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RESPONSE TO INTERIM MEASURES
JUSTIFICATION QUESTIONS
BURLINGTON ENVIRONMENTAL INC.
PIER 91 FACILITY
SEATTLE, WASHINGTON
EPA I.D. NO. WAD 00081 2917

September 27, 1993

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BURLINGTON ENVIRONMENTAL

September 27, 1993

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Mr. David Croxton
U.S. EPA
1200 Sixth Avenue, M/S HW-106
Seattle, WA 98101

Mr. Croxton:

Enclosed is the Draft Response to Interim Measures Justification Questions for the Burlington Environmental Inc. Pier 91 Facility. This submittal date was provided in the August 25, 1993 letter from Mr. Michael Gearheard (USEPA X) to Mr. John Stiller (Burlington).

If you have any questions please contact me at (206) 654-8153.

Sincerely,

John Stiller
Project Coordinator

cc: Galen Tritt - Ecology NWRO

Burlington Environmental Inc.
Waterfront Place One • Suite 700 • 1011 Western Avenue • Seattle, WA 98104
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RESPONSE TO INTERIM MEASURES
JUSTIFICATION QUESTIONS
PIER 91

A. RELEASE CHARACTERIZATION

A.1. What is the source(s) (nature, number of drums, size [area, depth], amount, locations(s))?

Potential sources for the soil and groundwater contamination at the Pier 91 facility include some of the 26 Solid Waste Management Units (SWMUs) identified at the facility, as well other areas of concern (AOC) that were identified during the 1988 Draft RFA and 1993 final RFA. These potential source areas include:

- SWMU 2 - oil-water separator;
- SWMU 1 - main warehouse (regulated hazardous waste storage area);
- SWMU 9 - pipe alley drainage;
- SWMU 17 - waste oil spill area;
- SWMUs 10 and 5 - small yard tanks;
- black oil yard tanks (tanks 90, 91, and 92);
- marine diesel yard tanks;
- SWMU 19 - sewer lines; and
- AOC 2 - various USTs on Terminal 91.
- SWMU 26 - tracks west of building 19

Most of the potential source areas managed or formerly managed oily wastes, oily industrial wastewater, spent industrial coolants, and other waste oils. These wastes may include volatile and semi-volatile compounds, PCBs, and metals associated with waste petroleum products as well as chlorinated solvents that may be found in industrial coolants.

At present, the only known sources for continuing releases to the environment are the impacted soil and floating product present at the site.

A.2. Regarding hazardous wastes or constituents at the source:

A.2.(a). What hazardous wastes or constituents are present?

The only known sources for continuing releases to the environment are the impacted soil and floating product present at the site. Tables 1 through 10 list the constituents present in the soil above method detection limits and constituents present in the groundwater above maximum contaminant levels (MCLs). Where MCLs are not available, method detection limits were used as a reporting screen. Separate tables are included for volatile organics, semi-volatile organics, metals, PCBs, and TPH.

A.2.(b). At what concentrations?

Tables 1 through 10 summarize the concentrations of constituents present in the soil above method detection limits and present in the groundwater above MCLs. Where MCLs are not available, method detection limits were used as a reporting screen. These tables include concentrations of volatile organics, semi-volatile organics, metals, PCBs, and TPH.

A.2.(c). What is the background level of each hazardous waste or constituent?

Analytical data collected from groundwater monitoring well CP-114 may be considered representative of upgradient, background water quality in the upper aquifer. However, since the results of only one sampling event are currently available, no conclusions can be made regarding background water quality within the upper aquifer at the facility.

CP-114 is located in the northeast portion of the site. Monthly fluid level measurements indicate that CP-114 is hydraulically upgradient of the facility. No on-site source areas appear to be located hydraulically upgradient of the well. The well is screened approximately 14 feet below ground surface in the fine to medium sands of the upper aquifer.

During the two sampling events conducted to date, CP-114 was sampled for volatile organics, semi-volatile organics, total metals, and dissolved metals. The results of the first round of sampling are included in Tables 6 through 11.

CP-105B is screened within the lower aquifer and is hydraulically upgradient of the facility. Analytical data from this well may be considered representative of background groundwater quality within the lower aquifer. However, the results of only one sampling event are currently available and no conclusions can be formulated regarding background water quality within the lower aquifer. A second round of groundwater samples were collected in July. These results are currently being evaluated and will be included in the RFI report.

A.3. What are the known pathways through which the contamination is migrating or may migrate and the extent of contamination?

A.3.(a). By what media is it spreading or likely to spread? In what direction? At what rate?

The contamination present at Pier 91 is likely to spread through the groundwater, subsurface soil, and subsurface soil gas. The primary chemicals of concern are petroleum hydrocarbons and chlorinated solvents, which are volatile and can be transported through the unsaturated zone by molecular diffusion and/or advection in the gaseous phase. Contaminant transport via gaseous advection within the unsaturated zone is dependent upon the air-filled porosity and gas conductivity of the unsaturated zone. Transport of the gaseous phase of volatile contaminants directly to the atmosphere is not likely because nearly the entire facility is paved with asphalt or concrete. Only a narrow strip along the north side of the Seafood Processing building is unpaved and the area is not used for any operations.

Constituents that are dissolved in the groundwater may migrate by molecular diffusion and/or advection. Dissolved constituents can migrate in this manner in both the saturated and unsaturated zone. Groundwater elevations indicate that groundwater flow within the upper aquifer is to the southwest, while flow within the lower aquifer is to the south. However, the flow direction in the lower aquifer may be subject to tidal influence. Tidal effects on groundwater flow within the lower aquifer will be addressed in the RFI report.

Light nonaqueous-phase liquids (LNAPL) have been detected at the Pier 91 facility. LNAPLs can migrate along the top of the water table by flowing from higher groundwater elevations to lower ones. LNAPLs can also contribute to the dissolved portion of the contaminant plume by dissolving into the groundwater as the LNAPL layer spreads out along the surface of the groundwater table.

The potential rate of contaminant migration is addressed in question 3 (b) below.

A.3.(b). How far have the contaminants migrated? At what concentrations?

Analysis of off-site data from other sources indicate that contamination is present off-site. Chlorinated solvents have been detected in off-site groundwater monitoring well CP-113. However, the origin of this contamination is not known. The degree of contribution (if any) of Burlington's Pier 91 facility to contamination present off-site has not been assessed. Analysis of data collected during the Phase I RFI will determine the need for off-site RFI work. If required, an off-site RFI work plan may be developed to assess the nature and extent of off-site contamination due to Burlington's operation of the Pier 91 facility.

Since no specific investigation has been conducted to assess the presence of off-site contamination, discussions pertaining to how far contaminants have migrated must be addressed theoretically. Preliminary analyses of data collected during the Phase I RFI

investigation indicate that the horizontal groundwater seepage velocity ranges from 8.4 to 110 feet per year depending on seasonal and tidal variations in water levels. The average seepage velocity is about 35 feet per year. Since the operational and spill history of the facility prior to Burlington's involvement is not known, time of travel calculations cannot be meaningfully applied to the site. However, if a theoretical contaminant was to enter the groundwater at the site, it could travel approximately 35 feet per year in a downgradient direction.

Triaxial permeability testing indicates that the vertical hydraulic conductivity ranges from 4.8 x 10^{-6} centimeters per second (cm/s) to 8.1 x 10^{-5} cm/s, which is two to four orders of magnitude less than hydraulic conductivity values for horizontal flow in the upper aquifer.

These calculations do not include possible effects of dispersion, adsorption and/or desorption, degradation, and volatilization. Of these four processes, only dispersion would reduce the time of travel for contaminant migration.

A.3.(c). <u>How mobile are the constituents?</u>

For the purposes of discussing contaminant mobility, the constituents detected at the Pier 91 facility can be categorized as follows:

- chlorinated solvents;
- polychlorinated biphenyls (PCBs);
- polynuclear aromatic hydrocarbons (PAHs);
- non-chlorinated solvents; and
- inorganics

Chlorinated solvents generally have moderate to high solubilities in water, moderate to high vapor pressures and low boiling points. With the exception of vinyl chloride, all chlorinated solvents present at the facility are liquids at room temperatures, and all have densities greater than water. As a group, the octonol to water coefficients are relatively low indicating that chlorinated solvents have only low to moderate tendencies to be adsorbed to organic soils. As a result of their low to moderate adsorption tendencies, chlorinated solvents dissolved in groundwater tend to be retarded with respect to time of travel, but are still considered to be moderately to highly mobile in groundwater.

PCBs have low vapor pressures, high boiling points, and are highly insoluble in water. PCBs are relatively immobile in soil and groundwater because they readily adsorb to particulate surfaces and organic materials in soil. Although a few PCBs are slightly biodegradable, as a group PCBs are highly resistant to decomposition in natural environments and are considered non-degradable.

PAHs have high boiling points, low vapor pressures, are viscous liquids or solids at room temperature, and do not readily volatilize. In general, PAHs have high partition coefficients and readily adsorb to organic materials. With increasing molecular weight, their solubilities in

water decrease and their degradation half-lives decrease. PAHs, in general, are easily degraded in aerobic environments.

Non-chlorinated solvents, such as benzene and toluene, are generally less dense than water. Solubilities vary considerably from less than 1 part per million (ppm) to fully miscible (acetone). They are highly variable in their tendency to partition between water and organic material in the soil; groundwater migration of BTEX compounds is retarded, while the ketones tend to move with the groundwater. Non-chlorinated solvents are generally susceptible to organic degradation in both aerobic and anaerobic environments. Due to their solubility and lack of adsorption, non-chlorinated solvents are considered to be mobile in groundwater.

LNAPL discussion here

Inorganics present at the site include chromium and lead. Mobility of inorganic metals in soil and groundwater is highly dependent upon site specific conditions such as mineral content of the soil and anion and cation content of the groundwater. However, in general, solubility and resulting transport of both chromium and lead is dependent upon the pH of the soil and groundwater, with solubility increasing with decreasing pH.

A.3.(d). <u>What are the estimated quantities and/or volumes released?</u>

Soil and groundwater contamination at the facility are thought to be the result of historic releases and waste management practices both at the facility and adjacent to the facility. With the exception of releases described in the RFA report, estimates of specific quantities and volumes of releases are not available. For a summary of historical releases, see the response to question A1 and the RFA reports prepared by PRC Environmental (PRC, 1993) and Tetra Tech (Tetra Tech, 1988).

A4. <u>What is the projected fate and transport to the extent known?</u>

Groundwater is expected to be the main mode of contaminant migration off-site. A beneficial use survey is being conducted and will be included in the RFI report. However, preliminary results indicate only one well within one-half mile of the facility. This well is located approximately 200 feet west of Burlington's facility, was installed in 1943, and is 1050 feet deep. The well is cased, and the uppermost screened interval extends from 250 to 303 feet below ground surface. Therefore, contamination present in the upper and lower aquifers at Burlington's facility should not impact the water quality of this well. The City of Seattle has considered using the well for domestic water supplies. However, the well was sampled in May 1993 and the city determined that several water quality parameters are too high to consider using the well at present time. The well was formerly used for cooling water.

LNAPL

The upper aquifer discharges into Elliott Bay, so contaminants transported off-site may eventually be discharged into the bay. Contaminant transport in the lower aquifer is less well understood due to tidal influences. However, an analysis of tidal effects will be included in

the RFI report and further conclusions regarding the fate and transport of contaminants in the lower aquifer may be possible at that time.

Degradation of the various constituents present in the soil and groundwater at the site varies from essentially non-degradable (PCBs) to highly degradable (PAHs). The tendency for each compound to degrade is somewhat site-specific and depends on whether aerobic or anaerobic conditions prevail at the site. In addition, the availability of nutrients strongly affects the rate and degree of degradation of organic compounds.

B. POTENTIAL HUMAN EXPOSURES

B1. What is or will be the exposure pathway(s) (e.g., air, fire/explosion, groundwater, surface water contact, ingestion) ?

A complete exposure pathway must have the following three components:

1. a contaminant source;

2. a route of migration; and

3. a potential receptor.

Previous investigations have indicated the presence of volatile and semi-volatile compounds, PCBs, and metals in the soil and groundwater at the facility, providing a source for contaminants. Therefore, this section will focus on the potential routes of contaminant migration and potential human receptors that may be exposed.

The Pier 91 facility is located within Port of Seattle's Terminals 90 and 91, an industrial zone. Terminals 90 and 91 operate 24 hours a day, while the Burlington facility operates 16 hours a day. The southern portion of the Burlington facility including the tank farm is secured by a locked chain-link fence and/or concrete wall. Since there is no means to completely restrict access to the Burlington facility, there is a possibility for trespassers to gain access to the site. However, the entire Port of Seattle Terminal 91 facility (including Burlington's leased portion) is fenced, and Port of Seattle security procedures restrict potential trespassers to Port of Seattle tenants, employees, and other persons authorized for entry to the Port of Seattle Terminal 91 facility.

The entire active portion of the site is paved with either asphalt or concrete, allowing exposure to contaminated soils only during excavating activities such as utility work or further investigations that include drilling and/or excavation. Therefore, ingestion and/or contact exposures would be a concern only for receptors engaged in excavation activities.

Since the entire active portion of the site is paved, exposures to on-site workers or trespassers via volatilization of volatile organics in the soil is not likely except during excavation activities.

Preliminary results of the beneficial use survey indicate that no water supply wells exist within one-half mile of the site. In addition, no water supply wells are present between the site and the upper and lower aquifer discharge points (Elliott Bay). The single well that is within one-half mile of the site was used historically for cooling water, is no longer in use, and is not anticipated for use as a water supply well. Therefore, this exposure pathway (groundwater) is not complete because no potential human receptor has been identified.

In summary, the known complete exposure pathways are dermal contact and/or ingestion of contaminated soil and inhalation of soil vapor during excavation activities. Potential receptors include on-site workers and trespassers. Exposure is likely only during excavation that breaches the asphalt or concrete pavement. Therefore, during normal operation of the facility, exposure to contaminated soil or soil vapors is not likely.

B2. <u>What are the location and demography of populations potentially at risk from exposure (e.g., residential area, schools, drinking water supplies, sole source aquifer near vital ecology or protected natural resource)?</u>

The nearest residential dwellings are approximately 2000 feet west of the Burlington facility, while the nearest school and park are over 3000 feet northwest from the site. A paved bike path runs adjacent to a portion of the site. However, the bike path is fenced to restrict access to any of the Port of Seattle Terminals 90 and 91 operating areas. Access to the site from all of these areas is restricted to authorized personnel by a series of high chain-link fences and a guarded gate. In addition, Port of Seattle security personnel are on-site 24 hours a day. Based on the answer to question B1, the potential for contamination present at the site to impact local drinking water quality is low. No vital ecology or protected natural resources have been identified in the vicinity of the site.

B3. <u>What are the potential effects of human exposure (short- and long-term effects)?</u>

The contaminants detected in the soils and groundwater at the facility include volatile and semi-volatile organic compounds, PCBs, and metals. The potential short- and long-term health effects from exposure to these compounds will vary based on a number of factors including contaminant concentration, type, and frequency of exposure. Quantification of the potential carcinogenic and noncarcinogenic effects of potential exposure to these compounds would require a detailed risk assessment. In lieu of that level of analysis and based on the facility's operations, site setting, and our current understanding regarding the extent and nature of site contamination, the most plausible human receptors appear to be the site workers. However, as previously discussed, the extent and degree of exposure to site workers are not expected to result in adverse health effects under normal operating conditions. Exposure to contaminated soil and volatile soil vapors may occur if the soil beneath the asphalt or concrete

is disturbed. Adverse impact on the local residents during excavation activities is not likely due to their distance from the site (nearly ½ mile) and their location up and cross-wind of the prevailing wind direction.

B4. Has human exposure actually occurred? When may human exposure occur?

B.4.(a). What kind (e.g., inhalation, ingestion, skin contact?)

No human exposure to contamination at the Burlington facility has been reported or documented.

B.4.(b). Are there reports of illness, injury, death?

There have been no reports of illness, injuries, or deaths as a result of exposure to contaminated soil and/or groundwater at the site.

B.4.(c). May people be affected?

Based on our current understanding of site conditions and the potential types of contaminant transport, there is no reason to suspect that the local community is being exposed to site contamination. See questions B1, B2, and B3 for additional discussion of this subject.

B.4.(d). What are the characteristics of the exposed population(s) (how many, infants, nursing home residents)?

A demographic survey of the surrounding community has not been performed. However, no human exposures have been reported or documented.

B5. If response is delayed, how will the situation change?

Based on our current understanding of site conditions and the potential contaminant migration pathways, there does not appear to be an imminent health risk to the local population or on-site workers. Therefore, delaying remedial action at the site should not change this Interim Measures assessment.

C. POTENTIAL ENVIRONMENTAL EXPOSURE AND THREATS

C1. What media have been and may be contaminated (e.g., groundwater, air, surface water)

Contamination has been detected in soil and groundwater at the site. The upper and lower aquifers probably discharge to Elliott Bay. However, it is not known if groundwater contamination present at the site has migrated far enough off-site to be discharged to the bay. In addition, no contaminant loading studies have been conducted to assess the potential impact

time & contam.
35 ft

of contaminants from the Burlington facility on the water quality of Elliott Bay. All stormwater at the site is collected and routed to POTW.

C2. What are the likely short-term and long-term threats and effects on the environment of the released water or constituents?

No sensitive habitats have been identified in the vicinity of Burlington's facility. Therefore, there is no evidence to indicate that environmental receptors may be threatened by site related contamination.

C3. What natural resource and environmental effects have occurred or are possible (terrestrial; aquatic organisms; aquifers whether or not used for drinking water purposes)?

No adverse effects on terrestrial or aquatic organisms have been observed. Although the extent of groundwater and soil contamination at the site is not completely known, no adverse effects on aquatic or terrestrial organisms is anticipated. The upper and lower aquifers at the site do exhibit elevated levels of various constituents. However, there does not appear to be any current or anticipated beneficial use for either of these two aquifers.

C4. What are the known or projected ecological effects?

No ecological impacts have been observed or are anticipated.

C5. When is threat likely to materialize (days, weeks, months)?

No ecological threat has been observed or is anticipated.

C6. What are the projected long-term effects?

No long-term-effects are anticipated.

C7. If response is delayed, how will the situation change?

Since no ecological impacts have been observed or are anticipated, there is no reason to suspect that delaying remedial action at the Pier 91 facility would change this evaluation.

REFERENCES

PRC Environmental Management, Inc., 1993, Port of Seattle/Burlington Environmental, Inc. Pier 91 Facility, Seattle, Washington, Interim Final Resource Conservation and Recovery Act Facility Assessment.

Tetra Tech, Inc., 1988, Draft Report, RCRA Facility Assessment, Chemical Processors, Inc. Pier 91, Seattle, Washington.

