BASELINE

THIRD INTERIM DATA REPORT

OCTOBER 1995

ADDITIONAL SUBSURFACE INVESTIGATION
Seabreeze Yacht Center, Oakland

For:

Port of Oakland
Oakland, California

S9171-C0

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November 29, 1995

Mr. Barney Chan
Hazardous Materials Specialist
Alameda County Health Care
Services Agency
1131 Harbor Bay Parkway, Second Floor
Alameda, California 94507

Re: Seabreeze Yacht Center, Inc. Site

Dear Barney:

Enclosed please find a copy of the Seabreeze Analytical Results Report dated September, 1995, and the Third Interim Data Report dated October, 1995.

The Seabreeze Analytical Results Report, although it contains some data collected this past summer and fall, is primarily a summary of previous metals data found at the Seabreeze site.

The Third Interim Data Report follows the first and second interim data reports and discusses the Port's continuing investigations regarding the sources, nature and extent of Bunker C and other heavy petroleum hydrocarbon contamination associated with PG&E's use of the power plant at the site. During this investigation, the Port investigated various tunnels and subsurface structures, which appear to be a source of contamination within the vicinity.

Due to the pendency of the litigation between the Port, PG&E, Seabreeze and others, we have not yet finalized a remediation plan for the property, however, as has been previously recommended, the Port does intend to remove the concrete containment structure and the contaminated soil adjacent thereto. We appreciate your patience. Please feel free to call me if you have any questions concerning the above.

Very truly yours,

FITZGERALD, ABBOTT & BEARDSLEY

By Jonathan W. Redding
Jonathan W. Redding

JWR:mga
cc: Randall Morrison (w/encls)
Jeffrey Turner (w/encls)
Kyle Fischer (w/encls)

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Third Interim Data Report for

ADDITIONAL SUBSURFACE INVESTIGATION

Seabreeze Yacht Center
Oakland, California
September 1995

INTRODUCTION

BASELINE Environmental Consulting conducted additional subsurface investigations at the former Seabreeze Yacht Center and adjacent areas formerly occupied by a power generating plant (Figure 1) at the request of the Port of Oakland Legal Department (Port). The scope of work for this additional investigation consisted of 1) soil borings and soil sample collection in the vicinity of the former power generating plant (Figure 2) to further characterize the subsurface conditions at the site, and 2) locating subsurface structures, including the possible location at intake and discharge tunnels, associated with the operation of the former power generating plant (Figure 3).

SOIL BORINGS AND SAMPLING

Selection of Soil Boring Locations

A total of eleven soil boring locations for this investigation were selected by the Port, and are primarily located in the vicinity outside the southwest perimeter of the Former Power Generating Plant (Plant) concrete pad (Figure 2). The locations for soil borings S-1 through S-7, and S-9 all were randomly selected in an area where drums and suspected transformers were stored, maintained, and where the contents may have possibly been disposed of outside the southwest perimeter of the concrete pad. Soil boring S-8 is located in the vicinity of a former storage building identified in the 1957 Sanborn map of the Plant. The locations for soil borings S-11 and S-12 (along the southwestern edge of the Plant concrete pad) were also selected based on a review of an historic photograph depicting specific potential source areas.

Soil boring and sampling activities in August and September 1995 were conducted by a BASELINE geologist, registered in the State of California. Soil boring installation and sampling activities are described below.

Soil Borings

On 11 August 1995, eleven soil borings were completed (Figure 2) in the areas associated with the operation of the former plant, in accordance with a site health and safety plan. Soil borings were completed by Gregg Drilling, Inc. of Pacheco, under the supervision of a BASELINE geologist. The borings were completed using steam-cleaned, four-inch hollow-stem augers. Soil samples were collected from the soil borings at depths varying from 1.0 foot to 6.0 feet below ground surface (bgs); details of

the soil sampling activities are described below. Following soil sample collection, the soil borings were backfilled to grade using Portland cement grout. The boring logs are included in Appendix A.

The drilling equipment was decontaminated by steam cleaning before demobilization from the site. Decontamination water was contained in a trough and then transferred into a 55-gallon drum. Soil cuttings generated from soil boring installation were also placed in a 55-gallon drum. The two drums were sealed, labeled, and left on the former Seabreeze Yacht Center site.

Soil Sample Collection and Analyses

Soil samples were collected from each boring with a split spoon sampler (1½-inch diameter) lined with precleaned 6-inch stainless steel tubes. The sampler was pushed into the ground at indicated sampling depths using a pneumatic drive hammer. The stainless steel tubes containing the soil samples were removed from the sampler, capped with Teflon and plastic caps, sealed with silicon tape, labeled, placed in ziplock bags, and stored in a cooler with blue ice.

A total of 26 soil samples were collected. Soil samples were collected at 2.0 feet and 3.0 feet bgs in all borings. In addition, soil samples were also collected from S-11 at 1.0 foot bgs, and S-12 at 1.0 foot bgs, 4.0 feet bgs, and 6.0 feet bgs. The soil samples collected from 2.0 and 3.0 feet bgs were analyzed for polychlorinated biphenyls (PCBs) and total petroleum hydrocarbons (TPH) as diesel, motor oil, and Bunker C. The soil samples collected from S-11 at 1.0 foot bgs and 3.0 feet bgs, and S-12 at 1.0 foot bgs, 4.0 feet bgs, and 6.0 feet bgs were analyzed for total lead and total copper.

Analytical Results of Soil Samples

A summary of the analytical results for the soil samples are shown in Table 1 and the laboratory report is available in Appendix B. The PCB values were quantified as Aroclor 1221, 1232, 1016, 1242, 1248, 1254, and 1260. Soil samples from S-5, S-6, S-9, and S-11 (2.0 feet bgs) contained Aroclor 1260 concentrations at 62 micrograms per kilogram (μg/kg), 21 μg/kg, 420 μg/kg, and 290 μg/kg, respectively. In addition, soil sample from S-11 (at 2.0 feet bgs) detected Aroclor 1254 at a concentration of 200 μg/kg. The remaining Aroclor species were not identified above the reporting limits.

Soil samples at S-11 (1.0 foot bgs and 3.0 feet bgs) and S-12 (1.0 foot bgs, 4.0 feet bgs, and 6.0 feet bgs) contained total lead concentrations ranging from 7.4 milligrams per kilogram (mg/kg) to 210 mg/kg. Soil samples S-11 (1.0 foot bgs and 3.0 feet bgs) and S-12 (1.0 foot bgs, 4.0 feet bgs, and 6.0 feet bgs) contained total copper concentrations ranging from 5.4 mg/kg to 50 mg/kg.

Soil samples at S-1 through S-12 (2.0 feet bgs and 3.0 feet bgs) were analyzed for TPH as diesel, motor oil, and Bunker C. The laboratory reports for these samples reported TPH in the diesel range in concentrations ranging from less than the laboratory reporting limit (1.0 mg/kg) to a maximum of 1,700 mg/kg in soil sample S-7 (2.0 feet bgs). Concentrations of TPH in the motor oil range were reported at concentrations ranging from less than the laboratory reporting limit (25 mg/kg) to a maximum of 1,700 mg/kg in soil sample S-6 (3.0 feet bgs).

Concentrations of in the Bunker C range were reported at concentrations ranging from less than the laboratory reporting limit of 25 mg/kg to a maximum of 30,000 mg/kg in S-7 (2.0 feet bgs).

GEOPHYSICAL INVESTIGATION

On 24 August 1995, a geophysical investigation was conducted at and adjacent to the former Seabreeze Yacht Center by Norcal Geophysical Consultants Inc., of Petaluma, under the supervision of BASELINE personnel. The purpose of the investigation was to collect subsurface information that would assist in determining possible subsurface structures associated with the former Plant. These subsurface structures include: 1) a possible underground pipeline from the concrete containment to the former Plant foundation slab, 2) a discharge tunnel located from the wharf to the foundation slab of the former Plant, and 3) an underground storage tank (Figure 3). The following documents the activities and findings established from this investigation. A copy of the geophysical investigation report is included in Appendix C.

Four methodologies were used to obtain geophysical data. These methods consist of the vertical magnetic gradient (VMG), electromagnetic terrain conductivity (EM), ground penetrating radar (GPR), and electromagnetic line locating method (EMLL). The VMG was used to determine the presence of buried ferrous metal. The EM method was used to determine variations in terrain conductivity throughout the Site. The GPR surveys were conducted to obtain high resolution cross-sections of the subsurface. The EMLL method was used to investigate areas for possible utilities that may represent the source of detected VMG, EM, and GPR anomalies. A more detailed description of these geophysical methods is included in Appendix C.

Underground Pipeline

An EMLL survey was conducted to determine the presence of the possible underground pipeline (Figure 3). The survey detected two, generally parallel, continuous signals from the concrete containment to approximately 90 feet north of the containment. These detected signal areas were marked and excavated on 28 August 1995 to expose the pipeline. However, the pipeline was not found. Details of the excavation activities are described in the Soil Excavation Investigation section of this report.

Discharge Tunnel

A 70- by 120-foot grid was evaluated, approximately 50 feet east of the western fence line (grid located in the area of Excavation-DT1 of Figure 3) to determine the location of the discharge tunnel. The VMG, EM, GPR and EMLL techniques were used during the geophysical investigation within this grid area.

The VMG and EM (Terrain Conductivity) anomalies were overlaid and a zone representing the vicinity of the possible discharge tunnel was identified. In addition, the collected GPR data identified numerous zones of isolated hyperbolic reflection patterns in the upper two to four feet. However, the data did not indicate large reflection patterns which could represent a structure such as the tunnel. The EMLL detected the presence of shallow underground pipelines.

However, excavation activities conducted (28 August 1995) in the anomalous zone identified above did not reveal the presence of the discharge tunnel. Details of the excavation activities are described in the Soil Excavation Investigation section of this report.

Storage Tank

A 60- by 80-foot grid was evaluated in the general area of the possible underground storage tank (Figure 3). The EM and GPR techniques were used during the geophysical investigation within this grid area.

EM data collected in the grid area were inconclusive. The GPR data indicated a strong reflection horizon that could be the result of a change in subsurface fill material and could represent the location of an excavation possibly associated with an underground storage tank. no ust.

SOIL EXCAVATION INVESTIGATION

BASELINE conducted a soil excavation investigation in various areas at and adjacent to the Seabreeze site from 28 August 1995 to 6 September 1995. Soil excavation activities were conducted by Bay Area Tank and Marine, Inc., of Martinez, under the supervision of BASELINE personnel. A total of six trenches (Figure 3) were excavated during the investigation to locate possible subsurface structures associated with the former Plant. These structures include: a possible underground pipeline connecting the concrete containment to the former Plant foundation slab; a discharge tunnel located between the wharf and the foundation slab; and an intake tunnel located parallel to 5th Avenue. Documentation of these activities is summarized below.

Underground Pipeline

On 28 August 1995, BASELINE conducted excavation activities (Excavation-UP1) in an area identified from the geophysical survey as possibly containing an underground pipeline (Figure 3). Photographs of Excavation-UP1 is shown on Figure 4. Excavation-UP1 was excavated to a depth of 8.5 feet bgs. Evidence of the pipeline was not identified in the trench during excavation.

The dimensions of Excavation-UP1 were 30 by 4 feet. Two distinct lithological zones were identified in the subsurface soils during excavation; the upper 3.5 feet of materials consisted of fill material and miscellaneous debris underlain with Bay muds. A trace of groundwater was observed in the trench following excavation. Approximately 40 yards of soil was excavated from Excavation-UP1. The excavated soils were stockpiled adjacent to the trench and were placed on, and covered with visquene. Following excavation, the trench was backfilled with clean, imported pea gravel.

Discharge Tunnel

From 28 August 1995 to 31 August 1995, soils were excavated in three areas, Excavations -DT1, DT2, and DT3, to locate and expose sections of the discharge tunnel and a discharge tunnel hatchway. The locations of Excavations - DT1, DT2, and DT3 are shown on Figure 3.

On 28 August 1995, BASELINE conducted excavation activities at Excavation-DT1 to locate the discharge tunnel on the Seabreeze site. Excavation-DT1 dimension details are shown on Figure 5, and photographs are shown on Figures 6 and 7. The excavation at Excavation-DT1 was conducted in two phases. Initially, soils were removed from the area where subsurface anomalies were detected in the geophysical survey (Figure 5-Area 1). The trench was excavated to a depth of 10 feet bgs. The excavated soils consisted of various wood debris; no evidence of a concrete structure was observed in the trench.

A second excavation location was selected at the landward continuation of the wharf (A Dock), which was situated on top of an open-ended concrete tunnel headwork. The second excavation area (Figure 5-Area 2) was excavated at about 140 feet northwest of the wharf (Figure 5). Two parallel steel pipelines (about six-inch diameter) were exposed along the north and south trench walls (Figure 5), at three feet

bgs. The pipelines were approximately eight feet apart and appeared to be in good condition. No stains were observed beneath pipelines.

Two sets of parallel wood shorings were exposed at five feet bgs. The distance between the wood shorings were approximately five feet. One set of wood shoring was located along the north trench wall and the other set about three feet from the south trench wall (Figure 5). At a depth of 9.5 feet bgs, a flat concrete slab was exposed, which appeared to be the concrete top of the discharge tunnel. The concrete top was continuous throughout the length of the trench and was bounded by the two sets of wood shorings.

Two distinct lithologies were identified in the subsurface soils during excavation; the upper 2.5 feet of soils consisted of fill material and miscellaneous debris underlain by Bay muds. A minor trace of groundwater was observed to be seeping into the trench during excavation. Approximately 65 cubic yards of soil was excavated from Excavation-DT1. The excavated soils were stockpiled and placed on and covered with visquene. Following excavation, the trench was backfilled with clean pea gravel.

On 30 and 31 August 1995, BASELINE performed soil excavation activities at Excavation-DT2 to locate and expose the junction between the discharge tunnel and the foundation slab of the former Plant. Excavation-DT2 dimension details are shown on Figure 8 and photographs are shown on Figures 9 and 10. The concrete foundation slab of the former Plant was exposed at about two inches bgs (Figure 8). At three feet bgs, two structures were encountered: 1) a six-inch diameter steel pipeline along the north trench wall and 2) a 1.5-foot wide concrete footing of the foundation slab. Black stained soils and strong odors were observed in the areas above the concrete footing and below the pipeline. Strong petroleum odor was apparent during soil excavation at a depth of three feet bgs.

Portions of a concrete-lined sump were exposed on the west section of Excavation-DT2 (Figure 8). The sump depth was approximately five feet bgs; the sump south wall was formed by the foundation slab of the former power generating plant. A steel pipeline (in the trench) penetrated through the east sump wall. The pipeline appeared to discharge into the sump and was unplugged at the time of excavation; the inside of the pipeline was partially filled with soil. Sediments in the sump consisted of a black-stained homogeneous sandy material (Figure 10). The north wall was exposed about one foot from the fence line, and the west wall of the sump was not exposed.

A flat concrete structure was visible at five feet bgs, and appeared to be the discharge tunnel concrete top. The discharge tunnel was approximately eight feet wide and was bounded along the east and west by continuous wood shoring (Figure 8). The south portion of the discharge tunnel was contiguous with the Plant foundation slab. The discharge tunnel north limits were not exposed during the soil excavation due to site constraints (Figure 8).

Groundwater gradually seeped into the trench during the soil excavation activities at high tide; no groundwater was observed in the trench during low tide periods (as shown on Figure 11). As shown in the photographs of Figure 12, black colloids floated to the groundwater surface as soils were excavated immediately outside the east wood shoring (discharge tunnel east wall boundary). An oily sheen was also visible in the groundwater. The water level was measured at three feet bgs at the completion of excavation at high tide.

To determine the quality of sediments in the discharge tunnel, the following samples were collected in Excavation-DT2:

- DT Slab Trench Residue Sample - one composite soil sample of the visible black colloid residue (at low tide) at various depths along north and south trench walls (residue shown on Figure 12);
- DT Slab-1 and DT Slab Trench - two soil samples below the steel pipeline at three feet bgs;
- DT Slab-2 - one soil sample above the concrete foundation footing at three feet bgs; and
- PL Sump - one soil sample in the concrete-lined sump at 2.5 feet bgs.

The soil samples were submitted to the laboratory and analyzed for TPH as diesel and Bunker C. The analytical results of these soil samples are summarized in Table 2 and the laboratory reports are included in Appendix B. Concentrations of TPH in both diesel and Bunker C ranges were reported in all the soil samples collected from Excavation-DT2 at levels above the laboratory reporting limit, with the exception of the Slab-1 soil sample. TPH in the diesel range was detected in soil samples – DT Slab Trench Residue, DT Slab Trench, Slab-2, and PL sump – at concentrations varying from 9.1 mg/kg (PL sump) to 3,900 mg/kg (Slab-2). Soil sample Slab-1 did not contain TPH in the diesel range above the laboratory reporting limit. TPH in the Bunker C range was detected in soil samples DT Slab Trench Residue, DT Slab Trench, Slab-1, Slab-2, and PL sump reported TPH in the Bunker C range at concentrations varying from 280 mg/kg (PL sump) to 33,000 mg/kg (Slab-2).

During soil excavation activities at Excavation-DT2, two lithologies were observed in the 17- foot long trench; the upper 1.5 feet of soils were fill underlain by Bay muds. The soils observed in the concrete-lined sump consisted entirely of fill and miscellaneous debris.

Approximately 27 cubic yards of soil was excavated from Excavation-DT2. The excavated soils were stockpiled nearby the trench, and were placed on and covered with visquene. Following excavation, the trench was barricaded and kept open.

On 30 and 31 August 1995, a soil excavation was conducted at Excavation-DT3 (Figure 8) to expose a hatchway located within the foundation slab of the former Plant; this hatchway was identified on an historic drawing. Excavation-DT3 dimension details are shown on Figure 8 and photographs are provided on Figures 13 and 14. The top of the hatchway (Figure 13) was encountered at about two inches bgs. After excavating inside the hatchway to a depth of about four feet bgs, a flat plywood (three feet by seven feet) board was encountered; following removal, access to the discharge tunnel was encountered; groundwater was evident within the hatchway.

The hatchway was concrete-lined; the top portions of the discharge tunnel were evident along the north, south and east walls, at about six feet bgs (Figure 8). During low tide, the top of the discharge tunnel could be seen in the north and south walls (Figure 14). One groundwater sample was collected during low tide (1 September 1995, 11:00 a.m.) and one during high tide (7 September 1995, 12:15 p.m.). In addition, one groundwater sample was retreived from the surface water sheen at low tide and one sediment sample was retrieved from the bottom of the hatchway. The samples were analyzed for TPH

as diesel and Bunker C. The analytical results are presented in Table 3, and the laboratory report is included in Appendix B.

The groundwater samples (Hatchway and Hatchway-2) collected in the hatchway contained TPH in the diesel range at concentrations of 0.33 mg/L (low tide) and 0.3 mg/L (high tide). Concentrations of TPH in the Bunker C range were reported in the hatchway groundwater sample during low tide at 1.2 mg/L; TPH in the Bunker C range was not detected in the hatchway-2 groundwater sample at high tide. The hatchway sheen groundwater sample contained TPH in the diesel and Bunker C ranges at concentrations of 1.5 mg/L and 5.1 mg/L, respectively. The sediment sample retreived from the bottom of the hatchway (hatchway sludge) contained TPH in the diesel and Bunker C ranges at 1,200 mg/kg and 8,400 mg/kg of respectively.

Approximately four cubic yards of soil were removed during Excavation-DT3; the excavated soils consisted of fill material. The excavated soils were stockpiled near the excavation, and were placed on and covered with visquene. The excavation was barricaded at the completion of excavation activities. A steel plate cover will be placed over the hatchway.

Intake Tunnel

On 28 August 1995, soil excavation was conducted at Excavation-IT1 to locate and expose an intake tunnel manway. Excavation-IT1 detail dimensions are shown on Figure 15 and photographs are shown on Figure 16. The intake tunnel manway was exposed at two feet bgs; the structure was constructed of concrete and the bottom was observed to be about 13 feet bgs. The exposed manway cover consisted of two wood planks and a rusted steel plate (Figure 16). Groundwater was observed in the intake tunnel manway at a depth of approximately seven feet bgs; the groundwater surface did not have visible evidence of an oily sheen.

One groundwater sample was collected in the manway during low tide (1 September 1995, 9:30 a.m.) and one ground water sample during high tide (7 September 1995, 12:10 p.m.). In addition, one sediment sample was retrieved from the bottom of the intake tunnel manway. The collected samples were analyzed for TPH as diesel and Bunker C. The analytical results are presented in Table 2, and the laboratory report is included in Appendix B.

