HLA

Date: _____
Time: _____

HARDING LAWSON ASSOCIATES
Engineering and Environmental Services

200 Rush Landing Road
P.O. Box 578
Novato, California 94945

ADDRESSEE'S FAX PHONE #: 510/569-4757 HLA FAX #: (415) 892-1586

TO: Susan Hugo

FROM: Melissa Wanon

SUBJECT: USPS Emeryville Data Summary

HLA JOB NO.: 5525.134.02 NON-CHARGEABLE: _____

NUMBER OF PAGES (INCLUDING THIS SHEET): 9

COPIES TO:

1. _____
2. _____
3. _____

INSTRUCTIONS/REMARKS: _____

****

IF YOU DO NOT RECEIVE ALL PAGES, PLEASE CALL (415) 892-0821

Received/Sent by: _____

Harding Lawson Associates

February 28, 1992

0525,134.02

US Postal Service
850 Cherry Street
San Bruno, California 94099-0310

Attention: Mr. Raymond Jones

Gentlemen:

Summary of Emeryville Analytical Data
Emeryville, California

As per our February 25, 1992 conference call I have prepared a summary of the analytical data from the January 30 and 31, 1992 drilling and sampling at the proposed Emeryville postal station site.

Attached are Tables 1 through 3 presenting the analytical results for PCBs, total petroleum hydrocarbon (TPH), and benzene, toluene, ethylbenzene and xylenes (BTEX), respectively. In addition, I have also attached a site map showing approximate borehole and well locations.

This phase of investigation was initiated to provide additional information concerning the presence of PCBs and TPH which were detected during the September 1990 shallow soils investigation. This information is needed in order to asses the need for any remedial measures (soil excavation and removal, etc), and/or safety precautions which may need to be addressed during building construction. The scope of work performed was originally discussed with Ms. Susan Hugo of the Alameda County Department of Environmental Health (ACDEH), the USPS, and HLA in a meeting held on November 5, 1991. A follow-up meeting was held with Mr. Richard Hyatt, Mr. John Jang and Mr. Lester Feldman of the California Regional Water Quality Control Board (RWQCB) on December 3, 1991. The proposed scope of work was modified to include installation of a shallow groundwater monitoring well, as per the request of the RWQCB. Verbal approval was given by the agencies to proceed and confirmed in a letter dated December 11, 1991. Upon receiving authorization

from the USPS, HLA prepared a work plan (dated January 30, 1992) and performed the field work.

SCOPE OF WORK

Eight shallow soil borings (B-1 through B-8) were drilled to assess soil contamination along the utility trench areas and in the ramp area. Two borings were drilled to groundwater (B-9 and B-10) and grab groundwater samples were collected to assess groundwater conditions in where previously detected high concentrations of PCBs in soil were found (B-9), and to assess background conditions (B-10). In addition, one monitoring well was installed (MW-1) to assess groundwater quality in the area where TPH was detected during previous soil sampling.

The data collected are being used in the preparation of a human health based risk assessment. This risk assessment will be used to assess the risk to human health, if any, during construction activities and subsequent occupancy of the building by workers.

RESULTS

Groundwater was encountered at approximately 9.5 to 10 feet below ground surface in borings B-9, B-10 and MW-1. Soil beneath the site consists of predominantly sandy clay, clay and clayey sand. Hydrocarbon odors and OVA measurements above background were recorded while drilling borings B-1, B-3, B-4, B-9, and MW-1.

PCB Results

PCBs were detected in one soil sample, collected from boring B-9 at 6.5 feet, at a concentration of 21 milligrams per kilogram (mg/kg). The remaining analyses showed PCB were not present above the level of detection (0.05 mg/kg). PCBs were detected in the groundwater grab samples collected from B-9 and B-10 at concentrations of 86 and 0.002 milligrams per liter (mg/l), respectively. PCBs were also detected in the groundwater sample collected from monitoring well MW-1 at a concentration of 0.39 mg/l.

TPH Results

TPH as diesel, kerosene, and gasoline were detected in both and soil and groundwater samples (Table 2). The highest concentration of TPH as diesel (700 mg/kg) in soil was detected in the sample collected at 7 feet below ground surface (bgs) in boring MW-1. The highest concentration of TPH as kerosene in soil was detected in the sample collected at 6.5 feet bgs in boring B-9 at a concentration of 86 mg/kg. TPH as gasoline, was detected in several soil samples; however, the laboratory reported that the compound did not resemble gasoline.

