Prepared for

Port of Oakland

530 Water Street, Oakland, California

Final Report

Report of Investigation and Remediation of Contaminated Soil Resulting from the Diesel Spill at Keep on Trucking, 370 8th Avenue, Oakland, California

July 1, 1993

Prepared by

Uribe & Associates
Environmental Consulting Services

2930 Lakeshore Avenue #200
Oakland, California 94610-3614

Report of Investigation and Remediation of Contaminated Soil Resulting from the Diesel Spill at Keep on Trucking, 370 8th Avenue, Oakland, California

July 1, 1993

Prepared by

Uribe & Associates
Oakland, California

Prepared for

Port of Oakland
Oakland, California

Certification

Report of Investigation and Remediation of Contaminated Soil Resulting from the Spill at Keep on Trucking, 370 8th Avenue, Oakland, California

I certify that the information presented in this document was produced in accordance with professional standards, and to the best of my knowledge, the data contained here are true and accurate. The field program will be conducted under the supervision of a California Registered Geologist.

7/1/93

Andrew B. Clark-Clough Date
California Registered Geologist No. 5736

Report of Investigation and Remediation of Contaminated Soil Resulting from Diesel Spill at Keep on Trucking, 370 8th Avenue, Oakland, California

Table of Contents page

Report of Investigation and Remediation of Contaminated Soil Resulting from Diesel Spill at Keep on Trucking, 370 8th Avenue, Oakland, California

List of Tables **page**

List of Figures

1 Introduction

This report documents the removal of an underground storage tank (UST) and contaminated soil at Keep on Trucking (KOT), 370 8th Avenue, Oakland, California (Figure 1). In addition, this report summarizes all previous investigation and remediation activities performed at the site.

KOT leases the site from the Port of Oakland (Port), and operates a truck distribution yard for steel transport. A diesel dispenser system attached to an aboveground storage tank (AST) owned and operated by KOT was identified as the source of a subsurface diesel release into the adjacent storm drains and ultimately Clinton Basin and the San Francisco Bay. The system was removed from service in December 30, 1992. Uribe & Associates (U&A) was contracted by the Port to perform investigations into the source and extent of contamination resulting from the diesel release and to perform site remediation activities.

Three reports prepared by U&A have already been submitted to the Port concerning this project. The *Source Investigation Summary and Workplan to Delineate Soil and Groundwater Contamination* dated January 20, 1993, discusses the search for and discovery of the unauthorized release source in addition to providing a workplan for remediation. The *Report of the Source Area Primary Pathway Investigation at KOT* dated March 30, 1993, covers the source area primary pathway investigation. The *Investigation of the Diesel Spill at KOT* dated April 20, 1993, discusses investigations of the active and inactive storm drains and upgradient areas (see Section 3).

During the source area investigation conducted by Bay Area Tank and Marine (BATM) and supervised by U&A, a previously unknown UST was uncovered beneath the AST diesel dispenser system. This UST is not suspected to be a source for the diesel release. The UST was filled-to-overflow by fresh diesel containing a substantial portion of the red dye injected into the AST on December 29, 1992. The diesel was able to enter the UST through an open bung directly beneath the damaged elbow of the AST fuel line. Riedel excavated and removed the tank from the site on April 27, 1993. The UST was then inspected. The inspection further discounted the UST as a source of the diesel release since no damage was found.

This report summarizes the previous investigations in Sections 2 and 3; provides a geologic description of the site in Section 4; documents the removal of the UST and contaminated soils in Section 5; provides results of soil sample analyses in Section 6; discusses the project issues and conclusions in Sections 7 and 8; and provides

recommendations for future remediation and self-monitoring activities in Section 9. The Appendices contain laboratory data sheets, previous investigation site maps, a list of contractors used during the project, and a Workplan for future work.

2 Project History

Diesel contamination was first noticed in Clinton Basin by the United States Coast Guard (USCG) in late October, 1992 (a diesel spill to Clinton Basin in October 1991 may have originated from the same source, though unconfirmed). The Port soon discovered that the diesel was present in the storm drains at the Ninth Avenue Terminal. The remediation of the storm drains began immediately. Subsequent investigations by the Port identified the source of the diesel to be a leak in the underground piping associated with an AST diesel fuel dispenser system located at KOT, 370 8th Avenue.

The fuel dispenser system identified as being the source of the release was removed from service on December 30, 1992. The quantity of diesel lost is unknown.

A detailed chronology of the storm drain clean-up and of events leading to the contamination source discovery is provided in the *Source Investigation Summary and Workplan to Delineate Soil and Groundwater Contamination,* dated January 20, 1993 by U&A. A brief synopsis of events is provided here:

10/21/92	United States Coast Guard (USCG) notifies Port of a diesel spill into Clinton Basin. The Port assumes responsibility for the spill and the subsequent spill that occurred on 10/27/92.
11/2/92	Port discovers diesel in storm drains at the Ninth Avenue Terminal.
11/6/92	The Port begins removing diesel from storm drains into vacuum trucks, and on 11/19/92 into on-site storage tanks.
11/20/92	Testing and Technology (Novato, California) conducts a precision tightness test on KOT's AST diesel dispenser system. Testing and Technology reported that the system was not leaking. Richard Padovani, the manager of the KOT facility, informed U&A that his records do not indicate any inventory loss.
12/16/92	U&A conducts investigations into the source and discovers diesel accumulation in an isolated portion of the storm drain near the AST diesel dispensing system in the KOT yard.

12/29/92	Red dye is introduced into the fuel dispensing system and appears in the storm drain the following day.
12/30/92	The diesel dispensing system is removed from service.
1/20/93	U&A submits the *Source Investigation Summary and Workplan to Delineate Soil and Groundwater Contamination*, dated January 20, 1993, to the Port to verify the source and delineate the extent of contamination.
2/12/93	Excavation of the underground piping and source area is conducted by BATM. During the excavation, BATM discovers a previously unknown underground storage tank in the source area. The tank is not suspected to be a source of contamination based on U&A field observations.
3/4/93	U&A submits an Addendum to Workplan to the Alameda County Health Care Services Agency, Department of Environmental Health (ACHCSA).
3/1-3/93	Great Sierra under the supervision of a U&A geologist drills soil borings on the KOT site.
3/2-5/93	U&A conducts investigation of the cannery line to determine possible secondary diesel migration routes.
3/11-15/93	U&A conducts investigation of the storm drain to determine possible secondary diesel migration routes.
3/31/93	The Port submits to the County the *Report of the Source Area Primary Pathway Investigation*, dated March 30, 1993, documenting the initial excavation of the leaking underground piping.
4/20/93	The Port submits to the County the *Investigation of Diesel Spill Report* dated April 20, 1993, which describes investigation activities conducted for the storm drain systems and upgradient areas located at the KOT site.
4/27/93-5/3/93	U&A supervises the removal of the UST by Riedel and surrounding soils contaminated by the leak from the AST diesel dispensing system.

3 Summary of Investigation and Remediation

This Section briefly describes the site activities performed prior to the excavation and removal of diesel contaminated soils. Figure 2 provides an overview of the Ninth Avenue Terminal and Keep on Trucking site, including the trenches and excavation areas completed during the previous site investigations. Appendix A contains sample locations and results for some of the previous work. For more detailed information, see the following previously submitted reports.

Source Investigation Summary and Workplan to Delineate Soil and Groundwater Contamination; prepared by U&A for the Port, January 20, 1993.

Report of the Source Area Primary Pathway Investigation at Keep on Trucking; prepared by U&A for the Port, March 30, 1993.

Investigation of Diesel Spill at Keep on Trucking; prepared by U&A for the Port, April 20, 1993.

Source Investigation

The investigation to determine the source of the diesel spill began on October 21, 1992, when the USCG discovered diesel floating on the Clinton Basin. The actual source was located and eliminated by December 30, 1992. Emergency clean-up of Clinton Basin and the Ninth Avenue Terminal storm drains was conducted by the USCG and by Riedel Environmental Services, Richmond, California (Riedel) for the Port. A precision tightness test conducted by Testing and Technology (Novato, California) on the AST diesel dispenser system on November 20, 1992 at KOT reported that the system was not leaking. Soil excavations were conducted around Clinton Basin in an effort to locate buried outfall pipes.

During the search for the source, several storms prompted emergency clean-ups of portions of the lateral loop and main storm drain located on KOT's transportation yard. U&A plugged the storm drains to prevent additional diesel from entering the Clinton Basin. Large 21,000-gallon mobile storage tanks were placed on site, and the contents of the storm drains were pumped into the tanks. Periodically the tanks were emptied and the contents were disposed by Riedel at a waste recycling facility (H+H Environmental, San Francisco). The Regional Water Quality Control Board, San Francisco Bay Region, approved a one-time discharge (February 8, 1993) into the Clinton Basin of clean storm

water accumulated in the temporary storage tanks. All water with detectable fuel, fuel products or sheen was taken to a waste recycling facility for disposal. U&A made periodic observations of the Clinton Basin and found no new floating diesel, though U&A observed a slight sheen emanating from the shoreline during rain storms. Riedel removed the spill-containment booms from the Clinton Basin and from Oakland Inner Harbor around the Ninth Avenue Terminal on 1/29/93.

Soil borings were drilled by Great Sierra under the supervision of a U&A geologist. U&A collected groundwater samples adjacent to the storm drain line to verify that diesel was not pooling around possible breaks in the storm drain and migrating through the ground to the Clinton Basin (see Appendix A, Figure A-1). A geophysical survey was conducted by JR Associates, San Jose, California, on December 15, 1992, to locate unknown USTs. Upgradient storm drains near Interstate 880 were sampled by U&A to determine the extent of contamination migration in that direction. Subtronic Corporation, Concord, California, conducted a video investigation of the lateral loop and storm drain at the KOT site on March 2, 1993, and found breaks in the terra-cotta lateral loop pipe near the AST diesel dispenser. As the storm drains in this area were cleaned, fresh diesel recharged from the lateral loop area. Finally, U&A placed a dye in KOT's AST diesel dispenser system and found the dye in the storm drain within hours, verifying the source to be the KOT dispenser system. No fresh diesel has entered the storm drains or Clinton Basin since KOT's AST dispenser system was taken out of service on December 30, 1992.

A more detailed description of the search for the diesel source can be found in the *Source Investigation Summary and Workplan to Delineate Soil and Groundwater Contamination;* prepared by U&A for the Port, January 20, 1993.

Source Area Primary Pathway Investigation

The source area primary pathway investigation performed on February 12, 1993, included the excavation of soils from around the underground piping leading from the AST to the diesel dispenser island. The investigation uncovered the precise location of the leak in the underground piping and exposed primary pathways of diesel migration through the surrounding soil layers to the storm drain lines. The red dye placed in the AST was found accumulating in the soils near the underground piping. The investigation included soil excavation and the discovery of a previously unknown UST (see Appendix A, Figure A-2, Table A-1).

The underground piping from the AST and the diesel dispenser system was completely uncovered and a pinhole sized leak was discovered by U&A. There were no connections between the AST piping system and the UST. A flow-rate pressure test conducted on the piping verified that the AST could be the sole source of diesel contamination in the storm drains. Soil samples were collected from the excavation and analyzed for diesel. The UST discovered during the source area excavation was filled to overflowing with diesel. A port hole was open on top of tank directly beneath the leak in the underground pipe. The UST is not suspected as a source of contamination in surrounding soils based upon U&A field observations. The diesel in the UST contained a substantial portion of the red dye injected into the AST diesel dispenser on December 29, 1992. The product found in the UST was removed with a vacuum truck and transported by Hydro-Chem recycling to H+H Environmental under the supervision of Riedel on February 12, 1993.

For more information regarding the source area investigation, see the *Report of the Source Area Primary Pathway Investigation at Keep on Trucking;* prepared by U&A for the Port, March 30, 1993.

Cannery Line, Secondary Pathway, and Upgradient Area Investigation

Additional investigations were performed by U&A to delineate contamination in the vicinity of the cannery line, main storm drain lines, and upgradient of the source area. The cannery line investigation included tracking the line with a cable probe. Because of blockages in the cannery line, this method only verified 35 feet of line. Riedel excavated the cannery line 100 feet west of the lateral loop to determine the condition of the line and the nature of the fill material. Water and soil samples collected by U&A from within the cannery line contained diesel which did not appear to match the fresh diesel originating from the KOT diesel dispenser system (see Appendix A, Figures A-3 and A-4, and Tables A-2 and A-3). Clayton's Laboratory Director compared the chromatograms and determined that these diesel range hydrocarbons did not match the fresh diesel extracted from the source area soils.

The secondary pathway investigation was conducted to ascertain whether diesel was migrating in permeable trenches surrounding the storm drain pipes (see Appendix A, Figure A-5). Soil and water samples were collected from four trenches excavated over the storm drain in different locations including at the end of the Ninth Avenue Terminal storm drain outfall (see Appendix A, Figure A-3 and A-4, and Tables A-2 and A-3). It was determined that backfill material surrounding the storm drain lines was not acting as a conduit for contaminant migrations. The backfill material surrounding the storm

drain was the same clay soil of the surrounding area. These clay soils have low permeability and would not act as a preferential pathway for the migration of diesel.

Soil borings were also collected around the KOT yard and Ninth Avenue Terminal to delineate possible contaminant migration (see Appendix A, Figure A-6, and Table A-4). Soil and water samples were collected by U&A personnel and analyzed by Clayton Analytical Laboratory, Pleasanton, California (Clayton). The results from the soil borings indicated that diesel fuel was not "pooling" on the groundwater surface beneath the Ninth Avenue Terminal.

The results of these analyses are included in the *Investigation of Diesel Spill at Keep on Trucking*; prepared by U&A for the Port, April 20, 1993.

4 Site Characteristics

Topography, Geology, Hydrogeology

The topography at the site is generally flat. Fill material consisting of angular gravel with sand and silt lenses exists from ground level to approximately 2 to 7 feet. In some areas, large planks of wood underlie the surface, suggesting that old piers were buried in place or used as fill material. Bay Mud underlies the fill. Groundwater occurs from 3 to 10 feet and in some portions of the investigation area is influenced by the Bay tides. The groundwater gradient is unknown, but is assumed to flow west toward the Clinton Basin or southwest toward the Inner Harbor. The Clinton Basin is a man-made inlet and therefore is not associated with a natural watershed.

Visible Preferential Pathways

The damaged underground fuel pipe associated with KOT's AST that was responsible for the leak was uncovered approximately two to three feet below the surface. Near the dispenser the piping was buried in a sand-filled trench. This sand contained large quantities of diesel when excavated by BATM on February 12, 1993. Sand and silt lenses observed by U&A in the fill at deeper levels could have acted as preferential pathways for diesel leaking from the pipe. In addition, BATM and Dillard, uncovered large planks of wood in various parts of the excavation at depths approximately one to three feet below the depth of the leaking underground pipe (Figure 3). These planks were apparently remnants of an old pier and acted as conduits for the lateral movement of the diesel contamination through the Bay Mud. Many of the planks led directly to the shattered portions of the storm drain.

Video footage of the storm drains discovered a section of broken pipe in the vicinity of the source area; excavations confirmed the breakage. Diesel entered the storm drain in these locations and flowed toward the outfall to the Oakland Inner Harbor, approximately 1,000 feet west beneath the Ninth Avenue Terminal. Bay currents pushed the floating product northward into the Clinton Basin where it was discovered by the USCG.

Investigations discovered that the cannery line had not acted as a pathway for contamination migration due to obstructions in the line. The possibility of permeable backfill material in the trenches around the exterior of the storm drain acting as a conduit for fluid migration was also disproved by U&A during subsequent investigations. The storm drain was backfilled with the same clay soils found throughout the area. These clay soils have low permeability and would not act as a preferential pathway for the migration of diesel. Soil borings completed by Great Sierra at the Ninth Avenue Terminal and KOT yard investigated other possible contamination routes, and provided further evidence that the storm drain acted as the sole conduit for diesel migration to the Bay. These investigations are described in detail in reports previously submitted to ACHCSA (see Section 3).

Proximity to Bodies of Water

The Lake Merritt outfall lies approximately 1,000 feet northwest of the KOT yard. Clinton Basin borders the site to the west. The Basin is used as a marina for small sailing vessels. The Inner Harbor of the Port of Oakland (Ninth Avenue Terminal) lies approximately 500 feet southwest of KOT. The Oakland Inner Harbor connects with the San Francisco Bay to the north and south (Figures 1 and 2).

Survey of Nearby Wells

Approximately 375 wells exist within a 1/4 mile radius of the site (Alameda County Public Works Agency). Most of these wells are to the north on the opposite side of the Lake Merritt outfall near downtown Oakland. Only eight wells exist in the same Section (T2S R4W, Section 1). One of these wells is a monitoring well installed by the Port on the opposite side of Clinton Basin at 280 6th Avenue. The remaining wells within the same Section are cathodic protection wells, geotechnical borings, and test wells.

5 Site Remediation Activities

Tank Removal

On April 27, 1993, U&A personnel supervised the removal of a UST located adjacent to the northeast corner of Building H-213 (see Figure 4). The removal, performed by Riedel Environmental, included the following tasks:

- excavating soils surrounding the tank,
- removing the associated piping from the tank,
- pumping the remaining fluid product from the tank,
- evacuating tank vapors and monitoring the tank conditions using the LEL/O_2 meter,
- cleaning the soils off the tank and examining its condition,
- loading the tank, pump dispenser and associated piping for transport.

Riedel personnel excavated approximately 10 cubic yards of soil, asphalt, wood, and other debris surrounding the source area and UST along the northeast corner of Building H-213 on April 27, 1993. The exposed tank was approximately eight feet long by four feet wide with a capacity of 1,000 gallons (Figure 8). A portion of the tank was positioned under two conduits (electrical and telephone) that ran from Building H-213 to the telephone pole in front of the KOT offices (Figure 4). Riedel personnel attached a chain to an eyelet of the tank, shifted the tank away from the conduits, and removed the remaining piping.

Petroleum Recycling Corporation (PRC) removed approximately 4 inches of residual product from the tank with a vacuum truck. When U&A initially discovered the UST (2/12/93), it was full of fresh diesel. The diesel was removed by vacuum truck under the supervision of Riedel. The diesel contained a substantial portion of the red dye added on December 29,1992. U&A determined that the diesel had flowed into the UST through an open bung located directly below the leak in the elbow of the fuel line. Copies of the manifests are included in Appendix B.

Riedel personnel poured approximately fifteen pounds of dry ice into the tank to displace any explosive vapors. After waiting approximately thirty minutes, Riedel personnel measured 3% LEL and 1.8% O_2 inside the tank with a LEL/O_2 meter. Riedel personnel re-attached the chain to the tank and hoisted it from the excavation using the backhoe. The tank was in excellent condition with no visible leaks.

The UST removal operations were witnessed by Dwight Langford of the Oakland Fire Department and Britt Johnson of the ACHCSA. Riedel personnel loaded the tank, pump, and associated piping securely on to the truck for transport by Riedel to Erickson, Incorporated. Following the tank removal, Riedel covered the excavated soil with visquine and installed a six-foot chain-link fence around the perimeter of the excavation.

Excavation

On April 28 through May 6, 1993, U&A personnel supervised soil excavation operations preformed by Dillard Environmental Services (Dillard). Figure 3 shows the location and extent of the excavation in relation to the former tank location and Building H-213. Using a backhoe with an 18-inch bucket, Dillard extended the excavation northward from the source area toward the storm drain. U&A personnel collected soil samples and an on-site mobile laboratory (Smith-Emery Company, Los Angeles, California) performed analyses during excavation activities.

Dillard excavated the source area to an approximate depth of ten feet. The southern wall of the excavation stopped at the foundation of Building H-213. Though a sidewall sample (EX2) collected from the southern wall contained 210 mg/kg diesel, the building foundation prevented further excavation southward.

Dillard uncovered two damaged areas in the terra-cotta pipe of the lateral loop (Figure 4). The damaged area to the north was severe; the pipe crumbled away as it was uncovered. Both damaged areas were completely uncovered and replaced by Dillard with new four-foot replacement sections of terra-cotta pipe secured with rubber couplings and concrete collars (Figure 7). Along the southeast wall of the excavation, the lateral loop was fully exposed. The excavation continued eastward at a four-foot depth for approximately three feet. Soil borings completed by Great Sierra under U&A supervision in November, 1992 defined the eastern limit of the excavation.

Dillard uncovered the intersection of the cannery line and lateral loop at a depth of seven feet. The excavation extended northward, and the cannery line was completely removed from the excavation area. The exposed end of the cannery line on the west side of the excavation was plugged by Dillard with red brick and mortar.

Throughout the excavation, Dillard exposed and removed planks of wood and concrete debris. The wood appeared to be part of a former pier or dock structure, and formed a flat surface approximately four feet below ground level. U&A observed Pockets of diesel wherever wood planks were removed. As the excavation was extended to the

northwest, fewer pieces of wood were uncovered, and no significant pockets of diesel were observed (Figure 3).

Dillard extended the excavation northward toward the storm drain. The northeast corner of the excavation exposed the intersection of the storm drain and lateral loop. The excavation proceeded northward over the storm drain for approximately four feet and eastward just over the lateral loop (Figure 4). The bell connection between two lateral loop sections in this area showed signs of leakage.

Dillard excavated a trench sixteen feet long and nine feet deep approximately 10 feet north of the main excavation (Figure 4) to confirm that the diesel plume had not migrated past the storm drain line or collected in the low area of the parking lot. Electrical and telephone conduits extending north from Building H-213 to the telephone pole in front the KOT offices remained intact throughout the excavation. The excavated soil was stockpiled on-site and covered with visquine. A total of 450 cubic yards of soil were excavated.

On May 4, 1993, Britt Johnson (ACHCSA) met on site with U&A personnel. Britt Johnson filled out a Hazardous Materials Inspection Form (Appendix C) and authorized no further excavation.

Sample Collection

On April 28 through May 5, 1993, U&A personnel collected 29 soil samples from the excavation. As samples were collected, the on-site mobile laboratory conducted diesel analysis using EPA method 8015 Modified. Each analysis required approximately 40 minutes to complete. The shape of the excavation was determined by the results of each sample analysis. One additional sample (EXC-4.5) was collected from soils adjacent to some of the buried wood debris and sent to Clayton for analysis for semi-volatile organic compounds (EPA Method 8270). The Port's bioremediation contractor will use the results to determine appropriate treatment procedures. Samples were collected in brass sleeves and sealed with Teflon tape and plastic caps. The samples were collected from the backhoe bucket. Clean gloves were used to collect each sample. Figure 4 shows the locations of all the samples collected.

When sample results were below the detection limit for diesel, the excavation was discontinued in that direction. U&A personnel ultimately defined the edges of the excavation with eight samples, EX6-8, EX7-3, EX20-6, EX21-6, EX22-6.5, EX28-6.5, EX29-

6.5, EX18-5, and the samples from borings B11 and B12, collected on December 17, 1992. Figure 5 shows the locations of the samples which defined the limit of the excavation.

Backfill Operations

Dillard backfilled the southern edge of the excavation with clean soil on April 29, 1993, to avoid damage to the foundation of the nearby Building H-213. On May 6, 1993, the remainder of the site was backfilled to within one foot of the surface. A geo-textile membrane was placed over the backfilled soils, and base rock was spread on top to ground level. Dillard covered the site with asphalt on May 27, 1993.

Soil Disposal and Site Clean-up

Approximately 450 cubic yards of soil were excavated and transported by Dillard to the Port's temporary bioremediation site at Langly and Doolittle, Oakland CA. Dillard also transported approximately 56 cubic yards of wood, concrete, and debris to the BFI landfill in Livermore, California.

During the investigation, liquid collecting in the excavation was pumped into a 21,000-gallon temporary storage tank on-site. On April 26, 1993, Erickson Incorporated removed 9,500 gallons of liquid from the temporary storage tank and transported it to the PRC facility in Patterson, California. The following day, April 27, 1993, Erickson removed an additional 2,000 gallons and transported it to the PRC facility. PRC removed an additional 1,040 gallons of fluid from the excavation pit, UST, and on-site temporary storage tank on April 27, 1993 (also delivered to PRC facility). The 1,000-gallon UST and dispenser unit was transported to Erickson Incorporated, Richmond, California by Riedel on April 27, 1993.

Hydro-Chem Services emptied and cleaned the on-site temporary storage tank on May 14, 1993, and delivered the liquid (2,500 gallons) to Gibson Recycling in Bakersfield. Rain for Rent removed their temporary storage tank on the same day.

The four yellow bins containing soils excavated during the storm drain and cannery line investigations were taken off-site on May 17, 1993, by Sturgeon, Richmond, California, and delivered to Forward Landfill, Stockton, California. U&A personnel collected one composite sample (SP-1) from these bins, and Clayton provided complete characterization analysis (TPH-diesel, Title 22 metals, corrosivity, ignitability, volatile organics, aquatic toxicity, and reactivity) before they were delivered to the landfill. Composite sample SP-2 was collected from soils stockpiled at the edge of Clinton Basin.

These soils were generated during spill response activities in November, 1992. These soils were taken to BFI Landfill in Livermore, California, by Dillard.

The seven 55-gallon drums containing soil cuttings from the borings and lateral loop sump were taken to the Port's temporary bioremediation site on May 21, 1993. The two drum liners containing diesel soaked pads were compacted into the three 55-gallon drums already on-site. These three drums are awaiting acceptance to Waste Management's Kettleman City Class I Disposal facility.

Riedel removed the packers from the storm drain on May 5, 1993. Dillard backfilled the cannery line investigation trench (100 feet west of the source area) with clean soil on April 29, 1993. Dillard covered this trench as well as the secondary pathway investigation trenches at the Ninth Avenue Terminal with asphalt on May 27, 1993 (Figure 2).

