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CONSULTING ENGINEERS AND HYDROGEOLOGISTS

October 31, 1988 LF-1245

Mr. Ariu Levi
Division of Hazardous Materials
Department of Environmental Health
Alameda County Health Agency
470 27th Street, Room 322
Oakland, California 94612

Subject: Enclosed Reports:

1) Removal of Petroleum-Affected Soils from the Field Area South of the Powerhouse, Alameda Marina Village, Alameda, California

2) Investigation of Northwest Area, Marina Village, Alameda, California

Dear Ariu:

Enclosed are the subject reports detailing remediation and investigation work recently completed at the Alameda Marina Village, in Alameda.

These reports are being forwarded to you for your review. Please make note of the proposed bioremediation treatment for the approximately 5,000 cubic yards of petroleum-affected soils excavated from the "Field Area", as described in report (1). We are proposing to conduct this soil treatment on the site denoted "Northwest Area", where petroleum has been encountered in subsurface soils and ground water as described in report (2).

Our investigation of the Northwest Area indicates that elevated concentrations of diesel are present in soils and ground water in a portion of the site (720 to 11,000 ppm in the soils and 43 to 62 ppm in the ground water). However, results of our investigation indicate that the migration potential of this petroleum is relatively low, and that it does not appear to be migrating off-site.

We have proposed a long-term ground-water monitoring program for the Northwest Area. In the event that ground-water quality data obtained from the monitoring wells indicate that the petroleum is mobile and that there is a significant potential for off-site migration, then further remediation measures will be implemented.

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We have corresponded with the Regional Water Quality Board (RWQCB, Katie Hart and Lisa McCann) regarding the proposed biotreatment and ground-water monitoring program. Although the RWQCB agrees with the proposed remediation/monitoring measures, they indicated that the Alameda County Health Agency will be responsible for review and project oversight.

The one concern expressed by the RWQCB was that a time frame for the long-term monitoring of the Northwest Area was not clearly defined. To clarify, we have proposed that quarterly sampling be performed for a period of two years, and at that time, sampling frequency be re-evaluated. We anticipate that the results of the first two years of monitoring will provide data to further assess migration potential and evaluate trends in ground-water petroleum concentrations (seasonal, tidal, changes with time), such that sampling can continue after the first two years at a lesser frequency (annually or semi-annually).

Further remediation measures of the Northwest area are not proposed in detail at this time. However, in the event that a potential for off-site migration becomes apparent during the monitoring, further remediation measures, such as a perimeter drain or cut-off wall, or source removal will be considered.

Please review the reports. We would appreciate any comments you may have regarding our remediation/monitoring plans, and if they meet with your approval. Your prompt attention would be appreciated, as we would like to initiate the remediation and monitoring as soon as possible.

I will call you next week to discuss implementation of the program. If you have any questions before then, please call me or Tom Graf.

Sincerely,

Elizabeth Nixon
Project Engineer

enclosures

cc: Don Parker, Vintage Properties/Alameda Commercial
Steve Getty, Vintage Properties/Alameda Commercial

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Removal of Petroleum-Affected Soils from the Field Area South of the Powerhouse Alameda Marina Village Alameda, California

October 5, 1988
1245

Prepared for:

Vintage Properties/Alameda Commercial
1150 Marina Village Parkway
Alameda, California 94501

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October 5, 1988

LF-1245

Mr. Don Parker
Vintage Properties/Alameda Commercial
1150 Marina Village Parkway
Alameda, California 94501

Subject: Report Detailing Excavation of Petroleum-Affected Soils from the Field Area South of the Powerhouse, Alameda Marina Village, Alameda, California.

Dear Don:

Enclosed please find the subject report detailing excavation, soil sampling procedures, chemical analysis results, waste characterization and data interpretation.

Diesel-affected soils within an area of approximately 6,300 square yards, with a thickness of about one foot, were excavated from the subject site. The total volume of soils excavated was approximately 5,000 cubic yards.

Laboratory analyses of soil samples collected from the excavation bottom indicate that the petroleum-affected soils have been sufficiently removed from the area, to the extent that no further remediation of the soils should be required.

Fuel identification analyses indicated that several types of fuels were present in the soils, predominantly diesel fuels (#2 and #6) and smaller amounts of heavier oils.

The excavated soils, stockpiled on a vacant lot south of Tyson Street, were tested to assess their average concentration of petroleum hydrocarbons. The soils contained 85 to 370 parts per million (ppm) total petroleum hydrocarbons (TPH), averaging about 200 ppm. These concentrations are above the RWQCB guidelines of 100 ppm TPH for disposal at a Class III landfill.

Two underground fuel storage tanks were removed from the site, and disposed of with a hazardous waste manifest. These tanks had apparently been in the ground for at least 45 years, as indicated by a 1943 Sanborn map of the area. When encountered, the tanks

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were found to contain #2 diesel fuel. There was evidence that leakage from one of the tanks had occurred into surrounding soils.

Besides the apparent underground tank leakage of #2 diesel fuel, sources of other fuels encountered in the soil were not distinguishable, based either on field evidence or laboratory data. It is assumed that the other, heavier fuels were introduced to the site decades ago when previous industrial facilities were active at and in the vicinity of the site.

Although no further remediation requirements are anticipated for the site, it is likely that ground-water quality monitoring will be required.

If you have any questions, comments, or would like to request any modifications to the report, please contact the undersigned at your earliest convenience.

Sincerely,

Tom Graf, P.E.
Principal Engineer

Elizabeth Nixon
Project Engineer

enclosure

C O N T E N T S

LIST OF TABLES AND FIGURES

October 5, 1988 LF-1245

**REMOVAL OF PETROLEUM-AFFECTED SOILS
FROM THE FIELD AREA SOUTH OF THE POWERHOUSE
ALAMEDA MARINA VILLAGE
Alameda, California**

1.0 INTRODUCTION

This report describes excavation activities conducted June 9 through 24 and September 9, 1988, and tank removal activities performed July 26, 1988 in the field area south of the Powerhouse ("the Site"). The area is located southwest of Marina Village Parkway and north of Tyson Street in Alameda Marina Village in Alameda, California (Figure 1).

1.1 Background

A previous investigation conducted in March 1988 by Levine·Fricke revealed the presence of an approximately 1-foot thick interval of petroleum-affected soils in the field area south of the powerhouse. An area of approximately 5,550 square yards (sy) near the water table (6 to 12 feet below ground surface) was affected. The petroleum was identified by a specialty fuel identification laboratory as a degraded diesel fuel. Total petroleum hydrocarbon (TPH) concentrations in the soils ranged from 70 to 13,000 parts per million (ppm).

Water-quality data gathered from the sampling of shallow ground-water monitoring wells (installed in the field area as part of the investigation) indicated that the petroleum-affected soils have had only a minor impact on site ground-water quality. Of two wells located within the affected area, a ground-water sample from one well contained 1.8 ppm TPH, while the other well did not contain detectable concentrations of TPH. Neither well contained detectable concentrations of benzene, toluene, xylenes, or ethylbenzene (BTXE). Of three ground-water monitoring wells 50 to 250 feet northwest and west of the affected area, a ground-water sample from only one well contained very low concentrations of BTXE (less than 1 ppb of toluene and ethylbenzene, and 3 ppb of xylenes). Otherwise, there were no detectable concentrations of TPH or BTXE in ground-water samples from these wells.

Results of this investigation were reported in Levine·Fricke's April 25, 1988 draft report to Vintage Properties/Alameda Commercial.

1.2 Summary of Recently-Completed Work

Vintage Properties/Alameda Commercial chose to remove the petroleum-affected soils from the field area to reduce the potential for future environmental liabilities at the site.

Approximately 5,000 cubic yards (cy) of soil were removed during excavation activities. Excavated soils were stockpiled on an engineered surface at an adjacent property on the south side of Tyson Road, south of the field area (Figure 2). Sampling and chemical analyses of these soils indicated that their TPH concentrations ranged between 87 and 370 ppm, averaging approximately 200 ppm.

A redwood-box tunnel containing utility pipes and two underground fuel storage tanks containing diesel fuel were encountered in the field area during excavation activities. The redwood box and piping were removed during excavation. The wood from the tunnel was stockpiled with the excavated soils. The pipes were disposed of as scrap metal by local metal recyclers (these had apparently been used as water pipes, as indicated on a 1943 Sanborn map). The tanks and their contents were removed after appropriate county and city permits had been obtained; they were manifested and transported to an appropriate receiving facility.

2.0 SITE SETTING

2.1 Geology

Subsurface soils consisted of approximately 5 to 10 feet of brown, silty, sandy and/or gravelly clay fill with variable amounts of large rocks and debris (wood, brick, concrete and asphalt). These materials were underlain by green-grey sand, silty to clayey sand, and sandy and silty clay fill containing variable amounts of shell and wood fragments. The water table was approximately 6 to 12 feet below ground surface, and generally corresponded to 1 to 2 feet below the bottom of the brown fill.

2.2 Subsurface Structures

The location of the redwood-box tunnel and pipes (one 10-inch, one 8-inch, and one 6-inch diameter) is shown on Figure 2. This pipe tunnel was situated at approximately the depth of ground water and was supported by concrete boxes about every 50 feet. The 1943 Sanborn map of that area shows the tunnel and pipes to be part of the facilities located there at that time. The extension of the tunnel and/or pipes beyond the area excavated, as illustrated on the Sanborn map, is partially shown on Figure 2. The present condition or existence of these pipes outside the

field area is not fully known, but it is likely that portions of the pipes were removed during redevelopment of the site over the last several years.

Numerous other pipes or segments of pipes were encountered during the excavation work. Several 2- to 4-inch-diameter pipes, oriented approximately parallel to the railroad tracks, were located close to the eastern edge of the excavation at about the depth of ground water. These pipes were removed during excavation work and, as they did not appear to have carried fuel, were collected by local recyclers as scrap metal. Segments of a deteriorated 18-inch-diameter corrugated drainage culvert running obliquely crossed the site were encountered, as shown on Figure 2. Petroleum hydrocarbons had accumulated in the pipe, so it was removed and stockpiled with the petroleum-affected soils.

The locations of the two underground storage tanks encountered in the field area are shown on Figure 2. The 1943 Sanborn map indicates that these tanks, one 1,500-gallon capacity (Tank 1), and one 2,400-gallon capacity (Tank 2), were used to store fuel oil. Both tanks contained #2 Diesel fuel when they were encountered. The design of the larger tank (described below) suggested that it had been used at one time to store fuel heavier than #2 Diesel. The smaller tank had not been designed for heavier fuels.

2.3 Distribution of Petroleum-Affected Soils

The black petroleum-stained sediments were contained within the normally green-gray sandy fill material at ground-water depth. The highly-weathered product appeared to be generally immobile, except in a few areas where pockets of product had accumulated, and near one of the underground storage tanks where product appeared less weathered.

Petroleum-affected soils were somewhat discontinuous throughout the area and of variable thicknesses. The thickest areas of staining (1 to 2 feet thick) were located in the central portion near the wooden tunnel and drainage culvert, and in the southwest central portion near the 1,500-gallon capacity fuel oil tank. Near soil sample location 5 (see Figure 2), an apparently isolated pocket of very viscous, dark product was encountered seeping from the excavation sidewall. The product was identified as resembling a Bunker C fuel (see Fuel Fingerprinting Analysis, Section 6.0). The oily material appeared to have accumulated in the drainage culvert located in that area. Concentrated pockets of oily sediments inside and around this culvert continued intermittently for about 50 feet on either side. Near the edges of the affected area, the petroleum staining became very thin and discontinuous and generally pinched out.

3.0 FIELD AREA PETROLEUM-AFFECTED SOILS

3.1 Excavation

Excavation activities were performed by Fanfa, Inc. of San Lorenzo, California on June 9 through June 24, 1988. On September 9, 1988, a small additional area was excavated by O.C. Jones of Oakland, after initial chemical analyses data indicated that a small quantity of petroleum-affected soils had not been removed during the initial excavation work. (This area is represented by the sampling locations 46, 47, and 49 on Figure 2.) Either a Levine·Fricke field engineer or geologist was on-site during excavation activities to observe the removal of petroleum-affected soils.

Excavation boundaries are shown in Figure 2. Approximately 6 to 10 feet of petroleum-free soils overlying the petroleum-affected layer were removed by excavation scrapers. When soils that appeared stained or oily were encountered, an excavator dug these out and loaded them into dump trucks for transport to the prepared stockpile area. The excavated area was then backfilled with the upper, clean fill. The excavation proceeded in sections, so that upper fill removed to expose the petroleum-affected soils was used to backfill an adjacent area where the petroleum-affected soils had already been excavated. Excavating and backfilling in this manner prevented the accumulation of ground water in the excavation area.

The stockpile area was prepared by compacting the top 6 inches of existing soil (by wheel-rolling) and surrounding this area with an earthen berm. Ten-millimeter-thick plastic sheeting was placed on top of the prepared surface. After the soils were stockpiled, a 5-foot high perimeter fence was installed to restrict access to the pile.

3.2 Soil Sampling

Soil samples were collected from the bottom of the excavated area to document removal of petroleum-affected soils. One sample (PHF16) was collected from the sidewall of the excavation adjacent to the wooden tunnel, on the western boundary of the excavation area. Locations of soil samples which were chemically analyzed are shown on Figure 2. Samples were collected in clean brass tubes, capped with aluminum foil and plastic caps, secured with electrical tape, and labeled. The samples were then placed in a cooled ice-chest for transportation to a laboratory for chemical analyses.

3.3 Laboratory Analyses

Twenty-six soil samples were analyzed for TPH using EPA Method 8015 (extraction) to assess whether petroleum-affected soils had been adequately removed. Laboratory analyses were performed by Brown and Caldwell Laboratories, of Emeryville; Med-Tox Associates of Pleasant Hill; and NET Pacific of Santa Rosa.

Twenty-three of these samples represent soils collected from the boundaries of the excavation. Results indicate that residual concentrations of TPH in the remaining soils are generally non-detectable, although one sample (PHF45) contained 60 ppm. Analysis results for these samples are listed on Table 1.

