

6000 S CORPORATION

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FREMONT, CALIFORNIA 94539

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April 8, 1991

Ms. Jill Duerig
Alameda County Water District
P.O. Box 5110
Fremont, CA 94537

Subject: Stockpiled Soils Removal Plan No. 4
6000 Stevenson Boulevard
Fremont, California

Dear Ms. Duerig:

Enclosed is the subject Stockpiled Soils Removal Plan for your review. We will include retesting of SB 15 and SB 17 in this proposal. We would appreciate your prompt response in reviewing this document so that we may proceed with the subject investigation.

Please call Dale Sobek of 6000 S Corporation 415-657-7633 if you have any questions or comments.

Sincerely,

Dale W. Sobek
President

DWS:j

PROPOSED STOCKPILED SOIL'S
REMEDIATION PLAN NO 4

6000 STEVENSON BLVD.
FREMONT, CALIFORNIA

APRIL 8, 1991

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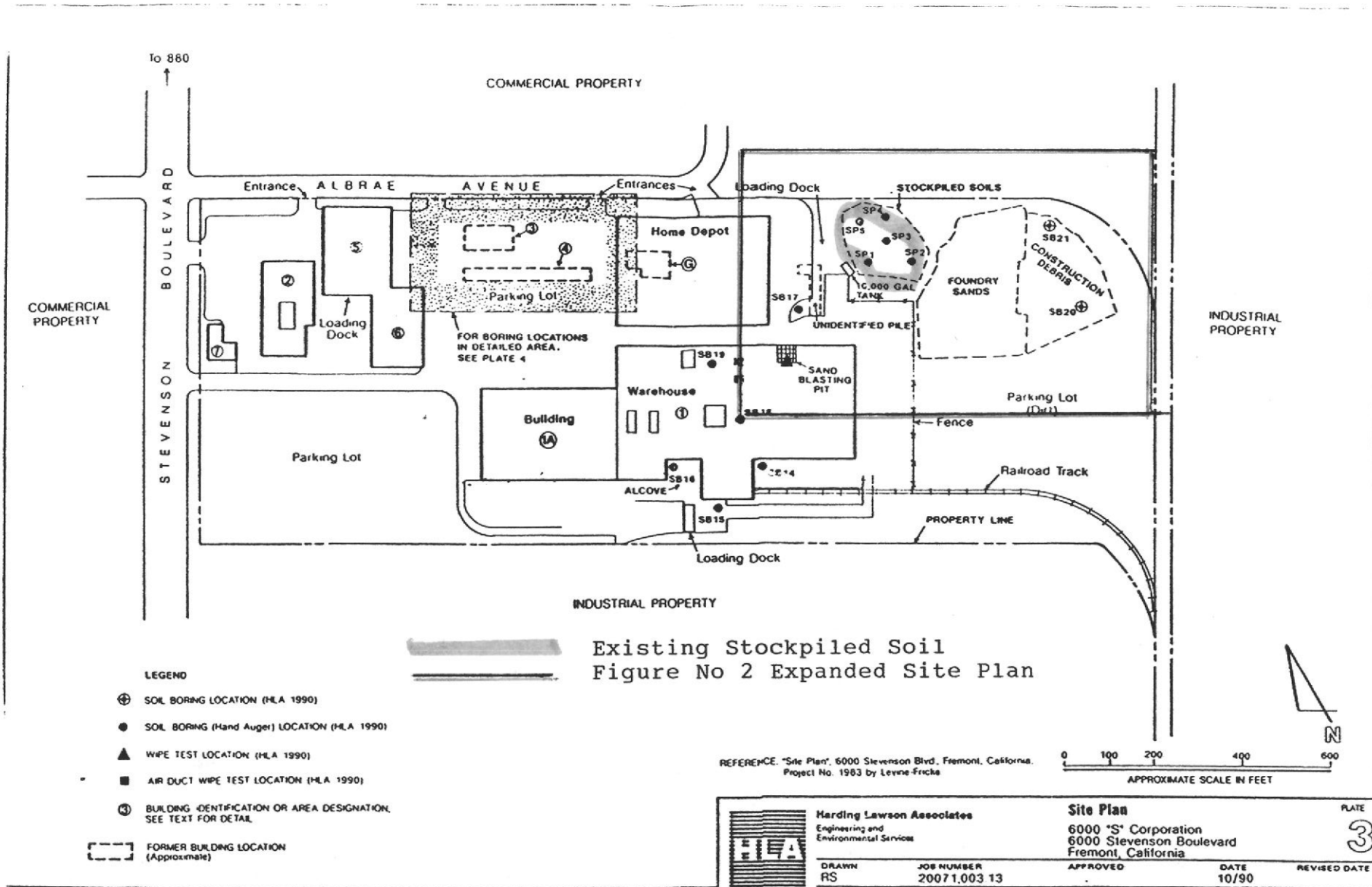


