500 12th Street
Suite 100
Oakland, CA 94607-4014
(415) 893-3600

Woodward-Clyde Consultants

February 1, 1990
8910116A

Harsch Investments
235 West MacArthur Blvd.
Oakland, CA 94616

Attention: Mr. Herman Engbers

Subject: Emergency Soil Remediation and Recommendations for Disposal of Soil Contaminated with Dry Cleaning Fluid
South Shore Shopping Center
Park Street and Shoreline Drive
Alameda, CA

Dear Mr. Engbers:

The following report presents a description of the soil sampling and testing services provided by Woodward-Clyde Consultants during emergency soil remediation at the former dry cleaners at the South Shore Shopping Center, Park Street and Shoreline Drive, Alameda, California. Additionally, please find a description of recommendations for removal of the stockpiled soil. The following events have taken place at the site to date with respect to emergency soil sampling and testing.

EMERGENCY SOIL REMEDIATION

- We understand that during demolition of the former dry cleaners building in early November, 1989, the demolition contractor perforated two tanks containing dry cleaning solvents and the contents of the tanks, estimated to be approximately 10 to 50 gallons of fluid, was spilled onto the ground.

- After Woodward-Clyde was informed of that event an emergency excavation was begun. Mr. Ari Levi of the Alameda County Health Department was informed of this action by telephone. On November 22, 1989, Albert Ridley of Woodward-Clyde Consultants used a portable organic vapor analyzer to guide the excavation of most of the contaminated soil. The excavated soil was placed on plastic sheeting and covered with plastic sheeting at the site of the former Texaco Station (Figure 1). Soil samples were taken at the perimeter of the excavation and were tested for halogenated volatile organics by EPA Method 8010 at Superior Analytical, a state certified laboratory. The limits of the excavation on November 22, 1989, the location of the stockpiled soil and the soil sampling locations are shown on Figure 1. Laboratory soil sample results and chain-of-custody records are included in Attachment 1. The excavation showed about 5 feet of sand fill overlying Bay Mud. The excavation was terminated at the top of the Bay Mud. No groundwater was encountered.

PLTF/DEFT Exhibit 10
WIT: DENNIS BYRNE
DATE 11/22/91 ERG
ELYSE R. GARDNER, CSR

- As shown on Figure 1, laboratory analyses of soil samples identified as 1, 1, 2, 2-Tetrachloroethane (or PCE) a chemical constituent of dry cleaning fluid, was found to be 280,000 parts per billion (ppb) in sample No. 5 at the South wall of the excavation. Therefore, further excavation, guided by a portable organic vapor analyser was completed. That soil was added to the stockpile. The excavating was terminated when organic vapors could not be detected with the organic vapor analyzer in samples of soil from the excavation.

TREATMENT AND SOIL DISPOSAL

Presently, there are approximately 20 cubic yards of sand fill covered with plastic at the former Texaco Station site. To characterize the PCE contamination in the stockpiled soil, about five composite soil samples will be collected from the stockpiled soil to provide a basis for recommendations for treatment, and disposal of the soil. Several scenarios for the ultimate removal of the soil are possible: 1) The soils will need to be disposed of in a Class I landfill, or 2) the soil can be aerated on-site and then can be disposed of at a Class III landfill. The on-site aeration option will require approval of the Bay Area Air Quality Management District.

With your approval, we will collect the composite soil samples within the next few weeks and then, after we receive the results, discuss the issues with the responsible agencies. We would then proceed with an agency approved plan. Considering the relative costs of removal to either a Class I or Class III Landfill site, the aeration alternative appears to be the most cost-effective treatment method.

The evaluation of remaining soil contamination at the site will be addressed during the site characterization work. A draft site characterization plan has been submitted to your office for comments.

