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DATE: August 10, 1999
PROJ. #: 140165.04-1
SUBJECT: Report
Former Tosco 76 Branded
Facility No. 1871
96 MacArthur Boulevard
Oakland, California

FROM:
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GETTLER - RYAN INC.

LIMITED SUBSURFACE INVESTIGATION REPORT

at

Former Tosco 76 Branded Facility No. 1871
96 Mac Arthur Boulevard
Oakland, California

Report No. 140165.04-2

Prepared for:

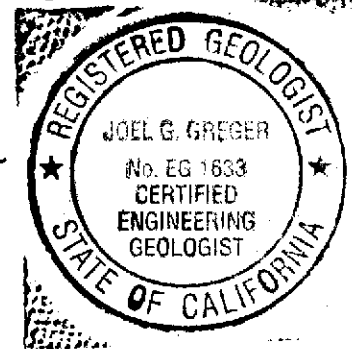
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August 6, 1999

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at

Former Tosco 76 Branded Facility No. 1871
96 MacArthur Boulevard
Oakland, California

Report No. 140165.04-2

1.0 INTRODUCTION

This report summarizes the results of the recent subsurface investigation performed by Gettler-Ryan Inc. (GR) at the subject site, as proposed in GR's Work Plan and Work Plan Addendum dated October 30 and November 9, 1998, respectively. The Work Plan and Addendum were conditionally approved by the Alameda County Health Care Services Agency (ACHCSA) in a letter to Tosco dated, November 10, 1998. The purpose of the investigation was to evaluate whether soil and groundwater downgradient of the subject site has been impacted by hydrocarbons. The groundwater monitoring wells are being installed to replace the recently destroyed on-site monitoring wells. The scope of work was developed during a meeting between Tosco, ACHCSA, and GR representatives at the site on October 20, 1998. The Work Plan Addendum addressed the issue of whether underground utilities in the vicinity of the proposed groundwater monitoring well locations could influence groundwater flow and therefore influence the validity of analyses from the wells.

This scope of work included the preparation of a site-specific health and safety plan, obtaining the required well and boring permits from the ACHCSA and encroachment permits and/or street opening permits from the City of Oakland Engineering Department and CalTrans. The field work consisted of advancing seven soil borings using a GeoProbe direct-push drill rig and collecting soil and grab groundwater samples from the borings. In addition to the GeoProbes, five soil borings using a hollow-stem auger drilling rig were advanced, converting three of the soil borings into monitoring wells. Soil and depth-discrete groundwater samples were also collected from these borings. The three monitoring wells were developed prior to monitoring and sampling; and the wellhead elevations surveyed. The soil and groundwater samples collected and retained for chemical analysis were submitted to an analytical laboratory for testing. GR arranged for Tosco's contractors to dispose of the waste materials; and prepared this report summarizing the findings of the investigation.

The scope of work performed during this investigation was in compliance with the State of California Water Resources Control Board's *Leaking Underground Fuel Tanks (LUFT) Manual* and *California Tri-Regional Board Staff Recommendations for Preliminary Investigation and Evaluation of Underground Tank Sites*, and the ACHCSA guidelines.

2.0 SITE DESCRIPTION

2.1 General

The site is located on the north corner of the intersection of MacArthur Boulevard and Harrison Street in Oakland, California (Vicinity Map, Figure 1). The site is currently being redeveloped as a Quick Stop Market that will dispense petroleum products. The underground and above ground facilities, including the station building, two dispenser islands, two gasoline underground storage tanks (USTs), one waste oil UST, and four groundwater monitoring wells, were demolished and removed from the site. One groundwater monitoring well (MW-1) and conductor casing installed in the former UST pit remains at the site. Pertinent former and existing site features are shown on Figure 2.

2.2 Geology and Hydrogeology

The site is located on the western flank of the Oakland Hills and is underlain by Late Pleistocene age alluvium. These deposits are composed of weakly consolidated slightly weathered poorly sorted irregularly interbedded clay, silt, sand, and gravel. The northwest-southeast trending Hayward Fault is located approximately 2.3 miles northeast of the site (Helley, 1979). The nearest surface water is Glen Echo Creek, located approximately 1,000 feet northwest of the site.

The site is underlain by clay to approximately 5 to 7 feet below ground surface (bgs). The clay is underlain by silt, silty sand, and poorly graded, fine sand to 16 feet bgs. Clay was encountered beneath these sediments to a total explored depth of 25.5 feet bgs. Groundwater was measured at approximately 10 to 15 feet bgs during the July 1998 groundwater monitoring event (GR, 1999) and appears to be unconfined. The groundwater flow direction has ranged from southwest to south-southwest with an average gradient of 0.03 [Kaprealian Engineering, Inc. (KEI), 1996]. A potential artificial barrier may exist down gradient of the site as a result of the presence and construction of the I-580 freeway structure.

2.3 Previous Environmental Work

A dispenser and product piping modification project was performed at the site in May 1992. Four soil samples were collected from beneath the dispensers by representatives of Roux Associates (Roux) at depths ranging from 2 to 5 feet bgs. Petroleum hydrocarbon concentrations reported in the samples ranged from not detected to 58 parts per million (ppm) of Total Petroleum Hydrocarbons as Gasoline (TPHg), and not detected to 0.20 ppm of benzene. An additional sample was collected below the south end of the east island at 8 feet bgs. The sample contained 1,700 ppm of TPHg and 3.1 ppm of benzene (KEI, 1996).

Three 4-inch diameter groundwater monitoring wells designated MW-1, MW-2, and MW-3 were installed on-site by Roux in October 1992 (Figure 2). The wells were completed to total depths of 24 and 25 feet bgs. Groundwater was encountered at depths of 14 to 15 feet bgs. Soil samples collected from well borings MW-1 and MW-2 were reported as not detected for TPHg and benzene, toluene, ethylbenzene, and xylenes (BTEX). Soil samples collected from MW-3 at depths of 12-13.5 feet bgs and 13.5-15 feet bgs contained 4.2 ppm of TPHg and 0.079 ppm of benzene, and 10 ppm of TPHg and 0.040 ppm of benzene, respectively. Groundwater samples collected from the wells contained petroleum hydrocarbon concentrations ranging from 140 to 260,000 parts per billion (ppb) of TPHg and 2.2 to 2,300 ppb of benzene. Quarterly groundwater monitoring and sampling was initiated upon receipt of the initial groundwater sample results. In February 1996, ACHCSA approved Unocal's request to reduce the groundwater monitoring and sampling program from quarterly to semiannually (KEI, 1996).

A 280-gallon single-wall steel waste oil UST was replaced with a 550-gallon double-wall fiberglass UST in August 1994. One soil sample was collected from below the UST at a depth of 9 feet bgs by a representative from Kaprealian Engineering Incorporated (KEI). The excavation was deepened to 14 feet bgs and another soil sample was collected due to the obvious presence of petroleum hydrocarbons in the soil. Four sidewall soil samples were also collected at 9 feet bgs. The bottom sample collected at 9 feet bgs contained 46 ppm of TPHg, 0.12 ppm of benzene, 97 ppm of Total Petroleum Hydrocarbons as Diesel (TPHd), 1,400 ppm of Oil and Grease (O&G), and elevated concentrations of various semi-volatile organic (8270) compounds. One sidewall sample contained 960 ppm of TPHg, 2.2 ppm of benzene, 1,400 ppm of TPHg, 17,000 ppm of TOG, and elevated concentrations of 8270 compounds. The three other sidewall samples contained O&G concentrations ranging from 160 to 2,400 ppm. The soil sample collected at the bottom of the excavation at 14 feet bgs was reported as not detected for O&G and 8270 compounds (KEI, 1996).

In March 1996, KEI personnel witnessed the advancing of two soil borings (EB-1, EB-2) and installation of two additional monitoring wells (MW-4, MW-5) at the site (Figure 2). Soil borings EB-1 and EB-2 were advanced to depths of 13.5 and 14 feet bgs, respectively. Wells MW-4 and MW-5 were installed to a total depth of 20 feet bgs. Soil samples collected from boring EB-1 were reported as not detected for TPHg, BTEX, TPHd, O&G, 8270 compounds, and volatile organic (8010) compounds, except for 6.6 ppb of 1,1-dichloroethene (8010 compound) detected in the sample collected at 5 feet bgs. The soil sample collected at 5 feet bgs in boring EB-2 was reported as not detected for all analytes. The soil sample collected at 10 feet bgs in boring EB-2 contained 5.7 ppm of TPHg, 73 ppm of TPHd, 540 ppm of O&G, and elevated concentrations of 8270 compounds, and was reported as not detected for benzene and 8010 compounds. The soil sample collected at 5 feet bgs from well boring MW-4 was reported as not detected for TPHg, benzene, O&G, and 8270 compounds and contained 1.1 ppm of TPHd and elevated concentrations of 8010 compounds. The soil sample collected at 9.5 feet bgs from well boring MW-4 contained 24 ppm of TPHg, 350 ppm of TPHd, 1,000 ppm of O&G, and elevated concentrations of 8010 and 8270 compounds, and was reported as not detected for benzene. The soil samples collected from well boring MW-5 were reported as not detected for TPHg and BTEX, except for 0.023 ppm of benzene detected in the sample collected at 9 feet bgs (KEI, 1996).

Grab groundwater samples were collected from both soil borings. Groundwater sample EB-1 was reported as not detected for all analytes except for 1.3 ppb xylenes and 0.54 ppb 1,1-dichloroethane (8010 compound). Groundwater EB-2 was reported as not detected for O&G and 8010 compounds and contained 1,400 ppb of TPHg, 690 ppb of benzene, 410 ppb of TPHd, and elevated concentrations of 8270 compounds. A groundwater sample collected from well MW-4 was reported as not detected for TPHg and contained 630 ppb of benzene, 110 ppb of TPHd and 18,000 ppb of methyl tertiary butyl ether (MtBE). A groundwater sample collected from MW-5 contained 31,000 ppb of TPHg, 5,500 ppb of benzene, and 66,000 ppb MtBE (KEI, 1996).

In May 1998, all underground and aboveground equipment and facilities were removed by John's Excavating of Santa Rosa, California. The facilities included two 12,000-gallon double-wall steel gasoline USTs, one 550-gallon double-wall steel waste oil UST, two hydraulic lifts, two dispenser islands and related single-wall product piping, and one service station building. GR personnel performed soil and groundwater sampling activities in conjunction with the station demolition.

Soil samples were collected beneath or near the USTs, hydraulic lifts, and dispenser islands/product piping. Four soil samples were collected from the sidewalls of the gasoline UST excavation at a depth of 11.5 feet bgs. Petroleum hydrocarbon concentrations in the samples ranged between not detected to 2,000 ppm of TPHg, not detected to 9.7 ppm of benzene, and 1.9 to 16 ppm of MtBE. The areas south and west of the excavation were over excavated to groundwater and two confirmation samples were collected. The two confirmation samples, collected at 11 feet bgs, contained petroleum hydrocarbon concentrations ranging from not detected and 5.0 ppm of TPHg, 0.049 and 0.080 ppm of benzene, and 6.6 and 12 ppm of MtBE.

One soil sample was collected beneath each of the dispenser islands at a depth of 4 feet bgs. The sample collected beneath the north dispenser island was reported as not detected for TPHg and BTEX and contained 0.74 ppm of MtBE. The sample collected from beneath the south dispenser island was reported as not detected for benzene and MtBE and contained 15 ppm of TPHg. One soil sample was collected from the bottom of the waste oil UST excavation at a depth of 11 feet bgs. The sample was reported as not detected for all analytes except for 140 ppm of O&G. One soil sample was collected beneath each of the hydraulic lifts at a depth of 8 feet bgs. Both of these samples were reported as not detected for Total Petroleum Hydrocarbons as hydraulic fluid (TPHh).

Grab groundwater samples were collected from the gasoline and waste oil UST excavations. The sample collected from the gasoline UST excavation was reported as not detected for benzene and MtBE and contained 620,000 ppb of TPHg. The groundwater sample collected from the waste oil UST excavation was reported as not detected for BTEX, MtBE, O&G and 8270 compounds, and contained 90 ppb of TPHg, 890 ppb of TPHd, and elevated concentrations of 8010 compounds.

A total of 1,252.78 tons of soil was removed from the site during demolition activities and transported to Forward Landfill for disposal (GR, 1998A).

Groundwater monitoring and sampling has been performed at the site since January 1993. Depth to groundwater has ranged from 7.70 to 15.50 feet from top of casing. Groundwater flow direction has ranged from southwest to south-southwest with an average hydraulic gradient of 0.03. Petroleum hydrocarbon concentrations have ranged from not detected to 260,000 ppb of TPHg, not detected to 8,700 ppb of benzene, and 270 to 120,000 ppb of MtBE (GR, 1998).

The tops of the casings on monitoring wells MW-2 through MW-5 were damaged during site demolition activities. On September 14, 1998, these wells were drilled out and the borehole backfilled with neat cement to grade. In addition, one soil boring (EB-3) was advanced on-site to a total depth of 16.5 feet bgs (Figure 2). Groundwater was encountered at approximately 10.5 feet bgs. Soil and groundwater samples were collected for use in a Risk Based Corrective Action (RBCA) evaluation for the site. The RBCA evaluation was summarized in GR's report dated February 25, 1999, and was subsequently revised in documents dated April 6, 19 and 20, 1999. The RBCA evaluation for commercial site usage, concluded the known residual petroleum hydrocarbon in the soil and groundwater at the site do not appear to pose a risk to human health. The RBCA evaluation was approved by the AHCSA in their letter to Tosco dated May 4, 1999.

3.0 FIELD WORK

Field work was conducted in accordance with GR's Field Methods and Procedures (Appendix A) and GR's Site Safety Plan dated March 23, 1998, using the methods and procedures outlined in the GR's work plan dated October 30, 1998.

Prior to drilling, drilling permits were obtained from the Alameda County Public Works Agency – Water Resources Section, and the appropriate encroachment and excavation permits were obtained from CalTrans and the City of Oakland Engineering Department. Copies of the permits are included in Appendix B.

Prior to drilling at the site, the boring locations were marked with white paint and Underground Service Alert was notified. A private utility locator was also used as a cautionary measure to identify utilities at the specific boring locations. The first five feet of each borehole was hand augured as a further precaution to avoid utility conflicts.

3.1 Drilling Activities

During the period of June 1 through June 11, 1999, a GR geologist observed Gregg Drilling of Martinez, California (C57 #485165) install nine soil borings (B-4 through B-12) and three monitoring wells at the locations shown on Figure 2. Borings B-4 through B-10 were drilled and/or sampled to a depth between 12 and 18 feet bgs, using a GeoProbe direct-push drill rig. Borings B-11 and B-12 were drilled and/or sampled to a depth of 31.5 and 26.5 feet bgs, respectively, using six-inch augers driven by a truck-mounted drill rig. Replacement monitoring wells MW-6 through MW-8 were drilled and/or sampled to a depth of 25 feet bgs, using eight-inch augers driven by a truck-mounted drill rig. In borings B-4 through B-10, soil samples were collected continuously below 5 feet. In borings B-11

and B-12 and monitoring wells MW-6 through MW-8, soil samples were collected at approximately five-foot intervals. The GR geologist prepared a log of the boring and screened the soil samples in the field for the presence of volatile organic compounds. Screening data, subsurface materials penetrated and the depths at which soil and groundwater samples were collected are presented on the boring logs in Appendix B.

3.2 Soil Sampling

Soil sampling was conducted continuously in GeoProbe borings B-4 through B-10, and at approximate five-foot intervals in borings B-11 and B-12 and monitoring wells MW-6 through MW-8, beginning at a depth of 5 feet bgs. Soil sampling was conducted for laboratory analyses and to develop an accurate profile of subsurface conditions. Soil samples for lithologic logging and laboratory analysis were collected by driving a sampling tool containing a plastic liner (GeoProbe), or a stainless steel California-modified split-spoon sampler containing brass liners. Soil samples selected for laboratory analysis were removed from the sampler and retained in the liners. The liners holding the samples were sealed with Teflon-lined plastic caps, labeled, and placed in individually sealed plastic bags, which were then stored in a cooler, on ice, until delivered to a state-certified laboratory.

3.3 Groundwater Sampling

Water samples were collected at the first encountered groundwater by the use of a clean stainless steel or Teflon bailer. The water samples were decanted into clean VOA vials that were sealed with Teflon-lined screw caps, labeled, and stored in a cooler, on ice, until delivered to a state-certified laboratory.

A grab sample was not attainable from the first groundwater in boring B-11, possibly because of the encountered fine-grained silt and clay lithology. Therefore, the collection of a deeper groundwater sample was attempted with the use of a hydropunch-type ground water sampling tool advanced ahead of the drilling augers. The hydropunch was driven from 29.5 feet bgs to 31.5 bgs, and then the body of the tool was carefully retracted to expose the hydropunch screen. After waiting approximately 30 minutes, groundwater had not collected in the borehole in sufficient quantity to allow sampling. First groundwater was encountered deeper than expected in boring B-12 which may also be a result of the fine-grained lithology encountered.

Prior to each use, the hollow-stem augers were cleaned by the use of a hot water pressure washer. The hydropunch sampling tool and all drill rods to be used for ground water sampling were also washed prior to each use. All rinsate generated during drilling and sampling activities was contained in DOT-approved 55-gallon drums, which were labeled and stored on-site pending disposal.

3.4 Field Screening

A photoionization detector (PID) was used to perform head-space analysis in the field for the presence of organic vapors in soil samples. This test procedure involved removing some soil from one of the sample tubes not retained for chemical analysis and immediately placing it into a sealed plastic bag. The PID probe was inserted into the head-space inside the plastic bag and the head-space screening results were 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.

3.5 Borehole Sealing

The exploratory borings were fully sealed with neat cement grout. Bentonite chips were used to seal the portion of the borings within the saturated zone, and quick-setting concrete was used to finish backfilling of the boreholes to grade. All groundwater expelled from the borings was contained in DOT-approved 55-gallon drums, which were labeled and stored on-site pending disposal.

3.6 Well Monitoring and Sampling

The most recent sampling of the monitoring wells at the subject site was conducted on June 18, 1999. Static groundwater levels were measured and all wells were checked for the presence of separate-phase hydrocarbons. Separate phase hydrocarbons were not present in any of the wells. Static water level data and groundwater elevations are summarized in Table 1. A Potentiometric Map and a Concentration Map are included with this report as Figures 5 and 6, respectively.

Groundwater samples were collected from the monitoring wells as specified by GR Standard Operating Procedure - Groundwater Sampling. Water purged during well development and sampling was transported to the Tosco refinery in Rodeo, California, for treatment and discharge to San Pablo Bay under NPDES permit. The Standard Operating Procedures and the field data sheets are included with this report as Appendix A and Appendix C, respectively.

3.7 Laboratory Analysis

Soil and ground water samples collected from the exploratory borings, and groundwater samples collected from the monitoring wells, were analyzed at Sequoia Analytical Laboratory in Walnut Creek, California (ELAP # 1271), and were accompanied by properly executed Chain of Custody documentation. The samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by Environmental Protection Agency (EPA) method 5030/modified 8015, and benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl tertiary butyl ether (MtBE) by EPA methods 8020 and 8260. In addition, the groundwater samples collected from monitoring wells MW-1 and MW-6 through MW-8 were analyzed for Halogenated Volatile Organic Compounds (HVOC) by EPA Method 8010, Semi-Volatile Organic Compounds (SVOC) by EPA Method 8270, and seven oxygenate compounds (including MtBE) by EPA Method 8260. Copies of the laboratory analytical reports and chain-of-custody records are included in Appendix B.

3.8 Waste Disposal

All rinsate and purged groundwater generated during drilling activities was contained and stored on-site in properly labeled, DOT-approved 55-gallon drums. The drummed rinsate and purged groundwater were transported to the Tosco refinery in Rodeo, California, for disposal.

All soil generated during drilling activities was stockpiled on site, and were placed on and covered with plastic sheeting pending disposal. After completion of drilling, four samples for disposal characterization were collected from the drill cuttings and submitted to the laboratory for compositing and analysis as sample Comp S1. The analytical results for Comp S1 are included in Table 6.

In July, 1999, Denbeste Transportation, Inc., of Windsor, California, removed the drill cuttings and transported them to Forward Landfill in Manteca, California, for disposal under approval number 847622.

4.0 RESULTS

4.1 Subsurface Conditions

The subsurface conditions encountered are illustrated on Geologic Cross-Sections A-A' and B-B' (Figures 3 and 4). The locations of the cross-sections transect are shown on Figure 2. Based on the borings completed for this investigation, the subject site and

vicinity are underlain by fill materials to a depth of several feet below ground surface (bgs). The fill is in turn underlain by native soil consisting of alluvium which extends to the maximum depth explored (31.5 feet bgs). The alluvium directly underlying the surficial fill materials consists predominantly of silt, except for in the vicinity of borings B-4 through B-6, B-9, and B-12, where the surficial fill material is underlain by the silty sand or sand layer encountered beneath the laterally extensive silt observed in the other borings. The silt varies from clay-rich to sandy and locally contains weathered gravel. The silt unit is underlain predominantly by silty sand and sand, locally with gravel. This sandy unit varied from approximately four to eight feet in thickness in the borings completed for this investigation, except for in topographically lower borings B-7 through B-9, where it appears to pinch out, and topographically higher boring B-6 where it was encountered directly below the surficial fill material, extending to the total depth explored (14 feet bgs). The sandy unit is underlain by a distinctly different relatively homogenous silt unit, encountered in all borings during this investigation except for topographically higher borings B-6 and B-10, which terminated within this sandy unit. The deeper silty sand unit encountered by others beneath the silt in monitoring well MW-3 was not encountered in the borings completed for this investigation.

The first water-bearing zone appears to occur in a leaky semi-confined or locally confined condition, as most of the grab groundwater samples from the borings were collected well below the static water table measured in the monitoring wells. The static water table measured in the wells occurs both within and above the first sandy layer.

The lithology encountered during this investigation is consistent with previous subsurface investigations at the site and is interpreted as an alluvial fan depositional environment.

4.2 Soil Analytical Results

Soil samples were screened in the field using a PID. Based on the field screening and observations, soil samples generally representative of the present capillary fringe zone (approximately 8 to 14 feet bgs) were selected for laboratory analysis. Deeper soil samples collected from B-11, B-12 and MW-6 were also analyzed.

TPHg, BTEX, and MtBE were not detected in the soil samples collected from B-4 through B-7, B-12, and MW-7 and MW-8, except for 0.21 and 0.18 parts per million (ppm) of MtBE detected in MW-7 and MW-8, respectively. Relatively low or trace concentrations of some BTEX constituents and MtBE were detected in the soil samples collected from B-8, B-9 and B-11, and the associated TPHg were non-detectable. TPHg was detected at a

concentration of 170 ppm and BTEX and MtBE were detected at relatively low concentrations in the soil sample collected from B-10 at 14 feet bgs. TPHg was detected at a concentration of 210 ppm and BTEX and MtBE was detected at concentrations ranging from 1.6 to 25 ppm in the sample collected from MW-6 at a depth of 11 feet bgs. These concentrations attenuated vertically in the sample collected at 15.5 bgs and were largely non detectable in the samples collected at 20.5 and 24 feet bgs, except for MtBE, which was detected at relatively low concentrations. The analytical results of the soil samples are summarized in Table 6.

4.3 Groundwater Analytical Results

TPHg and BTEX were not detected in any of the grab groundwater samples collected from borings B-4 through B-12, except for boring B-10 (see Table 5), and 0.54 ppb of benzene detected in the sample collected from B-6 at 11.7 feet bgs. In boring B-10, TPHg and benzene were detected at concentrations of 95,000 and 10,000 ppb, respectively. MtBE was not detected in the grab groundwater samples collected from B-4 through B-6, B-8, B-9, and B-12, but was detected in B-7, B-10, and B-11 at concentrations of 3,000, 270,000, and 15,000 ppb, respectively. The analytical results of the groundwater samples are summarized in Table 5.

In the sampling event conducted on June 18, 1999, TPHg and BTEX were not detected in the samples collected from MW-7 and MW-8, but were detected at elevated concentrations in MW-1 and MW-6. MTBE was detected in all of the wells at concentrations ranging from 290 ppb (MW-8) to 97,000 ppb (MW-6). EPA Method 8010 and 8270 constituents and the other fuel oxygenate compounds (in addition to MTBE) were non-detectable. The analytical results of the groundwater samples from the monitoring wells are summarized in Tables 1 through 3.