APPENDIX A
Data Qualifier Explanation

TABLES

TABLE 1

VOCs Detected in Soil
USEPA Method 8240

Pier 91 Facility

SITE	DATE	DEPTH	Chloroethane ug/kg	Methylene chloride ug/kg	Acetone ug/kg	Carbon disulfide ug/kg	1,1-DCA ug/kg	cis-1,2-Dichloroethene ug/kg	Chloroform ug/kg
CP-106B	01/25/93	2.0	<4000	<2000	32000 B	<2000	<2000	---	<2000
CP-106B	01/25/93	6.0	<5000	<2500	<25000	<2500	<2500	---	<2500
CP-106B	01/25/93	18.0	<500	420 B	<2500	<250	<250	---	<250
CP-106B	02/19/93	35.0	<12	150 B	(18) JB	(2.0) J	<6	---	<6
CP-106B	02/19/93	39.0	<12	170 B	(18) JB	<6	<6	---	<6
CP-107	12/29/88	0.0	<16	48 B	<33	<5.8	<2.9	---	<5.3
CP-107	12/29/88	2.5	<3.2	<3.3	<6.6	<1.1	<0.6	---	<1.1
CP-107	12/29/88	6.0	<14	7.6 J	<29	<5.1	<2.5	---	<4.7
CP-107	12/29/88	6.5	<470	<500	<1000	<170	<86	---	<160
CP-107	12/29/88	15.0	<490	<510	<1000	<180	<880	---	<160
CP-108A	12/28/88	0.0	---	---	---	---	---	---	---
CP-108A	12/28/88	2.5	<6.1	36	<13	<2.2	<1.1	---	<2.0
CP-108A	12/28/88	6.0	<1000	1600	<2200	<380	<190	---	<340
CP-108A	12/28/88	15.0	<7.1	8.5	<15	<2.6	<1.3	---	<2.4
CP-108A	12/28/88	20.0	<30	44	<63	<11	<5.5	---	<10
CP-109	12/15/88	0.0	---	---	---	---	---	---	---
CP-109	12/15/88	0.5	<870	<920	<1800	<320	<160	---	<290
CP-109	12/15/88	2.5	<1800	<1900	<3800	<650	<330	---	<600
CP-109	12/15/88	6.0	<2000	1800 J	<4200	<730	<370	---	<670
CP-109	12/15/88	15.0	<38	39 JB	<78	<14	<6.8	---	<13
CP-109	12/15/88	20.0	<39	110 B	<82	<14	<7.1	---	<13
CP-109	12/15/88	25.0	<3.8	<4.1	<8.0	<1.4	<0.7	---	<1.3
CP-110	12/30/88	0.0	<3.3	9.7 B	<6.9	<1.2	<0.6	---	<1.1
CP-110	12/30/88	2.5	<3.3	1.3 JB	<6.9	<1.2	<0.6	---	<1.1
CP-110	12/30/88	6.0	<470	310 JB	<990	<170	<860	---	<160
CP-110	12/30/88	15.0	<17	20 B	<35	<6.1	<3.1	---	<5.6
CP-111	10/10/92	2.0	<5.4	7.8 B	14 B	<2.7	<2.7	<2.7	<2.7

< = Not detected at indicated reporting limit --- = Not sampled and/or analyzed All values represent total concentrations unless noted

Hits only # = Highest of Multiple Results ??? = Duplicate Results

Data qualifiers presented in Appendix A

TABLE 1

VOCs Detected in Soil
USEPA Method 8240

Pier 91 Facility

SITE	DATE	DEPTH	2-Butanone ug/kg	1,1,1-TCA ug/kg	TCE ug/kg	Benzene ug/kg	2-Hexanone ug/kg	PCE ug/kg	Toluene ug/kg
CP-106B	01/25/93	2.0	<10000	<2000	<2000	<2000	<2000	<2000	6500 B
CP-106B	01/25/93	6.0	<12500	<2500	<2500	<2500	<2500	<2500	(2400) JB
CP-106B	01/25/93	18.0	<1250	<250	<250	<250	<250	<250	<250
CP-106B	02/19/93	35.0	<30	<6	<6	<6	<6	<6	(2.2) JB
CP-106B	02/19/93	39.0	<30	<6	<6	<6	<6	<6	(2.8) JB
CP-107	12/29/88	0.0	<30	<2.9	<2.9	<4.8	<15	<2.4	<3.8
CP-107	12/29/88	2.5	<5.9	<0.6	<0.6	<1.0	<3.1	<0.5	<0.8
CP-107	12/29/88	6.0	<26	<2.5	<2.5	6.9	<14	<2.1	<3.4
CP-107	12/29/88	6.5	<890	<86	<86	<140	<460	<71	<110
CP-107	12/29/88	15.0	<910	<88	<88	<150	<470	<74	<120
CP-108A	12/28/88	0.0	---	---	---	---	---	---	---
CP-108A	12/28/88	2.5	<11.4	<1.1	<1.1	<1.8	<5.9	1.9	5.6
CP-108A	12/28/88	6.0	<1900	<190	<190	<310	<1000	<160	<250
CP-108A	12/28/88	15.0	<13	<1.3	<1.3	<2.2	<6.9	<1.1	<1.7
CP-108A	12/28/88	20.0	<56	<5.5	<5.5	<9.1	<29	<4.5	<7.3
CP-109	12/15/88	0.0	---	---	---	---	---	---	---
CP-109	12/15/88	0.5	<1600	<160	<160	<260	<840	<130	1700
CP-109	12/15/88	2.5	<3400	<330	<330	<540	<1700	<270	2700
CP-109	12/15/88	6.0	<3800	<370	<370	<610	<2000	<300	<490
CP-109	12/15/88	15.0	<70	<6.8	<6.8	<11	<36	<5.7	12
CP-109	12/15/88	20.0	<74	<7.1	<7.1	<12	<38	<6.0	14
CP-109	12/15/88	25.0	<7.2	<0.7	<0.7	26	<3.7	<0.6	3.0
CP-110	12/30/88	0.0	<6.2	<0.6	<0.6	<1.0	<3.2	<0.5	<0.8
CP-110	12/30/88	2.5	<6.2	<0.6	<0.6	<1.0	<3.2	<0.5	<0.8
CP-110	12/30/88	6.0	<890	<86	<86	<140	<460	<71	<110
CP-110	12/30/88	15.0	<32	<3.1	<3.1	<5.1	<16	<2.6	<4.1
CP-111	10/10/92	2.0	<14	<2.7	<2.7	<2.7	<14	<1.9	<2.7

< = Not detected at indicated reporting limit --- = Not sampled and/or analyzed All values represent total concentrations unless noted

Hits only # = Highest of Multiple Results ??? = Duplicate Results

Data qualifiers presented in Appendix A

TABLE 1

VOCs Detected in Soil
USEPA Method 8240

Pier 91 Facility

SITE	DATE	DEPTH	Chlorobenzene ug/kg	Ethylbenzene ug/kg	Total xylenes ug/kg	1,1,2-Trichloro trifluoroethane ug/kg	1,1-DCE ug/kg
CP-106B	01/25/93	2.0	<2000	25000	100000	---	<2000
CP-106B	01/25/93	6.0	<2500	22000	80000	---	<2500
CP-106B	01/25/93	18.0	<250	(77) J	300	---	<250
CP-106B	02/19/93	35.0	<6	<6	<6	---	<6
CP-106B	02/19/93	39.0	<6	<6	<6	---	<6
CP-107	12/29/88	0.0	<4.3	120	40 M	<4.8	<3.8
CP-107	12/29/88	2.5	<0.9	<0.8	<1.7	<1.0	<0.8
CP-107	12/29/88	6.0	<3.8	82	45	<4.2	<3.4
CP-107	12/29/88	6.5	<130	400	87 J	<140	<110
CP-107	12/29/88	15.0	<130	<120	<260	<150	<120
CP-108A	12/28/88	0.0	---	---	---	---	---
CP-108A	12/28/88	2.5	<1.7	2.3	7.3	<3.7	<1.5
CP-108A	12/28/88	6.0	<280	<250	<560	<630	<250
CP-108A	12/28/88	15.0	<1.9	<1.7	<3.9	<4.3	<1.7
CP-108A	12/28/88	20.0	<8.2	<7.3	<16	<18	<7.3
CP-109	12/15/88	0.0	---	---	---	---	---
CP-109	12/15/88	0.5	<240	650	4700	<260	<210
CP-109	12/15/88	2.5	<490	1300	7400	<540	<430
CP-109	12/15/88	6.0	<550	660	490 J	<610	<490
CP-109	12/15/88	15.0	<10	9.5	25	<11	<9.1
CP-109	12/15/88	20.0	<11	5.8 J	<21	<12	<9.5
CP-109	12/15/88	25.0	<1.0	0.9	6.5	<1.2	<0.9
CP-110	12/30/88	0.0	<0.9	<0.8	<1.8	<1.0	<0.8
CP-110	12/30/88	2.5	<0.9	<0.8	<1.8	<1.0	<0.8
CP-110	12/30/88	6.0	<130	<110	<260	<140	<110
CP-110	12/30/88	15.0	<4.6	<4.1	<9.2	<5.1	<4.1
CP-111	10/10/92	2.0	<2.7	<2.7	4.6 J	<5.4	---

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Data qualifiers presented in Appendix A

TABLE 1

VOCs Detected in Soil
USEPA Method 8240

Pier 91 Facility

SITE	DATE	DEPTH	Chloroethane ug/kg	Methylene chloride ug/kg	Acetone ug/kg	Carbon disulfide ug/kg	1,1-DCA ug/kg	cis-1,2-Dichloroethene ug/kg	Chloroform ug/kg
CP-111	10/10/92	6.0	<270	<270	1300 B	<140	<140	<140	<140
CP-112	10/10/92	2.0	<2.1	8.5 B	6.8 B	<1.1	<1.1	<1.1	<1.1
CP-112	10/10/92	6.0	<2.6	3.9 B	11 B	<1.3	<1.3	<1.3	<1.3
CP-113	10/11/92	2.0	<2.1	2.4 B	26 B	<1.0	<1.0	<1.0	<1.0
CP-113	10/11/92	6.0	<1500	<1500	<3700	<750	<750	<750	<750
CP-114	10/08/92	2.0	<2.0	2.4 B	<5.1	<1.0	<1.0	<1.0	<1.0
CP-114	10/08/92	6.0	<2.2	1.8 JB	94 B	<1.1	<1.1	<1.1	<1.1
CP-115A	10/08/92	2.0	<2.1	14 B	<5.2	<1.0	<1.0	<1.0	<1.0
CP-115A	10/08/92	6.0	<630	1400 B	1100 JB	<310	<310	<310	<310
CP-115B	02/02/93	18.0	<10	230 B	51 B	<5	<5	---	<5
CP-115B	02/09/93	36.0	<10	103 JB	(28) JB	<5	<5	---	<5
CP-115B	02/12/93	38.0	<500	1200 B	<2500	<250	<250	---	<250
CP-116	09/23/92	2.0	<290	1900	<740	<150	<150	<150	<150
CP-116	10/05/92	2.0	<260	<260	<640	<130	<130	<130	<130
CP-116	10/05/92	6.0	<280	<280	<690	<140	<140	<140	<140
CP-117	09/24/92	2.0	<270	4400	<680	<140	<140	<140	<140
CP-117	09/24/92	6.0	<290	5500	640 J	<140	150 M	260	<140
CP-118	10/01/92	2.0	<260	<260	<660	<130	<130	<130	<130
CP-118	10/01/92	6.0	<270	<270	<680	<140	<140	<140	<140
CP-119	09/28/92	2.0	<310	11000 B	1100	170 M	<160	<160	<160
CP-119	09/28/92	6.0	<300	960 M	<760	<150	170 M	<150	<150
CP-121	10/07/92	2.0	<2.2	5.1 B	12 B	<1.1	<1.1	<1.1	<1.1
CP-121	10/07/92	6.0	<590	750 B	1200 JB	<290	<290	<290	<290
CP-122A	10/08/92	2.0	<2.1	4.9 B	<5.3 B	<1.1	<1.1	<1.1	<1.1
CP-122A	10/08/92	6.0	<2.3	2.4 B	26 B	<1.1	<1.1	<1.1	<1.1
CP-122A	10/09/92	14.0	<2.3	4.1 B	17 B	<1.2	<1.2	<1.2	<1.2
CP-122B	01/19/93	2.0	<500	450 B	(110) J	<250	<250	---	<250

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TABLE 1

VOCs Detected in Soil
USEPA Method 8240

Pier 91 Facility

SITE	DATE	DEPTH	2-Butanone ug/kg	1,1,1-TCA ug/kg	TCE ug/kg	Benzene ug/kg	2-Hexanone ug/kg	PCE ug/kg	Toluene ug/kg
CP-111	10/10/92	6.0	1000	<140	<140	<140	<680	<95	<140
CP-112	10/10/92	2.0	<11	<1.1	<1.1	<1.1	5.6	<0.7	2.5
CP-112	10/10/92	6.0	<6.6	<1.3	<1.3	<1.3	<6.6	<0.9	<1.3
CP-113	10/11/92	2.0	<5.2	<1.0	<1.0	<1.0	<5.2	<0.7	<1.0
CP-113	10/11/92	6.0	<3700	<750	<750	<750	<3700	<520	<750
CP-114	10/08/92	2.0	<5.1	<1.0	<1.0	<1.0	<5.1	<0.7	<1.0
CP-114	10/08/92	6.0	5.9	<1.1	<1.1	<1.1	<5.4	<0.8	1.3
CP-115A	10/08/92	2.0	<5.2	<1.0	<1.0	<1.0	<5.2	<0.7	<1.0
CP-115A	10/08/92	6.0	<1600	<310	<310	<310	<1600	<220	<310
CP-115B	02/02/93	18.0	<25	<5	<5	<5	<5	<5	(4.9) JB
CP-115B	02/09/93	36.0	<25	<5	<5	<5	<5	<5	(4.6) JB
CP-115B	02/12/93	38.0	<1250	<250	<250	<250	<250	<250	(26) JB
CP-116	09/23/92	2.0	<740	<150	<150	<150	<740	<100	440
CP-116	10/05/92	2.0	<640	<130	<130	<130	<640	<130	91 M
CP-116	10/05/92	6.0	<690	<140	<140	<140	<690	<140	96 M
CP-117	09/24/92	2.0	<680	<140	<140	<140	<680	<95	24000
CP-117	09/24/92	6.0	<710	300	<140	160	<710	800	65000 K
CP-118	10/01/92	2.0	<660	<130	<130	<130	<660	<130	130 M
CP-118	10/01/92	6.0	<680	<140	<140	<140	<680	<140	<140
CP-119	09/28/92	2.0	<780	<160	<160	320	<780	<110	2500
CP-119	09/28/92	6.0	<760	<150	<150	400	<760	170 M	5000
CP-121	10/07/92	2.0	<5.5	<1.1	<1.1	<1.1	<5.5	<0.8	<1.1
CP-121	10/07/92	6.0	<1500	<290	<290	<290	<1500	<210	360
CP-122A	10/08/92	2.0	<5.3	<1.1	<1.1	<1.1	<5.3	<0.8	<1.1
CP-122A	10/08/92	6.0	<5.7	<1.1	<1.1	<1.1	<5.7	<0.8	<1.1
CP-122A	10/09/92	14.0	<5.8	<1.2	<1.2	<1.2	<5.8	<0.8	<1.2
CP-122B	01/19/93	2.0	<1250	<250	<250	<250	<250	<250	<250

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TABLE 1

VOCs Detected in Soil
USEPA Method 8240

Pier 91 Facility

SITE	DATE	DEPTH	Chlorobenzene ug/kg	Ethylbenzene ug/kg	Total xylenes ug/kg	1,1,2-Trichloro trifluoroethane ug/kg	1,1-DCE ug/kg
CP-111	10/10/92	6.0	<140	<140	<270	<270	---
CP-112	10/10/92	2.0	<1.1	<1.1	<2.1	<2.1	---
CP-112	10/10/92	6.0	<1.3	<1.3	<2.6	<2.6	---
CP-113	10/11/92	2.0	<1.0	<1.0	<2.1	<2.1	---
CP-113	10/11/92	6.0	<750	<750	<1500	<1500	---
CP-114	10/08/92	2.0	<1.0	<1.0	<2.0	<2.0	---
CP-114	10/08/92	6.0	<1.1	<1.1	1.7 J	<2.2	---
CP-115A	10/08/92	2.0	<1.0	<1.0	<2.1	<2.1	---
CP-115A	10/08/92	6.0	<310	<310	<630	<630	---
CP-115B	02/02/93	18.0	<5	5.3	(4.9) J	---	<5
CP-115B	02/09/93	36.0	<5	<5	<5	---	<5
CP-115B	02/12/93	38.0	<250	<250	<250	---	<250
CP-116	09/23/92	2.0	<150	1600	11000	<290	---
CP-116	10/05/92	2.0	<130	320	1900	<260	---
CP-116	10/05/92	6.0	<140	660	2300	<280	---
CP-117	09/24/92	2.0	<140	13000	29000	<270	---
CP-117	09/24/92	6.0	<140	290000 K	440000 K	740	---
CP-118	10/01/92	2.0	<130	1900	6700	<260	---
CP-118	10/01/92	6.0	<140	<140	520 M	<270	---
CP-119	09/28/92	2.0	<160	5400	24000	<310	---
CP-119	09/28/92	6.0	<150	3700	14000	770	---
CP-121	10/07/92	2.0	<1.1	<1.1	<2.2	<2.2	---
CP-121	10/07/92	6.0	<290	<290	270 M	<590	---
CP-122A	10/08/92	2.0	<1.1	<1.1	<2.1	<2.1	---
CP-122A	10/08/92	6.0	<1.1	<1.1	<2.3	<2.3	---
CP-122A	10/09/92	14.0	<1.2	<1.2	<2.3	<2.3	---
CP-122B	01/19/93	2.0	<250	<250	<250	---	<250

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TABLE 1

VOCs Detected in Soil
USEPA Method 8240

Pier 91 Facility

SITE	DATE	DEPTH	Chloroethane ug/kg	Methylene chloride ug/kg	Acetone ug/kg	Carbon disulfide ug/kg	1,1-DCA ug/kg	cis-1,2-Dichloroethene ug/kg	Chloroform ug/kg
CP-122B	01/19/93	6.0	<500	300 B	(330) J	<250	<250	---	<250
CP-122B	01/19/93	22.0	<500	380 B	(300) J	<250	<250	---	<250
CP-122B	02/24/93	32.0	<12.0	110 B	(45) JB	<6.0	<6.0	---	(0.91) J
CP-122B	02/24/93	39.0	<10.0	150 B	57 B	(0.89) J	<5.0	---	(0.87) J
CP-122C	01/18/93	2.0	<500	2300 B	<2500	<250	<250	---	<250
CP-122C	01/18/93	6.0	<500	(170) JB	(150) J	<250	<250	---	<250
HA-03	09/22/92	4.5	<430	<430	<1100	<220	<220	<220	<220
HA-03	09/22/92	6.0	<590	1700 B	<1500	<290	<290	<290	<290
HA-04	09/28/92	1.5	<300	970 B	<740	<150	260	<150	<150
HA-04	09/28/92	3.0	<280	370 B	<690	<140	350	<140	<140
HA-05	09/22/92	4.5	<560	1100	<1400	<280	<280	<280	<280
HA-05	09/22/92	6.0	<590	750 B	<1500	<290	<290	<290	<290
HA-06	09/21/92	4.5	<530	<530	<1300	<260	<260	<260	<260
HA-06	09/21/92	6.0	<630	<630	<1600	<310	<310	<310	<310
HA-07	09/16/92	1.5	<1.6	140 B	140 B	1.8 M	130	12	51
HA-07	09/16/92	3.0	<1100	<1100	2800 B	<540	1700	<540	<540
HA-08	09/18/92	3.0	<260	<260	<660	<130	<130	<130	<130
HA-08	09/18/92	4.5	<130	<130	370	<70	<70	<70	<70
HA-09	09/29/92	1.5	<270	380 B	<670	<130	<130	<130	<130
HA-10	09/18/92	1.5	<530	1100	<1300	<260	<260	<260	<260
HA-10	09/29/92	4.5	<320	<320	<800	<160	<160	<160	<160
HA-10	09/29/92	5.0	<260	<260	<650	<130	<130	<130	<130
HA-11	09/17/92	1.5	<1400	2300 B	<3500	3500	<690	<690	<690
HA-11	09/17/92	6.0	<560	910 B	<1400	<280	<280	<280	<280
HA-12	09/17/92	5.0	<670	<670	<1700	<330	<330	<330	<330
HA-12	09/17/92	6.0	<280	<280	<690	<690	<140	<140	<140
SB-1	12/21/88	0.0	<3.5	7.7 B	<7.3	<1.3	<0.6	---	<1.2

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TABLE 1

VOCs Detected in Soil
USEPA Method 8240

Pier 91 Facility

SITE	DATE	DEPTH	2-Butanone ug/kg	1,1,1-TCA ug/kg	TCE ug/kg	Benzene ug/kg	2-Hexanone ug/kg	PCE ug/kg	Toluene ug/kg
CP-122B	01/19/93	6.0	<1250	<250	<250	<250	<250	<250	<250
CP-122B	01/19/93	22.0	<1250	<250	<250	<250	<250	<250	<250
CP-122B	02/24/93	32.0	<3.0	<6.0	<6.0	<6.0	<6.0	<6.0	8.1 B
CP-122B	02/24/93	39.0	<25.0	<5.0	<5.0	<5.0	<5.0	<5.0	6.9 B
CP-122C	01/18/93	2.0	<1250	<250	<250	<250	<250	<250	(57) JB
CP-122C	01/18/93	6.0	<1250	<250	<250	<250	<250	<250	<250
HA-03	09/22/92	4.5	<1100	<220	<220	<220	<1100	<150	290 B
HA-03	09/22/92	6.0	<1500	<290	<290	<290	<1500	<210	330 B
HA-04	09/28/92	1.5	<2800	<150	<150	310	<740	580	9700
HA-04	09/28/92	3.0	<2900	<140	<140	320	<690	740	9500
HA-05	09/22/92	4.5	<1400	<280	<280	300	<1400	430	820 B
HA-05	09/22/92	6.0	<1500	<290	<290	<290	<1500	<210	2700 B
HA-06	09/21/92	4.5	<1300	<260	<260	<260	<1300	<180	410 B
HA-06	09/21/92	6.0	<1600	<310	<310	<310	<1600	<220	<310
HA-07	09/16/92	1.5	63	54	26	73	<61	190 K	35000 K
HA-07	09/16/92	3.0	4000 B	410 M	<540	910	<2700	4000	140000 KB
HA-08	09/18/92	3.0	<1300	<130	<130	<130	<660	<92	<130
HA-08	09/18/92	4.5	<700	<70	<70	<70	<330	<46	82
HA-09	09/29/92	1.5	<2800	<130	<130	92 M	<670	<130	630
HA-10	09/18/92	1.5	<1300	<260	<260	270	<1300	<180	2100
HA-10	09/29/92	4.5	<3400	<160	<160	160	<800	<160	2500
HA-10	09/29/92	5.0	<2500	<130	<130	<130	<650	<130	1300
HA-11	09/17/92	1.5	<3500	<690	<690	380 J	<3500	400 J	6200 B
HA-11	09/17/92	6.0	<1400	<280	<280	<280	<1400	<190	300 B
HA-12	09/17/92	5.0	<1700	<330	<330	<330	<1700	<230	4600
HA-12	09/17/92	6.0	<690	<140	<140	<140	<690	<97	780
SB-1	12/21/88	0.0	<6.6	<0.6	<0.6	<1.1	<3.4	<0.5	3.2