The groundwater samples from the manway contained TPH in the diesel range at concentrations of 2.2 mg/L (Intake MH, low tide) and 0.6 mg/L (Intake MH-2, high tide). Levels of TPH in the Bunker C range was observed in the groundwater samples at 6.8 mg/L (Intake MH, low tide) and 1.6 mg/L (Intake MH-2, high tide). The sediment sample retreived from the manway (MH sludge) contained TPH in the diesel and Bunker C ranges at concentrations of 1,100 mg/kg and 5,800 mg/kg, respectively.

Approximately six cubic yards of soil were removed from Excavation-IT1; the excavated soils consisted of fill material. The excavated soils were transferred to the Seabreeze Yacht Center site and stockpiled near the Excavation-DT1 stockpile. The stockpile was placed on and covered with visquene. Following excavation, a four-foot square by two-foot deep wooden extension was constructed on top of the existing intake tunnel manway; clean, imported Class II aggregate was placed around the access, and rolled with the backhoe for compaction. A steel plate cover will be placed over the intake tunnel manway.

On 6 September 1995, BASELINE excavated soils at Excavation-IT2 to locate and identify the junction between the intake tunnel and the foundation slab of the former Plant. Excavation-IT2 dimension details are shown on Figure 17, and photographs are shown on Figure 18. The foundation slab was uncovered at about 1.2 feet bgs. A gently sloped concrete slab was encountered at a depth ranging from 3.7 to 4.3 feet below the foundation slab (Figure 17). It is unknown whether this structure is associated to the intake tunnel. The concrete slab was bordered with continuous wood shoring on the northwest and southwest boundaries (Figure 17). The concrete slab was contiguous with the foundation slab (from the foundation slab to the southwest wood shoring) and was approximately 8.5 feet wide.

Excavation-IT2 was excavated to a depth of about 4.5 feet bgs. Stained soils were visible at the bottom north portion of the trench (adjacent to the concrete structure). Groundwater was encountered in the trench during high tide. No evidence of an oily sheen was observed in the groundwater. One soil sample and one groundwater sample was collected at the north portion of the trench (adjacent to the concrete structure) at a depth of 4.5 feet bgs (Figure 17) and analyzed for TPH as diesel and Bunker C. The analytical results are presented in Table 2, and the laboratory report is included in Appendix B.

The soil sample (Slab trench) collected from Excavation-IT2 contained TPH in the diesel and Bunker C ranges at concentrations of 1,300 mg/kg and 4,300 mg/kg, respectively. The groundwater sample (IT slab water) collected from Excavation-IT2 also contained TPH in the diesel and Bunker C ranges at 12 mg/L and 28 mg/L, respectively.

Approximately 19 cubic yards of soil were removed from Excavation-IT2. Following excavation, the excavated soils were stockpiled near Excavation-DT2. The stockpile was placed on and covered with visquene. Following excavation, the trench was backfilled with clean, imported Class II aggregate, and rolled with a backhoe for compaction.

Stockpile Disposal

A total of eight soil samples was collected from the stockpiles generated from Excavations UP1, DT1, DT2, DT3, IT1, and IT2; a total of about 200 cubic yards of soils were excavated. The eight collected soil samples were composited into two samples and analyzed for TPH as diesel and Bunker C, benzene, toluene, ethylbenzene, and xylenes (BTEX), cadmium, zinc, chromium (total and soluble by WET and TCLP methods), soluble lead (WET and TCLP methods), and soluble copper (WET method). Following receipt of the analytical results, the soils will be disposed of at an appropriate disposal facility.

TABLE 1

SUMMARY OF PCBs, METALS, AND PETROLEUM COMPOUNDS IN SOIL
Seabreeze Yacht Center, Oakland, California
11 August 1995

Sample ID	Sample Depth (feet bgs)	PCBs[1] (µg/kg)	Total Metals[2]		Total Petroleum Hydrocarbons[3]		
			Lead (mg/kg)	Copper (mg/kg)	Diesel (mg/kg)	Motor Oil (mg/kg)	Bunker C (mg/kg)
S-1	2.0	<20	--	--	<1.0	<25	<25
	3.0	<20	--	--	11[4]	NR[5]	170[4]
S-2	2.0	<20	--	--	85[4]	NR[5]	2,700[4]
	3.0	<20	--	--	40[4]	NR[5]	360[4]
S-3	2.0	<20	--	--	150[4]	220[4]	NR[5]
	3.0	<20	--	--	560[4]	630[4]	NR[5]
S-4	2.0	<20	--	--	1.5[4]	<25	<25
	3.0	<20	--	--	1,400	<625	NR[5]
S-5	2.0	62[6]	--	--	7.9[4]	NR[5]	83[4]
	3.0	<20	--	--	<1.0	<25	<25
S-6	2.0	21[6]	--	--	67[4]	250[4]	NR[5]
	3.0	<20	--	--	580[4]	1,700[4]	NR[5]
S-7	2.0	<20	--	--	1,700[4]	NR[5]	30,000[4]
	3.0	<20	--	--	110[4]	NR[5]	770[4]
S-8	2.0	<20	--	--	22[4]	NR[5]	450[4]
	3.0	<20	--	--	11[4]	NR[5]	99[4]
S-9	2.0	420[6]	--	--	<1.0	<25	32[4]
	3.0	<20	--	--	24	NR[5]	90[4]
S-11	1.0	--	150	28	--	--	--
	2.0	200[7]/290[6]	--	--	18[4]	NR[5]	850[4]
	3.0	<20	210	50	130[4]	NR[5]	20,000[4]
S-12	1.0	--	7.4	5.4	--	--	--
	2.0	<20	--	--	6.1[4]	NR[5]	950[4]
	3.0	<20	--	--	73[4]	NR[5]	490[4]
	4.0	--	79	36	--	--	--
	6.0	--	13	30	--	--	--

Table 1 - *continued*

Notes: Sampling locations are shown on Figure 2.
-- = Not analyzed.
NR = Not reported.
PCB = Polychlorinated biphenyls.
<x.x = Compound/metal not identified above laboratory reporting limit of x.x.
Laboratory reports are provided in Appendix B.

[1] Analyzed by EPA Method 8080. Quantified as Aroclor 1221, 1232, 1016, 1242, 1248, 1254, and 1260. When indicated as <20 mg/kg, none of the individual Aroclor species were identified above the reporting limits.
[2] Analyzed by EPA Method 6010.
[3] Analyzed by LUFT Manual, October 1989.
[4] Sample chromatogram did not resemble hydrocarbon standard.
[5] Not reported due to overlap of hydrocarbon ranges.
[6] Identified as Aroclor 1260; none of the other Aroclor species were identified above reporting limits.
[7] Identified as Aroclor 1254.
[8] Identified as Aroclor 1260.

TABLE 2

SUMMARY OF PETROLEUM HYDROCARBON DATA
Seabreeze Yacht Center Excavations, Oakland, California
September 1995

Location	Depth (feet)	Soil	Diesel (mg/kg)	Bunker C (mg/kg)
Discharge tunnel	3	Slab trench residue	2,600	20,000[3]
	3	Slab trench	50[1,3]	1,300[1,3]
	3	Slab-1	<100	20,000[1,3]
	3	Slab-2	3,900[1,3]	33,000[1]
	2.5	PL sump	9.1[1,3]	280[1]
	--	Hatchway sludge	1,200[1,3]	8,400[1]
Intake tunnel	4.5	Slab trench	1,300[1,3]	4,300[1]
	--	MH sludge	1,100[1,3]	5,800[1]

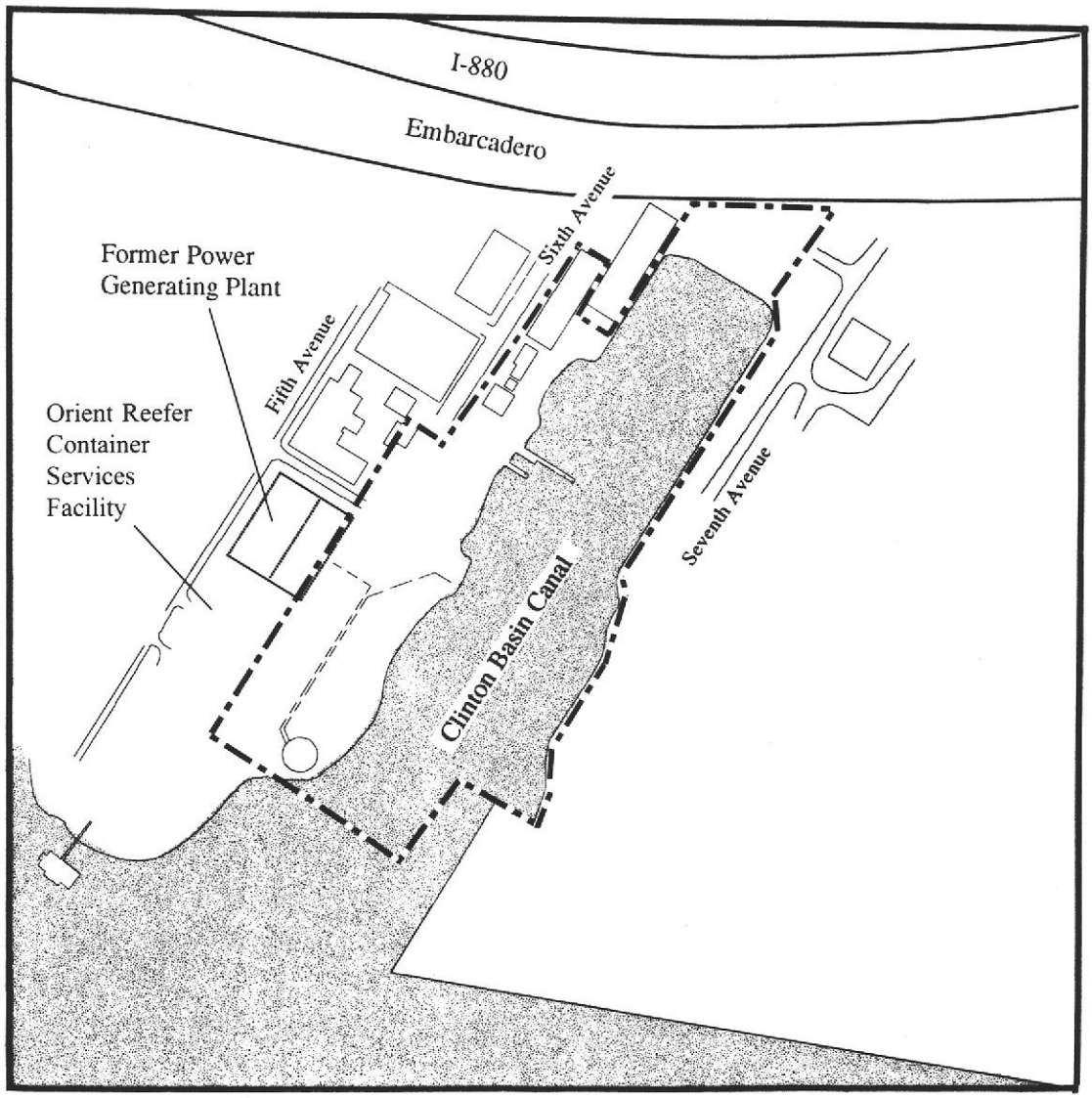
Location	Depth (feet)	Water	Diesel (mg/L)	Bunker C (mg/L)
Discharge tunnel	--	Hatchway (low tide)	0.33	1.2[1,2]
	--	Hatchway-2 (high tide)	0.3[1,4]	<1.3
	--	Hatchway sheen (low tide)	1.5[1,3]	5.1
Intake tunnel	--	Intake MH (low tide)	2.2[1,3]	6.8[1,2]
	--	Intake MH-2 (high tide)	0.6[1,3]	1.6[1]
	--	IT slab water	12[1,3]	28[1]

Notes: Analyzed by LUFT Manual, October 1989.
Sample locations are shown on Figures 2, 8, 15, and 17.

1 Sample exhibits fuel pattern that does not resemble standard.
2 Lighter hydrocarbons than indicated standard.
3 Heavier hydrocarbons than indicated standard.
4 Unknown single peak or peaks.

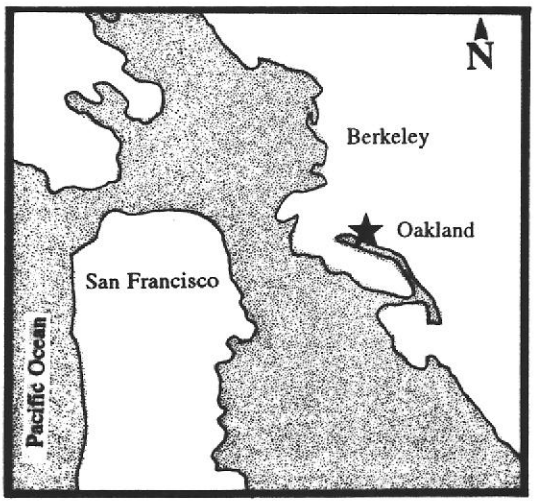
PROJECT AND REGIONAL LOCATION

Figure 1



Legend

Seabreeze Yacht Center



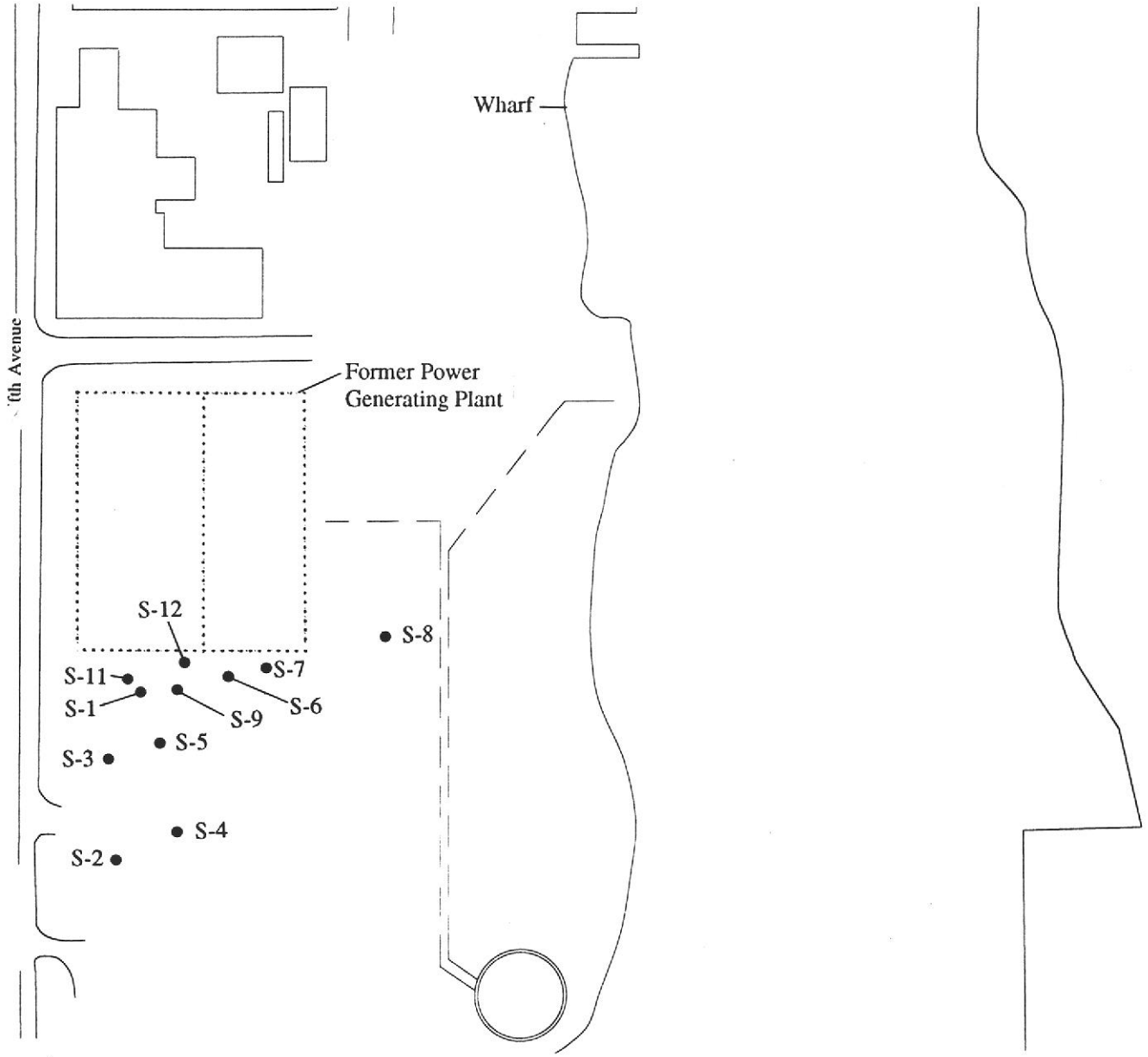
Seabreeze Yacht Center
Oakland, California

BASELINE

S9171-CO 8/18/95

SOIL SAMPLING LOCATIONS
August 1995

Figure 2



Note: [1]At locations S-1 through S-12 soil samples were collected on 11 August 1995.

[2]At locations S-1 through S-9 soil samples were collected at depths of 2.0 feet and 3.0 feet below ground surface (bgs), and analyzed for Polychlorinated Biphenyls (PCBs), Total Petroleum Hydrocarbons (TPH) as motor oil, and Bunker C.

[3]At location S-11 soil samples were collected at depths of 1.0 foot, 2.0 feet, 3.0 feet bgs. Samples collected at 1.0 foot and 3.0 feet were analyzed for Total Lead and Total Copper; soil samples collected at 2.0 feet and 3.0 Feet were analyzed for PCBs, TPH as motor oil and Bunker C.

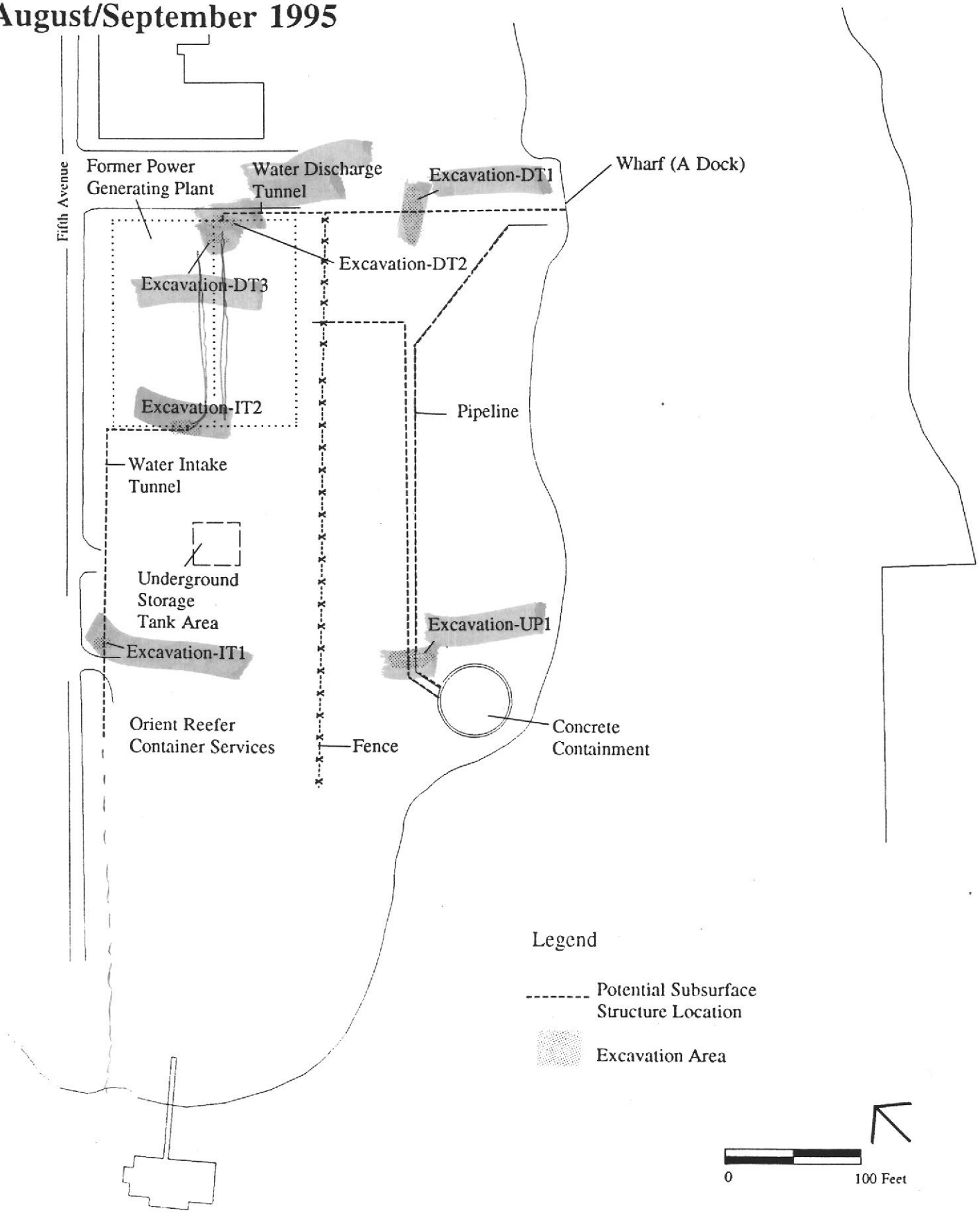
[4]At location S-12 soil samples were collected at depths of 1.0 foot, 2.0 feet, 3.0 feet, 4.0 feet, and 6.0 feet. Soil samples collected at 1.0 foot, 4.0 feet and 6.0 feet were analyzed for PCBs, TPH as motor oil and Bunker C.