Sincerely,

WOODWARD-CLYDE CONSULTANTS

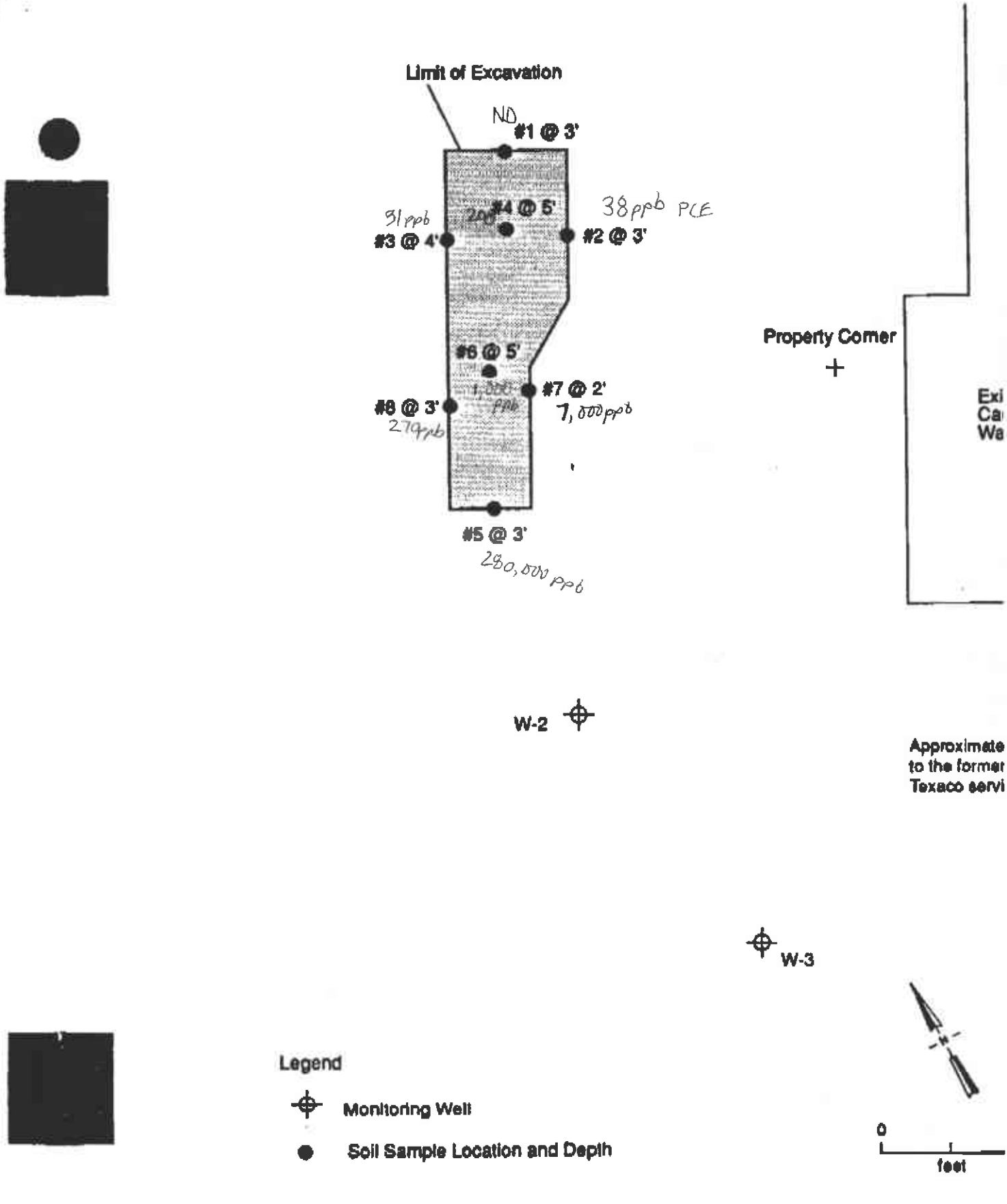
Helen M. Nuckolls

Helen M. Nuckolls
Assistant Project Geologist

Albert P. Ridley
Senior Associate

HMN/APR:tt
8910116A/COT

Attachments: Figure 1 Soil Excavation Limit and Sample Locations
Laboratory Test Results
Chain-of-Custody Records



Project No. 8910116A	Harsch Inv.	EXCAVATION LIMIT AND SAMPLE LOCATIOI PARK BOULEVARD AND SHORELINE DRIV ALEMEDA
Woodward-Clyde Consultants		

SUPERIOR ANALYTICAL LABORATORY, INC.
1385 FAIRFAX ST., STE. D. • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 51397-1
CLIENT: WOODWARD CLYDE CONSULTANTS
JOB NO.: 89101168A8100