6 Results

Samples collected by U&A during the excavation and delineation of contaminated soils contained a maximum of 2,500 mg/kg TPH-diesel (Tables 1 and 2). All perimeter sidewall samples were below the detection limit except EX2 (210 mg/kg) on the southern border (Figure 5). The excavation to the south was terminated due to the foundation of Building H-213. Borings (B16 and B17) drilled through the floor of Building H-213 by Great Sierra during previous investigations contained a maximum of 260 mg/kg diesel (Figure 5).

The four samples in the west sidewall of the excavation (EX6, EX7, EX20, EX21) were each below the detection limit for diesel. The excavation extended over the storm drain to the north in order to remove the contamination detected by samples EX23 and EX18 (35 mg/kg and 90 mg/kg respectively). Samples collected at the northern edge of the excavation (EX28 and EX29) were below the detection limit for diesel. Samples collected from an additional trench dug north of the excavation (EX24, EX25, EX26, and EX27) were below the detection limit for diesel. Borings B11 and B12 on the southeastern edge of the excavation, drilled during the source investigation, were both below the detection limit for diesel. Table 1 lists the locations and dates of each sample collected. Table 2 contains the soil sample results.

Table 1: Summary of Soil Sample Locations

Sample Date	Sample Number	Sample Location
12/17/92	B11	7' east and 25' north of corner of building
12/17/92	B12	7' east and 10' north of corner of building
3/1/93	B17	Inside Building H-213
3/2/93	B16	Inside Building H-213
4/28/93	EX1-10	6' from corner of building (directly north)
4/28/93	EX2-7	5' north of building and 8' west of corner
4/28/93	EX3-5	10' north of building and 6' west of conduits
4/28/93	EX4-9	10' north of building and 6' west of conduits
4/29/93	EX5-2.5	10' north of building 25.5 from corner of building (west)
4/29/93	EX6-8	10' north of building and 3' west of EX5-2.5
4/29/93	EX7-3	10' north of building and 3' west of EX5-2.5
4/29/93	EX8-7	23' north of building and 10' from east side
4/29/93	EX9-5	at intersection of cannery line/storm drain
4/29/93	EX10-2	was taken next to conduit 6' north of building
4/29/93	EX11-9	was taken below conduit 6' north of building
4/29/93	EX12-4	18' north of building 5' out from east side
4/29/93	EX13-7	20' north of building, 10' west of conduits
4/29/93	EX14-2.5	20' north of building, 10' west of conduits
4/30/93	EX15-6.5	15' north of building and 11' west of conduits
4/30/93	EX16-5	27.5' north of building, 10'west of conduits
4/30/93	EX17-6	under conduit, 29' north of building
4/30/93	EX18-5	intersection of two storm drains
4/30/93	EX19-9	40' north of building 10' west of conduit
4/30/93	EXC-4.5	17' north of building 10' west of conduit
5/3/93	EX20-6	27.5' north of building west edge of excavation
5/3/93	EX21-6	northwest corner of excavation
5/3/93	EX22-6.5	8' east of EX21 in front of storm drain
5/3/93	EX23-6.5	8' east of EX22 in front of storm drain
5/3/93	EX24-5	east end of outer trench
5/3/93	EX25-5	east end of outer trench
5/3/93	EX26-5	west end of outer trench
5/3/93	EX27-8	west end of outer trench
5/5/93	EX28-6.5	5' north of storm drain, northwest corner
5/5/93	EX29-6.5	5' north of storm drain, east of conduit

Table 2: Summary of Soil Sample Results

Concentrations in mg/kg

Sample Number	Depth	TPH-Diesel
EX1	10	ND
EX2	7	210
EX3	5	NA
EX4	9	NA
EX5	2.5	NA
EX6	8	ND**
EX7	3	ND
EX8	7	ND
EX9	5	1,400
EX10	2	NA
EX11	9	NA
EX12	4	560
EX13	7	380
EX14	2.5	ND
EX15	6.5	2,500
EX16	5	680
EX17	6	610
EX18	5	90
EX19	9	ND
EX20	6	ND
EX21	6	ND
EX22	6.5	ND
EX23	6.5	35
EX24	5	ND
EX25	8	ND
EX26	5	ND
EX27	8	ND
EX28	6.5	ND
EX29	6.5	ND
B11	7.5	ND
B12	8.0	ND
B16	7.5	260
B17	9.5	35

ND = non detect

NA = not analyzed

Detection limit for diesel equals 20 mg/kg except ** which equals 40 mg/kg

In order to characterize the excavated soils for treatment at the Port's bioremediation site, one sample (EXC-4.5) collected from soils adjacent to some of the buried wood and debris was sent to Clayton to be analyzed for semi-volatile organic compounds using EPA Method 8270. The results of this analysis are provided in Table 4. An additional composite sample (SP-1) was collected from the most heavily contaminated portions of soils removed from beneath the diesel dispenser during the source area investigation in March, 1993. This sample was also sent to Clayton for analysis (TPH-diesel, Title 22 metals, corrosivity, ignitability, volatile organics, aquatic toxicity, and reactivity). Table 3 and 4 contain the analysis results.

Table 3: Summary of Characterization Analysis of Stockpiled Soils

EPA Method 8240
All constituents below the detection limit for sample SP-1. Sample SP-2 was not analyzed.

EPA Method 8020
All constituents below the detection limit for SP-2. Sample SP was not analyzed.

	SP		SP-2
EPA Method 6010			
Antimony	1	mg/kg	NA
Arsenic	6	mg/kg	NA
Barium	77	mg/kg	NA
Beryllium	0.2	mg/kg	NA
Cadmium	<0.5	mg/kg	NA
Chromium	30	mg/kg	NA
Cobalt	11	mg/kg	NA
Copper	38	mg/kg	NA
Lead	33	mg/kg	NA
Molybdenum	<1	mg/kg	NA
Nickel	40	mg/kg	NA
Selenium	<1	mg/kg	NA
Silver	<0.5	mg/kg	NA
Vanadium	38	mg/kg	NA
Zinc	370	mg/kg	NA
EPA Method 8015 modified			
Diesel mg/kg	36,000	mg/kg	1,100
Method SW 7.1.2			
Ignitability	NI		NI
EPA Method 9040			
pH	8.3		9.4
EPA Method 9010			
Reactive Cyanide mg/kg	<1	mg/kg	<1
Method SW 7.3.4.2			
Reactive Sulfide mg/kg	<10	mg/kg	<10
BioAssay			
	LC50>500	mg/L	NA

There were no mortalities observed in this test for SP-1.

NA = Not Analyzed
Complete Laboratory Data Sheets are included in Appendix D.

Notes:
SP was collected from soils beneath the diesel dispenser determined by field observations to be the most contaminated.
SP-2 was collected from soils stockpiled adjacent to the Clinton Basin.

Table 4: Summary of Characterization Analysis of Excavated Soils EPA Method 8270

Constituent	Sample EXC-4.5 (mg/kg)
Acenaphthene	0.6
Fluorene	1.1
2-Methyl naphthalene	8.5
Naphthalene	1.6
Phenanthrene	2.2
Pyrene	0.3

All other constituents measured in EPA Method 8270 were below the detection limit for sample EXC-4.5. Laboratory data sheets are included in Appendix D.

7 Summary and Discussion

Investigations conducted at the site between October, 1992 through May, 1993 determined the extent of the contamination to the north, east, and west of the leak in the former underground diesel dispenser piping. The extent of the contamination to the south of the source area was not determined. The diesel migration pathway from the source to the Bay was also determined during these investigations. Excavations completed from April 27 through May 6, 1993, removed 450 cubic yards of contaminated soil from the KOT facility.

The excavation continued to the west until samples were below the detection limit for diesel. Samples collected along the north of the excavation near the storm drain were also below the detection limit except for samples EX23 (35 mg/kg) and EX18 (90 mg/kg). These soils were removed on the final day of excavation (May 5, 1993) as the excavation was extended over the storm drain and lateral loop. Samples EX28 and EX29 collected from the sidewalls of the final excavation show that the contamination does not continue north of the storm drain.

Dillard personnel dug another separate trench approximately 15 feet north of the excavation. Samples collected from this trench contained no diesel above the detection limit. These results further confirmed that the diesel plume had not migrated past the storm drain line or collected in the low area of the parking lot.

At the southern edge of the excavation sample EX2 contained 210 mg/kg. However, due to its proximity to the foundation of Building H-213, this contamination was left in place. A soil sample collected from boring (B16) drilled on March 2, 1993 inside building H-213 approximately 15 feet from the north wall, contained a maximum of 260 mg/kg

diesel. In order to detect possible migration of diesel under the building, a monitoring well will be installed inside the building (Figure 6).

Borings B11 and B12 defined the eastern limit of excavation. After exposing the lateral loop, and repairing the damaged sections, the excavation continued eastward approximately four feet and was discontinued due to the results from borings B11 and B12. These borings, drilled in November 1992 during the search for the diesel source, were below the detection limit at depths up to eight feet.

Sample EX9 (1,400 mg/kg diesel) was collected on the eastern side of the excavation from soils directly beneath the cannery line approximately five feet below ground level. Subsequent to collecting sample EX9, the soil was excavated up to the concrete manhole foundation and the cannery line was removed (Figure 5). Sample EX8 collected from near the former location of the cannery line approximately seven feet below ground level was below the detection limit. Diesel contamination was observed in the cannery line for approximately 15 to 20 feet westward. Due to the mud and clay obstructing the cannery line, diesel did not travel westward for more than 20 feet, and EX20 confirmed that soils surrounding the line on the west side of the excavation were below the detection limit.

Wood planks found in the excavation below the leaking dispenser pipe provided a preferential pathway for diesel to follow. The shattered sections of the lateral loop were located directly off the eastern edge of the wood planks. Once in the storm drain, the diesel flowed directly to the Inner Harbor. The soil borings and excavations (see Appendix A, Previous Investigation results) determined that diesel contamination did not find a preferential pathway in the storm drain line backfill material.

Also contributing to the migration of diesel into the storm drain was the influence of tidal flow in the storm drain lines. At high tide, the storm drains filled with water. As a result, cracks in the pipe near the source area allowed the standing water to seep into the soils and help mobilize the diesel. As the tide ebbed, the water receded, taking diesel from the surrounding soils with it.

The extent of diesel contamination in the groundwater is unknown. The monitoring wells to be installed at the site will determine the impact of the spill to local groundwater.

8 Conclusions

- The diesel discovered in the Clinton Basin and in the storm drains at the Ninth Avenue Terminal has been effectively cleaned up.

- The investigations determined the sole source of the diesel spill to be KOT's AST diesel dispenser system.

- The storm drain line was determined to be the primary pathway for diesel migration to the Bay.

- Spilled diesel migrated from the source of the leak to shattered sections of the terra cotta storm drain line. Migration occurred along conduits provided by wood debris in the clay and backfill material between the leaking diesel dispenser line and the storm drain line. Tidal flow in the storm drain lines contributed to the mobilization of the spilled diesel.

- The cannery line was blocked by mud and clay and determined not to be a pathway for diesel migration to the Bay.

- The backfill material around the cannery line and storm drain line was determined to be low permeability clay material and did not serve as a conduit for contaminant migration.

- Diesel-contaminated soils in the vicinity of the leaking diesel fuel dispenser line were removed and transported to the Port's bioremediation site. Britt Johnson of ACHCSA concluded that no further excavation is required.

- The UST discovered during the initial site investigation activities was removed and determined not to be a source of the diesel contamination.

9 Recommendations

- Install four groundwater monitoring wells (Figure 6) and determine site specific gradient and flow direction.
- Collect four quarters of groundwater samples and analyze for total petroleum hydrocarbons as diesel (EPA Method 8015 modified).
- Conduct periodic visual inspections of the Clinton Basin and storm drain sumps on Ninth Avenue Terminal.