FIGURE NO 1

Table 3
Results of Analyses - Shallow
Boring Soil Samples

Constituent	Sample Number Depth (feet)	SP-1	SP-2	SP-3	SP-4	SP-5	SB-14 2.0	SB-15 2.0	SB-16 2.0	SB-17 2.0	SB-18 2.0	SB-19 2.0	DHS Maximum Allowable Levels			Designated Level to Protect G.W.	
													STLC	TTLc			
Petroleum Hydrocarbons (mg/Kg)																	
Oil and Grease		<50	270	100	180	210	NT	NT	NT	NT	NT	NT	NT	NE	NE	NE	NE
Gasoline		<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	NT	NT	NT	NT	NT	10-1000	NE	NE	NE
Kerosene		<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	NT	NT	NT	NT	NT	10-1000	NE	NE	NE
Diesel		94	16	1000	40	53	NT	NT	NT	NT	NT	NT	NT	100-10000	NE	NE	NE
Polychlorinated biphenyls* (mg/Kg)		0.29	0.25	0.66	0.46	2.8	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	NE	5.0	50.0	0.0079
Volatile Organic Compounds (ug/Kg)																	
Chloromethane		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10				
Bromomethane		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10				
Vinyl Chloride		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10				
Chloroethane		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10				
Methylene Chloride		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
Acetone		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10				
Carbon Disulfide		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NE	NE	NE	NE
Trichlorofluoromethane		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
1,1-Dichloroethene		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
1,1-Dichloroethane		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
1,2-Dichloroethene (total)		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
Chloroform		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
Freon 113		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
1,2-Dichloroethane		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
2-Butanone		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10				
1,1,1-Trichloroethane		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
Carbon Tetrachloride		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
Vinyl Acetate		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10				
Bromodichloromethane		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
1,2-Dichloropropane		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
cis-1,3-Dichloropropene		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
Trichloroethylene		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
Dibromochloromethane		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NE	204	2040	5000
1,1,2-Trichloroethane		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
Benzene		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	300-5000	NE	NE	700
Trans-1,3-dichloropropene		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
2-Chloroethylvinyl ether		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10				
Bromoform		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
2-Hexanone		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10				
4-Methyl-2-pentanone		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10				
1,1,2,2-Tetrachloroethane		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
Tetrachloroethylene		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
Toluene		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
Chlorobenzene		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	300-5000	NE	NE	100,000
Ethylbenzene		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
Styrene		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0				
Xylenes (total)		<5.0	<5.0	<5.0	6.9	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	1000-5000	NE	NE	620,000

Notes:

- mg/Kg - milligrams per Kilogram
- ug/Kg - micrograms per Kilogram
- <20 - Below indicated detection limits
- * - See Laboratory test reports for specific compound
- NT - Not Tested
- NE - Not Established
- California Department of Health Services
- STLC - Soluble Threshold Limit Concentration
- TTLc - Total Threshold Limit Concentration
- Designated level to protect ground water for a hypothetical average site
- Maximum allowable levels are outlined in California Department Health Services LUFT manual

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S



LAB NUMBER: 101714
CLIENT: HARDING LAWSON ASSOCIATES
PROJECT # : 20071,001.13
LOCATION: 6000S CORP.

