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REPORT OF FINDINGS UNDERGROUND GASOLINE-STORAGE TANK REMOVAL AND REPLACEMENT

at Stati

ARCO Station 4494 566 Hegenberger Road Oakland, California

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Report prepared for

ARCO Products Company P.O. Box 5811 San Mateo, California

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at
ARCO Station 4494
566 Hegenberger Road
Oakland, California
for
ARCO Products Company

INTRODUCTION

At the request of ARCO Products Company (ARCO), RESNA Industries Inc. (RESNA) conducted an environmental investigation related to the removal of three underground gasoline-storage tanks (USTs) and placement of four new double-walled fiberglass USTs at an ARCO AM/PM store and service station located at 566 Hegenberger Road in Oakland, California. This investigation was initiated as part of ARCO's planned tank replacement program.

This investigation included the following:

- drilling four soil borings and collecting soil samples for laboratory analyses in proposed new tank pit location;
- destroying monitoring well MW-2 for tank excavation activities;
- observing excavation and removal of three USTs, and associated product lines;
- sampling and directing analyses of soil samples from the former tank pit, productline trenches, and stockpiled soil as required by Mr. Barney Chan of the



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Hazardous Materials Division of the Alameda County Health Care Services Department (ACHCSA);

- On December 18, 1992, six "grab" water samples were collecting and on December 29, 1992 an additional "grab" water sample was collected from the former tank pit;
- observing excavation of a new tank pit;
- sampling and directing analyses of soil from the new tank pit and stockpiled soil as required by Mr. Britt Johnson of the Hazardous Materials Division of the ACHCSA;
- observed removal of stockpiled soil from the site after analytical results indicated that petroleum hydrocarbon concentrations indicated acceptable levels;
- supervised the construction of a slurry wall near the 6 foot diameter storm drain, as proposed in the Addendum to Work Plan (RESNA, December 31, 1992); and
- o preparing this report.

This report presents the results of this work, including field methods used, laboratory analyses, activities related to removal of former USTs and associated piping, and installation of new USTs and associated piping. Construction activities are currently ongoing at the site and not summarized here.

SITE DESCRIPTION AND BACKGROUND

General

The site is an operating gasoline station located at 566 Hegenberger Road, on the northeastern corner of the intersection of Hegenberger Road and Edes Avenue in Oakland, California, as shown on the Site Vicinity Map (Plate 1). The site is on a relatively flat concrete- and asphalt-covered lot at an elevation of approximately 5 feet above mean sea level, and is located in a commercial/industrial area of the City of Oakland, approximately 1000 feet east of Interstate Highway 880. This commercial/industrial area is occupied by a wide variety of businesses including fast food restaurants, the Oakland SPCA, union halls, tool manufacturers, trucking firms, construction firms, motels, and inns. The Oakland-Alameda County Coliseum Complex is located approximately ½-mile northwest of the site. The site is bounded by a restaurant to



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the north, a parking lot for a restaurant to the east, restaurants to the west across Hegenberger Road, and a Shell Oil service station across Edes Avenue to the South.

Before its development in 1969, the subject property was covered by a sparse growth of native grasses and weeds, and was situated on reclaimed tidal marshlands covered by approximately four feet of artificial fill (Soil Mechanics and Foundation Engineers [SMFE], August 1968). The fill material was described by SMFE as heterogeneous sandy gravelly clay containing construction debris, including pieces of concrete, asphalt, and metallic slag. The source of the construction debris was unknown. Below the fill material was marshland and bay mud deposits. SMFE reported that the site may contain a buried tidal slough crossing the southern portion of the site. This slough was filled in between 1947 and 1953, based on observations of aerial photographs from those years, and replaced with an excavated drainage channel (Pacific Aerial Surveys, 1947 and 1953). This drainage channel was then filled in and replaced with a 72-inch storm drain pipeline sometime after 1968. According to SMFE, three pipelines cross the central portion of the property in a northeast-southwest direction, including the 72-inch diameter storm drain, a 48-inch-diameter sanitary sewer, and an abandoned sanitary sewer pipeline.

Microfiche plans at the City of Oakland Building Inspection Department indicate that the site was originally developed by Gulf Oil Company (Gulf) as a service station in 1969. Building plans for the Gulf station show three underground storage tanks (UST) east of the station building, and a fourth tank (possibly a waste-oil tank) may have been located adjacent to the east wall of the station building just south of the USTs. Records of the Oakland Fire Department indicate that Gulf removed and replaced one 10,000-gallon UST in 1975. No record of soil sampling to document possible discharge from the tank was found. RESNA understands from information supplied by ARCO, that ARCO purchased the site from Gulf in 1977, and that one 280-gallon waste-oil UST was located west of the station building. On December 16, 1988, this waste-oil UST was excavated and removed from the site by Crosby and Overton of Oakland, California, leaving three 10,000-gallon USTs at the site. The three tanks consisted of one UST that contained regular leaded gasoline, one super-unleaded gasoline UST, and one regular-unleaded gasoline UST. Removal of these three tanks is documented in this report.

Regional and Local Geology

The site is located along the eastern margin of San Francisco Bay within the East Bay Plain, in the northwestern portion of the San Leandro Cone near the boundary of the Oakland Alluvial Plain (Hickenbottom and Muir, June 1988). The East Bay Plain lies within the Coast Range geomorphic province and is characterized by broad alluvial fan margins sloping westward into San Francisco Bay.



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The site and vicinity were formerly occupied by shallow tidal marshes, and a channelized tidal slough is still located directly west of the site, across Hegenberger Road. Helley and others (1979) mapped the earth materials underlying the site area as being Holocene bay mud estuarine deposits composed of unconsolidated, water-saturated, dark plastic clay and silty clay rich in organic materials, with local lenses and stringers of well-sorted silt, fine sand, and peat. These estuarine materials, known locally as Bay Mud, were deposited primarily in brackish- to saltwater marshes along the margins and beneath the waters of San Francisco Bay during interglacial periods before and after the Wisconsin Glaciation in late Pleistocene time (Goldman, 1969). The estuarine Bay Mud materials interfinger with Holocene-age fine-grained alluvium deposited by standing floodwaters that periodically inundate the low interfluvial basin areas and fresh-water marshes (Helley and others, 1979).

Regional and Local Hydrogeology

Groundwater quality in the water-bearing units of the San Leandro Cone generally meets recommended primary and secondary standards for drinking water. The most productive water wells in the San Leandro Cone are those completed within the older alluvium units. The older alluvium units consist of permeable alluvial fan deposits characterized by poorly consolidated to unconsolidated gravel, sand, silt and clay (Hickenbottom and Muir, June 1988). These units contain appreciable quantities of groundwater, and are therefore considered to be the principal groundwater reservoir in the East Bay Plain area. Smaller amounts of groundwater occur in the younger alluvium, fluvial deposits, interfluvial basin deposits, and Bay Mud estuarine deposits. These deposits generally are relatively thin (less than 120 feet thick), and generally yield only small amounts of groundwater to wells. The Bay Mud acts as a barrier to the vertical movement of salt water from San Francisco Bay into the older alluvium. The Bay Mud is generally water-saturated because most of it lies below the water table. However, it is not considered as a useable source of groundwater to wells because of its low permeability and because it is believed to contain mostly salt water (Hickenbottom and Muir, June 1988).

The direction of groundwater flow at the site appears to be to the northeast based on groundwater elevations as interpreted from depth-to-water (DTW) data collected at the site. The depth to first groundwater has been measured to be approximately 7 to 15 feet below grade during drilling, and stabilizes in the wells at approximately 7 to 9 feet below grade.

The site is located approximately 3,500 feet east of San Leandro Bay, which is a smaller portion of San Francisco Bay. The nearest streams to the site are Elmhurst Creek, which is located approximately 1,300 feet north of the site, and San Leandro Creek which is located approximately 6,500 feet south of the site. Both creeks originate in the East Bay Hills, which are a part of the Diablo mountain range, and drain directly into San Leandro Bay. Water enters these creeks by direct runoff from rural and urban areas, through numerous small tributaries,



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and through numerous storm sewer outlets originating in the urbanized areas. Water also enters San Leandro Creek from overflow of the East Bay Municipal Utility District's Lake Chabot reservoir located in the East Bay Hills north of the city of Castro Valley.

PREVIOUS ENVIRONMENTAL WORK

Previous subsurface environmental investigations performed at the site are summarized in Appendix A, Previous Environmental Work.

FIELD WORK

Field work conducted on behalf of ARCO during this investigation included drilling four soil borings, collecting soil samples from the borings for description and possible analyses; destroying monitoring well MW-2; observing removal of three gasoline underground storage tanks (USTs) and associated product lines; collecting soil samples from the side-walls directly above groundwater in the former tank pit excavation and beneath the former product lines as directed by Mr. Barney Chan of the ACHCSA; excavation of a new UST pit and collecting soil samples as requested by Mr. Britt Johnson of the ACHCSA; and collecting soil samples from the stockpiled soil for laboratory analyses. The field work was conducted according to the procedures described in Appendix B, Field Procedures, and in accordance with the RESNA Site Safety Plan (RESNA, December 16, 1992).

A chronological summary of site activities is provided in Appendix C.

New Tank Pit Soil Borings

Well construction and destruction permits were acquired from the Alameda County Flood Control and Water Conservation District, Zone 7 (ACFCWCD) prior to drilling at the site. Copies of the permits are included in Appendix D, Well Permits. On December 8, 1992, four soil borings (B-21 through B-24) were drilled using a Mobile Drill B-61 rig with 8.25-inch diameter hollow-stem augers to evaluate the presence and extent of gasoline hydrocarbons in soil in the immediate vicinity of the new tank pit at the site. Soil borings B-21 through B-24 were drilled in a row approximately 10 feet apart in the southwest corner of the site. Monitoring well MW-2 was destroyed using 12-inch diameter hollow stem augers drilled to approximately 1 foot below well depth. A RESNA field geologist observed that bentonite seal was saturated with a black hydrocarbon product during well destruction. The black hydrocarbon product was observed from the top of the bentonite seal (approximately 3 feet below ground surface) to 13 feet below ground surface. Monitoring well MW-2 was destroyed because it was located



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immediately adjacent to the former tanks. The locations of the borings and destroyed well are shown on Plate 2, General Site Plan.

Soil Sampling and Description

Ten soil samples were collected from the soil borings B-21 through B-24 for description and possible laboratory analyses. A summary of the Unified Soil Classification System used to identify the soil encountered during drilling is displayed as Plate 3 and the description of the soil encountered in the borings are shown as Plates 4 through 7, Boring Logs. Soil samples from the borings B-21 through B-24 were collected at intervals of 5 feet or less from the ground surface to the total depth of the borings. Sampling procedures are described in Appendix B. Field measurements of organic vapors were also taken with an organic vapor meter (OVM) which provides a qualitative only field analysis of organic vapor content of soil samples. OVM readings are also shown on the boring logs in Appendix D, under the column titled P.I.D. (photoionization detector). Groundwater was first encountered at depths between 10 to 10½ feet below grade in borings B-21 through B-24.

Removal of Underground Tanks

On December 17 and December 18, 1992, a field geologist from RESNA was onsite to observe the excavation and removal of three underground gasoline-storage tanks T1 through T3. The geologist inspected the outer surfaces of the tanks, collected soil samples from native soil beneath the ends and sidewalls of tanks T1 through T3, collected six "grab" samples of water from the standing groundwater within the tank pit, and observed the excavation of backfill soil from the tank excavation. The backfill material appeared to have been impacted by petroleum hydrocarbons as evident by OVM readings over 100 ppm. Tank and product-line removal was performed by Golden West Environmental Services, Builders, General Contractors of Livermore, California. The Oakland Fire Department (OFD), ACHCSA, and the Bay Area Air Quality Management District (BAAQMD) were notified prior to tank removal. Mr. Barney Chan of the ACHCSA, and Mr. Gordon Gullette of the OFD were present on December 17, 1992, to observe the removal of the tanks. Mr. Barney Chan was also present to observe and direct soil and water sampling in the former tank pits.

RESNA's field geologist observed that product-line plumbing above USTs T1 and T2 consisted primarily of single-walled steel pipes and fittings. The product line plumbing and the former vapor vent lines above tank T3 consisted primarily of single-walled fiberglass pipes and fittings.

On December 17, 1992, two single-walled steel USTs (T1 and T2) measuring approximately 8 feet in diameter by 16 feet in length, and one single-walled fiberglass UST (T3) measuring approximately 8 feet in diameter by 16 feet in length were uncovered and prepared for removal.



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These three tanks were each approximately 10,000 gallon capacity. Hydrocarbon vapors and oxygen were purged from the tanks by the addition of solid carbon dioxide (dry ice) into the tanks. After acceptable lower explosive limits (LEL) readings were taken and recorded by OFD, tanks T1 through T3 were then excavated and removed from the tank pit.

Examination of the steel USTs T1 and T2 after their removal indicated they were in good condition with no noticeable through-going holes or pits. Asphalt wrapping covering both tanks was slightly deteriorated. Examination of the fiberglass UST T3 indicated the tank was in good condition with no visible through-going holes. Tanks T1 through T3 were transported by Erickson Inc., a licensed waste hauler, to a licensed disposal facility in Richmond, California. Manifests documenting the disposal of tanks and certificates of destruction are included in Appendix E, Manifests for Tanks.

The backfill soil excavated from the tank pit above and around the steel tanks T1 and T2 was predominately an orange to green clayey sand with gravel. Abundant brick, glass, and porcelain fragments were uncovered during excavation to approximately 8 feet below grade. Native soil appeared to begin below 8 feet, and consisted of a gray silty clay with sand. A fiberglass wall was encountered between the steel USTs (T1 and T2) and the fiberglass UST (T3). The backfill soil excavated from the tank pit above and around the fiberglass UST (T3) was predominantly fine gravel (pea-gravel). Excavated soil was monitored with an organic vapor meter (OVM), field calibrated to a 100 parts per million (ppm) sample of isobutylene, as it was removed from the excavation. OVM readings during this monitoring indicated levels of hydrocarbons up to approximately 980 ppm in the soil. Groundwater was encountered at an approximate depth of 10 feet below graded surface in the tank pit which was excavated to a depth of approximately 12 feet below grade.

Once the USTs were removed, RESNA's field geologist observed a black hydrocarbon product seeping into the former tank pit from the northeastern corner. At the request of ARCO, the northeastern corner of the former tank pit was over-excavated approximately 12 feet to the northeast, exposing an existing 6-foot diameter storm drain as shown on Plate 8, Soil Sample Location and Concentration Map. Mr. Barney Chan of the ACHCSA and a RESNA field geologist observed that the black hydrocarbon product was migrating through the storm drain backfill from an offsite source and seeped into the former tank pit and onto standing groundwater in the pit. It was also observed that recently destroyed well MW-2 had been installed at the edge of the storm drain backfill. Mr. Barney Chan determined that it was not ARCO's responsibility to investigate the source of this black hydrocarbon product, sense ARCO agreed to construct a slurry wall in an attempt to limit the migration of black hydrocarbon product from the storm drain backfill to the former tank pit. H and H Environmental removed the black hydrocarbon product and groundwater from the tank pit on December 18 and on December 22, 1992. On December 29, 1992, the black hydrocarbon product was skimmed from the surface of the



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groundwater in the former tank pit by H and H. Tank replacement activities were temporarily halted to investigate and evaluate the extent and source of the black hydrocarbon product. Copies of the Disposal Manifests for the black hydrocarbon product and groundwater are attached in Appendix F, Water and Soil Disposal Manifests.

Soil Sampling in Former Tank Pit

On December 17, 1992, 6 soil samples (S-10-TP1, S-9-TP2, S-9.5-TP3, S-10-TP4, S-9-TP5, S-9-TP6) were collected from native soil at the ends of USTs T1 through T3 and at the sidewalls of tanks T1 and T3 at depths of 9 to 10 feet (directly above groundwater) to evaluate the impact of gasoline hydrocarbons on the native soil near the former gasoline-storage tanks. The native soils at the sample depths consisted of silty clay with sand and silty clay with gravel. OVM readings indicated concentrations of up to 980 ppm in the northwestern corner of the former tank pit. Soils in this vicinity were over-excavated for approximately 10 feet and a seventh soil sample (S-11-TL7) was collected to confirm the removal of hydrocarbon impacted soil. The over-excavation was conducted under the supervision and direction of Mr. Barney Chan of the ACHCSA.

"Grab" Water Sampling in Former Tank Pit

On December 17, 1992, six "grab" water samples (TP-1, TP-1g, TP-1d, TP-1o, TP-1p, TP-1m, and TP-2) were collected from the standing groundwater in the former tank pit at the request of Mr. Barney Chan of the ACHCSA for laboratory analysis. At the request of ARCO, one "grab" water sample (TP-2b and TP-2s) was collected from the former tank pit standing groundwater to be split in an attempt to characterize the black hydrocarbon product.

Product-Line Removal

The former product lines were excavated and removed on December 16, 1992. The ACHCSA, the OFD, and the BAAQMD were notified prior to performing this work. On December 17 and 18, 1992, a RESNA geologist and Mr. Barney Chan of the ACHCSA were onsite to supervise excavation of field-detected impacted soils beneath the product dispensers and product lines, and to observe the collection of 7 soil samples (S-2-TL1 through S-2-TL7) from the native soil beneath the former product dispensers and product lines. Locations of the collected soil samples are shown on Plate 8.

On December 17, 1992, RESNA's geologist observed that the shallow soil beneath the former product lines appeared not to be impacted by gasoline hydrocarbons, with the exception of localized impacted soils in the area near the former product dispensers. These impacted soils were over-excavated to groundwater on December 18, 1992, as directed and supervised by Mr.



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Barney Chan of the ACHCSA, and confirmation samples (S-14-TL1 and S-12-TL5) were collected for analysis. On December 18, 1992, a GTEL Environmental Mobile Laboratory was onsite to analyze soil samples S-14-TL1 and S-12-TL5, and to analyze soil sample S-12-TP1, collected from the bottom of the over-excavated tank pit. Soil sample S-5-TL3 was collected from the storm drain backfill and also analyzed by the GTEL Mobile Laboratory to evaluate possible oil and grease migration through the backfill. These samples were collected under the direction and supervision of Mr. Barney Chan of the ACHCSA, and sample locations and analytical results are shown on Plate 8.

The former product lines consisted of single-walled fiberglass pipes and fittings, and appeared to be in good condition with no visible holes or loose fittings. The former product lines were originally installed at a depth of approximately 0.5 foot below the ground surface. Soil samples were obtained from the native soil, at a depth of approximately 2 feet below the fill material beneath the product dispensers and the product lines and submitted for laboratory analysis (Plate 8).

Soil excavated during product line removal was stockpiled with soils removed from the former tank pit for subsequent aeration for disposal or use for backfilling the former tank pit.

Stockpiled Soil

Approximately 1,200 cubic yards of backfill soil removed from the former tank pit and former product line excavations was stockpiled in two separate piles (SP-1 and SP-2) on asphalt for subsequent disposal. Stockpile SP-1 was impacted by gasoline hydrocarbons, and consisted mainly of material overlying the former tanks and former product lines, while stockpile SP-2 was impacted by gasoline hydrocarbons and black petroleum product encountered during over-excavation of the former tank pit. On December 18, 1992, RESNA's geologist collected 12 soil samples (SP1-1A-D through SP1-6A-D and SP2-1A-D through SP2-6A-D) from the two stockpiles SP-1 and SP-2 for laboratory analyses. The stockpiled soil was then covered by plastic sheeting by Golden West Environmental Services pending results of laboratory analysis. Of the 1,200 cubic yards, approximately 900 cubic yards of soil was removed from the site on January 28 and 29, 1993 and approximately 100 yards cubic yards of soil was removed on February 8, 1993 by Dillard Trucking of Byron, California, and disposed of at Laidlaw Class II Landfill in Buttonwillow, California. Approximately 200 cubic yards of soil was removed on February 1, 1993 by Dillard Trucking and disposed of at BFI, a Class III landfill in Livermore, California. Copies of the Disposal Manifests are included in Appendix F.



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New Tank Pit Excavation

On January 4 through 8, 1993, a new tank pit was shored and excavated by Golden West Environmental Services to accommodate four 10,000 gallon USTs. A RESNA geologist was onsite on January 7, 1993 to observe the excavation and stockpiling of approximately 1,200 cubic yards of excavated soil at the site.

Soil Sampling in New Tank Pit

Soil samples of material to be used for backfilling the former tank pit were collected from the new tank pit in accordance with Mr. Britt Johnson of the ACHCSA on December 30, 1992. Locations and depths of soil samples obtained from the new tank pit excavation are shown on Plate 8. Sampling of the new tank pit included:

o collecting two soil samples from the northeastern and southeastern corners of the pit at approximately 4.5 feet below grade and analyzing for total petroleum hydrocarbons as gasoline (TPHg) and gasoline constituents benzene, toluene, ethylbenzene, and total xylenes (BTEX).

Because excavated soil from the new tank pit was too wet to be used as backfill, the excavated soil was stockpiled onsite in two separate piles (SP-3 and SP-4) for aeration and drying. On January 8, 1993, ten soil samples were collected from the two stockpiles, submitted for laboratory analysis, and composited at Sequoia Analytical for analysis to ascertain possible use of these stockpiles as backfill material in the former tank pit. In telephone conversations with Mr. Barney Chan and Mr. Paul Smith of the ACHCSA on February 23 and 24, 1993, it was decided that soil samples from SP-3 and SP-4 indicating nondetectable (less than 0.5 parts per million) concentrations of benzene could be used as backfill material in the former tank pit. Six of the original ten soil samples collected from stockpiles SP-3 and SP-4 contained low levels of detectable benzene and after further aeration of the stockpiles, were resampled on March 1, 1993. The six samples contained nondetectable concentrations of benzene following the March 1, 1993 sampling.

LABORATORY METHODS

Analytical Methods and Sample Summary

Soil samples collected from the former tank pit and former product lines on December 17, 1992 and six groundwater "grab" samples were analyzed by Sequoia Analytical in Redwood City, California (State Hazardous Waste Testing Laboratory Certification No. 1210). An additional groundwater "grab" sample TP-2 was collected from standing groundwater in the former tank



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pit and one split sample was sent to ARCO's Refinery in Los Angeles, California, and the second split sample was sent to Core Laboratories in Long Beach, California (State Hazardous Waste Testing No. 0024805) to be analyzed for hydrocarbon fingerprinting. Soil samples collected from over-excavated tank pits on December 18, 1993, were analyzed by GTEL Environmental's mobile laboratory (State Hazardous Waste Testing Laboratory Certification [SHWTLC] No. E723). Soil samples collected from stockpiles SP-1 and SP-2 on December 18, 1992, were analyzed by Laidlaw Environmental to determine acceptability for disposal to their landfill. The Chain of Custody Records and the Laboratory Analysis Reports are included in Appendix G and Fingerprint Analysis Reports are included in Appendix H.

Six soil samples collected from the ends of the former USTs (TP-1 through TP-7) were analyzed for TPHg using modified Environmental Protection Agency (EPA) Method 5030/8015 and for the gasoline constituents BTEX using EPA Methods 8015/8020.

"Grab" water samples (TP-1, TP-1g, TP-1o, TP-1p, TP-1m, and TP-1d) were collected from the standing groundwater in the former tank pit. Sample TP-1g was analyzed for TPHg and BTEX using EPA Methods 5030/8015/8020. Sample TP-1d was analyzed for total petroleum hydrocarbons as diesel (TPHd) using EPA Methods 3510/3520/8015. Sample TP-1o was analyzed for total oil and grease (TOG) using EPA Method 418.1. Sample TP-1 was analyzed for purgeable hydrocarbons using EPA Method 624. Sample TP-1p was analyzed for acid and base neutrals using EPA Method 625 and organochlorine pesticides and PCBs using EPA Method 8080. Sample TP-1m was analyzed for lead, zinc, chromium, cadmium, and nickel using EPA Methods 7421 and 6010. Split "Grab" water sample TP-2b/TP-2s was collected from the standing groundwater in the former tank pit and analyzed for hydrocarbon fingerprinting using simulated distillation.

Eight soil samples obtained from borings B-21 through B-24, and two excavation samples (S-4.5-NP and S-4.5-SP) collected for the new tank pit were analyzed for TPHg and BTEX using modified EPA Method 5030/8015/8020 and toxicity characteristic leaching procedure (TCLP) for BTEX. In addition, soil samples collected from borings B-21 through B-24 were analyzed for soluble threshold limit concentration (STLC) lead.

Ten soil samples obtained from beneath the former product lines and product dispensers were analyzed for TPHg and BTEX using modified EPA Methods 5030/8015/8020. One sample S-5-TL3 was analyzed for TOG using EPA Method 418.1 as requested by Mr. Barney Chan of the ACHCSA.

Twelve composite soil samples from the two stockpiles SP-1 and SP-2 were collected and submitted to Sequoia to be composited and analyzed for TPHg and BTEX using EPA Methods



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5030/8015/8020, TCLP TPHg and BTEX, and STLC lead. Four soil samples were collected from every 50 cubic yards of stockpiled soil and composited into one sample for analysis.

Ten composite soil samples from the two stockpiles SP-3 and SP-4 were collected and submitted to Sequoia to be composited and analyzed for TPHg and BTEX using EPA Methods 5030/8015/8020, TCLP TPHg and BTEX, and STLC lead. Stockpiles SP-3 and SP-4 were resampled and submitted to Sequoia to be composited and analyzed for TPHg and BTEX using EPA Methods 5030/8015/8020. Four soil samples were collected every 50 cubic yards from the stockpiled soil and constituted one composite sample.

GEOLOGY AND LABORATORY RESULTS

Geology Results

Earth materials encountered in borings B-21 through B-24 beneath a section of asphalt and baserock, consisted of sandy clay to silty sand fill that contained glass, brick, and metal fragments at depths greater that about 3 feet. A water-bearing silty clay with sand was encountered beneath the fill. Groundwater was encountered in B-21 through B-24 at depths of 10 to 10½ feet. Organic vapor meter (OVM) readings from samples collected from the borings are shown on the boring logs in the column labeled PID (photoionization detector). OVM readings from the samples indicated nondetectable hydrocarbon vapors. Geologic cross section D-D' (Plate 9) shows the RESNA's interpretation of the subsurface stratigraphy beneath the site. The location of the geologic cross section D-D' is shown on Plate 2.

<u>Laboratory Results</u>

The results of laboratory analyses of soil samples obtained from soil borings B-21 through B-24 in the new tank pit area, and from the new tank pit are summarized in Table 1, Results of Laboratory Analyses of New Tank Pit Soil Samples. Soil sample locations in the vicinity of the new tank pit and TPHg concentrations are shown on Plate 8. Analytical results of soil samples from borings B-22 and B-23 and samples S-10-B21 and S-9.5-B24 indicated nondetectable concentrations of TPHg (less than 1.0 ppm) and benzene (less than 0.0050 ppm). Concentrations of TPHg and benzene were detected in sample S-4.5-B21 at 2.3 ppm TPHg and 0.010 ppm benzene. TPHg was detected in sample S-4.5-B24 at 1.8 ppm concentration. Concentrations of STLC lead were nondetectable (less than 0.10 ppm) in all samples, except for the presence of 0.31 ppm STLC lead in S-4.5-B21. Analytical results of the soil samples S-4½-NP and S-4½-SP from the northeastern and southeastern corners of the new tank pit indicated nondetectable concentrations of TPHg and benzene.



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The results of laboratory analyses of soil samples obtained from the former tank excavation are reported in Table 2, Results of Laboratory Analyses of Former Gasoline Tank Pit Soil Samples. Soil sample locations and TPHg concentrations are shown on Plate 8. Analytical results of these 7 soil samples indicated that TPHg ranged from 2 ppm to 220 ppm and benzene concentrations ranged from 0.031 ppm to 3.5 ppm. These samples were collected at the soil water interface in the former tank pit.

The results of laboratory analyses of the 10 soil samples collected beneath the former product lines and dispensers are summarized on Table 3, Results of Laboratory Analyses of Product-Line and Product Dispenser-Line Soil Samples. Concentrations of TPHg ranged from 8.4 ppm to 190 ppm, with exception to samples S-2-TL-1 and S-2-TL-5, which contained TPHg concentrations of 12,000 ppm and 1,100 ppm, respectively. Concentrations of benzene ranged from 0.16 ppm to 10 ppm with exception to sample S-2-TL-1, which contained benzene concentration at 220ppm. After over-excavation in the areas in which samples S-2-TL-1 and S-2-TL-5 were collected, TPHg concentrations ranged from nondetectable (less than 5.0 ppm in sample S-14-TL-1) to 58 ppm in sample S-12-TL5 and concentrations of benzene ranged from nondetectable (less than 0.005 ppm in sample S-14-TL1) to 1.5 ppm in sample S-12-TL5. TOG was nondetectable (less than 10 ppm) in sample S-5-TL3. Results of laboratory analysis of composite soil samples collected from the stockpiled soil at the site are shown on Table 4, Results of Laboratory Analyses of Stockpiled Soils, and Table 5, Results of Laboratory Analyses of Resampled Stockpiled Soils.

The laboratory analytical results of the water "grab" samples are summarized in Tables 6 and 7, Results of Laboratory Analysis of Water "Grab" Samples. The analytical results of split water "grab" samples TP-2 provided by Core Laboratories and depicted on a graph indicates a fingerprint pattern ranging between a weathered gasoline and motor-oil. ARCO's Refinery Laboratory reported the hydrocarbon fingerprint as a weathered gasoline which does not resemble the fingerprint of any finished products refined by ARCO (Appendix H).

DISCUSSION

Hydrocarbon Impacted Soil and Groundwater

Soils impacted by gasoline hydrocarbons appear to be limited to the immediate vicinity of the former gasoline tank pit sidewalls and shallow soils beneath the former pump island. The former USTs and former product lines appeared to be in good condition. Therefore, it appears that the connections between the former product dispensers and the former product lines and former USTs are possible sources for the gasoline hydrocarbons detected in the soil and groundwater within the former tank pit. The presence of an upper clay unit (fill) beneath the site appears to have limited the migration of gasoline hydrocarbons in soil and groundwater as evident by



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nondetectable to low concentrations of TPHg and BTEX in soil samples from tank pit, product line, new tank pit boring soil samples, and soil samples collected from borings and groundwater samples collected from downgradient, offsite wells during the Additional Subsurface Environmental Investigation (RESNA, October 27, 1992).

The black hydrocarbon product observed seeping into the northeastern corner of the former tank pit during former tank removal activities appears to have migrated from an offsite source through the sand and gravel trench backfill material of a 6-feet-diameter storm drain. During over-excavation of the tank pit the storm drain was encountered approximately three feet below ground surface. The floating product previously detected in recently destroyed well MW-2 appears to be the same as the black hydrocarbon product migrating through the storm drain from offsite. The clayey fill material beneath the site appears to have limited the vertical migration of the black hydrocarbon product. The direction of flow within the backfill material is not known, but observations of local topography suggest a flow direction toward the west (toward the ARCO site).

Backfilling Former Tank Pit

In telephone conversations with Mr. Barney Chan and Mr. Paul Smith of the ACHCSA on February 23 and 24, 1993, and the follow-up letter dated March 1, 1993, it was decided soils excavated and stockpiled from the new tank pit could be used as backfill material in the former tank pit, provided they contained nondetectable concentrations of Benzene. A RESNA field geologist and a soil technician from Balby and Chang (B&C) supervised the dewatering and backfilling of the former UST pit between March 17 through April 2, 1993. The backfilling of the former UST pit was engineered by Barghausen Consultants and performed by Golden West. The former UST pit was dewatered using vacuum trucks, removing approximately 20,000 gallons of water. After dewatering, the bottom of the former tank pit was filled with 1 to 2 foot diameter boulders to stabilize the bottom of the pit. Phillips 66 Filter Fabric was then placed in the pit as lining followed by another 1½ feet of boulders. These boulders were overlain with 1½ feet of pea-gravel and a second layer of the filter fabric lining was placed on top of the pea gravel. Stockpiled soil from the new tank pit was then used as backfill material. This soil was used after the soil was aerated and dried (water content was less than 15 percent) and after stockpile SP-4 was resampled and analytical results indicated nondetectable concentrations of benzene. The soil was placed into the former UST pit in 1 to 1½ feet lifts, compacted, and compaction tested. The compaction tests indicated compaction rates of 97 percent in the first two lifts. At three feet below grade, the former UST pit was laterally expanded in the north and west directions to allow increased support. A third layer of filter fabric lining was then placed in the former UST pit, followed by filling and compacting the former pit with soil to grade.



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Slurry Wall Construction

On April 5, 1993, and as proposed in Addendum Two to Work Plan (RESNA, December 31, 1992), a RESNA field geologist supervised the construction of a concrete slurry wall in the former tank pit. This slurry wall was installed approximately six feet from and parallel to the six foot diameter storm drain within the former tank pit. The slurry wall was installed in an attempt to limit the migration from an offsite source of the black hydrocarbon product along the storm drain backfill material into the former tank pit area. Recently filled and compacted soils were excavated from the northeast corner of the former tank pit and visqueen was placed along the walls of the excavation to serve as a liner. Approximately 19 cubic yards of three-sack concrete were poured into the excavation to form the slurry wall. Due to cave-ins from the sidewalls of the excavation, the slurry wall was poured to a thickness of approximately four feet instead of the originally proposed one foot width. A six-inch diameter recovery well was installed between the slurry wall and the storm drain to monitor the presence of the black hydrocarbons from the offsite source. The well was constructed using ten feet of schedule 40 polyvinyl chloride (PVC), 0.020 inch machine slotted screen and five feet of schedule 40 PVC blank casing. The excavation between the slurry wall and the storm drain was backfilled with washed pea-gravel to two feet below grade. The remainder of the excavation was then backfilled and compacted (over 90% compaction) to grade with aerated soil. The approximate location of the slurry wall and recovery well RW-1 is shown on Plate 2.

CONCLUSIONS

Based on the results of this investigation, RESNA concludes:

- Soils in the vicinity of the new gasoline-storage tank pit did not appear to have been significantly impacted by gasoline hydrocarbons, as indicated by nondetectable to low concentrations of TPHg (equal to or less than 2.3 ppm) in boring soil samples, and tank pit samples collected in the vicinity of the northeastern and southeastern corners of the new tank pit;
- O Shallow soils (approximately 10 feet below grade) in the immediate vicinity of the former gasoline-storage tanks appear to have been impacted by TPHg concentrations less than 50 ppm, as indicated by laboratory analytical results of tank pit soil samples, except in the northern corners of the tank pit, where soil appears to have been impacted by TPHg at concentrations of 220 ppm directly above the water table. The soil sample collected after over-excavation indicated a TPHg concentration of 33 ppm;



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- Shallow soils (approximately one to two feet below grade) in the vicinity of the former product dispensers appear to have been impacted by TPHg at concentrations greater than 1,000 ppm, as indicated by analytical results of samples collected from beneath the former service island. Soil beneath the former product dispensers, and the former product lines were over-excavated to the top of the local groundwater table. Soil samples collected after over-excavation directly above groundwater, indicated concentrations of TPHg at or less than 58 ppm beneath the former dispenser lines;
- Clayey soils beneath the site, including fill material, appear to have confined gasoline hydrocarbons to the immediate vicinity of the sources previously discussed:
- The floating product previously detected in recently decommissioned monitoring well MW-2 was confirmed to have originated from the storm drain backfill from an apparent offsite source. ARCO has taken action to limit this flow into the former tank pit by constructing a slurry wall parallel to the six foot diameter storm drain and lining the area between the storm drain the slurry wall with visqueen. Soils impacted by this black hydrocarbon product were over-excavated during tank removal activities and properly disposed; and
- Based on hydrocarbon fingerprinting analyses performed by ARCO and Core Laboratories, the black hydrocarbon product appears to be a mixture of weathered gasoline and motor-oil. According to ARCO's Refinery, the black hydrocarbon product does not resemble any of ARCO's finished products.



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DISTRIBUTION

RESNA recommends that copies of this report be forwarded to:

Mr. Barney Chan
Alameda County Health Services Department
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621

Mr. Richard Hiett
California Regional Water Quality Control Board
San Francisco Region
2101 Webster Street, Suite 500
Oakland, California 94612

LIMITATIONS

This report was prepared in accordance with generally accepted standards of environmental geological practice in California at the time this investigation was performed. This assessment was conducted solely for the purpose of evaluating environmental conditions of the soil with respect to gasoline related to the former USTs, dispenser lines and the vicinity of the new USTs at the subject site. No soil engineering or geotechnical implications are stated or should be inferred. Evaluation of the geologic conditions at the site for the purpose of this investigation is made from a limited number of observation points. Subsurface conditions may vary away from the data points available.



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RECOMMENDATIONS

Based on findings during underground gasoline storage tank removal and replacement activities, RESNA recommends the following:

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Replace decommissioned well MW-2 with a 4-inch diameter groundwater monitoring well in the area of former well MW-2; — with hat we swill

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Monitor the recovery well (RW-1) installed between the slurry wall and the storm drain on a monthly basis for the presence of the black hydrocarbon product migrating onto the ARCO property from offsite;

Further future work is not recommended at this time at this site as the impact to soils and groundwater at the site appear to be limited, the onsite source of hydrocarbons in soil and groundwater has been removed, existing onsite and downgradient offsite groundwater monitoring wells contain nondetectable concentrations of gasoline hydrocarbons, and the fine grained soils in the subsurface at the site do not appear to be ammenable to groundwater or soil vapor extraction. Based on this information, this site may qualify for alternative points of compliance as outlined in the RWQCB's Basin Plan Amendment; and

Pumping of groundwater from the area of the former tank pit is not recommended as the new station building is being built in this area. Based on discussions with a representative from Balby and Chang, the Geotechnical firm contracted by Barghausen Consultants, dewatering of the engineered fill from within the former tank pit area may de-stabilize the new station building.

o See if the continuation in the piping area will be detected a /a mw

18

specific forms



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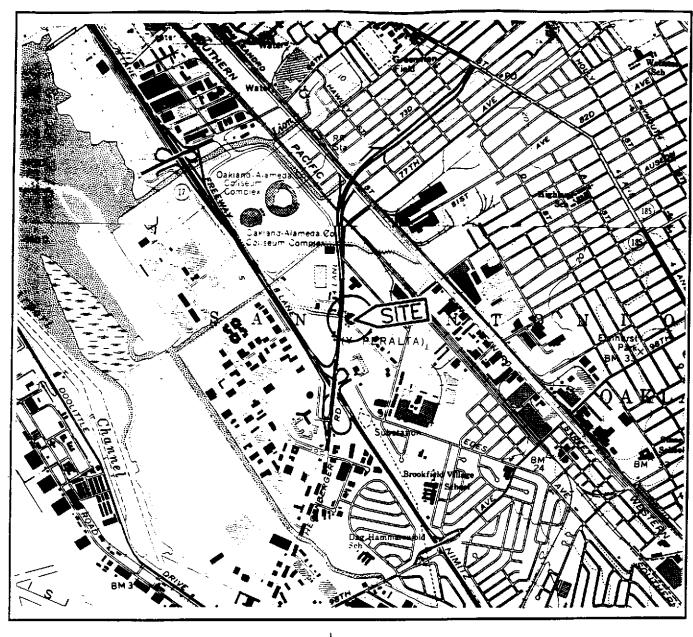
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Base: U.S. Geological Survey
7.5—Minute Quadrangles
Oakland East/San Leandro, California
Photorevised 1980

LEGEND

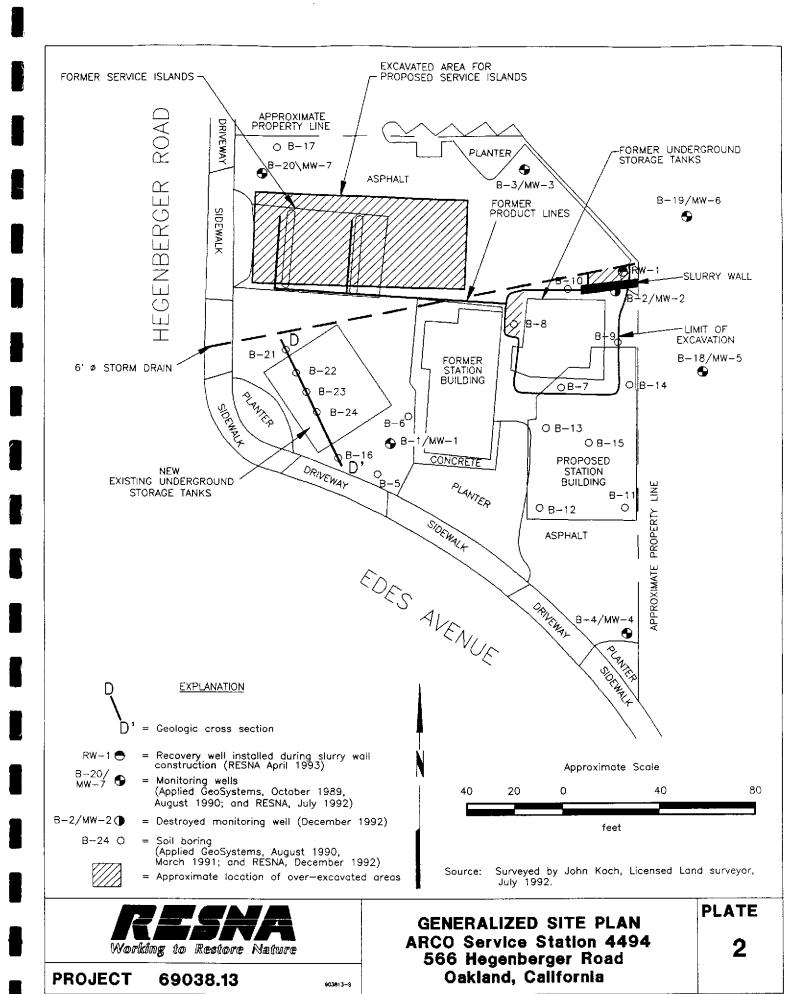
Site Location

Approximate Scale
2000 1000 0 2000 4000
feet

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SITE VICINITY MAP ARCO Service Station 4494 566 Hegenberger Road Oakland, California PLATE
1



UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISION		MAJOR DIVISION LTR DESCRIPTION		MAJOR DIVISION		LTR	DESCRIPTION
		GW	Well-graded gravels or gravel-sand mixtures, little or no fines.			ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight
	GRAVEL	GP	Poorly—graded gravels or gravel—sand mixtures,		SILTS		plasticity.
	AND GRAVELLY		little or no fines.		AND CLAYS	CL	Inorganic clays of low to medium plasticity, gravelly
COARSE— GRAINED SOILS	SOILS	GM	Silty gravels, grave—sand—silt mixtures.		LL<50		clays, sandy clays, silty clays, lean clays.
		GC	Clayey gravel, gravel—sand—clay mixtures.	FINE-		OL	Organic silts and organic silt—clays of low plasticity.
		SAND	SW	Well—graded sand or gravelly sands, little or no fines.	GRAINED SOILS	SILTS	мн
	AND SANDY SOILS	SP	Poorly—graded sands or gravelly sands, little or no fines.		AND CLAYS	СН	Inorganic clays of high plasticity, fat clays.
	33123	SM	Silty sands, sand—silt mixtures.			ОН	Organic clays of medium to high plasticity, organic silts.
		SC	Clayey sands, sand-clay mixtures.	HIGHLY ORG	ANIC SOILS	PT	Peat and other highly organic soils.