5.0 DISCUSSION AND RECOMMENDATIONS

As shown on Geologic Cross Sections A-A' and B-B' (Figures 3 and 4) and the Concentration Map (Figure 6), the results of this investigation confirmed that groundwater beneath the subject site has been impacted by petroleum hydrocarbons, including MtBE. Dissolved TPHg and BTEX in groundwater is delineated and appears to be limited to the vicinity of boring B-10 and wells MW-1 and MW-6. MtBE in groundwater appears to be more widespread. The groundwater samples collected from the borings completed for this investigation indicate that MtBE in groundwater is non-detectable to the south of the subject site along Harrison Street (borings B-4 through B-6, B-8, B-9, and B-12). MtBE concentrations appear to attenuate significantly to the west along MacArthur Boulevard

(MW-6 through MW-8) which may be influenced by a potential artificial barrier created by the I-580 freeway structure. Detectable concentrations of MtBE in borings B-7 and B-11, indicate the dissolved MtBE is not delineated or defined to the west-southwest of the site. However, further delineation may not be feasible and will be limited by the I-580 freeway and overpass structure that exists in the vicinity of the site.

All of the analyses performed on the samples collected from the site monitoring wells on June 18, 1999 for Halogenated and Semi-Volatile Organic Compounds (EPA Methods 8010 and 8270, respectively), and for fuel oxygenates in addition to MtBE and lead scavengers (EPA Method 8260) yielded non-detectable results. Based on these results, GR recommends the continuation of the current semi-annual monitoring and sampling program for the existing monitoring wells, analyzing for TPHg, BTEX and MtBE. Following review of additional groundwater sampling data, GR will make additional recommendations for alteration of the monitoring and sampling program, as warranted.

7.0 REFERENCES

Gettler-Ryan Incorporated, 1999, Risk Assessment for Former Tosco 76 Products Service Station No. 1871, 96 MacArthur Boulevard, Oakland, California, dated February 25, 1999, revised April 6, 19, and 20, 1999.

Gettler-Ryan Incorporated, 1998, Semi-Annual 1998 Groundwater Monitoring and Sampling Report, Tosco (Former Unocal) Service Station # 1871, 96 MacArthur Boulevard, Oakland, California: Job #180068 dated August 31, 1998.

Gettler-Ryan Incorporated, 1998, Work Plan for Limited Subsurface Investigation at Former Tosco 76 Branded Facility No. 1871, 96 MacArthur Boulevard, Oakland, California, dated October 30, 1998.

Gettler-Ryan Incorporated, 1998, Work Plan Addendum, Tosco 76 Branded Facility No. 1871, 96 MacArthur Boulevard, Oakland, California, dated November 9, 1998.

Gettler-Ryan Incorporated, 1998A, Soil Sampling During Underground Storage Tank and Piping Removal at Tosco 76 Branded Facility No. 1871, 96 MacArthur Boulevard, Oakland, California, dated October 19, 1998.

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

Kaprealian Engineering, Inc., 1996, Continuing Soil and Groundwater Investigation at Unocal Service Station No. 1871, 96 MacArthur Boulevard, Oakland, California, dated May 17, 1996.

Table 1
Groundwater Monitoring Data and Analytical Results
 Tosco (Former Unocal) Service Station #1871
 96 MacArthur Boulevard
 Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPII(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-1	11/03/92	--	--	260,000	2,300	4,600	3,700	17,000	--
	01/25/93	--	--	120,000	2,100	4,600	4,900	22,000	--
81.18	04/29/93	13.71	67.47	100,000	850	2,000	4,300	19,000	--
	07/16/93	14.51	66.67	29,000	590	560	980	4,200	--
	10/19/93	15.20	65.98	67,000	1,400	2,600	2,900	5,000	--
	01/20/94	15.17	66.01	92,000	1,200	3,000	3,400	17,000	--
	04/13/94	14.44	66.74	51,000	1,000	2,600	3,200	15,000	--
	07/13/94	14.88	66.30	35,000	550	150	1,400	5,700	--
	10/10/94	15.55	65.63	52,000	1,000	810	3,300	12,000	--
	01/10/95	12.44	68.74	810	16	18	59	250	--
	04/17/95	12.68	68.50	48,000	880	530	2,500	11,000	--
	07/24/95	13.97	67.21	48,000	1,500	420	2,700	9,700	--
	10/23/95	14.85	66.33	47,000	780	210	2,100	11,000	270
	01/18/96	14.21	66.97	30,000	1,500	500	3,500	13,000	2,400
	86.24	04/18/96	13.40	72.84	66,000	2,700	2,200	3,100	13,000
07/24/96		14.15	72.09	5,600	2,100	ND	160	160	24,000
10/24/96		14.85	71.39	110,000	7,500	8,000	3,300	14,000	58,000
01/28/97		11.25	74.99	94,000	7,700	19,000	3,100	15,000	120,000
07/29/97		14.67	71.57	ND	ND	ND	ND	ND	70,000
01/14/98		12.27	73.97	85,000	6,100	10,000	3,000	17,000	110,000
07/01/98		14.32	71.92	110,000	8,700	12,000	2,700	15,000	110,000
06/18/99		13.93	72.31	49,000	6,900	6,500	380	12,000	72,000/47,000 ^d
MW-2	11/03/92	--	--	140	2.2	ND	ND	2.0	--
	01/25/93	--	--	2,100	56	1.1	90	140	--
76.61	04/29/93	9.73	66.88	1,500	290	ND	33	11	--
	07/16/93	10.17	66.44	510 ^l	17	0.60	3.2	2.5	--
	10/19/93	11.18	65.43	670	24	1.1	7.7	23	--
	01/20/94	11.12	65.49	820	97	ND	12	ND	--
	04/13/94	10.12	66.49	550	71	ND	5.1	1.3	--
	07/13/94	10.86	65.75	2,000	490	ND	17	13	--
	10/10/94	11.48	65.13	2,300	340	ND	25	ND	--
	01/10/95	8.71	67.90	850	3.8	ND	8.5	1.3	--
	04/17/95	8.90	67.71	1,300	4.7	ND	8.3	1.2	--

Table 1
Groundwater Monitoring Data and Analytical Results
Tosco (Former Unocal) Service Station #1871
96 MacArthur Boulevard
Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-2	07/24/95	9.94	66.67	960	20	ND	4.2	6.2	--
(cont)	10/23/95	10.70	65.91	ND	ND	ND	ND	ND	19
	01/18/96	10.11	66.50	900	300	86	7.6	18	4,300
81.66	04/18/96	9.27	72.39	18,000	3,600	680	890	4,100	19,000
	07/24/96	10.02	71.64	100,000	13,000	21,000	2,700	16,000	120,000
	10/24/96	10.78	70.88	800	110	17	11	20	20,000
	01/28/97	7.70	73.96	45,000	2,400	2,900	2,000	7,600	29,000
	07/29/97	10.28	71.38	ND	1.2	0.72	0.63	0.62	17,000
	01/14/98	8.63	73.03	14,000	1,000	150	790	3,300	23,000
	07/01/98	9.53	72.13	2,700	100	ND ³	180	78	7,100
	06/18/99	DESTROYED	--	--	--	--	--	--	--
MW-3	11/03/92	--	--	2,100	120	15	38	200	--
	01/25/93	--	--	2,300	80	1	55	52	-
77.48	04/29/93	11.37	66.11	4,500	1,700	ND	200	140	--
	07/16/93	12.09	65.39	4,000 ¹	1,100	28	52	70	--
	10/19/93	12.69	64.79	3,800	42	ND	50	56	--
	01/20/94	12.65	64.83	4,200	11	ND	21	15	--
	04/13/94	12.02	65.46	4,200	210	ND	36	53	--
	07/13/94	12.46	65.02	1,800 ²	16	16	ND	21	--
	10/10/94	12.98	64.50	4,300	11	ND	12	ND	--
	01/10/95	10.42	67.06	310	4.6	ND	3.5	2.1	--
	04/17/95	10.42	67.06	7,800	ND	4.6	300	450	--
	07/24/95	11.76	65.72	3,200	170	ND	22	16	--
	10/23/95	12.50	64.98	3,900	55	ND	19	11	4,500
	01/18/96	11.79	65.69	2,200	270	33	26	18	5,500
82.55	04/18/96	11.30	71.25	6,000	1,800	ND	100	230	48,000
	07/24/96	12.17	70.38	ND	2,500	ND	ND	ND	71,000
	10/24/96	12.65	69.90	3,800	660	ND	15	ND	65,000
	01/28/97	9.50	73.05	4,400	250	13	87	47	54,000
	07/29/97	11.99	70.56	ND	3,500	ND	220	ND	75,000
	01/14/98	10.30	72.25	ND ³	430	ND ³	100	380	37,000
	07/01/98	11.70	70.85	ND ³	430	ND ³	ND ³	ND ³	45,000
	06/18/99	DESTROYED	--	--	--	--	--	--	--

Table 1
Groundwater Monitoring Data and Analytical Results
 Tosco (Former Unocal) Service Station #1871
 96 MacArthur Boulevard
 Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-4									
82.04	04/18/96	9.83	72.21	ND	630	ND	ND	ND	18,000
	07/24/96	10.47	71.57	ND	ND	ND	ND	5.2	3,900
	10/24/96	11.14	70.90	ND	ND	ND	ND	ND	6,300
	01/28/97	7.94	74.10	1,200	490	ND	17	6.8	16,000
	07/29/97	10.86	71.18	50	1.5	0.61	0.73	0.78	15,000
	01/14/98	8.73	73.31	ND ³	ND ³	ND ³	ND ³	ND ³	5,200
	07/01/98	10.51	71.53	ND	ND	ND	ND	ND	640
	06/18/99	DESTROYED	--	--	--	--	--	--	--
MW-5									
81.80	04/18/96	9.65	72.15	31,000	5,500	1,400	1,700	8,100	66,000
	07/24/96	10.80	71.00	32,000	6,400	ND	1,600	6,100	120,000
	10/24/96	11.40	70.40	17,000	6,900	ND	970	130	84,000
	01/28/97	7.76	74.04	19,000	6,100	62	82	310	160,000
	07/29/97	11.58	70.22	ND	ND	ND	ND	ND	71,000
	01/14/98	9.08	72.72	ND ³	3,600	ND ³	ND ³	ND ³	80,000
	07/01/98	11.25	70.55	6,400	2,100	21	120	330	61,000
	06/18/99	DESTROYED	--	--	--	--	--	--	--
MW-6									
78.91	06/18/99	9.30	69.61	2,100	21	29	ND ³	47	97,000/71,000 ⁴
MW-7									
79.92	06/18/99	8.70	71.22	ND	ND	ND	ND	ND	16,000/13,000 ⁴
MW-8									
80.96	06/18/99	9.10	71.86	ND	ND	ND	ND	ND	290/160 ⁴

Table 1
Groundwater Monitoring Data and Analytical Results
 Tosco (Former Unocal) Service Station #1871
 96 MacArthur Boulevard
 Oakland, California

Well ID/ TOC*	Date	DTW (ft.)	GWE (msl)	TPH(G) (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
Trip Blank									
TB-LB	01/14/98	--	--	ND	ND	ND	ND	ND	ND
	07/01/98	--	--	ND	ND	ND	ND	ND	ND
	06/18/99	--	--	ND	ND	ND	ND	ND	ND

Table 1
Groundwater Monitoring Data and Analytical Results
Tosco (Former Unocal) Service Station #1871
96 MacArthur Boulevard
Oakland, California

EXPLANATIONS:

Groundwater monitoring data and laboratory analytical results prior to January 14, 1998, were compiled from reports prepared by MPDS Services, Inc.

TOC = Top of Casing elevation	B = Benzene	ppb = Parts per billion
DTW = Depth to Water	T = Toluene	ND = Not Detected
(ft.) = Feet	E = Ethylbenzene	-- = Not Measured/Not Analyzed
GWE = Groundwater Elevation	X = Xylenes	
(msl) = Referenced relative to mean sea level	MTBE = Methyl tertiary butyl ether	
TPH(G) = Total Petroleum Hydrocarbons as Gasoline		

* TOC elevations were re-surveyed by Kier & Wright in May, 1996, per City of Oakland Benchmark No. 2310, a cut square in concrete curb at mid point of return at the northeast corner of El Dorado and Fairmont Street. (Elevation = 77.53 feet msl).

¹ Laboratory report indicates the presence of discrete peaks not indicative of gasoline.

² Laboratory report indicates the hydrocarbons detected appeared to be a gasoline and non-gasoline mixture.

³ Detection limit raised. Refer to analytical results.

⁴ MTBE by EPA Method 8260.

Table 2
Groundwater Analytical Results
 Tosco (Former Unocal) Service Station #1871
 96 MacArthur Boulevard
 Oakland, California

Well ID	Date	TPH(D) (ppb)	TOG (ppb)	HVOC (ppb)	SVOC (ppb)
MW-1	06/18/99	--	--	ND	--
MW-4	04/18/96	110 ¹	ND	ND	--
	07/24/96	ND	ND	ND	ND
	10/24/96	ND	ND	ND	ND ²
	01/28/97	210 ³	ND	ND	ND ⁴
	07/29/97	ND	ND	ND	ND
	01/14/98	ND	ND	ND	ND
	07/01/98	ND	ND	ND	ND
	06/18/99	DESTROYED	--	--	--
MW-6	06/18/99	--	--	ND	--
MW-7	06/18/99	--	--	ND	--
MW-8	06/18/99	--	--	ND	ND ⁵

EXPLANATIONS:

Groundwater analytical results prior to January 14, 1998, were compiled from reports prepared by MPDS Services, Inc.

TPH(D) = Total Petroleum Hydrocarbons as Diesel

TOG = Total Oil and Grease

HVOC = Halogenated Volatile Organic Compounds by EPA Method 8010

SVOC = Semi-Volatile Organic Compounds by EPA Method 8270

ppb = Parts per billion

-- = Not Analyzed

ND = Not Detected

¹ Laboratory report indicates the hydrocarbons detected did not appear to contain diesel.

² Bis (2-ethylhexyl) phthalate was detected at a concentration of 14 ppb.

³ Laboratory report indicates the hydrocarbons detected appeared to be a diesel and non-diesel mixture.

⁴ Naphthalene was detected at a concentration of 17 ppb.

⁵ All SVOCs were ND except for Bis(2-ethylhexyl)phthalate at 11 ppb.

All EPA Method 8010 and 8270 constituents were ND, unless noted.

Table 3
Groundwater Analytical Results - Oxygenate Compounds
 Tosco (Former Unocal) Service Station #1871
 96 MacArthur Boulevard
 Oakland, California

Well ID	Date	Ethanol (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	EDB (ppb)	1,2-DCA (ppb)
MW-1	06/18/99	ND ¹	ND ¹	47,000	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹
MW-6	06/18/99	ND ¹	ND ¹	71,000	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹
MW-7	06/18/99	ND ¹	ND ¹	13,000	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹
MW-8	06/18/99	ND ¹	ND ¹	160	ND ¹	ND ¹	ND ¹	ND ¹	ND ¹

EXPLANATIONS:

TBA = Tertiary Butyl Alcohol
 MTBE = Methyl Tertiary Butyl Ether
 DIPE = Di-isopropyl Ether
 ETBE = Ethyl Tertiary Butyl Ether
 TAME = Tertiary Amyl Methyl Ether
 EDB = 1,2-Dibromoethane
 1,2-DCA = 1,2-Dichloroethane
 ppb = Parts per billion
 -- = Not Analyzed
 ND = Not Detected

ANALYTICAL METHOD:

EPA Method 8260 for Oxygenate Compounds

¹ Detection limit raised. Refer to analytical results.

TABLE 4 - GRAB GROUND WATER SAMPLE CHEMICAL ANALYTICAL DATA
 Tosco 76 Branded Facility No. 1871
 96 MacArthur Avenue
 Oakland, California

Sample Location and ID	Sample Depth (feet)	Date Collected	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	MTBE by 8020/8260 (ppm)
Boring B-4 B-4 (10.5)	10.5	6/1/99	ND	ND	ND	ND	ND	ND/ND
Boring B-5 B-5 (11.35)	11.35	6/1/99	ND	ND	ND	ND	ND	ND/ND
Boring B-6 B-6 (11.7)	11.7	6/1/99	ND	0.54	ND	ND	ND	ND/ND
Boring B-7 B-7 (10)	10	6/1/99	ND	ND	ND	ND	ND	2,300/3,000
Boring B-8 B-8 (8.5)	8.5	6/1/99	ND	ND	ND	ND	ND	ND/ND
Boring B-9 B-9 (13.5)	13.5	6/1/99	ND	ND	ND	ND	ND	ND/ND
Boring B-10 B-10 (15.2)	15.2	6/3/99	95,000	10,000	14,000	3,900	11,000	220,000/270,000
Boring B-11 B-11 (16.2)	16.2	6/3/99	ND	ND	ND	ND	ND	14,000/15,000
Boring B-12 B-12 (19.5)	19.5	6/4/99	ND	ND	ND	ND	ND	ND/ND

EXPLANATION:

feet = feet below ground surface
 ppb = parts per billion
 ND = nondetectable, NA = not analyzed

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 Methods 8020/ 8260.

ANALYTICAL LABORATORY:

Sequoia Analytical (ELAP #1210 & #1271)

TABLE 5 - SOIL CHEMICAL ANALYTICAL DATA
 Tosco 76 Branded Facility No. 1871
 96 MacArthur Avenue
 Oakland, California

Sample Location and ID	Sample Depth (feet)	Date Collected	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	MTBE by 8020 (ppm)
Boring B-4 B-4 (9)	9	6/1/99	ND	ND	ND	ND	ND	ND
Boring B-5 B-5 (10.5)	10.5	6/1/99	ND	ND	ND	ND	ND	ND
Boring B-6 B-6 (11.4)	11.4	6/1/99	ND	ND	ND	ND	ND	ND
Boring B-7 B-7 (9.5)	9.5	6/1/99	ND	ND	ND	ND	ND	ND
Boring B-8 B-8 (8)	8	6/1/99	ND	0.0066	0.0096	ND	ND	0.053
Boring B-9 B-9 (13)	13	6/1/99	ND	ND	0.0075	ND	0.011	0.062
Boring B-10 B-10 (14)	14	6/1/99	170	0.24	1.1	1.9	14	1
Boring B-11 B-11 (14)	14	6/3/99	ND	0.0058	0.015	ND	0.015	1.1
B-11 (29)	29	6/3/99	ND	0.014	0.046	ND	0.018	0.25
Boring B-12 B-12 (11.5)	11.5	6/4/99	ND	ND	ND	ND	ND	ND
B-12 (25.5)	25.5	6/4/99	ND	ND	ND	ND	ND	ND
Boring MW-6 MW-6 (11)	11	6/4/99	210	1.6	7.3	6.4	25	3.3
MW-6 (15.5)	15.5	6/4/99	1.1	0.014	0.048	0.029	0.12	0.31
MW-6 (20.5)	20.5	6/4/99	ND	ND	ND	ND	ND	0.062
MW-6 (24)	24	6/4/99	ND	ND	ND	ND	0.017	0.18

TABLE 5 - SOIL CHEMICAL ANALYTICAL DATA - (Continued)

Tosco 76 Branded Facility No. 1871

96 MacArthur Avenue

Oakland, California

Sample Location and ID	Sample Depth (feet)	Date Collected	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylenes (ppm)	MTBE by 8020 (ppm)
Boring MW-7 MW-7 (10.5)	10.5	6/10/99	ND	ND	ND	ND	ND	0.21
Boring MW-8 MW-8 (10.5)	10.5	6/4/99	ND	ND	ND	ND	ND	0.18
Comp S1*		6/4/99	ND	ND	ND	ND	0.019	0.27

EXPLANATION:

feet = feet below ground surface

ppm = parts per million

ND = nondetectable, NA = not analyzed

* Total lead was detected at a concentration of 7.6 ppm.

ANALYTICAL METHODS:

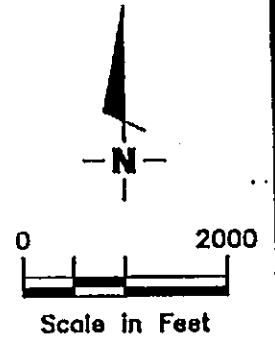
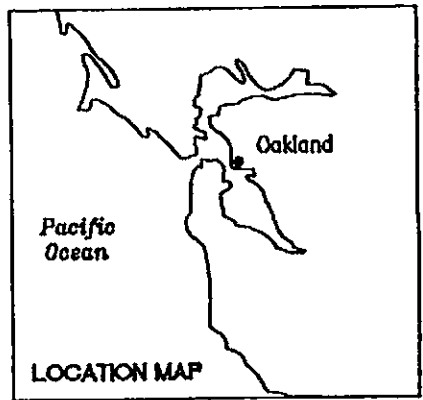
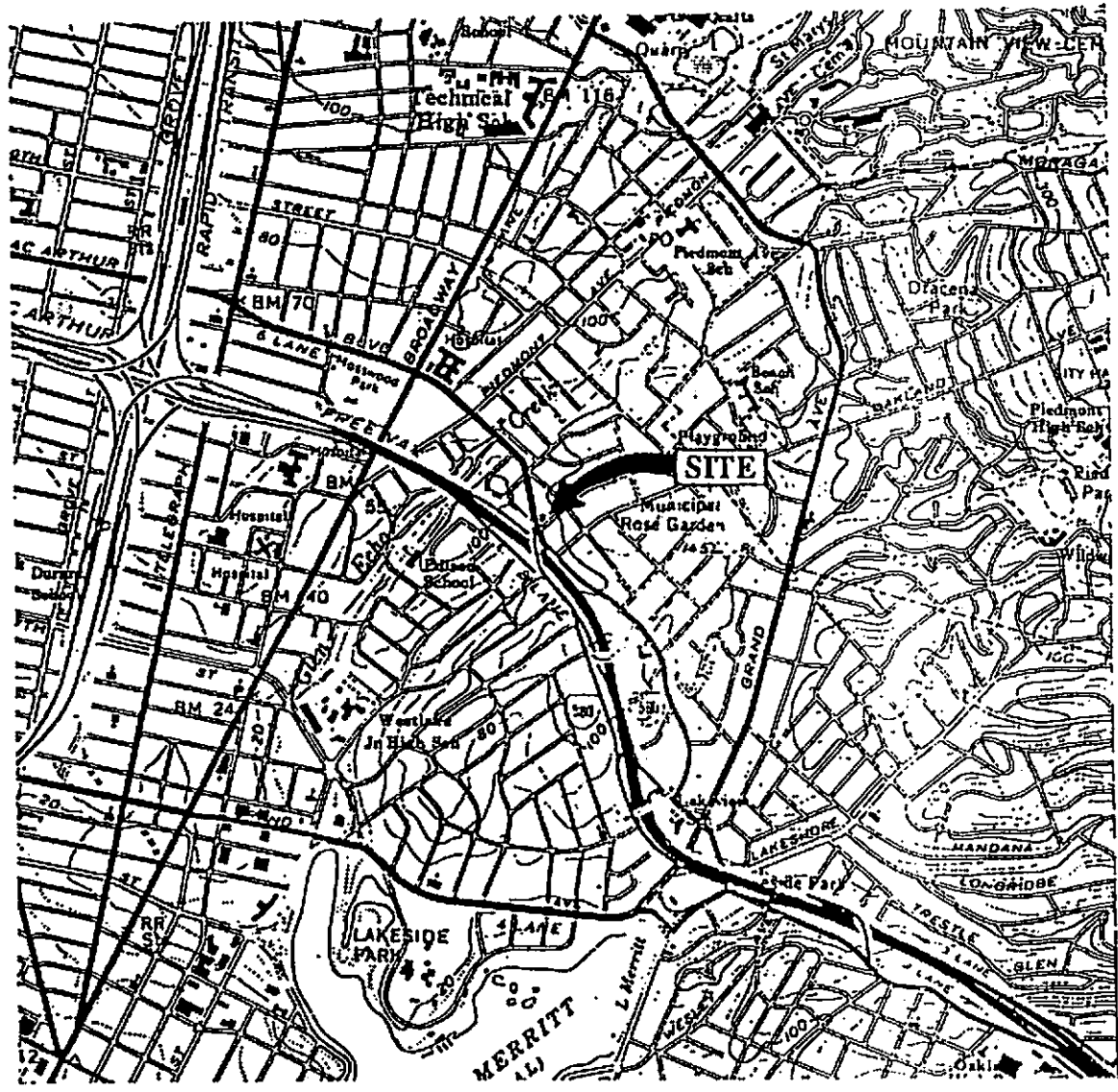
TPHg = Total Petroleum Hydrocarbons as gasoline according to EPA Method 8015 Modified.

BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes according to EPA Method 8020.

MTBE = Methyl t-Butyl Ether according to EPA Methods 8020/ 8260.

