Hull Development Labs

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • Telephone: (408) 735-1550 (800) 287-1799 • Fax: (408) 735-1554

Chain of Custody/Analysis Work Order

Client: PIERS

Address:

Contact: Stu Solomon

Telephone #: 408-558-1248

Date Received: 8/30/95

Turn Around: Norm

Project ID: LOTZ

Purchase Order #:

Sampler/Company: ERS B. Halsted

Telephone #: 415 325-3216

Special Instructions/Comments

LAB USE ONLY

Samples arrived chilled and intact: Yes (circled) No

Notes:

Sample Information / **Requested Analysis**

Lab #	Sample ID	Grab/ Composite	Matrix	Date Collected	Time Collected	Pres.	Sample Container	TPH/G BTEX	TPH/d	8270 / 8240 per Stuart Solomon 8/31/95	O & G	VOC + Metals			
B9593	GAS-SWE 7'		soil	8/29/95	10:30	(1)	2x3 Brass	X							
B9594	GAS-NWE 7'		"	"	11:00	1	"	X							
B9595	GAS-GWS		water	"	10:45 am	(2)	40 ml VOA	X							
B9596	DSPO 2'		Soil	"	11:15	(1)	2x3 Brass	X							
B9597	WO-SWE 7'		Soil		11:50	(2)	2x3 Brass	X	X	X	X	X			
B9598	WO-NWE 9.5'		"		1:15		"	X	X	X	X	X			
B9599	WO-GWS		water		2:30	(4) (2)	1 liter Ambers 40 ml VOA	X	X	X	X	X			
B9600	MW1-GWS		water		12:30	(4) (4)	1 liter Amber 40 ml VOA	X	X	X	X	X			

Relinq. By:	Received By:	Date	Time
Stu Halsted	Chi Tang	8/30/95	4:40
Relinq. By:	Received By:	Date	Time
Relinq/ By:	Received By:	Date	Time

Hull Development Labs, Inc.

CA ELAP# 1369

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Piers Environmental Services
3131 South Bascom Ave., Suite 5
Campbell, CA 95008
Attn: Stu Solomon

Date:	9/11/95
Date Received:	8/30/95
Date Analyzed:	9/6/95
Project:	
Sampled By:	ERS

Certified Analytical Report

Soil Sample Analysis:

Sample ID	Sample Date	Sample Time	Lab #	DF	TPH-Gas	Benzene	Toluene	Ethyl Benzene	Xylene
Gas-SW@7'	8/29/95	1030	B9593	1	**ND**	**ND**	**ND**	**0.014**	**ND**
Gas-NW@7'	8/29/95	1100	B9594	1	**7.0**	**0.012**	**0.014**	**0.089**	**1.0**
DISP@2'	8/29/95	1115	B9596	1	**ND**	**ND**	**ND**	**ND**	**0.073**

1. PQL=Dilution Factor x MDL
2. Analysis performed by Hull Development Labs, Inc. (CAELAP #1369)

Summary of Methods and Detection Limits:

	TPH-Gas	Benzene	Toluene	Ethylbenzene	Xylenes
EPA Method #	8015M	8020	8020	8020	8020
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MDL	1.0 mg/kg	0.005 mg/kg	0.005 mg/kg	0.005 mg/kg	0.005 mg/kg

Michael N. Golden, Lab Director

DF=Dilution Factor
MDL=Method Detection Limit

PQL=Practical Quantitation Limit
ND=None Detected at or above PQL

Hull Development Labs, Inc.

CA ELAP# 1369

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Piers Environmental Services
3131 South Bascom Ave., Suite 5
Campbell, CA 95008
Attn: Stu Solomon

Date:	9/11/95
Date Received:	8/30/95
Date Analyzed:	9/6/95
Project:	
Sampled By:	ERS

Certified Analytical Report

Water Sample Analysis:

Test	GAS-GWS	*Units*	*MDL*	*EPA Method #*
Sample Matrix	Water			
Sample Date	8/29/95			
Sample Time	1045			
Lab #	B9595			
DF-Gas/BTEX	100			
TPH-Gas	**43,000**	µg/liter	50.0 µg/l	8015M
Benzene	**300**	µg/liter	0.5 µg/l	8020
Toluene	**360**	µg/liter	0.5 µg/l	8020
Ethyl Benzene	**1,400**	µg/liter	0.5 µg/l	8020
Xylenes	**10,000**	µg/liter	0.5 µg/l	8020

1. PQL=DF x MDL
2. Analysis performed by Hull Development Labs, Inc. (CAELAP #1369)

Michael N. Golden, Lab Director

DF=Dilution Factor
MDL=Method Detection Limit

PQL=Practical Quantitation Limit
ND=None Detected at or above PQL

Hull Development Labs, Inc.