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TABLE 1

VOCs Detected in Soil
USEPA Method 8240

Pier 91 Facility

SITE	DATE	DEPTH	Chlorobenzene ug/kg	Ethylbenzene ug/kg	Total xylenes ug/kg	1,1,2-Trichloro trifluoroethane ug/kg	1,1-DCE ug/kg
CP-122B	01/19/93	6.0	<250	<250	<250	---	<250
CP-122B	01/19/93	22.0	<250	<250	<250	---	<250
CP-122B	02/24/93	32.0	<6.0	(3.7) J	(4.4) J	---	<6.0
CP-122B	02/24/93	39.0	<5.0	(4.1) J	7.0	---	<5.0
CP-122C	01/18/93	2.0	<250	<250	<250	---	<250
CP-122C	01/18/93	6.0	<250	<250	<250	---	<250
HA-03	09/22/92	4.5	<220	16000	25000	<430	---
HA-03	09/22/92	6.0	<290	1200	5700	<590	---
HA-04	09/28/92	1.5	<300	3100	22000	1100	---
HA-04	09/28/92	3.0	<280	2900	20000	950	---
HA-05	09/22/92	4.5	<280	530000 K	630000 K	<560	---
HA-05	09/22/92	6.0	<290	320000 K	440000 K	<590	---
HA-06	09/21/92	4.5	<260	3500	13000	<530	---
HA-06	09/21/92	6.0	<310	5200	8700	<630	---
HA-07	09/16/92	1.5	<0.8	880 K	3900 K	190 K	---
HA-07	09/16/92	3.0	<540	17000	150000 B	6100	---
HA-08	09/18/92	3.0	<130	940	4200	<260	---
HA-08	09/18/92	4.5	<70	170	1700	<130	---
HA-09	09/29/92	1.5	<130	520	2600	<270	---
HA-10	09/18/92	1.5	290 M	1200	6400	<530	---
HA-10	09/29/92	4.5	<480	2000	8400	<320	---
HA-10	09/29/92	5.0	<260	1200	5400	<260	---
HA-11	09/17/92	1.5	<690	4100	29000 B	<1400	---
HA-11	09/17/92	6.0	<280	400	1600 B	<560	---
HA-12	09/17/92	5.0	<330	<330	32000	<670	---
HA-12	09/17/92	6.0	<140	3600	19000	<280	---
SB-1	12/21/88	0.0	<1.0	1.5	4.6	<1.1	<0.8

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TABLE 1

VOCs Detected in Soil
USEPA Method 8240

Pier 91 Facility

SITE	DATE	DEPTH	Chloroethane ug/kg	Methylene chloride ug/kg	Acetone ug/kg	Carbon disulfide ug/kg	1,1-DCA ug/kg	cis-1,2-Dichloroethene ug/kg	Chloroform ug/kg
SB-1	12/21/88	2.5	<3.1	6.0 B	<6.5	<1.1	<0.6	---	<1.0
SB-1	12/21/88	6.0	<3.9	17 B	<7.7	<1.3	<0.7	---	<1.2
SB-2	12/22/88	0.0	<3.3	11	<6.8	<1.2	<0.6	---	<1.1
SB-2	12/22/88	2.5	<3.2	35	<6.7	<1.2	<0.6	---	<1.1
SB-2	12/22/88	6.0	<3.2	26	<6.7	<1.2	<0.6	---	<1.1
TB-1	12/22/88	0.0	<2.9	3.6	<6.2	<1.1	<0.5	---	<1.0
TB-1	12/22/88	2.5	<3.3	5.7	<7.0	<1.2	<0.6	---	<1.1
TB-1	12/22/88	6.0	<6.4	8.3	<13	<2.3	<1.2	---	<2.1
TB-1	12/22/88	15.0	<40	170	<84	<15	<7.3	---	<13
TB-1	12/22/88	20.0	<3.6	8.7	<7.5	<1.3	<0.7	---	<1.2
TB-2	12/21/88	0.0	<16	35 B	<34	<5.8	52	---	<5.3
TB-2	12/21/88	2.5	<8.2	12 B	88	<3.0	<1.5	---	<2.7
TB-2	12/21/88	6.0	<4000	9200 B	<8400	<1500	<730	---	<1300
TB-2	12/21/88	15.0	<970	13000 B	<2000	<350	<180	---	<320
TB-2	12/21/88	20.0	<19	36 B	<40	<7.0	<3.5	---	<6.4
TB-3	12/20/88	0.0	<3.3	<3.9	<6.8	<1.2	<0.6	---	<1.1
TB-3	12/20/88	2.5	<2.9	5.5	<6.1	<1.1	<0.5	---	<1.0
TB-3	12/20/88	6.0	<14	<17	<30	<5.1	<2.6	---	<4.7
TB-3	12/20/88	15.0	<17	12 J	<36	<6.2	<3.1	---	<5.7
TB-3	12/20/88	20.0	<18	11 J	<38	<6.7	<3.3	---	<6.1
TB-4	12/12/88	0.0	<3600	<3800	<8000	<1300	<650	---	<1200
TB-4	12/12/88	2.5	<3.4	<3.6	<7.1	<1.2	<0.6	---	<1.1
TB-4	12/12/88	6.0	<40000	<43000	<84000	<15000	<7300	---	<13000
TB-4	12/12/88	15.0	<17	<18	<36	<6.3	<3.2	---	<5.8
TB-4	12/12/88	20.0	<4000	<4300	<8400	<1500	<730	---	<1300
TB-4	12/12/88	25.0	<6.5	<6.7	<7.3	<1.3	<0.6	---	<1.2
TB-5	12/19/88	0.0	<2.9	3.7 B	<6.1	<1.1	<0.5	---	<1.0

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Data qualifiers presented in Appendix A

TABLE 1

VOCs Detected in Soil
USEPA Method 8240

Pier 91 Facility

SITE	DATE	DEPTH	2-Butanone ug/kg	1,1,1-TCA ug/kg	TCE ug/kg	Benzene ug/kg	2-Hexanone ug/kg	PCE ug/kg	Toluene ug/kg
SB-1	12/21/88	2.5	<5.8	<0.6	<0.6	<0.9	<3.0	<0.5	<0.7
SB-1	12/21/88	6.0	<6.9	<0.7	<0.7	<1.1	<3.5	<0.6	1.6
SB-2	12/22/88	0.0	<6.1	<0.6	7.1	<1.0	<3.2	1.8	2.5
SB-2	12/22/88	2.5	<6.0	<0.6	62	1.1	<3.1	11	10
SB-2	12/22/88	6.0	<6.1	<0.6	0.7 M	<1.0	<3.1	<0.5	1.6 M
TB-1	12/22/88	0.0	<5.5	<0.5	1.5	<0.9	<2.9	<0.4	0.8
TB-1	12/22/88	2.5	<6.3	1.3 M	3.1	<1.0	<3.2	<0.5	1.0
TB-1	12/22/88	6.0	<12	<1.2	<1.2	<2.0	<6	<1.0	<1.6
TB-1	12/22/88	15.0	<76	<7.3	<7.3	<12	<39	<6.1	<9.8
TB-1	12/22/88	20.0	<6.8	<0.7	<0.7	<1.1	<3.5	<0.5	<0.9
TB-2	12/21/88	0.0	<30	16	17	40	<16	78	3100 K
TB-2	12/21/88	2.5	<15	<1.5	<1.5	<2.5	<7.9	<1.2	3.6
TB-2	12/21/88	6.0	<7600	<730	<730	<1200	<3900	<610	14000
TB-2	12/21/88	15.0	<1800	<180	<180	<290	<940	<150	940
TB-2	12/21/88	20.0	<36	<3.5	<3.5	<5.8	<19	<2.9	71
TB-3	12/20/88	0.0	<6.2	<0.6	<0.6	<1.0	<3.2	<0.5	0.7
TB-3	12/20/88	2.5	<5.4	<0.5	<0.5	<0.9	<2.8	<0.4	<0.7
TB-3	12/20/88	6.0	<27	<2.6	<2.6	<4.3	<14	<2.1	<3.4
TB-3	12/20/88	15.0	<32	<3.1	<3.1	<5.2	<17	<2.6	97
TB-3	12/20/88	20.0	<34	<3.3	<3.3	<5.6	<18	<2.8	300
TB-4	12/12/88	0.0	<6700	<650	<650	<1100	<3500	<540	330000 K
TB-4	12/12/88	2.5	<6.4	<0.6	<0.6	<1.0	<3.3	<0.5	1.3
TB-4	12/12/88	6.0	<76000	<7300	<7300	<12000	<39000	<6100	880000
TB-4	12/12/88	15.0	<33	<3.2	<3.2	<5.3	<17	<2.6	630
TB-4	12/12/88	20.0	<7600	<730	<730	<1200	<3900	<610	1900
TB-4	12/12/88	25.0	<6.5	<0.6	<0.6	<1.1	<3.4	<0.5	16
TB-5	12/19/88	0.0	<5.5	<0.5	0.5 M	<0.9	<2.8	0.4 J	0.9

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Data qualifiers presented in Appendix A

TABLE 1

VOCs Detected in Soil
USEPA Method 8240

Pier 91 Facility

SITE	DATE	DEPTH	Chlorobenzene ug/kg	Ethylbenzene ug/kg	Total xylenes ug/kg	1,1,2-Trichloro trifluoroethane ug/kg	1,1-DCE ug/kg
SB-1	12/21/88	2.5	<0.8	0.4 J	<1.7	<0.9	<0.7
SB-1	12/21/88	6.0	<1.0	0.5 J	1.8 J	<1.1	<0.9
SB-2	12/22/88	0.0	<0.9	1.2	3.4	<1.0	<0.8
SB-2	12/22/88	2.5	<0.9	2.9	9.0	<1.0	4.2
SB-2	12/22/88	6.0	<0.9	1.2 M	1.5 M	<1.0	<0.8
TB-1	12/22/88	0.0	<0.8	0.5	1.9	<0.9	<0.7
TB-1	12/22/88	2.5	<0.9	0.6 J	2.6	<1.0	<0.8
TB-1	12/22/88	6.0	<1.8	<1.6	<5.5	<2.0	<1.6
TB-1	12/22/88	15.0	<11	<9.8	<22	<12	<9.8
TB-1	12/22/88	20.0	<1.0	<0.9	<2.0	<1.1	<0.9
TB-2	12/21/88	0.0	<4.4	3800	7000	<4.9	<3.9
TB-2	12/21/88	2.5	<2.2	3.6	8.5	<2.5	<2.0
TB-2	12/21/88	6.0	<1100	9700	23000	<1200	<980
TB-2	12/21/88	15.0	<260	930	2400	<290	<240
TB-2	12/21/88	20.0	<5.2	100	260	<5.8	<4.7
TB-3	12/20/88	0.0	<0.9	<0.8	2.1	<2.0	<0.8
TB-3	12/20/88	2.5	<0.8	<0.7	<1.6	<1.8	<0.7
TB-3	12/20/88	6.0	<3.8	27	<4.7	<8.5	<3.4
TB-3	12/20/88	15.0	<4.6	310	870	<10	<4.1
TB-3	12/20/88	20.0	<5.0	170	450	<11	<4.4
TB-4	12/12/88	0.0	<1000	490000 K	920000 K	---	---
TB-4	12/12/88	2.5	<0.9	<0.8	4.8	---	---
TB-4	12/12/88	6.0	<11000	1300000	3100000	---	---
TB-4	12/12/88	15.0	<4.7	1200 K	2600 K	---	---
TB-4	12/12/88	20.0	<1100	3000	8200	---	---
TB-4	12/12/88	25.0	<0.9	40	100	---	---
TB-5	12/19/88	0.0	<0.8	1.3	2.9	<0.9	<0.7

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Data qualifiers presented in Appendix A

TABLE 1

VOCs Detected in Soil
USEPA Method 8240

Pier 91 Facility

SITE	DATE	DEPTH	Chloroethane ug/kg	Methylene chloride ug/kg	Acetone ug/kg	Carbon disulfide ug/kg	1,1-DCA ug/kg	cis-1,2-Dichloroethene ug/kg	Chloroform ug/kg
TB-5	12/19/88	2.5	<3.3	23	<6.9	<1.2	<0.6	---	<1.1
TB-5	12/19/88	6.0	<13	26 B	<27	<4.7	<2.3	---	<4.3
TB-5	12/19/88	15.0	<3.9	15	<8.1	<1.4	<0.7	---	<1.3
TB-5	12/19/88	20.0	<4.3	10	<8.9	<1.6	<0.8	---	<1.4
TB-6	12/14/88	0.0	<7200	<7600	<15000	<2600	<1300	---	<2400
TB-6	12/14/88	1.0	<1800	<1900	<3700	<640	<320	---	<590
TB-6	12/14/88	2.5	<1900	<2000	<3900	<670	<340	---	<620
TB-6	12/14/88	6.0	<7900	<8300	<16000	<2900	<1400	---	<2600
TB-6	12/14/88	15.0	<520	<550	<1100	<190	<94	---	<170
TB-6	12/14/88	20.0	<3.7	<4.0	<7.8	<1.4	<0.7	---	<1.2
TB-6	12/14/88	25.0	<19	<20	<40	<7.0	<3.5	---	<6.4
TB-6	12/14/88	30.0	<500	<530	<1000	<180	<91	---	<170
TB-7	12/12/88	1.6	<7500	<8000	<16000	<2700	3100	---	<2500
TB-7	12/16/88	0.0	<19	<20	1100	<6.7	<3.4	---	110
TB-7	12/16/88	1.6	---	---	---	---	---	---	---
TB-7	12/16/88	6.0	(4) J	<430	1750	<146	<73	---	<130
TB-7	12/16/88	15.0	<3800	<4100	11000	<1400	<700	---	<1300
TB-7	12/16/88	20.0	<400	<430	1400	<150	<73	---	<130
TB-7	12/16/88	25.0	<3.5	<3.7	22	<1.3	<0.6	---	<1.2

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Data qualifiers presented in Appendix A

TABLE 1

VOCs Detected in Soil
USEPA Method 8240

Pier 91 Facility

SITE	DATE	DEPTH	2-Butanone ug/kg	1,1,1-TCA ug/kg	TCE ug/kg	Benzene ug/kg	2-Hexanone ug/kg	PCE ug/kg	Toluene ug/kg
TB-5	12/19/88	2.5	<6.2	<0.6	1.8	<1.0	<3.2	0.8	2.1
TB-5	12/19/88	6.0	<24	<2.3	<2.3	<3.9	<12	<1.9	<3.1
TB-5	12/19/88	15.0	<7.2	<0.7	<0.7	<1.2	<3.7	<0.6	0.8 M
TB-5	12/19/88	20.0	<8.0	<0.8	<0.8	<1.3	<4.1	<0.6	2.1
TB-6	12/14/88	0.0	<13000	<1300	<1300	<2200	<7000	<1100	1800 M
TB-6	12/14/88	1.0	<3300	<320	<320	<530	<1700	<270	<430
TB-6	12/14/88	2.5	<3500	<340	<340	<560	<1800	<280	780
TB-6	12/14/88	6.0	<15000	<1400	<1400	<2400	<7600	<1200	<1900
TB-6	12/14/88	15.0	<970	<94	<94	<160	<500	<78	<130
TB-6	12/14/88	20.0	<7.0	<0.7	<0.7	3.4	<3.6	<0.6	0.8 J
TB-6	12/14/88	25.0	<36	<3.5	<3.5	<5.8	<19	<2.9	<4.7
TB-6	12/14/88	30.0	<940	<91	<91	<150	<480	<76	<120
TB-7	12/12/88	1.6	<14000	17000	2000	1900 J	<7300	6300	360000
TB-7	12/16/88	0.0	<35	39	<3.4	<5.6	<18	110	2900 K
TB-7	12/16/88	1.6	---	---	---	---	---	---	---
TB-7	12/16/88	6.0	<760	<73	<73	<120	<390	<61	35000 K
TB-7	12/16/88	15.0	<7200	<700	<700	<1200	<3700	<580	28000
TB-7	12/16/88	20.0	<760	<73	<73	<120	<390	<61	6500
TB-7	12/16/88	25.0	<6.6	<0.6	<0.6	<1.1	<3.4	<0.5	400 K

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TABLE 1

VOCs Detected in Soil
USEPA Method 8240

Pier 91 Facility

SITE	DATE	DEPTH	Chlorobenzene ug/kg	Ethylbenzene ug/kg	Total xylenes ug/kg	1,1,2-Trichloro trifluoroethane ug/kg	1,1-DCE ug/kg
TB-5	12/19/88	2.5	<0.9	13	5.0	<1.0	<0.8
TB-5	12/19/88	6.0	<3.5	<3.1	<7.0	<3.9	<3.1
TB-5	12/19/88	15.0	<1.1	0.7 J	2.0 J	<1.2	1.3
TB-5	12/19/88	20.0	<1.2	0.8 J	2.3 J	<1.3	<1.0
TB-6	12/14/88	0.0	<2000	<1700	4200	<2200	<1700
TB-6	12/14/88	1.0	<480	<430	<1000	<530	<430
TB-6	12/14/88	2.5	<510	300 J	2000	2800	<450
TB-6	12/14/88	6.0	<2100	<1900	<4300	<2400	<1900
TB-6	12/14/88	15.0	<140	<130	<280	<160	<130
TB-6	12/14/88	20.0	<1.0	<0.9	<2.0	<1.1	<0.9
TB-6	12/14/88	25.0	<5.2	<4.7	<11	<5.8	<4.7
TB-6	12/14/88	30.0	<140	<120	<270	<150	<120
TB-7	12/12/88	1.6	<2000	290000	1200000	---	---
TB-7	12/16/88	0.0	<5.1	4300 K	8100 K	1400 K	<4.5
TB-7	12/16/88	1.6	---	---	---	---	---
TB-7	12/16/88	6.0	<110	65000 K	140000 K	430	<98
TB-7	12/16/88	15.0	<1000	110000	310000	<2300	<930
TB-7	12/16/88	20.0	<110	12000	31000	<240	<98
TB-7	12/16/88	25.0	<1.0	630 K	1300 K	3.2	<0.9

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TABLE 2

SVOCs Detected in Soil
USEPA Method 8270

Pier 91 Facility

SITE	DATE	DEPTH	Benzyl alcohol ug/kg	2,4-Dimethyl phenol ug/kg	1,2,4-Trichloro benzene ug/kg	Naphthalene ug/kg	4-Chloro-3-methylphenol ug/kg	2-Methyl naphthalene ug/kg	Acenaphthylene ug/kg
CP-106B	01/25/93	2.0	<74000	<37000	<37000	(29000) J	<74000	44000	<37000
CP-106B	01/25/93	6.0	<16000	<7900	<7900	9000	<16000	15000	<7900
CP-106B	01/25/93	18.0	<1700	<870	<870	<870	<1700	<870	<870
CP-106B	02/19/93	35.0	<770	<390	<390	<390	<770	<390	<390
CP-106B	02/19/93	39.0	<800	<400	<400	<400	<800	<400	<400
CP-107	12/29/88	0.0	<340	<140	<68	<68	<140	9700	<68
CP-107	12/29/88	2.5	<310	<130	<63	<63	<130	<63	<63
CP-107	12/29/88	6.0	<370	<150	<74	<74	<150	12000	<74
CP-107	12/29/88	6.5	<2300	<910	<460	<460	<910	29000	<460
CP-107	12/29/88	15.0	<310	<130	<63	<63	<130	200	<63
CP-108A	12/28/88	0.0	---	---	---	---	---	---	---
CP-108A	12/28/88	2.5	<310	<130	<63	<63	<130	<63	<63
CP-108A	12/28/88	6.0	<410	<160	<81	<81	<160	<81	<81
CP-108A	12/28/88	15.0	<420	<170	<83	<83	<170	<83	<83
CP-108A	12/28/88	20.0	<370	<150	<75	<75	<150	<75	<75
CP-109	12/15/88	0.0	---	---	---	---	---	---	---
CP-109	12/15/88	0.5	<5000	<2000	<1000	9900	<2000	38000	<1000
CP-109	12/15/88	2.5	<3700	<1500	<740	14000	<1500	42000	<740
CP-109	12/15/88	6.0	<590	<240	<120	2000	<240	15000	<120
CP-109	12/15/88	15.0	<550	<220	<110	510	<220	2200	<110
CP-109	12/15/88	20.0	<310	<130	<63	120	<130	420	<63
CP-109	12/15/88	25.0	<300	<120	<60	<60	<120	<60	<60
CP-110	12/30/88	0.0	<340	<140	<69	33 J	<140	<69	<69
CP-110	12/30/88	2.5	<320	<130	<64	<64	<130	<64	<64
CP-110	12/30/88	6.0	<900	<360	<180	<180	<360	25000	<180
CP-110	12/30/88	15.0	<350	<140	<71	<71	<140	<71	<71
CP-111	10/10/92	2.0	<5800	<2900	<2900	32000	<5800	20000	(900) J