ANALYTICAL LABORATORY:

Sequoia Analytical (ELAP #1271)



Base Map: USGS Topographic Map

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

VICINITY MAP
 Former Tosco 76 Branded Facility No. 1871
 96 MacArthur Boulevard
 Oakland, California

JOB NUMBER
 140165

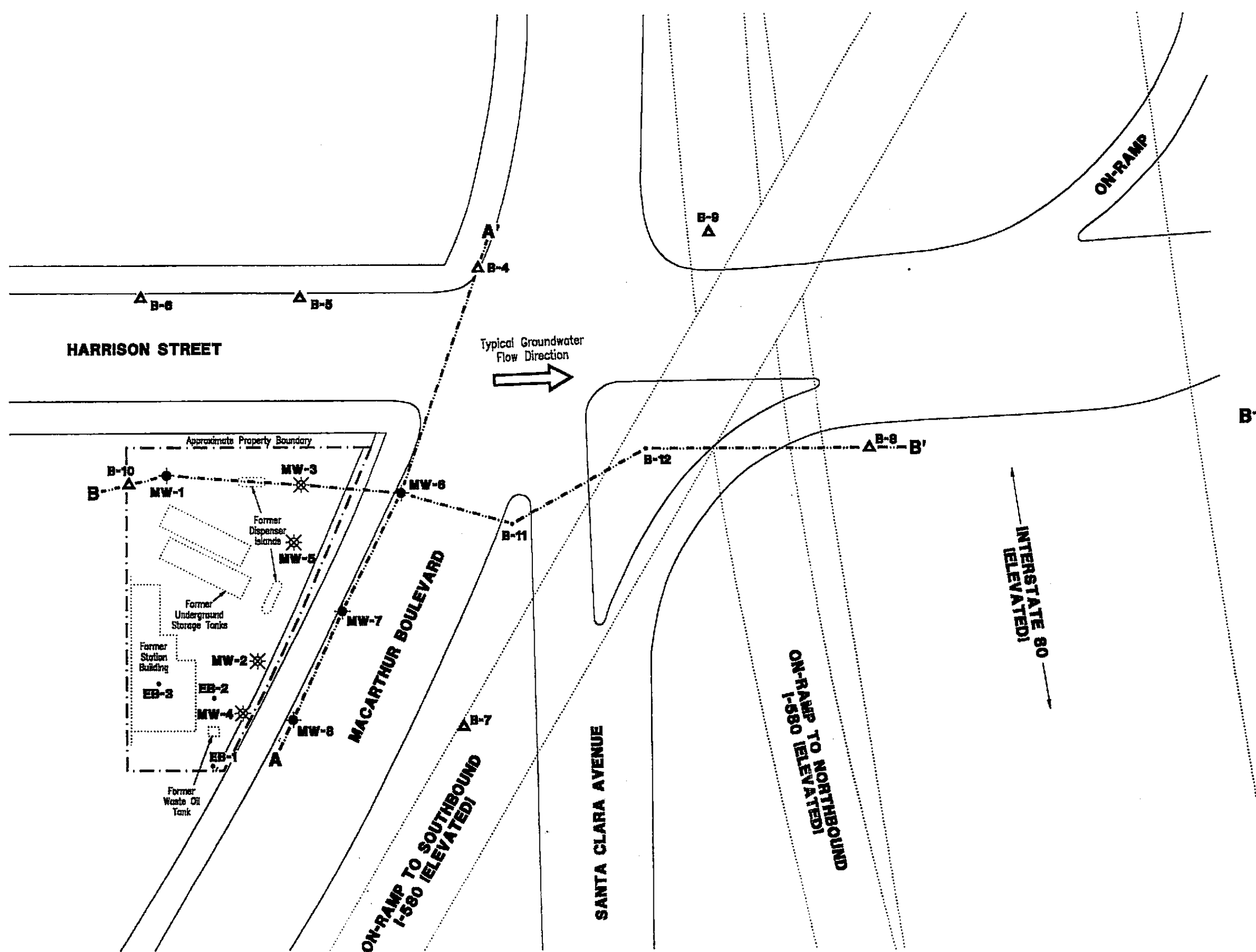
REVIEWED BY

DATE
 July, 1998

REVISED DATE

FIGURE





- EXPLANATION:**
- ▲ Geoprobe
 - Soil Boring (Hollow-Stem Auger)
 - ◆ Groundwater Monitoring Well
 - ✱ Destroyed Groundwater Monitoring Well
 - B—B' Geologic Cross-Section

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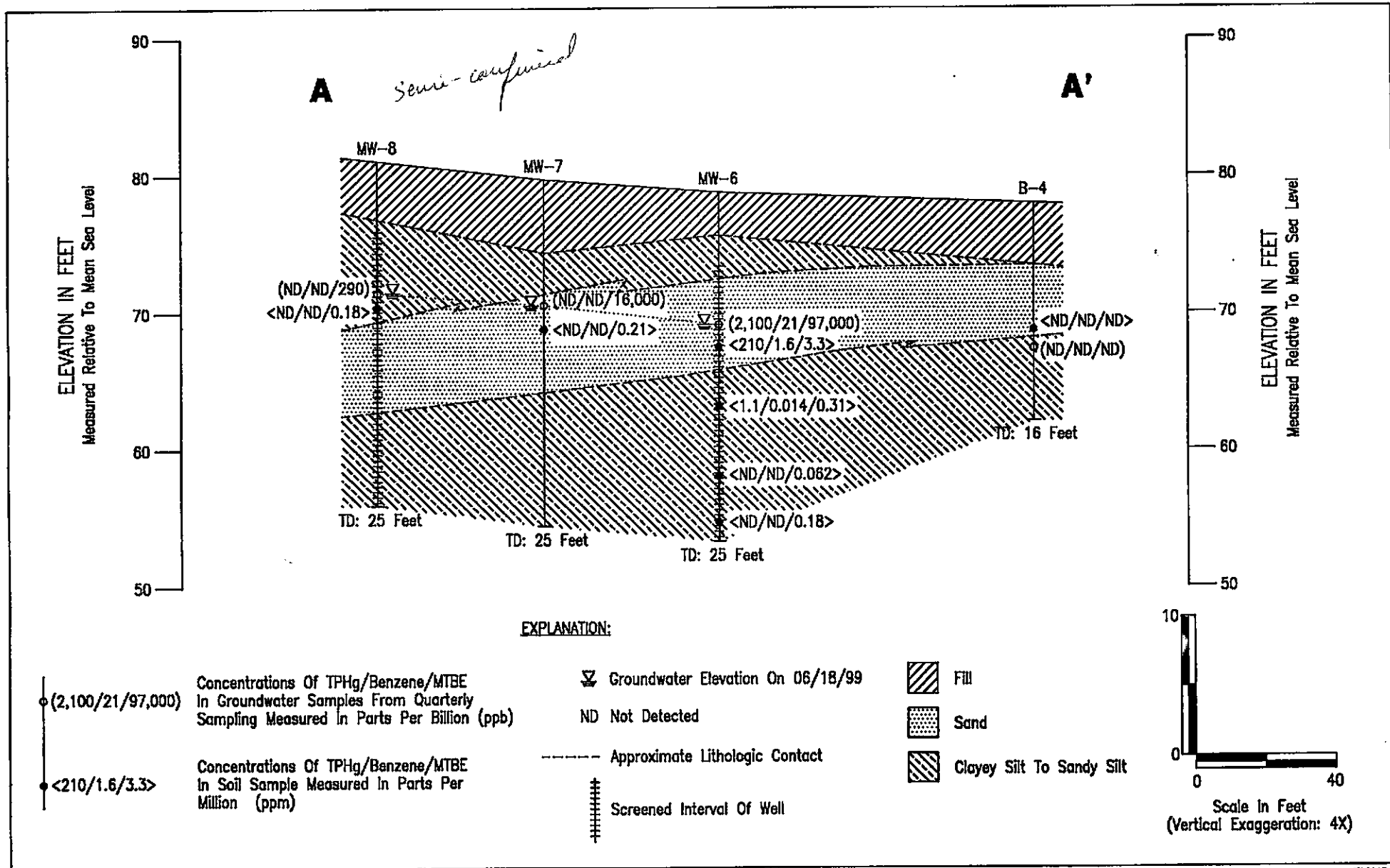
SITE PLAN
 Former Tosco 76 Branded Facility No. 1871
 96 MacArthur Boulevard
 Oakland, California

JOB NUMBER
 140165

REVIEWED BY

DATE
 10/98

REVISED DATE
 07/99



Gettler - Ryan Inc.

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Dublin, CA 94568

GENERALIZED GEOLOGIC CROSS-SECTION A-A'
Former Tosco 76 Branded Facility No. 1871
96 MacArthur Boulevard
Oakland, California

FIGURE

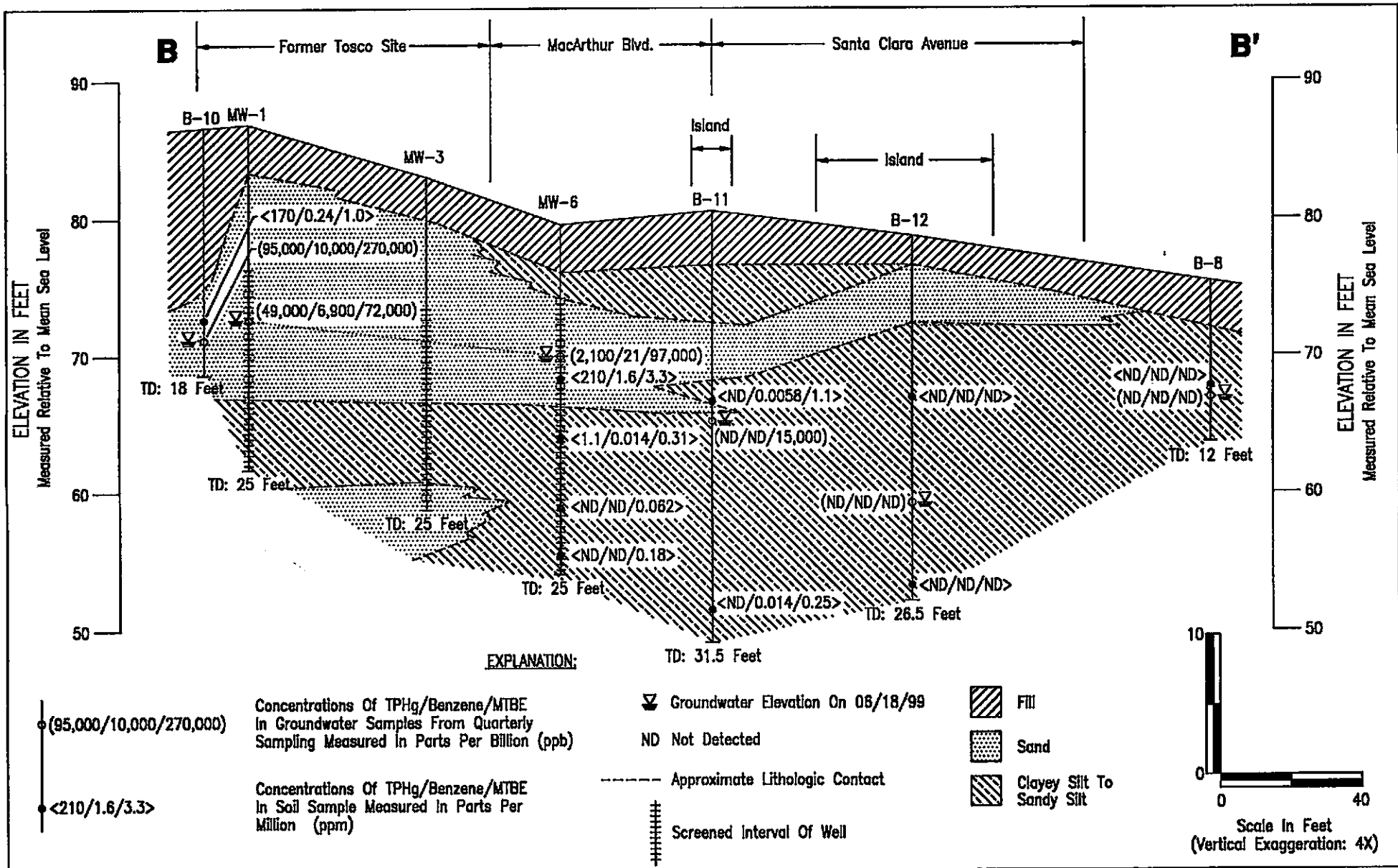
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JOB NUMBER
140165

REVIEWED BY

DATE
07/99

REVISED DATE



GENERALIZED GEOLOGIC CROSS-SECTION B-B'
 Former Tosco 76 Branded Facility No. 1871
 96 MacArthur Boulevard
 Oakland, California

FIGURE

4



Gettler - Ryan Inc.

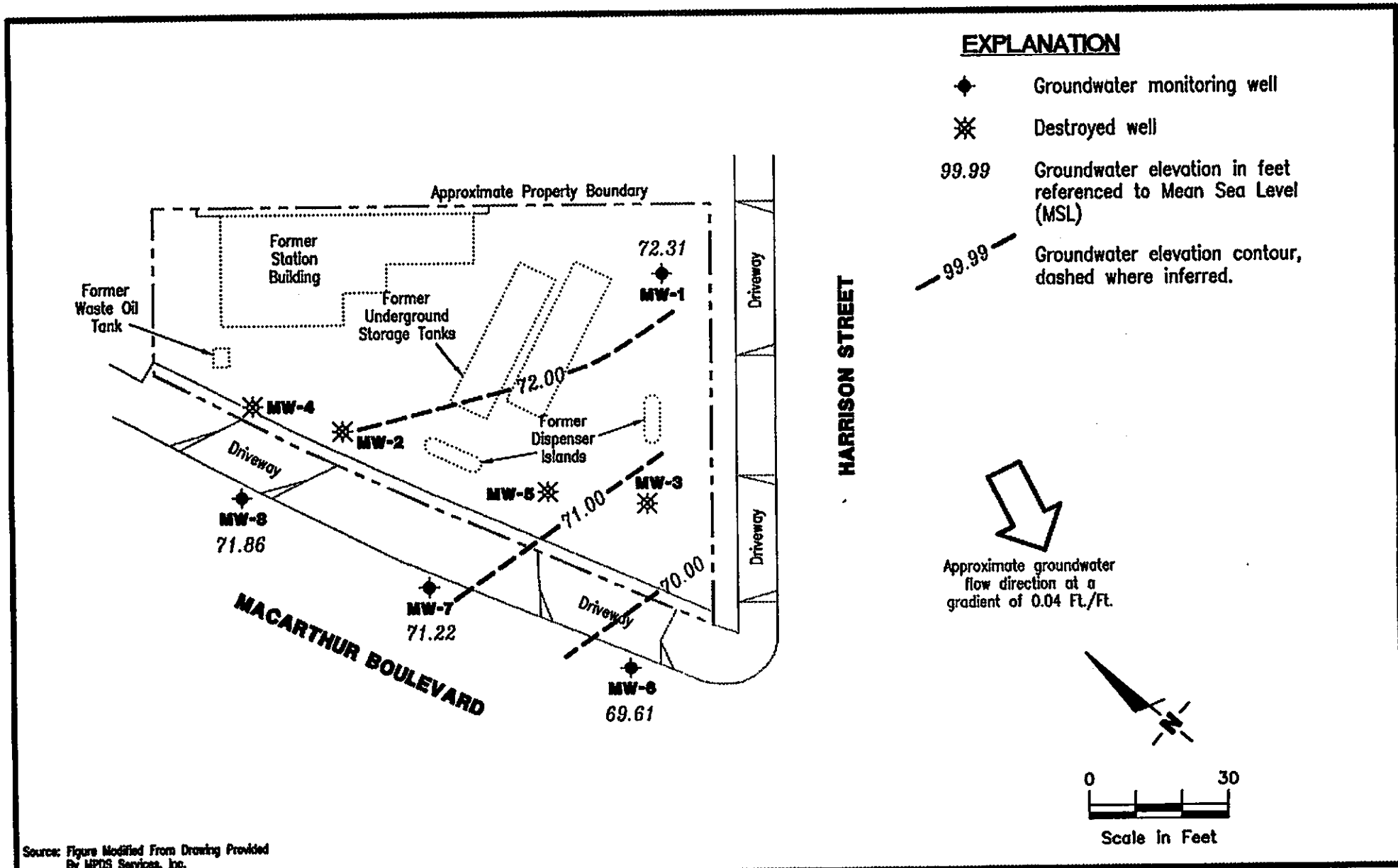
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JOB NUMBER
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REVIEWED BY

DATE
 07/99

REVISED DATE



Source: Figure Modified From Drawing Provided By MPDS Services, Inc.



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Dublin, CA 94568

POTENTIOMETRIC MAP
Tosco (Former Unocal) Service Station No. 1871
96 MacArthur Boulevard
Oakland, California

FIGURE

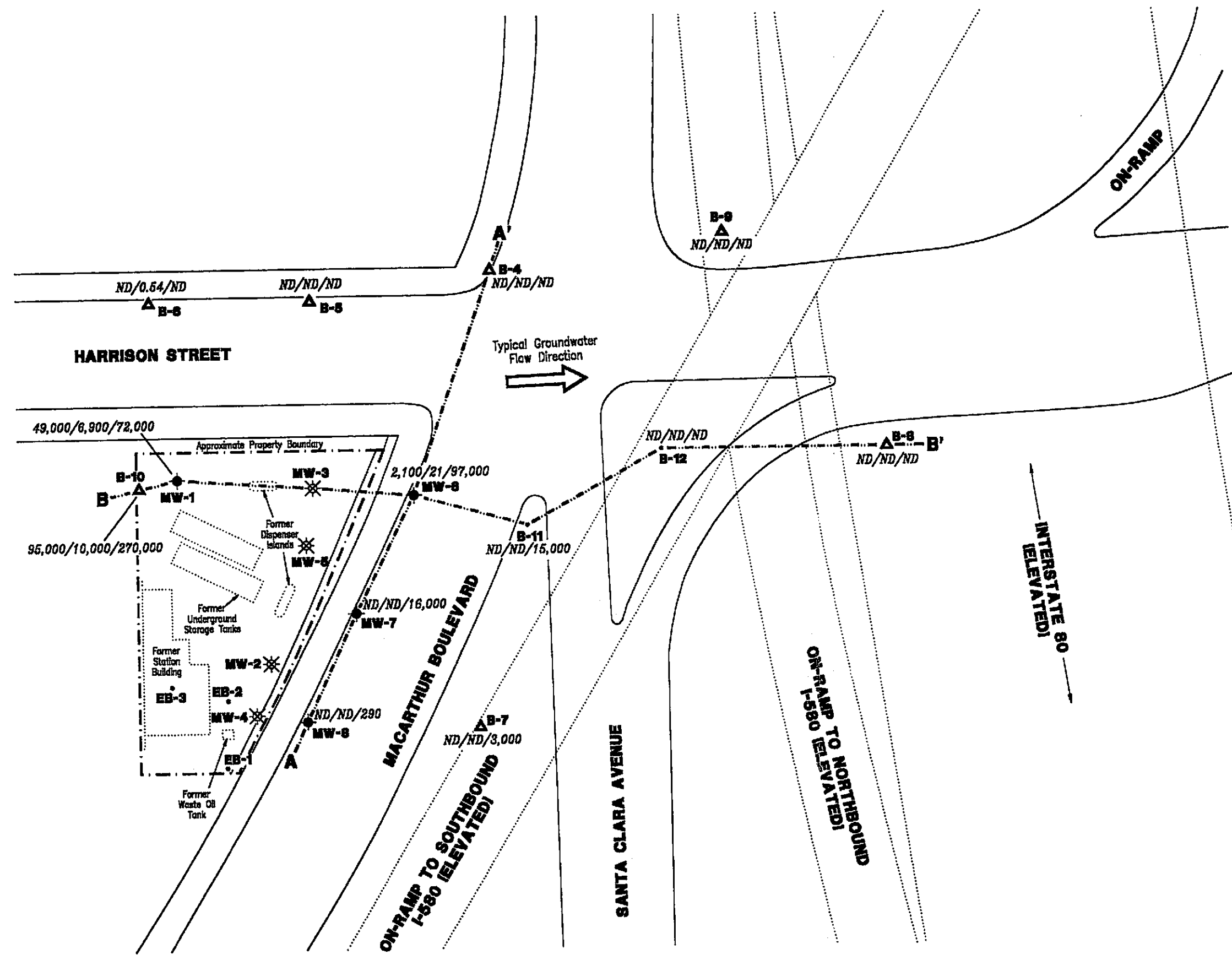
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JOB NUMBER
140165

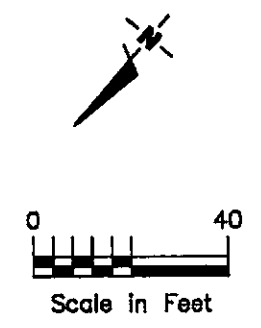
REVIEWED BY

DATE
June 18, 1999

REVISED DATE



- EXPLANATION:**
- ▲ Geoprobe
 - Soil Boring (Hollow-Stem Auger)
 - ◆ Groundwater Monitoring Well
 - ✱ Destroyed Groundwater Monitoring Well
 - B — B' Geologic Cross-Section
- Concentrations Of
TPHg/Benzene/MTBE
Measured in Parts
Per Billion
- Groundwater Monitoring
Well Samples Collected
On June 18, 1999
- Grab Groundwater
Samples From Borings
Collected From 06/01/99-
06/04/99



CONCENTRATION MAP
Former Tosco 76 Branded Facility No. 1871
96 MacArthur Boulevard
Oakland, California

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



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 (yd³) of stockpiled soil material. Four arbitrary points on the stockpiled material are chosen, and discrete soil sample is collected at each of these points. Each discrete stockpile sample is collected by removing the upper 3 to 6 inches of soil, and then driving the stainless steel or brass tube into the stockpiled material with a wooden mallet or hand driven soil sampling device.

The sample tubes are then covered on both ends with teflon sheeting 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 ± 0.01 foot. The presence of separate-phase product is confirmed using a clean, acrylic or polyvinylchloride (PVC) bailer, measured to the nearest ± 0.01 foot with a decimal scale tape. The monofilament line used to lower the bailer is replaced between borings with new line to preclude the possibility of cross-contamination. Field observations (e.g. product color, turbidity, water color, odors, etc.) are noted. Water-levels are measured in wells with known or suspected lowest dissolved chemical concentrations to the highest dissolved concentrations.

Sample Collection and Labeling

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

APPENDIX B

PERMITS AND BORING LOGS

Virgil Chavez Land Surveying

312 Georgia Street, Suite 200

Vallejo, California 94590-5907

(707) 553-2478 • Fax (707) 553-8698

July 9, 1999

Project No. 1704-11

Joel Gregor
 Gettler-Ryan, Inc.
 6747 Sierra Ct. Suite J
 Dublin, Ca. 94568

Subject: Monitoring Well Survey
 Former Tosco SS # 1871
 96 MacArthur Blvd.
 Oakland, Ca.

Dear Joel:

This is to confirm that we have proceeded at your request to survey the monitoring wells at the above referenced location. Our findings are shown in the tables below. The survey was completed on July 7, 1999. Measurement locations were marked at the approximate north side of top of the box. The top of casings were shot at the notches on the northerly side of the casings. The coordinates are assumed. The benchmark for the survey was a cut square in the mid return at the south corner of Oakland Ave. and Moss Ave.
 Benchmark Elev. = 130.416 feet, MSL.

<u>Well No.</u>	<u>Rim Elevation</u>	<u>TOC Elevation</u>	<u>Northing</u>	<u>Easting</u>
MW - 6	79.35'	78.91'	4939.14'	4963.45'
MW - 7	80.24'	79.92'	4984.23'	4943.67'
MW - 8	81.22'	80.96'	5030.22'	4925.03'
B - 4	78.25 (Grd.)		4870.45'	5006.39'
B - 5	83.01 (Grd.)		4928.57'	5037.07'
B - 6	87.84 (Grd.)		4968.97'	5072.04'
B - 7	81.54 (Grd.)		4990.20'	4883.89'
B - 8	75.26 (Grd.)		4807.35'	4852.51'
B - 9	77.54 (Grd.)		4801.00'	4952.78'
B - 10	86.33 (Grd.)		5014.92'	5027.40'
B - 11	80.40 (Grd.)		4933.24'	4917.24'
B - 12	78.38 (Grd.)		4859.72'	4910.21'

Sincerely,



Virgil D. Chavez
 Virgil D. Chavez, PLS 6323

Recording requested by:
City of Oakland

When Recorded Mail to:
City of Oakland
Community & Econ. Develop. Agency
Building Services, Eng. info.
250 Frank H. Ogawa Plaza, 2/F
Oakland, CA 94612

RECEIVED
MAR 22 1999

GETTLER-RYAN, INC.
GENERAL CONTRACTOR

TAX ROLL PARCEL NUMBER
(ASSESSOR'S REFERENCE NUMBER)

010	0813	004	01
MAP	BLOCK	PARCEL	SUB

SPACE ABOVE FOR RECORDER'S USE ONLY

Address: 96 MacArthur Boulevard, Oakland

MINOR ENCROACHMENT PERMIT AND AGREEMENT

Barbara Braund Jelinek, Trustee under the Barbara Braund Jelinek Revocable Living Trust dated January 15, 1989, owner of that certain property described in the Grant Deed recorded April 8, 1989, Series No. 89-091059, in the Office of the Recorder, Alameda County, California and commonly known as 96 MacArthur Boulevard, is hereby granted a Conditional Revocable Permit to encroach into the public right-of-way of MacArthur Boulevard with three monitoring wells. The location of said encroachments shall be as delineated in Exhibit 'A' attached hereto and made a part hereof.