TPH as diesel, was also detected in the grab groundwater samples and the sample collected from the monitoring well. TPH as kerosene was present in trace amounts and TPH as gasoline was not detected in the groundwater samples.

Benzene and toluene were detected in low concentrations in the soil sample collected from boring B-9 at 6.5 feet bgs. Benzene and toluene were also detected in low concentrations in the grab groundwater samples from borings B-9 and B-10.

DISCUSSION

In evaluating the previous and current analytical soil data, the results indicate that PCBs are present at concentrations in the vicinity of boring B-9 below the recommended remediation level of 50 mg/kg. Capping of the site with asphalt and placing landscaping in planters to prevent infiltration of water into the soil may be sufficient in addressing remediation of PCBs in the soil.

TPH as kerosene and gasoline, and benzene and toluene are not present at concentrations that typically require remedial action. TPH as diesel is present at concentrations which may require removal and offsite disposal during excavation of the utility trenches; however, based on available data, this area is limited in extent. TPH as diesel is not expected to be a threat to human health.

Groundwater has been impacted by PCBs and TPH. Because borehole grab groundwater samples could have been cross-contaminated by contact with these compounds in the soil during sample collection, the reported concentrations should be considered qualitative. It is suspected that concentrations of PCBs and TPH in the soil account for the concentrations of these compounds detected in the borehole grab groundwater samples. The samples collected from the monitoring well contained PCBs at a concentration above the state action level. It is possible that the RWQCB will not view groundwater contamination as a concern at this time, because the nearby Westinghouse facility (located to the south of the site) is known to have impacted both the soil and groundwater with PCBs, and the shallow groundwater is not of beneficial use due to its poor quality and the regional contamination problem. Little information was present in the RWQCB public files regarding the former Westinghouse facility; therefore HLA recommends that the RWQCB assigned case worker files be reviewed further.

Based on this assessment, and provided the results of the risk assessment do not indicate that a significant health threat exists, it is believed that construction of the building can proceed according to plan after RWQCB approval is obtained. The proposed construction sampling and monitoring should be conducted as proposed and is required by the ACDEH.

If you have any questions, please contact me or Bruce Scheibach at 415/892-0821.

Yours very truly,

HARDING LAWSON ASSOCIATES

R. Bruce Scheibach (for)
Melissa L. Wann
Project Geologist

MLW\jm\G:USPS\10014

DRAFT

Table 1
Analytical Results of Borehole Soil Samples
Polychlorinated Biphenyls
United States Postal Service
Proposed Emeryville Facility

Boring Number	Sample ID Number	Sample Depth	Sample Date	Units	Aroclor 1260	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254
B-1	92053007	3.5	30-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
	92053009	9	30-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
B-2	92053011	6.5	30-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
	92053012	9	30-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
B-3	92053014	6.5	30-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
	92053015	9	30-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
B-4	92053017	6.5	30-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
	92053018	9	30-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
B-5	92053020	6.5	30-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
	92053021	9	30-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
B-6	92053023	6.5	30-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
	92053024	9	30-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
B-7	92053110	6.5	31-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
	92053111	9	31-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
B-8	92053113	6.5	31-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
	92053114	9	31-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
B-9	92053102	6.5	31-Jan-92	(mg/kg)	21	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
	92053103	9	31-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
	92053104	water	31-Jan-92	(mg/l)	86	ND(<0.0005)	ND(<0.0005)	ND(<0.0005)	ND(<0.0005)	ND(<0.0005)	ND(<0.0005)
B-10	92053106	9	31-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
	92053107	9	31-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
	92053108	water	31-Jan-92	(mg/l)	0.002	ND(<0.0005)	ND(<0.0005)	ND(<0.0005)	ND(<0.0005)	ND(<0.0005)	ND(<0.0005)
MW-1	92053001	4	30-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
	92053002	7	30-Jan-92	(mg/kg)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)	ND(<0.05)
	92053115	product	31-Jan-92	(mg/kg)	NA	NA	NA	NA	NA	NA	NA
	92053116	water	31-Jan-92	(mg/l)	0.390	ND(<0.0005)	ND(<0.0005)	ND(<0.0005)	ND(<0.0005)	ND(<0.0005)	ND(<0.0005)
Field Blank	92053118	water	31-Jan-92	(mg/l)	0.0096	ND(<0.0005)	ND(<0.0005)	ND(<0.0005)	ND(<0.0005)	ND(<0.0005)	ND(<0.0005)

mg/kg = milligrams per kilogram
mg/l = milligrams per liter
ND = not detected at the stated detection limit.
NA = not analyzed
Note: Sample depth represents feet below ground surface.