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TABLE 2

SVOCs Detected in Soil
USEPA Method 8270

Pier 91 Facility

SITE	DATE	DEPTH	Acenaphthene ug/kg	Dibenzofuran ug/kg	Diethylphthalat ug/kg	Fluorene ug/kg	N-Nitroso diphenylamine ug/kg	Phenanthrene ug/kg	Anthracene ug/kg
CP-106B	01/25/93	2.0	(15000) J	(8400) J	<37000	(14000) J	<37000	41000	<37000
CP-106B	01/25/93	6.0	(5400) J	(3300) J	<7900	(5400) J	<7900	16000	(2000) J
CP-106B	01/25/93	18.0	<870	<870	<870	<870	<870	(120) J	<870
CP-106B	02/19/93	35.0	<390	<390	<390	<390	<390	<390	<390
CP-106B	02/19/93	39.0	<400	<400	<400	<400	<400	<400	<400
CP-107	12/29/88	0.0	570	1000	<68	1900	<68	3400	<68
CP-107	12/29/88	2.5	<63	<63	<63	<63	<63	<63	<63
CP-107	12/29/88	6.0	850	2000	<74	4200	<74	6100	290
CP-107	12/29/88	6.5	700	2500	<460	6100	<460	9000	260 M
CP-107	12/29/88	15.0	66	84	<63	170	<63	180	<63
CP-108A	12/28/88	0.0	---	---	---	---	---	---	---
CP-108A	12/28/88	2.5	<63	<63	<63	<63	<63	<63	<63
CP-108A	12/28/88	6.0	<81	<81	<81	<81	<81	<81	<81
CP-108A	12/28/88	15.0	100	44 M	<83	77 J	<83	273	67 J
CP-108A	12/28/88	20.0	<75	<75	<75	<75	<75	<75	<75
CP-109	12/15/88	0.0	---	---	---	---	---	---	---
CP-109	12/15/88	0.5	5400	4000	<1000	9000	<1000	48000	4300
CP-109	12/15/88	2.5	4900	4000	<740	8100	<740	40000	3700
CP-109	12/15/88	6.0	640	1900 M	<120	4900	<120	6800	260 M
CP-109	12/15/88	15.0	300	230	<110	440	<110	1700	150
CP-109	12/15/88	20.0	72	50 M	<63	110	<63	410	35
CP-109	12/15/88	25.0	<60	<60	<60	<60	<60	<60	<60
CP-110	12/30/88	0.0	21 M	<69	<69	<69	<69	34 J	29 J
CP-110	12/30/88	2.5	<64	<64	<64	<64	<64	<64	<64
CP-110	12/30/88	6.0	1700	3100	<180	6300	<180	12000	910
CP-110	12/30/88	15.0	<71	<71	81	<71	<71	<71	<71
CP-111	10/10/92	2.0	(2600) J	6400	<2900	17000	<2900	57000	14000

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Hits only # = Highest of Multiple Results ??? = Duplicate Results

Data qualifiers presented in Appendix A

TABLE 2

SVOCs Detected in Soil
USEPA Method 8270

Pier 91 Facility

SITE	DATE	DEPTH	Di-n-butyl phthalate ug/kg	Fluoranthene ug/kg	Pyrene ug/kg	Butyl benzyl phthalate ug/kg	Benzo(a) anthracene ug/kg	Chrysene ug/kg	bis(2-Ethyl hexyl)phthalate ug/kg
CP-106B	01/25/93	2.0	<37000	(14000) J	(16000) J	<37000	<37000	<37000	<37000
CP-106B	01/25/93	6.0	<7900	(5600) J	(6100) J	<7900	<7900	(2100) J	<7900
CP-106B	01/25/93	18.0	(330) JB	<870	<870	<870	<870	<870	(180) JB
CP-106B	02/19/93	35.0	2400 JB	<390	<390	<390	<390	<390	<390
CP-106B	02/19/93	39.0	2800 JB	<400	<400	<400	<400	<400	<400
CP-107	12/29/88	0.0	<68	510	450	<68	160	210	<68
CP-107	12/29/88	2.5	<63	49 J	67	<63	110	170	<63
CP-107	12/29/88	6.0	<74	960	860	<74	210	270	<74
CP-107	12/29/88	6.5	<460	1000	640	<460	320 J	320 J	<460
CP-107	12/29/88	15.0	<63	39 J	47 J	<63	16 M	17 M	<63
CP-108A	12/28/88	0.0	---	---	---	---	---	---	---
CP-108A	12/28/88	2.5	<63	<63	<63	<63	<63	<63	<63
CP-108A	12/28/88	6.0	<81	200 M	490	<81	<81	360	<81
CP-108A	12/28/88	15.0	<83	360	260	<83	84	100	<83
CP-108A	12/28/88	20.0	<75	<75	<75	<75	<75	<75	<75
CP-109	12/15/88	0.0	---	---	---	---	---	---	---
CP-109	12/15/88	0.5	<1000	8500	14000	<1000	8600	19000	1100
CP-109	12/15/88	2.5	<740	6800	12000	<740	6700	16000	<700
CP-109	12/15/88	6.0	<120	450	710	<120	250	640	<120
CP-109	12/15/88	15.0	<110	380	660	<110	330	730	120
CP-109	12/15/88	20.0	<63	89	140	<63	89	190	<63
CP-109	12/15/88	25.0	<60	<60	<60	<60	<60	<60	<60
CP-110	12/30/88	0.0	<69	100	120	<69	130	190	<69
CP-110	12/30/88	2.5	<64	<64	<64	<64	<64	<64	<64
CP-110	12/30/88	6.0	<180	1600	1800	<180	600	890	<180
CP-110	12/30/88	15.0	<71	<71	<71	<71	<71	<71	<71
CP-111	10/10/92	2.0	(2000) JB	61000	78000	<2900	50000	28000	<2900

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Data qualifiers presented in Appendix A

TABLE 2

SVOCs Detected in Soil
USEPA Method 8270

Pier 91 Facility

SITE	DATE	DEPTH	Di-n-octyl phthalate ug/kg	Benzo(b) fluoranthene ug/kg	Benzo(k)fluor anthene ug/kg	Benzo(a)pyrene ug/kg	Indeno (1,2,3-cd) pyrene ug/kg	Dibenz(a,h) anthracene ug/kg	Benzo(ghi) perylene ug/kg
CP-106B	01/25/93	2.0	<37000	<37000	<37000	<37000	<37000	<37000	<37000
CP-106B	01/25/93	6.0	<7900	(1400) J	(1600) J	<7900	<7900	<7900	<7900
CP-106B	01/25/93	18.0	<870	<870	<870	<870	<870	<870	<870
CP-106B	02/19/93	35.0	<390	<390	<390	<390	<390	<390	<390
CP-106B	02/19/93	39.0	<400	<400	<400	<400	<400	<400	<400
CP-107	12/29/88	0.0	<68	300	300	130	96	30 J	69
CP-107	12/29/88	2.5	<63	480	480	200	150	<63	78
CP-107	12/29/88	6.0	<74	230	230	130	44 J	<74	37 J
CP-107	12/29/88	6.5	<460	480	480	<460	140 M	420 M	390 M
CP-107	12/29/88	15.0	<63	<63	<63	<63	<63	<63	<63
CP-108A	12/28/88	0.0	---	---	---	---	---	---	---
CP-108A	12/28/88	2.5	<63	<63	<63	<63	<63	<63	<63
CP-108A	12/28/88	6.0	<81	82 M	82 M	48 J	<81	<81	<81
CP-108A	12/28/88	15.0	<83	<83	<83	<83	<83	<83	<83
CP-108A	12/28/88	20.0	<75	<75	<75	<75	<75	<75	<75
CP-109	12/15/88	0.0	---	---	---	---	---	---	---
CP-109	12/15/88	0.5	<1000	2300	2300	3700	<1000	1700	1100
CP-109	12/15/88	2.5	<740	2100	2100	3000	<740	1200	820
CP-109	12/15/88	6.0	<120	150	150	130 M	<120	<120	<120
CP-109	12/15/88	15.0	<110	120	120	160 M	<110	<110	<110
CP-109	12/15/88	20.0	<63	54	54	49 M	<63	<63	<63
CP-109	12/15/88	25.0	<60	<60	<60	<60	<60	<60	<60
CP-110	12/30/88	0.0	<69	380	380	85	<69	<69	<69
CP-110	12/30/88	2.5	<64	<64	<64	<64	<64	<64	<64
CP-110	12/30/88	6.0	<180	510	510	250	190	75 M	91 M
CP-110	12/30/88	15.0	<71	<71	<71	<71	<71	<71	<71
CP-111	10/10/92	2.0	<2900	58000	<2900	29000	22000	<2900	20000

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Data qualifiers presented in Appendix A

TABLE 2

SVOCs Detected in Soil
USEPA Method 8270

Pier 91 Facility

SITE	DATE	DEPTH	Benzyl alcohol ug/kg	2,4-Dimethyl phenol ug/kg	1,2,4-Trichloro benzene ug/kg	Naphthalene ug/kg	4-Chloro-3-methylphenol ug/kg	2-Methyl naphthalene ug/kg	Acenaphthylene ug/kg
CP-111	10/10/92	6.0	<5700	<2800	<2800	<2800	<5700	<2800	<2800
CP-112	10/10/92	2.0	<5700	<2800	<2800	<2800	<5700	<2800	(620) J
CP-112	10/10/92	6.0	<2100	<1000	<1000	<1000	<2100	<1000	<1000
CP-113	10/11/92	2.0	<1400	<690	<690	<690	<1400	<690	<690
CP-113	10/11/92	6.0	<1900	<940	<940	<940	<1900	<940	<940
CP-114	10/08/92	2.0	<1400	<680	<680	<680	<1400	<680	<680
CP-114	10/08/92	6.0	<1600	<780	<780	<780	<1600	<780	<780
CP-115A	10/08/92	2.0	<1400	<710	<710	<710	<1400	<710	<710
CP-115A	10/08/92	6.0	<8000	<4000	<4000	<4000	<8000	<4000	<4000
CP-115B	02/02/93	18.0	<860	<430	<430	<430	<860	<430	<430
CP-115B	02/09/93	36.0	<820	<410	<410	<410	<820	<410	<410
CP-115B	02/12/93	38.0	<810	<400	<400	<400	<810	<400	<400
CP-116	09/23/92	2.0	<20000	<10000	<10000	12000	<20000	58000	<10000
CP-116	10/05/92	2.0	<20000	<10000	<10000	(1600) J	<20000	(4700) J	<10000
CP-116	10/05/92	6.0	<35000	<17000	<17000	<17000	<35000	(4700) J	<17000
CP-117	09/24/92	2.0	<16000	<8000	<8000	(1800) J	<16000	14000	<8000
CP-117	09/24/92	6.0	<20000	<10000	<10000	(5400) J	<20000	36000	<10000
CP-118	10/01/92	2.0	<22000	<11000	<11000	(4400) J	<22000	72000	<11000
CP-118	10/01/92	6.0	<22000	<11000	<11000	<11000	<22000	38000	<11000
CP-119	09/28/92	2.0	< 20000	<10000	<10000	20000	<20000	110000	<10000
CP-119	09/28/92	6.0	<24000	<12000	<12000	(8600) J	<24000	52000	<12000
CP-121	10/07/92	2.0	<1400	<690	<690	<690	<1400	<690	<690
CP-121	10/07/92	6.0	<9400	<4700	<4700	<4700	<9400	<4700	<4700
CP-122A	10/08/92	2.0	<1400	<720	<720	<720	<1400	<720	<720
CP-122A	10/08/92	6.0	<1600	<790	<790	<790	<1600	<790	<790
CP-122A	10/09/92	14.0	<1700	<830	<830	<830	<1700	<830	<830
HA-03	09/22/92	4.5	<8000	<4000	(1600) J	(2700) J	<8000	<4000	<4000

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Data qualifiers presented in Appendix A

TABLE 2

SVOCs Detected in Soil
USEPA Method 8270

Pier 91 Facility

SITE	DATE	DEPTH	Acenaphthene ug/kg	Dibenzofuran ug/kg	Diethylphthalat ug/kg	Fluorene ug/kg	N-Nitroso diphenylamine ug/kg	Phenanthrene ug/kg	Anthracene ug/kg
CP-111	10/10/92	6.0	(1500) J	<2800	<2800	(1600) J	<2800	3600	(750) J
CP-112	10/10/92	2.0	<2800	<2800	<2800	<2800	<2800	(2200) J	(500) J
CP-112	10/10/92	6.0	<1000	<1000	<1000	<1000	<1000	<1000	<1000
CP-113	10/11/92	2.0	<690	<690	<690	<690	<690	<690	<690
CP-113	10/11/92	6.0	<940	<940	<940	<940	<940	<940	<940
CP-114	10/08/92	2.0	<680	<680	<680	<680	<680	<680	<680
CP-114	10/08/92	6.0	<780	<780	<780	<780	<780	<780	<780
CP-115A	10/08/92	2.0	<710	<710	<710	<710	<710	<710	<710
CP-115A	10/08/92	6.0	<4000	<4000	<4000	<4000	<4000	<4000	<4000
CP-115B	02/02/93	18.0	<430	<430	<430	<430	<430	<430	<430
CP-115B	02/09/93	36.0	<410	<410	<410	<410	<410	<410	<410
CP-115B	02/12/93	38.0	<400	<400	<400	<400	<400	<400	<400
CP-116	09/23/92	2.0	(2300) J	(2600) J	<10000	(6000) J	<10000	16000	(2800) J
CP-116	10/05/92	2.0	(1300) J	(800) J	<10000	<10000	<10000	(2200) J	(1000) J
CP-116	10/05/92	6.0	<17000	<17000	<17000	<17000	<17000	(4800) J	<17000
CP-117	09/24/92	2.0	(1300) J	(1300) J	<8000	(3600) J	<8000	11000	(1500) J
CP-117	09/24/92	6.0	(1700) J	(1300) J	<10000	(5800) J	<10000	11000	(1200) J
CP-118	10/01/92	2.0	(4300) J	(3700) J	<11000	(7200) J	<11000	11000	(2300) J
CP-118	10/01/92	6.0	(2300) J	(2400) J	<11000	(7600) J	<11000	(9800) J	<11000
CP-119	09/28/92	2.0	(5300) J	(3600) J	<10000	14900	<10000	34000	(4300) J
CP-119	09/28/92	6.0	(1000) J	(1700) J	<12000	(5000) J	<12000	(7500) J	(1300) J
CP-121	10/07/92	2.0	<690	<690	<690	<690	<690	<690	<690
CP-121	10/07/92	6.0	<4700	<4700	<4700	<4700	<4700	<4700	<4700
CP-122A	10/08/92	2.0	<720	<720	<720	<720	<720	<720	<720
CP-122A	10/08/92	6.0	<790	<790	<790	<790	<790	<790	<790
CP-122A	10/09/92	14.0	<830	<830	<830	<830	<830	(150) J	<830
HA-03	09/22/92	4.5	<4000	<4000	<4000	(750) J	<4000	(1300) J	<4000

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Data qualifiers presented in Appendix A

TABLE 2

SVOCs Detected in Soil
USEPA Method 8270

Pier 91 Facility

SITE	DATE	DEPTH	Di-n-butyl phthalate ug/kg	Fluoranthene ug/kg	Pyrene ug/kg	Butyl benzyl phthalate ug/kg	Benzo(a) anthracene ug/kg	Chrysene ug/kg	bis(2-Ethyl hexyl)phthalate ug/kg
CP-111	10/10/92	6.0	<2800	(2700) J	3000	<2800	(890) J	<2800	<2800
CP-112	10/10/92	2.0	5900 B	3700	6600	(1900) JB	3000	3900	<2800
CP-112	10/10/92	6.0	<1000	<1000	<1000	<1000	<1000	<1000	<1000
CP-113	10/11/92	2.0	<690	<690	<690	<690	<690	<690	<690
CP-113	10/11/92	6.0	2800 B	<940	<940	<940	<940	<940	<940
CP-114	10/08/92	2.0	4500 B	<680	<680	<680	<680	<680	<680
CP-114	10/08/92	6.0	2300 B	<780	<780	<780	<780	<780	<780
CP-115A	10/08/92	2.0	1400 B	<710	<710	<710	<710	<710	<710
CP-115A	10/08/92	6.0	<4000	<4000	<4000	<4000	<4000	<4000	<4000
CP-115B	02/02/93	18.0	(150) JB	<430	<430	<430	<430	<430	<430
CP-115B	02/09/93	36.0	(290) JB	<410	<410	<410	<410	<410	(68) JB
CP-115B	02/12/93	38.0	3400 JB	<400	<400	(56) J	<400	<400	<400
CP-116	09/23/92	2.0	31000 JB	(2500) J	(4500) J	(1600) J	(1300) J	(2300) J	(9000) JB
CP-116	10/05/92	2.0	(4000) JB	(1000) J	(3000) J	(2800) J	<10000	(2800) J	(4000) JB
CP-116	10/05/92	6.0	50000 B	<17000	<17000	<17000	<17000	<17000	(4400) JB
CP-117	09/24/92	2.0	27000 B	(2200) J	(5300) J	<8000	<8000	(2400) J	25000 B
CP-117	09/24/92	6.0	26000	(1500) J	(3000) J	<10000	<10000	<10000	13000 B
CP-118	10/01/92	2.0	(3800) JB	(1000) J	(3800) J	(3100) J	(3600) J	(3300) J	(3900) JB
CP-118	10/01/92	6.0	(4200) JB	<11000	(3000) J	(3000) J	<11000	<11000	(2800) JB
CP-119	09/28/92	2.0	16000 B	(3100) J	11000	<10000	(2200) J	(4600) J	130000 B
CP-119	09/28/92	6.0	(8900) JB	<12000	<12000	<12000	<12000	<12000	(3800) JB
CP-121	10/07/92	2.0	(120) JB	<690	<690	<690	<690	<690	<690
CP-121	10/07/92	6.0	25000 B	<4700	<4700	<4700	<4700	<4700	<4700
CP-122A	10/08/92	2.0	(170) JB	<720	<720	<720	<720	<720	<720
CP-122A	10/08/92	6.0	2300 B	<790	<790	<790	<790	<790	<790
CP-122A	10/09/92	14.0	<830	<830	<830	<830	<830	<830	<830
HA-03	09/22/92	4.5	<4000	<4000	<4000	<4000	<4000	<4000	<4000

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Data qualifiers presented in Appendix A