The permittee agrees to comply with and be bound by the conditions for granting an Encroachment Permit attached hereto and made a part hereof.

This agreement shall be binding upon the undersigned, the present owner of the property described above, and its successors in interest thereof.

In witness whereof, I have set my signature this _____ day of _____, 1999.

BARBARA BRAUND JELINEK REVOCABLE LIVING TRUST

By: _____
Name: Barbara Braund Jelinek
Title: Trustee

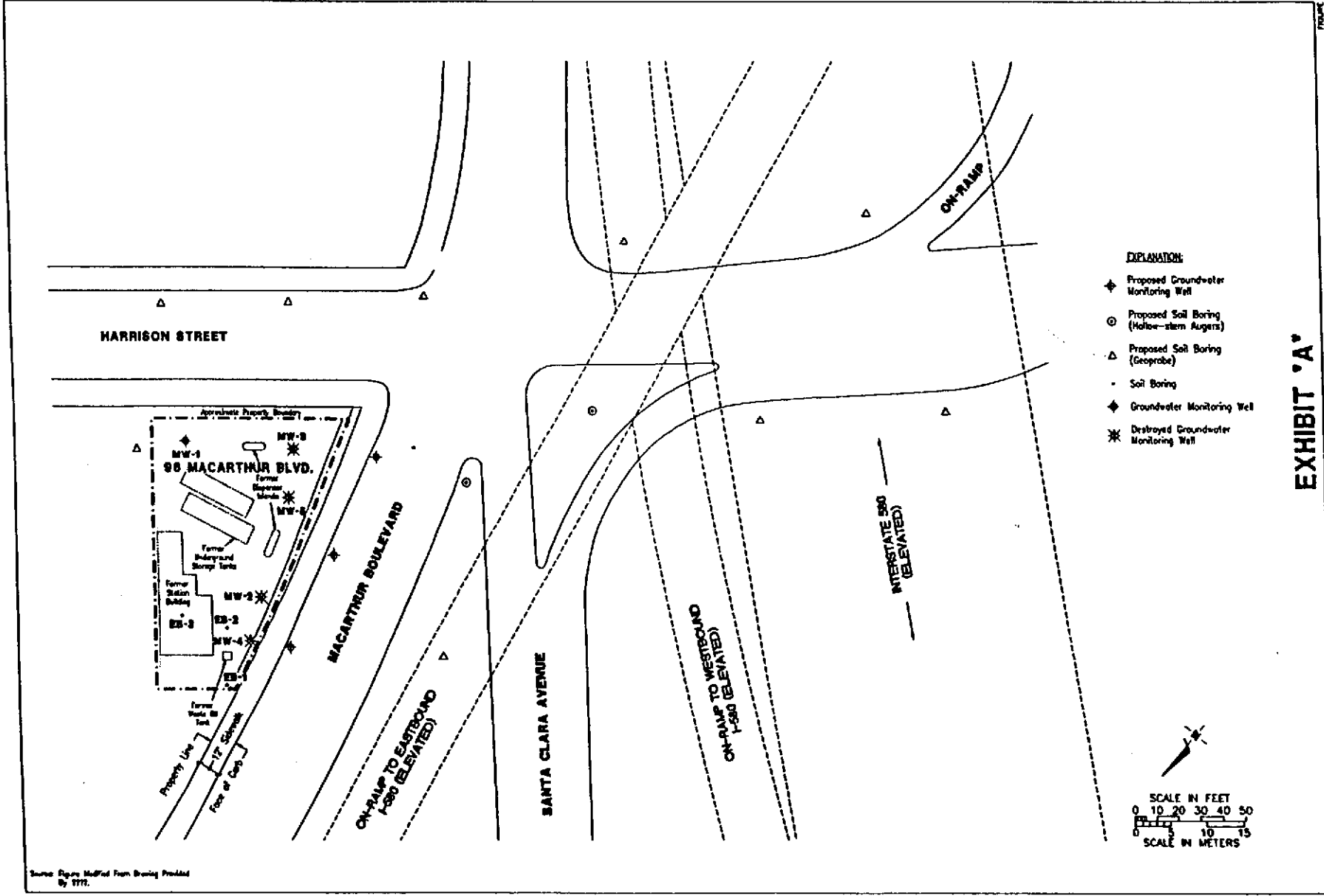
BELOW FOR OFFICIAL USE ONLY

CITY OF OAKLAND

Dated _____

By: _____
CALVIN N. WONG
Director of Building Services
For
WILLIAM E. CLAGGETT
Director
Community & Economic
Development Agency

:rt



Some Signs Modified From Drawing Provided By TTT.

EXHIBIT 'A'

FRANK

1

SITE PLAN
Former Tascos 75 Branded Facility No. 1871
96 MacArthur Boulevard
Oakland, California

Gottler - Ryan Inc.
1717 Shattuck Ave. J
Berkeley, CA 94709
(925) 351-7355



DATE: 1/99
REVISED DATE:

REVIEWED BY:

JOB NUMBER:

TO: Barbara Braund Jelinek, Trustee under the Barbara Braund Jelinek Revocable Living Trust Dated January 15, 1989 (APN: 010-0812-009)

Address: c/o Don Foster, Gettler-Ryan, Inc., 7100 Redwood Blvd., Suite 104, Novato, CA 94945

RE: Minor Encroachment Permit for Monitoring Wells in MacArthur Blvd.

CONDITIONS FOR GRANTING A MINOR ENCROACHMENT PERMIT

1. That this permit shall be revocable at the pleasure of the Director of Building Services.
2. That the permittee, by the acceptance, either expressed or implied, of the minor encroachment permit hereby disclaims any right, title, or interest in or to any portion of the public sidewalk or street area, and agrees that said temporary use of said area does not constitute an abandonment on the part of the City of Oakland of any of its rights for street purposes and otherwise.
3. The permittee shall maintain in force and effect at all times that said encroachment occupies said public sidewalk or street area, good and sufficient public liability insurance in the amount of \$300,000 for each occurrence, and property damage insurance in the amount of \$50,000 for each occurrence, both including contractual liability insuring the City of Oakland against any and all claims arising out of the existence of said encroachment in said sidewalk area, and that a certificate of such insurance and subsequent notices of the renewal thereof, shall be filed with the Chief of Building Services of the City of Oakland, and that such certificate shall state that said insurance coverage shall not be canceled or be permitted to lapse without thirty (30) days written notice to said Chief of Building Services. The Permittee also agrees that the City may review the type and amount of insurance required of the Permittee every five (5) years and may require the permittee to increase the amount of and/or change the type of insurance coverage required.
4. That the permittee, by the acceptance, either expressed or implied, of this revocable permit shall be solely and fully responsible for the repair or replacement of any portion or all of said improvements in the event that said improvements shall have failed or have been damaged to the extent of creating a menace or of becoming a hazard to the safety of the general public; and that the permittee shall be liable for the expenses connected therewith.
5. That the permittee is aware that the proposed work is out of the ordinary and does not comply with City standard installations. Permittee is also aware that the City has to conduct work in the public right-of-way which may include, but may not be limited

to, excavation, trenching, and relocation of its facilities, all of which may damage encroachments. Permittee is further aware that the City takes no responsibility for repair or replacement of encroachments which are damaged by the City or its contractors. That the permittee, by the acceptance, either expressed or implied, of the encroachment permit hereby agrees that upon receipt of notification from the City, permittee shall immediately repair or replace within 30 days all damages to permittee's encroachments within the public right-of-way which are damaged by the City or its contractors in carrying out the City's work. Permittee agrees to employ interim measures required and approved by the City until repair or replacement work is completed.

6. That upon the termination of the permission herein granted, permittee shall immediately remove said encroachment from the sidewalk and street area, and any damage resulting therefrom shall be repaired to the satisfaction of the Director of Building Services.
7. That the permittee shall file with the City of Oakland for recordation a Minor Encroachment Permit and Agreement, and shall be bound by and comply with all the terms and conditions of said permit.
8. That said permittee shall obtain an excavation permit prior to the construction and a separate excavation permit prior to the removal of the ground water monitoring wells.
9. That said permittee shall provide to the City of Oakland an AS BUILT plan showing the actual location of the ground water monitoring wells and the results of all data collected from the monitoring wells.
10. That said permittee shall remove the monitoring wells and repair any damage to the sidewalk or street area in accordance with City standards two (2) years after construction or as soon as monitoring is complete.
11. That said permittee shall notify Building Services, Community and Economic Development Agency after the monitoring well(s) is/are removed and the sidewalk or street area restored to initiate the procedure to rescind the minor encroachment permit.
12. That monitoring well covers installed within the sidewalk area shall have a skidproof surface. A precast concrete utility box may be used in conjunction with the bolted cast iron cover with City approval.
13. That the ground water monitoring well casting and cover shall be cast iron and shall meet H-20 load rating. The cover shall be secured with a minimum of two stainless steel bolts. Bolts and cover shall be mounted flush with the surrounding surface.

14. That the permittee acknowledges that the City makes no representations or warranties as to the conditions beneath said encroachment. By accepting this revocable permit, permittee agrees that it will use the encroachment area at its own risk, is responsible for the proper coordination of its activities with all other permittees, underground utilities, contractors, or workmen operating within the encroachment area and for the safety of itself and any of its personnel in connection with its entry under this revocable permit.
15. That the permittee acknowledges that the City is unaware of the existence of any hazardous substances beneath the encroachment area, and hereby waives and fully releases and forever discharges the City and its officers, directors, employees, agents, servants, representatives, assigns and successors from any and all claims, demands, liabilities, damages, actions, causes of action, penalties, fines, liens, judgments, costs, or expenses whatsoever (including, without limitation, attorneys' fees and costs), whether direct or indirect, known or unknown, foreseen or unforeseen, that may arise out of or in any way connected with the physical condition, or required remediation of the excavation area or any law or regulation applicable thereto, including, without limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. Sections 9601 et seq.), the Resource Conservation and Recovery Act of 1976 (42 U.S.C. Section 6901 et seq.), the Clean Water Act (33 U.S.C. Section 466 et seq.), the Safe Drinking Water Act (14 U.S.C. Sections 1401-1450), the Hazardous Materials Transportation Act (49 U.S.C. Section 1801 et seq.), the Toxic Substance Control Act (15 U.S.C. Sections 2601-2629), the California Hazardous Waste Control Law (California Health and Safety Code Sections 25100 et seq.), the Porter-Cologne Water Quality Control Act (California Health and Safety Code Section 13000 et seq.), the Hazardous Substance Account Act (California Health and Safety Code Section 25300 et seq.), and the Safe Drinking Water and Toxic Enforcement Act (California Health and Safety Code Section 25249.5 et seq.).
16. Permittee further acknowledges that it understands and agrees that it hereby expressly waives all rights and benefits which it now has or in the future may have, under and by virtue of the terms of California Civil Code Section 1542, which reads as follows: "A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR."
17. Permittee recognizes that by waiving the provisions of this section, permittee will not be able to make any claims for damages that may exist, and to which, if known, would materially affect his/her decision to execute this encroachment agreement, regardless of whether permittee's lack of knowledge is the result of ignorance, oversight, error, negligence, or any other cause.
18. (a) That the permittee, by the acceptance of this revocable permit, agrees and promises to indemnify, defend, and hold harmless the City of Oakland, its

officers, agents, and employees, to the maximum extent permitted by law, from any and all claims, demands, liabilities, damages, actions, causes of action, penalties, fines, liens, judgments, costs, or expenses whatsoever (including, without limitation, attorneys' fees and costs; collectively referred to as "claims"), whether direct or indirect, known or unknown, foreseen or unforeseen, to the extent that such claims were caused by the permittee, its agents, employees, contractors or representatives.

- (b) That, if any contamination is discovered below or in the immediate vicinity of the encroachment, and the contaminants found are of the type used, housed, stored, processed or sold on or from the 96 MacArthur Boulevard, Oakland, California site, such shall amount to a rebuttable presumption that the contamination below, or in the immediate vicinity of, the encroachment was caused by the permittee, its agents, employees, contractors or representatives.
 - (c) That the permittee shall comply with all applicable federal, state, county and local laws, rules, and regulations governing the installation, maintenance, operation and abatement of the encroachment.
 - (d) That the permittee hereby does remise, release, and forever discharge, and agree to defend, indemnify and save harmless, the City, its officers, agents and employees and each of them, from any and all actions, claims, and demands of whatsoever kind or nature, and any damage, loss or injury which may be sustained directly or by the undersigned and any other person or persons, and arising out of, or by reason of, the occupation of said public property, and the future removal of the above-mentioned encroachment.
19. That the hereinabove conditions shall be binding upon the permittee and the successive owners and assigns thereof.
20. That said Minor Encroachment Permit and Agreement shall take effect when all the conditions hereinabove set forth shall have been complied with to the satisfaction of the Director of Building Services, and shall become null and void upon the failure of the permittee to comply with all conditions hereinabove set forth.



EXCAVATION PERMIT

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL ENGINEERING

PAGE 2 of 2

PERMIT NUMBER X 9900386		SITE ADDRESS/LOCATION 96 MACARTHUR BL.
APPROX. START DATE	APPROX. END DATE	24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number) HARRISON ST.
CONTRACTOR'S LICENSE # AND CLASS		CITY BUSINESS TAX #

ATTENTION:

1) State law requires that the contractor/owner call *Underground Service Alert (USA)* two working days before excavating. This permit is not valid unless applicant has secured an inquiry identification number issued by USA. The USA telephone number is 1 (800) 642-2444. UNDERGROUND SERVICE ALERT (USA) #: _____

2) **48 hours prior to starting work, YOU MUST CALL (510) 238-3651 TO SCHEDULE AN INSPECTION.**

OWNER/BUILDER

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5 Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License Law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than \$500):

I, as an owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).

I, as owner of the property, am exempt from the sale requirements of the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will be performed prior to sale, (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed exemption on this subdivision on more than two structures more than once during any three-year period. (Sec. 7044 Business and Professions Code).

I, as owner of the property, am exclusively contracting with licensed contractors to construct the project, (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License law).

I am exempt under Sec. _____, B&PC for this reason _____

WORKER'S COMPENSATION

I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3700, Labor Code).

Policy # _____ Company Name _____

I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation Laws of California (not required for work valued at one hundred dollars (\$100) or less).

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked. This permit is issued pursuant to all provisions of Title 12 Chapter 12.12 of the Oakland Municipal Code. It is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims, or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance. This permit is void 90 days from the date of issuance unless an extension is granted by the Director of the Office of Planning and Building.

I hereby affirm that I am licensed under provisions of Chapter 9 of Division 3 of the Business and Professions Code and my license is in full force and effect (if contractor), that I have read this permit and agree to its requirements, and that the above information is true and correct under penalty of law.

[Signature] _____ Date **5/17/99**

Signature of Permittee Agent for Contractor Owner

DATE STREET LAST RESURFACED 90	SPECIAL PAVING DETAIL REQUIRED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	HOLIDAY RESTRICTION? (NOV 1 - JAN 1) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	LIMITED OPERATION AREA? (7AM-9AM & 4PM-6PM) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
ISSUED BY <i>M. V. [Signature]</i>		DATE ISSUED 5/12/99	

ALIA #1 HARRISON ST.



EXCAVATION PERMIT

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL ENGINEERING

PAGE 2 of 2

PERMIT NUMBER X 9900385		SITE ADDRESS/LOCATION 96 MACARTHUR BL.
APPROX. START DATE	APPROX. END DATE	24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number) MACARTHUR BL.
CONTRACTOR'S LICENSE # AND CLASS		CITY BUSINESS TAX #

ATTENTION:

- 1) State law requires that the contractor/owner call *Underground Service Alert (USA)* two working days before excavating. This permit is not valid unless applicant has secured an inquiry identification number issued by USA. The USA telephone number is 1 (800) 642-2444. UNDERGROUND SERVICE ALERT (USA) #: _____
- 2) **48 hours prior to starting work, YOU MUST CALL (510) 238-3651 TO SCHEDULE AN INSPECTION.**

OWNER/BUILDER

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I, as an owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).

I, as owner of the property, am exempt from the sale requirements of the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will be performed prior to sale, (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed exemption on this subdivision on more than two structures more than once during any three-year period. (Sec. 7044 Business and Professions Code).

I, as owner of the property, am exclusively contracting with licensed contractors to construct the project, (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License law).

I am exempt under Sec. _____, B&PC for this reason _____

WORKER'S COMPENSATION

I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3700, Labor Code).

Policy # _____ Company Name _____

I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation Laws of California (not required for work valued at one hundred dollars (\$100) or less).

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked. This permit is issued pursuant to all provisions of Title 12 Chapter 12.12 of the Oakland Municipal Code. It is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims, or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance. This permit is void 90 days from the date of issuance unless an extension is granted by the Director of the Office of Planning and Building.

I hereby affirm that I am licensed under provisions of Chapter 9 of Division 3 of the Business and Professions Code and my license is in full force and effect (if contractor), that I have read this permit and agree to its requirements, and that the above information is true and correct under penalty of law.

Signature of Permittee: *[Signature]* Agent for Contractor Owner Date: 5/13/99

DATE STREET LAST RESURFACED 5/99	SPECIAL PAVING DETAIL REQUIRED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	HOLIDAY RESTRICTION? (NOV 1 - JAN 1) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	LIMITED OPERATION AREA? (7AM-9AM & 4PM-6PM) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
ISSUED BY <i>[Signature]</i>		DATE ISSUED 5/17/99	

MACARTHUR BL

2201992

ENCROACHMENT PERMIT

TR-0120

Permit No. 0499-6SV-0130

Dist/Co/Rte/PM
04-Ala-580 44.5
GETTLER RYAN, INC.

In compliance with (Check one):

- Your application of January 14, 1999
- Utility Notice No. _____ of _____
- Agreement No. _____ of _____
- R/W Contract No. _____ of _____

Date ORIGINAL CONTRACT
February 10, 1999

Fee Paid \$210.0	Deposit \$ _____
Performance Bond Amount (1)	Payment Bond Amount (2)
Bond Company	
Bond Number (1)	Bond Number (2)

TO: GETTLER RYAN, INC.
6747 Sierra Ct., Suite J
Dublin, CA 94568

Attn: Donald J. Foster
 Phone: (925) 551-7555 , PERMITTEE

and subject to the following, PERMISSION IS HEREBY GRANTED to:

advance two hollow-stem auger soil borings to approximately 3 m below first encountered groundwater and five geoprobe soil borings to approximately 0.8 m below first encountered groundwater on State Highway 04-Ala-580, Post Miles 44.5 in the City of Oakland.

Two days before work is started under this permit, notice shall be given to, and approval of construction details, operations, public safety, and traffic control shall be obtained from State Representative N. Freitag, 600 Lewelling Blvd., San Leandro, 94579, 510-614-5951, weekdays, between 7:30 AM and 4:00 PM.

Immediately following completion of the work permitted herein, the permittee shall fill out and mail the Notice of completion attached to this permit.

All personnel shall wear hard hats and orange vests, shirts, or jackets as appropriate.

The following attachments are also included as part of this permit (Check applicable):

- Yes No General Provisions
- Yes No Utility Maintenance Provisions
- Yes No Special Provisions
- Yes No A Cal-OSHA permit required prior to beginning work:
 # _____


In addition to fee, the permittee will be billed actual costs for:

- Yes No Review
 - Yes No Inspection
 - Yes _____ Field Work
- (If any Caltrans effort expended)

Yes No The information in the environmental documentation has been reviewed and considered prior to approval of this permit.

This permit is void unless the work is completed before August 31, 1999

This permit is to be strictly construed and no other work other than specifically mentioned is hereby authorized.
 No project work shall be commenced until all other necessary permits and environmental clearances have been obtained.

APPROVED:
HARRY Y. YAHATA, District Director
 BY:

G. J. BATTAGLINI, District Permit Engineer

GETTLER RYAN, INC.

0499-6SV-0130

February 10, 1999

No excavation shall be left open overnight without written permission from the Caltrans representative or unless otherwise specified herein.

All survey operations shall be conducted off the traveled way except where necessary to cross pavements and medians.

When survey operations are being conducted, the permittee shall furnish, place and maintain signs and safety equipment in accordance with the latest edition of the "Manual of Traffic Controls for Construction and Maintenance Work Zones".

Any painted markings shall be made with water soluble paint.

Permission is also granted to park survey vehicles temporarily within the right of way, outside the shoulders, while survey work is in progress.

SURVEY WORK IS PROHIBITED ON FREEWAYS.

Survey information and assistance may be obtained upon request to: Survey Section, Department of Transportation.

The site of the work shall be enclosed by suitable barricades, signs and lights, as approved by State's representative, to warn and protect traffic effectively.

Any damage to landscaping plants or irrigation system shall be promptly repair by the permittee.

Certain details of work authorized hereby are shown on permittee's plan (job # 140165.01) submitted with request for permit.

STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION
ENCROACHMENT PERMIT GENERAL PROVISIONS
TR-0045 (REV. 8/98)

1. **AUTHORITY:** The Department's authority to issue encroachment permits is provided under, Div. 1, Chpt. 3, Art. 1, Sect. 660 to 734 of the Streets and Highways Code.
2. **REVOCAION:** Encroachment permits are revocable on five days notice unless otherwise stated on the permit and except as provided by law for public corporations, franchise holders, and utilities. These General Provisions and the Encroachment Permit Utility Provisions are subject to modification or abrogation at any time. Permittees' joint use agreements, franchise rights, reserved rights or any other agreements for operating purposes in State highway right of way are exceptions to this revocation.
3. **DENIAL FOR NONPAYMENT OF FEES:** Failure to pay permit fees when due can result in rejection of future applications and denial of permits.
4. **ASSIGNMENT:** No party other than the permittee or permittee's authorized agent is allowed to work under this permit.
5. **ACCEPTANCE OF PROVISIONS:** Permittee understands and agrees to accept these General Provisions and all attachments to this permit, for any work to be performed under this permit.
6. **BEGINNING OF WORK:** When traffic is not impacted (see Number 35), the permittee shall notify the Department's representative, two (2) days before the intent to start permitted work. Permittee shall notify the Department's Representative if the work is to be interrupted for a period of five (5) days or more, unless otherwise agreed upon. All work shall be performed on weekdays during regular work hours, excluding holidays, unless otherwise specified in this permit.
7. **STANDARDS OF CONSTRUCTION:** All work performed within highway right of way shall conform to recognized construction standards and current Department Standard Specifications, Department Standard Plans High and Low Risk Facility Specifications, and Utility Special Provisions. Where reference is made to "Contractor and Engineer," these are amended to be read as "Permittee and Department representative."
8. **PLAN CHANGES:** Changes to plans, specifications, and permit provisions are not allowed without prior approval from the State representative.
9. **INSPECTION AND APPROVAL:** All work is subject to monitoring and inspection. Upon completion of work, permittee shall request a final inspection for acceptance and approval by the Department. The local agency permittee shall not give final construction approval to its contractor until final acceptance and approval by the Department is obtained.
10. **PERMIT AT WORKSITE:** Permittee shall keep the permit package or a copy thereof, at the work site and show it upon request to any Department representative or law enforcement officer. If the permit package is not kept and made available at the work site, the work shall be suspended.
11. **CONFLICTING ENCROACHMENTS:** Permittee shall yield start of work to ongoing, prior authorized, work adjacent to or within the limits of the project site. When existing encroachments conflict with new work, the permittee shall bear all cost for rearrangements, (e.g., relocation, alteration, removal, etc.).
12. **PERMITS FROM OTHER AGENCIES:** This permit is invalidated if the permittee has not obtained all permits necessary and required by law, from the Public Utilities Commission of the State of California (PUC), California Occupational Safety and Health Administration (Cal-OSHA), or any other public agency having jurisdiction.
13. **PEDESTRIAN AND BICYCLIST SAFETY:** A safe minimum passageway of 1.21 meter (4') shall be maintained through the work area at existing pedestrian or bicycle facilities. At no time shall pedestrians be diverted onto a portion of the street used for vehicular traffic. At locations where safe alternate passageways cannot be provided, appropriate signs and barricades shall be installed at the limits of construction and in advance of the limits of construction at the nearest crosswalk or intersection to detour pedestrians to facilities across the street.
14. **PUBLIC TRAFFIC CONTROL:** As required by law, the permittee shall provide traffic control protection warning signs, lights, safety devices, etc., and take all other measures necessary for traveling public's safety. Day and night time lane closures shall comply with the Manuals of Traffic Controls, Standard Plans, and Standard Specifications for traffic control systems. These General Provisions are not intended to impose upon the permittee, by third parties, any duty or standard of care, greater than or different from, as required by law.
15. **MINIMUM INTERFERENCE WITH TRAFFIC:** Permittee shall plan and conduct work so as to create the least possible inconvenience to the traveling public; traffic shall not be unreasonably delayed. On conventional highways, permittee shall place properly attired flagger(s) to stop or warn the traveling public in compliance with the Manual of Traffic Controls and Instructions to Flaggers Pamphlet.
16. **STORAGE OF EQUIPMENT AND MATERIALS:** Equipment and material storage in State right of way shall comply with Standard Specifications, Standard Plans, and Special Provisions. Whenever the permittee places an obstacle within 3.63 m (12') feet of the traveled way, the permittee shall place temporary railing (Type K).
17. **CARE OF DRAINAGE:** Permittee shall provide alternate drainage for any work interfering with an existing drainage facility in compliance with the Standard Specifications, Standard Plans and/or as directed by the Department's representative.
18. **RESTORATION AND REPAIRS IN RIGHT OF WAY:** Permittee is responsible for restoration and repair of State highway right of way resulting from permitted work (State Streets and Highways Code, Sections 670 et. seq.).
19. **RIGHT OF WAY CLEAN UP:** Upon completion of work, permittee shall remove and dispose of all scraps, brush, timber, materials, etc. off the right of way. The aesthetics of the highway shall be as it was before work started.
20. **COST OF WORK:** Unless stated in the permit, or a separate written agreement, the permittee shall bear all costs incurred for work within the State right of way and waives all claims for indemnification or contribution from the State.
21. **ACTUAL COST BILLING:** When specified in the permit, the Department will bill the permittee actual costs at the currently set hourly rate for encroachment permits.
22. **AS-BUILT PLANS:** When required, permittee shall submit one (1) set of as-built plans in compliance with Department's requirements. Plans shall be submitted within thirty (30) days after completion and approval of work.