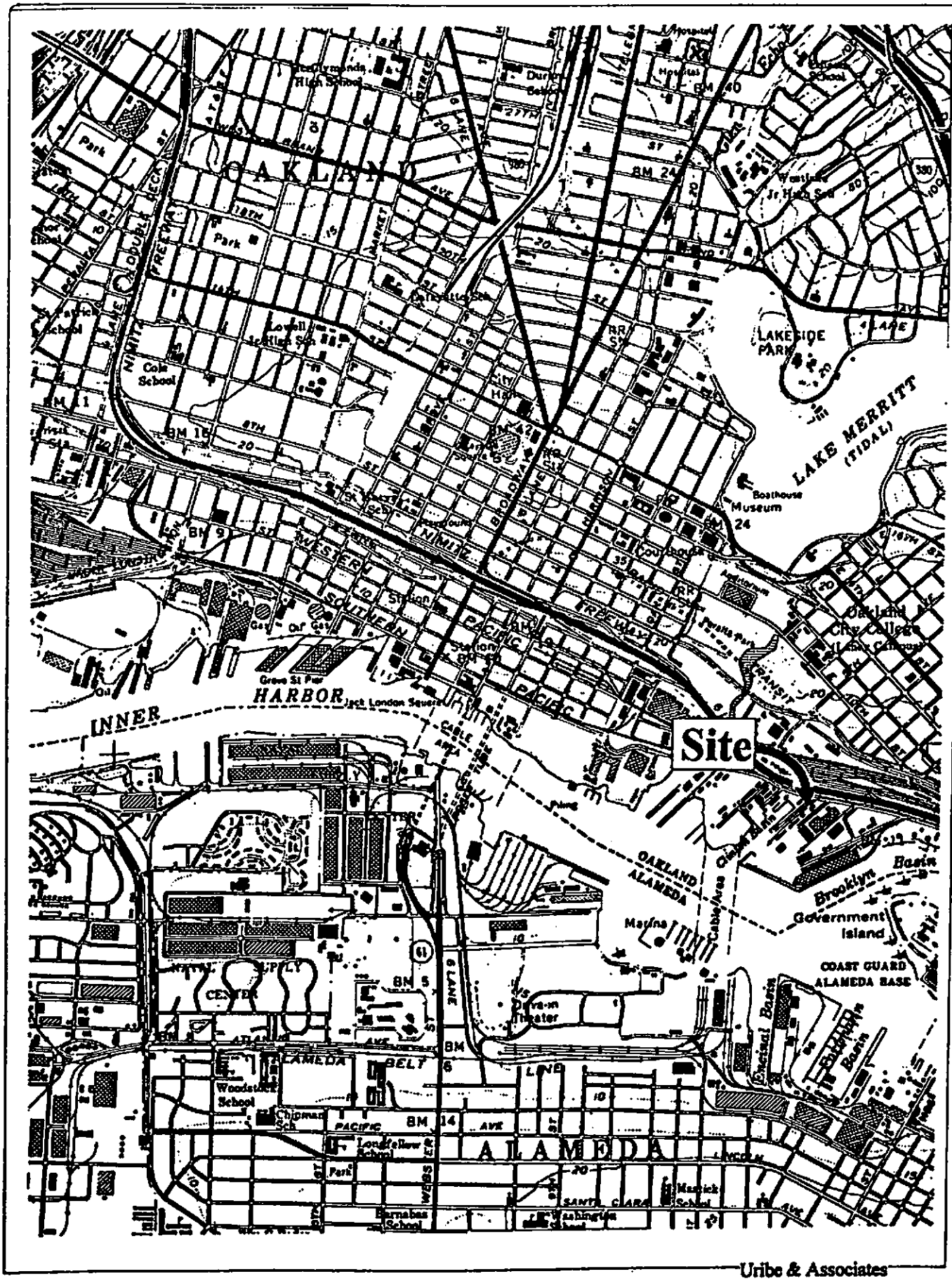


Figure 1: Site Location Map

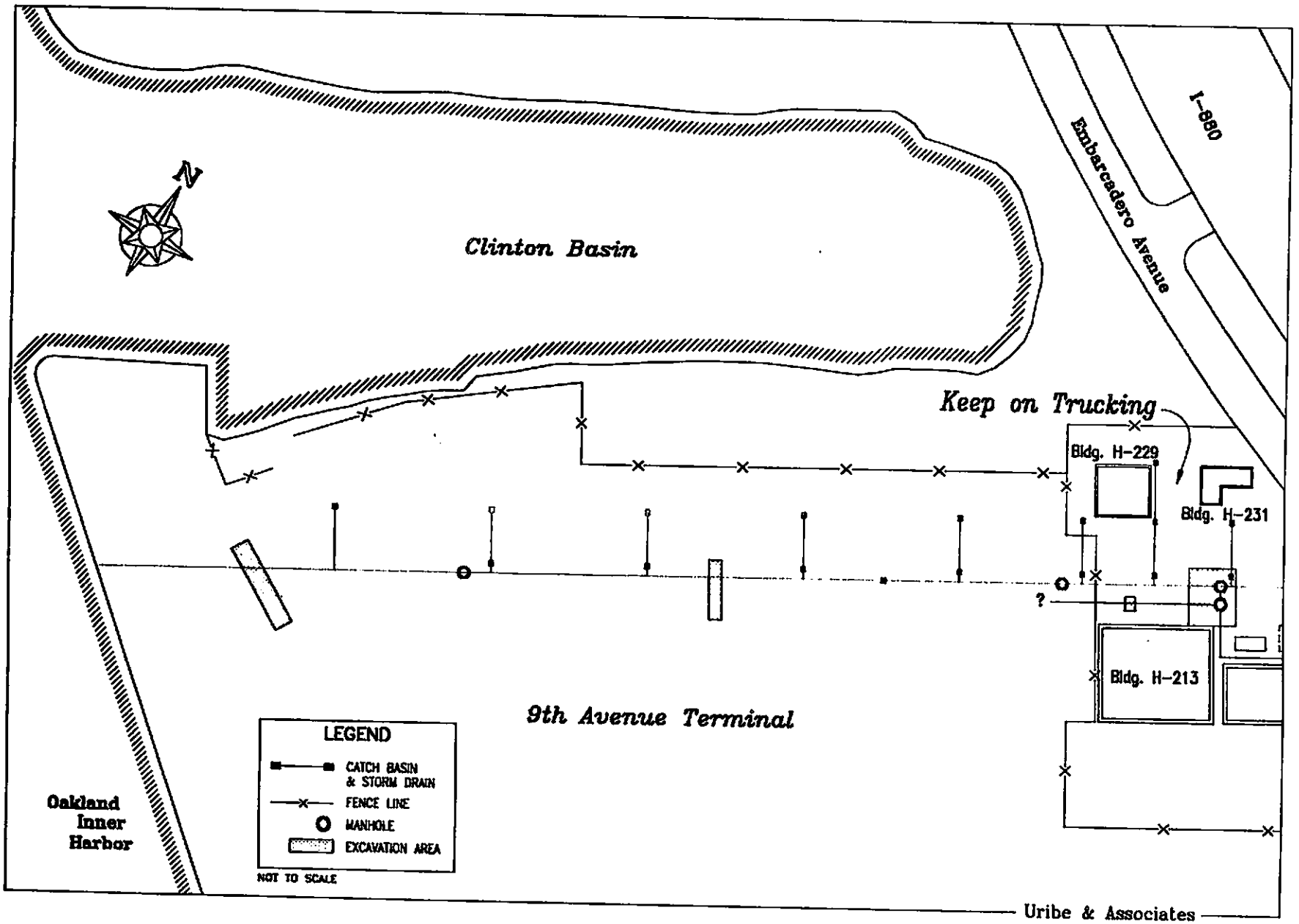


Figure 2: Map of Ninth Avenue Terminal and Keep on Trucking Site

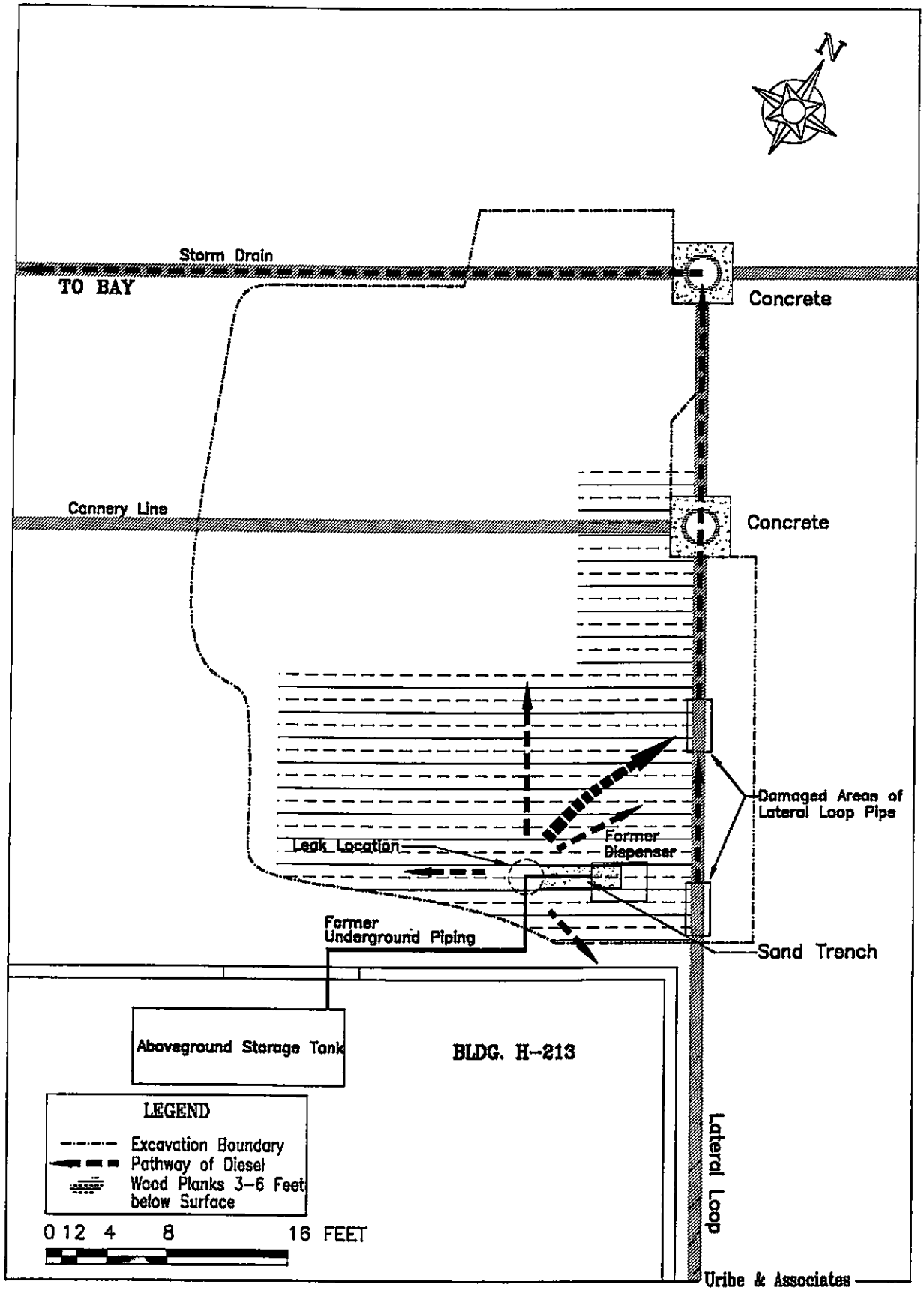


Figure 3: Preferential Pathway of Spilled Diesel

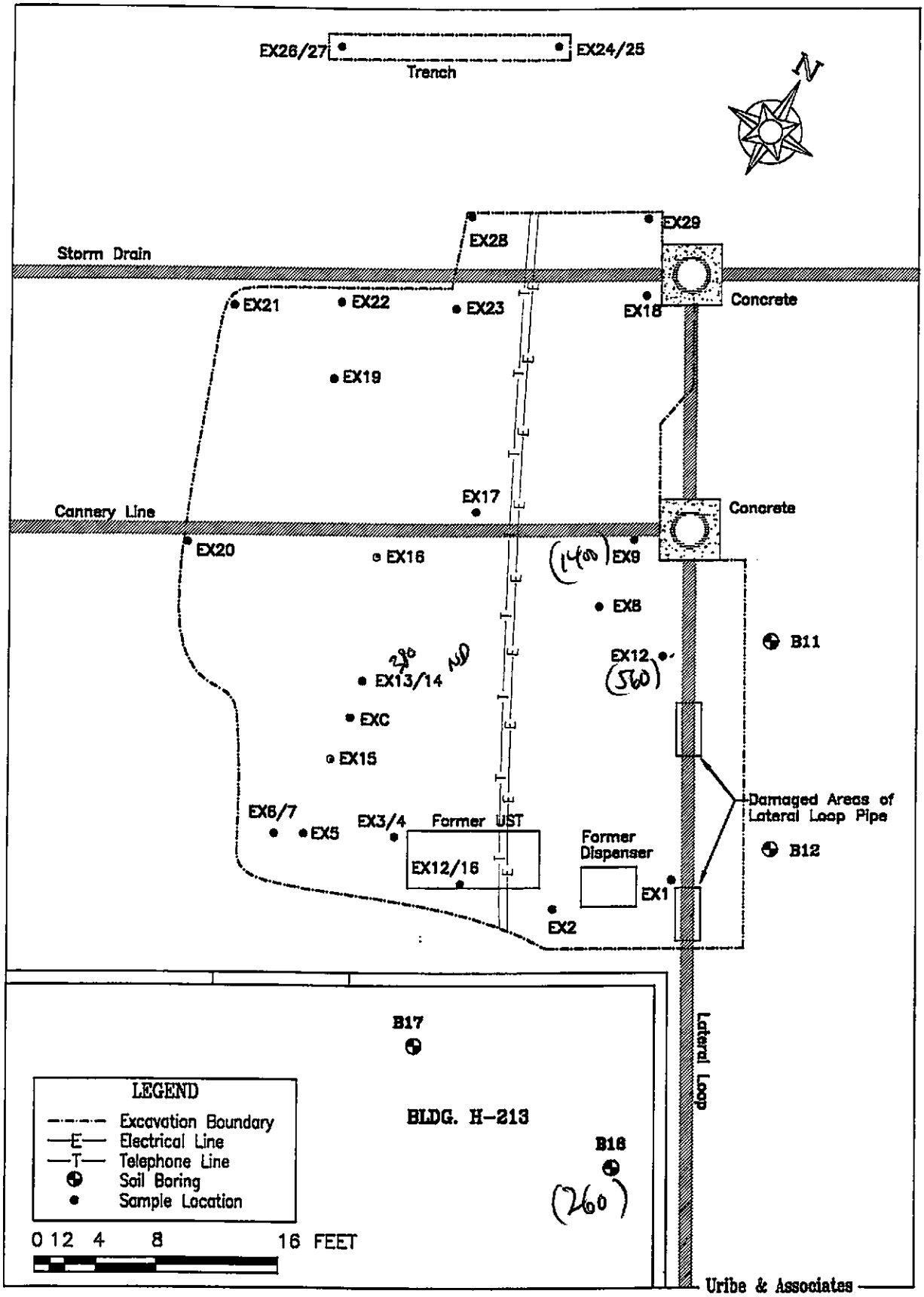


Figure 4: Locations of Soil Samples Collected from Excavation

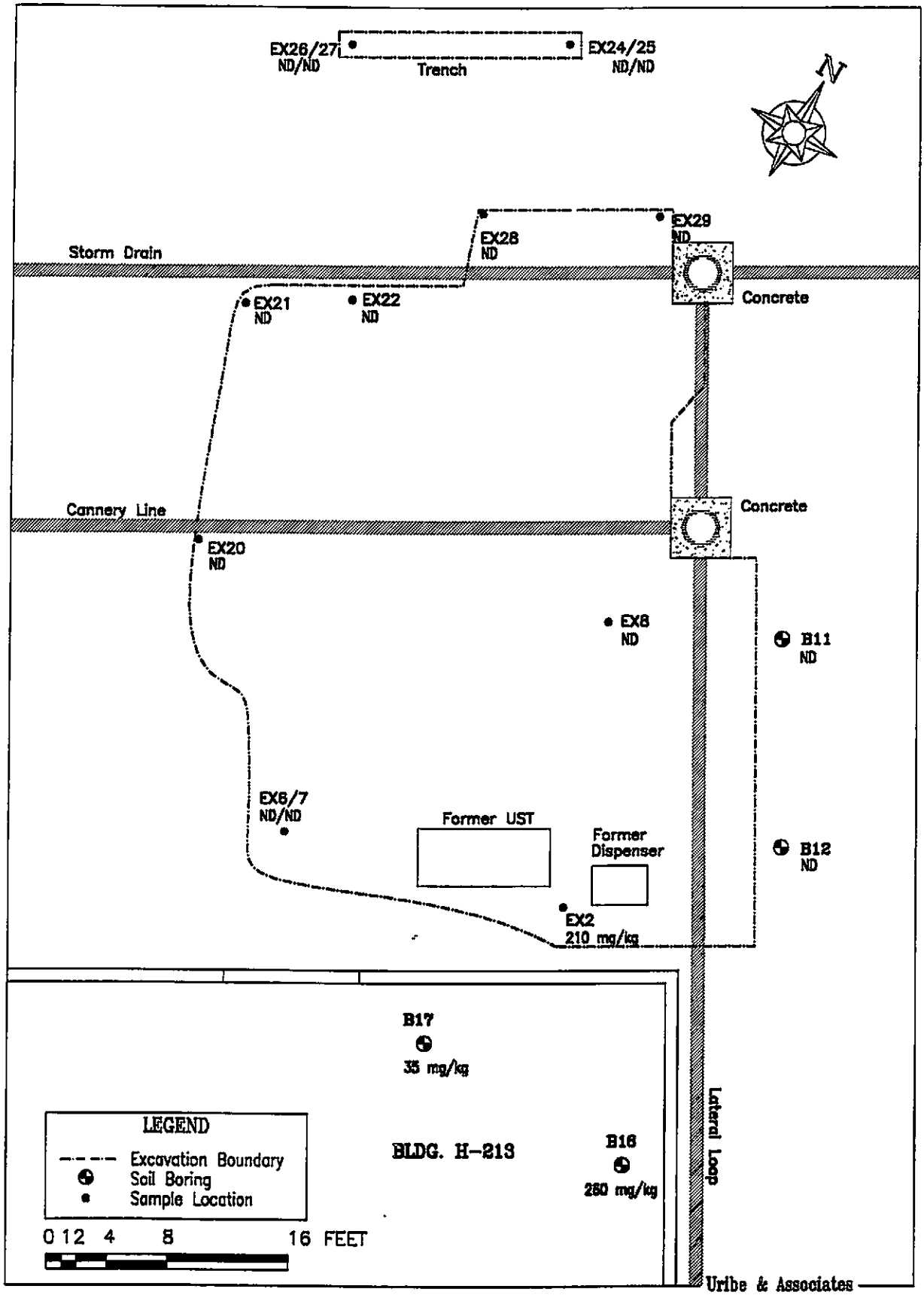


Figure 5: Locations of Soil Samples around the Perimeter of the Excavation Showing Diesel Analysis Results

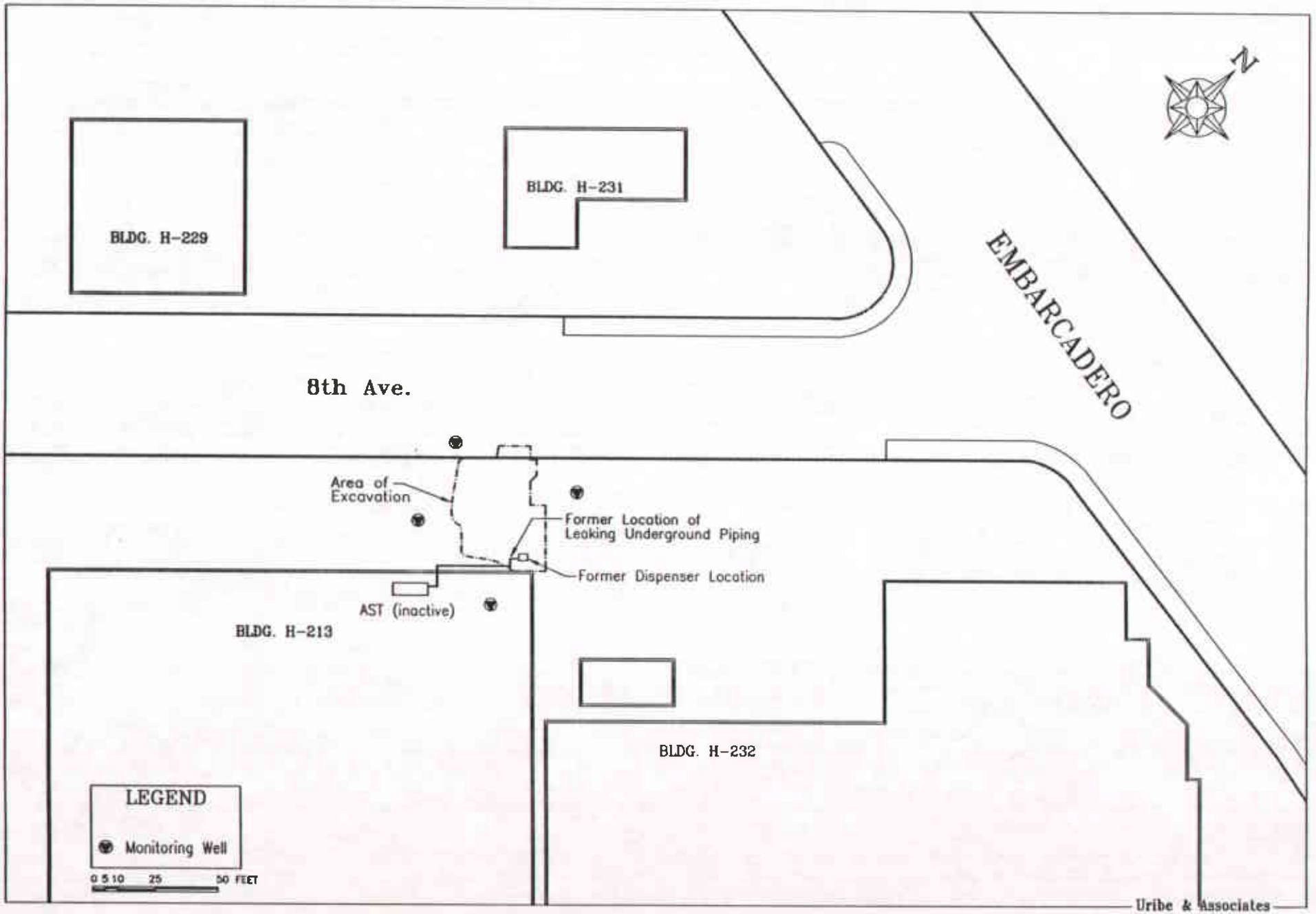


Figure 6: Site Plan Showing Proposed Monitoring Well Locations

Photograph Showing Damaged Section of Lateral Loop Prepared for Repair

Figure 7: Photograph Showing Repaired Lateral Loop Section

Figure 8: Photographs Showing the Removed Underground Storage Tank

Photograph Showing West Wall of Excavation, Electical and Telephone Conduit Spanning the Pit, and Stockpiled Soil

Figure 9: Photograph Looking East at Backfilled Excavation Before Final Baserock and Asphalt are Applied

Appendix A

Previous Investigation Results

The following figures and tables are compiled from previous reports prepared by U&A for the Port of Oakland. They are included here to provide easy reference of sample locations and results. Section 3 of this report references each figure and table as needed. For more detailed information see the following reports:

Source Investigation Summary and Workplan to Delineate Soil and Groundwater Contamination; prepared by U&A for the Port, January 20, 1993.

Report of the Source Area Primary Pathway Investigation at Keep on Trucking; prepared by U&A for the Port, March 30, 1993.

Investigation of Diesel Spill at Keep on Trucking; prepared by U&A for the Port on April 20, 1993.