0 100 Feet

BASELINE

POTENTIAL SUBSURFACE STRUCTURE LOCATIONS AND EXCAVATION AREAS
August/September 1995

Figure 3



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S9171-CO 9/13/95, Cadd File S, S9171SV

PHOTOGRAPHS
August 1995

Figure 4

A. (Looking east) Excavation - UP1, 28 August 1995.

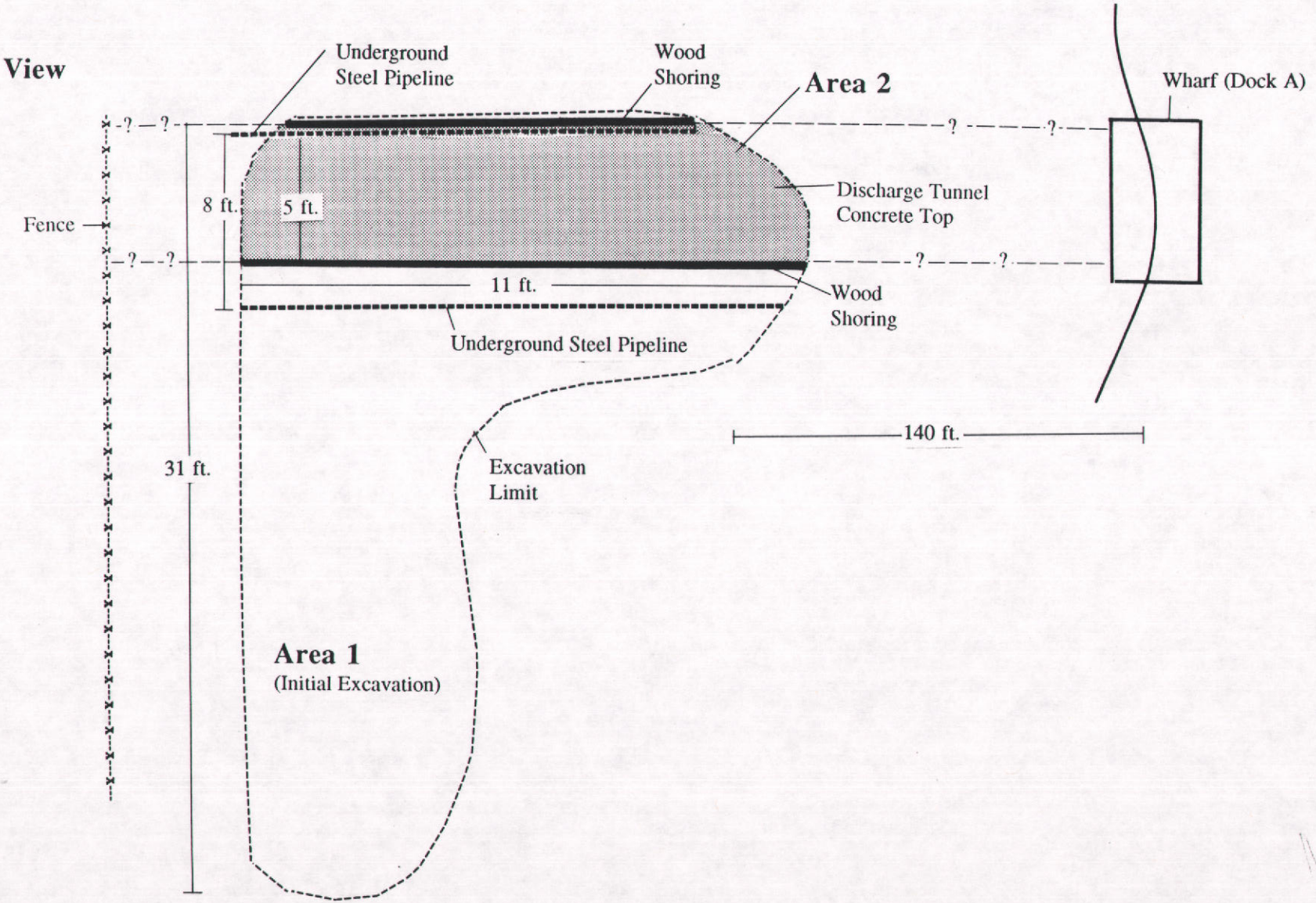
B. (Looking south) view of south trench wall, 28 August 1995.

EXCAVATION - UP1
UNDERGROUND PIPELINE EXPLORATION

BASELINE

DISCHARGE TUNNEL EXCAVATION DETAILS

Figure 5



EXCAVATION - DT1

Scale as Indicated

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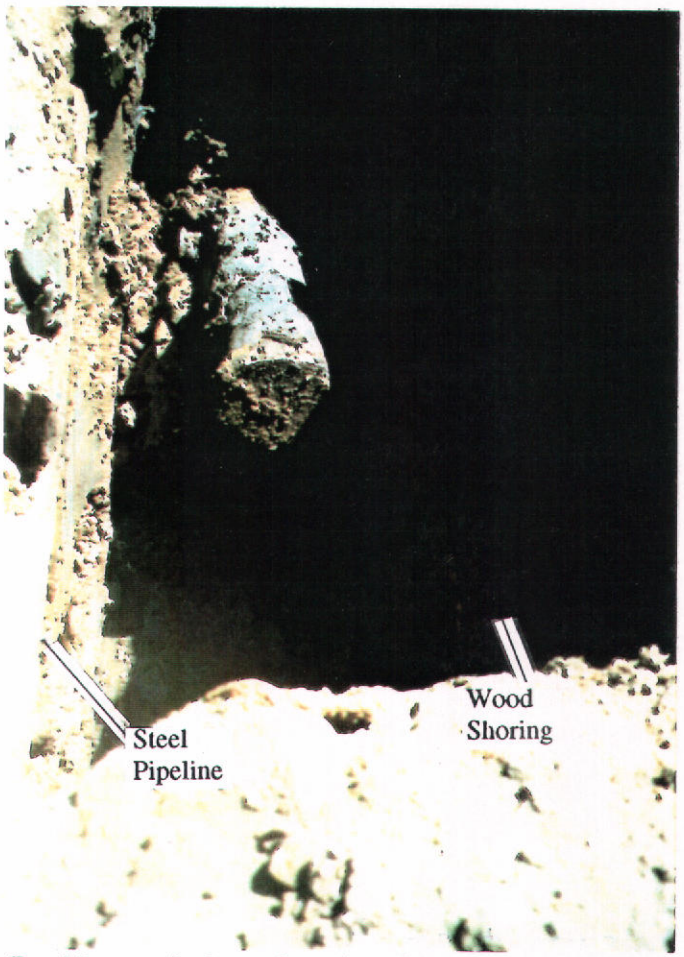
S9171-CO 9/13/95

PHOTOGRAPHS
August 1995

Figure 6

Area 2
Excavation
(Location of
Discharge Tunnel)

A. (Looking northeast) view of L-shaped trench, and 2 underground steel pipelines, 28 August 1995.



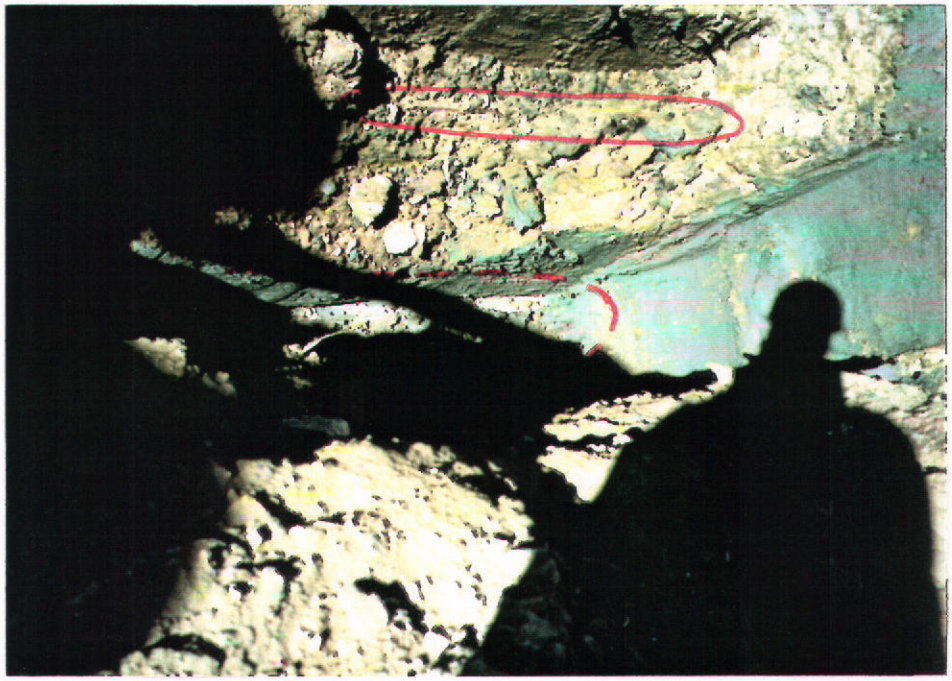
B. (Looking east) view of north and south trench walls of area 2; wood shoring visible along south wall; steel pipeline visible along north wall; concrete top of discharge tunnel visible, 28 August 1995.

EXCAVATION - DT1
DISCHARGE TUNNEL

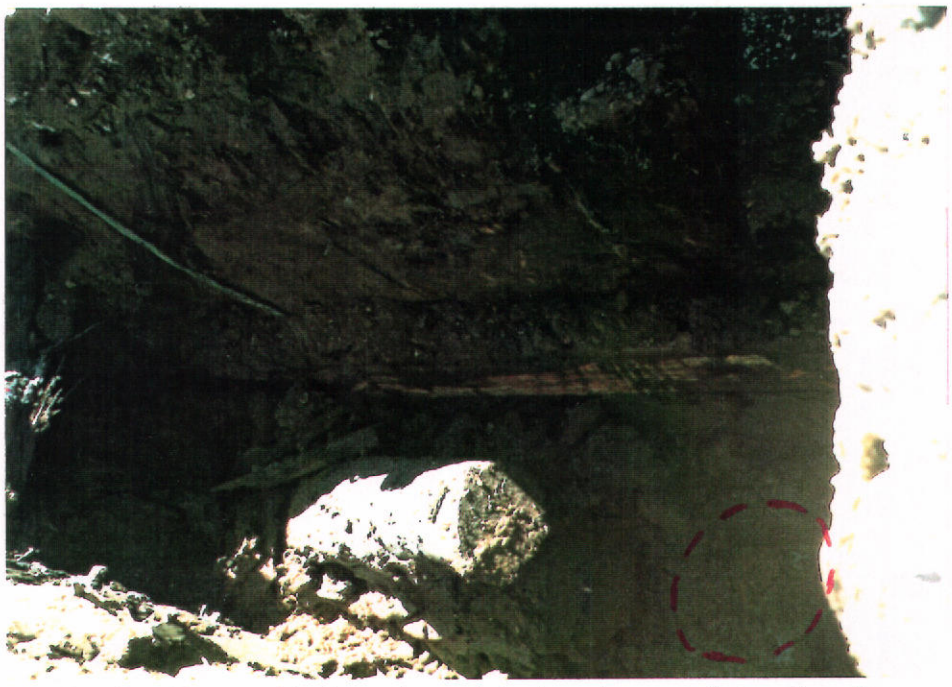
BASELINE

PHOTOGRAPHS
August 1995

Figure 7



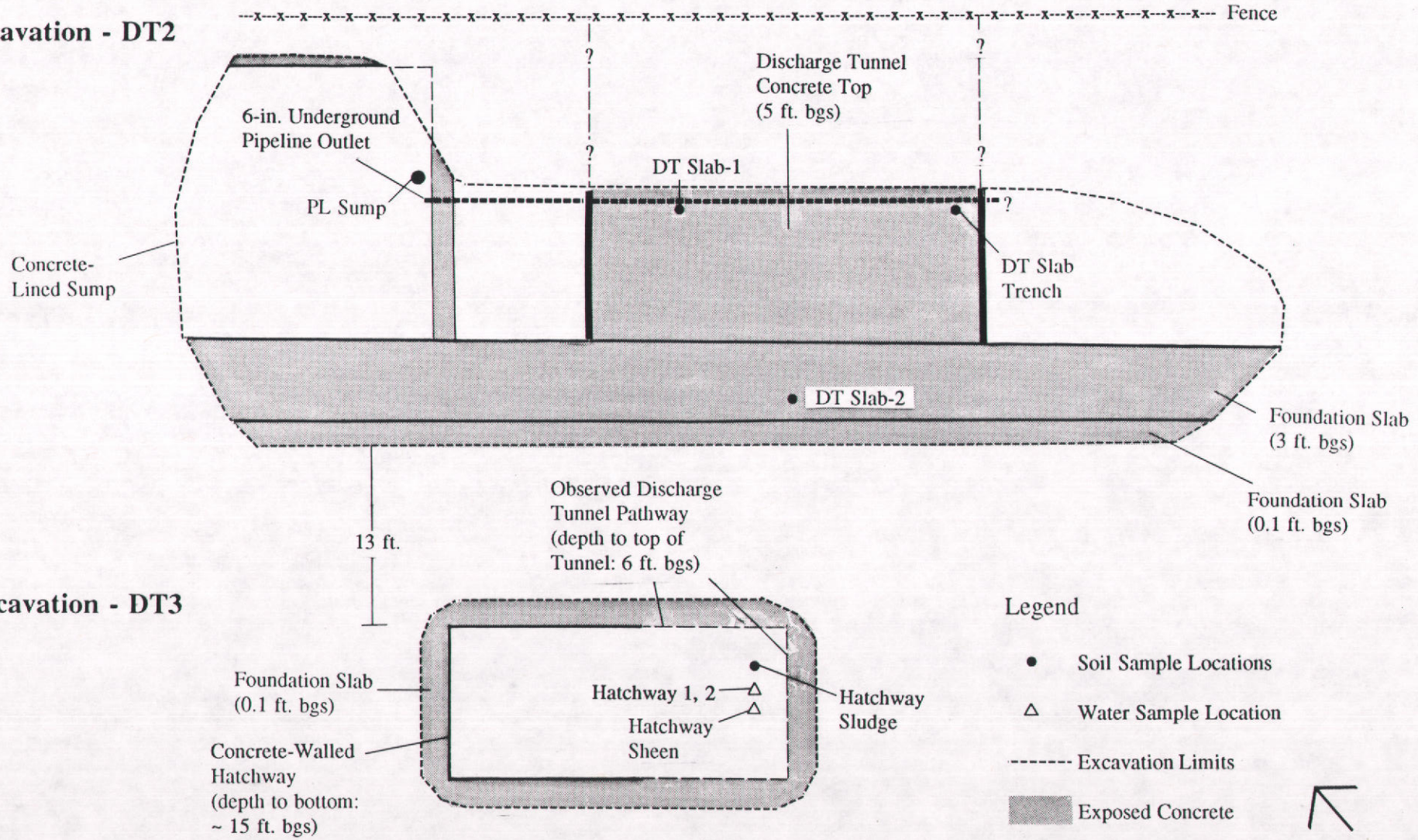
A. (Looking southwest) view of concrete top of discharge tunnel (dashed circle), outline of wood shoring (solid circle) along south trench wall, 28 August 1995.



B. (Looking south) view of wood shoring along south trench wall, and concrete top of discharge tunnel at bottom of trench (circled), 28 August 1995.

DISCHARGE TUNNEL EXCAVATION DETAILS

Figure 8



EXCAVATION - DT2 AND DT3 PLAN VIEW

Note: DT Slab Trench Residue Sample collected throughout Excavation-DT2 Trench at areas above the discharge tunnel concrete top.

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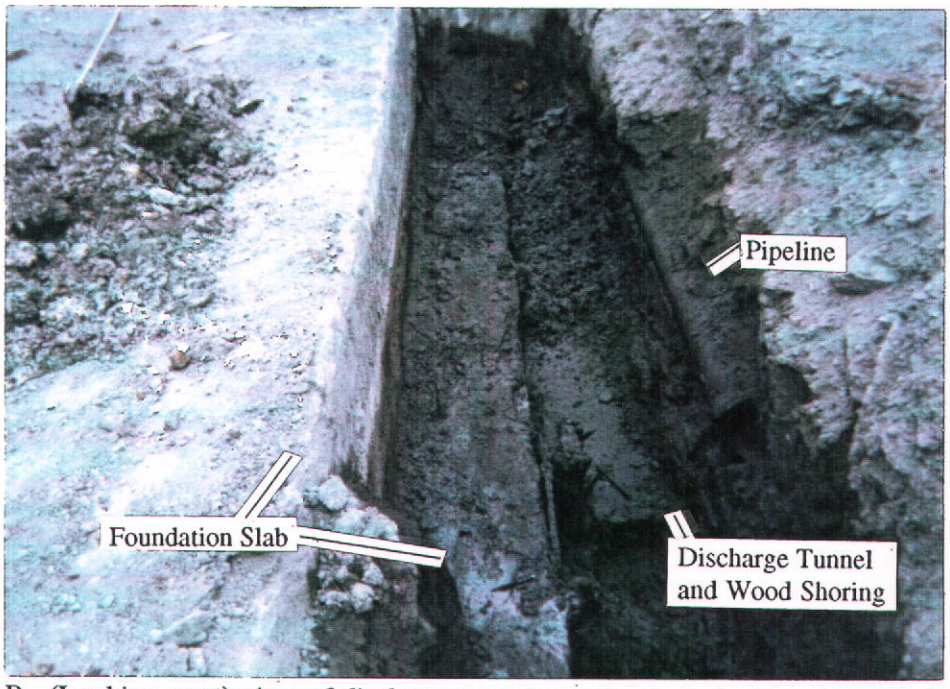
S9171-CO 9/13/95

PHOTOGRAPHS
August 1995

Figure 9

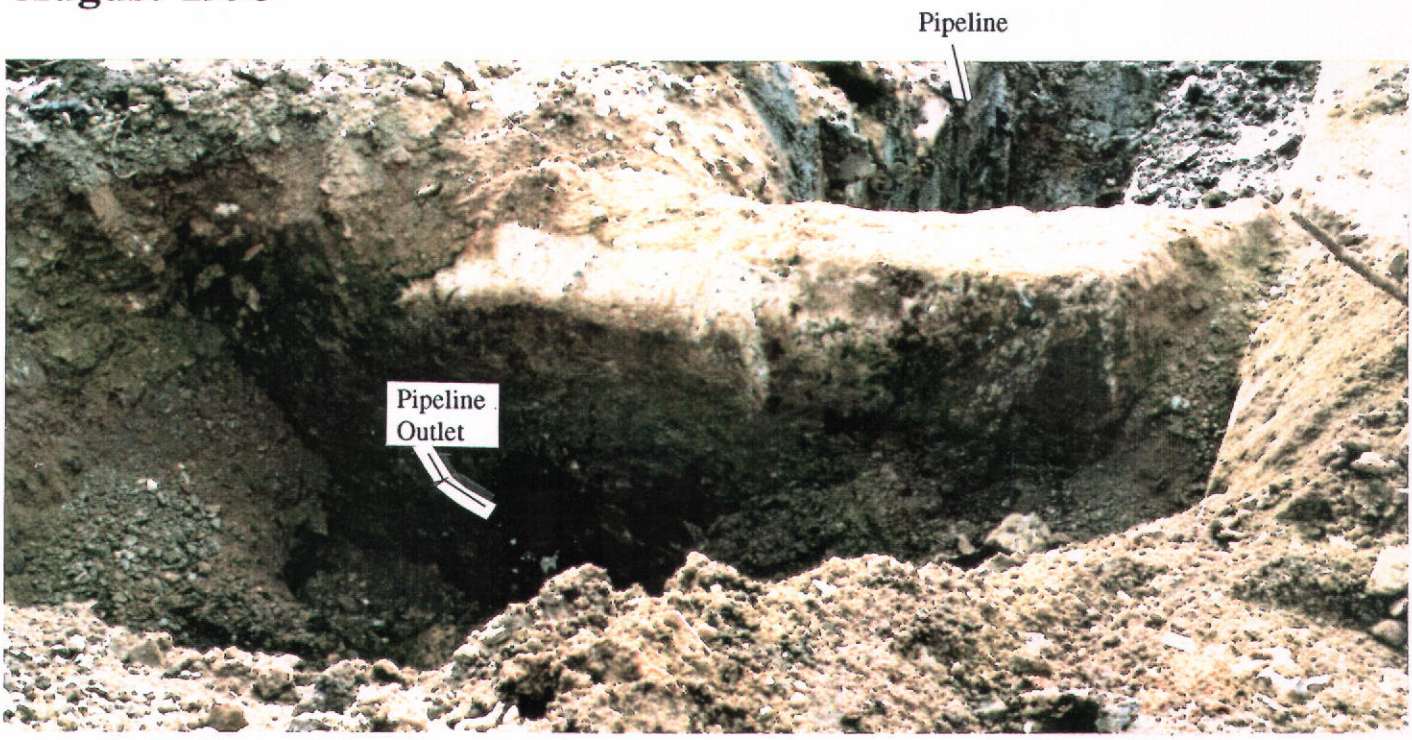
A. (Looking northeast) view of concrete-lined sump and portion of discharge tunnel trench to the right, 11 September 1995.