The remaining three soil samples (PHF14, PHF27, and PHF35/36) were collected from soils which were later excavated and added to the stockpile. Sample PHF27 was collected near the 1,500-gallon capacity fuel tank to assess TPH concentrations. Analysis results indicate that 1,400 ppm of diesel were present in these soils. Sample PHF35/36 was a composite analyzed to evaluate concentrations in the soils near the southeastern boundary of the excavation. Analysis results indicated that these soils contained 94 ppm TPH. Sample PHF14, near the northeastern excavation boundary, contained 980 ppm TPH. Soils in this area were excavated on September 9, 1988. Samples PHF46, PHF47 and PHF49 are representative of the soils which remain in this part of the excavation.

Laboratory certificates for all analyses are attached in Appendix A. (Sample identifications on the data sheets are PHF1 through PHF49).

4.0 STOCKPILE CHARACTERIZATION

After the excavated soils were stockpiled and spread evenly over the prepared area, their chemical characterization was completed to assist in evaluating disposal/remediation alternatives. Characterization included the collection and laboratory analysis of twenty-eight soil samples from the stockpile.

Sample locations were spaced evenly across the stockpile. A backhoe was used to dig several feet under the surface of the pile to collect samples. Samples were collected in brass tubes, capped with aluminum foil and plastic caps, secured with electrical tape and stored in a chilled cooler for transportation to the analytical laboratory (Med-Tox Associates of Pleasant Hill).

Laboratory analyses were performed on fourteen composited samples for TPH (extraction). Additionally, four samples were analyzed for benzene, toluene, xylenes, and ethylbenzene (BTXE). Analysis

results indicate that TPH concentrations range between 85 and 370 ppm, with an average of about 200 ppm. Toluene was present in the four samples at concentrations of 0.013 to 0.018 ppm. Concentrations of benzene, xylene and ethylbenzene were not detectable. Tables 2A and 2B summarize this data.

Laboratory certificates of these analyses are included in Appendix A. (Sample identifications on the data sheets are PHFSP1 through PHFSP28).

It is presently anticipated that these soils will be bioremediated on an adjacent parcel of land owned by Vintage Properties. Discussions on this subject are currently being conducted with the RWQCB.

5.0 UNDERGROUND TANK REMOVAL

Two underground tanks were exposed during the field area excavation activities between June 9 and 24, 1988. Their locations are shown on Figure 2.

A 1,500-gallon capacity tank, located within the boundary of the petroleum-affected soils, was about half-full of water with a floating diesel layer several inches thick. The fluid level appeared to be roughly the same as the surrounding ground water. A thin, oily surface-sheen was present on the ground water surrounding the tank. Visual observations of soils surrounding the tank indicated that product had spilled or leaked from the tank.

The location of the second tank, about 30 feet outside (south) the boundaries of the petroleum-affected soils, was identified by inspection of a 1943 Sanborn map. Soils overlying the tank were excavated to expose the top of the tank. The ground-water level was at about the middle of the tank. The tank was filled nearly to the top with product, whose level was above the surrounding ground-water, indicating that little, if any, fuel had leaked from this tank.

Subsequent removal of the two tanks was postponed until the appropriate county and city tank removal permits could be obtained. Consequent tank removal procedures and soil sampling locations, methods and chemical analyses are described below.

5.1 Tank Excavation

The two underground tanks were removed by Tank Excavators of Santa Cruz on July 26, 1988. A representative from the Alameda Fire Department (AFD) was present during the removals and soil sampling. The Alameda County Environmental Health Department (ACEHD), although notified of the removal, did not attend. A

Levine·Fricke engineer was on-site to observe the removals and to collect soil samples from the tank excavations.

Observations were made during removal activities regarding tank integrity, evidence of leakage, and occurrence of chemicals in the soils. Soil samples were collected from the edges of the excavation at the depth of the ground water (both tanks were submersed approximately half-way below ground-water level). A ground-water sample was collected from the 1,500-gallon capacity tank excavation. A ground-water sample was not collected from the 2,400-gallon capacity tank excavation, as limited spillage of the fuel during removal activities prevented representative sampling.

5.2 Tank Stabilization Procedures

The tanks were rendered inert by purging the remaining fluid from them (approximately 3,500 gallons from both tanks) and inserting dry ice to remove organic vapors and oxygen from the tanks. Explosivity meter readings in the tanks at least one hour after the dry ice was inserted indicated that vapor concentrations were below the Lower Explosive Limit (LEL) of 20 percent.

5.3 Tank and Tank Contents Disposal

Fuel and water contained in the tanks were pumped into a vacuum truck and transported with a hazardous waste manifest by H&H Ship Services to their receiving facility in San Francisco. The tanks were also transported with a hazardous waste manifest by H&H Ship Services to the same receiving facility. Copies of the manifests are included in Appendix B.

5.4 Tank Inspection and Field Observations

After the tanks had been emptied and excavated, they were visually inspected. Descriptions of each tank are provided below.

Tank 1

The 1,500-gallon capacity tank was constructed of steel with welded seams. The tank had a 3-inch by 1-inch hole at a seam on the bottom of the south end but otherwise appeared to be in good condition. Appurtenant piping was not attached to the tank.

As mentioned above, evidence of leakage or spillage from the tank was observed in the surrounding ground-water and soils.

Tank 2

The 2,400-gallon tank was constructed of steel with riveted seams and was fitted with a heating element on the west end. The west

end was also fitted with a bolted plate containing a threaded clean-out plug near the bottom. An inlet fixture (1-inch diameter) was located at the center of the east end. The tank construction indicates that it at one time had been used for heavy fuel oil storage, such as a bunker oil or heavy diesel (#6), and may have been later adapted to store a lighter fuel.

Several holes (several inches in diameter) were found along the top of the tank. The remaining body of the tank contained no observable cracks or holes, except that the inlet structure at the east end of the tank was open. Appurtenant piping was not attached to the tanks.

During initial location and removal activities, the wall of the tank was inadvertently punctured and a small quantity of fuel (several gallons) was released into adjacent soils before the holes were plugged. As the tank was virtually full of fuel, it appears that there had been little, if any, leakage since tank use was discontinued.

5.5 Soils Excavation and Ground-Water Removal

Tank 1

The petroleum-affected soils immediately adjacent to the tank were removed during field area excavation work, as described above. Standing ground water in the tank excavation, which contained a thin sheen of oily residue, was pumped into a vacuum truck and transported under hazardous waste manifest by H&H Ship Services to their receiving facility in San Francisco.

Tank 2

Soils affected by diesel spillage during the removal of Tank 2 were added to the existing stockpile of petroleum-affected soils. Ground water in the open excavation was pumped into a vacuum truck with the ground water from the Tank 1 excavation and transported as described above.

Approximately 500 gallons of ground water were pumped from the two excavations. A copy of the hazardous waste manifest for this water is included in Appendix B.

5.6 Excavation Backfilling

Tank excavations were backfilled during grading work being performed simultaneously at the site by Vintage Properties subcontractors.

5.7 Sampling Locations and Chemical Analyses

Soil samples were collected in clean brass tubes from the bucket of a backhoe. Sample tubes were labeled, capped with aluminum foil and plastic caps, and sealed with electrical tape. Samples were temporarily stored in a chilled cooler for transportation to the analytical laboratory (Brown and Caldwell Laboratories of Emeryville, California). Samples were transported under strict chain-of-custody protocol.

As required by the AFD on-site representative, two soil samples from each tank excavation were collected. Sampling depths corresponded to the depth of the ground water. Sample locations are shown on Figure 3.

Ground-water samples from the Tank 1 excavation was collected in 40 ml volatile organic analyzer (VOA) containers.

Soil and ground-water samples were analyzed for TPH using EPA Method 8015. The ground-water sample was additionally analyzed for purgeable aromatics using EPA method 602. Analysis results indicate that soils and ground water do not contain petroleum hydrocarbon concentrations above current regulatory guidelines and that petroleum-affected soils have been adequately removed from around the tanks. The ground water did not contain concentrations of purgeable aromatics (BTXE and 1,2-, 1,3- and 1,4-dichlorobenzenes) above the DOHS State action levels.

Analysis data is summarized in the table on Figure 3. Laboratory certificates are included in Appendix A.

6.0 FUEL FINGERPRINTING ANALYSIS

Fuel samples were collected from inside the two tanks for fuel identification (labeled as Tank 1 product, from the 1,500-gallon capacity tank, and Tank 2 product and Tank 2 Sludge, from the 2,400-gallon capacity tank). Additionally, a sample of a very viscous oil (labeled as Soil Product) observed near sampling location 5 (as described in section 2.3) was submitted for analysis. Several soil samples containing petroleum product were also fingerprinted. Farr, Friedman, and Bruya, Inc., a specialty fuel identification laboratory in Seattle, Washington, performed the identifications.

The products in both fuel tanks were identified as a #2 Diesel fuel, although the Tank 1 and Tank 2 products were not identical. The viscous oil was identified as a heavy residual product, such as a Bunker C fuel.

Previous identification of the TPH encountered during initial soil borings in March 1988 (also performed by Farr, Friedman and Bruya, and referenced in their current July 5, 1988 report included in Appendix A) indicated that the product resembled a #6 Diesel, a product heavier than a #2 Diesel but lighter than a Bunker C fuel.

The petroleum hydrocarbon encountered in soils outside the 1,500 gallon capacity tank (Samples Tank1-N1 and PHF27) was identified as a weathered #2 Diesel oil. The petroleum hydrocarbons in two soil samples from other parts of the site (PHF35/36 and PHF45) were identified as a heavy diesel fuel (possibly a #6) and a heavy residual petroleum distillate.

Fuel identification data is included in Appendix A.

Based on these identifications, there appears to be a combination of products distributed at the site. However, apart from the apparent leakage of #2 Diesel from the 1,500-gallon capacity tank into surrounding soils, the source of the other, heavier products is not evident. The construction of the 2,400-gallon capacity tank, as discussed in Section 5.4, does however suggest that heavier fuels had been used at the site at one time.

The available information does not enable us to assess how these fuels were introduced into the subsurface. The product distribution across the site appears to have occurred with ground-water movement, since it coincides with the depth of the ground water. Additionally, subsurface conduits, such as the redwood tunnel and drainage culvert, could have provided transport avenues.

7.0 SUMMARY AND CONCLUSIONS

As reported above, Levine·Fricke observed the excavation of petroleum-affected soils and the removal of two underground fuel storage tanks. Based on field observations and laboratory data obtained during the work, the following statements can be made.

- Diesel-affected soils across an area of approximately 6,300 square yards and a thickness of about 1 foot were excavated. The diesel-affected soils occurred at about the depth of the ground-water level.

- The volume of soils removed and stockpiled is about 5,000 cubic yards, and reflects some bulking and over-excavation beyond the in-place volume of diesel-affected soils.

- Laboratory analysis results of soil samples collected from the excavation boundaries indicate that diesel-affected soils have been adequately removed from the site. Reported

concentrations remaining in the soils are mostly not detectable, and otherwise only one sample contained 60 ppm. This relatively low concentration at a localized sampling point should not require any further action.

- Two underground diesel storage tanks, which have been in the ground for at least 45 years (as estimated from a 1943 Sanborn Map), were removed and disposed of with a hazardous waste manifest. There was evidence of leakage from one of the tanks (1,500-gallon capacity), as indicated by a hole on the tank bottom, the presence of water in the tank, and the product observed in the surrounding soils. The other tank apparently had not leaked, as indicated by tank integrity and the fact that the tank was virtually full of fuel.

- The fuels inside the tanks, and ground water from the tank excavations were pumped into vacuum trucks and disposed of with hazardous waste manifests.

- The fuels inside the two tanks were identified as #2 Diesel. Other product encountered in soils at the site was identified as including #6 Diesel and Bunker C fuel.

The source(s) of the fuels encountered in the soil are not distinguishable based on field evidence and laboratory data, except for leakage of #2 Diesel from one of the tanks. It is assumed that the heavier fuels were introduced to the site when previous industrial facilities were active on and in the vicinity of the site. Distribution of the products at that time likely occurred with ground-water movement and transport through subsurface conduits such as the redwood tunnel and drainage culvert. However, over the years the product has degraded and has become relatively immobile in the subsurface. There appears to be little impact of the petroleum products on current ground-water quality.

- Characterization results of the stockpiled soils indicated the presence of extractable TPH at concentrations between 85 and 370 ppm. These results indicate that the soils are not classified as a hazardous waste, defined by the Department of Health Services (DOHS) as soils exceeding 1,000 ppm concentration of TPH. However, these concentrations still classify the soils as a designated waste (over 100 ppm). According to this guideline, used by the Regional Water Quality Control Board (RWQCB), the soils do not qualify for disposal at a Class III landfill. Aromatic compounds were generally not detected, except for toluene at very low concentrations of 0.013 and 0.018 ppm.

- It is anticipated that the RWQCB will require monitoring wells within the excavated area to document post-remediation ground-water quality.

- Bioremediation of stockpiled diesel-affected soils is presently planned on an adjacent parcel owned by Vintage Properties.

TABLE 1

TOTAL PETROLEUM HYDROCARBONS
IN SOIL SAMPLES FROM EXCAVATION BOTTOM
(Results expressed in ppm)

Sample No.	Date	TPH	Laboratory
PHF-1	13-Jun-88	<10	B&C
PHF-3	13-Jun-88	<10	B&C
PHF-5	13-Jun-88	<10	B&C
PHF-7	13-Jun-88	<10	B&C
PHF-10	14-Jun-88	<10	B&C
PHF-11	16-Jun-88	<10	B&C
PHF-12	15-Jun-88	<10	B&C
PHF-13	16-Jun-88	<10	B&C
PHF-16	15-Jun-88	<10	B&C
PHF-18	16-Jun-88	<10	B&C
PHF-20	17-Jun-88	<10	B&C
PHF-23	17-Jun-88	<10	B&C
PHF-25	21-Jun-88	<50	M-T
PHF-31,31 *	21-Jun-88	<10	NET
PHF-33	21-Jun-88	<10	NET
PHF-37	21-Jun-88	<50	M-T
PHF-38	22-Jun-88	<50	M-T
PHF-40	22-Jun-88	<50	M-T
PHF-42	22-Jun-88	<50	M-T
PHF-44	23-Jun-88	<50	M-T
PHF-45	23-Jun-88	60	M-T
PHF-46	09-Sep-88	<10	B&C
PHF-47	09-Sep-88	<10	B&C
PHF-49	09-Sep-88	<10	B&C

* Composite Samples

All samples were analyzed using EPA Method 8015 (extraction).

Laboratories:

B&C = Brown and Caldwell Laboratories of Emeryville, California.