CA ELAP# 1369

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Piers Environmental Services
3131 South Bascom Ave., Suite 5
Campbell, CA 95008
Attn: Stu Solomon

Date:	9/11/95
Date Received:	8/29/95
Date Analyzed:	9/7/95
Project:	
Sampled By:	ERS

Certified Analytical Report

Soil Sample Analysis:

Test	*WQ-SW@7'*	*[redacted]@9.5'*	*Units*	*MDL*	*EPA Method #*
Sample Matrix	Soil	Soil			
Sample Date	8/29/95	8/29/95			
Sample Time	1115	1150			
Lab #	B9597	B9598			
TRPH	**1,100**	**3,300**	mg/kg	50.0 mg/kg	418.1
Semivolatile Organics	**ND**	**2,795**	µg/kg	See Report	8270
Volatile Organics	**9.1**	**396.3**	µg/kg	See Report	8240
DF-Diesel	1	1			
TPH-Diesel	**9.4**	**56**	mg/kg	1.0 mg/kg	8015M
DF-Gas/BTEX	1	1			
TPH-Gas	**2**	**2**	mg/kg	1.0 mg/kg	8015M
Benzene	**0.0091**	[redacted]	mg/kg	0.005 mg/kg	8240
Toluene	**ND**	**0.0093**	mg/kg	0.005 mg/kg	8240
Ethyl Benzene	**ND**	**0.171**	mg/kg	0.005 mg/kg	8240
Xylenes	**ND**	**0.055**	mg/kg	0.005 mg/kg	8240

1. PQL=DF x MDL
2. EPA 8240 & EPA 8270 analysis performed by Advanced Technology Laboratories (CAELAP #1838); see ATL report for individual compounds, detection limits, and analysis dates
3. Remaining analysis performed by Hull Development Labs, Inc. (CAELAP #1369)

Michael N. Golden, Lab Director

DF=Dilution Factor
MDL=Method Detection Limit

PQL=Practical Quantitation Limit
ND=None Detected at or above PQL

Hull Development Labs, Inc.

CA ELAP# 1369

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Piers Environmental Services
3131 South Bascom Ave., Suite 5
Campbell, CA 95008
Attn: Stu Solomon

Date:	9/11/95
Date Received:	8/29/95
Date Analyzed:	9/6/95
Project:	
Sampled By:	ERS

Certified Analytical Report

Soil Sample Analysis:

Test	[illegible]@7'	[illegible]@9.5'	*Units*	*MDL*	*EPA Method #*
Sample Matrix	Soil	Soil			
Sample Date	8/29/95	8/29/95			
Sample Time	1115	1150			
Lab #	B9597	B9598			
Cadmium	**ND**	**ND**	mg/kg	0.5 mg/kg	7130
Chromium	**24**	**27**	mg/kg	0.5 mg/kg	7190
Lead	**11**	**12**	mg/kg	0.5 mg/kg	7420
Nickel	**36**	**43**	mg/kg	0.5 mg/kg	7520
Zinc	**37**	**34**	mg/kg	0.5 mg/kg	7950

Analysis performed by Hull Development Labs, Inc. (CAELAP #1369

Michael N. Golden, Lab Director

MDL=Method Detection Limit

ND=None Detected at or above MDL

Hull Development Labs, Inc.

CA ELAP# 1369

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Piers Environmental Services
3131 South Bascom Ave., Suite 5
Campbell, CA 95008
Attn: Stu Solomon

Date:	9/11/95
Date Received:	8/30/95
Date Analyzed:	9/6/95
Project:	
Sampled By:	ERS

Certified Analytical Report

Water Sample Analysis:

Test	*WO-WGS*	*[illegible]*	*Units*	*MDL*	*EPA Method #*
Sample Matrix	Water	Water			
Sample Date	8/29/95	8/29/95			
Sample Time	230	1230			
Lab #	B9599	B9600			
TRPH	**390**	**2.9**	mg/liter	0.50 mg/l	418.1
Volatile Organics	**141**	**ND**	µg/liter	See Report	8240
Semivolatile Organics	**57**	**ND**	µg/liter	See Report	8270
DF-Diesel	1	1			
TPH-Diesel	**600**	**ND**	µg/liter	50.0 µg/l	8015M
DF-Gas	1000[2]	1			
TPH-Gas	**ND**	**ND**	µg/liter	50.0 µg/l	8015M
Benzene	**103**	**ND**	µg/liter	5.0 µg/l	8240
Toluene	**ND**	**ND**	µg/liter	5.0 µg/l	8240
Ethyl Benzene	**17**	**ND**	µg/liter	5.0 µg/l	8240
Xylenes	**21**	**ND**	µg/liter	5.0 µg/l	8240

1. PQL=DF x MDL
2. Sample diluted for TPH-Gasoline analysis due to matrix interferences
3. EPA 8240 and 8270 analysis performed by Advanced Technology Laboratories (CAELAP #1838); see ATL report for individual compounds and detection limits
4. BTEX analysis performed by EPA method 8240 due to matrix interferences using EPA method 8020
5. Remaining analysis performed by Hull Development Labs, Inc. (CAELAP #1369)

Michael N. Golden, Lab Director

DF=Dilution Factor
MDL=Method Detection Limit

PQL=Practical Quantitation Limit
ND=None Detected at or above PQL

Hull Development Labs, Inc.