B. (Looking west) view of discharge tunnel trench, steel pipeline along north wall, foundation slab of former power generating plant along south trench wall, formation of discharge tunnel, 11 September 1995.

PHOTOGRAPHS
August 1995

Figure 10



A. (Looking east) view of concrete sump east wall, pipeline, and outlet, 31 August 1995.

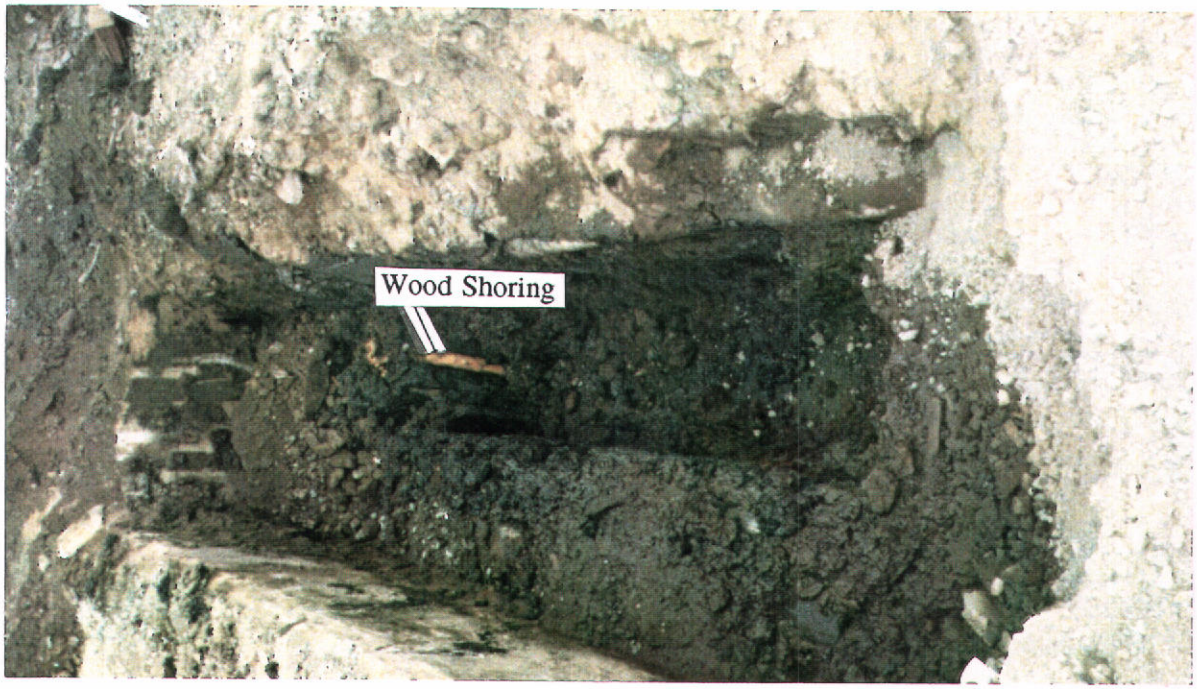
B. Excavated soils from sump, 31 August 1995.

EXCAVATION - DT2
SUMP

PHOTOGRAPHS
August 1995

Figure 11

A. (Looking northeast) view of discharge tunnel trench north wall and pipeline during low tide; visible staining (groundwater residue) along trench wall, 1 September 1995.



B. (Looking west) wood shoring visible during early excavation activities, 31 August 1995.

PHOTOGRAPHS
August 1995

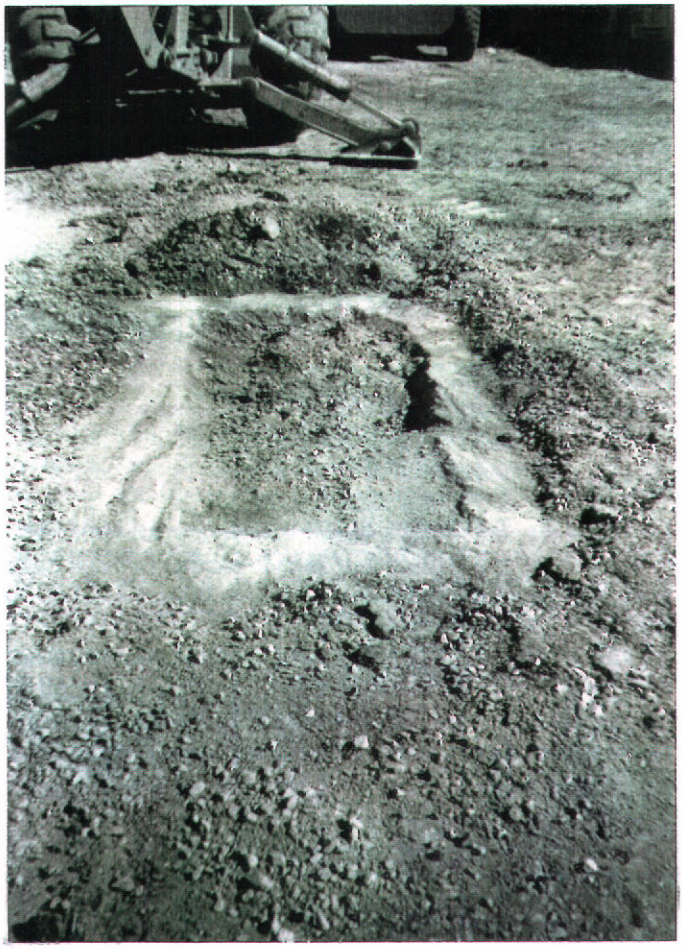
Figure 12

A. View of groundwater in discharge tunnel during high tide; product and an oily sheen visible on groundwater surface, 31 August 1995.

B. View of groundwater in discharge tunnel during high tide; product and an oily sheen visible on groundwater surface, 31 August 1995.

PHOTOGRAPHS
August 1995

Figure 13

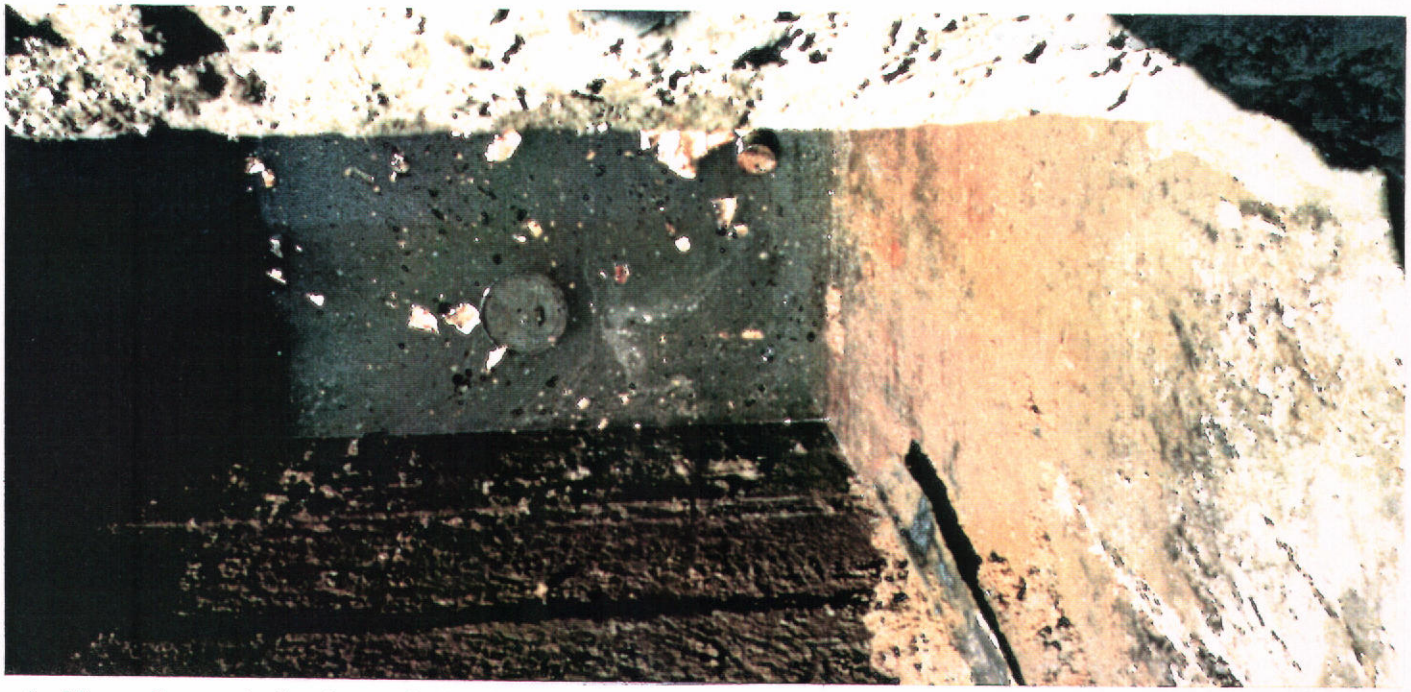


A. (Looking east) view of hatchway and foundation slab of former power generating plant, 31 August 1995.

B. (Looking east) view of hatchway, 31 August 1995.

PHOTOGRAPHS
August 1995

Figure 14



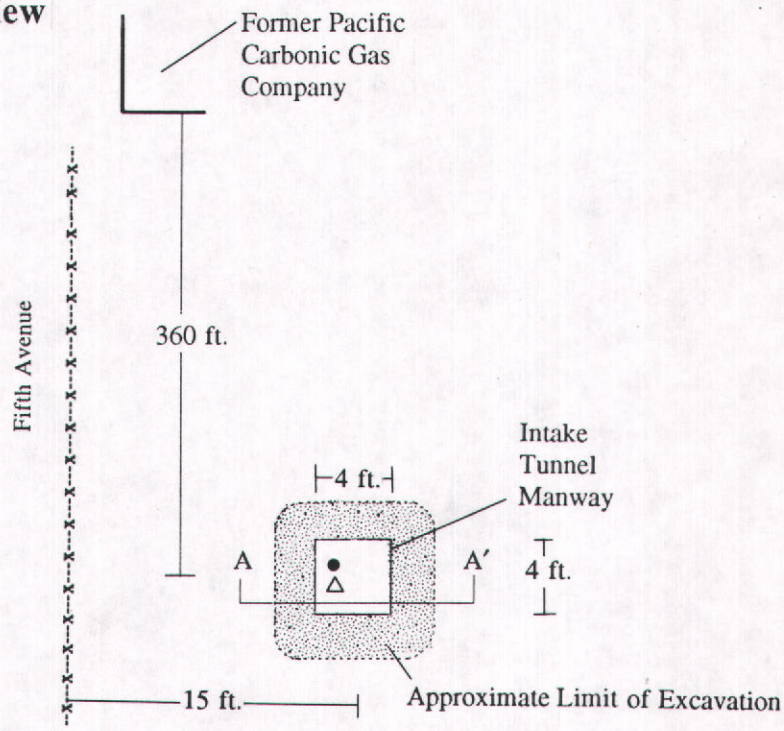
A. View of water in hatchway during high tide, 31 August 1995.

B. View of water in hatchway during low tide; top portion of discharge tunnel visible at northwest corner, 1 September 1995.

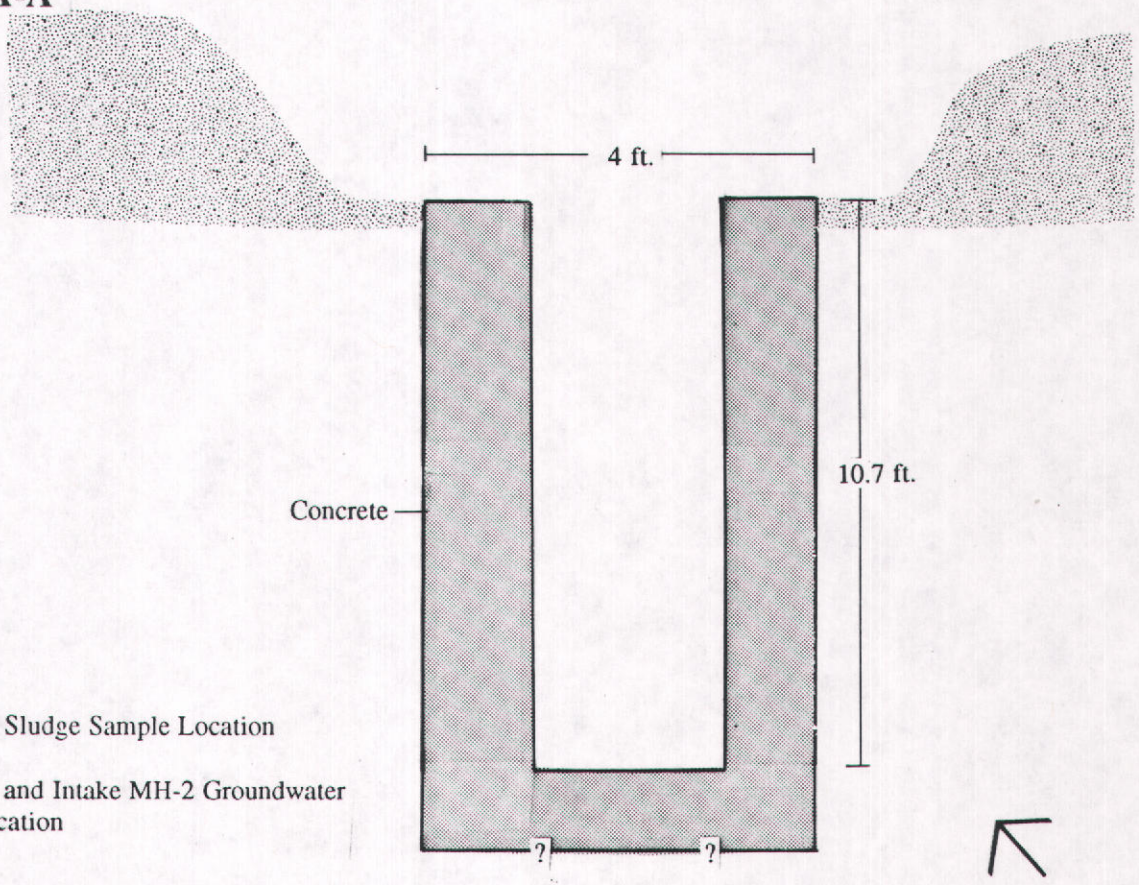
INTAKE TUNNEL EXCAVATION DETAILS

Figure 15

Plan View



Cross Section A-A′



Legend

- ● Intake MH Sludge Sample Location
- △ Intake MH and Intake MH-2 Groundwater Sample Location

EXCAVATION -IT1
INTAKE TUNNEL MANWAY

Scale as Indicated

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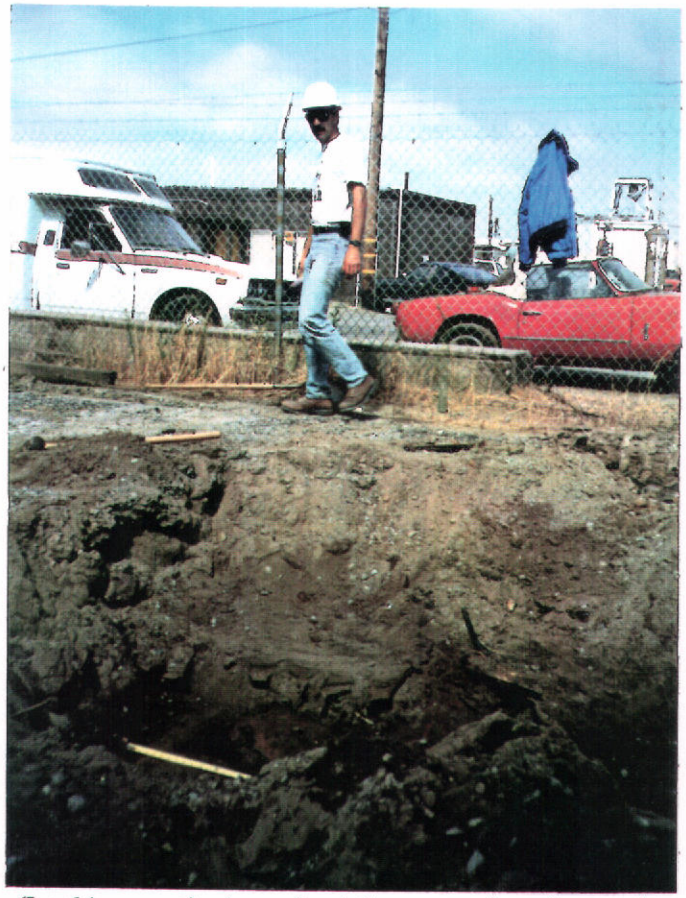
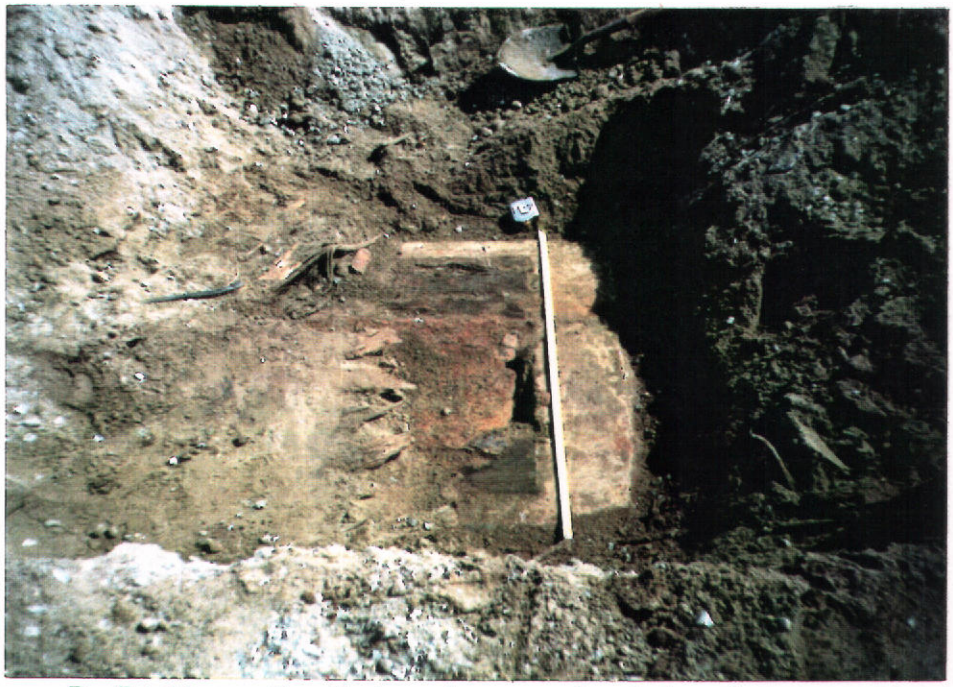
S9171-CO 9/12/95

PHOTOGRAPHS
August 1995

Figure 16



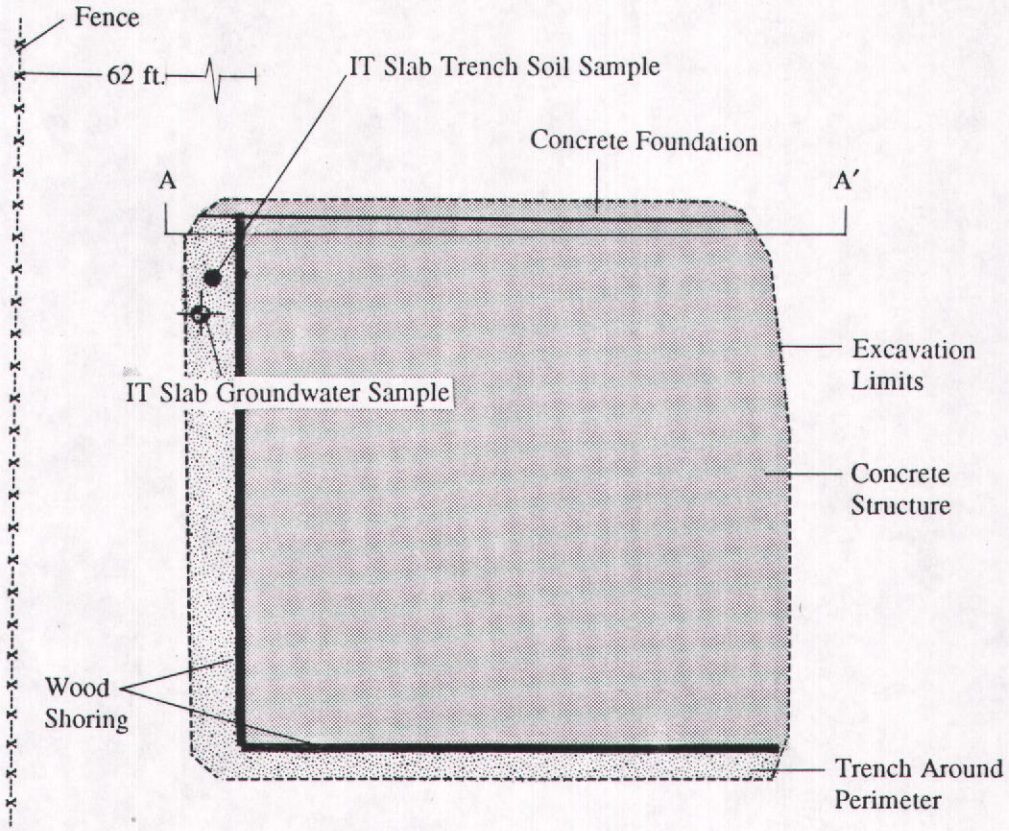
A. (Looking west) view of existing ground surface and top of intake tunnel manway, 30 August 1995.



