Soil-Gas Monitoring at the Calmar Facility
333 South Turnbull Canyon Road
City of Industry, California
(File No. 102.055

June 15, 1999
2455.00

LFR
LEVINE • FRICKE

Printed on recycled materials

LFR
LEVINE • FRICKE

June 15, 1999 2455.00

Dr. Yi Lu
California Regional Water Quality Control Board
Los Angeles Region
320 West Fourth Street, Suite 200
Los Angeles, California 90013

Subject: Soil-Gas Monitoring at the Calmar Facility, 333 South Turnbull Canyon Road, City of Industry, California (File No. 102.055)

Dear Dr. Lu:

LFR Levine · Fricke (LFR) recently completed the first of its quarterly soil-gas evaluation at the subject property (Figure 1). The work was conducted in accordance with our work plan dated March 11, 1999. In response to a meeting with the Los Angeles Regional Water Quality Control Board (RWQCB) on February 18, 1999, Calmar agreed to conduct quarterly soil-gas monitoring for tetrachloroethene (PCE) and trichloroethene (TCE) for four quarters. The data obtained are to be used to evaluate current soil conditions at the site and to assist in determining whether soil remediation will be necessary. The scope of work includes quarterly evaluation of soil-vapor concentrations in the vapor wells and soil-gas sampling points installed at the site.

Scope of Work

The objective of the quarterly soil-gas surveys is to evaluate subsurface conditions in the area of chlorinated hydrocarbon-affected soil (Figure 2). It was originally anticipated that 12 soil-vapor samples would be collected from the following eight locations: NVP4 (three depths), VE5, VE6S/VE6D, VE8, VE10, VE12S/VE12D, VE13, and VE14. However, due to the tight clays and silts immediately underlying the site to a depth of 10 to 15 feet below ground surface, samples could not be collected from wells VE6S, VE8, and VE12S.

All procedures for the soil-gas survey are from the RWQCB's publication entitled "Interim Guidance for Active Soil Gas Investigation," dated February 25, 1997.

InterPhase, a California-certified soil-gas contractor, collected the soil-gas samples, which were analyzed by Centrum Analytical Laboratories, Inc., in an on-site mobile laboratory. Optimal purge volumes were determined on the first sampling point (VE14). Purge volumes of two, four, and eight well volumes were analyzed to determine the volume that yielded the highest detected concentrations.

Purge volumes were evacuated from each well by capping the well and drawing a vacuum through a coupling on the cap. Soil-gas samples were then collected by filling a glass

syringe from an unbroken length of ¼-inch polyethylene tubing installed within the vapor well or from the tubing in the vapor probe.

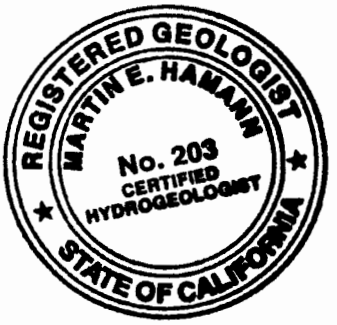
Soil-gas samples were analyzed on site for the RWQCB's list of Primary Target Compounds using EPA Method 8260. Soil-gas samples were analyzed in accordance with the quality assurance/quality control, analytical, and reporting requirements established by the RWQCB Well Investigation Program (WIP).

Results

PCE was detected in eight of the nine soil-gas samples at concentrations of 1.1 micrograms per liter (μg/l) to 34 μg/l. TCE was detected in three of the soil-gas samples at concentrations of 1.0 μg/l to 1.4 μg/l. Additionally, 1,1-dichloroethene was detected in one soil-gas sample at a concentration of 1.4 μg/l. No other volatile organic compound analytes were detected in any of the soil-gas samples at concentrations exceeding the laboratory reporting limits. The analytical results are summarized in Table 1 and Figure 2. The complete laboratory report is included as Appendix A.

We anticipate that our next quarterly soil-gas evaluation report will be submitted in August 1999. If you have any questions or comments regarding this matter, please contact me at (949) 955-1390.