As-Built plans or accompanying correspondence shall not include disclaimer statements of any kind. Such statements shall constitute non-compliance with these provisions. Failure to provide complete and signed As-Built plans shall be cause for bond or deposit retention by the Department.
23. **PERMITS FOR RECORD PURPOSES ONLY:** When work in the right of way is within an area under a Joint Use Agreement (JUA) or a Consent to Common Use Agreement (CCUA), a fee exempt permit is issued to the permittee for the purpose of providing a notice and record of work. The Permittee's prior rights shall be preserved without the intention of creating new or different rights or obligations. "Notice and Record Purposes Only" shall be stamped across the face of the permit.
24. **BONDING:** The permittee shall file bond(s), in advance, in the amount set by the Department. Failure to maintain bond(s) in full force and effect will result in the Department stopping of all work and revoking permits. Bonds are not required of public corporations or privately owned utilities, unless permittee failed to comply with the provision and conditions under a prior permit. The surety company is responsible for any latent defects as provided in California Code of Civil Procedures, Section 337.15. Local agency permittee shall comply with requirements established as follows: In recognition that project construction work done on State property will not be directly funded and paid by State, for the purpose of protecting stop notice claimants and the interests of State relative to successful project completion, the local agency permittee agrees to require the construction contractor furnish both a payment and performance bond in the local agency's name with both bonds complying with the requirements set forth in Section 3-1.02 of State's current Standard Specifications before performing any project construction work. The local agency permittee shall defend, indemnify, and hold harmless the State, its officers and employees from all project construction related claims by contractors and all stop notice or mechanic's lien claimants. The local agency also agrees to remedy, in a timely manner and to State's satisfaction, any latent defects occurring as a result of the project construction work.
25. **FUTURE MOVING OF INSTALLATIONS:** Permittee understands and agrees to rearrange a permitted installation upon request by the Department, for State construction, reconstruction, or maintenance

work on the highway. The permittee at his sole expense, unless under a prior agreement, JUA, or a CUA, shall comply with said request.

26. **ARCHAEOLOGICAL/HISTORICAL:** If any archaeological or historical resources are revealed in the work vicinity, the permittee shall immediately stop work, notify the Department's representative, retain a qualified archaeologist who shall evaluate the site, and make recommendations to the Department representative regarding the continuance of work.
27. **PREVAILING WAGES:** Work performed by or under a permit may require permittee's contractors and subcontractors to pay appropriate prevailing wages as set by the Department of Industrial Relations. Inquiries or requests for interpretations relative to enforcement of prevailing wage requirements are directed to State of California Department of Industrial Relations, 525 Golden Gate Avenue, San Francisco, California 94102.
28. **RESPONSIBILITY FOR DAMAGE:** The State of California and all officers and employees thereof, including but not limited to the Director of Transportation and the Deputy Director, shall not be answerable or accountable in any manner for injury to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee, or for damage to property from any cause. The permittee shall be responsible for any liability imposed by law and for injuries to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee, or for damage to property arising out of work, or other activity permitted and done by the permittee under a permit, or arising out of the failure on the permittee's part to perform his obligations under any permit in respect to maintenance or any other obligations, or resulting from defects or obstructions, or from any cause whatsoever during the progress of the work, or other activity or at any subsequent time, work or other activity is being performed under the obligations provided by and contemplated by the permit.

The permittee shall indemnify and save harmless the State of California, all officers, employees, and State's contractors, thereof, including but not limited to the Director of Transportation and the Deputy Director, from all claims, suits or actions of every name, kind and description brought for or on account of injuries to or death of any person, including but not limited to the permittee, persons employed by the permittee, persons acting in behalf of the permittee and the public, or damage to property resulting from the performance of work or other activity under the permit, or arising out of the failure on the permittee's part to perform his obligations under any permit in respect to maintenance or any other obligations, or resulting from defects or obstructions, or from any cause whatsoever during the progress of the work, or other activity or at any subsequent time, work or other activity is being performed under the obligations provided by and contemplated by the permit, except as otherwise provided by statute.

The duty of the permittee to indemnify and save harmless includes the duties to defend as set forth in Section 2778 of the Civil Code. The permittee waives any and all rights to any type of expressed or implied indemnity against the State, its officers, employees, and State contractors. It is the intent of the parties that the permittee will indemnify and hold harmless the State, its officers, employees, and State's contractors, from any and all claims, suits or actions as set forth above regardless of the existence or degree of fault or negligence, whether active or passive, primary or secondary, on the part of the State, the permittee, persons employed by the permittee, or acting on behalf of the permittee.

For the purpose of this section, "State's contractors" shall include contractors and their subcontractors under contract to the State of California performing work within the limits of this permit.

29. **NO PRECEDENT ESTABLISHED:** This permit is issued with the understanding that it does not establish a precedent.
30. **FEDERAL CIVIL RIGHTS REQUIREMENTS FOR PUBLIC ACCOMMODATION:**
A. The permittee, for himself, his personal representative, successors in interest, and assigns as part of the consideration hereof, does hereby covenant and agree that:
1. No person on the grounds of race, color, or national origin shall be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.
2. That in connection with the construction of any improvements on said lands and the furnishings of services thereon, no discrimination shall be practiced in the selection and retention of first-tier subcontractors in the selection of second-tier subcontractors.
3. That such discrimination shall not be practiced against the public in their access to and use of the facilities and services provided for

public accommodations (such as eating, sleeping, rest, recreation), and operation on, over, or under the space of the right of way.

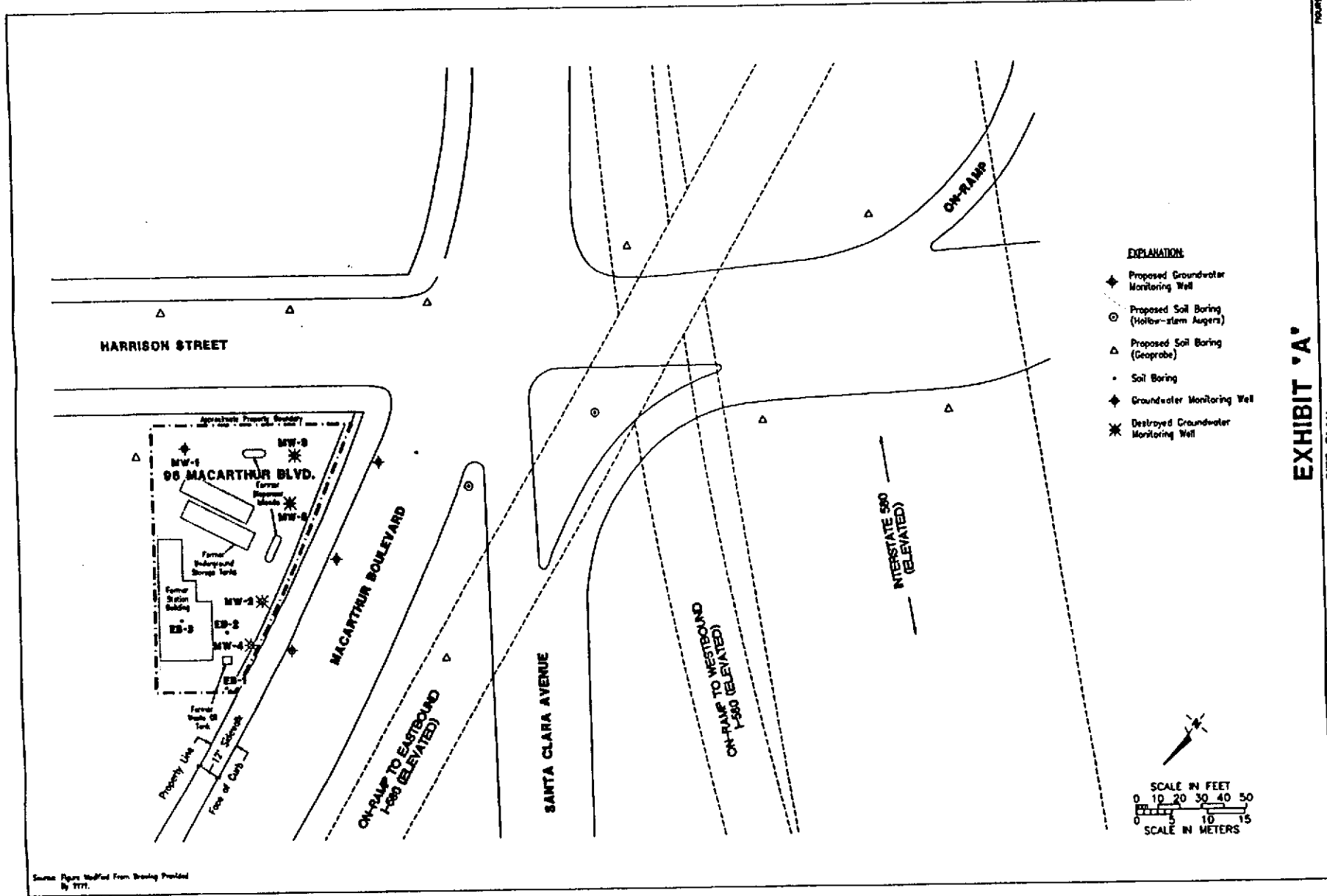
4. That the permittee shall use the premises in compliance with all other requirements imposed pursuant to Title 15, Code of Federal Regulations, Commerce and Foreign Trade, Subtitle A, Office of the Secretary of Commerce, Part 8 (15 C.F.R. Part 8) and as said Regulations may be amended.

B. That in the event of breach of any of the above nondiscrimination covenants, the State shall have the right to terminate the permit and to re-enter and repossess said land and the land and the facilities thereon, and hold the same as if said permit had never been made or issued.

31. **MAINTENANCE OF HIGHWAYS:** The permittee agrees, by acceptance of a permit, to properly maintain any encroachment. This assurance requires the permittee to provide inspection and repair any damage, at permittee's expense, to State facilities resulting from the encroachment.
32. **SPECIAL EVENTS:** In accordance with subdivision (a) of Streets and Highways Code Section 682.5, the Department of Transportation shall not be responsible for the conduct or operation of the permitted activity, and the applicant agrees to defend, indemnify, and hold harmless the State and the city or county against any and all claims arising out of any activity for which the permit is issued.

Permittee understands and agrees that it will comply with the obligations of Titles II and III of the Americans with Disabilities Act of 1990 in the conduct of the event, and further agrees to indemnify and save harmless the State of California, all officers and employees thereof, including but not limited to the Director of Transportation, from any claims or liability arising out of or by virtue of said Act.

33. **PRIVATE USE OF RIGHT OF WAY:** Highway right of way shall not be used for private purposes without compensation to the State. The gifting of public property use and therefore public funds is prohibited under the California Constitution, Article 16.
34. **FIELD WORK REIMBURSEMENT:** Permittee shall reimburse State for field work performed on permittee's behalf to correct or remedy hazards or damaged facilities, or clear debris not attended to by the permittee.
35. **Notification of Department and TMC:** The permittee shall notify the Department's representative and the Traffic Management Center (TMC) at least 7 days before initiating a lane closure or conducting an activity that may cause a traffic impact. A confirmation notification should occur 3 days before closure or other potential traffic impacts. In emergency situations when the corrective work or the emergency itself may affect traffic, TMC and the Department's representative shall be notified as soon as possible.
36. **Underground Service Alert (USA) Notification:** Any excavation requires compliance with the provisions of Government Code Section 4216 et. seq., including, but not limited to notice to a regional notification center, such as Underground Service Alert (USA). The permittee shall provide notification at least 48 hours before performing any excavation work within the right of way.



Source: Plans Modified From Drawing Provided By 1771.

PAGE **1**

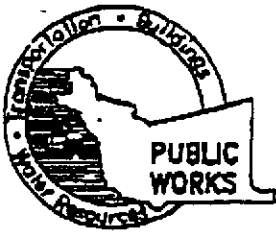
EXHIBIT 'A'

Gettler - Ryan Inc.
 8747 Shreve Ct., Suite 7 (925) 551-7555
 Dublin, CA 94568

SITE PLAN
 Former Tosco 76 Branded Facility No. 1871
 96 MacArthur Boulevard
 Oakland, California

DATE: 1/99
 REVISED DATE:

JOB NUMBER: 140185



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION

951 TURNER COURT, SUITE 300, HAYWARD, CA 94545-2451
PHONE (510) 670-5575 ANDREAS GODFREY FAX (510) 670-5262
(510) 670-5248 ALVIN KAN

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT HARRISON STREET
AT MACARTHUR BLVD.
OAKLAND, CA

PERMIT NUMBER 99WR229
WELL NUMBER _____
APN _____

California Coordinates Source _____ ft. Accuracy ± _____
CCN _____ & CCE _____ ft.
APN _____

PERMIT CONDITIONS

Circled Permit Requirements Apply

CLIENT
Name TOSCO MARKETING COMPANY
Address 2000 CREW CANNON PL Phone 925-277-2384
City SUITE 400, SAN RAMON Zip 94583

A. GENERAL

1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted work the original Department of Water Resources 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.

APPLICANT
Name GETTLER RYAN INC.
ATTN: DONALD FOSTER Fax 925-551-7888
Address 674 SIERRA CT. Phone 925-551-7555
City SUITE 1, DUBLIN Zip 94568

B. WATER SUPPLY WELLS

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

TYPE OF PROJECT

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

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS

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

PROPOSED WATER SUPPLY WELL USE

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

D. GEOTECHNICAL

Backfill bore hole 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.

DRILLING METHOD:

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

E. CATHODIC

Fill hole above anode zone with concrete placed by tremie.

DRILLER'S LICENSE NO. 057485165

F. WELL DESTRUCTION

See attached.

WELL PROJECTS

Drill Hole Diameter	<u>8</u> in.	Maximum	
Casing Diameter	<u>2</u> in.	Depth	<u>25</u> ft.
Surface Seal Depth	<u>1</u> ft.	Number	<u>3</u>

G. SPECIAL CONDITIONS SEE ATTACHED INFORMATION

GEOTECHNICAL PROJECTS

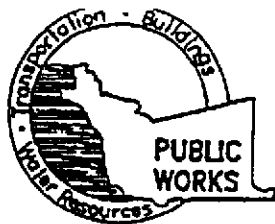
Number of Borings	<u>11</u>	Maximum	
Hole Diameter	<u>8</u> in.	Depth	<u>20</u> ft.

ESTIMATED STARTING DATE ~~5-1-99~~ 5-1-99
ESTIMATED COMPLETION DATE ~~6-15-99~~ 6-15-99

APPROVED [Signature] DATE 5-20-99

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

APPLICANT'S SIGNATURE [Signature] DATE 5-17-99
3-15-99



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION

951 TURNER COURT, SUITE 300, HAYWARD, CA 94545-2651

PHONE (510) 670-5575 ANDREAS GODFREY FAX (510) 670-5262
(510) 670-5248 ALVIN KAN

WATER RESOURCES SECTION GROUNDWATER PROTECTION ORDINANCE For Monitoring Well at Clean or Contaminated Site

Destruction Requirements:

1. Drill out the well so that the casing, seal, and gravel pack are removed to the bottom of the well.
2. Sound the well as deeply as practicable and record for your report.
3. Using a tremie pipe, fill the hole to 2 feet below the lower of finished grade or original ground with neat cement.
4. After the seal has set, backfill the remaining hole with compacted material.

Gettler-Ryan Inc.

Log of Boring MW-6

PROJECT: Former Tosco 76 Branded Facility No. 1871

LOCATION: 96 Mac Arthur Blvd., Oakland, CA

PROJECT NO.: 140165.04-1

CASING ELEVATION:

DATE STARTED: 06/03/99

WL (ft. bgs): 11.3 DATE: 06/04/99 TIME: 1:30 pm

DATE FINISHED: 06/03/99

WL (ft. bgs): 9.12 DATE: 06/04/99 TIME: 4:00 pm

DRILLING METHOD: 8" hollow-stem auger

TOTAL DEPTH: 25 Feet

DRILLING COMPANY: Gregg Drilling

GEOLOGIST: Joel Greger

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
							Concrete over silty sand and gravel.	
						ML	CLAYEY SILT (ML) - greenish gray (5GY 5/1), moist, stiff: FILL OR DISTURBED NATIVE SOIL.	
							NATIVE SOIL.	
5	14	50	MW-6-6			SM	SILTY SAND (SM) - dark greenish gray (5GY 4/1), moist, very dense, 10-15% silt, trace clay, predominantly fine to medium sand, angular gravel in shoe, slight hydrocarbon odor.	
							↓ Becomes wet to saturated, strong hydrocarbon odor. ↓ SAND (SM) - dark greenish gray (5GY 4/1), saturated, very dense, locally with up to 20% angular gravel to 3/8" diameter, trace silt, very fine to coarse sand, well graded.	
10	>442	58	MW-6-11					
	388	61						
15	104	47	MW-6-15.5			ML	CLAYEY SILT (ML) - reddish gray (5YR 5/2), saturated, hard, slight hydrocarbon odor.	
20	20	48	MW-6-20.5				No odor.	
25	3		MW-6-24					
* Converted to standard penetration blows/foot.								

Gettler-Ryan Inc.

Log of Boring MW-7

PROJECT: Former Tosco 76 Branded Facility No. 1871

LOCATION: 96 Mac Arthur Blvd., Oakland, CA

PROJECT NO.: 140165.04-1

CASING ELEVATION:

DATE STARTED: 06/11/99

WL (ft. bgs): # DATE: TIME:

DATE FINISHED: 06/11/99

WL (ft. bgs): 8.53 DATE: 06/11/99 TIME: 11:00 am

DRILLING METHOD: 8" hollow-stem auger

TOTAL DEPTH: 25 Feet

DRILLING COMPANY: Gregg Drilling

GEOLOGIST: Joel Greger

DEPTH feet	P/D (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
							Concrete.	
5	0	33				ML	CLAYEY SANDY SILT WITH GRAVEL (ML) - brown (7.5YR 6/4), moist, stiff, estimated up to 10% clay, 10-15% very fine to coarse sand, 15% subangular gravel to 3/4" diameter: FILL.	
						SM	SILTY SAND LOCALLY WITH GRAVEL (SM) - dark gray (5GY 4/1), moist to very moist, hard, estimated 15% silt, trace clay, variable gravel content up to 20%, gravel subangular, weathered, and fractured, very fine to coarse gravel to >2" diameter.	
10	3	28				ML	SILT WITH SAND AND GRAVEL (ML) - brown (7.5YR 4/4), gradational from SILTY SAND above, wet to saturated, hard, mottled with weathered gravel clasts, estimated at 15-25% fine to coarse sand, trace clay, 15-25% subangular gravel to 1/2" diameter, gravel highly weathered, fractured.	
15	4	29					Becomes saturated. CLAYEY SILT (ML) - light gray (10YR 7/2), saturated, hard, homogenous.	
20	0	27					Trace to 10% very fine sand.	
25	0	18					* Converted to standard penetration blows/foot.	

Gettler-Ryan Inc.

Log of Boring MW-8

PROJECT: Former Tosco 76 Branded Facility No. 1871

LOCATION: 96 Mac Arthur Blvd., Oakland, CA

PROJECT NO.: 140165.04-1

CASING ELEVATION:

DATE STARTED: 06/03/99

WL (ft. bgs): 9.0 DATE: 06/04/99 TIME: 4:00 pm

DATE FINISHED: 06/03/99

WL (ft. bgs): DATE: TIME:

DRILLING METHOD: 8" hollow-stem auger

TOTAL DEPTH: 25 Feet

DRILLING COMPANY: Gregg Drilling

GEOLOGIST: Joel Greger

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
							Concrete.	
						ML	CLAYEY SANDY SILT WITH GRAVEL (ML) - light brownish gray (2.5Y 8/2), moist, stiff, estimated at 10% clay, 10-15% very fine to coarse sand, 15% subangular gravel to 3/8" diameter: FILL.	
5	0					ML	CLAYEY SANDY SILT WITH GRAVEL (ML) - light brownish gray (2.5Y 8/2), moist, very stiff, estimated up to 10% clay, 10% very fine to coarse sand, 25% angular gravel to 1-3/4" diameter.	
10	0	28	MW-8-10.5			SM	CLAYEY SILT (ML) - light gray (10YR 7/2), moist, hard, homogenous, trace sand.	
15	0	83	MW-8-15.5			SM	SILTY SAND (SM) - pale brown (10YR 6/3), very moist, very dense, very fine to fine sand, estimated at 30% silt.	
20		50				ML	SILTY SAND WITH GRAVEL (SM) - saturated, very dense, estimated at 15% silt, 35-45% subangular gravel to 3/4" diameter, highly weathered gravel, fine to coarse sand.	
25		36				ML	CLAYEY SILT (ML) - light gray (10YR 7/2), saturated, hard, homogenous.	
							* Converted to standard penetration blows/foot.	

Gettler-Ryan Inc.

Log of Boring B-4

PROJECT: Former Tosco 76 Branded Facility No. 1871

LOCATION: 96 Mac Arthur Blvd., Oakland, CA

PROJECT NO.: 140165.04-1

CASING ELEVATION:

DATE STARTED: 06/01/99

WL (ft. bgs): 10.5 DATE: 06/01/99 TIME: 7:50 am

DATE FINISHED: 06/01/99

WL (ft. bgs): DATE: TIME:

DRILLING METHOD: 2" geoprobe

TOTAL DEPTH: 16 Feet

DRILLING COMPANY: Gregg Drilling

GEOLOGIST: Joel Greger

DEPTH feet	P/D (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
						ML	2" turf over 4" of broken concrete. SANDY CLAYEY SILT (ML) - grayish brown (10YR 5/2), slightly moist, stiff, estimated at 30% very fine to fine sand, 15-25% clay: FILL.	
						SC	CLAYEY SAND (SC) - light yellowish brown (10YR 6/4), moist, medium dense, estimated 10-15% clay, 10% silt, predominantly very fine to fine: FILL.	
5			B-4-7.5			SM	SILTY SAND WITH GRAVEL (SM) - brown (10YR 5/3), very moist, medium dense, estimated at 20% silt, trace clay, 15% subrounded to subangular gravel to 1/4" diameter, fine to coarse sand.	
	0		B-4-9			GW GM	GRAVEL WITH SAND (GW-GM) - yellowish brown (10YR 5/4), very moist, dense, estimated at 35% very fine to coarse sand, 10% silt & clay, subangular deeply weathered gravel to 3/4" diameter.	
10			B-4-11.5			ML	SILT (ML) - light yellowish brown (2.5Y 6/4) to light brownish gray (2.5Y 6/2), wet to saturated at 10.5 feet, very stiff, trace clay & very fine sand.	Water sample B-4-10.5
15								
20								
25								

Gettler-Ryan Inc.