B. (Looking northeast) view of concrete foundation of manway and cover, 30 August 1995.

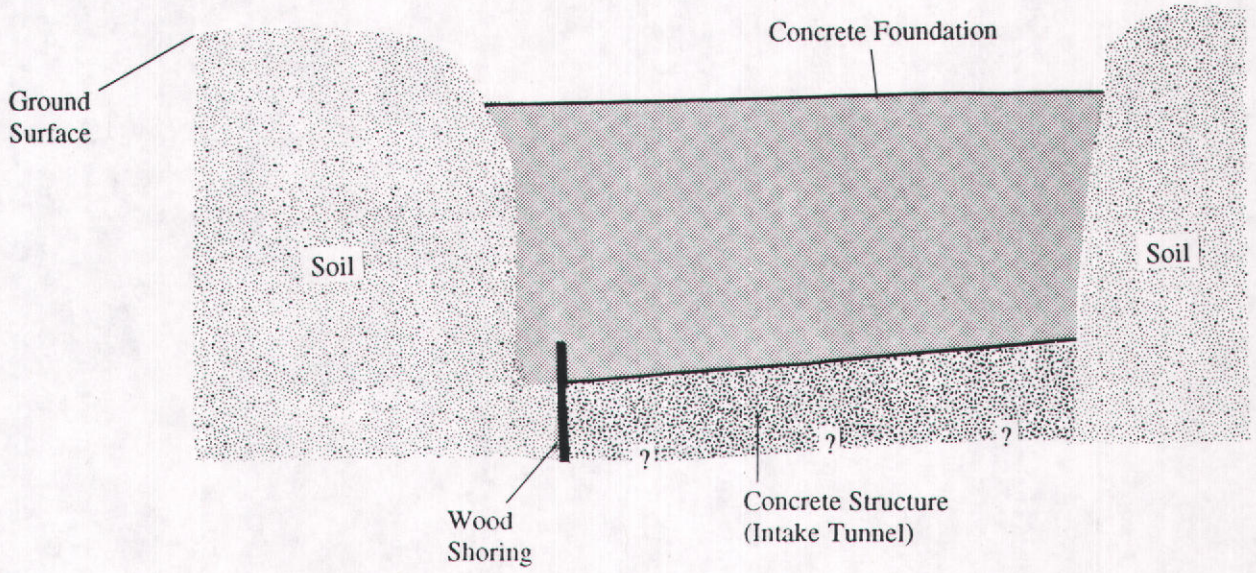
INTAKE TUNNEL EXCAVATION DETAILS

Figure 17



Plan View

Cross Section A-A′



Legend

---------- Excavation Limits

Concrete

0 3 Feet

EXCAVATION - IT2

BASELINE

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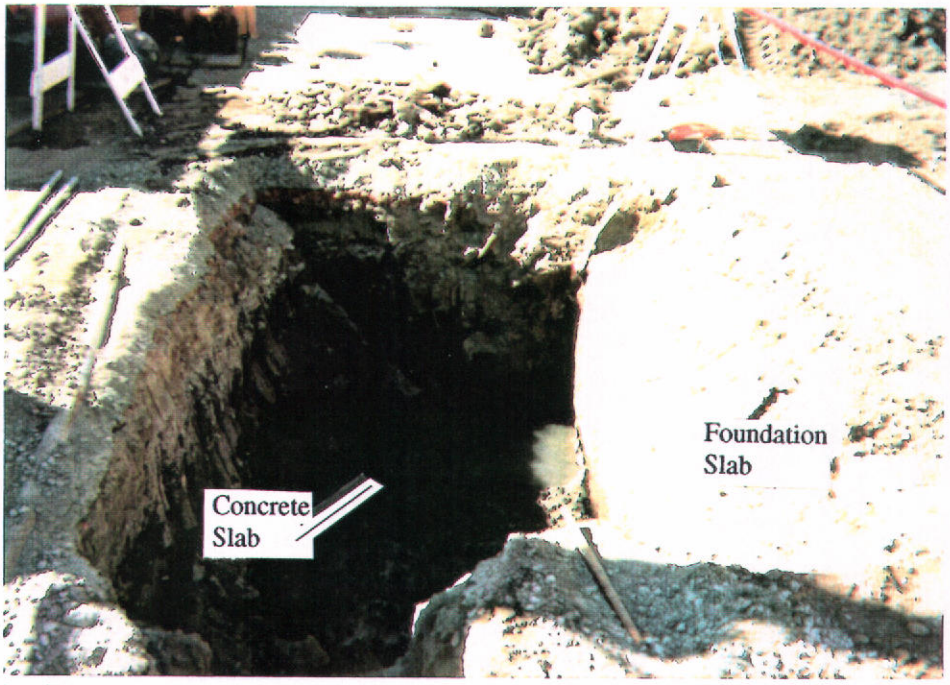
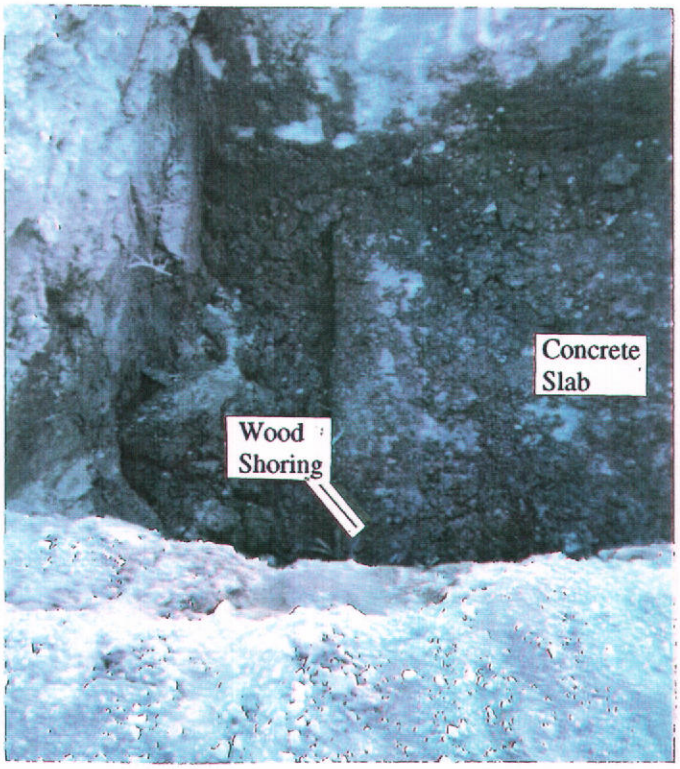


A. (Looking west) view of foundation slab of former power generating plant along north trench wall, concrete slab, and groundwater, 6 September 1995.



B. (Looking north) view of foundation slab, concrete slab, and wood shoring, 11 September 1995.

DRILLING LOG

Location	Seabreeze, 280 6th Avenue, Oakland	Boring no.	S-1
Driller	Gregg Drilling	Project no.	S9171-C0
Method	Hollow-stem auger	Date	8/11/95
Logger	WKS Datum	Bore size 4"	Casing size

Depth (ft.)	Graphic	Lithology	Notes
0	GW	Olive, GRAVEL (Baserock).	
1	SW	Brown, SAND with gravel, fine- to medium-grained, moist (Fill).	
2		Decrease in gravel.	HNu = 0 ppm in breathing zone. HNu = 0 ppm in sample.
3		Increase in moisture.	
4		Total Depth = 3.5 feet.	
5			
6			
7			
8			
9			
10			

S9171895.XLW (8/22/95)

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DRILLING LOG

Location	Seabreeze, 280 6th Avenue, Oakland	Boring no.	S-2
Driller	Gregg Drilling	Project no.	S9171-C0
Method	Hollow-stem auger	Date	8/11/95
Logger	WKS Datum	Bore size 4"	Casing size

Depth (ft.)	Graphic	Lithology	Notes
0	GW	Olive, GRAVEL, baserock (Fill).	HNu = 0 ppm in breathing zone. HNu = 12 ppm in borehole.
1	SW	Dark brown, SAND with gravel, fine- to medium-grained, brick pieces, damp (Fill).	Hit wood; moved east 3 feet; hit cement at 2 feet; abandoned location.
2			Relocated 6 feet east and 10 feet south of original boring; drilled down to 2 feet; continued field log.
3	CH	Greenish gray, silty CLAY, high plasticity, wood fragments, wet (Bay mud). Total depth = 3.5 feet.	
4			
5			
6			
7			
8			
9			
10			

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DRILLING LOG

Location	Seabreeze, 280 6th Avenue, Oakland	Boring no.	S-3
Driller	Gregg Drilling	Project no.	S9171-C0
Method	Hollow-stem auger	Date	8/11/95
Logger	WKS Datum	Bore size 4"	Casing size

Depth (ft.)	Graphic	Lithology	Notes
0	GW	Olive, GRAVEL with sand, 1/3- to 1-inch diameter subangular clasts, damp (Fill).	HNu = 0 ppm in breathing zone. HNu = 0 ppm in sample.
1			
2	SW	Brown, SAND, fine- to medium-grained, damp to moist (Fill).	
3	CL/SC	Greenish gray, clayey SAND/sandy CLAY, medium- to fine-grained, wet (Fill). Total depth = 3.0 feet.	
4			
5			
6			
7			
8			
9			
10			

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DRILLING LOG

Location	Seabreeze, 280 6th Avenue, Oakland	Boring no.	S-4
Driller	Gregg Drilling	Project no.	S9171-C0
Method	Hollow-stem auger	Date	8/11/95
Logger	WKS Datum	Bore size 4"	Casing size

Depth (ft.)	Graphic	Lithology	Notes
0	GW	Olive, GRAVEL, baserock (Fill).	HNu = 0 ppm in breathing zone. HNu = 0 ppm in borehole.
1	SW	Yellowish-brown, SAND, medium- to fine-grained, moist (Fill).	
2			
3	SC/CL	Greenish gray, sandy CLAY/clayey SAND, medium plasticity, very fine-grained, moist (Fill).	
		Total depth = 3.5 feet.	
4			
5			
6			
7			
8			
9			
10			

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DRILLING LOG

Location	Seabreeze, 280 6th Avenue, Oakland	Boring no.	S-5
Driller	Gregg Drilling	Project no.	S9171-C0
Method	Hollow-stem auger	Date	8/11/95
Logger	WKS Datum	Bore size 4"	Casing size

Depth (ft.)	Graphic	Lithology	Notes
0			
	GW	Olive, GRAVEL, baserock (Fill).	HNu = 0 ppm in breathing zone. HNu = 0 ppm in sample.
1	SW	Yellowish-brown, SAND, fine- to medium-grained, damp (Fill).	
2			
3		Total depth = 3.5 feet.	
4			
5			
6			
7			
8			
9			
10			

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DRILLING LOG

Location	Seabreeze, 280 6th Avenue, Oakland	Boring no.	S-6
Driller	Gregg Drilling	Project no.	S9171-C0
Method	Hollow-stem auger	Date	8/11/95
Logger	WKS Datum	Bore size 4"	Casing size

Depth (ft.)	Graphic	Lithology	Notes
0	GW	Greenish gray and brown, GRAVEL, baserock (Fill).	HNu = 0 ppm in breathing zone. HNu = 10 ppm in ground.
1	SW	Yellowish brown, SAND, fine- to medium-grained, moist (Fill).	
2	SW	Dark brown to gray, SAND, with gravel and clay, moist (Fill).	Hit large gravel at 2.0 feet.
3	CH	Black with black clayey matrix, wood pieces (Bay mud(?)).	
4		Total depth = 3.5 feet.	
5			
6			
7			
8			
9			
10			

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DRILLING LOG

Location	Seabreeze, 280 6th Avenue, Oakland	Boring no.	S-7
Driller	Gregg Drilling	Project no.	S9171-C0
Method	Hollow-stem auger	Date	8/11/95
Logger	WKS Datum	Bore size 4"	Casing size

Depth (ft.)	Graphic	Lithology	Notes
0	GW	Olive, GRAVEL (Baserock).	
1	SW	Dark brown, SAND, fine- to coarse-grained, moist (Fill).	HNu = 0 ppm in breathing zone. HNu = 0 ppm at sample.
2			
3		Brick layer at 3.0 feet.	
4	CH	Greenish gray, silty CLAY, high plasticity, wood pieces, wet (Bay mud). Total depth = 3.5 feet.	
5			
6			
7			
8			
9			
10			

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DRILLING LOG

Location	Seabreeze, 280 6th Avenue, Oakland	Boring no.	S-8
Driller	Gregg Drilling	Project no.	S9171-C0
Method	Hollow-stem auger	Date	8/11/95
Logger	WKS Datum	Bore size 4"	Casing size

Depth (ft.)	Graphic	Lithology	Notes
0			
	CL/SC	Black, clayey SAND/sandy CLAY, trace gravel, fine- to medium-grained, low plasticity, moist (Fill).	HNu = 0 ppm in breathing zone. HNu = 0 ppm in sample.
1			
2			
3	CH	Greenish gray, silty CLAY, high plasticity, rootlets, very moist to wet (Bay mud).	
4			
5			
6			
7			
8			
9			
10			

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DRILLING LOG

Location	Seabreeze, 280 6th Avenue, Oakland	Boring no.	S-9
Driller	Gregg Drilling	Project no.	S9171-C0
Method	Hollow-stem auger	Date	8/11/95
Logger	WKS Datum	Bore size 4"	Casing size

Depth (ft.)	Graphic	Lithology	Notes
0			
	GW	Olive, GRAVEL, baserock (Fill).	HNu = 0 ppm in breathing zone. HNu = 0 ppm in borehole.
1	SW	Dark brown, SAND with gravel, 1/3- to 3/4-inch diameter, fine- to medium-grained, brick and concrete pieces, moist (Fill).	
2			
3		Total depth = 3.5 feet.	
4			
5			
6			
7			
8			
9			
10			

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DRILLING LOG

Location	Seabreeze, 280 6th Avenue, Oakland	Boring no.	S-11
Driller	Gregg Drilling	Project no.	S9171-C0
Method	Hollow-stem auger	Date	8/11/95
Logger	WKS Datum	Bore size 4"	Casing size

Depth (ft.)	Graphic	Lithology	Notes
0	GW	Olive, GRAVEL, baserock (Fill).	HNu = 0 ppm in breathing zone. HNu = 0 ppm in sample.
1	SW	Dark brown/olive browh, SAND with clay, fine- to medium-grained, damp (Fill).	
2			
3			
4	SC/CL	Greenish gray/black, clayey SAND/sandy CLAY, high plasticity, moist.	
5		Total depth = 3.5 feet.	
6			
7			
8			
9			
10			

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DRILLING LOG

Location	Seabreeze, 280 6th Avenue, Oakland	Boring no.	S-12
Driller	Gregg Drilling	Project no.	S9171-C0
Method	Hollow-stem auger	Date	8/11/95
Logger	WKS Datum	Bore size 4"	Casing size

Depth (ft.)	Graphic	Lithology	Notes
0	GW	Olive, GRAVEL (Baserock).	HNu = 0 ppm in breathing zone. HNu = 0 ppm in borehole.
1	SW-GW	Brown, GRAVEL (Baserock).	
2	SW	Yellowish-brown, SAND, fine- to medium-grained, damp (Fill).	
	GW	Dark gray, GRAVEL with sand, trace of clay, 1/3- to 3/4-inch diameter subangular clasts, brick pieces, concrete pieces (Fill).	
3	SP	Gray, SAND, trace of clay, fine-grained, damp (Fill).	No recovery at 3-4 foot sample. Moved one foot south, drilled down to depth, and sampled 3-4 foot range.
4	CH	Greenish-gray, silty CLAY, high plasticity, wood pieces, rootlets, shell fragments (Bay mud).	
5			
6			
7		Total depth = 7.0 feet.	
8			
9			
10			

S9171895.XLW (8/22/95)

BASELINE · 5900 Hollis Street, Suite D · Emeryville, CA 94608 · (510) 420-8686 · Fax (510) 420-1707

APPENDIX B

LABORATORY REPORT

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

Baseline Environmental
5900 Hollis Street
Suite D
Emeryville, CA 94608

Date: 23-AUG-95
Lab Job Number: 122169
Project ID: S9171-CO
Location: Seabreeze

Reviewed by: _____

Reviewed by: _____

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/15/95
DATE ANALYZED: 08/21/95
DATE REPORTED: 08/23/95
BATCH NO: 22631

Extractable Petroleum Hydrocarbons in Soils & Wastes
California DOHS Method
LUFT Manual October 1989

LAB ID	SAMPLE ID	DIESEL RANGE (mg/Kg)	MOTOR OIL RANGE (mg/Kg)	BUNKER C RANGE (mg/Kg)
122169-001	S-1 @ 2'	ND(1.0)	ND(25)	ND(25)
122169-002	S-1 @ 3'	11*	**	170*
122169-003	S-2 @ 2'	85*	**	2,700*
122169-004	S-2 @ 3'	40*	**	360*
122169-005	S-3 @ 2'	150*	220*	**
122169-006	S-3 @ 3'	560*	630*	**
122169-007	S-4 @ 2'	1.5*	ND(25)	ND(25)
METHOD BLANK	N/A	ND(1.0)	ND(25)	ND(25)

ND = Not detected at or above reporting limit; reporting limit indicated in parentheses.

* Sample chromatogram does not resemble hydrocarbon standard.

** Not reported due to overlap of hydrocarbon ranges.

QA/QC SUMMARY: MS/MSD of sample No:122056-003

RPD,%	8
RECOVERY, %	101

Curtis & Tompkins, Ltd

LABORATORY NUMBER: 122169
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/19/95
DATE ANALYZED: 08/21-23/95
DATE REPORTED: 08/23/95
BATCH NO: 22731

Extractable Petroleum Hydrocarbons in Soils & Wastes
California DOHS Method
LUFT Manual October 1989

LAB ID	SAMPLE ID	DIESEL RANGE (mg/Kg)	MOTOR OIL RANGE (mg/Kg)	BUNKER C RANGE (mg/Kg)
122169-008	S-4 @ 3'	1,400	ND(625)	**
122169-009	S-5 @ 2'	7.9*	**	83*
122169-010	S-5 @ 3'	ND(1.0)	ND(25)	ND(25)
122169-011	S-6 @ 2'	67*	250*	**
122169-012	S-6 @ 3'	580*	1,700*	**
122169-014	S-7 @ 2'	1,700*	**	30,000*
122169-015	S-7 @ 3'	110*	**	770*
122169-016	S-8 @ 2'	22*	**	450*
122169-017	S-8 @ 3'	11*	**	99*
122169-018	S-9 @ 2'	ND(1.0)	ND(25)	32*
122169-019	S-9 @ 3'	24	**	90*
122169-021	S-11 @ 2'	18*	**	850*
122169-022	S-11 @ 3'	130*	**	20,000*
122169-024	S-12 @ 2'	6.1*	**	950*
122169-025	S-12 @ 3'	73*	**	490*
METHOD BLANK	N/A	ND(1.0)	ND(25)	ND(25)

ND = Not detected at or above reporting limit; reporting limit indicated in parentheses.