Sincerely,



Martin Hamann, R.G., C.H.G.
Senior Hydrogeologist

Attachments

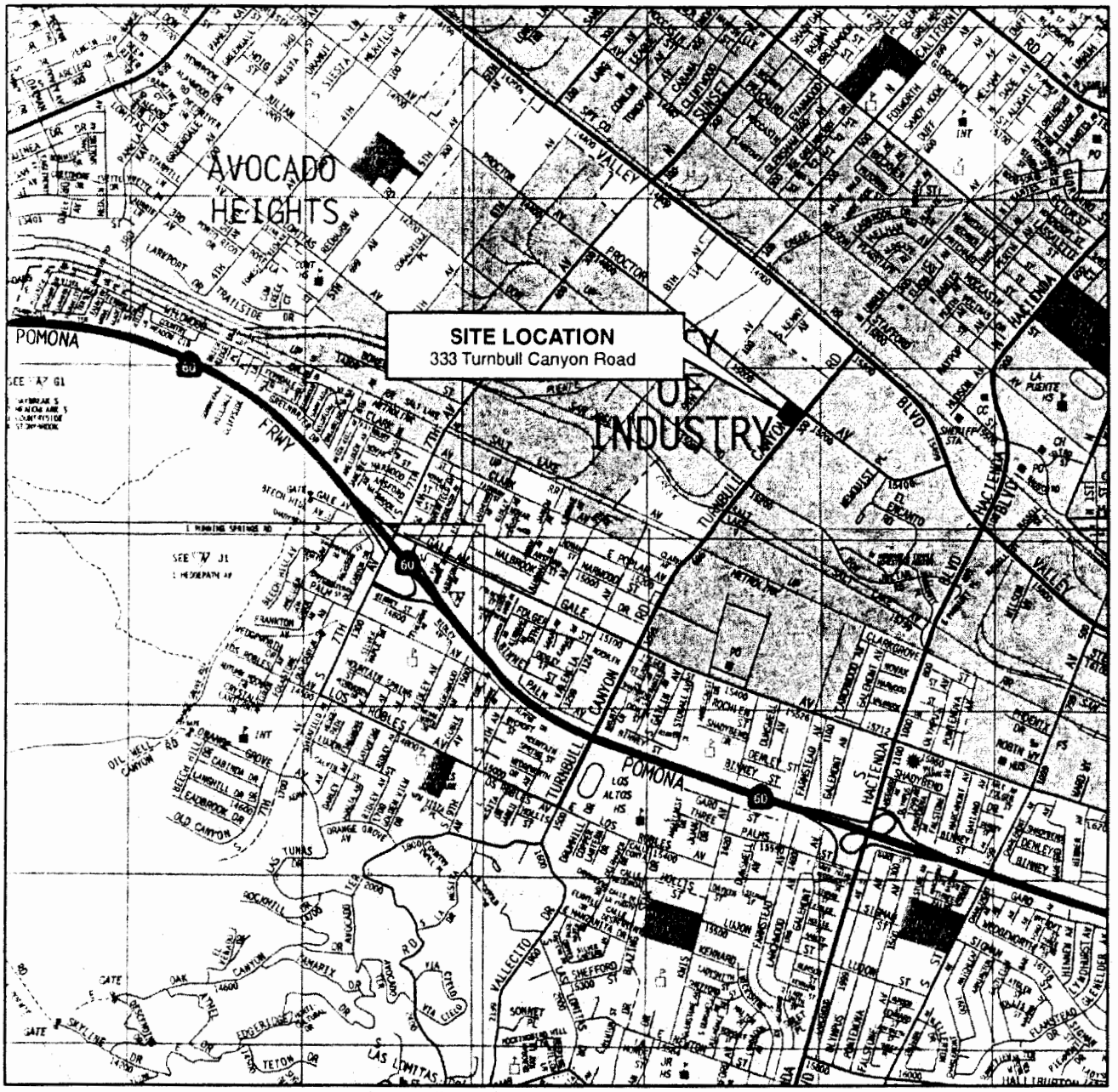
Table 1:

Summary of Soil-Gas Analytical Results
Second Quarter 1999
CalMar Facility
LFR 2455.00

All results reported in micrograms per liter as air (µg/l) as parts per billion (ppb)