M-T = Med-Tox Associates of Pleasant Hill, California.

NET = National Environmental Testing, Inc. of Santa Rosa, California.

TABLE 2A

TOTAL PETROLEUM HYDROCARBONS
IN SOIL SAMPLES FROM STOCKPILE
(Results expressed in ppm)

Sample Number	Date	TPH
PHFSP-1,2 Composite	23-Jun-88	170
PHFSP-3,4 Composite	23-Jun-88	230
PHFSP-5	23-Jun-88	85
PHFSP-6,7 Composite	24-Jun-88	320
PHFSP-8,9 Composite	24-Jun-88	300
PHFSP-10,11 Composite	24-Jun-88	170
PHFSP-12,13 Composite	24-Jun-88	87
PHFSP-14,15 Composite	24-Jun-88	150
PHFSP-16,17 Composite	24-Jun-88	98
PHFSP-18,19 Composite	24-Jun-88	280
PHFSP-20,21 Composite	24-Jun-88	190
PHFSP-22,23 Composite	24-Jun-88	160
PHFSP-24,25 Composite	24-Jun-88	150
PHFSP-26,27 Composite	24-Jun-88	370

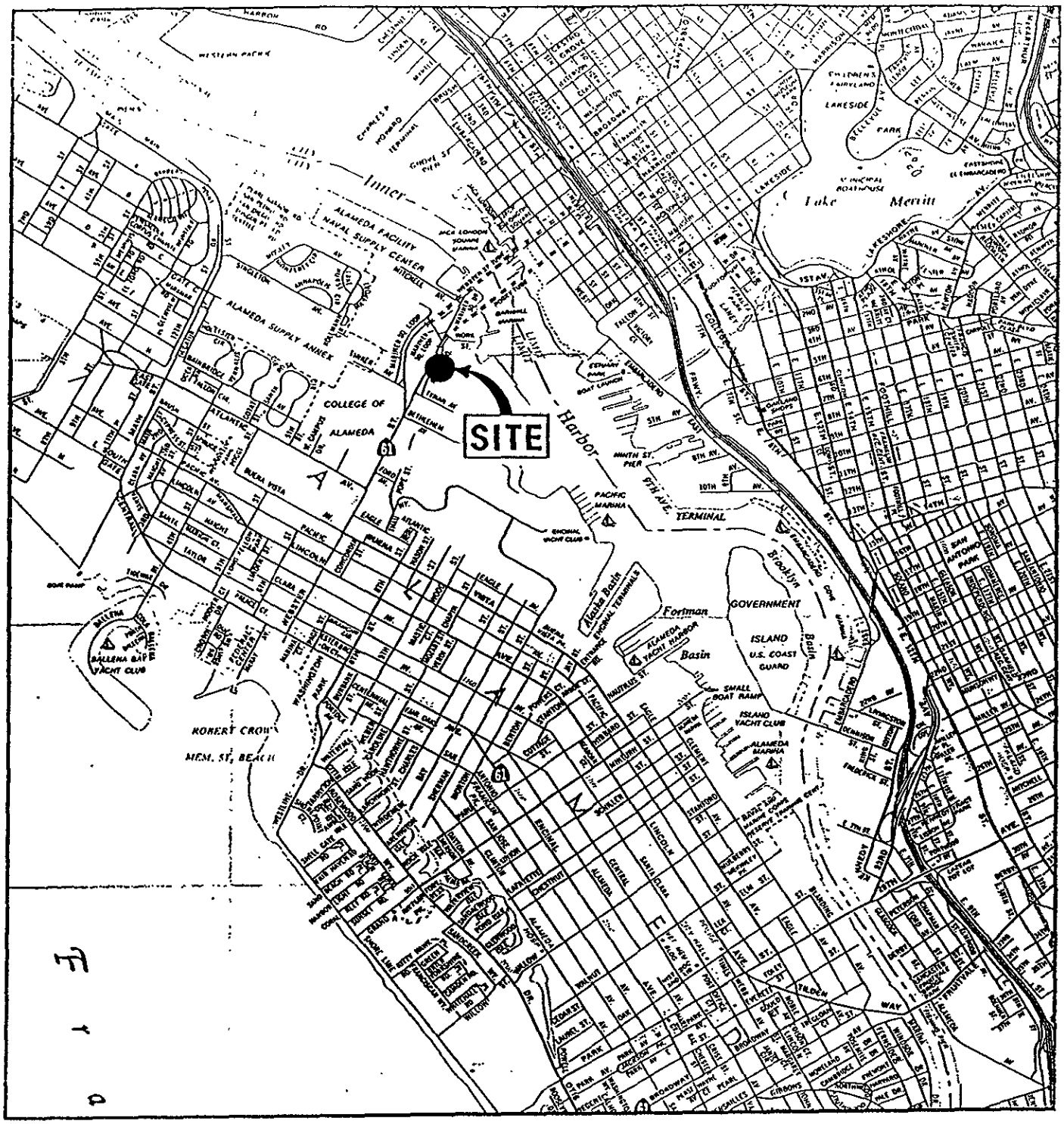
All analyses performed by Med-Tox Associates of Pleasant Hill, California, using EPA Method 8015 (extraction).

TABLE 2B

BENZENE, TOLUENE, XYLENE AND ETHYLBENZENE
IN SOIL SAMPLES FROM STOCKPILE
(Results expressed in ppm)

Sample Number	Date	Benzene	Toluene	Xylene	Ethylbenzene
PHFSP-10	24-Jun-88	<0.005	0.014	<0.005	<0.015
PHFSP-11	24-Jun-88	<0.005	0.018	<0.005	<0.015
PHFSP-26	24-Jun-88	<0.005	0.013	<0.005	<0.015
PHFSP-27	24-Jun-88	<0.005	0.014	<0.005	<0.015

All analyses performed by Med-Tox Associates of Pleasant Hill, California, using EPA Method 8020 (BTXE).



0 1/2 1 Mile

MAP SOURCE:
California State Automobile Association
Oakland/Berkeley/Alameda
June 1982

Figure 1 : SITE VICINITY

Project No.1245

LEVINE•FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

MAR68EAN/JJ

105486

N

WEBSTER STREET

MARINER SQUARE DRIVE

POWER HOUSE

Parking Lot

SHIPWAY 1

SHIPWAY 2

SHIPWAY 3

SHIPWAY 4

Alameda Inner Harbor

Landscaped Area

Previous Redwood Tunnel Containing Utility Piping *
(solid indicates portion removed during excavation)

MARINA VILLAGE PARKWAY

TRAIN STATION

LF1

LF2

LF3

Culvert Drainage

Shallow Ditch

1,500-Gallon Fuel Oil Tank (Removed)

STUDY AREA

RR Tracks

Approximate Excavation Boundary

Continuation of utility piping as indicated on Sanborn Map *

2,400-Gallon Fuel Oil Tank (Removed)

50-foot grid, provided by Vintage Properties

500-Gallon Fuel Oil Tank (as indicated on 1943 Sanborn Map - current status is unknown)

TYSON STREET

Stockpiled Soils

0 100 200 feet
(Approximate)

EXPLANATION

LF3 ● Shallow ground-water monitoring well

7 ○ Soil sampling location

* Piping route beyond excavated area is identified on August 1943 Sanborn map and is partially illustrated. The Sanborn Map indicates that pipes within redwood tunnel are water lines. Portions of the tunnel and pipes may have been removed during development work on the property

Figure 2:

SITE PLAN SHOWING SOIL SAMPLING LOCATIONS, MONITORING WELL LOCATIONS AND SUBSURFACE STRUCTURES (UNDERGROUND FUEL STORAGE TANKS AND PIPING)

Project No 1245

LEVINE•FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

FN19AUG88JT

105486

TPH and BTXE Analysis Results (ppm)					
Sample No.	TPH	B	T	X	E
Tank 1-E1	<10	NA	NA	NA	NA
Tank 1-W1	<10	NA	NA	NA	NA
Tank 2-E1	33	NA	NA	NA	NA
Tank 2-W1	<10	NA	NA	NA	NA
Tank 1-Water	<1	<0.0005	0.0005	0.0011	<0.0005

Soil Sample

Groundwater Sample

NA = Not analyzed
Analyses performed by Brown & Caldwell
using EPA Methods 8015 (TPH) and 602 (BTXE)

N

MARINER SQUARE DRIVE

WEBSTER STREET

POWER HOUSE

Parking Lot

SHIPWAY 1

TRAIN STATION

RR Tracks

LF-3

LF-2

LF-1

Excavation Boundary

MARINA VILLAGE PARKWAY

Shallow Ditch

Former 1,500 Gallon Fuel Oil Tank

Tank 1-E1

Tank 1-W1

Tank 1-Water

FIELD AREA

Excavation Boundary

Tank 2-E1

Tank 2-W1

Former 2,400 Gallon Fuel Oil Tank

TYSON STREET

EXPLANATION

- Soil sample location
- Ground-water sample location
- Shallow ground-water monitoring well

0 100 200 feet

Approximate Scale

Figure 3 :

SITE PLAN SHOWING FORMER UNDERGROUND FUEL STORAGE TANKS AND SOIL SAMPLE LOCATIONS, WITH TPH AND BTXE ANALYSIS DATA

Project No 1245

LEVINE•FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

EN22AUG88JT

APPENDIX A

LABORATORY CERTIFICATES

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E88-06-503

Received: 17 JUN 88
Reported: 05 JUL 88

Dr. Akali Igbene
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608

Project: 1245

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
06-503-1	PHF-1	13 JUN 88
06-503-2	PHF-3	13 JUN 88
06-503-3	PHF-5	13 JUN 88
06-503-4	PHF-7	13 JUN 88
06-503-5	PHF-10	14 JUN 88

PARAMETER	06-503-1	06-503-2	06-503-3	06-503-4	06-503-5
Total Fuel Hydrocarbons					
Date Analyzed	06.30.88	06.30.88	06.30.88	06.30.88	06.30.88
Total Fuel Hydrocarbons, mg/kg	<10	<10	<10	<10	<10
Other Total Fuel Hydrocarbons	---	---	---	---	---

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E88-06-503

Received: 17 JUN 88
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Dr. Akali Igbene
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608

Project: 1245

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
06-503-6	PHF-12	15 JUN 88
06-503-7	PHF-14	15 JUN 88
06-503-8	PHF-16	15 JUN 88
06-503-9	PHF-18	16 JUN 88
06-503-10	PHF-20	17 JUN 88

PARAMETER	06-503-6	06-503-7	06-503-8	06-503-9	06-503-10
Total Fuel Hydrocarbons					
Date Analyzed	06.30.88	06.30.88	06.30.88	06.30.88	06.30.88
Fuel Characterization	---	OIL	---	---	---
Total Fuel Hydrocarbons, mg/kg	<10	930	<10	<10	<10

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E88-06-503

Received: 17 JUN 88
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Dr. Akali Igbene
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608

Project: 1245

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
06-503-11	PHF-23	17 JUN 88
06-503-12	PHF-2	13 JUN 88
06-503-13	PHF-4	13 JUN 88
06-503-14	PHF-6	13 JUN 88
06-503-15	PHF-8	13 JUN 88

PARAMETER	06-503-11	06-503-12	06-503-13	06-503-14	06-503-15
Sample Held, Not Analyzed	---	HELD	HELD	HELD	HELD
Total Fuel Hydrocarbons					
Date Analyzed	06.30.88	---	---	---	---
Total Fuel Hydrocarbons, mg/kg	<10	---	---	---	---
Other Total Fuel Hydrocarbons	---	---	---	---	---

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E88-06-503

Received: 17 JUN 88
Reported: 05 JUL 88

Dr. Akali Igbene
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608

Project: 1245

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
06-503-16	PHF-9	14 JUN 88
06-503-17	PHF-11	15 JUN 88
06-503-18	PHF-13	15 JUN 88
06-503-19	PHF-15	15 JUN 88
06-503-20	PHF-17	16 JUN 88

PARAMETER	06-503-16	06-503-17	06-503-18	06-503-19	06-503-20
Sample Held, Not Analyzed	HELD	HELD	HELD	HELD	HELD

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E88-06-503

Received: 17 JUN 88
Reported: 05 JUL 88

Dr. Akali Igbene
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608

Project: 1245

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
06-503-21	PHF-19	16 JUN 88
06-503-22	PHF-21	17 JUN 88
06-503-23	PHF-22	17 JUN 88
06-503-24	PHF-24	17 JUN 88
06-503-25	PRODUCT	17 JUN 88

PARAMETER	06-503-21	06-503-22	06-503-23	06-503-24	06-503-25
Sample Held, Not Analyzed	HELD	HELD	HELD	HELD	HELD

These results confirming verbal report to E. Nixon on 7/7/88 by L. Penfold. Additional work for samples PHF-11,13,& 14 to follow.