After well development product disappear

22-Feb-92

get a no impact letter from them
agree to [illegible]

Table 2
Analytical Results of Borehole Soil Samples
Total Petroleum Hydrocarbons
United States Postal Service
Proposed Emeryville Facility

Boring Number	Sample ID Number	Sample Depth	Sample Date	Units	TPH as Diesel	TPH as Kerosene	TPH as Gasoline
B-1	92053007	3.5	30-Jan-92	(mg/kg)	ND(<1)	ND(<1)	ND(<0.2)
	92053009*	9.0	30-Jan-92	(mg/kg)	ND(<1)	[redacted]	0.055***
B-2	92053011*	6.5	30-Jan-92	(mg/kg)	ND(<1)	ND(<1)	ND(<0.2)
	92053012	9.0	30-Jan-92	(mg/kg)	ND(<1)	ND(<1)	ND(<0.2)
[redacted]	92053014	6.5	30-Jan-92	(mg/kg)	[redacted]	ND(<1)	[redacted]
	92053015	9.0	30-Jan-92	(mg/kg)	[redacted]	ND(<1)	[redacted]
B-4	92053017*	6.5	30-Jan-92	(mg/kg)	ND(<1)	ND(<1)	ND(<0.2)
	92053018	9.0	30-Jan-92	(mg/kg)	ND(<1)	ND(<1)	ND(<0.2)
B-5	92053020*	6.5	30-Jan-92	(mg/kg)	ND(<1)	ND(<1)	ND(<1)
	92053021	9.0	30-Jan-92	(mg/kg)	ND(<1)	ND(<1)	ND(<0.2)
B-6	92053023*	6.5	30-Jan-92	(mg/kg)	ND(<1)	ND(<1)	ND(<0.2)
	92053024	9.0	30-Jan-92	(mg/kg)	ND(<1)	ND(<1)	ND(<0.2)
B-7	92053110	6.5	31-Jan-92	(mg/kg)	ND(<1)	ND(<1)	ND(<0.2)
	92053111	9.0	31-Jan-92	(mg/kg)	ND(<1)	ND(<1)	ND(<0.2)
B-8	92053113	6.5	31-Jan-92	(mg/kg)	ND(<1)	ND(<1)	ND(<0.2)
	92053114	9.0	31-Jan-92	(mg/kg)	ND(<1)	ND(<1)	ND(<0.2)
[redacted]	92053102*	6.5	31-Jan-92	(mg/kg)	[redacted]	[redacted]	ND(<10)**
	92053103	9.0	31-Jan-92	(mg/kg)	ND(<1)	ND(<1)	ND(<0.6)**
	92053104	[redacted]	31-Jan-92	(mg/l)	[redacted]	[redacted]	ND(<11)**
B-10	92053106*	6.0	31-Jan-92	(mg/kg)	ND(<1)	2	ND(<0.5)**
	92053107	9.0	31-Jan-92	(mg/kg)	ND(<1)	ND(<1)	ND(<0.3)**
	92053108*	water	31-Jan-92	(mg/l)	0.4	ND(<0.05)	ND(<0.8)**
MW-1	92053001	4.0	30-Jan-92	(mg/kg)	ND(<1)	ND(<1)	0.0004***
	92053002*	7.0	30-Jan-92	(mg/kg)	700	ND(<1)	0.510***
	92053115*	product	31-Jan-92	(mg/kg)	1100	trace	NA
	92053116*	water	31-Jan-92	(mg/l)	22	trace	ND(<8)**
Trip Blank	92053117	water	31-Jan-92	(mg/l)	ND(<0.05)	ND(<0.05)	ND(<0.05)
Field Blank	92053118	water	31-Jan-92	(mg/l)	ND(<0.05)	ND(<0.05)	ND(<0.05)

mg/kg = milligrams per kilogram
mg/l = milligrams per liter
ND = not detected at the stated detection limit.
NA = not analyzed
* = oil detected
** = Detection limit raised due to the presence of non-gasoline compounds.
*** = Hydrocarbon pattern does not resemble gasoline.
Note: Sample depth represents feet below ground surface.