Compound	Date Sampled	Well Identification								
		VE5	VE6D	VE10	VE12D	VE13	VE14	NVP4-1	NVP4-4	NVP4-A
Tetrachloroethene (PCE)	04/22/99	19	16	9.3	4.6	18	34	1.1	2.9	< 1.0
Trichloroethene (TCE)	04/22/99	< 1.0	1.0	< 1.0	< 1.0	1.4	1.0	< 1.0	< 1.0	< 1.0
1,1 Dichlorethene (1,1-DCE)	04/22/99	< 1.0	< 1.0	< 1.0	< 1.0	1.4	< 1.0	< 1.0	< 1.0	< 1.0

QA/QC: AP.



Reproduced with permission granted by Thomas Bros. Maps®
MAP SOURCE: Thomas Bros Guides®, Los Angeles County, California, pp.637, 638,677 & 678 , 1996.

0 1/4 1/2 1 mile

Site Vicinity

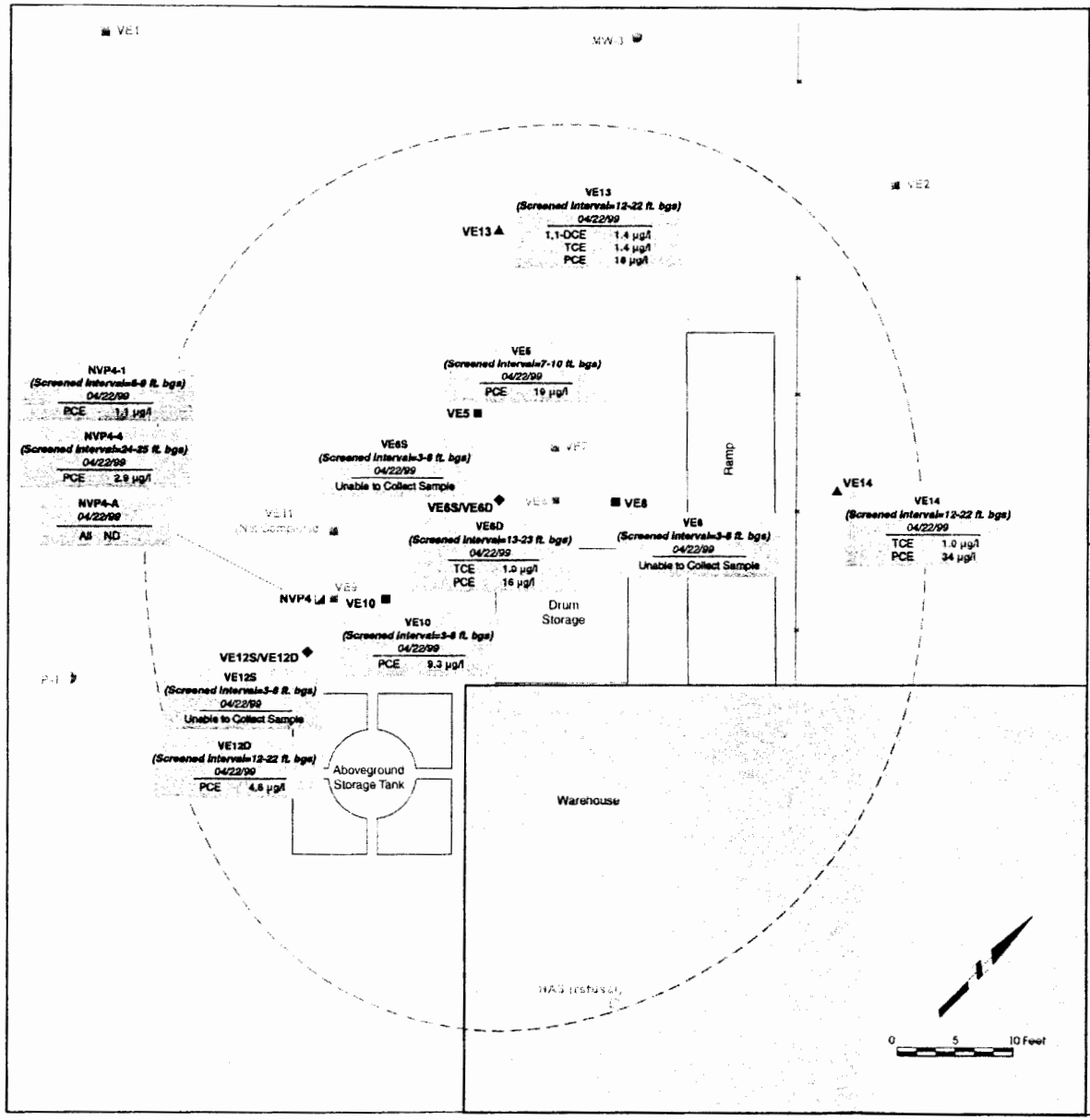
Levine•Fricke•Recon

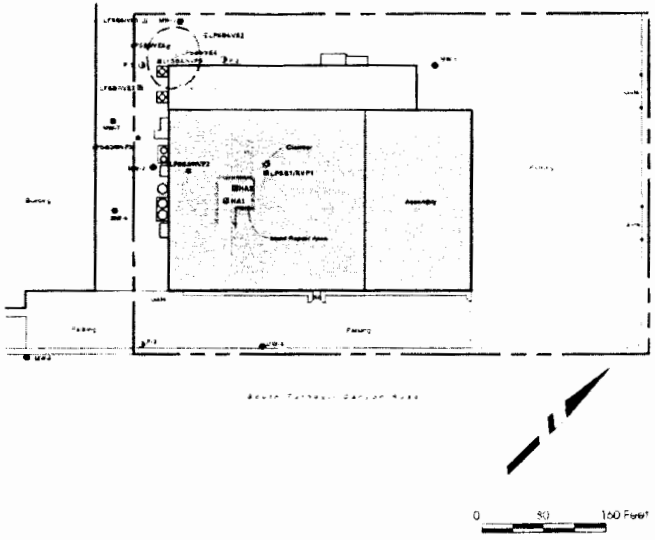
Calmar

Figure 1

Project No. 2455

2455-70 _ 11/21/96MEH/sc)





EXPLANATION

- Property Boundary
- VE7 Shallow Vapor Well Location (clay)
- VE6 Nested Vapor Well Location (clay and sand)
- VE14 Deep Vapor Well Location (sand)
- Monitoring Well Location
- Piezometer Location
- Nested Vapor Probe Location
- Approximate Extent of On-Site Chlorinated Hydrocarbon-Affected Soil

TCE Trichloroethene
PCE Tetrachloroethene
1,1-DCE 1,1 Dichloroethene

g/l Micrograms per Liter as Air

ft. bgs Feet Below Ground Surface

Caimar, City of Industry

Vapor Extraction Well Locations and Summary of Soil-Gas Analytical Results

Figure 2
Project No. 2455

LFR LEVINE•FRICKE

APPENDIX A

Laboratory Results and Chain-of-Custody Documentation

INTERPHASE

ENVIRONMENTAL CHEMISTRY SPECIALISTS

Thursday, May 06, 1999

Mr. Martin Hammond
Levine-Fricke-Recon
1920 Main Street, Suite 750
Irvine, CA 92714

Re: Cal Mar Vapor Monitoring

Dear Mr. Hammond:

Please find enclosed the vapor analysis results for the project site as referenced above as submitted by Centrum Analytical Laboratories. On-site analysis of gas samples was performed in accordance with the California Regional Water Quality Control Board, Los Angeles Region, Soil Gas Investigation Interim Guidelines for Well Investigation Program.

Please do not hesitate to give us a call if you have any questions or need further information. I am happy to be of service to you.

Sincerely,

Louise Adams

Louise Adams
InterPhase Environmental, Inc.

6200 PEACHTREE STREET
LOS ANGELES CA 90040
323·278·7700 800·457·3300
FAX 323·278·7707

Centrum Analytical Laboratories, Inc.