DATE RECEIVED: 09/20/90
DATE ANALYZED: 09/28/90
DATE REPORTED: 10/01/90

ANALYSIS: HYDROCARBON OIL AND GREASE
METHOD: SMWW 17:5520F (503E)

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
101714-16	LF4 6.0	ND	mg/Kg	50
101714-17	LF4 11.0	ND	mg/Kg	50
101714-26	SP1 1,2,4	ND	mg/Kg	50
101714-27	SP2 1,2,4	270	mg/Kg	50
101714-28	SP3 1,2,4	100	mg/Kg	50
101714-29	SP4 1,2,4	180	mg/Kg	50
101714-30	SP5 1,2,4	210	mg/Kg	50

ND = Not detected at or above reporting limit

QA/QC SUMMARY

RPD, %	5
RECOVERY, %	84



LABORATORY NUMBER: 101714
CLIENT: HARDING LAWSON ASSOCIATES
JOB #: 20071,001.13
LOCATION: 6000 S CORP.

DATE RECEIVED: 09/20/90
DATE ANALYZED: 09/26/90
DATE REPORTED: 10/01/90

Total Volatile Hydrocarbons as Gasoline in Soils & Wastes
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	TVH AS GASOLINE (mg/Kg)	REPORTING LIMIT (mg/Kg)
101714-16	LF4 6.0	ND	1.0
101714-17	LF4 11.0	ND	1.0
101714-26	SP1 1,2,4	ND	1.0
101714-27	SP2 1,2,4	ND	1.0
101714-28	SP3 1,2,4	ND	1.0
101714-29	SP4 1,2,4	ND	1.0
101714-30	SP5 1,2,4	ND	1.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	1
RECOVERY, %	100



LABORATORY NUMBER: 101714
CLIENT: HARDING LAWSON ASSOCIATES
JOB #: 20071,001.13
LOCATION: 6000 S CORP.

DATE RECEIVED: 09/20/90
DATE EXTRACTED: 09/27/90
DATE ANALYZED: 10/01/90
DATE REPORTED: 10/01/90

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

LAB ID	CLIENT ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT (mg/Kg)
101714-16	LF4 6.0	ND	2.6	1.0
101714-17	LF4 11.0	ND	ND	1.0
101714-26	SP1 1,2,4	ND	94	1.0
101714-27	SP2 1,2,4	ND	16	1.0
101714-28	SP3 1,2,4	ND	100	1.0
101714-29	SP4 1,2,4	ND	40	1.0
101714-30	SP5 1,2,4	ND	53	1.0

ND = Not Detected at or above reporting limit.

QA/QC SUMMARY

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=====
RPD, %                               1
RECOVERY, %                           86
=====

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LAB NUMBER: 101714-19
 CLIENT: HARDING LAWSON ASSOCIATES
 PROJECT #: 20071,001.13
 SAMPLE ID: SB15 2.0

DATE RECEIVED: 09/20/90
 DATE ANALYZED: 09/27/90
 DATE REPORTED: 10/01/90

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

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	33
AROCLOR 1232	ND	33
AROCLOR 1016	ND	33
AROCLOR 1242	ND	33
AROCLOR 1248	ND	33
AROCLOR 1254	ND	33
AROCLOR 1260	ND	33

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

=====
 RPD, % 1
 RECOVERY, % 79
 =====



LABORATORY NUMBER: 101714-19
 CLIENT: HARDING LAWSON ASSOCIATES
 JOB #: 20071,001.13
 SAMPLE ID: SB15 2.0

DATE RECEIVED: 09/20/90
 DATE ANALYZED: 09/26/90
 DATE REPORTED: 10/01/90

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES
 Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/kg	Reporting Limit (ug/kg)
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
acetone	26	10
carbon disulfide	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
2-butanone	ND	10
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
vinyl acetate	ND	10
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
dibromochloromethane	ND	5.0
1,1,2-trichloroethane	ND	5.0
benzene	ND	5.0
trans-1,3-dichloropropene	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
2-hexanone	ND	10
4-methyl-2-pentanone	ND	10
1,1,2,2-tetrachloroethane	ND	5.0
tetrachloroethylene	ND	5.0
toluene	ND	5.0
chlorobenzene	ND	5.0
ethyl benzene	ND	5.0
styrene	ND	5.0
total xylenes	ND	5.0

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	109%
Toluene-d8	107%
Bromofluorobenzene	101%