Sim D. Lessley, Ph.D., Laboratory Director

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

6-503

Project No.: 1245	Field Logbook No.:	Date: 6-17-88	Serial No.: Nº 3238
Project Name: ALAMEDA marina village	Project Location: ALAMEDA, CA		
Sampler (Signature): E. Nixon			

Samplers: E. NIXON, B. DEYO

	SAMPLES						ANALYSES								
	SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	8015 extended				HOLD	RUSH	REMARKS
20	PHF-17	6-16-88			1	Soil							X		
9	PHF-18	6-16-88			|	|			X				X		
21	PHF-19	6-16-88			|	|			X				X		
10	PHF-20	6-17-88			|	|			X						REGULAR 2-WK TAT
22	PHF-21	|			|	|							X		
23	PHF-22	|			|	|							X		
11	PHF-23	|			|	|			X						
24	PHF-24	|			|	|							X		
25	Product				1	liquid									X	Analyze for Diesel - Water Soil
																Note: Homogenize samples before analysis

RELINQUISHED BY: (Signature)	DATE 6/17/88 TIME	RECEIVED BY: (Signature)	DATE TIME
RELINQUISHED BY: (Signature)	DATE TIME	RECEIVED BY: (Signature)	DATE 6/17 TIME 6:10
RELINQUISHED BY: (Signature)	DATE TIME	RECEIVED BY: (Signature)	DATE TIME
METHOD OF SHIPMENT:	DATE TIME	LAB COMMENTS:	

SAMPLE COLLECTOR: (check one)

☒ LEVINE·FRICKE ~~629 Oakland Avenue Oakland~~, CA 94611-4567 (415) 652-4500
1900 Powell Emeryville

☐ LEVINE·FRICKE 4019 Westerly Place, Suite 103 Newport Beach, CA 92660 (714) 955-1390

Analytical Laboratory: B & C Emeryville attn: Larry

Shipping Copy (White) Lab Copy (Green) File Copy (Yellow) Field Copy (~~Pink~~)

FORM NO. 86/COC/ARF

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

6-503

Project No.: 1245-

Field Logbook No.:

Date: 6/17/88

Serial No.: Nº 3237

Project Name: Alameda Marina Village

Project Location: Alameda

Sampler (Signature):

Samplers: E. NIXON, B. DEYO

SAMPLES						ANALYSES								
SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	8015 Extraction				HOLD	RUSH	REMARKS
1 PHF-1	6-13-88			1	Soil			X						
12 PHF-2	6-13-88											X		
2 PHF-3	6-13-88							X						
13 PHF-4	6-13-88											X		Regular TAT
3 PHF-5	6-13-88							X						
14 PHF-6	6-13-88											X		
4 PHF-7	6-15-88							X						Analyze for DHwl-Waste Oil
15 PHF-8	6-13-88											X		
16 PHF-9	6-14-88											X		
5 PHF-10	6-14-88							X						
17 PHF-11	6-15-88											X		Note: Homogenize Samples before Analysis
6 PHF-12	6-15-88							X						
18 PHF-13	~~6-13-88~~	6-15-88										X		
7 PHF-14	6-15-88							X						
19 PHF-15	6-15-88											X		
8 PHF-16	6-15-88							X						

RELINQUISHED BY: (Signature) Elizabeth Thick	DATE 6/17/88	TIME	RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE 6/17	TIME 610
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

SAMPLE COLLECTOR: (check one) Emeryville

☒ LEVINE·FRICKE
~~629~~ 760 Oakland Avenue
~~Oakland~~, CA 94611-4567
(415) 652-4500

☐ LEVINE·FRICKE
4019 Westerly Place, Suite 103
Newport Beach, CA 92660
(714) 955-1390

Analytical Laboratory: Brown & Caldwell Emeryville
Attn: Larry

Shipping Copy (White) Lab Copy (Green) File Copy (Yellow) Field Copy (Pink)

FORM NO. 86/COC/ARF

MED-TOX ASSOCIATES, INC.

ENVIRONMENTAL & OCCUPATIONAL HEALTH SERVICES

3440 Vincent Road Pleasant Hill, CA 94523 • (415) 930-9090 • FAX# (415) 930-0256

LABORATORY ANALYSIS REPORT

LEVINE-FRICKE CONSULTING
1900 POWELL STREET
EMERYVILLE, CA 94611-4567

ATTN: ELIZABETH NIXON

REPORT DATE: 08/12/88

DATE SAMPLED: 06/21-24/88
DATE RECEIVED: 06/24/88
DATE ANALYZED: 07/08-11/88

CLIENT PROJECT NO: 1245

MED-TOX JOB NO: 8806172

ANALYSIS OF: EIGHT SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS

METHOD: EPA 8020, 8015 (PURGE & TRAP AND EXTRACTION)

Sample Identification Client Id.	Lab No.	Total Petroleum Hydrocarbons As Diesel * (mg/kg)
PHF-25	06A	ND
PHF-27	08A	1400
PHF-37	10A	ND
PHF-38	11A	ND
PHF-40	13A	ND
PHF-42	15A	ND
PHF-44	17A	ND
PHF-45	18A	60
Detection Limit		50
ND = Not Detected		

* Note: TPH fraction found in samples was quantitated as Diesel, although it consists of predominately heavier hydrocarbons.

This is a revision of report orginally done 07/13/88.

Michael J. Jaeger, Manager
Organic Laboratory

Results FAXed to Elizabeth Nixon 07/12/88

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

8806172 p. 2

Project No.: 1245 | Field Logbook No.: | Date: 6/24/88 | Serial No.: Nº 3214

Project Name: Alameda Marina Village | Project Location: Alameda

Sampler (Signature) :

Samplers: B. Bego, E. NIXON

SAMPLES						ANALYSES								
SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	20S-EXT.				HOLD	RUSH	REMARKS
PHF-25	6/21		8806172-6A	1	Sol			X						
PHF-26	↓		7A	↓	↓							X		per E. Nixon instructions see attachment 2-wk TAT
PHF-27			8A					X						
PHF-30			9A									X		
PHF-37	↓		10A					X						
PHF-38	6/22		11A					X						
PAF-39			12A									X		
PAF-40			13A					X						HOMOGENIZE SAMPLES PRIOR TO ANALYSIS
PAF-41			14A									X		
PHF-42			15A					X						
PHF-43	↓		16A									X		
PHF-44	6/23		17A					X						
PHF-45	↓		18A					X						
PHF-46	↓		19A	↓	↓							X		

RELINQUISHED BY: (Signature) Eleben Nixon	DATE 6/24/88	TIME	RECEIVED BY: (Signature) Nelson St John	DATE 6-24	TIME 1415
RELINQUISHED BY: (Signature) Nelson St John	DATE 6-24	TIME 1700	RECEIVED BY: (Signature) Robin Bryan	DATE 6-24	TIME 17:00
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

SAMPLE COLLECTOR: (check one)

☒ LEVINE·FRICKE
629 Oakland Avenue
Oakland, CA 94611-4567
(415) 652-4500

☐ LEVINE·FRICKE
4019 Westerly Place, Suite 103
Newport Beach, CA 92660
(714) 955-1390

Analytical Laboratory: MEG-TOX
PLEASANT HILL

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FORM NO. 86/COC/ARF

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E88-07-214

Received: 05 JUL 88
Reported: 29 JUL 88

Dr. Akali Igbene
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608
CC: Elizabeth Nixon

Project: 1245

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
07-214-1	PHF-11 (8806503-18)	16 JUN 88
07-214-2	PHF-13 (8806503-19)	16 JUN 88
07-214-3	PHF-14 (8806503-07)	15 JUN 88

PARAMETER	07-214-1	07-214-2	07-214-3
Total Fuel Hydrocarbons			
Date Analyzed	07.27.88	07.27.88	07.27.88
Fuel Characterization, mg/kg	---	---	OIL
Total Fuel Hydrocarbons, mg/kg	<10	<10	873

These results were given verbally to Elizabeth Nixon on 7/28/88 by L.Penfold.

Sim D. Lessley, Ph.D., Laboratory Director

LEVINE·FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

ADDITIONAL ANALYSIS REQUEST

Date: 7/20/88

Lab Name:	Lab Contact Person:
Braun & Caldwell	Larry Bamford
Project No. 1245	**Chain of Custody Serial No.** 3237
Requested By: E. Nixon (SIGNATURE)	**Method of Request:** ☒ Telephone ☐ Mail
Request: Date: 7/13/88 Time:	

Sample No.	Lab Sample No.	Types Of Analyses	Expiration Date	Rush (√)
PHF-14	06-503-7	re-analyze 8015 homogenized sample		
PHF-11	06-503-17	8015-diesel		
PHF-13	06-503-18	8015-diesel		

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Formerly: ANATEC Labs, Inc.

Elizabeth Nixon
Levine-Fricke
1900 Powell St.,12th Floor
Emeryville, CA 94608

06-29-88
NET Pacific Log No: 3518 (1-8)
Series No: 430/031
Client Ref: Project # 1245

Subject: Analytical Results for Three Soil Samples and One Water Sample Received 06-21-88.

Dear Ms. Nixon:

Analysis of the samples referenced above has been completed. This report is written in confirmation of results transmitted verbally on June 24, 1988. Results are presented on the following pages.

Please feel welcome to contact us should you have questions regarding procedures or results.

Submitted by:

Larry Thurston
Project Chemist

Approved by:

Kim Hansard
Project Manager

/ad
Enc: Sample Custody Document

Parameter	MDL[b] (mg/Kg)	Descriptor, Lab No. and Results (mg/Kg)[a] Composite PHF 31, 32 (-11685)	Composite PHF 35, 36 (-11686)	PHF-33 06-21-88 (-11687)	Product 06-21-88 (-11688)
PETROLEUM HYDROCARBONS Extractable,					
as Motor Oil	10	ND[c]	94	ND	NR[d]
as Diesel Fuel	10	ND	ND	ND	NR
FINGERPRINT EXTRACTABLE		NR	NR	ND	Diesel

[a] mg/Kg—Data are expressed in units of milligrams analyte per kilogram sample, as-received basis.
[b] MDL—Method detection limit.
[c] ND—Not detected at the listed method detection limit.
[d] NR—Not requested.

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

5518

Project No.: 1245	Field Logbook No.:	Date: 6/21/88	Serial No.: Nº 3212
Project Name: Alameda Marina	Project Location: Alameda		
Sampler (Signature): E. Nixon			Samplers: E. NIXON

SAMPLES						ANALYSES								
SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	8015-Extended					HOLD	RUSH	REMARKS
PHF-31	6/21				Soil			X					X		Composite 31 & 32 - DO 1 analysis
PHF-32	↓				↓			X					X		
PHF-33								X					X		
PHF-35								X					X		Composite 35 & 36 - DO 1 analysis
PHF-36	↓				↓										
Product	↓			1	liquid								X		FUEL FINGERPRINT
															Please homogenize sample before compositing for analysis.
															24 hr. TAT

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
Elizabeth Nixon	6-21-88	1735	Greg Slon	6-21-88	1735
Greg Slon	6-21-88	1930	[illegible]	6/21/88	1930
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

SAMPLE COLLECTOR: (check one)

☒ LEVINE·FRICKE
~~629 Oakland Avenue~~ 1900 Powell
Emeryville ~~Oakland~~, CA 94611-4567
(415) 652-4500

☐ LEVINE·FRICKE
4019 Westerly Place, Suite 103
Newport Beach, CA 92660
(714) 955-1390

Analytical Laboratory: ANATEC Santa Rosa

Copy (White) Lab Copy (Green) File Copy (Yellow) Field Copy (Pink) FORM NO. 86/COC/ARF

DU

Stockpiled Soils

MED-TOX ASSOCIATES, INC.

ENVIRONMENTAL & OCCUPATIONAL HEALTH SERVICES

3440 Vincent Road • Pleasant Hill, CA 94523 • (415) 930-9090

LABORATORY ANALYSIS REPORT

LEVINE-FRICKE CONSULTING
1900 POWELL ST., 12TH FL.
EMERYVILLE, CA 94608

ATTN: ELIZABETH NIXON

CLIENT ID: 1245

REPORT DATE: 07/06/88

DATE SAMPLED: 06/23-24/88

DATE RECEIVED: 06/24/88
DATE ANALYZED: 06/27/88

MED-TOX JOB NO: 8806173

ANALYSIS OF: THIRTEEN SOIL COMPOSITES AND ONE SOIL SAMPLE FOR TOTAL PETROLEUM HYDROCARBONS

METHOD: EPA 8015 (EXTRACTION)

Sample Identification Client	Lab No.	Total Petroleum Hydrocarbons As Diesel (mg/kg)
PHFSP-1,2 composite	01A	170
PHFSP-3,4 composite	02A	230
PHFSP-5	03A	85
PHFSP-6,7 composite	04A	320
PHFSP-8,9 composite	05A	300
PHFSP-10,11 composite	06A	170
PHFSP-12,13 composite	07A	87
Detection Limit		50

MED-TOX ASSOCIATES INC

Sample Identification Client	Lab No.	Total Petroleum Hydrocarbons As Diesel (mg/kg)
PHFSP-14,15 composite	08A	150
PHFSP-16,17 composite	09A	98
PHFSP-18,19 composite	10A	280
PHFSP-20,21 composite	11A	190
PHFSP-22,23 composite	12A	160
PHFSP-24,25 composite	13A	150
PHFSP-26,27 composite	14A	370
Detection Limit		50

Michael J. Jaeger, Manager
Organic Laboratory

Results FAXed to Elizabeth Nixon 07/05/88.

Ref. 4 Shelf H 8806173 p.1

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: 1245	Field Logbook No.:	Date: 6/24/88	Serial No.: Nº 3215
Project Name: Alameda Marina Village	Project Location: Alameda		
Sampler (Signature):			Samplers: E. Nixon

SAMPLES						ANALYSES								
SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	9015-Extr.					HOLD	RUSH	REMARKS
PHFSP-1	6/23		8806173	1	Soil			X					X		composite 1+2 01A
PHFSP-2															
PHFSP-3								X					X		composite 3+4 02A
PHFSP-4															03A
PHFSP-5								X							
PHFSP-6	6/24			1	Soil			X							6+7 04A
PHFSP-7															
PHFSP-8								X					X		8+9 05A
PHFSP-9															Note: Hydrocarbon
PHFSP-10								X							10+11 06A Samples per #
PHFSP-11															analysis
PHFSP-12								X							12+13 07A
PHFSP-13															
PHFSP-14								X					X		14+15 08A
PHFSP-15															

RELINQUISHED BY: (Signature) Elizabeth Nixon	DATE 6/24/88	TIME	RECEIVED BY: (Signature) LaVon St John	DATE 6/24	TIME 1615
RELINQUISHED BY: (Signature) LaVon St John	DATE 6/24	TIME 1700	RECEIVED BY: (Signature) Robert Bryan	DATE 6/24	TIME 17:00
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

SAMPLE COLLECTOR: (check one)

☒ LEVINE·FRICKE ~~629 Oakland Avenue~~ 1940 Powell Emeryville ~~Oakland~~, CA 94611-4567 (415) 652-4500

☐ LEVINE·FRICKE 4019 Westerly Place, Suite 103 Newport Beach, CA 92660 (714) 955-1390

Analytical Laboratory: MED-TOX

Shipping Copy (White) Lab Copy (Green) File Copy (Yellow) Field Copy (Pink) FORM NO. 86/COC/ARF

8806173 p2

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: 1245	Field Logbook No.:	Date: 6/24/88	Serial No.: Nº 3477
Project Name: Alameda Marina Village	Project Location: Alameda		
Sampler (Signature): Elizabeth Nixon			Samplers: E. NIXON

SAMPLES / ANALYSES

SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	2015 - EXT				HOLD	RUSH	REMARKS
PHFSP-16	6/24	8800	6173-	~~5~~ 1	Soil			X						16+17 09A
PHFSP-17														
PHFSP-18								X						18+19 10A * 1 Wk Rush
PHFSP-19														
PHFSP-20								X						20+21 11A
PHFSP-21														
PHFSP-22								X						22+23 12A
PHFSP-23														
PHFSP-24								X						24+25 13A
PHFSP-25														
PHFSP-26								X					X	26+29 14A
PHFSP-27														
~~PHFSP-28~~														
~~PHFSP-29~~														
~~PHFSP-30~~														WOC. Homogenize samples before analysis

RELINQUISHED BY: (Signature) Elizabeth Nixon	DATE 6/24/88	TIME 9:15	RECEIVED BY: (Signature) Lalon St John	DATE 6-24	TIME 1415
RELINQUISHED BY: (Signature) L St John	DATE 6-24	TIME 1700	RECEIVED BY: (Signature) Robin Bryant	DATE 6/27	TIME 1700
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

SAMPLE COLLECTOR: (check one)

☒ LEVINE·FRICKE
629 Oakland Avenue
Oakland, CA 94611-4567
(415) 652-4500

☐ LEVINE·FRICKE
4019 Westerly Place, Suite 103
Newport Beach, CA 92660
(714) 955-1390

Analytical Laboratory: MED-TOX
Pleasant Hill

Shipping Copy (White) Lab Copy (Green) File Copy (Yellow) Field Copy (Pink)

FORM NO. 86/COC/ARF

MED-TOX ASSOCIATES, INC.

