rec'd
9/13/93

9-13-93

UNDERGROUND FUEL TANK REMOVAL
AND SOIL EXCAVATION
PROPOSED EMERYVILLE POSTAL FACILITY
EMERYVILLE, CALIFORNIA

ST104428

LOWNEY ASSOCIATES
Environmental / Geotechnical / Engineering Services

LOWNEY ASSOCIATES
Environmental / Geotechnical / Engineering Services

September 8, 1993
864-17A, MV082501

Mr. Charles W. Wren
U.S. POSTAL SERVICE
c/o DANIEL, MANN, JOHNSON & MENDENHALL
222 Kearny Street, Suite 500
San Francisco, California 94108

RE: UNDERGROUND FUEL TANK REMOVAL AND SOIL EXCAVATION PROPOSED EMERYVILLE POSTAL FACILITY EMERYVILLE, CALIFORNIA

Dear Mr. Wren:

We are pleased to present this report documenting underground storage tank (UST) removal and excavation activities performed at the reference site, located at 6121 Hollis Street in Emeryville, California. The scope of work performed was discussed with you and described in our proposal dated May 7, 1993.

On August 2, 1992, two USTs were removed from the site by Gettler-Ryan. Upon excavation, the 600-gallon northern UST appeared to be in good condition. No holes or other signs of damage or leakage were noted. Laboratory analysis of a soil sample collected directly below the northern UST did not detect gasoline, diesel, or oil range petroleum hydrocarbons. Upon excavation of the 500-gallon central UST, several holes and a tear were noted on the west side of the tank. Laboratory analysis of soil and ground water samples collected below the tank detected 1,800 mg/kg and 150 mg/l total petroleum hydrocarbons (TPH) as diesel, respectively. The results indicated that the soil and ground water in immediate contact with the central UST were impacted with diesel range petroleum hydrocarbons.

Approximately 150 gallons of impacted ground water were pumped from the central excavation by a vacuum truck. Analysis of a second sample from the ponded ground water detected diesel hydrocarbons at 0.69 mg/l, which, in our opinion, more accurately represents ground water quality. To remove impacted soil directly associated with the UST, the soil below and surrounding the tank was excavated to ground water. Analysis of soil samples from the excavation sidewalls detected low levels of diesel range hydrocarbons (up to 240 ppm). The results indicated, in our opinion, that most of the impacted soil directly associated with the UST had been removed.

During over-excavation of the central UST pit, a layer of petroleum impacted soil was encountered just above ground water. Previous on-site work indicated that this stratum is impacted with highly degraded diesel range petroleum hydrocarbons, occurs within the zone of ground water fluctuation, and is widespread over much of the southern portion of the site. In our opinion, this impacted soil is not directly associated with the tank, but may be a result of other potential sources that previously impacted ground water but are no longer present at the

site. These may include 14 former aboveground tanks, their associated piping, and incidental spillage during operation of the on-site oil distribution facility.

A 6-inch steel product pipe was excavated and removed from the site on August 3, 1993. Analysis of soil samples collected from every 20 linear feet of pipe detected varying levels of petroleum oil along the western two-thirds of the pipe (up to 1,600 mg/kg) and low levels of diesel hydrocarbons; analysis of samples from the eastern third of the pipe detected 1,200 and 110 mg/kg TPH diesel. Based on field observations, sampling depths, and the analytical data, the petroleum hydrocarbons detected below the pipe appear to be predominantly associated with the impacted soil within the zone of ground water fluctuation. However, this pipe, along with other former sources, may have also impacted on-site soil and ground water.

On July 26 and 27, 1993, approximately 460 cubic yards of oil impacted soil, detected initially during previous on-site work, were excavated from the southeast corner of the site. Results from soil verification samples indicated that the majority of the oil impacted soil had been removed from the site. However, a relatively high level of oil (17,000 mg/kg) was detected in one sample from the southern excavation sidewall, which extended to within 1 foot of the southern property boundary. Because of the proximity of the excavation to the property boundary and the presence of Westinghouse's slurry wall, further excavation is not practical or warranted, in our opinion.

In addition, approximately 260 cubic yards of railroad ballast, consisting of silty gravel and cobbles, were removed from the western boundary of the site on August 11, 1993. Laboratory analysis of soil samples taken after excavation did not detect PCBs. Only low levels of petroleum oil (up to 170 mg/kg) were detected in two of the post-excavation samples.

Periodic monitoring of the on-site ground water should be initiated to monitor the migration and natural degradation of the on-site petroleum fuel hydrocarbons. Former on-site tenants/owners should also be contacted to assess responsibilities and obtain financial assistance with remedial activities. A copy of this report should be sent to the Alameda County Department of Environmental Health and the California Regional Water Quality Control Board for their review.

If you have any questions or need additional information, please call.

LOWNEY ASSOCIATES

Stason Foster
Environmental Engineer

Ron L. Helm, C.E.G.
Environmental Geologist

RLH:SIF:TJR

Copies: Addressee (4)

UNDERGROUND FUEL TANK REMOVAL AND SOIL EXCAVATION

For

PROPOSED EMERYVILLE POSTAL FACILITY
Emeryville, California

To

U.S. POSTAL SERVICE
c/o DANIEL, MANN, JOHNSON & MENDENHALL
222 Kearny Street, Suite 500
San Francisco, California 94108

August 1993

Table of Contents

UNDERGROUND FUEL TANK REMOVAL
AND SOIL EXCAVATION
PROPOSED EMERYVILLE POSTAL FACILITY
EMERVILLE, CALIFORNIA

1.0 INTRODUCTION

1.1 Purpose

This report was prepared to document the underground storage tank (UST) removal and soil excavation activities for the referenced site, located at 6121 Hollis Street in Emeryville, California (Figures 1 and 2). As you know, we previously performed a preliminary soil quality evaluation at the site; our conclusions and recommendations were presented in our April 16, 1993 report titled, "Preliminary Soil Quality Evaluation, Proposed Emeryville Postal Facility, Emeryville, California." In addition, we recently performed a more detailed soil and ground water quality investigation at the site with our conclusions and recommendations presented in our July 30, 1993 report titled, "Soil and Ground Water Quality Evaluation, Proposed Emeryville Postal Facility, 6121 Hollis Street, Emeryville, California."

1.2 Scope of Work

The scope of work performed by Lowney Associates during the current investigation included:

- Part-time observation of UST removal and soil excavation operations.
- Sampling/analysis of soil beneath the USTs, product piping, the former railroad siding, and the southeast excavation.

- Sampling/analysis of ponded water in the central UST excavation.

- Preparation of this report summarizing the work performed by the contractor. In addition, portions of the work were photographed.

Contractor activities observed by Lowney Associates included:

- Removal and off-hauling of two single-walled steel tanks with capacities of 500 and 600 gallons.

- Excavation of impacted soil.

- Excavation and removal of a 6-inch diameter steel fuel transfer pipeline.

1.3 Site/Project Description

The project site (Figures 1 and 2) consists of approximately 1.7 acres of undeveloped land in a primarily industrial area bounded to the north by 62nd Street, to the south by Westinghouse Corporation property, to the west by Southern Pacific railroad tracks, and to the east by a parking lot for the 6121 Hollis Street building. Many of the buildings in the area date back to the early 1920s. The proposed United States Postal Service facility is expected to be developed by June 1994; building foundations, asphaltic parking areas, and drives are expected to cover 95 percent of the native soil. Reportedly, only small strips of land, primarily at the front entrance along 62nd Street, will be left uncapped to allow planting of decorative landscaping.

1.4 Site Background

Previous work to evaluate site conditions has included a review of site history, collection of numerous soil samples, installation of one ground water monitoring well, collection of ground water grab samples, and the performance of a geophysical survey.

As discussed in detail in previous reports for the site (referenced at the end of this report), the property has been used for a variety of purposes by several tenants. Former tenants include Thomas Rigging (a draying and rigging company), ITT Grinnell (a plumbing supply business), and U.C. Livermore Laboratory. A former on-site warehouse was also reportedly used for storage and repair of automobiles (Dames & Moore, March 26, 1993).

A 1930 Sanborn Fire Insurance map shows the site to have been used as an oil distribution facility operated by both Shell and Guardian Oil companies (Dames & Moore, March 26, 1993). Fourteen storage tanks, presumably above ground, were used to store petroleum fuels at the site. Four of the tanks, located on the southeastern portion of the site, were used to store gasoline. The ten remaining tanks were located on a concrete pad near the southwestern corner of the property; these tanks stored oil. Oil pumps and a filling shed were also shown on the Sanborn map. This distribution facility was demolished sometime prior to 1949.

Polychlorinated biphenyl (PCB) contamination has been detected in soil and ground water immediately south of the site on property owned by Westinghouse (see section 1.4, following). In response, this site was enclosed by an underground slurry wall and

capped. Several soil samples collected on the adjacent site near the southern boundary of the subject property were analyzed for PCBs by the California Department of Health Services in February 1981; elevated PCB levels were detected. The former owner of the site, ITT Grinnell Corporation, contracted CH2M Hill in 1981 to evaluate shallow soil quality on the parcel immediately east of the project site. Reportedly, PCBs were detected along this property's southern boundary, with the highest concentrations (2,400 parts per million [ppm]) found adjacent to a railroad spur which ran between the Grinnell and Westinghouse properties.

To evaluate the potential impact of the Westinghouse facility on soil quality at the project site, 41 shallow soil samples were collected and analyzed for PCBs (Harding Lawson Associates, September 1990). Reportedly, only one sample contained PCBs (at 52 ppm) above 5 ppm. A second analysis performed on this sample detected PCBs at 17 ppm.

During preliminary construction activities in January and February 1993, several underground pipelines and a 600-gallon UST were encountered at the site. A geophysical survey was subsequently performed to evaluate if additional buried features were present (Dames & Moore, March 5, 1993). This survey detected other anomalies.

To evaluate the unknown anomalies as well as soil quality, 12 additional trenches were excavated in April 1993 (Lowney Associates, April 1993). This work indicated that several hundred feet of piping, most of which appeared to be old utility lines, were present

on-site. In addition to the tank discovered during previous construction activities, a second tank was found to be located beneath the sidewalk along the northern side of the property. Also, what appeared to be globules of diesel fuel were observed floating on the ground water in trenches located just south and southeast of the existing ground water monitoring well (MW-1A). This product ranged in thickness from a sheen to approximately 1/8 inch and appeared to be very weathered diesel.

Petroleum hydrocarbons, mainly diesel range compounds, were detected in soil at concentrations generally near 1,000 ppm. The majority of the impacted soil appeared to located directly above the ground water table within the zone of ground water fluctuation. Ground water below the site was typically encountered at depths of between 4 and 6 feet.

On the southeast corner of the site, soil impacted with petroleum oil (up to 13,000 ppm) was encountered. This oil appeared heavier than the gasoline and diesel range hydrocarbons encountered on other portions of the site.

To evaluate the lateral and vertical extent of petroleum impacted soil and ground water, 21 exploratory borings were drilled and four additional ground water monitoring wells were installed at the site (Lowney Associates, July 1993). Laboratory analysis of soil and ground water samples indicated that the shallow water-bearing zone and the soil immediately above it across a majority of the southern portion of the site were impacted with very

degraded diesel range petroleum hydrocarbons. BTEX and other lighter compounds were generally not detected or only present near laboratory detection limits.

1.5 Project Personnel

Tank removal and soil excavation work was performed by Gettler-Ryan of Hayward, California. Mr. Jim Reed of Gettler-Ryan was the on-site manager and Mr. David Byron was the project manager. Site activities were coordinated with Mr. Brian Oliva of the Alameda Country Department of Environmental Health (ACDEH) who observed tank removal activities. Mr. George Warren from the Emeryville Fire Department also observed the tank removal activities.

2.0 UST REMOVAL

2.1 Central Tank Removal

An approximately 500-gallon single-walled steel UST was located in the center of the site (Figure 2). The top of the tank, located at a depth of 2 to 3 feet below ground surface (BGS), had already been exposed by previous grading operations at the site (see Photograph #1). The tank was 32 inches in diameter by 12 feet long and was slightly damaged; a tear and several holes were observed on the western side of the tank. The tank was approximately two-thirds full of what appeared to be a mixture of oil and water prior to removal. No piping was observed to be connected with the tank.

Removal of this 500-gallon tank was performed on August 2, 1993 (see Photograph #2). Prior to excavation, the oil and water mixture was removed from the tank by a vacuum truck operated by H&H

Ship Service Company of San Francisco. Gettler-Ryan personnel subsequently triple-washed the tank to remove residual product. Approximately 500 gallons of oil/water mixture and rinsate were removed by the H&H vacuum truck. The tank was then inerted with dry ice and transported by Erickson, Inc. for disposal at their Richmond facility.

Approximately 6 inches of ponded ground water were noted in the deeper portion of the excavation at a depth of approximately 7 feet. The ground water appeared to have a petroleum sheen on the surface. After removal of the tank, a water sample (Water-1) was collected for analysis prior to pumping from the excavation with the vacuum truck. The ground water was allowed to recharge for several minutes and then was pumped out again. Approximately 150 to 200 gallons of water were removed. On August 11, 1993, after the ground water had stabilized, a second sample of the ponded ground water (Water-2) was collected for analysis (see Table 1).

2.1.1 Soil Sampling (Central UST)

After tank removal, a soil sample (SS-1) was collected directly below the tank as requested by the ACDEH inspector. The soil sample was obtained from native clayey silt at a depth of approximately 5 feet, or approximately 0.5 feet beneath the base of the former tank. Details regarding sampling protocol are presented in Appendix B.

The soil sample collected from the tank excavation was monitored with a Sensidyne organic vapor meter (OVM) equipped with a flame ionization detector (FID). The Sensidyne detects total organic vapors,

including methane. Organic vapor concentrations higher than 1,000 ppm (the instrument's highest reading) were detected in soil sample SS-1.

2.1.2 Analytical Results (Central UST)

As directed by the ACDEH, the soil sample collected from beneath the central tank (SS-1) was analyzed for total petroleum hydrocarbons (TPH) as diesel; a scan for benzene, toluene, ethylbenzene, and xylenes (BTEX) (EPA Test Method 8015/8020); and petroleum oil (Standard Method 5520EF). The ponded water samples were analyzed for the same compounds excluding petroleum oil. Analysis of soil sample SS-1 detected 1,800 ppm TPH diesel; however, the chromatogram pattern of the sample indicated a lower boiling point, non-diesel mix of diesel range petroleum hydrocarbons. Per our discussions with the laboratory, the hydrocarbons detected could be from a lighter fuel product than diesel, such as kerosene. Similar compounds were detected in the ground water samples. The diesel range hydrocarbon concentration detected in the initial ground water sample was 150 ppm; however, only 0.69 ppm was detected in the sample collected after ground water pumping. Laboratory results are summarized in Table 1 and copies of the laboratory reports are attached in Appendix C.