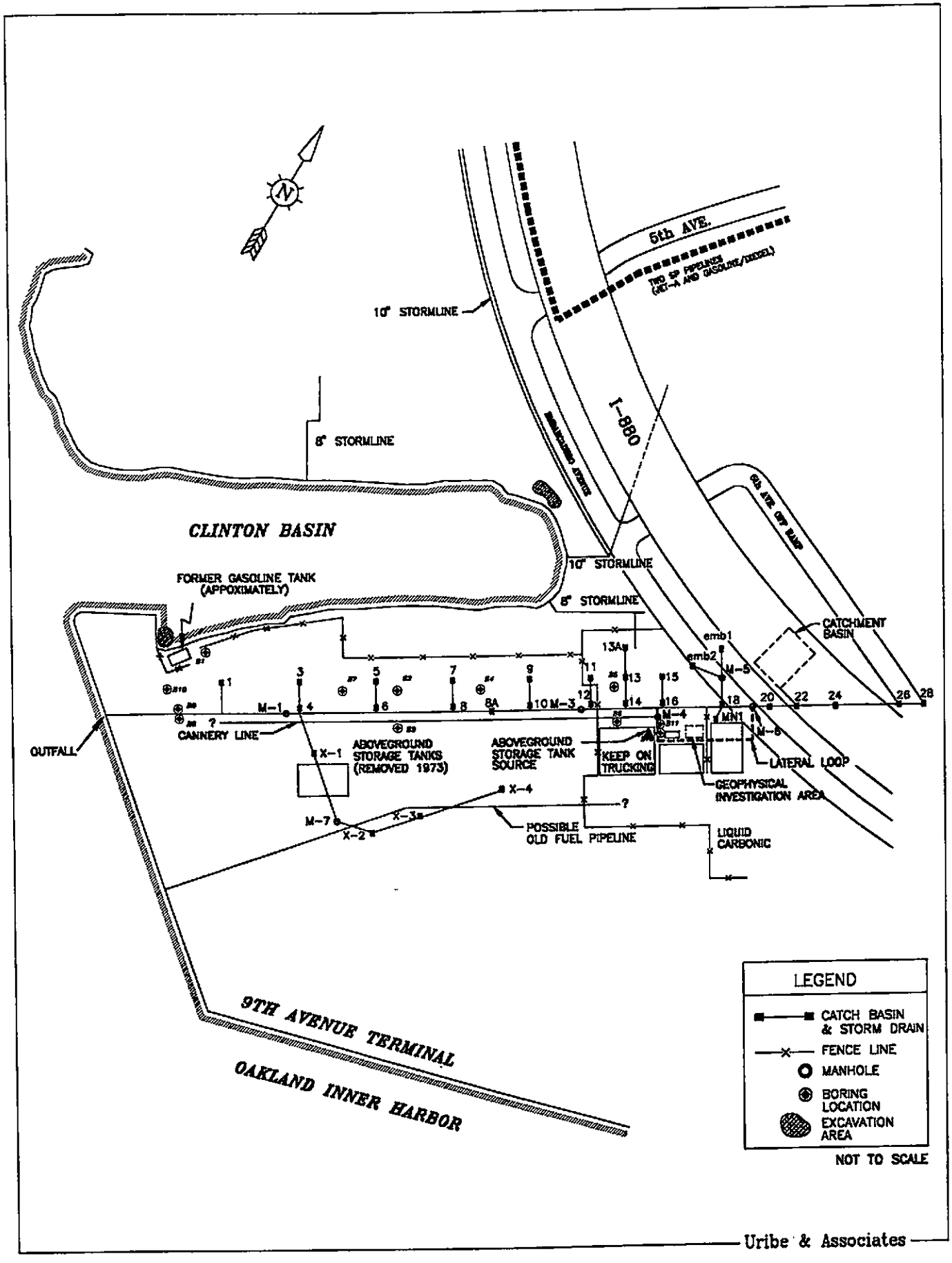


Figure A-1: Detailed Map of Project Area

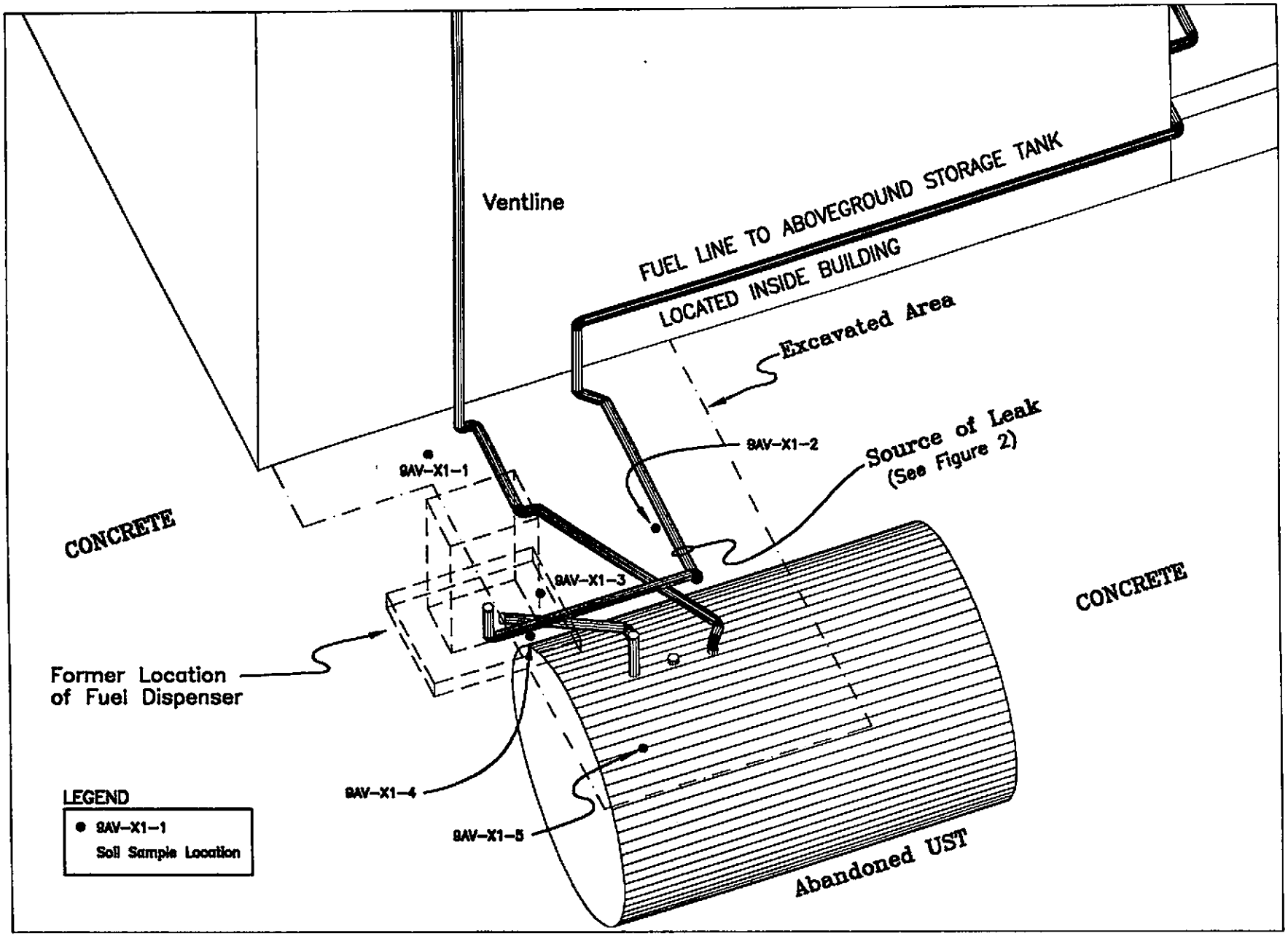


Figure A-2: Extent of Excavation and Sample Locations

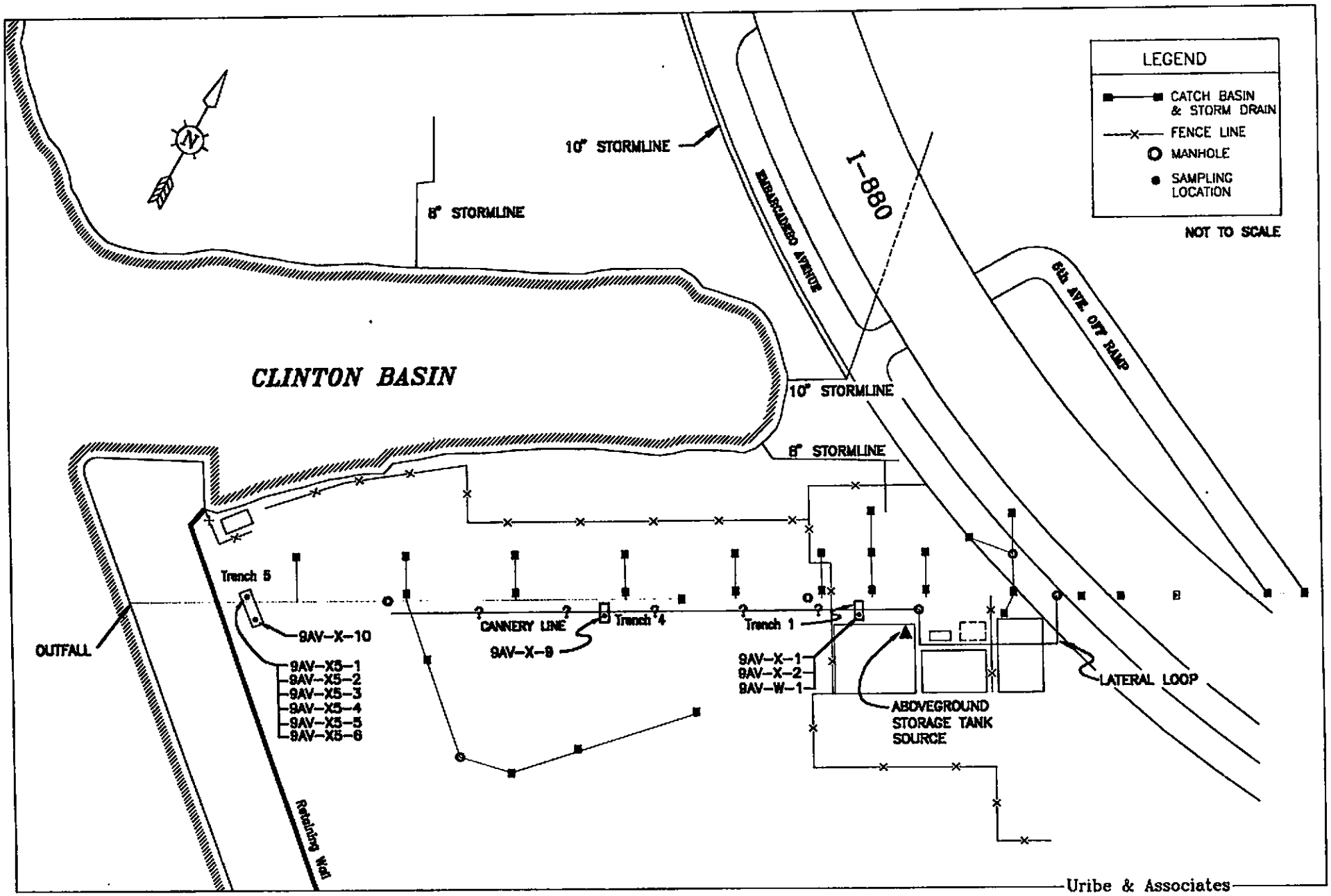


Figure A-3: Cannery Line Investigation Trenches and Sample Locations

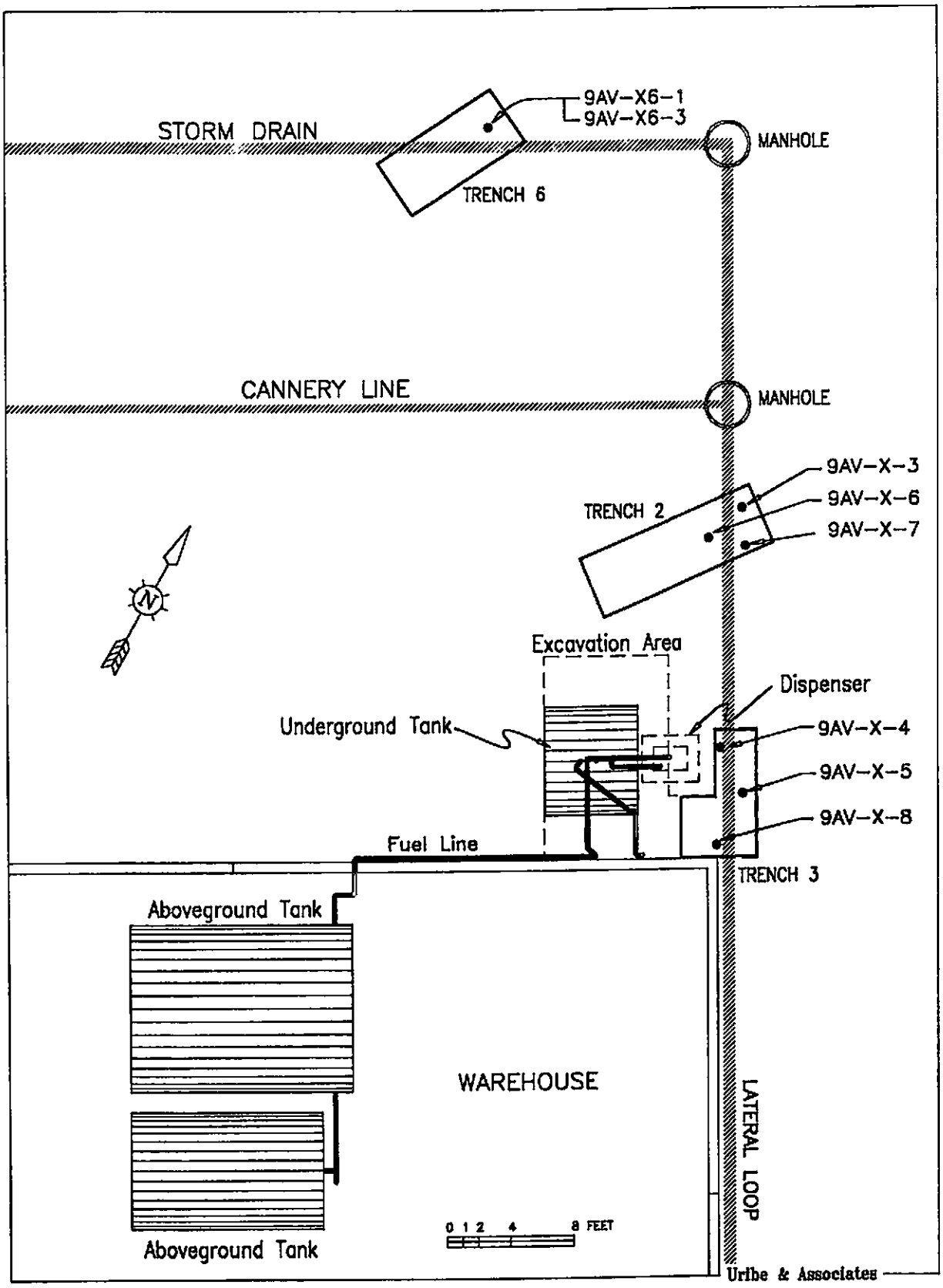


Figure A-4: Source Area Trenches and Sample Locations

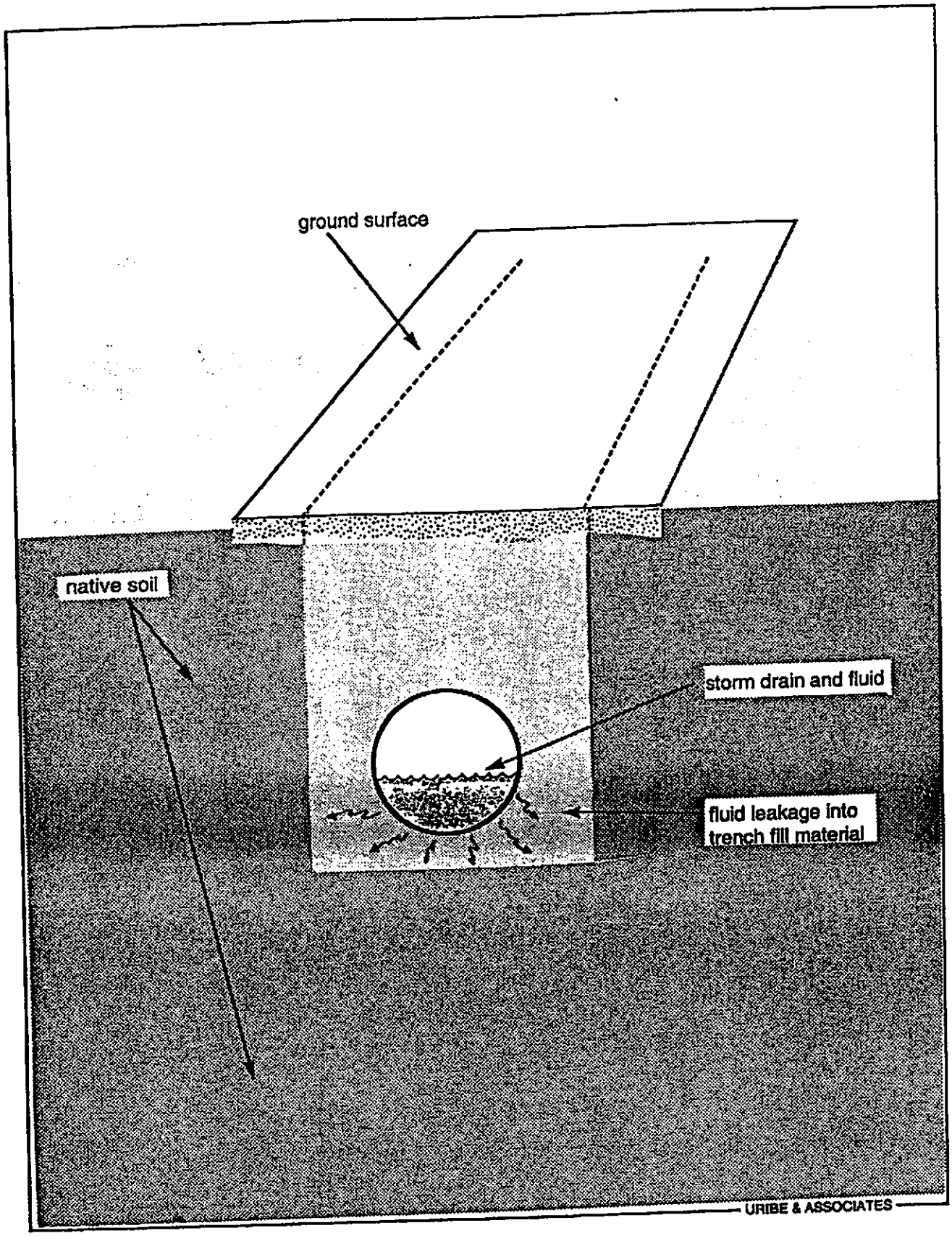


Figure A-5: Schematic of Possible Diesel Transportaion in Trench

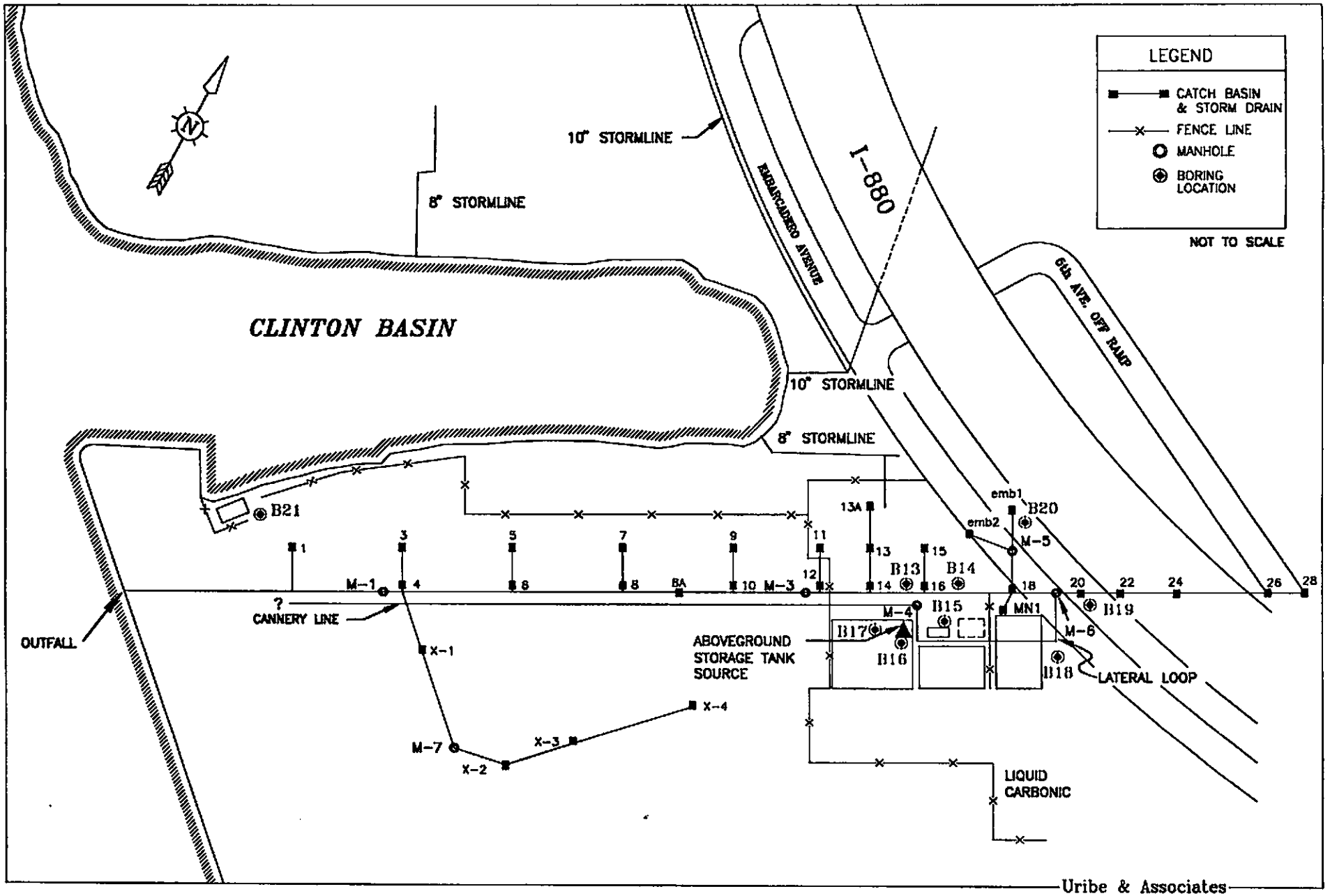


Figure A-6: Boring Locations for Source Area & Upgrandient Area

TABLE A-1

Summary of Results for Samples
Collected on 2/12/93
(Concentrations in mg/kg)

Sample Id.	Diesel	Benzene	Toluene	Ethylbenzene	o-Xylene	p,m-Xylene
Soil						
9AV-X1-1	36,000	2.0	12	4.4	6.2	13
9AV-X1-2	3,800	0.78	5.7	1.6	4.9	9.8
9AV-X1-3	600	0.93	8.8	3.1	8.9	18
9AV-X1-4	130,000	9.8	81	30	44	85
9AV-X1-5	48,000	1.8	14	4.4	7.0	13
Liquid						
9AV-UST-2	1,000,000	NA	NA	NA	NA	NA

Sample 9AV-UST-2 was also tested for salinity (EPA 120.1). The results were <1 practical salinity scale (pss).

NA = Not Analyzed

TABLE A-2

Summary of Water Sample Analyses from Cannery Line Investigation, Secondary Pathway Investigation, and Soil Borings

Sample Id.	Diesel (mg/L)	Benzene	Toluene	Ethylbenzene	o-Xylene	p,m-Xylene	Total BTEX
		(BTEX concentrations in ug/L)					
Cannery Line Investigation							
9AV-W-1	2.20	1.2	1.9	1.1	2.3	2.6	9.1
9AV-W-2	NA	1.80	2.50	1.70	4.00	4.80	14.8
Secondary Pathway Investigation							
9AV-X5-3	NA	ND	ND	ND	ND	ND	ND
9AV-X5-4	NA	ND	ND	ND	ND	ND	ND
9AV-X5-5	57	NA	NA	NA	NA	NA	ND
Soil Borings							
9AV-B13	2,000	300	400	ND	ND	400	1,100
9AV-B14	0.94	ND	0.40	ND	ND	ND	0.40
9AV-B15	2.90	ND	ND	ND	ND	ND	ND
9AV-B16	310	ND	ND	ND	ND	ND	ND
9AV-B17	59	2.00	ND	ND	ND	ND	2.00
9AV-B18	0.59	ND	ND	ND	ND	ND	ND

ND = none detected

NA = not analyzed

TABLE A-3

Summary of Soil Sample Analysis
for Cannery Line and Secondary Pathway Investigations
(Concentration in mg/kg)

Sample Id.	Diesel	Benzene	Toluene	Ethylbenzene	o-Xylene	p,m-Xylene	Total BTEX
Cannery Line Investigation							
9AV-X1-1	1,000*	ND	ND	ND	ND	ND	ND
9AV-X1-2	890*	ND	ND	ND	ND	ND	ND
9AV-X-9	18	ND	0.007	ND	ND	ND	0.007
9AV-X-10	ND	0.033	0.010	ND	ND	0.007	0.050
Secondary Pathway Investigation							
9AV-X-3	7,100	0.063	0.36	0.30	0.43	0.81	1.963
9AV-X-4	9,500	0.49	4.50	2.20	3.50	6.10	16.79
9AV-X-5	3,800	0.15	0.66	0.45	0.78	0.92	2.96
9AV-X-6	7,600	0.10	0.69	0.42	0.68	1.30	3.19
9AV-X-7	26,000	0.33	1.60	1.10	1.80	2.80	7.63
9AV-X-8	100,000	4.80	42.00	16.00	23.00	45.00	130.8
9AV-X5-1	1,800	0.006	ND	0.007	0.006	0.012	0.031
9AV-X5-2	280*	0.018	0.006	ND	ND	ND	0.024
9AV-X5-6	440*	0.010	0.006	ND	ND	ND	0.016
9AV-X6-1	50,000	2.0	9.6	4.2	0.84	12	28.64
9AV-X6-3	22,000	0.43	1.5	0.83	0.19	2.0	4.95

ND = none detected

* Total hydrocarbons reported includes hydrocarbons within diesel range and other unresolved heavier hydrocarbons.

TABLE A-4

Summary of Soil Sample Analysis from Soil Borings
(Concentration in mg/kg)

Sample Id.	Diesel	Benzene	Toluene	Ethylbenzene	o-Xylene	p,m-Xylene	Total BTEX
Source Area							
9AV-B13-1-4.0	2	0.006	0.009	ND	ND	0.006	0.021
9AV-B13-2-7.5	81	ND	0.008	0.006	0.014	0.023	0.051
9AV-B14-1-3.5	ND	ND	ND	ND	ND	ND	ND
9AV-B14-2-6.5	ND	ND	ND	ND	ND	ND	ND
9AV-B14-3-9.5	ND	ND	ND	ND	ND	ND	ND
9AV-B15-1-2.5	ND	ND	ND	ND	ND	ND	ND
9AV-B15-2-5.0	ND	ND	ND	ND	ND	ND	ND
9AV-B15-3-9.5	39*	ND	ND	ND	ND	ND	ND
9AV-B16-1-3.5	ND	ND	ND	ND	ND	ND	ND
9AV-B16-2-7.0	92	ND	ND	ND	ND	ND	ND
9AV-B16-3-7.5	260	ND	ND	0.03	0.03	ND	0.06
9AV-B16-4-9.5	49*	ND	ND	ND	ND	ND	ND
9AV-B17-1-3.5	ND	ND	ND	ND	ND	ND	ND
9AV-B17-2-7.0	20*	ND	ND	ND	ND	ND	ND
9AV-B17-3-9.5	35*	ND	ND	ND	ND	ND	ND
Upgradient							
9AV-B18-1-6.5	ND	ND	ND	ND	ND	ND	ND
9AV-B18-2-9.5	34*	ND	ND	ND	ND	ND	ND
9AV-B19-1-4.0	350*	ND	ND	0.006	ND	ND	0.006
9AV-B19-2-7.0	19	ND	ND	ND	ND	ND	ND
9AV-B19-3-9.5	60	ND	ND	ND	ND	ND	ND
9AV-B20-1-3.5	28*	ND	ND	ND	ND	ND	ND
9AV-B20-2-6.5	55*	ND	ND	ND	ND	ND	ND
9AV-B20-3-9.5	41*	ND	ND	ND	ND	ND	ND
Down-Gradient							
9AV-B21-1-3.5	ND	ND	ND	ND	ND	ND	ND
9AV-B21-2-6.5	ND	ND	ND	ND	ND	ND	ND
9AV-B21-3-9.5	ND	ND	ND	ND	ND	ND	ND

ND = none detected

NA = not analyzed

* Total hydrocarbons reported includes hydrocarbons within diesel range and other unresolved heavier hydrocarbons.

All Chemical Disposal Inc.
941 Berryessa Road, Suite D
San Jose, CA 95133
(408)453-1660

Personnel:
Gary Lundstedt

Activity:
Collected soil drums and contaminated sorbent pads from the site.

Bay Area Tank and Marine
4851 Sunrise Drive, Suite 104
Martinez, CA 94553
(510)372-4270

Personnel:
Don Mills
Lee Davis
Richard Box
Aaron Grijalva

Activity:
Excavation Services.

Clayton Environmental
1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510)426-2625

Personnel:
Ron Peters
Mike Lynch

Activity:
Preformed laboratory analysis.

Dillard Environmental Services
P.O. Box 218
Byron, CA 94514
(510)634-6850

Personnel:
Dan Heath
Ron Debasilio
Stacy Pereira

Activity:
Excavated and transported soils, backfilled and paved excavation.

Great Sierra Exploration
30722 Dyer Road
Union City, CA 94587
(510)429-9733

Tom Schmidt
John Tilden

Activity:
Operate drilling rig.

J R Associates
1886 Emory Street
San Jose, CA 95126
(408)293-7390

Personnel:
James Rezowalli
Tom Barry

Activity:
Conducted geophysical survey.

Rescue Rooter

P.O. Box 3098
Hayward, CA 94541
(510)784-6115

Activity:
Cleaned storm drains.

Riedel Environmental Services
4138 Lakeside Drive
Richmond, CA 94806(510)222-7810

Personnel:
Lestelle Garrison
Kevin Poeltl
Don Watts

Activity:
Conducted emergency clean-up, source investigation, removed the underground storage tank, coordinated removal of contaminated fluids, and preformed site management.

Subtronic Corporation
4070 Nelson Avenue, Suite G
Concord, CA 94520
(415)686-3747

Personnel:
Dwight Gruber
Timothy Matutat

Activity:
Conducted storm drain surveys.

Smith-Emery Laboratories
751 East Washington Boulevard
Los Angeles, CA 90021
(213)749-3411

Personnel:
Rick Parlier

Activity:
Preformed laboratory analysis (mobile lab).

Appendix C

Permits and Manifests

white -env.health
yellow -facility
pink -files

ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH

Hazardous Materials Inspection Form

80 Swan Way, #200
Oakland, CA 94621
(415) 271-4320

II, III

Site ID # 3735 Site Name PORT OF OAKLAND Today's Date 4/27/93

Site Address 370 8TH AVE

City OAKLAND Zip 94606 Phone _____

___ MAX AMT stored > 500 lbs. 55 gal., 200 cft.?

Inspection Categories:
___ I. Haz. Mat/Waste GENERATOR/TRANSPORTER
___ II. Business Plans, Acute Hazardous Materials
X III. Underground Tanks
REMOVAL

* Calif. Administration Code (CAC) or the Health & Safety Code (HS&C)

Comments: REMOVAL OF 500 GALLON UST - STEEL

AREA IS CONTAMINATED WITH DIESEL FROM PIPELINE OF AN ABOVEGROUND TANK

NO SOIL SAMPLES COLLECTED DUE TO CONTAMINATION

JOHN AMOUR OF PORT OF OAKLAND PRESENT

INSP LANFORD OFD

O_2 < 10% LEL 3% (1.8%)

NO VISABLE HOLES

II, III

II.A BUSINESS PLANS (Title 19)

___	1. Immediate Reporting	2703
___	2. Bus. Plan Stds.	25503(b)
___	3. RR Cars > 30 days	25503.7
___	4. Inventory Information	25504(a)
___	5. Inventory Complete	2730
___	6. Emergency Response	25504(b)
___	7. Training	25504(c)
___	8. Deficiency	25505(a)
___	9. Modification	25505(b)

II.B ACUTELY HAZ. MATLS

___	10. Registration Form Filed	25533(a)
___	11. Form Complete	25533(b)
___	12. RMPP Contents	25534(c)
___	13. Implement Sch. Req'd? (Y/N)	___
___	14. OffSite Consequ. Assess.	25524(c)
___	15. Probable Risk Assessment	25534(d)
___	16. Persons Responsible	25534(g)
___	17. Certification	25534(f)
___	18. Exemption Request? (Y/N)	25536(b)
___	19. Trade Secret Requested?	25538

III. UNDERGROUND TANKS (Title 23)

General

___	1. Permit Application	25284 (H&S)
___	2. Pipeline Leak Detection	25292 (H&S)
___	3. Records Maintenance	2712
___	4. Release Report	2651
___	5. Closure Plans	2670

Monitoring for Existing Tanks

___ 6. Method
1) Monthly test
2) Daily Vadose
Semi-annual gndwater
One time soils
3) Daily Vadose
One time soils
Annual tank test
4) Monthly Gndwater
One time soils
5) Daily Inventory
Annual tank testing
Cont pipe leak det
Vadose/gndwater mon.
6) Daily Inventory
Annual tank testing
Cont pipe leak det
7) Weekly Tank Gauge
Annual tank teting
8) Annual Tank Testing
Daily Inventory
9) Other _____

___	7. Precis Tank Test Date: _____	2643
___	8. Inventory Rec.	2644
___	9. Soil Testing.	2646
___	10. Ground Water.	2647

New Tanks

___	11. Monitor Plan	2632
___	12. Access. Secure	2634
___	13. Plans Submit Date: _____	2711
___	14. As Built Date: _____	2635

Rev 6/88

Contact: Don Watts

Title: OPERATIONS MGR

Signature: D Watts

Inspector: BRETT JOHNSON

Signature: BJ

white -env.health
yellow -facility
pink -files

ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH

80 Swan Way, #200
Oakland, CA 94621
(415) 271-4320

Hazardous Materials Inspection Form

II,III

Site ID # ____ Site Name POLT OF OAKLAND Today's Date 5/4/97

Site Address KOT SITE

City OAKLAND Zip 94 Phone ____

____ MAX AMT stored > 500 lbs, 55 gal., 200 cft.?

Inspection Categories:

____ I. Haz. Mat/Waste GENERATOR/TRANSPORTER
____ II. Business Plans, Acute Hazardous Materials
____ III. Underground Tanks

SITE MITIGATION

* Calif. Administration Code (CAC) or the Health & Safety Code (HS&C)

II.A BUSINESS PLANS (Title 19)

___	1. Immediate Reporting	2703
___	2. Bus. Plan Stds.	25503(b)
___	3. RR Cars > 30 days	25503.7
___	4. Inventory Information	25504(a)
___	5. Inventory Complete	2730
___	6. Emergency Response	25504(b)
___	7. Training	25504(c)
___	8. Deficiency	25505(a)
___	9. Modification	25505(b)

II.B ACUTELY HAZ. MATLS

___	10. Registration Form Filed	25533(a)
___	11. Form Complete	25533(b)
___	12. RMPP Contents	25534(c)
___	13. Implement Sch. Req'd? (Y/N)	___
___	14. Offsite Conseq. Assess.	25524(c)
___	15. Probable Risk Assessment	25534(d)
___	16. Persons Responsible	25534(g)
___	17. Certification	25534(f)
___	18. Exemption Request? (Y/N)	25536(b)
___	19. Trade Secret Requested?	25538

III. UNDERGROUND TANKS (Title 23)

General

___	1. Permit Application	25284 (H&S)
___	2. Pipeline Leak Detection	25292 (H&S)
___	3. Records Maintenance	2712
___	4. Release Report	2651
___	5. Closure Plans	2670

Monitoring for Existing Tanks

___ 6. Method
1) Monthly Test
2) Daily Vadose
Semi-annual gndwater
One time soils
3) Daily Vadose
One time soils
Annual tank test
Monthly Gndw
One time soils
5) Daily Inventory
Annual tank testing
Cont pipe leak det
Vadose/gndwater mon.
6) Daily Inventory
Annual tank testing
Cont pipe leak det
7) Weekly Tank Gauge
Annual tank testing
8) Annual Tank Testing
Daily Inventory
9) Other ____

___	7. Precis Tank Test Date: ____	2643
___	8. Inventory Rec.	2644
___	9. Soil Testing	2646
___	10. Ground Water	2647

New Tanks

___	11. Monitor Plan	2632
___	12. Access. Secure	2634
___	13. Plans Submit Date: ____	2711
___	14. As Built Date: ____	2635

Rev 6/88

Comments:

ON SITE VISIT TO VIEW SOIL EXCAVATION IN AREA OF PIPE LINE LEAK

ALSO PRESENT ANDREW CLARK-CLAUGH OF URIBE ASSOC. AND [illegible]

SOIL HAS BEEN EXCAVATED TO ND EXCEPT AT EX23 (6.5') WHICH IS 35 mg/kg

CONTAMINATION REMAINS UNDER BUILDING - PORT TO PROVIDE WORKPLAN FOR INSTALLATION OF MONITORING WELLS

SOIL IS ND AT TRENCH FOR STORM DRAIN AREA WHICH WAS PATHWAY OF DIESEL TO BAY

II, III

Contact: ____
Title: ____
Signature: ____

Inspector: BRETT JOHNSON
Signature: BJ

Page 2 of 2

white -env.health
yellow -facility
pink -files

ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH

Hazardous Materials Inspection Form

80 Swan Way, #200
Oakland, CA 94621
(415) 271-4320

II,III

Site ID # ____ Site Name PORT OF OAKLAND Today's Date 5/4/93

Site Address KOT SITE

City OAKLAND Zip 94__ Phone ____

____ MAX AMT stored > 500 lbs. 55 gal., 200 cft.?

Inspection Categories:
____ I. Haz. Mat/Waste GENERATOR/TRANSPORTER
____ II. Business Plans, Acute Hazardous Materials
____ III. Underground Tanks

* Calif. Administration Code (CAC) or the Health & Safety Code (HS&C)

II.A BUSINESS PLANS (Title 19)

___	1. Immediate Reporting	2703
___	2. Bus. Plan Stds.	25503(b)
___	3. RR Cars > 30 days	25503.7
___	4. Inventory Information	25504(a)
___	5. Inventory Complete	2730
___	6. Emergency Response	25504(b)
___	7. Training	25504(c)
___	8. Deficiency	25505(a)
___	9. Modification	25505(b)

II.B ACUTELY HAZ. MATLS

___	10. Registration Form Filed	25533(a)
___	11. Form Complete	25533(b)
___	12. RMPP Contents	25534(c)
___	13. Implement Sch. Req'd? (Y/N)	___
___	14. Offsite Conseq. Assess.	25534(c)
___	15. Probable Risk Assessment	25534(d)
___	16. Persons Responsible	25534(g)
___	17. Certification	25534(f)
___	18. Exemption Request? (Y/N)	25536(b)
___	19. Trade Secret Requested?	25538

III. UNDERGROUND TANKS (Title 23)

General

___	1. Permit Application	25284 (H&S)
___	2. Pipeline Leak Detection	25292 (H&S)
___	3. Records Maintenance	2712
___	4. Release Report	2651
___	5. Closure Plans	2670

Monitoring for Existing Tanks

___ 6. Method
1) Monthly Test
2) Daily Vadose
Semi-annual gndwater
One time soils
Daily Vadose
Annual tank test
Monthly Gndwater
One time soils
5) Daily Inventory
Annual tank testing
Cont pipe leak det
Vadose/gndwater mon.
6) Daily Inventory
Annual tank testing
Cont pipe leak det
7) Weekly Tank Gauge
Annual tank tstng
8) Annual Tank Testing
Daily Inventory
9) Other ____

___	7. Precis Tank Test Date: ____	2643
___	8. Inventory Rec.	2644
___	9. Soil Testing.	2646
___	10. Ground Water.	2647

New Tanks

___	11. Monitor Plan	2632
___	12. Access. Secure	2634
___	13. Plans Submit Date: ____	2711
___	14. As Built Date: ____	2635

Rev 6/88

Comments:

20 CUBIC YARDS OF CONTAMINATED SOIL REMOVED FROM AREA WHERE SOIL DRAIN OUTFALL TO BAY CLEAN ~~TO~~ USUALLY SOIL SAMPLES PROVIDED IN ~~SOIL~~ REPORT.