Log of Boring B-5

PROJECT: Former Tosco 76 Branded Facility No. 1871

LOCATION: 96 Mac Arthur Blvd., Oakland, CA

PROJECT NO.: 140165.04-1

CASING ELEVATION:

DATE STARTED: 06/01/99

WL (ft. bgs): 10.5 DATE: 06/01/99 TIME: 9:40 am

DATE FINISHED: 06/01/99

WL (ft. bgs): DATE: TIME:

DRILLING METHOD: 2" geoprobe

TOTAL DEPTH: 18 Feet

DRILLING COMPANY: Gregg Drilling

GEOLOGIST: Joel Greger

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
						SM	Asphaltic concrete.	
						SM	SILTY SAND (SM) - light yellowish brown (10YR 6/4), moist, medium dense, estimated 15% silt, predominantly very fine to fine sand: FILL.	
5						SP	SAND WITH GRAVEL (SP) - light yellowish brown (10YR 8/4), moist to very moist, medium dense, estimated at 10-15% subrounded to angular gravel to 3/8" diameter, very fine to fine sand, poorly graded: FILL.	
	0		B-5-7.5			ML	SILT (ML) - 2" lens.	
						SP	SAND WITH GRAVEL (SP) - light yellowish brown (10YR 8/4), moist to very moist, medium dense, estimated at 10-15% subrounded to angular gravel to 3/8" diameter, very fine to fine sand, poorly graded.	
10	0		B-5-10.5			GW GM	GRAVEL WITH SAND (GW-GM) - yellowish brown (10YR 5/4), very moist, dense, estimated at 40% very fine to coarse sand, 10% silt, trace clay, subangular gravel to 1 1/4" diameter, deeply weathered.	
	0					SW SM	SAND WITH GRAVEL (SW-SM) - estimated at 40% gravel, otherwise as above.	
	0					GW GM	GRAVEL WITH SILT AND SAND (GW-GM) - yellowish brown (10YR 5/4), saturated, dense, 25% fine to coarse sand, 15% silt & clay, well graded.	Water sample B-5-11.35
15	0					ML	SILT (ML) - brown (10YR 5/3), saturated, very stiff, trace clay.	
20								
25								

Gettler-Ryan Inc.

Log of Boring B-6

PROJECT: Former Tosco 76 Branded Facility No. 1871

LOCATION: 96 Mac Arthur Blvd., Oakland, CA

PROJECT NO.: 140165.04-1

CASING ELEVATION:

DATE STARTED: 06/01/99

WL (ft. bgs): 11.7 DATE: 06/01/99 TIME: 10:15 am

DATE FINISHED: 06/01/99

WL (ft. bgs): DATE: TIME:

DRILLING METHOD: 2" geoprobe

TOTAL DEPTH: 14 Feet

DRILLING COMPANY: Gregg Drilling

GEOLOGIST: Joel Greger

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
5						SP	Asphaltic concrete.	
0						SP	SAND (SP) - yellowish brown (10YR 6/4), moist, medium dense, very fine to fine sand, poorly graded: FILL.	
0						GW GM	GRAVEL WITH SAND AND SILT (GW-GM) - yellowish brown (10YR 6/4), moist, medium dense to dense, estimated 35% very fine to coarse sand, 10-15% silt, subangular gravel to 3/4" diameter, deeply weathered gravel, well graded.	
0						SW SM	SAND WITH GRAVEL (SW-SM) - dark yellowish brown (10YR 4/6), moist, medium dense, estimated 15% subrounded gravel to 3/4" diameter, predominantly medium sand, poorly graded.	
0			B-6-11.4			GW GM	GRAVEL WITH SAND AND SILT (GW-GM) - yellowish brown (10YR 6/4), moist, medium dense to dense, estimated 35% very fine to coarse sand, 10-15% silt, subangular gravel to 3/4" diameter, deeply weathered gravel, well graded.	water sample B-6-11.7
15								
20								
25								

Gettler-Ryan Inc.

Log of Boring B-7

PROJECT: Former Tosco 76 Branded Facility No. 1871

LOCATION: 96 Mac Arthur Blvd., Oakland, CA

PROJECT NO.: 140165.04-1

CASING ELEVATION:

DATE STARTED: 06/01/99

WL (ft. bgs): 10 DATE: 06/01/99 TIME: 10:50 am

DATE FINISHED: 06/01/99

WL (ft. bgs): DATE: TIME:

DRILLING METHOD: 2" geoprobe

TOTAL DEPTH: 18 Feet

DRILLING COMPANY: Gregg Drilling

GEOLOGIST: Joel Greger

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
							Concrete.	
						SM	SILTY SAND WITH GRAVEL (SM) - dark brown (10YR 3/3) changing to grayish brown (10YR 5/4) at 2 feet, slightly moist to moist, dense, estimated 20% silt, 25% subangular gravel to 1-3/4" diameter, predominantly very fine to fine sand: FILL.	
						ML	SILT (ML) - black (10YR 2/0), moist, stiff, trace clay & fine sand.	
5								
	0		B-7-9.5				SANDY SILT (ML) - yellowish brown (10YR 5/4), moist, stiff, estimated 15-20% very fine sand, up to 10% subangular gravel to 1/4" diameter, gravel highly weathered.	
10							Becomes very moist. Color change to grayish brown (2.5Y 5/2), becomes saturated, only trace gravel below 11 feet.	Water sample B-7-10
						GW		
						GM	GRAVEL WITH SAND AND SILT (GW-GM) - yellowish brown (10YR 5/4), saturated, medium dense to dense.	
						ML	CLAYEY SILT (ML) - grayish brown (10YR 5/2), saturated, very stiff.	
15								
20								
25								

Gettler-Ryan Inc.

Log of Boring B-8

PROJECT: Former Tosco 76 Branded Facility No. 1871

LOCATION: 96 Mac Arthur Blvd., Oakland, CA

PROJECT NO. : 140165.04-1

CASING ELEVATION:

DATE STARTED: 06/01/99

WL (ft. bgs): 8.5 DATE: 06/03/99 TIME: 12:10 am

DATE FINISHED: 06/01/99


WL (ft. bgs): DATE: TIME:

DRILLING METHOD: 2" geoprobe

TOTAL DEPTH: 12 Feet

DRILLING COMPANY: Gregg Drilling

GEOLOGIST: Joel Greger

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
5			B-8-8			ML	CLAYEY SILT (ML) - dark grayish brown (2.5Y 3/2) changing to light olive brown (2.5Y 5/4) at 1.5 feet: FILL OR DISTURBED NATIVE SOIL. Color change to olive (5Y 5/2).	Poor recovery.
10						▽	CLAYEY SILT WITH GRAVEL (ML) - olive (5Y 5/2), saturated, estimated 10% clay, 15-35% subangular gravel to 1-3/4" diameter, highly weathered gravel.	Water sample B-8-8.5
15								
20								
25								

Gettler-Ryan Inc.

Log of Boring B-9

PROJECT: Former Tosco 76 Branded Facility No. 1871

LOCATION: 96 Mac Arthur Blvd., Oakland, CA

PROJECT NO.: 140165.04-1

CASING ELEVATION:

DATE STARTED: 06/01/99

WL (ft. bgs): 13.5 DATE: 06/01/99 TIME: 12:45 pm

DATE FINISHED: 06/01/99

WL (ft. bgs): DATE: TIME:

DRILLING METHOD: 2" geoprobe

TOTAL DEPTH: 14 Feet

DRILLING COMPANY: Gregg Drilling

GEOLOGIST: Joel Greger

DEPTH feet	P/D (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
						SM	SILTY SAND WITH GRAVEL (SM) - dark yellowish brown (10YR 4/6), moist, dense, estimated 15% silt, very fine to coarse sand, up to 30% subangular gravel to 2" diameter: FILL.	
5			B-9-7.5			ML	CLAYEY SILT WITH GRAVEL (ML) - dark greenish gray (5GY 4/1), moist, firm.	
	0						CLAYEY SILT (ML) - dark greenish gray (5GY 4/1) changing to black (2.5YR N2 5/) at 6.5 feet, moist, firm, organic odor.	
			B-9-11				SANDY CLAYEY SILT (ML) - dark gray (N4 /), very moist to wet, firm, estimated 15-20% very fine to fine sand, 10% clay, trace gravel.	
	0							
	0		B-9-13					water sample B-9-13.5
10								
15								
20								
25								

Gettler-Ryan Inc.

Log of Boring B-10

PROJECT: Former Tosco 76 Branded Facility No. 1871

LOCATION: 96 Mac Arthur Blvd., Oakland, CA

PROJECT NO.: 140165.04-1

CASING ELEVATION:

DATE STARTED: 06/01/99

WL (ft. bgs): 15.2 DATE: 06/03/99 TIME: 7:40 am

DATE FINISHED: 06/01/99

WL (ft. bgs): DATE: TIME:

DRILLING METHOD: 2" geoprobe

TOTAL DEPTH: 18 Feet

DRILLING COMPANY: Gregg Drilling

GEOLOGIST: Joel Greger

DEPTH feet	PTD (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
0						ML	SANDY CLAYEY SILT WITH GRAVEL (ML) - yellowish brown (10YR 5/6), very moist, firm, estimated at 15-30% very fine to medium sand, 10% clay, 10-15% subrounded gravel to 3/4" diameter: FILL.	
5							Color change to very dark gray (5YR 3/1) at 3.5 feet. SANDY SILT (ML) - light brownish gray (2.5Y 6/2), moist, firm to stiff, estimated at 25-30% fine to medium sand, trace gravel.	
10							SANDY SILT WITH GRAVEL (ML) - greenish gray (5G 6/1), moist to very moist, stiff, estimated at 25-30% fine to medium sand, trace clay, variable gravel content to 10%, subangular gravel, highly weathered, slight hydrocarbon odor.	
12.9			B-10-14			GW GM	CLAYEY SILT (ML) - light brownish gray (2.5Y 6/2), moist, firm to stiff, trace very fine sand.	
15							GRAVEL WITH SAND (GW-GM) - dark greenish gray (5G 4/1), very moist, dense to very dense, estimated 30-40% very fine to coarse sand, trace silt & clay, subangular gravel to 3/4" diameter, highly weathered and fractured, strong hydrocarbon odor.	Water sample B-10-15.2
17.5			B-10-17.5				Becomes 10% silt, 10% clay, 35% very fine to predominantly medium to coarse sand, strong hydrocarbon odor, wet to saturated around gravel.	
20								
25								

Gettler-Ryan Inc.							Log of Boring B-11		
PROJECT: Former Tosco 76 Branded Facility No. 1871							LOCATION: 96 Mac Arthur Blvd., Oakland, CA		
PROJECT NO.: 140165.04-1							CASING ELEVATION:		
DATE STARTED: 06/03/99							WL (ft. bgs): 16.2	DATE: 06/03/99	TIME: 11:30 am
DATE FINISHED: 06/03/99							WL (ft. bgs):	DATE:	TIME:
DRILLING METHOD: 8" hollow-stem auger							TOTAL DEPTH: 31.5 Feet		
DRILLING COMPANY: Gregg Drilling							GEOLOGIST: Joel Greger		
DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS	
0						ML	GRAVELLY SILT (ML) - very dark gray (5YR 3/1), slightly moist, stiff, estimated at 15-30% subangular gravel to 1-3/4" diameter, trace sand: FILL.		
5	0					CL	SILTY CLAY (CL) - yellowish brown (10YR 5/6), moist to very moist, stiff, trace very fine to medium sand.		
10	0		B-11-10.5			SW-SC	SAND WITH CLAY AND GRAVEL (SW-SC) - yellowish brown (10YR 5/6), very moist to wet along clasts, very dense, estimated 10% clay, 35% subangular gravel to 3/4" diameter, very fine to coarse sand, well graded.		
15	0		B-11-14			ML	CLAYEY SILT (ML) - grayish brown (10YR 5/2), very moist to wet, stiff.		
16	6					SW-SM ML	SAND WITH SILT AND GRAVEL (SW-SM) - yellowish brown (10YR 5/6), wet, estimated 10-15% silt, 30-40% subangular gravel to 3/8" diameter, very fine to coarse sand, well graded.	Water sample B-11-16.2	
20	0					ML	CLAYEY SILT (ML) - yellowish brown (10YR 5/6), saturated, very stiff, homogenous.		
25	0		B-11-24.5						

PROJECT: Former Tosco 76 Branded Facility No. 1871

LOCATION: 96 Mac Arthur Blvd., Oakland, CA

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
0	0		B-11-29			ML	CLAYEY SILT (ML) - dark greenish gray (5G 4/1), saturated, very stiff, homogenous.	Hydropunch attempt from 29.5 to 31.5 feet; no water after 1/2 hour.
33								
38								
43								
48								
53								
58								

Gettler-Ryan Inc.

Log of Boring B-12

PROJECT: Former Tosco 76 Branded Facility No. 1871
 PROJECT NO.: 140165.04-1
 DATE STARTED: 06/04/99
 DATE FINISHED: 06/04/99
 DRILLING METHOD: 6" hollow-stem auger
 DRILLING COMPANY: Gregg Drilling

LOCATION: 96 Mac Arthur Blvd., Oakland, CA
 CASING ELEVATION:
 WL (ft. bgs): 19.5 DATE: 06/04/99 TIME: 2:15 pm
 WL (ft. bgs): DATE: TIME:
 TOTAL DEPTH: 26.5 Feet
 GEOLOGIST: Joel Greger

DEPTH feet	PTD (ppm)	BLOMS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
						ML	Concrete. CLAYEY SILT (ML) - dark yellowish brown (10YR 4/6), moist, stiff: FILL.	
5						SM	SILTY SAND (SM) - strong brown (10YR 4/6), moist, dense, estimated 20% silt, trace to 10% subangular gravel to 1/4" diameter, very fine to medium sand: FILL.	
	0	27				ML	CLAYEY SILT WITH GRAVEL (ML) - dark gray (7.5YR N4/), very moist, hard, estimated at 30% angular gravel to 1.5" diameter: DISTURBED NATIVE SOIL.	
10								
	0	34	B-12-11.5				SANDY SILT WITH GRAVEL (ML) - strong brown (10YR 4/6), very moist, hard, estimated at 15% very fine sand, 25% subangular gravel to 3/4" diameter, gravel highly weathered.	
15								
	0	25	B-12-15.5				CLAYEY SILT (ML) - gray (5Y 5/1), wet to saturated, very stiff, homogenous.	
20								
	0	41	B-12-20.5				Trace very fine to coarse sand.	Water sample B-12-19.5 (slurry); water came in after 2.5 hours, hole caved below 19.5 feet.
25								
	0	40	B-12-25 B-12-25.5 B-12-26				As above except no sand.	

APPENDIX C

WELL MONITORING AND SAMPLING FIELD DATA SHEETS

**WELL MONITORING/SAMPLING
FIELD DATA SHEET**

Client/Facility: FORMER TOSCO #1871 Job#: 140165.04
 Address: 96 MacArthur Blvd. Date: 6/18/99
 City: Oakland, CA Sampler: HAG KEVORAK

Well ID: MW-1 Well Condition: OK
 Well Diameter: 4 in. Hydrocarbon Thickness: ∅ (feet) Amount Bailed: ∅ (Gallons)
 Total Depth: 24.21 ft. (product/water): ∅
 Depth to Water: 13.93 ft.

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

10.28 x VF 0.66 = 6.7 x 3 (case volume) = Estimated Purge Volume: 20 (gal.)

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

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

Starting Time: 14:55 Weather Conditions: SUNNY
 Sampling Time: 15:10 Water Color: _____ Odor: _____
 Purging Flow Rate: 2 gpm. Sediment Description: _____
 Did well de-water? NO If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature $^{\circ}$ F/ $^{\circ}$ C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
<u>14:59</u>	<u>7</u>	<u>7.18</u>	<u>712</u>	<u>25.5</u>	_____	_____	_____
<u>15:02</u>	<u>13</u>	<u>6.84</u>	<u>729</u>	<u>24.2</u>	_____	_____	_____
<u>15:06</u>	<u>20</u>	<u>6.75</u>	<u>740</u>	<u>23.8</u>	_____	_____	_____

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
<u>MW-1</u>	<u>6 VOA</u>	<u>Y</u>	<u>HCL</u>	<u>SEQUOIA</u>	<u>TPH(G)/btex/mtbe/OXYs</u> <u>EDB & 1,2 DCA</u>

COMMENTS: _____

**WELL MONITORING/DEVELOPMENT
FIELD DATA SHEET**

Client/Facility: FORMER TOSCO #1871 Job#: 140165.04
 Address: 96 MacArthur Blvd. Date: 6/18/99
 City: Oakland, CA Sampler: HAIG KEVORK

Well ID: MW-6 Well Condition: NEW

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

Total Depth: 24.83 ft.

Depth to Water: 9.30 ft.

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

15.53 x VF 0.17 = 2.64 (case volume) = Estimated Purge Volume: 26.4 (gal.)

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

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

Starting Time: 13:20 Weather Conditions: SUNNY

Sampling Time: 14:48 Water Color: _____ Odor: _____

Purging Flow Rate: 0.25-0.75 gpm. Sediment Description: _____

Did well de-water? NO If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature °C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
13:26	3	7.90	789	22.5			
13:35	6	7.68	833	22.1			
13:42	8	7.80	840	22.9			
13:55	12	7.43	848	22.4			
14:08	16	7.37	870	23.2			
14:17	19	7.29	853	23.9			
14:28	23	7.25	821	22.7			
14:33	25	7.30	827	22.1			
14:40	28	7.23	824	22.3			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-6	6 VOA	Y	HCP	SEQUOIA	G/BTEX/MTBE OXY'S 8260 EDB&1,2DCA

COMMENTS: _____

**WELL MONITORING/DEVELOPMENT
FIELD DATA SHEET**

Client/Facility: FORMER TOSCO #1871 Job#: 140165.04
 Address: 96 MacArthur Blvd. Date: 6/18/99
 City: Oakland, CA Sampler: HAIG KEVORK

Well ID: MW-7 Well Condition: NEW
 Well Diameter: 2 in. Hydrocarbon Thickness: Ø Amount Bailed (product/water): Ø (gal.)
 Total Depth: 24.58 ft. Volume Factor (VF): 2" = 0.17 3" = 0.38 4" = 0.66
 Depth to Water: 8.70 ft. 6" = 1.50 12" = 5.80

15.88 x VF 0.17 = 2.7 X 3 (case volume) = Estimated Purge Volume: 27 (gal.)

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

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

Starting Time: 11:23 Weather Conditions: SUNNY
 Sampling Time: 13:00 Water Color: _____ Odor: _____
 Purging Flow Rate: 0.25-0.75 gpm. Sediment Description: _____
 Did well de-water? NO If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ mhos/cm	Temperature $^{\circ}$ C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
11:29	2	7.98	847	25.3			
11:38	5	7.80	790	24.7			
11:46	8	7.93	764	24.3			
11:58	12	7.67	748	23.9			
12:12	15	7.60	739	23.5			
12:28	20	7.55	742	24.0			
12:34	25	7.47	736	23.6			
12:48	30	7.43	730	23.2			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-7	6 VOA	Y	HCP	SEDLW01A	GIBTEX/MTBE OXYSR260 EDB&1,2DCA

COMMENTS: _____

**WELL MONITORING/DEVELOPMENT
FIELD DATA SHEET**

Client/Facility: FORMER TOSCO #18M1 Job#: 140165.04
 Address: 96 MacArthur Blvd. Date: 6/18/99
 City: Oakland, CA Sampler: HAIG KEVORK

Well ID: MW-8 Well Condition: NEW

Well Diameter: 2 in. Hydrocarbon Amount Bailed

Total Depth: 24.72 ft. Thickness: _____ Ft. (product/water): _____ (gal.)

Depth to Water: 9.10 ft. Volume 2" = 0.17 3" = 0.38 4" = 0.66
 Factor (VF) 6" = 1.50 12" = 5.80

15.62 x VF 0.17 = 2.66 x 3 (case volume) = Estimated Purge Volume: 27 (gal.)

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

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

Starting Time: 9:40 Weather Conditions: SUNNY
 Sampling Time: 11:05 Water Color: _____ Odor: _____
 Purging Flow Rate: 0.25-0.75 gpm. Sediment Description: _____
 Did well de-water? NO If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity μ hos/cm	Temperature $^{\circ}$ C	D.O. (mg/L)	ORP (mV)	Alkalinity (ppm)
9:47	2.5	8.21	613	26.4			
9:54	5	7.90	646	25.4			
10:02	8	7.80	672	24.6			
10:10	12	7.64	685	24.2			
10:18	16	7.58	668	23.9			
10:26	20	7.52	635	23.5			
10:36	24	7.48	677	23.8			
10:45	27	7.43	646	23.3			
10:53	30	7.39	655	22.9			

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-8	6 VOA'S	YES	HCL	SEADUOIA	G/BTEX/MTBE
	1 AMBER				OXY'S / 8270
					EDB, 2 DCA

COMMENTS: _____

APPENDIX D

**LABORATORY ANALYTICAL REPORTS AND
CHAIN-OF-CUSTODY RECORDS**



Sequoia Analytical

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8
1455 McDowell Blvd. North, Ste. D
1551 Industrial Road

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834
Petaluma, CA 94954
San Carlos, CA 94070

(650) 364-9600
(925) 988-9600
(916) 921-9600
(707) 792-1865
(650) 232-9600

FAX (650) 364-9233
FAX (925) 988-9673
FAX (916) 921-0100
FAX (707) 792-0342
FAX (650) 232-9612

Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871, Oakland
Sample Matrix: Soil
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 906-0652

Sampled: Jun 1, 1999
Received: Jun 3, 1999
Reported: Jun 16, 1999

RECEIVED
JUN 22 1999
GETTLER-RYAN INC.

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX & MTBE

Analyte	Reporting Limit mg/Kg	Sample I.D. 906-0652 B-4-9	Sample I.D. 906-0653 B-5-10.5	Sample I.D. 906-0654 B-6-11.4	Sample I.D. 906-0655 B-7-9.5	Sample I.D. 906-0656 B-8-8'	Sample I.D. 906-0657 B-9-13
Purgeable Hydrocarbons	1.0	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Benzene	0.0050	N.D.	N.D.	N.D.	N.D.	0.0066	N.D.
Toluene	0.0050	N.D.	N.D.	N.D.	N.D.	0.0096	0.0075
Ethyl Benzene	0.0050	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Total Xylenes	0.0050	N.D.	N.D.	N.D.	N.D.	N.D.	0.011
MTBE	0.050	N.D.	N.D.	N.D.	N.D.	0.053	0.062

Chromatogram Pattern: -- -- -- -- -- --

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	6/14/99	6/14/99	6/14/99	6/14/99	6/14/99	6/14/99
Instrument Identification:	HP-4	HP-4	HP-4	HP-4	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 40-140%)	109	110	105	109	118	106

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271


Julianne Fegley
Project Manager



Sequoia Analytical

680 Chesapeake Drive
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FAX (925) 988-9673
FAX (916) 921-0100
FAX (707) 792-0342
FAX (650) 232-9612

Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871, Oakland
Sample Matrix: Soil
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 906-0658

Sampled: Jun 1-3, 1999
Received: Jun 3, 1999
Reported: Jun 16, 1999

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit mg/Kg	Sample I.D. 906-0658 B-10-14	Sample I.D. 906-0659 B-11-14	Sample I.D. 906-0660 B-11-29
Purgeable Hydrocarbons	1.0	170	N.D.	N.D.
Benzene	0.0050	0.24	0.0058	0.014
Toluene	0.0050	1.1	0.015	0.046
Ethyl Benzene	0.0050	1.9	N.D.	N.D.
Total Xylenes	0.0050	14	0.015	0.018
MTBE	0.050	1.0	1.1	0.25
Chromatogram Pattern:		--	--	--

Quality Control Data

Report Limit Multiplication Factor:	10	1.0	1.0
Date Analyzed:	6/14/99	6/14/99	6/14/99
Instrument Identification:	HP-4	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 40-140%)	135	109	104

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271


Julianne Fegley
Project Manager



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FAX (650) 232-9612

Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871, Oakland
Matrix: Liquid

QC Sample Group: 9060652-660

Reported: Jun 16, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel

MS/MSD

Batch#:	9060652	9060652	9060652	9060652
Date Prepared:	6/14/99	6/14/99	6/14/99	6/14/99
Date Analyzed:	6/14/99	6/14/99	6/14/99	6/14/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	4.0	4.0	4.0	4.0
Matrix Spike Duplicate % Recovery:	4.0	3.0	4.0	4.0
Relative % Difference:	0.0	4.3	2.7	0.0

LCS Batch#:	4LCS061499	4LCS061499	4LCS061499	4LCS061499
Date Prepared:	6/14/99	6/14/99	6/14/99	6/14/99
Date Analyzed:	6/14/99	6/14/99	6/14/99	6/14/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	4.0	4.0	4.0	4.0

% Recovery Control Limits:	70-130	70-130	70-130	70-130
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Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL, #1271


Julianne Fegley
Project Manager



SEQUOIA ANALYTICAL CHAIN OF CUSTODY

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 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865 FAX (707) 792-0342

Company Name: <u>Gettler-Ryan</u>			Project Name: <u>Toxco # 1871</u>		
Mailing Address: <u>6747 Sierra Court Suite J.</u>			Billing Address (if different): <u>96 MacArthur Blvd</u>		
City: <u>Dublin</u>	State: <u>CA</u>	Zip Code:	<u>Oakland 94617</u>		
Telephone: <u>415 893 1515</u>		FAX #: <u>415 893 1577</u>	P.O. #: <u>140165.04</u>		
Report To: <u>Dave Vossler</u>	Sampler: <u>Joel Greger</u>		QC Data: <input checked="" type="checkbox"/> Level D (Standard) <input type="checkbox"/> Level C <input type="checkbox"/> Level B <input type="checkbox"/> Level A		