* Sample chromatogram does not resemble hydrocarbon standard.

** Not reported due to overlap of hydrocarbon ranges.

QA/QC SUMMARY:

LCS RECOVERY, %	81

CLIENT: Baseline Environmental
PROJECT ID: S9171-CO
LOCATION: Seabreeze
MATRIX: Soil

DATE REPORTED: 08/23/95

Metals Analytical Report

				Copper				
Sample ID	Lab ID	Sample Date	Receive Date	Result (mg/Kg)	Reporting Limit (mg/Kg)	QC Batch	Method	Analysis Date
S-12 @ 6'	122169-013	08/11/95	08/11/95	30	0.50	22602	EPA 6010A	08/15/95
S-11 @ 1'	122169-020	08/11/95	08/11/95	28	0.49	22602	EPA 6010A	08/15/95
S-11 @ 3'	122169-022	08/11/95	08/11/95	50	0.49	22602	EPA 6010A	08/15/95
S-12 @ 1'	122169-023	08/11/95	08/11/95	5.4	0.49	22602	EPA 6010A	08/15/95
S-12 @ 4'	122169-026	08/11/95	08/11/95	36	0.48	22602	EPA 6010A	08/15/95

Curtis & Tompkins, Ltd.

CLIENT: Baseline Environmental
PROJECT ID: S9171-CO
LOCATION: Seabreeze
MATRIX: Soil

DATE REPORTED: 08/23/95

Metals Analytical Report

				Lead				
Sample ID	Lab ID	Sample Date	Receive Date	Result (mg/Kg)	Reporting Limit (mg/Kg)	QC Batch	Method	Analysis Date
S-12 @ 6'	122169-013	08/11/95	08/11/95	13	0.15	22602	EPA 6010A	08/15/95
S-11 @ 1'	122169-020	08/11/95	08/11/95	150	0.15	22602	EPA 6010A	08/15/95
S-11 @ 3'	122169-022	08/11/95	08/11/95	210	0.15	22602	EPA 6010A	08/15/95
S-12 @ 1'	122169-023	08/11/95	08/11/95	7.4	0.15	22602	EPA 6010A	08/15/95
S-12 @ 4'	122169-026	08/11/95	08/11/95	79	0.14	22602	EPA 6010A	08/15/95

Curtis & Tompkins, Ltd.

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-021
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-11 @ 2'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/17/95
DATE ANALYZED: 08/20/95
DATE REPORTED: 08/23/95
BATCH NO: 22678

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	200	20
AROCLOR 1260	290	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %	
Decachlorobiphenyl	106

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-022
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-11 @ 3'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/17/95
DATE ANALYZED: 08/20/95
DATE REPORTED: 08/23/95
BATCH NO: 22678

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	ND	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %	
Decachlorobiphenyl	110

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-024
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-12 @ 2'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/17/95
DATE ANALYZED: 08/20/95
DATE REPORTED: 08/23/95
BATCH NO: 22678

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	ND	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %	
Decachlorobiphenyl	119

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd

LABORATORY NUMBER: 122169-025
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-12 @ 3'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/17/95
DATE ANALYZED: 08/20/95
DATE REPORTED: 08/23/95
BATCH NO: 22678

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	ND	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %	
Decachlorobiphenyl	115

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-Method Blank
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: MB

DATE EXTRACTED: 08/16/95
DATE ANALYZED: 08/19/95
DATE REPORTED: 08/23/95
BATCH NO: 22620

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	ND	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %

Decachlorobiphenyl	107

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-Method Blank
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: MB

DATE EXTRACTED: 08/17/95
DATE ANALYZED: 08/19/95
DATE REPORTED: 08/23/95
BATCH NO: 22678

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	ND	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %

Decachlorobiphenyl	111

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

SOIL POLYCHLORINATED BIPHENYL LCS RECOVERY

Lab Name: Curtis & Tompkins, Ltd. SDG No.: N/A

Instrument ID: HP5880_GC01 Run Date(s): 8/19/95 – 8/19/95

Batch No: 22678

COMPOUND	SPIKE ADDED (ug/Kg)	SPIKE CONC. (ug/Kg)	% REC	#	QC LIMITS REC.
Aroclor 1260	220	185	84		50–140

DCB RECOVERY: 116% (QC LIMIT: 60%–150%)

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 2 outside QC limits

COMMENTS: _____

Curtis & Tompkins, Ltd.

SOIL POLYCHLORINATED BIPHENYL MATRIX SPIKE/ MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Curtis & Tompkins, Ltd. SDG No.: N/A

Instrument ID: HP5880_GC01 Run Date: 8/19/95 - 8/19/95

Matrix Spike - EPA Sample No.: 122169-001 Batch No.: 22620

%Moisture: N/A

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONC. (ug/Kg)	MS CONC. (ug/Kg)	MS % REC	#	QC LIMITS REC.
Aroclor 1260	220	0	173	79		50-140

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONC. (ug/Kg)	MSD % REC	#	% RPD	#	QC LIMITS RPD	REC.
Aroclor 1260	220	176	80		2		25	50-140

SURROGATE RECOVERY: QC LIMIT: 60%-150%

MS: 98%
MSD: 104%

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 1 outside of QC limits
Spike Recovery: 0 out of 2 outside of QC limits

COMMENTS:

BASELINE CHAIN OF CUSTODY RECORD 18169

5900 Hollis Street, Suite D
Emeryville, CA 94608
(510) 420-8686

Turn-around Time: 5 [illegible] TAT
Lab: Curtis & Tompkins
BASELINE Contact Person: Rhodora del Rosario

Project No.	Project Name and Location
59171-00	Seabreeze, 280 Colmar Ave, Oakland

Samplers: (Signature) Quedelrosario / William K. Scott

Sample ID No. Station	Date	Time	Media	Depth (Ft)	No. of Containers	TEH	(TPH with BTX&E)	Oil & Grease	Motor Oil (8015M)	PNAs	Total Title 22 Metals Cu (6010)	Total Lead (6010)	PCB (8080)	Bunker C (8015M) & Motor oil				Remarks/ Composite	Detection Limits
S-1	8/11/95	11:25	Soil	2	1				X				X	X					
S-1	8/11/95	11:25	Soil	3	1				X				X	X					
S-2	8/11/95	10:05	Soil	2	1				X				X	X					
S-2	8/11/95	10:05	Soil	3	1				X				X	X					
S-3	8/11/95	9:00	Soil	2	1				X				X	X					
S-3	8/11/95	9:00	Soil	3	1				X				X	X					
S-4	8/11/95	9:15	Soil	2	1				X				X	X					
S-4	8/11/95	9:15	Soil	3	1				X				X	X					
S-5	8/11/95	9:40	Soil	2	1				X				X	X					
S-5	8/11/95	9:40	Soil	3	1				X				X	X					
S-6	8/11/95	10:18	Soil	2	1				X				X	X					
S-6	8/11/95	10:18	Soil	3	1				X				X	X					
S-12	8/11/95	11:00	Soil	6	1						X	X							

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Conditions of Samples Upon Arrival at Laboratory:
Quedelrosario	8/11/95 12:15	[signature]	8/11/95 4155.	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Remarks: 5day TAT Need: PCB, Bunker C, Motor Oil Chromatograms.
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	

Curtis & Tompkins, Ltd.

SOIL POLYCHLORINATED BIPHENYL LCS RECOVERY

Lab Name: Curtis & Tompkins, Ltd. SDG No.: N/A

Instrument ID: HP5880_GC01 Run Date(s): 8/19/95 – 8/19/95

Batch No: 22620

COMPOUND	SPIKE ADDED (ug/Kg)	SPIKE CONC. (ug/Kg)	% REC	#	QC LIMITS REC.
Aroclor 1260	220	178	81		50–140

DCB RECOVERY: 108% (QC LIMIT: 60%–150%)

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 2 outside QC limits

COMMENTS: _____

BASELINE (1221)
5900 Hollis Street, Suite D
Emeryville, CA 94608
(510) 420-8686

CHAIN OF CUSTODY RECORD

Turn-around Time: 5 day TAT
Lab: curtis & Tompkins
BASELINE Contact Person: Rhodora Del Rosario

Project No.	Project Name and Location
92171-00	Seabreeze, 280 Lmars, Oakland

Samplers: (Signature) Rhodora Del Rosario / William K Isaacs

Sample ID No. Station	Date	Time	Media	Depth (ft)	No. of Containers	TEH	TPH with BTX&E	Oil & Grease	Motor Oil EPA 8015M	PNAs	Title 22 Metals (total Cd/Cr/Pb)	Total Lead (6010)	PCB (8080)	Bunker C EPA 8015M & Motor Oil				Remarks/ Composite	Detection Limits
S-7	8/11/95	12:20	Soil	2	1				X				X	X					
S-7	8/11/95	12:20	Soil	3	1				X				X	X					
S-8	8/11/95	12:52	Soil	2	1				X				X	X					
S-8	8/11/95	12:52	Soil	3	1				X				X	X					
S-9	8/11/95	12:10	Soil	2	1				X				X	X					
S-9	8/11/95	12:10	Soil	3	1				X				X	X					
S-11	8/11/95	11:50	Soil	1	1						X	X							
S-11	8/11/95		Soil	2	1				X		[illegible]		X	X					
S-11	8/11/95	11:50	Soil	3	1				X		X	X	X	X					
S-12	8/11/95	10:40	Soil	1	1						X	X							
S-12	8/11/95	10:40	Soil	2	1				X				X	X					
S-12	8/11/95	11:06	Soil	3	1				X				X	X					
S-12	8/11/95	11:06	Soil	4	1						X	X							

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Conditions of Samples Upon Arrival at Laboratory:
Rhodora Del Rosario	8/11/95 2:15	[signature]	8/11/95 4:55	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Remarks: 5 day TAT Need PCB, Bunker C, Motor Oil Chromatograms
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	

Curtis & Tompkins, Ltd

CLIENT: Baseline Environmental
JOB NUMBER: 122169

DATE REPORTED: 08/23/95

BATCH QC REPORT
BLANK SPIKE / BLANK SPIKE DUPLICATE

Compound	Spike Amount	BS Result	BSD Result	Units	BS % Recovery	BSD % Recovery	Average Recovery	RPD	QC Batch	Method	Analysis Date
Copper	250	258	261	ug/L	103	104	104	1	22602	EPA 6010A	08/15/95
Lead	500	492	500	ug/L	98	100	99	2	22602	EPA 6010A	08/15/95

Curtis & Tompkins, Ltd.

CLIENT: Baseline Environmental
JOB NUMBER: 122169

DATE REPORTED: 08/23/95

BATCH QC REPORT
PREP BLANK

Compound	Result	Reporting Limit	Units	QC Batch	Method	Analysis Date
Copper	ND	0.5	mg/Kg	22602	EPA 6010A	08/15/95
Lead	ND	0.15	mg/Kg	22602	EPA 6010A	08/15/95

ND = Not Detected at or above reporting limit

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-001
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-1 @ 2'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/16/95
DATE ANALYZED: 08/19/95
DATE REPORTED: 08/23/95
BATCH NO: 22620

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	ND	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %	
Decachlorobiphenyl	104

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd

LABORATORY NUMBER: 122169-002
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-1 @ 3'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/16/95
DATE ANALYZED: 08/19/95
DATE REPORTED: 08/23/95
BATCH NO: 22620

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	ND	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %	
Decachlorobiphenyl	112

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-003
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-2 @ 2'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/16/95
DATE ANALYZED: 08/19/95
DATE REPORTED: 08/23/95
BATCH NO: 22620

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	ND	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %	
Decachlorobiphenyl	101

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-004
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-2 @ 3'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/16/95
DATE ANALYZED: 08/19/95
DATE REPORTED: 08/23/95
BATCH NO: 22620

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	ND	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %	
Decachlorobiphenyl	86

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-005
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-3 @ 2'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/16/95
DATE ANALYZED: 08/19/95
DATE REPORTED: 08/23/95
BATCH NO: 22620

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	ND	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %	
Decachlorobiphenyl	94

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-006
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-3 @ 3'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/16/95
DATE ANALYZED: 08/19/95
DATE REPORTED: 08/23/95
BATCH NO: 22620

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	ND	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %

Decachlorobiphenyl	89

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-007
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-4 @ 2'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/16/95
DATE ANALYZED: 08/19/95
DATE REPORTED: 08/23/95
BATCH NO: 22620

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	ND	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %

Decachlorobiphenyl	113

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-008
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-4 @ 3'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/16/95
DATE ANALYZED: 08/19/95
DATE REPORTED: 08/23/95
BATCH NO: 22620

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	ND	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %	
Decachlorobiphenyl	110

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-009
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-5 @ 2'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/16/95
DATE ANALYZED: 08/19/95
DATE REPORTED: 08/23/95
BATCH NO: 22620

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	62	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %

Decachlorobiphenyl	120

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-010
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-5 @ 3'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/16/95
DATE ANALYZED: 08/19/95
DATE REPORTED: 08/23/95
BATCH NO: 22620

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	ND	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %

Decachlorobiphenyl	108

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-011
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-6 @ 2'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/16/95
DATE ANALYZED: 08/19/95
DATE REPORTED: 08/23/95
BATCH NO: 22620

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	21	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %

Decachlorobiphenyl	106

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-012
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-6 @ 3'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/16/95
DATE ANALYZED: 08/19/95
DATE REPORTED: 08/23/95
BATCH NO: 22620

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	ND	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %

Decachlorobiphenyl	108

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-014
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-7 @ 2'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/17/95
DATE ANALYZED: 08/19/95
DATE REPORTED: 08/23/95
BATCH NO: 22678

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	ND	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %	
Decachlorobiphenyl	98

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-015
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-7 @ 3'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/17/95
DATE ANALYZED: 08/19/95
DATE REPORTED: 08/23/95
BATCH NO: 22678

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	ND	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %	
Decachlorobiphenyl	93

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-016
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-8 @ 2'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/17/95
DATE ANALYZED: 08/20/95
DATE REPORTED: 08/23/95
BATCH NO: 22678

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	ND	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %	
Decachlorobiphenyl	107

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-017
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-8 @ 3'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/17/95
DATE ANALYZED: 08/20/95
DATE REPORTED: 08/23/95
BATCH NO: 22678

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	ND	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %	
Decachlorobiphenyl	105

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-018
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-9 @ 2'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/17/95
DATE ANALYZED: 08/20/95
DATE REPORTED: 08/23/95
BATCH NO: 22678

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	420	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %	
Decachlorobiphenyl	115

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 122169-019
CLIENT: BASELINE ENVIRONMENTAL
PROJECT ID: S9171-CO
LOCATION: SEABREEZE
SAMPLE ID: S-9 @ 3'

DATE SAMPLED: 08/11/95
DATE RECEIVED: 08/11/95
DATE EXTRACTED: 08/17/95
DATE ANALYZED: 08/20/95
DATE REPORTED: 08/23/95
BATCH NO: 22678

ANALYSIS: POLYCHLORINATED BIPHENYLS (PCBs)
ANALYSIS METHOD: EPA 8080
EXTRACTION METHOD: EPA 3550

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	20
AROCLOR 1232	ND	20
AROCLOR 1016	ND	20
AROCLOR 1242	ND	20
AROCLOR 1248	ND	20
AROCLOR 1254	ND	20
AROCLOR 1260	ND	20

ND = Not detected at or above reporting limit.

SURROGATE RECOVERY. %	
Decachlorobiphenyl	114

Surrogate recovery limits: 60%-130%

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

A N A L Y T I C A L R E P O R T

Prepared for:

Baseline Environmental
5900 Hollis Street
Suite D
Emeryville, CA 94608

Date: 13-SEP-95
Lab Job Number: 122465
Project ID: S9171-CO
Location: Seabreeze

Reviewed by: _____

Reviewed by: _____

Curtis & Tompkins, Ltd

TEH-Tot Ext Hydrocarbons

Client: Baseline Environmental
Project#: S9171-CO
Location: Seabreeze

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: LUFT

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
122465-001	HATCHWAY	23088	09/01/95	09/05/95	09/13/95	
122465-002	HATCHWAY SHEEN	23088	09/01/95	09/05/95	09/13/95	
122465-003	INTAKE MH	23088	09/01/95	09/05/95	09/13/95	

Analyte	Units	122465-001	122465-002	122465-003
Diln Fac:		1	1	1
Diesel Range	ug/L	330	1500 YH	2200 YH
Bunker C	ug/L	1200 YL	5100	6800 YL
Surrogate				
Hexacosane	%REC	134	130	117

Y: Sample exhibits fuel pattern which does not resemble standard
H: Heavier hydrocarbons than indicated standard
L: Lighter hydrocarbons than indicated standard

TEH-Tot Ext Hydrocarbons

Client: Baseline Environmental
Project#: S9171-CO
Location: Seabreeze

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: LUFT

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
122465-004	DT SLAB TRENCH RESD.	23125	09/01/95	09/06/95	09/12/95	

Analyte	Units	122465-004	
Diln Fac:		10	
Diesel Range	mg/Kg	2600	
Bunker C	mg/Kg	20000	H
Surrogate			
Hexacosane	%REC	DO	

H: Heavier hydrocarbons than indicated standard
DO: Surrogate diluted out

Curtis & Tompkins, Ltd

Lab #: 122465 BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client:	Baseline Environmental	Analysis Method:	CA LUFT (EPA 8015M)
Project#:	S9171-CO	Prep Method:	SHAKER TABLE
Location:	Seabreeze		

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID:	ZZZZZZ	Sample Date:	09/05/95
Lab ID:	122499-002	Received Date:	09/05/95
Matrix:	Soil	Prep Date:	09/06/95
Batch#:	23125	Analysis Date:	09/11/95
Units:	mg/Kg dry weight	Moisture:	44%
Diln Fac:	1		

MS Lab ID: QC03502

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Diesel Range	152.7	<2.976	67.86	67	50-150
Surrogate	%Rec	Limits			
Hexacosane	94	60-140			

MSD Lab ID: QC03503

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Diesel Range	152.7	70.89	70	50-150	4	<30
Surrogate	%Rec	Limits				
Hexacosane	98	60-140				

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

Curtis & Tompkins, Ltd

Lab #: 122465 BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client:	Baseline Environmental	Analysis Method:	CA LUFT (EPA 8015M)
Project#:	S9171-CO	Prep Method:	SHAKER TABLE
Location:	Seabreeze		

METHOD BLANK

Matrix:	Soil	Prep Date:	09/06/95
Batch#:	23125	Analysis Date:	09/11/95
Units:	mg/Kg		
Diln Fac:	1		

MB Lab ID: QC03500

Analyte	Result	
Diesel Range	<1.7	
Bunker C	<42	
Motor Oil Range	<42	
Surrogate	**%Rec**	**Recovery Limits**
Hexacosane	115	60-140

Curtis & Tompkins, Ltd.