CA ELAP# 1369

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Piers Environmental Services
3131 South Bascom Ave., Suite 5
Campbell, CA 95008
Attn: Stu Solomon

Date:	9/11/95
Date Received:	8/30/95
Date Analyzed:	8/31/95
Project:	
Sampled By:	ERS

Certified Analytical Report

Water Sample Analysis:

Test	*WQ-WGS*	*MW1-GWS*	*Units*	*MDL*	*EPA Method #*
Sample Matrix	Water	Water			
Sample Date	8/29/95	8/29/95			
Sample Time	230	1230			
Lab #	B9599	B9600			
Cadmium	**ND**	**ND**	mg/liter	0.05 mg/l	213.1
Chromium	**ND**	**ND**	mg/liter	0.05 mg/l	218.1
Lead	**ND**	**ND**	mg/liter	0.05 mg/l	239.1
Nickel	**0.085**	**ND**	mg/liter	0.05 mg/l	249.1
Zinc	**ND**	**ND**	mg/liter	0.10 mg/l	289.1

Analysis performed by Hull Development Labs, Inc. (CAELAP #1369)

Michael N. Golden, Lab Director

MDL=Method Detection Limit

ND=None Detected at or above MDL

Environmental Analysis Since 1983

Hull Development Labs, Inc.

CA ELAP# 1369

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

18 September, 1995

Stu Solomon
Piers Environmental Services
3131 South Bascom Avenue, Suite 5
Campbell, CA 95008

Dear Stu:

Please find enclosed the hard copy report for subcontracted Volatile Organics by 8240, and Semivolatile Organics by 8270 analyses.
Project:
Samples Submitted: 08/29/95

This follows up the report package faxed to you on 09/11/95 and mailed on 09/12/95 which included a copy of this analysis. Please insert the enclosed hard copy into your Hull Labs report package for your files.

If you have any questions or need additional information please feel free to call me at (408) 735-1550 X24. We appreciate your business

Sincerely,

Allan Aks

AA/slh
shell/entech/aasubltr.doc

Hull Development Labs

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • Telephone: (408) 735-1550 (800) 287-1799 • Fax: (408) 735-1554

Chain of Custody/Analysis Work Order

Client: PIERS
Address:

Contact: Stu Solomon
Telephone #: 408-557-1248
Date Received: 8/30/95
Turn Around: Norm

Project ID: LOTZ
Purchase Order #:

Sampler/Company: ERS B. Halsted
Telephone #: 415 325-3216

Special Instructions/Comments

LAB USE ONLY

Samples arrived chilled and intact: Yes (circled) No
Notes:

Lab #	Sample ID	Grab/ Composite	Matrix	Date Collected	Time Collected	Pres.	Sample Container	TPH G BTEX	TPH D	8270	O+G	WET + Metals			
B9593	GAS-SWE7'		soil	8/29/95	10:30		(1) 2x3 Brass	X							
B9594	GAS-NWE7'		"	"	11:00	1	"	X							
B9595	GAS-GWS		water	"	10:45 am		(2) 40 ml VOA	X							
B9596	DSPE 2'		soil	"	11:15		(1) 2x3 Brass	X							
B9597	WO-SWE7'		soil		11:50		(2) 2x3 Brass	X	X	X	X	X			
B9598	WO-NWE9.5'		"		1:15		"	X	X	X	X	X			
B9599	WO-GWS		water		2:30		(4) 1 liter Ambers (2) 40 ml VOA	X	X	X	X	X			
B9600	MW1-GWS		water		12:30		(4) 1 liter Amber (4) 40 ml VOA	X	X	X	X	X			

Relinq. By:	Received By:	Date	Time
[signature]	Chu Tang	8/30/95	4:40
Relinq. By:	Received By:	Date	Time
Relinq/ By:	Received By:	Date	Time

Advanced Technology Laboratories

September 6, 1995 ELAP No.: 1838

Hull Development Labs
525 Del Rey Ave. Ste. E
Sunnyvale, CA 94086

ATTN: Mr. Mike Golden

Client's Project #: Piers
Lab No.: 7794-001/004

Gentlemen:

Enclosed are the results for sample(s) received by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company. Please feel free to call me at (310) 989 - 4045 if I can be of further assistance to your company.

Sincerely,

Edgar P. Caballero
Laboratory Director
EPC/kk

Enclosures

This cover letter is an integral part of this analytical report.

Mailing Address: P.O. Box 9108 Newport Beach, CA 92658
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 310 989-4045 Fax: 310 989-4040

Client: Hull Development Labs, Inc.
Attn: Mr. Mike Golden

Client's Project: Piers

Date Received: 09/01/95
Matrix: Soil
Units: ug/kg
Extraction Method: 3550

[redacted]

Lab No.:	Method Blank	7791-001		7791-002	
Client Sample I.D.:	--	B9597		B9598	
Date Sampled:	--	08/30/95		08/30/95	
QC Batch #:	958270S084	958270S084		958270S084	
Date Extracted:	09/05/95	09/05/95		09/05/95	
Date Analyzed:	09/06/95	09/06/95		09/06/95	
Analyst Initials:	SP	SP		SP	
Dilution Factor:	1	1		1	