LAB NUMBER: 101714-21
CLIENT: HARDING LAWSON ASSOCIATES
PROJECT #: 20071,001.13
SAMPLE ID: SB17 2.0

DATE RECEIVED: 09/20/90
DATE ANALYZED: 09/27/90
DATE REPORTED: 10/01/90

=====

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

=====

AROCLOR TYPE	RESULT (ug/Kg)	REPORTING LIMIT (ug/Kg)
AROCLOR 1221	ND	33
AROCLOR 1232	ND	33
AROCLOR 1016	ND	33
AROCLOR 1242	ND	33
AROCLOR 1248	ND	33
AROCLOR 1254	ND	33
AROCLOR 1260	ND	33

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

=====

RPD, % 1
RECOVERY, % 79

=====



LABORATORY NUMBER: 101714-21
 CLIENT: HARDING LAWSON ASSOCIATES
 JOB #: 20071,001.13
 SAMPLE ID: SB17 2.0

DATE RECEIVED: 09/20/90
 DATE ANALYZED: 09/26/90
 DATE REPORTED: 10/01/90

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES
 Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/kg	Reporting Limit (ug/kg)
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
acetone	17	10
carbon disulfide	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
2-butanone	ND	10
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
vinyl acetate	ND	10
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	10	5.0
dibromochloromethane	ND	5.0
1,1,2-trichloroethane	ND	5.0
benzene	ND	5.0
trans-1,3-dichloropropene	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
2-hexanone	ND	10
4-methyl-2-pentanone	ND	10
1,1,2,2-tetrachloroethane	ND	5.0
tetrachloroethylene	ND	5.0
toluene	ND	5.0
chlorobenzene	ND	5.0
ethyl benzene	ND	5.0
styrene	ND	5.0
total xylenes	ND	5.0

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	105%
Toluene-d8	107%
Bromofluorobenzene	90%



LABORATORY NUMBER: 101714.26
CLIENT: HARDING LAWSON ASSOCIATES
JOB #: 20071,001.13
SAMPLE ID: SP1 1,2,4

DATE RECEIVED: 09/20/90
DATE ANALYZED: 09/26/90
DATE REPORTED: 10/01/90

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/kg	Reporting Limit (ug/kg)
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
acetone	ND	10
carbon disulfide	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
2-butanone	ND	10
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
vinyl acetate	ND	10
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
dibromochloromethane	ND	5.0
1,1,2-trichloroethane	ND	5.0
benzene	ND	5.0
trans-1,3-dichloropropene	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
2-hexanone	ND	10
4-methyl-2-pentanone	ND	10
1,1,2,2-tetrachloroethane	ND	5.0
tetrachloroethylene	ND	5.0
toluene	ND	5.0
chlorobenzene	ND	5.0
ethyl benzene	ND	5.0
styrene	ND	5.0
total xylenes	ND	5.0

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	101%
Toluene-d8	116%
Bromofluorobenzene	87%



LABORATORY NUMBER: 101714-27
CLIENT: HARDING LAWSON ASSOCIATES
JOB #: 20071,001.13
SAMPLE ID: SP2 1,2,4

DATE RECEIVED: 09/20/90
DATE ANALYZED: 09/26/90
DATE REPORTED: 10/01/90

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/kg	Reporting Limit (ug/kg)
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
acetone	ND	10
carbon disulfide	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
2-butanone	ND	10
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
vinyl acetate	ND	10
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
dibromochloromethane	ND	5.0
1,1,2-trichloroethane	ND	5.0
benzene	ND	5.0
trans-1,3-dichloropropene	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
2-hexanone	ND	10
4-methyl-2-pentanone	ND	10
1,1,2,2-tetrachloroethane	ND	5.0
tetrachloroethylene	ND	5.0
toluene	ND	5.0
chlorobenzene	ND	5.0
ethyl benzene	ND	5.0
styrene	ND	5.0
total xylenes	ND	5.0

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	103%
Toluene-d8	110%
Bromofluorobenzene	88%



LABORATORY NUMBER: 101714-28
CLIENT: HARDING LAWSON ASSOCIATES
JOB #: 20071,001.13
SAMPLE ID: SP3 1,2,4

DATE RECEIVED: 09/20/90
DATE ANALYZED: 09/26/90
DATE REPORTED: 10/01/90

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/kg	Reporting Limit (ug/kg)
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
acetone	ND	10
carbon disulfide	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
2-butanone	ND	10
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
vinyl acetate	ND	10
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
dibromochloromethane	ND	5.0
1,1,2-trichloroethane	ND	5.0
benzene	ND	5.0
trans-1,3-dichloropropene	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
2-hexanone	ND	10
4-methyl-2-pentanone	ND	10
1,1,2,2-tetrachloroethane	ND	5.0
tetrachloroethylene	ND	5.0
toluene	ND	5.0
chlorobenzene	ND	5.0
ethyl benzene	ND	5.0
styrene	ND	5.0
total xylenes	ND	5.0