TABLE 2

SVOCs Detected in Soil
USEPA Method 8270

Pier 91 Facility

SITE	DATE	DEPTH	Di-n-octyl phthalate ug/kg	Benzo(b) fluoranthene ug/kg	Benzo(k)fluor anthene ug/kg	Benzo(a)pyrene ug/kg	Indeno (1,2,3-cd) pyrene ug/kg	Dibenz(a,h) anthracene ug/kg	Benzo(ghi) perylene ug/kg
CP-111	10/10/92	6.0	<2800	(1200) J	<2800	(730) J	<2800	<2800	(570) J
CP-112	10/10/92	2.0	<2800	5600	<2800	3500	3000	(700) J	3200
CP-112	10/10/92	6.0	<1000	<1000	<1000	<1000	<1000	<1000	(110) J
CP-113	10/11/92	2.0	<690	<690	<690	<690	<690	<690	<690
CP-113	10/11/92	6.0	<940	<940	<940	<940	<940	<940	<940
CP-114	10/08/92	2.0	<680	<680	<680	<680	<680	<680	<680
CP-114	10/08/92	6.0	<780	<780	<780	<780	<780	<780	<780
CP-115A	10/08/92	2.0	<710	<710	<710	<710	<710	<710	<710
CP-115A	10/08/92	6.0	<4000	<4000	<4000	<4000	<4000	<4000	<4000
CP-115B	02/02/93	18.0	<430	<430	<430	<430	<430	<430	<430
CP-115B	02/09/93	36.0	<410	<410	<410	<410	<410	<410	<410
CP-115B	02/12/93	38.0	<400	<400	<400	<400	<400	<400	<400
CP-116	09/23/92	2.0	<10000	<10000	<10000	(1000) J	<10000	<10000	<10000
CP-116	10/05/92	2.0	<10000	<10000	<10000	<10000	<10000	<10000	<10000
CP-116	10/05/92	6.0	<17000	<17000	<17000	<17000	<17000	<17000	<17000
CP-117	09/24/92	2.0	(4500) J	<8000	<8000	<8000	<8000	<8000	<8000
CP-117	09/24/92	6.0	<10000	<10000	<10000	<10000	<10000	<10000	<10000
CP-118	10/01/92	2.0	<11000	<11000	<11000	<11000	<11000	<11000	<11000
CP-118	10/01/92	6.0	<11000	<11000	<11000	<11000	<11000	<11000	<11000
CP-119	09/28/92	2.0	<10000	<10000	<10000	<10000	<10000	<10000	<10000
CP-119	09/28/92	6.0	<12000	<12000	<12000	<12000	<12000	<12000	<12000
CP-121	10/07/92	2.0	<690	<690	<690	<690	<690	<690	<690
CP-121	10/07/92	6.0	<4700	<4700	<4700	<4700	<4700	<4700	<4700
CP-122A	10/08/92	2.0	<720	<720	<720	<720	---	<720	<720
CP-122A	10/08/92	6.0	<790	<790	<790	<790	---	<790	<790
CP-122A	10/09/92	14.0	<830	<830	<830	<830	---	<830	<830
HA-03	09/22/92	4.5	<4000	<4000	<4000	<4000	<4000	<4000	<4000

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Data qualifiers presented in Appendix A

TABLE 2

SVOCs Detected in Soil
USEPA Method 8270

Pier 91 Facility

SITE	DATE	DEPTH	Benzyl alcohol ug/kg	2,4-Dimethyl phenol ug/kg	1,2,4-Trichloro benzene ug/kg	Naphthalene ug/kg	4-Chloro-3-methylphenol ug/kg	2-Methyl naphthalene ug/kg	Acenaphthylene ug/kg
HA-03	09/22/92	6.0	<70000	<35000	(33000) J	36000	<70000	43000	<35000
HA-04	09/28/92	1.5	<20000	<10000	<10000	(6300) J	<20000	34000	<10000
HA-04	09/28/92	3.0	(1500) J	<14000	<14000	(7400) J	(8900) J	39000	<14000
HA-05	09/22/92	4.5	<71000	<35000	<35000	(8400) J	<71000	(23000) J	<35000
HA-05	09/22/92	6.0	<16000	<8000	<8000	(2300) J	<16000	(5700) J	<8000
HA-06	09/21/92	4.5	<27000	<14000	<14000	(12000) J	<27000	31000	<14000
HA-06	09/21/92	6.0	<29000	<15000	<15000	(7800) J	<29000	21000	<15000
HA-07	09/16/92	1.5	<30000	<15000	<15000	(8600) J	<30000	25000	<15000
HA-07	09/16/92	3.0	<29000	<14000	<14000	16000	<29000	44000	<14000
HA-08	09/18/92	3.0	<14000	<7100	<7100	(6000) J	<14000	29000	<7100
HA-08	09/18/92	4.5	<14000	<6900	<6900	(5900) J	<14000	22000	<6900
HA-09	09/29/92	1.5	<21000	<11000	<11000	(1600) J	<21000	11000	(4400) J
HA-10	09/18/92	1.5	<57000	<28000	<28000	(9500) J	<57000	<28000	<28000
HA-10	09/29/92	4.5	<16000	<8000	<8000	(7000) J	<16000	34000	<8000
HA-10	09/29/92	5.0	<20000	<10000	<10000	(6000) J	<20000	22000	(4400) J
HA-11	09/17/92	1.5	<140000	<72000	<72000	(18000) J	<140000	85000 J	<72000
HA-11	09/17/92	6.0	<14000	<7200	<7200	(3300) J	<14000	17000	<7200
HA-12	09/17/92	5.0	<27000	<14000	<14000	21000	<27000	70000	<14000
HA-12	09/17/92	6.0	<29000	<15000	<15000	17000	<29000	60000	<15000
SB-1	12/21/88	0.0	<350	<140	<71	<71	<140	<71	<71
SB-1	12/21/88	2.5	<300	<120	<60	<60	<120	<60	<60
SB-1	12/21/88	6.0	<360	<140	<71	<71	<140	<71	<71
SB-2	12/22/88	0.0	<700	<280	<140	<140	<280	<140	<140
SB-2	12/22/88	2.5	<660	<260	<130	60 J	<260	<130	<130
SB-2	12/22/88	6.0	<400	<160	<79	<79	<160	<79	<79
TB-1	12/22/88	0.0	<340	<140	<69	<69	<140	<69	<69
TB-1	12/22/88	2.5	<300	<120	<61	<61	<120	<61	<61

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Data qualifiers presented in Appendix A

TABLE 2

SVOCs Detected in Soil
USEPA Method 8270

Pier 91 Facility

SITE	DATE	DEPTH	Acenaphthene ug/kg	Dibenzofuran ug/kg	Diethylphthalat ug/kg	Fluorene ug/kg	N-Nitroso diphenylamine ug/kg	Phenanthrene ug/kg	Anthracene ug/kg
HA-03	09/22/92	6.0	(5200) J	<35000	<35000	(10000) J	<35000	(32000) J	<35000
HA-04	09/28/92	1.5	(1900) J	(1800) J	<10000	(4900) J	<10000	15000	(2600) J
HA-04	09/28/92	3.0	(3300) J	(2700) J	<14000	(7100) J	(4100) J	20000	(4100) J
HA-05	09/22/92	4.5	<35000	<35000	<35000	(4500) J	<35000	(3500) J	<35000
HA-05	09/22/92	6.0	(940) J	<8000	<8000	(1300) J	<8000	(2300) J	<8000
HA-06	09/21/92	4.5	(1500) J	<14000	<14000	(3200) J	<14000	(5900) J	<14000
HA-06	09/21/92	6.0	<15000	<15000	<15000	<15000	<15000	(4600) J	<15000
HA-07	09/16/92	1.5	(3700) J	<15000	<15000	(4600) J	<15000	<15000	<15000
HA-07	09/16/92	3.0	(6100) J	<14000	<14000	(8600) J	<14000	32000	<14000
HA-08	09/18/92	3.0	(2100) J	<7100	<7100	(3600) J	<7100	14000	<7100
HA-08	09/18/92	4.5	(1200) J	<6900	<6900	(3300) J	<6900	12000	<6900
HA-09	09/29/92	1.5	<11000	(2000) J	<11000	(8000) J	<11000	22000	(6000) J
HA-10	09/18/92	1.5	<28000	<28000	<28000	<28000	<28000	(4800) J	<28000
HA-10	09/29/92	4.5	(2400) J	(1800) J	<8000	(5200) J	<8000	13000	(2600) J
HA-10	09/29/92	5.0	(1800) J	(1600) J	<10000	(4800) J	<10000	12000	(2400) J
HA-11	09/17/92	1.5	<72000	<72000	<72000	<72000	<72000	(33000) J	<72000
HA-11	09/17/92	6.0	(1400) J	<7200	<7200	(2000) J	<7200	(5200) J	<7200
HA-12	09/17/92	5.0	(3000) J	<14000	<14000	(7600) J	<14000	22000	<14000
HA-12	09/17/92	6.0	(3300) J	<15000	<15000	(5600) J	<15000	19000	<15000
SB-1	12/21/88	0.0	<71	<71	<71	<71	<71	29 J	11 J
SB-1	12/21/88	2.5	<60	<60	<60	<60	<60	<60	<60
SB-1	12/21/88	6.0	<71	<71	<71	<71	<71	<71	<71
SB-2	12/22/88	0.0	<140	<140	<140	<140	<140	60 J	50 J
SB-2	12/22/88	2.5	<130	<130	<130	<130	<130	300	230
SB-2	12/22/88	6.0	<79	<79	<79	<79	<79	<79	<79
TB-1	12/22/88	0.0	<69	<69	<69	<69	<69	22 M	<69
TB-1	12/22/88	2.5	<61	<61	<61	<61	<61	40 M	<61

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TABLE 2

SVOCs Detected in Soil
USEPA Method 8270

Pier 91 Facility

SITE	DATE	DEPTH	Di-n-butyl phthalate ug/kg	Fluoranthene ug/kg	Pyrene ug/kg	Butyl benzyl phthalate ug/kg	Benzo(a) anthracene ug/kg	Chrysene ug/kg	bis(2-Ethyl hexyl)phthalate ug/kg
HA-03	09/22/92	6.0	<35000	<35000	(16000) J	<35000	<35000	<35000	<35000
HA-04	09/28/92	1.5	81000 B	(2100) J	(4900) J	(1300) J	(1700) J	(2500) J	(9500) JB
HA-04	09/28/92	3.0	110000 B	(3600) J	(9000) J	(1800) J	(3500) J	(6000) J	20000 B
HA-05	09/22/92	4.5	<35000	<35000	(5200) J	<35000	<35000	<35000	<35000
HA-05	09/22/92	6.0	<8000	<8000	(880) J	<8000	<8000	<8000	<8000
HA-06	09/21/92	4.5	<14000	<14000	<14000	<14000	<14000	<14000	<14000
HA-06	09/21/92	6.0	<15000	<15000	<15000	<15000	<15000	<15000	<15000
HA-07	09/16/92	1.5	<15000	<15000	(7800) J	<15000	<15000	<15000	<15000
HA-07	09/16/92	3.0	<14000	(6300) J	(11000) J	<14000	<14000	<14000	<14000
HA-08	09/18/92	3.0	<7100	<7100	(4000) J	<7100	<7100	(2100) J	<7100
HA-08	09/18/92	4.5	<6900	<6900	(3000) J	<6900	<6900	(3800) J	<6900
HA-09	09/29/92	1.5	16000	(4000) J	27000	(8000) J	<11000	18000	(10000) JB
HA-10	09/18/92	1.5	<28000	<28000	(4200) J	<28000	<28000	<28000	<28000
HA-10	09/29/92	4.5	12000	(1000) J	(3600) J	<8000	(2800) J	(3000) J	(2000) JB
HA-10	09/29/92	5.0	13000 B	(800) J	(4600) J	<11000	(1300) J	(2800) J	30000 B
HA-11	09/17/92	1.5	<72000	<72000	(21000) J	<72000	<72000	<72000	<72000
HA-11	09/17/92	6.0	<7200	<7200	(2200) J	<7200	<7200	<7200	<7200
HA-12	09/17/92	5.0	<14000	<14000	(4100) J	<14000	<14000	<14000	<14000
HA-12	09/17/92	6.0	<15000	<15000	<15000	<15000	<15000	<15000	<15000
SB-1	12/21/88	0.0	<71	48 J	51 J	<71	27 J	42 J	<71
SB-1	12/21/88	2.5	<60	<60	<60	<60	<60	<60	<60
SB-1	12/21/88	6.0	<71	<71	<71	<71	<71	<71	100
SB-2	12/22/88	0.0	<140	110 J	110 J	<140	70 J	130 J	<140
SB-2	12/22/88	2.5	<130	430	330	<130	160	260	<130
SB-2	12/22/88	6.0	<79	<79	<79	<79	<79	<79	<79
TB-1	12/22/88	0.0	<69	31 J	48 J	<69	23 M	31 J	<69
TB-1	12/22/88	2.5	<61	92	150	<61	(56) J	97	<61

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TABLE 2

SVOCs Detected in Soil
USEPA Method 8270

Pier 91 Facility

SITE	DATE	DEPTH	Di-n-octyl phthalate ug/kg	Benzo(b) fluoranthene ug/kg	Benzo(k)fluor anthene ug/kg	Benzo(a)pyrene ug/kg	Indeno (1,2,3-cd) pyrene ug/kg	Dibenz(a,h) anthracene ug/kg	Benzo(ghi) perylene ug/kg
HA-03	09/22/92	6.0	<35000	<35000	<35000	<35000	<35000	<35000	<35000
HA-04	09/28/92	1.5	<10000	<10000	<10000	<10000	<10000	<10000	<10000
HA-04	09/28/92	3.0	<14000	<14000	<14000	(1500) J	<14000	<14000	<14000
HA-05	09/22/92	4.5	<35000	<35000	<35000	<35000	<35000	<35000	<35000
HA-05	09/22/92	6.0	<8000	<8000	<8000	<8000	<8000	<8000	<8000
HA-06	09/21/92	4.5	<14000	<14000	<14000	<14000	<14000	<14000	<14000
HA-06	09/21/92	6.0	<15000	<15000	<15000	<15000	<15000	<15000	<15000
HA-07	09/16/92	1.5	<15000	<15000	<15000	<15000	<15000	<15000	<15000
HA-07	09/16/92	3.0	<14000	<14000	<14000	<14000	<14000	<14000	<14000
HA-08	09/18/92	3.0	<7100	<7100	<7100	<7100	<7100	<7100	<7100000
HA-08	09/18/92	4.5	<6900	<6900	<6900	<6900	<6900	<6900	<6900
HA-09	09/29/92	1.5	<11000	(3200) J	<11000	(5600) J	<11000	<11000	<11000
HA-10	09/18/92	1.5	<28000	<28000	<28000	<28000	<28000	<28000	<28000
HA-10	09/29/92	4.5	<8000	<8000	<8000	<8000	<8000	<8000	<8000
HA-10	09/29/92	5.0	<11000	<11000	<11000	<11000	<11000	<11000	(3000) J
HA-11	09/17/92	1.5	<72000	<72000	<72000	<72000	<72000	<72000	<72000
HA-11	09/17/92	6.0	<7200	<7200	<7200	<7200	<7200	<7200	<7200
HA-12	09/17/92	5.0	<14000	<14000	<14000	<14000	<14000	<14000	<14000
HA-12	09/17/92	6.0	<15000	<15000	<15000	<15000	<15000	<15000	<15000
SB-1	12/21/88	0.0	<71	66 J	66 J	<71	<71	<71	<71
SB-1	12/21/88	2.5	<60	<60	<60	<60	<60	<60	<60
SB-1	12/21/88	6.0	<71	<71	<71	<71	<71	<71	<71
SB-2	12/22/88	0.0	<140	230	230	80 J	140	<140	190
SB-2	12/22/88	2.5	<130	410	410	140	180	40 M	210
SB-2	12/22/88	6.0	<79	<79	<79	<79	<79	<79	<79
TB-1	12/22/88	0.0	<69	63 J	63 J	24 M	<69	<69	<69
TB-1	12/22/88	2.5	<61	210	210	87	86	26 J	71

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TABLE 2

SVOCs Detected in Soil
USEPA Method 8270

Pier 91 Facility

SITE	DATE	DEPTH	Benzyl alcohol ug/kg	2,4-Dimethyl phenol ug/kg	1,2,4-Trichloro benzene ug/kg	Naphthalene ug/kg	4-Chloro-3-methylphenol ug/kg	2-Methyl naphthalene ug/kg	Acenaphthylene ug/kg
TB-1	12/22/88	6.0	<420	<170	<84	<84	<170	230	<84
TB-1	12/22/88	15.0	<370	<150	<73	<73	<150	<73	<73
TB-1	12/22/88	20.0	<410	<160	<82	<82	<160	<82	<82
TB-2	12/21/88	0.0	<1600	<330	<330	4200	<650	15000	<330
TB-2	12/21/88	2.5	<290	<120	<58	91	<120	100	<58
TB-2	12/21/88	6.0	<240	<300	<150	900	<300	2800	<150
TB-2	12/21/88	15.0	<170	<140	<69	760	<140	1700	<69
TB-2	12/21/88	20.0	<380	<150	<76	100	<150	290	<76
TB-3	12/20/88	0.0	<560	<220	<110	<110	<220	<110	<110
TB-3	12/20/88	2.5	<540	<210	<110	100 J	<210	240	<110
TB-3	12/20/88	6.0	<280	<110	<56	<56	<110	<56	<56
TB-3	12/20/88	15.0	<270	<110	<55	<55	<110	<55	<55
TB-3	12/20/88	20.0	<350	<140	<70	<70	<140	<70	<70
TB-4	12/12/88	0.0	<3200	<330	<67	2300	<130	4300	<67
TB-4	12/12/88	2.5	<340	<140	<68	<68	<140	<68	<68
TB-4	12/12/88	6.0	<2600	<330	<65	850	<130	1600	<65
TB-4	12/12/88	15.0	<400	<160	<80	<80	<160	<80	<80
TB-4	12/12/88	20.0	<310	<120	<61	<61	<120	<61	<61
TB-4	12/12/88	25.0	<280	<110	<56	<56	<110	<56	<56
TB-5	12/19/88	0.0	<250	<100	<50	32 J	<100	12 M	21 J
TB-5	12/19/88	2.5	<220	<90	<45	24 J	<90	17 J	<45
TB-5	12/19/88	6.0	<297	<110	<57	<57	<110	<57	<57
TB-5	12/19/88	15.0	<300	<120	<59	<59	<120	<59	<59
TB-5	12/19/88	20.0	<370	<150	<75	190	<150	73 J	28 M
TB-6	12/14/88	0.0	<2800	<1100	<550	2300	<1100	10000	<550
TB-6	12/14/88	1.0	<4400	<1800	<880	1000	<880	10000	<880
TB-6	12/14/88	2.5	<3400	<1400	<680	2900	<1400	13000	<680

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TABLE 2

SVOCs Detected in Soil
USEPA Method 8270

Pier 91 Facility

SITE	DATE	DEPTH	Acenaphthene ug/kg	Dibenzofuran ug/kg	Diethylphthalat ug/kg	Fluorene ug/kg	N-Nitroso diphenylamine ug/kg	Phenanthrene ug/kg	Anthracene ug/kg
TB-1	12/22/88	6.0	32 M	49 M	<84	95	<84	210	<84
TB-1	12/22/88	15.0	<73	<73	<73	<73	<73	<73	<73
TB-1	12/22/88	20.0	<82	<82	<82	<82	<82	<82	<82
TB-2	12/21/88	0.0	880	1100	<330	2000	<330	4600	250 J
TB-2	12/21/88	2.5	<58	<58	<58	<58	<58	<58	<58
TB-2	12/21/88	6.0	160	170	<150	410	<150	820	<150
TB-2	12/21/88	15.0	230	180	<69	570	<69	1200	71 M
TB-2	12/21/88	20.0	49 J	<76	<76	180	<76	360	24 J
TB-3	12/20/88	0.0	<110	<110	<110	<110	<110	<110	<110
TB-3	12/20/88	2.5	<110	<110	<110	<110	<110	150	26 J
TB-3	12/20/88	6.0	<56	<56	<56	99 M	<56	<56	<56
TB-3	12/20/88	15.0	24 M	<55	<55	29 J	<55	21 J	<55
TB-3	12/20/88	20.0	<70	<70	<70	14 M	<70	21 J	<70
TB-4	12/12/88	0.0	200 M	160	<67	420	<67	750	<67
TB-4	12/12/88	2.5	<68	<68	<68	<68	<68	<68	<68
TB-4	12/12/88	6.0	110	70 M	<65	150	<65	410	<65
TB-4	12/12/88	15.0	<80	<80	<80	<80	<80	<80	<80
TB-4	12/12/88	20.0	<61	<61	<61	<61	<61	<61	<61
TB-4	12/12/88	25.0	<56	<56	<56	<56	<56	<56	<56
TB-5	12/19/88	0.0	<50	<50	<50	<50	<50	34 J	13 J
TB-5	12/19/88	2.5	<45	<45	<45	<45	<45	50	25 J
TB-5	12/19/88	6.0	<57	<57	<57	<57	<57	<57	<57
TB-5	12/19/88	15.0	<59	<59	<59	<59	<59	62	11 J
TB-5	12/19/88	20.0	420	91	<75	300	<75	2100	480
TB-6	12/14/88	0.0	610	810	<550	1600	<550	7400	700
TB-6	12/14/88	1.0	1600	2200	<880	4000	<880	21000	1800
TB-6	12/14/88	2.5	720	1200	<680	1800	<680	9600	790