Turnaround 10 Working Days 3 Working Days 2 - 8 Hours
 Time: 7 Working Days 2 Working Days
 5 Working Days 24 Hours

Drinking Water
 Waste Water
 Other

Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	T-PIHC-8015 BTEX-FWTRSF-8020						Comments	
1. B-4-7.5	6/1/99 Am	Soil	1	liner									hold
2. B-4-9						X	X					9060652	
3. B-4-11.5													hold
4. B-5-7.5													hold
5. B-5-10.5						X	X					9060653	
6. B-6-11.4						X	X					9060654	
7. B-7-9.5												9060655	
8. B-8-8.1						X	Y					9060656	
9. B-9-10.5	6/2/99	Soil	1	liner									
10. B-10-13	6/2/99	Soil	1	liner									

Relinquished By: <u>Joel Greger</u>	Date: <u>6/3/99</u>	Time: <u>4pm</u>	Received By: <u>Ken [Signature]</u>	Date: <u>6/3/99</u>	Time: <u>1600</u>
Relinquished By: <u>Ken [Signature]</u>	Date: <u>6/3/99</u>	Time: <u>1650</u>	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: <u>[Signature]</u>	Date: <u>6/3/99</u>	Time: <u>1650</u>



SEQUOIA ANALYTICAL CHAIN OF CUSTODY

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- 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865 FAX (707) 792-0342

Company Name: <u>Gelles Ryan</u>			Project Name: <u>Tasco # 1871</u>		
Mailing Address: <u>6747 Siena Court, Suite J</u>			Billing Address (if different): <u>96 MacArthur Blvd</u>		
City: <u>Dublin</u>	State: <u>CA</u>	Zip Code:	<u>Oakland</u>		
Telephone: <u>415 893 1515</u>	FAX: <u>415 893 1517</u>	P.O. #:	<u>140165.04 9906174</u>		
Report To: <u>Dave Vossler</u>	Sampler: <u>Joe Grayson</u>	QC Data: <input checked="" type="checkbox"/> Level D (Standard) <input type="checkbox"/> Level C <input type="checkbox"/> Level B <input type="checkbox"/> Level A			

Turnaround Time: 10 Working Days 3 Working Days 2 - 8 Hours
 7 Working Days 2 Working Days
 5 Working Days 24 Hours

Analyses Requested:
 Drinking Water
 Waste Water
 Other

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	[Diagonal Hatched Area]					Comments
1. B-9-7.5	6/1/99 pm	Soil	1	1mm							hold
2. B-9-11	↓	↓	↓	↓							hold
3. B-9-13	↓	↓	↓	↓		X	X			9060657	
4. B-10-11.5	↓	↓	↓	↓							hold
5. B-10-14	↓	↓	↓	↓		X	X			9060658	
6. B-10-17.5	↓	↓	↓	↓							hold
7. B-11-10.5	6/3/99 am	↓	↓	↓							hold
8. B-11-14	↓	↓	↓	↓		X	X			9060659	analyze
9. B-11-24.5	↓ pm	↓	↓	↓							hold
10. B-11-29	↓	↓	↓	↓		X	X			9060660	analyze

Relinquished By: <u>Joel</u>	Date: <u>6/3/99</u>	Time: <u>4 pm</u>	Received By: <u>[Signature]</u>	Date: <u>6/3/99</u>	Time: <u>1600</u>
Relinquished By: <u>[Signature]</u>	Date: <u>4/3/99</u>	Time: <u>1650</u>	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: <u>[Signature]</u>	Date: <u>6/3/99</u>	Time: <u>1650</u>



Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871, Oakland
Sample Matrix: Soil
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 906-0828

Sampled: Jun 4, 1999
Received: Jun 4, 1999
Reported: Jun 17, 1999

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit mg/Kg	Sample I.D. 906-0828 B-12-11.5	Sample I.D. 906-0829 B-12-25.5	Sample I.D. 906-0830 MW8-10.5	Sample I.D. 906-0831 MW-6-11
Purgeable Hydrocarbons	1.0	N.D.	N.D.	N.D.	210
Benzene	0.0050	N.D.	N.D.	N.D.	1.6
Toluene	0.0050	N.D.	N.D.	N.D.	7.3
Ethyl Benzene	0.0050	N.D.	N.D.	N.D.	6.4
Total Xylenes	0.0050	N.D.	N.D.	N.D.	25
MTBE	0.050	N.D.	N.D.	0.18	3.3
Chromatogram Pattern:		--	--	--	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	50
Date Analyzed:	6/14/99	6/14/99	6/14/99	6/14/99
Instrument Identification:	HP-4	HP-4	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 40-140%)	106	112	101	*

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager

Please Note:

* Surrogate recovery below detection limit due to dilution.



Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871, Oakland
Matrix: Liquid

QC Sample Group: 9060828-831

Reported: Jun 17, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel

MS/MSD

Batch#:	9060652	9060652	9060652	9060652
Date Prepared:	6/14/99	6/14/99	6/14/99	6/14/99
Date Analyzed:	6/14/99	6/14/99	6/14/99	6/14/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	4.0	4.0	4.0	4.0
Matrix Spike Duplicate % Recovery:	4.0	3.0	4.0	4.0
Relative % Difference:	0.0	4.3	2.7	0.0

LCS Batch#:	4LCS061499	4LCS061499	4LCS061499	4LCS061499
Date Prepared:	6/14/99	6/14/99	6/14/99	6/14/99
Date Analyzed:	6/14/99	6/14/99	6/14/99	6/14/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	4.0	4.0	4.0	4.0

% Recovery				
Control Limits:	70-130	70-130	70-130	70-130

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager



SEQUOIA ANALYTICAL CHAIN OF CUSTODY

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 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865 FAX (707) 792-0342

Company Name: <i>Coeffler Ryan</i>			Project Name: <i>7050 # 1871</i>		
Mailing Address: <i>6747 Sierra Court Suite J</i>			Billing Address (if different): <i>96 MacArthur</i>		
City: <i>Dublin</i>	State: <i>CA</i>	Zip Code:			
Telephone: <i>415 8931515</i>	FAX #: <i>415 8931517</i>	P.O. #: <i>140165-04</i>	<i>9906232</i>		
Report To: <i>Dave Vossler</i>	Sampler: <i>J Grege</i>	QC Data: <input checked="" type="checkbox"/> Level D (Standard) <input type="checkbox"/> Level C <input type="checkbox"/> Level B <input type="checkbox"/> Level A			

Turnaround 10 Working Days 3 Working Days 2 - 8 Hours
 Time: 7 Working Days 2 Working Days
 5 Working Days 24 Hours

Drinking Water Waste Water Other
 Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	Analyses Requested										Comments									
1. B-12-11.5	6/4/99 am	Soil	1	1mg	9060828	<i>TP176-8015</i>	<i>BTEX+MTBE</i>	<i>8028</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
2. B-12-15.5																									} hold
3. B-12-20.5																									
4. B-12-25																									
5. B-12-25.5					9060829				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
6. B-12-26																									hold
7. MW8 - 10.5					9060830				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															
8. MW-8 - 15.5																									hold
9. MW-6 - 6'																									hold
10. MW-6 - 12'					9060831				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>															hold

Relinquished By: <i>Joe R</i>	Date: <i>6/4/99</i>	Time: <i>2:00 PM</i>	Received By: <i>Ken Veltrop</i>	Date: <i>6/4/99</i>	Time: <i>1400</i>
Relinquished By: <i>Ken Veltrop</i>	Date: <i>6/4/99</i>	Time: <i>1430</i>	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: <i>J Adams</i>	Date: <i>6/4/99</i>	Time: <i>1430</i>

Client: _____
 Valley - Sacramento
 White - Sacramento



Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871, Oakland
Sample Matrix: Soil
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 906-0631

Sampled: Jun 4, 1999
Received: Jun 4, 1999
Reported: Jun 17, 1999

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit mg/Kg	Sample I.D.	Sample I.D.
		906-0631 MW6-15.5	906-0632 MW6-20.5
Purgeable Hydrocarbons	1.0	1.1	N.D.
Benzene	0.0050	0.014	N.D.
Toluene	0.0050	0.048	N.D.
Ethyl Benzene	0.0050	0.029	N.D.
Total Xylenes	0.0050	0.12	N.D.
MTBE	0.050	0.31	0.062
Chromatogram Pattern:		Gasoline	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0
Date Analyzed:	6/14/99	6/14/99
Instrument Identification:	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 40-140%)	118	110

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271


Julianne Fegley
Project Manager



Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871, Oakland
Matrix: Liquid

QC Sample Group: 9060631-632

Reported: Jun 17, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel

MS/MSD	Benzene	Toluene	Ethyl Benzene	Xylenes
Batch#:	9060652	9060652	9060652	9060652
Date Prepared:	6/14/99	6/14/99	6/14/99	6/14/99
Date Analyzed:	6/14/99	6/14/99	6/14/99	6/14/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	4.0	4.0	4.0	4.0
Matrix Spike Duplicate % Recovery:	4.0	3.0	4.0	4.0
Relative % Difference:	0.0	4.3	2.7	0.0

LCS Batch#:	4LCS061499	4LCS061499	4LCS061499	4LCS061499
Date Prepared:	6/14/99	6/14/99	6/14/99	6/14/99
Date Analyzed:	6/14/99	6/14/99	6/14/99	6/14/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	4.0	4.0	4.0	4.0

% Recovery Control Limits:	Benzene	Toluene	Ethyl Benzene	Xylenes
	70-130	70-130	70-130	70-130

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL, #1271


Julianne Fegley
Project Manager



Tosco Marketing Company
3000 Olive Canyon Pl., Ste. 400
San Ramon, California 94583

Facility Number 1871
 Facility Address 96 MacArthur Bl, Oakland
 Consultant Project Number 140165.04
 Consultant Name Gettler Ryan
 Address 6747 Sierra Ct. Suite J Dublin
 Project Contact (Name) Dave Vasslar
 (Phone) 415 893 1515 (Fax Number) 415 893 1517

Alcon Contact (Name) Dave Vasslar
 (Phone) 415 893 1515
 Laboratory Name Sequoia - Walnut Creek
 Laboratory Release Number _____
 Samples Collected by (Name) Joel Greger
 Collection Date 6/4/99
 Signature Joel Greger

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Load (Yes or No)	Analytes To Be Performed										Remarks		
								TPH Gas - BTEX w/MTBE (8018)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (8040 or AA)					
mwb-15.5		1	S	G	6/4/99		Y	XXX										9060631	hold	
mwb-20.5		1	S	G	6/4/99		Y	XXX											9060632	hold
																				run results on 10 day per fax

Relinquished By (Signature) <u>Joel Greger</u>	Organization G-R Inc.	Date/Time 6/4/99 2:00 pm	Received By (Signature) <u>Neil Pallante</u>	Organization w.c. seq	Date/Time 6/21/99 1400	Turn Around Time (Circle Choice) <input type="checkbox"/> 24 Hrs. <input type="checkbox"/> 48 Hrs. <input type="checkbox"/> 5 Days <input type="checkbox"/> 10 Days <input checked="" type="checkbox"/> As Contracted
Relinquished By (Signature) <u>Neil Pallante</u>	Organization	Date/Time 6/21/99 1430	Received By (Signature)	Organization	Date/Time	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <u>J. Adams</u>		Date/Time 6/4/99 1430	

DO NOT BILL
TB-LB ANALYSIS



Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871, Oakland
Sample Matrix: Soil
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 906-0903

Sampled: Jun 4, 1999
Received: Jun 9, 1999
Reported: Jun 22, 1999

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

RECEIVED
JUN 30 1999

Analyte	Reporting Limit mg/Kg	Sample I.D. 906-0903 MW-6-24'
Purgeable Hydrocarbons	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Total Xylenes	0.0050	0.017
MTBE	0.050	0.18

GETTLER-RYAN, INC.
GENERAL CONTRACTOR

Chromatogram Pattern: --

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Analyzed:	6/16/99
Instrument Identification:	HP-4
Surrogate Recovery, %: (QC Limits = 40-140%)	104

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager



Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco SS#1871, Oakland
Sample Matrix: Soil
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 906-1223

Sampled: Jun 11, 1999
Received: Jun 11, 1999
Reported: Jun 23, 1999

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit mg/Kg	Sample I.D. 906-1223 MW-7-10.5
Purgeable Hydrocarbons	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Total Xylenes	0.0050	N.D.
MTBE	0.050	0.21

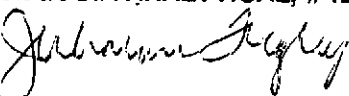
Chromatogram Pattern: --

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Analyzed:	6/16/99
Instrument Identification:	HP-4
Surrogate Recovery, %: (QC Limits = 40-140%)	75

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271


Julianne Fegley
Project Manager



Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871, Oakland
Matrix: Solid

QC Sample Group: 906-0903

Reported: Jun 22, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb

MS/MSD

Batch#: 9060895 9060895 9060895 9060895

Date Prepared: 6/16/99 6/16/99 6/16/99 6/16/99

Date Analyzed: 6/16/99 6/16/99 6/16/99 6/16/99

Instrument I.D.#: HP-4 HP-4 HP-4 HP-4

Conc. Spiked: 0.80 mg/kg 0.80 mg/kg 0.80 mg/kg 2.4 mg/kg

Matrix Spike

% Recovery: 86 71 75 83

Matrix Spike Duplicate %

Recovery: 88 74 75 83

Relative %

Difference: 1.4 3.4 0.0 0.0

LCS Batch#: 4LCS061699 4LCS061699 4LCS061699 4LCS061699

Date Prepared: 6/16/99 6/16/99 6/16/99 6/16/99

Date Analyzed: 6/16/99 6/16/99 6/16/99 6/16/99

Instrument I.D.#: HP-4 HP-4 HP-4 HP-4

LCS %

Recovery: 91 76 78 88

% Recovery

Control Limits: 50-150 50-150 50-150 50-150

Please Note:

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SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager

Company Name: <u>Geoff Ryan</u>			Project Name: <u>TOSCO #1871 9506204</u>		
Mailing Address: <u>6747 Sunny Ct Suite J</u>			Billing Address (if different): <u>96 MacArthur Blvd</u>		
City: <u>Dublin</u>	State:	Zip Code:	TOSCO MARKETING CO. - DAVE DE WITT <u>CAKlim</u>		
Telephone: <u>415 8931515</u>		FAX #: <u>415 8931517</u>	P.O. #: <u>140165-021</u>		
Report To: <u>Dave Vossler</u>	Sampler: <u>Joel Greger</u>		QC Data: <input checked="" type="checkbox"/> Level II (Standard) <input type="checkbox"/> Chromatograms <input type="checkbox"/> Level III <input type="checkbox"/> Level IV		

Turnaround Standard 7 Working Days 2 Working Days
 Time: 10-15 Working Days 5 Working Days 1 Working Day
 3 Working Days ASAP

Drinking Water Waste Water Other
 Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	TPK 6/18/99 8:00 AM BTPEDMIBE 30 20										Comments	
<u>1mw-6-24'</u>	<u>6/4/99</u>	<u>Soil</u>	<u>1</u>	<u>liner</u>	<u>9060903</u>	<u>X</u>	<u>X</u>										<u>best</u>
2.																	
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

Relinquished By: <u>Joel Greger</u>	Date: <u>6/8/99</u>	Time: <u>9:00 AM</u>	Received By: <u>W. J. Lee (GA)</u>	Date: <u>6/8/99</u>	Time: <u>9:00 AM</u>
Relinquished By: <u>W. J. Lee</u>	Date: <u>6/8/99</u>	Time: <u>10:20</u>	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: <u>TRAM</u>	Date: <u>6/11/99</u>	Time: <u>10:20</u>



Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871, Oakland
Sample Matrix: Soil
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 906-0630

Sampled: Jun 4, 1999
Received: Jun 4, 1999
Reported: Jun 15, 1999

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit mg/Kg	Sample I.D. 906-0630 Comp S1
Purgeable Hydrocarbons	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Total Xylenes	0.0050	0.019
MTBE	0.050	0.27
Chromatogram Pattern:		--

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Analyzed:	6/7/99
Instrument Identification:	HP-4
Surrogate Recovery, %: (QC Limits = 40-140%)	95

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager



Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871, Oakland
Sample Description: Soil
Analysis for: Lead
First Sample #: 906-0630

Sampled: Jun 4, 1999
Received: Jun 4, 1999
Digested: Jun 9, 1999
Analyzed: Jun 11, 1999
Reported: Jun 15, 1999

LABORATORY ANALYSIS FOR: Lead

Sample Number	Sample Description	Detection Limit mg/kg	Sample Result mg/kg
906-0630	Comp S1	1.0	7.6

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager



Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871, Oakland
Matrix: Liquid

QC Sample Group: 906-0832

Reported: Jun 17, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8260
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb	N. Nelson

MS/MSD	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
Batch#:	9060856	9060856	9060856	9060856	9061156
Date Prepared:	6/15/99	6/15/99	6/15/99	6/15/99	6/14/99
Date Analyzed:	6/15/99	6/15/99	6/15/99	6/15/99	6/14/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	GC/MS-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	50 µg/L
Matrix Spike % Recovery:	95	95	95	98	66
Matrix Spike Duplicate % Recovery:	95	90	90	95	68
Relative % Difference:	0.0	5.4	5.4	3.4	3.0

LCS Batch#:	5LCS061599	5LCS061599	5LCS061599	5LCS061599	LCS061599
Date Prepared:	6/15/99	6/15/99	6/15/99	6/15/99	6/15/99
Date Analyzed:	6/15/99	6/15/99	6/15/99	6/15/99	6/15/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	GC/MS-2
LCS % Recovery:	90	90	90	95	94

% Recovery Control Limits:	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
	70-130	70-130	70-130	70-130	70-130

Please Note:

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SEQUOIA ANALYTICAL, #1271


Julianne Fegley
Project Manager



Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871, Oakland
Matrix: Solid

QC Sample Group: 906-0630

Reported: Jun 15, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Lead
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 6010
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel	J. Kelly

MS/MSD

Batch#:	9060161	9060161	9060161	9060161	9060252
Date Prepared:	6/7/99	6/7/99	6/7/99	6/7/99	6/9/99
Date Analyzed:	6/7/99	6/7/99	6/7/99	6/7/99	6/11/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	MV-3
Conc. Spiked:	0.80 mg/kg	0.80 mg/kg	0.80 mg/kg	2.4 mg/kg	50 mg/kg
Matrix Spike % Recovery:	104	90	96	108	106
Matrix Spike Duplicate % Recovery:	106	90	96	108	102
Relative % Difference:	2.4	0.0	0.0	0.0	3.4

LCS Batch#:	4LCS060799	4LCS060799	4LCS060799	4LCS060799	LCS060999
Date Prepared:	6/7/99	6/7/99	6/7/99	6/7/99	6/9/99
Date Analyzed:	6/7/99	6/7/99	6/7/99	6/7/99	6/11/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	MV-3
LCS % Recovery:	113	94	96	108	108

% Recovery Control Limits:	50-150	50-150	50-150	50-150	80-120
-----------------------------------	--------	--------	--------	--------	--------

Please Note:

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SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager



Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871, Oakland
Sample Matrix: Water
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 906-0661

Sampled: Jun 1, 1999
Received: Jun 3, 1999
Reported: Jun 16, 1999

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 906-0661 B-4-10.5	Sample I.D. 906-0662 B-5-11.35	Sample I.D. 906-0663 B-6-11.7	Sample I.D. 906-0664 B-7-10'	Sample I.D. 906-0665 B-8-8.5'	Sample I.D. 906-0666 B-9-13.5'
Purgeable Hydrocarbons	50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Benzene	0.50	N.D.	N.D.	0.54	N.D.	N.D.	N.D.
Toluene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ethyl Benzene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Total Xylenes	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MTBE	2.5	N.D.	N.D.	N.D.	2,300	N.D.	N.D.
Chromatogram Pattern:		--	--	--	--	--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	6/11/99	6/11/99	6/11/99	6/11/99	6/11/99	6/11/99
Instrument Identification:	HP-5	HP-5	HP-5	HP-5	HP-5	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	92	91	93	101	115	86

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271


Julianne Fegley
Project Manager



Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871. Oakland
Sample Matrix: Water
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 906-0667

Sampled: Jun 1, 1999
Received: Jun 3, 1999
Reported: Jun 16, 1999

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE


Analyte	Reporting Limit µg/L	Sample I.D. 906-0667 B-10-15.2	Sample I.D. 906-0668 B-11-16.2
Purgeable Hydrocarbons	50	95,000	N.D.
Benzene	0.50	10,000	N.D.
Toluene	0.50	14,000	N.D.
Ethyl Benzene	0.50	3,900	N.D.
Total Xylenes	0.50	11,000	N.D.
MTBE	2.5	220,000	14,000
Chromatogram Pattern:		--	--

Quality Control Data

Report Limit Multiplication Factor:	400	1.0
Date Analyzed:	6/11/99	6/11/99
Instrument Identification:	HP-5	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	99	84

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271


Julianne Fegley
Project Manager



Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871. Oakland
Sample Descript: Water, B-4-10.5
Analysis Method: EPA 8260
Lab Number: 906-0661

Sampled: Jun 1, 1999
Received: Jun 3, 1999
Analyzed: Jun 15, 1999
Reported: Jun 16, 1999

MTBE by EPA 8260

Analyte	Detection Limit µg/L	Sample Results µg/L
Methyl t-Butyl Ether (MTBE).....	2.0	N.D.
Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50	150
		94

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271


Julianne Fegley
Project Manager



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Gettler-Ryan - Dublin 6747 Sierra Court, Suite J Dublin, CA 94568 Attention: Dave Vossler	Client Project ID: Tosco #1871. Oakland Sample Descript: Water, B-5-11.35 Analysis Method: EPA 8260 Lab Number: 906-0662	Sampled: Jun 1, 1999 Received: Jun 3, 1999 Analyzed: Jun 15, 1999 Reported: Jun 16, 1999
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MTBE by EPA 8260

Analyte	Detection Limit µg/L	Sample Results µg/L
Methyl t-Butyl Ether (MTBE).....	2.0	N.D.
Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50 150.....	99

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271


Julianne Fegley
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Gettler-Ryan - Dublin
 6747 Sierra Court, Suite J
 Dublin, CA 94568
 Attention: Dave Vossler

Client Project ID: Tosco #1871. Oakland
 Sample Descript: Water, B-6-11.7
 Analysis Method: EPA 8260
 Lab Number: 906-0663

Sampled: Jun 1, 1999
 Received: Jun 3, 1999
 Analyzed: Jun 15, 1999
 Reported: Jun 16, 1999

MTBE by EPA 8260

Analyte	Detection Limit µg/L	Sample Results µg/L
Methyl t-Butyl Ether (MTBE).....	2.0	N.D.

Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50	150
		96

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
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FAX (650) 232-9612

Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871, Oakland
Sample Descript: Water, B-7-10'
Analysis Method: EPA 8260
Lab Number: 906-0664

Sampled: Jun 1, 1999
Received: Jun 3, 1999
Analyzed: Jun 15, 1999
Reported: Jun 16, 1999

MTBE by EPA 8260

Analyte	Detection Limit µg/L	Sample Results µg/L
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Methyl t-Butyl Ether (MTBE).....	2.0	3,000
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Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50	150
		93

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871. Oakland
Sample Descript: Water, B-8-8.5'
Analysis Method: EPA 8260
Lab Number: 906-0665

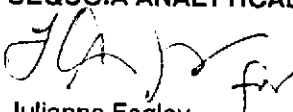
Sampled: Jun 1, 1999
Received: Jun 3, 1999
Analyzed: Jun 15, 1999
Reported: Jun 16, 1999

MTBE by EPA 8260

Analyte	Detection Limit µg/L	Sample Results µg/L
Methyl t-Butyl Ether (MTBE).....	2.0	N.D.
Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50	150
		99

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271


Julianne Fegley
Project Manager



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Gettler-Ryan - Dublin 6747 Sierra Court, Suite J Dublin, CA 94568 Attention: Dave Vossler	Client Project ID: Tosco #1871, Oakland Sample Descript: Water, B-9-13.5' Analysis Method: EPA 8260 Lab Number: 906-0666	Sampled: Jun 1, 1999 Received: Jun 3, 1999 Analyzed: Jun 15, 1999 Reported: Jun 16, 1999
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MTBE by EPA 8260

Analyte	Detection Limit µg/L	Sample Results µg/L
Methyl t-Butyl Ether (MTBE).....	2.0	N.D.
Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50	150
		91

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271


Julianne Fegley
Project Manager



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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871. Oakland
Sample Descript: Water, B-10-15.2
Analysis Method: EPA 8260
Lab Number: 906-0667

Sampled: Jun 1, 1999
Received: Jun 3, 1999
Analyzed: Jun 15, 1999
Reported: Jun 16, 1999

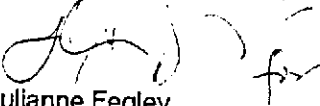
MTBE by EPA 8260

Analyte	Detection Limit µg/L	Sample Results µg/L
Methyl t-Butyl Ether (MTBE).....	2.0	270,000

Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50	150
		100

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271


Julianne Fegley
Project Manager



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Gettler-Ryan - Dublin 6747 Sierra Court, Suite J Dublin, CA 94568 Attention: Dave Vossler	Client Project ID: Tosco #1871. Oakland Sample Descript: Water, B-11-16.2 Analysis Method: EPA 8260 Lab Number: 906-0668	Sampled: Jun 1, 1999 Received: Jun 3, 1999 Analyzed: Jun 15, 1999 Reported: Jun 16, 1999
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MTBE by EPA 8260

Analyte	Detection Limit µg/L	Sample Results µg/L
Methyl t-Butyl Ether (MTBE).....	2.0	15,000

Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50	150
		98

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271


Julianne Fegley
Project Manager



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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871. Oakland
Matrix: Liquid

QC Sample Group: 9060661-668

Reported: Jun 16, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8260
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel	N. Nelson

MS/MSD Batch#:	9060671	9060671	9060671	9060671	9061156
Date Prepared:	6/11/99	6/11/99	6/11/99	6/11/99	6/14/99
Date Analyzed:	6/11/99	6/11/99	6/11/99	6/11/99	6/14/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	GC/MS-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	50 µg/L
Matrix Spike % Recovery:	110	105	105	107	66
Matrix Spike Duplicate % Recovery:	115	115	115	112	68
Relative % Difference:	4.4	9.1	9.1	4.6	3.0

LCS Batch#:	5LCS061199	5LCS061199	5LCS061199	5LCS061199	LCS061599
Date Prepared:	6/11/99	6/11/99	6/11/99	6/11/99	6/15/99
Date Analyzed:	6/11/99	6/11/99	6/11/99	6/11/99	6/15/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	GC/MS-2
LCS % Recovery:	100	95	95	100	94

% Recovery Control Limits:	70-130	70-130	70-130	70-130	70-130
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Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL, #1271


Julianne Fegley
Project Manager



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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871, Oakland
Sample Matrix: Water
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 906-0832

Sampled: Jun 4, 1999
Received: Jun 4, 1999
Reported: Jun 17, 1999

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 906-0832 B-12-19.5
Purgeable Hydrocarbons	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Total Xylenes	0.50	N.D.
MTBE	2.5	N.D.

Chromatogram Pattern: ..

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Analyzed:	6/15/99
Instrument Identification:	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	90

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271


Julianne Fegley
Project Manager



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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871, Oakland
Sample Descript: Water, B-12-19.5
Analysis Method: EPA 8260
Lab Number: 906-0832

Sampled: Jun 4, 1999
Received: Jun 4, 1999
Analyzed: Jun 15, 1999
Reported: Jun 17, 1999

MTBE by EPA 8260

Analyte	Detection Limit µg/L	Sample Results µg/L
Methyl t-Butyl Ether (MTBE).....	2.0	N.D.

Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50 150	95

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271


Julianne Fegley
Project Manager



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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Dave Vossler

Client Project ID: Tosco #1871, Oakland
Matrix: Liquid

QC Sample Group: 906-0832

Reported: Jun 17, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8260
Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb	N. Nelson

MS/MSD

Batch#:	9060856	9060856	9060856	9060856	9061156
Date Prepared:	6/15/99	6/15/99	6/15/99	6/15/99	6/14/99
Date Analyzed:	6/15/99	6/15/99	6/15/99	6/15/99	6/14/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	GC/MS-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	50 µg/L
Matrix Spike % Recovery:	95	95	95	98	66
Matrix Spike Duplicate % Recovery:	95	90	90	95	68
Relative % Difference:	0.0	5.4	5.4	3.4	3.0

LCS Batch#:	5LCS061599	5LCS061599	5LCS061599	5LCS061599	LCS061599
Date Prepared:	6/15/99	6/15/99	6/15/99	6/15/99	6/15/99
Date Analyzed:	6/15/99	6/15/99	6/15/99	6/15/99	6/15/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	GC/MS-2
LCS % Recovery:	90	90	90	95	94

% Recovery Control Limits:	70-130	70-130	70-130	70-130	70-130
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Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Julianne Fegley
Project Manager



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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Doug Lee

Client Project ID: Tosco #1871, Oakland
Sample Matrix: Water
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 906-1611

Sampled: Jun 18, 1999
Received: Jun 18, 1999
Reported: Jul 6, 1999

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 906-1611 TB-LB	Sample I.D. 906-1612 MW-1	Sample I.D. 906-1613 MW-6	Sample I.D. 906-1614 MW-7	Sample I.D. 906-1615 MW-8
Purgeable Hydrocarbons	50	N.D.	49,000	2,100	N.D.	N.D.
Benzene	0.50	N.D.	6,900	21	N.D.	N.D.
Toluene	0.50	N.D.	6,500	29	N.D.	N.D.
Ethyl Benzene	0.50	N.D.	380	N.D.	N.D.	N.D.
Total Xylenes	0.50	N.D.	12,000	47	N.D.	N.D.
MTBE	2.5	N.D.	72,000	97,000	16,000	290
Chromatogram Pattern:		--	Gasoline	Gasoline	--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	100	20	1.0	1.0
Date Analyzed:	6/25/99	6/25/99	6/25/99	6/25/99	6/25/99
Instrument Identification:	HP-5	HP-5	HP-5	HP-5	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	87	91	74	78	90

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley

Julianne Fegley
Project Manager



Gettler-Ryan - Dublin	Client Project ID: Tosco #1871, Oakland	Sampled: Jun 18, 1999
6747 Sierra Court, Suite J	Sample Descript: Water, MW-1	Received: Jun 18, 1999
Dublin, CA 94568	Analysis Method: EPA 5030/8010	Analyzed: Jun 29, 1999
Attention: Doug Lee	Lab Number: 906-1612	Reported: Jul 6, 1999

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L		Sample Results µg/L
1,2-Dichloroethane.....	0.50	N.D.
EDB.....	1.0	N.D.
Surrogates	Control Limit %		% Recovery
Dibromodifluoromethane.....	50	150.....	77
4-Bromofluorobenzene.....	50	150.....	108

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
Project Manager



Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Doug Lee

Client Project ID: Tosco #1871, Oakland
Sample Descript: Water, MW-6
Analysis Method: EPA 5030/8010
Lab Number: 906-1613

Sampled: Jun 18, 1999
Received: Jun 18, 1999
Analyzed: Jun 29, 1999
Reported: Jul 6, 1999

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
1,2-Dichloroethane.....	0.50	N.D.
EDB.....	1.0	N.D.
Surrogates	Control Limit %	% Recovery
Dibromodifluoromethane.....	50	150.....
4-Bromofluorobenzene.....	50	150.....

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley
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Gettler-Ryan - Dublin 6747 Sierra Court, Suite J Dublin, CA 94568 Attention: Doug Lee	Client Project ID: Tosco #1871, Oakland Sample Descript: Water, MW-7 Analysis Method: EPA 5030/8010 Lab Number: 906-1614	Sampled: Jun 18, 1999 Received: Jun 18, 1999 Analyzed: Jun 29, 1999 Reported: Jul 6, 1999
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HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
1,2-Dichloroethane.....	0.50	N.D.
EDB.....	1.0	N.D.
Surrogates	Control Limit %	% Recovery
Dibromodifluoromethane.....	50	150
4-Bromofluorobenzene.....	50	150

Analytes reported as N.D. were not present above the stated limit of detection.

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Doug Lee

Client Project ID: Tosco #1871, Oakland
Sample Descript: Water, MW-8
Analysis Method: EPA 5030/8010
Lab Number: 906-1615

Sampled: Jun 18, 1999
Received: Jun 18, 1999
Analyzed: Jun 29, 1999
Reported: Jul 6, 1999

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
1,2-Dichloroethane.....	0.50	N.D.
EDB.....	1.0	N.D.
Surrogates	Control Limit %	% Recovery
Dibromodifluoromethane.....	50	150.....
4-Bromofluorobenzene.....	50	150.....

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL, #1271

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Doug Lee

Client Project ID: Tosco #1871, Oakland
Sample Descript: Water, MW-1
Analysis Method: EPA 8260
Lab Number: 906-1612

Sampled: Jun 18, 1999
Received: Jun 18, 1999
Analyzed: Jul 1, 1999
Reported: Jul 6, 1999

OXYGENATED COMPOUNDS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Ethanol.....	250,000	N.D.
t-Butanol.....	50,000	N.D.
Methyl t-Butyl Ether (MTBE).....	1,000	47,000
Di-Isopropyl Ether (DIPE).....	1,000	N.D.
Ethyl t-Butyl Ether (ETBE).....	1,000	N.D.
t-Amyl Methyl Ether (TAME).....	1,000	N.D.
1,2-Dibromoethane.....	1,000	N.D.
1,2-Dichloroethane.....	1,000	N.D.
Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50 150	94
1,2-Dichloroethane-d4.....	50 150	85

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL, #1271

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Gettler-Ryan - Dublin 6747 Sierra Court, Suite J Dublin, CA 94568 Attention: Doug Lee	Client Project ID: Tosco #1871, Oakland Sample Descript: Water, MW-6 Analysis Method: EPA 8260 Lab Number: 906-1613	Sampled: Jun 18, 1999 Received: Jun 18, 1999 Analyzed: Jul 1, 1999 Reported: Jul 6, 1999
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OXYGENATED COMPOUNDS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L	
Ethanol.....	250,000	N.D.	
t-Butanol.....	50,000	N.D.	
Methyl t-Butyl Ether (MTBE).....	1,000	71,000	
Di-Isopropyl Ether (DIPE).....	1,000	N.D.	
Ethyl t-Butyl Ether (ETBE).....	1,000	N.D.	
t-Amyl Methyl Ether (TAME).....	1,000	N.D.	
1,2-Dibromoethane.....	1,000	N.D.	
1,2-Dichloroethane.....	1,000	N.D.	
Surrogates	Control Limit %	% Recovery	
Dibromofluoromethane.....	50	150.....	95
1,2-Dichloroethane-d4.....	50	150.....	85

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL, #1271

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Doug Lee

Client Project ID: Tosco #1871, Oakland
Sample Descript: Water, MW-7
Analysis Method: EPA 8260
Lab Number: 906-1614

Sampled: Jun 18, 1999
Received: Jun 18, 1999
Analyzed: Jul 1, 1999
Reported: Jul 6, 1999

OXYGENATED COMPOUNDS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Ethanol.....	50,000	N.D.
t-Butanol.....	10,000	N.D.
Methyl t-Butyl Ether (MTBE).....	200	13,000
Di-Isopropyl Ether (DIPE).....	200	N.D.
Ethyl t-Butyl Ether (ETBE).....	200	N.D.
t-Amyl Methyl Ether (TAME).....	200	N.D.
1,2-Dibromoethane.....	200	N.D.
1,2-Dichloroethane.....	200	N.D.
Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50 150.....	98
1,2-Dichloroethane-d4.....	50 150.....	89

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL, #1271

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Gettler-Ryan - Dublin 6747 Sierra Court, Suite J Dublin, CA 94568 Attention: Doug Lee	Client Project ID: Tosco #1871, Oakland Sample Descript: Water, MW-8 Analysis Method: EPA 8260 Lab Number: 906-1615	Sampled: Jun 18, 1999 Received: Jun 18, 1999 Analyzed: Jul 1, 1999 Reported: Jul 6, 1999
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OXYGENATED COMPOUNDS (EPA 8260)

Analyte	Detection Limit µg/L	Sample Results µg/L
Ethanol.....	1,000	N.D.
t-Butanol.....	200	N.D.
Methyl t-Butyl Ether (MTBE).....	4.0	160
Di-Isopropyl Ether (DIPE).....	4.0	N.D.
Ethyl t-Butyl Ether (ETBE).....	4.0	N.D.
t-Amyl Methyl Ether (TAME).....	4.0	N.D.
1,2-Dibromoethane.....	4.0	N.D.
1,2-Dichloroethane.....	4.0	N.D.
Surrogates	Control Limit %	% Recovery
Dibromofluoromethane.....	50	150
1,2-Dichloroethane-d4.....	50	150

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL, #1271

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Doug Lee

Client Project ID: Tosco #1871, Oakland
Sample Descript: Water, MW-8
Analysis Method: EPA 8270
Lab Number: 906-1615

Sampled: Jun 18, 1999
Received: Jun 18, 1999
Extracted: Jun 21, 1999
Analyzed: Jun 24, 1999
Reported: Jul 6, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene.....	2.0	N.D.
Acenaphthylene.....	2.0	N.D.
Aniline.....	2.0	N.D.
Anthracene.....	2.0	N.D.
Benzidine.....	50	N.D.
Benzoic Acid.....	10	N.D.
Benzo(a)anthracene.....	2.0	N.D.
Benzo(b)fluoranthene.....	2.0	N.D.
Benzo(k)fluoranthene.....	2.0	N.D.
Benzo(g,h,i)perylene.....	2.0	N.D.
Benzo(a)pyrene.....	2.0	N.D.
Benzyl alcohol.....	2.0	N.D.
Bis(2-chloroethoxy)methane.....	2.0	N.D.
Bis(2-chloroethyl)ether.....	2.0	N.D.
Bis(2-chloroisopropyl)ether.....	2.0	N.D.
Bis(2-ethylhexyl)phthalate.....	10	11
4-Bromophenyl phenyl ether.....	2.0	N.D.
Butyl benzyl phthalate.....	2.0	N.D.
4-Chloroaniline.....	2.0	N.D.
2-Chloronaphthalene.....	2.0	N.D.
4-Chloro-3-methylphenol.....	2.0	N.D.
2-Chlorophenol.....	2.0	N.D.
4-Chlorophenyl phenyl ether.....	2.0	N.D.
Chrysene.....	2.0	N.D.
Dibenz(a,h)anthracene.....	2.0	N.D.
Dibenzofuran.....	2.0	N.D.
Di-N-butyl phthalate.....	10	N.D.
1,3-Dichlorobenzene.....	2.0	N.D.
1,4-Dichlorobenzene.....	2.0	N.D.
1,2-Dichlorobenzene.....	2.0	N.D.
3,3-Dichlorobenzidine.....	10	N.D.
2,4-Dichlorophenol.....	2.0	N.D.
Diethyl phthalate.....	2.0	N.D.
2,4-Dimethylphenol.....	2.0	N.D.
Dimethyl phthalate.....	2.0	N.D.
4,6-Dinitro-2-methylphenol.....	10	N.D.
2,4-Dinitrophenol.....	10	N.D.
2,4-Dinitrotoluene.....	2.0	N.D.
2,6-Dinitrotoluene.....	2.0	N.D.
Di-N-octyl phthalate.....	2.0	N.D.



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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
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Attention: Doug Lee

Client Project ID: Tosco #1871, Oakland
Sample Descript: Water, MW-8
Analysis Method: EPA 8270
Lab Number: 906-1615

Sampled: Jun 18, 1999
Received: Jun 18, 1999
Extracted: Jun 21, 1999
Analyzed: Jun 24, 1999
Reported: Jul 6, 1999

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit µg/L	Sample Results µg/L
Fluoranthene.....	2.0	N.D.
Fluorene.....	2.0	N.D.
Hexachlorobenzene.....	2.0	N.D.
Hexachlorobutadiene.....	2.0	N.D.
Hexachlorocyclopentadiene.....	2.0	N.D.
Hexachloroethane.....	2.0	N.D.
Indeno(1,2,3-cd)pyrene.....	2.0	N.D.
Isophorone.....	2.0	N.D.
2-Methylnaphthalene.....	2.0	N.D.
2-Methylphenol.....	2.0	N.D.
4-Methylphenol.....	2.0	N.D.
Naphthalene.....	2.0	N.D.
2-Nitroaniline.....	10	N.D.
3-Nitroaniline.....	10	N.D.
4-Nitroaniline.....	10	N.D.
Nitrobenzene.....	2.0	N.D.
2-Nitrophenol.....	2.0	N.D.
4-Nitrophenol.....	10	N.D.
N-Nitrosodimethylamine.....	2.0	N.D.
N-Nitrosodiphenylamine.....	2.0	N.D.
N-Nitroso-di-N-propylamine.....	2.0	N.D.
Pentachlorophenol.....	10	N.D.
Phenanthrene.....	2.0	N.D.
Phenol.....	2.0	N.D.
Pyrene.....	2.0	N.D.
1,2,4-Trichlorobenzene.....	2.0	N.D.
2,4,5-Trichlorophenol.....	10	N.D.
2,4,6-Trichlorophenol.....	2.0	N.D.
Surrogates	Control Limit %	% Recovery
2-Fluorophenol.....	21	100
Phenol-d6.....	10	94
Nitrobenzene-d5.....	35	114
2-Fluorobiphenyl.....	43	116
2,4,6-Tribromophenol.....	10	123
4-Terphenyl-d14.....	33	141

Analytes reported as N.D. were not present above the stated limit or detection.

SEQUOIA ANALYTICAL, #1271

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Doug Lee

Client Project ID: Tosco #1871, Oakland
Matrix: Liquid

QC Sample Group: 9061611-615

Reported: Jul 6, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel

MS/MSD

Batch#:	9062599	9062599	9062599	9062599
Date Prepared:	6/25/99	6/25/99	6/25/99	6/25/99
Date Analyzed:	6/25/99	6/25/99	6/25/99	6/25/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	90	90	90	93
Matrix Spike Duplicate % Recovery:	105	110	115	117
Relative % Difference:	15	20	24	22

LCS Batch#:	5LCS062599	5LCS062599	5LCS062599	5LCS062599
Date Prepared:	6/25/99	6/25/99	6/25/99	6/25/99
Date Analyzed:	6/25/99	6/25/99	6/25/99	6/25/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
LCS % Recovery:	95	100	95	102

% Recovery Control Limits:	70-130	70-130	70-130	70-130
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Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL, #1271

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Attention: Doug Lee

Client Project ID: Tosco #1871, Oakland
Matrix: Liquid

QC Sample Group: 9061611-615

Reported: Jul 6, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene	MTBE
Method:	EPA 8010	EPA 8010	EPA 8010	EPA 8260
Analyst:	P. Kosovskaya	P. Kosovskaya	P. Kosovskaya	N. Nelson

MS/MSD	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene	MTBE
Batch#:	9061615	9061615	9061615	9061770
Date Prepared:	6/29/99	6/29/99	6/29/99	7/1/99
Date Analyzed:	6/29/99	6/29/99	6/29/99	7/1/99
Instrument I.D.#:	HP-6	HP-6	HP-6	GC/MS-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	50 µg/L
Matrix Spike % Recovery:	100	125	115	106
Matrix Spike Duplicate % Recovery:	95	115	105	98
Relative % Difference:	5.1	8.3	9.1	7.8

LCS Batch#:	LCS062999	LCS062999	LCS062999	LCS070199
Date Prepared:	6/29/99	6/29/99	6/29/99	7/1/99
Date Analyzed:	6/29/99	6/29/99	6/29/99	7/1/99
Instrument I.D.#:	HP-6	HP-6	HP-6	GC/MS-2
LCS % Recovery:	85	105	110	80

% Recovery Control Limits:	65-135	70-130	70-130	70-130

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

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Gettler-Ryan - Dublin
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Attention: Doug Lee

Client Project ID: Tosco #1871, Oakland
Matrix: Liquid

QC Sample Group: 9061611-615

Reported: Jul 6, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Phenol	2-Chlorophenol	1,4-Dichloro- benzene	N-Nitroso-Di- N-propylamine	1,2,4-Trichloro- benzene	4-Chloro-3- Methylphenol
Prep. Method:	EPA 3510	EPA 3510	EPA 3510	EPA 3510	EPA 3510	EPA 3510
Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Analyst:	L. Diaz	L. Diaz	L. Diaz	L. Diaz	L. Diaz	L. Diaz

MS/MSD Batch#:	BLK062199	BLK062199	BLK062199	BLK062199	BLK062199	BLK062199
Date Prepared:	6/21/99	6/21/99	6/21/99	6/21/99	6/21/99	6/21/99
Date Analyzed:	6/21/99	6/21/99	6/21/99	6/21/99	6/21/99	6/21/99
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
Conc. Spiked:	150 µg/L	150 µg/L	100 µg/L	100 µg/L	100 µg/L	150 µg/L
Matrix Spike % Recovery:	29	73	68	85	76	73
Matrix Spike Duplicate % Recovery:	31	73	68	84	75	73
Relative % Difference:	4.4	0.0	0.0	1.2	1.3	0.0
RPD Limit:	0-30	0-30	0-30	0-30	0-30	0-30

LCS Batch#:	LCS062199	LCS062199	LCS062199	LCS062199	LCS062199	LCS062199
Date Prepared:	6/21/99	6/21/99	6/21/99	6/21/99	6/21/99	6/21/99
Date Analyzed:	6/21/99	6/21/99	6/21/99	6/21/99	6/21/99	6/21/99
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
LCS % Recovery:	29	67	67	84	75	73

% Recovery Control Limits:	12-110	27-123	36-97	41-116	39-98	23-97

SEQUOIA ANALYTICAL, #1271

Julianne Fegley

Julianne Fegley
Project Manager

Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.



Sequoia Analytical

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Gettler-Ryan - Dublin
6747 Sierra Court, Suite J
Dublin, CA 94568
Attention: Doug Lee

Client Project ID: Tosco #1871, Oakland
Matrix: Liquid

QC Sample Group: 9061611-615

Reported: Jul 6, 1999

QUALITY CONTROL DATA REPORT

ANALYTE	Acenaphthene	4-Nitrophenol	2,4-Dinitro-toluene	Pentachloro-phenol	Pyrene
Prep. Method:	EPA 3510	EPA 3510	EPA 3510	EPA 3510	EPA 3510
Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Analyst:	L. Diaz	L. Diaz	L. Diaz	L. Diaz	L. Diaz

MS/MSD

Batch#:	BLK062199	BLK062199	BLK062199	BLK062199	BLK062199
Date Prepared:	6/21/99	6/21/99	6/21/99	6/21/99	6/21/99
Date Analyzed:	6/21/99	6/21/99	6/21/99	6/21/99	6/21/99
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
Conc. Spiked:	100 µg/L	150 µg/L	100 µg/L	150 µg/L	100 µg/L
Matrix Spike % Recovery:	73	34	78	80	86
Matrix Spike Duplicate % Recovery:	73	37	78	80	84
Relative % Difference:	0.0	7.5	0.0	0.0	2.4
RPD Limit:	0-30	0-30	0-30	0-30	0-30

LCS Batch#:	LCS062199	LCS062199	LCS062199	LCS062199	LCS062199
Date Prepared:	6/21/99	6/21/99	6/21/99	6/21/99	6/21/99
Date Analyzed:	6/21/99	6/21/99	6/21/99	6/21/99	6/21/99
Instrument I.D.#:	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1	GC/MS 1
LCS % Recovery:	73	34	80	80	84

% Recovery Control Limits:	46-118	10-80	24-96	9-103	26-127
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Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL, #1271

Julianne Fegley

Julianne Fegley
Project Manager

Chain-of-Custody-Record



Tosco Marketing Company
2000 Crow Canyon Pl., Ste. 400
San Ramon, California 94583

Facility Number 1871 - OAKLAND
 Facility Address 96 MacArthur Blvd. & HARRISON
 Consultant Project Number 140165.04
 Consultant Name Gettler-Ryan Inc. (G-R Inc.)
 Address 6747 Sierra Court, Suite J, Dublin, CA 94568
 Project Contact (Name) ~~Deanna L. Hoesling~~ DOUG LEE
 (Phone) 510-551-7555 (Fax Number) 510-551-7888

Contact (Name) DAVE DE WITT
 (Phone) _____
 Laboratory Name Sequoia Analytical 9906169
 Laboratory Release Number _____
 Samples Collected by (Name) HAIG KEVORK
 Collection Date 6/18/1999
 Signature [Signature]

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Lead (Yes or No)	Analyses To Be Performed											Remarks	
								TPH Gas + STEK w/MTBE (8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)	OXYGENAES	EPA 8260	EDB & 1,2-DCA		BY 8010
TB-LB		1	W	G		HCP	YES	✓												9061611
MW-1		6	W	G	15:10	HCP	YES	✓												9061612
MW-6		6	W	G	14:48	HCP	YES	✓												9061613
MW-7		6	W	G	13:00	HCP	YES	✓												9061614
MW-8		7	W	G	11:05	HCP (GVA)	YES	✓							✓					9061615

Relinquished By (Signature) <u>[Signature]</u>	Organization G-R Inc.	Date/Time 6/18/99 18:15	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days 10 Days As Contracted
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <u>[Signature]</u>	Organization	Date/Time 6/18/99 18:15	