TABLE 1. Laboratory Analysis of Soil and Ground Water Samples from Below the Central UST
Proposed Emeryville Postal Facility
Emeryville, California
(concentrations in mg/kg)

Sample Location	Date Sampled	Oil	Diesel	Benzene	Toluene	Ethyl-benzene	Xylenes
SS-1 (5 ft)*	8/2/93	<50	1,800†	<0.005	<0.005	4.4	12
Water-1	8/2/93	--	150†	0.0084	0.015	0.037	0.071
Water-2	8/11/93	--	0.690†	<0.0005	<0.0005	<0.0005	0.00086

-- Not Analyzed
† Reported by laboratory as a non-diesel mix (C9-C15)
* Intermediate sample. Soil subsequently removed to ground water.

2.2 Over-Excavation (Central UST)

On August 2 and 3, 1993, impacted soil near the former tank was excavated laterally and to ground water at an approximate depth of 6 to 7 feet. The purpose of the over-excavation was to remove shallow soils containing elevated levels of diesel range compounds associated with the UST. Approximately 500 cubic yards of soil were excavated. The final dimensions of the excavation measured approximately 30 by 35 feet (see Figure 3).

The impacted soil, generally consisting of clayey silt, was identified by moderate petroleum odor, bluish-green color, and relatively high OVM readings. The impacted soil was removed with an excavator until visual observations and OVM readings indicated a reduction in the level of contamination. Within 5 feet laterally of the former central UST, impacted soil appeared to extend from the base of the UST to the area of ground water fluctuation at depths between 5 to 8 feet. Beyond 5 feet from the UST, impacted soil appeared only to be localized within the zone of ground water fluctuation. Based on previous on-site work, this impacted zone appears to be present

over much of the southern half of the site. Ground water at the site is suspected to have been impacted by several sources which may include the central UST, the former aboveground storage tanks, associated piping, and incidental spillage during operation of the oil distribution facility. To attempt to remove impacted soil underlying the proposed building footprint, approximately 200 cubic yards of impacted soil directly below and associated with the UST were removed. In addition, approximately 300 cubic yards of impacted soil from the zone of ground water fluctuation were removed. The impacted soil associated with the zone of ground water fluctuation located outside the proposed building footprint was left in place since it is fairly extensive over the southern portion of the site and covered by several feet of clean soil. Excavated soil was stockpiled on and covered by visqueen at the site and subsequently disposed by Remco, Inc. at their facility located in Richmond, California. We understand that the Postal Service will backfill the excavation during construction activities at the site.

2.2.1 Verification Soil Sampling (Over-Excavation)

Six verification soil samples (SS-3 through SS-8) were collected from the excavation sidewalls to evaluate whether the "hot spots" associated with the tank and impacted soil beneath the building footprint had been removed. All the soil samples were obtained from soil in the zone of ground water fluctuation at depths between 5.5 and 7 feet. Locations of the samples and analytical results are shown on Figure 3.

2.2.2 Analytical Results (Over-Excavation)

The verification samples were analyzed for TPH as diesel and BTEX compounds (EPA Test Method 8015/8020). Analytical results are presented in Table 2. As shown, the diesel concentrations detected in the samples are similar in magnitude except for sample SS-8 taken from the southwest sidewall where the maximum diesel concentration was detected (240 ppm). Chromatogram patterns of the samples indicated a non-diesel mix, likely highly weathered diesel and a mixture of other diesel range fuel products. In addition, the chromatogram pattern of soil samples from the excavation boundaries suggests the presence of heavier diesel compounds. These compounds were not found in the single soil sample taken directly below the UST, indicating, as expected, that the compounds present are likely from several other sources. Concentrations of BTEX compounds were below laboratory detection limits. Copies of laboratory reports are attached in Appendix C.

TABLE 2. Laboratory Analysis of Soil Verification Samples from Central UST Over-Excavation
Proposed Emeryville Postal Facility
Emeryville, California
(concentrations in mg/kg)

Sample Location	Approximate Depth (ft)	Diesel	Benzene	Toluene	Ethyl-benzene	Xylenes
SS-3	5.5	14†	<0.005	<0.005	<0.005	<0.005
SS-4	6.0	<1.0	--	--	--	--
SS-5	6.0	<1.0	--	--	--	--
SS-6	5.5	5.9†	<0.005	<0.005	<0.005	<0.005
SS-7	6.0	3.1†	<0.005	<0.005	<0.005	<0.005
SS-8	7.0	240†	--	--	--	--

-- Not Analyzed
† Reported by laboratory as a non-diesel mix (C11-C16)

2.3 Northern UST Removal

An approximately 600-gallon single-walled steel UST was located on the northern edge of the site between the 62nd Street and the fence line (Figure 2). The top of the tank was located at a depth of 3 to 4 feet BGS (see Photograph #3). The dimensions of the tank were 42 inches in diameter by 8 feet long. Upon removal on August 2, 1993, the UST did not appear to be damaged; no obvious holes were observed. A sufficient quantity of ground water for sampling was not present in the tank excavation which extended to a depth of 7 feet. No piping was observed to be directly connected to the tank.

The tank did not contain any fluids; however, prior to removal, Gettler-Ryan personnel rinsed the tank to remove residual product. Approximately 30 gallons of rinsate were removed by the vacuum truck from H&H Ship Service Company. The tank was then inerted with dry ice, transported by Erickson, Inc., and disposed at their Richmond facility.

2.3.1 Soil Sampling (Northern UST)

One soil sample (SS-2) was collected directly below the northern UST as requested by the ACDEH. The soil sample was obtained from a clayey silt layer at a depth of approximately 6.5 feet BGS or 0.5 feet below the former tank base (Figure 4) using the excavator. This soil sample was monitored with an OVM; the OVM detected less than 10 ppm of organic vapors.

2.3.2 Analytical Results (Northern UST)

As directed by the ACEDH, one soil sample collected from beneath the northern UST (SS-2) was analyzed for TPH as diesel (EPA Test Method 8015M), TPH as gasoline with BTEX compounds (EPA Test Method 8015M/8020), and petroleum oil (Standard Method 5520EF). These analyses did not detect any petroleum hydrocarbons. Copies of the laboratory reports are attached in Appendix C.

After receipt of the analytical results, the northern tank excavation was backfilled by the contractor with clayey silt. Soil removed from the excavation was spread out over low areas of the site.

3.0 PIPELINE REMOVAL

3.1 Product Line Removal

On August 3, 1993, a 6-inch diameter steel product pipeline was excavated and removed by Gettler-Ryan. This pipe was approximately 120 feet long. It ran east-west through the site just south of the central tank excavation and well MW-3 (Figure 3). The depth of the pipe varied from approximately 2.5 feet BGS on the western end to approximately 3 to 4 feet BGS on the eastern end. A large "T" fitting with a valve was attached to the pipe approximately 35 feet from the eastern end. No attached piping or other fittings, except the end fittings, were noted.

The western end of the pipe had been exposed during previous exploratory trenching activities at the site. Approximately 40 cubic yards of soil covering the product pipe was removed using an excavator and stockpiled on visqueen. After exposing the pipe (Photograph #4), the excavator was used to remove the pipe and break it up into smaller sections for

later disposal by Erickson, Inc.. A small quantity of a black sludge was noted in portions of pipe at its eastern section. The sludge was placed onto the stockpiled soil as each section of pipe was removed. Approximately [redacted] were emptied from the pipe.

3.1.1 Soil Sampling (Product Line)

As requested by the ACDEH, soil samples were obtained from below the product line at approximate intervals of 20 linear feet. Five soil samples (TR-1 to TR-5) were collected from the trench. The soil samples were obtained at depths of 3.5 to 5.0 feet BGS with an excavator.

The soil samples collected from the piping trench were monitored with an OVM. Organic vapor concentrations higher than 1,000 ppm* (the instrument's highest reading) were detected in sample TR-4 from a depth of approximately 5 feet. Sample TR-5 had an OVM reading of 200 ppm, and all the other samples were below 20 ppm.

The entire length of the pipeline trench was checked for organic vapors with the OVM. Organic vapor concentrations for the western two-thirds of the trench (up to sample TR-4) were below 20 ppm. The eastern third of the trench had OVM readings ranging between 100 and 1,000 ppm.

3.1.2 Analytical Results (Product Line)

As directed by the ACEDH, the soil samples collected from beneath the product pipe were analyzed for TPH as diesel, BTEX (EPA Test Method 8015M/8020), and petroleum oil (Standard Method 5520EF). As shown in Table 3, the highest concentrations of diesel and oil compounds were detected in soil

samples TR-4 and TR-5 from the eastern third of the pipe where the pipe was deepest. Only very low levels (up to 18 ppm) of diesel hydrocarbons were detected in the other samples. Petroleum oil was also detected in sample TR-2. Copies of the laboratory reports are attached in Appendix C.

TABLE 3. Laboratory Analysis of Soil Samples from Below 6-Inch Product Line
Proposed Emeryville Postal Facility
Emeryville, California
(concentrations in mg/kg)

Sample Location	Approx. Depth (ft)	Oil	Diesel	Benzene	Toluene	Ethyl-benzene	Xylenes
TR-1	3.5	<50	10†	<0.005	<0.005	<0.005	<0.005
TR-2	4.0	1,600	16†	<0.005	<0.005	<0.005	<0.005
TR-3	4.5	<50	18	<0.005	<0.005	<0.005	<0.005
TR-4	5.0	1,000	1,200	<0.005	<0.005	<0.005	<0.005
TR-5	5.0	400	110	<0.005	<0.005	2.3	0.11

† Reported by laboratory as a non-diesel mix (>C12)

3.2 Other Piping Removal

To aid in future construction activities, all other known pipelines at the site consisting of utility lines and electrical conduits were removed, broken into sections, and appropriately disposed by Erickson, Inc. at their Richmond facility.

4.0 SOUTHEAST EXCAVATION

4.1 Soil Excavation

On July 26 and 27, 1993, oil impacted soil detected during previous on-site work was excavated from the southeast corner of the site. The purpose of this work was to remove shallow soil impacted with elevated levels of petroleum oil. The oil impacted soil, consisting of dark brown or black silt with some clay, was encountered at or just below the ground surface. OVM readings obtained from this soil were typically low due to the heavy/non-volatile

nature of the oil. During our previous study (Lowney Associates, July 30, 1993), perched ground water was encountered in the southeast area at a depth of 3 to 4 feet. During excavation, however, perched ground water was not encountered; the ground water table was encountered at a depth of approximately 5 to 6 feet (Photograph #5).

The excavation initially extended to a depth of approximately 4 to 5 feet; the southern boundary of the excavation extended to within 3 feet of the southern property line (Figure 3). Approximately 460 cubic yards of soil were removed by an excavator and stockpiled on visqueen at the site. This soil was subsequently disposed by Remco, Inc. at their facility in Richmond, California.

Soil encountered near the ground water table along the northwest side of the excavation appeared similar to that encountered during previous work at the site. This soil was discolored bluish-green, with a moderate petroleum odor and relatively high OVM readings. Based on previous sampling at the site, this stratum is impacted with very degraded diesel range petroleum hydrocarbons, extends over much of the southern portion of the property, and is not associated with the heavier range oil impacted soil being excavated. Therefore, no additional soil was excavated from just above the ground water table.

4.2 Soil Verification Sampling

Five soil verification samples (SE-1, 2, 3, 5, and 6) were collected from the sidewalls and bottom of the excavation to evaluate the effectiveness of the soil excavation. The samples were obtained from black clayey silt at depths ranging from 4 to 6 feet.

4.3 Analytical Results

The soil samples collected from the excavation sidewalls and bottom were analyzed for total petroleum oil (Standard Method 5520EF). As shown in Table 4, only low levels of petroleum oil were detected in most of the soil samples except for samples SE-1 and SE-3 which had higher concentrations (up to 4,400 ppm). These two samples were collected from the bottom and southern wall of the excavation, respectively. Copies of the laboratory reports are attached in Appendix C.

4.4 Additional Excavation/ Sampling

After receipt of the analytical results, an attempt was made to remove soil containing elevated levels of petroleum oil from the southern sidewall and excavation bottom. On August 3, 1993, the south wall of the excavation was extended an additional 2 feet to within 1 foot of the southern property boundary. The excavation was also extended to the depth of ground water. Two soil samples (SE-7 and SE-8) were subsequently collected from the south wall and analyzed for total petroleum oil. As shown in Table 4, oil was detected in only one sample at 17,000 ppm. Because of the proximity of the excavation to the southern property boundary, no additional soil was removed.

TABLE 4. Laboratory Analysis of Soil Samples from Southeast Excavation
Proposed Emeryville Postal Facility
Emeryville, California
(concentrations in mg/kg)

Sample Location	Approx. Depth (ft)	Sampling Date	Location	Total Petroleum Oil
SE-1*	4.0	7/26/93	Bottom	2,100
SE-2	3.5	7/26/93	Sidewall	50
SE-3*	4.0	7/26/93	Sidewall	4,400

continued

TABLE 4. Laboratory Analysis of Soil Samples from Southeast Excavation
Proposed Emeryville Postal Facility
Emeryville, California
(concentrations in mg/kg)
(continued)

Sample Location	Approx. Depth (ft)	Sampling Date	Location	Total Petroleum Oil
SE-5	4.0	7/27/93	Sidewall	130
SE-6	4.0	7/27/93	Sidewall	<50
SE-7	4.5	8/3/93	Sidewall	<50
SE-8	4.5	8/3/93	Sidewall	17,000

* Intermediate sample. Soil subsequently removed.

5.0 RAILROAD BALLAST REMOVAL

Along the western edge of the site was a former railroad siding. The siding entered the property from the northwest corner and extended to the southern edge of the site, generally running parallel to the adjacent main rail lines (Photograph #6). The siding consisted of wood ties set over 1 to 1.5 feet of ballast. The ballast generally consisted of a silty gravel with cobbles.

5.1 Pre-Excavation Sampling/Results

Laboratory analysis of soil samples collected during previous work at the site indicated that the railroad ballast contained low levels of petroleum oil and PCBs. Prior to excavating, several additional soil samples (RR-2, 3, 5, 7, 9, 10, 11, and 12) were collected from the oil and PCB impacted material to delineate its extent. Samples were collected using a slide hammer or by pot-holing with the excavator. These samples were analyzed for total petroleum oil (Standard Test Method 5520EF) and PCBs (EPA Test Method 8080). Analytical results are summarized in Table 5. Laboratory analysis of the samples detected petroleum oil and PCBs at concentrations up to 2,500

and 2,300 ppm, respectively. The highest concentrations of PCBs were detected in the southwest corner of the site.

5.2 Soil Excavation

On August 11, 1993, Gettler-Ryan removed the on-site railroad ballast which extended from the western fence line to 16 to 18 feet eastward (Figure 4). The excavation proceeded until the underlying native light brown to gray silts and clays were observed, usually at a depth of 14 to 18 inches. Approximately 260 cubic yards of ballast material were removed. The material was stockpiled and covered by visqueen at the site and subsequently disposed by Remco, Inc. at their Richmond facility.