T	Depth through which sampler is driven	**************************************	Sand pack	
÷	Relatively undisturbed		Bentonite	Stratigraphic contact
—	sample	△ △	Neat cement	
X	No sample recovered		Caved native soil	 Gradational contact
<u></u>	Static water level observed in well/boring		Blank PVC	
<u></u>	Initial water level observed in boring		Machine—slotted PVC	Inferred contact
S-10	Sample number	P.I.D.	Photoionization detector	

BLOWS REPRESENT THE NUMBER OF BLOWS OF A 140-POUND HAMMER FALLING 30 INCHES TO DRIVE THE SAMPLER THROUGH EACH 6 INCHES OF AN 18-INCH PENETRATION.

GRADATIONAL AND INFERRED CONTACT LINES SEPARATING UNITS ON THE LOG REPRESENT APPROXIMATE BOUNDARIES ONLY. ACTUAL BOUNDARIES MAY BE GRADUAL. LOGS REPRESENT SUBSURFACE CONDITIONS AT THE BORING LOCATION AT THE TIME OF DRILLING ONLY.



PROJECT 69038.13 UNIFIED SOIL CLASSIFICATION SYSTEM PLATE AND SYMBOL KEY ARCO Station 4494 566 Hegenberger Road Oakland, California

Depth of boring: 12 feet Diameter of	boring: 8 incl	hes Date drilled: 12/8/92					
Well depth: N/A Material type:	N/A	Casing diameter: N/A					
Screen interval: N/A Slot size: N/A							
Drilling Company: Exploration Geoservices Driller: Dave and Dennis							
Method Used: Hollow-Stem Auger Field Geologist: Rob Campbell							
Signature of Registered Professional:							
Registration No.: CEG 1463 State: A							

Depth	Sample No.	е	Blows	P.I.D.	USCS Code	Description	Well Const.
- 0 - - 2 - - 4 -	No.	I K	222	0	SW CL	Asphalt—covered surface. Asphalt (3 inches). Sandy gravel, brown, damp, medium dense: baserock. Sandy clay with silt, black, damp, low plasticity, soft; no product odor: fill. Grades to bluish green © 3 1/2 feet. Glass fragments in sample. Grades to dark olive green © 6 feet. Silty clay with sand, dark alive green, moist, low plasticity, soft; no product odor; root holes.	\pi \q
- 8 - - 10 - - 12 -	S-10		222242	<u></u> 0		·	7
- 12 - - 14 - - 16 -						Depth of boring 12 feet.	
- 18 -							

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LOG OF BORING B—21 ARCO Station 4494 566 Hegenberger Road Oakland, California PLATE

4

Depth of boring: 11 feet Diameter of	boring: 8 inch	nes Date drilled: 12/8/92				
Well depth: N/A Material type:	N/A	_ Casing diameter:N/A				
Screen interval: N/A	Slot size:	N/A				
Drilling Company: Exploration Geoservices	Driller:	Dave and Dennis				
Method Used: Hollow-Stem Auger		Fjeld Geologist: Rob Campbell				
Signature of Registered Professional:						
Registration No.: CEG 1463 State: CA						

Asphalt—covered surface. Asphalt (3 inches). Sondy gravel, light brown, damp, medium dense; Yovov baserock. Sondy clay with gravel, damp, low plasticity, soft; Yovov glass and brick fragments, and rusted iron handles: Yovov glass and rusted iron handles: Yovov glass and rusted iron handles:
- 16 - - 18 - - 20 -

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LOG OF BORING B-22 ARCO Station 4494 566 Hegenberger Road Oakland, California PLATE 5

Depth of boring: 11 feet Diameter o	f boring: <u>8 inch</u>	es Date drilled: 12/8/92				
Well depth: N/A Material type	e:N/A	_ Casing diameter:N/A				
Screen interval: N/A	Slot size:	N/A				
Drilling Company: Exploration Geoservices	Driller:	Dave and Dennis				
Method Used: Hollow-Stem Auger		Field Geologist: Rob Campbell				
Signature of Registered Professional:						
Registration No.: CEG 1463 State: &A						

Asphalt—covered surface. SP Sandy gravel, brown, damp, medium dense: baserock. SP Sandy gravel, brown, damp, medium dense: baserock. CL Sandy clay with silt, dark brown, damp, low plasticity, firm; no product odor, glass and brick fragments: fill yover yover holes and roots. S-5 X 3 4 5 0	Depth Samp No.	e Blows	P.I.D.	USCS Code	Description	Well Const.
	- 0 - 2 - 3 - 5 - 5 - 6 - 5 - 10 - 12 - 14 - 16 - 18 - 18 - 18 - 18 - 18 - 18 - 18	Т 3 4 3 3	0	SP	Asphalt—covered surface. Asphalt (3 inches). Sandy gravel, brown, damp, medium dense: baserock. Sandy clay with silt, dark brown, damp, low plasticity, firm; no product odor, glass and brick fragments: fil Silty clay, black, damp, firm; no product odor; root holes and roots. Grades to less sand and becomes gray @ 7 feet. Silty clay with sand, and gravel stringers, gray, moist, low plasticity, firm; no product odor, root holes.	V Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q

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LOG OF BORING B-23 ARCO Station 4494 566 Hegenberger Road Oakland, California PLATE

6

Depth of boring: 11 feet [Diameter of boring: <u>8</u>	nchesDate_drilled:12/8/92
Well depth: N/A Mc	aterial type: <u>N/A</u>	Casing diameter:N/A
Screen interval: N/A	Slot size:	N/A
Drilling Company: Exploration	Geoservices Driller:	Dave and Dennis
Method Used: Hollow-St	tem Auger	Field Geologist: Rob Campbell
Signature of Regis	tered Professional:	11/
Registration	n No.: CEG 1463 State;	<u>/ CA</u>

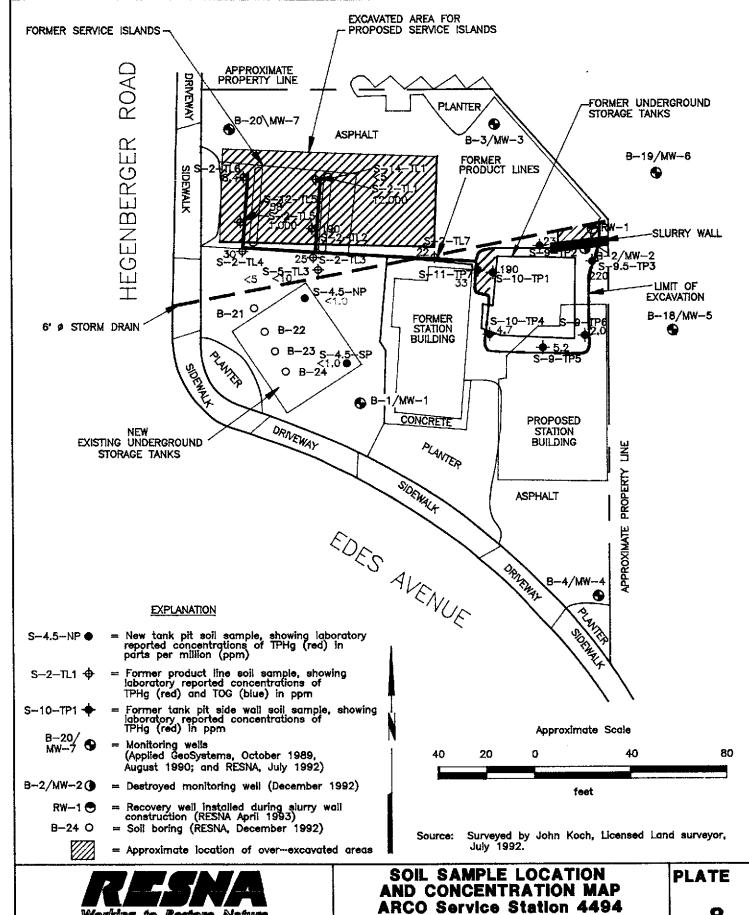
Depth	Samp No.	e	Blows	P.I.D.	USCS Code	Description	Well Const.
- 0 - - 2 - - 4 -	S-4.5		4 7	0	SP SM	Asphalt—covered surface. Asphalt (3 inches). Sandy gravel, brown, damp, medium dense: baserock. Silty sand, black, damp, loose; no product odor, glass fragments: fill.	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
- 6 - - 8 -	S-9.5	**	4 3 3 4	<u></u>	CL	Silty clay, gray, moist, low plasticity, firm; no product odor, root holes.	7
_ 12 -			4 5 6	=0		Depth of boring 11 feet.	\(\sigma \sig
- 14 - - 16 -							
- 18 -							
- 20 -							

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LOG OF BORING B-24
ARCO Station 4494
566 Hegenberger Road
Oakland, California

PLATE 7

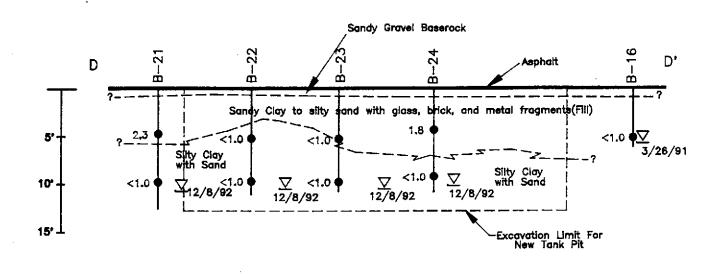


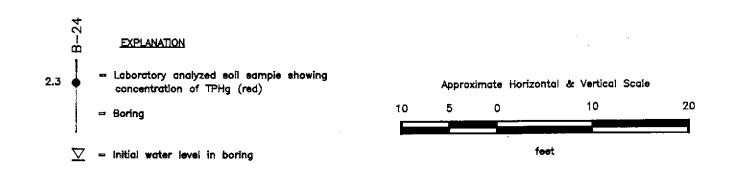
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566 Hegenberger Road Oakland, California

8





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GEOLOGIC CROSS SECTION D-D'
ARCO Service Station 4494
566 Hegenberger Road
Oakland, California

PLATE

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TABLE 1 RESULTS OF LABORATORY ANALYSES OF NEW TANK PIT SOIL SAMPLES ARCO Station 4494 Oakland, California

Sample ID	В	T	Е	x	ТРНд	STLC Lead
Borings December	8, 1992					
S-4.5-B21	0.010(<0.50)	< 0.0050(< 0.50)	< 0.0050(< 0.50)	0.0070(<0.50)	2.3	0.31
S-10-B21	< 0.0050(< 0.50)	<0.0050(<0.50)	<0.0050(<0.50)	<0.0050(<0.50)	< 1.0	< 0.10
S-5.5-B22	< 0.0050(< 0.50)	< 0.0050(< 0.50)	< 0.0050(< 0.50)	< 0.0050(< 0.50)	< 1.0	< 0.10
S-10-B22	< 0.0050(< 0.50)	<0.0050(<0.50)	< 0.0050(< 0.50)	<0.0050(<0.50)	< 1.0	< 0.10
S-5-B23	< 0.0050(< 0.50)	<0.0050(<0.50)	<0.0050(<0.50)	<0.0050(<0.50)	< 1.0	< 0.10
S-10-B23	< 0.0050(< 0.50)	<0.0050(<0.50)	< 0.0050(< 0.50)	< 0.0050(< 0.50)	< 1.0	< 0.10
S-4.5-B24	< 0.0050(< 0.50)	0.034(<0.50)	0.039 (< 0.50)	0.22(<0.50)	1.8	< 0.10
S-9.5-B24	< 0.0050(< 0.50)	<0.0050(<0.50)	<0.0050(<0.50)	<0.0050(<0.50)	< 1.0	< 0.10
Tank Pit Sidewall.	January 7, 1993					
S-4.5-NP	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	NA
S-4.5-SP	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	NA

Results in parts per million (ppm), the exception of TCLP BTEX which was reported in parts per billion (ppb).

Less than the indicated laboratory detection limit.

B: benzene, T: toluene, E: ethylbenzene, X: total xylenes TPHg : Total petroleum hydrocarbons as gasoline.

TPHg with BTEX distinction measured by EPA Methods 5030/8015/8020.

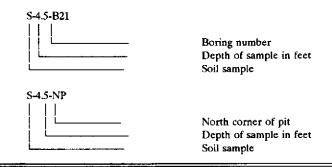
() : Analytical results of toxicity characteristic leaching procedure (TCLP) for BTEX in ppb.

NA: Not analyzed.

Sample Identification:

Soil Borings:

Excavation Samples:





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TABLE 2 RESULTS OF LABORATORY ANALYSES OF FORMER GASOLINE TANK PIT SOIL SAMPLES ARCO Station 4494 Oakland, California

Sample ID	В	T	E	x	TPHg	
December 17, 199	2					
S-10-TP1	3.5	0.99	7.2	6.0	190	
S-9-TP2	0.50	0.26	0.46	2.0	23	
S-9.5-TP3	2.2	1.6	7.0	5.7	220	
S-10-TP4	0.14	0.028	0.013	0.066	4.7	
S-9-TP5	0.031	0.020	0.014	0.059	5.2	
S-9-TP6	0.058	0.010	0.0050	0.010	2.0	
December 18, 199	2					
S-11-TP7	1.7	0.083	1.0	0.63	33	

Results in parts per million (ppm).

NA :

Not analyzed.

Less than the indicated laboratory detection limit.
 B: benzene, T: toluene, E: ethylbenzene, X: total xylenes.

TPHg : Total petroleum hydrocarbons as gasoline.

(TPHg with BTEX distinction measured by EPA Methods 5030/8015/8020).

Sample Identification:

S-10-TP1

Tank number

Depth of sample in feet

Soil sample



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TABLE 3 RESULTS OF LABORATORY ANALYSES OF PRODUCT-LINE AND PRODUCT-DISPENSER SOIL SAMPLES ARCO Station 4494 Oakland, California

Sample ID	В	T	E	x	TPHg	TOG
December 17, 199	92					
S-2-TL1	220	1,000	310	1,700	12,000	NA
S-2-TL2	5.6	15	6.6	26	190	NA
S-2-TL3	0.83	0.095	0.34	0.33	25	NA
S-2-TL4	0.83	3.9	0.92	5.6	30	NA
S-2-TL5	10	7.7	34	120	1,100	NA
S-2-TL6	0.16	0.044	0.018	1.1	8.4	NA
S-2-TL7	0.71	0.055	0.80	0.44	22	NA
December 18, 199	02					
S-14-TL1	< 0.005	< 0.005	< 0.005	< 0.015	<5	NA
S-5-TL3	0.047	0.006	0.010	0.019	<5	< 10
S-12-TL5	1.5	0.21	1.6	0.95	58	NA

Results in parts per million (ppm).

< : Less than the laboratory detection limit.

B: benzene, T: toluene, E: ethylbenzene, X: total xylenes

BTEX :

Measured by EPA Method 8020.

TPHg :

Total petroleum hydrocarbons as gasoline by EPA Methods 5030/8015.

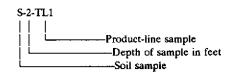
TOG :

Total oil and grease by EPA Method 418.1.

NA

Not analyzed.

Sample Identification:





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TABLE 4 RESULTS OF LABORATORY ANALYSES OF STOCKPILED SOILS ARCO Station 4494 Oakland, California

Sample ID	В	Т	E	x	ТРНд	TCLP Lead
December 18, 1	.992		122 22 1 .			
SP1-1A-D*	0.40(<0.50)	2.9(110)	4.5(180)	49(1,900)	810(11,000)	0.68
SP1-2A-D	0.27 (< 0.50)	1.4(<0.50)	1.6(<0.50)	20(620)	450(5,000)	0.29
SPI-3A-D	< 0.0050(< 0.50)	< 0.0050(< 0.50)	0.10(<0.50)	1.7(59)	77(1,400)	0.33
SP1-4A-D	0.020(<0.50)	0.059(<0.50)	0.027(<0.50)	1.6(19)	2.5(<50)	0.13
SP1-5A-D	< 0.0050(< 0.50)	1.4(78)	2.3(110)	15(800)	360(8,000)	0.32
SP1-6A-D	0.10(<0.50)	0.54(<0.50)	0.50(<0.50)	15(530)	430(5,000)	0.58
SP2-1A-D	2.7(90)	2.6(<0.50)	20(500)	27(800)	930(9,300)	1.3
SP2-2A-D	0.80(83)	1.7(190)	3.7(140)	13(720)	220(5,000)	0.46
SP2-3A-D	15(230)	64(860)	70(750)	360(4,100)	3,200(22,000)	0.48
SP2-4A-D	4.4(370)	18(1,500)	29(1,500)	140(7,900)	1,300(34,000)	0.54
SP2-5A-D	1.7(66)	7.1(210)	11(560)	40(750)	690(8,100)	0.39
SP2-6A-D	9.2(310)	36(1,200)	59(1,500)	280(7,800)	2,700(30,000)	0.21
SP3-1A-D	< 0.0050(< 0.50)	< 0.0050(< 0.50)	< 0.0050(< 0.50)	0.026(<0.50)	<1.0(<50)	0.33
SP3-2A-D	< 0.0050(< 0.50)	<0.0050(<0.50)	< 0.0050(< 0.50)	< 0.0050(< 0.50)	<1.0(<50)	0.29
SP3-3A-D	0.0080(<0.50)	0.010(<0.50)	0.014(<0.50)	0.077(<0.50)	2.8(<50)	0.97
SP3-4A-D	0.0060(<0.50)	0.012(<0.50)	0.012(<0.50)	0.078(<0.50)	2.2(<50)	0.28
SP3-5A-D	< 0.0050(< 0.50)	0.0080(<0.50)	0.010(<0.50)	0.092(<0.50)	2.6(<50)	0.76
SP4-1A-D	0.022(<0.50)	0.014(<0.50)	0.036(<0.50)	0.066(<0.50)	2.3(<50)	1.7
SP4-2A-D	< 0.0050(< 0.50)	< 0.0050(< 0.50)	< 0.0050(< 0.50)	0.020(<0.50)	<1.0(<50)	0.18
SP4-3A-D	0.0060(<0.50)	0.011(<0.50)	0.013(<0.50)	0.062(<0.50)	1.8(<50)	0.38
SP4-4A-D	0.0080(<0.50)	0.0090(<0.50)	0.0080(<0.50)	0.049(<0.50)	1.4(<50)	0.47
SP4-5A-D	0.012(<0.50)	0.029(<0.50)	0.035(<0.50)	0.17(<).50)	4.7(<50)	0.44

Results in parts per million (ppm), with the exception of TCLP BTEX, which is in parts per billion (ppb).

B: benzene, T: toluene, E: ethylbenzene, X: total xylenes.

TPHg : Total petroleum hydrocarbons as gasoline.

TPHg and BTEX were analyzed using EPA Methods 5030/8015/8020. STLC : Soluable threshold limit concentration of lead in ppm.

() : Solution three concentration of lead in ppm.

() : Analytical results of toxicity characteristic leaching procedure (TCLP) for BTEX and TPHg in ppb.

: Less than the laboratory detection limit.

Sample Identification:

SP2-1A-D
Composite sample
Stockpile 2



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TABLE 5 RESULTS OF LABORATORY ANALYSES OF RESAMPLED STOCKPILED SOILS ARCO Station 4494 Oakland, California

Sample ID	В	Т	E	X	ТРНд	
March 1, 1993						
SP3-3E-H	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	
SP3-4E-H	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	
SP4-1E-H	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 1.0	
SP4-3E-H	< 0.0050	< 0.0050	0.0080	< 0.0050	1.7	
SP4-4E-H	< 0.0050	< 0.0050	< 0.0050	0.021	< 1.0	
SP4-5E-H	< 0.0050	< 0.0050	< 0.0050	0.013	< 1.0	

Results in parts per million (ppm).

B: benzene, T: toluene, E: ethylbenzene, X: total xylenes. TPHg : Total petroleum hydrocarbons as gasoline.

TPHg and BTEX were analyzed using EPA Methods 5030/8015/8020.

Control of the laboratory detection limit.

Sample Identification:

SP3-3E-H

---Composite sample ----Stockpile 3



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TABLE 6

RESULTS OF LABORATORY ANALYSES OF "GRAB" WATER SAMPLE FROM FORMER TANK PIT-BTEX, TPHg, TPHd, TOG, Pb, Zn, Cr, Cd, Ni, and Fingerprint

ARCO Station 4494

Oakland, California

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Sample ID	В	Т	Е	x	ТРНд	ТРН	TOG	Рb	Zn	Cr	Cd	Ni
TP-1g	3,900	5,400	1,800	11,000	57,000	NA	NA	NA	NA	NA	NA	NA
TP-1d	NA	NA	NA	NA	NA	170,000*	NA	NA	NA	NA	NA	NA
TP-10	NA	NA	NA	NA	NA	NA	81,000	NA	NA	NA	NA	NA
TP-1m	NA	NA	NA	NA	NA	NA	NA	0.19	0.31	0.069	< 0.10	0.11

HYDROCARBON FINGERPRINT

TP-2 Fingerprint analysis indicated a chromatogram pattern between a degraded gasoline and motor oil

Results in parts per billion (ppb).

Less than the laboratory detection limit.

B: benzene, T: toluene, E: ethylbenzene, X: total xylenes

TPHg : Total petroleum hydrocarbons as gasoline.

(TPHg with BTEX distinction measured by EPA Methods 5030/8015/8020).

TPHd : Total petroleum hydrocarbons as diesel by EPA Methods 3510/3520/8015.

* : Chromatogram pattern indicated a non-diesel mix in sample.

TOG : Total oil and grease by EPA Method 418.1.

Pb : Lead by EPA Method 7421.
Zn : Zinc by EPA Method 6010.
Cr : Chromium by EPA Method 6010.
Cd : Cadmium by EPA Method 6010.
Ni : Nickel by EPA Method 6010.

The fingerprint was performed using simulated distillation by gas chromatography.



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TABLE 7

RESULTS OF LABORATORY ANALYSES OF "GRAB" WATER SAMPLE FROM FORMER TANK PIT-VOCs, BNAs, Organochlorine Pesticides, and PCBs ARCO Station 4494

ARCO Station 4494 Oakland, California

Sample ID	VOCs	BNAs	Organochloride Pesticides	PCBs
TP-1 ar	ıd		-	
TP-1p	3,800 Benzene	3,800 2-Methylnaphalene	< 800	< 200
	6,300 Toluene	6,600 Naphthalene		
	1,500 Ethylbenzene	•		
	7,300 Total Xylenes			

Results in parts per billion (ppb).

< : Less than the laboratory detection limit.

VOCs : Volatile organic compounds by EPA Method 624.

BNAs : Base neutral acids by EPA Method 625.

PCBs : Polychlorinated biphenyls (and organochloride pesticides) by EPA Method 8080.

Compounds not listed were not detected.

APPENDIX A PREVIOUS ENVIRONMENTAL WORK



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PREVIOUS ENVIRONMENTAL WORK

Beginning in December 1988 and continuing through January 1989, Pacific Environmental Group (PEG) of Santa Clara, California, and Crosby & Overton, Inc. (C&O), of Oakland, California, conducted an initial environmental investigation. The investigation included the removal of one 280-gallon waste-oil tank (WOT), and collection of soil samples from beneath the WOT for laboratory analyses (PEG, May 1989). PEG reported that the WOT showed no evidence of leakage; however, a strong product odor was noted in the soil beneath the WOT. The tank pit was excavated to a depth of 7 feet, and one soil sample (WO-1) was collected for laboratory analyses. The tank pit was deepened to 10 feet, and a second sample was collected for laboratory analyses (WO-2). The laboratory results of sample WO-1, collected at 7 feet, indicated concentrations of 4,500 ppm total oil and grease (TOG), 4,800 ppm high boiling point hydrocarbons (HBPH) calculated as oil, and 370 ppm HBPH calculated as diesel. Laboratory analysis of sample WO-2, collected at 10 feet, indicated nondetectable levels of TPHg (less than 5 ppm), TOG (less than 20 ppm), HBPH calculated as oil (less than 10 ppm), and HBPH calculated as diesel (less than 10 ppm).

Four sidewall samples were taken at a depth of 7 feet in the tank pit (WOSW-N, WOSW-E, WOSW-S, and WOSW-W). The results of these samples indicated that the concentration of TOG ranged from < 10 ppm to 200 ppm, HBPH calculated as oil ranged from < 10 ppm to 400 ppm, and HBPH calculated as diesel ranged from < 10 ppm to 33 ppm. The highest concentrations were found in sample WOSW-N. Based on these analytical results, 3-1/2 more feet of soil were excavated from the north wall of the former tank pit to remove the hydrocarbon impacted soil (PEG, May 1989).

In October of 1989, RESNA (formerly Applied GeoSystems [AGS]) drilled and sampled two soil borings (B-1 and B-2), and installed and sampled two groundwater monitoring wells (MW-1 and MW-2, respectively) (AGS, February 1991). Laboratory results of the soil and groundwater samples collected from the borings/wells indicated the presence of predominantly degraded gasoline hydrocarbons. Laboratory Analysis of soil samples from the borings for the presence of total metals, indicated concentrations below the Total Threshold Limit Concentration Values (TTLC) of the metals cadmium, chromium, lead, and zinc as reported in Title 22 of the California State Administrative Code (California Administrative Code, January 1988).

Laboratory analysis of the groundwater samples collected from well MW-1 for the presence of total metals indicated detectable levels slightly above the Maximum Contaminant Levels (MCL) for Drinking Water (Department of Health Services State of California, October 1990). A black hydrocarbon product ranging between 2 and 11 inches thick was reported



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in well MW-2 at the time of drilling and well installation. Due to the presence of the black hydrocarbon product in well MW-2, the investigation was suspended until a records search could be done to evaluate potential offsite contaminant sources in the inferred upgradient direction of the site (AGS, February 1991).

In February of 1990, an environmental records search was performed (AGS, October 1990) for properties within a 1/2 mile radius of the site using information supplied by ARCO, Alameda County Flood Control and Water Conservation District (Zone 7), and the California Department of Water Resources. During the search it was discovered that several facilities in the area are under investigation for soil and groundwater impacted by solvents, metals, and petroleum hydrocarbons. In addition, numerous facilities in the area have stored of fuels and solvents in USTs. Many of these USTs were removed in the 1970's and early 1980's when there were few requirements for testing of soil and groundwater was minimal.

In August 1990, RESNA resumed work on the site with the drilling and sampling of three soil borings (B-3 through B-5), and the installation and sampling of two groundwater monitoring wells, MW-3 and MW-4 in borings B-3 and B-4, respectively. Laboratory results for the soil and water samples collected from the borings/wells indicated that hydrocarbons present consisted predominantly of degraded gasoline, and that concentrations of total metals were detected at concentrations in groundwater slightly above respective MCLs, and at concentrations in soil slightly below respective TTLCs.

As a part of the initial subsurface investigation a survey was conducted of active, inactive, and destroyed water supply wells and monitoring wells listed with the County of Alameda Public Works Agency (CAPWA) within the vicinity of the site. According to CAPWA records there were no active public-use or domestic-use water producing wells, but there were two industrial-use wells, one irrigation well, and 39 monitoring wells within a ½-mile radius of the site (AGS, February 1991).

In June 1990, AGS began quarterly monitoring and sampling of wells MW-1 and MW-2. In August 1990, monitoring wells MW-3 and MW-4 were installed and added to the quarterly monitoring program. The most recent quarterly monitoring of wells MW-1, MW-3, and MW-4, indicated nondetectable concentrations of gasoline hydrocarbons as gasoline in the groundwater (RESNA, November 1992). In previous quarters, a heavy sheen of black hydrocarbon product was reported in monitoring well MW-2; however, a skimmer was installed in MW-2 in November 1991, and in the first quarter 1992 no sheen was observed and the well was sampled. Laboratory results from MW-2 indicated concentrations of 48,000 ppm TPHg, 2,000 ppm benzene, 580 ppm toluene, 2,300 ppm ethylbenzene, and 7,000 ppm total xylenes. A groundwater gradient and flow direction of approximately 0.02 to the northeast was interpreted for the site based on depth to water levels measured between



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January 19 and March 20, 1992. This flow direction was consistent with those previously interpreted, but is opposite of the inferred flow direction based on topography, and data presented by Hickenbottom and Muir (June 1988). Information obtained during the records search indicated that a buried tidal slough was present at the site before filling and development took place, and may be influencing the groundwater gradient.

In March 1991, RESNA conducted a preliminary tank replacement assessment (AGS, May 1991) which consisted of drilling and sampling twelve soil borings (B-6 through B-17), and analyzing selected soil samples from the borings. These borings were requested by ARCO to evaluate petroleum hydrocarbons in the soil before the pending removal and replacement of the existing USTs. One boring (B-6) was located in the vicinity of the proposed location of future gasoline USTs; four borings (B-7 through B-10) were drilled around the perimeter of the three existing USTs; five soil borings were drilled in the area of the proposed location of a station building; one boring (B-16) was drilled in the vicinity of the southwestern corner of the proposed gasoline USTs; and one boring (B-17) was drilled in the northwestern corner of the site.

Laboratory analytical results of the soil samples from B-6 through B-17 indicated that the soil in the area of the existing USTs had been impacted by gasoline hydrocarbons. The soil in the area of the proposed station building had not been impacted by gasoline hydrocarbons, but had been impacted by TOG. The soil in the northwestern corner of the site had been impacted by both gasoline hydrocarbons and TOG.

In December of 1991, a Horner EZY Floating Product skimmer was installed in groundwater monitoring well MW-2 as an interim groundwater remediation system. The skimmer has been checked on a monthly basis since installation, and it appears that floating product has subsequently been removed.

In July 1992, an additional subsurface investigation was performed by RESNA, which included drilling two offsite borings (B-18 and B-19) and one onsite boring (B-20), installing two offsite wells MW-5 and MW-6 in borings B-18 and B-19, and onsite well MW-7 in boring B-20. The earth materials encountered during this investigation consisted primarily of silty and sandy clays interbedded with sandy gravel and sand. Groundwater was encountered between depths of 7 and 15 feet. All samples collected from offsite borings B-18 and B-19 indicated nondetectable concentrations of TPHg (less than 50 ppm) and BTEX (less than 0.0050 ppm). Most soil samples collected from onsite boring B-20 indicated nondetectable concentrations with respect to TPHg and BTEX, with the exception of total xylenes (0.022 ppm) in a soil sample collected at seven feet. It was concluded from the additional investigation that the majority of gasoline hydrocarbons in the soil at the site appear to be limited to the area beneath and directly northeast of the then existing gasoline



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USTs, at depths between 3 and 20 feet; and TPHg and BTEX appeared to be localized in the groundwater near then existing MW-2, located immediately downgradient to the former USTs.

APPENDIX B FIELD METHODS



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FIELD PROTOCOL

The following presents RESNA Industries' Inc.'s (RESNA's) field protocol for a typical site investigation involving hydrocarbon-impacted soil and/or groundwater.

Site Safety Plan

The Site Safety Plan describes the safety requirements for the evaluation of hydrocarbons in soil, groundwater, and the vadose-zone at the site. The site Safety Plan is applicable to personnel of RESNA and its subcontractors. RESNA's personnel and subcontractors of RESNA scheduled to perform the work at the site are briefed on the contents of the Site Safety Plan before work begins. A copy of the Site Safety Plan is available for reference by appropriate parties during the work. A site Safety Officer is assigned to the project.

Soil Excavation

Permits are acquired prior to the commencement of work. Excavated soil is evaluated using a field calibrated (using isobutylene) Thermo-Environmental Instruments Model 580 Organic Vapor Meter (OVM). This evaluation is done upon arrival of the soil at the ground surface in the excavator bucket by removing the top portion of soil from the bucket, and then placing the intake probe of the OVM against the surface of the soil in the bucket. Field instruments such as the OVM are useful for measuring relative concentrations of vapor content, but cannot be used to measure levels of gasoline hydrocarbons with the accuracy of laboratory analysis. Samples are taken from the soil in the bucket by driving laboratorycleaned brass sleeves into the soil. The samples are sealed in the sleeves using aluminum foil, plastic caps, and aluminized duct tape; labeled; and promptly placed in iced storage. If field subjective analyses suggest the presence of gasoline hydrocarbons in the soil, additional excavation and soil sampling is performed, using similar methods. If groundwater is encountered in the excavation, groundwater samples are collected from the excavation using a clean Teflon® bailer. The groundwater samples are collected as described below under "Groundwater Sampling". The excavation is backfilled or fenced prior to departure from the site.

Sampling of Stockpiled Soil

One composite soil sample, consisting of four soil samples, is collected from each 50 cubic yards of stockpiled soil, and for each individual stockpile less than 50 cubic yards. Soil samples are obtained by first evaluating relatively high, average, and low areas of hydrocarbon concentration by digging approximately one to two feet into the stockpile and placing the intake probe of a field calibrated OVM against the surface of the soil; and then



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collecting one sample from the "high" reading area, and three samples from the "average" areas. Samples are collected by removing the top one to two feet of soil, then driving laboratory-cleaned brass sleeves into the soil. The samples are sealed in the sleeves using aluminum foil, plastic caps, and aluminized duct tape; labeled; and promptly placed in iced storage for transport to the laboratory, where compositing is performed.

Soil Borings

Prior to the drilling of borings and construction of monitoring wells, permits are acquired from the appropriate regulatory agency. In addition to the above-mentioned permits, encroachment permits from the City or State are acquired if drilling of borings offsite on City or State property is necessary. Copies of the permits are included in the appendix of the project report. Prior to drilling, Underground Services Alert (USA) is notified of our intent to drill, and known underground utility lines and structures are approximately marked.

The borings are drilled by a truck-mounted drill rig equipped with 8- or 10-inch-diameter, hollow-stem augers. The augers are steam-cleaned prior to drilling each boring to minimize the possibility of cross-contamination. After drilling the borings, monitoring wells are constructed in the borings, or neat-cement grout with bentonite is used to backfill the borings to the ground surface.

Borings for groundwater monitoring wells are drilled to a depth of no more than 20 feet below the depth at which a saturated zone is first encountered, or a short distance into a stratum beneath the saturated zone which is of sufficient moisture and consistency to be judged as a perching layer by the field geologist, whichever is shallower. Drilling into a deeper aquifer below the shallowest aquifer is begun only after a conductor casing is properly installed and allowed to set, to seal the shallow aquifer.

Drill Cuttings

Drill cuttings subjectively evaluated as containing gasoline hydrocarbons at concentrations greater than 100 parts per million (ppm) are separated from those subjectively evaluated as containing gasoline hydrocarbons at concentrations less than 100 ppm. Evaluation is based either on subjective evidence of soil discoloration, or on measurements made using a field calibrated OVM. Readings are taken by placing a soil sample into a ziplock-type plastic bag and allowing volatilization to occur. The intake probe of the OVM is then inserted into the headspace created in the plastic bag immediately after opening it. The drill cuttings from the borings are placed in labeled 55-gallon drums approved by the Department of Transportation, or on plastic at the site, and covered with plastic. The cuttings remain the responsibility of the client.



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Soil Sampling in Borings

Soil samples are collected at no greater than 5-foot intervals from the ground surface to the total depth of the borings. The soil samples are collected by advancing the boring to a point immediately above the sampling depth, and then driving a California-modified, split-spoon sampler containing brass sleeves through the hollow center of the auger into the soil. The sampler and brass sleeves are laboratory-cleaned, steam-cleaned, or washed thoroughly with Alconox® and water, prior to each use. The sampler is driven with a standard 140-pound hammer repeatedly dropped 30 inches. The number of blows to drive the sampler each successive six inches are counted and recorded to evaluate the relative consistency of the soil.

The samples selected for laboratory analysis are removed from the sampler and quickly sealed in their brass sleeves with aluminum foil, plastic caps, and plastic zip-lock bags or aluminized duct tape. The samples are then labeled, promptly placed in iced storage, and delivered to a laboratory certified by the State of California to perform the analyses requested.

One of the samples in brass sleeves not selected for laboratory analysis at each sampling interval is tested in the field using an OVM that is field calibrated at the beginning of each day it is used. This testing is performed by inserting the intake probe of the OVM into the headspace in the plastic bag containing the soil sample as described in the Drill Cuttings section above. The OVM readings are presented in Logs of Borings included in the project report.

Logging of Borings

A geologist is present to log the soil cuttings and samples using the Unified Soil Classification System. Samples not selected for chemical analysis, and the soil in the sampler shoe, are extruded in the field for inspection. Logs include texture, color, moisture, plasticity, consistency, blow counts, and any other characteristics noted. Logs also include subjective evidence for the presence of gasoline hydrocarbons, such as soil staining, noticeable or obvious product odor, and OVM readings.

Groundwater Sampling

The static water level in each well is measured to the nearest 0.01-foot using a Solinst® electric water-level sounder or oil/water interface probe (if the wells contain floating product) cleaned with Alconox® and water before use in each well. The depth of each well



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is also measured. The liquid in the wells is examined for visual evidence of gasoline hydrocarbons by gently lowering approximately half the length of a Teflon® bailer (cleaned with Alconox® and water) past the air/water interface. The sample is then retrieved and inspected for floating product, sheen, emulsion, color, sediment, and clarity. Obvious product odor is recorded if noted. If floating product is present in the well, the thickness of floating product is measured using an oil/water interface probe and is recorded to the nearest 0.01 foot. Floating product is removed from wells on site visits.