ENVIRONMENTAL & OCCUPATIONAL HEALTH SERVICES
3440 Vincent Road • Pleasant Hill, CA 94523 • (415) 930-9090

LABORATORY ANALYSIS REPORT

REPORT DATE: 07/15/88

Levine-Fricke Consulting
Engineers and Hydrogeologists
1900 Powell Street, 12th FL.
Emeryville, CA 94608
ATTN: Elizabeth Nixon

DATE RECEIVED: 07/08/88

DATE SAMPLED: 06/24/88

CLIENT PROJECT ID: 1245

MED-TOX JOB NO: 8807042

ANALYSIS OF: FOUR SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES

See attached for results.

Linnea M. Nowak for MJJ
Michael J. Jaeger, Manager
Organic Laboratory

Results FAXed to Elizabeth Nixon 07/15/88

Levine-Fricke Consulting

CLIENT ID: PHFSP-10
CLIENT JOB NO: 1245

MED-TOX LAB NO: 8807042-01A
MED-TOX JOB NO: 8807042

DATE SAMPLED: 06/24/88
DATE RECEIVED: 07/08/88

DATE ANALYZED: 07/09/88
REPORT DATE: 07/15/88

EPA METHOD 8020

PURGEABLE AROMATICS

COMPOUND	CAS #	CONCENTRATION (ug/kg)	DETECTION LIMIT (ug/kg)
Benzene	71-43-2	ND	5
Chlorobenzene	108-90-7	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Ethylbenzene	100-41-4	ND	5
Toluene	108-88-3	14	5
Xylenes, Total	-------	ND	15

ND = Not Detected

Levine-Fricke Consulting

CLIENT ID: PHFSP-11
CLIENT JOB NO: 1245

MED-TOX LAB NO: 8807042-02A
MED-TOX JOB NO: 8807042

DATE SAMPLED: 06/24/88
DATE RECEIVED: 07/08/88

DATE ANALYZED: 07/09/88
REPORT DATE: 07/15/88

EPA METHOD 8020

PURGEABLE AROMATICS

COMPOUND	CAS #	CONCENTRATION (ug/kg)	DETECTION LIMIT (ug/kg)
Benzene	71-43-2	ND	5
Chlorobenzene	108-90-7	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Ethylbenzene	100-41-4	ND	5
Toluene	108-88-3	18	5
Xylenes, Total	-------	ND	15

ND = Not Detected

Levine-Fricke Consulting

CLIENT ID: PHFSP-26
CLIENT JOB NO: 1245

MED-TOX LAB NO: 8807042-03A
MED-TOX JOB NO: 8807042

DATE SAMPLED: 06/24/88
DATE RECEIVED: 07/08/88

DATE ANALYZED: 07/09/88
REPORT DATE: 07/15/88

EPA METHOD 8020

PURGEABLE AROMATICS

COMPOUND	CAS #	CONCENTRATION (ug/kg)	DETECTION LIMIT (ug/kg)
Benzene	71-43-2	ND	5
Chlorobenzene	108-90-7	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Ethylbenzene	100-41-4	ND	5
Toluene	108-88-3	13	5
Xylenes, Total	-------	ND	15

ND = Not Detected

Levine-Fricke Consulting

CLIENT ID: PHFSP-27
CLIENT JOB NO: 1245

MED-TOX LAB NO: 8807042-04A
MED-TOX JOB NO: 8807042

DATE SAMPLED: 06/24/88
DATE RECEIVED: 07/08/88

DATE ANALYZED: 07/09/88
REPORT DATE: 07/15/88

EPA METHOD 8020

PURGEABLE AROMATICS

COMPOUND	CAS #	CONCENTRATION (ug/kg)	DETECTION LIMIT (ug/kg)
Benzene	71-43-2	ND	5
Chlorobenzene	108-90-7	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Ethylbenzene	100-41-4	ND	5
Toluene	108-88-3	14	5
Xylenes, Total	-------	ND	15

ND = Not Detected

RECEIVED JUL 12 1988

LEVINE·FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

ADDITIONAL ANALYSIS REQUEST

Date: 7/8/88

Lab Name:	Lab Contact Person:
MED-TOX	Suzanne Silvera

Project No.	Chain of Custody Serial No.
1245	3215 & 3477

Requested By:	Method of Request:	Request:
Elizabeth Nixon (SIGNATURE)	☒ Telephone ☐ Mail	Date: 7/8/88 Time: 9:30

Sample No.	Lab Sample No.	Types Of Analyses	Expiration Date	Rush (J)
PHFSP-10		BTXE		1 week
PHFSP-11		↓		TAT
PHFSP-26				↓
PHFSP-27		↓		

FARR, FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James K. Farr, Ph.D.
Andrew John Friedman
James E. Bruya, Ph.D.

3008 B - 16th West
Seattle, WA 98119
(206) 285-8282

July 5, 1988

Elizabeth Nixon, Project Leader
Levine-Fricke, Inc.
1900 Powell, 12th Floor
Emeryville, CA 94608

Dear Ms Nixon:

Enclosed are the results of the analyses of samples submitted on June 28, 1988 from your Alameda Marine Village project.

I have compared these chromatograms with those we ran for samples SB11-2-2 and SB9-1-2 in April of this year. Those soil samples contained a product similar in boiling range to a #6 diesel. The product in the sample labelled "soil product" submitted on June 28 was a material with a substantially higher boiling range. This is indicated by the fact that the abundance maximum for the "soil product" sample was at ca n-C_{22} as opposed to ca n-C_{17} as was found in the previous samples. I'm not sure what to say about this, except that the material previously submitted appeared to be a heavy diesel oil, and that the "soil product" appears to be a heavier material yet.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this material, or if you just want to discuss any aspect of your projects, please do not hesitate to contact me.

Sincerely,

Andrew John Friedman, Chemist

AJF/cag

Enclosures

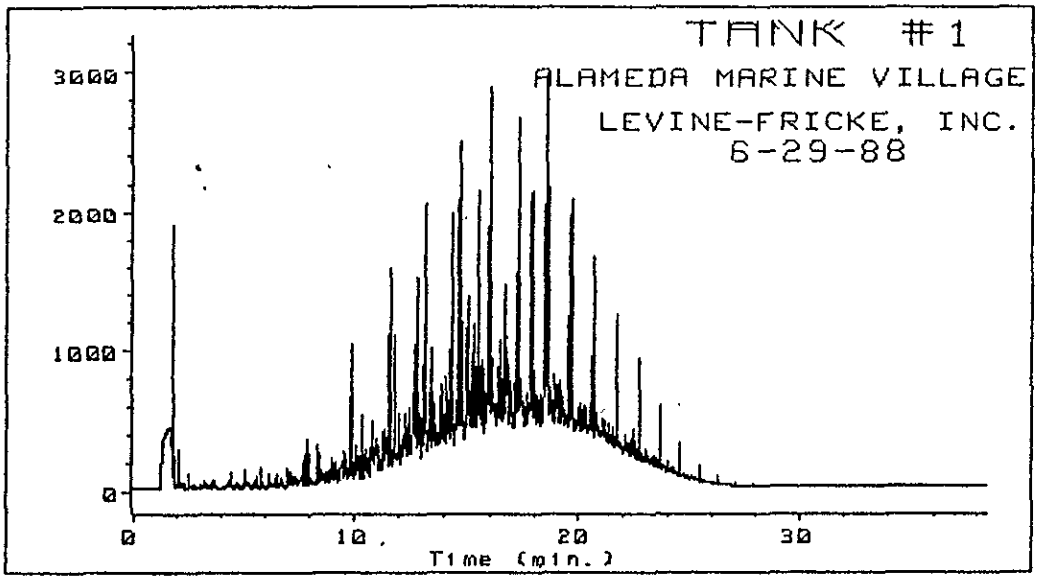
FARR, FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: July 5, 1988
Date Submitted: June 28, 1988
Project: Alameda Marine Village

FINGERPRINT CHARACTERIZATION
BY CAPILLARY GAS CHROMATOGRAPHY

Sample #	GC Characterization
Tank 1 Product	The gas chromatographic trace was indicative of a #2 Diesel fuel. This characterization is based upon the even distribution of *n*-alkanes extending from *n*-C_{10} to *n*-C_{25} (maximum at *n*-C_{17}) and the characteristic abundances of pristane and phytane..
Tank 2 Product	The gas chromatographic trace was indicative of a #2 Diesel fuel. This characterization is based upon the even distribution of *n*-alkanes extending from *n*-C_{10} to *n*-C_{25} (maximum at *n*-C_{17}) and the characteristic abundances of pristane and phytane. Although quite similar to the product in tank #1, the two products are not identical.
Soil Product	The gas chromatographic trace was indicative of a heavy residual product such as a Bunker C fuel. This characterization is based on the low abundances of the *n*-alkanes and the abundance maximum of the unresolved chromatographic mixture being quite high (ca *n*-C_{25}). The product does not contain the aromatic predominance seen in gasification wastes or other asphalt production processes, and this supports the hypothesis that it is a heavy residual fuel.



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X: Sig. 2 of DATA:HFS_A02A.D

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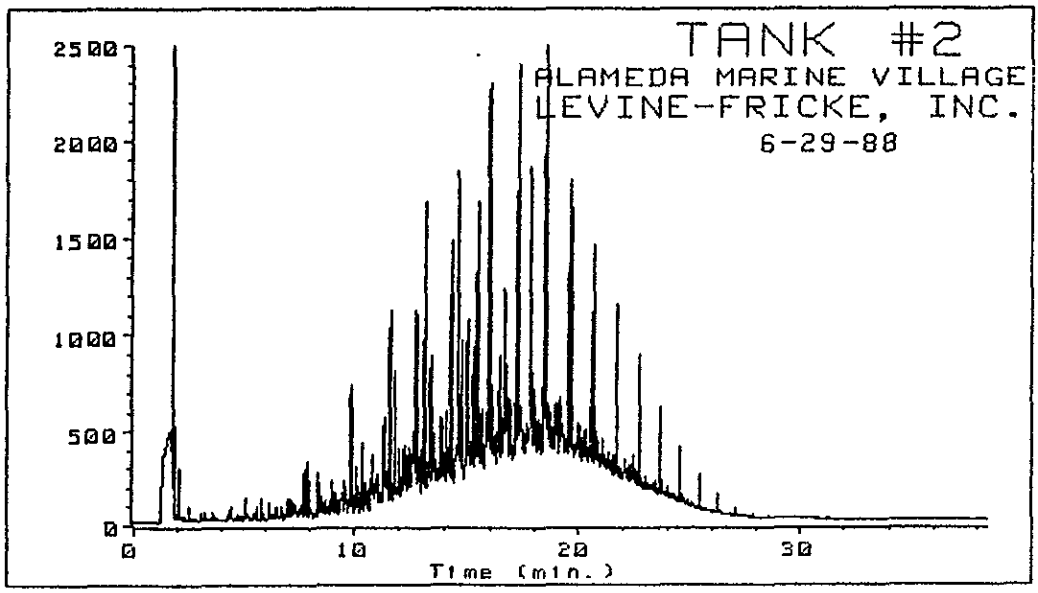

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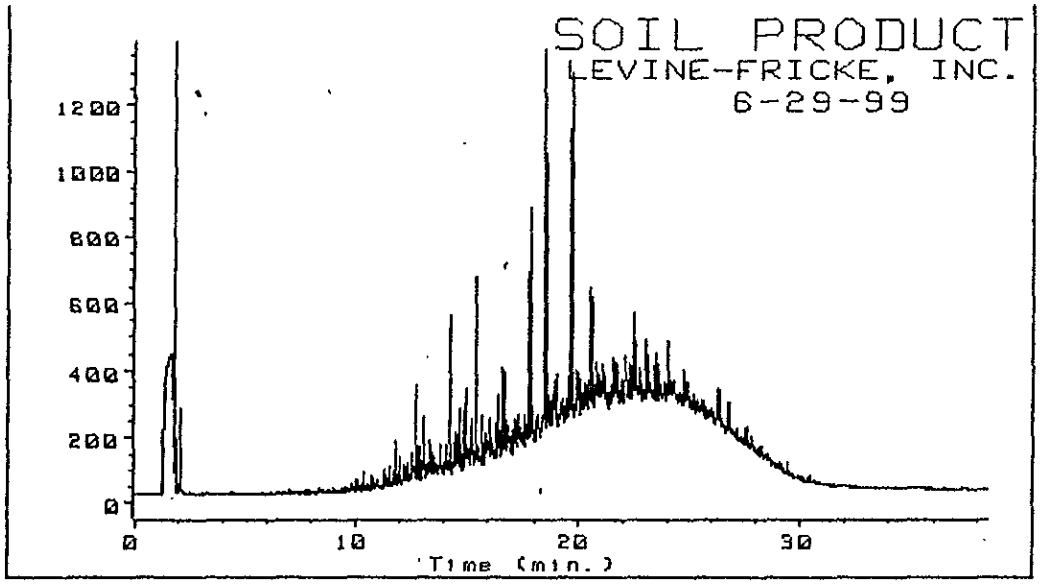
X: Sig. 2 of DATA:HFS_A03A.D