II, III

Contact: ____

Title: ____

Signature: ____

Inspector: BRUCE JOHNSON

Signature: BJ

CITY OF OAKLAND
REPORT OF FIRE INSPECTION

ENGINE CO. 211

ADDRESS 370 - 8TH AVE,

NAME PORT OF OAKLAND

GENERAL INSPECTION ☑ PERMIT ☐ OTHER ☑ HAZARD NOTED ☐ HAZARD ABATED ☐

NOTICE LEFT LETTER ☑ ☐ | 1st NOTICE | 2nd NOTICE | FINAL

DATE	VIOLATION	O.F.C.	CONTACTED
4-27-93	OXY LEVEL @ 18% LEL LEVEL		BRITT ALCO HAZ JOHNSON MAT
	@ 370-550 GAL DIESAL TANK		
	NO LEAKS FOUND! OK		

A REINSPECTION WILL BE MADE WITHIN 0 DAYS.

FIRE PREVENTION BUREAU — PHONE 273-3857

338-5 (Rev. 5-77)

INSPECTOR [signature]

State of California—Environmental Protection Agency
Form Approved OMB No. 2050–0039 (Expires 9-30-94)
[redacted]ase print or type. *Form designed for use on elite (12-pitch) typewriter.*

See instructions on back of page 6.

Department of Toxic Substances Control
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: CAC000779096
Manifest Document No.: 03313
2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

A. State Manifest Document Number: 92303313

3. Generator's Name and Mailing Address: PORT OF OAKLAND
530 WATER STREET
OAKLAND, CA 94607-

B. State Generator's ID:

4. Generator's Phone (510) 272-1184

5. Transporter 1 Company Name: RIEDEL ENVIRONMENTAL SERVICES
6. US EPA ID Number: CAD981389125

C. State Transporter's ID: 402781
D. Transporter's Phone: (510) 234-7400

7. Transporter 2 Company Name:
8. US EPA ID Number:

E. State Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address: OSCAR E. ERICKSON, INC.
255 PARR BLVD.
RICHMOND, CA 94801
10. US EPA ID Number: CAD009466392

G. State Facility's ID:
H. Facility's Phone: (510) 235-1393

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. ~~WASTE EMPTY STORAGE TANK, NON RCRA HAZARDOUS~~ WASTE SOLID, (NON RCRA) AND DIESEL PUMP. DW.	1	TP	750	P	512 NON-RCRA
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
(a) 1000 GAL EMPTY TANK INERTED W/15 LBS DRY ICE
(b)
(c)

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
WEAR ALL APPROPRIATE PROTECTIVE CLOTHING AND EQUIPMENT

EMERGENCY PHONE : (510) 272-1184 EMERGENCY CONTACT : JOHN AMOUR

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable federal, state and international laws.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
[illegible]	[signature]	04	27	93

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
MARK HAMERS	Mark A. Hamers	04	27	93

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR / TRANSPORTER / FACILITY

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER [redacted] WITHIN CA[redacted]NIA, [redacted]

DO NOT WRITE BELOW THIS LINE.

DTSC 8022A (7/92)
EPA 8700—22

Yellow: GENERATOR RETAINS

State of California—Environmental Protection Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-94)
Please print or type. Form designed for use on elite (12-pitch) typewriter.

See Instructions on back of page 6.

Department of Toxic Substances Control
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. / Manifest Document No.	CAC000779096 / 03309	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.

A. State Manifest Document Number: 92303309

3. Generator's Name and Mailing Address: PORT OF OAKLAND
530 WATER STREET
OAKLAND, CA 94607-

4. Generator's Phone (510) 272-1184

5. Transporter 1 Company Name: ERICKSON TRUCKING
6. US EPA ID Number: CAD009466392
C. State Transporter's ID: 369163
D. Transporter's Phone: (510) 235-1393

7. Transporter 2 Company Name:
8. US EPA ID Number:
E. State Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address: PRC PATTERSON
13331 NORTH HWY 33
PATTERSON, CA 95363
10. US EPA ID Number: CAD083166728
G. State Facility's ID:
H. Facility's Phone: (800) 874-4444

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. ~~NON RCRA HAZARDOUS WASTE~~ LIQUID SOLID, NON RCRA, Contains (WATER, DIESEL), (NON RCRA)	1	TT	4700	G	221
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above: DIESEL CONTAMINATED WATER

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
WEAR ALL APPROPRIATE PROTECTIVE CLOTHING AND EQUIPMENT
EMERGENCY PHONE : (510) 272-1184 EMERGENCY CONTACT : JOHN AMDUR

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable federal, state and international laws.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
Jon Amdur	[signature]	04	27	93

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
JOHN DOUGLASS	John Douglass	04	27	93

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR / TRANSPORTER / FACILITY

IN CASE OF EMERGENCY OR SPILL [redacted] CALL THE NATIONAL RESPONSE CENTER [redacted]

DO NOT WRITE BELOW THIS LINE.

DTSC 8022A (7/92)
EPA 8700—22

Yellow: GENERATOR RETAINS

State of California — Environmental Protection Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-94)
Please print or type. *Form designed for use on elite (12-pitch) typewriter.*

See Instructions on back of page 6.

Department of Toxic Substances Control
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	CAC000779096
Manifest Document No.	03308
2. Page 1 of	1
Information in the shaded areas is not required by Federal law.	
A. State Manifest Document Number	92303308
3. Generator's Name and Mailing Address	PORT OF OAKLAND 530 WATER STREET OAKLAND, CA 94607-
4. Generator's Phone	(510) 272-1184
5. Transporter 1 Company Name	ERICKSON TRUCKING
6. US EPA ID Number	CAD009466392
State Transporter's ID	3691
Transporter's Phone	(510) 235-1393
7. Transporter 2 Company Name	
8. US EPA ID Number	
State Transporter's ID	
Transporter's Phone	
9. Designated Facility Name and Site Address	PRC PATTERSON 13331 NORTH HWY 33 PATTERSON, CA 95363
10. US EPA ID Number	CAD083166728
Facility's Phone	(800) 874-3144

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste Number
a. ~~NON RCRA HAZARDOUS WASTE SOLID, NON RCRA,~~ Contains(WATER, DIESEL), (NON RCRA)	1	TT	4800	G	NON RCRA
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above
(a) DIESEL CONTAMINATED WATER
(b)
(c)

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
WEAR ALL APPROPRIATE PROTECTIVE CLOTHING AND EQUIPMENT
EMERGENCY PHONE : (510) 272-1184 EMERGENCY CONTACT : JOHN AMDUR

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable federal, state and international laws.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
Jon Amdur For the Port of Oakland	[signature] For the Port of Oakland	04	26	93

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
KENNETH PHILLIPS	Kenneth Phillips	04	26	93

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR — TRANSPORTER — FACILITY

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

DO NOT WRITE BELOW THIS LINE.

DTSC 8022A (7/92)
EPA 8700—22

Yellow: GENERATOR RETAINS

State of California—Environmental Protection Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-94)
Please print or type. Form designed for use on elite (12-pitch) typewriter.

See Instructions on back of page 6.

Department of Toxic Substances Control
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
CAC007790960	33111		

GENERATOR

3. Generator's Name and Mailing Address: PORT OF OAKLAND
530 WATER STREET
OAKLAND, CA 94607-

4. Generator's Phone: (510) 272-1184

5. Transporter 1 Company Name: PETROLEUM RECYCLING CORP.

6. US EPA ID Number: CAT080011059

7. Transporter 2 Company Name:

8. US EPA ID Number:

9. Designated Facility Name and Site Address: PRC PATTERSON
13331 NORTH HWY 33
PATTERSON, CA 95363

10. US EPA ID Number: CAT080011059

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol
a. ~~NON RCRA HAZARDOUS WASTE SOLID, Contains (WATER, DIESEL)~~, (NON RCRA)	1	T T	1,040	G
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above: DIESEL CONTAMINATED WATER

15. Special Handling Instructions and Additional Information

EMERGENCY PHONE : (510) 272-1184 EMERGENCY CONTACT : JOHN AMDUR

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable federal, state and international laws.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
		04	27	93

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Marc Arens		4	27	93

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

DO NOT WRITE BELOW THIS LINE.

DTSC 8022A (7/92)
EPA 8700—22

Yellow: GENERATOR RETAINS

State of California — Environmental Protection Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-94)
Please print or type. Form designed for use on elite (12-pitch) typewriter.

See Instructions on back of page 6.

Department of Toxic Substances Control
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
CAC007790960	33 07		

GENERATOR

3. Generator's Name and Mailing Address: PORT OF OAKLAND
530 WATER STREET
OAKLAND, CA 94607-

4. Generator's Phone (510) 272-1184

5. Transporter 1 Company Name	6. US EPA ID Number
ERICKSON TRUCKING	CAD009466392

7. Transporter 2 Company Name	8. US EPA ID Number

9. Designated Facility Name and Site Address	10. US EPA ID Number
PRC PATTERSON 13331 NORTH HWY 33 PATTERSON, CA 95363	CAD083166728

State Manifest Document Number: 92303310
State Generator's ID:
State Transporter's ID: 309103
Transporter's Phone: (510) 235-1393
State Transporter's ID:
Transporter's Phone:
State Facility's ID:
Facility's Phone: (800) 874-4448

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. NON RCRA HAZARDOUS WASTE ~~SOLID~~, NON RCRA, Contains (WATER, DIESEL), ~~NA 9189~~ (NON RCRA)	1	T T	21000	G	223 NON RCRA
b.					
c.					
d.					

Additional Descriptions for Materials Listed Above
(A) DIESEL CONTAMINATED WATER
(B)
(C)

15. Special Handling Instructions and Additional Information

WEAR ALL APPROPRIATE PROTECTIVE CLOTHING AND EQUIPMENT

EMERGENCY PHONE : (510) 272-1184 EMERGENCY CONTACT : JOHN AMDUR

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable federal, state and international laws.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
Jon Amdur		04	27	93

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
JOHN DOUGLASS	John Douglass	04	27	93

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

DO NOT WRITE BELOW THIS LINE.

DTSC 8022A (7/92)
EPA 8700—22

Yellow: GENERATOR RETAINS

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

UNIFORM HAZARDOUS WASTE MANIFEST GAC000779996 | 1 9 5 5 9 | of 1

is not required by Federal law

GENERATOR

3. Generator's Name and Mailing Address: PORT OF OAKLAND 530 WATER ST. OAKLAND CA. 94607

4. Generator's Phone (510) 272-1184

A. State Manifest Document Number: 92669559

B. State Generator's ID

5. Transporter 1 Company Name: HYDRO-CHEM SERVICE

6. US EPA ID Number: GAD980814594

C. State Transporter's ID: 310002

D. Transporter's Phone: (415) 822-1181

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address: GIBSON OIL & REFINING COMMERCIAL DR BAKERSFIELD, CA 93308

10. US EPA ID Number: CAD980883177

G. State Facility's ID

H. Facility's Phone: 805-327-0413

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. DOT E 7476 NON RCRA HAZARDOUS WASTE LIQUID	001	TT	2500	G	State 223 EPA/Other
b.					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above: FUEL OIL & WATER

K. Handling Codes for Wastes Listed Above: a. b. c. d.

15. Special Handling Instructions and Additional Information: EMERGENCY PHONE # 510-272-1184

APPROPRIATE PROTECTIVE CLOTHING AND RESPIRATOR

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable federal, state and international laws.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: Gary Goodenote rep. of the Port of Oakland, as an authorized | Signature: Gary Goodenote | Month 05 Day 14 Year 9

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: STEVE MESQUITE | Signature: [signature] | Month 05 Day 14 Year 9

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name | Signature | Month Day Year

DO NOT WRITE BELOW THIS LINE.

Blue: GENERATOR SENDS THIS COPY TO DTSC WITHIN 30 DAYS.
To: P.O. Box 400, Sacramento, CA 95812-0400

DTSC 8022A (7/92)
EPA 8700—22

Project Specialist (print) BRUCE JOHNSON 4/20/93

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS DIVISION
80 SWAN WAY, ROOM 200
OAKLAND, CA 94621
PHONE NO. 415/271-4320

UNDERGROUND TANK CLOSURE PLAN
*** * * Complete according to attached instructions * * ***

1. Business Name Port of Oakland

   Business Owner Port of Oakland

2. Site Address 370 8th Avenue

   City Oakland, California Zip 94606 Phone 510/893-6011

3. Mailing Address 370 8th Avenue

   City Oakland, California Zip 94606 Phone 510/893-6011

4. Land Owner Port of Oakland Environmental Department

   Address 530 Water Street, Oakland City, State California Zip 94607

5. Generator name under which tank will be manifested Port Of Oakland

   EPA I.D. No. under which tank will be manifested CAC 000 890 000

rev 12/90

6. Contractor Riedel Environmental Services, Inc.

Address 4138 Lakeside Drive

City Richmond, California 94806-1941 Phone 510/222-7810

License Type C-51 A HAZ ID# 483436

7. Consultant Uribe and Associates

Address 2930 Lakeshore Avenue, Suite 200

City Oakland, CA 94610 Phone 510/832-2233

8. Contact Person for Investigation

Name John Amdur Title Environmental Scientist

Phone 510/272-1184

9. Number of tanks being closed under this plan 1

Length of piping being removed under this plan 20'

Total number of tanks at facility 1

10. State Registered Hazardous Waste Transporters/Facilities (see instructions).

** Underground tanks are hazardous waste and must be handled as hazardous waste **

a) Product/Residual Sludge/Rinsate Transporter

415 822-1184 Sandy

Name Hydro-Chem Services EPA I.D. No. CAD 980-814594

Hauler License No. 88762 License Exp. Date 04/30/93

Address Post Office Box 884522

City San Francisco State CA Zip 94188

b) Product/Residual Sludge/Rinsate Disposal Site PRC

Name Gibson Pilot EPA I.D. No. CAD 043260 702

Address 475 Seaport Boulevard

City Redwood City State CA Zip 94063

rev 12/90

c) Tank and Piping Transporter

Name Hydro-Chem Services EPA I.D. No. CAD 980 814594

Hauler License No. 88762 License Exp. Date 04/30/93

Address Post Office Box 884522

City San Francisco State CA Zip 94188

d) Tank and Piping Disposal Site

Name Erickson, Incorporated EPA I.D. No. CAD 009 466 392

Address 255 Parr Boulevard

City Richmond State CA Zip 94801

11. Experienced Sample Collector

Name Chris Merritt

Company Riedel Environmental Services, Incorporated

Address 4138 Lakeside Drive

City Richmond State CA Zip 94806 Phone 510/222-7810

12. Laboratory

Name Precision Analytical Labs.

Address 4136 Lakeside Drive

City Richmond State CA Zip 94806

State Certification No. 1150 E-750

13. Have tanks or pipes leaked in the past? Yes [X] No [ ]

If yes, describe. Piping has leaked in past

14. Describe methods to be used for rendering tank inert

Tank will be evacuated of all residual product, rinsed, and inerted with dry ice approximately 30# per 1000 gallons.

Before tanks are pumped out and inerted, all associated piping must be flushed out into the tanks. All accessible associated piping must then be removed. Inaccessible piping must be plugged.

The Bay Area Air Quality Management District (771-6000), along with local Fire and Building Departments, must also be contacted for tank removal permits. Fire departments typically require the use of explosion proof combustible gas meters to verify tank inertness. It is the contractor's responsibility to bring a working combustible gas meter on site to verify tank inertness.

15. Tank History and Sampling Information

Tank		Material to be sampled (tank contents, soil, ground-water, etc.)	Location and Depth of Samples
Capacity	Use History (see instructions)		
1000	Diesel Storage Tank	Soil & Ground Water	1 Foot Below Tank ends

One soil sample must be collected for every 20 feet of piping that is removed. A ground water sample must be collected should any ground water be present in the excavation.

Excavated/Stockpiled Soil	
Stockpiled Soil Volume (Estimated) 60 Yards	Sampling Plan Composite 4 samples into one sample. Analyze for: TPH-D BTEX STLC & RCI

Stockpiled soil must be placed on bermed plastic and must be completely covered by plastic sheeting.

16. Chemical methods and associated detection limits to be used for analyzing samples

    The Tri-Regional Board recommended minimum verification analyses and practical quantitation reporting limits should be followed. See attached Table 2.

Contaminant Sought	EPA, DHS, or Other Sample Preparation Method Number	EPA, DHS, or Other Analysis Method Number	Method Detection Limit
Diesel	TPH-D BTEX & E (Soil) TPH and BTX&E	3550 8020 - 8240 8260	
	(Water) TPH-D BTX&E	 3510 602	

17. **Submit Site Health and Safety Plan (See Instructions)**

18. Submit Worker's Compensation Certificate copy

Name of Insurer _____

19. Submit Plot Plan (See Instructions)

20. Enclose Deposit (See Instructions)

21. **Report any leaks or contamination to this office within 5 days of discovery.** The report shall be made on an Underground Storage Tank Unauthorized Leak/Contamination Site Report form. (see Instructions)

22. Submit a closure report to this office within 60 days of the tank removal. This report must contain all the information listed in item 22 of the instructions.

I declare that to the best of my knowledge and belief the statements and information provided above are correct and true.

I understand that information in addition to that provided above may be needed in order to obtain an approval from the Department of Environmental Health and that no work is to begin on this project until this plan is approved.

I understand that any changes in design, materials or equipment will void this plan if prior approval is not obtained.

I understand that all work performed during this project will be done in compliance with all applicable OSHA (Occupational Safety and Health Administration) requirements concerning personnel health and safety. I understand that site and worker safety are solely the responsibility of the property owner or his agent and that this responsibility is not shared nor assumed by the County of Alameda.

Once I have received my stamped, accepted closure plan, I will contact the project Hazardous Materials Specialist at least three working days in advance of site work to schedule the required inspections.

Signature of Contractor

Name (please type) Mr. Stephen Schwartz

Signature _____

Date 4/20/93

Signature of Site Owner or Operator

Name (please type) NEIL WERNER

Signature Neil Werner

Date 4/20/93

rev 12/90

Pettit-Morry Co.
INSURANCE

10300 S.W. GREENBURG ROAD, SUITE 110 • PORTLAND, OR 97223 • TELEPHONE: (503) 293-9500 • FAX: (503) 293-9599

CERTIFICATE OF INSURANCE

CERTIFICATE: RES 268

INSURED: Riedel Environmental Services, Inc., PO Box 5007, Portland, OR 97208-5007

Pettit-Morry Co. of Oregon hereby certifies that Insurance Policies, as indicated hereunder, are in full force and effect on the date of issuance of the certificate.

COVERAGE	POLICY NO.	INSURER	EFFECTIVE DATE	LIMITS
I. Comprehensive General Liability; Including Operations, Contractual XCU, Completed Operations, Personal Injury, Broad Form Property Damage 1976 ISO Type Form with Broadening Endorsement	SLM9281330	The Home Insurance Company of Illinois	4-1-93 to 4-1-94	$2,000,000 General Aggregate $2,000,000 Product-Comp/OP AGG $2,000,000 Each Occurrence (SIR $50,000)
Certificate Holder is an Additional Insured but only as respects the named insureds operations described below: No				
II. Business Automobile Liability; including Owned, Non-Owner and Hired Vehicles	BAF 718397	The Home Insurance Company	4-1-93 to 4-1-94	Bodily Injury and Property Damage Combined $1,000,000 Any One Accident or Loss
III. Workers' Compensation Statutory Coverage All States except Washington, Nevada, North Dakota, Maine, Ohio, West Virginia, Wyoming, Rhode Island, Oregon, California, Minnesota, Utah, & Wisconsin	WLR-C3976451-9	Pacific Employers Insurance Company	4-1-93 to 4-1-94	Statutory
U.S.L.&H. Employers Liability				Statutory $1,000,000
Workers' Compensation Statutory Coverage for Oregon, California, Minnesota, Utah & Wisconsin	CCS-C3976452-0	Pacific Employers Insurance Company	4-1-93 to 4-1-94	Statutory
U.S.L.&H. Employers Liability				Statutory $1,000,000

CANCELLATION CLAUSE:

It is hereby understood that there will be no cancellation or reduction of Liability Insurance Coverage until at least 30 days after Notice of such Cancellation of Coverage has been mailed to the Certificate Holder.

DESCRIPTION AND LOCATION OF OPERATIONS: Underground Storage Tank Removal, Port of Oakland

This certificate of insurance does not amend, extend or alter the coverage afforded by the policy or policies shown above notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain.

CERTIFICATE ISSUED TO:
County of Alameda
Department of Environmental Health
80 Swan Way
Room 200
Oakland, CA 94601

PETTIT-MORRY CO. OF OREGON

By: Wade H Coffendall

Date: April 19, 1993

Appendix D

Laboratory Data Sheets

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

Uribe & Associates
File# 72001
2930 Lakeshore Ave. Suite 200
Oakland, CA 94610

05/07/93

Attn: Andrew Clark-Clough
510/832/2233

8th Ave. Project# 96-203
Mobile Lab#2,Chain of custody

Sample #: 3127151001
Received: 05/07/93
Type: Soil

Collector: Client
Sampling Date & Time: 04/29/93, 0920
Method: Submitted By Client

I.D.: 8TH AVE - EX6 - 8'

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Extraction Method/Date	EPA 3510	04/29/93		
Analysis Date		04/29/93		
TPH-Diesel	EPA 8015M	ND		40 mg/kg

Sample #: 3127151002
Received: 05/07/93
Type: Soil

Collector: Client
Sampling Date & Time: 04/29/93, 0915
Method: Submitted By Client

I.D.: 8TH AVE - EX7 - 3'

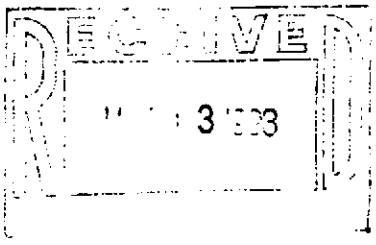
Extraction Method/Date	EPA 3510	04/30/93		
Analysis Date		04/30/93		
TPH-Diesel	EPA 8015M	ND		20 mg/kg

Sample #: 3127151003
Received: 05/07/93
Type: Soil

Collector: Client
Sampling Date & Time: 04/29/93, 1020
Method: Submitted By Client

I.D.: 8TH AVE - EX8 - 7'

Extraction Method/Date	EPA 3510	04/29/93		
Analysis Date		04/29/93		
TPH-Diesel	EPA 8015M	ND		20 mg/kg



[ND = None Detected; MDL = Method Detection Limit]

31271510

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Sample #: 3127151004		**Collector: Client**		
Received: 05/07/93		**Sampling Date & Time: 04/29/93, 1205**		
Type: Soil		**Method: Submitted By Client**		
I.D.: 8TH AVE - EX9 - 5'				
Extraction Method/Date	EPA 3510	04/29/93		
Analysis Date		04/29/93		
TPH-Diesel	EPA 8015M	1400	mg/kg	20 mg/kg
Sample #: 3127151005		**Collector: Client**		
Received: 05/07/93		**Sampling Date & Time: 04/29/93, 1440**		
Type: Soil		**Method: Submitted By Client**		
I.D.: 8TH AVE - EX12 - 4'				
Extraction Method/Date	EPA 3510	05/04/93		
Analysis Date		05/04/93		
TPH-Diesel	EPA 8015M	560	mg/kg	20 mg/kg
Sample #: 3127151006		**Collector: Client**		
Received: 05/07/93		**Sampling Date & Time: 04/29/93, 1605**		
Type: Soil		**Method: Submitted By Client**		
I.D.: 8TH AVE - EX13 - 7'				
Extraction Method/Date	EPA 3510	04/29/93		
Analysis Date		04/29/93		
TPH-Diesel	EPA 8015M	380	mg/kg	20 mg/kg

[ND = None Detected; MDL = Method Detection Limit]

31271510

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

Sample #: 3127151007 Collector: Client
Received: 05/07/93 Sampling Date & Time: 04/29/93, 1600
Type: Soil Method: Submitted By Client

I.D.: 8TH AVE - EX14 - 2.5'

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Extraction Method/Date	EPA 3510	04/29/93		
Analysis Date		04/29/93		
TPH-Diesel	EPA 8015M	ND		20 mg/kg

Sample #: 3127151008 Collector: Client
Received: 05/07/93 Sampling Date & Time: 04/30/93, 0800
Type: Soil Method: Submitted By Client

I.D.: 8TH AVE - EX15 - 6.5'

Extraction Method/Date	EPA 3510	04/30/93		
Analysis Date		04/30/93		
TPH-Diesel	EPA 8015M	2500	mg/kg	20 mg/kg

Sample #: 3127151009 Collector: Client
Received: 05/07/93 Sampling Date & Time: 04/30/93, 0950
Type: Soil Method: Submitted By Client

I.D.: 8TH AVE - EX16 - 5'

Extraction Method/Date	EPA 3510	04/30/93		
Analysis Date		04/30/93		
TPH-Diesel	EPA 8015M	680	mg/kg	20 mg/kg

[ND = None Detected; MDL = Method Detection Limit]

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

Sample #: 3127151010 Collector: Client
Received: 05/07/93 Sampling Date & Time: 04/30/93, 1055
Type: Soil Method: Submitted By Client

I.D.: 8TH AVE - EX17 - 6'

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Extraction Method/Date	EPA 3510	04/30/93		
Analysis Date		04/30/93		
TPH-Diesel	EPA 8015M	610	mg/kg	20 mg/kg