5.3 Post-Excavation Sampling/Results

After excavating the railroad ballast material, five soil samples were collected from the underlying native soil at a depth of approximately 1.5 feet to verify that the PCBs and oil had been removed. As shown in Table 5, laboratory analysis of the post-excavation soil samples did not detect PCBs and only low levels of petroleum oil were detected in two of the samples.

TABLE 5. Laboratory Analysis of Soil Samples Collected from Former On-Site Railroad Siding
Proposed Emeryville Postal Facility
Emeryville, California

Sample Location	Approx. Depth (ft)	Total Petroleum Oil (mg/kg)	PCB 1260 (mg/kg)
Pre-excavation			
RR-2	1.0-1.5	1,200	0.770
RR-3	0-0.5	450	0.750
RR-5	0-0.5	240	2.3
RR-7	0-0.5	2,500	0.920

continued

TABLE 5. Laboratory Analysis of Soil Samples Collected from Former On-Site Railroad Siding Proposed Emeryville Postal Facility Emeryville, California
(continued)

Sample Location	Approx. Depth (ft)	Total Petroleum Oil (mg/kg)	PCB 1260 (µg/kg)
RR-9	0-0.5	770	0.730
RR-10	0-0.5	270	0.690
RR-11	0-0.5	66	0.073
RR-12	0-0.5	170	0.640
Post-excavation			
RR-13	1.5-2.0	<50	<0.20
RR-14	1.5-2.0	<50	<0.20
RR-15	1.5-2.0	170	<0.20
RR-16	1.5-2.0	<50	<0.20
RR-17	1.5-2.0	110	<0.20

6.0 CONCLUSIONS AND RECOMMENDATIONS

The purpose of this report was to document the UST, fuel transfer pipeline, and soil excavation/removal activities at the site. Tank/piping removal, excavation, and soil disposal was performed by Gettler-Ryan of Hayward, California.

6.1 Central UST

The approximately 500-gallon single-walled steel UST located in the central area of the site was removed by Gettler-Ryan on August 2, 1993. After removal of the UST, one soil sample was collected from soil directly below the tank. In addition, a water sample was obtained from ponded ground water in the bottom of the excavation. Laboratory analyses of the samples indicated that both the soil and ground water around the tank had been impacted by diesel range petroleum hydrocarbons.

To remove the impacted ground water in the tank excavation, approximately 150 gallons of the ponded water were pumped out using a vacuum truck. Analysis of a second water sample collected from the ponded ground water showed a marked reduction in diesel concentrations. In our opinion, the relatively high concentration initially detected likely was due to the presence of a petroleum sheen on the water in immediate contact with the tank. This sheen was removed by pumping. In our opinion, the concentrations detected in the second sample are more representative of ground water quality.

To remove impacted soil located below the UST and within the zone of ground water fluctuation generally beneath the proposed building footprint, the soil below and surrounding the tank was excavated to ground water at approximately 6 to 7 feet BGS. Analysis of verification soil samples collected from the excavation sidewalls indicated that the majority of impacted soil beneath the proposed building had been removed. Impacted soil within the ground water fluctuation zone was observed to extend south from the excavation. This soil was left in place since previous work indicated that it is widespread over most of the southern half of the site, covered by several feet of clean soil, and in direct contact with impacted ground water. Previous on-site work indicated that this stratum is impacted with very degraded diesel range petroleum hydrocarbons with BTEX compounds typically present at only very low levels, either below or near laboratory detection limits. Please refer to the Lowney Associates July 30, 1993 report for detailed conclusions and recom-

mendations regarding the remaining petroleum hydrocarbons at the site.

6.2 Northern UST

The approximately 600-gallon single-walled steel UST located on the northern boundary of the site was removed by Gettler-Ryan on August 2, 1993. Upon removal, this tank appeared to be in good condition with no holes or significant deterioration. Laboratory analysis of the soil sample collected below this tank did not detect gasoline, diesel, or oil range petroleum hydrocarbons. Therefore, further work in this area is not warranted.

6.3 Product Piping

A 120-foot long, 6-inch diameter steel fuel transfer line was removed from the central area of the site by Gettler-Ryan on August 3, 1993. The pipe ran in an east-west direction just to the south of the central UST area. The eastern third of the pipe contained approximately 1 to 2 gallons of black sludge which was emptied onto the stockpiled soil.

Analysis of soil samples collected from every 20 linear feet of pipe indicated that the underlying soil was impacted with low to moderate levels of diesel and oil range petroleum hydrocarbons. BTEX compounds generally were not detected. In general, the type and concentration of hydrocarbons detected, the location and appearance of the soil, and the OVM readings obtained were all similar to those observed during previous sampling of soil across the southern portion of the site within the ground water fluctuation zone. Therefore, in our opinion, the impacted soil detected beneath the pipe appears to be predominantly due to the effects of impacted ground water and not directly associated with

specific leaks from the pipeline. The detection of mostly oil range compounds in sample TR-2 from the western portion of the pipe is anomalous in that only low levels of diesel range hydrocarbons were detected. In our opinion, this may be due to the heterogeneous nature of the soil sample, a localized leak from the pipe, or incidental spillage during operation of the oil distribution facility.

6.4 Southeast Excavation

On July 26 and 27, 1993, oil impacted shallow soil was excavated in the southeast corner of the site. The excavation extended to within 3 feet of the southern property boundary and to ground water at a depth of 5 to 6 feet. Approximately 460 cubic yards of soil were removed.

Laboratory analysis of soil samples collected from the bottom and sidewalls of the excavation indicated that the majority of the oil impacted soil had been removed from the site; however, elevated levels were detected in samples from the southern sidewall. Two additional feet of soil were subsequently removed from the south wall, bringing the excavation to within 1 foot of the property line. The results from additional soil samples collected from the south wall indicated an increase in the concentration of petroleum oil in one of the samples; however, further excavation could not be performed without entering upon the Westinghouse property and possibly endangering the integrity of their underground slurry wall and asphaltic concrete cap.

6.5 Former Railroad Siding

The western boundary of the site consists of a former railroad siding which entered the property near the northwest corner. Previous on-site work indicated that the gravel used for ballast below the siding contained low levels of petroleum oil and PCBs. The ballast was removed from the site by excavating the material from the current fence line to its eastern extent, approximately 16 to 18 feet from the fence. The excavation continued until the underlying native soil was reached at a depth of 14 to 18 inches. Laboratory analysis of soil samples collected from native soil below the ballast did not detect PCBs, and only low levels of petroleum oil were detected in two of the native soil samples. Based on these results, no further work in this area is warranted.

6.6 Residual Petroleum Hydrocarbons

Based on the data collected, natural degradation of the petroleum hydrocarbons has been occurring in soil and ground water at the site for more than 60 years. In our opinion, this degradation process will continue to decrease the petroleum concentrations.

We recommend that a periodic sampling program be established to monitor the migration and natural degradation of the petroleum compounds present in ground water on-site.

We also recommend contacting former on-site tenants and owners to evaluate responsible parties and to obtain financial assistance with further on-site remedial actions. Consideration also should be given to contacting an environmental attorney to help evaluate responsible parties and reporting obligations to state and local agencies. These responsible parties

will likely be required by local and state regulatory agencies to define the off-site extent of petroleum fuel hydrocarbon contamination.

We recommend sending a copy of this report to the Alameda County Department of Environmental Health and the California Regional Water Quality Control Board for their review.

7.0 LIMITATIONS

Soil deposits and rock formations may vary in type, strength, and many other important properties across any geologic area. The study that we have made assumes that the data obtained in the field and laboratory are reasonably representative of field conditions and that the subsurface conditions are reasonably susceptible to interpolation and extrapolation between sampling locations.

The accuracy and reliability of geo- or hydrochemical studies are a reflection of the number and type of samples taken and the extent of the analysis conducted, and is thus inherently limited and dependent upon the resources expended. Our sampling and analytical plan was designed using accepted environmental engineering principles and our judgement for the performance of a reconnaissance soil and ground water quality investigation, and was based on the degree of investigation desired by you. It is possible to obtain a greater degree of certainty, if desired, by implementing a more rigorous soil sampling program or by installation of additional monitoring wells to better establish ground water quality.

This report was prepared for the use of the United States Postal Service. We make no warranty, expressed or implied, except that our services have been performed in accordance with hydrogeological and environmental engineering principles generally accepted at this time and location.

REFERENCES

Dames & Moore, "Geophysical Survey Results, U.S. Postal Service Emeryville Facility, 6121 Hollis Street Emeryville, California," March 5, 1993.

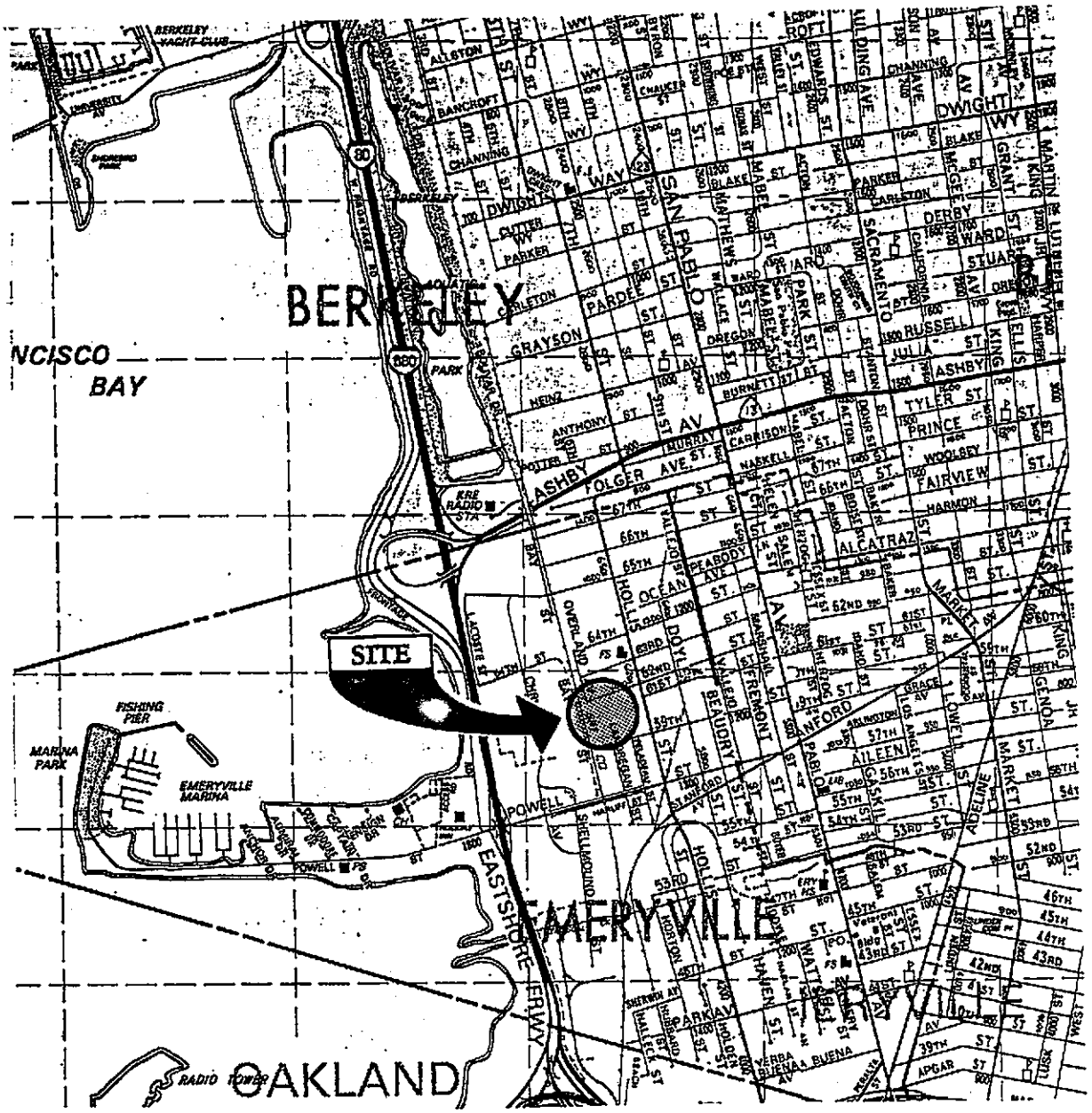
Dames & Moore, "Site History Research, U.S. Postal Service Emeryville Facility, 6121 Hollis Street Emeryville, California," March 23 (Draft #1) and 26 (Draft #2), 1993.

Fetter, C.W., Applied Hydrogeology, Second Edition, Merrill Publishing Company, Columbus, Ohio, 1988.

Grubb, S., "Analytical Model for Estimating Steady-State Capture Zones of Pumping Wells in Confined and Unconfined Aquifers," in Ground Water, Volume 31, Number 1, January-February 1993.

Lowney Associates, "Preliminary Soil Quality Evaluation, Proposed Emeryville Postal Facility, Emeryville, California," April 16, 1993.

Lowney Associates, "Soil and Ground Water Quality Evaluation, Proposed Emeryville Postal Facility, 6121 Hollis Street, Emeryville, California," July 30, 1993.



"Reproduced with permission granted by THOMAS BROS. MAPS."

