material was 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 the "Terms and Conditions" agreed to and signed by the Generator on the Waste Profile Form.

Thank you for the opportunity to be of service. Should you have any questions regarding this matter, please contact me or Customer Service at (800) 204-4242.

Sincerely,

**FORWARD, INC.**

Brad J. Bommer  
Sales Manager