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	101%
Toluene-d8	116%
Bromofluorobenzene	78%

LABORATORY NUMBER: 101714-29
 CLIENT: HARDING LAWSON ASSOCIATES
 JOB #: 20071,001.13
 SAMPLE ID: SP4 1,2,4

DATE RECEIVED: 09/20/90
 DATE ANALYZED: 09/26/90
 DATE REPORTED: 10/01/90

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES
 Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/kg	Reporting Limit (ug/kg)
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
acetone	ND	10
carbon disulfide	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
2-butanone	ND	10
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
vinyl acetate	ND	10
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
dibromochloromethane	ND	5.0
1,1,2-trichloroethane	ND	5.0
benzene	ND	5.0
trans-1,3-dichloropropene	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
2-hexanone	ND	10
4-methyl-2-pentanone	ND	10
1,1,2,2-tetrachloroethane	ND	5.0
tetrachloroethylene	ND	5.0
toluene	DETECTED(2.9)	5.0
chlorobenzene	ND	5.0
ethyl benzene	ND	5.0
styrene	ND	5.0
total xylenes	6.9	5.0

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	101%
Toluene-d8	116%
Bromofluorobenzene	75%

LABORATORY NUMBER: 101714-30
 CLIENT: HARDING LAWSON ASSOCIATES
 JOB #: 20071,001.13
 SAMPLE ID: SP5 1,2,4

DATE RECEIVED: 09/20/90
 DATE ANALYZED: 09/26/90
 DATE REPORTED: 10/01/90

EPA METHOD 8240: VOLATILE ORGANICS IN SOILS & WASTES
 Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/kg	Reporting Limit (ug/kg)
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
acetone	ND	10
carbon disulfide	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
2-butanone	ND	10
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
vinyl acetate	ND	10
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
dibromochloromethane	ND	5.0
1,1,2-trichloroethane	ND	5.0
benzene	ND	5.0
trans-1,3-dichloropropene	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
2-hexanone	ND	10
4-methyl-2-pentanone	ND	10
1,1,2,2-tetrachloroethane	ND	5.0
tetrachloroethylene	ND	5.0
toluene	ND	5.0
chlorobenzene	ND	5.0
ethyl benzene	ND	5.0
styrene	ND	5.0
total xylenes	ND	5.0

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	99%
Toluene-d8	114%
Bromofluorobenzene	77%

PROPOSED STOCKPILED SOILS

REMEDIATION PLAN NO. 4

6000 STEVENSON BLVD.

FREMONT, CALIFORNIA

1.0 INTRODUCTION

6000 S Corporation has prepared this work order following interviews with several consultants specializing in oil and gas remediation of soils.

The remediation plan is submitted to this Alameda County Water Department for review and acceptance prior to implementation.

Previous, areas of environmental concern at the Site have been identified by several sources. These sources include investigations conducted at the Site by Earthmetrics (January 1988) and Ensco (January 1990), input from the City of Fremont, and review of historical aerial photographs of the Site by Levine-Fricke personnel.

2.0 OBJECTIVE

The objective of the proposed work is to assess areas of potential environmental concern at the Site by conducting soil sampling in the area of Stockpiled Soils and to retest SB 15 and SB 17 to confirm, or reject low level VOC's in these two areas. Collected data will be used to identify specific areas, if any, of the Site which may require remediation prior to closure.

The scope of work proposed herein is based on data collected from the following sources:

- o A Preliminary Site Assessment by Ensco, Inc. dated January 1990.
- o A report entitled "Site Contaminant History at the Fremont, California Site of 6000 S Corporation" by Earthmetrics, Inc., dated January 1988.
- o A preliminary walk-through inspection of the Site by Ms. Carol Yamane and Mr. Carl Fricke of Levine-Fricke.
- o A review of aerial photographs provided by Mr. Sobek dated September 6, 1979; August 7, 1984; May 15, 1985; March 30, 1988 and August 2, 1989.
- o A review of additional enlargements of aerial photographs from 1976, 1979, 1981, 1984 and 1989 at the offices of the City of Fremont.