Groundwater samples from the wells are collected in approximate order of increasing product concentration, as best known or estimated. Wells which do not contain floating product are purged using a submersible pump. Equipment which comes in contact with the interior of the well or the groundwater is cleaned with Alconox® and deionized or distilled water prior to use in each well. The wells are purged until withdrawal is of sufficient duration to result in stabilized pH, temperature, and electrical conductivity of the water. These parameters are measured to the nearest 0.1 pH unit, 0.1 degree F, and 10 umhos/cm, respectively, using portable meters calibrated daily to a buffer and conductivity standard, according to the manufacturer's specifications. If sufficient water is present, a minimum of four well volumes is purged from each well. If the well becomes dewatered, the water level is allowed to recover to at least 80 percent of the initial water level. When recovery of the water level has not reached at least 80 percent of the static water level after two hours, a groundwater sample will be collected when sufficient volume is available to fill the sample container. Prior to the collection of each groundwater sample, the Teflon® bailer is cleaned with Alconox® and rinsed with tap water and deionized water, and the latex gloves worn by the sampler changed. Hydrochloric acid is added to the sample vials as a preservative (when applicable). Sample containers remain sealed until usage at the site. A sample method blank is collected by pouring distilled water into the bailer and then into sample vials. Method blanks are analyzed periodically to verify effective cleaning procedures. A sample of the formation water is then collected from the surface of the water in each of the wells using the Teflon® bailer. The water samples are then gently poured into laboratory-cleaned, 40-milliliter (ml) glass vials, 500 ml plastic bottles or 1-liter glass bottles (as required for specific laboratory analysis), sealed with Teflon®-lined caps, and inspected for air bubbles to check for headspace, which would allow volatilization to occur. If a bubble is evident, the cap is removed, more sample is added, and the bottle resealed. The samples are then labeled and promptly placed in iced storage, and the wellhead is secured. A field log of well evacuation procedures and parameter monitoring is maintained. Water generated by the purging of wells is stored in 17E DOT 55-gallon drums, and floating product bailed from the wells is stored in double containment onsite; this water and product remains the responsibility of the client.



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Sample Labeling and Handling

Sample containers are labeled in the field with the job number, unique sample location, depth, and date, and promptly placed in iced storage for transport to the laboratory. A Chain of Custody Record is initiated by the field geologist and updated throughout handling of the samples, and accompanies the samples to a laboratory certified by the State of California for the analyses requested. Samples are transported to the laboratory promptly to help ensure that recommended sample holding times are not exceeded. Samples are properly disposed of after their useful life has expired.

APPENDIX C CHRONOLOGICAL SUMMARY OF SITE ACTIVITIES



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SUMMARY OF SITE ACTIVITIES ARCO STATION 4494 566 Hegenberger Road Oakland, California

<u>Date</u>	Activity
12-07-92	Site meeting with ARCO, Golden West, COFD, and RESNA to discuss tank removal and replacement activities. Received drilling permits from ACFCWCD, Zone 7.
12-08-92	Drilled four soil borings (B-21 through B-24) and destroyed well MW-2. Borings B-21 through B-24 were drilled to an approximate depth of 12 feet, and well MW-2 was drilled out 1 foot below bottom of well, approximately 18 feet.
12-14-92	Called the BAAQMD to talk about how much soil could be aerated. A five day notice is needed before aeration can be initiated. A fax notification form was completed and faxed to Bertha at BAAQMD.
12-15-92	Golden West removed tank slab and exposed tanks and stockpiled contaminated soil. Scheduled GTEL and scheduled mobile lab for Friday, December 18, 1992.
12-16-92	Golden West removed canopy and exposed product delivery and vapor lines back to USTs. Flushed lines and USTs were cleaned starts to expose underground gasoline-storage tanks (USTs) at the site. No environmental work was performed.
12-17-92	Removed underground gasoline storage tanks and collected soil samples from the former tank pit side walls and beneath former product lines as directed by Mr. Barney Chan of the ACHCSA.
12-18-92	Over-excavation activities were performed at the direction of Mr. Barney Chan of the ACHCSA in the former tank pit and beneath the former product lines and collected confirmation samples which were submitted to the mobile laboratory for analysis.
12-21-92	Over-excavated soil in the northeastern corner of the former tank pit to an existing 6-foot diameter storm drain, in attempt to chase the black hydrocarbon product and find a source. It was determined by Mr. Chan of the ACHCSA and a RESNA field geologist that the black hydrocarbon product was migrating through the storm drain backfill to the former tank pit.
12-22-92	Golden West Removed asphalt for new tank pit. H & H Shipping removed water from the former tank pit and over-excavated area new storm drain.
12-23-92	Onsite meeting with ARCO and RESNA discussing slurry wall design options and future work at the site.
12-28-92	Collected water samples of the black hydrocarbon product in the former tank pit for fingerprint analyses and submitted split samples to Core Laboratories and ARCO's Refinery for analysis. Mr. Barney Chan of ACHCSA requested an Addendum Two to Work Plan to outline slurry wall construction.
12-29-92	H & H Shipping removed the black hydrocarbon product floating on the surface of the standing water in the former tank pit.
12-30-92	Brit Johnson and Barney Chan of ACHCSA called me about the soil sample results from borings B-21 through B-24. They said that we needed better lateral definition of the soil in the proposed tank pit if we were going to use it as backfill for the former UST pit. Brit wanted two samples collected from the northeastern and southeastern corners of the proposed tank pit at approximately 4½ feet. Collected 6



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<u>Date</u>	composite soil samples from original soil piles SP-2 and submitted the samples under Chain of Custody documentation to Laidlaw Environmental for characterization and acceptance at their landfill. Activity
12-30-92 through 01-07-93	Rain prevented constructing slurry wall and backfilling former UST pit.
01-04-93	Golden West started to install shoring for new tank hole. No environmental work performed.
01-05-93	Golden West finished shoring for new tank hole. No environmental work performed.
01-06-93	Golden West initiated excavating new tank pit and stockpiled soil for possible backfill for the former UST pit. No environmental work performed.
01-07-93	Finished excavating new tank pit, collected two soil samples (NE and SE) from the northeastern and southeastern corners of the new tank pit at approximately 4½ feet below ground surface, as per request of Britt Johnson of ACHCSA, and submitted with Chain of Custody documentation to Sequoia Analytical to be analyzed for TPHg and BTEX by EPA Methods 5030/8015/8020. The results indicated nondetectable concentrations of TPHg and BTEX in both samples. Site meeting with ARCO, RESNA, and Golden West to discuss slurry wall construction and interim groundwater remediation. The rain kept us inside the trailer and further delayed construction of the slurry wall. It was determined that day through the soil engineer for the site, Philip Chang, of B&CA, that groundwater extraction would cause differential settling of the buildings' foundation. After discussing our remedial options, Mike Whelan wanted Valli to fax him and Golden West a diagram of a proposed sparge well design.
01-08-93	Golden West lined new tank pit with four rolls of visqueen to top of tanks and installed four 10,000 gallon double-lined fiberglass tanks in the pit. Installed dead men and filter fabric.
01-11-93 through	
01-15-93	Raining continually during the week, all environmental work postponed.
01-15-93	Meeting with Tom Wray of ARCO, Rob and Valli of RESNA, and Philip Chang, P.E. of B&CA. Items discussed were the following: 1) construction of proposed building without subsidence; 2) interim groundwater remediation activities; and 3) removal of stockpiled soil. Philip Chang is the ARCO soil engineering consultant. His job is to make sure that the building will not be compromised by the type of backfill and/or interim groundwater remediation within the former UST pit. The discussion centered around stabilizing the proposed building and two methods were vigorously discussed: 1) installed a pier to approximately 30 feet and 2) constructing a 1 foot thick, rebar re-enforced concrete slab, spanning the width of the former UST pit, and placing the building ontop of it. Tom Ray liked the second idea much more than the first and directed Philip Chang to look into it and get back to him. I also asked Phil to fax us (RESNA) a copy of the as-build.
01-15-93 through	
01-21-93	Raining off and on at the site, engineering design for the new building ongoing, kept site activities postponed.
01-20-93	Robert Campbell (RESNA) phoned Walt (Golden West) to ask him about what is going on at the site. He said that nothing yet. They're still waiting for the engineering of the new building foundation to be completed.
01-22-93	Robert Campbell (RESNA) called Walt (Golden West) to inquire about the activities at the site, and if he has heard anything about the soil removal from the site. He did not call back.
01-25-93	Robert Campbell (RESNA) called Rick Henderson (Golden West) and asked him if he had any news about work at the site. He said that he hasn't heard a thing about it, but if he does, he will give me a call.
01-27-93	Went to the site to show Dillard where the 200 cubic yards of soil going to BFI are located.



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01-28-93	Went to the site to observe removal of soil stockpiles SP1 and SP2.
<u>Date</u>	Activity
01-29-93	Went to the site to observe removal of soil stockpiles SP1 and SP2, and sign manifests.
01-29-93	Walt called Robert Campbell and said that Golden West is pulling out of the site until ARCO figures out where they are going to put the canopy and pumps. The soil we were going to use as a form for the slurry wall was re-excavated and put back into the Buttonwillow bound soil stockpile. Walt then faxed me an Environmental Form which we signed and faxed back to him at their office in Livermore.
02-01-93	Rick called Robert Campbell and faxed an Environmental Form which Walt forgot to have me sign for the visqueen beneath the new tanks. Signed it and faxed it back.
02-01-93	Robert Campbell called Patti Dillard to see if the 1,200 cubic yards of soil removed from the site went to the correct places. She called back and said yes, 1,000 cubic yards went to Laidllaw's Class II Landfill in Buttonwillow, California and 200 cubic yards went to BFI's Class III Landfill in Livermore, California.
02-04-93	Rob called Golden West to find out where the project is going to be done. Rick said that they're going to be working on the canopy tomorrow, but he does not know about old tank hole. He called Chase, and Chase told them to start-up again on the canopy, digging out for the pylons. Mike Whelan knows about old tank hole and the ball is in his court about what to do next. Rick said that if the soil they drill out is impacted, that they'll cover it with visqueen and call me to take samples.
02-05-93	Walt called me (Rob) and said that approximately 50-100 cubic yards have not been picked-up by Dillard, because they said it was too wet. I called Dillard and spoke with Patty about it and told her that Walt said, and that we need to get rid of the dirt ASAP. She said no problem.
02-05-93	Robert Campbell called Walt and told him that I'll be onsite on Monday and Tuesday.
02-05-93	Donna (Dillard Trucking) called me (Rob) and said that 17 trucks will be out at 4494 on Monday morning at 7:00 am to remove the excavated dirt. She also pointed out that Walt was excavating the dirt from the proposed slurry wall and placing it next to the soil that Dillard was excavating. The operator from Dillard asked Walt to move the soil he was placing next to the existing soil stockpiles being removed, because he thought that Walt was opening a new excavation. Walt just moved it and never said a thing to the loading operator from Dillard. Therefore, Walt of Golden West was not correct in telling me that Dillard could not take the soil because it was too wet.
02-08-93	Robert Campbell went to the site to observe soil removal by Dillard of the soil that Golden West forgot to remove from the former tank pit.
02-08-93 through 03-01-93	ARCO Construction and Barghausen researched the options for the soil removed from the new tank pit, including using it as backfill. Golden West had moved stockpile SP-4 and placed it in three different locations. This fact has further delayed activities at the site. Consultation with Mr. Barney Chan of the ACHCSA revealed that the soil generated from the new tank pit can be used for backfilling the former tank pit (especially the nondetectable soil); however, authorization must come from Mr. Brit Johnson, who happened to be in a training seminar all week (2/22 through 2/26). Therefore, site design and planning were delayed another week.
02-16-93 through 03-01-93	Heavy rains delayed site work
03-03-93	Heavy rains delayed site work. Results of soil samples collected last week indicated nondetectable concentrations of benzene in all samples. Therefore, the soil can be used as backfill.



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03-05-93	Received plans from Barghausen, scheduled site meeting for 3/10/93.
<u>Date</u>	Activity
03-08-93	Tank pull report completed 1st draft.
03-10-93	Site meeting with ARCO, Golden West, and RESNA personnel to discuss stockpiled soil options and backfilling of former tank pit. ARCO Environmental and ARCO Construction each agreed to pay half of the total cost for backfilling the former tank pit, including aeration of soils, fill materials, equipment, and labor. All soil indicating nondetectable concentrations of TPHg and BTEX will be disposed of by ARCO Construction.
03-11-93 through	
03-16-93	Aeration of stockpiled soil.
03-17-93	Dewatered former tank pit, and initiated backfilling using boulders, filter fabric, and pea gravel.
03-18-93 through	
03-23-93	Backfilling of former tank pit.
03-23-93 through	
03-28-93	Rain delayed work at site, soil covered with visqueen.
03-29-93 through	
03-31-93	Backfilling activities resumed, and aeration continued. Rain did not significantly saturate the soil.
04-01-93	Rain delayed work at the site, soil covered with visqueen.
04-02-93	Soil aeration resumed for the last three feet in former tank pit. Rain did not significantly saturate the soil.
04-05-93	Slurry wall constructed and 6-inch diameter recovery wall installed between slurry wall and 6-foot diameter storm drain.
04-07-93	Completed backfilling former tank pit in the vicinity of the proposed building.
04-08-93	Compaction tests of the backfilled former tank pit indicated compaction percents of 99, 97, 96, and 94; therefore, the backfilled former tank pit passed the compaction test.

APPENDIX D
WELL PERMITS

ZONE 7 WATER AGENCY



5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588

VOICE (510) 484-2600 FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE	FOR OFFICE USE
LOCATION OF PROJECT ALLO STATION 4494	PERMIT NUMBER 92629
566 tengnionen Rand	LOCATION NUMBER
Darling, CE	
CLIENT Lame ARCO DOLUTZ CO. Acres (A. Box 58/1 Phone (4/5) 57/-24	PERMIT CONDITIONS
City Son Maries Zp 94402	Circled Permit Requirements Apply
Name RESUL Industrias Inc.	A GENERAL
city Son Wase ZIP 95113	A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date. Submit to Zone 7 within 60 days after completion of permitted
TYPE OF PROJECT	work-the original Department of Water Resources Water Well Oriliers Report or equivalent for well Projects, or drilling logs
Well Construction Geotechnical Investigation Cathodic Protection General	and location sketch for geotechnical projects. (3.) Permit is void if project not begun within 90 days of approval
Water Supply Contamination Monitoring Well Destruction	date. B. WATER WELLS, INCLUDING PLEZOMETERS
PROPOSED WATER SUPPLY WELL USE	 Minimum surface seal thickness is two inches of cement grout
Domestic Industrial Other Municipal Irrigation	placed by remie. 2. Minimum seel depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation walls unless a lesser depth is specially approved. Minimum seel depth for
DRILLING METHOD: Mud Rotary Air Rotary Auger Cable Other	monitoring wells is the maximum depth practicable or 20 feet. C. GEOTECHNICAL. Backfill bore hole with compacted curtings or heavy bentonite and upper two feet with compacted material. In
DRILLER'S LICENSE NO. C-57 Y8YZ8	areas of known or suspected contamination, tremied coment grout shall be used in place of compacted cuttings. D. CATHODIC. Fill hole above anode zone with concrete placed by
WELL PRÖJECTS / Orill Hole Diameter in. Maximum	tremie. E. WELL DESTRUCTION. See attached.
Casing Diameter in. Depth fil. Surface Seal Depth ft. Number	
GEOTECHNICAL PROJECTS Number of Borings Maximum	
Hole Diameter In. Depth 20 ft.	
ESTIMATED STARTING DATE 12-08-92 ESTIMATED COMPLETION DATE 12-10-92	Approved Warman Hong Date 7 Dec 92
I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.	Wyman Hong
APPLICANTS Company Date 12/8/92	31992

Wyman Hong

13:15

\$\$408 284 7723



ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE

I hereby agree to comply with all requirements of this permit and Alamada.

County Ordinance No. 73-68.

PLEASANTON, CALIFORNIA 94588

VQICE (510) 484-2600 FAX (510) 462-3914

DRILLING PERMIT APPLICATION

a ,	
FOR APPLICANT TO COMPLETE	FOR OFFICE USE
LOCATION OF PROJECT PROD STATION 4494	PERMIT NUMBER 92628
THE TOO HEGENBERGER ROAD	LOCATION NUMBER 25/3W 21G80
DAMANDI CALIFORNIA	
	•
Name ARCO	PERMIT CONDITIONS
Address PO Box 58/1 Voice 45 811 240	
City SAN MATEO DP QUOS	Circled Permit Requirements Apply
APPLICANT	
Name FRIN MCLUCAS RESNA INDUSTRIES INC	C. (A.) GENERAL
Fax UAR) DLU-DU35	1. A permit application should be submitted so as to arrive at the
Address 3315 ALMADEN EXPY SURE 24 Voice (408) 264-2723	Zone 7 office five days prior to proposed starting date.
City SAN JOSE Zp 95/18	Submit to Zone 7 within 50 days after completion of permitted
	work the original Department of Water Resources Water Well
TYPE OF PROJECT	Drillers Report or equivalent for well Projects, or drilling logs
Well Construction Geotechnical Investigation	and location sketch for geotechnical projects.
Cathodic Protection General	3. Permit is void if project not begun within 90 days of approval
Water Supply Contamination	date.
Monitoring Wall Destruction	WATER WELLS, INCLUDING PIEZOMETERS Minimum surface seal thickness is two inches of carnett group
PROPOSED WATER SUPPLY WELL USE	 Minimum surface seal thickness is two inches of camera grouplaced by trende.
Domestic Industrial Other	2. Minimum seal depth is 80 feet for municipal and industrial we
Municipal Inigation	or 20 feet for domestic and irrigation wells unless a lesser
11.000011	depth is specially approved. Minimum seal depth for
DRILLING METHOD:	monitoring walls is the maximum depth practicable or 20 feet
Mud Rotary Air Rotary Auger	C. GEOTECHNICAL Backfill bore hole with compacted curtings or
Cable Other	heavy benionite and upper two feet with compacted material. In
	areas of known or suspected contamination, tremled cement grout
DRILLER'S LICENSE NO. <u>C57</u> 484-288	shall be used in place of compacted cuttings.
	D. CATHODIC. Fill hole above anode zone with concrete placed by
WELL PROJECTS	Temis.
Drill Hole Dlameter in. Maximum	E. WELL DESTRUCTION. See attached.
Casing Olameter 4 in. Depth 20 ft.	\bigcirc
Surface Seal Depth ft. Number 1	
GEOTECHNICAL PROJECTS	
Number of Borings Maximum	·
Hole Diameter In. Depth ft.	
ESTIMATED STARTING DATE 12-07-42	•
ESTIMATED STARTING DATE 12-07-12 ESTIMATED COMPLETION DATE 12-112-92	110
THE TOTAL STATE OF THE STATE OF	Approved Mimmon Hong Date 7 Dec 9
	NULL WILLIAM

APPENDIX E MANIFESTS FOR TANKS

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GOLDEN WEST TELEPHONE (510) 235-1393

TEL:510-447-4145 Feb 19 93 4:54 No.010 P.03

CERTIFIED SERVICES COMPANY

255 Parr Boulevard - Richmond, California 94801

CUSTOMER GOLDEN Wron JOB NO.

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FOR:Tulekson	Tue. TANK NO
LOCATION: Richmond	DATE: TIME:
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Petroleum Institute and have found the co	termined that this tank is in accordance with the Americ andition to be in accordance with its assigned designation existing at the time the inspection herein set forth we ce with all qualifications and instructions.
8000 Gallon Tank	SAFE FOR TERT
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"FRICKSOY INC. HEREBY CERTIFIES 3	THAT THE ABOVE NUMBERED TANK HAS BEEN
CUT OPEN, PROCESSED, AND THEREFO	ORE DUSTROYED AT OUR PERMITTED HAZARDOUS
WASTL LACELITY."	
	affecting the gas-free conditions of the above tanks, or if in any doursigned. This permit is valid for 24 hours if no physical or atmospheron.
SAFE FOR MEN: Means that in the compartment or s 19.5 percent by volume; and that (b) Toxic materials	space so designated (a) The oxygen content of the atmosphere is at le in the atmosphere are within permissable concentrations; and (c) In table of producing toxic materials under existing atmospheric conditions.
atmosphere is below 10 percent of the lower explosi- not capable of producing a higher concentration that and while maintained as directed on the inspector's	so designated (a) The concentration of flammable materials in ive limit; and that (b) In the judgment of the Inspector, the residues t permitted under existing atmospheric conditions in the presence of certificate, and further, (c) All adjacent spaces have either been clear troily inerted, or in the case of fuel tanks, have been treated as deen
The undersigned representative acknowledges receipt which it was issued.	of this certificate and understands the conditions and limitations und
	LE INSPECTOR

GOLDEN WEST TELEPHONE (510) 235-1393 TEL:510-447-4145 Feb 19 93 4:54 No.010 P.04

CERTIFIED SERVICES COMPANY

255 Parr Boulevard • Richmond, California 94801

CUSTOMER GOLDEN MISSE JOB NO. 30363

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19. Discrepancy Indication Space #2) 5/8 Pg 10f 1

20. Fuglity Owner or Operator Certification of receipt of hazardous materials covered by the manifest except as noted in them 10. Printed / Typed Nome

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TEL:510-447-4145 Feb 19 93 4:56 No.010 P.06 State of California—Health and Welton Agency See Instructions on back of page 6. Form designed for use on elite (12-pitch typewriter).

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Parel Topics Note: 100 to 100

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7550

APPENDIX F WATER AND SOIL DISPOSAL MANIFESTS

H&H ENVIRONMENTAL SERVICES

Division of H&H Ship Service Co., Inc. 220 Chine Beain St., San Francisco, CA 94107 ## (415) 543-4835 Fax # (415) 543-8265

FAX TRANSMITTAL

DATE:	2-19-93	Pages including this page
TO:	John C	Young
COMPANY:	Pacalk	
FROM:	RON	<i>J.</i>
SUBJECT:	Manifest	ordone for ARCO # 4494
COMMENT	S:	,
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NON-HAZARDOUS WASTE DATA FORM

	ARCO Product
	NAME ARCO Products Attn: Mike Whelan
	ADDRESS F. O. Box (41)
-	CITY STATE ZIP San Mateo, Cs. 94402 566 Hegenberger, Oakland Station #4494 PHONE NO 4,15 571-2434
TOR	CONTAINERS: No VOLUME WEIGHT
COMPLETED BY GENERATOR	TYPE: TANK THUCK DRIMS CARTONS OTHER Soil Contaminated with Generating PROCESS UST Removal COMPONENTS OF WASTE PPM COMPONENTS OF WASTE PPM COMPONENTS OF WASTE PPM COMPONENTS OF WASTE PPM Waste Oil 0.1 0.5
TO BE CO	9
	HANDLING INSTUCTION Profile 1059-BDN-0193 Station #4494
	THE GENERATOR CERTIFIES THAT: THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS. (Generator) (Generator) (Generator) (ACC)
~	DILLARD TRUCKING, INC.
RANSPORTER	DILLARD TRUCKING, INC. P. O. Box 218 1003/17
NSP	ADDRESS
A I	PHONE NO. 510 634-6850
·	TRUCK HILL ON THE STATE OF THE
	DATE
	NAME Laidlaw Environmental Services, Inc. EPA CAD 9 8 7 6 7 5 2 7 6
<u>₹</u>	ADDRESS 2500 Lokern Road DISPOSAL METHOD LANDFILL OTHER
5	CITY. STATE, ZIPButtonwillow, Ca. 93206-0787
TSD FACILITY	PHONE NO. 800 544-7199 TYPED ON PRINTED FULL NAME & SIGNATURE TOTAL DATE DATE
	GEN OLD/NEW L A TONS
	TRANS S B VC) (CC) 455
	C/O RT/CD HWDF NONE DISCREPANCY

NON-HAZARDOUS WASTE DATA FORM

	NAME ARCO Productes Attu: Mike Whichan
ļ	P. O. Box 5811
1	ADDRESS
	CITY, STATE, ZIP STIT MET CO. CA. 94/402 STALSON 94/494 PHONE NO. 413 571-2414
GENERATOR	CONTAINERS: No. 30 4357 VOLUME 13 WEIGHT
ER/	
Z W	TYPE: TANK Y THUCK DERUMS CARTONS OTHER
ڻ ک	WASTE DESCRIPTION UST Removal
) BY	COMPONENTS OF WASTE PPM & COMPONENTS OF WASTE PPM &
COMPLETED	5011 99.5 99.9 s.
Ä П	Waste 011 0.1 0.5
₹.	
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8	4
5	PROPERTIES: PH XV SOLID
,	MANDLING INSTUCTION Profile 1059-BDN-0193 Station #4494
	(Generator)
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	NON-HAZARDOUS. (NON-HAZARDOUS. (NON-HA
E	DILLARD TRUCKING, INC. NG Christ. 10. AD 9 8 1 6 9 2 8 0 9
ОКТІ	ADDRESS P. O. Box 218 7-760 MAHENTY PC SERVICE ORDER NO. 1003/17
TRANSPORTER	CITY, STATE ZIP Byron, California 94514 SANTA NASRIA PICK UP DATE 1-29-93
rrA	PHONE NO. \$10 634-6850
	TRUCK UNIT. ID. NO. 1 TYPED OR PRINTED FULL NAME & SIGNATURE DATE 1-70-83
-	
)	NAME Laidiaw Environmental Services, Inc. LD. C.A.D.9 B O 6 7 5 2 7 6
.	ADDRESS 2500 Lokern Road DIANGEN COLER
5	Buttonwillow, Ca. 93206-0787
TSD FACILITY	CITY, STATE, ZIP
Ţ.	PHONE NO. 800 544-7199
TSI	TYPED OR PRINTED FULL NAME & SIGNATURE DATE
	GEN DLD/NEW L A ZONS LOS
	TRANS 8 B 48,400
·	C/Q RT/CD HWOF NONE DISCREPANCY

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NON-HAZARDOUS WASTE DATA FORM

NAMEARCO Products Attn: MTke Whetan	
CITY, STATE, ZIP San Mateo, Ca. 94402 Station #4494 PHONE NO 415 571-2434 CONTAINERS: No 301 () 9 VOLUME 8 95 WEIGHT TYPE: TANK TRUCK XX TRUCK DRUMS CARTONS OTHER Soil Contaminated with Waste Description Waste 011 Generating Process UST Removal COMPONENTS OF WASTE PPM COMPONENTS OF WASTE PPM	70
TYPE: TANK DUMP DUMP TRUCK AND TRUCK DRUMS CARTONS OTHER Soil Contaminated with Waste Description Waste 011 Generating Process UST Removal COMPONENTS OF WASTE PPM & COMPONENTS OF WASTE PPM	T
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COMPONENTS OF WASTE PPM % COMPONENTS OF WASTE PPM '	
	
Waste 0il 0.1 0.5	
	<u>.</u>
8	ŧ
PROPERTIES: Neutral Solid Liquid Sludge Slurry OTHER	
HANDLING INSTUCTION Profile 1059-BDN-0193 Station #4494	
THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS. TYPED OR PRINTED FULL NAME & SIGNATURE (Generative Control of the ,r) <u>43</u>	
DILLARD TRUCKING, INC. HOTT TEAMS POR TATION NO. A D 9 8 1 6 9 2 8 0	9
ADDRESS P. O. BOX 218 355 MPPLE ST SERVICE CADER NO 1003/17	
NAME NAME NAME NAME NAME NAME NAME NAME	
m PHONE NO 410 834 6850 909 934-3191	3
TRUCK UNIT, ID. NO. 10- 56 T TYPED OF PRINTED FULL NAME & SIGNATURET	
NAME Laidlaw Environmental Services, Inc. Laidlaw Environmental Services, Inc. Disposal METHOD	<u> </u>
CITY, STATE, ZIP Buttonwillow, Ca. 93206-0787	
ADDRESS 2500 Lokern Road CITY STATE ZIP Buttonwillow, Ca. 93206-0787 CITY STATE ZIP PHONE NO. 800 544-7199 TYPED OR PRINTED ELLI NAME & SIGNATURE DATE	æ₁^.
	-1-5
TRANS OLD/NEW L A TONS CT S S B 10 CS	
TRANS S B 14.5% G/O HWDF NONE DISCREPANCY	

	NAME ARCO Products Attn: Mike Whelan
	ADDRESS P. O. Box 5811 10 CALPOQUPS 67
GENERATOR	566 Hegenberger, Oakland CITY STATE ZIP San Mateo, Ca. 94402 State on #4494 PHONE NO 415 571-2434
	CONTAINERS: No. 3/272 VOLUME 84DS WEIGHT
	TYPE: TANK THUCK DRUMS CARTONS OTHER Soil Contaminated with waste Description Aste Oil COMPONENTS OF WASTE PPM & COMPONENTS OF WASTE PPM &
ВУ	COMPONENTS OF WASTE PPM % COMPONENTS OF WASTE PPM %
ETED	1. Soil 99.5 89.9 5
PLE	Waste 0il 0.1 0.5
COMPLETE	3 7
BE	4
70	PROPERTIES: Neutral XX SOLID LIQUID SLUDGE SLURRY OTHER
	HANDLING INSTUCTION Profile 1059-BDN-0193 Station #4494
	THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS. (Generator) (Generator) (Generator) (Typed or Printed Fill NAME & SIGNATURE (DATE
Œ	DILLARD TRUCKING, INC. EPA C A D 9 8 1 6 9 2 8 0 9
TRANSPORTE	P. O. Box 218 ADDRESS
NSP	CITY, STATE ZIP Byron, California 94514 PICK UP DATE 1-29-93.
TRA	TRUCK UNIT. 10. No. 377782 TYPED OF PRINTED FULL NAME & SIGNATURE
	NAME Laidlaw Environmental Services, Inc. Lo C A D 9 8 0 6 7 5 2 7 6
<u>≻</u>	ADORESS 2500 Lokern Road DISPOSAL METHOD ADORESS 1 DISPOSAL METHOD LANDFILL OTHER 1
CILI	Buttonwillow, Ca. 93206-0787
TSD FACILITY	PHONE NO. 800 544-7199: Jack Daniëls Take Manua 1-29-93 Deed OR PRINTED FULL NAME & SIGNATURE DATE
	GEN OLD/NEW L A STATE LOS C/Q PT/CD - HWDF NONE DISCREPANCY
	TOTAL STOCK AND THE STOCK AND

ļ	NAME ARCO Products Attn: Mike Whelan
	ADDRESS P. O. Box 5811 10 САКРР9 РВ 6 В
	566 Hegenberger, Oakland CITY STATE ZIP San Mateo, Ca. 94402 Station #4494 PHONE NO 415 571-2434
ENERATOR	CONTAINERS: No 30 2664 VOLUME / 8/45 WEIGHT
GENER	TYPE: TANK XX THUCK DAUMS CARTONS OTHER Soil Contaminated with waste description waste Oil Generating process UST Removal
ΒY	WASTE DESCRIPTION Waste Oil GENERATING PROCESS UST Removal COMPONENTS OF WASTE PPM & COMPONENTS OF WASTE PPM &
COMPLETED	1. Soil 99.5 99.9 5
PLE	Waste Oil 0.1 0.5
	3 7
BE	4
5	PROPERTIES: Neutral XX SOLID LIQUID SLUDGE SLURRY OTHER
	HANDLING INSTUCTION Profile 1059-BDN-0193 Station #4494
	THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED, IS 100% NON-HAZARDOUS. THE WASTE AS DESCRIBED, IS 100% NON-HAZARDOUS. (Generator) (Generator) (Generator) (Generator) (Generator) (Generator) (A) (A) (A) (A) (A) (A) (A) (
E	DILLARD TRUCKING, INC. TOPPES DILLARD TRUCKING, INC. TOPPES NO. L. J.
THC	P. O. Box 218 1003/17 SERVICE ORDER NO.
RANSPORTER	CITY, STATE, ZIPByron, California 94514
TRA	TRUCK UNIT, I.D. NO 6 - 2 A TYPED OF PRINTED FULL NAME & SIGNATURE DATE
	TRUCK UNIT, I.D. NO - A TYPED OP PRINTED FULL NAME & SIGNATURE EPA
	NAME Laidlaw Environmental Services, Inc. 1D C A D 9 8 0 6 7 5 2 7 6 DISPOSAL METHOD
<u>}</u>	ADDRESS 2500 LOKETR ROAD LANDFILL OTHER
CIL	Buttonwillow, Ca. 93206-0787
TSD FACILITY	PHONE NO. 800 544-7199 Jack Dyniels Dark DMW 1-29-93 TYPED OF PRINTED FULL NAME & SIGNATURE
•	GEN OLD/NEW L A SOME / RC
	TRANS S B LGSCLO C/O RT/CD HWDF NONE DISCREPANCY
	C/O HWDF NONE DISCREPANCY

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	NAME ARCO Pr	oducts	Attn. M	ike Whalan		-		·	
	ADDRESS P. O. B.			THE WILLIAM		EPA ID	C > 1 O O		<u>.</u>
	1			566 11-		NO	ch to	49 65	\$ 16 B
	CITY, STATE, ZIP SAN	Mateo, Ca	94402	Statio	genberger.	Oakland ——	PHONE NO 4	5 571-243	34
ENERATOR					LUME 18				
GENEF			P. DRU DRU Dated wit	:h	NS OTHER				
В	WASTE DESCRIPTION COMPONENTS	F WASTE	PPM	<u> </u>	GENERATING F	PROCESS	UST R	emoval	
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ETED	Waste Oi				. 5. <u> </u>		. 	· <u>*</u>	
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COMPL	3				*				
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5	Neutra	1 _			Ÿ				
-	PROPERTIES: Neutra	_ Xer sorib	LIQUID	☐ SLUDGE	SLURAY	OTHER		· · · · · · · · · · · · · · · · · · ·	
	HANDLING INSTUCTIONS	rofile 105							
e e e	THE GENERATOR THE WASTE AS DE NON-HAZARDOUS.	SCRIBED IS 100	* 7	D OR PRINTED EU	V NAME & SIGNAT	or Zes And	(60 10 (60	meratur 1/2	7/93
Ë	DILLARD 1	TRUCKING,			E Teuri		A D 9 8 1	6 9 2 8	0 9
ORT	ADDRESS P. O. Box	< 218	· Sugar	in the second of the second	· ,	I I		1003/17	
RANSPORTER	CITY, STATE, ZIP . By	on, Calife	ornia 945	514			DATE	29. 93	******* }
TRA	PHONE NO. \$10 634-	-6850	_ N	hour.	50	\mathcal{L}			
	TRUCK UNIT, I.D. NO	<i>(</i>		ARIANNE	L NAME & SIGNATU	// per	ann Co	4 1-2	9-93
Ì	Taid	lau F			·	EPA [U DA	TE
	NAME	law Enviro	nmental	Services,	Inc.	I.D. C	A P 9 8 9	6 7 5 2	7 6
	ADDRESS2500	Lokern Ro	ad			B- i.a.	DISPOSAL NDFILL DOTH	METHOD	
TSD FACILITY	CITY, STATE, ZIP	onwillow,	Ca. 9320	6-0787					
FA	PHONE NO. 800-544-	7199							
TSE				OR PRINTED FUL	L NAME & SIGNATU	AE.		- \- <u>-</u>	<u>445</u>
	GEN	OLD/NEW	L· A	TONS CVOS		•		DK1	_
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	C/Q	F	RT/CD	HWDF NONE	DISCREPA	NCY			
						·			· · · · · · · · · · · · · · · · · · ·

		NAME ARCO Products Attn: Mike Whelan
		ADDRESS P. O. Box 5811 ΕΡΑ ΙΟ ΙΑΙ ΠΡΟΙΟ ΡΡΑ ΕΒ
•		Sob Hegenberger, Oakland
	œ	300000
	ATC	CONTAINERS: No. 309 059 VOLUME 1840 WEIGHT
	ER.	TOPE: D TANK DUMP DRUMS CARTONS COTHER
	BY GENERATOR	Soil Contaminated with
	ĕ	WASTE DESCRIPTION WASTE OIL GENERATING PROCESS UST Removal COMPONENTS OF WASTE PPM % COMPONENTS OF WASTE PPM
		COMPONENTS OF WASTE PPM %
	COMPLETED	Waste Oil 0.1 0.5
	Z Z	2
		3
	M M	4
	ဥ ျ	PROPERTIES: Neutral Solid LIQUID SLUDGE SLURRY OTHER
. .	le de	1 340 A 4 10 Fig
		HANDLING INSTUCTION Profile 1059-BDN-0193 Station #4494
		THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100%
<u> </u>		NON-HAZARDOUS. NON-HAZARDOUS.
II .	_	DILLARD TRUCKING, INC. TO COCKE EPA CAD 9 8 1 6 9 3 8 0 9
ا عال	KANSPOHIER	TOUR STATE OF THE
	5	ADDRESS P. O. Box 218 SERVICE ORDER NO. 1003/17
	2	CITY, STATE ZIP Byron, California 94514 PCK UP DATE 1-29-93
	¥	PHONE NO. \$10 634-6850
		18 10NY DUZA AMUNTURA 1-29.93
		DATE DATE
***		NAME Laidlaw Environmental Services, Inc. LD C A D 9 8 0 6 7 5 2 7 6
}	-	ADDRESS 2500 Lokern Road DISPOSAL METHOD LANDFILL OTHER
N	<u> </u>	Buttonwillow, Ca. 93206-0787
		PHONE NO. 800 344-7199
100	2	DEREW Chirolott & 1-29-03
10	- 1950 - 1950	TYPED OR PRINTED FULL NAME & SIGNATURE DATE
		TRANS CS
2		CO HWDF NONE DISCREPANCY

ADBRESS P. O. Box 5811 566 Hegenberger, Oakland City, STATE, 21p San Mateo, Ca. 94402 566 Hegenberger, Oakland PHONE NO 415 571-2434		ARCO Products	Attn: M	ike whelet	15				
CONTAINERS: No. 3 32 00 18 18 18 18 18 18 18						EPA LD NO.	CALOO	0009	8 6 8
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CITY, STATE, ZIP				06-0787			LANDFILL . OT	HEA	
PHONE NO. 800 544-7199	ACI	CITY, STATE, ZIP							
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TYPED OR PRINTED FULL NAME & SIGNATURE DATE	Ť	• .	TYPE	ED OR PRINTED FL	ILL NAME & SIGN	ATURE		/- D/	C(
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TRANS S B S2 / CO RT/CD HWDF NONE DISCREPANCY					- i	EPANGÝ			

1-26 - - - 1

	ARCO Products Attn: Mike Whelan
	P. O. Box 5811
	San Mateo, Ca. 94402 Station #4494 PHONE NO 415 571-2434
TOR	CONTAINERS: No. 401.492 VOLUME WEIGHT
GENERATO	TYPE: Dump Drums CARTONS OTHER UST Removal
BY	WASTE DESCRIPTION GENERATING PROCESS COMPONENTS OF WASTE PPM COMPONENTS OF WASTE PPM
ED.	Soil 99.5 99.9
COMPLETED	Waste 011 0.1 0.5
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5	Neutral PROPERTIES: PHXX SOLID UQUID USLUDGE USLURRY UOTHER
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	THE GENERATOR CERTIFIES THAT THE WASTE-AS DESCRIBED IS 100% NON-HAZARDOUS. (Canarator) (Canarator) (Canarator)
	TYPED OR PRINTED FULL NAME & SIGNATURE DATE
Œ	DILLARD TRUCKING, INC. EPA C A D 9 8 1 6 9 2 8 0 9
RTE	P. O. Box 218
ANSPORT	Byron, California 94514
N A	PICK UP DATE PICK UP DATE
ŢŖ	PHONE NO. 510 634-6850
	TRUCK UNIT, I.D. NO. 199 TYPED OF PRINTED FULL NAME & SIGNATURE DATE
	Laidlaw Environmental Services, Inc. EPA CAD 9 8 0 6 7 5 2 7 6
	NAME 10 NO 11 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
<u></u>	ADDRESS CANDEILL OTHER
CIL	Buttonwillow, Ca. 93206-0787 CITY STATE, ZIP
TSD FACILITY	800 544-7199 PHONE NO.
TSE	DEREK Winders 5 1-2993
	. TYPED OR PRINTED FULL NAME & SIGNATURE DATE
	TRANS OLD/NEW L A TONS CLS S B CL/COD
	C/O RT/CD HWDF NONE DISCREPANCY