ANALYTE	MDL	DLR		DLR		DLR	
Phenol	330	330	ND	330	ND	330	ND
bis (2-Chloroethyl)ether	330	330	ND	330	ND	330	ND
2-Chlorophenol	330	330	ND	330	ND	330	ND
1,3-Dichlorobenzene	330	330	ND	330	ND	330	ND
1,4-Dichlorobenzene	330	330	ND	330	ND	330	ND
Benzyl Alcohol	660	660	ND	660	ND	660	ND
1,2-Dichlorobenzene	330	330	ND	330	ND	330	ND
2-Methylphenol	330	330	ND	330	ND	330	ND
bis(2-chloroisopropyl)ether	330	330	ND	330	ND	330	ND
n-Nitroso-di-n-propylamine	330	330	ND	330	ND	330	ND
4-Methylphenol	330	330	ND	330	ND	330	ND
Hexachloroethane	330	330	ND	330	ND	330	ND
Nitrobenzene	330	330	ND	330	ND	330	ND
Isophorone	330	330	ND	330	ND	330	ND
2-Nitrophenol	330	330	ND	330	ND	330	ND
2,4-Dimethylphenol	330	330	ND	330	ND	330	ND
bis(2-Chloroethoxy)methane	330	330	ND	330	ND	330	ND
2,4-Dichlorophenol	330	330	ND	330	ND	330	ND
Benzoic Acid	1650	1650	ND	1650	ND	1650	ND
1,2,4-Trichlorobenzene	330	330	ND	330	ND	330	ND
Naphthalene	330	330	ND	330	ND	330	925
4-Chloroaniline	660	660	ND	660	ND	660	ND
Hexachlorobutadiene	330	330	ND	330	ND	330	ND
4-Chloro-3-methylphenol	660	660	ND	660	ND	660	ND
2-Methylnaphthalene	330	330	ND	330	ND	330	1970
Hexachlorocyclopentadiene	660	660	ND	660	ND	660	ND
2,4,6-Trichlorophenol	330	330	ND	330	ND	330	ND
2,4,5-Trichlorophenol	500	500	ND	500	ND	500	ND
2-Chloronaphthalene	330	330	ND	330	ND	330	ND
2-Nitroaniline	1650	1650	ND	1650	ND	1650	ND
Dimethylphthalate	330	330	ND	330	ND	330	ND
Acenaphthylene	330	330	ND	330	ND	330	ND
2,6-Dinitrotoluene	330	330	ND	330	ND	330	ND
3-Nitroaniline	1650	1650	ND	1650	ND	1650	ND

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL x Dilution Factor
NA = Not Analyzed

Approved/Reviewed By: _____
Yun Pan
Department Supervisor

Date: 9/7/95

The cover letter is an integral part of this analytical report.

Client: Hull Development Labs, Inc.
Attn: Mr. Mike Golden

Client's Project: Piers

Date Received: 09/01/95
Matrix: Soil
Units: ug/kg
Extraction Method: 3550

[redacted] (cont'd)

Lab No.:	Method Blank			7794-001		7794-002									
Client Sample I.D.:	--			B9597		B9598									
ANALYTE	MDL	DLR		DLR		DLR									
Acenaphthene	330	330	ND	330	ND	330	ND								
2,4-Dinitrophenol	1650	1650	ND	1650	ND	1650	ND								
Dibenzofuran	330	330	ND	330	ND	330	ND								
4-Nitrophenol	1650	1650	ND	1650	ND	1650	ND								
2,4-Dinitrotoluene	330	330	ND	330	ND	330	ND								
Fluorene	330	330	ND	330	ND	330	ND								
Diethylphthalate	330	330	ND	330	ND	330	ND								
4-Chlorophenyl-phenyl ether	330	330	ND	330	ND	330	ND								
4-Nitroaniline	1650	1650	ND	1650	ND	1650	ND								
4,6-Dinitro-2-methylphenol	1650	1650	ND	1650	ND	1650	ND								
n-Nitrosodiphenylamine	330	330	ND	330	ND	330	ND								
4-Bromophenyl-phenyl ether	330	330	ND	330	ND	330	ND								
Hexachlorobenzene	330	330	ND	330	ND	330	ND								
Pentachlorophenol	1650	1650	ND	1650	ND	1650	ND								
Phenanthrene	330	330	ND	330	ND	330	ND								
Anthracene	330	330	ND	330	ND	330	ND								
Di-n-butylphthalate	330	330	ND	330	ND	330	ND								
Fluoranthene	330	330	ND	330	ND	330	ND								
Pyrene	330	330	ND	330	ND	330	ND								
Butylbenzylphthalate	330	330	ND	330	ND	330	ND								
Benzo[a]anthracene	330	330	ND	330	ND	330	ND								
3,3'-Dichlorobenzidine	660	660	ND	660	ND	660	ND								
Chrysene	330	330	ND	330	ND	330	ND								
bis(2-Ethylhexyl)phthalate	330	330	ND	330	ND	330	ND								
Di-n-octylphthalate	330	330	ND	330	ND	330	ND								
Benzo[b]fluoranthene	330	330	ND	330	ND	330	ND								
Benzo[k]fluoranthene	330	330	ND	330	ND	330	ND								
Benzo[a]pyrene	330	330	ND	330	ND	330	ND								
Indeno[1,2,3-cd]pyrene	330	330	ND	330	ND	330	ND								
Dibenz[a,h,]anthracene	330	330	ND	330	ND	330	ND								
Benzo[g,h,i]perylene	330	330	ND	330	ND	330	ND								

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL x Dilution Factor
NA = Not Analyzed

Approved/Reviewed By: _____ Date: 9/7/95
Yun Pan
Department Supervisor

The cover letter is an integral part of this analytical report.