- o A review of the Harding Lawson Associates "Site Characterization Investigation" 6000 Stevenson Blvd., Fremont, California, 94539. Job No. 20071,003.13, dated November 6, 1990.

The Stockpiled Soils will be moved from its present location (yellow area on Figure No. 2) to the soil treatment area (orange area on Figure No. 2). A 4.0 Mil Polyethylene sheet will be placed on the ground at the orange area. The soil will then be moved from this yellow area to the orange area at a uniform depth of approximately 18 inches. The soil will then be disced or tilled weekly with a tractor equipped with a Gammon earth tiller. The soil will be tested July 15, 1991 and reports will be submitted to compare the results of oil and gas and diesel contamination with the enclosed reports. A determination on disposal will be made following receipt of this additional information.

Following removal of the Stockpiled Soil to the soil treatment area, six soil tests will be made in a 15 foot grid to a depth of 24 inches to verify existing conditions. At this time SB 15 and SB 17 will be tested at the 2 foot level to verify existence of acetone reported in the Harding Lawson report.

Test results will be reported to the respective lead agency for review and acceptance prior to further disposition.

3.0 SUMMARY OF FINDINGS

The results of our investigation are summarized as follows:

6.1 Soils and Debris

GENERAL

- Previous soil sampling events conducted by EES (1989) detected O&G, TPH-D, and toluene, ethylbenzene, and xylenes in the vicinity of former Buildings 3 and 4. VOCs were also reported. None of these constituents however, exceeded their respective Total Threshold Limit Concentration (TTLC), Soluble Threshold Limit Concentration (STLC), or designated levels to protect groundwater. TTLC's, STLC's and designated levels are presented in Tables 2, 3, and 4. However, TPH-G was detected at 7,900 mg/kg in SB-8, above the upper limit of the range of Maximum Allowable Levels as outlined in the California Department of Health Service's Leaking Underground Fuel Tank (LUFT) manual.
- Soils encountered during the drilling of the deep soil borings consisted of sands and silty sands to a depth of 15 to 20 feet. These in turn were underlain by silt and clay. Near the eastern portion of Buildings 3 and 4, the soils encountered were silts and clays to a depth of 5 to 10 feet, followed by sands and silty sands to a depth of 14 to 18 feet. These sands are underlain by silts and clays.

FORMER BUILDINGS 3 AND 4

- Petroleum hydrocarbons were detected in several of the soil samples collected from the soil borings drilled in the vicinity of former Buildings 3 and 4. Concentrations of TPH-D, TPH-G, O&G, or TPH as kerosene detected were higher than 100 mg/kg in the soil samples from 1.5 feet in borings SB-10, SB-11, and SB-13, and the soil samples at 11.0 and 16.0 feet from SB-12 and LF-3, respectively. In all cases where these levels exceeded 100 mg/kg, the next deepest sample analyzed did not have TPH levels that exceeded 100 mg/kg.
- PCBs were reported at concentrations ranging from 0.33 mg/kg to 1.7 mg/kg in the 1.5 foot samples from SB-9, SB-10, SB-11, and SB-13. PCBs were not detected in the 6.0 foot samples from the same borings. The 11.0 foot sample from SB-12 had similar PCB's concentrations, but PCB's were not detected in the 16.0 foot sample. Levels of PCBs detected did not exceed the TTLC (50 mg/kg) or STLC (5.0 mg/L). However, where detected, the concentration of PCBs did exceed the Designated Level of 0.0079 mg/kg.
- VOCs were detected at generally low levels in several of the soil samples collected from soil borings drilled in this area. Of the VOCs reported, none exceeded, their respective TTLC's, STLC's, or Designated Levels to protect groundwater, with the exception of toluene, ethylbenzene, and xylene (BTEX). Toluene, ethylbenzene, and xylene concentrations exceeded their respective

designated levels and maximum allowable levels in the sample from 12.0 feet in SB-12. SB-12 was drilled in the stained area south of former Building 3 where steam cleaning operation reportedly occurred.