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TABLE 2

SVOCs Detected in Soil
USEPA Method 8270

Pier 91 Facility

SITE	DATE	DEPTH	Di-n-butyl phthalate ug/kg	Fluoranthene ug/kg	Pyrene ug/kg	Butyl benzyl phthalate ug/kg	Benzo(a) anthracene ug/kg	Chrysene ug/kg	bis(2-Ethyl hexyl)phthalate ug/kg
TB-1	12/22/88	6.0	<84	89	80 J	<84	30 M	30 J	<84
TB-1	12/22/88	15.0	<73	<73	<73	<73	<73	<73	<73
TB-1	12/22/88	20.0	<82	<82	<82	<82	<82	<82	<82
TB-2	12/21/88	0.0	<330	560	910	<330	480	530	330
TB-2	12/21/88	2.5	<58	<58	<58	<58	<58	<58	<58
TB-2	12/21/88	6.0	<150	110 J	150 J	<150	84 M	100 J	<150
TB-2	12/21/88	15.0	<69	140	210	<69	52 J	79	<69
TB-2	12/21/88	20.0	<76	37 J	61 J	<76	23 J	26 J	84
TB-3	12/20/88	0.0	<110	36	76	<110	<110	<110	<110
TB-3	12/20/88	2.5	<110	99 J	190	<110	91 J	120	340
TB-3	12/20/88	6.0	<56	19 J	18 J	<56	<56	25 J	61 J
TB-3	12/20/88	15.0	<55	14 J	15 J	<55	<55	<55	77
TB-3	12/20/88	20.0	<70	<70	<70	<70	<70	<70	<70
TB-4	12/12/88	0.0	<67	<67	<67	<67	67 M	96 M	440
TB-4	12/12/88	2.5	<68	<68	<68	<68	<68	<68	83
TB-4	12/12/88	6.0	<65	<65	<65	<65	<65	61 M	110
TB-4	12/12/88	15.0	<80	76 M	78 M	<80	<80	<80	95
TB-4	12/12/88	20.0	<61	140	140	<61	120	170	93
TB-4	12/12/88	25.0	<56	<56	<56	<56	<56	<56	<56
TB-5	12/19/88	0.0	<50	26 J	37 J	<50	23 J	41 J	<50
TB-5	12/19/88	2.5	<45	44 J	54	<45	28 J	47	<45
TB-5	12/19/88	6.0	<57	<57	<57	<57	<57	<57	<57
TB-5	12/19/88	15.0	<59	54 J	62	<59	<59	<59	<59
TB-5	12/19/88	20.0	<75	2500	2300	<75	840	1100	<75
TB-6	12/14/88	0.0	<550	1300	3700	<550	1700	3800	<550
TB-6	12/14/88	1.0	<880	5000	9700	<880	7100	16000	<880
TB-6	12/14/88	2.5	<680	1600	4300	<680	2200	5700	<680

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TABLE 2

SVOCs Detected in Soil
USEPA Method 8270

Pier 91 Facility

SITE	DATE	DEPTH	Di-n-octyl phthalate ug/kg	Benzo(b) fluoranthene ug/kg	Benzo(k)fluor anthene ug/kg	Benzo(a)pyrene ug/kg	Indeno (1,2,3-cd) pyrene ug/kg	Dibenz(a,h) anthracene ug/kg	Benzo(ghi) perylene ug/kg
TB-1	12/22/88	6.0	<84	<84	<84	<29	<84	<84	<84
TB-1	12/22/88	15.0	<73	<73	<73	<73	<73	<73	<73
TB-1	12/22/88	20.0	<82	<82	<82	<82	<82	<82	<82
TB-2	12/21/88	0.0	<330	820	820	470	490	300 J	440
TB-2	12/21/88	2.5	<58	<58	<58	<58	<58	<58	<58
TB-2	12/21/88	6.0	<150	82 J	82 J	57 J	<150	<150	<150
TB-2	12/21/88	15.0	<69	<69	<69	<69	<69	<69	<69
TB-2	12/21/88	20.0	<76	<76	<76	<76	<76	<76	<76
TB-3	12/20/88	0.0	<110	<110	<110	<110	<110	<110	<110
TB-3	12/20/88	2.5	<110	140	140	61 J	47 J	52	56 J
TB-3	12/20/88	6.0	<56	<56	<56	<56	<56	<56	<56
TB-3	12/20/88	15.0	<55	<55	<55	<55	<55	<55	<55
TB-3	12/20/88	20.0	<70	<70	<70	<70	<70	<70	<70
TB-4	12/12/88	0.0	<67	<67	<67	<67	<67	<67	<67
TB-4	12/12/88	2.5	<68	<68	<68	<68	<68	<68	<68
TB-4	12/12/88	6.0	<65	<65	<65	<65	<65	<65	<65
TB-4	12/12/88	15.0	<80	<80	<80	<80	<80	<80	<80
TB-4	12/12/88	20.0	<61	150	150	92	<61	<61	<61
TB-4	12/12/88	25.0	<56	<56	<56	<56	<56	<56	<56
TB-5	12/19/88	0.0	<50	130	130	35 J	<50	<50	58
TB-5	12/19/88	2.5	<45	86	86	38 J	47	<45	48
TB-5	12/19/88	6.0	<57	<57	<57	<57	<57	<57	<57
TB-5	12/19/88	15.0	<59	<59	<59	<59	<59	<59	<59
TB-5	12/19/88	20.0	<75	1400	1400	910	560	260	500
TB-6	12/14/88	0.0	<550	590	590	760	<550	<550	<550
TB-6	12/14/88	1.0	<880	1800	1800	2800	<880	<880	<880
TB-6	12/14/88	2.5	<680	650 J	650 J	860	<680	<680	<680

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Data qualifiers presented in Appendix A

TABLE 2

SVOCs Detected in Soil
USEPA Method 8270

Pier 91 Facility

SITE	DATE	DEPTH	Benzyl alcohol ug/kg	2,4-Dimethyl phenol ug/kg	1,2,4-Trichloro benzene ug/kg	Naphthalene ug/kg	4-Chloro-3-methylphenol ug/kg	2-Methyl naphthalene ug/kg	Acenaphthylene ug/kg
TB-6	12/14/88	6.0	<1600	<600	<320	<320	<600	<320	<320
TB-6	12/14/88	15.0	<320	<130	<64	810	<130	320	<64
TB-6	12/14/88	20.0	<340	<140	<69	<69	<140	<69	<69
TB-6	12/14/88	25.0	<270	<110	<54	<54	<110	<54	<54
TB-6	12/14/88	30.0	<330	<130	<65	<65	<130	<65	<65
TB-7	12/12/88	1.6	---	---	---	---	---	---	---
TB-7	12/16/88	0.0	<9100	5300 M	<1800	5000	<3600	630 J	<1800
TB-7	12/16/88	1.6	---	---	---	---	---	---	---
TB-7	12/16/88	6.0	<4500	<1800	<910	1700	<1800	5200	<910
TB-7	12/16/88	15.0	<1500	<580	<290	<290	<580	<290	<290
TB-7	12/16/88	20.0	<610	<250	<120	<370	<120	400	<120
TB-7	12/16/88	25.0	<600	<240	<120	<120	<240	<120	<120

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TABLE 2

SVOCs Detected in Soil
USEPA Method 8270

Pier 91 Facility

SITE	DATE	DEPTH	Acenaphthene ug/kg	Dibenzofuran ug/kg	Diethylphthalat ug/kg	Fluorene ug/kg	N-Nitroso diphenylamine ug/kg	Phenanthrene ug/kg	Anthracene ug/kg
TB-6	12/14/88	6.0	<320	720	<320	1000	<320	3200	210
TB-6	12/14/88	15.0	470	540	<64	510	<64	420	53 J
TB-6	12/14/88	20.0	<69	<69	<69	<69	<69	<69	<69
TB-6	12/14/88	25.0	<54	<54	<54	<54	<54	<54	<54
TB-6	12/14/88	30.0	<65	<65	<65	<65	<65	<65	<65
TB-7	12/12/88	1.6	---	---	---	---	---	---	---
TB-7	12/16/88	0.0	<1800	2700 M	<1800	3900	<1800	18000	<1800
TB-7	12/16/88	1.6	---	---	---	---	---	---	---
TB-7	12/16/88	6.0	<910	570	<910	660	<910	2900	<910
TB-7	12/16/88	15.0	<290	250 M	<290	260 J	<290	1100	<290
TB-7	12/16/88	20.0	<120	<120	<120	82 J	<120	250	<120
TB-7	12/16/88	25.0	<120	<120	<120	<120	<120	41 J	<120

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TABLE 2

SVOCs Detected in Soil
USEPA Method 8270

Pier 91 Facility

SITE	DATE	DEPTH	Di-n-butyl phthalate ug/kg	Fluoranthene ug/kg	Pyrene ug/kg	Butyl benzyl phthalate ug/kg	Benzo(a) anthracene ug/kg	Chrysene ug/kg	bis(2-Ethyl hexyl)phthalate ug/kg
TB-6	12/14/88	6.0	<320	530	870	<320	490	920	<320
TB-6	12/14/88	15.0	<64	<64	39 J	<64	23 M	29 J	<64
TB-6	12/14/88	20.0	<69	<69	<69	<69	<69	<69	<69
TB-6	12/14/88	25.0	<54	<54	<54	<54	<54	<54	<54
TB-6	12/14/88	30.0	<65	<65	<65	<65	<65	<65	<65
TB-7	12/12/88	1.6	---	---	---	---	---	---	---
TB-7	12/16/88	0.0	<1800	1000 J	1500 M	<1800	<1800	1200 J	<1800
TB-7	12/16/88	1.6	---	---	---	---	---	---	---
TB-7	12/16/88	6.0	<910	240 M	290 M	<910	<910	<910	<910
TB-7	12/16/88	15.0	<290	82 J	110 M	<290	<290	<290	310
TB-7	12/16/88	20.0	<120	33 J	40 M	<120	<120	50	<120
TB-7	12/16/88	25.0	<120	<120	<120	<120	<120	<120	<120

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TABLE 2

SVOCs Detected in Soil
USEPA Method 8270

Pier 91 Facility

SITE	DATE	DEPTH	Di-n-octyl phthalate ug/kg	Benzo(b) fluoranthene ug/kg	Benzo(k)fluor anthene ug/kg	Benzo(a)pyrene ug/kg	Indeno (1,2,3-cd) pyrene ug/kg	Dibenz(a,h) anthracene ug/kg	Benzo(ghi) perylene ug/kg
TB-6	12/14/88	6.0	<320	190 J	190 J	230 J	<320	<320	<320
TB-6	12/14/88	15.0	<64	50 J	50 J	26 J	34 J	31 J	43 J
TB-6	12/14/88	20.0	<69	<69	<69	<69	<69	<69	<69
TB-6	12/14/88	25.0	<54	<54	<54	<54	<54	<54	<54
TB-6	12/14/88	30.0	<65	<65	<65	<65	<65	<65	<65
TB-7	12/12/88	1.6	---	---	---	---	---	---	---
TB-7	12/16/88	0.0	<1800	<1800	<1800	<1800	<1800	<1800	<1800
TB-7	12/16/88	1.6	---	---	---	---	---	---	---
TB-7	12/16/88	6.0	<910	<910	<910	<910	<910	<910	<910
TB-7	12/16/88	15.0	<290	<290	<290	<290	<290	<290	<290
TB-7	12/16/88	20.0	<120	<120	<120	<120	<120	<120	<120
TB-7	12/16/88	25.0	<120	<120	<120	<120	<120	<120	<120

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TABLE 3

Metals Detected in Soil

Pier 91 Facility

SITE	DATE	DEPTH	Silver mg/kg	Arsenic mg/kg	Barium mg/kg	Beryllium mg/kg	Cadmium mg/kg	Chromium mg/kg	Copper mg/kg
CP-103B	11/28/87	20.0	<0.5	2.2	---	<0.1	<0.5	8	5
CP-103B	11/28/87	30.0	<0.5	4.8	---	<0.1	<0.5	15	4
CP-103B	11/28/87	40.0	<0.5	2.0	---	<0.1	<0.5	13	2
CP-103B	11/28/87	65.5	<0.5	5.2	---	<0.1	<0.5	17	5
CP-104A	11/28/87	10.0	<0.5	4.4	---	<0.1	<0.5	11	7
CP-105B	11/24/87	4.6	<0.5	3.4	---	<0.1	<0.5	12	8
CP-105B	11/24/87	15.5	<0.5	5.0	---	<0.1	<0.5	13	5
CP-105B	11/25/87	57.0	<0.5	8.6	---	12	<0.5	36	18
CP-106A	11/28/87	9.0	<0.5	3.2	---	<0.1	<0.5	10	2
CP-106B	01/25/93	2.0	<0.42	2.1	271	<0.21	0.27	19.8	54.4
CP-106B	01/25/93	6.0	<0.42	1.8	203	<0.21	<0.21	15.1	23.1
CP-106B	01/25/93	18.0	<0.42	2.0	19.3	<0.21	<0.21	20.5	6.2
CP-106B	02/19/93	35.0	<0.040	2.9	13.1	<0.20	<0.20	14.4	4.5
CP-106B	02/19/93	39.0	<0.043	2.8	16.7	<0.21	<0.21	18.6	6.8
CP-107	12/29/88	0.0	---	1.6	---	<1	<1	12	13
CP-107	12/29/88	2.5	---	2.4	---	<1	<1	14	11
CP-107	12/29/88	6.0	---	1.7	---	<1	<1	18	6.0
CP-107	12/29/88	6.5	---	---	---	---	---	---	---
CP-107	12/29/88	15.0	---	3.7	---	<1	<1	18	5.4
CP-108A	12/28/88	0.0	---	---	---	---	---	---	---
CP-108A	12/28/88	2.5	---	1.5	---	<1	<1	12	7.3
CP-108A	12/28/88	6.0	---	2.8	---	<1	<1	13	6.8
CP-108A	12/28/88	15.0	---	2.0	---	<1	<1	16	6.0
CP-108A	12/28/88	20.0	---	2.0	---	<1	<1	20	7.3
CP-109	12/15/88	0.0	---	---	---	---	---	---	---
CP-109	12/15/88	0.5	---	---	---	---	---	---	---
CP-109	12/15/88	2.5	---	1.9	---	<1	<1	23	9.4

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TABLE 3

Metals Detected in Soil

Pier 91 Facility

SITE	DATE	DEPTH	Mercury mg/kg	Nickel mg/kg	Lead mg/kg	Zinc mg/kg
CP-103B	11/28/87	20.0	<0.05	14	1.6	16
CP-103B	11/28/87	30.0	0.13	24	1.0	18
CP-103B	11/28/87	40.0	<0.05	16	0.6	15
CP-103B	11/28/87	65.5	<0.05	23	1.0	20
CP-104A	11/28/87	10.0	<0.05	21	1.0	20
CP-105B	11/24/87	4.6	<0.05	16	4.4	17
CP-105B	11/24/87	15.5	<0.05	18	1.6	<2
CP-105B	11/25/87	57.0	<0.05	45	2.8	44
CP-106A	11/28/87	9.0	<0.05	15	2.8	15
CP-106B	01/25/93	2.0	<0.12	23.8	298	94.5
CP-106B	01/25/93	6.0	0.12	12.0	111	54.7
CP-106B	01/25/93	18.0	<0.037	22.9	2.1	20.4
CP-106B	02/19/93	35.0	<0.025	16.7	1.2	16.7
CP-106B	02/19/93	39.0	<0.027	21.8	1.4	21.8
CP-107	12/29/88	0.0	<0.1	20	9.5	45
CP-107	12/29/88	2.5	<0.1	19	9.2	63
CP-107	12/29/88	6.0	<0.1	22	<7	23
CP-107	12/29/88	6.5	---	---	---	---
CP-107	12/29/88	15.0	<0.1	27	<7	22
CP-108A	12/28/88	0.0	---	---	---	---
CP-108A	12/28/88	2.5	<0.07	21	<6	16
CP-108A	12/28/88	6.0	<0.06	21	<7	17
CP-108A	12/28/88	15.0	<0.07	22	<7	18
CP-108A	12/28/88	20.0	<0.07	28	<6	20
CP-109	12/15/88	0.0	---	---	---	---
CP-109	12/15/88	0.5	---	---	---	---
CP-109	12/15/88	2.5	<0.1	17	27	51

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TABLE 3

Metals Detected in Soil

Pier 91 Facility

SITE	DATE	DEPTH	Silver mg/kg	Arsenic mg/kg	Barium mg/kg	Beryllium mg/kg	Cadmium mg/kg	Chromium mg/kg	Copper mg/kg
CP-109	12/15/88	6.0	---	1.9	---	<1	<1	15	6.2
CP-109	12/15/88	15.0	---	1.8	---	<1	<1	23	9.3
CP-109	12/15/88	20.0	---	2.1	---	<1	<1	22	9.3
CP-109	12/15/88	25.0	---	4.1	---	<1	<1	18	10
CP-110	12/30/88	0.0	---	1.7	---	<1	<1	16	7.8
CP-110	12/30/88	2.5	---	1.4	---	<1	<1	11	7.7
CP-110	12/30/88	6.0	---	1.8	---	<1	<1	18	14
CP-110	12/30/88	15.0	---	1.7	---	<1	<1	24	9.4
CP-111	10/10/92	2.0	<0.38	12.7	42.2	0.46	0.58	20.8	28.2
CP-111	10/10/92	6.0	<0.41	2.7	16.4	0.37	0.27	17.3	9.6
CP-112	10/10/92	2.0	<0.41	4.7	125	0.57	0.46	18.5	33.0
CP-112	10/10/92	6.0	<0.39	1.7	19.5	0.35	0.27	23.2	8.4
CP-113	10/11/92	2.0	<0.39	1.6	11.2	0.22	0.20	11.6	3.7
CP-113	10/11/92	6.0	<0.38	1.8	16.0	0.38	0.30	21.0	8.5
CP-114	10/08/92	2.0	<0.43	2.8	29.9	0.35	0.32	18.6	14.9
CP-114	10/08/92	6.0	<0.44	2.6	35.1	0.38	0.36	17.0	13.7
CP-115A	10/08/92	2.0	<0.40	1.6	103	0.35	0.34	9.9	29.9
CP-115A	10/08/92	6.0	<0.38	2.0	13.3	0.23	<0.19	13.5	5.0
CP-115B	02/02/93	18.0	<0.41	2.3	14.6	<0.20	<0.20	21.2	7.0
CP-115B	02/09/93	36.0	<0.41	2.7	14.2	<0.20	<0.20	19.2	7.9
CP-115B	02/12/93	38.0	<0.41	1.8	11.9	<0.20	<0.20	13.4	6.2
CP-116	09/23/92	2.0	<0.45	1.9	24.6	0.23	0.96	30.6	15.9
CP-116	10/05/92	2.0	<0.44	2.1	16.1	0.23	0.27	18.0	6.7
CP-116	10/05/92	6.0	<0.45	2.2	13.2	<0.22	<0.22	16.3	4.9
CP-117	09/24/92	2.0	0.42	2.1	26.2	<0.21	0.58	41.0	10.3
CP-117	09/24/92	6.0	<0.39	1.5	12.6	<0.20	0.45	28.6	6.7
CP-118	10/01/92	2.0	<0.42	1.0	14.4	<0.21	<0.21	12.4	5.2

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Metals Detected in Soil

Pier 91 Facility

SITE	DATE	DEPTH	Mercury mg/kg	Nickel mg/kg	Lead mg/kg	Zinc mg/kg
CP-109	12/15/88	6.0	<0.1	18	5.5	21
CP-109	12/15/88	15.0	<0.1	26	5.8	27
CP-109	12/15/88	20.0	<0.1	27	5.8	27
CP-109	12/15/88	25.0	<0.1	21	5.3	26
CP-110	12/30/88	0.0	<0.1	18	12	34
CP-110	12/30/88	2.5	<0.1	16	<7	18
CP-110	12/30/88	6.0	<0.1	23	18	36
CP-110	12/30/88	15.0	<0.1	30	<7	25
CP-111	10/10/92	2.0	0.037	32.4	27.4	60.4
CP-111	10/10/92	6.0	<0.019	23.3	2.8	25.1
CP-112	10/10/92	2.0	0.043	33.7	36.1	41.2
CP-112	10/10/92	6.0	<0.020	29.2	3.7	22.0
CP-113	10/11/92	2.0	<0.018	13.4	1.4	13.5
CP-113	10/11/92	6.0	<0.019	27.3	4.1	25.8
CP-114	10/08/92	2.0	0.098	22.3	23.3	77.0
CP-114	10/08/92	6.0	0.079	21.5	13.5	62.2
CP-115A	10/08/92	2.0	<0.019	13.6	11.1	31.5
CP-115A	10/08/92	6.0	<0.018	17.7	10.8	15.4
CP-115B	02/02/93	18.0	0.026	23.4	2.4	18.6
CP-115B	02/09/93	36.0	0.029	20.2	1.3	20.4
CP-115B	02/12/93	38.0	<0.024	17.0	1.2	17.8
CP-116	09/23/92	2.0	<0.020	24.9	122	99.2
CP-116	10/05/92	2.0	<0.020	17.9	30.8	40.0
CP-116	10/05/92	6.0	<0.019	18.1	11.6	19.1
CP-117	09/24/92	2.0	<0.020	48.0	81.4	75.5
CP-117	09/24/92	6.0	<0.020	41.6	5.3	21.1
CP-118	10/01/92	2.0	<0.019	18.6	5.6	18.9