Spike Recovery and RPD Summary Report - SOIL (ug/kg)

Method : C:\HPCHEM\1\METHODS\8270-3.M
Title : 8270 TCL
Last Update : Wed Aug 30 10:34:03 1995
Response via : Continuing Calibration

Non-Spiked Sample: S01321.D

	Spike Sample	Spike Duplicate Sample
File ID :	SS1322.D	SS1323.D
Sample :	7794-2 MS SOIL E-9/5/95 SO84	7794-2 MSD SOIL E-9/5/95 SO84
Acq Time:	29 Aug 95 6:55 pm	29 Aug 95 7:37 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
Phenol	ND	200	160	149	79	74	7	35	26- 90
2-Chlorophenol	ND	200	154	144	77	72	7	50	25-102
1,4-Dichlorobenzene	0.0	100	53	52	53	52	2	27	28-104
N-Nitroso-di-n-propy	ND	100	58	58	57	57	0	38	41-126
1,2,4-Trichlorobenze	0.0	100	63	64	63	64	2	23	38-107
4-Chloro-3-methylphe	ND	200	182	164	91	82	10	33	26-103
Acenaphthene	ND	100	77	73	77	73	5	19	31-137
4-Nitrophenol	ND	200	227	195	113	97	15	50	11-114
2,4-Dinitrotoluene	ND	100	87	80	86	78	10	47	28- 89
Pentachlorophenol	ND	200	140	117	70	58	18	47	35-142
Pyrene	ND	100	91	89	86	83	3	36	35-142

QC Batch #: 958270S084

Reviewed/Approved By: _____
Yun Pan
Organics Supervisor

Date: 9/7/95

Client: Hull Development Labs, Inc.
Attn: Mr. Mike Golden

Client's Project: Piers
Date Received: 09/01/95
Matrix: Soil
Units: ug/kg
Date Amended: 09/11/95

EPA Method 8240

Lab No:	Method Blank		7794-001		7794-002	
Client Sample I.D.:	--		B9597		B9598	
Date Sampled:	--		08/30/95		08/30/95	
QC Batch #:	958240S2079		958240S2079		958240S2079	
Date Analyzed:	09/11/95		09/11/95		09/11/95	
Analyst Initials:	RR		RR		RR	
Dilution Factor:	1		1		1	
ANALYTE	MDL	DLR		DLR		DLR	
Chloromethane	5	5	ND	5	ND	5	ND
Vinyl Chloride	5	5	ND	5	ND	5	ND
Bromomethane	5	5	ND	5	ND	5	ND
Chloroethane	5	5	ND	5	ND	5	ND
Trichlorofluoromethane	5	5	ND	5	ND	5	ND
Acetone	50	50	ND	50	ND	50	98
1,1-Dichloroethene	5	5	ND	5	ND	5	ND
Carbon Disulfide	5	5	ND	5	ND	5	ND
Methylene Chloride	25	25	ND	25	ND	25	ND
trans-1,2-Dichloroethene	5	5	ND	5	ND	5	ND
1,1-Dichloroethane	5	5	ND	5	ND	5	ND
Chloroform	5	5	ND	5	ND	5	ND
1,2-Dichloroethane	5	5	ND	5	ND	5	ND
Vinyl Acetate	5	5	ND	5	ND	5	ND
2-Butanone	50	50	ND	50	ND	50	ND
1,1,1-Trichloroethane	5	5	ND	5	ND	5	ND
Carbon Tetrachloride	5	5	ND	5	ND	5	ND
Benzene	5	5	ND	5	ND	5	5.3
1,2-Dichloropropane	5	5	ND	5	ND	5	ND
Trichloroethene	5	5	ND	5	ND	5	ND
Bromodichloromethane	5	5	ND	5	ND	5	ND
2-Chloroethyl Vinyl Ether	5	5	ND	5	ND	5	ND
cis-1,3-Dichloropropene	5	5	ND	5	ND	5	ND
trans-1,3-Dichloropropene	5	5	ND	5	ND	5	ND
1,1,2-Trichloroethane	5	5	ND	5	ND	5	ND
Dibromochloromethane	5	5	ND	5	ND	5	ND
Bromoform	5	5	ND	5	ND	5	ND
4-Methyl-2-Pentanone	50	50	ND	50	ND	50	ND
Toluene	5	5	ND	5	ND	5	6.0
2-Hexanone	50	50	ND	50	ND	50	ND
Tetrachloroethene	5	5	ND	5	ND	5	ND
Chlorobenzene	5	5	ND	5	ND	5	ND
Ethylbenzene	5	5	ND	5	ND	5	110
Xylene (Total)	5	5	ND	5	ND	5	40
Styrene	5	5	ND	5	ND	5	ND
1,1,2,2-Tetrachloroethane	5	5	ND	5	ND	5	ND
1,3-Dichlorobenzene	5	5	ND	5	ND	5	ND
1,4-Dichlorobenzene	5	5	ND	5	ND	5	ND
1,2-Dichlorobenzene	5	5	ND	5	ND	5	ND
Additional 8240 Analytes							
Acrolein	50	50	NA	50	NA	50	NA
Acrylonitrile	50	50	NA	50	NA	50	NA

MDL = Method Detection Limit
ND = Not Detected (Below DLR).
DLR = MDL X Dilution Factor
NA = Not Analyzed

Reviewed/Approved By: _____
Yun Pan
Department Supervisor

Date: 9/11/95

The cover letter is an integral part of this analytical report.