	NAMEARCO Products Attn: Mike Whelan	-
	P. O. Box 5811 ADDRESS	ID CALDOOQ 098 68
	566 Hegenberger, Oa	kland
	CITY, STATE, ZIP San Mateo, Ca. 94402 Station #4494	
ENERATOR	CONTAINERS: No. 40 (1) 17 VOLUME 734	WEIGHT
ENER	TYPE: TANK XX THUCK DRUMS CARTONS OTHER Soil Contaminated with	· · · · · · · · · · · · · · · · · · ·
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P.E.	Waste 0il 0.1 0.5	
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0 8	i	
-	PROPERTIES: pH XX SOLID LIQUID SLUDGE SLURRY	
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	TYPED OR PRINTED FULL NAME & SIGNATURE DILLARD TRUCKING, INC.	
EB	NAME	EPA (A D 9 8 1 6 9 2 8 0 9 NO.
ORT	ADDRESS	SERVICE ORDER NO
ANSPORT	CITY, STATE, ZIPByron, California 94514	_ PICK UP DATE
TR	PHONE NO. \$10 634-6850	2 1 M
	TRUCK, UNIT, I.D. NO. 129 TYPEO OR PRINTED FULL NAME & SIGNATURE	Will they we to have 3
	Laidlaw Environmental Services, Inc.	EPA C A D 9 8 0 6 7 5 2 7 6
>	ADDRESS250U Lokern Road	DISPOSAL METHOD LANDFILL OTHER
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FAC	PHONE NO. 800 544-7199	5-1-29.93
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	GEN OLD/NEW L A TONS	
	TRANS S B -19,300	
	C/Q RT/CD HWDF NONE DISCREPANCE	Y

	ARCO Products Attn: Mike Whelan						
	P. O. Box 5811 - 10 C.A.L.P.P.Q.P.P.8 6						
	ADDRESS 566 Hegenberger, Oakland						
	CITY STATE ZIP San Mateo, Ca. 94402 Station #4494 PHONE NO 415 571-2434						
	16.110/						
OR	CONTAINERS: No. 401496 VOLUME 15/65 WEIGHT						
ENERATO							
ã	TYPE: TANK XX TRUCK DRUMS CARTONS OTHER						
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Β√ (Waste 011 GENERATING PROCESS COMPONENTS OF WASTE PPM % COMPONENTS OF WASTE PPM %						
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	DILLARD TRUCKING, INC.						
E E	NAME1003/17						
RT	P. O. Box 218 SERVICE ORDER NO						
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ANSPORT	CITY, STATE, ZIP Byron, California 94514 PICK UP DATE						
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T.	PHONE NO. 510 634-6850 Bullawrence Bullawrence 1-29-9						
,	TRUCK UNIT, ID. NO. 489-280 TYPED OF PRINTED FULL NAME & SIGNATURE DATE						
	Laidlaw Environmental Services, Inc.						
	NAMEDISPOSAL METHOD						
	ADDRESS 2500 Lokern Road ELANDFILL OTHER						
E	Buttonwillow, Ca. 93206-0787						
	CITY, STATE, ZIP						
ĕ	800 544-7199						
	PHONE NO 1-29-1						
TSD FACILITY	TYPED OR PRINTED FULL NAME & SIGNATURE DATE						
	GEN OLD/NEW L A TONS						
	TRANS S B 46960						
1	C/O RT/CD HWDF NONE DISCREPANCY						
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### ADDRESS F. O. BOX 5811 #### ADDRESS F. O. BOX 5811 ##################################		NAME ARCO Products Attn: Mike Whelan
CONTAINERS: No. 2000 DRUMS CARTONS OTHER TYPE: TANK DRUMS DRUMS CARTONS OTHER SOII CONTAINERS No. 2000 SOIT CONTAINERS NO. 2000 SO		₩ EPA I
WASTE DESCRIPTION HABITE OIL COMPONENTS OF WASTE PPM COMPONENTS OF WASTE PPM Soil 99.5 99.9 s Waste Oil 0.1 0.5 6 3 3 7 7		566 Warraham on Oakland
WASTE DESCRIPTION HABITE OIL COMPONENTS OF WASTE PPM COMPONENTS OF WASTE PPM Soil 99.5 99.9 s Waste Oil 0.1 0.5 6 3 3 7 7	ATOR	CONTAINERS: No 30229 VOLUME
COMPONENTS OF WASTE PPM 1 COMPONENTS OF WASTE PPM 1 SOID PM 1 SOID	GENER	Soil Contaminated with
Soil 99.5 99.9 5 2 Waste Oil O.1 O.5 6		COMPONENTS OF WASTE PPM % COMPONENTS OF WASTE PPM %
PROPERTIES: Neutral	TED	soil 99.5 99.9 5
PROPERTIES: Neutral	Ä	Waste Oil 0.1 0.5
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NAME		THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS. 1/29/93
ADDRESS P. O. Box 216 1003/17 SERVICE ORDER NO. 1003/17		DITTARD TRUCKING, INC.
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GEN OLD/NEW L A TONS CISS TRANS S B CL 180	CILIT	Buttonwillow, Ca. 93206-0787
GEN OLD/NEW L A TONS CISS TRANS S B CL 180	ΗĀ	PHONE NO. 800 544-7199
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NON-HAZARDOUS WASTE DATA FORM

	N	ARCO Products Attn: Mike Whelan
		P. O. Box 5611 NO 1977
	AL	566 Hegenberger, Oakland 566 Hegenberger, Oakland PHONE NO 415 571-2434 Station #4494 PHONE NO 415 571-2434
<i>}</i> ,	C	TY STATE ZIP SAN MALEO, CA. 2440
TOR		CONTAINERS: No. 301666 VOLUME 13465 WEIGHT
BY GENERATOR		YPE: TANK THUCK DRUMS CARTONS OTHER Soil Contaminated with Waste Description COMPONENTS OF WASTE TANK THUCK DRUMS CARTONS OTHER UST Removal GENERATING PROCESS COMPONENTS OF WASTE PPM % COMPONENTS OF WASTE PPM % COMPONENTS OF WASTE
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BE COMPLETED	'	Waste Oil 0.1 0.5
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2	-	PROPERTIES: Neutral XX SOLID LIQUID SLUDGE SLURRY OTHER
		HANDLING INSTUCTION Profile 1059-BDN-0193 Station #4494
		(کلکت مقدقی)
		THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS. TYPED OR PRINTED FULL NAME & SIGNATURE TYPED OR PRINTED FULL NAME & SIGNATURE
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,		NAME Laidlaw Environmental Services, Inc. DISPOSAL METHOD
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}	<u>-</u>	ADDRESS 2500 DOMEST
	5	Buttonwillow, Ca. 93206-0787
1	ΗA	PHONE NO 800 544-7199
	TSD FACILIII	TYPED OR PRINTED FULL NAME & SIGNATURE DATE
:		GEN OLD/NEW L A TONS COS
		TRANS S B 48,440
		C/O HWDF NONE DISCREPANCY

	NAME ARCO Products Attn: Mike Whelan	
	ADDRESS P. 0. Box 5811	- 10 CALPOO 0 P 9 8 6 8
	CITY STATE ZIP San Mateo, Ca. 94402 566 Hegenberger, Station #4494	Oakland PHONE NO 4/15 571-2434
ATOF	CONTAINERS: No OZ VOLUME_ 14 4	veight
GENERATOR	TYPE: TANK DUMP DRUMS CARTONS OTHER Soil Contaminated with Waste Oil	
) BY	COMPONENTS OF WASTE	DMPONENTS OF WASTE PPM &
E	1. Soil 99.5 99.9 s.	
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TO E	Neutral S	
•	PROPERTIES: Neutral Solid Liquid SLUDGE SLUBRY	OTHER
	HANDLING INSTUCTION Profile 1059-BDN-0193 Station #4494	
	THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS. Watto to the Description of the	m. 37 ; 101 ;
	NON-HAZARDOUS. TYPED OR PRINTED FULL NAME & SIGNATU	JRE JATE 1/28/93
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PORTER	MON-HAZARDOUS. MON-HAZARDOUS. TYPED OR PRINTED FULL NAME & SIGNATU DILLARD TRUCKING, INC.	EPA C A D 9 8 1 6 9 2 8 0 9
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TRANSPORTER	DILLARD TRUCKING, INC. ADDRESS P. O. Box 218 CITY, STATE, ZIP Byron, California 94514 PHONE NO. 510 634-6850	EPA C A D 9 8 1 6 9 2 8 0 9 10. NO. SERVICE ORDER NO. 1003/17 PICK UP DATE 1-28-93
F	DILLARD TRUCKING, INC. NAME DILLARD TRUCKING, INC. NAME ADDRESS P. O. Box 218 CITY, STATE, ZIP BYTON, California 94514 PHONE NO. 510 634-6850 TRUCK UNIT, ID. NO. Laidlaw Environmental Services, Inc.	DATE DISPOSAL METHOD
F	DILLARD TRUCKING, INC. NAME P. O. Box 218 CITY, STATE, ZIP Byron, California 94514 PHONE NO. 510 634-6850 TRUCK UNIT, ID. NO. Laidlaw Environmental Services, Inc.	DATE EPA C A D 9 8 1 6 9 2 8 0 9 NO
TSD FACILITY TRANSPORTER	DILLARD TRUCKING, INC. NAME P. O. Box 218 CITY, STATE, ZIP Byron, California 94514 PHONE NO. 510 634-6850 TRUCK, UNIT, ID. NO. Laidlaw Environmental Services, Inc. ADDRESS 2500 Lokern Road Buttonwillow, Ca. 93206-0787	DATE DATE DATE DATE PICK UP DATE PICK UP DATE PERM DATE PRE DATE DISPOSAL METHOD LANDFILL DOTHER DATE DISPOSAL METHOD
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	ARCO Products Attn: Mike Whelan	
	P. O. Box 5811	
	San Mateo, Ca. 94402 Station #4494 PHONE NO (17)	
ENERATOR	CONTAINERS: No. 40/486 VOLUME 18 4ds WEIGHT	
GENER	TYPE: TANK XX THUCK DANMS CARTONS OTHER UST Removal	_
BY (WASTE DESCRIPTION GENERATING PROCESS COMPONENTS OF WASTE PPM % COMPONENTS OF WASTE PPM %	-
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PLE	Waste Oil 0.1 0.5	-
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	HANDLING INSTUCTIONS Profile 1059-BDN-0193 Station #4494	_
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	DILLARD TRUCKING, INC. PARE SIGNATURE SIGNATURE EPA C A D 9 8 1 6 9 2 8 0 9	<u>-</u>
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TRANSPORTE	P. O. Box 218 1003/17 ADDRESS SERVICE ORDER NO	-
	P. O. Box 218 ADDRESS Byron, California 94514 PICK UP DATE PICK UP DATE	-
	P. O. Box 218 ADDRESS Byron, California 94514 PHONE NO. \$10 634-6850 TRUCK UNIT, I.D. NO. Laidlaw Environmental Services, Inc. ID C A D 9 8 0 6 7 5 2 7 6 NO NO NO. 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	_
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TR	P. O. Box 218 ADDRESS	_
	P. O. Box 218 ADDRESS Byron, California 94514 PHONE NO. 510 634-6850 TRUCK, UNIT, I.D. NO. 35 Laidlaw Environmental Services, Inc. NAME ADDRESS 2500 Lokern Road Buttonwillow, Ca. 93206-0787 CITY, STATE, ZIP 800 544-7199	_
TR	P. O. Box 218 ADDRESS	_

4 501528 # 8378

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1	NAME ARCO Prodùcts Attn: Mike Whelen	
	ADDRESS P. O. Box 5811	ID CALAAA AB
	566 Hegenberger, Oak City State Zip San Mateo, Ca. 94402 Station #4494	
GENERATOR	CONTAINERS: No. 319837 VOLUME 14 145	
	TYPE: TANK DUMP DRUMS CARTONS OTHER Soil Contaminated with	ust Removal
ВУ С	WASTE DESCRIPTION ASTE PPM % COMPONENTS OF WASTE PPM % COMPONENTS OF WASTE	NENTS OF WASTE PPM %
	1	
COMPLETED	2 Waste 011 0.1 0.5 6730	
Õ	3	
BEC	48	
TO E	PROPERTIES: Neutral XX SOLID LIQUID SLUDGE SLURRY	
	HANDLING INSTUCTION Profile 1059-BDN-0193 Station #4494	•
	State of the state	And the state of t
	THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS. TYPED OR PRINTED FULL NAME & SIGNATURE	Color Water Ware
œ	DILLARD TRUCKING, INC.	EPA A D 9 8 1 6 9 2 8 0 9
RTEF	NAME	NO.
ORTE		NO 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
NSPORTE	1	SERVICE ORDER NO
TRANSPORTE	ADDRESS P. O. Box 218	SERVICE ORDER NO
ANSPORTE	ADDRESS P. O. Box 218 CITY, STATE, ZIP Byron, California 94514	PICK UP DATE DATE DATE
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TRANSPORTE	ADDRESS P. O. Box 218 CITY STATE, ZIP Byron, California 94514 PHONE NO. 510 634-6850 TRUCK UNIT. ID. NO. 6 TYPED OF PRINTED FULL NAME & SIGNATURE Laidlaw Environmental Services, Inc.	PICK UP DATE
TRANSPORTE	ADDRESS P. O. Box 218 CITY STATE ZIP Byron, California 94514 PHONE NO. 510 634-6850 TRUCK UNIT. ID. NO. STYPED OF PRINTED FULL NAME & SIGNATURE NAME Laidlaw Environmental Services, Inc.	PICK UP DATE PICK UP DATE
TRANSPORTE	P. O. Box 218 CITY, STATE, ZIP Byron, California 94514 PHONE NO. 510 634-6850 TRUCK, UNIT, ID. NO. TYPED OR PRINTED FULL NAME & SIGNATURE NAME Laidlaw Environmental Services, Inc. ADDRESS 2500 Lokern Road Buttonwillow, Ca. 93206-0787	PICK UP DATE PICK UP DATE
ANSPORTE	ADDRESS P. O. Box 218 CITY, STATE, ZIP Byron, California 94514 PHONE NO. 510 634-6850 TRUCK, UNIT, I.D. NO. TYPED OR PRINTED FULL NAME & SIGNATURE NAME Laidlaw Environmental Services, Inc. ADDRESS 2500 Lokern Road CITY, STATE, ZIP Buttonwillow, Ca. 93206-0787	PICK UP DATE PICK UP DATE
TRANSPORTE	ADDRESS P. O. Box 218 CITY. STATE, ZIP Byron, California 94514 PHONE NO. 510 634-6850 TRUCK UNIT. I.D. NO. TYPED OF PRINTED FULL NAME & SIGNATURE NAME Laidlaw Environmental Services, Inc. ADDRESS 2500 Lokern Road CITY. STATE, ZIP Buttonwillow, Ca. 93206-0787 PHONE NO. 800 544-7199 TOCK DAILES TYPED OF PRINTED FULL NAME & SIGNATURE	PICK UP DATE PICK UP DATE LO C A D 9 8 0 6 7 5 2 7 6 DISPOSAL METHOD LANDFILL OTHER 1-28-73
TRANSPORTE	ADDRESS P. O. Box 218 CITY. STATE, ZIP Byron, California 94514 PHONE NO. 510 634-6850 TRUCK UNIT. I.D. NO. TYPED OF PRINTED FULL NAME & SIGNATURE NAME Laidlaw Environmental Services, Inc. ADDRESS 2500 Lokern Road CITY. STATE, ZIP Buttonwillow, Ca. 93206-0787 PHONE NO. 800 544-7199 TOLK DOINGES SIGNATURE	EPA C A D 9 8 0 6 7 5 2 7 6 DISPOSAL METHOD LANDFILL OTHER 1-28-93 DATE 1-28-93 DATE 1-28-93 DATE

	NAME ARCO Products Attn: Mike Whelan
	P. Q. Box 5813
	CITY STATE ZIP San Mateo, Ca. 94402 Station #4494 PHONE NO 415 571-2434
ATOR	CONTAINERS: No 3/9839 VOLUME 15 4ds WEIGHT_
GENERATOR	TYPE: TANK THUCK DUMP DRUMS CARTONS OTHER
. ₩	Waste Description Generating PROCESS UST Removal COMPONENTS OF WASTE PPM & COMPONENTS OF WASTE PPM &
H	99.5 99.9
COMPLETED	2 Waste Oil 0.1 0.5 6.
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E	
$\boldsymbol{\omega}$	6
5	PROPERTIES: pH XX SOLID LIQUID SLUDGE SLURRY OTHER
	HANDLING INSTUCTION Profile 1059-BDN-0193 Station #4494
مبسر	THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS. TYPED OR PRINTED FULL NAME & SIGNATURE DATE
EB	DILLARD TRUCKING, INC. SPA
ORT	P. O. Box 218 ADDRESS
TRANSPORTER	CITY, STATE, ZIPByron, California 94514 PICK UP DATE
TR/	PHONE NO. 510 634-6850
	TRUCK, UNIT, I.D. NO. 9 9 A TYPED OF PRINTED FULL NAME & SIGNATURE DATE
	Laidlaw Environmental Services, Inc. EPA C A D 9 8 0 6 7 5 2 7 6
<u>≻</u>	ADDRESS 2500 Lokern Road DISPOSAL METHOD CANDELL OTHER
CILI	Buttonwillow, Ca. 93206-0787
TSD FACILITY	PHONE NO. 800 544-7199 Jack Daniels Auch Danus 1-28-93 TYPED OR PRINTED FULL NAME & SIGNATURE DATE
7	GEN OLD/NEW L A
ļ	TRANS S B 4/880 LBS
A\	C/Q RT/CD HWDF NONE DISCREPANCY

16 8°

	ARCO Products Attn: Mike Whelan
	P. O. Box 5811 - EPA CALOOOO 98 6 6
	San Mateo, Ca. 94402 Station #4494 PHONE NO 1 1
ATOR	CONTAINERS: No. 300838; 300839 VOLUME 18 443 WEIGHT
ENERATOR	TYPE: TANK XX DUMP DRUMS CARTONS OTHER UST Removal Waste Oil Generating process
ВУ С	WASTE DESCRIPTION GENERATING PROCESS COMPONENTS OF WASTE PPM % COMPONENTS OF WASTE PPM %
	Soil 99.5 99.9 5
COMPLETED	Waste Oil 0.1 0.5
MPL	2
Ö	3
BE	4
Q.	Neutral PROPERTIES: pHXX SOLID LIQUID SLUDGE SLURRY OTHER
	Profile 1059-BDN-0193 Station #4494
	HANDLING INSTUCTIONS:
	THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS. THAT THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.
	NON-HAZARDOUS. TYPED OR PRINTED FULL NAME & SIGNATURE DATE
	DILLARD TRUCKING, INC. EPA C A D 9 8 1 6 9 2 8 0 9 (D. NO.
TER	NAME
ANSPORTE	ADDRESS
l S N	CITY, STATE, ZIP
1 60	PHONE NO. 510 634-6850
F	TRUCK UNIT, I.D. NOSC17958 : LUGGO TYPED OF PRINTED FULL NAME & SIGNATURE DATE
<u> </u>	Laidlaw Environmental Services, Inc. EPA C A D 9 8 0 6 / 3 2 / 6
	NAME DISPOSAL METHOD
≥	ADDRESS OTHER
=	Buttonwillow, Ca. 93206-0787
FAC	800 544-7199
TSD FACILITY	PHONE NO. TYPED OR PRINTED FULL NAME & SIGNATURE
	GEN OLDINEW L A TONS LIT 840 CBS.
	TRANS S B HT/CO HWDF NONE DISCREPANCY
1	C/O NONE DISCREPANCE

	NAME ARCO Products Attn: Mike Whelan	<i>?</i> — —
	- FPA	CAL0000 098 6
	CITY STATE ZIP San Mateo, Ca. 94402 Station #4494	PHONE NO 415 571-2434
GENERATOR	TYPE: TANK XX THUCK DRUMS CARTONS OTHER	WEIGHT
GE	Soil Contaminated with (A)	UST Removal
B⊀	WASTE DESCRIPTION GENERATING PROCESS COMPONENTS OF WASTE PPM % COMPONENTS OF	F WASTE PPM %
JED	1. Soil 99.5 99.9 s	
[3]	Waste 011 0.5	
O BE COMPLETED	3	
9E (8.	
TO	PROPERTIES: PH XX SOLID LIQUID SLUDGE SLURRY OTHER _	
	THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS. TYPED OR PRINTED FULL NAME & SIGNATURE	DATE THE CHARGE
TEH	NAMENO. [AD9816 9280 9
OR	ADDRESS P. O. Box 218	1003/17
ANSPORT	CITY, STATE, ZIP Byron, California 94514 PICK	UP DATE
TRA	PHONE NO. 510 634-6850 JOHN SANCHE 2 201	-down 1/28/
1 1	TRUCK UNIT. I.D. NO. 689 TYPES OF PRINTED FULL NAME & SIGNATURE	DATE
;	NAME Laidlaw Environmental Services, Inc. I.D. NO.	C A D 9 8 0 6 7 5 2 7 6
	ADDRESS 2500 Lokern Road	LANDFILL OTHER
CILI	Buttonwillow, Ca. 93206-0787 CITY, STATE, ZIP	
TSD FACILITY	PHONE NO. 800 544-7199 Gabyil Oltega TYPED OF PRINTED FULL NAME & SIGNATURE	MOJ 1/28
• • •	GEN OLD/NEW L A TONG 105	**************************************
	TRANS. S B U9000	
-	C/O RT/CD HWDF NONE DISCREPANCY	₹.%

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	ARCO Products Attn: Mike Whelan	
GENERATOR		EPA C A L O O O O O O O O O O O O O O O O O O
	ADDRESSS66 Hegenberger, Oak	land
	P. O. Box 5811 ADDRESS 566 Hegenberger, Oak: San Mateo, Ca. 94402 Station #4494 CITY STATE ZIP	415 571-2434 PHONE NO 1 1
	CONTAINERS: No. 3 312637 VOLUME 18 445	
	TYPE: TANK XX DUMP DRUMS CARTONS OTHER Soil Contaminated with Waste Oil	UST Removal
ВУ	WASTE DESCRIPTION GENERATING PROCES COMPONENTS OF WASTE PPM % COMPON	ENTS OF WASTE PPM %
	Co.(1 90 5 99 9	
COMPLETED	Waste 0±1 0.1 0.5	
ቯ	2	
Š	37	
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0 8	Neutral	
Ĕ	PROPERTIES: PHXX SOLID	OTHER
	Profile 1059-BDN-0193 Station #4494	
	MANDLING INSTUCTIONS:	
	THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS. TYPED OR PRINTED FULL NAME & SIGNATURE	Matter 1/28/93
Œ	DILLARD TRUCKING, INC.	EPA C A D 9 8 1 6 9 2 8 0 9
RTE	P. O. Box 218 ADDRESS	1003/17
ANSPORTE		PICK UP DATE 1-28-93
¥	PHONE NO. \$10 634-6850	η/)
H	1 1000	om 11-28-93
	TRUCK UNIT, ID. NO. 312637 TYPED OF PRINTED FULL NAME & SIGNATURE	DATE
	Laidlaw Environmental Services, Inc.	EPA C A D 9 8 0 6 7 5 2 7 6
>	2500 Lokern Road	DISPOSAL METHOD
TSD FACILITY	Buttonwillow, Ca. 93206-0787	
ACI	800 544-7199	
P	PHONE NO.	1-08-613
TS	TYPED OR PRINTED FULL NAME & SIGNATURE	1-28-613 DATE
	GEN OLD/NEW L A TONS ()	
1	TRANS S B MMC	
<u>/</u>	C/Q RT/CD HWDF NONE DISCREPANCY	

	ARCO Products	Attn: Mike Whela	ın	
	P. O. Box 5811		EPA ID C A L	000009868
		566 H . 94402/ Stati	legenberger, Oakland on #4494 PHONE	
ATOR	CONTAINERS: No	601492 C	POLUME 18 492, WEN	GHT
GENERATOR	TYPE: TANK XX THU THUCK XX THU Soil Contami Waste Oil Waste Description	nated with	GENERATING PROCESS	St 7Removal
ВҰ	COMPONENTS OF WASTE	PPM %	COMPONENTS OF WASTE	ррм ч
Ē	Soil	99.5 99.9	5.	
PLET	Waste Oil	0.1 0.5	6	r
COMPLETED	3			
BE	4		8	
5	Neutral PROPERTIES: OH XX SOLID	T LIOUID T SUID	GE 1 SLURRY DOTHER	
		59-BDN-0193 Stat	ion #4494	
	THE GENERATOR CERTIFIES T THE WASTE AS DESCRIBED IS 1 NON-HAZARDOUS.	ററപ	Duters for Mrs White	
E	DILLARD TRUCKING,	INC.	EPA C A D 9	DATE:
ORTI	P. O. Box 218		SERVICE ORDER	1003/17
ANSPORTER	CITY, STATE, ZIP Byron, Cali	fornia 94514		11.78-97
TRAI	1		/ ^	012 (0 1)
⊢	PHONE NO. \$10 634-6850	TYPED OR PRINTED		()1-28-93 DATE
-	TRUCK, UNIT, I.D. NO. / / / Laidlaw Envi	<u> 5:11</u>	FULL NAME & SIGNATURE S. Inc. EPA C A D	01-28-93 DATE
	TRUCK, UNIT, I.D. NO. / 89	TYPED OR PRINTED ronmental Services	FULL NAME & SIGNATURE E. Inc. EPA I.D. C A D NO	9 8 0 6 7 5 2 7 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	Laidlaw Envi NAME	TYPED OR PRINTED ronmental Services	FULL NAME & SIGNATURE S. Inc. EPA C A D NO L	9 8 0 6 7 5 2 7 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
TSD FACILITY T	TRUCK UNIT, LD. NO. Laidlaw Envi NAME ADDRESS 2500 Lokern Buttonwillow	ronmental Services Road , Ca. 93206-0787	FULL NAME & SIGNATURE S. Inc. EPA C A D NO. LANDFILL	9 8 0 6 7 5 2 7 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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ļ	NAME ARCO Products Attn: Mike Whelan	
1	NAME ARCO Produces	986
1	P. O. Box 5811	
1	ADDRESS 566 Hegenberger, Oakland Station #4494 PHONE NO 415 571-	2434
	CITY STATE ZIP San Mateo, Ca. 94402 Station #4494 PHONE NO 415 571-	
œ	CONTAINERS: No. 300810 VOLUME Stydes WEIGHT	
ō	CONTAINERS: No. 300 810	
AT		
<u> </u>	TYPE: TANK THUCK DUMP DRUMS CARTONS OTHER	
ENERATO	cail Conteminated WIIN ter Domoval	
S	Waste DESCRIPTION COMPONENTS OF WASTE PPM COMPONENTS OF WASTE PPM	
B⊀	COMPONENTS OF WASTE PPM % COMPONENTS OF WASTE	v
	99.5 99.9 5	
COMPLETED	1 5011	
Ш	Waste Qil 0.1 0.5	
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7	PROPERTIES: PHSOLID	
	- 1050 ppy 0103 Station #4494	
	HANDLING INSTUCTIONS Profile 1059-BDN-0193 Station #4494	
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l ,	THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100%	1 20/03
l series en	NON-HAZARDOUS. TYPED OR PRINTED FULL NAME & SIGNATURE	DATE
1 900	EPA C A D 9 8 1 6 9	2 A O 9
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	Laidlaw Environmental Services, Inc. NAME DISPOSAL METHOD	IOD
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│ ≻)	
4 5	Buttonwillow, Ca. 93206-0787	
5	CITY, STATE, ZIP	- /
A	PHONE NO. 800 544-7199 H. J. April (1)	1-28
1 0	PHONE NO.	1 -
		DATE
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TSI	GEN OLD/NEW L A TONS TY WAS	DATE
	GEN OLD/NEW L A TONS TY W LOS	DATE
	GEN OLD/NEW L A TONS TY W OS	DATE

ENERATOR	NAMEARCO Products	Attn: M	ike Whelar	ı					
	P. O. Box 5811				EPA LD. NO	CALOC	0 0	0 9 8	6 6
	CITY. STATE. ZIP San Mateo, Ca.	94402	566 He Statio	egenberger, on #4494	Oakland	PHONE NO	15 571	-2434	
	CONTAINERS: No.								
	TYPE: TANK XX THUCK SOIL CONTAMIN	ated wit	th						
BY G	Waste Oil waste Description COMPONENTS OF WASTE	DDM		GENERATING PR	OCESS	USI	Remova.	L 	
				CO	MPONENTS OF	WASTE	PPM		E _O
Ī	soil	99.5	99.9	5					
Ē	Waste Oil			e.					
COMPLETED				6					
ဝ	3			7			_		
8 E	4			A					
101	Noutrel								_
-	PROPERTIES: PHXX SOLID	Liquid	o 🔲 stube	E SLURAY	OTHER _				
	HANDLING INSTUCTIONS: Profile 105	9-BDN-01	93 Stati	on #4494					
	i e						-		
	THE GENERATOR CERTIFIES THE THE WASTE AS DESCRIBED IS 100 NON-HAZARDOUS.	~ ~~~	Demoke	Jeo En De	es hours	Cant	ر متل	/ <i>34/</i>	<u>43</u>
	THE WASTE AS DESCRIBED IS 100 NON-HAZARDOUS. DILLARD TRUCKING,	INC.	ED OR PRINTED F	ULL NAME & SIGNATU	EPA C	A D 9 8	1 6 9	2 8 C	<u>43</u>
Оятея	THE WASTE AS DESCRIBED IS 100 NON-HAZARDOUS.	INC.	ED OF PRINTED F	ULL NAME & SIGNATU	EPA (1 6 9	2 8 C	<u>u, z</u>
INSPORTER	DILLARD TRUCKING,	INC.	ED OA PRINTED F	ULL NAME & SIGNATU	EPA (LD. NO SERVI	A D 9 8	169	2 8 C	423
TRANSPORTER	DILLARD TRUCKING, NAME P. O. Box 218 ADDRESS Byron, Caliform Phone No. \$10 634-6850	INC.	ED OA PRINTED F	ULL NAME & SIGNATU	EPA (LD. NO SERVI	A D 9 8	169	2 8 C	78/
TRANSPORTER	DILLARD TRUCKING, NAME P. O. Box 218 ADDRESS Byron, California and California	INC.	SOLL N	ULL NAME & SIGNATU	EPA (LD. NO L) SERVI	A D 9 8	169	2 8 C	
TRANSPORTER	DILLARD TRUCKING, NAME P. O. Box 218 ADDRESS Byron, Caliform Phone No. \$10 634-6850	INC.	514	ULL NAME & SIGNATU	EPA (I.D. NO) SERVI PICK I	A D 9 8 L CE ORDER NO.	169	2 8 C	
H	DILLARD TRUCKING, NAME P. O. Box 218 ADDRESS Byron, Califormuck unit to No. 555 Laidlaw Environment	INC. ornia 94 Type Type onmental	514	ULL NAME & SIGNATU	SERVI PICKI PICKI PICKI RE EPA ID. NO	A D 9 8 CE ORDER NO JP DATE A J 9 8 DISPO	1 6 9 1003 8 9 0 6 7	2 8 C	
H	DILLARD TRUCKING, NAME P. O. Box 218 ADDRESS CITY. STATE. ZIP Byron, Calife PHONE NO. \$10 634-6850 TRUCK UNIT. ED. NO. 555 Laidlaw Environments	INC. TYPE TYPE TYPE Commental	514 OHLINED F ED OP PRINTED F Services	ULL NAME & SIGNATU	SERVI PICKI PICKI PICKI RE EPA ID. NO	A D 9 8 CE ORDER NO JP DATE A J 9 8 DISPO	169	2 8 C	
H	DILLARD TRUCKING, NAME P. O. Box 218 ADDRESS Byron, Califormuck unit to No. 555 Laidlaw Environmans ADDRESS 2500 Lokern Ro	INC. TYPE TYPE TYPE Commental	514 Services 06-0787	OLL NAME & SIGNATU	SERVI PICKI PICKI PICKI RE EPA ID. NO	A D 9 8 CE ORDER NO JP DATE A J 9 8 DISPO	1 6 9 1003 8 9 0 6 7	2 8 C	
H	DILLARD TRUCKING, NAME P. O. Box 218 ADDRESS Byron, Califormuck Unit. 10. No. 555 Laidlaw Environmane ADDRESS 2500 Lokern Romanical Environment Suttonwillow,	INC. Ornia 94 TYPE TYPE Conmental Ca. 932	Services 06-0787 JACK DO	ULL NAME & SIGNATU	SERVI	A D 9 8 CE ORDER NO JP DATE A J 9 8 DISPO	1 6 9 1003 8 9 0 6 7	2 8 C	
TSD FACILITY TRANSPORTER	THE WASTE AS DESCRIBED IS 100 NON-HAZARDOUS. DILLARD TRUCKING, NAME P. O. Box 218 ADDRESS Byron, Califor PHONE NO. \$10 634-6850 TRUCK UNIT. LD. NO. \$55 Laidlaw Environ ADDRESS 2500 Lokern Ro Buttonwillow, CITY. STATE, ZIP 800 544-7199	INC. Ornia 94 TYPE TYPE Conmental Ca. 932	Services 06-0787 JACK DO	OLL NAME & SIGNATU	SERVI	A D 9 8 CE ORDER NO JP DATE A J 9 8 DISPO	1 6 9 1003 8 9 0 6 7	2 8 C	
H	DILLARD TRUCKING, NAME P. O. Box 218 ADDRESS CITY. STATE. ZIP Byron, Calife PHONE NO. \$10 634-6850 TRUCK UNIT. 10 NO. \$55 Laidlaw Environ ADDRESS 2500 Lokern Ro Buttonwillow, CITY. STATE. ZIP PHONE NO. 800 544-7199 GEN OLD/NEW	INC. Ornia 94 TYPE Onmental Oad Ca. 932 TYPE L A	Services 06-0787 JACK Do	ULL NAME & SIGNATU	SERVI	A D 9 8 CE ORDER NO JP DATE A J 9 8 DISPO	1 6 9 1003 8 9 0 6 7	2 8 C	
H	DILLARD TRUCKING, NAME P. O. Box 218 ADDRESS CITY. STATE. ZIP Byron, Califor PHONE NO. \$10 634-6850 TRUCK UNIT. 10 NO. \$55 Laidlaw Environ NAME ADDRESS 2500 Lokern Ro Buttonwillow, CITY. STATE. ZIP PHONE NO. 800 544-7199 GEN TRANS OLD/NEW	INC. TYPE TYPE TYPE TYPE	Services 06-0787 JACK Do	ULL NAME & SIGNATU ULL NAME & SIGNATU , Inc. 4085	PICK I	A D 9 8 CE ORDER NO JP DATE A J 9 8 DISPO	1 6 9 1003 8 9 0 6 7	2 8 C	

•	NAME ARCO Products	Attn: M	ike Whela	n								
	ADDRESS P. O. Box 5811					EPA I.D. NO.	CAL	<u>ρ </u>	o _l	ρp	8 6	В
	CITY, STATE, ZIP <u>San Mateo</u> ,	Ca. 94402	566 H	egenbe on #44	rger, Oa 94	kland -	PHONE	NO 415	571	-243	4	
ATOR	CONTAINERS: No.	401497	<u> </u>	OLUME	18%	/	WEI	GНТ				
TO BE COMPLETED BY GENERATOR	WASTE DESCRIPTION Maste 011 COMPONENTS OF WASTE 1Soil	######################################	99.9 0.5	GENI 5 6 7 8 GE :	SLURRY	ESS	WASTE	UST Re	MOVA PPN	<u>1</u>	Go	
	NON-HAZARDOUS.	TY	PED OR PRINTED	FULL NAM	& SIGNATURE					/	A E	مير <i>،</i>
TER	DILLARD TRUCKI	NG, INC.				EPA I.D.	A D-9	1 1			11.	9
овтев	DILLARD TRUCKI NAME	NG, INC.				EPA [I.D. NO]	IICE OADE	R NO	100	3/17	7	_
INSPORTER	DILLARD TRUCKI	NG, INC.				EPA [I.D. NO]	IICE OADE	R NO	100	3/17	7	_
TRANSPORTER	DILLARD TRUCKI NAME	NG, INC.				EPA I.D. NO SERV	IICE OADE	R NO	100	9.3	· · · · · · · · · · · · · · · · · · ·	
Œ	DILLARD TRUCKI NAME ADDRESS P. O. Box 218 CITY STATE ZIP Byron, C	NG, INC.		Roge		EPA I.D. I.D. I.D. I.D. I.D. I.D. I.D. I.D	IICE OADE	R NO	100	9.3 3.3	7	
Œ	DILLARD TRUCKI NAME ADDRESS P. O. Box 218 CITY STATE ZIP Byron, C PHONE NO. \$10 634-6850 TRUCK UNIT LD. NO. \$8	NG, INC.	2514 PEO OFFRINTED	Roge FULL NAM	E & SIGNATURE	EPA DION NO PICK	IICE OADE	3 ~	100	9.3 9.3 3.	8-5	<u>3</u>
<u>+</u>	DILLARD TRUCKI NAME ADDRESS P. O. Box 218 CITY STATE ZIP Byron, C PHONE NO. \$10 634-6850 TRUCK UNIT LD NO. \$8	ng, INC. alifornia 9 TY nvironmenta	4514 Percy PED OR RINTED	Roger FUEL NAM	E & SIGNATURE	EPA FILL SERV	UP DATE_	R NO.	100 8 - ;	3/1: 9.3 3-	28-5 DATE	3
<u>+</u>	DILLARD TRUCKI NAME ADDRESS P. O. Box 218 CITY STATE ZIP BYTON, C PHONE NO. \$10 634-6850 TRUCK UNIT LD NO. \$8 NAME Laidlaw E ADDRESS 2500 Loke	ng, INC. alifornia 9 TY nvironmenta	4514 PED OFFRINTED 1 Service	Roger FUEL NAM	E & SIGNATURE	EPA FILL SERV	C A D	R NO.	100 8 - ;	3/1: 9.3 3-	28-5 DATE	3
Œ	DILLARD TRUCKI NAME ADDRESS P. O. Box 218 CITY STATE ZIP BYTON, C PHONE NO. \$10 634-6850 TRUCK UNIT LD NO. \$5 NAME Laidlaw E ADDRESS 2500 Loke Buttonwil	ng, Inc. alifornia 9 Ty nvironmenta rn Road low, Ca. 93	PED OFFRINTED 1 Service 206-0787	Roge FULL NAM 19, Inc	E & SIGNATURE	EPA FILL NO FI	C A D	R NO.	100 8	3/17 9.3 3-	8-5 DATE	3
<u>+</u>	DILLARD TRUCKI NAME ADDRESS P. O. Box 218 CITY, STATE, ZIP Byron, C PHONE NO. \$10 &34-6850 TRUCK, UNIT, LD, NO. \$8 NAME Laidlaw E ADDRESS 2500 Loke Buttonwil	ng, Inc. alifornia 9 TY nvironmenta rn Road low, Ca. 93	206-0787	Roger FULL NAM So, Inc	E & SIGNATURE	EPA FILL NO FI	C A D	R NO.	100 8	3/17 9.3 3-	8-5 DATE	3

	NAMEARCO Products Attn: Mike Whelan	
	P. O. Box 5811 ADDRESS	EPA ID. CALOOOO 0 9 8 6 8 NO
	San Mateo, Ca. 94402 566 Hegenberger, Oak Station #4494	land
TOR	CONTAINERS: No. 401499 VOLUME 1840	S WEIGHT
GENERATOR	TYPE: TANK XX DUMP DRUMS CARTONS OTHER Soil Contaminated with Waste Oil	
ВУ (Waste Oil Waste Description Generating Proces COMPONENTS OF WASTE PPM % COMPON	S
	a in the same	
LETI	Waste Oil 0.1 0.5	
COMPLETED	37	
BE (a	
TO	Neutral PROPERTIES: pHXX SOLID	THEA
	HANDLING INSTUCTIONS Profile 1059-BDN-0193 Station #4494	
	THE GENERATOR CERTIFIES THAT HOLD THE WASTE AS DESCRIBED IS 100% FOR AND THE TOTAL OF THE WASTE AS DESCRIBED IS 100% FOR AND THE TOTAL OF THE WASTE AS DESCRIBED IS 100% FOR AND THE TOTAL OF THE WASTE AS DESCRIBED IS 100% FOR AND THE WASTE AS DESCRIBED	2/8/93
	TYPED OR PRINTED FULL NAME & SIGNATURE	DATE
Œ	DILLARD TRUCKING, INC.	EPA C A D 9 8 1 6 9 2 8 0 9 NO
RTE	P. O. Box 218 ADDRESS	SERVICE ORDER NO.
ANSPORTER	CITY. STATE, ZIPByron, California 94514	a o 97
TRA	PHONE NO. \$10 634-6850 TRUCK, UNIT, I.D. NO. 255 TYPED OF PRINTED FULL NAME & SIGNATURE	With Mong J. 2823
	Laidlaw Environmental Services, Inc.	EPA C A D 9 8 0 6 7 5 2 7 6
>	ADDRESS 2500 Lokern Road	DISPOSAL METHOD
CILIT	Buttonwillow, Ca. 93206-0787 CITY, STATE, ZIP	
TSD FACILITY	PHONE NO. 800 544-7199 Gabi Pl Ottoga TYPED OR PRINTED FULL NAME & SIGNATURE	16all Of 2-3-97
	GEN OLD/NEW L A TONS 105	
•	TRANS S B 50,480	
	C/O HWDF NONE DISCREPANCY	