Sample #: 3127151011 Collector: Client
Received: 05/07/93 Sampling Date & Time: 04/30/93, 1300
Type: Soil Method: Submitted By Client

I.D.: 8TH AVE - EX18 - 5'

Extraction Method/Date	EPA 3510	04/30/93		
Analysis Date		04/30/93		
TPH-Diesel	EPA 8015M	90	mg/kg	20 mg/kg

Sample #: 3127151012 Collector: Client
Received: 05/07/93 Sampling Date & Time: 04/30/93, 1527
Type: Soil Method: Submitted By Client

I.D.: 8TH AVE - EX19 - 9'

Extraction Method/Date	EPA 3510	04/30/93		
Analysis Date		04/30/93		
TPH-Diesel	EPA 8015M	ND		20 mg/kg

[ND = None Detected; MDL = Method Detection Limit]

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

Sample #: 3127151013 Collector: Client
Received: 05/07/93 Sampling Date & Time: 05/03/93, 1000
Type: Soil Method: Submitted By Client

I.D.: 8TH AVE - EX20 - 6'

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Extraction Method/Date	EPA 3510	05/03/93		
Analysis Date		05/03/93		
TPH-Diesel	EPA 8015M	ND		20 mg/kg

Sample #: 3127151014 Collector: Client
Received: 05/07/93 Sampling Date & Time: 05/03/93, 1010
Type: Soil Method: Submitted By Client

I.D.: 8TH AVE - EX21 - 6'

Extraction Method/Date	EPA 3510	05/03/93		
Analysis Date		05/03/93		
TPH-Diesel	EPA 8015M	ND		20 mg/kg

Sample #: 3127151015 Collector: Client
Received: 05/07/93 Sampling Date & Time: 05/03/93, 1200
Type: Soil Method: Submitted By Client

I.D.: 8TH AVE - EX22 - 6.5'

Extraction Method/Date	EPA 3510	05/03/93		
Analysis Date		05/03/93		
TPH-Diesel	EPA 8015M	ND		20 mg/kg

[ND = None Detected; MDL = Method Detection Limit]

31271510

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

Sample #: 3127151016 Collector: Client
Received: 05/07/93 Sampling Date & Time: 05/03/93, 1210
Type: Soil Method: Submitted By Client

I.D.: 8TH AVE - EX23 - 6.5'

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Extraction Method/Date	EPA 3510	05/03/93		
Analysis Date		05/03/93		
TPH-Diesel	EPA 8015M	35	mg/kg	20 mg/kg

Sample #: 3127151017 Collector: Client
Received: 05/07/93 Sampling Date & Time: 05/03/93, 1510
Type: Soil Method: Submitted By Client

I.D.: 8TH AVE - EX24 - 5'

Extraction Method/Date	EPA 3510	05/03/93		
Analysis Date		05/03/93		
TPH-Diesel	EPA 8015M	ND		20 mg/kg

Sample #: 3127151018 Collector: Client
Received: 05/07/93 Sampling Date & Time: 05/03/93, 1520
Type: Soil Method: Submitted By Client

I.D.: 8TH AVE - EX25 - 8'

Extraction Method/Date	EPA 3510	05/03/93		
Analysis Date		05/03/93		
TPH-Diesel	EPA 8015M	ND		20 mg/kg

[ND = None Detected; MDL = Method Detection Limit]

31271510

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

Sample #: 3127151019 Collector: Client
Received: 05/07/93 Sampling Date & Time: 05/03/93, 1530
Type: Soil Method: Submitted By Client

I.D.: 8TH AVE - EX26 - 5'

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Extraction Method/Date	EPA 3510	05/03/93		
Analysis Date		05/03/93		
TPH-Diesel	EPA 8015M	ND		20 mg/kg

Sample #: 3127151020 Collector: Client
Received: 05/07/93 Sampling Date & Time: 05/03/93, 1545
Type: Soil Method: Submitted By Client

I.D.: 8TH AVE - EX27 - 8'

Extraction Method/Date	EPA 3510	05/03/93		
Analysis Date		05/03/93		
TPH-Diesel	EPA 8015M	ND		20 mg/kg

Sample #: 3127151021 Collector: Client
Received: 05/07/93 Sampling Date & Time: 05/04/93, 1240
Type: Soil Method: Submitted By Client

I.D.: 8TH AVE - EX1 - 10'

Extraction Method/Date	EPA 3510	05/04/93		
Analysis Date		05/04/93		
TPH-Diesel	EPA 8015M	ND		20 mg/kg

[ND = None Detected; MDL = Method Detection Limit]

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

Sample #: 3127151022 Collector: Client
Received: 05/07/93 Sampling Date & Time: 05/04/93, 1300
Type: Soil Method: Submitted By Client

I.D.: 8TH AVE - EX2 - 7'

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Extraction Method/Date	EPA 3510	05/04/93		
Analysis Date		05/04/93		
TPH-Diesel	EPA 8015M	210	mg/kg	20 mg/kg

Sample #: 3127151023 Collector: Client
Received: 05/07/93 Sampling Date & Time: 05/05/93, 1550
Type: Soil Method: Submitted By Client

I.D.: 8TH AVE - EX28 - 6.5'

Extraction Method/Date	EPA 3510	05/05/93		
Analysis Date		05/05/93		
TPH-Diesel	EPA 8015M	ND		20 mg/kg

Sample #: 3127151024 Collector: Client
Received: 05/07/93 Sampling Date & Time: 05/05/93, 1600
Type: Soil Method: Submitted By Client

I.D.: 8TH AVE - EX29 - 6.5'

Extraction Method/Date	EPA 3510	05/05/93		
Analysis Date		05/05/93		
TPH-Diesel	EPA 8015M	ND		20 mg/kg

Respectfully Submitted,

Shahid Noori, Manager Chemical Lab

[ND = None Detected; MDL = Method Detection Limit]

31271510

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904
781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 745-6372
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

CHAIN OF CUSTODY AND ANALYSIS REQUEST

DATE: 4-29-93 PAGE 1 OF 1
FILE NO. 72001 LAB NO. 312715001

CLIENT NAME: Port of Oakland - Uribe and Associate
PROJECT NAME: 8th AVE PROJECT NO. 96203 P.O. NO.
ADDRESS: 370 8th AVE
PROJECT MANAGER: Andrew Clark Hough PHONE #: (510) 8[illegible]3 FAX #:
SAMPLER NAME: Andrew Meyer (Printed) (Signature) Andrew Meyer

TAT (Analytical Turn Around Time) 0 = Same Day; 1 = 24 Hour; 2 = 48 Hour; (Etc.)
CONTAINER TYPES: B = Brass, G = Glass, P = Plastic, V = Voa Vial, O = Other:

SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	8015M GAS ☐ DIESEL ☒	602/8020 BTEX	418.1					SAMPLE CONDITION/ COMMENTS:
1	4-29-93	07:40	8th Ave - Ex5 - 2.5'		X				1	B								
2	"	09:20	8th Ave - Ex6 - 8'		X			0	1	B	X							Diesel = ND < 40 ppm
3	"	09:15	8th Ave - Ex7 - 3'		X				1	B	X							To Be Tested 4-30-93
4	"	10:20	8th Ave - Ex8 - 7'		X			0	1	B	X							Diesel = ND < 20 ppm
5	"	12:05	8th Ave - Ex9 - 5'		X			0	1	B	X							Diesel = 1,400 ppm
6	"	13:00	8th Ave - Ex10 - 2'		X				1	B								
7	"	13:05	8th Ave - Ex11 - 9'		X				1	B								
8	"	14:40	8th Ave - Ex12 - 4'		X				1	B	X							[illegible]
9	"	16:05	8th Ave - Ex13 - 7'		X			0	1	B	X							Diesel = 350 ppm
10	"	16:00	8th Ave - Ex14 - 2.5'		X			0	1	B	X							Diesel = ND < 20 ppm

REMARKS:

Relinquished By: (Signature and Printed Name) Andrew Meyer / Andrew John Meyer — Received By: (Signature and Printed Name) Rick Owen Parlier — Date: 4-29-93 Time: 17:10
Relinquished By: (Signature and Printed Name) — Received By: (Signature and Printed Name) — Date: Time:
Relinquished By: (Signature and Printed Name) — Received By: (Signature and Printed Name) — Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? YES NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days
By _____ Date _____

DISTRIBUTION: WHITE, YELLOW, PINK TO SECO — GOLD TO CLIENT

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114
5427 East La Palma Avenue

• Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 745-6372
• San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
• Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

CHAIN OF CUSTODY AND ANALYSIS REQUEST

DATE: 4-30-93 PAGE 1 OF 1
FILE NO. 7200 LAB NO. 312715101

CLIENT NAME: Uribe & Assoc.

PROJECT NAME: 8th Ave. PROJECT NO. 96-203 P.O. NO.

ADDRESS: 370 8th Ave

PROJECT MANAGER: Andrew Clark-Clough PHONE #: (510) [illegible]233 FAX #:

SAMPLER NAME: Andy Mayer / John Borrego (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same Day; 1 = 24 Hour; 2 = 48 Hour; (Etc.)

CONTAINER TYPES: B = Brass, G = Glass, P = Plastic, V = Voa Vial, O = Other:

ANALYSES REQUESTED:

REMARKS:

SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX				TAT	CONTAINER		8015M GAS ☒ DIESEL ☐	602/8020 BTEX	418.1						SAMPLE CONDITION/ COMMENTS:
				WATER	SOIL	SLUDGE	OTHER		#	TYPE									
11	4-30-93	8:00	8th Ave - Ex 15 - 6.5'		✓			0	1	B	✓								Diesel = 2,500 ppm
12	4-30-93	9:50	8th Ave - Ex 16 - 5'		✓			0	1	B	✓								Diesel = 620 ppm
13	"	10:55	8th Ave - Ex 17 - 6'		✓			0	1	B	✓								Diesel = 610 ppm
14	"	13:00	8th Ave - Ex 18 - 5'		✓			0	1	B	✓								Diesel = 90 ppm
15	"	15:27	8th Ave - Ex A-9'		✓			0	1	B	✓								Diesel = ND < 20 ppm

Relinquished By: (Signature and Printed Name) [signature] Received By: (Signature and Printed Name) Rick Owen Porter Date: 4-30-93 Time: 15:30

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? YES NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

DISTRIBUTION: WHITE, YELLOW, PINK TO SESCO GOLD TO CLIENT

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 745-6372
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

CHAIN OF CUSTODY AND ANALYSIS REQUEST

DATE: 5-3-92 PAGE 1 OF 1
FILE NO. 72001 LAB NO. 3127151001

CLIENT NAME: Uribe & Assoc.
PROJECT NAME: 8th Ave. PROJECT NO. 96-303 P.O. NO.
ADDRESS: 370 8th Ave.
PROJECT MANAGER: Andrew Clark-Clough PHONE #: (510) [illegible] FAX #:
SAMPLER NAME: Andrew John Mayer (Printed) [signature] (Signature)
TAT (Analytical Turn Around Time) 0 = Same Day; 1 = 24 Hour; 2 = 48 Hour; (Etc.)
CONTAINER TYPES: B = Brass, G = Glass, P = Plastic, V = Voa Vial, O = Other:

SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX	TAT	CONTAINER #	CONTAINER TYPE	8015M GAS ☒ DIESEL ☐	602/8020 BTEX	418.1					REMARKS: SAMPLE CONDITION/ COMMENTS:
16	5-3-92	10:00	8th Ave - Ex 20 - 6'		0	1	B								ND < 20 ppm Diesel
17	"	10:10	8th Ave - Ex 21 - 6'		0	1	B								Diesel - ND < 20 ppm
18	"	12:00	8th Ave - Ex 22 - 6.5'		0	1	B								Diesel = ND < 20 ppm
19	"	12:10	8th Ave - Ex 23 - 6.5'		0	1	B								Diesel = 35 ppm
20	"	15:10	8th Ave - Ex 24 - 5'		0	1	B								Diesel - ND < 20 ppm
21	"	15:20	8th Ave - Ex 25 - 8'		0	1	B								Diesel = ND < 20 ppm
22	"	15:30	8th Ave - Ex 26 - 5'		0	1	B								Diesel = ND < 20 ppm
23	"	15:45	8th Ave - Ex 27 - 8'		0	1	B								Diesel = ND < 20 ppm

Relinquished By: (Signature and Printed Name) [signature] Received By: (Signature and Printed Name) Rick Owen Porter Date: 5-3-92 Time: 16:15
Relinquished By: (Signature and Printed Name) [signature] Andrew Mayer Received By: (Signature and Printed Name) Date: Time:
Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? YES NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days

By _____ Date _____

DISTRIBUTION: WHITE, YELLOW, PINK TO SECO GOLD TO CLIENT

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 745-6372
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

CHAIN OF CUSTODY AND ANALYSIS REQUEST

DATE: 5-4-93 PAGE 1 OF 1
FILE NO. 72001 LAB NO. 3127151061

CLIENT NAME: Uribe & Assoc.
PROJECT NAME: 8th Ave. PROJECT NO. 96[illegible]03 P.O. NO.
ADDRESS: 370 8th Ave[illegible]
PROJECT MANAGER: Andrew Clark - Clough PHONE #: (510) [illegible] FAX #:
SAMPLER NAME: Andrew J. Meyer (Printed) Andrew J. Meyer (Signature)
TAT (Analytical Turn Around Time) 0 = Same Day; 1 = 24 Hour; 2 = 48 Hour; (5 Day)
CONTAINER TYPES: B = Brass, G = Glass, P = Plastic, V = Voa Vial, O = Other:

ANALYSES REQUESTED:

SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: SOIL	SLUDGE	OTHER	TAT	CONTAINER: #	TYPE	8015M GAS ☒ DIESEL ☐	602/8020 BTEX	418.1						REMARKS: SAMPLE CONDITION/ COMMENTS:
24	4-28-93	17:40	8th Ave - Ex 1 - 10'					1	B									Diesel = ND < 20 ppm
25	"	13:00	8th Ave - Ex 2 - 7'					1	B									Diesel = 210 ppm
26	"	16:25	8th Ave - Ex 3 - 5'					1	B									
27	"	16:35	8th Ave - Ex 4 - 9'					1	B									

Relinquished By: (Signature and Printed Name) Andrew J. Meyer Received By: (Signature and Printed Name) Andrew J. Meyer Rick Owen Porter Date: 5-4-93 Time: 12:55
Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:
Relinquished By: (Signature and Printed Name) Received By: (Signature and Printed Name) Date: Time:

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? YES NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: _____ days
By _____ Date _____

DISTRIBUTION: WHITE, YELLOW, PINK TO SECO... GOLD TO CLIENT

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 745-6372
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

CHAIN OF CUSTODY AND ANALYSIS REQUEST

DATE: 5-5-93 PAGE 1 OF 1
FILE NO. 72001 LAB NO. 3127151001

CLIENT NAME: Uribe & Assoc.

PROJECT NAME: 8th Ave. PROJECT NO. 9[illegible] P.O. NO.

ADDRESS: 370 8th Ave.

PROJECT MANAGER: Andrew Clark-Clough PHONE #: (510) [illegible] FAX #:

SAMPLER NAME: [signature] Andrew J Mayer (Printed) (Signature)

TAT (Analytical Turn Around Time) 0 = Same Day, 1 = 24 Hour, 2 = 48 Hour, (Etc.)

CONTAINER TYPES: B = Brass, G = Glass, P = Plastic, V = Voa Vial, O = Other:

ANALYSES REQUESTED: 8015M GAS ☐ DIESEL ☒ | 602/8020 BTEX | 418.1

SAMPLE NO.	DATE SAMPLED	TIME SAMPLED	SAMPLE DESCRIPTION	MATRIX: WATER	MATRIX: SOIL	MATRIX: SLUDGE	MATRIX: OTHER	TAT	CONTAINER #	CONTAINER TYPE	8015M GAS ☐ DIESEL ☒	602/8020 BTEX	418.1					SAMPLE CONDITION/ COMMENTS
28	5-5-93	15:50	8th Ave - Ex28 - 6.5'		/			0	1	G	/							[illegible]
29	"	16:00	8th Ave - Ex29 - 6.5'		/			0	1	G	/							[illegible]

REMARKS:

Relinquished By: (Signature and Printed Name)	Received By: (Signature and Printed Name)	Date:	Time:
[signature] Andrew J Meyer	[signature] Rick [illegible] Perlior	[illegible]	16:10

SPECIAL INSTRUCTIONS:

SAMPLE DISPOSITION:
1. Samples returned to client? YES NO
2. Samples will not be stored over 30 days, unless additional storage time is requested.
3. Storage time requested: ______ days
By ______ Date ______

DISTRIBUTION: WHITE, YELLOW, PINK TO SECO — GOLD TO CLIENT

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114
5427 East La Palma Avenue

• Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
• San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
• Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

May 10, 1993

QUALITY CONTROL DATA
MATRIX SPIKE AND DUPLICATE SPIKE

CLIENT: Uribe & Associates
FILE NO: 72001
REPORT NO: 31271510
MATRIX: Soil
METHOD: EPA 8015 Diesel
LAB NO: 3127151023
BATCH NO: 31198015DM-I

PARAMETER	SAMPLE RESULTS (mg/kg)	AMOUNT SPIKED (mg/kg)	AMOUNT RECOVERED (mg/kg)	% REC	SPIKE RECOVERY ACCEPTANCE RANGE(%)	R.P.D.
Diesel (Spike)	ND	266	265	100		
Diesel (Dup. Spike)	ND	259	283	109	75-125	9

R.P.D. - Relative Percent Difference
ND - None Detected

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

May 10, 1993

QUALITY CONTROL DATA
MATRIX SPIKE AND DUPLICATE SPIKE

CLIENT: Uribe & Associates
FILE NO: 72001
REPORT NO: 31271510
MATRIX: Soil
METHOD: EPA 8015 Diesel
LAB NO: 3127151021
BATCH NO: 31198015DM-I

PARAMETER	SAMPLE RESULTS (mg/kg)	AMOUNT SPIKED (mg/kg)	AMOUNT RECOVERED (mg/kg)	% REC	SPIKE RECOVERY ACCEPTANCE RANGE(%)	R.P.D.
Diesel (Spike)	ND	239	208	87		
Diesel (Dup. Spike)	ND	237	230	97	75-125	11

R.P.D. = Relative Percent Difference
ND = None Detected

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

May 10, 1993

QUALITY CONTROL DATA
MATRIX SPIKE AND DUPLICATE SPIKE

CLIENT: Uribe & Associates
FILE NO: 72001
REPORT NO: 31271510
MATRIX: Soil
METHOD: EPA 8015 Diesel
LAB NO: 3127151013
BATCH NO: 31198015DM-I

PARAMETER	SAMPLE RESULTS (mg/kg)	AMOUNT SPIKED (mg/kg)	AMOUNT RECOVERED (mg/kg)	% REC	SPIKE RECOVERY ACCEPTANCE RANGE(%)	R.P.D.
Diesel (Spike)	ND	272	236	87		
Diesel (Dup. Spike)	ND	274	220	80	75-125	8

R.P.D. = Relative Percent Difference
ND = None Detected

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

May 10, 1993

QUALITY CONTROL DATA
MATRIX SPIKE AND DUPLICATE SPIKE

CLIENT: Uribe & Associates
FILE NO: 72001
REPORT NO: 31271510
MATRIX: Soil
METHOD: EPA 8015 Diesel
LAB NO: 3127151002
BATCH NO: 31198015DM-I

PARAMETER	SAMPLE RESULTS (mg/kg)	AMOUNT SPIKED (mg/kg)	AMOUNT RECOVERED (mg/kg)	% REC	SPIKE RECOVERY ACCEPTANCE RANGE(%)	R.P.D.
Diesel (Spike)	ND	201	193	96		
Diesel (Dup. Spike)	ND	199	181	91	75-125	6

R.P.D. = Relative Percent Difference
ND = None Detected

SMITH-EMERY COMPANY
The Full Service Independent Testing Laboratory, Established 1904

781 East Washington Boulevard • Los Angeles, California 90021 • (213) 749-3411 • Fax: (213) 746-7228
P.O. Box 880550, Hunter's Point Shipyard Bldg. 114 • San Francisco, California 94188 • (415) 330-3000 • Fax: (415) 822-5864
5427 East La Palma Avenue • Anaheim, California 92807 • (714) 693-1026 • Fax: (714) 693-1034

May 10, 1993

QUALITY CONTROL DATA
MATRIX SPIKE AND DUPLICATE SPIKE

CLIENT: Uribe & Associates
FILE NO: 72001
REPORT NO: 31271510
MATRIX: Soil
METHOD: EPA 8015 Diesel
LAB NO: 3127151001
BATCH NO: 31198015DM-I

PARAMETER	SAMPLE RESULTS (mg/kg)	AMOUNT SPIKED (mg/kg)	AMOUNT RECOVERED (mg/kg)	% REC	SPIKE RECOVERY ACCEPTANCE RANGE(%)	R.P.D.
Diesel (Spike)	ND	543	494	91		
Diesel (Dup. Spike)	ND	543	516	95	75-125	4

R.P.D. = Relative Percent Difference
ND = None Detected

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

April 19, 1993

Mr. Alan White
URIBE & ASSOCIATES
2930 Lakeshore Ave, Ste. 200
Oakland, CA 94610

REVISED REPORT
Client Ref. 96-203
Clayton Project No. 93033.04

Dear Mr. White:

Attached is our revised analytical laboratory report for the samples received on March 30, 1993 and originally reported to you on April 15, 1993. Page numbers have been revised. We apologize for any inconvenience this may have caused you.

Please note that any unused portion of the samples will be disposed of 30 days after the date of this report, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Ronald H. Peters

Ronald H. Peters, CIH
Director, Laboratory Services
Western Operations

RHP/ts
Attachments

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96-203
Clayton Project No. 93033.04

Sample Identification: SP-1
Lab Number: 9303304-01B
Sample Matrix/Media: SOIL
Preparation Method: EPA 5030
Analytical Method: EPA 8240

Date Sampled: 03/25/93
Date Received: 03/30/93
Date Prepared: 04/02/93
Date Analyzed: 04/02/93

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Acetone	67-64-1	ND	2
Benzene	71-43-2	ND	0.5
Bromodichloromethane	75-27-4	ND	0.5
Bromoform	75-25-2	ND	0.5
Bromomethane	74-83-9	ND	0.5
2-Butanone	78-93-3	ND	2
Carbon disulfide	75-15-0	ND	0.5
Carbon tetrachloride	56-23-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
Chloroethane	75-00-3	ND	0.5
2-Chloroethylvinyl ether	110-75-8	ND	0.5
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.5
Dibromochloromethane	124-48-1	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
1,1-Dichloroethane	75-34-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.5
1,1-Dichloroethene	75-35-4	ND	0.5
cis-1,2-Dichloroethene	156-59-2	ND	0.5
trans-1,2-Dichloroethene	156-60-5	ND	0.5
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-Dichloropropene	10061-02-6	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
Freon 113	76-13-1	ND	0.5
2-Hexanone	591-78-6	ND	2
Methylene chloride	75-09-2	ND	0.5
4-Methyl-2-pentanone	108-10-1	ND	2
Styrene	100-42-5	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96-203
Clayton Project No. 93033.04

Sample Identification:	SP-1	Date Sampled:	03/25/93
Lab Number:	9303304-01B	Date Received:	03/30/93
Sample Matrix/Media:	SOIL	Date Prepared:	04/02/93
Preparation Method:	EPA 5030	Date Analyzed:	04/02/93
Analytical Method:	EPA 8240		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued)			
Toluene	108-88-3	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.5
Trichloroethene	79-01-6	ND	0.5
Trichlorofluoromethane	75-69-4	ND	0.5
Vinyl acetate	108-05-4	ND	1
Vinyl chloride	75-01-4	ND	0.5
o-Xylene	95-47-6	ND	0.5
p,m-Xylenes	--	ND	0.5
Surrogates		Recovery (%)	QC Limits (%)
Bromofluorobenzene	460-00-4	105	74 - 121
1,2-Dichloroethane-d4	17060-07-0	98	70 - 121
Toluene-d8	2037-26-5	104	81 - 117

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96-203
Clayton Project No. 93033.04

Sample Identification: METHOD BLANK
Lab Number: 9303304-03A
Sample Matrix/Media: SOIL
Preparation Method: EPA 5030
Analytical Method: EPA 8240

Date Sampled: --
Date Received: --
Date Prepared: 04/02/93
Date Analyzed: 04/02/93

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics			
Acetone	67-64-1	ND	2
Benzene	71-43-2	ND	0.5
Bromodichloromethane	75-27-4	ND	0.5
Bromoform	75-25-2	ND	0.5
Bromomethane	74-83-9	ND	0.5
2-Butanone	78-93-3	ND	2
Carbon disulfide	75-15-0	ND	0.5
Carbon tetrachloride	56-23-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
Chloroethane	75-00-3	ND	0.5
2-Chloroethylvinyl ether	110-75-8	ND	0.5
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.5
Dibromochloromethane	124-48-1	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
1,1-Dichloroethane	75-34-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.5
1,1-Dichloroethene	75-35-4	ND	0.5
cis-1,2-Dichloroethene	156-59-2	ND	0.5
trans-1,2-Dichloroethene	156-60-5	ND	0.5
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-Dichloropropene	10061-02-6	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
Freon 113	76-13-1	ND	0.5
2-Hexanone	591-78-6	ND	2
Methylene chloride	75-09-2	ND	0.5
4-Methyl-2-pentanone	108-10-1	ND	2
Styrene	100-42-5	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96-203
Clayton Project No. 93033.04