Spike Recovery and RPD Summary Report - SOIL (ug/kg)

Method : C:\HPCHEM\1\METHODS\8240X.M
Title : VOA 8240-624 TCL
Last Update : Tue Sep 05 13:31:21 1995
Response via : Continuing Calibration

Non-Spiked Sample: V04851.D

	Spike Sample	Spike Duplicate Sample
File ID :	VS4857.D	VS4858.D
Sample :	7792-001 50 ppb MS 8240 SOIL	7792-001 50 ppb MSD 8240 SOIL
Acq Time:	5 Sep 95 10:53 pm	5 Sep 95 11:24 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
1,1-Dichloroethene	0.0	50	48	48	97	96	1	23	37-166
Benzene	0.0	50	49	49	97	98	0	21	68-133
Trichloroethene	0.0	50	44	44	88	87	1	23	65-129
Toluene	0.0	50	51	51	100	101	1	21	74-136
Chlorobenzene	0.0	50	45	44	91	88	3	19	83-122

QC Batch # 958240S2079

Reviewed/Approved By: _____ Date: 9/7/95

Yun Pan
Organics Supervisor

Client: Hull Development Labs, Inc
Attn: Mr. Mike Golden

Client's Project: Piers
Date Received: 09/01/95
Matrix: Water
Units: ug/l
Extraction Method: 3510

EPA Method 3270

Lab No.:	Method Blank	7794-003	7794-004
Client Sample I.D.:	--	B9599	B9600
Date Sampled:	--	08/30/95	08/30/95
QC Batch #:	958270W085	958270W085	958270W085
Date Extracted:	09/06/95	09/06/95	09/06/95
Date Analyzed:	09/07/95	09/07/95	09/07/95
Analyst Initials:	SP	SP	SP
Dilution Factor:	1	1.2	1.2

ANALYTE	MDL	DLR		DLR		DLR	
Phenol	10	10	ND	12	ND	12	ND
bis (2-Chloroethyl)ether	10	10	ND	12	ND	12	ND
2-Chlorophenol	10	10	ND	12	ND	12	ND
1,3-Dichlorobenzene	10	10	ND	12	ND	12	ND
1,4-Dichlorobenzene	10	10	ND	12	ND	12	ND
Benzyl Alcohol	20	20	ND	24	ND	24	ND
1,2-Dichlorobenzene	10	10	ND	12	ND	12	ND
2-Methylphenol	10	10	ND	12	ND	12	ND
bis(2-chloroisopropyl)ether	10	10	ND	12	ND	12	ND
n-Nitroso-di-n-propylamine	10	10	ND	12	ND	12	ND
4-Methylphenol	10	10	ND	12	ND	12	ND
Hexachloroethane	10	10	ND	12	ND	12	ND
Nitrobenzene	10	10	ND	12	ND	12	ND
Isophorone	10	10	ND	12	ND	12	ND
2-Nitrophenol	10	10	ND	12	ND	12	ND
2,4-Dimethylphenol	10	10	ND	12	ND	12	ND
bis(2-Chloroethoxy)methane	10	10	ND	12	ND	12	ND
2,4-Dichlorophenol	10	10	ND	12	ND	12	ND
Benzoic Acid	50	50	ND	60	ND	60	ND
1,2,4-Trichlorobenzene	10	10	ND	12	ND	12	ND
Naphthalene	10	10	ND	12	23	12	ND
4-Chloroaniline	20	20	ND	24	ND	24	ND
Hexachlorobutadiene	10	10	ND	12	ND	12	ND
4-Chloro-3-methylphenol	20	20	ND	24	ND	24	ND
2-Methylnaphthalene	10	10	ND	12	18	12	ND
Hexachlorocyclopentadiene	20	20	ND	24	ND	24	ND
2,4,6-Trichlorophenol	10	10	ND	12	ND	12	ND
2,4,5-Trichlorophenol	15	15	ND	18	ND	18	ND
2-Chloronaphthalene	10	10	ND	12	ND	12	ND
2-Nitroaniline	50	50	ND	60	ND	60	ND
Dimethylphthalate	10	10	ND	12	ND	12	ND
Acenaphthylene	10	10	ND	12	ND	12	ND
2,6-Dinitrotoluene	10	10	ND	12	ND	12	ND
3-Nitroaniline	50	50	ND	60	ND	60	ND

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL x Dilution Factor
NA = Not Analyzed

Approved/Reviewed By: _____
Yun Pan
Department Supervisor

Date: 9/7/95

Client: Hull Development Labs, Inc
Attn: Mr. Mike Golden

Client's Project: Piers
Date Received: 09/01/95
Matrix: Water
Units: ug/l
Extraction Method: 3510