	ARCO Products Attn: Mike Whelan
	P. O. Box 5811 ADDRESS EPA I.D C A L O O O O O 9 8 6 8
	San Mateo, Ca. 94402 Station #4494 PHONE NO 415 571-2434
TOR	CONTAINERS: No. 401498 VOLUME 18485 WEIGHT
BY GENERATOR	TYPE: TANK XX THUCK DRUMS CARTONS OTHER Soil Contaminated with Waste Oil Waste Oil Generating PROCESS COMPONENTS OF WASTE PPM COMPONENTS OF WASTE PPM COMPONENTS OF WASTE COMPONENTS OF WASTE COMPONENTS OF WASTE
ETED	Soil 99.5 99.9 5
MPLE	2 6
BE COMPLETED	3
101	PROPERTIES OH SOLID LIQUID SLUPER OTHER
	HANDLING INSTUCTIONS TO File 1059-BDN-0193 Station #4494
	THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS. TYPED OR PRINTED FULL NAME & SIGNATURE TYPED OR PRINTED FULL NAME & SIGNATURE
Œ	DILLARD TRUCKING, INC. NAME CAD 9 8 1 6 9 2 8 0 9 10. NO 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
ORTI	P. O. Box 218 ADDRESS
RANSPORTER	CITY, STATE, ZIP Byron, California 94514
TRA	TRUCK UNIT, ID. NO. 389 TRUCK UNIT, ID. NO. 389 TRUCK UNIT, ID. NO. 389 TRUCK UNIT, ID. NO. 389 TRUCK UNIT, ID. NO. 389 TRUCK UNIT, ID. NO. 389 TRUCK UNIT, ID. NO. 389 TRUCK UNIT, ID. NO. 389
	Laidlaw Environmental Services, Inc. EPA C A D 9 8 0 6 7 5 2 7 6
<u>}</u>	ADDRESS 2500 Lokern Road LANDFILL OTHER
4CILI	Buttonwillow, Ca. 93206-0787 CITY, STATE, ZIP
TSD FACILITY	PHONE NO. 00- 544-7199 6 CHIN DESIGNATURE TYPED OR PRINTED FULL NAME & SIGNATURE
	GEN OLD/NEW L A TONS TRANS S B 50,520
<u> </u>	C/O RT/CD HWDF NONE DISCREPANCY

	NAME
5	P. O. Box 5811 EPA CALOOOO 98 68
	San Mateo, Ca. 94402 Station #4494 415 571-3434
ATOR	CONTAINERS: No. 40/496 VOLUME 1845 WEIGHT
GENERATOR	TYPE: TANK XK DUMP DRUMS CARTONS OTHER Soil Contaminated with Waste Off Waste Description UST Removal
BY	COMPONENTS OF WASTE PRIM TO SELECTION TO SEL
	TO MICHOUS WASTE
	5
COMPLETED	
Ϊ́	2
8	3
l w	
I G	Neutral 8
5	PROPERTIES: pH XX SOLID LIQUID SLUDGE SLURRY OTHER
	Profile 1059-BDN-0193 Share AVID
	HANDLING INSTUCTIONS:
	THE GENERATOR CERTIFIES THAT
ve ve	THE WASTE AS DESCRIBED IS 100% FOR ARCS BAILLY C.
	TYPED OR PRINTED FULL NAME & SIGNATURE
' [DILLARD TRUCKING INC
<u> </u>	NAME
F	P. O. Box 218
Ď	ADDRESS SERVICE ORDER NO
S	CITY STATE ZIP Byron, California 94514
TRANSPORTER	PICK UP DATE
🖺	PHONE NO. \$10 634-6850
	TRUCK UNIT. ID. NO. 489-280 BUS LAWRENCE BUS FOUNDER CL 2-8-93 TYPED OR PRINTED FULL NAME & SIGNATURE
	TRUCK UNIT, I.D. NO. 7 0 7 A 8 0 TYPED OR PRINTED FULL NAME & SIGNATURE DATE
ļ	NAMELaidlaw Environmental Services, Inc. EPA C A D 9 8 0 6 7 5 2 7 6
	NO LITTLE AND LITTLE A
	ADDRESS OTHER
]	Buttonwillow, Ca. 93206-0787
AC	CITY, STATE, ZIP
TSD FACILITY	800 544-7199 PHONE NO.
TS	6/enn Medini MM 2/8/93
1	TYPED OR PRINTED FULL NAME & SIGNATURE / DATE
	GEN OLD/NEW L A TONS-
, e	TRANS S B 49480
- 	C/G RT/CD HWDF NONE DISCREPANCY
-	

	ARCO Products Attn: Mi	ke Whelan				
	P. O. Box 5811		MO		1 1 1	1 1 1
	CITY STATE ZIP San Mateo, Ca. 94402	566 Hegenberger, Station #4494	Oakland	PHONE NO (15 571-24	34
ENERATOR	CONTAINERS: No. 40/42	VOLUME		WEIGHT		
GENE	Soil Contaminated wit	h		NO 1 1 1 1 1 1 1 1 1		
BYĠ	Waste 011 WASTE DESCRIPTION COMPONENTS OF WASTE PPM	GENERATING P				
_	, Soil 99.5					
LETI	Waste Oil 0.1	0.5				
COMPLETED	2					
E CC	3					
TO BE	Neutral					
,	Profile 1059-BDN-01		1.00	<u> </u>		
	THE GENERATOR CERTIFIES THAT	oh A. C.	fell	, ,		//
	THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.	D OR PRINTED FULL NAME & SIGNAT	TURE	ندی۔	_2/	0/93 DATE
E =	DILLARD TRUCKIÑG, INC.	Ī.D.			809	
ORTE	P. O. Box 218			/ICE ORDER NO		7
RANSPORT	CITY, STATE, ZIPByron, California 94	514	PICK	UP DATE	8-9	3_
TRA	PHONE NO. 510 1634-6850	ROBERT Jo	NES	Rot	it Jo	
		DOP PRINTED FULL NAME & SIGNAT				
	Laidlaw Environmental	Services, Inc.	I.D.			
<u>}</u>	ADDRESS 2500 Lokern Road					
CITI	Buttonwillow, Ca. 932	206-0787				
TSD FACILITY	PHONE NO	Fabriel Oltage	à /	61	Of	2-8-93
		ED OR PRINTED FULL NAME & SIGNAT	TURE //	_	- V	DATE .
	THANS S B	33,460				
	PT/CD	HWDF NONE DISCREI	PANCY			

	NAME ARCO PRODUCTS ATTN: MIKE WHELAN
	ADDRESS P.D. BOX 5811 10 CALIDIDIDIDIDIDIDIDIDIDIDIDIDIDIDIDIDIDID
	CITY STATE ZIP SAM MATED CA. 9462 STATION #4494 PHONE NO 1415, 571 2434
ENERATOR	CONTAINERS: No. 401484 VOLUME 18 4ARDS WEIGHT
BY GENER	TYPE: TANK XX TRUCK DRIMS CARTONS OTHER SOLL CONTAMINATED WITH WASTE DESCRIPTION WASTE PPM COMPONENTS OF WASTE PPM COMPONENTS
<u> </u>	, Soil 99.5 99.9 s
BE COMPLETED	2 WASTE OIL DIS 6
E COI	3
TO B	NEUTRAL PROPERTIES: pHX3solid
	HANDLING INSTUCTIONS PROFILE 1059-BNO-0193 STATION #4494
	THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS. TYPED OR PRINTED FULL NAME & SIGNATURE DATE
ER	NAME DILLARD TEUCKING INC. 10 CADI9181 116191218019
	ADDRESS P.O. BOX 218 SERVICE CADER NO. 1003/17
ANSPORT	CITY, STATE, ZIP BYROM CALIFORN 10 94514 PICK UP DATE 2/8/93
TRAI	TRUCK UNIT, ID. NO. 689 TYPED OF PRINTED FULL NAME & SIGNATURE DATE TOTAL CHE 2 TOTAL CHE 3 TOTAL CHE 4
	NAME LAIDLAW ENVIRON MENTAL SERVICES INC 18 CADIPIRO16171571716
	ADDRESS 2500 LOKERU ROAD Z LANDFILL OTHER
CILI	CITY, STATE, ZIP BUTTONIWILLOW CA. 93-206-0787
TSD FACILITY	PHONE NO. 800 544 7199 6/enn Dedini SUM 12-8-93
.	GEN OLD/NEW L A JONE LO
4,	TRANS S B 43,540
_	CO RT/CO HWDF NONE DISCREPANCY

~ \$302913

	ARCO Products Attn: Mike Whelan
	P. O. Box 5811 10 CALOPO 0 98 68
:	ADDRESS
TOR	CONTAINERS: No. 401495 VOLUME 187 WEIGHT
ENERATOR	TYPE: TANK XX DUMP DRUMS CARTONS OTHER
5	Waste 011 WASTE DESCRIPTION GENERATING PROCESS COMPONENTS OF WASTE PPM % COMPONENTS OF WASTE PPM %
D 8Y	
COMPLETED	Soil 99.5 99.9 5
MPL	
, п	,
TO B1	Neutral SLUDGE SLURRY OTHER OTHER
	HANDLING INSTUCTIONS Profile 1059-BDN-0193 Station #4494
	HANDLING INSTUCTIONS
	THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS. TYPED OR PRINTED FULL NAME & SIGNATURE TYPED OR PRINTED FULL NAME & SIGNATURE
Œ	DILLARD TRUCKING, INC. NAME NO. 1
DRTE	P. O. Box 218 ADDRESS SERVICE ORDER NO
RANSPORTE	CITY, STATE, ZIP Byron, California 94514 PICK UP DATE 2-9-93
TRA	PHONE NO. \$10 634-6850 TRUCK UNIT, ID. NO. 39 TYPED OF PRINTED FULL NAME & SIGNATURE DATE
	Laidlaw Environmental Services, Inc. EPA C A D 9 8 0 6 7 5 2 7 6
>	DISPOSAL METHOD ADDRESS 2500 Lokern Road
=	Buttonwillow, Ca. 93206-0787
TSD FACILITY	PHONE NO. 800 544-7199 Gleun Medini M. 2-8-93 DATE
	TYPED OR PRINTED FULL NAME & SIGNATURE GEN OLD/NEW L A -YONS CD
-	TRANS S B 47660
<u> </u>	-C/O RT/CD HWDF NONE DISCREPANCY

BFI260-720



GENE	ERATOR
Generator Name ARCO Froducts	Generating Location ARCO Station #4494
dress P. O. Box 5811	Address 566 Hegenberger
San Mateo, Ca. 94402	Oakland, CA
one No. 4 1 5 — 5 7 1 2 4 3 4	Phone No.
BEI Waste Code C A Description of Waste	Containers Type Ouantity Units No. Type C - Carton
NON HAZARDOUŞ SOIL	D D D I B B Bag T - Truck P - Pounds Y - Yards
	O - Other
I hereby certify that the above named material does not conta state law, is not a hazardous waste as defined by 40 CFR Pa classified and packaged, and is in proper condition for transpo	in free liquid as defined by 40 CFR Part 260.10 or any applicable art 261 or any applicable state law, has been properly described, retation according to applicable regulations.
F STERZE (1-754)	0 2 0 / 9 3 Shipment Date
Generator Authorized Agent Name Signature	SPORTER
uck No. 483	510-634-6850 Phone No.
Transporter Name Dillard Trucking, Inc. 1003/17	_ Driver Name (Print)
dress P. O. Box 218	_ Vehicle License No./State
Byon, California 94544	Vehicle Certification
hereby certify that the above named material was picked up at the generator site listed above.	I hereby certify that the above named material was delivered with- out incident to the destination listed below.
Driver Signature Shipment Date	Driver Signature Delivery Date
DEST	INATION
Site NameB.F.I. Vasco Road Landfill	Phone No. 5 1 0 — 4 4 7 0 4 9 1
4001 North Vasco Rd., Livermore, ddress	Ca.4550
hereby certify that the above named material has been accepted	and to the best of my knowledge the foregoing is true and accurate.
	070/95
ame of Authorized Agent Signature	Receipt Date
	PASS CODE

√aste ✓Systems ™

GENE	RATOR
Generator Name ARCO Products	Generating Location ARCO Station #9494
ddress P. O. Box 5811	Address 566 Hegenberger
San Mateo, Ca. 94402	Oakland, CA
hone No. 4 1 5 — 5 7 1 2 4 3 4	Phone No.
FI Waste Code C, A Description of Waste	Quantity Units No. Type C - Carton
NON HAZARDOUS SOIL	0 0 0 1 8 Y 0 / T B - Bag T - Truck P - Pounds Y - Yards O - Other
I hereby certify that the above named material does not contain state law, is not a hazardous waste as defined by 40 CFR Par classified and packaged, and is in proper condition for transport	n free liquid as defined by 40 CFR Part 260.10 or any applicable at 261 or any applicable state law, has been properly described, tation according to applicable regulations.
enerator Authorized Agent Name Signature	0:20193 Shipment Date
	PORTER
ruck No	
Transporter Name Dillard Trucking, Inc. 1003/17 Address P. O. Box 218	Driver Name (Print) Ouy Tabel
Address P. O. Box 218 Byon, California 94544	Vehicle License No./State 309762
hereby certify that the above named material was picked up at the generator site listed above.	I hereby certify that the above named material was delivered with out incident to the destination listed below.
Driver Signature Signature Shipment Date	Driver Signature Delivery Date
DEST	INATION - A CONTROL - A CONTRO
Site Name B.F.I. Vasco Road Landfill	Phone No. 5 1 0 — 4 4 7 0 4 9 1
4001 North Vasco Rd., Livermore, C	Ca.4550
hereby certify that the above named material has been accepted	and to the best of my knowledge the foregoing is true and accurate
Name of Authorized Agent Signature	Receipt Date
	19700
	PASS CODE



GENE	RATOR
Tenerator Name ARCO Products	Generating Location ARCO Station #4494
## ddress P. O. Box 5811	Address 566 Hegenberger
San Mateo, Ca. 94402	Oakland, CA
hone No. 4 1 5 5 7 1 2 4 3 4	Phone No.
BFI Waste Code C A Description of Waste	Containers Type Quantity Units No. Type D - Drum C - Carton
-	0 0 1 8 V 0 / T B-Bag
NON HAZARDOUS SOIL	T - Truck P - Pounds Y - Yards
	O - Other
I hereby certify that the above named material does not contain state law, is not a hazardous waste as defined by 40 CFR Par classified and packaged, and is in proper condition for transport	free liquid as defined by 40 CFR Part 260.10 or any applicable t 261 or any applicable state law, has been properly described, ation according to applicable regulations.
ERIC JERZC Generator Authorized Agent Name Signature	020193 Shipment Date
	PORTER
Truck No. 24	Phone No
Transporter Name Dillard Trucking, Inc. 1003/17	Driver Name (Print) Bill Yohley
Address P. O. Box 218	Vehicle License No./State
Byon, California 94544	Vehicle Certification
hereby certify that the above named material was picked up at the generator site listed above.	I hereby certify that the above named material was delivered with- out incident to the destination listed below.
Rev Rhy : 020193	Bu Only 020193
Driver Signature Shipment Date	Driver Signature Delivery Date
DEST	NATION
Site Name B.F.I. Vasco Road Landfill	Phone No. 5 1 0 — 4 4 7 0 4 9 1
Address 4001 North Vasco Rd., Livermore, C	á.4550
I hereby certify that the above named material has been accepted	and to the best of my knowledge the foregoing is true and accurate.
	Receipt Date
Name of Authorized Agent Signature	
	PASS CODE



GENE	RATOR
enerator Name ARCO Products	Generating Location ARCG Station #4494
ddress P. O. Box 5811	Address 566 Hegenberger
San Mateo, Ca. 94402	Oakland, CA
hone No. 4 1 5 -5 7 1 2 4 3 4	Phone No.
BFI Waste Code C A 4 9 5 2 3 9 9 2	Containers Type D - Drum
Description of Waste	C- Carton
NON HAZARDOUS SOIL	B - Bag
	P - Pounds Y - Yards
	O - Other
I hereby certify that the above named material does not contain state law, is not a hazardous waste as defined by 40 CFR Packassified and packaged, and is in proper condition for transport	n free liquid as defined by 40 CFR Part 260.10 or any applicable at 261 or any applicable state law, has been properly described, tation according to applicable regulations.
Generator Authorized Agent Name Signature	0 2 0 / 9 3 Shipment Date
TRANS	
Transporter Name Dillard Trucking, Inc. 1003/17	Phone No
Address P. O. Box 218	Vehicle License No./StateSP27564 Ff63
Byon, California 94544	Vehicle Certification
hereby certify that the above named material was picked up at the generator site listed above.	I hereby certify that the above named material was delivered without incident to the destination listed below.
Bell Poly 020193	Bay Phy 020193
Stiver Signature Shipment Date	Driver Signature Delivery Date
DESTI	NATION
Site Name B.F.I. Vasco Road Landfill	Phone No. 5 1 0 — 4 4 7 0 4 9 1
4001 North Vasco Rd., Livermore, C	Friotie No.
hereby certify that the above named material has been accepted a	and to the best of my knowledge the foregoing is true and accurate.
	1n 000198
Name of Authorized Agent Signature	Receipt Date
	4/ 3/2
nine.	PASS 2008 BF1260-720



NON-HAZARDOUS SPECIAL WASTE MANIFES

GEN	VERATOR
Generator NameARCO Products	Generating LocationARCO Station #4494
Address P. O. Box 5811	Address 566 Hegenberger
San Mateo, Ca. 94402	Oakland, CA
Phone No. 4 1 5 5 7 1 2 4 3 4	Phone No.
BFI Waste Code C A D Description of Waste	2 4 9 9 6 4 Containers Typ
Description of Waste	Quantity Units No. Type D - Dru O O O 1 8 Y D 7 T C - Car
NON HAZARDOUS SOIL	B - Bac
	P - Pou Y - Yar
L boroby contife that the all	O - Oth
state law, is not a hazardous waste as defined by 40 CFR P classified and packaged, and is in proper condition for transport	ain free liquid as defined by 40 CFR Part 260.10 or any applicable art 261 or any applicable state law, has been properly describe ortation according to applicable regulations.
FRISTERZI 9-75	020193
Generator Authorized Agent Name Signature	Shipment Date
TRANS	SPORTER
Truck No	510-634-6850 Phone No
Transporter Name Dillard Trucking, Inc. 1003/17	_ Driver Name (Print) Leng W Flandels
Address P. O. Box 218	_ Vehicle License No./State \$ 2663W (
Byon, California 94544	Vehicle Certification 308767, 309140
I hereby certify that the above named material was picked up at the generator site listed above.	I hereby certify that the above named material was delivered vout incident to the destination listed below.
priver Signature O20193 Shipment Date	Driver Signature 02019 Delivery Date
DEST	INATION
Site NameB.F.I. Vasco Road Landfill	Phone No. 5 1 0 4 4 7 0 4 9
Address 4001 North Vasco Rd., Livermore, (
I hereby certify that the above named material has been accepted a	and to the best of my knowledge the foregoing is true and accura
Name of Authorized Agent	00019
Name of Authorized Agent Signature	Receipt Dave
10/86	PASS CODE

TRANSPORTER RETURN

8F1260



10/86

GENE	RATOR
Generator Name ARCO Products	Generating Location ARCO Station #4494
Address P. O. Box 5811	Address 566 Hegenberger
San Mateo, Ca. 94402	Oakland, CA
Phone No. 4 1 5 5 7 1 2 4 3 4	Phone No. Containers T
BFI Waste Code C A 6 0 5 1 2 B D 9 2 Description of Waste	Quantity Units No. Type D-D
NON HAZARDOUS SOIL	0 0 0 1 8 Y 0 2 T B-B T-T P-P Y-Y
I hereby certify that the above named material does not contain state law, is not a hazardous waste as defined by 40 CFR Parclassified and packaged, and is in proper condition for transport	in 261 or any applicable state law, has been properly descri
F.F. STERRY	7/ 020193
Generator Authorized Agent Name	Shipment Date
Truck No. 8	Phone No. 510-634-6850
Transporter Name Dillard Trucking, Inc. 1003/17	Driver Name (Print) LON WF/ANDE
Address P. O. Box 218	Driver Name (Print) LON W FIANDER Vehicle License No./State 26653 W Ce
Byon, California 94544	Vehicle Certification 308767 309, 140
I hereby certify that the above named material was picked up at the generator site listed above.	I hereby certify that the above named material was delivere out incident to the destination listed below.
Friver Signature 020193 Shipment Date	Priver Signature 02010 Delivery Date
Starting and the property of the second of DEST	NATION
Site Name B.F.I. Vasco Road Landfill	Phone No. 5 1 0 — 4 4 7 0 4
Address 4001 North Vasco Rd., Livermore, C	
I hereby certify that the above named material has been accepted a	and to the best of my knowledge the foregoing is true and acc
Name of Authorized Agent Signature	Receipt Date



GEN	ERATOR
Generator Name ARCO Products	Generating Location ARCO Station #4494
Address P. O. Box 5811	Address 566 Hegenberger
San Mateo, Ca. 94402	Oakland, CA
Phone No. 4 1 5 - 5 7 1 2 4 3 4	Phone No.
	Containers Type Quantity Units No. Type C - Carton
	0 0 0 1 8 Y 0 / T B-Bag
NON HAZARDOUS SOIL	T - Truck P - Pounds
	Y - Yards O - Other
state law, is not a hazardous waste as defined by 40 CFR is classified and packaged, and is in proper condition for transp	ain free liquid as defined by 40 CFR Part 260.10 or any applicable Part 261 or any applicable state law, has been properly described, ortation according to applicable regulations. Shipment Date
Generator Authorized Agent Name Signature	ISPORTER
	510-634-6850
Truck No	Phone No
Transporter Name Dillard Trucking, Inc. 1003/17	Driver Name (Print)
Address P. O. Box 218	Vehicle License No./State
Byon, California 94544	Vehicle Certification
I hereby certify that the above named material was picked up at the generator site listed above.	I hereby certify that the above named material was delivered with out incident to the destination listed below.
Driver Signature Ozo 19	Briver Signature Cut Sect 02017 =
DES	TINATION
Site Name B.F.I. Vasco Road Landfill	Phone No. 5 1 0 4 7 0 4 9 1
Address	Ca:4550
I hereby certify that the above named material has been accepte	d and to the best of my knowledge the foregoing is true and accurate
Name of Authorized Agent Signature	Receipt Date
Name of Authorized Agent Signature	
	PASS CODE
l	BF1260

BFI260-72

√aste ✓Systems ™

GENE	RATOR
Generator Name ARCO Products	Generating Location ARCO Station #4494
· · · · · · · · · · · · · · · · · · ·	
Address P. O. Box 5811	Address 566 Hegenberger
San Mateo, Ca. 94402	Oakland, CA
Phone No. 4 1 5 5 7 1 2 4 3 4	Phone No.
BFI Waste Code C A + 0 5 1 2 3 0 9 2 Description of Waste	Quantity Units No. Type D - Drum
NON HAZARDOUS SOIL	0 0 0 1 8 Y 0 T T C - Carton B - Bag T - Truck P - Pounds
	Y - Yards O - Other
	free liquid as defined by 40 CFR Part 260.10 or any applicable at 261 or any applicable state law, has been properly described, eation according to applicable regulations. Shipment Date
- · · · · · · · · · · · · · · · · · · ·	PORTER
THANSI	FORTER
Truck No	510-634-6850 Phone No
Transporter Name Dillard Trucking, Inc. 1003/17	Driver Name (Print) 1EUT BOTTI
Address P. O. Box 218	Vehicle License No./State 3288745
Byon, California 94544	Vehicle Certification
I hereby certify that the above named material was picked up at the generator site listed above.	I hereby certify that the above named material was delivered with out incident to the destination listed below.
Driver Signature Cact Roff- 020193 Shipment Date	1 Cal Bett 020195
	Driver Signature Delivery Date
DESTIN	NATIÔN
Site Name B.F.I. Vasco Road Landfill	Phone No. 5 1 0 — 4 4 7 9 4 9 1
Address	a.4550
I hereby certify that the above named material has been accepted an	nd to the best of my knowledge the foregoing is true and accurate.
Name of Authorized Agent Signature	Receipt Date
Signature Signature	Necesia pare
)	PASS CODE

	ARCC	Pro	ducts	Com	pany Company				Task O	der No.	44	94	-9	-	15						-			chain of Custody
	ARCO Fa	ility no.	440				DAKLA	WD			Project (Cansu	mana: Itant)	ger	In	. ((of	ma	N.						Laboratory name
Ī	ARCO en	lneer		chael		iclen		Telephor (ARCO)		: .	Telephi (Consu	one no Itant)	(40	5)26	4-7	723	Fax (Co	ne. nsultar	m) (4	28),	264-	243	55	GTEL Contract number
	Consultan	t name	REY	V/t					Address (Consulta	7717											951			
					Matrix		Prese	rvation]			□ KOA	0007				Method of shipment
	Sample I.D.	Lab no.	Container no.	Soil	Water	Other	lce	Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas Diesel	Oil and Grease 413.1 🗌 413.2 🗍	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Semi	CAM Metals EPA 6010/7000	Lead Org./DHS Clead EPA 1420/7421 Cl			
s	5-TL3		1	X			X		12/892	1030		X			X									Special detection Limit/reporting
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	elina lish		ampler	~ /	1	1		Date /18	/92	Time / 200	Recei	vediby	10	1.		سر ام	٠	41.	1	1				2 Business Days
1	Relinquish		J-(The		•		Date /	/	Time	Recei	ved by	щ_	100)	<u>C.7.</u>	CL_	IA(H)	ı /q	[] , 				Expedited 5 Business Days
Ī	Relinquish	ed by		•				Date		Time	Recei	ved by	laborat	ory	·		D	ate			Time			Standard 10 Business Days



Southwest Region

20000 / 300 Mariner Drive Torrance, CA 90503 (310) 371-1044 (800) 727-GTEL Fax (310) 371-8720

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Augustus Viita

DF (1392)

GTEL Client Number: R\$N04.ARC01 Representative: Michael Whalen

Facility Number: 4494 Work Order Number: T212219

December 22, 1992

Mr. Joel Coffman Resna Industries 3315 Almaden Expressway, Suite 34 San Jose, CA 95118

Dear Mr. Coffman,

Enclosed please find the analytical results for the samples received by GTEL Environmental Laboratories, Inc. on 12-18-92 under task order number 4494-91-1S.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

GTEL is certified by the state of California under Certification #1122.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,

GTEL Environmental Laboratories, Inc.

William M. Jow

Western Region Mobile Laboratory Manager

William for / MS

GTEL Client Number: RSN04.ARC01 Representative: Michael Whalen

Facility Number: 4494 Work Order Number: T212219

ANALYTICAL RESULTS

Volatile Organics in Soil EPA Methods Modified 8020 and Modified 8015^a

					1
GTE	L Sample Number	Lab Blank	12219-1	12219-2	12219-3
(Client Identification		S-5-TL3	S-14-TL1	S-12-TL5
		12-18-92	12-18-92	12-18-92	
		12-18-92	12-18-92	12-18-92	
	12-18-92	12-18-92	12-18-92	12-18-92	
Analyte	Reporting Limit, mg/kg		Concentrat	tion, mg/kg	
Benzene	0.005	< 0.005	0.047	<0.005	1.5
Toluene	0.005	< 0.005	0.006	< 0.005	0.21
Ethylbenzene	0.005	< 0.005	0.010	< 0.005	1.6
Xylene, total	0.015	< 0.015	0.019	<0.015	0.95
TPH as Gasoline	5	<5	<5	<5	58
Dilution Multiplier ^b		1	1	1	1
TFT surrogate ^c , % recovery		110	121	113	86.1

- Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual procedures. Results are calculated on a wet weight basis.
- b. Indicates the adjustments made for sample dilution.
- TFT surrogate recovery acceptability limits of 72.8-123% are derived from the 99% confidence interval of all samples during the previous c. quarter. Expected surrogate value is 1.07 mg/kg.



GTEL Client Number: RSN04.ARC01

Representative: Michael Whalen Facility Number: 4494
Work Order Number: T212219

ANALYTICAL RESULTS

Volatile Organics in Soil EPA Methods Modified 8020 and Modified 8015^a

GTE	Sample Number	12219-4	·····		
C	lient Identification	S-11-TP7			
	Date Sampled				
	12-18-92				
	12-18-92				
Analyte	Reporting Limit, mg/kg		Concentrat	tion, mg/kg	
Benzene	0.005	1.7			
Toluene	0.005	0.083			
Ethylbenzene	0.005	1.0			
Xylene, total	0.015	0.63			
TPH as Gasoline	5	33			
Dilution Multiplier ^b		1			
TFT surrogate ^C , % recovery		97.1			

- Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual procedures. Results are calculated on a wet weight basis.
- b. Indicates the adjustments made for sample dilution.
- TFT surrogate recovery acceptability limits of 72.8-123% are derived from the 99% confidence interval of all samples during the previous C. quarter. Expected surrogate value is 1.07 mg/kg.



ANALYTICAL RESULTS

Total Recoverable Petroleum Hydrocarbons in Soil EPA 418.1/Standard Methods 503E^a

11	mple fication	Date Sampled	Date Extracted	Date Analyzed	Reporting Limit, mg/kg	Concentration, mg/kg
GTEL No.	Client ID			L		
12219-1	S-5-TL3	12-18-92	12-18-92	12-18-92	10	< 10

EPA 600/4-79-020, March 1983 revision. Extraction by EPA Method 3550. Results are calculated on a wet weight basis.



CONFORMANCE/NONCONFORMANCE SUMMARY

Abbreviations:

X = Requirements Met VOA = Volatiles

* = See Comments

NA = Not Applicable ND = Not Detected

- = Test Not Required

SV = Semi Volatiles

#	Conformance Item	VOA GC	VOA GC/MS	SV GC	SV GC/MS	Metals	Wet Chem
1	Holding Time	Х					Х
2	Method Accuracy	Х					Х
3	Method Precision	Х					Χ
4	Surrogate Recovery	Х					NA
5	Blank	ND		-			ND

Comments:



QC Check Sample Results

Matrix: Soil

Analyte	Source	Date of Analysis	Expected Value	Units	Recovery ^a , %
GC:					
Benzene	Macro Scientific	12-18-92	75.0	ug/L	89.3 (81.1-118)
Toluene	Macro Scientific	12-18-92	75.0	ug/L	85.7 (79.9-123)
Ethylbenzene	Macro Scientific	12-18-92	75.0	ug/L	86.1 (81.1-123)
Xylene, total	Macro Scientific	12-18-92	225	ug/L	86.8 (82.9-123)
Gasoline	Chevron	12-18-92	1.0	mg/L	89.5 (80-120)
Inorganic Chemistry:					
TPH/IR	J.T. Baker	12-18-92	50.0	mg/L	99.6 (80-120)

Acceptability limits are in parentheses.



Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Date of Analysis	Sample Amount		Units	Reco- very. %	Duplicate Recovery ^a %	RPDa, %
GC:				-				
Benzene	T212219-2	12-18-92	<0.005	1.14	mg/kg	82.4	72.2 (37.2-94.4)	13.2 (30)
Toluene	T212219-2	12-18-92	< 0.005	1.14	mg/kg	87.0	77.1 (30.9-102)	12.1 (30)
Ethylbenzene	T212219-2	12-18-92	< 0.005	1.14	mg/kg	90.4	81.4 (41.6-104)	10.5 (30)
Xylene, total	T212219-2	12-18-92	< 0.015	3.43	mg/kg	94.1	83.8 (40.6-108)	11.6 (30)
Inorganic Chemistry:								
TPH/IR	T212219-1	12-18-92	< 10	83.3	mg/kg	84.0	NA (77-124)	NA

a. Acceptability limits are in parentheses.
 NA Not Applicable.



Sample and Sample Duplicate Results

Matrix: Soil

Analyte	Sample ID	Date of Analysis	Sample Results	Sample Duplicate Results	Units	RPDa, %
Inorganic Chemistry:						
TPH/IR	T212219-1	12-18-92	<10	< 10	mg/kg	NA (20)

a. Acceptability limits are in parentheses.
 NA = Not Applicable.



aste Systems **

NON-HAZARDOUS SPECIAL WASTE MANIFEST

Generator NameARCO Products	Generating Location ARCO Station #4494
ddress P. O. Box 5811	
San Mateo, Ca. 94402	Oakland, CA
hone No. 4 1 5 - 5 7 1 2 4 3 4	Phone No.
FI Waste Code C A Description of Waste	Quantity Units No. Type C - Car
	0 0 0 1 8 Y D / T B B B B G
NON HAZARDOUS SOIL	P - Pou Y - Yar
	O - Oth
I hereby certify that the above named material does not conta state law, is not a hazardous waste as defined by 40 CFR Pa classified and packaged, and is in proper condition for transpo	tin free liquid as defined by 40 CFR Part 260.10 or any applica art 261 or any applicable state law, has been properly describentation according to applicable regulations.
- 754	. 626/93
Inerator Authorized Agent Name Signature	Shipment Date
TRANS	SPORTER
ruck No	Phone No
ransporter Name Dillard Trucking, Inc. 1003/17	_ Driver Name (Print) (LIFT Maybugh
ddress P. O. Box 218	
Byon, California 94544	Vehicle Certification
nereby certify that the above named material was picked up the generator site listed above.	I hereby certify that the above named material was delivered out incident to the destination listed below.
Milloud 1 1	
river Signature Shipment Date	Driver Signature Delivery Date
/ /	Driver Signature Delivery Date
DEST	Silver ogstadio
DESI Site Name B.F.I. Vasco Road Landfill 4001 North Vasco Rd., Livermore,	FINATION Phone No. 5 1 0 — 4 4 7 0 4 9
DESI Site Name B.F.I. Vasco Road Landfill	TINATION Phone No. 5 1 0 4 7 0 4 9 Ca.4550
DEST Site Name <u>B.F.I. Vasco Road Landfill</u> 4001 North Vasco Rd., Livermore,	TINATION Phone No. 5 1 0 4 7 0 4 9 Ca.4550

PASS CODE

aste

№ 905285 N**ÖN-**HAZARDOUS SPECIAL WASTE MANIFEST

NON HAZARDOUS SOIL I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any as state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly declassified and packaged, and is in proper condition for transportation according to applicable regulations. TRANSPORTER Truck No. M-3 Transporter Name Billard Trucking, Inc. 1003/17 Phone No. Pro. Box 218 Byon, California 94544 I hereby certify that the above named material was picked up at the generator site lighted above. Diver Signature DESTINATION Site Name B.F.I. Vasco Road Landf:11 4001 North Vasco Rd., Livermore, Ca. 4350 I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and applicable regulations.	GENE	RATOR
San Mateo, Ca. 94402 Oakland, CA Phone No. 4 1 5 5 7 1 2 4 3 4 Phone No. 6 BFI Waste Code C A	Generator NameARCO Products	Generating Location ARCO Station #4494
San Mateo, Ca. 94402 Oakland, CA Phone No. 4 1 5 5 7 1 2 4 3 4 Phone No. 4 1 5 5 7 1 2 4 3 4 Phone No. 4 1 5 5 7 1 2 4 3 4 Phone No. 5 1 9 6 4 Containers Description of Waste Non Hazardous Soil I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 280 10 or any at state law, is not a hazardous waste as defined by 40 CFR Part 281 or any applicable state law, has been properly declassified and packaged, and is in proper condition for transportation according to applicable regulations. Transporter Name Dillard Trucking, Inc. 1003/17 Phone No. Priver Name (Print) Driver Name (Print) Driver Name (Print) Driver Name (Print) Hereby certify that the above named material was picked up at the generator site tigated above. Delivery Delivery Description of Waste Delivery Description of Waste Out incident to the destination listed below. Delivery Description of Waste Delivery Description of Waste Out incident to the destination listed below. Delivery Description of Waste Delivery Description of Waste Out incident to the destination listed below. Delivery Delivery Description of Waste Delivery Description of Waste Out incident to the destination listed below. Delivery Description of Waste Delivery Description of Waste Delivery Description of Waste Description of Waste Out incident to the destination listed below. Delivery Description of Waste Delivery Description of Vaste of Market Delivery Description of Vaste of Market Delivery Description of Vaste of Vaste of Market Description of Vaste of Vaste of Market Description of Vaste of Vaste of Market Description of Vaste of Vaste of Vaste of Market Description of Vaste of	Address P. O. Box 5811	Address 566 Hegenberger
Phone No. I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any as state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly declassified and packaged, and is in proper condition for transportation according to applicable state law, has been properly declassified and packaged, and is in proper condition for transportation according to applicable state law, has been properly declassified and packaged, and is in proper condition for transportation according to applicable regulations. TRANSPORTER Truck No. M-3 Phone No. TRANSPORTER Truck No. M-3 Phone No. Driver Name (Print) Vehicle License No./State 32 89 5. Vehicle Certification 300 55 I hereby certify that the above named material was picked up at the generator site lighted above. DESTINATION Site Name 8.F.I. Vasco Road Landfill Phone No. 5 1 0 4 7 0 Address Been Containers Containers Outantity Units No. Type Containers Outantity Units No. Type Take 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	•	Oakland, CA
Transporter Name Dillard Trucking, Inc. 1003/17 Transporter Name Dillard Trucking, Inc. 1003/17 Description of Waste Ouanity No. Type Ou o o 1 8 x y	Phone No. 4 1 5 — 5 7 1 2 4 3 4	Phone No.
I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any as state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly declassified and packaged, and is in proper condition for transportation according to applicable regulations. Phone No.	3FI Waste Code	Quantity Units No. Type C - Cart
state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly de classified and packaged, and is in proper condition for transportation according to applicable regulations. Transporter Name		0 0 0 1 8 Y D T B - Bag T - Truc P - Pour Y - Yard O - Othe
Truck No. 193 Transporter Name Dillard Trucking, Inc. 1003/17 P. C. Box 218 Byon, California 94544 Thereby certify that the above named material was picked up out incident to the destination listed below. Diver Signature Distribution Driver Name (Print) Vehicle License No./State 328888 Vehicle Certification 300 755 Thereby certify that the above named material was delegated above. Diver Signature DESTINATION Site Name B.F.I. Vasco Road Landfill House No. 5 1 0 4 4 7 0 Hereby certify that the above named material was delegated and to the best of my knowledge the foregoing is true and second and to the best of my knowledge the foregoing is true and second and to the best of my knowledge the foregoing is true and second and to the best of my knowledge the foregoing is true and second and to the best of my knowledge the foregoing is true and second and to the best of my knowledge the foregoing is true and second and to the best of my knowledge the foregoing is true and second and to the best of my knowledge the foregoing is true and second and to the best of my knowledge the foregoing is true and second and to the best of my knowledge the foregoing is true and second and to the best of my knowledge the foregoing is true and second and to the best of my knowledge the foregoing is true and second and to the best of my knowledge the foregoing is true and second and the best of my knowledge the foregoing is true and second and the best of my knowledge the foregoing is true and second and the best of my knowledge the foregoing is true and second and the best of my knowledge the foregoing is true and second and the best of my knowledge the foregoing is true and second and the best of my knowledge the foregoing is true and second and the best of my knowledge the foregoing is true and second and the best of my knowledge the foregoing is true and second and the best of my knowledge the foregoing is true and second and the best of my knowledge the foregoing is true and second and the best of my knowledge the	state law, is not a hazardous waste as defined by 40 CFR Pal classified and packaged, and is in proper condition for transport	rt 261 or any applicable state law, has been properly described tation according to applicable regulations.
Truck No. M-3 Transporter Name Dillard Trucking, Inc. 1003/17 P. C. Box 218 Byon, California 94544 Vehicle License No./State 3288/87 Vehicle Certification 300 755 I hereby certify that the above named material was picked up at the generator site ligited above. Driver Signature DESTINATION Site Name B.F.I. Vasco Road Landfill 1 hereby certify that the above named material was picked up out incident to the destination listed below. DESTINATION Site Name B.F.I. Vasco Road Landfill 1 hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and Recept and to the best of my knowledge the foregoing is true and Recept and to the best of my knowledge the foregoing is true and Recept and to the best of my knowledge the foregoing is true and Recept and to the best of my knowledge the foregoing is true and Recept and to the best of my knowledge the foregoing is true and Recept and to the best of my knowledge the foregoing is true and Recept and to the best of my knowledge the foregoing is true and Recept and to the best of my knowledge the foregoing is true and Recept and to the best of my knowledge the foregoing is true and Recept and to the best of my knowledge the foregoing is true and Recept and to the best of my knowledge the foregoing is true and Recept and to the best of my knowledge the foregoing is true and Recept and to the best of my knowledge the foregoing is true and Recept and to the best of my knowledge the foregoing is true and Recept and to the best of my knowledge the foregoing is true and Recept and to the best of my knowledge the foregoing is true and Recept and to the destination and the process an	Generator Authorized Agent Name Signature	Shipment Date
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Byon, California 94544 Vehicle Certification I hereby certify that the above named material was picked up at the generator site listed above. Driver signature B.F.I. Vasco Road Landfill 4001 North Vasco Rd., Livermore, Ca. +550 I hereby certify that the above named material was defout incident to the destination listed below. DESTINATION Site Name B.F.I. Vasco Road Landfill 4001 North Vasco Rd., Livermore, Ca. +550 I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and Recepted. Been Page Page Page Page Page Page Page Page		Phone No.
Byon, California 94544 Vehicle Certification 300 755 I hereby certify that the above named material was picked up at the generator site listed above. I hereby certify that the above named material was delout incident to the destination listed below. DESTINATION Site Name B.F.I. Vasco Road Landfill Phone No. 5 1 0 4 4 7 0 Address I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and seems the seems of the property o	ransporter Name	
I hereby certify that the above named material was picked up at the generator site listed above. A		
DESTINATION Site Name		I hereby certify that the above named material was delivered v
Site Name	(hy Mh) 820193	Driver Signature Driver Signature Delivery Date
Site Name		NATION
Address I hereby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and second se	Site Name	Phone No. 1914
Beceip		la. +550
Name of Authorized Agest Signature	I hereby certify that the above named material has been accepted	100VF
Name of Authorized Agent Signature	Name of Authorized Agent Signature	Receipt Date