[GR1]

Print/ Plot | Horizont Scale | Vertical Scale | Zoom to Window 4 | Zoom In | Zoom Out | MORE KEYS | EXIT



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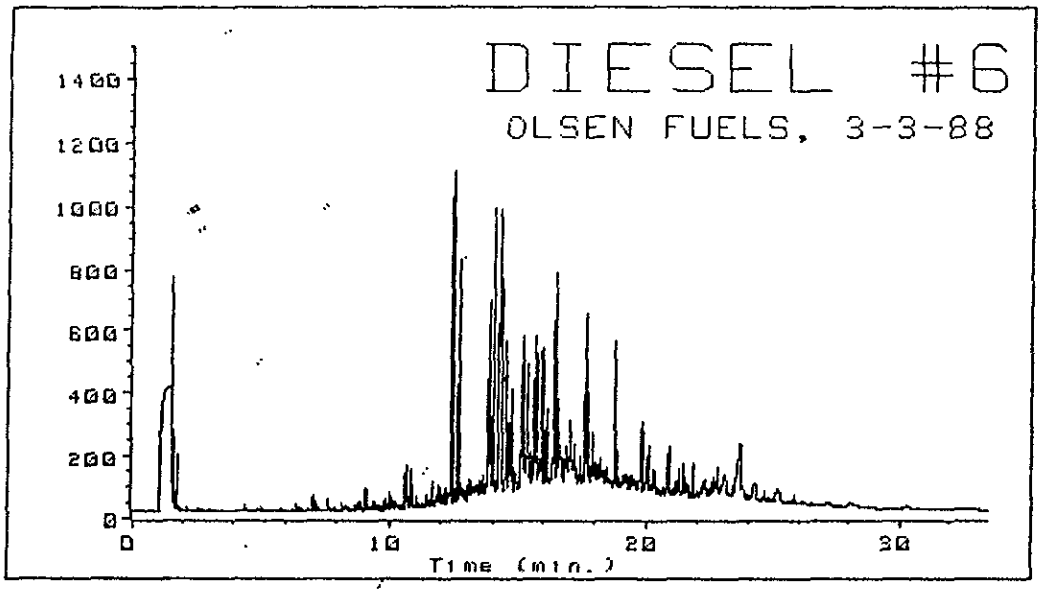

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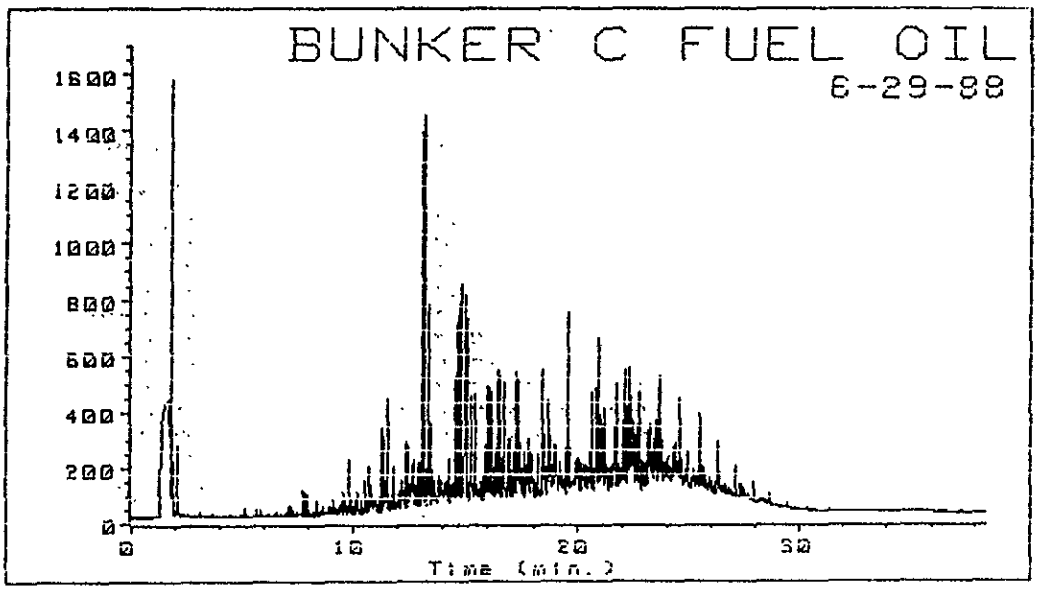

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[GR1]

Print/ Plot | Horizontal Scale | Vertical Scale | Zoom to Window 4 | Zoom In | Zoom Out | MORE KEYS | EXIT

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: 1245	Field Logbook No.:	Date: 6/24/88	Serial No.: № 3199
Project Name: Alameda Marina Village	Project Location: Alameda, CA		
Sampler (Signature): Elizabeth Nixon			Samplers: E. NIXON

ANALYSES

SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	FUEL FINGERPRINT				HOLD	RUSH	REMARKS
Tank 1 - Product	6/23			2	Product		X							Product from Tank 1
Tank 2	6/23			2	Product		X							" " 2
[illegible]	6/14			1	Product		X							Product [illegible]
Tank 1 Water	6/21			1							X			Tank 1 water [illegible]
Tank 1 - water + product	6/21			1							X			"
														Please Fingerprint
														Fuels [illegible]
														Hold [illegible]
														[illegible]

RELINQUISHED BY: (Signature) Jerry C. Moore	DATE 6/27	TIME 4:35	RECEIVED BY: (Signature) [illegible]	DATE 6/27	TIME [illegible]
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature) [illegible]	DATE 6/28	TIME [illegible]
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS: COC nearly illegible due to water		

SAMPLE COLLECTOR: (check one)

☒ LEVINE·FRICKE
~~629 Oakland Avenue~~ 1900 Powell 12th Fl
Oakland, CA 94611-4567
(415) 652-4500

☐ LEVINE·FRICKE
4019 Westerly Place, Suite 103
Newport Beach, CA 92660
(714) 955-1390

Analytical Laboratory: FARR, FRIEDMAN & BRUYA
Environmental Chemists
3008B - 16th West
Seattle, WA [illegible] 981[illegible]

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FORM NO. 86/COC/ARF

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E88-07-501

Received: 27 JUL 88
Reported: 09 AUG 88

Dr. Akali Igbene
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608

Project: 1245

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
07-501-1	Tank 1-W1	26 JUL 88
07-501-2	Tank 1-E1	26 JUL 88
07-501-3	Tank 2-W1	26 JUL 88
07-501-4	Tank 2-E1	26 JUL 88

PARAMETER	07-501-1	07-501-2	07-501-3	07-501-4
Total Fuel Hydrocarbons				
Date Analyzed	08.03.88	08.03.88	08.03.88	08.03.88
Fuel Characterization	---	---	---	DIESEL
Total Fuel Hydrocarbons, mg/kg	<10	<10	<10	33

BROWN AND CALDWELL LABORATORIES
1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E88-07-501

Received: 27 JUL 88
Reported: 09 AUG 88

Dr. Akali Igbene
Levine - Fricke
1900 Powell Street 12th Floor
Emeryville, California 94608

Project: 1245

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, AQUEOUS SAMPLES	DATE SAMPLED
07-501-5	Tank 1	26 JUL 88

PARAMETER	07-501-5
Total Fuel Hydrocarbons	
Date Analyzed	08.03.88
Total Fuel Hydrocarbons, mg/L	<1.0
Other Total Fuel Hydrocarbons	---
EPA Method 602	
Date Extracted	08.03.88
1,2-Dichlorobenzene, ug/L	<0.5
1,3-Dichlorobenzene, ug/L	32
1,4-Dichlorobenzene, ug/L	23
Benzene, ug/L	<0.5
Chlorobenzene, ug/L	2.3
Ethylbenzene, ug/L	<0.5
Toluene, ug/L	0.5
Total Xylene Isomers, ug/L	1.1

These results were reported verbally to E.Nixon on 8/5/88 by L.Penfold.

S. D. Lessley

Sim D. Lessley, Ph.D., Laboratory Director

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

28-07-501

Project No.: 1245	Field Logbook No.:	Date: 7/27/88	Serial No.: Nº 3479
Project Name: Alameda Marina Village	Project Location: Alameda		
Sampler (Signature): Elizabeth Nixon			

SAMPLES						ANALYSES								Samplers: E. NIXON
SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	8015-Extraction	BTXE			HOLD	RUSH	REMARKS
Tank1-W1	7/26/88			2	soil			X						West side of Tank1 - g.w. level
Tank1-E1	7/26/88			2	soil			X						East side of Tank1 - g.w. level
Tank2-W1	↓			1	soil			X						West End of Tank 2 - g.w. level
Tank2-E1	↓			2	soil			X						East End of Tank 2 - g.w. level
Tank1-water				2	water			X		X				Water from excavation, Tank 1
														Report verbally to Elr. Nixon when results are available
														NOTE: Homogenize samples prior to analysis
						2-week TAT				Standard				

RELINQUISHED BY: (Signature) Robin Barber	DATE 7/27/88	TIME 11:47	RECEIVED BY: (Signature) Monika Dutta	DATE 7-27-88	TIME 11:47am
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

SAMPLE COLLECTOR: (check one)

☒ LEVINE·FRICKE
~~629 Oakland Avenue~~ 900 POWELL
Emeryville ~~Oakland~~, CA 94611-4567
(415) 652-4500

☐ LEVINE·FRICKE
4019 Westerly Place, Suite 103
Newport Beach, CA 92660
(714) 955-1390

Analytical Laboratory: Brown & Caldwell
Powell Street
Emeryville
Attention: Larry Penfold

Shipping Copy (White) Lab Copy (Green) File Copy (Yellow) Field Copy (Pink)

FORM NO. 86/COC/ARF

FARR, FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James K. Farr, Ph.D.
Andrew John Friedman
James E. Bruya, Ph.D.

3008 B - 16th West
Seattle, WA 98119
(206) 285-8282

September 12, 1988

Elizabeth Nixon, Project Leader
Levine-Fricke, Inc.
1900 Powell, 12th Floor
Emeryville, CA 94608

Dear Ms Nixon:

Enclosed are the results of the analyses of samples submitted on July 27, 1988 from Project 1245.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this material, or if you just want to discuss any aspect of your projects, please do not hesitate to contact me.

Sincerely,

Andrew John Friedman

Andrew John Friedman, Chemist

AJF

Enclosures

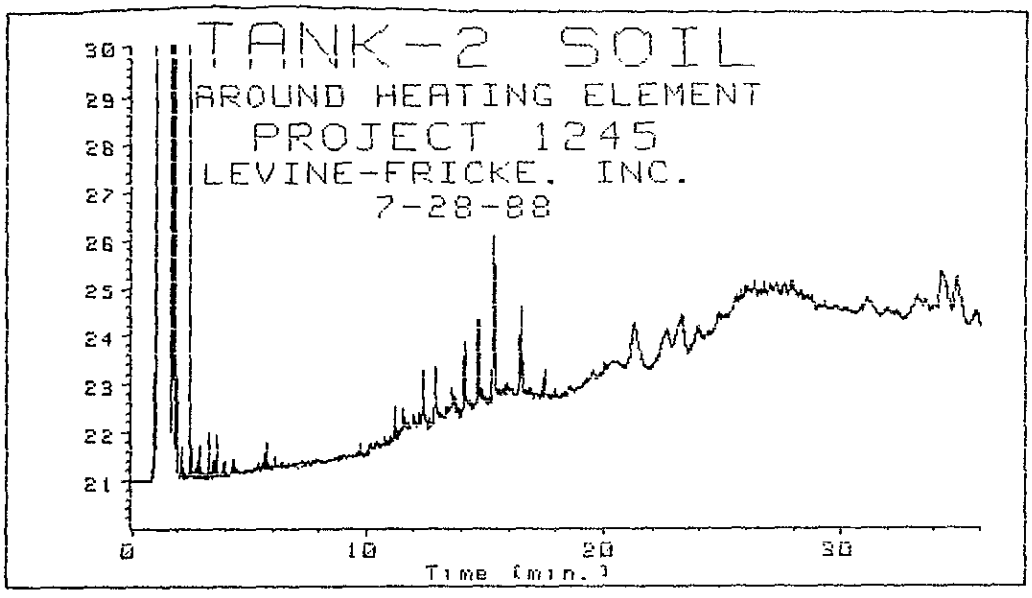
FARR, FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: September 12, 1988
Date Submitted: July 27, 1988
Project: 1245

FINGERPRINT CHARACTERIZATION
BY CAPILLARY GAS CHROMATOGRAPHY

Sample #	GC Characterization
Tank #2-3, Soil Around Heating Heating Element	The gas chromatographic trace showed a small amount of material indicative of a diesel fuel. Very little else was present, and, indeed, the level of diesel fuel in the samples was quite low (<100 ppm).
Tank 1-N1	The gas chromatographic trace was indicative of a weathered diesel fuel. The boiling range presented (*n*-C_{10} to *n*-C_{20}) indicates that a #2 diesel or fuel oil is the most probable source. The lack of a smooth envelope of *n*-alkanes indicates that substantial weathering or biological degradation has taken place.
Tank 2-W2	Repeated efforts to find hydrocarbons indicative of petroleum input failed to detect any down to the 50 ppm range.
Tank 2 Sludge	The gas chromatographic trace was indicative of a diesel #2. The smooth envelope of *n*-alkanes extending from *n*-C_{10} to *n*-C_{24}, with an abundance maximum at *n*-C_{15} is a classic pattern given by this material. Little indication of weathering or degradation was present.