CERTIFIED HAZARDOUS WASTE TESTING LABORATORY • CHEMICAL AND BIOLOGICAL ANALYSES

Client:	Interphase 6200 Peachtree St. Los Angeles. CA 90040	Date Sampled: Date Received: Job Number:	04/22/99 04/22/99 M4-008

Project: Cal Mar

CASE NARRATIVE

The following information applies to samples which were received for analysis by Centrum Analytical Mobile Environmental Laboratory Number Four (MEL #4) on: 04/22/99

The samples were received at the project site intact and were either analyzed immediately or stored at 4°C until analyzed.

Unless otherwise noted below, the Quality Control acceptance criteria were met for all samples for every analysis requested.

Report approved by:

Robert R. Clark, Ph.D.
Laboratory Director

ELAP #

DL : Detection Limit -- The lowest level at which the compound can reliably be detected under normal laboratory conditions.
ND : Not Detected -- The compound was analyzed for but was not found to be present at or above the detection limit.
NA : Not Analyzed -- Per client request, this analyte was not on the list of compounds to be analyzed for.

290 TENNESSEE STREET • REDLANDS, CA 92373 • (909) 798-9336 • FAX (909) 793-1559 • (800) 798-9336

Printed on Recycled Paper

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client:	interphase	Date Sampled:	04/22/99
Project:	Cal Mar	Date Received:	04/22/99
Job No.:	M4-008	Date Analyzed:	04/22/99
Matrix:	Vapor		
Analyst:	JMR		

	Sample ID:	Amb.Blank	VE14	VE13	VE6D	VE5	VE10
Compounds	DL	µg/L of air	µg/L of air	µg/L of air	µg/L of air	µg/L of air	µg/L of air
Carbon tetrachloride	1.0	ND	ND	ND	ND	ND	ND
Chloroethane	1.0	ND	ND	ND	ND	ND	ND
Chloroform	1.0	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	1.0	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	1.0	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	1.0	ND	ND	**1.4**	ND	ND	ND
cis-1,2-Dichloroethene	1.0	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND	ND	ND
Methylene chloride	20	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.0	ND	**34**	**18**	**16**	**19**	**9.3**
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	1.0	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	1.0	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND	ND	ND
Trichloroethene	1.0	ND	**1.0**	**1.4**	**1.0**	ND	ND
Vinyl chloride	1.0	ND	ND	ND	ND	ND	ND
Benzene	1.0	ND	ND	ND	ND	ND	ND
Toluene	1.0	ND	ND	ND	ND	ND	ND
Ethylbenzene	1.0	ND	ND	ND	ND	ND	ND
Xylenes (total)	3.0	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane(11)	1.0	ND	ND	ND	ND	ND	ND
Trichlorotrifluoroethane(113)	5.0	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane(12)	1.0	ND	ND	ND	ND	ND	ND

Surrogates (% recovery) Limits: 80 - 130

Sample ID:	Amb.Blank	VE14	VE13	VE6D	VE5	VE10
Dibromofluoromethane	111	114	112	111	110	116
Toluene-d8	96	101	103	106	98	99
Bromofluorobenzene	105	107	108	106	105	105

Printed on Recycled Paper

Centrum
(800) 798-9336

EPA 8260 - Volatile Organics

Client:	Interphase	Date Sampled:	04/22/99
Project:	Cal Mar	Date Received:	04/22/99
Job No.	M4-008	Date Analyzed:	04/22/99
Matrix:	Vapor		
Analyst:	JMR		