PASS CODE .____

	NAME ARCO Products Attn: Mike Whelan	EPA					
	ADDRESS P. O. Box 5811	NO CALPPOOPS					
	566 Hegenberger, Oakl CITY STATE ZIP <u>San Mateo, Ca. 94402</u> Station #4494	PHONE NO 415 571-2434					
TOR	CONTAINERS: No. 312637	WEIGHT					
BY GENERATOR	TYPE: TANK THUCK DAUMS CARTONS OTHER Soil Contaminated with WASTE DESCRIPTION GENERATING PROCESS COMPONENTS OF WASTE PPM % COMPONE	S UST Removal ENTS OF WASTE PPM ~					
	1. Soil 99.5 99.9	<u> </u>					
	Waste Oil 0.5						
COMPLETED	3						
TO BE							
	PROPERTIES: Neutral No. Solid Liquid Studge Sturry Other HANDLING INSTUCTION Profile 1059-BDN-0193 Station #4494						
	THE GENERATOR CERTIFIES THAT. THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS. TYPED OR PRINTED FULL NAME & SIGNATURE	Note (Generator					
Œ	DILLARD TRUCKING, INC.	EPA A D 9 8 1 6 9 2 8 0 NO					
TRANSPORTER	ADDRESS_P. O. Box 218	SERVICE ORDER NO					
NSP	CITY, STATE, ZIPByron, California 94514	PICK UP DATE 1-29-93					
TRA	TRUCK UNIT ID. NO. 88 TYPED OR PRINTED FULL NAME & SIGNATURE	1-29-9 DATE					
	Laidlaw Environmental Services, Inc.	EPA C.A. D 9 8 0 6 7 5 2 7					
≥	ADDRESS 2500 Lokern Road	DISPOSAL METHOD					
CILI	Buttonwillow, Ca. 93206-0787						
TSD FACILITY	PHONE NO. 800 544-7199	\-70-					
1	TYPED OR PRINTED FULL NAME & SIGNATURE	DATE					
***	TRANS OLD/NEW L A TONS COS						
	C/Q RT/CD HWDF NONE DISCREPANCY						

ARCO Products Attn: Mike Whelan P. O. Box 5811 ADDRESS San Mateo, Ca. 94402 Station #4494 CITY. STATE, ZIP San Mateo, Ca. 94402 Station #4494 CONTAINERS: No. 2 VOLUME / Fyd.S WEIGHT TYPE: TANK THUCK XX THUCK DRUMS CARTONS OTHER Soil Contaminated with Waste Description Waste Description COMPONENTS OF WASTE PPM & COMPONENTS OF WASTE PPM COMPONENTS OF WASTE PPM COMPONENTS OF WASTE PPM TO DEPM THE COMPONENTS OF WASTE PPM COMPONEN	1-2434					
CITY STATE ZIP San Mateo, Ca. 94402 Station #4494 CONTAINERS: No. 2 VOLUME 1845 TYPE: TANK XX THUCK DRUMS CARTONS OTHER Soil Contaminated with Waste Oil CENERATING PROCESS	1-2434					
CONTAINERS: No						
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TYPE: TANK XX THUCK DRUMS CARTONS OTHER Soil Contaminated with Waste Description COMPONENTS OF WASTE PPM 6 COMPONENTS OF WASTE PP						
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O Neutral XX SOLID LIQUID SLUDGE SLURRY OTHER						
HANDLING INSTUCTIONS Profile 1059-BDN-0193 Station #4494						
THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.	1/24/					
TYPED OR PRINTED FULL NAME & SIGNATURE	DATE					
DILLARD TRUCKING, INC. NAME NO.	9 2 8 0					
P. O. Box 218 ADDRESS SERVICE ORDER NO.	03/17					
P. O. Box 218 ADDRESS CITY, STATE, ZIP Byron, California 94514 PHONE NO. 510 634-6850						
PHONE NO. 510 634-6850 GLENN D. Clook Glenn a Clark	1/2916					
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Laidlaw Environmental Services, Inc. EPA C A D 9 8 0 6	7 5 2 7 1 1 1 1					
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Buttonwillow, Ca. 93206-0787						
Buttonwillow, Ca. 93206-0787 CITY, STATE, ZIP						
Buttonwillow, Ca. 93206-0787 CITY, STATE, ZIP PHONE NO. 800 544-7199 PHONE NO. 800 544-7199	1-201-61					
Buttonwillow, Ca. 93206-0787 CITY, STATE, ZIP PHONE NO. 800 544-7199 TYPED OR PRINTED FULL NAME & SIGNATURE	1-201-61 DATE					
Buttonwillow, Ca. 93206-0787 CITY, STATE, ZIP PHONE NO. 800 544-7199 TYPED OR PRINTED FULL NAME & SIGNATURE GEN OLD/NEW L A TONG COS	<u>\- ⊃<\ -</u> √- OATE					
Buttonwillow, Ca. 93206-0787 CITY, STATE, ZIP PHONE NO. 800 544-7199 TYPED OR PRINTED FULL NAME & SIGNATURE	<u>\- ⊃C\ -</u> G OATE					

	NAME ARCO Products Attn: Mike Whelan	EPA EPA					
	ADDRESS P. O. Box 5811	CALPPOOPS 68					
	CITY STATE ZIP San Mateo, Ca. 94402 Station #4494	kland PHONE NO 415 571-2434					
ATOR	CONTAINERS: No	18 yds weight_					
GENERATOR	TYPE: DIMP DRUMS CARTONS OTHER Soil Contaminated with Waste DESCRIPTION ASTE 011 COMPONENT OF THUCK DRUMS CARTONS OTHER GENERATING PROCESSION OF THE COMPONENT OF THE COMPON	UST Removal					
B	WASTE DESCRIPTION GENERATING PROCE COMPONENTS OF WASTE PPM % COMPO	ONENTS OF WASTE PPM %					
ËD	1. Soil 99.5 99.9 5.						
COMPLETE	Waste Oil 0.1 0.5						
ΣO	37						
ш		<u> </u>					
6.0	4	•					
H	PROPERTIES: Neutral XX SOLID LIQUID SLUDGE SLUARY OTHER						
	HANDLING INSTUCTION Profile 1059-BDN-0193 Station #4494 ((earztr)						
-	THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS. TYPED OR PRINTED FULL NAME & SIGNATURE	(Georges) politico. 1/29/9:					
		EPA C A D 9 8 1 6 9 2 8 0 9					
8	DILLARD TRUCKING, INC.	NO					
ORTI	ADDRESS P. O. Box 218	SERVICE ORDER NO					
ANSPORTER	CITY, STATE, ZIP Byron, California 94514	PICK UP DATE					
TRA	PHONE NO. 310 634-6850 LEONINF/ANDE	es tray Wolfare 1-29-9					
	TRUCK UNIT. I.D. NO. TYPED OR PRINTED FULL NAME & SIGNATUR	E					
	Laidlaw Environmental Services, Inc.	EPA 10 C A D 9 8 9 6 7 5 2 7 6					
	ADDRESS 2500 Lokern Road	DISPOSAL METHOD LANDFILL OTHER					
Ę	Buttonwillow, Ca. 93206-0787	· ·					
AC.	CITY, STATE, ZIP						
TSD FACILITY	PHONE NO. 800 544-7199	1-29-97 DATE					
TS	TYPED OR PRINTED FULL NAME & SIGNATUR	DATE DATE					
	GEN OLD/NEW L A TONS						
	TRANS S B CO CO RT/CD HWDF NONE DISCREPA	NCY					
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						

9301932 B 8890

, 1	ARCO Products Attn: Mike Whelan
	NAME
	ADDRESSNO
	CITY STATE ZIP San Mateo, Ca. 94402 Station #4494 PHONE NO. 415 571-2434
<u>م</u>	CONTAINERS No. 3/9837 VOLUME 18 VOLS WEIGHT
ē	CONTAINERS: No. 319837 VOLUME 18 495 WEIGHT
RA	
GENERATOR	TYPE: TANK XX THUCK DRUMS CARTONS OTHER
я П	Unata Oil
BY	WASTE DESCRIPTION GENERATING PROCESS COMPONENTS OF WASTE PPM & COMPONENTS OF WASTE PPM &
	Soil 99.5 99.9 5
13	Waste Oil 0.1 0.5
COMPLETED	Waste 011 0.1 0.5 6
Σ	3
	6
38	4
5	PROPERTIES: pH XX SOLID LIQUID SLUDGE SLURRY OTHER
	HANDLING INSTUCTIONS: Profile 1059-BDN-0193 Station #4494
	(Caretarian)
	THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100%
	NON-HAZARDOUS. TYPED OR PRINTED FULL NAME & SIGNATURE DATE
	FPA C A D Q 8 1 6 9 2 8 0 9
Œ	DILLARD TRUCKING, INC.
I E	P. O. Box 218 SERVICE ORDER NO
RANSPORTER	ADDRESS
I SZ	CITY. STATE, ZIP Byron, California 94514 PICK UP DATE
AA	PHONE NO. \$10 634-6850
F	
<u> </u>	TRUCK, UNIT, I.D. NO. TYPED OP PRINTED FULL NAME & SIGNATURE EPA C A D 9 8 0 6 7 5 2 7 6
	Laidlaw Environmental Services, Inc.
	NAME
≿	ADDRESS
TSD FACILITY	Buttonwillow, Ca. 93206-0787
A	800 544-7199 DERCH CINSON DATE 174-97
0	PHONE NO Scat Black Stack 1-2943
TS T	TYPED OR PRINTED FULL NAME & SIGNATURE DATE
	GEN OLO/NEW L A TONS CS
	TRANS S B 11,340
	C/Q HWDF NONE DISCREPANCY

8391

	NAME ARCO Products A	ttn: Mike Whelan	
	ADDRESS P. O. Box 5811		PA CJAJLOPGG CF & 1615
	CITY, STATE, ZIP San Mateo, Ca.	566 Hegenberger, Oak 94402 Station #4494	land PHONE NO 413 571-2434
ENERATOR	CONTAINERS: No.	78 35 VOLUME 18 4/0	WEIGHT
GENER	Soil Contaminat	ted with	ss UST Removal
₩	WASTE DESCRIPTION Waste 011 COMPONENTS OF WASTE	PPM % GENERATING PROCE	NENTS OF WASTE PPM %
	ıSoil	9 9.5 99.9 s	
PLE	Waste Oil	0.1 0.5	
COMPLETE	3	7	
B E	4	8	
5	PROPERTIES: Neutral SOLID	LIQUID SLUDGE SLUPRY	OTHER
		-BDN-0193 Station #4494	
			(beneater)
	THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.	Now A Chil Sic	sprodute Co. 1/29/43
		TYPED OR PRINTED FULL JAME & SIGNATURE	DATE
EB	DILLARD TRUCKING, IN	NC.	EPA ID. C A D 9 8 1 6 9 2 8 0 9 NO.
ORT	ADDRESS P. 0. Box 218	· · · · · · · · · · · · · · · · · · ·	SERVICE ORDER NO1003/17
TRANSPORTE	CITY, STATE, ZIP Byron, Califor	rnia 94514	PICK UP DATE
TRA	PHONE NO. \$10 634-6850	- 124/24/1	H Satt 129-23
	TRUCK, UNIT, I.D. NO.	TYPED OF PRINTED FULL NAME & SIGNATURE	
	NAME Laidlaw Environ	nmental Services, Inc.	EPA I.D. C A D P 8 Q 6 7 5 2 7 6
			DISPOSAL METHOD
E	ADDRESS 2500 Lokern Rose Buttonwillow, (LANDFILL OTHER
ACI	CITY, STATE, ZIP	33200 0.01	
TSD FACILITY	PHONE NO. 800 544-7199	- handa ()	1-20-00
18	·	TYPED OR PRINTED FULL NAME & SIGNATURE)-)Q -C1
	GEN OLD/NEW	L A TONS CY, S	•
	TRANS C/Q RT	S B US 100 DISCREPANCE	,
L	11 5.3	HOHE DISCREPANCE	

APPENDIX G CHAIN OF CUSTODY RECORDS AND ANALYTICAL REPORTS

ARCO	Produ	ucts (Comp	ompany	\$			Task Or	der No.	44	94	- 9	//-	<u> </u>								(Chain of Custody
ARCO Facilion	y no. eer	1494	<u>/</u> •्र	City (Fa	olor	Oak)	Telephor (ARCO)	Task Or ne no. (4/5 2 4 3 Address (Consulta	3315	Project (Consul Telepho (Consul	manag tant) ine no. tant)	ger (42	(8) 7 7 7 7) Z.(V z 5	(w)	Fas (Co	c no.	(V) (I)	18) 2 2 (2) 2	2. (y 435 . 	- 3 - 7)	Laboratory name
Consultant n	12	<u> </u>	1 4		ytr.ay			(Consulta	nt)	<u> </u>		سا				,		T T	8	<u>છે</u>	<u> </u>	4	Method of shipment
Sample f.D.	Lab no.	Container no.	Soil	Matrix Water	Other	lce	Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	TEXTPH PA ME02/8020/8015	TPH Modified 8015	Oil and Grease 413.1 🗀 413.2 🗀	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Semi	CAM Metals EPA 6010/7000	rad Org./DHS 20/7421		Hold	
4.5-B2		1	×			X		12/8/42	<u> </u>	80	மை	X	0.4	Ë	B	Ü	ш	X	45	322	 (1	Special detection Limit/reporting
0-321	<i>L.</i>	ŀ	×			X						×						×					STLC-Pb.
5.5-132		J	X			X						X						X			\		Show organic of TITAL (eas) concartenturs! Special QA/QC
9.5-BZi 10-BZ		1	7			<u> </u>						~						\\ \tag{\partial}				ľ	Special QA/QC
5-323		1	<i>y</i>			<u>/</u> ~	<u> </u>					$\frac{1}{}$				-		X			-	+	
9.5-13		1	*			<i>/</i>															ľ	X	
10-132	<u>-</u>	İ	X					•				X						X			>	1	Huld all
Y-5-BZ		1	<i>></i>			×						X						X				1	Samples for
-9.5-B	24		X			<i>></i>		V				X						X				1	poss, see
7																		 				+	Horalyses.
												ļ						<u> </u>			\dashv	+	7702
																						T	Lab number
											-												Turnaround time
																		<u> </u>					Priority Rush 1 Business Day
Condition of Beijnquished	by			1				92	7 Time	Recei	ed by	rh.	ed:	Hay.	بر مدو								Aush 2 Business Days Expedited
Relinquished	by						Date		Time	Récei	ed by			<i>'</i>									5 Business Days
Relinquished	l by	•					Date		Time	Recei	ed by	laborat	ory			(Date			Time			Standard 10 Business Days

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant APPC-3292 (2-91)



SAMPLE # SAMPLE DESCRIPTION DATE OF COLLECTION TEST METHOD

2121552

Soil, S-9.5-B24

12/8/92

EPA 5030/8015/8020 EPA 5030/8020 TCLP Extract Lead by STLC

Organic Lead by STLC

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Maria Lee

Project Manager

DEC 1 × 1992

RESNA

3315 Almaden Expwy., Suite 34

San Jose, CA 95118 Attention: Joel Coffman

Project: ARCO 4494, Oakland

Enclosed are the results from 8 soil samples received at Sequoia Analytical on December 9,1992. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
2121545	Soil, S-4.5-B21	12/8/92	EPA 5030/8015/8020 EPA 5030/8020 TCLP Extract Lead by STLC Organic Lead by STLC
2121546	Soil, S-10-B21	12/8/92	EPA 5030/8015/8020 EPA 5030/8020 TCLP Extract Lead by STLC Organic Lead by STLC
2121547	Soil, S-5.5-B22	12/8/92	EPA 5030/8015/8020 EPA 5030/8020 TCLP Extract Lead by STLC Organic Lead by STLC
2121548	Soil, S-10-B22	12/8/92	EPA 5030/8015/8020 EPA 5030/8020 TCLP Extract Lead by STLC Organic Lead by STLC
2121549	Soil, S-5-B23	12/8/92	EPA 5030/8015/8020 EPA 5030/8020 TCLP Extract Lead by STLC Organic Lead by STLC
2121550	Soil, S-10-B23	12/8/92	EPA 5030/8015/8020 EPA 5030/8020 TCLP Extract Lead by STLC Organic Lead by STLC
2121551	Soil, S-4.5-B24	12/8/92	EPA 5030/8015/8020 EPA 5030/8020 TCLP Extract Lead by STLC Organic Lead by STLC



3315 Almaden Expwy., Suite 34

Client Project ID:

ARCO 4494, Oakland

Sampled:

Dec 8, 1992

San Jose, CA 95118

Sample Matrix: Analysis Method:

EPA 5030/8015/8020

Received: Reported: Dec 9, 1992

Attention: Joel Coffman

First Sample #:

212-1545

Dec 16, 1992

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Soil

Analyte	Reporting Limit mg/kg	Sample I.D. 212-1545 S-4.5-B21	Sample I.D. 212-1546 S-10-821	Sample I.D. 212-1547 S-5.5-B22	Sample I.D. 212-1548 S-10-B22	Sample I.D. 212-1549 S-5-B23	Sample I.D. 212-1550 S-10-B23
Purgeable Hydrocarbons	1.0	2.3	N.D.	N.D.	N.D.	N.D.	N.D.
Benzene	0.0050	0.010	N.D.	N.D.	N.D.	N.D.	N.D.
Toluene	0.0050	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ethyl Benzene	0.0050	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Total Xylenes	0.0050	0.0070	N.D.	N.D.	N.D.	N.D.	N.D.
Chromatogram Pat	tern:	Non-Gas Mix < C8	••	••			

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	12/10/92	12/10/92	12/10/92	12/10/92	12/10/92	12/10/92
Instrument Identification:	GCHP-7	GCHP-6	GCHP-7	GCHP-7	GCHP-7	GCHP-7
Surrogate Recovery, %: (QC Limits = 70-130%)	110	95	97	96	98	99

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

SEQUOIA ANALYTICAL

Project Manager

2121545.RES <1>



3315 Airnaden Expwy., Suite 34

San Jose, CA 95118 Attention: Joel Coffman Client Project ID: Sample Matrix:

ARCO 4494, Oakland

Soil

Analysis Method: EPA 5030/8015/8020 First Sample #:

212-1551

Sampled:

Dec 8, 1992 Dec 9, 1992

Received: Reported: Dec 16, 1992

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 212-1551 S-4.5-B24	Sample I.D. 212-1552 S-9.5-B24
Purgeable Hydrocarbons	1.0	1.8	N.D.
Benzene	0.0050	N.D.	N.D.
Toluene	0.0050	0.034	N.D.
Ethyl Benzene	0.0050	0.039	N.D.
Total Xylenes	0.0050	0.22	N.D.
Chromatogram Pat	tern:	Weathered Gas	

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0
Date Analyzed:	12/10/92	12/10/92
Instrument Identification:	GCHP-7	GCHP-7
Surrogate Recovery, %: (QC Limits = 70-130%)	106	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

Project Manager

2121545.RES <2>



3315 Almaden Expwy., Suite 34 San Jose, CA 95118

Attention: Joel Coffman

Client Project ID: Sample Matrix:

ARCO 4494, Oakland TCLP Extract of Soil

TCLP Extract of 8 EPA 5030/8020

Analysis Method: EPA 5030 First Sample #: 212-1545 Sampled:

Dec 8, 1992 Dec 9, 1992

Received: Dec 9 Reported: Dec 16

Dec 16, 1992

BTEX DISTINCTION

Analyte	Reporting Limit μg/L	Sample I.D. 212-1545 S-4.5-B21	Sample I.D. 212-1546 S-10-B21	Sample I.D. 212-1547 S-5.5-B22	Sample I.D. 212-1548 S-10-B22	Sample I.D. 212-1549 S-5-B23	Sample I.D. 212-1550 S-10-B23
Benzene	0.50	N.D.	N.D.	N.D.	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.

Quality Control Data

Report Limit Multiplication Factor:	20	20	20	20	20	20
Date Analyzed:	12/11/92	12/11/92	12/11/92	12/11/92	12/14/92	12/14/92
Instrument Identification:	GCHP-2	GCHP-2	GCHP-2	GCHP-2	GCHP-3	GCHP-3
Surrogate Recovery, %: (QC Limits = 70-130%)	101	102	103	104	88	78

Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Maria Lee Project Manager

2121545.RES <3>



3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

Client Project ID: Sample Matrix: ARCO 4494, Oakland

TCLP Extract of Soil

Analysis Method: EPA 5030/8020 First Sample #: 212-1551 Sampled:

Dec 8, 1992

Received:

Dec 9, 1992

Reported: Dec 16, 1992

BTEX DISTINCTION

Analyte	Reporting Limit μg/L	Sample I.D. 212-1551 S-4.5-B24	Sample I.D. 212-1552 S-9.5-B24
Benzene	0.50	N.D.	N.D.
Toluene	0.50	N.D.	N.D.
Ethyl Benzene	0.50	N.D.	N.D.
Total Xylenes	0.50	N.D.	N.D.

Quality Control Data

Report Limit Multiplication Factor:

20

20

Date Analyzed:

12/14/92

12/14/92

Instrument Identification:

GCHP-2

GCHP-2

Surrogate Recovery, %: (QC Limits = 70-130%)

102

106

Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Maria Lee Project Manager

2121545.RES <4>



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063 (415) 364-9600 • FAX (415) 364-9233

RESNA 3315 Almaden Expwy., Suite 34

San Jose, CA 95118
Attention: Joel Coffman

Client Project ID: Sample Descript: ARCO 4494, Oakland

cript: Soil

Analysis for: First Sample #: Lead by STLC 212-1545 Sampled: Received: Extracted: Dec 8, 1992 Dec 9, 1992

Analyzed:

Dec 10, 1992 Dec 14, 1992

Reported: Dec 16, 1992

LABORATORY ANALYSIS FOR:

Lead by STLC

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L
212-1545	S-4.5-B21	0.10	0.31
212-1546	S-10-B21	0.10	N.D.
212-1547	S-5.5-B22	0.10	N.D.
212-1548	S-10-B22	0.10	N.D.
212-1549	S-5-B23	0.10	N.D.
212-1550	S-10-B23	0.10	N.D.
212-1551	\$-4.5-B24	0.10	N.D.
212-1552	S-9.5-B24	0.10	N.D.

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

SEQUOIA ANALYTICAL

Maria Lee Project Manager

2121545.RES <5>

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

Client Project ID:

ARCO 4494, Oakland

Sample Descript: Soil

Analysis for: First Sample #: Organic Lead by STLC

212-1545

Sampled: Received:

Dec 8, 1992 Dec 9, 1992

Extracted: Analyzed: Reported:

Dec 15, 1992 Dec 15, 1992 Dec 16, 1992

LABORATORY ANALYSIS FOR:

Organic Lead by STLC

Sample Number	Sample Description	Detection Limit mg/kg	Sample Result mg/kg
212-1545	S-4.5-B21	0.050	N.D.
212-1546	S-10-B21	0.050	N.D.
212-1547	\$-5.5-B22	0.050	N.D.
212-1548	\$-10-B22	0.050	N.D.
212-1549	S-5-B23	0.050	N.D.
212-1550	S-10-823	0.050	N.D.
212-1551	S-4.5-B24	0.050	N.D.
212-1552	\$-9.5-B24	0.050	N.D.

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

SEQUOIA ANALYTICAL

Project Manager

2121545.RES <6>



Client Project ID: ARCO 4494, Oakland

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

QC Sample Group: 2121545-52

Reported: Dec 16, 1992

QUALITY CONTROL DATA REPORT

ANALYTE			Ethyl-	
	Benzene	Toluene	benzene	Xylenes
Method: Analyst: Reporting Units: Date Analyzed: QC Sample #:	EPA 8020 R. Geckler mg/kg Dec 10, 1992 GBLK121092 MS/MSD	EPA 8020 R. Geckler mg/kg Dec 10, 1992 GBLK121092 MS/MSD	EPA 8020 R. Geckler mg/kg Dec 10, 1992 GBLK121092 MS/MSD	EPA 8020 R. Geckler mg/kg Dec 10, 1992 GBLK121092 MS/MSD
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.20	0.20	0.20	0.60
Conc. Matrix Spike:	0.22	0.21	0.21	0.65
Matrix Spike % Recovery:	110	105	105	108
Conc. Matrix Spike Dup.:	0.22	0.22	0.22	0.65
Matrix Spike Duplicate % Recovery:	110	110	110	108
Relative % Difference:	0.0	4.6	4.6	0.0

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Maria Lee Project Manager

% Recovery:	Conc. of M.S Conc. of Sample	x 100	·
	Spike Conc. Added		
Relative % Difference:	Conc. of M.S Conc. of M.S.D.	x 100	
•	(Conc. of M.S. + Conc. of M.S.D.) / 2		

2121545.RES <7>



Client Project ID: ARCO 4494, Oakland

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

QC Sample Group: 2121545-52

Reported: Dec 16, 1992

QUALITY CONTROL DATA REPORT

ANALYTE			Ethyl-	
	Benzene	Toluene	benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	M. Nipp	M. Nipp	M. Nipp	M. Nipp
Reporting Units:	μg/L	μg/L	μg/L	μg/L
Date Analyzed:	Dec 11, 1992	Dec 11, 1992	Dec 11, 1992	Dec 11, 1992
QC Sample #:	GBLK121192	GBLK121192	GBLK121192	GBLK121192
	MS/MSD	MS/MSD	MS/MSD	MS/MSD
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc.				
Added:	10	10	10	30
Conc. Matrix				
Spike:	10	10	10	31
•				
Matrix Spike				
% Recovery:	100	100	100	103
A Recovery.	100	100	100	100
Conc. Matrix	40	. 10	40	00
Spike Dup.:	10	10	10	30
Matrix Spike				
Duplicate				
% Recovery:	100	100	100	100
-			•	
Relative				
% Difference:	0.0	0.0	0.0	3.3
/ Differences	0.0	0.0	0.0	0.0

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Maria Lee Project Manager % Recovery:

Conc. of M.S. - Conc. of Sample x 100

Spike Conc. Added

Relative % Difference:

Conc. of M.S. - Conc. of M.S.D. x 100

(Conc. of M.S. + Conc. of M.S.D.) / 2

2121545.RES <8>



Client Project ID: ARCO 4494, Oakland

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

QC Sample Group: 2121545-52

Reported: Dec 16, 1992

QUALITY CONTROL DATA REPORT

ANALYTE			Ethyl-	
	Benzene	Toluene	benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	M. Nipp	M. Nipp	M. Nipp	M. Nipp
Reporting Units:	μg/L	μg/L	μg/L	μg/L
Date Analyzed:	Dec 14, 1992	Dec 14, 1992	Dec 14, 1992	Dec 14, 1992
QC Sample #:	GBLK121492	GBLK121492	GBLK121492	GBLK121492
·	MS/MSD	MS/MSD	MS/MSD	MS/MSD
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc.				
Added:	10	10	10	30
Conc. Matrix				
Spike:	9.7	9.7	9.7	29
			•	
Matric Caiba				
Matrix Spike	97	97	97	97
% Recovery:	91	97	97	97
Conc. Matrix				
Spike Dup.:	9.7	9.6	9.7	30
Matrix Spike				
Duplicate				
% Recovery:	97	96	97	100
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	.		•	
Relative				
% Difference:	0.0	1.0	0.0	3.4
% Difference:	U.U	1.0	U.U	J. 4

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Maria Lee Project Manager % Recovery:

Conc. of M.S. - Conc. of Sample x 100

Spike Conc. Added

Relative % Difference:

Conc. of M.S. - Conc. of M.S.D. x 100

(Conc. of M.S. + Conc. of M.S.D.) / 2

2121545.RES <9>



Client Project ID: ARCO 4494, Oakland

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

QC Sample Group: 2121545-52

Reported: Dec 16, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl- benzena	Xylenes	Lead STLC	Organic Lead	
Method: Analyst: Reporting Units: Date Analyzed: QC Sample #:	EPA 8020 Μ. Nipp μg/L Dec 14, 1992 GBLK121492 MS/MSD	EPA 8020 Μ. Νίρρ μg/L Dec 14, 1992 GBLK121492 MS/MSD	EPA 8020 Μ. Nipp μg/L Dec 14, 1992 GBLK121492 MS/MSD	EPA 8020 M. Nipp µg/L Dec 14, 1992 GBLK121492 MS/MSD	EPA 7421 S. Chin mg/L Dec 14, 1992 212-1405	LUFT K.V.S. mg/L Dec 5, 1992 212-0596	
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	0.13	N.D.	
Spike Conc. Added:	10	10	10	30	0.50	25	
Conc. Matrix Spike:	10	9.8	9.9	30	0.65	22	
Matrix Spike % Recovery:	100	98	99	100	104	88	
Conc. Matrix Spike Dup.:	10	9.7	9.8	29	0.65	22	
Matrix Spike Duplicate % Recovery:	100	97	98	97	104	88	
Relative % Difference:	0.0	1.0	1.0	3.4	0.0	0.0	

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Maria Lee Project Manager

% Recovery:	Conc. of M.S Conc. of Sample Spike Conc. Added	x 100	
Relative % Difference:	Conc. of M.S Conc. of M.S.D. (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100	

2121545.RES <10>

CO Facil		440	cRichfield(y iciliţy)	Oal	elon	1		Project	manag	er ,	<u>0</u>) /		Phone						Laboratory name
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3315 Almaden Expwy., Suite 34

San Jose, CA 95118 Attention: Joel Coffman

Project: ARCO 4494, Oakland

Enclosed are the results from 12 soil samples received at Sequoia Analytical on December 21,1992. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
2123783	Soil, SP1-1A-D	12/18/92	EPA 5030/8015/8020 Corrosivity, Ignitability and Reactivity
2123784	Soil, SP1-2A-D	12/18/92	EPA 5030/8015/8020
2123785	Soil, SP1-3A-D	12/18/92	EPA 5030/8015/8020
2123786	Soil, SP1-4A-D	12/18/92	EPA 5030/8015/8020
2123787	Soil, SP1-5A-D	12/18/92	EPA 5030/8015/8020
2123788	Soil, SP1-6A-D	12/18/92	EPA 5030/8015/8020
2123789	Soil, SP2-1A-D	12/18/92	EPA 5030/8015/8020
2123790	Soil, SP2-2A-D	12/18/92	EPA 5030/8015/8020
2123791	Soil, SP2-3A-D	12/18/92	EPA 5030/8015/8020
2123792	Soil, SP2-4A-D	12/18/92	EPA 5030/8015/8020
2123793	Soil, SP2-5A-D	12/18/92	EPA 5030/8015/8020
2123794	Soil, SP2-6A-D	12/18/92	EPA 5030/8015/8020

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Project Manager



3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

Client Project ID:

ARCO 4494, Oakland

Sampled:

Dec 18, 1992

Sample Matrix:

Soil

EPA 5030/8015/8020

Received:

Dec 21, 1992

Analysis Method: First Sample #:

212-3783

Reported:

Dec 22, 1992

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 212-3783 SP1-1A-D	Sample i.D. 212-3784 SP1-2A-D	Sample I.D. 212-3785 SP1-3A-D	Sample I.D. 212-3786 SP1-4A-D	Sample I.D. 212-3787 SP1-5A-D	Sample I.D. 212-3788 SP1-6A-D
Purgeable Hydrocarbons	1.0	810	450	77	2.5	360	430
Benzene	0.0050	0.40	0.27	N.D.	0.020	N.D.	0.10
Toluene	0.0050	2.9	1.4	N.D.	0.059	1.4	0.54
Ethyl Benzene	0.0050	4.5	1.6	0.10	0.027	2.3	0.50
Total Xylenes	0.0050	49	20	1.7	1.6	15	15
Chromatogram Pat	tern:	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gas & Non-Gas Mix > C8

Quality Control Data

Report Limit Multiplication Factor:	50	25	20	1.0	100	20
Date Analyzed:	12/21/92	12/22/92	12/22/92	12/22/92	12/21/92	12/22/92
Instrument Identification:	GCHP-7	GCHP-7	GCHP-7	GCHP-7	GCHP-7	GCHP-7
Surrogate Recovery, %: (QC Limits = 70-130%)	102	97	128	111	98	119

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

SEQUOIA ANALYTICAL

Project Manager

2123783.RES <1>



3315 Almaden Expwy., Suite 34

Client Project ID: Sample Matrix:

ARCO 4494, Oakland

Sampled:

Dec 18, 1992

San Jose, CA 95118

Soil Analysis Method: EPA 5030/8015/8020 Received: Reported: Dec 21, 1992 Dec 22, 1992

Attention: Joel Coffman

First Sample #:

212-3789

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I. D. 212-3789 SP2-1A-D	Sample I.D. 212-3790 SP2-2A-D	Sample I.D. 212-3791 SP2-3A-D	Sample I.D. 212-3792 SP2-4A-D	Sample I.D. 212-3793 SP2-5A-D	Sample I.D. 212-3794 SP2-6A-D
Purgeable Hydrocarbons	1.0	930	220	3,200	1,300	590	2,700
Benzene	0.0050	2.7	0.80	15	4.4	1.7	9.2
Toluene	0.0050	2.6	1.7	64	18	7.1	36
Ethyl Benzene	0.0050	20	3.7	70	29	11	59
Total Xylenes	0.0050	27	13	360	140	40	280
Chromatogram Patt	tern:	Gas	Gas	Gas	Gas	Gas	Gas

Quality Control Data

Report Limit Multiplication Factor:	100	100	100	100	100	100
Date Analyzed:	12/21/92	12/21/92	12/21/92	12/21/92	12/21/92	12/21/92
Instrument Identification:	GCHP-2	GCHP-2	GCHP-2	GCHP-2	GCHP-2	GCHP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	113	84	130	103	98	119

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

SEQUOIA ANALYTICAL

Project Manager

2123783.RE\$ <2>



Client Project ID: ARCO 4494, Oakland

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

QC Sample Group: 2123783-94

Reported: Dec 22, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Ethyl-			
	Benzene	Toluen e	benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	R. Lee	R. Lee	R. Lee	R. Lee
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Dec 21, 1992	Dec 21, 1992		Dec 21, 1992
QC Sample #:	GBLK122192	GBLK122192	GBLK122192	GBLK122192
·				
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
campic conc	14.5.	11.5.	14.5.	14.5.
Daller Cons				
Spike Conc.	0.00		0.00	0.00
Added:	0.20	0.20	0.20	0.60
Conc. Matrix				
Spike:	0.18	0.18	0.18	0.54
Matrix Spike				
% Recovery:	90	90	90	90
Conc. Matrix				
Spike Dup.:	0.19	0.18	0.18	0.56
opika Duhi.	0.13	0.10	9.10	0.00
Matrix Spike				
Duplicate				
% Recovery:	95	90	90	93
•				
Relative				
% Difference:	5.4	0.0	0.0	3.6
A Dillelelice.	J. T	0.0	0.0	0.0

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Maria Lee Project Manager % Recovery:

Conc. of M.S. - Conc. of Sample x 100

Spike Conc. Added

Relative % Difference:

Conc. of M.S. - Conc. of M.S.D. x 100

(Conc. of M.S. + Conc. of M.S.D.) / 2

2123783.RES <3>



Client Project ID: ARCO 4494, Oakland

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

QC Sample Group: 2123783-94

Reported: Dec 22, 1992

QUALITY CONTROL DATA REPORT

ANALYTE			Ethyl-	
	Benzene	Toluene	benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	R. Geckler	R. Geckler	R. Geckler	R. Geckler
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Dec 21, 1992	Dec 21, 1992	-, -	Dec 21, 1992
QC Sample #:	GBLK122192	GBLK122192	GBLK122192	
QC banipie #.	GULN 122 192	GDLK122192	GOCKIZZIOE	GDCI(122192
Sample Conc.:	N.D.	N,D.	N.D.	N.D.
oumpie cone	14.5.	11.5.	14.5.	11.52
Cailes Cons				
Spike Conc.	0.00	0.00	0.00	0.60
Added:	0.20	0.20	0.20	0.60
	4			
Conc. Matrix				
Spike:	0.17	0.16	0.16	0.48
Matrix Spike				
% Recovery:	85	80	80	80
-				
Conc. Matrix				
Spike Dup.:	0.17	0.17	0.17	0.51
opike bup	0.17	0.17	0.17	0.01
Matrix Spike				
Duplicate				
% Recovery:	85	85	85	85
Relative				
% Difference:	0.0	6.1	6.1	6.1
		 .		* ***

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Maria Lee Project Manager
 % Recovery:
 Conc. of M.S. - Conc. of Sample
 x 100

 Spike Conc. Added
 Spike Conc. Added
 x 100

 Relative % Difference:
 Conc. of M.S. - Conc. of M.S.D.
 x 100

 (Conc. of M.S. + Conc. of M.S.D.) / 2
 x 100

2123783.RES <4>



3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

Client Project ID: Sample Descript:

Lab Number:

ARCO 4494, Oakland

Soil, SP1-1A-D

212-3783

Sampled: Received:

Dec 18, 1992 Dec 21, 1992

Analyzed:

Dec 22, 1992

Reported:

Dec 23, 1992

CORROSIVITY, IGNITABILITY, AND REACTIVITY

Analyte	Detection Limit	Sample Results
Corrosivity:	N.A.	 8.2
Ignitability: Flashpoint (Pensky-Martens), °C	N.A.	 > 100 °C
Reactivity: Sulfide, mg/kg Cyanide, mg/kg Reaction with water		 N.D. N.D. Negative