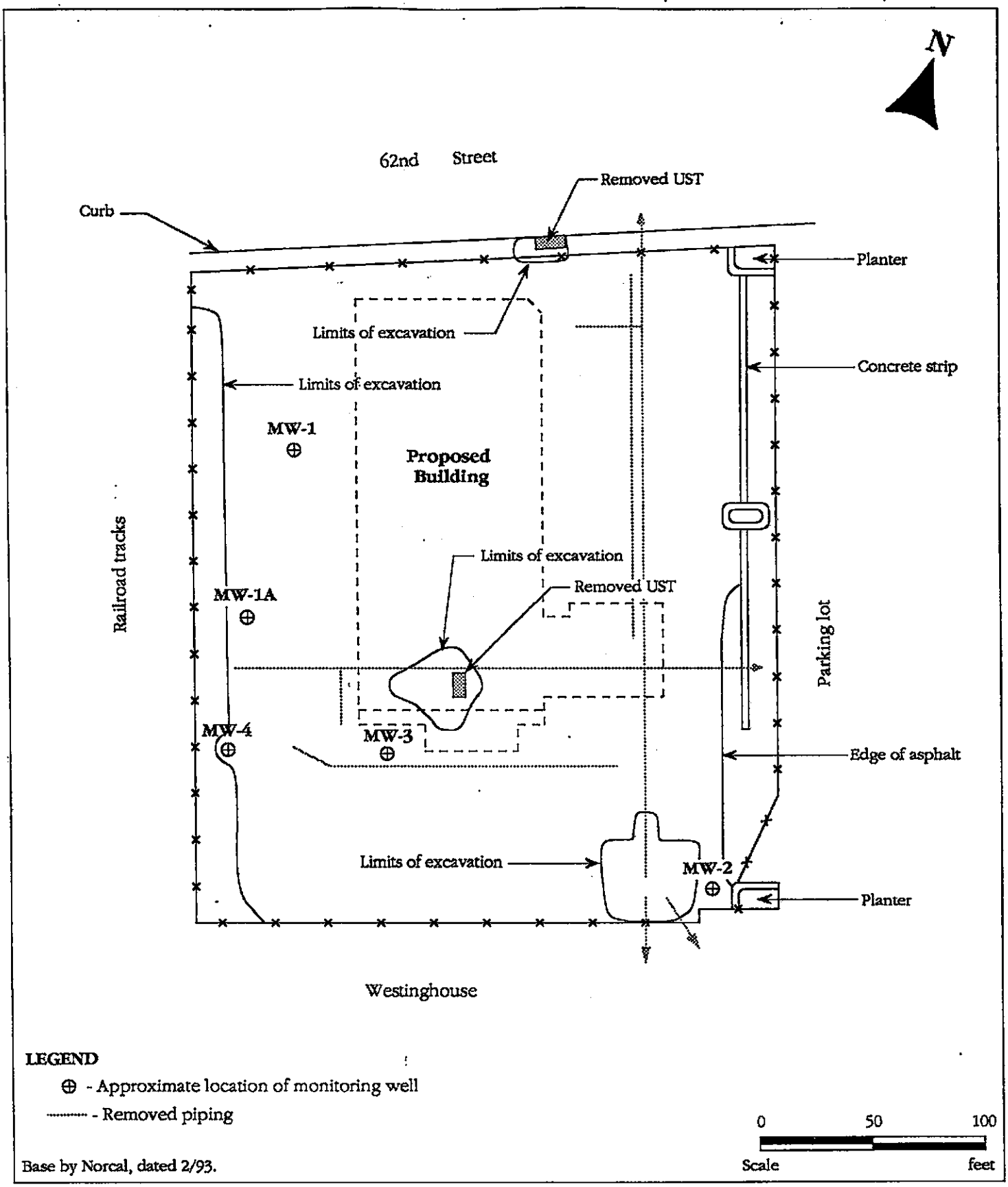
864-17A. 8/23 TR*EB

VICINITY MAP

PROPOSED EMERYVILLE POSTAL FACILITY
Emeryville, California

LOVNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

FIGURE 1
864-17A, August 1993



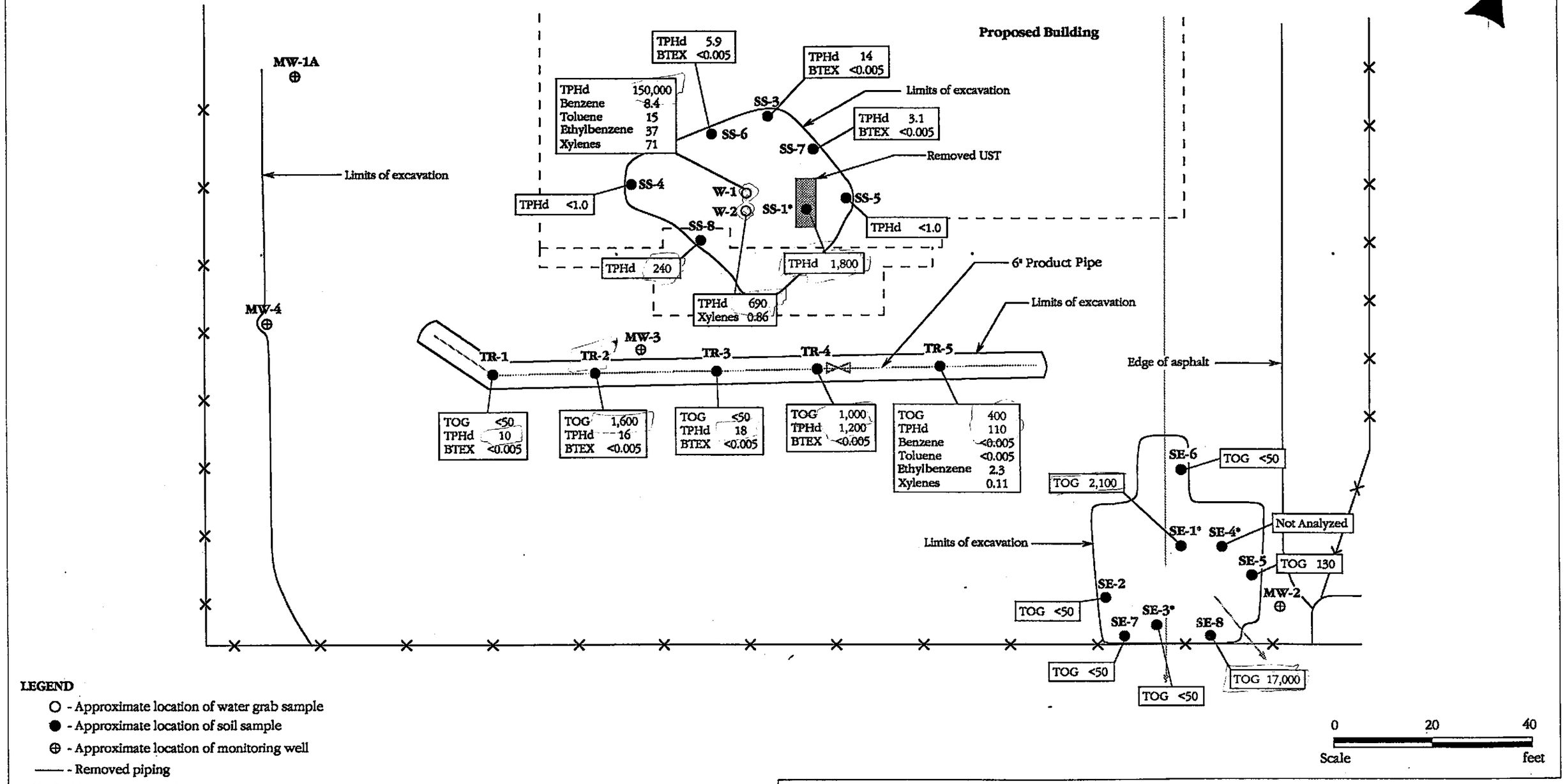
864-17A, 8/30 SF*EB

SITE PLAN

PROPOSED EMERYVILLE POSTAL FACILITY
Emeryville, California

LOVNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

FIGURE 2
864-17A, August 1993



LEGEND

- ○ - Approximate location of water grab sample
- ● - Approximate location of soil sample
- ⊕ - Approximate location of monitoring well
- —— - Removed piping
- TOG - Total petroleum oil and grease
- TPHd - Total petroleum hydrocarbons as diesel
- BTEX - Benzene, Toluene, Ethylbenzene, Xylenes
- 240 - Concentration of specified analyte in mg/kg for soil, µg/l for water
- * Intermediate sample, soil subsequently removed.

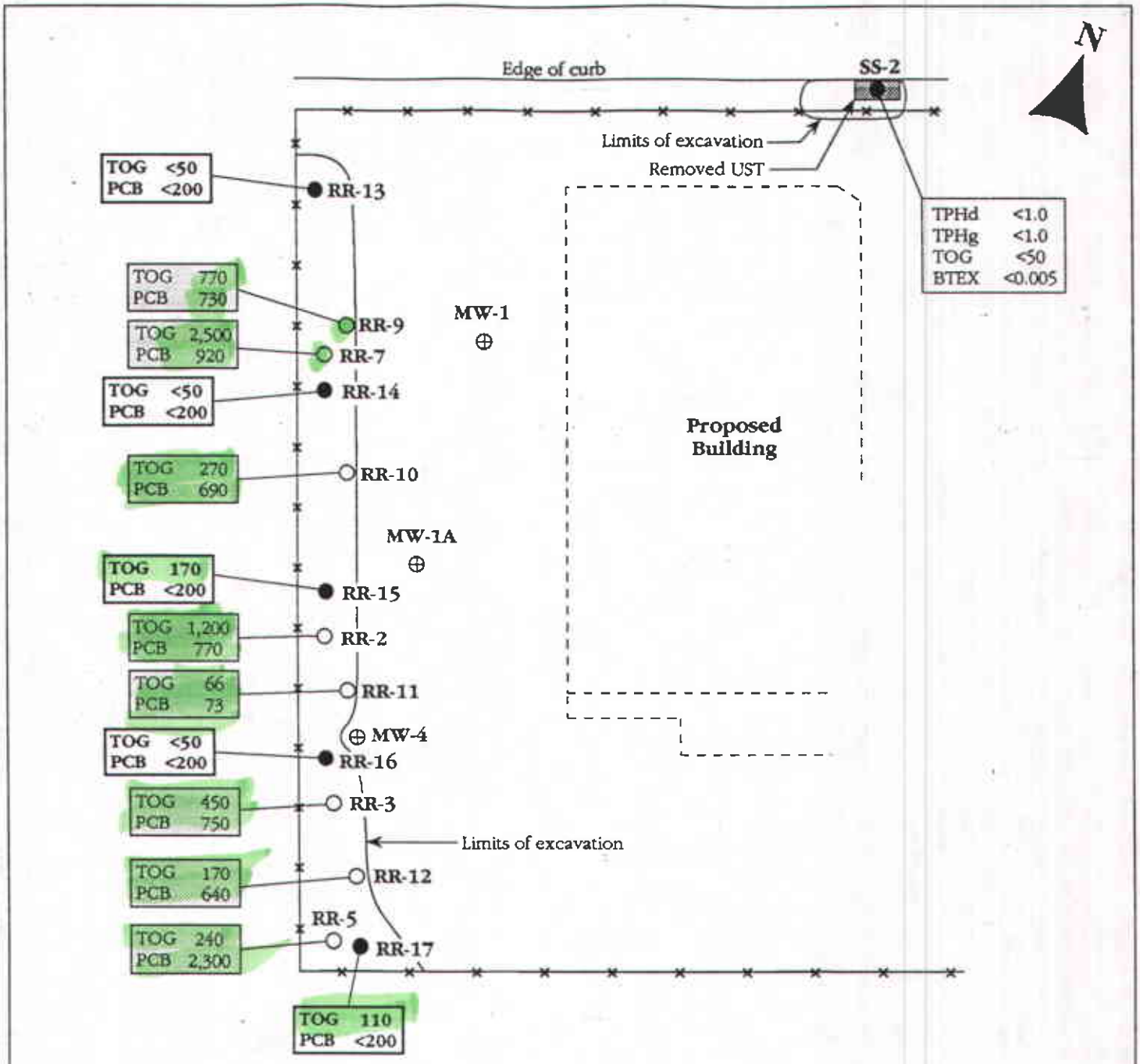
Based by New West Engineering dated 12/86 and Lowney Associates field notes dated 8/93.

EXCAVATION DETAIL AND SOIL SAMPLING RESULTS

PROPOSED EMERYVILLE POSTAL FACILITY
Emeryville, California

LOWNEY ASSOCIATES
Environmental / Geotechnical / Engineering Services

FIGURE 3
864-17A, August 1993



864-17A, 8/20 TR'EB

EXCAVATION DETAIL AND SOIL SAMPLING RESULTS
FORMER RAILROAD SIDING AND NORTHERN UST
PROPOSED EMERYVILLE POSTAL FACILITY
Emeryville, California

LOVNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

FIGURE 4
864-17A, August 1993

Photograph #1
Exposed central UST (looking south)

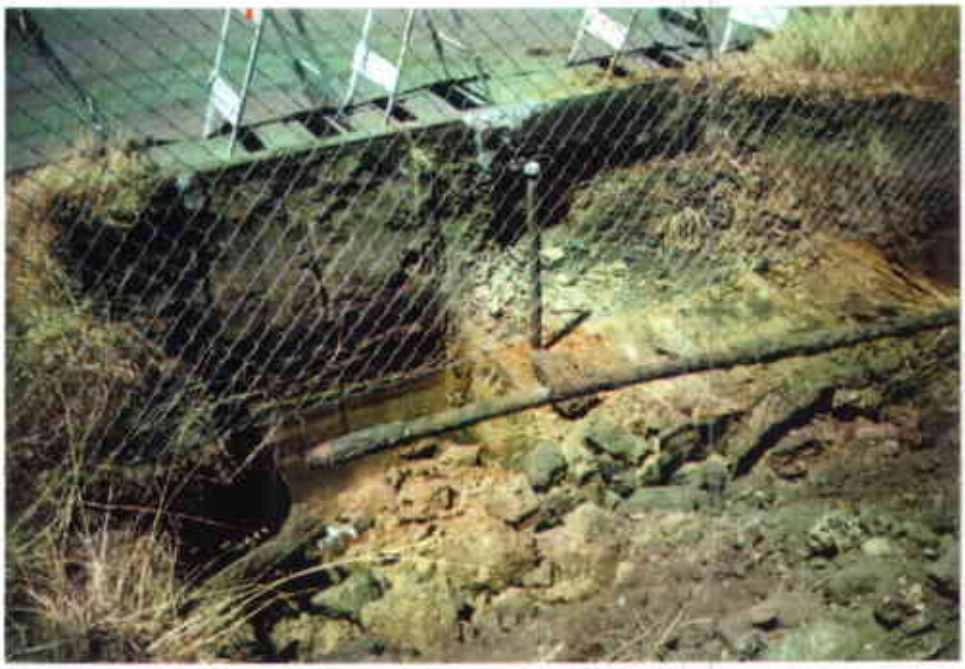
Photograph #2
Central UST after removal.

864-17A, 8/24 TR*EB

SITE PHOTOGRAPHS

PROPOSED EMERYVILLE POSTAL FACILITY
Emeryville, California

LOVNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services



Photograph #3
View of northern UST before removal.

Photograph #4
Exposed 6-inch product pipe (looking west).

864-17A , 8/24 TR*EB

SITE PHOTOGRAPHS

PROPOSED EMERYVILLE POSTAL FACILITY
Emeryville, California

Photograph #5
Southeast excavation (looking east)

Photograph #6
View of former railroad siding (looking north).

864-17A , 8/24 TR*EB

SITE PHOTOGRAPHS

PROPOSED EMERYVILLE POSTAL FACILITY
Emeryville, California

LOVNEY ASSOCIATES
Environmental/Geotechnical/Engineering Services

APPENDIX B

SAMPLING PROTOCOL

Prior to use all sampling equipment was thoroughly cleaned with a tri-sodium phosphate and distilled water solution or steam cleaned. Soil samples were collected in 1.5- or 2.5-inch diameter brass liners using a sliding impact hammer. Upon collection from the sampler, the ends of the brass liner were covered with aluminum foil and then sealed with a plastic cap at each end. The caps were taped airtight and labeled appropriately. Ground water samples were collected using a clean teflon bailer and placed in appropriate sample bottles and labeled. All samples then were immediately placed in an ice cooled chest for transport to a certified analytical laboratory.