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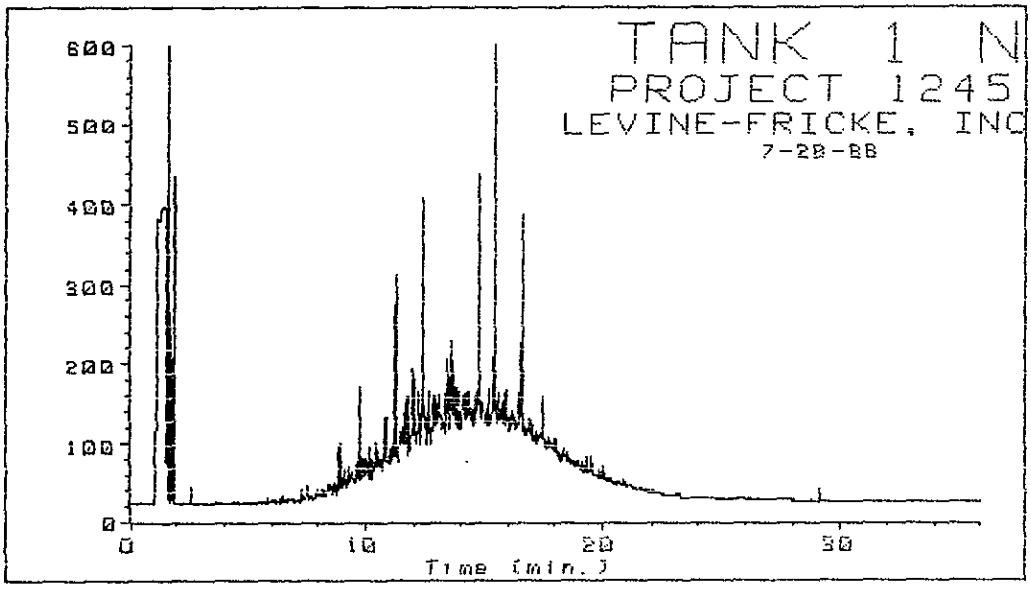

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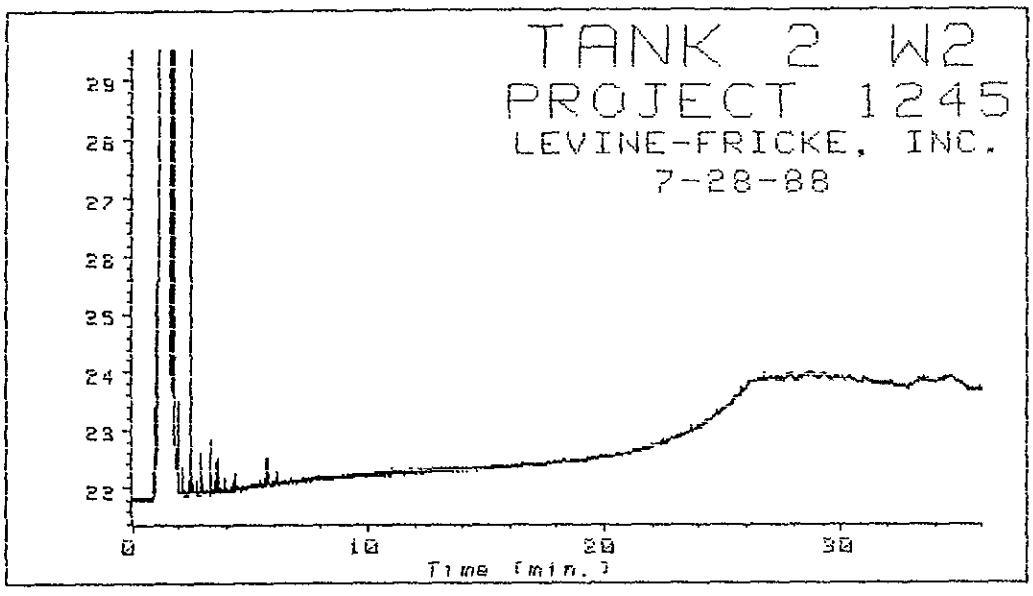
New Data File | CHROMAT KEYS | GRAPHICS KEYS | MATH & LIST | Zoom In | Zoom Out | HELP | QUIT



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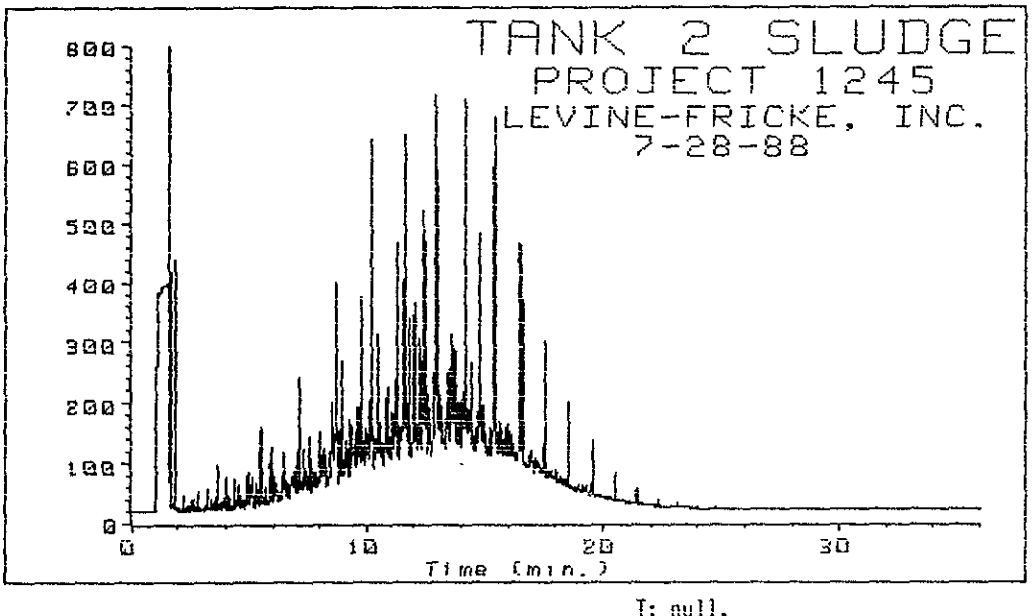

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[GR1]

Print/ Plot | Horizont Scale | Vertical Scale | Zoom to Window 4 | Zoom In | Zoom Out | MORE KEYS | EXIT

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: 1245 | Field Logbook No.: | Date: 7/27/88 | Serial No.: № 3480

Project Name: Alameda [illegible] | Project Location: Alameda

Sampler (Signature): [signature]

Samplers: E. NIXON

SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	FUEL I.D.				HOLD	RUSH	REMARKS
Tank 2-3	7/26/88			2	soil			X						[illegible] Fuel oil-(composite [illegible] heating element)
Tank 1-N	7/26/88			1	soil			X						Soil [illegible] of Tank 1
Tank 2-W2	7/26/88			1	soil			X						west end of tank 2
Tank 2-sludge	7/26/88			1	sludge			X				X		material from inside Tank 2.
Tank 1-water	7/26			1	water							X		
Tank 2-water	↓			1	water							X		

Please hold onto samples after analyses.

NOTE: FUEL I.D. → Compare to other fuel I.D from other samples collected at site

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
Matthew Cloud	7/27/88	12:47	K Cardenas	7/27	1247

METHOD OF SHIPMENT: | DATE | TIME | LAB COMMENTS:

SAMPLE COLLECTOR: (check one)

☒ LEVINE·FRICKE
629 Oakland Avenue
Oakland, CA 94611-4567
(415) 652-4500

☐ LEVINE·FRICKE
4019 Westerly Place, Suite 103
Newport Beach, CA 92660
(714) 955-1390

Analytical Laboratory: Farr, Friedman & Bruya Environmental chemists 3008B -16th WEST SEATTLE, WASHINGTON 98119
Attn. Andrew Friedman

Shipping Copy (White) Lab Copy (Green) File Copy (Yellow) Field Copy (Pink)

FORM NO. 86/COC/ARF

FARR, FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James K. Farr, Ph.D.
Andrew John Friedman
James E. Bruya, Ph.D.

3008 B - 16th West
Seattle, WA 98119
(206) 285-8282

September 12, 1988

Elizabeth Nixon, Project Leader
Levine-Fricke, Inc.
1900 Powell, 12th Floor
Emeryville, CA 94608

Dear Ms Nixon:

Enclosed are the results of the analyses of samples submitted on July 20, 1988 from Project 1245.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this material, or if you just want to discuss any aspect of your projects, please do not hesitate to contact me.

Sincerely,

Andrew John Friedman

Andrew John Friedman, Chemist

AJF

Enclosures

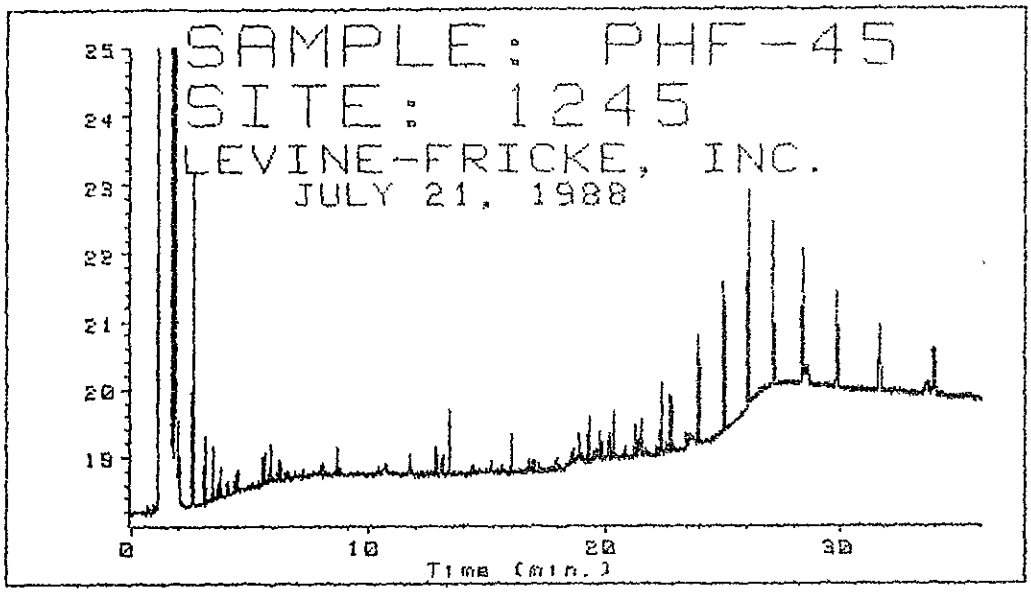
FARR, FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: September 12, 1988
Date Submitted: July 20, 1988
Project: 1245

FINGERPRINT CHARACTERIZATION
BY CAPILLARY GAS CHROMATOGRAPHY

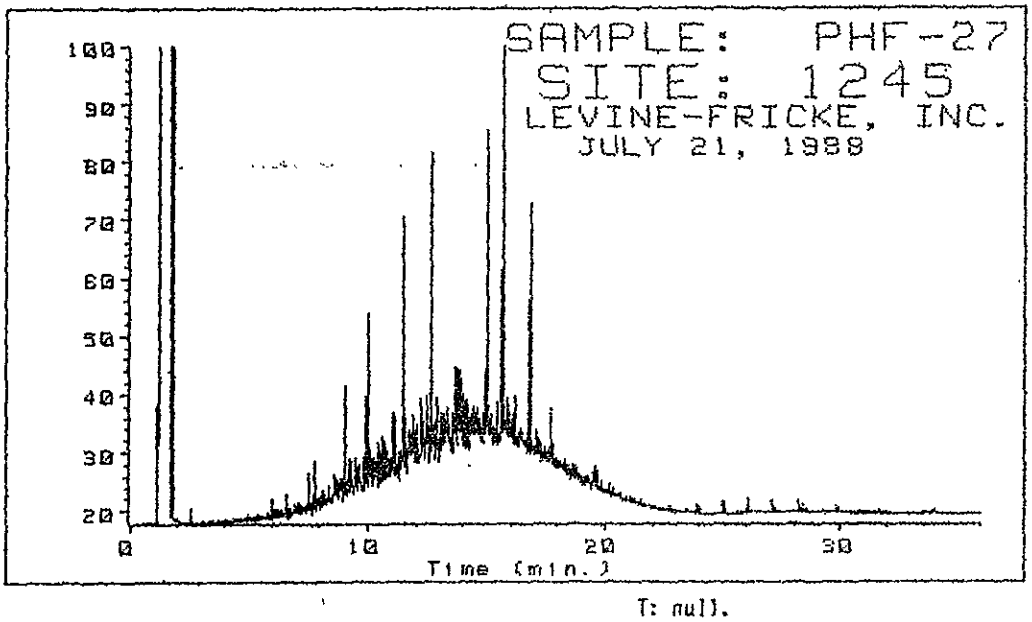
Sample #	GC Characterization
PHF-27	The gas chromatographic trace was indicative of a weathered diesel fuel with a boiling range from *n*-C_{10} to *n*-C_{22}, indicating it was probably a #2 diesel fuel. The loss of the smooth alkane distribution is indicative of substantial biological degradation.
PHF-45	The gas chromatographic trace showed only a small amount of a late eluting pattern of *n*-alkanes, indicating the possible presence of a small amount of a heavy residual petroleum distillate.



T: null.
Z: null.
Y: Sig. 2 of DATA:G&D_A02A.D
X: Sig. 2 of DATA:G&D_A03A.D

[GR1]

Print/ Plot | Horizontal Scale | Vertical Scale | Zoom to Window # | Zoom In | Zoom Out | MORE KEYS | EXIT



T: null.
Z: Sig. 2 of DATA:G&D_A02A.D
Y: Sig. 2 of DATA:G&D_A03A.D
X: Sig. 2 of DATA:G&D_A04A.D

[GR1]

Print/ Plot | Horizontal Scale | Vertical Scale | Zoom to Window # | Zoom In | Zoom Out | MORE KEYS | EXIT

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: 1245	Field Logbook No.:	Date: 6/24/88	Serial No.: № 3199
Project Name: Alameda Marina Village	Project Location: Alameda, CA		
Sampler (Signature): Elizabeth Nixon			Samplers: E. NIXON

ANALYSES

SAMPLES

SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CON-TAINERS	SAMPLE TYPE	EPA 601	EPA 624	FUEL FINGERPRINT				HOLD	RUSH	REMARKS
Tank 1 - Product	6/23			2	Product			X						Product from Tank 1
Tank 2 - product	6/23			2	Product			X						" " 2
Soil Product	6/14			1	Product			X						Product leaking from soil
Tank 1 Water	6/21			1							X			Tank 1 water under floating product
Tank 1 - water + product	6/21			1							X			" "

Please Fingerprint Fuels (first 3 listed)

RELINQUISHED BY: (Signature) Jerry C Marc	DATE 6/27	TIME 4:55	RECEIVED BY: (Signature) [illegible]	DATE 6/27	TIME 4:55
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

SAMPLE COLLECTOR: (check one)

☒ LEVINE·FRICKE
~~629 Oakland Avenue~~ 1900 Powell 12th Floor
~~Oakland~~ Emeryville, CA 94611-4567
(415) 652-4500

☐ LEVINE·FRICKE
4019 Westerly Place, Suite 103
Newport Beach, CA 92660
(714) 955-1390

Analytical Laboratory: FARR, FRIEDMAN & BRUYA
Environmental CHEMISTS
3008B - 16th WEST
SEATTLE, WASH 98119

Shipping Copy (White) Lab Copy (Green) File Copy (Yellow) Field Copy (Pink)

FORM NO. 86/COC/ARF

FARR, FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James K. Farr, Ph.D.
Andrew John Friedman
James E. Bruya, Ph.D.