DRAFT

22-Feb-92

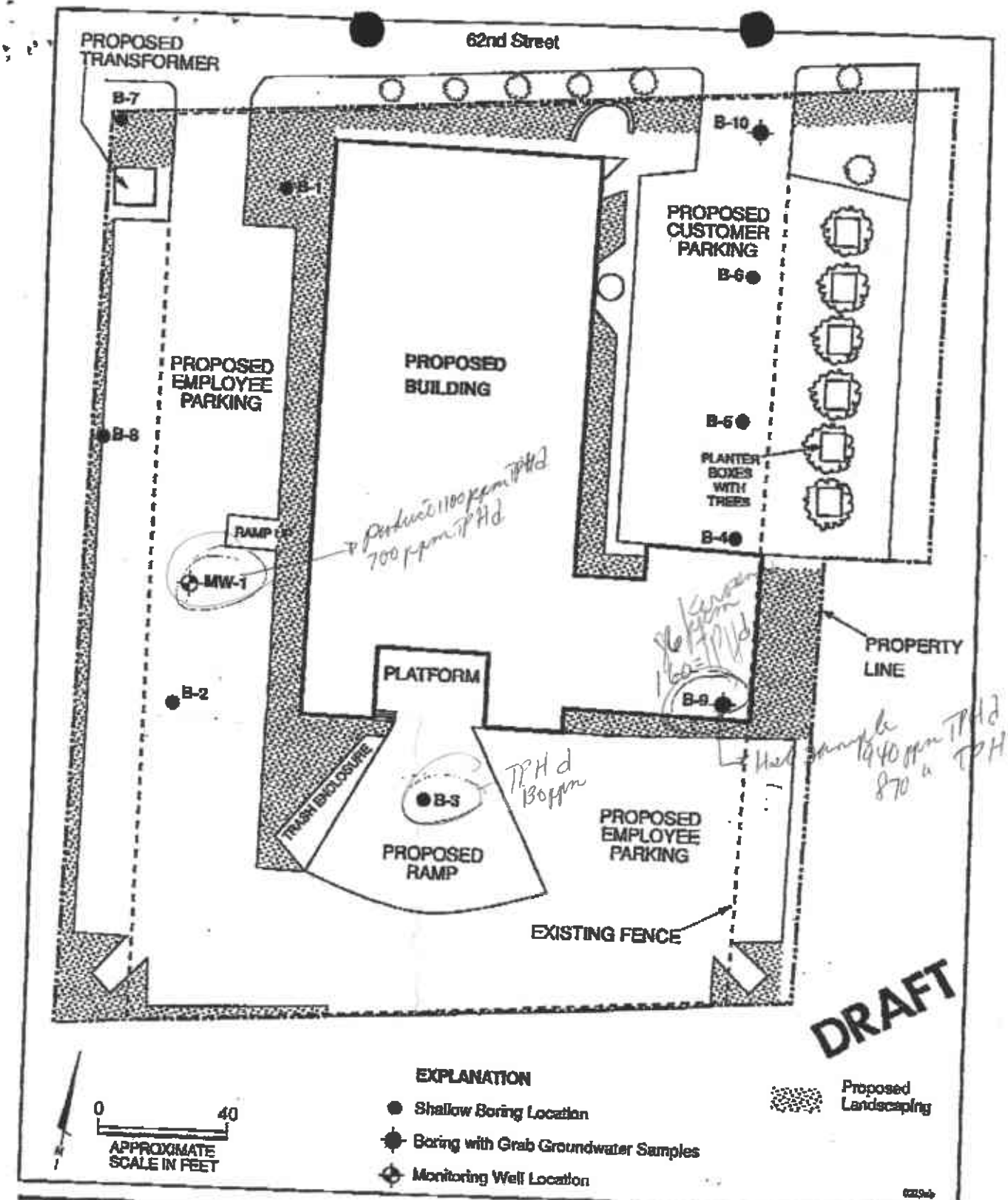
Table 3
Analytical Results of Borehole Soil Samples
Benzene, Toluene, Ethylbenzene, and Xylenes
United States Postal Service
Proposed Emeryville Facility