APPENDIX C

ANALYTICAL REPORTS

The refrigerated soil samples were delivered to Sequoia Analytical in Redwood City, California. Chain of custody documentation was maintained for all samples. Attached are copies of the analytical results and the chain of custody forms. Sequoia is certified by the State of California as a Hazardous Waste Testing Laboratory and as an Approved Water and Wastewater Laboratory.

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Jul 26, 1993
405 Clyde Avenue	Matrix Descript:	Soil	Received:	Jul 27, 1993
Mountain View, CA 94043	Analysis Method:	SM 5520 E&F (Gravimetric)	Extracted:	Jul 30, 1993
Attention: Peter Langtry	First Sample #:	3GC9801	Analyzed:	Jul 30, 1993
			Amended:	Aug 9, 1993

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg
3GC9801	SE-1	2,100
3GC9802	SE-2	50
3GC9803	SE-3	4,400

Detection Limits:	50

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

LOWNEY ASSOCIATES
CHAIN OF CUSTODY RECORD

5 DAY

JOB NO.	PROJECT NAME/LOCATION
864-17A	Emeryville P.O., Emeryville

SAMPLER(S): (Signature)

DATE	TIME	SAMPLE DESCRIPTION	NO. OF CONTAINERS	5520 E&E	TPH Gas BTEX	Methane
7/26/93	-	Soil SS-1	1	X		
7/26/93	-	Soil SS-2	1	X		
7/26/93	-	Soil SS-3	1	X		
7/26/93	-	MW-1 Vapor	1		X	X

ANALYSIS REQUIRED

SHIP TO:

LOWNEY ASSOCIATES
405 Clyde Avenue
Mountain View, CA 94043
415-967-2365
415-967-2785 (FAX)

REMARKS

9307C98-01
One Week Response 02
03
One-Day Response 9307C44-01

Report to Peter Langtry

Relinquished by: (Signature)	Date	Time	Received by: (Signature)
	7/27/93	10:20	David Adam

Relinquished by: (Signature)	Date	Time	Received by: (Signature)
David Adam	7/27/93	10:30	

Received for Laboratory By: Date / Time

Remarks:

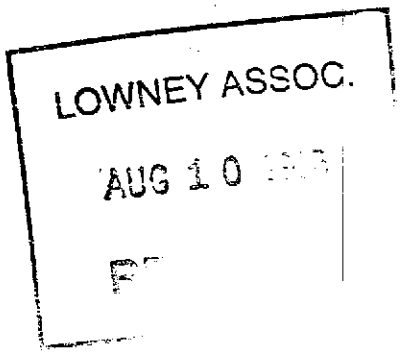
SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Jul 27, 1993
405 Clyde Avenue	Matrix Descript:	Soil	Received:	Jul 27, 1993
Mountain View, CA 94043	Analysis Method:	SM 5520 E&F (Gravimetric)	Extracted:	Aug 3, 1993
Attention: Peter Langtry	First Sample #:	3GE1801	Analyzed:	Aug 4, 1993
			Reported:	Aug 5, 1993

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

Sample Number	Sample Description	Oil & Grease mg/kg
3GE1801	RR-2 0.5	1,200
3GE1802	RR-3 0.25 (3")	450



Detection Limits:	50

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

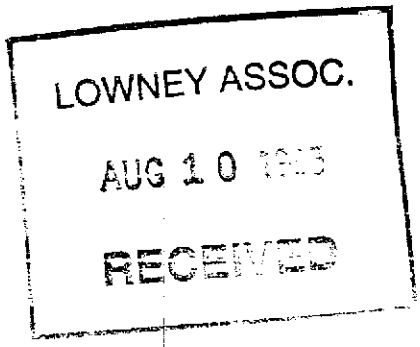
SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID: 864-17A	
405 Clyde Avenue	Matrix: Soil	
Mountain View, CA 94043		
Attention: Peter Langtry	QC Sample Group: BLK073093	Reported: Aug 5, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Total Recoverable Petroleum Hydrocarbons
Method:	SM 5520 EF
Analyst:	Shkidt/Nelson
Conc. Spiked:	1000
Units:	mg/kg
LCS Batch#:	BLK073093
Date Prepared:	7/30/93
Date Analyzed:	7/30/93
Instrument I.D.#:	N.A.
LCS % Recovery:	83
Control Limits:	70-110



MS/MSD Batch #:	BLK073093
Date Prepared:	7/30/93
Date Analyzed:	7/30/93
Instrument I.D.#:	N.A.
Matrix Spike % Recovery:	83
Matrix Spike Duplicate % Recovery:	74
Relative % Difference:	12

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Jul 27, 1993
405 Clyde Avenue	Matrix Descript:	Soil	Received:	Jul 27, 1993
Mountain View, CA 94043	Analysis Method:	SM 5520 E&F (Gravimetric)	Extracted:	Jul 30, 1993
Attention: Peter Langtry	First Sample #:	3GE1803	Analyzed:	Jul 30, 1993
			Amended:	Aug 9, 1993

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg
3GE1803	SE-5, Soil 4.0'	130
3GE1804	SE-6, Soil 3.5'	N.D.

Detection Limits:	**50**

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

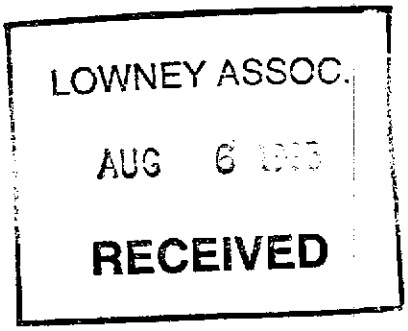
SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Jul 27, 1993
405 Clyde Avenue	Sample Descript:	Soil, RR-2 Soil 0.5	Received:	Jul 27, 1993
Mountain View, CA 94043	Analysis Method:	EPA 8080	Extracted:	Jul 30, 1993
Attention: Peter Langtry	Lab Number:	3GE1801	Analyzed:	Aug 2, 1993
			Reported:	Aug 3, 1993

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
PCB 1016	200	N.D.
PCB 1221	800	N.D.
PCB 1232	200	N.D.
PCB 1242	200	N.D.
PCB 1248	200	N.D.
PCB 1254	200	N.D.
PCB 1260	200	770



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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Jul 27, 1993
405 Clyde Avenue	Sample Descript:	Soil, RR-3 Soil 0.25 (3")	Received:	Jul 27, 1993
Mountain View, CA 94043	Analysis Method:	EPA 8080	Extracted:	Jul 30, 1993
Attention: Peter Langtry	Lab Number:	3GE1802	Analyzed:	Aug 2, 1993
			Reported:	Aug 3, 1993

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
PCB 1016	200	N.D.
PCB 1221	800	N.D.
PCB 1232	200	N.D.
PCB 1242	200	N.D.
PCB 1248	200	N.D.
PCB 1254	200	N.D.
PCB 1260	**200**	**750**

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A
405 Clyde Avenue	Matrix:	Soil
Mountain View, CA 94043		
Attention: Peter Langtry	QC Sample Group: 3GE1801 - 02	Reported: Aug 3, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Oil & Grease	1248 PCB
Method:	SM5520EF	EPA 8080
Analyst:	M.Shkidt	L.Laikhtman
Conc. Spiked:	1000	1000
Units:	mg/kg	µg/kg
LCS Batch#:	BLK073093	BLK072893
Date Prepared:	7/30/93	7/28/93
Date Analyzed:	7/30/93	7/28/93
Instrument I.D.#:	N.A.	GCHP-12
LCS % Recovery:	83	91
Control Limits:	70-110	50-150

MS/MSD Batch #:	BLK073093	P3GB6704
Date Prepared:	7/30/93	7/28/93
Date Analyzed:	7/30/93	7/28/93
Instrument I.D.#:	N.A.	GCHP-12
Matrix Spike % Recovery:	83	112
Matrix Spike Duplicate % Recovery:	74	115
Relative % Difference:	11.5	2.6

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

LOWNEY ASSOCIATES
CHAIN OF CUSTODY RECORD

9307E18

JOB NO.: 864-17A

PROJECT NAME/LOCATION: Emeryville P.O., Emeryville

SAMPLER(S): (Signature) Tim Rumbolz, Tim Rumbolz

DATE	TIME	SAMPLE DESCRIPTION	NO. OF CONTAINERS	ANALYSIS REQUIRED: Oil & Grease (SM 5520 EF)	ANALYSIS REQUIRED: PCB's
7/20/93	10:00	RR-2 Soil 0.5	1		X
	↓	RR-3 Soil 0.25 (3")	1		X
	12:00	SS-5 Soil 4'	1	X	
	↓	SS-6 Soil 3.5'	1	X	

SHIP TO:
LOWNEY ASSOCIATES
405 Clyde Avenue
Mountain View, CA 94043
415-967-2365
415-967-2785 (FAX)

REMARKS
1
One week turnaround 2
3
4
1

Relinquished By: (Signature) Tim Rumbolz — Date: 7/20/93 — Time: 14:35
Received By: (Signature) — Date: 7/20/93 — Time: 14:35
Relinquished By: (Signature) — Date: 7/20/93 — Time: 16:25
Received By: (Signature)
Laboratory of Record:
Date — Time
Received for Laboratory By: (Signature) John Mills — Date: 7/20/93 — Time: 16:25
Remarks:

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Jul 29, 1993
405 Clyde Avenue	Sample Descript:	Soil, RR-5 0.5	Received:	Jul 29, 1993
Mountain View, CA 94043	Analysis Method:	EPA 8080	Extracted:	Jul 30, 1993
Attention: Peter Langtry	Lab Number:	3GE2302	Analyzed:	Aug 2, 1993
			Reported:	Aug 5, 1993

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
PCB 1016	200	N.D.
PCB 1221	800	N.D.
PCB 1232	200	N.D.
PCB 1242	200	N.D.
PCB 1248	200	N.D.
PCB 1254	200	N.D.
PCB 1260	**200**	**2,300**

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

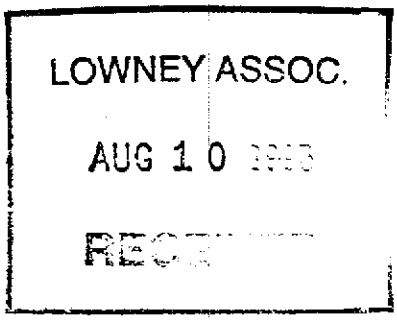
SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Jul 29, 1993
405 Clyde Avenue	Sample Descript:	Soil, RR-7 0.5	Received:	Jul 29, 1993
Mountain View, CA 94043	Analysis Method:	EPA 8080	Extracted:	Jul 30, 1993
Attention: Peter Langtry	Lab Number:	3GE2304	Analyzed:	Aug 2, 1993
			Reported:	Aug 5, 1993

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
PCB 1016	200	N.D.
PCB 1221	800	N.D.
PCB 1232	200	N.D.
PCB 1242	200	N.D.
PCB 1248	200	N.D.
PCB 1254	200	N.D.
PCB 1260	200	920



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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Jul 29, 1993
405 Clyde Avenue	Sample Descript:	Soil, RR-9 0.2	Received:	Jul 29, 1993
Mountain View, CA 94043	Analysis Method:	EPA 8080	Extracted:	Jul 30, 1993
Attention: Peter Langtry	Lab Number:	3GE2306	Analyzed:	Aug 2, 1993
			Reported:	Aug 5, 1993

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
PCB 1016	200	N.D.
PCB 1221	800	N.D.
PCB 1232	200	N.D.
PCB 1242	200	N.D.
PCB 1248	200	N.D.
PCB 1254	200	N.D.
PCB 1260	**200**	**730**

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

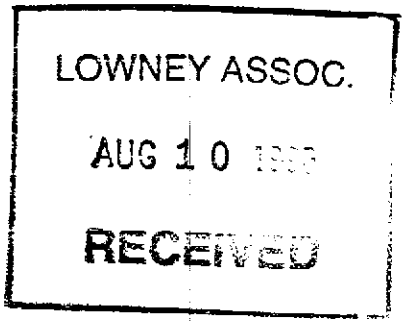
SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Jul 29, 1993
405 Clyde Avenue	Sample Descript:	Soil, RR-10 0.2	Received:	Jul 29, 1993
Mountain View, CA 94043	Analysis Method:	EPA 8080	Extracted:	Jul 30, 1993
Attention: Peter Langtry	Lab Number:	3GE2307	Analyzed:	Aug 2, 1993
			Reported:	Aug 5, 1993

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
PCB 1016	200	N.D.
PCB 1221	800	N.D.
PCB 1232	200	N.D.
PCB 1242	200	N.D.
PCB 1248	200	N.D.
PCB 1254	200	N.D.
PCB 1260	200	690



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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

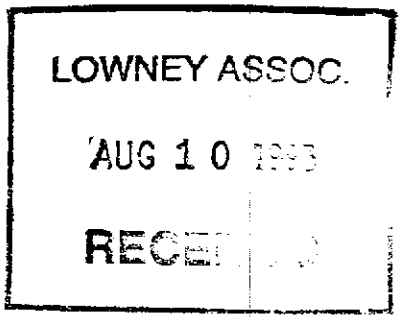
SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Jul 29, 1993
405 Clyde Avenue	Sample Descript:	Soil, RR-11 0.2	Received:	Jul 29, 1993
Mountain View, CA 94043	Analysis Method:	EPA 8080	Extracted:	Jul 30, 1993
Attention: Peter Langtry	Lab Number:	3GE2308	Analyzed:	Aug 2, 1993
			Reported:	Aug 5, 1993

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
PCB 1016	20	N.D.
PCB 1221	80	N.D.
PCB 1232	20	N.D.
PCB 1242	20	N.D.
PCB 1248	20	N.D.
PCB 1254	20	N.D.
PCB 1260	20	73



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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Jul 29, 1993
405 Clyde Avenue	Sample Descript:	Soil, RR-12 0.2	Received:	Jul 29, 1993
Mountain View, CA 94043	Analysis Method:	EPA 8080	Extracted:	Jul 30, 1993
Attention: Peter Langtry	Lab Number:	3GE2309	Analyzed:	Aug 2, 1993
			Reported:	Aug 5, 1993

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
PCB 1016	200	N.D.
PCB 1221	800	N.D.
PCB 1232	200	N.D.
PCB 1242	200	N.D.
PCB 1248	200	N.D.
PCB 1254	200	N.D.
PCB 1260	200	640

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Jul 29, 1993
405 Clyde Avenue	Matrix Descript:	Soil	Received:	Jul 29, 1993
Mountain View, CA 94043	Analysis Method:	SM 5520 E&F (Gravimetric)	Extracted:	Aug 3, 1993
Attention: Peter Langtry	First Sample #:	3GE2302	Analyzed:	Aug 4, 1993
			Reported:	Aug 5, 1993

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

Sample Number	Sample Description	Oil & Grease mg/kg
3GE2302	RR-5 0.5	240
3GE2304	RR-7 0.5	2,500
3GE2306	RR-9 0.2	770
3GE2307	RR-10 0.2	270
3GE2308	RR-11 0.2	66
3GE2309	RR-12 0.2	170