Lab #: 122465

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Baseline Environmental
Project#: S9171-CO
Location: Seabreeze

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: 3520

METHOD BLANK

Matrix: Water
Batch#: 23088
Units: ug/L
Diln Fac: 1

Prep Date: 09/05/95
Analysis Date: 09/13/95

MB Lab ID: QC03343

Analyte	Result	
Diesel Range	<50	
Bunker C	<1300	
Surrogate	**%Rec**	**Recovery Limits**
Hexacosane	115	60-140

Curtis & Tompkins, Ltd

Lab #: 122465

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Baseline Environmental
Project#: S9171-CO
Location: Seabreeze

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: SHAKER TABLE

LABORATORY CONTROL SAMPLE

Matrix: Soil
Batch#: 23125
Units: mg/Kg
Diln Fac: 1

Prep Date: 09/06/95
Analysis Date: 09/11/95

LCS Lab ID: QC03501

Analyte	Result	Spike Added	%Rec #	Limits
Diesel Range	42.7	51.3	83	60-140
Surrogate	%Rec	Limits		
Hexacosane	129	60-140		

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 1 outside limits

Curtis & Tompkins, Ltd

Lab #: 122465 BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Baseline Environmental
Project#: S9171-CO
Location: Seabreeze

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 23088
Units: ug/L
Diln Fac: 1

Prep Date: 09/05/95
Analysis Date: 09/13/95

PS Lab ID: QC03344

Analyte	Spike Added	BS	%Rec #	Limits
Diesel Range	2565	2721	106	60-140
Surrogate	**%Rec**	**Limits**		
Hexacosane	118	60-140		

BSD Lab ID: QC03345

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel Range	2565	2716	106	60-140	0	<35
Surrogate	**%Rec**	**Limits**				
Hexacosane	122	60-140				

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

[redacted]

BASELINE
5900 Hollis Street, Suite D
Emeryville, CA 94608
(510) 420-8686

12295

CHAIN OF CUSTODY RECORD

Turn-around Time: 5 day TAT
Lab: CAT
BASELINE Contact Person: Rhonda Pellerin

Project No.	Project Name and Location
9171-CO	Seabreeze Site, Oakland

Samplers: (Signature) [signature] BASELINE

	Sample ID No. Station	Date	Time	Media	Depth	No. of Containers	Analysis: TEH - Bunker C	TPH with BTX&E	Oil & Grease	Motor Oil	PNAs	Title 22 Metals	Total Lead							Remarks/ Composite	Detection Limits
-1	Hatchway	9/1/95	9:30	GW		1 AG	X														
-2	Hatchway Sheen	9/1/95	10:30	GW		1 AG	X														
-3	Intake MH	9/1/95	11:00	GW		1 AG	X														
-4	DT Slab trench reading 9/1/95		11:30	Soil		1 8oz	X														

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Conditions of Samples Upon Arrival at Laboratory:
[signature]	9/1/95 5:30			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Remarks: provide chromatograms
Relinquished by: (Signature)	Date / Time	Received by: (Signature) [signature]	Date / Time 9/1/95 5:30p	

COSTRCDF.FM2

& Tompkins, Ltd., Analytical ... since 1978
2323 Fifth Street, Berkeley, CA 94710. Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

Baseline Environmental
5900 Hollis Street
Suite D
Emeryville, CA 94608

Date: 28-SEP-95
Lab Job Number: 122512
Project ID: S9171-CO
Location: Seabreeze

Reviewed by: _____

Reviewed by: _____

Curtis & Tompkins, Ltd

TEH-Tot Ext Hydrocarbons

Client: Baseline Environmental
Project#: S9171-CO
Location: Seabreeze

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: LUFT

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
122512-001	INTAKE MH SLUDGE	23201	09/06/95	09/12/95	09/17/95	
122512-002	IT SLAB TRENCH	23190	09/06/95	09/11/95	09/19/95	
122512-004	HATCHWAY SLUDGE	23190	09/06/95	09/11/95	09/27/95	
122512-005	DT SLAB TRENCH	23190	09/06/95	09/11/95	09/18/95	

Analyte	Units	122512-001		122512-002		122512-004		122512-005	
Diln Fac:		1		5		25		5	
Diesel Range	mg/Kg	1100	YH	1300	YH	1200	YH	50	YH
Bunker C	mg/Kg	5800	Y	4300	Y	8400	Y	1300	YH
Surrogate									
Hexacosane	%REC	103		68			DO	120	

Y: Sample exhibits fuel pattern which does not resemble standard
H: Heavier hydrocarbons than indicated standard
DO: Surrogate diluted out

Curtis & Tompkins, Ltd.

TEH-Tot Ext Hydrocarbons

Client: Baseline Environmental
Project#: S9171-CO
Location: Seabreeze

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: LUFT

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
122512-003	IT SLAB WATER	23197	09/06/95	09/11/95	09/22/95	

Analyte	Units	122512-003	
Diln Fac:		1	
Diesel Range	ug/L	12000	YH
Bunker C	ug/L	28000	Y
Surrogate			
Hexacosane	%REC	116	

Y: Sample exhibits fuel pattern which does not resemble standard
H: Heavier hydrocarbons than indicated standard

Curtis & Tompkins, Ltd.

Lab #: 122512

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Baseline Environmental
Project#: S9171-CO
Location: Seabreeze

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: SHAKER TABLE

METHOD BLANK

Matrix: Soil
Batch#: 23201
Units: mg/Kg
Diln Fac: 1

Prep Date: 09/12/95
Analysis Date: 09/16/95

MB Lab ID: QC03837

Analyte	Result
Diesel Range	<1.0
Bunker C	<25

Surrogate	%Rec	Recovery Limits
Hexacosane	100	60-140

Curtis & Tompkins, Ltd

Lab #: 122512

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Baseline Environmental
Project#: S9171-CO
Location: Seabreeze

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: SHAKER TABLE

METHOD BLANK

Matrix: Soil
Batch#: 23190
Units: mg/Kg
Diln Fac: 1

Prep Date: 09/11/95
Analysis Date: 09/11/95

B Lab ID: QC03801

Analyte	Result	
Diesel Range	<1.0	
Bunker C	<25	
Surrogate	**%Rec**	**Recovery Limits**
Hexacosane	121	60-140

Curtis & Tompkins, Ltd.

Lab #: 122512

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Baseline Environmental
Project#: S9171-CO
Location: Seabreeze

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: 3520

METHOD BLANK

Matrix: Water
Batch#: 23197
Units: ug/L
Diln Fac: 1

Prep Date: 09/11/95
Analysis Date: 09/21/95

MB Lab ID: QC03818

Analyte	Result
Diesel Range	<50
Bunker C	<1300

Surrogate	%Rec	Recovery Limits
Hexacosane	108	60-140

Curtis & Tompkins, Ltd

Lab #: 122512

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Baseline Environmental
Project#: S9171-CO
Location: Seabreeze

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: SHAKER TABLE

LABORATORY CONTROL SAMPLE

Matrix: Soil
Batch#: 23190
Units: mg/Kg
Diln Fac: 1

Prep Date: 09/11/95
Analysis Date: 09/17/95

LCS Lab ID: QC03802

Analyte	Result	Spike Added	%Rec #	Limits
Diesel Range	58.5	51.3	114	60-140
Surrogate	%Rec	Limits		
Hexacosane	130	65-135		

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 1 outside limits

Curtis & Tompkins, Ltd.

Lab #: 122512

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Baseline Environmental
Project#: S9171-CO
Location: Seabreeze

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: SHAKER TABLE

LABORATORY CONTROL SAMPLE

Matrix: Soil
Batch#: 23201
Units: mg/Kg
Diln Fac: 1

Prep Date: 09/12/95
Analysis Date: 09/17/95

LCS Lab ID: QC03838

Analyte	Result	Spike Added	%Rec #	Limits
Diesel Range	39.4	51.3	77	60-140
Surrogate	**%Rec**	**Limits**		
Hexacosane	94	60-140		

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 1 outside limits

Curtis & Tompkins, Ltd.

Lab #: 122512

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Baseline Environmental
Project#: S9171-CO
Location: Seabreeze

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: SHAKER TABLE

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
Lab ID: 122552-001
Matrix: Soil
Batch#: 23201
Units: mg/Kg dry weight
Diln Fac: 1

Sample Date: 09/08/95
Received Date: 09/09/95
Prep Date: 09/12/95
Analysis Date: 09/17/95
Moisture: 5%

MS Lab ID: QC03951

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Diesel Range	54	<1.053	57.79	107	50-150
Surrogate	%Rec	Limits			
Hexacosane	114	60-140			

MSD Lab ID: QC03952

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Diesel Range	54	47.68	88	50-150	19	<30
Surrogate	%Rec	Limits				
Hexacosane	106	60-140				

column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

Curtis & Tompkins, Ltd.

Lab #: 122512

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Baseline Environmental
Project#: S9171-CO
Location: Seabreeze

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: SHAKER TABLE

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
Lab ID: 122513-001
Matrix: Soil
Batch#: 23190
Units: mg/Kg dry weight
Diln Fac: 1

Sample Date: 09/06/95
Received Date: 09/06/95
Prep Date: 09/11/95
Analysis Date: 09/18/95
Moisture: 44%

MS Lab ID: QC03803

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Diesel Range	91.61	<1.786	80.71	77	65-135
Surrogate	%Rec	Limits			
Hexacosane	95	65-135			

MSD Lab ID: QC03804

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Diesel Range	91.61	99.46	98	65-135	23	<30
Surrogate	%Rec	Limits				
Hexacosane	127	65-135				

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

Lab #: 122512

Curtis & Tompkins, Ltd.

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Baseline Environmental
Project#: S9171-CO
Location: Seabreeze

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
Batch#: 23197
Units: ug/L dry weight
Diln Fac: 1

Prep Date: 09/11/95
Analysis Date: 09/21/95
Moisture: 0%

BS Lab ID: QC03819

Analyte	Spike Added	BS	%Rec #	Limits
Diesel Range	2565	2463	96	60-140
Surrogate	**%Rec**	**Limits**		
Hexacosane	112	60-140		

BSD Lab ID: QC03820

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel Range	2565	2419	94	60-140	2	<30
Surrogate	**%Rec**	**Limits**				
Hexacosane	111	60-140				

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

122512

BASELINE
5900 Hollis Street, Suite D
Emeryville, CA 94608
(510) 420-8686

CHAIN OF CUSTODY RECORD

Turn-around Time: 5-Day
Lab: C+T
BASELINE Contact Person:

Project No.	Project Name and Location
5917-00	Seabreeze, Oakland

Samplers: (Signature) William K Scott

Sample ID No. Station	Date	Time	Media	Depth	No. of Containers
Inlet MH Sludge	9-6-95	15:25	Soil	—	1
DT Slab Trench		14:50	Soil	4.5-5.0	1
IT Slab Water		15:04	Water	—	1
Hatchway Sludge		15:50	Soil	—	1
DT Slab Trench		15:55	Soil		1

Analysis	TEH-Bunker (TPH with BTX&E)	Oil & Grease	Motor Oil	PNAs	Title 22 Metals	Total Lead							Remarks/ Composite	Detection Limits
4														

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Conditions of Samples Upon Arrival at Laboratory:
William K Scott	9-6-95/17:15	Damaris Moore	9/6/95 5:30	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Remarks: Please provide chromatograms
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	

SEP 88

Curtis & Tompkins, Ltd.

TEH-Tot Ext Hydrocarbons

Client: Baseline Environmental
Project#: S9171-CO
Location: Seabreeze

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: LUFT

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
122511-001	DT SLAB-1	23190	08/31/95	09/11/95	09/26/95	
122511-002	DT SLAB-2	23190	08/31/95	09/11/95	09/26/95	
122511-003	PL SUMP	23190	08/31/95	09/11/95	09/18/95	

Analyte	Units	122511-001	122511-002	122511-003
Dilln Fac:		100	50	1
Diesel Range	mg/Kg	<100	3900 YH	9.1YH
Bunker C	mg/Kg	20000 YH	33000 Y	280 Y
Surrogate				
Hexacosane	%REC	DO	DO	126

Y: Sample exhibits fuel pattern which does not resemble standard
H: Heavier hydrocarbons than indicated standard
DO: Surrogate diluted out

Curtis & Tompkins, Ltd.

Lab #: 122511

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Baseline Environmental
Project#: S9171-CO
Location: Seabreeze

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: SHAKER TABLE

METHOD BLANK

Matrix: Soil
Batch#: 23190
Units: mg/Kg
Diln Fac: 1

Prep Date: 09/11/95
Analysis Date: 09/11/95

MB Lab ID: QC03801

Analyte	Result
Diesel Range	<1.0
Bunker C	<25

Surrogate	%Rec	Recovery Limits
Hexacosane	121	60-140

Curtis & Tompkins, Ltd

Lab #: 122511

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Baseline Environmental
Project#: S9171-CO
Location: Seabreeze

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: SHAKER TABLE

LABORATORY CONTROL SAMPLE

Matrix: Soil
Batch#: 23190
Units: mg/Kg
Diln Fac: 1

Prep Date: 09/11/95
Analysis Date: 09/17/95

LCS Lab ID: QC03802

Analyte	Result	Spike Added	%Rec #	Limits
Diesel Range	58.5	51.3	114	60-140
Surrogate	**%Rec**	**Limits**		
Hexacosane	130	65-135		

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
Spike Recovery: 0 out of 1 outside limits

Curtis & Tompkins, Ltd.

Lab #: 122511

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Baseline Environmental
Project#: S9171-CO
Location: Seabreeze

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: SHAKER TABLE

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Field ID: ZZZZZZ
Lab ID: 122513-001
Matrix: Soil
Batch#: 23190
Units: mg/Kg dry weight
Diln Fac: 1

Sample Date: 09/06/95
Received Date: 09/06/95
Prep Date: 09/11/95
Analysis Date: 09/18/95
Moisture: 44%

MS Lab ID: QC03803

Analyte	Spike Added	Sample	MS	%Rec #	Limits
Diesel Range	91.61	<1.786	80.71	77	65-135

Surrogate	%Rec	Limits
Hexacosane	95	65-135

MSD Lab ID: QC03804

Analyte	Spike Added	MSD	%Rec #	Limits	RPD #	Limit
Diesel Range	91.61	99.46	98	65-135	23	<30

Surrogate	%Rec	Limits
Hexacosane	127	65-135

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits
RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

BASELINE
5900 Hollis Street, Suite D
Emeryville, CA 94608
(510) 420-8686

12251

CHAIN OF CUSTODY RECORD

Turn-around Time
Lab
BASELINE Contact Person

Project No.	Project Name and Location
9171-00	Seabreeze, Oakland

Samplers: (Signature) [signature]

Sample ID No. Station	Date	Time	Media	Depth	No. of Containers	Analysis: TEH - Bunker C	(TPH with BTX&E)	Oil & Grease	Motor Oil	PNAs	Title 22 Metals	Total Lead						Remarks/ Composite	Detection Limits
DT SLAB-1	8/31/95	10:03	Soil	3	1	X													
DT SLAB-2	8/31/95	10:10	Soil	3	1	X													
PL SUMP	8/31/95	10:15	Soil	2.5	1	X													

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Conditions of Samples Upon Arrival at Laboratory:
[signature]	9/6/95 5:20	Damara Mode	9-6-95 5:30	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Remarks:
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	5 DAY TAT! Please provide chromatograms.

BASELINE
5900 Hollis Street, Suite D
Emeryville, CA 94608
(510) 420-8686

122531

CHAIN OF CUSTODY RECORD

Turn-around Time: 5 DAY
Lab: CAL
BASELINE Contact Person: Rhodora Pelpa

Project No.	Project Name and Location
59171-00	Seabreeze, Oakland

Samplers: (Signature) William K Scott

Sample ID No. Station	Date	Time	Media	Depth	No. of Containers	Analysis: TEH - Bunker (TPH with BTX&E)	Oil & Grease	Motor Oil	PNAs	Title 22 Metals	Total Lead							Remarks/ Composite	Detection Limits
Intake MH-2	9-7-95	12:10	Water		1	X													
Halfway-2	9-7-95	12:15	Water		1	X													

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Conditions of Samples Upon Arrival at Laboratory:
William K Scott	9-7-95/	Damara Moore 17:45 DM	9/7/95 17:45	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Remarks:
Michael Poponi	9/7/95 19:45			please provide Chromatograms.
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	

APPENDIX C

GEOPHYSICAL REPORT

File S9171-CO
Corres. In

NORCAL GEOPHYSICAL CONSULTANTS INC.

LETTER OF TRANSMITTAL

TO: Baseline Environmental Consulting
5900 Hollis Street, Suite D
Emeryville, CA 94608

ATTN: **Rhodora Del Rosario**

REF: Geophysical Survey

VIA: MAIL: REG() PRIORITY() **UPS: RED(X)** FED.EXP:() CA OVERNIGHT:()

ENCLOSED IS/ARE THE FOLLOWING:

Three (3) copies of final report -

SeaBreeze Property, Oakland, CA

COMMENTS:

BY: Donald J. Kirker

DATE: September 18, 1995

1350 INDUSTRIAL AVENUE SUITE A • PETALUMA, CA 94952
TELEPHONE (707) 763-1312 • FAX (707) 762-5587

NORCAL GEOPHYSICAL CONSULTANTS INC.

September 15, 1995

Ms. Rhodora Del Rosario
Baseline Environmental Consulting
5900 Hollis Street, Suite D
Emeryville, CA 94608

Dear Ms. Rosario:

This report presents the findings of a geophysical investigation performed by NORCAL Geophysical Consultants, Inc. at the Seabreeze Property located at 280 6th Street, Oakland, California. The field survey was conducted on August 24, 1995 by geophysicist, Donald J. Kirker, and geophysical technician, Joe Martinez.

SITE DESCRIPTION

The Seabreeze Property is a parcel of land that contains various commercial facilities. These facilities include a storage yard and a former boat marina. The storage yard is located in the western portion of the property and is used for the storage of truck trailers and large metal containers. These containers are stored throughout the property with exception to the entrance of the truck facility. The former boat marina is located between the truck facility and the boat channel and represents a gravel covered vacant lot.

Historical information, provided by Baseline Environmental Consulting, indicates that the Seabreeze property represents the location of a former power generating plant. The former plant was located adjacent to Fifth Avenue in the northeast corner of the property, as shown on Plate 1. Site information indicates that several subsurface structures, associated with the power plant, may still exist at this property. These include a water discharge tunnel, a water intake tunnel, and an underground storage tank (UST). The general location of these potential subsurface features are shown on the Geophysical Survey Location Map, Plate 1. The discharge tunnel trends west/east from the former plant to the boat channel. The location of this tunnel corresponds with the location of the marina described above. The water intake tunnel and UST are located south of the former plant. The locations of these features correspond with the location of the present truck facility.

Since access to the Seabreeze property is limited because of the stored trailers and containers, the area of investigation, as specified by Baseline Environmental Consulting, was confined to two separate sites on the property. The first site is

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TELEPHONE (707) 763-1312 • FAX (707) 762-5587

located adjacent to the former boat marina, and the second is located at the entrance of the trucking facility. We refer to these sites as the Marina Site and Trailer Site, respectively.

The area of investigation at the Marina Site is shown on Plates 1 and 2. The survey area measures approximately 50 ft by 100 ft and covers the area where a portion of the discharge tunnel may exist. The area of investigation at the Trailer Site is shown on Plates 1 and 4. It measures approximately 40 ft by 60 ft and is gravel covered. It is bordered by stacked trailers and containers on all sides. This area is located at the entrance of the trucking facility and covers the area where a possible UST may exist. A survey could not be performed for the intake tunnel because access was not possible due to the stored truck trailers and containers.

PURPOSE

The purpose of the geophysical survey is to obtain subsurface information that will aid in determining the possible locations of the discharge tunnel and UST.

METHODOLOGY

Marina Site

For the investigation at the Marina Site, we used the vertical magnetic gradient, electromagnetic terrain conductivity, ground penetrating radar, and electromagnetic line locating methods. The vertical magnetic gradient (VMG) method was used to determine the presence of buried ferrous metal that may be associated with the construction of the tunnel. The electromagnetic terrain conductivity (EM) method was used to determine the variations in terrain conductivity throughout the site. These variations may indicate the presence of buried nonmetallic objects or other tunnel-related conditions that may alter the natural electrical conductivity of the subsurface.

Ground penetrating radar (GPR) surveys are used to obtain high resolution cross-sections of the subsurface. This can provide specific information such as depth to, and the dimensions of, certain metallic and nonmetallic subsurface objects. The electromagnetic line locating (EMLL) methods were used to investigate areas for possible utilities that may represent the source of any detected VMG, EM, and GPR anomalies.

Trailer Site

For the investigation at the Trailer Site, we used the EM and GPR methods. The EM method was used to determine the presence of buried metal objects that may represent a UST. This method is better suited for investigations that are located relatively close to large above ground metal objects. The VMG method was not used in this area because of magnetic interferences caused by the stacked metal trailers and containers. The GPR method was used to characterize the detected EM anomalies, as well as obtain detailed shallow subsurface information that may indicate backfill material associated with a UST excavation.

Vertical Magnetic Gradiometer

A magnetic gradiometer measures the vertical gradient of the earth's magnetic field. It consists of two total field magnetic sensors separated vertically by one-half meter. The magnetic field strength is measured simultaneously at both of these sensors. The difference in magnetic intensity between these measurements is proportional to the vertical gradient of the earth's magnetic field. Because the vertical gradient is constant with respect to time, the effect of diurnal variations is eliminated. Since a gradiometer is effected less by cultural features, it provides higher sensitivity and better resolution of near surface sources than total field magnetometers. Areas with significant amounts of buried metal typically produce anomalously steep magnetic gradients. Because it is sensitive to ferrous metal sources both above and below ground, site and vicinity surface conditions can affect survey results.

We used an EDA OMNI IV tie-line magnetometer to obtain the vertical magnetic gradient data. The instrument features a built-in memory that stores the vertical magnetic gradient and survey grid information. The information can be down loaded to a computer for further processing.

Electromagnetic Induction (EM)

The electromagnetic method is used to measure variations in subsurface electrical conductivity. The electromagnetic system utilizes two coils separated by a specified distance. One of these coils transmits a time-varying electromagnetic signal (primary magnetic field) which induces current flow in the earth. A secondary magnetic field is associated with the current flow. The secondary signal is complex and has both

quadrature and in-phase components which are detected by the receiver coil. The quadrature component has an amplitude that is proportional to the electrical conductivity of the subsurface materials. The in-phase component is the portion of the received signal that is in-phase with the transmitted signal.