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SITE	DATE	DEPTH	Silver mg/kg	Arsenic mg/kg	Barium mg/kg	Beryllium mg/kg	Cadmium mg/kg	Chromium mg/kg	Copper mg/kg
CP-118	10/01/92	6.0	<0.38	1.3	22.0	0.37	0.22	26.0	12.9
CP-119	09/28/92	2.0	<0.37	2.2	18.7	0.27	0.25	19.8	10.8
CP-119	09/28/92	6.0	<0.39	1.8	13.0	0.23	0.21	12.2	6.1
CP-121	10/07/92	2.0	<0.40	2.6	22.2	0.24	0.20	13.9	5.6
CP-121	10/07/92	6.0	<0.44	1.7	17.7	0.39	0.28	19.1	7.8
CP-122A	10/08/92	2.0	<0.44	2.1	36.5	0.35	0.26	20.0	11.1
CP-122A	10/08/92	6.0	<0.41	2.0	31.3	0.39	0.29	26.9	13.3
CP-122A	10/09/92	14.0	<0.40	1.0	31.7	0.36	0.22	21.2	8.8
CP-122B	01/19/93	2.0	<0.43	13.0	85.4	<0.22	<0.22	17.9	31.5
CP-122B	01/19/93	6.0	<0.43	1.8	23.5	<0.21	<0.21	15.3	9.4
CP-122B	01/19/93	22.0	<0.41	1.9	11.9	<0.21	<0.21	15.5	4.5
CP-122B	02/24/93	32.0	<0.42	2.9	14.5	<0.21	<0.21	18.4	7.7
CP-122B	02/24/93	39.0	<0.42	2.4	13.1	<0.21	<0.21	12.8	5.6
CP-122C	01/18/93	2.0	<0.43	3.3	139	<0.21	<0.21	15.2	27.4
CP-122C	01/18/93	6.0	<0.41	2.6	17.2	<0.21	<0.21	12.7	7.3
HA-03	09/22/92	4.5	<0.42	1.5	12.5	0.23	<0.21	14.2	4.5
HA-03	09/22/92	6.0	<0.41	1.6	12.9	0.24	0.28	14.9	6.1
HA-04	09/28/92	1.5	<0.44	2.0	33.9	0.22	1.0	18.2	15.9
HA-04	09/28/92	3.0	<0.39	3.0	71.1	0.20	2.7	55.6	43.3
HA-05	09/22/92	4.5	<0.30	2.1	14.6	0.23	0.20	13.8	4.9
HA-05	09/22/92	6.0	<0.43	1.7	16.9	0.23	0.24	14.2	4.6
HA-06	09/21/92	4.5	<0.35	0.78	10.9	0.25	0.28	16.4	5.8
HA-06	09/21/92	6.0	<0.39	0.59	12.2	0.23	0.22	16.8	5.2
HA-07	09/16/92	1.5	0.37	2.4	111	0.40	4.2	96.2	71.9
HA-07	09/16/92	3.0	<0.39	1.7	70.3	0.30	1.8	48.2	33.7
HA-08	09/18/92	3.0	<0.36	1.4	19.9	0.25	0.30	18.1	42.1
HA-08	09/18/92	4.5	<0.38	1.5	18.1	0.24	0.23	14.9	18.1

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Data qualifiers presented in Appendix A

TABLE 3

Metals Detected in Soil

Pier 91 Facility

SITE	DATE	DEPTH	Mercury mg/kg	Nickel mg/kg	Lead mg/kg	Zinc mg/kg
CP-118	10/01/92	6.0	<0.019	27.5	32.1	38.9
CP-119	09/28/92	2.0	<0.020	23.4	19.5	20.2
CP-119	09/28/92	6.0	<0.020	17.7	12.8	16.7
CP-121	10/07/92	2.0	<0.019	15.1	3.6	22.4
CP-121	10/07/92	6.0	<0.018	24.8	1.9	30.2
CP-122A	10/08/92	2.0	0.025	29.5	5.7	29.2
CP-122A	10/08/92	6.0	0.15	31.6	7.4	31.7
CP-122A	10/09/92	14.0	<0.019	32.9	2.2	24.5
CP-122B	01/19/93	2.0	0.063	19.2	28.8	109
CP-122B	01/19/93	6.0	<0.019	21.6	6.6	30.8
CP-122B	01/19/93	22.0	0.022	17.8	1.6	16.0
CP-122B	02/24/93	32.0	<0.027	21.7	1.5	21.4
CP-122B	02/24/93	39.0	<0.024	16.8	0.91	18.7
CP-122C	01/18/93	2.0	0.036	21.1	15.1	37.7
CP-122C	01/18/93	6.0	<0.019	23.6	2.3	65.2
HA-03	09/22/92	4.5	<0.020	18.6	2.4	16.2
HA-03	09/22/92	6.0	<0.020	20.1	5.0	18.1
HA-04	09/28/92	1.5	0.069	24.7	143	138
HA-04	09/28/92	3.0	0.13	30.2	281	261
HA-05	09/22/92	4.5	<0.020	17.0	3.0	17.1
HA-05	09/22/92	6.0	<0.019	19.0	4.5	19.8
HA-06	09/21/92	4.5	<0.020	20.5	7.0	24.3
HA-06	09/21/92	6.0	<0.019	20.7	4.6	18.7
HA-07	09/16/92	1.5	0.16	35.8	326	395
HA-07	09/16/92	3.0	0.030	25.6	152	196
HA-08	09/18/92	3.0	<0.020	19.6	10.6	27.3
HA-08	09/18/92	4.5	<0.020	22.4	8.0	20.9

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TABLE 3

Metals Detected in Soil

Pier 91 Facility

SITE	DATE	DEPTH	Silver mg/kg	Arsenic mg/kg	Barium mg/kg	Beryllium mg/kg	Cadmium mg/kg	Chromium mg/kg	Copper mg/kg
HA-09	09/29/92	1.5	<0.42	5.3	53.3	0.28	1.0	60.8	24.9
HA-10	09/18/92	1.5	<0.34	3.1	52.4	0.18	1.8	49.4	36.4
HA-10	09/29/92	4.5	<0.40	1.9	14.8	0.20	0.24	17.2	5.9
HA-10	09/29/92	5.0	<0.40	1.7	15.3	0.23	0.43	18.8	8.4
HA-11	09/17/92	1.5	<0.37	1.6	35.5	0.30	0.51	57.1	11.8
HA-11	09/17/92	6.0	<0.35	1.6	15.6	0.20	0.37	26.4	5.4
HA-12	09/17/92	5.0	<0.36	1.5	13.1	0.19	0.23	10.9	4.1
HA-12	09/17/92	6.0	<0.39	0.96	16.3	<0.19	0.26	11.9	4.3
SB-1	12/21/88	0.0	---	5.1	---	<1	<1	15	23
SB-1	12/21/88	2.5	---	---	---	---	---	---	---
SB-1	12/21/88	6.0	---	2.3	---	<1	<1	19	10
SB-2	12/22/88	0.0	---	25	---	<1	<1	19	40
SB-2	12/22/88	2.5	---	77	---	<1	1.7	30	104
SB-2	12/22/88	6.0	---	2.5	---	<1	<1	16	9.9
TB-1	12/22/88	0.0	---	3.4	---	<1	<1	17	70
TB-1	12/22/88	2.5	---	6.5	---	<1	1.3	26	2080
TB-1	12/22/88	6.0	---	1.7	---	<1	<1	15	8.9
TB-1	12/22/88	15.0	---	2.0	---	<1	<1	24	17
TB-1	12/22/88	20.0	---	3.4	---	<1	<1	25	16
TB-2	12/21/88	0.0	---	2.9	---	<1	<1	14	11
TB-2	12/21/88	2.5	---	5.3	---	<1	<1	19	5.6
TB-2	12/21/88	6.0	---	2.3	---	<1	<1	23	7.5
TB-2	12/21/88	15.0	---	1.4	---	<1	<1	16	7.4
TB-2	12/21/88	20.0	---	1.4	---	<1	<1	22	7.0
TB-3	12/20/88	0.0	---	2.2	---	<1	<1	11	7.3
TB-3	12/20/88	2.5	---	2.4	---	<1	<1	12	10
TB-3	12/20/88	6.0	---	1.6	---	<1	<1	19	6.0

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TABLE 3

Metals Detected in Soil

Pier 91 Facility

SITE	DATE	DEPTH	Mercury mg/kg	Nickel mg/kg	Lead mg/kg	Zinc mg/kg
HA-09	09/29/92	1.5	0.11	28.1	155	151
HA-10	09/18/92	1.5	0.034	19.5	34.2	135
HA-10	09/29/92	4.5	<0.018	21.1	9.6	32.0
HA-10	09/29/92	5.0	<0.19	21.3	15.4	32.4
HA-11	09/17/92	1.5	<0.020	37.0	41.7	68.4
HA-11	09/17/92	6.0	<0.019	17.0	9.2	42.7
HA-12	09/17/92	5.0	<0.020	14.4	14.4	16.3
HA-12	09/17/92	6.0	<0.017	14.6	8.6	17.9
SB-1	12/21/88	0.0	<0.1	19	4.5	138
SB-1	12/21/88	2.5	---	---	---	---
SB-1	12/21/88	6.0	<0.1	24	15	38
SB-2	12/22/88	0.0	0.074	22	68	70
SB-2	12/22/88	2.5	0.11	34	150	149
SB-2	12/22/88	6.0	<0.07	18	<7	19
TB-1	12/22/88	0.0	<0.1	29	30	52
TB-1	12/22/88	2.5	<0.07	77	124	242
TB-1	12/22/88	6.0	<0.07	25	<7	21
TB-1	12/22/88	15.0	<0.05	35	<6	28
TB-1	12/22/88	20.0	<0.07	34	<7	28
TB-2	12/21/88	0.0	<0.1	21	53	66
TB-2	12/21/88	2.5	<0.1	22	18	33
TB-2	12/21/88	6.0	<0.1	29	27	38
TB-2	12/21/88	15.0	<0.1	23	6.6	23
TB-2	12/21/88	20.0	<0.1	28	11	27
TB-3	12/20/88	0.0	<0.1	12	8.9	31
TB-3	12/20/88	2.5	<0.1	15	11	49
TB-3	12/20/88	6.0	<0.1	20	15	24

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TABLE 3

Metals Detected in Soil

Pier 91 Facility

SITE	DATE	DEPTH	Silver mg/kg	Arsenic mg/kg	Barium mg/kg	Beryllium mg/kg	Cadmium mg/kg	Chromium mg/kg	Copper mg/kg
TB-3	12/20/88	15.0	---	1.7	---	<1	<1	16	6.6
TB-3	12/20/88	20.0	---	3.0	---	<1	<1	31	11
TB-4	12/12/88	0.0	---	2.2	---	<1	<1	17	9.6
TB-4	12/12/88	2.5	---	2.6	---	<1	<1	15	9.6
TB-4	12/12/88	6.0	---	2.1	---	<1	<1	14	8.1
TB-4	12/12/88	15.0	---	2.3	---	<1	<1	19	7.8
TB-4	12/12/88	20.0	---	2.4	---	<1	<1	16	6.8
TB-4	12/12/88	25.0	---	3.5	---	<1	<1	16	9.6
TB-5	12/19/88	0.0	---	2.0	---	<1	<1	17	14
TB-5	12/19/88	2.5	---	4.7	---	<1	<1	21	16
TB-5	12/19/88	6.0	---	1.5	---	<1	<1	15	4.7
TB-5	12/19/88	15.0	---	1.9	---	<1	<1	30	6.8
TB-5	12/19/88	20.0	---	2.1	---	<1	<1	16	4.8
TB-6	12/14/88	0.0	---	2.3	---	<1	<1	24	15
TB-6	12/14/88	1.0	---	---	---	---	---	---	---
TB-6	12/14/88	2.5	---	2.2	---	<1	<1	20	20
TB-6	12/14/88	6.0	---	3.0	---	<1	<1	19	7.8
TB-6	12/14/88	15.0	---	2.2	---	<1	<1	23	9.8
TB-6	12/14/88	20.0	---	1.9	---	<1	<1	21	9.4
TB-6	12/14/88	25.0	---	1.8	---	<1	<1	27	9.4
TB-6	12/14/88	30.0	---	1.8	---	<1	<1	20	11
TB-7	12/12/88	1.6	---	---	---	---	---	---	---
TB-7	12/16/88	0.0	---	11	---	<1	<1	16	20
TB-7	12/16/88	1.6	---	---	---	---	---	---	---
TB-7	12/16/88	6.0	---	16	---	<1	<1	15	6.1
TB-7	12/16/88	15.0	---	9.3	---	<1	<1	15	7.0
TB-7	12/16/88	20.0	---	3.7	---	<1	<1	24	8.0

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TABLE 3

Metals Detected in Soil

Pier 91 Facility

SITE	DATE	DEPTH	Mercury mg/kg	Nickel mg/kg	Lead mg/kg	Zinc mg/kg
TB-3	12/20/88	15.0	<0.1	21	6.9	25
TB-3	12/20/88	20.0	<0.1	38	6.3	34
TB-4	12/12/88	0.0	<0.1	22	12	29
TB-4	12/12/88	2.5	<0.1	18	38	27
TB-4	12/12/88	6.0	<0.1	18	11	23
TB-4	12/12/88	15.0	<0.1	22	7.1	24
TB-4	12/12/88	20.0	<0.1	19	8.8	21
TB-4	12/12/88	25.0	<0.1	23	5.1	22
TB-5	12/19/88	0.0	<0.1	22	63	92
TB-5	12/19/88	2.5	<0.1	25	84	112
TB-5	12/19/88	6.0	<0.1	19	4.0	20
TB-5	12/19/88	15.0	<0.1	30	10	24
TB-5	12/19/88	20.0	<0.1	20	4.5	21
TB-6	12/14/88	0.0	<0.1	27	29	84
TB-6	12/14/88	1.0	---	---	---	---
TB-6	12/14/88	2.5	<0.1	31	56	116
TB-6	12/14/88	6.0	<0.1	19	9.9	28
TB-6	12/14/88	15.0	<0.1	26	7.2	28
TB-6	12/14/88	20.0	<0.1	27	3.9	27
TB-6	12/14/88	25.0	<0.1	31	5.2	28
TB-6	12/14/88	30.0	<0.1	24	4.9	30
TB-7	12/12/88	1.6	---	---	---	---
TB-7	12/16/88	0.0	<0.1	19	25	74
TB-7	12/16/88	1.6	---	---	---	---
TB-7	12/16/88	6.0	<0.1	21	5.7	24
TB-7	12/16/88	15.0	0.23	18	9.8	26
TB-7	12/16/88	20.0	0.16	28	8.6	29

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TABLE 3

Metals Detected in Soil

Pier 91 Facility

SITE	DATE	DEPTH	Silver mg/kg	Arsenic mg/kg	Barium mg/kg	Beryllium mg/kg	Cadmium mg/kg	Chromium mg/kg	Copper mg/kg
TB-7	12/16/88	25.0	---	4.1	---	<1	<1	18	8.2

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TABLE 3

Metals Detected in Soil

Pier 91 Facility

SITE	DATE	DEPTH	Mercury mg/kg	Nickel mg/kg	Lead mg/kg	Zinc mg/kg
TB-7	12/16/88	25.0	<0.1	21	6.7	25

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TABLE 4

PCBs Detected in Soil

Pier 91 Facility

Date: 09/23/93

SITE	DATE	DEPTH	PCB-1248 mg/kg	PCB-1254 mg/kg	PCB-1260 mg/kg
CP-106B	01/25/93	2.0	<0.037	<0.037	0.380
CP-106B	01/25/93	6.0	<0.036	<0.036	0.10
CP-106B	01/25/93	18.0	<0.042	<0.042	<0.042
CP-106B	02/19/93	35.0	<0.040	<0.040	<0.040
CP-106B	02/19/93	39.0	<0.040	<0.040	<0.040
CP-116	09/23/92	2.0	<0.040	0.65	0.64
CP-116	10/05/92	2.0	<0.035	0.057	0.062
CP-116	10/05/92	6.0	<0.038	0.083	0.092
CP-117	09/24/92	2.0	0.90	0.88	<0.035
CP-117	09/24/92	6.0	0.35	0.14	0.14
CP-119	09/28/92	2.0	<0.037	0.83	0.35
CP-119	09/28/92	6.0	<0.038	0.41	0.52
HA-03	09/22/92	4.5	<0.041	<0.041	3.09
HA-03	09/22/92	6.0	<0.035	<0.035	85
HA-04	09/28/92	1.5	<0.036	1.4	<0.036
HA-04	09/28/92	3.0	<0.039	1.8	<0.039
HA-05	09/22/92	4.5	0.69	<0.036	0.67
HA-05	09/22/92	6.0	<0.038	<0.038	0.13
HA-06	09/21/92	4.5	<0.035	0.18	0.072
HA-06	09/21/92	6.0	<0.038	<0.038	0.025 J
HA-07	09/16/92	1.5	<0.036	4.0	<0.036
HA-07	09/16/92	3.0	<0.036	2.0	<0.036
HA-08	09/18/92	3.0	<0.035	0.12	0.068
HA-08	09/18/92	4.5	<0.035	0.060	0.022
HA-09	09/29/92	1.5	<0.036	0.78	0.61
HA-10	09/18/92	1.5	<0.035	0.45	0.51
HA-10	09/29/92	4.5	<0.034	0.11	0.60

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TABLE 4

PCBs Detected in Soil

Pier 91 Facility

Date: 09/23/93

SITE	DATE	DEPTH	PCB-1248 mg/kg	PCB-1254 mg/kg	PCB-1260 mg/kg
HA-10	09/29/92	5.0	<0.035	0.11	0.05
HA-11	09/17/92	1.5	<0.036	3.0	1.2
HA-11	09/17/92	6.0	<0.036	0.13	<0.036
HA-12	09/17/92	5.0	<0.037	0.32	0.11
HA-12	09/17/92	6.0	<0.037	0.26	0.11

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TABLE 5

TPH Detected in Soil
USEPA Method 418.1 and 8015(Modified)

Pier 91 Facility

SITE	DATE	DEPTH	TPH 418.1 mg/kg	TPH USEPA Method 8015 (Modified) mg/kg
CP-106B	01/25/93	2.0	14000	13000 EX
CP-106B	01/25/93	6.0	12000	7500 X
CP-106B	01/25/93	18.0	160	170
CP-106B	02/19/93	35.0	35	<10
CP-106B	02/19/93	39.0	20	<10
CP-111	10/10/92	2.0	2200	11000
CP-111	10/10/92	6.0	3700	6300
CP-112	10/10/92	2.0	420	2400
CP-112	10/10/92	6.0	64	120
CP-113	10/11/92	2.0	35	60
CP-113	10/11/92	6.0	2000	2200
CP-114	10/08/92	2.0	840	1300 X
CP-114	10/08/92	6.0	480	1900 X
CP-115A	10/08/92	2.0	36	50 X
CP-115A	10/08/92	6.0	13000	22000 EX
CP-115B	02/02/93	18.0	31	<10
CP-115B	02/09/93	36.0	14	<10
CP-115B	02/12/93	38.0	35	<10
CP-116	09/23/92	2.0	38000	42000 X
CP-116	10/05/92	2.0	11000	9300 EX
CP-116	10/05/92	6.0	14000	8100
CP-117	09/24/92	2.0	36000	38000 X
CP-117	09/24/92	6.0	28000	24000 X
CP-118	10/01/92	2.0	22000	18000 X
CP-118	10/01/92	6.0	18000	32000 X
CP-119	09/28/92	2.0	60000	45000 X
CP-119	09/28/92	6.0	20000	37000 X

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Data qualifiers presented in Appendix A

TABLE 5

TPH Detected in Soil
USEPA Method 418.1 and 8015(Modified)