DATE SAMPLED: 11/15/89
DATE RECEIVED: 11/16/89
DATE ANALYZED: 11/29/89

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: sample 1

Compound	MDL (ug/kg)	RESULTS (ug/kg)
Chloromethane	5.0	ND
Bromomethane	5.0	ND
Vinyl chloride	10.0	ND
Dichlorodifluoromethane	5.0	ND
Chloroethane	5.0	ND
Methylene chloride	10.0	ND
Trichlorofluoromethane	5.0	ND
1,1-Dichloroethene	2.0	ND
1,1-Dichloroethane	5.0	ND
trans-1,2-Dichloroethene	5.0	ND
Chloroform	5.0	ND
1,2-Dichloroethane	5.0	ND
1,1,1-Trichloroethane	5.0	ND
Carbon tetrachloride	5.0	ND
Bromodichloromethane	5.0	ND
1,2-Dichloropropane	5.0	ND
cis-1,3-Dichloropropene	5.0	ND
Trichloroethylene	5.0	ND
1,1,2-Trichloroethane	5.0	ND
trans-1,3-Dichloropropene	5.0	ND
Dibromochloromethane	5.0	ND
2-Chloroethylvinyl ether	10.0	ND
Bromoform	5.0	ND
Tetrachloroethene / 1,1,2,2-Tetrachloroethane	5.0	ND
Chlorobenzene	5.0	ND
1,3-Dichlorobenzene	5.0	ND
1,2-Dichlorobenzene	5.0	ND
1,4-Dichlorobenzene	5.0	ND
1,1,2-Trichlorotrifluoroethane	5.0	ND

MDL = Method Detection Limit
ug/kg = parts per billion (ppb)
QA/QC Summary: Daily Standard RPD =<15%
MS/MSD average recovery = 104 % : MS/MSD RPD =< 8 %

Richard Srna, Ph.D.
Laboratory Director

OUTSTANDING QUALITY AND SERVICE

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CERTIFICATE OF ANALYSIS

LABORATORY NO.: 51397-2
CLIENT: WOODWARD CLYDE CONSULTANTS
JOB NO.: 89101168A8100

DATE SAMPLED: 11/15/89
DATE RECEIVED: 11/16/89
DATE ANALYZED: 11/29/89

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: sample 2

Compound	MDL (ug/kg)	RESULTS (ug/kg)
Chloromethane	5.0	ND
Bromomethane	5.0	ND
Vinyl chloride	10.0	ND
Dichlorodifluoromethane	5.0	ND
Chloroethane	5.0	ND
Methylene chloride	10.0	ND
Trichlorofluoromethane	5.0	ND
1,1-Dichloroethene	2.0	ND
1,1-Dichloroethane	5.0	ND
trans-1,2-Dichloroethene	5.0	ND
Chloroform	5.0	ND
1,2-Dichloroethane	5.0	ND
1,1,1-Trichloroethane	5.0	ND
Carbon tetrachloride	5.0	ND
Bromodichloromethane	5.0	ND
1,2-Dichloropropane	5.0	ND
cis-1,3-Dichloropropene	5.0	ND
Trichloroethylene	5.0	ND
1,1,2-Trichloroethane	5.0	ND
trans-1,3-Dichloropropene	5.0	ND
Dibromochloromethane	5.0	ND
2-Chloroethylvinyl ether	10.0	ND
Bromoform	5.0	ND
Tetrachloroethene / 1,1,2,2-Tetrachloroethane	5.0	38
Chlorobenzene	5.0	ND
1,3-Dichlorobenzene	5.0	ND
1,2-Dichlorobenzene	5.0	ND
1,4-Dichlorobenzene	5.0	ND
1,1,2-Trichlorotrifluoroethane	5.0	ND

MDL = Method Detection Limit
ug/kg = parts per billion (ppb)
QA/QC Summary: Daily Standard RPD =<15%
MS/MSD average recovery = 104 % : MS/MSD RPD =< 8 %