Detection Limits:	**50**

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A
405 Clyde Avenue	Matrix:	Soil
Mountain View, CA 94043		
Attention: Peter Langtry	QC Sample Group: 3GE2302-09	Reported: Aug 5, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	PCB 1260

Method:	EPA 8080
Analyst:	L. Laikhtman
Conc. Spiked:	200
Units:	µg/kg
LCS Batch#:	BLK073093
Date Prepared:	7/30/93
Date Analyzed:	8/2/93
Instrument I.D.#:	GCHP-10
LCS % Recovery:	49
Control Limits:	30-150

MS/MSD Batch #:	3GE2308
Date Prepared:	7/30/93
Date Analyzed:	8/2/93
Instrument I.D.#:	GCHP-10
Matrix Spike % Recovery:	*
Matrix Spike Duplicate % Recovery:	*
Relative % Difference:	*

* Diluted out

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A
405 Clyde Avenue	Matrix:	Soil
Mountain View, CA 94043		
Attention: Peter Langtry	QC Sample Group: BLK073093	Reported: Aug 5, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Total Recoverable Petroleum Hydrocarbons
Method:	SM 5520 EF
Analyst:	M. Shkidt
Conc. Spiked:	1000
Units:	mg/kg
LCS Batch#:	BLK073093
Date Prepared:	7/30/93
Date Analyzed:	7/30/93
Instrument I.D.#:	N.A.
LCS % Recovery:	83
Control Limits:	70-110

MS/MSD Batch #:	BLK073093
Date Prepared:	7/30/93
Date Analyzed:	7/30/93
Instrument I.D.#:	N.A.
Matrix Spike % Recovery:	83
Matrix Spike Duplicate % Recovery:	74
Relative % Difference:	12

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

SEQUOIA ANALYTICAL
CHAIN OF CUSTODY

❑ 680 Chesapeake Drive • Redwood City, CA 94063 • (415) 364-9600 FAX (415) 364-9233
❑ 819 West Striker Ave. • Sacramento, CA 95834 • (916) 921-9600 FAX (916) 921-0100
❑ 1900 Bates Ave., Suite LM • Concord, CA 94520 • (510) 686-9600 FAX (510) 686-9689

Company Name: Lowney Assoc.	Project Name: Emeryville/BOYCE 23
Address:	Billing Address (if different):
City: State: Zip Code:	
Telephone: 967-2365 FAX #:	P.O. #: ~~TMB~~ 864-17A
Report To: Stason Foster Sampler: Tim Rumbolz	QC Data: ☒ Level A (Standard) ❑ Level B ❑ Level C ❑ Level D

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

❑ Drinking Water ❑ Waste Water ❑ Other

Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	Oil & Grease 5570 EF	PCBs (8080)	Comments
1. RR-4 0^5	7/29/93 14:00	Soil	1	Brass Liner	9307E23 01	✓	✓	
2. RR-5 0^5			1		02	✓	✓	
3. RR-6 0^5			1		03	✓	✓	
4. RR-7 0^5			1		04	✓	✓	
5. RR-8 0^5			1		05	✓	✓	
6. RR-9 0^2			1		06	✓	✓	
7. RR-10 0^2			1		07	✓	✓	
8. RR-11 0^2			1		08	✓	✓	
9. RR-12 0^2	↓	↓	1	↓	09	✓	✓	
10.								

Pink - Client

Yellow - Sequoia

White - Sequoia

Relinquished By: Tim Rumbolz	Date: 7/29/93	Time: 16:08	Received By:	Date: 7/29	Time: 1608
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab:	Date:	Time:

Were Samples Received in Good Condition? ❑ Yes ❑ No Samples on Ice? ❑ Yes ❑ No Method of Shipment_____ Page __ of __

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Aug 2, 1993
405 Clyde Avenue	Sample Matrix:	Soil	Received:	Aug 2, 1993
Mountain View, CA 94043	Analysis Method:	EPA 3550/8015	Reported:	Aug 9, 1993
Attention: Stason Foster	First Sample #:	3H1-9101		

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit mg/kg	Sample I.D. 3H1-9101 SS-3	Sample I.D. 3H19102 SS-4	Sample I.D. 3H19103 SS-5	Sample I.D.	Sample I.D.	Sample I.D.
Extractable Hydrocarbons	1.0	14	N.D.	N.D.			
Chromatogram Pattern:		Non-Diesel Mix C14-C21	--	--			

LOWNEY ASSOC.
AUG 13 1993
RECEIVED

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0
Date Extracted:	8/6/93	8/6/93	8/6/93
Date Analyzed:	8/6/93	8/6/93	8/6/93
Instrument Identification:	GCHP-5	GCHP-5	GCHP-5

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

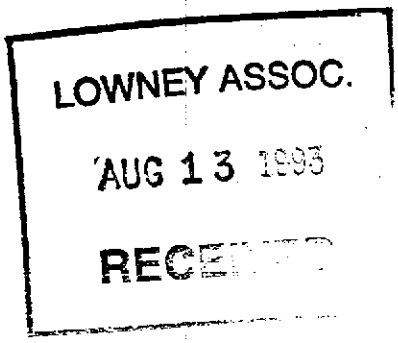
SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Aug 2, 1993
405 Clyde Avenue	Sample Matrix:	Soil	Received:	Aug 2, 1993
Mountain View, CA 94043	Analysis Method:	EPA 5030/8020	Reported:	Aug 9, 1993
Attention: Stason Foster	First Sample #:	3H19101		

BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 3H19101 SS-3	Sample I.D.	Sample I.D.	Sample I.D.	Sample I.D.	Sample I.D.
Benzene	0.0050	N.D.					
Toluene	0.0050	N.D.					
Ethyl Benzene	0.0050	N.D.					
Total Xylenes	0.0050	N.D.					



Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Analyzed:	8/6/93
Instrument Identification:	GCHP-18
Surrogate Recovery, %: (QC Limits = 70-130%)	96

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

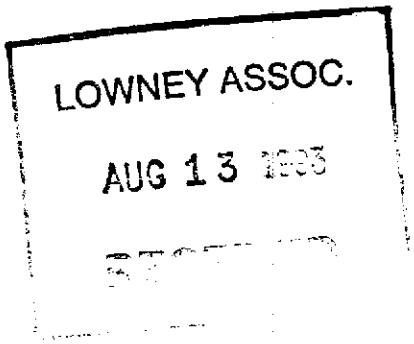
680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Lowney Associates	Client Project ID: 864-17A	
405 Clyde Avenue	Matrix: Soil	
Mountain View, CA 94043		
Attention: Stason Foster	QC Sample Group: 3H19101 - 03	Reported: Aug 9, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Diesel

Method:	EPA 8015
Analyst:	C. Lee
Conc. Spiked:	15
Units:	mg/kg
LCS Batch#:	DBLK080393
Date Prepared:	8/3/93
Date Analyzed:	8/3/93
Instrument I.D.#:	GCHP-5
LCS % Recovery:	80
Control Limits:	50-150



MS/MSD Batch #:	D3GF2701
Date Prepared:	8/3/93
Date Analyzed:	8/4/93
Instrument I.D.#:	GCHP-5
Matrix Spike % Recovery:	*
Matrix Spike Duplicate % Recovery:	*
Relative % Difference:	*

*** - Matrix Interference**
SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

SEQUOIA ANALYTICAL

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

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attention: Stason Foster

Client Project ID: 864-17A
Matrix: Soil

QC Sample Group: 3H19101

Reported: Aug 9, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	A. Maralit	A. Maralit	A. Maralit	A. Maralit
Conc. Spiked:	0.20	0.20	0.20	0.60
Units:	mg/kg	mg/kg	mg/kg	mg/kg
LCS Batch#:	GBLK080693	GBLK080693	GBLK080693	GBLK080693
Date Prepared:	8/6/93	8/6/93	8/6/93	8/6/93
Date Analyzed:	8/6/93	8/6/93	8/6/93	8/6/93
Instrument I.D.#:	GCHP-1	GCHP-1	GCHP-1	GCHP-1
LCS % Recovery:	95	110	105	103
Control Limits:	60-140	60-140	60-140	60-140

MS/MSD Batch #:	G3H14702	G3H14702	G3H14702	G3H14702
Date Prepared:	8/6/93	8/6/93	8/6/93	8/6/93
Date Analyzed:	8/6/93	8/6/93	8/6/93	8/6/93
Instrument I.D.#:	GCHP-1	GCHP-1	GCHP-1	GCHP-1
Matrix Spike % Recovery:	90	90	90	88
Matrix Spike Duplicate % Recovery:	95	100	95	93
Relative % Difference:	5.4	10	5.4	5.5

SEQUOIA ANALYTICAL

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Aug 2, 1993
405 Clyde Avenue	Sample Matrix:	Water	Received:	Aug 2, 1993
Mountain View, CA 94043	Analysis Method:	EPA 5030/8020	Reported:	Aug 3, 1993
Attention: Peter Langtry	First Sample #:	3H01701		

BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 3H01701 Water-1	Sample I.D.	Sample I.D.	Sample I.D.	Sample I.D.	Sample I.D.
Benzene	0.50	8.4					
Toluene	0.50	15					
Ethyl Benzene	0.50	37					
Total Xylenes	0.50	71					

Quality Control Data

Report Limit Multiplication Factor:	20
Date Analyzed:	8/2/93
Instrument Identification:	GCHP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	116

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Aug 2, 1993
405 Clyde Avenue	Sample Matrix:	Water	Received:	Aug 2, 1993
Mountain View, CA 94043	Analysis Method:	EPA 3510/3520/8015	Reported:	Aug 3, 1993
Attention: Peter Langtry	First Sample #:	3H01701		

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. 3H01701 Water-1	Sample I.D.	Sample I.D.	Sample I.D.	Sample I.D.	Sample I.D.
Extractable Hydrocarbons	50	150,000					
Chromatogram Pattern:		Non-Diesel Mix C9-C15					

Quality Control Data

Report Limit Multiplication Factor:	500
Date Extracted:	8/2/93
Date Analyzed:	8/2/93
Instrument Identification:	GCHP-5

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

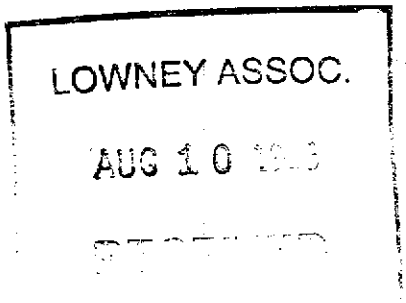
SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Aug 2, 1993
405 Clyde Avenue	Sample Matrix:	Soil	Received:	Aug 2, 1993
Mountain View, CA 94043	Analysis Method:	EPA 5030/8020	Reported:	Aug 3, 1993
Attention: Peter Langtry	First Sample #:	3H01702		

BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 3H01702 SS-1	Sample I.D.	Sample I.D.	Sample I.D.	Sample I.D.	Sample I.D.
Benzene	0.0050	N.D.					
Toluene	0.0050	N.D.					
Ethyl Benzene	0.0050	4.4					
Total Xylenes	0.0050	12					



Quality Control Data

Report Limit Multiplication Factor:	100
Date Analyzed:	8/3/93
Instrument Identification:	GCHP-18
Surrogate Recovery, %: (QC Limits = 70-130%)	169

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

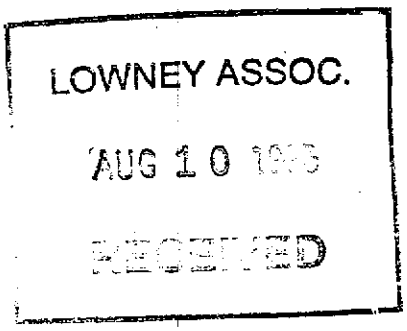
SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Aug 2, 1993
405 Clyde Avenue	Sample Matrix:	Soil	Received:	Aug 2, 1993
Mountain View, CA 94043	Analysis Method:	EPA 5030/8015/8020	Reported:	Aug 3, 1993
Attention: Peter Langtry	First Sample #:	3H01703		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 3H01703 SS-2	Sample I.D.	Sample I.D.	Sample I.D.	Sample I.D.	Sample I.D.
Purgeable Hydrocarbons	1.0	N.D.					
Benzene	0.0050	N.D.					
Toluene	0.0050	N.D.					
Ethyl Benzene	0.0050	N.D.					
Total Xylenes	0.0050	N.D.					
Chromatogram Pattern:		--					



Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Analyzed:	8/3/93
Instrument Identification:	GCHP-18
Surrogate Recovery, %: (QC Limits = 70-130%)	90

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Aug 2, 1993
405 Clyde Avenue	Sample Matrix:	Soil	Received:	Aug 2, 1993
Mountain View, CA 94043	Analysis Method:	EPA 3550/8015	Reported:	Aug 3, 1993
Attention: Peter Langtry	First Sample #:	3H01702		

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit mg/kg	Sample I.D. 3H01702 SS-1	Sample I.D. 3H01703 SS-2	Sample I.D.	Sample I.D.	Sample I.D.	Sample I.D.
Extractable Hydrocarbons	1.0	1,800	N.D.				
Chromatogram Pattern:		Non-Diesel Mix C10-C15	--				

Quality Control Data

Report Limit Multiplication Factor:	100	100
Date Extracted:	8/2/93	8/2/93
Date Analyzed:	8/2/93	8/2/93
Instrument Identification:	GCHP-5	GCHP-5

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled: Aug 2, 1993
405 Clyde Avenue	Matrix Descript:	Soil	Received: Aug 2, 1993
Mountain View, CA 94043	Analysis Method:	SM 5520 E&F (Gravimetric)	Extracted: Aug 2, 1993
Attention: Peter Langtry	First Sample #:	3H01702	Analyzed: Aug 2, 1993
			Reported: Aug 3, 1993

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg
3H01702	SS-1	N.D.
3H01703	SS-2	N.D.