The instrumentation analyzes the received signal and provides a direct read-out of the quadrature component (conductivity) in milliSiemens/meter (mS/m). Since this value represents the conductivity of the volume of material sampled, rather than individual layers, it is an apparent value and is referred to as terrain conductivity. The in-phase component is affected more by metallic objects, and is represented as a percentage (parts/thousand). The percentage of in-phase component increases as the size of metal objects increases, and/or their depth decreases.

Our EM instrumentation consisted of a Geonics EM31-DL ground conductivity meter connected to an Omnidata data recorder. The EM31 has a fixed coil separation of 12 feet. This results in a total depth of investigation of approximately 15 feet, depending upon local site conditions. The data recorder automatically stores terrain conductivity and in-phase values in memory at preselected intervals. The data recorder also stores station locations and annotations regarding cultural features.

Ground Penetrating Radar

Ground penetrating radar is a method that provides a continuous, high resolution cross-section depicting variations in the electrical properties of the shallow subsurface. The method is particularly sensitive to variations in electrical conductivity and electrical permittivity (the ability of a material to hold a charge when an electrical field is applied).

The system operates by continuously radiating an electromagnetic pulse into the ground from a transducer (antenna) as it is moved along a traverse. Since most earth materials are transparent to electromagnetic energy, only a portion of the radar signal is reflected back to the surface from interfaces representing variations in electrical properties. When the signal encounters a metal object, however, all of the incident energy is reflected. The reflected signals are received by the same transducer and are printed in cross-section form on a graphical recorder. Depending upon depth and/or thickness the resulting records can provide information regarding the location of subsurface objects, UST's, underground utilities, and variations in the shallow site materials. Generally, electrically conductive materials, such as saturated clay and

significant rebar can reduce the penetration capability and limit radar performance.

For this investigation, we used a Geophysical Survey Systems, Inc. SIR-3 Subsurface Interface Radar System equipped with a 300 and 500 megahertz (Mhz) antenna. These antennae represent the center of the available frequency range and is used to provide high resolution at shallow depths.

Electromagnetic Line Location

Electromagnetic line location techniques are used to locate the magnetic field resulting from an electric current flowing on a line. These magnetic fields can arise from currents already on the line (passive) or currents applied to a line with a transmitter (active). The most common passive signals are generated by live electric lines and reradiated radio signals. Active signals can be introduced by connecting the transmitter to the line at accessible locations or by induction.

The detection of underground utilities is determined by the composition and construction of the line in question. Utilities detectable with standard line location techniques include any continuously connected metal pipes, cables/wires or utilities with tracer wires. Unless carrying a passive current these utilities must be exposed at the surface or in accessible utility vaults. These generally include water, electric, natural gas, telephone, and other conduits related to facility operations. Utilities that are not detectable using standard electromagnetic line location techniques include those made of nonelectrically conductive materials such as pvc, fiberglass, vitrified clay, and pipes with insulated connections.

Our instrumentation for this investigation consisted of a Radiodetection RD-400 line locator and a Fisher TW-6 inductive pipe and cable locator.

DATA ACQUISITION

Marina Site

At the Marina Site, VMG and EM data were collected at 5 foot intervals (stations) along north/south trending traverses spaced 5 feet apart. GPR data were also obtained over the same north/south traverses. The limits of the geophysical investigation at the Marina Site are shown on the Plates 1 and 2. The EMLL technique was systematically used over the survey area to detect possible utility

alignments.

Trailer Site

At the Trailer Site, EM data were collected at 5 foot intervals (stations) along north/south trending traverses spaced 5 feet apart. GPR data was also obtained over the same north/south traverses. The limits of the geophysical investigation at this site are shown on the Plates 1 and 3.

DATA ANALYSIS

Data Computer Processing

The VMG and EM data were down loaded to a computer. The computer processing included conversion of the data into a format that can be used in a contouring software routine. This contouring package was used to calculate an evenly spaced array of values (gridded) based on the observed field data. Finally, these gridded values were contoured to produce the vertical magnetic gradient and EM (quadrature and in-phase) contour maps.

Contour Map Interpretation

Generally, magnetic and terrain conductivity values vary smoothly throughout a given region. Areas where variations are strong are defined by closely spaced contours and are typically considered anomalous. If the source of a particular anomaly is an isolated object or a group of closely spaced objects, the contours may form circular or elliptical closures. A large accumulation of buried objects may appear as a group of closely spaced anomalies or one large anomaly.

Actual anomaly magnitude and shape are dependent on the relative position and size of the buried objects with respect to the observed data points. In general anomaly magnitude will decrease and anomaly width will increase as depth to the source increases.

GPR Data Analysis

For data analysis, we examined the GPR records for hyperbolic reflection patterns characteristic of subsurface objects, UST's, and underground utilities, as well as

changes in reflection character that may indicate changes in fill material associated with a UST excavation.

RESULTS

The results of the geophysical investigation for the Marina and Trailer Sites on the Seabreeze Property are presented on Plates 1 through 4. The results obtained at each site are presented in the following paragraphs.

Marine Site

The results of the geophysical investigation at the Marina Site are presented on Plates 2 and 3, respectively. Plate 2 shows the limits of the geophysical investigation, as well as the location of the detected anomalies. This plate also shows the surface trace of various utility alignments detected with the EMLL. Plate 3 shows both the Vertical Magnetic Gradient Contour Map and the Terrain Conductivity Contour Map. Each contour map includes a northing and easting scale, as well as a legend. The VMG contour map represents the variations of the vertical magnetic gradient throughout the site. These variations include several magnetic gradients along the northern and west central portions of the survey area, as well as the southeast corner. We interpret the magnetic gradients in the northern portion as representing effects caused by buried utility lines. Magnetic gradients that could not be associated with cultural effects are considered anomalous. These anomalies are located in the west central and southeast portions of the survey area, as shown on Plate 2 and 3.

These anomalies are characterized as low magnitude anomalies with values ranging from 200 to 400 g/m. Anomalies of these magnitudes and areal extents typically represent large isolated metallic objects such as utility vaults or buried debris. However, the west central anomaly (15E 45N) corresponds with the location of the suspect tunnel. The source of this anomaly may represent effects from metal reinforcement associated with the discharge tunnel.

The EM (Terrain Conductivity) Contour Map represents the variations of the terrain conductivity throughout the site. This map resolves a east/west zone of closely spaced contours at 65N to 70N. We believe that these contours represent effects caused by the utility line shown on Plate 2. The map also resolves high conductivity values in the west central portion of the survey area. These anomalies are located at 40N to 50N and extend from 5E to 30E. The location of these anomalies

corresponds with the suspect tunnel location, as well as the VMG anomaly mentioned above. Therefore, we believe that these conductivity highs may be the result of the tunnel.

The GPR data obtained in this area resolved numerous zones of isolated hyperbolic reflection patterns in the upper 2 to 4 feet. These patterns are typical of isolated debris and utility alignments, as well as zones of disturbed soils. The data do not indicate large reflection patterns at depth that could represent a structure such as a tunnel. We believe that the discharge tunnel is buried deeper than the detection limits of the GPR.

Trailer Site

The results of the geophysical investigation at the Trailer Site are presented on Plate 4. The EM (In-Phase) contour map represents the variations of the subsurface electrical properties, caused by metal objects, throughout the site. These variations include steep gradients along the south and east sides of the survey area, as well as the northwest corner. We interpret these gradients as representing effects caused by the truck trailers and containers. Additional EM anomalies that may represent buried metal, such as a UST, are not apparent on this map.

The GPR data obtained over this area resolved a strong reflection horizon in the center of the survey area, as shown on Plate 4. This strong reflection horizon may be the result of a change in subsurface fill material. It measures approximately 30 by 22 ft. and corresponds with the suspect UST location. Therefore, this zone may represent the location of a UST associated excavation.

STANDARD CARE AND WARRANTY

The scope of NORCAL's services for this project consisted of using geophysical methods to characterize the shallow subsurface. The accuracy of our findings is subject to specific site conditions and limitations inherent to the techniques used. We performed our services in a manner consistent with the level of skill ordinarily exercised by members of the profession currently employing similar methods. No other warranty, with respect to the performance of services or products delivered under this agreement, expressed or implied, is made by NORCAL.

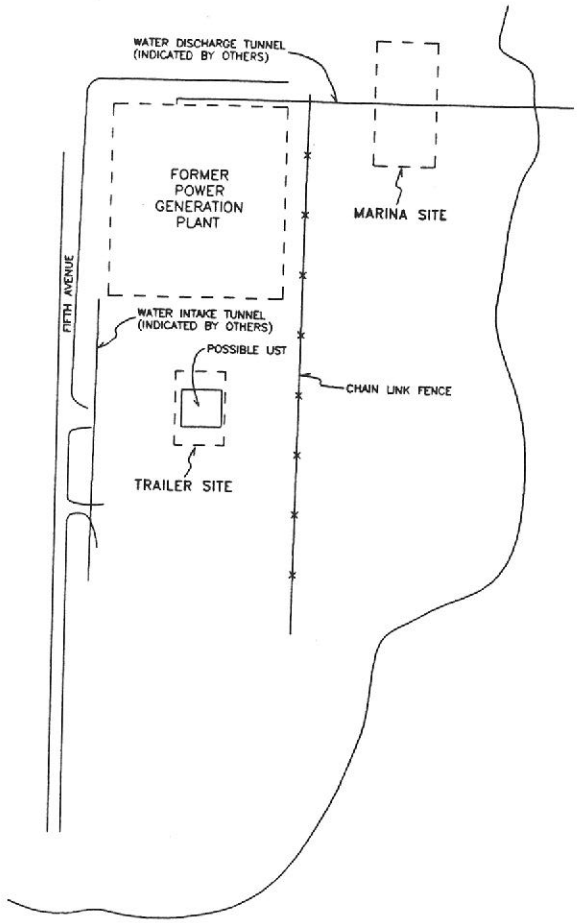
We appreciate having the opportunity to provide you with this information.

Respectfully,

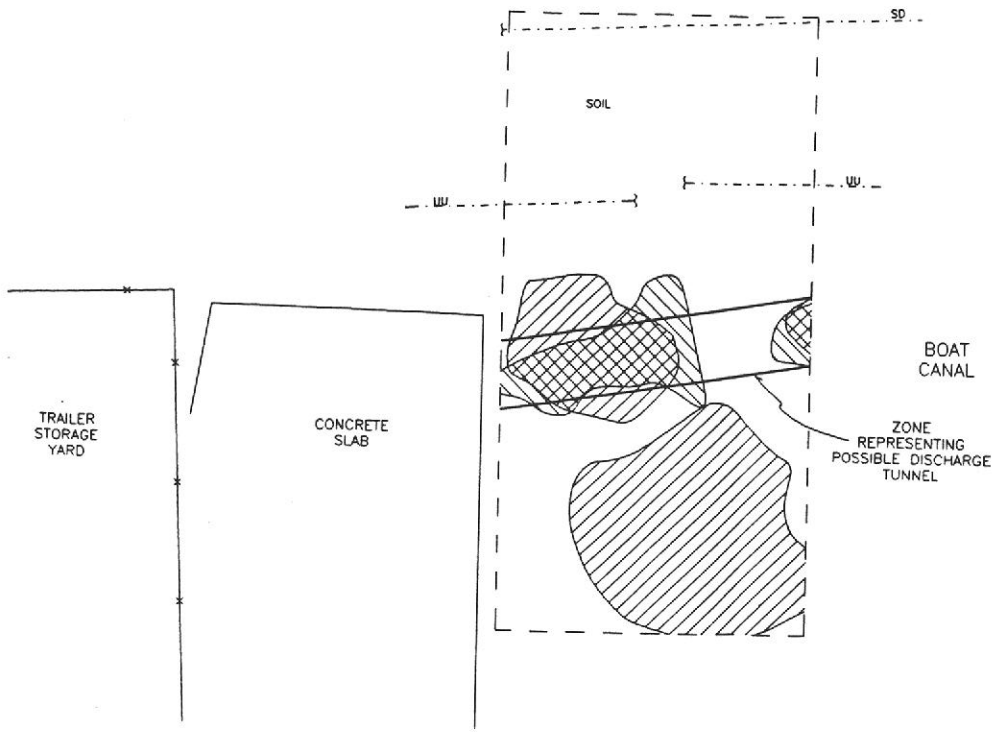
NORCAL Geophysical Consultants, Inc.

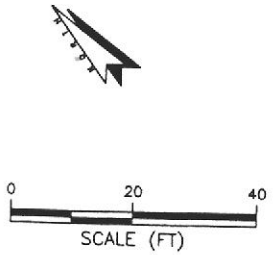
Donald J. Kirker
Geophysicist, GP-997

DJK/jh
Enclosure: Plates 1 through 4



NORCAL GEOPHYSICAL CONSULTANTS INC. NORCAL			GEOPHYSICAL SURVEY LOCATION MAP GEOPHYSICAL INVESTIGATION BASELINE ENVIRONMENTAL CONSULTANTS OAKLAND, CA	PLATE 1
JOB: 95-202.02	APPR:	DATE: 9/95		



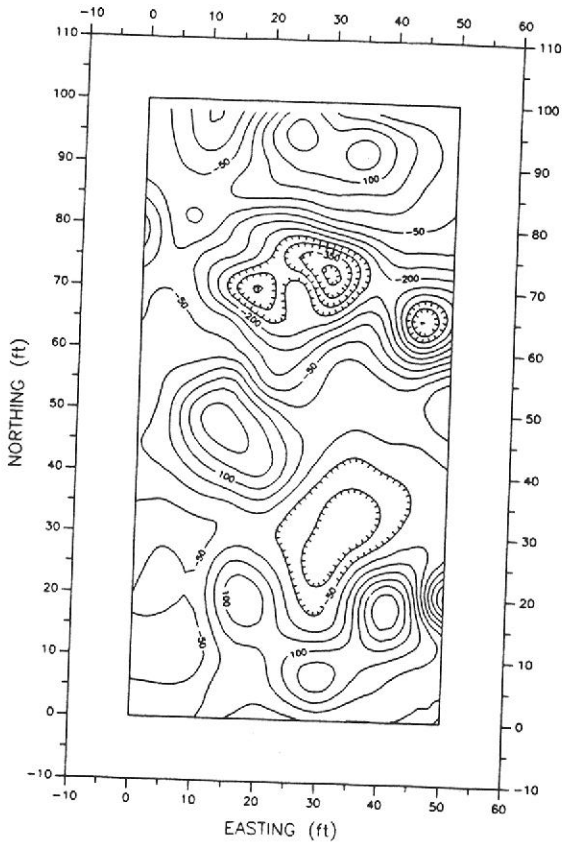


LEGEND

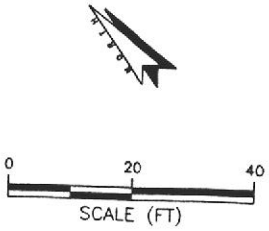
- LIMITS OF VMG, TC AND GPR SURVEYS
- SD — STORM DRAIN LINE
- UU — UNDIFFERENTIATED UTILITY
- VMG ANOMALY
- TC ANOMALY
- FENCE

NORCAL GEOPHYSICAL CONSULTANTS INC. NORCAL			MARINA SITE LOCATION MAP GEOPHYSICAL INVESTIGATION BASELINE ENVIRONMENTAL CONSULTANTS OAKLAND, CA	PLATE 2
JOB: 95-202.02	APPR:	DATE: 9/95		

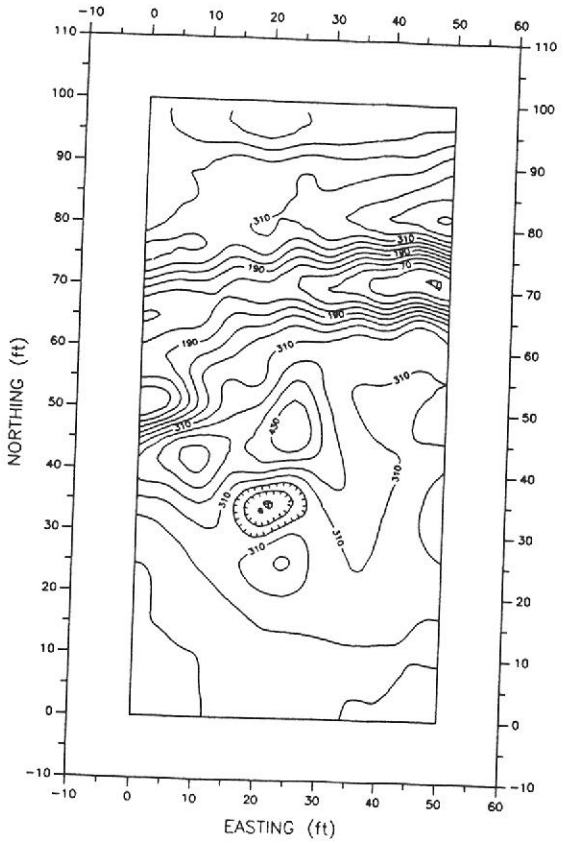
VERTICAL MAGNETIC GRADIENT CONTOUR MAP



VERTICAL MAGNETIC GRADIENT (VMG)
CONTOUR
CONTOUR INTERVAL = 50 g/m



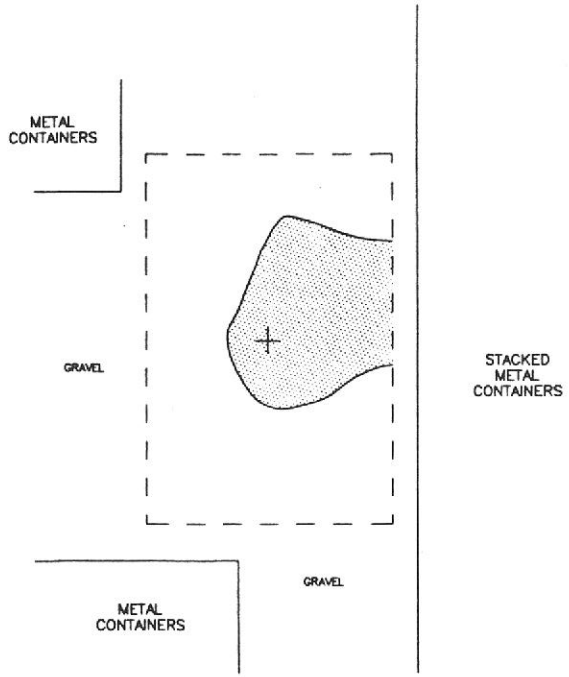
TERRAIN CONDUCTIVITY CONTOUR MAP



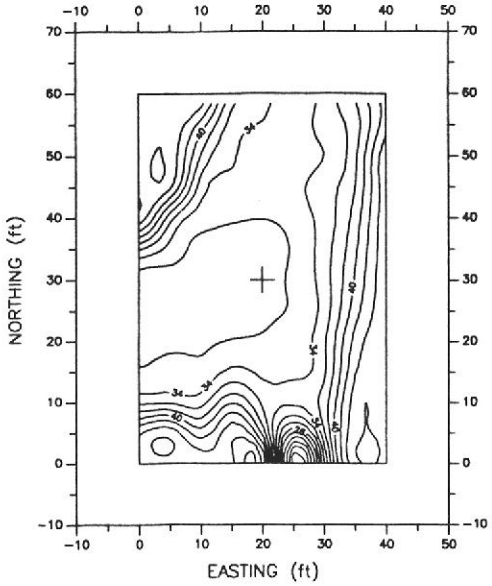
TERRAIN CONDUCTIVITY (TC)
CONTOUR
CONTOUR INTERVAL = 40 mS/m

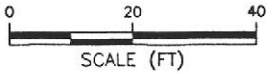
NORCAL GEOPHYSICAL CONSULTANTS INC. NORCAL		MARINA SITE CONTOUR MAPS	PLATE 3
JOB: 95-202.02	APPR:	DATE: 9/95	GEOPHYSICAL INVESTIGATION BASELINE ENVIRONMENTAL CONSULTANTS OAKLAND, CA

LOCATION MAP



IN-PHASE CONTOUR MAP





LEGEND

- LIMITS OF IN-PHASE AND GPR SURVEYS
- IN-PHASE CONTOUR CONTOUR INTERVAL = 2 ppt
- GPR ANOMALY
- SUSPECT LOCATION OF UST BASED ON CLIENT PROVIDED INFORMATION

NORCAL GEOPHYSICAL CONSULTANTS INC.

JOB: 95-202.02 | APPR: DV | DATE: 9/95

GEOPHYSICAL SURVEY MAP
TRAILER SITE

GEOPHYSICAL INVESTIGATION
BASELINE ENVIRONMENTAL CONSULTANTS
OAKLAND, CA

PLATE 4