EPA Method 8270 (Cont'd)

Lab No.:		Method Blank		7794-003		7794-004	
Client Sample I.D.:		–		B9599		B9600	
ANALYTE	MDL	DLR		DLR		DLR	
Acenaphthene	10	10	ND	12	ND	12	ND
2,4-Dinitrophenol	50	50	ND	60	ND	60	ND
Dibenzofuran	10	10	ND	12	ND	12	ND
4-Nitrophenol	50	50	ND	60	ND	60	ND
2,4-Dinitrotoluene	10	10	ND	12	ND	12	ND
Fluorene	10	10	ND	12	ND	12	ND
Diethylphthalate	10	10	ND	12	ND	12	ND
4-Chlorophenyl-phenyl ether	10	10	ND	12	ND	12	ND
4-Nitroaniline	50	50	ND	60	ND	60	ND
4,6-Dinitro-2-methylphenol	50	50	ND	60	ND	60	ND
n-Nitrosodiphenylamine	10	10	ND	12	ND	12	ND
4-Bromophenyl-phenyl ether	10	10	ND	12	ND	12	ND
Hexachlorobenzene	10	10	ND	12	ND	12	ND
Pentachlorophenol	50	50	ND	60	ND	60	ND
Phenanthrene	10	10	ND	12	ND	12	ND
Anthracene	10	10	ND	12	ND	12	ND
Di-n-butylphthalate	10	10	ND	12	ND	12	ND
Fluoranthene	10	10	ND	12	ND	12	ND
Pyrene	10	10	ND	12	ND	12	ND
Butylbenzylphthalate	10	10	ND	12	ND	12	ND
Benzo[a]anthracene	10	10	ND	12	ND	12	ND
3,3'-Dichlorobenzidine	20	20	ND	24	ND	24	ND
Chrysene	10	10	ND	12	ND	12	ND
bis(2-Ethylhexyl)phthalate	10	10	ND	12	16	12	ND
Di-n-octylphthalate	10	10	ND	12	ND	12	ND
Benzo[b]fluoranthene	10	10	ND	12	ND	12	ND
Benzo[k]fluoranthene	10	10	ND	12	ND	12	ND
Benzo[a]pyrene	10	10	ND	12	ND	12	ND
Indeno[1,2,3-cd]pyrene	10	10	ND	12	ND	12	ND
Dibenz[a,h,]anthracene	10	10	ND	12	ND	12	ND
Benzo[g,h,i]perylene	10	10	ND	12	ND	12	ND

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL x Dilution Factor
NA = Not Analyzed

Approved/Reviewed By: _____ Date: 9/8/95
Yun Pan
Department Supervisor

The cover letter is an integral part of this analytical report.

Spike Recovery and RPD Summary Report - WATER (ug/l)

Method : C:\HPCHEM\1\METHODS\8270-3.M
Title : 8270 TCL
Last Update : Wed Aug 30 11:36:57 1995
Response via : Continuing Calibration

Non-Spiked Sample: SB1328.D

	Spike Sample	Spike Duplicate Sample
File ID :	SS1329.D	SS1330.D
Sample :	BLANK WATER MS 1l-1ml W085	BLANK WATER MSD 1l-1ml W085
Acq Time:	30 Aug 95 12:33 pm	30 Aug 95 1:15 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
Phenol	ND	200	71	66	35	33	8	42	12-110
2-Chlorophenol	ND	200	131	118	66	59	10	40	27-123
1,4-Dichlorobenzene	0.0	100	47	48	47	48	2	28	36- 97
N-Nitroso-di-n-propy	0.0	100	45	41	45	41	9	38	41-116
1,2,4-Trichlorobenze	0.0	100	59	60	59	60	1	28	39- 98
4-Chloro-3-methylphe	0.0	200	163	155	81	77	5	42	23- 97
Acenaphthene	ND	100	77	73	77	73	5	31	46-118
4-Nitrophenol	0.0	200	90	91	45	46	1	50	10- 80
2,4-Dinitrotoluene	0.0	100	88	81	88	81	8	38	24- 94
Pentachlorophenol	0.0	200	164	149	82	75	9	50	9-103
Pyrene	0.0	100	87	83	87	83	4	31	26-127