Richard Sena, Ph.D.
Laboratory Director

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CERTIFICATE OF ANALYSIS

LABORATORY NO.: 51397-3
CLIENT: WOODWARD CLYDE CONSULTANTS
JOB NO.: 89101168A6100

DATE SAMPLED: 11/15/89
DATE RECEIVED: 11/16/89
DATE ANALYZED: 11/29/89

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: sample 3

Compound	MDL (ug/kg)	RESULTS (ug/kg)
Chloromethane	5.0	ND
Bromomethane	5.0	ND
Vinyl chloride	10.0	ND
Dichlorodifluoromethane	5.0	ND
Chloroethane	5.0	ND
Methylene chloride	10.0	ND
Trichlorofluoromethane	5.0	ND
1,1-Dichloroethene	2.0	ND
1,1-Dichloroethane	5.0	ND
trans-1,2-Dichloroethene	5.0	ND
Chloroform	5.0	ND
1,2-Dichloroethane	5.0	ND
1,1,1-Trichloroethane	5.0	ND
Carbon tetrachloride	5.0	ND
Bromodichloromethane	5.0	ND
1,2-Dichloropropane	5.0	ND
cis-1,3-Dichloropropene	5.0	ND
Trichloroethylene	5.0	ND
1,1,2-Trichloroethane	5.0	ND
trans-1,3-Dichloropropene	5.0	ND
Dibromochloromethane	5.0	ND
2-Chloroethylvinyl ether	10.0	ND
Bromoform	5.0	ND
Tetrachloroethene / 1,1,2,2-Tetrachloroethane	5.0	31
Chlorobenzene	5.0	ND
1,3-Dichlorobenzene	5.0	ND
1,2-Dichlorobenzene	5.0	ND
1,4-Dichlorobenzene	5.0	ND
1,1,2-Trichlorotrifluoroethane	5.0	ND

MDL = Method Detection Limit
ug/kg = parts per billion (ppb)
QA/QC Summary: Daily Standard RPD =<15% : MS/MSD RPD =< 8 %
MS/MSD average recovery = 104 %

Richard Srna, Ph.D.
Laboratory Director

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CERTIFICATE OF ANALYSIS

LABORATORY NO.: 51397-5
CLIENT: WOODWARD CLYDE CONSULTANTS
JOB NO.: 89101168A8100

DATE SAMPLED: 11/15/89
DATE RECEIVED: 11/16/89
DATE ANALYZED: 11/29/89

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: sample 5

Compound	MDL (ug/kg)	RESULTS (ug/kg)
Chloromethane	5.0	ND
Bromomethane	5.0	ND
Vinyl chloride	10.0	ND
Dichlorodifluoromethane	5.0	ND
Chloroethane	5.0	ND
Methylene chloride	10.0	ND
Trichlorofluoromethane	5.0	ND
1,1-Dichloroethene	2.0	ND
1,1-Dichloroethane	5.0	ND
trans-1,2-Dichloroethene	5.0	ND
Chloroform	5.0	ND
1,2-Dichloroethane	5.0	ND
1,1,1-Trichloroethane	5.0	ND
Carbon tetrachloride	5.0	ND
Bromodichloromethane	5.0	ND
1,2-Dichloropropane	5.0	ND
cis-1,3-Dichloropropene	5.0	ND
Trichloroethylene	5.0	ND
1,1,2-Trichloroethane	5.0	ND
trans-1,3-Dichloropropene	5.0	ND
Dibromochloromethane	10.0	ND
2-Chloroethylvinyl ether	5.0	ND
Bromoform		
Tetrachloroethene / 1,1,2,2-Tetrachloroethane	5.0	280000
Chlorobenzene	5.0	ND
1,3-Dichlorobenzene	5.0	ND
1,2-Dichlorobenzene	5.0	ND
1,4-Dichlorobenzene	5.0	ND
1,1,2-Trichlorotrifluoroethane	5.0	ND

MDL = Method Detection Limit
ug/kg = parts per billion (ppb)
QA/QC Summary: Daily Standard RPD =<15%
MS/MSD average recovery = 104 % : MS/MSD RPD =< 8 %