Detection Limits:	50

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

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

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attention: Peter Langtry

Client Project ID: 864-17A
Matrix: Water

QC Sample Group: 3H01701

Reported: Aug 3, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015
Analyst:	M. Nipp	M. Nipp	M. Nipp	M. Nipp	C.Lee
Conc. Spiked:	10	10	10	30	300
Units:	µg/L	µg/L	µg/L	µg/L	µg/L
LCS Batch#:	GBLK080293	GBLK080293	GBLK080293	GBLK080293	DBLK073093
Date Prepared:	8/2/93	8/2/93	8/2/93	8/2/93	7/30/93
Date Analyzed:	8/2/93	8/2/93	8/2/93	8/2/93	7/30/93
Instrument I.D.#:	GCHP-2	GCHP-2	GCHP-2	GCHP-2	GCHP-5
LCS % Recovery:	99	99	99	100	52
Control Limits:	80-120	80-120	80-120	80-120	50-150
MS/MSD Batch #:	G3H01102	G3H01102	G3H01102	G3H01102	DBLK073093
Date Prepared:	8/2/93	8/2/93	8/2/93	8/2/93	7/30/93
Date Analyzed:	8/2/93	8/2/93	8/2/93	8/2/93	7/30/93
Instrument I.D.#:	GCHP-2	GCHP-2	GCHP-2	GCHP-2	GCHP-5
Matrix Spike % Recovery:	96	97	98	100	52
Matrix Spike Duplicate % Recovery:	100	100	100	100	53
Relative % Difference:	4.1	3.0	2.0	0.0	1.9

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A
405 Clyde Avenue	Matrix:	Soil
Mountain View, CA 94043		
Attention: Peter Langtry	QC Sample Group: 3H01702 - 03	Reported: Aug 3, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Diesel	Oil & Grease
Method:	EPA 8015	SM5520EF
Analyst:	C.Lee	M. Shkidt
Conc. Spiked:	300	1000
Units:	µg/L	mgkg
LCS Batch#:	DBLK072793	BLK073093
Date Prepared:	7/27/93	7/30/93
Date Analyzed:	7/28/93	7/30/93
Instrument I.D.#:	GCHP-5	N.A.
LCS % Recovery:	67	83
Control Limits:	50-150	70-110
MS/MSD Batch #:	D9307C1701	BLK073093
Date Prepared:	7/27/93	7/30/93
Date Analyzed:	7/28/93	7/30/93
Instrument I.D.#:	GCHP-5	N.A.
Matrix Spike % Recovery:	*	83
Matrix Spike Duplicate % Recovery:	*	74
Relative % Difference:	*	11.5

*Diluted out

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

LOWNEY ASSOCIATES
CHAIN OF CUSTODY RECORD

JOB NO.: 364-17A

PROJECT NAME/LOCATION: Emeryville P.O., Emeryville

SAMPLER (S): (Signature) Jim Rumbolz

DATE	TIME	SAMPLE DESCRIPTION	NO. OF CONTAINERS	TPH-Gas	Fuel Fingerprint (8015M)	Oil & Grease (SM 5520E&F)	Volatile Organics (8010/8020)	TPH-Diesel	BTEX	REMARKS
8/2/93	11:30	Water-1	4						X	9308017-01AB
	10:30	SS-1 Soil	1		X			X	X	-02A
	11:00	SS-2 "	1	X	X			X	X	-03A
	14:00	SS-3 "	1							Hold these samples
		SS-4 "	1							24-hour turnaround
↓	↓	SS-5 "	1							Reports verbally to Pete Langtry

ANALYSIS REQUIRED

SHIP TO:
LOWNEY ASSOCIATES
405 Clyde Avenue
Mountain View, CA 94043
415-967-2365
415-967-2785 (FAX)

Relinquished By: (Signature)	Date	Time	Received By: (Signature)
Jim Rumbolz	8/2/93	15:30	
Laboratory of Record:	Date	Time	Received for Laboratory By: (Signature) A Mandell

Relinquished By: (Signature)	Date	Time	Received By: (Signature)

Date	Time	Remarks:
8/2	1530	

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

Lowney Associates	Client Project ID:	864-17A	Sampled: Aug 3, 1993
405 Clyde Avenue	Sample Matrix:	Soil	Received: Aug 6, 1993
Mountain View, CA 94043	Analysis Method:	EPA 3550/8015	Reported: Aug 13, 1993
Attention: Stason Foster	First Sample #:	3H2-6501	

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit mg/kg	Sample I.D. 3H2-6501 TR-1	Sample I.D. 3H26502 TR-2	Sample I.D. 3H26503 TR-3	Sample I.D. 3H26504 TR-4	Sample I.D. 3H26505 TR-5	Sample I.D.
Extractable Hydrocarbons	1.0	10	15	18	1,200	110	
Chromatogram Pattern:		Non-Diesel Mix > C12	Non-Diesel Mix > C17	Diesel	Diesel	Diesel	

Quality Control Data

Report Limit Multiplication Factor:	2.0	2.0	2.0	50	10
Date Extracted:	8/10/93	8/10/93	8/10/93	8/10/93	8/10/93
Date Analyzed:	8/11/93	8/11/93	8/11/93	8/11/93	8/11/93
Instrument Identification:	GCHP-5	GCHP-5	GCHP-5	GCHP-5	GCHP-5

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled: Aug 3, 1993
405 Clyde Avenue	Sample Matrix:	Soil	Received: Aug 6, 1993
Mountain View, CA 94043	Analysis Method:	EPA 5030/8020	Reported: Aug 13, 1993
Attention: Stason Foster	First Sample #:	3H26501	

BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 3H26501 TR-1	Sample I.D. 3H26502 TR-2	Sample I.D. 3H26503 TR-3	Sample I.D. 3H26504 TR-4	Sample I.D. 3H26505 TR-5	Sample I.D.
Benzene	0.0050	N.D.	N.D.	N.D.	N.D.	N.D.	
Toluene	0.0050	N.D.	N.D.	N.D.	N.D.	N.D.	
Ethyl Benzene	0.0050	N.D.	N.D.	N.D.	N.D.	N.D.	
Total Xylenes	0.0050	N.D.	N.D.	N.D.	2.3	0.11	

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	20	100	10
Date Analyzed:	8/10/93	8/10/93	8/10/93	8/10/93	8/10/93
Instrument Identification:	GCHP-7	GCHP-7	GCHP-7	GCHP-7	GCHP-18
Surrogate Recovery, %: (QC Limits = 70-130%)	104	105	98	93	95

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled: Aug 3, 1993
405 Clyde Avenue	Matrix Descript:	Soil	Received: Aug 6, 1993
Mountain View, CA 94043	Analysis Method:	SM 5520 E&F (Gravimetric)	Extracted: Aug 9, 1993
Attention: Stason Foster	First Sample #:	3H26501	Analyzed: Aug 10, 1993
			Reported: Aug 13, 1993

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg
3H26501	TR-1	N.D.
3H26502	TR-2	1,600
3H26503	TR-3	N.D.
3H26504	TR-4	1,000
3H26505	TR-5	400

Detection Limits:	**50**

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

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

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attention: Stason Foster

Client Project ID: 864-17A
Matrix: Soil

QC Sample Group: 3H26501 - 05

Reported: Aug 13, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Diesel	Benzene	Toluene	Ethyl Benzene	Xylenes	Oil & Grease
Method:	EPA 8015	EPA 8020	EPA 8020	EPA 8020	EPA 8020	SM5520EF
Analyst:	C.Lee	R.Geckler	R.Geckler	R.Geckler	R.Geckler	M.Shkidt
Conc. Spiked:	15	0.20	0.20	0.20	0.60	1000
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LCS Batch#:	DBLK080993	GBLK081093	GBLK081093	GBLK081093	GBLK081093	BLK080493
Date Prepared:	8/9/93	8/10/93	8/10/93	8/10/93	8/10/93	8/4/93
Date Analyzed:	8/9/93	8/10/93	8/10/93	8/10/93	8/10/93	8/4/93
Instrument I.D.#:	GCHP-5	GCHP-18	GCHP-18	GCHP-18	GCHP-18	N.A.
LCS % Recovery:	80	90	90	90	90	91
Control Limits:	50-150	60-140	60-140	60-140	60-140	70-110
MS/MSD Batch #:	D3H35302	G3H36701	G3H36701	G3H36701	G3H36701	3GF0001
Date Prepared:	8/9/93	8/10/93	8/10/93	8/10/93	8/10/93	8/4/93
Date Analyzed:	8/9/93	8/10/93	8/10/93	8/10/93	8/10/93	8/4/93
Instrument I.D.#:	GCHP-5	GCHP-18	GCHP-18	GCHP-18	GCHP-18	N.A.
Matrix Spike % Recovery:	67	90	90	90	90	85
Matrix Spike Duplicate % Recovery:	67	80	85	85	83	86
Relative % Difference:	0.0	12	5.7	5.7	8.1	1.2

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

LOWNEY ASSOCIATES
CHAIN OF CUSTODY RECORD

JOB NO.	PROJECT NAME/LOCATION
864-17A	Emeryville P.O.

SAMPLER(S): (Signature) Jim Rumboly

DATE	TIME	SAMPLE DESCRIPTION	NO. OF CONTAINERS	TPH-Diesel	Oil & Grease (SM 5520 E&F)					REMARKS
8/3/93	15:00	TR-1 Soil	1	X	X			9308265-01A		
		TR-2	1	X	X					-02A 1-wk turnaround (5-day)
		TR-3	1	X	X					-03A
		TR-4	1	X	X					-04A Report to Susan Foster
		TR-5	1	X	X					-05A

ANALYSIS REQUIRED

SHIP TO:
LOWNEY ASSOCIATES
405 Clyde Avenue
Mountain View, CA 94043
415-967-2365
415-967-2785 (FAX)

Relinquished By: (Signature)	Date	Time	Received By: (Signature)
Jim Rumboly	8/6/93	16:30	Brenda Gay
Laboratory of Record: Brenda Gay	8/4/93	5:25	Received for Laboratory By: (Signature) Stuart Lee

Relinquished By: (Signature)	Date	Time	Received By: (Signature)

Date	Time	Remarks:
8/6/93	5:25	

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled: Aug 3, 1993
405 Clyde Avenue	Sample Matrix:	Soil	Received: Aug 4, 1993
Mountain View, CA 94043	Analysis Method:	EPA 5030/8020	Reported: Aug 9, 1993
Attention: Peter Langtry	First Sample #:	3H14701	

BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 3H14701 SS-6	Sample I.D. 3H14702 SS-7	Sample I.D.	Sample I.D.	Sample I.D.	Sample I.D.
Benzene	0.0050	N.D.	N.D.				
Toluene	0.0050	N.D.	N.D.				
Ethyl Benzene	0.0050	N.D.	N.D.				
Total Xylenes	0.0050	N.D.	N.D.				

LOWNEY ASSOC.
AUG 13 1993

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0
Date Analyzed:	8/5/93	8/5/93
Instrument Identification:	GCHP-6	GCHP-6
Surrogate Recovery, %: (QC Limits = 70-130%)	102	108

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

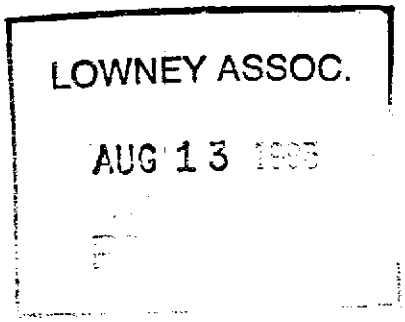
SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Aug 3, 1993
405 Clyde Avenue	Sample Matrix:	Soil	Received:	Aug 4, 1993
Mountain View, CA 94043	Analysis Method:	EPA 3550/8015	Amended:	Aug 10, 1993
Attention: Peter Langtry	First Sample #:	3H14701		

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit mg/kg	Sample I.D. 3H14701 SS-6	Sample I.D. 3H14702 SS-7	Sample I.D. 3H14703 SS-8	Sample I.D.	Sample I.D.	Sample I.D.
Extractable Hydrocarbons	1.0	5.9	3.1	240			
Chromatogram Pattern:		Non-Diesel Mix > C11-C16	Non-Diesel Mix > C17	Non-Diesel Mix > C11-C16			



Quality Control Data

Report Limit Multiplication Factor:	1.0	20	1.0
Date Extracted:	8/5/93	8/5/93	8/5/93
Date Analyzed:	8/5/93	8/5/93	8/5/93
Instrument Identification:	GCHP-5	GCHP-5	GCHP-5

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A
405 Clyde Avenue	Matrix:	Soil
Mountain View, CA 94043		
Attention: Peter Langtry	QC Sample Group: 3H14701 - 02	Reported: Aug 9, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Diesel
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015
Analyst:	C. Donohue	C. Donohue	C. Donohue	C. Donohue	C.Lee
Conc. Spiked:	0.20	0.20	0.20	0.60	15
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LCS Batch#:	GBLK080593	GBLK080593	GBLK080593	GBLK080593	DBLK080393
Date Prepared:	8/5/93	8/5/93	8/5/93	8/5/93	8/3/93
Date Analyzed:	8/5/93	8/5/93	8/5/93	8/5/93	8/3/93
Instrument I.D.#:	GCHP-6	GCHP-6	GCHP-6	GCHP-6	GCHP-5
LCS % Recovery:	95	95	95	92	80
Control Limits:	60-140	60-140	60-140	60-140	50-150
MS/MSD Batch #:	G3GF4602	G3GF4602	G3GF4602	G3GF4602	D3GF2701
Date Prepared:	8/5/93	8/5/93	8/5/93	8/5/93	8/3/93
Date Analyzed:	8/5/93	8/5/93	8/5/93	8/5/93	8/4/93
Instrument I.D.#:	GCHP-6	GCHP-6	GCHP-6	GCHP-6	GCHP-5
Matrix Spike % Recovery:	85	90	90	87	*
Matrix Spike Duplicate % Recovery:	85	90	90	88	*
Relative % Difference:	0.0	0.0	0.0	1.1	*

*** - Matrix Interference.**
SEQUOIA ANALYTICAL

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

Maile A. Springer
Project Manager

LOWNEY ASSOCIATES
CHAIN OF CUSTODY RECORD

JOB NO.	PROJECT NAME/LOCATION
864-17A	Emeryville P.O., Emeryville

SAMPLER (S): (Signature)
Jim Rumsby

DATE	TIME	SAMPLE DESCRIPTION	NO. OF CONTAINERS	TPH-Diesel	BTEX	Oil & Grease (SM 5520 E&F)	9308/47-
8/3/93	10:00	SS-6 Soil	1	✓	✓		01A
	11:00	SS-7	1	✓	✓		02A
	14:00	SS-8	1	✓			03A
		[illegible]					
8/3/93	9:00	SE-7 Soil	1			X	
	↓	SE-8	1			X	

ANALYSIS REQUIRED

SHIP TO:
LOWNEY ASSOCIATES
105 Clyde Avenue
Mountain View, CA 94043
415-967-2365
415-967-2785 (FAX)

REMARKS
2 Working-day turnaround (Results by Friday, am 8/6/93)
Report to Stason Foster
1-week turnaround

Relinquished By: (Signature)	Date	Time	Received By: (Signature)
Jim Rumsby	8/4/93	14:50	R. Jehlke 8/4/93 14:50
Relinquished By: (Signature)	Date	Time	Received By: (Signature)
R Jehlke	8/4/93	1535	

Laboratory of Record: Sequoia

Received for Laboratory By: (Signature) [illegible]

Date: 8/4/93 Time: 15:35

Remarks:

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled: Aug 3, 1993
405 Clyde Avenue	Matrix Descript:	Soil	Received: Aug 4, 1993
Mountain View, CA 94043	Analysis Method:	SM 5520 E&F (Gravimetric)	Extracted: Aug 6, 1993
Attention: Stason Foster	First Sample #:	3H17801	Analyzed: Aug 9, 1993
			Reported: Aug 10, 1993