- The petroleum hydrocarbons TPH-G and TPH as kerosene were detected in the groundwater sample from LF-2, while TPH-D was detected in the sample from LF-4. PCB's were detected at 1.0 mg/L in LF-2. Currently, there are no DHS action levels for drinking water for these constituents. Of the VOCs detected in monitoring wells LF-2, LF-3, and LF-4, only xylene exceeded its respective DHS action levels. Xylene was detected at 2,800 ug/L and the action level for xylene is 620 ug/L.

BUILDING 1

- Petroleum hydrocarbons and VOCs were not detected above their respective detection limits in SB-18 and SB-19. SB-18 and SB-19 were located inside of Building 1. Detectable levels of these constituents were not present in SB-14 and SB-16 located outside of Building 1. Low levels of acetone (<30 ug/kg) and trichlorethylene (<11 ug/kg) were reported in SB-15 and SB-17.
- Wipe samples of the sandblasting pit and air duct filter generally contained low levels of Title 26 metals. The "solid buildup" sample contained levels of lead, zinc and chromium that exceeded their respective TTLCs (Table 4).

SOIL STOCKPILE

- One composite sample collected from the stockpiled soils contained levels of TPH-D that exceeded 100 mg/kg. O&G was detected greater than 100 mg/kg in three of the composite samples. None of the levels of petroleum hydrocarbons detected exceeded the maximum allowable level.
- PCB's were reported in the composite stockpile samples between 2.8 and 0.25 ug/kg. The STLC (5.0 mg/L) and TTLC (50 mg/kg) were not exceeded in any of the samples. The Designated Level to protect groundwater is 0.0079 mg/kg.

CONSTRUCTION DEBRIS

- Generally low levels of petroleum hydrocarbons were detected in the soil samples collected from beneath the construction debris. None of the petroleum hydrocarbons detected exceeded the lower range of the maximum allowable level. Benzene was detected at 2.6 ug/kg, above its designated level of 0.7 ug/kg.

6.2 Groundwater

- Depth to groundwater on September 25, 1990 varied from 15.43 in LF-1 to 19.72 in LF-3. Based on water levels measured on September 25, 1990, groundwater flow direction is to the northeast.

- The previous investigation conducted by EES in the vicinity of former Buildings 3 and 4 found detectable levels of 1,1,1-trichlorethane and Freon II in "grab" groundwater samples collected from SB-7. Constituents analyzed for as part of the EES investigation were not detected in the grab samples from SB-8 or the groundwater sample from MW-1.
- TPH-D, TPH as kerosene, PCB's, toluene and xylenes were reported in the groundwater sample from LF-2. TPH-D and trichlorofluoromethane were reported in LF-4. Wells LF-2 and LF-4 were drilled in the vicinity of Area F, a previous barrel storage area. Trichlorofluoromethane was the only compound detected in LF-3, installed south of Building 3. Drinking water action levels are not established for TPH-D, TPH as kerosene, or PCB's. Xylene is the only compound detected in LF-2 and LF-4 that exceeded its action level. The action level for xylene is 620 ug/L.

4.0 CONCLUSIONS AND RECOMMENDATIONS

HLA's conclusions and recommendations, based on the results of this investigation, are presented below.

FORMER BUILDINGS 3 AND 4

Several areas around former Buildings 3 and 4 contain soils which have detectable concentration of TPH constituents that exceed 100 mg/kg (Plate 17). These areas include Area B, Area E, Area H, and the area in the vicinity of borings SB-13, LF-3 and SB-1.

In the area where soils were found to exceed 100 mg/kg, HLA recommends additional soil borings be drilled and sampled to evaluate the extent of the impacted soil. Proposed soil boring locations are shown on Plate 18. Recommended analyses, consistent with the previous investigation, are for total petroleum hydrocarbons using EPA Method 8015 on all samples collected, and for VOCs using EPA Method 8240 for samples collected from the borings drilled in Area E. All other samples collected from soil borings drilled in the vicinity of former Buildings 3 and 4 did not contain levels of petroleum hydrocarbon above 100 mg/kg, or contain levels of VOCs above their respective STLC or TTLC, and do not appear to require additional investigation.