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

SEQUOIA ANALYTICAL

Project Manager

2123783.RES <5>



Client Project ID: ARCO 4494, Oakland

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

QC Sample Group: 212-3783

Reported: Dec 23, 1992

QUALITY CONTROL DATA REPORT

ANALYTE			-
CIAPLIF	Cyanide	рН	Sulfide
<u> </u>		•	- , <u>-</u>
Method:	ED4 0040	504.0045	FD4 0000
метпоа: Analyst:	EPA 9010 A. Savva	EPA 9045 Y. Arteaga	EPA 9030 N. Zahedi
Reporting Units:	mg/kg	N.A.	mg/L
Date Analyzed:	Trig/kg Dec 17, 1992	Dec 22, 1992	Dec 22, 1992
QC Sample #:		212-3783	212-3837
QC Sample #.	212-2310	212-3783	212-3637
Sample Conc.:	N.D.	8.2	N.D.
•			
Spike Conc.			
Added:	10	N.A.	1300
Conc. Matrix			
Spike:	9.8	N.A.	1400
•		•	
Matrix Spike			
% Recovery:	98	N.A.	108
Conc. Matrix			
Spike Dup.:	10	8.2	1400
chive pah	10	U.£	1700
Matrix Spike			
Duplicate			
% Recovery:	100	N.A.	108
Relative			
% Difference:	2.0	0.0	0.0

SEQUOIA ANALYTICAL

Maria Lee Project Manager % Recovery:

Conc. of M.S. - Conc. of Sample x 100

Spike Conc. Added

Relative % Difference:

Conc. of M.S. - Conc. of M.S.D. x 100

(Conc. of M.S. + Conc. of M.S.D.) / 2

2123783.RES <6>

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Sample I.D.	Lab no.	Container no.	Soil	Water	Other	ice .	Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEXTPH EPA M602/8020/8015	TPH Modified 8015 Gas Diesel	Oil and Grease	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Semi	CAM Metals EPA 6	Lead Org./DHS CLead EPA 7420/7421 CL	H2 19			
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-TL6	<u></u>	·	<u> </u>			1					X						-	00						
TL7			X	<u> </u>		X		-	<u> </u>	<u> </u>	<u> </u>					-	<u> </u>	6 /_					Remarks	
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3315 Almaden Expwy., Suite 34

San Jose, CA 95118 Attention: Joel Coffman

Project: ARCO 4494, Oakland

Enclosed are the results from 13 soil samples received at Sequola Analytical on December 21,1992. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
2123755	Soil, S-2-TL1	12/17/92	EPA 5030/8015/8020
2123756	Soil, S-2-TL2	12/17/92	EPA 5030/8015/8020
2123757	Soil, S-2-TL3	12/17/92	EPA 5030/8015/8020
2123758	Soil, S-2-TL4	12/17/92	EPA 5030/8015/8020
2123759	Soil, S-2-TL5	12/17/92	EPA 5030/8015/8020
2123760	Soil, S-2-TL6	12/17/92	EPA 5030/8015/8020
2123761	Soil, S-2-TL7	12/17/92	EPA 5030/8015/8020
2123762	Soil, S-10-TP1	12/17/92	EPA 5030/8015/8020
2123763	Soil, S-9-TP2	12/17/92	EPA 5030/8015/8020
2123764	Soil, S-9.5-TP3	12/17/92	EPA 5030/8015/8020
2123765	Soil, S-10-TP4	12/17/92	EPA 5030/8015/8020
2123766	Soil, S-9-TP5	12/17/92	EPA 5030/8015/8020
2123767	Soil, S-9-TP6	12/17/92	EPA 5030/8015/8020

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Project Manager



3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Client Project ID:

ARCO 4494, Oakland

Sampled:

Dec 17, 1992

Sample Matrix:

Soil

Received:

Dec 21, 1992

Attention: Joel Coffman

Analysis Method: First Sample #:

EPA 5030/8015/8020 212-3755

Reported: Dec 22, 1992

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 212-3755 S-2-TL1	Sample I.D. 212-3756 S-2-TL2	Sample I.D. 212-3757 S-2-TL3	Sample I.D. 212-3758 S-2-TL4	Sample I.D. 212-3759 S-2-TL5	Sample I.D. 212-3760 S-2-TL6
Purgeable Hydrocarbons	1.0	12,000	190	25	30	1,100	8.4
Benzene	0.0050	220	5.6	0.83	0.83	10	0.16
Toluene	0.0050	1,000	15	0.095	3.9	7.7	0.044
Ethyl Benzene	0.0050	310	6.6	0.34	0.92	34	0.018
Total Xylenes	0.0050	1,700	26	0.33	5.6	120	1.1
Chromatogram Pat	tern:	Gas	Gas	Gas	Gas	Gas	Gas & Non-Gas Mix < C8

Quality Control Data

Report Limit Multiplication Factor:	1,000	100	5.0	5.0	100	2.0
Date Analyzed:	12/21/92	12/21/92	12/21/92	12/21/92	12/21/92	12/21/92
Instrument Identification:	GCHP-3	GCHP-7	GCHP-3	GCHP-3	GCHP-7	GCHP-3
Surrogate Recovery, %: (QC Limits = 70-130%)	110	114	108	98	120	124

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

SEQUOIA ANALYTICAL

Project Manager

2123755.RES <1>



3315 Aimaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

Client Project ID: Sample Matrix:

First Sample #:

ARCO 4494, Oakland

Soil

Analysis Method: EPA 5030/8015/8020

Sampled: Received:

Dec 17, 1992 Dec 21, 1992

Reported:

Dec 22, 1992

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

212-3761

Analyte	Reporting Limit mg/kg	Sample I.D. 212-3761 S-2-TL7	Sample I.D. 212-3762 S-10-TP1	Sample I.D. 212-3763 S-9-TP2	Sample I.D. 212-3764 S-9.5-TP3	Sample I.D. 212-3765 S-10-TP4	Sample I.D. 212-3766 S-9-TP5
Purgeable Hydrocarbons	1.0	22	190	23	220	4.7	5.2
Benzene	0.0050	0.71	3.5	0.50	2.2	0.14	0.031
Toluene	0.0050	0.055	0.99	0.26	1.6	0.028	0.020
Ethyl Benzene	0.0050	0.80	7.2	0.46	7.0	0.013	0.014
Total Xylenes	0.0050	0.44	6.0	2.0	5.7	0.066	0.059
Chromatogram Pat	tern:	Gas	Gas & Non-Gas Mix	Gas	Gas	Gas & Non-Gas Mix	Gas

Quality Control Data

Report Limit Multiplication Factor:	1.0	10	2.0	100	1.0	1.0
Date Analyzed:	12/21/92	12/22/92	12/21/92	12/21/92	12/21/92	12/21/92
Instrument Identification:	GCHP-3	GCHP-1	GСНР-3	GCHP-3	GCHP-3	GCHP-7
Surrogate Recovery, %: (QC Limits = 70-130%) *Coelution confirmed	116	149*	110	99	110	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

Project Manager

2123755.RES <2>



3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

Client Project ID:

Sample Matrix:

Matrix: S

Analysis Method: First Sample #:

ARCO 4494, Oakland

Soil

EPA 5030/8015/8020 212-3767 Sampled:

Dec 17, 1992 Dec 21, 1992

Received: Reported:

Dec 22, 1992

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 212-3767 S-9-TP6
Purgeable Hydrocarbons	1.0	2.0
Benzene	0.0050	0.058
Toluene	0.0050	0.010
Ethyl Benzene	0.0050	0.0050
Total Xylenes	0.0050	0.010
Chromatogram Pat	tern:	Gas

Quality Control Data

Report Limit Multiplication Factor:

1.0

Date Analyzed:

12/21/92

Instrument Identification:

GCHP-7

Surrogate Recovery, %:

106

(QC Limits = 70-130%)

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.

Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Maria Lee Project Manager

2123755.RES <3>



Client Project ID: ARCO 4494, Oakland

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

QC Sample Group: 2123755-67

Reported: Dec 22, 1992

QUALITY CONTROL DATA REPORT

ANALYTE			Ethyl-	
	Benzene	Toluene	benzene	Xylenes
Method: Analyst: Reporting Units: Date Analyzed: QC Sample #:	EPA 8020 B. Ali mg/kg Dec 21, 1992 GBLK122192 MS/MSD	EPA 8020 B. Ali mg/kg Dec 21, 1992 GBLK122192 MS/MSD	EPA 8020 B. Ali mg/kg Dec 21, 1992 GBLK122192 MS/MSD	EPA 8020 B. Ali mg/kg Dec 21, 1992 GBLK122192 MS/MSD
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.20	0.20	0.20	0.60
Conc. Matrix Spike:	0.24	0.22	0.23	0.67
Matrix Spike % Recovery:	120	110	115	112
Conc. Matrix Spike Dup.:	0.24	0.22	0.23	0.69
Matrix Spike Duplicate % Recovery:	120	110	115	115
Relative % Difference:	0.0	0.0	0.0	2.9

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Maria Lee Project Manager

% Recovery:	Conc. of M.S Conc. of Sample	x 100
_	Spike Conc. Added	
Relative % Difference:	Conc. of M.S Conc. of M.S.D.	x 100
	(Conc. of M.S. + Conc. of M.S.D.) / 2	•

2123755.RES <4>



Client Project ID: ARCO 4494, Oakland

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

QC Sample Group: 2123755-67

Reported: Dec 22, 1992

QUALITY CONTROL DATA REPORT

ANALYTE			Ethyl-	
	Benzene	Toluene	benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. VIIIar	J. Villar	J. Villar	J. Villar
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Dec 21, 1992	Dec 21, 1992		Dec 21, 1992
QC Sample #:	GBLK122192	GBLK122192	GBLK122192	GBLK122192
	MS/MSD	MS/MSD	MS/MSD	MS/MSD
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc.				
Added:	0.20	0.20	0.20	0.60
Conc. Matrix				
Spike:	0.18	0.17	0.18	0.54
·				
Matrix Spike				
% Recovery:	90	85	90	88
a necovery.	50	63	90	00
Conc. Matrix				
Spike Dup.:	0.18	0.18	0.18	0.54
Matrix Spike				
Duplicate				
% Recovery:	90	90	90	90
74 11 000 to 1 y 1	30	3 0	30	30
.				
Relative				
% Difference:	0.0	5.7	0.0	1.9

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Maria Lee Project Manager

% Recovery:	Conc. of M.S Conc. of Sample	x 100
_	Spike Conc. Added	•
Relative % Difference:	Cone, of M.S Cone, of M.S.D.	x 100
· 1	(Cons. of M.S. + Cons. of M.S.D.) /2	•

2123755.RES <5>



Client Project ID: ARCO 4494, Oakland

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

QC Sample Group: 2123755-67

Reported: Dec 22, 1992

QUALITY CONTROL DATA REPORT

ANALYTE			Ethyl-	
	Benzene	Toluene	benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	R. Geckler	R. Geckler	R. Geckler	R. Geckler
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Dec 21, 1992	Dec 21, 1992	Dec 21, 1992	Dec 21, 1992
QC Sample #:	GBLK122192	GBLK122192	GBLK122192	GBLK122192
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc.				
Added:	0.20	0.20	0.20	0.60
Conc. Matrix Spike:	0.17	0.16	0.16	0.48
opike.	0.17	0.10	0.10	0.40
Matrix Spike				
% Recovery:	85	80	80	80
Conc. Matrix				
Spike Dup.:	0.17	0.17	0.17	0.51
Matrix Spike				
Duplicate				
% Recovery:	85	85	85	85
Relative				
% Difference:	0.0	6.1	6.1	6.1

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Maria Lee Project Manager
 % Recovery:
 Conc. of M.S. - Conc. of Sample
 x 100

 Spike Conc. Added
 X 100

 Relative % Difference:
 Conc. of M.S. - Conc. of M.S.D.
 x 100

 (Conc. of M.S. + Conc. of M.S.D.) / 2
 X 100

2123755.RES <6>



OFC

1992

RESNA 3315 Almaden Expwy., Suite 34 San Jose, CA 95118 Attention: Joel Coffman

1.357813

Project: ARCO 4494, Oakland

Enclosed are the results from 1 liquid sample received at Sequoia Analytical on December 23,1992. The requested analyses are listed below:

SAMPLE # SAMPLE DESCRIPTION DATE OF COLLECTION TEST METHOD

2123773

Liquid, TP-1p

12/17/92

EPA 8080

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Mana Lee Project Manager



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063 (415) 364-9600 • FAX (415) 364-9233

Lab Number:

RESNA

3315 Almaden Expwy., Suite 34 San Jose, CA 95118 Attention: Joel Coffman

Client Project ID: Sample Descript:

ARCO 4494, Oakland

Liquid, TP-1p **EPA 8080**

Analysis Method: 212-3773

Sampled: Relogged:

Dec 17, 1992 Dec 23, 1992

Extracted: Dec 28, 1992 Analyzed: Dec 28, 1992

Reported: Dec 28, 1992

ORGANOCHLORINE PESTICIDES AND PCB'S (EPA 8080)

Analyte	Detection Limit µg/kg		Sample Results µg/kg
Aldrin	10	***************************************	N.D.
alpha-BHC	10	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
beta-BHC	10	***************************************	N.D.
delta-BHC	10		N.D.
gamma-BHC (Lindane)			N.D.
Chlordane	200		N.D.
4,4'-DDD	60		N.D.
4,4'-DDE	20	56851814854854416854854854751071074074	N.D.
4,4'-DDT	60		N.D.
Dieldrin	20		N.D.
Endosulfan I			N.D.
Endosulfan II	20		N.D.
Endosulfan sulfate			N.D.
Endrin	20		N.D.
Endrin aldehyde	60		N.D.
Heptachlor	10		N.D.
Heptachlor expoxide		**********	N.D.
Methoxychlor			N.D.
Toxaphene			N.D.
PCB-1016	200		N.D.
PCB-1221			N.D.
PCB-1232			N.D.
PCB-1242			N.D.
PCB-1248.			N.D.
PCB-1254	200		N.D.
PCB-1260	200		N.D.

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

Maria Lee Project Manager

2123773.RES <1>



Client Project ID: ARCO 4494, Oakland

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

QC Sample Group: 212-3773

Reported: Dec 28, 1992

QUALITY CONTROL DATA REPORT

ANALYTE			
	Heptachlor	Aldrin	Dieldrin
Method: Analyst: Reporting Units: Date Analyzed: QC Sample #:	EPA 8080 L. Laikhtman μg/kg Dec 22, 1992 BLK122292	EPA 8080 L. Laikhtman μg/kg Dec 22, 1992 BLK122292	EPA 8080 L. Laikhtman μg/kg Dec 22, 1992 BLK122292
Sample Conc.:	N.D.	N.D.	N.D.
Spike Conc. Added:	20	20	80
Conc. Matrix Spike:	16	19	62
Matrix Spike % Recovery:	80	95	78
Conc. Matrix Spike Dup.:	16	20	62
Matrix Spike Duplicate % Recovery:	80	100	78
Relative % Difference:	0.0	5.6	0.0

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Maria Lee Project Manager % Recovery: Conc. of M.S. - Conc. of Sample x 100
Spike Conc. Added

Relative % Difference: Conc. of M.S. - Conc. of M.S.D. x 100

(Conc. of M.S. + Conc. of M.S.D.) / 2

2123773.RES <2>



3315 Almaden Expwy., Suite 34

San Jose, CA 95118 Attention: Joel Coffman

Project: ARCO 4494, Oakland

Enclosed are the results from 6 liquid samples received at Sequoia Analytical on December 21,1992. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
2123770	Liquid, TP-1	12/17/92	EPA 624
2123771	Liquid, TP-1g	12/17/92	EPA 5030/8015/8020
2123772	Liquid, TP-10	12/17/92	EPA 418.1 (I.R. with clean-up)
2123773	Liquid, TP-1p	12/17/92	EPA 625
2123774	Liquid, TP-1m	12/17/92	Lead Zinc Chromium Cadmium Nickel
2123775	Liquid, TP-1d	12/17/92	EPA 3510/3520/8015

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Project Manager



3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

Client Project ID:

Sample Matrix: Analysis Method:

First Sample #:

Liquid

ARCO 4494, Oakland

EPA 5030/8015/8020 212-3771

Sampled:

Dec 17, 1992

Received: Reported: Dec 21, 1992 Dec 23, 1992

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit μg/L	Sample i.D. 212-3771 TP-1g
Purgeable Hydrocarbons	50	57,000
Benzene	0.50	3,900
Toluene	0.50	5,400
Ethyl Benzene	0.50	1,800
Total Xylenes	0.50	11,000
Chromatogram Pat	tern:	Gasoline

Quality Control Data

Report Limit Multiplication Factor:

400

Date Analyzed:

12/21/92

Instrument Identification:

GCHP-3

Surrogate Recovery, %:

(QC Limits = 70-130%)

102

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

SEQUOIA ANALYTICAL

Project Manager

2123771.RES <1>



3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

Client Project ID:

ARCO 4494, Oakland

Sample Matrix: Liquid

Analysis Method: EPA 3510/3520/8015 First Sample #: 212-3775 Sampled:

Dec 17, 1992 Dec 21, 1992

Received: Reported:

Dec 23, 1992

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 212-3775 TP-1d
Extractable Hydrocarbons	50	170,000
Chromatogram Patte	rn:	Non-Diesel Mix < C15

Quality Control Data

Report Limit Multiplication Factor:

200

Date Extracted:

12/21/92

Date Analyzed:

12/22/92

Instrument Identification:

GCHP-5

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

SEQUOIA ANALYTICAL

Maria Lee Project Manager

2123771.RE\$ <2>



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063 (415) 364-9600 • FAX (415) 364-9233

RESNA

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

Client Project ID: Matrix Descript:

Analysis Method:

ARCO 4494, Oakland

Liquid

EPA 418.1 (I.R. with clean-up)

First Sample #:

212-3772

Sampled:

Dec 17, 1992

Received: Extracted: Dec 21, 1992 Dec 22, 1992

Analyzed:

Dec 22, 1992

Reported:

Dec 23, 1992

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

Sample Number	Sample Description	Petroleum Oil mg/L (ppm)
212-3772	TP-10	81

Detection Limits:

20

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

SEQUOIA ANALYTICAL

Project Manager

2123771.RES <3>



3315 Almaden Expwy., Suite 34

San Jose, CA 95118 Attention: Joel Coffman Client Project ID:

ARCO 4494, Oakland

Sample Descript: Analysis Method: Lab Number:

Liquid, TP-1

EPA 624 212-3770

Sampled: Received: Dec 17, 1992 Dec 21, 1992

Analyzed: Reported:

Dec 22, 1992 Dec 23, 1992

PURGEABLES by GC/MS (EPA 624)

Analyte	Detection Limit \(\rho_g / \kg \)		Sample Results µg/kg
Acetone	5,000		N.D.
Benzene	1,000		., 3,800
Bromodichloromethane	1,000	=11=11=11=11=11=11=11=1	N.D.
Bromoform	1,000	******************************	N.D.
Bromomethane	1,000		N.D.
2-Butanone	5,000		N.D.
Carbon disulfide	1,000	************************	N.D.
Carbon tetrachloride	1,000		N.D.
Chlorobenzene	1,000	*************************	N.D.
Chloroethane	1,000	********************************	N.D.
2-Chloroethyl vinyl ether	5,000	######################################	N.D.
Chloroform	1,000	***************************************	N.D.
Chloromethane	1,000		N.D.
Dibromochloromethane	1,000		N.D.
1,1-Dichloroethane	·	***************************************	N.D.
1,2-Dichloroethane	1,000		N.D.
1,1-Dichloroethene	1,000		N.D.
cis-1,2-Dichloroethene	1,000		N.D.
trans-1,2-Dichloroethene	1,000		N.D.
1,2-Dichloropropane	1,000		N.D.
cis-1,3-Dichloropropene	1,000		N.D.
trans-1,3-Dichloropropene	1,000		N.D.
Ethylbenzene	1.000	***************************************	
2-Hexanone	5,000		N.D.
Methylene chloride	2,500		N.D.
4-Methyl-2-pentanone	5,000		N.D.
Styrene	1,000		N.D.
1,1,2,2-Tetrachloroethane	1,000		N.D.
Tetrachloroethene	1,000		N.D.
Toluene	1,000		5.300
1,1,1-Trichloroethane	1,000		N.D.
1,1,2-Trichloroethane	1,000		N.D.
Trichloroethene	1,000		N.D.
Trichlorofluoromethane	1,000		N.D.
Vinyl acetate	1,000		N.D.
Vinyl chloride	1,000		N.D.
Total Xylenes	1.000	*************************	., 7.300

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

Project Manager

2123771.RES <4>



3315 Almaden Expwy., Suite 34 San Jose, CA 95118

Attention: Joel Coffman

Client Project ID: ARCO 4494, Oakland

Sample Descript: Liquid, TP-1p Analysis Method: EPA 625

Lab Number:

212-3773

Sampled: Dec 17, 1992

Dec 21, 1992 Received: Extracted: Dec 21, 1992

Dec 22, 1992 Analyzed: Reported: Dec 23, 1992

ACID & BASE/NEUTRALS by GC/MS (EPA 625)

Analyte	Detection Limit µg/L		Sample Results µg/L
Acenaphthene	200	***************************************	N.D.
Acenaphthylene	200		N.D.
Aniline	200	******************************	N.D.
Anthracene	200	***************************************	N.D.
Benzidine	5,000	***************************************	N.D.
Benzoic Acid	1,000	******************************	N.D.
Benzo(a)anthracene	200	<pre>4909972994994974974844444444444444444444444</pre>	N.D.
Benzo(b)fluoranthene	200	***************************************	N.D.
Benzo(k)fluoranthene	200	494494493493494	N.D.
Benzo(g,h,i)perylene	200		N.D.
Benzo(a)pyrene	200	1814214214214242424444	N.D.
Benzyl alcohol	200	<pre><pre><pre><pre><pre><pre><pre><pre></pre></pre></pre></pre></pre></pre></pre></pre>	N.D.
Bis(2-chloroethoxy)methane	200	+++++++++++++++++++++++++++++++++++++++	N.D.
Bis(2-chloroethyl)ether	200	411141411111111111111111111111111111111	N.D.
Bis(2-chloroisopropyl)ether	200	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
Bis(2-ethylhexyl)phthalate	1,000	40440);np;enimiqanaahidhidhddddddddddd	N.D.
4-Bromophenyl phenyl ether	200	***************************************	N.D.
Butyl benzyl phthalate	200		N.D.
4-Chloroaniline	200	4444444444444	N.D.
2-Chloronaphthalene	200		N.D.
4-Chloro-3-methylphenol	200		N.D.
2-Chlorophenol	200	4444444444444444444444444444	N.D.
4-Chlorophenyl phenyl ether	200		N.D.
Chrysene	200	4444444444444	N.D.
Dibenz(a,h)anthracene	200		N.D.
Dibenzofuran	200	***************************************	N.D.
Di-N-butyl phthalate	1,000		N.D.
1,3-Dichlorobenzene	200		N.D.
1,4-Dichlorobenzene	200		N.D.
1,2-Dichlorobenzene	200		N.D.
3,3-Dichlorobenzidine	1,000	(*),,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
2,4-Dichlorophenol	200		N.D.
Diethyl phthalate	200		N.D.
2,4-Dimethylphenol	200	,	N.D.
Dimethyl phthalate	200		N.D.
4,6-Dinitro-2-methylphenol	1,000		N.D.
2,4-Dinitrophenol	1,000	***************************************	N.D.



RESNA 3315 Almaden Expwy., Suite 34

San Jose, CA 95118 Attention: Joel Coffman Client Project ID: Sample Descript: ARCO 4494, Oakland

Analysis Method: Lab Number:

Liquid, TP-1p **EPA 625** 212-3773

Sampled: Dec 17, 1992 Received: Extracted:

Dec 21, 1992 Dec 21, 1992 Dec 22, 1992

Analyzed: Dec 23, 1992 Reported:

ACID & BASE/NEUTRALS by GC/MS (EPA 625)

Analyte	Detection Limit µg/L		Sample Results µg/L
2,4-Dinitrotoluene	200	***************************************	N.D.
2,6-Dinitrotoluene	200	4	N.D.
Di-N-octyl phthalate	200		N.D.
Fluoranthene	200	414414414444444444444444444444	N.D.
Fluorene	200	***********************	N.D.
Hexachlorobenzene	200	*************************	N.D.
Hexachlorobutadiene	200	************************************	N.D.
Hexachlorocyclopentadiene	200	.,.,,.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
Hexachloroethane	200	***************************************	N.D.
Indeno(1,2,3-cd)pyrene	200	************************	N.D.
Isophorone	200	*******************************	N.D.
2-Methylnaphthalene	200		3,800
2-Methylphenol	200		N.D.
4-Methylphenol	200	***************************************	N.D.
Naphthalene	200	***************************************	
2-Nitroaniline	1,000		N.D.
3-Nitroaniline	1,000		N.D.
4-Nitroaniline	1,000		N.D.
Nitrobenzene	200		N.D.
2-Nitrophenol	200		N.D.
4-Nitrophenol	1,000	*******************************	N.D.
N-Nitrosodiphenylamine	200	,	N.D.
N-Nitroso-di-N-propylamine	200		N.D.
Pentachlorophenol	1,000	,,,,	N.D.
Phenanthrene	200		N.D.
Phenol	200		N.D.
Pyrene	200		N.D.
1,2,4-Trichlorobenzene	200		N.D.
2,4,5-Trichlorophenol	1,000	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N.D.
2,4,6-Trichlorophenol	200	.,.,.,,,.,.	N.D.

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

Project Manager

Page 2 of 2

2123771.RES <6>



3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

Client Project ID: Sample Descript:

Lab Number:

ARCO 4494, Oakland

212-3774

Liquid, TP-1m

Sampled: Received:

Dec 17, 1992 Dec 21, 1992

Analyzed:

see below

Reported:

Dec 23, 1992

LABORATORY ANALYSIS

Anaiyte	Date Analyzed	Detection Limit mg/L	Sample Result mg/L
Lead			0,19
Zinc	12/22/92		0,31

Chromium...... 12/22/92 0.010 0.069 Cadmium..... 12/22/92 0.010

Nickel..... 12/22/92 0.050 0.11

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

SEQUOIA ANALYTICAL

Project Manager

2123771.RES <7>



Client Project ID: ARCO 4494, Oakland

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

QC Sample Group: 212-3771

Reported: Dec 23, 1992

QUALITY CONTROL DATA REPORT

ANALYTE			Ethyl-	
	Benzene	Toluene	benzene	Xylenes
			·	•
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	C. Donohue	C. Donohue	C. Donohue	C. Donohue
Reporting Units:	μg/L	μg/L	μg/L	μg/L
Date Analyzed:	Dec 21, 1992	Dec 21, 1992		Dec 21, 1992
QC Sample #:	GBLK122192	GBLK122192	GBLK122192	GBLK122192
•	MS/MSD	MS/MSD	MS/MSD	MS/MSD
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc.				
Added:	10	10	10	30
Added.	10	10	10	30
Conc. Matrix				
Spike:	10	10	9.8	28
Matrix Spike				
% Recovery:	100	100	98	93
				- -
Cana Hatris				
Conc. Matrix	40	0.0	0.0	00
Spike Dup.:	10	9.8	9.8	28
Matrix Spike				
Duplicate				
% Recovery:	100	98	98	93
Deletive				
Relative % Difference:	0.0	2.0	0.0	0.0
a Dillerence.	U.U	∠.∪	U.U	0.0

SEQUOIA ANALYTICAL

Maria Lee Project Manager % Recovery: Conc. of M.S. - Conc. of Sample x 100
Spike Conc. Added

Relative % Difference: Conc. of M.S. - Conc. of M.S.D.

(Conc. of M.S. + Conc. of M.S.D.) / 2

x 100

2123771.RES <8>



Client Project ID: ARCO 4494, Oakland

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

QC Sample Group: 212-3775

Reported: Dec 23, 1992

QUALITY CONTROL DATA REPORT

ANALYTE Extractable
Hydrocarbons

Method:

EPA 8015

Analyst:

R. Lee

Reporting Units:

μg/L

Date Analyzed: QC Sample #:

Dec 10, 1992 DBLK120992X

Sample Conc.:

N.D.

Spike Conc.

Added:

300

Conc. Matrix

Spike:

240

Matrix Spike

% Recovery:

80

Conc. Matrix

Spike Dup.:

240

Matrix Spike Duplicate

% Recovery:

80

Relative

% Difference:

0.0

SEQUOIA ANALYTICAL

Maria Lee Project Manager % Recovery: Conc. of M.S. - Conc. of Sample x 100
Spike Conc. Added

Relative % Difference: Conc. of M.S. - Conc. of M.S.D. x 100

(Conc. of M.S. + Conc. of M.S.D.) / 2

2123771.RES <9>



Client Project ID: ARCO 4494, Oakland

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

QC Sample Group: 212-3772

Reported: Dec 23, 1992

QUALITY CONTROL DATA REPORT

ANALYTE Total Petroleum
Hydrocarbons

Method:

EPA 418.1

Analyst:

P. Penner

Reporting Units: Date Analyzed:

mg/L Dec 22, 1992

QC Sample #:

Blank

Sample Conc.:

N.D.

Spike Conc.

Added:

40

Conc. Matrix

Spike:

34

Matrix Spike

% Recovery:

85

Conc. Matrix

Spike Dup.:

37

Matrix Spike Duplicate

% Recovery:

93

Relative

% Difference:

8.5

SEQUOIA ANALYTICAL

Maria Lee Project Manager % Recovery: Conc. of M.S. - Conc. of Sample

Spike Conc. Added

x 100

Relative % Difference:

Conc. of M.S. - Conc. of M.S.D.

x 100

(Conc. of M.S. + Conc. of M.S.D.) / 2

2123771.RES <10>



3315 Almaden Expwy., Suite 34

San Jose, CA 95118 Attention: Joel Coffman Client Project ID:

ARCO 4494, Oakland

Method (units): Analyst(s):

EPA 624 (µg/L purged) M. Williams

QC Sample #: BLK122192 Q.C. Sample Dates

Analyzed: Dec 21, 1992 Reported: Dec 23, 1992

QUALITY CONTROL DATA REPORT

Analyte	Sample Conc.	Spike Conc. Added	Conc. Matrix Spike	Matrix Spike % Recovery	Conc. Matrix Spike Duplicate	Matrix Spike Duplicate % Recovery	Relative % Difference
1,1-Dichloro- ethene	N.D.	50	60	120	56	112	6.9
Trichloroethene	N.D.	50	50	100	46	92	8.3
Benzene	N.D.	50	51	102	49	98	4.0
Toluene	N.D.	50	51	102	48	96	6.1
Chlorobenzene	N.D.	50	50	100	46	92	8.3

SEQUOIA ANALYTICAL

roject Manager

% Recovery:

Conc. of M.S. - Conc. of Sample Spike Conc. Added

x 100

Relative % Difference:

Conc. of M.S. - Conc. of M.S.D.

x 100

(Conc. of M.S. + Conc. of M.S.D.) / 2

2123771.RES <11>



3315 Almaden Expwy., Suite 34 San Jose, CA 95118

Attention: Joel Coffman

Client Project ID:

ARCO 4494, Oakland

Method: Analyst(s): **EPA 625** E. Manuel

QC Sample #:

WBLK121492

Q.C. Sample Dates Extracted: Dec 14, 1992

Analyzed: Dec 15, 1992 Reported: Dec 23, 1992

QUALITY CONTROL DATA REPORT

Analyte	Sample Conc.	Spike Conc. Added	Conc. Matrix Spike	Matrix Spike % Recovery	Conc. Matrix Spike Duplicate	Matrix Spike Duplicate % Recovery	Relative % Difference
Phenol	N.D.	100	48	48	50	50	4.1
2-Chlorophenol	N.D.	100	82	82	88	88	7.1
1,4-Dichloro- benzene	N.D.	50	37	74	38	76	2.7
N-Nitroso-Di-N- propylamine	N.D.	50	40	80	44	88	9.5
1,2,4-Trichloro- benzene	N.D.	50	38	76	38	76	0.0
4-Chloro- 3-Methylphenol	N.D.	100	80	80	91	91	13
Acenaphthene	N.D.	50	41	82	41	82	0.0
4-Nitrophenol	N.D.	100	20	20	30	30	40
2,4-Dinitro- toluene	N.D.	50	37	74	36	72	2.7
Pentachloro- phenol	N.D.	100	66	66	76	76	14
Pyrene	N.D.	50	46	92	43	86	6.7

SEQUOIA ANALYTICAL

Project Manager

x 100 Conc. of M.S. - Conc. of Sample % Recovery: Spike Conc. Added x 100 Conc. of M.S. - Conc. of M.S.D. Relative % Difference: (Conc. of M.S. + Conc. of M.S.D.) / 2

2123771.RES < 12>



3315 Almaden Expwy., Suite 34

San Jose, CA 95118 Attention: Joel Coffman

Project: ARCO 4494, Oakland

Enclosed are the results from 2 soil samples received at Sequoia Analytical on January 7,1993. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
3010637	Soil, S-4.5-NP	1/7/93	EPA 5030/8015/8020
3010638	Soil, S-4.5-SP	1/7/93	EPA 5030/8015/8020

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Project Manager



3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

Client Project ID: Sample Matrix:

First Sample #:

ARCO 4494, Oakland

Soil

Analysis Method: EPA 5030/8015/8020

Sampled: Received:

Jan 7, 1993 Jan 7, 1993

Reported:

Jan 8, 1993

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

301-0637

Analyte	Reporting Limit mg/kg	Sample I.D. 301-0637 S-4.5-NP	Sample I.D. 301-0638 S-4.5-SP
Purgeable Hydrocarbons	1.0	N.D.	N.D.
Benzene	0.0050	N.D.	N.D.
Toluene	0.0050	N.D.	N.D.
Ethyl Benzene	0.0050	N.D.	N.D.
Total Xylenes	0.0050	N.D.	N.D.
Chromatogram Pat	tern:		

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0
Date Analyzed:	1/7/93	1/7/93
Instrument Identification:	GCHP-7	GCHP-7
Surrogate Recovery, %: (QC Limits = 70-130%)	87	92

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

SEQUOIA ANALYTICAL

Project Manager

3010637.RES <1>



Client Project ID: ARCO 4494, Oakland

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

QC Sample Group: 3010637-8

Reported: Jan 8, 1993

QUALITY CONTROL DATA REPORT

ANALYTE			Ethyl-	
	Benzene	Toluene	benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	B. Ali	B. Ali	B. Alí	B. Ali
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Jan 7, 1993	Jan 7, 1993	Jan 7, 1993	Jan 7, 1993
QC Sample #:	GBLK010793	GBLK010793	GBLK010793	GBLK010793
•				
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
oumple contain	N.D.	11.5.	14.5.	14.5.
				
Spike Conc.	0.00	2.22	0.00	0.00
Added:	0.20	0.20	0.20	0.60
Conc. Matrix				
Spike:	0.18	0.17	0.18	0.51
Matrix Spike				
% Recovery:	90	85	90	85
m necovery.	5 0	65	90	00
Conc. Matrix				
Spike Dup.:	0.18	0.17	0.17	0.51
Matrix Eniba				
Matrix Spike Duplicate				
% Recovery:	90	85	85	85
a necovery.	30	85	0.5	•
Relative		<u></u>		
% Difference:	0.0	0.0	5.7	0.0

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Maria Lee Project Manager % Recovery: Conc. of M.S. - Conc. of Sample x 100

Spike Conc. Added

Relative % Difference: Conc. of M.S. - Conc. of M.S.D. x 100

(Conc. of M.S. + Conc. of M.S.D.) / 2

3010637.RES <2>

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RESNA 3315 Almaden Expwy., Suite 34 San Jose, CA 95118 Attention: Joel Coffman

Project: ARCO 4494, Oakland

Enclosed are the results from 10 soil samples received at Sequoia Analytical on Jan 8, 1993. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
3010847	Soil, SP3/1A-D	Jan 7, 1993	EPA 5030/8015/8020 EPA 5030/8015/8020 TCLP Extract STLC Lead
3010848	Soil, SP3/2A-D	Jan 7, 1993	EPA 5030/8015/8020 EPA 5030/8015/8020 TCLP Extract STLC Lead
3010849	Soil, SP3/3A-D	Jan 7, 1993	EPA 5030/8015/8020 EPA 5030/8015/8020 TCLP Extract STLC Lead
3010850	Soil, SP3/4A-D	Jan 7, 1993	EPA 5030/8015/8020 EPA 5030/8015/8020 TCLP Extract STLC Lead
3010851	Soil, SP3/5A-D	Jan 7, 1993	EPA 5030/8015/8020 EPA 5030/8015/8020 TCLP Extract STLC Lead
3010852	Soil, SP4/1A-D	Jan 7, 1993	EPA 5030/8015/8020 EPA 5030/8015/8020 TCLP Extract STLC Lead
3010853	Soil, SP4/2A-D	Jan 7, 1993	EPA 5030/8015/8020 EPA 5030/8015/8020 TCLP Extract STLC Lead
3010854	Soil, SP4/3A-D	Jan 7, 1993	EPA 5030/8015/8020 EPA 5030/8015/8020 TCLP Extract STLC Lead



SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
3010855	Soil, SP4/4A-D	Jan 7, 1993	EPA 5030/8015/8020 EPA 5030/8015/8020 TCLP Extract STLC Lead
3010856	Soil, SP4/5A-D	Jan 7, 1993	EPA 5030/8015/8020 EPA 5030/8015/8020 TCLP Extract STLC Lead

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Mária Lee Project Manager



3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

Client Project ID:

Sample Matrix: Analysis Method:

First Sample #:

ARCO 4494, Oakland Soil

EPA 5030/8015/8020

301-0847

Sampled:

Jan 7, 1993

Received:

Jan 8, 1993 Jan 13, 1993

Reported:

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 301-0847 SP3/1A-D	Sample I.D. 301-0848 SP3/2A-D	Sample I.D. 301-0849 SP3/3A-D	Sample I.D. 301-0850 SP3/4A-D	Sample I.D. 301-0851 SP3/5A-D	Sample I.D. 301-0852 SP4/1A-D
Purgeable Hydrocarbons	1.0	N.D.	N.D.	2.8	2.2	2.6	2.3
Benzene	0.0050	N.D.	N.D.	0.0080	0.0060	N.D.	0.022
Toluene	0.0050	N.D.	N.D.	0.010	0.012	0.0080	0.014
Ethyl Benzene	0.0050	N.D.	N.D.	0.014	0.012	0.010	0.036
Total Xylenes	0.0050	0.026	N.D.	0.077	0.078	0.092	0.066
Chromatogram Pat	ttern:	••	••	Gas	Gas	Gas	Gas

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	1/8/93	1/8/93	1/8/93	1/8/93	1/8/93	1/8/93
Instrument Identification:	GCHP-7	GCHP-7	GCHP-7	GCHP-7	GCHP-7	GCHP-7
Surrogate Recovery, %: (QC Limits = 70-130%)	106	92	107	98	101	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

Project Manager

3010847.RES <1>



3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

Client Project ID:

First Sample #:

Sample Matrix: Analysis Method: ARCO 4494, Oakland Soil

EPA 5030/8015/8020

301-0853

Sampled:

Jan 7, 1993

Received:

Jan 8, 1993

Reported: Jan 13, 1993

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 301-0853 SP4/2A-D	Sample I.D. 301-0854 SP4/3A-D	Sample I.D. 301-0855 SP4/4A-D	Sample I.D. 301-0856 SP4/5A-D
Purgeable Hydrocarbons	1.0	N.D.	1.8	1.4	4.7
Benzene	0.0050	N.D.	0.0060	0.0080	0.012
Toluene	0.0050	N.D.	0.011	0.0090	0.029
Ethyl Benzene	0.0050	N.D.	0.013	0.0080	0.035
Total Xylenes	0.0050	0.020	0.062	0.049	0.17
Chromatogram Pat	tern:	•-	Gas	Gas	Gas

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0
Date Analyzed:	1/8/93	1/8/93	1/8/93	1/8/93
Instrument Identification:	GCHP-7	GCHP-7	GCHP-7	GCHP-7
Surrogate Recovery, %: (QC Limits = 70-130%)	98	101	106	117

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.

Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Maria Lee Project Manager

3010847.RES <2>

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

Sample Matrix:

Client Project ID: ARCO 4494, Oakland TCLP Extract of Soil Analysis Method: EPA 5030/8015/8020

First Sample #: 301-0847

Sampled: Received:

Jan 7, 1993 Jan 8, 1993

Reported: Jan 13, 1993

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit μg/L	Sample I.D. 301-0847 SP3/1A-D	Sample I.D. 301-0848 SP3/2A-D	Sample I.D. 301-0849 SP3/3A-D	Sample I.D. 301-0850 SP3/4A-D	Sample I.D. 301-0851 SP3/5A-D	Sample 1.D. 301-0852 SP4/1A-D
Purgeable Hydrocarbons	50	N.D.	N.D.	N.D.	N,D.	N.D.	N.D.
Benzene	0.50	N.D.	N.D.	N.D.	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.
Chromatogram Pat	tern:						

Quality Control Data

Report Limit Multiplication Factor:	20	20	20	20	20	20
Date Analyzed:	1/11/93	1/11/93	1/11/93	1/11/93	1/12/93	1/12/93
Instrument Identification:	GCHP-3	GCHP-3	GCHP-3	GCHP-3	GCHP-2	GCHP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	96	95	94	95	92	89

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

SEQUOIA ANALYTICAL

Project Manager

3010847.RES <3>



3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

Client Project ID:

Sample Matrix: Analysis Method:

ARCO 4494, Oakland TCLP Extract of Soil

First Sample #: 301-0853

EPA 5030/8015/8020

Sampled:

Jan 7, 1993

Received:

Jan 8, 1993

Reported: Jan 13, 1993

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit μg/L	Sample I.D. 301-0853 SP4/2A-D	Sample I.D. 301-0854 SP4/3A-D	Sample I.D. 301-0855 SP4/4A-D	Sample I.D. 301-0856 SP4/5A-D
Purgeable Hydrocarbons	50	N.D.	N.D.	N.D.	N.D.
Benzene	0.50	N.D.	N.D.	N.D.	N.D.
Toluene	0.50	N.D.	N.D.	N.D.	N.D.
Ethyl Benzene	0.50	N.D.	N.D.	N,D.	N.D.
Total Xylenes	0.50	N.D.	N.D.	N.D.	N.D.
Chromatogram Patt	tern:		••		••

Quality Control Data

Report Limit Multiplication Factor:	20	20	20	20	
Date Analyzed:	1/12/93	1/12/93	1/13/93	1/13/93	
Instrument Identification:	GCHP-2	GCHP-2	GCHP-3	GCHP-3	
Surrogate Recovery, %: (QC Limits = 70-130%)	88	86	93	99	

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

SEQUOIA ANALYTICAL

₱roject Manager

3010847.RES <4>



3315 Almaden Expwy., Suite 34

San Jose, CA 95118 Attention: Joel Coffman

Client Project ID: Sample Descript:

ARCO 4494, Oakland

Soil

Analysis for: STLC Lead 301-0847 First Sample #:

Sampled:

Jan 7, 1993

Received: Extracted:

Jan 8, 1993 Jan 11, 1993

Analyzed: Reported: Jan 13, 1993 Jan 13, 1993

LABORATORY ANALYSIS FOR:

STLC Lead

Sample Number	Sample Description	Detection Limit mg/L	Sample Result mg/L	
301-0847	SP3/1A-D	0.10	0.33	
301-0848	SP3/2A-D	0.10	0.29	
301-0849	SP3/3A-D	0.10	0.97	
301-0850	SP3/4A-D	0.10	0.28	
301-0851	SP3/5A-D	0.10	0.76	
301-0852	SP4/1A-D	0.10	1.7	
301-0853	SP4/2A-D	0.10	0.18	
301-0854	SP4/3A-D	0.10	0.38	
301-0855	SP4/4A-D	0.10	0.47	
301-0856	SP4/5A-D	0.10	0.44	

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

SEQUOIA ANALYTICAL

Project Manager

3010847.RES <5>



Client Project ID: ARCO 4494, Oakland

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

QC Sample Group: 3010847-56

Reported: Jan 13, 1993

QUALITY CONTROL DATA REPORT

ANALYTE			Ethyl-	
	Benzene	Toluene	benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	B. Ali	B. Ali	B. Ali	B. Ali
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Jan 8, 1993	Jan 8, 1993	Jan 8, 1993	Jan 8, 1993
QC Sample #:	GBLK010893	GBLK010893	GBLK010893	GBLK010893
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Snika Cana				
Spike Conc. Added:	0.20	0.20	0.20	0.60
Conc. Matrix	0.47	0.17	0.17	0.50
Spike:	0.17	0.17	0.17	0.52
Matrix Spike				
% Recovery:	85	85	85	87
Conc. Matrix Spike Dup.:	0.18	0.18	0.17	0.52
	0.10	0.10	0.17	U.UL
Matrix Spike Duplicate				
% Recovery:	90	90	85	87
Relative				
% Difference:	5.7	5.7	0.0	0.0

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Maria Lee Project Manager
 Recovery:
 Conc. of M.S. - Conc. of Sample
 x 100

 Spike Conc. Added

 Relative % Difference:
 Conc. of M.S. - Conc. of M.S.D.
 x 100

 (Conc. of M.S. + Conc. of M.S.D.) / 2

3010847.RES <6>



Client Project ID: ARCO 4494, Oakland

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

QC Sample Group: 3010847-56

Reported: Jan 13, 1993

QUALITY CONTROL DATA REPORT

ANALYTE			Ethyl-	
	Benzene	Toluene	benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	M. Nipp	M. Nipp	M. Nipp	M. Nipp
Reporting Units:	μg/L	μg/L	μg/L	μg/L
Date Analyzed:	Jan 11, 1993	Jan 11, 1993	Jan 11, 1993	Jan 11, 1993
QC Sample #:	GBLK011193	GBLK011193	GBLK011193	GBLK011193
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc.				
`Added:	10	10	10	30
Conc. Matrix				
Spike:	9.7	9.7	9.8	29
Matrix Spike				
% Recovery:	97	97	98	97
Conc. Matrix				
Spike Dup.:	9.3	9.3	9.5	28
Matrix Calle				
Matrix Spike				
Duplicate	00	00	05	07
% Recovery:	93	93	95	97
Relative	4.0			a -
% Difference:	4.2	4.2	3.1	3. 5

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Maria Lee Project Manager

% Recovery:	Conc. of M.S Conc. of Sample	x 100	
	Spike Conc. Added		
Relative % Difference:	Conc. of M.S Conc. of M.S.D.	x 100	
	(Conc. of M.S. + Conc. of M.S.D.) / 2		

3010847.RES <7>



Client Project ID: ARCO 4494, Oakland

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

QC Sample Group: 3010847-56

Reported: Jan 13, 1993

QUALITY CONTROL DATA REPORT

ANALYTE			Ethyl-	
	Benzene	Toluene	benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	M. Nipp	M. Nipp	M. Nipp	M. Nipp
Reporting Units:	μg/L	μg/L	μg/L	μg/L
Date Analyzed:	Jan 12, 1993	Jan 12, 1993	Jan 12, 1993	Jan 12, 1993
QC Sample #:	GBLK011293	GBLK011293	GBLK011293	GBLK011293
QO Sample #.	GBLKU11293	GBEN11293	GBLKUTT293	GBLN011293
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Sample Conc	14.0.	14.0.	N.D.	N.D.
Snika Cons				
Spike Conc. Added:	10	40	10	20
Added:	10	10	10	30
Conc. Matrix				.=
Spike:	9.0	9.0	9.0	27
		•		
Matrix Spike				
% Recovery:	90	90	90	90
Conc. Matrix				
Spike Dup.:	9.0	9.1	9.1	27
Matrix Spike				
Duplicate				
% Recovery:	90	91	91	90
Relative				
% Difference:	0.0	1.1	1.1	0.0

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Maria Lee
Project Manager

 % Recovery:
 Conc. of M.S. - Conc. of Sample
 x 100

 Spike Conc. Added
 Spike Conc. Added
 x 100

 Relative % Difference:
 Conc. of M.S. - Conc. of M.S.D.
 x 100

 (Conc. of M.S. + Conc. of M.S.D.) / 2
 x 100

3010847.RES <8>



Client Project ID: ARCO 4494, Oakland

3315 Almaden Expwy., Suite 34

San Jose, CA 95118

Attention: Joel Coffman

QC Sample Group: 3010847-56

Reported: Jan 13, 1993

QUALITY CONTROL DATA REPORT

ANALYTE			Ethyl-				
	Benzene	Toluene	benzene	Xylenes	Lead		
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 7421		
Analyst:	M. Nipp	M. Nipp	M. Nipp	M. Nipp	S. Chin		
Reporting Units:	μg/L	μg/L	μg/L	μg/L	mg/L		
Date Analyzed:	Jan 13, 1993	Jan 13, 1993	Jan 13, 1993				
QC Sample #:	301-1265	301-1265	301-1265	301-1265	301-0847		
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	0.33		
		2.	,	,	3.33		
Spike Conc.							
Added:	10	10	10	30	0.50		
Added.	10	10	10	00	0.00		
Conc. Matrix							
Spike:	9.6	9.3	9.9	28	0.85		
зріке.	5.0	3.0	3.3	20	0.00		
Material Calles							
Matrix Spike	00	00	00	00	104		
% Recovery:	96	93	99	93	104	•	
Onna Matric							
Conc. Matrix	0.0	0.0	0.5	0.4	0.07		
Spike Dup.:	8.2	8.0	8.5	24	0.87		
Matrix Spike							
Duplicate							
% Recovery:	82	80	85	80	108		
•							
Relative							
% Difference:	16	15	15	15	2.3		
· = = · · · · · · · · · · · · ·	· -	• =	· -				

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Project Manager

Relative % Difference:

% Recovery:

Conc. of M.S. - Conc. of Sample

x 100

Spike Conc. Added

x 100

Conc. of M.S. - Conc. of M.S.D. (Conc. of M.S. + Conc. of M.S.D.) / 2

3010847.RE\$ <9>

APPENDIX H FINGERPRINT ANALYTICAL REPORTS

ARCO	Prod	ucts	Com	pany						المالية	16 1		91.	, c				-	7		•	_	Chain of Custo	odv
ARCO Facil	Divisio ity no.	of Atlantic	CRichfield	Company Cit	ly	Dal	2 (000	O ask O	rder No.	Project	/ 7 mana	ger	<u>' '</u>	, (- (Laboratory name	
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Sample I.D.	Lab no.	Container	Soil	Water	Other	Ice	Acid	Sampling date	Sampling time	TEX 22EPA 802	TEX/TPH PA M602/8	TPH Modified 8015 Gas Diesel	Oil and Grease 413.1 413.2	PA 418.1/S	EPA 601/8010	PA 624/824	PA 625/827	State	NW Metals E	ad Org./Di	そうな			
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CORE LABORATORIES

ANALYTICAL REPORT

Job Number: 930006

Prepared For:

RESNA Company Robert D. Campbell 3315 Almaden Expressway, Suite 34 San Jose, CA 95118

Date: 01/05/93

Signature

Name: Ryan S. Nakatani

Core Laboratories - Long Beach 3700 Cherry Avenue Long Beach, CA 90807

Title: Laboratory Supervisor



LABORATORY TESTS RESULTS

01/05/93

JOB NUMBER: 930006 CUSTOMER: RESNA Company ATTN: Robert D. Campbell

CLIENT I.D......: TP-25
DATE SAMPLED.....: 12/28/92
TIME SAMPLED.....: 07:00
WORK DESCRIPTION...: TP-25

LABORATORY I.D...: 930006-0001 DATE RECEIVED...: 12/31/92

TIME RECEIVED...: :
REMARKS...... 3 - 40 ml vials

Simulated Distillation, Distillate	DATE TECHN
1 % Off 238 1 Deg F ASTM D-28 2 % Off 279 1 Deg F ASTM D-28 3 % Off 299 1 Deg F ASTM D-28 4 % Off 320 1 Deg F ASTM D-28 5 % Off 327 1 Deg F ASTM D-28 6 % Off 333 1 Deg F ASTM D-28 7 % Off 341 1 Deg F ASTM D-28 8 % Off 352 1 Deg F ASTM D-28 9 % Off 359 1 Deg F ASTM D-28 10 % Off 363 1 Deg F ASTM D-28 11 % Off 368 1 Deg F ASTM D-28 12 % Off 372 1 Deg F ASTM D-28 13 % Off 378 1 Deg F ASTM D-28	87 01/05/93 FA
1 % Off 238 1 Deg F ASTM D-28 2 % Off 279 1 Deg F ASTM D-28 3 % Off 299 1 Deg F ASTM D-28 4 % Off 320 1 Deg F ASTM D-28 5 % Off 327 1 Deg F ASTM D-28 6 % Off 333 1 Deg F ASTM D-28 7 % Off 341 1 Deg F ASTM D-28 8 % Off 352 1 Deg F ASTM D-28 9 % Off 359 1 Deg F ASTM D-28 10 % Off 363 1 Deg F ASTM D-28 11 % Off 368 1 Deg F ASTM D-28 12 % Off 372 1 Deg F ASTM D-28 13 % Off 378 1 Deg F ASTM D-28	87
2 % Off 279 1 Deg F ASTM D-28 3 % Off 299 1 Deg F ASTM D-28 4 % Off 320 1 Deg F ASTM D-28 5 % Off 327 1 Deg F ASTM D-28 6 % Off 333 1 Deg F ASTM D-28 7 % Off 341 1 Deg F ASTM D-28 8 % Off 352 1 Deg F ASTM D-28 9 % Off 352 1 Deg F ASTM D-28 10 % Off 363 1 Deg F ASTM D-28 11 % Off 368 1 Deg F ASTM D-28 11 % Off 368 1 Deg F ASTM D-28 12 % Off 372 1 Deg F ASTM D-28 12 % Off 372 1 Deg F ASTM D-28 13 % Off 378 1 Deg F ASTM D-28	
3 % Off 299 1 Deg F ASTM D-28 4 % Off 320 1 Deg F ASTM D-28 5 % Off 327 1 Deg F ASTM D-28 6 % Off 333 1 Deg F ASTM D-28 7 % Off 341 1 Deg F ASTM D-28 8 % Off 352 1 Deg F ASTM D-28 9 % Off 359 1 Deg F ASTM D-28 10 % Off 363 1 Deg F ASTM D-28 11 % Off 368 1 Deg F ASTM D-28 12 % Off 372 1 Deg F ASTM D-28 12 % Off 372 1 Deg F ASTM D-28 13 % Off 378 1 Deg F ASTM D-28	
4 % Off 320 1 Deg F ASTM D-28 5 % Off 327 1 Deg F ASTM D-28 6 % Off 333 1 Deg F ASTM D-28 7 % Off 341 1 Deg F ASTM D-28 8 % Off 352 1 Deg F ASTM D-28 9 % Off 359 1 Deg F ASTM D-28 10 % Off 363 1 Deg F ASTM D-28 11 % Off 368 1 Deg F ASTM D-28 12 % Off 372 1 Deg F ASTM D-28 13 % Off 378 1 Deg F ASTM D-28	
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12 % Off 372 1 Deg F ASTM D-28 13 % Off 378 1 Deg F ASTM D-28	
13 % Off 378 1 Deg F ASTM D-28	
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14 % Off 384 1 Deg F ASTM D-28	
15 % Off 387 1 Deg F ASTM D-28	87
16 % Off	
17 % Off	.87
18 % Off	
19 % Off	87
20 % Off 401 1 Deg F ASTM D-28	87
21 % Off 404 1 Deg F ASTM D-28	87
22 % Off 406 1 Deg F ASTM D-28	
23 % Off 409 1 Deg F ASTM D-28	:87 Ì
24 % Off 412 1 Deg F ASTM D-28	• • • • • • • • • • • • • • • • • • •
25 % Off 416 1 Deg F ASTM D-28	
26 % Off 420 1 Deg F ASTM D-28	87
27 % Off 424 1 Deg F ASTM D-28	
28 % Off 428 1 Deg F ASTM D-28	
29 % Off 432 1 Deg F ASTM D-28	
30 % Off 435 1 Deg F ASTM D-28	
32 % Off 440 1 Deg F ASTM D-28	07
33 % Off 442 1 Deg F ASTM D-28	07
34 % Off 445 1 Deg F ASTM D-28	
35 % Off 449 t Deg F ASTM D-28	
36 % Off 456 1 Deg F ASTM D-28	8/
37 % Off 465 1 Deg F ASTM D-28	87
38 % Off 474 † Deg F ASTM D-28	
39 % Off 480 1 Deg F ASTM D-28	87
40 % Off 485 1 Deg F ASTM D-28	87
41 % Off 495 1 Deg F ASTM D-28	87
42 % Off 509 1 Deg F ASTM D-28	
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LABORATORY TESTS RESULTS

01/05/93

JOB NUMBER: 930006 CUSTOMER: RESNA Company

ATTN: Robert D. Campbell

CLIENT I.D.....: TP-25
DATE SAMPLED....: 12/28/92
TIME SAMPLED....: 07:00
WORK DESCRIPTION...: TP-25

LABORATORY I.D...: 930006-0001 DATE RECEIVED...: 12/31/92

TIME RECEIVED ...: :

REMARKS..... 3 - 40 ml vials

TEST DESCRIPTION	FINAL RESULT	EIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE TECH
43 % Off	520	1	Deg F	ASTM D-2887	
44 % Off	532	1	Deg F	ASTM D-2887	
45 % Off	544	1	Deg F	ASTM D-2887	
46 % Off	560	1	Deg F	ASTM D-2887	
47 % Off	573	1	Deg F	ASTM D-2887	
48 % Off	58 9	1	Deg F	ASTM D-2887	
49 % Off	605	1	Deg F	ASTM D-2887	
50 % Off	622	1	Deg F	ASTM D-2887	
Simulated Distillation, Continued		*1		ASTM D-2887	01/05/93 FA
51 % Off	640	1	Deg F	ASTM D-2887	
52 % Off	657	1	Deg F	ASTM D-2887	
53 % Off	678	1	Deg F	ASTM D-2887	
54 % Off	700	1	Deg F	ASTM D-2887	
55 % Off	723	1	Deg F	ASTM D-2887	
56 % Off	743	1	Deg F	ASTM D-2887	1
57 % Off	762	i	Deg F	ASTM D-2887	
58 % Off	778	i i	Deg F	ASTN D-2887	1
59 % Off	792	l i	Deg F	ASTM D-2887	
60 % Off	804	1	Deg F	ASTM D-2887	
61 % Off	815	i	Deg F	ASTM D-2887	İ
62 % Off	825	1	Deg F	ASTM D-2887	
63 % Off	835	;	Deg F	ASTM D-2887	
64 % Off	845	1	Deg F	ASTM D-2887	
65 % Off	854	1	_	ASTM D-2887	
		1	Deg F		
66 % Off	864	1	Deg F	ASTM D-2887	
67 % Off	873	1 1	Deg F	ASTM D-2887	
68 % Off	881	1	Deg F	ASTM D-2887	İ
69 % Off	890	1	Deg F	ASTM D-2887	
70 % Off	898	1	Deg F	ASTM D-2887	
71 % Off	905	1	Deg F	ASTM D-2887	
72 % Off	913	1	Deg F	ASTM D-2887	
73 % Off	920	1	Deg F	ASTM D-2887	1
74 % Off	927	1	Deg F	ASTM D-2887	!
75 % Off	930	1	Deg F	ASTM D-2887	
76 % Off	932	1	Deg F	ASTM D-2887	
77 % Off	934	1	Deg F	ASTM D-2887	
78 % Off	936	1	Deg F	ASTM D-2887	
79 % Off	938	1	Deg F	ASTM D-2887	[
80 % Off	939	1	Deg F	ASTM D-2887	
81 % Off	941	1	Deg F	ASTM D-2887	
82 % Off	943	1 1	Deg F	ASTM D-2887	
83 % Off	945	i	Deg F	ASTM D-2887	
84 % Off	947	1 i	Deg F	ASTH D-2887	
*** * * * *	1	1	13	1	1



CLIENT I.D..... TP-25

WORK DESCRIPTION ...: TP-25

DATE SAMPLED....: 12/28/92 TIME SAMPLED....: 07:00

CORE LABORATORIES

LABORATORY TESTS RESULTS

01/05/93

JOB NUMBER: 930006 CUSTOMER: RESNA Company

ATTN: Robert D. Campbell

LABORATORY I.D...: 930006-0001 DATE RECEIVED....: 12/31/92

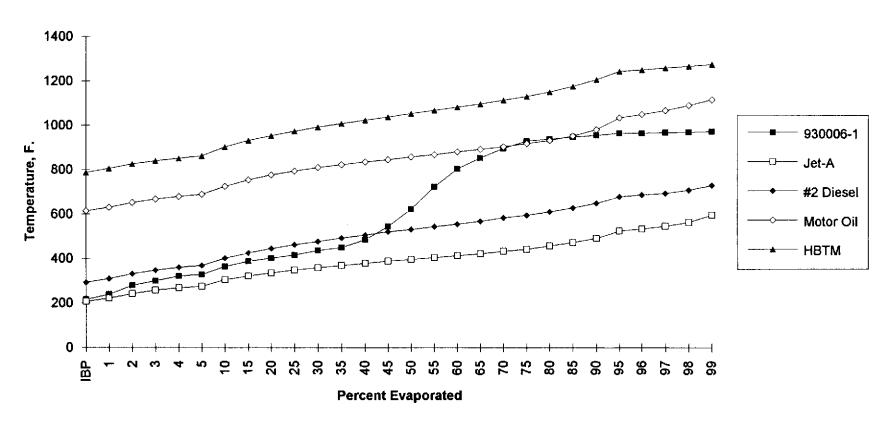
TIME RECEIVED ...: :

REMARKS..... 3 - 40 ml vials

ST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE TECH
85 % Off	949	1	Deg F	ASTM D-2887	
86 % Off	950	1	Deg F	ASTM D-2887	
87 % Off	952	1	Deg F	ASTM D-2887	
88 % Off	954		Deg F	ASTM D-2887	
89 % Off	956		Deg F	ASTM D-2887	
90 % Off	957		Deg F	ASTM D-2887	
91 % Off	959	l i	Deg F	ASTM D-2887	
92 % Off	960		Deg F	ASTM D-2887	+
93 % Off	962		Deg F	ASTM D-2887	•
94 % Off	964		Deg F	ASTM D-2887	
95 % Off	966		Deg F	ASTM D-2887	
96 % Off	967			ASTM D-2887	į
97 % Off	969		Deg f	ASTM D-2887	
		1 1	Deg F		
98 % Off	971		Deg F	ASTM D-2887	
99 % Off	973		Deg F	ASTM D-2887	
FBP	974	1	Deg F	ASTM D-2887	
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Sample 930006-1 Distillation Profile





QUALITY ASSURANCE REPORT 01/05/93 JOB NUMBER: 930006 CUSTOMER: RESNA Company ATTN: Robert D. Campbell Simulated Distillation, Distillate DATE ANALYZED: 01/05/93 TIME ANALYZED: 11:46 METHOD: ASTM D-2887 QC NUMBER:936850 BLANKS DETECTION LIMIT UNITS OF MEASURE TEST DESCRIPTION ANALY SUB-TYPE ANALYSIS I.D. DILUTION FACTOR ANALYZED VALUE Simulated Distillation ASTM D-2887 Reagent CS2 1 <1 1 Vol.%



QUALITY ASSURANCE REPORT

01/05/93

JOB NUMBER: 930006 CUSTOMER: RESNA Company

ATTN: Robert D. Campbell

Simulated Distillation, Distillate DATE ANALYZED: 01/05/93 TIME ANALYZED: 11:46 METHOD: ASTM D-2887

QC NUMBER:936850

EST ESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	TRUE VALUE	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
imulated Distillation ASTM D-2887	Reference	RGO #1	1	241	238	101	1	Vol.%
							:	
				1				

3700 Cherry Avenue 90807 Long Beach, CA (310) 595-8401



QUALITY ASSURANCE FOOTER 01/05/93

Analyses performed in accordance with ASTM Testing Procedures.

Samples retained for thirty days after report submission. After thirty days, samples are disposed in accordance with Core Laboratories' Disposal Policy. Samples will be retained longer with prior arrangement. Storage fees may apply.

The acceptance criteria for duplicate analyses are the applicable ASTM Repeatability Statements.

The "Time Analyzed" in the QA Report refers to the start time of the analytical batch. It may not reflect the actual analysis time. The "Date Analyzed" reflects the actual analysis date.

ARCO Products Company Task Order No. 4494 - 91 - 15 ARCO Facility no. 4494 City (Facility) Oahland ARCO engineer Michael Whelon (ARCO) 2449 (Consultant) Consultant name RESNA That street Tack (Consultant) Address 3715 Almach Exp. Suite 34, Son Jose, Ca 95/18 (Consultant) Method of street Tack (Consultant) Method of street Tack (Consultant) ARCO Project manager Tool Coffmun (Consultant) Fax no. (498) 264-2435 (Consultant) Consultant name RESNA That street Tack (Consultant) Address 3715 Almach Exp. Suite 34, Son Jose, Ca 95/18 8 Method of street Tack (Consultant)													hain of Custody										
ARCO Facilit	Division y no.	of Atlantic	RichfieldC	City (Fa	y icility) (gahla n	Telephon (ARCO)	Task Or	der No.	Project (Consul Telepho (Consul	manag Itant) one no. Itant)	(YO8	ر ا عق ا	3 3 172	o (+	Fax (Coi	no.	/406 ()	2)2	6Y-	243	5	Laboratory name ARCO 70 Lode Contract number
Consultant n	ame [Z	ESNI	A 7	يسهم	54	و سده	Inc.	Address (Consultar	nt) 3315 /	hlma	<u> </u>	EXF	>. 5	ماره	34,	<u> </u>	<u>'J'</u>	رعد	CA.	9511	8	6	
				Matrix			vation								- 1			Semi VOA	010/7000		4 L	D D	Method of shipment
Sample I.D.	Lab no.	Container no.	Soil	Water	Other	lce	Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas Diesel	Oil and Grease 413.1 🔲 413.2 🗀	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals □ VOA □ VOA □	CAM Metals EPA (Lead Org./DHS Lead EPA 7420/7421	Fingerpoi		
TP-2B		3		X				12/28/42													X		Special detection Limit/reporting
																							Special QA/QC
																							Please Cax US results.
																							Lab number
			<u> </u>	 	<u> </u>	<u> </u>							3				+						Turnaround time
	<u></u>																						Priority Rush 1 Business Day
When the Caylell 12/18/92 1700						Time	Recei	ived by		ed:	d	C		(لحما	}				Rush 2 Business Days Expedited 5 Business Days			
Relinquishe			Date Time Received by laboratory Date Time							Standard 10 Business Days													

ARCO Petroleum Products Company

Internal Correspondence



Date:

January 6, 1993

Subject:

Analysis of Monitoring Well Samples

SS#4494, Oakland, CA

JAN 1 - 993

REEDD LAAN 208 19993

From/Location:

Lynn M. Lane LAR. AS

310/816-8673

210/010-0

To/Location:

M. Whelan

SM

ARCO Net 571-2449

CC:

J.M. DeJovine J.A. Jaecker A.V. Nowak D.C. Tong

R.Campbell, Resna Industries

3 samples from 1 Well were received on January 4, 1993. They were placed in a cold room and maintained at 38 F until removed for analysis. The samples were identified as follows:

- 1. TP-2B, 1
- 2. TP-2B, 2
- 3. TP-2B, 3

A Simulated Distillation by Gas Chromatography was performed on the samples. All are predominantly weathered gasolines. TP-2B 1 had 34% percent of the product boiling outside of the normal gasoline range. TP-2B 2 and TP-2B 3 had 17% and 15% respectively outside of the normal range. The contaminants do not resemble any of our finished hydrocarbon products.

If you have any questions concerning these analyses, please call. The original copies of the Simulated Distillation Reports are attached to this report. Due to limited sample storage capabilities, all of these samples will be discarded 60 days from issue of this report unless otherwise requested.

SIMULATED DISTILLATION REPORT ***

Operator Initials:

DATA FILE: H:WELL111.PTS

Channel#: O Vial#: N.A.

* Sample Name: well 1, station 4494 * Date: 01-01-1993 10:45:24 Method:I:0CSIMD

* Interface: 7 Cycle#: 1

* Starting Peak Width: 10 Threshold: 10

Starting Delay: 0.00 Ending Retention Time: 32.00

389.9

392 2

Calibration file: i:ocsimd.SCL Date printed:01-01-1993 Time printed 12:34:52

ASTM D 2887 Method Percent Off Table

Baseline from: 0.47 to 31.81 Process from: 0.47 to 31.81

12374959 Total Area: -3.25678 Slope :

Increment: 1

36.00

37.00

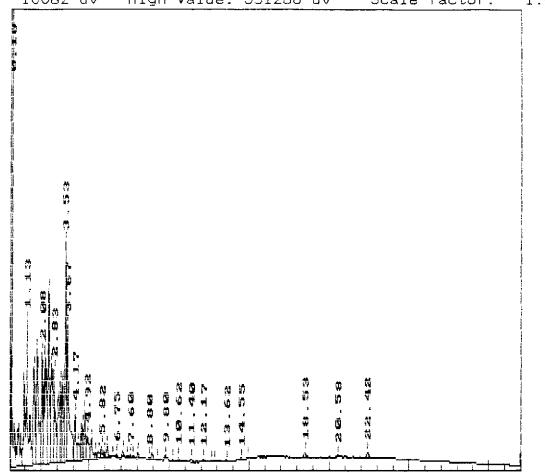
% OFF	Ret. Time	Temp
IBP	0.59	218.4
1.00	0.64	223.7
2.00	0.94	254.7
3.00	0.99	260.2
4.00	1.07	268.2
5.00	1.13	274.3
6.00	1.15	276.7
7.00	1.28	290.8
8.00	1.35	298.2
9.00	1.53	311.8
10.00	1.56	314.2
11.00	1.60	316.5
12.00	1.64	319.2
13.00	1.73	325.2
14.00	1.76	327.3
15.00	1.79	329.5
16.00	1.82	331.5
17.00	1.88	335.8
18.00	1.97	342.3
19.00	2.05	347.3
20.00	2.08	349.2
21.00	2.12	352.2
22.00	2.18	356.2
23.00	2.22	359.3
24.00	2.26	361.9
25.00 26.00	2.29 2.33	363.8
27.00		366.3
28.00	2.36 2.41	368.5
		371.8
29.00	2.45	374.7
30.0 0	2.47	376.2
31.00	2.49	377.4
32.00 33.00	2.51	378.9
34.00	2.54 2.60	381.2
35.00	2.64	385.0 387.8
35.00	2.04	700.0

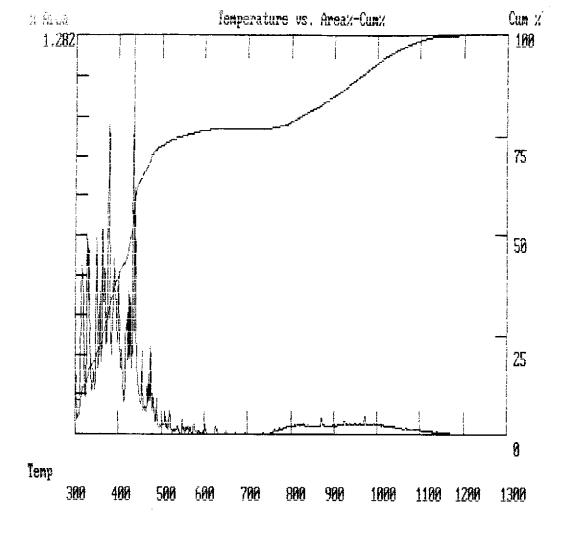
2.67 2.71

39.00	2.79	398.2
40.00	2.83	400.7
41.00	2.88	404.2
42.00	2.95	409.0
43.00	3.06	416.2
44.00	3.11	419.5
45.00	3.15	421.8
46.00	3.21	423.8
47.00	3.25	425.1
48.00	3.31	427.0
49.00	3.35	428.4
50.00	3.40	430.1
51.00	3.47	432.4
52.00	3.51	433.6
53.00	3.52	434.1
54.00	3.54	434.5
55.00	3.55	435.0
56.00	3.57	435.6
57.00	3.61	437.0
58.00	3.64	438.1
59.00	3.66	438.8
60.00	3.69	439.7
61.00	3.74	441.3
62.00	3.81	443.7
63.00	3.92	447.2
64.00	4.06	451.8
65.00	4.16	455.2 450.0
66.00 67.00	4.30 4.50	459. 9
68.00	4.50	466.5 470.5
69.00	4.73	474.1
70.00	4.80	476.4
71.00	4.96	481.7
72.00	5.19	489.2
73.00	5.70	504.9
74.00	6.15	518.8
75.00	7.12	548.5
76.00	3.11	576.9
77.00	14.19	752.3
78.0 0	15.43	786.2
79.00	16.09	804.1
80.00	16.66	819.6
81.00	17.20	834.5
82.00	17.80	851.2
83.00	18.44	868.8
84.00 85.00	18.91	881.4
86.00	19.53 20.10	897.6 912.5
87.00	20.10	912.5 925.8
88.00	21.09	938.2
89.00	21.60	951.0
90.00	22.09	963.6
91.00	22.51	974.1
92.00	23.02	986.4
93.00	23.52	998.6
94.00	24.08	1011.9
95.00	24.71	1026.8
96.00	25.40	1043.1
97.00	26.23	1062.4
98.00	27.21	1084.4
99.00	28.44	1111.5
FBP	29.30	1130.6
WARNINGEND	HOINT BEAOND	THE SCOPE OF D2887

Data File = H:WELL111.PTS Printed on 01-01-1993 at 12:34:11 Start time: 0.00 min. Stop time: 32.00 min. Offset: 0 mv. Low Value: 10082 uv High Value: 351286 uv Scale factor: 1.0

100





*** SIMULATED DISTILLATION REPORT ***

* Sample Name: well 2, station 4494. * Date: 01-01-1993 11:34:06 Method:I:OCSIMD Operator Initials:

DATA FILE: H:WELL22.PTS

* Interface: 7 Cycle#: 2 Channel#: O Vial#: N.A.

* Starting Peak Width: 10 Threshold: 10

Ending Retention Time: Starting Delay: 0.00

Calibration file: i:ocsimd.SCL Date printed:01-01-1993 Time printed 12:31:21

ASTM D 2887 Method Percent Off Table

Baseline from: 0.47 to 31.81 Process from: Total Area: 0.47 to 31.81

2.36

0 38

36.00

77 OO

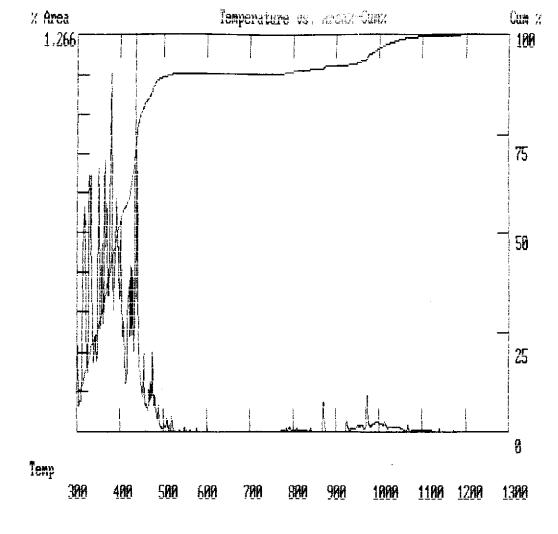
Total Area: Slope :	3104260 -1.27858	
Increment :	1	
% OFF	Ret. Time	Temp
IBP	0.60	219.4
1.00	0.64	224.1
2.00	0.92	253.3
3.00	0.98	258.9
4.00	1.04	265.3
5.00	1.09	271.0
6.00	1.13	274.8
7.00	1.15	276.7
8.00	1.22	284.2
9.00	1.31	293.6
10.00	1.36	299.1
11.00	1.51	310.3
12.00	1.55	313.3
13.00	1.58	315.0
14.00	1.60	316.7
15.00	1.63	318.4
16.00	1.67	321.8
17.00	1.73	325.8
18.00	1.75	327.2
19.00	1.78	328.8
20.00	1.80	330.4
21.00	1.82	331.9
22.00	1.86	334.3
23.00	1.92	338.6
24.00	1.98	342.7
25.00	2.04	346.7
26.00	2.07	348.4
27.00	2.09	349.9
28.00	2.12	352.1
2 9. 00	2.17	355.3
30.00	2.20	357.4
31.00	2.24	360.1
32.00	2.26	361.9
33,00	2.28	363.2
34.00	2.31	365.0
35.00	2.33	366.7
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84.00 4.43 464.2	85.00 4.60 469.8 86.00 4.72 473.9 87.00 4.80 476.4 88.00 4.96 481.8 89.00 5.23 490.7 90.00 6.17 519.6 91.00 16.31 810.1	86.00 4.72 473.9 87.00 4.80 476.4 98.00 4.96 481.8 89.00 5.23 490.7 90.00 6.17 519.6	39.00 40.00 41.00 42.00 43.00 43.00 45.00 46.00 47.00 48.00 50.00 51.00 52.00 53.00 54.00 55.00 56.00 62.00 63.00 64.00 65.00 66.00 67.00 68.00 67.00 68.00 67.00 77.00 73.00 71.00 72.00 73.00 74.00 75.00 76.00 77.00 78.00 79.00 80.00 81.00 82.00 83.00	22222222222222222222233333333333333333	374.9 376.3 377.4 378.4 379.7 381.5 384.1 386.4 389.6 393.3 395.1 400.3 401.0 402.0 403.8 414.7 417.9 420.7 424.8 434.6 435.6 434.6 435.6 436.3 437.8 437.8 438.3 448.3 44
	85.00 4.60 469.8 86.00 4.72 473.9 87.00 4.80 476.4 88.00 4.96 481.8 89.00 5.23 490.7 90.00 6.17 519.6 91.00 16.31 810.1	85.00	78.00 79.00 80.00 81.00 82.00	3.75 3.81 3.90 4.00 4.13	441.6 443.6 446.5 450.1 454.4

Data File = H:WELL22.PTS Printed on 01-01-1993 at 12:30:4.
Start time: 0.00 min. Stop time: 32.00 min. Offset: 0 mv.
10080 uv High Value: 357791 uv Scale factor: 1.0



*** SIMULATED DISTILLATION REPORT *** T628

* Interface: 7 Cycle#: 3

* Starting Peak Width: 10 Threshold: 10

Vial#: N.A.

Channel#: 0

Starting Delay: 0.00 Ending Retention Time: 32.00

Calibration file: i:ocsimd.SCL Date printed:01-01-1993 Time printed 12:55:23

ASTM D 2887 Method Percent Off Table

Baseline from: 0.47 to 31.81 Process from: 0.47 to 31.81

Total Area: 13913458 Slope : -6.67783

Increment: 1

% OFF	Ret. Time	Temp
IBP	0.56	215.4
1.00	0.60	219.6
2.00	0.72	232.0
3.00	0.92	253.3
4.00	0.96	257.2
5.00	1.00	261.7
6.00	1.06	267.6
7.00	1.11	272.9
8.00	1.13	274.5
9.00	1.14	276.3
10.00	1.23	285.5
11.00	1.31	293.5
12.00	1.36	298.8
13.00	1.52	311.1
14.00	1.55	313.0
15.00	1.57	314.4
16.00	1.59	316.0
17.00	1.61	317.6
18.00	1.66	320.8
19.00	1.72	325.2
20.00	1.74	326.6
21.00 22.00	1.77 1.79	328.0
_ 23.00	1.81	329.6
24.00	1.84	331.0 3 33 .2
25.00	1.91	338.0
26.00	1.98	342,4
27.00	2.04	346.5
28.00	2.06	348.0
29.00	2.08	349.4
30.00	2.11	351.8
31.00	2.16	355.1
32.00	2.19	357.1
33.00	2.23	360.0
34.00	2.26	361.5
35.00	2.28	362.8
36.00	2.30	364.6
37.00	2.33	366.4

39.00 40.00 41.00 41.00 42.00 43.00 44.00 45.00 46.00 47.00 48.00 49.00 50.00 51.00 52.00 53.00 54.00 55.00 56.00 67.00 68.00 67.00 68.00 67.00 68.00 67.00 71.00 72.00 73.00 74.00 75.00 76.00 77.00 78.00 77.00 78.00 79.00 81.00 82.00 83.00 84.00 85.00 87.00 88.00 89.00 91.00 92.00 93.00 91.00 92.00 93.00 94.00 95.00 97.00 98.00 97.00 98.00 99.00
2.45 32.45 2.45 2.45 2.45 2.45 2.45 2.45 2.45
THE
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D2887

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well 3, st Processed: 01-01-1993 12:54:28, segment 3, cycle 3 RAW DATA SAVED IN FILE H: WELL33.PTS

Areas, times, and heights stored in: H: WELL33.ATB

Data File = H:WELL33.PTS Printed on 01-01-1993 at 12:54:42

Start time:

0.00 min. Stop time: 32.00 min.

Low Value: 10111 uv

Offset: O mv. High Value: 375035 uv Scale factor: 1.0