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg
3H17801	SE-7	N.D.
3H17802	SE-8	17,000

Detection Limits:	50

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

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

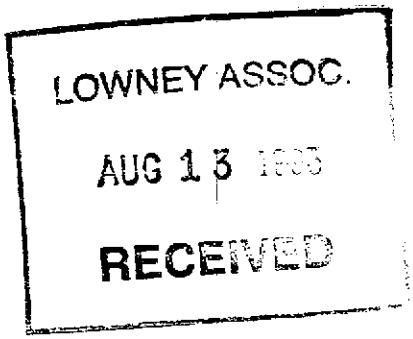
Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attention: Stason Foster

Client Project ID: 864-17A
Matrix: Soil
QC Sample Group: 3H17801 - 02

Reported: Aug 11, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Oil & Grease
Method:	SM5520E&F
Analyst:	M.Shkidt
Conc. Spiked:	1000
Units:	mg/kg
LCS Batch#:	BLK073093
Date Prepared:	7/30/93
Date Analyzed:	7/30/93
Instrument I.D.#:	N.A.
LCS % Recovery:	83
Control Limits:	70-110



MS/MSD Batch #:	BLK073093
Date Prepared:	7/30/93
Date Analyzed:	7/30/93
Instrument I.D.#:	N.A.
Matrix Spike % Recovery:	83
Matrix Spike Duplicate % Recovery:	74
Relative % Difference:	11.5

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

LOWNEY ASSOCIATES
CHAIN OF CUSTODY RECORD

JOB NO.	PROJECT NAME/LOCATION
864-17A	Emeryville P.O., Emeryville

SAMPLER (S): (Signature) Jim Rumsey

DATE	TIME	SAMPLE DESCRIPTION	NO. OF CONTAINERS	TPH-Diesel	BTEX	Oil & Grease (SM 5520 E&F)
8/3/93	10:00	SS-6 So:1	1	✓	✓	
	11:00	SS-7	1	✓	✓	
	14:00	SS-8	1	✓		
		[redacted]				
8/3/93	9:00	SE-7 So:1	1			X
	↓	SE-8 ↓	1			X

ANALYSIS REQUIRED

SHIP TO:
LOWNEY ASSOCIATES
405 Clyde Avenue
Mountain View, CA 94043
415-967-2365
415-967-2785 (FAX)

REMARKS

2 Working-day turnaround (Results by Friday, am 8/6/93)

Report to Stason Foster

2-week turnaround 9308178-01 ↓ 02

Relinquished by: (Signature)	Date	Time	Received By: (Signature)
Jim Rumsey	8/4/93	14:50	R. Tehlik 8/4/93 14:50
Relinquished by: (Signature)	Date	Time	Received By: (Signature)
R. Tehlik	8/4/93	1535	

Laboratory of Record: Sequoia

Date	Time	Received for Laboratory By: (Signature)
8/4/93	1535	John Valle

Remarks:

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled: Aug 11, 1993
405 Clyde Avenue	Sample Matrix:	Soil	Received: Aug 11, 1993
Mountain View, CA 94043	Analysis Method:	EPA 5030/8020	Reported: Aug 20, 1993
Attention: Peter Langtry	First Sample #:	3H53701	

BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 3H53701 Water-2	Sample I.D.	Sample I.D.	Sample I.D.	Sample I.D.	Sample I.D.
Benzene	0.0050	N.D.					
Toluene	0.0050	N.D.					
Ethyl Benzene	0.0050	N.D.					
Total Xylenes	0.0050	0.86					

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Analyzed:	8/13/93
Instrument Identification:	GCHP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	88

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled: Aug 11, 1993
405 Clyde Avenue	Sample Matrix:	Soil	Received: Aug 11, 1993
Mountain View, CA 94043	Analysis Method:	EPA 3550/8015	Reported: Aug 20, 1993
Attention: Peter Langtry	First Sample #:	3H53701	

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit mg/kg	Sample I.D. 3H53701 Water-2	Sample I.D.	Sample I.D.	Sample I.D.	Sample I.D.	Sample I.D.
Extractable Hydrocarbons	1.0	690					
Chromatogram Pattern:		Non-Diesel Mix, C9-C17					

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Extracted:	8/13/93
Date Analyzed:	8/13/93
Instrument Identification:	GCHP-5

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled: Aug 11, 1993
405 Clyde Avenue	Matrix Descript:	Soil	Received: Aug 11, 1993
Mountain View, CA 94043	Analysis Method:	SM 5520 E&F (Gravimetric)	Extracted: Aug 13, 1993
Attention: Peter Langtry	First Sample #:	3H53702	Analyzed: Aug 16, 1993
			Reported: Aug 20, 1993

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg
3H53702	RR-13	N.D.
3H53703	RR-14	N.D.
3H53704	RR-15	170
3H53705	RR-16	N.D.
3H53706	RR-17	110

Detection Limits:	**50**

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

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

Lowney Associates	Client Project ID:	864-17A	Sampled: Aug 11, 1993
405 Clyde Avenue	Sample Descript:	Soil, RR-13	Received: Aug 11, 1993
Mountain View, CA 94043	Analysis Method:	EPA 8080	Extracted: Aug 16, 1993
Attention: Peter Langtry	Lab Number:	3H53702	Analyzed: Aug 16, 1993
			Reported: Aug 20, 1993

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
PCB 1016	20	N.D.
PCB 1221	80	N.D.
PCB 1232	20	N.D.
PCB 1242	20	N.D.
PCB 1248	20	N.D.
PCB 1254	20	N.D.
PCB 1260	20	N.D.

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

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

AUG 24 1993

Lowney Associates	Client Project ID:	864-17A	Sampled: Aug 11, 1993
405 Clyde Avenue	Sample Descript:	Soil, RR-14	Received: Aug 11, 1993
Mountain View, CA 94043	Analysis Method:	EPA 8080	Extracted: Aug 16, 1993
Attention: Peter Langtry	Lab Number:	3H53703	Analyzed: Aug 16, 1993
			Reported: Aug 20, 1993

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
PCB 1016	20	N.D.
PCB 1221	80	N.D.
PCB 1232	20	N.D.
PCB 1242	20	N.D.
PCB 1248	20	N.D.
PCB 1254	20	N.D.
PCB 1260	20	N.D.

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A	Sampled:	Aug 11, 1993
405 Clyde Avenue	Sample Descript:	Soil, RR-15	Received:	Aug 11, 1993
Mountain View, CA 94043	Analysis Method:	EPA 8080	Extracted:	Aug 16, 1993
Attention: Peter Langtry	Lab Number:	3H53704	Analyzed:	Aug 16, 1993
			Reported:	Aug 20, 1993

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
PCB 1016	20	N.D.
PCB 1221	80	N.D.
PCB 1232	20	N.D.
PCB 1242	20	N.D.
PCB 1248	20	N.D.
PCB 1254	20	N.D.
PCB 1260	20	N.D.

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

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

Lowney Associates	Client Project ID:	864-17A	Sampled: Aug 11, 1993
405 Clyde Avenue	Sample Descript:	Soil, RR-16	Received: Aug 11, 1993
Mountain View, CA 94043	Analysis Method:	EPA 8080	Extracted: Aug 16, 1993
Attention: Peter Langtry	Lab Number:	3H53705	Analyzed: Aug 16, 1993
			Reported: Aug 20, 1993

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
PCB 1016	20	N.D.
PCB 1221	80	N.D.
PCB 1232	20	N.D.
PCB 1242	20	N.D.
PCB 1248	20	N.D.
PCB 1254	20	N.D.
PCB 1260	20	N.D.

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

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

Lowney Associates	Client Project ID:	864-17A	Sampled: Aug 11, 1993
405 Clyde Avenue	Sample Descript:	Soil, RR-17	Received: Aug 11, 1993
Mountain View, CA 94043	Analysis Method:	EPA 8080	Extracted: Aug 16, 1993
Attention: Peter Langtry	Lab Number:	3H53706	Analyzed: Aug 16, 1993
			Reported: Aug 20, 1993

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
PCB 1016	20	N.D.
PCB 1221	80	N.D.
PCB 1232	20	N.D.
PCB 1242	20	N.D.
PCB 1248	20	N.D.
PCB 1254	20	N.D.
PCB 1260	20	N.D.

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

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

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

Lowney Associates
405 Clyde Avenue
Mountain View, CA 94043
Attention: Peter Langtry

Client Project ID: 864-17A
Matrix: Soil

QC Sample Group: 3H53701

Reported: Aug 20, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Diesel
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015
Analyst:	J.Villar	J.Villar	J.Villar	J.Villar	C.Lee
Conc. Spiked:	10	10	10	30	300
Units:	µg/L	µg/L	µg/L	µg/L	µg/L
LCS Batch#:	GBLK081693	GBLK081693	GBLK081693	GBLK081693	DBLK081093
Date Prepared:	8/16/93	8/16/93	8/16/93	8/16/93	8/10/93
Date Analyzed:	8/16/93	8/16/93	8/16/93	8/16/93	8/10/93
Instrument I.D.#:	GCHP-2	GCHP-2	GCHP-2	GCHP-2	GCHP-5
LCS % Recovery:	110	110	110	110	67
Control Limits:	80-120	80-120	80-120	80-120	50-150
MS/MSD Batch #:	G3H25112	G3H25112	G3H25112	G3H25112	DBLK081093
Date Prepared:	8/16/93	8/16/93	8/16/93	8/16/93	8/10/93
Date Analyzed:	8/16/93	8/16/93	8/16/93	8/16/93	8/10/93
Instrument I.D.#:	GCHP-2	GCHP-2	GCHP-2	GCHP-2	GCHP-5
Matrix Spike % Recovery:	110	110	110	107	67
Matrix Spike Duplicate % Recovery:	100	100	100	100	70
Relative % Difference:	9.5	9.5	9.5	6.8	4.3

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

SEQUOIA ANALYTICAL

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

Lowney Associates	Client Project ID:	864-17A
405 Clyde Avenue	Matrix:	Soil
Mountain View, CA 94043		
Attention: Peter Langtry	QC Sample Group: 3H53702 - 06	Reported: Aug 20, 1993

QUALITY CONTROL DATA REPORT

ANALYTE	Oil & Grease	PCB 1248
Method:	SM5520EF	EPA 8080
Analyst:	M.Shkidt	L.Laikhtman
Conc. Spiked:	1000	1000
Units:	mg/kg	µg/kg
LCS Batch#:	BLK081393	BLK081193
Date Prepared:	8/13/93	8/11/93
Date Analyzed:	8/13/93	8/12/93
Instrument I.D.#:	N.A.	GCHP-12
LCS % Recovery:	78	85
Control Limits:	70-110	30-150

MS/MSD Batch #:	BLK081393	P3H32011
Date Prepared:	8/13/93	8/11/93
Date Analyzed:	8/13/93	8/12/93
Instrument I.D.#:	N.A.	GCHP-12
Matrix Spike % Recovery:	78	54
Matrix Spike Duplicate % Recovery:	85	53
Relative % Difference:	8.6	1.9

SEQUOIA ANALYTICAL

Maile A. Springer
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery data is used for validation of sample batch results. Due to matrix effects, the QC limits for MS/MSD's are advisory only and are not used to accept or reject batch results.

SEQUOIA ANALYTICAL
CHAIN OF CUSTODY

❑ 6[redacted] Mesa[redacted]e D[redacted] Red[redacted]d Cit[redacted]A 94[redacted] (41[redacted]4-9[redacted] FAX[redacted]) 36[redacted]83 [redacted]
❑ 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600 FAX (916) 921-0100
❑ 1900 Bates Ave., Suite LM • Concord, CA 94520 • (510) 686-9600 FAX (510) 686-9689

Company Name: Lowney Assoc.	Project Name:
Address:	Billing Address (if different):
City: State: Zip Code:	
Telephone: FAX #:	P.O. #:
Report To: Stason Foster / Sampler: Tim Rumbolz	QC Data: ❑ Level A (Standard) ❑ Level B ❑ Level C ❑ Level D

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

❑ Drinking Water ❑ Waste Water ❑ Other

Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	TPH - Diesel	BTEX	TOG (SM5520 E/F)	PCBs only (8080)	Comments
1. Water - 2	8/11/93 8:00	water	4	VOA/ Amber	1	X	X			9308537
2. RR - 13	11:00	Soil	1	Brass Liner	2			X	X	
3. RR - 14			1		3			X	X	
4. RR - 15			1		4			X	X	
5. RR - 16			1		5			X	X	
6. RR - 17			1		6			X	X	
7.										
8.										
9.										
10.										

Relinquished By: Tim Rumbolz	Date: 8/11/93	Time: 13:56	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab:	Date: 8/11/93	Time: 1356

Were Samples Received in Good Condition? ❑ Yes ❑ No Samples on Ice? ❑ Yes ❑ No Method of Shipment_____

Page 1 of 1

Pink - Client
Yellow - Sequoia
White - Sequoia

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

See Instructions on back of page 6.

Department of Toxic Substances Control
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
CA C 0 0 1 0 1 5 8 4 0	1 5 9 8 3		

3. Generator's Name and Mailing Address	A. State Manifest Document Number
U.S. POSTAL SERVICE 62nd & Overland, Emeryville, CA. 94608	92215983
4. Generator's Phone (510 742-4601	B. State Generator's ID
5. Transporter 1 Company Name / 6. US EPA ID Number	C. State Transporter's ID 402005
H & H Ship Service Company / CAD004771168	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 / 10. US EPA ID Number	G. State Facility's ID CAD083166728
PRC PATTERSON, INC. 13331 N. Highway 33 Patterson, CA. 95363 / CAD083166728	H. Facility's Phone (800) 874-4444

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. OIL AND WATER NON-RCRA HAZARDOUS WASTE LIQUID	001	TT	00500	G	State 223 EPA/Other
b.					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above	K. Handling Codes for Wastes Listed Above
OIL AND WATER PRINTED IN AZR	a. 01 b. c. d.

15. Special Handling Instructions and Additional Information
JOB #13036
24 Hr. Emergency Contact: H & H #(415) 543-4835
APPROPRIATE PROTECTIVE CLOTHING AND RESPIRATOR

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

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

Printed/Typed Name	Signature	Month	Day	Year
For U.S. Postal Service DAVID A. Fyock	David A. Fyock	08	02	93

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
LEONARD M. IRICK	Leonard M. Irick	08	02	93

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year
Debra Fridley		08	02	93

DO NOT WRITE BELOW THIS LINE.

TSC 8022A (12/91)

White: TSDF SENDS THIS COPY TO DTSC WITHIN 30 DAYS.

GENERATOR

CALL CHEMTREC EMERGENCY OIL SPILL, FIRE, EXPLOSION, ACCIDENT OR SPILL INFORMATION, RESPONSE CENTER, (1-800-424-8802) WITHIN CALIFORNIA, CALL 1-800-852-7550