Pier 91 Facility

SITE	DATE	DEPTH	TPH 418.1 mg/kg	TPH USEPA Method 8015 (Modified) mg/kg
CP-121	10/07/92	2.0	46	<10
CP-121	10/07/92	6.0	1100	468
CP-122A	10/08/92	2.0	36	140 X
CP-122A	10/08/92	6.0	180	415 X
CP-122A	10/09/92	14.0	510	980
CP-122B	01/19/93	2.0	900	2600 X
CP-122B	01/19/93	6.0	630	570
CP-122B	01/19/93	22.0	22	15
CP-122B	02/24/93	32.0	26	<10
CP-122B	02/24/93	39.0	24	<10
CP-122C	01/18/93	2.0	5900	14000 X
CP-122C	01/18/93	6.0	8200	5200 X
HA-03	09/22/92	4.5	9200	19000 X
HA-03	09/22/92	6.0	29000	34000 EX
HA-04	09/28/92	1.5	56000	52000 X
HA-04	09/28/92	3.0	67000	92000 X
HA-05	09/22/92	4.5	35000	55000 EX
HA-05	09/22/92	6.0	15000	20000 E
HA-06	09/21/92	4.5	19000	22000 X
HA-06	09/21/92	6.0	5600	13000 EX
HA-07	09/16/92	1.5	59000	32000 X
HA-07	09/16/92	3.0	66000	46000 X
HA-08	09/18/92	3.0	21000	21000
HA-08	09/18/92	4.5	14000	18000
HA-09	09/29/92	1.5	76000	38000 X
HA-10	09/18/92	1.5	26000	51000 E
HA-10	09/29/92	4.5	29000	37000 X

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TABLE 5

TPH Detected in Soil
USEPA Method 418.1 and 8015(Modified)

Pier 91 Facility

SITE	DATE	DEPTH	TPH 418.1 mg/kg	TPH USEPA Method 8015 (Modified) mg/kg
HA-10	09/29/92	5.0	28000	27000 X
HA-11	09/17/92	1.5	120000	97000 E
HA-11	09/17/92	6.0	11000	11000
HA-12	09/17/92	5.0	49000	48000 E
HA-12	09/17/92	6.0	40000	37000

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Hits only # = Highest of Multiple Results ??? = Duplicate Results

Data qualifiers presented in Appendix A

TABLE 6

VOCs Detected in Groundwater

USEPA Method 8240

Pier 91 Facility

SITE	DATE	Vinyl chloride ug/l	Methylene chloride ug/l	Acetone ug/l	1,1-DCE ug/l	1,1-DCA ug/l	1,2-DCE (Total) ug/l	Chloroform ug/l	2-Butanone ug/l
CP-103A	04/06/93	<20	21 B	(2.1) JB	<10	<10	<10	<10	<50
CP-103B	04/06/93	<10	(1.2) JB	(0.90) JB	<5	<5	<5	<5	<25
CP-104A	04/05/93	(3.8) J	<5	(1.4) B	<5	15	<5	<5	<5
CP-104B	04/05/93	<10	<5	<50	<5	(1.9) J	<5	<5	<25
CP-105B	04/05/93	<10	<5	<50	<5	<5	<5	<5	<25
CP-106A	04/08/93	<20	24 B	<100	<10	<10	<10	<10	<50
CP-106B	04/09/93	<20	54 B	(2.3) J	<10	<10	<10	<10	<50
CP-107	04/08/93	<20	42 B	(11) J	<10	(2.6) J	<10	<10	<50
CP-108B	04/06/93	<10	<5	<50	<5	<5	<5	<5	<25
CP-109	04/14/93	<10	<5	(9.2) JB	<5	(2.8) J	<5	<5	<25
CP-111	04/07/93	<20	62 JB	(2.8) JB	<10	<10	<10	<10	<50
CP-113	04/07/93	39	(1.3) JB	<50	<5	35	(1.8) J	(0.78) J	<25
CP-115A	04/09/93	<10	(2.9) JB	(4.3) J	<5	<5	<5	<5	<25
CP-116	04/14/93	(7.5) J	<5	(18) JB	(0.21) J	96	<5	<5	(0.96) J
CP-117	04/14/93	<400	300 B	<2000	<200	270	<200	<200	<1000
CP-118	04/14/93	<20	19 B	(4.0) J	<10	(8.6) J	<10	<10	<50
CP-119	04/14/93	<10	(2.5) JB	(13) J	<5	33	<5	<5	<25
CP-122B	04/09/93	<20	57 B	(3.5) J	<10	<10	<10	<10	<50
MW-39-3	04/14/93	(4.1) JB	(1.0) JB	(4.4) JB	<5	10	<5	<5	<25
W-10	04/14/93	<10	<5	(12) JB	<5	<5	<5	<5	<25

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Data qualifiers presented in Appendix A

TABLE 6

VOCs Detected in Groundwater
USEPA Method 8240

Pier 91 Facility

SITE	DATE	1,1,1-TCA ug/l	TCE ug/l	Benzene ug/l	Toluene ug/l	Ethyl benzene ug/l	Total xylenes ug/l	Chloroethane ug/l
CP-103A	04/06/93	<10	<10	(2.2) J	(4.3) J	<10	<10	(10) J
CP-103B	04/06/93	<5	6.8	<5	<5	<5	<5	<10
CP-104A	04/05/93	<5	(2.5) J	(1.1) J	10	(4.2) J	20	(4.1) J
CP-104B	04/05/93	<5	12	<5	(2.3) J	(2.8) J	(4.9) J	<10
CP-105B	04/05/93	<5	11	<5	(2.3) J	(2.7) J	5.8	<10
CP-106A	04/08/93	<10	(1.8) J	<10	<10	<10	<10	<20
CP-106B	04/09/93	<10	<10	<10	<10	<10	<10	<20
CP-107	04/08/93	<10	<10	<10	<10	<10	(4.0) J	55
CP-108B	04/06/93	<5	9.1	<5	(2.3) J	(2.3) J	5.2	<10
CP-109	04/14/93	<5	<5	29	6.6	(3.4) J	(4.8) J	76
CP-111	04/07/93	<10	(4.6) J	<10	(2.6) J	(2.0) J	(2.4) J	(4.2) J
CP-113	04/07/93	16	49	<5	<5	<5	<5	<10
CP-115A	04/09/93	<5	<5	<5	<5	<5	<5	<10
CP-116	04/14/93	<5	<5	23	5.5	12	27	(4.7) J
CP-117	04/14/93	<200	<200	(28) J	1800	4100	11000	(210) J
CP-118	04/14/93	<10	<10	18	<10	(5.0) J	10	(9.4) J
CP-119	04/14/93	<5	(1.9) J	45	35	26	100	140
CP-122B	04/09/93	<10	(2.6) J	<10	<10	<10	<10	<20
MW-39-3	04/14/93	<5	<5	14	6.9	11	60	130
W-10	04/14/93	<5	<5	14	(3.2) J	9.5 J	(3.7) J	<10

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Data qualifiers presented in Appendix A

TABLE 7

SVOCs Detected in Groundwater

USEPA Method 8270

Pier 91 Facility

SITE	DATE	4-Methylphenol ug/l	2,4-Dimethyl phenol ug/l	Naphthalene ug/l	4-Chloro-3-methylphenol ug/l	2-Methyl naphthalene ug/l	Acenaphthene ug/l	Dibenzofuran ug/l	Fluorene ug/l
CP-103A	04/06/93	(5.3) J	<9.9	<9.9	<20	<9.9	<9.9	<9.9	<9.9
CP-103B	04/06/93	<11	<11	<11	<21	<11	<11	<11	<11
CP-104A	04/05/93	<9.8	<9.8	(5.5) J	<20	(3.9) J	42	(4.8) J	27
CP-104B	04/05/93	<28	<28	<28	<57	<28	<28	<28	<28
CP-105A	04/05/93	<9.6	<9.6	<9.6	<19	<9.6	<9.6	<9.6	<9.6
CP-105B	04/05/93	<30	<30	<30	<60	<30	<30	<30	<30
CP-106A	04/08/93	<9.8	<9.8	<9.8	<20	<9.8	<9.8	<9.8	<9.8
CP-107	04/08/93	<9.9	<9.9	<9.9	<20	(3.6) J	(4.0) J	(1.8) J	(7.6) J
CP-108A	04/06/93	<9.9	<9.9	<9.9	<20	<9.9	<9.9	<9.9	<9.9
CP-108B	04/06/93	<10	<10	<10	<20	<10	<10	<10	<10
CP-109	04/14/93	<9.1	<9.1	14	<18	62	<9.1	(1.7) J	(3.8) J
CP-110	04/12/93	<9.6	<9.6	<9.6	<19	(2.7) J	(2.6) J	<9.6	(6.8) J
CP-112	04/07/93	<9.9	<9.9	<9.9	<20	<9.9	<9.9	<9.9	<9.9
CP-113	04/07/93	<9.8	<9.8	<9.8	<20	<9.8	<9.8	<9.8	<9.8
CP-115A	04/09/93	<98	<98	<98	<200	<98	<98	<98	<98
CP-115B	04/09/93	<10	<10	<10	<21	<10	<10	<10	<10
CP-116	04/14/93	<20	(15) J	<20	200	<20	(2.4) J	<20	<20
CP-117	04/14/93	(190) J	<220	(57) J	<450	(45) J	<220	<220	<220
CP-118	04/14/93	<18	<18	18 J	76	130	(4.0) J	(3.9) J	(9.5) J
CP-119	04/14/93	<100	<100	120	<210	260	<100	<100	(22) J
MW-39-3	04/14/93	<10	<10	(3.2) J	<20	35	(7.3) J	<10	10
W-10	04/14/93	<9.2	<9.2	19	<18	24	(3.5) J	(3.9) J	(6.1) J

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Data Qualifiers presented in Appendix A

TABLE 7

SVOCs Detected in Groundwater

USEPA Method 8270

Pier 91 Facility

SITE	DATE	Phenanthrene ug/l	Anthracene ug/l	Di-n-butyl-phthalate ug/l	Fluoranthene ug/l	Pyrene ug/l	bis(2-Ethyl hexyl)phthalate ug/l	Di-n-octyl phthalate ug/l	Benzo(k)fluor anthene ug/l
CP-103A	04/06/93	<9.9	<9.9	(4.7)	<9.9	<9.9	(1.8) J	<9.9	<9.9
CP-103B	04/06/93	<11	<11	(4.4) J	<11	<11	11	<11	<11
CP-104A	04/05/93	(4.0) J	(2.4) J	(7.7) J	(5.7) J	(2.7) J	(3.5) J	<9.8	<9.8
CP-104B	04/05/93	<28	<28	<28	<28	<28	46	(4.3) J	<28
CP-105A	04/05/93	<9.6	<9.6	(9.1) J	<9.6	<9.6	(2.8)	<9.6	<9.6
CP-105B	04/05/93	<30	<30	<30	<30	<30	(26) J	<30	<30
CP-106A	04/08/93	<9.8	<9.8	(4.2) J	<9.8	<9.8	(2.8) J	<9.8	<9.8
CP-107	04/08/93	(3.4) J	<9.9	(6.0) J	<9.9	<9.9	<9.9	<9.9	<9.9
CP-108A	04/06/93	<9.9	<9.9	(5.8) J	<9.9	<9.9	(1.6) J	<9.9	<9.9
CP-108B	04/06/93	<10	<10	<10	<10	<10	23	<10	<10
CP-109	04/14/93	(2.5) J	<9.1	11 B	<9.1	<9.1	<9.1	<9.1	<9.1
CP-110	04/12/93	(4.1) J	<9.6	(1.4) J	<9.6	<9.6	<9.6	<9.6	<9.6
CP-112	04/07/93	<9.9	<9.9	(3.0) J	<9.9	<9.9	(2.2) J	<9.9	<9.9
CP-113	04/07/93	<9.8	<9.8	(3.1) J	<9.8	<9.8	(6.2) J	<9.8	<9.8
CP-115A	04/09/93	<98	<98	<98	<98	<98	(19) J	<98	<98
CP-115B	04/09/93	<10	<10	(5.0) J	<10	<10	<10	<10	<10
CP-116	04/14/93	(1.9) J	<20	(16) JB	<20	<20	<20	<20	<20
CP-117	04/14/93	<220	<220	<220	<220	<220	<220	<220	<220
CP-118	04/14/93	(5.7) J	<18	(13) JB	<18	<18	<18	<18	<18
CP-119	04/14/93	(33) J	<100	<100	<100	<100	<100	<100	<100
MW-39-3	04/14/93	(4.2) J	<10	11 B	<10	<10	<10	<10	<10
W-10	04/14/93	(4.3) J	<9.2	20 B	<9.2	<9.2	<9.2	<9.2	(2.3) J

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Data Qualifiers presented in Appendix A

TABLE 8

TPH Detected in Groundwater
USEPA Methods 418.1 and 8015(modified)

Pier 91 Facility

SITE	DATE	TPFH Method 8015 (Modified) mg/l	TPH 418.1 mg/l
CP-104A	04/05/93	<0.75	15
CP-105A	04/05/93	<0.75	1.3
CP-106A	04/08/93	<0.75	1.8
CP-107	04/08/93	<0.75	3.5
CP-109	04/14/93	4.1	130
CP-111	04/07/93	45	30
CP-112	04/07/93	<0.75	2.8
CP-113	04/07/93	<0.75	2.1
CP-115A	04/09/93	3.0	4.4
CP-116	04/14/93	5.1	86
CP-117	04/14/93	74	36
CP-118	04/14/93	26	34
CP-119	04/14/93	100	190
MW-39-3	04/14/93	1.6	54
W-10	04/14/93	<0.75	27

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Hits only # = Highest of Multiple Results ??? = Duplicate Results

Data qualifiers presented in Appendix A

TABLE 9

SVOCs Detected in Storm Drain Sediments

USEPA Method 8270

Pier 91 Facility

SITE	DATE	Naphthalene ug/kg	2-Methyl naphthalene ug/kg	Fluorene ug/kg	Phenanthrene ug/kg	Anthracene ug/kg	Di-n-butyl-phthalate ug/kg	Fluoranthene ug/kg	Pyrene ug/kg
CP-S-1	10/05/92	(28000) J	100000	(18000) J	180000	(14000) J	(8900) JB	(19000) J	180000
CP-S-2	10/05/92	<1400000	(410000) JE	<1400000	(850000) J	<1400000	(110000) JB	<1400000	(770000) J
CP-S-3	10/05/92	(77000) J	3700000 JE	<420000	440000	<420000	590000 B	(69000) J	520000
CP-S-4	10/05/92	<390000	(280000) J	<390000	(320000) J	<390000	390000 B	(51000) J	390000
CP-S-5	10/05/92	<670000	(200000) J	<670000	(310000) J	<670000	<670000	<670000	(320000) J
CP-S-6	10/05/92	<710000	(240000) J	<710000	(410000) J	<710000	<710000	<710000	(460000) J

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Hits only # = Highest of Multiple Results ??? = Duplicate Results

Data qualifiers presented in Appendix A

TABLE 9

SVOCs Detected in Storm Drain Sediments

USEPA Method 8270

Pier 91 Facility

SITE	DATE	Benzo(a) anthracene ug/kg	Chrysene ug/kg	bis(2-Ethyl hexyl)phthalate ug/kg	Benzo(b) fluoranthene ug/kg	Benzo(a)pyrene ug/kg	Indeno (1,2,3-c,d) pyrene ug/kg	Benzo(g,h,i) perylene ug/kg
CP-S-1	10/05/92	110000	120000	170000	(35000) J	(42000) J	(8400) J	(22000) J
CP-S-2	10/05/92	<1400000	(830000) J	<1400000	(330000) J	(260000) J	<1400000	<1400000
CP-S-3	10/05/92	<420000	450000	(170000) J	(68000) J	(130000) J	<420000	(120000) J
CP-S-4	10/05/92	<390000	430000	(230000) J	(71000) J	(140000) J	<390000	(160000) J
CP-S-5	10/05/92	<670000	(440000) J	<670000	(110000) J	(130000) J	<670000	<670000
CP-S-6	10/05/92	<710000	(500000) J	<710000	(83000) J	(140000) J	<710000	<710000

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Data qualifiers presented in Appendix A

TABLE 10

TPH Detected in Storm Drain Sediments
USEPA Methods 418.1 and 8015(Modified)

Pier 91 Facility

SITE	DATE	TPH 418.1 mg/kg	TPFH Method 8015 (Modified) mg/kg
CP-S-1	10/05/92	86000	31000 E
CP-S-2	10/05/92	270000	340000 E
CP-S-3	10/05/92	230000	210000
CP-S-4	10/05/92	220000	250000 E
CP-S-5	10/05/92	130000	260000 E
CP-S-6	10/05/92	140000	200000

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Data qualifiers presented in Appendix A

EPA COMMENTS ON DRAFT "RESPONSE TO INTERIM MEASURES JUSTIFICATION QUESTIONS" FOR THE BEI PIER 91 FACILITY

1) Section C1. BEI states that it is not known if groundwater has migrated far enough off-site to be discharged to Elliot Bay. EPA believes, that while there may not be definitive physical proof of discharges to Elliot Bay, the weight of evidence clearly indicates this is the case. The Pier 91 site has a history of industrial and fuel use dating back to World War II and a myriad of past and present potential contamination source areas. BEI's first physical evidence of groundwater contamination was obtained in late 1987. Using BEI's calculation of horizontal seepage velocity of 35 feet per year, it would only take 6 years for on-site contaminated groundwater to reach Elliot Bay.

In addition, contamination of Lake Jacobs has already occurred. Releases from pipelines subleased by BEI to the Pacific Northern Oil Company (Panoco) leaked and seeped into Lake Jacobs. The pipeline release to Lake Jacobs and the surrounding area are being addressed by Panoco. In all likelihood, Lake Jacobs is also negatively impacted by other contaminant sources. Large spills and contaminated groundwater upgradient of Lake Jacobs could contribute to contamination in this water body. Again, using BEI's calculated groundwater velocity, time of travel to Lake Jacobs would only take approximately 2 years.

Therefore, EPA believes sufficient evidence exists to conclude that contaminated groundwater has been around long enough to migrate far enough off-site to discharge to nearby surface water bodies.

2) Section C2. BEI states that no sensitive habitats have been identified in the vicinity of BEI's facility and that therefore there is no evidence to indicate that environmental receptors may be threatened by site-related contamination. EPA strongly disagrees. Elliot Bay, which is only about 200 feet downgradient from the facility, certainly qualifies as a sensitive habitat containing numerous environmental receptors. Furthermore, Lake Jacobs is only about 80 feet from the facility. And, while EPA is unaware of any studies of the fauna of Lake Jacobs, it acts at the very least as temporary home for a large number of waterfowl. Therefore, EPA concludes that there is evidence to indicate that environmental receptors are threatened by site-related contamination.

3) Section C3. For the reasons stated in the comments above, EPA disagrees with BEI's conclusion that "no adverse effects on aquatic or terrestrial organisms are anticipated." EPA anticipates adverse impacts from the BEI facility based on the following construct: The regional setting dictates that groundwater is discharging to Elliot Bay. Groundwater elevation

data confirms this supposition. Contamination is widespread and includes a large, not fully characterized LNAPL layer. Contamination of the groundwater has potentially existed for many years, perhaps decades, at this site. Time of travel from the facility is approximately 6 years to Elliot Bay and two years to Lake Jacobs. The contaminants present in the groundwater are toxic to a wide variety of living organisms. Elliot Bay and Lake Jacobs contain environmental receptors.

4) Section C4. For the reasons stated above, EPA disagrees with BEI's conclusion that "No ecological impacts has been observed or are anticipated."

5) Section C5. Similarly, EPA disagrees with BEI's conclusion that "No ecological **threat** has been observed or is anticipated" (emphasis added to distinguish this response from response C4).

6) Section C6. EPA disagrees with BEI's conclusion that "No long-term-effects are anticipated." EPA believes that based on the groundwater contaminant profile and the long-term availability of this contamination, that long-term effects are anticipated.

7) Section C7. EPA disagrees with BEI's conclusion that since BEI does not anticipate ecological impacts, "there is no reason to suspect that delaying remedial action at the Pier 91 facility would change this evaluation." It has taken a long time, and multiple property owners and operators, to begin investigating environmental problems at Pier 91. Final corrective measures are at least 10 months away. EPA believes, that until a final remedy is fully operational, any delay has immediate and continuing detrimental environmental effects. Interim actions at Pier 91 would be very beneficial and could likely be integrated with final corrective measures.

END

RESPONSE TO INTERIM MEASURES
JUSTIFICATION QUESTIONS
BURLINGTON ENVIRONMENTAL INC.
PIER 91 FACILITY
SEATTLE, WASHINGTON
EPA I.D. NO. WAD 00081 2917

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