Sample Identification: METHOD BLANK
Lab Number: 9303304-03A
Sample Matrix/Media: SOIL
Preparation Method: EPA 5030
Analytical Method: EPA 8240

Date Sampled: --
Date Received: --
Date Prepared: 04/02/93
Date Analyzed: 04/02/93

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Organics (continued)			
Toluene	108-88-3	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.5
Trichloroethene	79-01-6	ND	0.5
Trichlorofluoromethane	75-69-4	ND	0.5
Vinyl acetate	108-05-4	ND	1
Vinyl chloride	75-01-4	ND	0.5
o-Xylene	95-47-6	ND	0.5
p,m-Xylenes	--	ND	0.5
Surrogates		Recovery (%)	QC Limits (%)
Bromofluorobenzene	460-00-4	98	74 - 121
1,2-Dichloroethane-d4	17060-07-0	104	70 - 121
Toluene-d8	2037-26-5	96	81 - 117

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96-203
Clayton Project No. 93033.04

Sample Identification:	SP-2	Date Sampled:	03/29/93
Lab Number:	9303304-02A	Date Received:	03/30/93
Sample Matrix/Media:	SOIL	Date Prepared:	04/08/93
Preparation Method:	EPA 5030	Date Analyzed:	04/09/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Aromatics			
Benzene	71-43-2	ND	0.04
Chlorobenzene	108-90-7	ND	0.03
1,2-Dichlorobenzene	95-50-1	ND	0.05
1,3-Dichlorobenzene	541-73-1	ND	0.03
1,4-Dichlorobenzene	106-46-7	ND	0.05
Ethylbenzene	100-41-4	ND	0.03
Toluene	108-88-3	ND	0.03
o-Xylene	95-47-6	ND	0.04
p,m-Xylenes	--	ND	0.04
Surrogates		**Recovery (%)**	**QC Limits (%)**
1,4-Difluorobenzene	540-36-3	99	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96-203
Clayton Project No. 93033.04

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9303304-03A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	04/08/93
Preparation Method:	EPA 5030	Date Analyzed:	04/09/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Aromatics			
Benzene	71-43-2	ND	0.04
Chlorobenzene	108-90-7	ND	0.03
1,2-Dichlorobenzene	95-50-1	ND	0.05
1,3-Dichlorobenzene	541-73-1	ND	0.03
1,4-Dichlorobenzene	106-46-7	ND	0.05
Ethylbenzene	100-41-4	ND	0.03
Toluene	108-88-3	ND	0.03
o-Xylene	95-47-6	ND	0.04
p,m-Xylenes	--	ND	0.04
Surrogates		**Recovery (%)**	**QC Limits (%)**
1,4-Difluorobenzene	540-36-3	99	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96-203
Clayton Project No. 93051.31

Sample Identification:	8TH AVE-EXC-4.5	Date Sampled:	04/30/93
Lab Number:	9305131-01A	Date Received:	05/12/93
Sample Matrix/Media:	SOIL	Date Extracted:	05/13/93
Extraction Method:	EPA 3550	Date Analyzed:	05/14/93
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Acid Extractables			
4-Chloro-3-methylphenol	59-50-7	ND	0.2
2-Chlorophenol	95-57-8	ND	0.2
2,4-Dichlorophenol	120-83-2	ND	0.2
2,4-Dimethylphenol	105-67-9	ND	0.2
2,4-Dinitrophenol	51-28-5	ND	1
2-Methyl-4,6-dinitrophenol	534-52-1	ND	1
2-Methylphenol	95-48-7	ND	0.2
4-Methylphenol	106-44-5	ND	0.2
2-Nitrophenol	88-75-5	ND	0.2
4-Nitrophenol	100-02-7	ND	1
Pentachlorophenol	87-86-5	ND	1
Phenol	108-95-2	ND	0.2
2,4,5-Trichlorophenol	95-95-4	ND	0.2
2,4,6-Trichlorophenol	88-06-2	ND	0.2
Base/Neutral Extractables			
Acenaphthene	83-32-9	0.6	0.2
Acenaphthylene	208-96-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Benzidine	92-87-5	ND	5
Benzoic acid	65-85-0	ND	0.8
Benzo(a)anthracene	56-55-3	ND	0.2
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
Benzyl butyl phthalate	85-68-7	ND	0.2
Bis(2-chloroethoxy)methane	111-91-1	ND	0.2
Bis(2-chloroethyl)ether	111-44-4	ND	0.2
Bis(2-chloroisopropyl)ether	108-60-1	ND	0.2
Bis(2-ethylhexyl)phthalate	117-81-7	ND	2
4-Bromophenyl phenyl ether	101-55-3	ND	0.2
4-Chloroaniline	106-47-8	ND	1
2-Chloronaphthalene	91-58-7	ND	0.2

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96-203
Clayton Project No. 93051.31

Sample Identification: 8TH AVE-EXC-4.5
Lab Number: 9305131-01A
Sample Matrix/Media: SOIL
Extraction Method: EPA 3550
Analytical Method: EPA 8270

Date Sampled: 04/30/93
Date Received: 05/12/93
Date Extracted: 05/13/93
Date Analyzed: 05/14/93

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
4-Chlorophenyl phenyl ether	7005-72-3	ND	0.2
Chrysene	218-01-9	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Dibenzofuran	132-64-9	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.2
1,3-Dichlorobenzene	541-73-1	ND	0.2
1,4-Dichlorobenzene	106-46-7	ND	0.2
3,3'-Dichlorobenzidine	91-94-1	ND	5
Diethylphthalate	84-66-2	ND	0.2
Dimethylphthalate	131-11-3	ND	0.2
2,4-Dinitrotoluene	121-14-2	ND	0.2
2,6-Dinitrotoluene	606-20-2	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2
Fluoranthene	206-44-0	ND	0.2
Fluorene	86-73-7	1.1	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
Hexachlorocyclopentadiene	77-47-4	ND	2
Hexachloroethane	67-72-1	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Isophorone	78-59-1	ND	0.2
2-Methyl naphthalene	91-57-6	8.5	0.2
Naphthalene	91-20-3	1.6	0.2
2-Nitroaniline	88-74-4	ND	1
3-Nitroaniline	99-09-2	ND	1
4-Nitroaniline	100-01-6	ND	1
Nitrobenzene	98-95-3	ND	0.2
N-Nitrosodiphenylamine	86-30-6	ND	0.2
N-Nitrosodi-n-propylamine	621-64-7	ND	0.2
Phenanthrene	85-01-8	2.2	0.2
Pyrene	129-00-0	0.3	0.2
1,2,4-Trichlorobenzene	120-82-1	ND	0.2

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96-203
Clayton Project No. 93051.31

Sample Identification:	8TH AVE-EXC-4.5	Date Sampled:	04/30/93
Lab Number:	9305131-01A	Date Received:	05/12/93
Sample Matrix/Media:	SOIL	Date Extracted:	05/13/93
Extraction Method:	EPA 3550	Date Analyzed:	05/14/93
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Surrogates		Recovery (%)	QC Limits (%)
2-Fluorobiphenyl	321-60-8	78	30 - 115
2-Fluorophenol	367-12-4	71	25 - 121
Nitrobenzene-d5	4165-60-0	97	23 - 120
Phenol-d6	13127-88-3	75	24 - 113
Terphenyl-d14	98904-43-9	79	18 - 137
2,4,6-Tribromophenol	118-79-6	85	19 - 122

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96-203
Clayton Project No. 93033.04

Sample Identification: SP-1
Lab Number: 9303304-01
Sample Matrix/Media: SOIL

Date Sampled: 03/25/93
Date Received: 03/30/93

Analyte	Concentration	Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Analysis Method
Antimony	1	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Arsenic	6	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Barium	77	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Beryllium	0.2	0.1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Cadmium	<0.5	0.5	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Chromium	30	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Cobalt	11	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Copper	38	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Diesel	36,000	1	mg/kg	04/02/93	04/11/93	EPA 3550	EPA 8015(Mod
Ignitability	NI	—	Degrees F	—	04/07/93	—	SW 7.1.2
Lead	33	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Mercury	<0.1	0.1	mg/kg	04/01/93	04/01/93	EPA 7471	EPA 7471
Molybdenum	<1	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Nickel	40	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
pH	8.3	—	S.U.	—	03/30/93	—	EPA 9045
Reactive Cyanide	<1	1	mg/kg	—	04/05/93	—	EPA 9010
Reactive Sulfide	<10	10	mg/kg	—	04/01/93	—	SW 7.3.4.2
Selenium	<1	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Silver	<0.5	0.5	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Thallium	8	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Vanadium	38	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Zinc	370	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
— Information not available or not applicable
Results are reported on a wet weight basis, as received

NI = Not Ignitable

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96-203
Clayton Project No. 93033.04

Sample Identification: SP-2
Lab Number: 9303304-02
Sample Matrix/Media: SOIL

Date Sampled: 03/29/93
Date Received: 03/30/93

Analyte	Concentration	Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Analysis Method
Diesel	1,100	1	mg/kg	04/02/93	04/07/93	EPA 3550	EPA 8015(Mod
Ignitability	NI	—	Degrees F	—	04/07/93	—	SW 7.1.2
pH	9.4	—	S.U.	—	03/30/93	—	EPA 9045
Reactive Cyanide	<1	1	mg/kg	—	04/05/93	—	EPA 9010
Reactive Sulfide	<10	10	mg/kg	—	04/01/93	—	SW 7.3.4.2

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
— Information not available or not applicable
Results are reported on a wet weight basis, as received

NI = Not Ignitable

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96-203
Clayton Project No. 93033.04

Sample Identification: METHOD BLANK
Lab Number: 9303304-03
Sample Matrix/Media: SOIL

Date Sampled: —
Date Received: —

Analyte	Concentration	Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Analysis Method
Antimony	<1	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Arsenic	<1	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Barium	<1	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Beryllium	<0.1	0.1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Cadmium	<0.5	0.5	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Chromium	<1	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Cobalt	<1	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Copper	<1	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Diesel	ND	1	mg/kg	04/02/93	04/07/93	EPA 3550	EPA 8015(Moc
Lead	<1	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Mercury	<0.1	0.1	mg/kg	04/01/93	04/01/93	EPA 7471	EPA 7471
Molybdenum	<1	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Nickel	<1	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Reactive Cyanide	<1	1	mg/kg	—	04/05/93	—	EPA 9010
Reactive Sulfide	<10	10	mg/kg	—	04/01/93	—	SW 7.3.4.2
Selenium	<1	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Silver	<0.5	0.5	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Thallium	<1	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Vanadium	<1	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010
Zinc	<1	1	mg/kg	04/05/93	04/05/93	EPA 3050	EPA 6010

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
— Information not available or not applicable
Results are reported on a wet weight basis, as received

GeoAnalytical Laboratories, Inc.

1031 Kansas Avenue
Modesto, CA 95351

Phone: 572-0900
FAX: 572-0916

REPORT

% Survival

Report #: E091-03

Date: 4/12/93

Clayton Environmental
PO BOX 9019
Pleasanton CA 94566

Date Received: 4/1/93
Date Started : 4/4/93
Date Completed: 4/9/93

Project #

Project Name:

Sample ID: 9303304-01A
Lab ID: E20521

Aquatic Toxicity

Species: Pimephales Promelas
Common Name: Fathead Minnow
Supplier: Thomas Fish Farm
Dead in Acclimation Tank: <1 %
Average Length: 33 mm
Average Weight: 0.29 g

Test Type: % Survival
Dilution Water: Holding Tank Water
Number per Tank: 10
Tank Volume: 10 Liters

Initial Control Hardness: 48 mg/L

Final Control Hardness: 56 mg/L

Results/Notes:

There were no mortalities observed in this test.
LC50>500 mg/L.

GeoAnalytical Laboratories, Inc.

1031 Kansas Avenue
Modesto, CA 95351

Phone: 572-0900
FAX: 572-0916

BioAssay Report

Report #: E091-03
Sample ID: 9303304-01A
Lab ID: E20521

Initial 04/05/93	Control	250 mg/L	500 mg/L	750 mg/L
pH	7.03	7.04	7.10	7.13
D.O.	6.13	6.00	6.02	6.01
Temp	19° C	19° C	19° C	19° C
24 hrs 04/06/93				
pH	7.01	7.12	6.82	6.80
D.O.	7.85	7.46	6.59	6.34
Temp	20° C	20° C	20° C	20° C
Mortalities	0	0	0	0
48 hrs 04/07/93				
pH	6.69	6.74	6.62	6.64
D.O.	7.83	6.84	6.14	6.09
Temp	20° C	20° C	20° C	20° C
Mortalities	0	0	0	0
72 hrs 04/08/93				
pH	6.74	6.67	6.71	6.65
D.O.	7.26	7.03	6.88	6.27
Temp	19° C	19° C	19° C	19° C
Mortalities	0	0	0	0
96 hrs 04/09/93				
pH	6.92	6.98	6.91	6.86
D.O.	6.26	5.59	5.41	5.28
Temp	20° C	20° C	20° C	20° C
Mortalities	0	0	0	0
Total Mortalities	0	0	0	0

Julia Sedlock
Julia Sedlock
Bacteriological Dept. Head

Certification # E757

Donna Allsup
Donna Allsup
Laboratory Director

U&A
U[redacted]E & [redacted]SO[redacted]ES
2930 LAKESHORE AVENUE
SUITE TWO HUNDRED
OAKLAND, CALIFORNIA 94610
510 446 - 832 - 2233
FAX ~~446~~ 510 - 832 - 2237

CHAIN OF CUSTODY RECORD

9303304

PROJ. NO.	PROJECT NAME	NO. OF CONTAINERS
26815	96-203 9th Avenue Keep on Truckin	

SAMPLERS: (Signature)
Gary Goodemote

NO	DATE	TIME	COMP	GRAB	SAMPLE I.D.	NO. OF CONTAINERS	TPH - diesel	Title 22 metals	corrosivity	ignitability	Volatile Organics (EPA 8240)	Aquatic toxicity (Bioassay)	Reactivity	EPA 8020	REMARKS	CHECK IF RUSH
1	3/29/93	2:00	X		SP-1	1 soil	X	X	X	X	X	X	X		2x6BC	
2	3/29/93	4:15	X		SP-2		X		X	X			X	X		

ANALYSIS

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Gary Goodemote	3/30/93 2:15pm	Jim Mitchell	Jim Mitchell	3/30/93 2:55 pm	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	NAME	
		Jim Mitchell	3/30/93 2:55 pm	ADDRESS	

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

May 24, 1993

Mr. Alan White
URIBE & ASSOCIATES
2930 Lakeshore Avenue, Ste. 200
Oakland, CA 94610

Client Ref. 96-203
Clayton Project No. 93051.31

Dear Mr. White:

Attached is our analytical laboratory report for the samples received on May 12, 1993. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of 30 days after the date of this report, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Ronald H. Peters

Ronald H. Peters, CIH
Director, Laboratory Services
Western Operations

RHP/caa
Attachments

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96-203
Clayton Project No. 93051.31

Sample Identification: METHOD BLANK
Lab Number: 9305131-02A
Sample Matrix/Media: SOIL
Extraction Method: EPA 3550
Analytical Method: EPA 8270

Date Sampled: --
Date Received: --
Date Extracted: 05/13/93
Date Analyzed: 05/14/93

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Acid Extractables			
4-Chloro-3-methylphenol	59-50-7	ND	0.2
2-Chlorophenol	95-57-8	ND	0.2
2,4-Dichlorophenol	120-83-2	ND	0.2
2,4-Dimethylphenol	105-67-9	ND	0.2
2,4-Dinitrophenol	51-28-5	ND	1
2-Methyl-4,6-dinitrophenol	534-52-1	ND	1
2-Methylphenol	95-48-7	ND	0.2
4-Methylphenol	106-44-5	ND	0.2
2-Nitrophenol	88-75-5	ND	0.2
4-Nitrophenol	100-02-7	ND	1
Pentachlorophenol	87-86-5	ND	1
Phenol	108-95-2	ND	0.2
2,4,5-Trichlorophenol	95-95-4	ND	0.2
2,4,6-Trichlorophenol	88-06-2	ND	0.2
Base/Neutral Extractables			
Acenaphthene	83-32-9	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Benzidine	92-87-5	ND	5
Benzoic acid	65-85-0	ND	0.8
Benzo(a)anthracene	56-55-3	ND	0.2
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
Benzyl butyl phthalate	85-68-7	ND	0.2
Bis(2-chloroethoxy)methane	111-91-1	ND	0.2
Bis(2-chloroethyl)ether	111-44-4	ND	0.2
Bis(2-chloroisopropyl)ether	108-60-1	ND	0.2
Bis(2-ethylhexyl)phthalate	117-81-7	ND	2
4-Bromophenyl phenyl ether	101-55-3	ND	0.2
4-Chloroaniline	106-47-8	ND	1
2-Chloronaphthalene	91-58-7	ND	0.2

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96-203
Clayton Project No. 93051.31

Sample Identification: METHOD BLANK
Lab Number: 9305131-02A
Sample Matrix/Media: SOIL
Extraction Method: EPA 3550
Analytical Method: EPA 8270

Date Sampled: --
Date Received: --
Date Extracted: 05/13/93
Date Analyzed: 05/14/93

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
4-Chlorophenyl phenyl ether	7005-72-3	ND	0.2
Chrysene	218-01-9	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Dibenzofuran	132-64-9	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.2
1,3-Dichlorobenzene	541-73-1	ND	0.2
1,4-Dichlorobenzene	106-46-7	ND	0.2
3,3'-Dichlorobenzidine	91-94-1	ND	5
Diethylphthalate	84-66-2	ND	0.2
Dimethylphthalate	131-11-3	ND	0.2
2,4-Dinitrotoluene	121-14-2	ND	0.2
2,6-Dinitrotoluene	606-20-2	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2
Fluoranthene	206-44-0	ND	0.2
Fluorene	86-73-7	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
Hexachlorocyclopentadiene	77-47-4	ND	2
Hexachloroethane	67-72-1	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Isophorone	78-59-1	ND	0.2
2-Methyl naphthalene	91-57-6	ND	0.2
Naphthalene	91-20-3	ND	0.2
2-Nitroaniline	88-74-4	ND	1
3-Nitroaniline	99-09-2	ND	1
4-Nitroaniline	100-01-6	ND	1
Nitrobenzene	98-95-3	ND	0.2
N-Nitrosodiphenylamine	86-30-6	ND	0.2
N-Nitrosodi-n-propylamine	621-64-7	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Pyrene	129-00-0	ND	0.2
1,2,4-Trichlorobenzene	120-82-1	ND	0.2

Results of Analysis
for
Uribe & Associates/ Port of Oakland

Client Reference: 96-203
Clayton Project No. 93051.31

Sample Identification: METHOD BLANK
Lab Number: 9305131-02A
Sample Matrix/Media: SOIL
Extraction Method: EPA 3550
Analytical Method: EPA 8270

Date Sampled: --
Date Received: --
Date Extracted: 05/13/93
Date Analyzed: 05/14/93

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Surrogates		**Recovery (%)**	**QC Limits (%)**
2-Fluorobiphenyl	321-60-8	84	30 - 115
2-Fluorophenol	367-12-4	66	25 - 121
Nitrobenzene-d5	4165-60-0	71	23 - 120
Phenol-d6	13127-88-3	66	24 - 113
Terphenyl-d14	98904-43-9	79	18 - 137
2,4,6-Tribromophenol	118-79-6	96	19 - 122

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

SAMPLE CHAIN-OF-CUSTODY ANALYSIS REQUEST

PACIFIC ENVIRONMENTAL LABORATORY
674 HARRISON STREET
SAN FRANCISCO, CA 94107
415-243-2580 FAX 415-243-9390

POSSIBLE HAZARDS: — 9305131

Date 4-30-93 Report To Andrew Clark Clough

Source of Samples 8th AVE (370) Company Uribe and Associates

Sampler Name Andrew Meyer Address 2930 Lakeshore Ave

Company Uribe and Associates Oakland CA 94610

Phone (510) 832 2233

Project No. 96-203 Phone (510) 832-2233

Send unused sample to: _____

Lab Destination: _____

Carrier/Way Bill: _____

LAB ID No.	Client ID No.	COLLECTION Date	COLLECTION Time	Type	Depth	Composite	Note 4	Turn-around time	Note 6 Lab Disposal	ANALYSES REQUESTED 8270	COMMENTS/CONDITIONS: (Container type, container number, etc.)
-01A	8thAVE-EXC-4.5	4/30	900							X	RECEIVED CONDOK

1) Write only one sample number in each space.
2) Specify type of sample(s): Water(W), Solid (S), or indicate type.
3) Mark each sample which should be composited in Laboratory as follows: Place an "A" in box for each sample that should be composited into one sample; use sequential letter for additional groups.
4) Preservation of sample.
5) Write each analyses requested across top. Place an "X" in appropriate column to indicate type of analysis needed for each sample.
6) Write address where unused sample should be sent or "X" Lab Disposal box if Lab should bill client for sample disposal.

SAMPLE RELINQUISHED BY: SAMPLE RECEIVED BY:

Print Name	Signature	Company	Date	Time	Print Name	Signature	Company	Date	Time
Andrew J. Meyer	Andrew J. Meyer	Uribe and Assoc	5/12/93	16:05	John Borrego	John Borrego	U+A	5/12/93	16:05
John C. Borrego	John Borrego	U+A	5/12/93	5:57 pm	T. ALTON	T. Alton	CLAYTON	5/12/93	5:57pm

Logged in at PEL by: _____

Appendix E

Workplan for Monitoring Well Installations

Workplan for the Installation of Four Monitoring Wells

at Keep On Trucking

370 8th Avenue, Oakland, California

July 1, 1993

Prepared by

Uribe & Associates
Oakland, California

Prepared for

Port of Oakland
Oakland, California

Certification

Work Plan For the Installation of Four Monitoring Wells at Keep on Trucking, 370 8th Avenue, Oakland, California

I certify that the information presented in this document was produced in accordance with professional standards, and to the best of my knowledge, the data contained here are true and accurate. The field program will be conducted under the supervision of a California Registered Geologist.

7/1/93

Andrew B. Clark-Clough Date
California Registered Geologist No. 5736

Workplan for the Installation of Four Monitoring Wells

at Keep On Trucking

370 8th Avenue, Oakland, California

Table of Contents

Introduction

This workplan proposes the installation of four monitoring wells at the Keep on Trucking (KOT) facility at 370 8th Avenue, Oakland (Figure 1). The wells will provide verification monitoring of groundwater at the site. KOT leases the site from the Port of Oakland (Port), and operates a truck distribution yard for steel transport. A diesel dispenser system attached to an aboveground storage tank (AST) owned and operated by KOT was identified as the source of a diesel release into the adjacent storm drains and ultimately Clinton Basin and the San Francisco Bay. The system was removed from service in December 1992. Uribe & Associates (U&A) was contracted by the Port to perform investigations into the source and extent of contamination resulting from the diesel release and to perform site remediation activities. Approximately 450 cubic yards of diesel contaminated soil was removed from the site in April and May 1993.

Site Description

Figure 1 shows the general location of the site. The area is used as a distibution center and staging area for truck-transported steel. Figure 2 shows the buildings at the site and excavated area.

Fill material consisting of angular gravel with sand and silt lenses exists from ground level to approximately two and seven feet. In some areas, large planks of wood underlie the surface, suggesting that old piers were buried in place or used as fill material. Bay Mud underlies the fill. Groundwater occurs from 3 to 10 feet and is strongly influenced by the Bay tides. The groundwater gradient is unknown, but is assumed to flow west toward the Clinton Basin or southwest toward the Inner Harbor.

The Lake Merritt outfall lies approximately 1,000 feet northwest of the KOT yard. Clinton Basin borders the site to the west. The Basin is used as a marina for small sailing vessels. The Inner Harbor of the Port of Oakland at the Ninth Street Terminal lies approximately 500 feet southwest of KOT. The Oakland Inner Harbor connects with the San Francisco Bay to the north and south (Figures 1 and 2).

Approximately 375 wells exist within a 1/4 mile radius of the site (Alameda County Public Works Agency). Most of these wells are to the north on the opposite side of the Lake Merritt outfall near downtown Oakland. Only eight wells exist in the same Section (T2S R4W, Section 1). One of these wells is a monitoring well installed by the Port on the opposite side of Clinton Basin at 280 6th Avenue. The remaining wells within the same Section are cathodic protection wells, geotechnical borings, and test wells.

Site Background

Diesel contamination was first noticed in Clinton Basin by the United States Coast Guard (USCG) in late October, 1992. The Port soon discovered that the diesel was present in the storm drains at the Ninth Avenue Terminal. The remediation of the storm drains began immediately. Subsequent investigations by the Port identified the source of the diesel to be underground piping associated with an AST diesel fuel dispenser system located at KOT, 370 8th Avenue.

The diesel dispenser system identified as being the source of the release was removed from service on December 30, 1992. The estimated quantity of diesel lost is unknown. More detailed information is contained in the following reports already submitted to the County:

Source Investigation Summary and Workplan to Delineate Soil and Groundwater Contamination; prepared by U&A for the Port, January 20, 1993.

Report of the Source Area Primary Pathway Investigation at Keep on Trucking; prepared by U&A for the Port, March 30, 1993.

Investigation of Diesel Spill at Keep on Trucking; prepared by U&A for the Port on April 20, 1993.

Groundwater Gradient

The local groundwater gradient is assumed to conform with the regional gradient toward the southwest. The Clinton Basin lies approximately 500 feet west of the source area and the Oakland Inner Harbor with direct access to the Bay lies approximately 1,000 feet southwest. The Clinton Basin is a man-made inlet and therefore is not associated with a natural watershed. No site-specific gradient direction information is available for the site.