Richard Srna, Ph.D.
Laboratory Director

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CERTIFICATE OF ANALYSIS

LABORATORY NO.: 51397-4
CLIENT: WOODWARD CLYDE CONSULTANTS
JOB NO.: 8910116BA8100

DATE SAMPLED: 11/15/89
DATE RECEIVED: 11/16/89
DATE ANALYZED: 11/29/89

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: sample 4

Compound	MDL (ug/kg)	RESULTS (ug/kg)
Chloromethane	5.0	ND
Bromomethane	5.0	ND
Vinyl chloride	10.0	ND
Dichlorodifluoromethane	5.0	ND
Chloroethane	5.0	ND
Methylene chloride	10.0	ND
Trichlorofluoromethane	5.0	ND
1,1-Dichloroethene	2.0	ND
1,1-Dichloroethane	5.0	ND
trans-1,2-Dichloroethene	5.0	ND
Chloroform	5.0	ND
1,2-Dichloroethane	5.0	ND
1,1,1-Trichloroethane	5.0	ND
Carbon tetrachloride	5.0	ND
Bromodichloromethane	5.0	ND
1,2-Dichloropropane	5.0	ND
cis-1,3-Dichloropropene	5.0	ND
Trichloroethylene	5.0	ND
1,1,2-Trichloroethane	5.0	ND
trans-1,3-Dichloropropene	5.0	ND
Dibromochloromethane	5.0	ND
2-Chloroethylvinyl ether	10.0	ND
Bromoform	5.0	ND
Tetrachloroethene / 1,1,2,2-Tetrachloroethane	5.0	200
Chlorobenzene	5.0	ND
1,3-Dichlorobenzene	5.0	ND
1,2-Dichlorobenzene	5.0	ND
1,4-Dichlorobenzene	5.0	ND
1,1,2-Trichlorotrifluoroethane	5.0	ND

MDL = Method Detection Limit
ug/kg = parts per billion (ppb)
QA/QC Summary: Daily Standard RPD =<15%
MS/MSD average recovery = 104 % : MS/MSD RPD =< 8 %

Richard Srna, Ph.D.
Laboratory Director

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CERTIFICATE OF ANALYSIS

LABORATORY NO.: 51397-6
CLIENT: WOODWARD CLYDE CONSULTANTS
JOB NO.: 89101168A8100

DATE SAMPLED: 11/15/89
DATE RECEIVED: 11/16/89
DATE ANALYZED: 11/29/89

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: sample 6

Compound	MDL (ug/kg)	RESULTS (ug/kg)
Chloromethane	5.0	ND
Bromomethane	5.0	ND
Vinyl chloride	10.0	ND
Dichlorodifluoromethane	5.0	ND
Chloroethane	5.0	ND
Methylene chloride	10.0	ND
Trichlorofluoromethane	5.0	ND
1,1-Dichloroethene	2.0	ND
1,1-Dichloroethane	5.0	ND
trans-1,2-Dichloroethene	5.0	ND
Chloroform	5.0	ND
1,2-Dichloroethane	5.0	ND
1,1,1-Trichloroethane	5.0	ND
Carbon tetrachloride	5.0	ND
Bromodichloromethane	5.0	ND
1,2-Dichloropropane	5.0	ND
cis-1,3-Dichloropropene	5.0	ND
Trichloroethylene	5.0	ND
1,1,2-Trichloroethane	5.0	ND
trans-1,3-Dichloropropene	5.0	ND
Dibromochloromethane	5.0	ND
2-Chloroethylvinyl ether	10.0	ND
Bromoform	5.0	ND
Tetrachloroethene / 1,1,2,2-Tetrachloroethane	5.0	1000
Chlorobenzene	5.0	ND
1,3-Dichlorobenzene	5.0	ND
1,2-Dichlorobenzene	5.0	ND
1,4-Dichlorobenzene	5.0	ND
1,1,2-Trichlorotrifluoroethane	5.0	ND

MDL = Method Detection Limit
ug/kg = parts per billion (ppb)
QA/QC Summary: Daily Standard RPD =<15%
MS/MSD average recovery = 104 % : MS/MSD RPD =< 8 %