HLA also recommends the installation of three monitoring wells in the Building 3 and 4 area. Two wells should be located in the vicinity of LF-2, one upgradient and one downgradient. Proposed locations are shown on Plate 18. The purpose of these two wells is to evaluate the lateral extent of groundwater impacted by petroleum hydrocarbons detected in LF-2. One additional well is recommended in the vicinity of Area B to assess the potential impact to groundwater in this area. SB-12, drilled in Area B, contained high levels of total petroleum hydrocarbons in the soils.

BUILDING 1

HLA does not recommend any additional investigation be conducted in the vicinity of Building 1. Based on this investigation, analytical testing did not detect elevated levels of total petroleum hydrocarbons. In addition, where detected, the low levels of VOCs did not exceed their respective STLC, TTLC or designated levels.

Wipe samples of the sand blasting pit and air ducts contained generally low levels of Title 26 metals. The "solid build-up" sample from the air duct contained chromium, lead, and zinc in excess of their respective TTLC's. If these materials are removed from the air ducts, it would be considered a hazardous waste and require appropriate disposal.

CONSTRUCTION DEBRIS

Analytical testing of the soils beneath the construction debris did not reveal the presence of petroleum hydrocarbons greater than 100 mg/kg. In addition, VOCs, where detected, did not exceed their respective TTLC, STLC or designated levels. It does not appear that additional investigation on soils in this area is required.

SOIL STOCKPILE

Composite samples of the stockpiled soils contained, based on the laboratory testing, levels of petroleum hydrocarbon constituents that exceed 100 mg/kg. Based on these results HLA recommends these soils be disposed of offsite at an appropriate facility. A second alternative, if sufficient space is available, would be onsite bioremediation.

8.0 REFERENCES

- Earthmetrics, Inc., *Site Contaminant Characterization History at the Fremont, California Site of 6000 "S" Corporation*, January 1988.
- Enseco Environmental Service, *Preliminary Environmental Assessment of 6000 "S" Corporation Site, 6000 Stevenson Boulevard, Fremont, California*, June 1989.
- Levine-Fricke, *Soil, Groundwater and Wipe Sampling Plan, 6000 Stevenson Boulevard, Fremont, California*, May 31, 1990.
- HLA, letter to Alameda County Water District dated August 30, 1990.
- Alameda County Water District letter to 6000 "S" Corporation dated August 22, 1990.
- California Regional Water Quality Control Board letter to 6000 "S" Corporation dated January 4, 1990.
- 6000 "S" letter to City of Fremont Public Works Department dated August 16, 1990.

5.0

SUMMARY OF AREAS OF ENVIRONMENTAL CONCERNS
NEAR BLDG. 1 (SB 15 & SB 17) AND AT STOCKPILED SOILS AREA

INVESTIGATIVE STATUS

AREA (As shown in figure 2)	Harding Lawson Soil Boring and Stockpiled Soil Reports	Proposed Additional Investigation and Testing
Building 1 at Loading Dock area East Side	SB 15	SB-15
Building 1 at the West Side behind Home Depot Loading Dock	SB 17	SB 17
Stockpiled Soils Areas South of Home Depot Dock	SP-1, SP-2, Sp-3, Sp-4 SP-5	SP-1, SP-2, SP-3, SP-4 SP-5 and 6 tests. Under Stockpiled Soils Area after removal of Same.

6.0
DISTRIBUTION

SITE CHARACTERIZATION INVESTIGATION
6000 STEVENSON BOULEVARD
FREMONT, CALIFORNIA
APRIL 8, 1991

- 1 Copy 6000 "S" Corporation
6000 Stevenson Boulevard
Fremont, California 94538

Attention: Mr. Dale Sobek
- 1 Copy Alameda County Water District
P.O. Box 5110
Fremont, California 94537

Attention: Ms. Jill Duerig
- 1 Copy City of Fremont
Public Works Department
39572 Stevenson Place
Suite 125
Fremont, California 94535-3075

Attention: Ms. Linda Vrabel
- 1 Copy California Regional Water Quality Control Board
San Francisco Bay Region
111 Jackson Road
Room 6000
Oakland, California 94607

Attention: Mr. Rich Hiett
- 1 Copy Alameda County Department of
Environmental Health
80 Swan Way
Room 200
Oakland, California 94621

Attention: Mr. Scott Sery
- 1 Copy Larry E. Lulofs, Esq.
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One Kaiser Plaza, Suite 750
Oakland, California 94612

Attention: Larry Lulofs, Esq.