Proposed Site Activities

Introduction

U&A will supervise the installation of four monitoring wells at the KOT facility. The wells will be installed at the proposed locations showed in Figure 2. The wells will be developed a minimum of 24 hours after installation. After the wells have been installed and developed, the groundwater gradient will be calculated based upon groundwater

level measurements. Water samples will be collected and sampled for Total Petroleum Hydrocarbons-diesel (EPA Method 8015 Modified) on a quarterly basis for four quarters. The quarterly results will be sent to the Alameda County Health Care Services Agency (ACHCSA).

Drilling permit applications will be submitted to the Alameda County Flood Control District, Zone 7 and Underground Services Alert will be notified to perform a utility survey before drilling begins. A site safety plan is included in Attachment A.

Well Installation Procedures

The wells will be continuously cored using a truck mounted hollow-stem auger. A U&A geologist under the direction of a California Registered Geologist will record the boring logs and collect soil samples every five feet with six-inch brass sleeves. Each sample will be analyzed for TPH-Diesel by Clayton Analytical Laboratories.

The eight-inch diameter borings will be drilled to a depth of approximately 15 feet below ground surface. The casing will be two-inch PVC with five-foot screens (0.010 or 0.020 inch slots). The screened intervals will be set from four feet below to one foot above the first water-bearing soils. The sand pack will consist of #2 or #3 sand (depending on site conditions) from total depth to one foot above the top of the screened interval. A bentonite seal will be placed one foot above the top of the screen, and the well annulus will be filled with cement from the top of the seal to the surface. Protective well covers will be placed over the wells and cemented in place. Soil cuttings will be stockpiled in 55-gallon drums pending laboratory analysis and proper disposal.

Well Development

After the cement grout is allowed to cure in the well for a minimum of 24 hours, the wells will be surged with a surge block to loosen fines in the gravel pack. The well will then be purged for a minimum of five well volumes or until the temperature, conductivity, and pH stabilize. Purged water will be stored on-site in 55-gallon drums pending laboratory analysis and proper disposal.

Elevation Survey

The well heads will be surveyed by Bissel and Karn for elevation relative to the Port of Oakland Datum (Mean Low Low Sea Level). This information will be used to calculate the groundwater gradient.

Determination of Groundwater Gradient

After the wells have been installed, U&A will attempt to determine a local groundwater gradient using the triangulation method. Groundwater levels will be measured in each well, and four three-point planes will be calculated. The calculations assume that each well is screened in the same water-bearing zone. (Note that the triangulation method requires that the data points [water levels] represent points on the surface of a single water-bearing zone. The heterogeneity of the fill material in the uppermost water-bearing zone encountered in the four wells may not be a single plane.)

Water Sampling

Water samples will be collected during the initial well development and will follow quarterly thereafter. During each sampling event, approximately two well volumes will be bailed from the well using a two-inch tephlon bailer. The purged water will be stored in 55-gallon drums pending laboratory analysis and proper disposal. Water samples will be collected with two-inch tephlon bailers and analyzed for TPH-diesel.

Report Preparation

U&A will submit a report of monitoring well installation to the Port for each well, in addition to submitting the Driller's Reports to the Alameda County Flood Control District, Zone 7. The installation report will include the wellhead elevations, groundwater gradient determination for the site, and sample analysis results. Quarterly reports summarizing the sampling results will be submitted following each round of sampling.

Schedule

U&A can begin installing the new monitoring wells at KOT within one week of approval of this workplan.

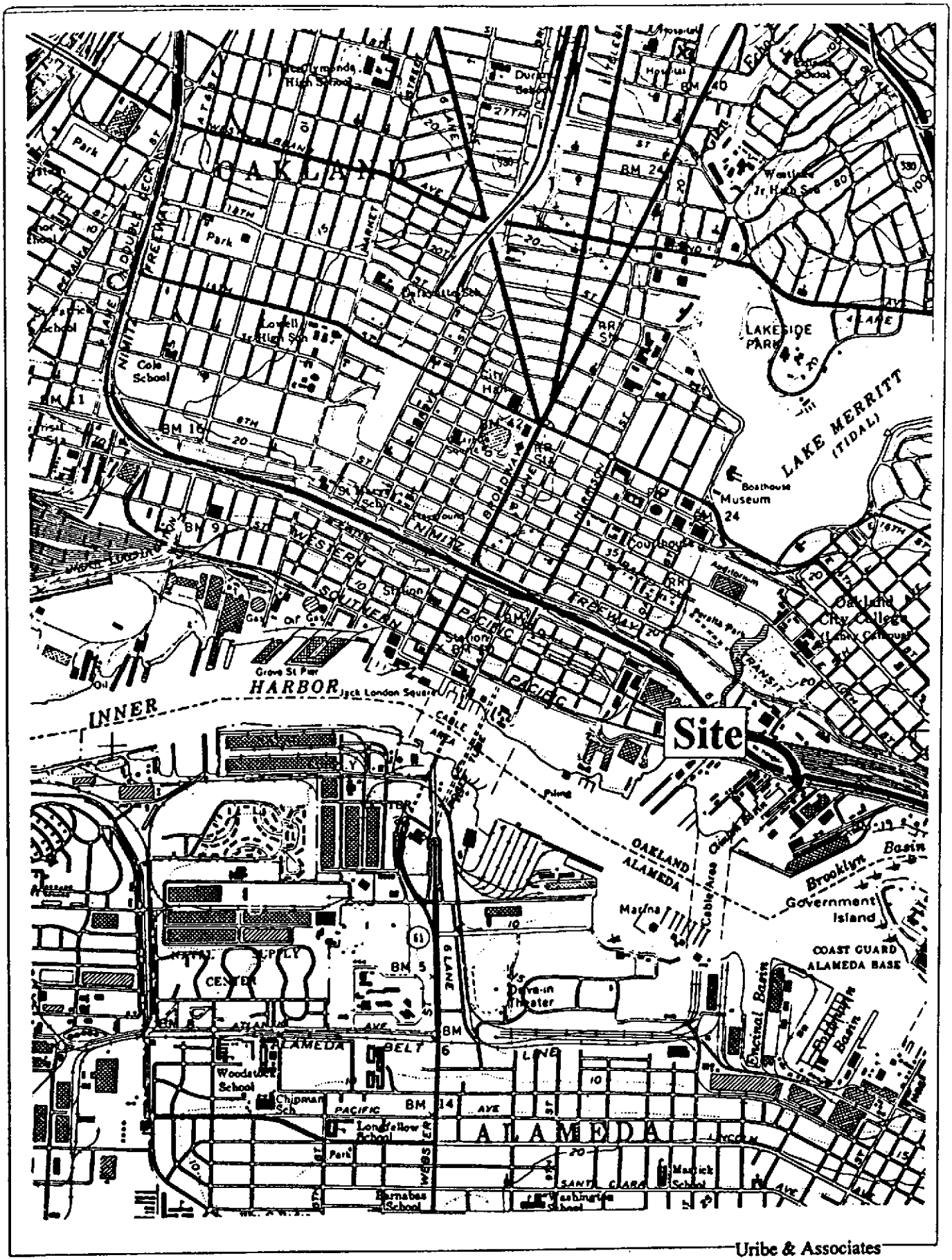


Figure 1: Site Location Map

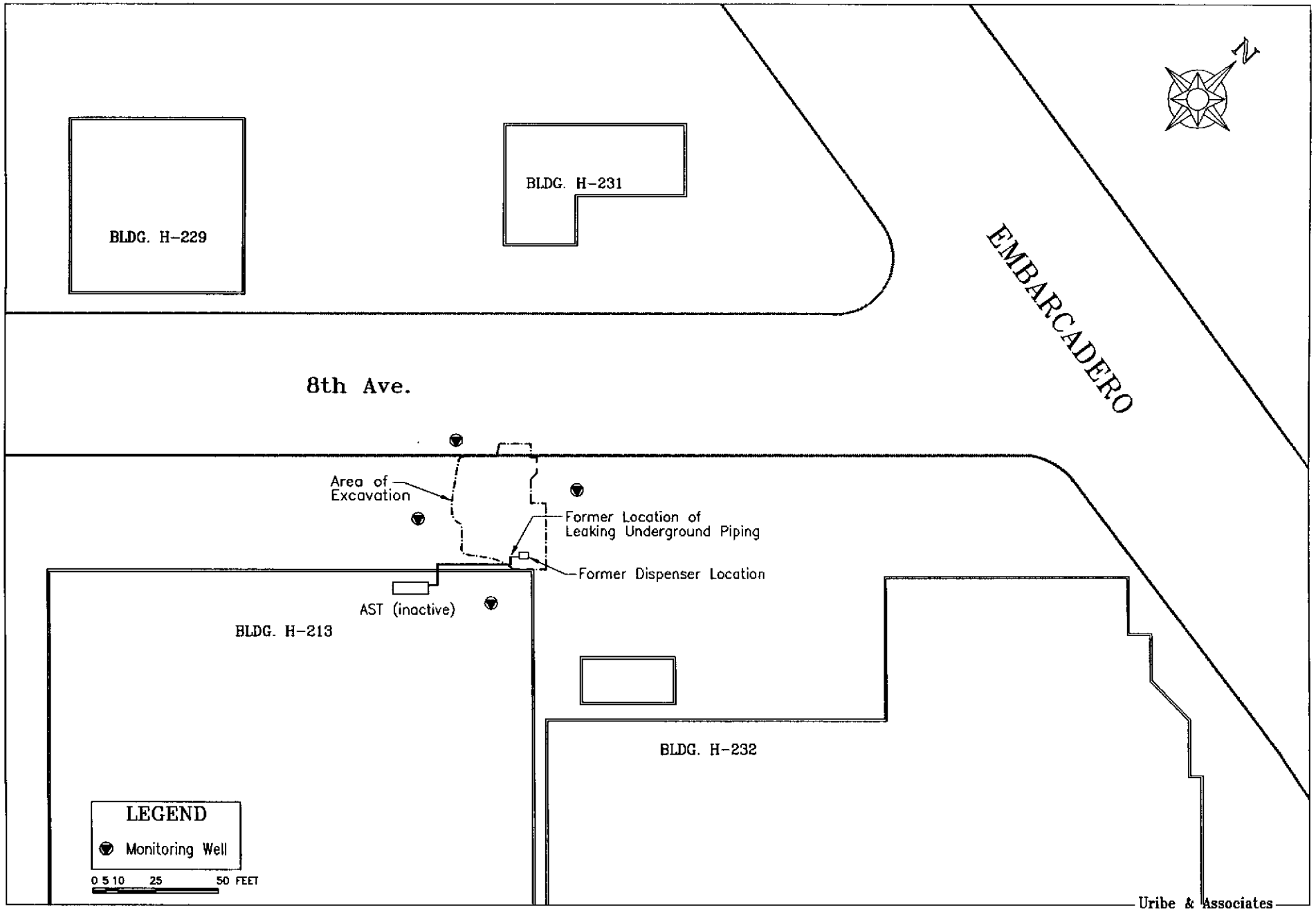


Figure 2: Site Plan, Showing Proposed Monitoring Well Locations

ATTACHMENT A

SITE SAFETY PLAN

SITE SAFETY PLAN FOR MONITORING WELL INSTALLATION AT KEEP ON TRUCKING, 370 8th AVENUE, OAKLAND, CALIFORNIA

A. SITE DESCRIPTION

Date: June 14,1993-December 31,1993
Location: Port of Oakland, Environmental Department
Hazards: Heavy equipment, Diesel, Underground utilities
Area Affected: Yard of Keep on Trucking, 370 8th Avenue, Oakland, California (figure 1)
Surrounding Population: Industrial/Marina
Topography: Generally Flat
Weather Conditions: Cool foggy mornings, typically warming later in the day. Moderate temperatures, generally heat stress is not a concern.
Additional Information:

B. OBJECTIVES

The objective of the project is to install and sample monitoring wells.

C. ONSITE ORGANIZATION AND COORDINATION

The following personnel are designated to carry out the stated job functions on site.

Project Team Leader:	Andrew Clark-Clough (510) 832-2233
Site Safety Officer:	John Borrego
Field Team Leader:	John Borrego
Field Team Members:	John Borrego, Andrew Meyer, Tom Barnes
Regulatory Agency Reps:	Alameda County Health Department (Britt Johnson 271-4320)
Client Reps:	Jon Amdur (510) 272-1184
Facility Operator:	Richard Padovoni 893-6011
Contractor(s):	

D. HAZARD EVALUATION

The following substance(s) are known or suspected to be on site. The primary hazards of each are identified.

Substances Involved	Concentration (If known)	Primary Hazards
Diesel	100%	Dermal Contact

The following additional hazards are expected on site: The drill rig has the potential to cause injury from rotating equipment and falling objects .

E. PERSONAL PROTECTIVE EQUIPMENT

Based on evaluation of potential hazards, the following levels of personal protection have been designated for the applicable work areas or tasks:

Location	Job Function	Level of Protection
KOT Yard	Well Drilling.	A B C **D** Other
KOT Yard	Well Sampling.	A B C **D** Other

Specific protective equipment for each level of protection is as follows:

Level A: Fully-encapsulation suit SCBA (disposable coveralls)
Level B: Splash gear (type) SCBA
Level C: Splash gear (type) Full-face canister respirator
Level D: Hard hat, Steel Toed Boots, Gloves (latex), safety glasses
Other:

The following protective clothing materials are required for the involved substances:

Substance	Material
Diesel	Level

No changes to the specified levels of protection shall be made without the approval of the Site Safety Officer and the Project Team Leader!

F. ONSITE WORK PLANS

Work party(s) consisting of 3 persons will perform the following tasks:

Project Team Leader	**Tasks**
Andrew Clark-Clough	Coordinate activities with client and field teams.

Field Team Leader	**Tasks**
John Borrego	Coordinate with client, Alameda county Health Department, and Subcontractors. Record boring logs. Collect water and soil samples.

Work -Party #1	**Tasks**
Andrew Meyer,	assist as needed
Tom Barnes	assist as needed

G. COMMUNICATION PROCEDURES

Hand gripping throat .....Out of air, can't breathe
Grip partner's wrists or
both hands around waist .....Leave area immediately
Hands on top of head .....Need assistance
Thumbs up .....OK, I'm all right, I understand
Thumbs down .....No, negative

Telephone communication to the Command Post should be established as soon as practicable. The phone number is (510) 832-2233.

H. DECONTAMINATION PROCEDURES

The following decontamination PROCEDURES are required:
Field personnel will wash hands with soap and water before eating.
Clean off boots with water if necessary.

I. SITE SAFETY AND HEALTH PLAN

1. Site Safety Officer

John Borrego is the designated Site Safety Officer and is directly responsible to the Project Team Leader for safety recommendations on site.

2. Emergency Medical Care

John Borrego is the qualified EMT on site.
Local ambulance service is available at 911.
Their response time is 10 minutes.

First-aid equipment is available is available on site at the following locations:

First-aid kit	Drill Rig and Field Team Leader
Emergency eye wash	Drill Rig

Emergency medical information for substances present:

Substance	Exposure Symptoms	First-Aid Instructions
Diesel	Dizziness, eye irritation	Rest, evacuate from site

List of Emergency phone numbers:

Agency/Facility		Phone #
Police		911
Fire		911
Hospital:	**Highland Hospital, 1411 E-31st**	ER 533-3712
Airport:	**Metropolitan Oakland International Airport, Airport Operator**	577-4000
Poison Control		415-666-2845

3. Environmental Monitoring

The following environmental monitoring instruments shall be used on site at the specified intervals.

Combustible Gas Indicator	**Continuous hourly**	**daily**	**other**
HNU/OVA	**Continuous hourly**	**daily**	**other**

4. **Emergency Procedures (should be modified as required for incident)**

The following standard emergency procedures will be used by onsite personnel. The Site Safety Officer shall be notified of any onsite emergencies and be responsible for ensuring that the appropriate procedures are followed.

Personnel Injury: Upon notification of an injury the designated emergency signal three horn blasts shall be sounded. The Site Safety Officer will call an ambulance. The rescue team will remove the injured person to the hotline. The Site Safely Officer and Project Team Leader should evaluate the nature of the injury, and the affected person should be decontaminated to the extent possible prior to movement to the Support Zone . The on site EMT shall initiate the appropriate first aid, and contact should be made for an ambulance and with the designated medical facility (if required).

Personnel Injury in the Support Zone: Upon notification of an injury, the Project Team Leader and Site Safety Officer will assess the nature of the injury. If the cause of the injury or loss of the injured person does not affect the performance of site personnel, operations may continue.

Fire/Explosion: Upon notification of a fire or explosion on site, the designated emergency signal three horn blasts shall be sounded. The fire department shall be alerted and all personnel moved to a safe distance from the involved area.

Personal Protective Equipment Failure: If any site worker experiences a failure or alternation of protective equipment that affects the protection factor, that person and his/her buddy shall immediately leave the site. Re-enter shall not be permitted until the equipment has been repaired or replaced.

Other Equipment Failure: If any other equipment on site fails to operate properly, the Project Team Leader and Site Safety Officer shall be notified and then determine the effect of this failure on continuing operations on site. If the failure affects the safety of personnel or prevents completion of the Work Plan Tasks, all personnel shall leave the site until the situation is evaluated and appropriate actions taken.

In all situations, when an onsite emergency results in evacuation, personnel shall not re-enter until:

1. The conditions resulting in the emergency have been corrected.
2. The hazards have been reassessed.
3. The Site Safety Plan has been reviewed.
4. Site personnel have been briefed on any changes in the Site Safety Plan.
5. The Project Team Leader has approved re-entry.

5. Personal Monitoring

The following personal monitoring will be in effect on site: Personal exposure sampling: Medical monitoring: The expected air temperature will be 70 degrees. If it is determined that heat stress monitoring is required (mandatory if over 70 degrees F) the following procedures shall be followed: Drink fluids regularly, wear hat, periodically rest in shaded area

All site personnel have read the above plan and are familiar with its provisions.

	Name	**Signature**
Site Safety Officer	_____	_____
Project Team Leader	_____	_____
Other Site Personnel	_____	_____
	_____	_____
	_____	_____

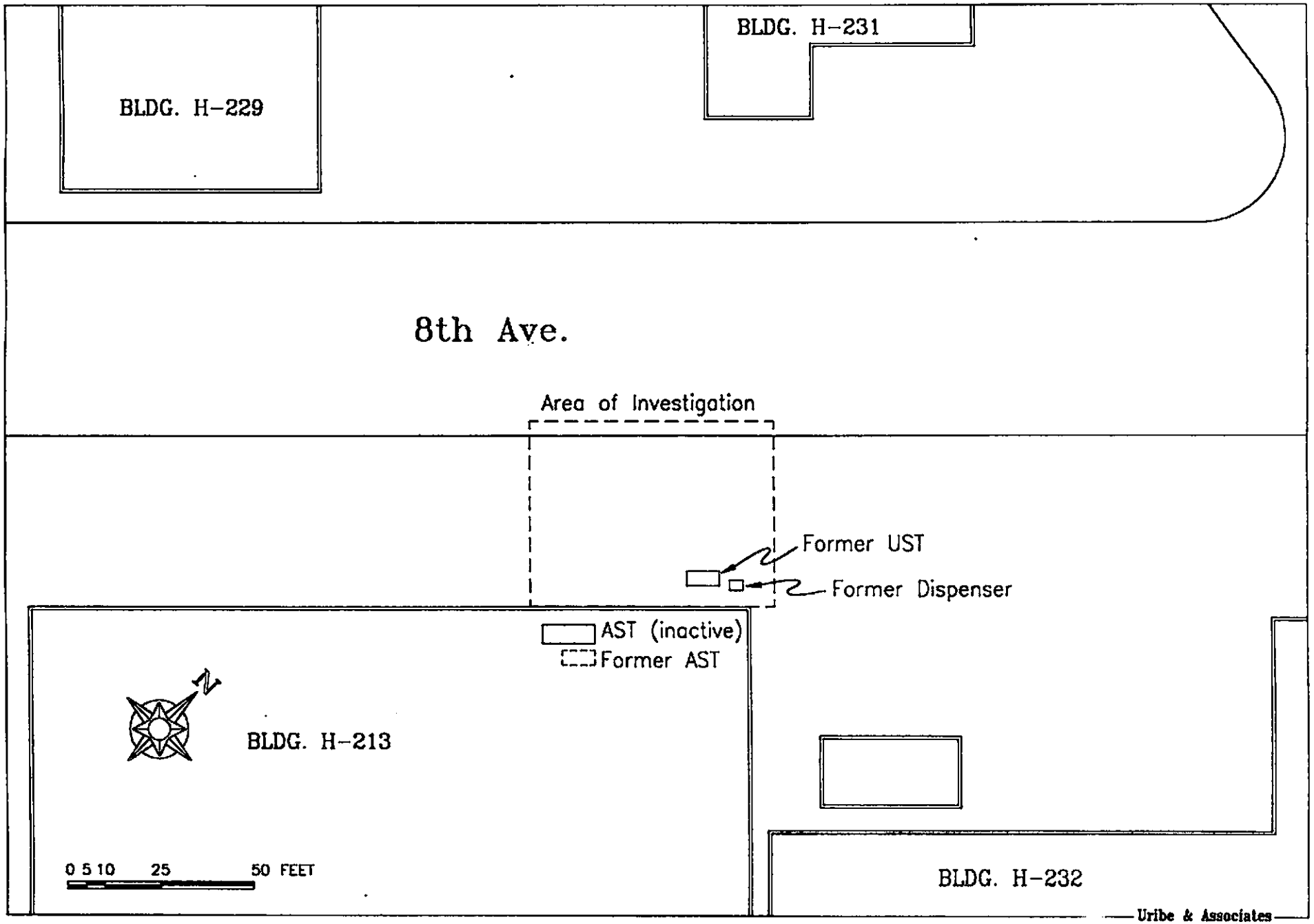


Figure 1: Site Plan, 370 8th Avenue

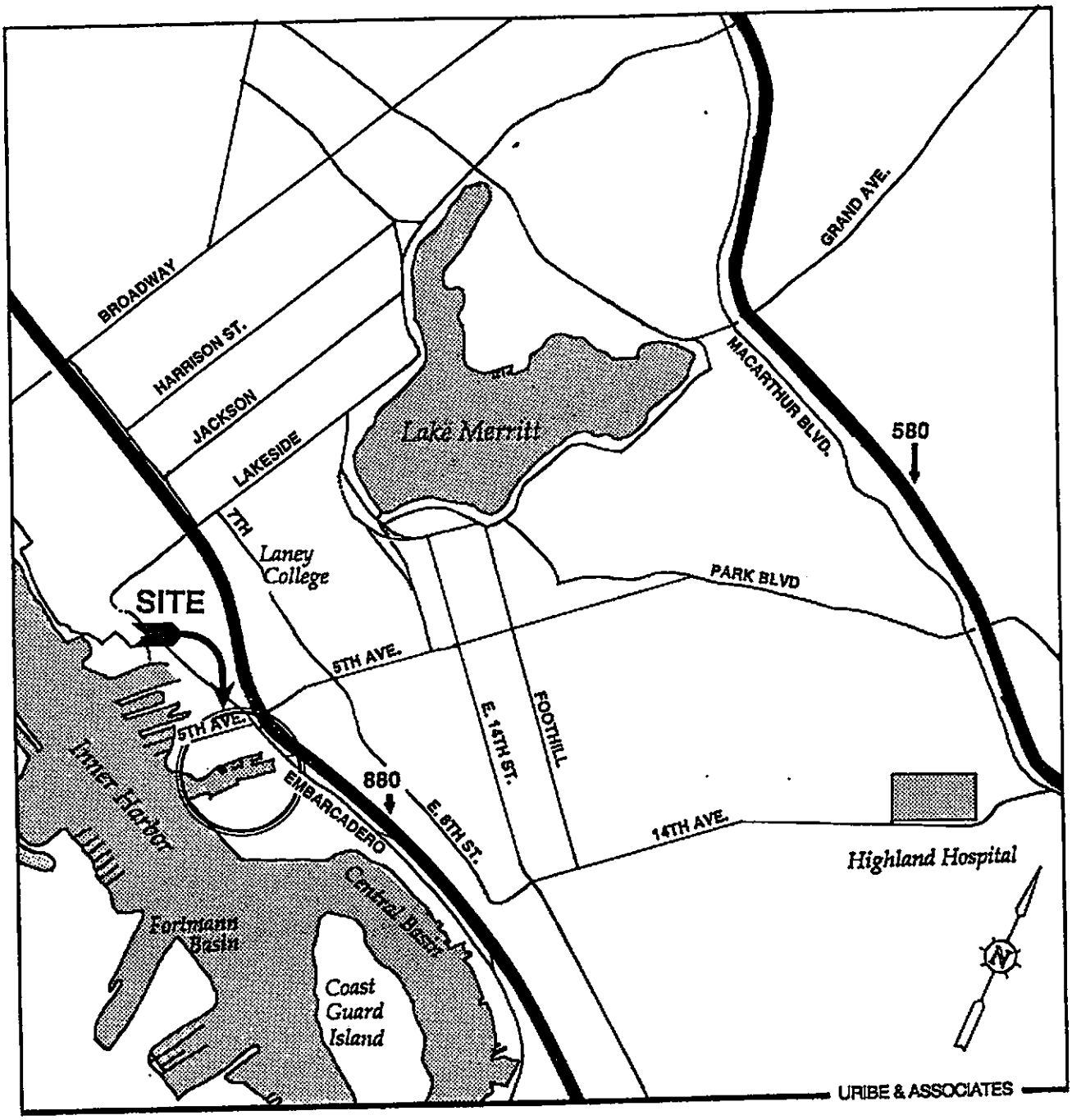


Figure 2: Location Map