Richard Srna, Ph.D.
Laboratory Director

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CERTIFICATE OF ANALYSIS

LABORATORY NO.: 51397-7
CLIENT: WOODWARD CLYDE CONSULTANTS
JOB NO.: 89101168A8100

DATE SAMPLED: 11/15/89
DATE RECEIVED: 11/16/89
DATE ANALYZED: 11/29/89

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: sample 7

Compound	MDL (ug/kg)	RESULTS (ug/kg)
Chloromethane	5.0	ND
Bromomethane	5.0	ND
Vinyl chloride	10.0	ND
Dichlorodifluoromethane	5.0	ND
Chloroethane	5.0	ND
Methylene chloride	10.0	ND
Trichlorofluoromethane	5.0	ND
1,1-Dichloroethene	2.0	ND
1,1-Dichloroethane	5.0	ND
trans-1,2-Dichloroethene	5.0	ND
Chloroform	5.0	ND
1,2-Dichloroethane	5.0	ND
1,1,1-Trichloroethane	5.0	ND
Carbon tetrachloride	5.0	ND
Bromodichloromethane	5.0	ND
1,2-Dichloropropane	5.0	ND
cis-1,3-Dichloropropene	5.0	ND
Trichloroethylene	5.0	ND
1,1,2-Trichloroethane	5.0	ND
trans-1,3-Dichloropropene	5.0	ND
Dibromochloromethane	5.0	ND
2-Chloroethylvinyl ether	10.0	ND
Bromoform	5.0	ND
Tetrachloroethene / 1,1,2,2-Tetrachloroethane	5.0	7000
Chlorobenzene	5.0	ND
1,3-Dichlorobenzene	5.0	ND
1,2-Dichlorobenzene	5.0	ND
1,4-Dichlorobenzene	5.0	ND
1,1,2-Trichlorotrifluoroethane	5.0	ND

MDL = Method Detection Limit
ug/kg = parts per billion (ppb)
QA/QC Summary: Daily Standard RPD =<15%
MS/MSD average recovery = 104 % ; MS/MSD RPD =< 8 %

Richard Srna, Ph.D.
Laboratory Director

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SUPERIOR ANALYTICAL LABORATORY, INC.
1385 FAIRFAX ST., STE. D. • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 51397-8
CLIENT: WOODWARD CLYDE CONSULTANTS
JOB NO.: 89101168A8100

DATE SAMPLED: 11/15/89
DATE RECEIVED: 11/16/89
DATE ANALYZED: 11/29/89

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: sample 8

Compound	MDL (ug/kg)	RESULTS (ug/kg)
Chloromethane	5.0	ND
Bromomethane	5.0	ND
Vinyl chloride	10.0	ND
Dichlorodifluoromethane	5.0	ND
Chloroethane	5.0	ND
Methylene chloride	10.0	ND
Trichlorofluoromethane	5.0	ND
1,1-Dichloroethene	2.0	ND
1,1-Dichloroethane	5.0	ND
trans-1,2-Dichloroethene	5.0	ND
Chloroform	5.0	ND
1,2-Dichloroethane	5.0	ND
1,1,1-Trichloroethane	5.0	ND
Carbon tetrachloride	5.0	ND
Bromodichloromethane	5.0	ND
1,2-Dichloropropane	5.0	ND
cis-1,3-Dichloropropene	5.0	ND
Trichloroethylene	5.0	ND
1,1,2-Trichloroethane	5.0	ND
trans-1,3-Dichloropropene	5.0	ND
Dibromochloromethane	5.0	ND
2-Chloroethylvinyl ether	10.0	ND
Bromoform	5.0	ND
Tetrachloroethene / 1,1,2,2-Tetrachloroethane	5.0	270
Chlorobenzene	5.0	ND
1,3-Dichlorobenzene	5.0	ND
1,2-Dichlorobenzene	5.0	ND
1,4-Dichlorobenzene	5.0	ND
1,1,2-Trichlorotrifluoroethane	5.0	ND

MDL = Method Detection Limit.
ug/kg = parts per billion (ppb)
QA/QC Summary: Daily Standard RPD =<15%
MS/MSD average recovery = 104 % : MS/MSD RPD =< 8 %

Richard Srna, Ph.D.
Laboratory Director

OUTSTANDING QUALITY AND SERVICE

Sent to Superior Analytical

Woodward-Clyde Consultants

500 12th Street, Suite 100, Oakland, CA 94607-4041
(415) 893-3600

Chain of Custody Record

PROJECT NO. 891016A-8100

SAMPLERS: (Signature) A. Riddle

DATE	TIME	SAMPLE NUMBER	ANALYSES: 8010	Number of Containers	REMARKS (Sample preservation, handling procedures, etc.)
11-20		1	X	1	1,2 DCE PCE TCE detected in GW at this site. Freon and brass liners of soil
11-20		2	X	1	
11-20		3	X	1	
11-20		4	X	1	
11-20		5	X	1	
11-20		6	X	1	
11-20		7	X	1	
11-20		8	X	1	

TOTAL NUMBER OF CONTAINERS: 8

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
A. Riddle	11-20				

METHOD OF SHIPMENT:	SHIPPED BY: (Signature)	COURIER: (Signature)	RECEIVED FOR LAB BY: (Signature)	DATE/TIME