3008 B - 16th West
Seattle, WA 98119
(206) 285-8282

September 12, 1988

Elizabeth Nixon, Project Leader
Levine-Fricke, Inc.
1900 Powell, 12th Floor
Emeryville, CA 94608

Dear Ms Nixon:

Enclosed are the results of the analyses of samples submitted on July 27, 1988 from Project 1245.

I am sorry but we don't seem to have been much help in trying to determine the origins of the material found in this sample. As you will see in the results, we found more questions than answers. I would greatly appreciate it if, as the project continues and you get more information, you could let us know what this material turns out to be. We are always looking to add new things to our repertoire.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this material, or if you just want to discuss any aspect of your projects, please do not hesitate to contact me.

Sincerely,

Andrew John Friedman

Andrew John Friedman, Chemist

AJF

Enclosures

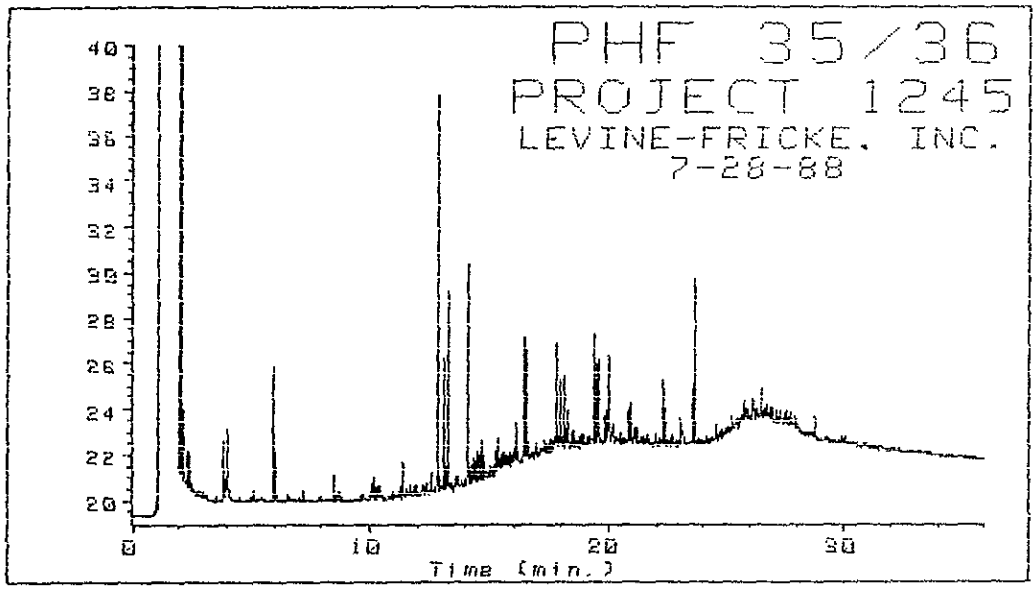
FARR, FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: September 12, 1988
Date Submitted: July 27, 1988
Project: 1245

FINGERPRINT CHARACTERIZATION
BY CAPILLARY GAS CHROMATOGRAPHY

Sample #	GC Characterization
PHF-35/36	The gas chromatographic trace was indicative of a heavy diesel fuel (possibly a #6) or a mixture of compounds of a nature unknown to us. The chromatogram has a similar pattern to a diesel #6, but not the expected unresolved mass of hydrocarbons. The pattern is also similar to that given by mixtures of PNAs found in coal-gasification residues, but a tlc analysis did not find the high PNA level expected in such a case.



T: null.
Z: null.
Y: null.
X: Sig. 2 of V3:LF7_A63A.D

[GR1]

Print/ Plot | Horizont Scale | Vertical Scale | Zoom to Window 4 | Zoom In | Zoom Out | MORE KEYS | EXIT

APPENDIX B

HAZARDOUS WASTE MANIFESTS

State of California—Health and Welfare Agency
Form Approved OMB No. 2050—0039 (Expires 9-30-88)
Please print or type. (Form designed for use on elite (12-pitch typewriter)

Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No: CAD00[illegible]3[illegible]38 | Manifest Document No.: [illegible]
2. Page 1 of
Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: [illegible] Village, [illegible] Village Parkway, [illegible], CA 94[illegible]
4. Generator's Phone (415) 521-9555

A. State Manifest Document Number: 87838008
B. State Generator's ID

5. Transporter 1 Company Name: H & H Ship Service Co. | 6. US EPA ID Number: CAD00[illegible]
C. State Transporter's ID: [illegible]2448
D. Transporter's Phone: 415-543-4355

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: H & H Ship Service Co, [illegible], San Francisco | 10. US EPA ID Number: CAD [illegible]
G. State Facility's ID: 38-0091778
H. Facility's Phone: 415 543-0906

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 No.
a. Waste [illegible] N.O.S. NA [illegible]	0[illegible]	[illegible]	55	G	State 512; EPA/Other
b.					State; EPA/Other
c.					State; EPA/Other
d.					State; EPA/Other

J. Additional Descriptions for Materials Listed Above: Barrel filled with spent sorbent pads w/ diesel and granular sorbent material

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

15. Special Handling Instructions and Additional Information: Gloves

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this 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 international and national government regulations.

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: Stephen C. Getty | Signature: [signature] | Month Day Year: [illegible]2688

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Martin Castello | Signature: [signature] | Month Day Year: 072688

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

DHS 8022 A (1/87)
EPA 8700—22
(Rev. 9-86) Previous editions are obsolete.

YELLOW: GENERATOR RETAINS

INSTRUCTIONS ON THE BACK

State of California—Health and Welfare Agency
Form Approved OMB No. 2050—0039 (Expires 9-30-88)
Please print or type. (Form designed for use on elite (12-pitch typewriter)

Department of Health Services
Toxic Substances Control Division
Sacramento, California

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

UNIFORM HAZARDOUS WASTE MANIFEST

GENERATOR

1. Generator's US EPA ID No. CAD00[illegible]3[illegible]8 Manifest Document No. [illegible]7
2. Page 1 of
Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address [illegible]
4. Generator's Phone ([illegible] 5[illegible]1-9555

A. State Manifest Document Number 87898008
B. State Generator's ID

5. Transporter 1 Company Name H&H Ship Service [illegible]
6. US EPA ID Number CAD00[illegible]
C. State Transporter's ID [illegible]2448
D. Transporter's Phone 415-543-4835

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 H&H Ship Service [illegible]
10. US EPA ID Number CAD[illegible]
G. State Facility's ID 38-[illegible]
H. Facility's Phone 415 543-0906

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 No.
a. Waste [illegible] N.O.S. NA 1[illegible]	[illegible]	[illegible]	55	G	State 512 EPA/Other
b.					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above
Baled filled with spent sorbent pads w/ diesel and granular sorbent material

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

15. Special Handling Instructions and Additional Information
GLASS

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this 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 international and national government regulations.

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
STEPHEN C. GETTY	[signature]	[illegible]

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year
Martin Costello	[signature]	072688

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

DHS 8022 A (1/87)
EPA 8700—22
(Rev. 9-86) Previous editions are obsolete.

YELLOW: GENERATOR RETAINS

INSTRUCTIONS ON THE BACK

State of California—Health and Welfare Agency
Form Approved OMB No. 2050—0039 (Expires 9-30-88)
Please print or type. (Form designed for use on elite (12-pitch typewriter).

Department of Health Services
Toxic Substances Control Division
Sacramento, California

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

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAD009134438 | Manifest Document No. 01172 | 2. Page 1 of 1 | Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: Marina Village, 1150 Marina Village Parkway, Alameda Ca 94501 — Steve Gitt

4. Generator's Phone (415) 521-9555

A. State Manifest Document Number **87851172**

B. State Generator's ID

5. Transporter 1 Company Name: H&H Ship Service Co | 6. US EPA ID Number: CAD004771618

C. State Transporter's ID 902450

D. Transporter's Phone 415-543-4835

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: H&H Ship Service Co., 220 China Basin ST., San Francisco Ca 94107 | 10. US EPA ID Number: CAD004771618

G. State Facility's ID 38-0011-781

H. Facility's Phone 415-543-0906

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 No.
a. Waste Hazardous Liquid NOS. NA 9189 ORM-E	001	TT	1500	G	State 135 EPA/Other N/A
b.					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above: 98% water, 2% Diesel

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

15. Special Handling Instructions and Additional Information

Gloves

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this 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 international and national government regulations.

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
Dwaine J Pierzina	[signature]	07 26 88

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year
EDWARD G. MILANO	Edward G. Milano	07 26 88

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year
Dwa		

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

DHS 8022 A (1/87)
EPA 8700—22
(Rev. 9-86) Previous editions are obsolete.

YELLOW: GENERATOR RETAINS

INSTRUCTIONS ON THE BACK

Form Approved OMB No. 2050—0039 (Expires 9-30-88)
Please print or type. (Form designed for use on elite (12-pitch typewriter).

Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No: CA000913443898016 — Manifest Document No.
2. Page 1 of 1
Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: Marina Village, 150 Marina Village Parkway Alameda 94501
4. Generator's Phone (415) 521-4555 Steve Getty

A. State Manifest Document Number: 87838016
B. State Generator's ID

5. Transporter 1 Company Name: H/H Ship Service
6. US EPA ID Number: CAD004771168
C. State Transporter's ID: 902345
D. Transporter's Phone: 415 543 8695

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: HH Ship Service, 220 China Basin 94107, San Francisco Ca
10. US EPA ID Number: CAD004771168
G. State Facility's ID: 380917
H. Facility's Phone: 415 5830906

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 No.
a. Hazardous liquid N.O.S. WA 1993 waste	001	TT	1000	6	State 135; EPA/Other NA
b.					State; EPA/Other
c.					State; EPA/Other
d.					State; EPA/Other

J. Additional Descriptions for Materials Listed Above: oil 2% water 98

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

15. Special Handling Instructions and Additional Information: none

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this 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 international and national government regulations.

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: Duane J Pierzina — Signature: [signature] — Month Day Year: 07 26 88

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Martin Costello — Signature: [signature] — Month Day Year: 07 26 88

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

DHS 8022 A (1/87)
EPA 8700—22
(Rev. 9-86) Previous editions are obsolete.

YELLOW: GENERATOR RETAINS

INSTRUCTIONS ON THE BACK

State of California—Health and Welfare Agency
Form Approved OMB No. 2050—0039 (Expires 9-30-88)
Please print or type. *(Form designed for use on elite (12-pitch) typewriter).*

Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CA D 0 8 1 9 1 5 8 2 8 2	Manifest Document No.	2. Page 1 of 1
Information in the shaded areas is not required by Federal law.		
A. State Manifest Document Number 87898007		

3. Generator's Name and Mailing Address
Marina Village / Village Parkway
1150 Marina
Alameda CAL 94501

4. Generator's Phone 415 521 9655

B. State Generator's ID

5. Transporter 1 Company Name: H & H Ship Service Co
6. US EPA ID Number: CAD 0 0 4 7 7 1 1 6 8

C. State Transporter's ID: 902 490
D. Transporter's Phone: 415 543 4835

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
H & H Ship Service Co
220 China Basin
San Francisco CAL
10. US EPA ID Number: CAD 0 0 4 7 7 1 1 6 8

G. State Facility's ID
H. Facility's Phone: 415 543 0906

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 No.
a. Waste Combustable Liquid N.O.S. ORM-E UN 1993	0 0 1	T T	0 0 1 5 0 0	G	State 134 / EPA/Other
b.					State / EPA/Other
c.					State / EPA/Other
d.					State / EPA/Other

J. Additional Descriptions for Materials Listed Above
Diesel ... Water ...

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

15. Special Handling Instructions and Additional Information
Gloves

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this 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 international and national government regulations.

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
Dwaine J Pierzina	[signature]	0 7 2 6 8 8

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year
Robert S Hansen	Robert S Han—	0 7 2 6 8 8

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

INSTRUCTIONS ON THE BACK

DHS 8022 A (1/87)
EPA 8700—22
(Rev. 9-86) Previous editions are obsolete.

YELLOW: GENERATOR RETAINS

State of California—Health and Welfare Agency
Form Approved OMB No. 2050—0039 (Expires 9-30-88)
Please print or type. (Form designed for use on elite (12-pitch typewriter).

Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: CAD009183429 — Manifest Document No.: 91809
2. Page 1 of 1
Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: Marina Village 950 Tynan Alameda 1150 Marina Village Parkway 94501

A. State Manifest Document Number: 87898009

B. State Generator's ID

4. Generator's Phone (415) 512 9555

5. Transporter 1 Company Name: H&H Ship Service

6. US EPA ID Number: CAD004771178

C. State Transporter's ID: 902448

D. Transporter's Phone: 415 543 4835

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: H&H Ship Service 220 China Basin San Francisco Ca 94107

10. US EPA ID Number: CAD004771168

G. State Facility's ID: 38 00 1 78

H. Facility's Phone: 415 930 906

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 No.
a. Waste Empty Diese Tank Combustable NA 1270	001	TP	00001	150 gal	State 512 / EPA/Other N/A
b. Boiler Oil Tank Combustable Waste Empty NA1270	001	TP	00001	200 gal	State 512 / EPA/Other N/A
c.					State / EPA/Other
d.					State / EPA/Other

J. Additional Descriptions for Materials Listed Above: Empty underground Diesel + Boiler oil tank with less than 1% of Residual Liquid [illegible]

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

15. Special Handling Instructions and Additional Information

None

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this 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 international and national government regulations.

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: Dwain J Pierzina — Signature: [signature] — Month Day Year: 10 26 88

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Martin Costello — Signature: [signature] — Month Day Year: 1 / 26 / 8

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

DHS 8022 A (1/87)
EPA 8700—22
(Rev. 9-86) Previous editions are obsolete.

YELLOW: GENERATOR RETAINS

INSTRUCTIONS ON THE BACK