Boring Number	Sample ID Number	Sample Depth	Sample Date	Units	Benzene	Toluene	Ethylbenzene	Xylenes
B-1	92053007	3.5	30-Jan-92	(mg/kg)	ND(<0.001)	ND(<0.001)	ND(<0.001)	ND(<0.005)
	92053009**	9.0	30-Jan-92	(mg/kg)	ND(<0.02)	ND(<0.05)	ND(<0.02)	ND(<0.06)
B-2	92053011	6.5	30-Jan-92	(mg/kg)	ND(<0.001)	ND(<0.001)	ND(<0.001)	ND(<0.003)
	92053012	9.0	30-Jan-92	(mg/kg)	ND(<0.001)	ND(<0.001)	ND(<0.001)	ND(<0.005)
B-3	92053014**	6.5	30-Jan-92	(mg/kg)	ND(<0.02)	ND(<0.1)	ND(<0.05)	ND(<0.4)
	92053015**	9.0	30-Jan-92	(mg/kg)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.06)
B-4	92053017	6.5	30-Jan-92	(mg/kg)	ND(<0.001)	ND(<0.001)	ND(<0.001)	ND(<0.003)
	92053018	9.0	30-Jan-92	(mg/kg)	ND(<0.001)	ND(<0.001)	ND(<0.001)	ND(<0.003)
B-5	92053020	6.5	30-Jan-92	(mg/kg)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<0.02)
	92053021	9.0	30-Jan-92	(mg/kg)	ND(<0.001)	ND(<0.001)	ND(<0.001)	ND(<0.003)
B-6	92053023	6.5	30-Jan-92	(mg/kg)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<0.02)
	92053024	9.0	30-Jan-92	(mg/kg)	ND(<0.001)	ND(<0.001)	ND(<0.001)	ND(<0.025)
B-7	92053110	6.5	31-Jan-92	(mg/kg)	ND(<0.001)	ND(<0.001)	ND(<0.001)	ND(<0.003)
	92053111	9.0	31-Jan-92	(mg/kg)	ND(<0.001)	ND(<0.001)	ND(<0.001)	ND(<0.003)
B-8	92053113	6.5	31-Jan-92	(mg/kg)	ND(<0.001)	ND(<0.001)	ND(<0.001)	ND(<0.003)
	92053114	9.0	31-Jan-92	(mg/kg)	ND(<0.001)	ND(<0.001)	ND(<0.001)	ND(<0.003)
B-9	92053102*	6.5	31-Jan-92	(mg/kg)	[redacted]	0.006	ND(<0.005)**	ND(<0.02)**
	92053103	9.0	31-Jan-92	(mg/kg)	ND(<0.001)	ND(<0.001)	ND(<0.001)	ND(<0.003)
	92053104	water	31-Jan-92	(mg/l)	[redacted]	0.001	ND(<0.0005)	ND(<0.001)
B-10	92053106	6.0	31-Jan-92	(mg/kg)	ND(<0.001)	ND(<0.001)	ND(<0.001)	ND(<0.003)
	92053107	9.0	31-Jan-92	(mg/kg)	ND(<0.001)	ND(<0.001)	ND(<0.001)	ND(<0.003)
	92053108	water	31-Jan-92	(mg/l)	0.0009	[redacted]	ND(<0.0005)	ND(<0.001)
MW-1	92053001	4.0	30-Jan-92	(mg/kg)	ND(<0.001)	ND(<0.001)	ND(<0.001)	ND(<0.003)
	92053002**	7.0	30-Jan-92	(mg/kg)	ND(<0.02)	ND(<0.1)	ND(<0.1)	ND(<0.3)
	92053115	product	31-Jan-92	(mg/kg)	NA	NA	NA	NA
	92053116	water	31-Jan-92	(mg/l)	ND(<0.0005)	ND(<0.0005)	ND(<0.0005)	ND(<0.002)**
Trip Blank	92053117	water	31-Jan-92	(mg/l)	ND(<0.0005)	ND(<0.0005)	ND(<0.0005)	ND(<0.001)
Field Blank	92053118	water	31-Jan-92	(mg/l)	ND(<0.0005)	ND(<0.0005)	ND(<0.0005)	ND(<0.001)

[redacted]illigrams per kilogram
mg/l = milligrams per liter
ND = not detected at the stated detection limit.
NA = not analyzed
* = oil detected
** = Detection limit raised due to the presence of non-gasoline compounds.
Note: Sample depth represents feet below ground surface.

DRAFT

22-Feb-92



Harding Lawson Associates
Engineering and Environmental Services

Boring Location Map
Proposed USPS Facility
Emeryville, California

PLATE 2

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
NJBc	5525.134.02		1/92	