QC Batch #: 958270W085

Reviewed/Approved By: _____ Date: 9/7/95

Yun Pan
Organics Supervisor

Client: Hull Development Labs, Inc.
Attn: Mr. Mike Golden

Client's Project: Piers
Date Received: 09/01/95
Matrix: Water
Units: ug/l

EPA Method 8240

Lab No.:	Method Blank		7794-003		7794-004	
Client Sample I.D.:	--		B9599		B9600	
Date Sampled:	--		08/30/95		08/30/95	
QC Batch #:	95824W2078		95824W2078		95824W2078	
Date Analyzed:	09/05/95		09/05/95		09/05/95	
Analyst Initials:	RR		RR		RR	
Dilution Factor:	1		1		1	
ANALYTE	MDL	DLR		DLR		DLR	
Chloromethane	5	5	ND	5	ND	5	ND
Vinyl Chloride	5	5	ND	5	ND	5	ND
Bromomethane	5	5	ND	5	ND	5	ND
Chloroethane	5	5	ND	5	ND	5	ND
Trichlorofluoromethane	5	5	ND	5	ND	5	ND
Acetone	50	50	ND	50	ND	50	ND
1,1-Dichloroethene	5	5	ND	5	ND	5	ND
Carbon Disulfide	5	5	ND	5	ND	5	ND
Methylene Chloride	20	20	ND	20	ND	20	ND
trans-1,2-Dichloroethene	5	5	ND	5	ND	5	ND
1,1-Dichloroethane	5	5	ND	5	ND	5	ND
Chloroform	5	5	ND	5	ND	5	ND
1,2-Dichloroethane	5	5	ND	5	ND	5	ND
Vinyl Acetate	5	5	ND	5	ND	5	ND
2-Butanone	50	50	ND	50	ND	50	ND
1,1,1-Trichloroethane	5	5	ND	5	ND	5	ND
Carbon Tetrachloride	5	5	ND	5	ND	5	ND
Benzene	5	5	ND	5	[illegible]	5	ND
1,2-Dichloropropane	5	5	ND	5	ND	5	ND
Trichloroethene	5	5	ND	5	ND	5	ND
Bromodichloromethane	5	5	ND	5	ND	5	ND
2-Chloroethyl Vinyl Ether	5	5	ND	5	ND	5	ND
cis-1,3-Dichloropropene	5	5	ND	5	ND	5	ND
trans-1,3-Dichloropropene	5	5	ND	5	ND	5	ND
1,1,2-Trichloroethane	5	5	ND	5	ND	5	ND
Dibromochloromethane	5	5	ND	5	ND	5	ND
Bromoform	5	5	ND	5	ND	5	ND
4-Methyl-2-Pentanone	50	50	ND	50	ND	50	ND
Toluene	5	5	ND	5	ND	5	ND
2-Hexanone	50	50	ND	50	ND	50	ND
Tetrachloroethene	5	5	ND	5	ND	5	ND
Chlorobenzene	5	5	ND	5	ND	5	ND
Ethylbenzene	5	5	ND	5	17	5	ND
Xylenes (Total)	5	5	ND	5	21	5	ND
Styrene	5	5	ND	5	ND	5	ND
1,1,2,2-Tetrachloroethane	5	5	ND	5	ND	5	ND
1,3-Dichlorobenzene	5	5	ND	5	ND	5	ND
1,4-Dichlorobenzene	5	5	ND	5	ND	5	ND
1,2-Dichlorobenzene	5	5	ND	5	ND	5	ND
Additional 8240 Analytes							
Acrolein	50	50	NA	50	NA	50	NA
Acrylonitrile	50	50	NA	50	NA	50	NA

MDL = Method Detection Limit
ND = Not Detected (Below DLR).
DLR = MDL X Dilution Factor
NA = Not Analyzed

Reviewed/Approved By: _____
Yun Pan
Department Supervisor

Date: 9/7/95

The cover letter is an integral part of this analytical report.

Advanced Technology Laboratories
1510 E. 33rd Street Signal Hill, CA 90807 Tel: 310 989-4045 Fax: 310 989-4040

Spike Recovery and RPD Summary Report - WATER (ug/L)

Method : C:\HPCHEM\1\METHODS\8240X.M
Title : VOA 8240-624 TCL
Last Update : Tue Sep 05 13:31:21 1995
Response via : Continuing Calibration

Non-Spiked Sample: VB4844.D

	Spike Sample	Spike Duplicate Sample
File ID :	VS4855.D	VS4856.D
Sample :	Blank Water 50 ppb MS 8240	Blank Water 50 ppb MSD 8240
Acq Time:	5 Sep 95 9:50 pm	5 Sep 95 10:21 pm

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
1,1-Dichloroethene	0.0	50	46	46	93	92	1	19	49-154
Benzene	0.0	50	46	45	92	90	2	15	67-128
Trichloroethene	0.0	50	44	43	88	85	3	16	67-130
Toluene	0.0	50	45	43	89	86	4	15	74-123
Chlorobenzene	0.0	50	44	44	88	87	2	14	80-122

QC Batch # 958240W2078

Reviewed/Approved By: _____ Date: 9/7/95

Yun Pan
Organics Supervisor

Hull Development Labs, Inc.

CA ELAP# 1369

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Subcontract Chain of Custody

Subcontract Lab: Advanced Technology		Date Sent: 8/31/95	Project Name: PIERS		Due Date: 9/8/95	
Sample ID and Source	Matrix	Required Analysis	Date Taken	Time Taken	Containers	Pres?
B9597	Soil	8240,8270	8/29/95		Brass tube	
B9598	Soil	8240,8270	8/29/95		Brass tube	
B9599	Water	8240,8270	8/29/95		2X1LAmber 2 x 40ml VOA	
B9600	Water	8240,8270	8/29/95		2X1LAmber 2 x 40ml VOA	

Relinquished By:	Received By:	Date:	Time:
Allen Ayer	Cal Overnight	8/31/95	4:40PM
Cal Overnight	Tri Nguyen	9/15/95	12pm

Fax results to (408) 735-1554

Environmental Analysis Since 1983