	Sample ID:	VE12D	NVEP4-1	NVEP4-A	NVEP4-4
Compounds	DL	µg/L of air	µg/L of air	µg/L of air	µg/L of air
Carbon tetrachloride	1.0	ND	ND	ND	ND
Chloroethane	1.0	ND	ND	ND	ND
Chloroform	1.0	ND	ND	ND	ND
1,1-Dichloroethane	1.0	ND	ND	ND	ND
1,2-Dichloroethane	1.0	ND	ND	ND	ND
1,1-Dichloroethene	1.0	ND	ND	ND	ND
cis-1,2-Dichloroethene	1.0	ND	ND	ND	ND
trans-1,2-Dichloroethene	1.0	ND	ND	ND	ND
Methylene chloride	20	ND	ND	ND	ND
Tetrachloroethene	1.0	**4.6**	**1.1**	ND	**2.9**
1,1,1,2-Tetrachloroethane	1.0	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	1.0	ND	ND	ND	ND
1,1,1-Trichloroethane	1.0	ND	ND	ND	ND
1,1,2-Trichloroethane	1.0	ND	ND	ND	ND
Trichloroethene	1.0	ND	ND	ND	D
Vinyl chloride	1.0	ND	ND	ND	ND
Benzene	1.0	ND	ND	ND	ND
Toluene	1.0	ND	ND	ND	ND
Ethylbenzene	1.0	ND	ND	ND	ND
Xylenes (total)	3.0	ND	ND	ND	ND
Trichlorofluoromethane(11)	1.0	ND	ND	ND	ND
Trichlorotrifluoroethane(113)	5.0	ND	ND	ND	ND
Dichlorodifluoromethane(12)	1.0	ND	ND	ND	ND

Surrogates (% recovery) Limits: 80 - 130

Sample ID:	VE12D	NVEP4-1	NVEP4-A	NVEP4-4
Dibromofluoromethane	110	89	115	109
Toluene-d8	101	106	101	94
Bromofluorobenzene	106	99	103	104

Printed on Recycled Paper

QC Sample Report - EPA Method 8260

Centrum
(800) 798-9336

Matrix: Vapor

Batch Accuracy Results

Sample ID: Laboratory Control Sample

Analyte	Spike Concentration ug/L	% Recovery LCS	Acceptance Limits % Recovery	Pass/Fail
1,1-Dichloroethene	20.0	117	70 - 130	Pass
Benzene	20.0	108	70 - 130	Pass
Trichloroethene	20.0	105	70 - 130	Pass
Toluene	20.0	101	70 - 130	Pass
Chlorobenzene	20.0	100	70 - 130	Pass

Analytical Notes:

Batch Precision Results

Duplicates: Laboratory Control Sample

Analyte	Sample Recovery ug/L	Duplicate Recovery ug/L	Relative Percent Difference (RPD)	Upper Control Limit RPD	Pass/Fail
1,1-Dichloroethene	23.3	23.3	0%	25%	Pass
Benzene	21.8	21.9	1%	25%	Pass
Trichloroethene	21.1	21.0	0%	25%	Pass
Toluene	20.5	21.3	4%	25%	Pass
Chlorobenzene	20.2	19.6	3%	25%	Pass

Analytical Notes:

MS: Matrix Spike Sample
MSD: Matrix Spike Duplicate

Printed on Recycled Paper

Centrum
(800) 798-9336

QC Sample Report -EPA Method 8260

Matrix: Vapor
Laboratory Sample ID #: M4-008-8
Client Sample ID #: Well 12

Duplicates:

Compound	Sample Concentration ug/L of air	Sample Duplicate ug/L of air	Relative % Difference	Acceptance Limits RPD*
Tetrachloroethene	4.63	4.02	14%	25

Analytical Notes:

*The RPD Acceptance Limit for sample concentrations less than twice the detection limit is 50%.

Relative Percent Difference (RPD) is calculated on the concentration of the samples.

Printed on Recycled Paper.

Centrum Analytical Laboratories, Inc.

290 TENNESSEE STREET
REDLANDS, CA 92373
www.centrum-labs.com

(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559
lab@centrum-labs.com

Centrum Job # MY-008

Chain of Custody Record

Page 1 of ____

Project No

Project Name: Cal Mar

Project Manager:

Phone:

Fax:

Client Name (Report and Billing): Interphase (Levine Fricke)

Address: (Report and Billing)

Please Circle Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report)	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	8015M: Diesel, Fuel Screen	8015M: Gas, BTEX/MIBE	418.1 (TRPH), 413.2		GCMS: 8260, 8021, 624, 524.2	GCMS: 8270, 625	8080: Pesticides, PCBs, Pest/PCB		Metals: Title 22 (CAM), RCRA, PP	pH, TDS, TSS, Conductivity	Flashpoint, Hex Cr			Remarks/Special Instructions
1	Well 14 A	4-22-44	755	Vapor	2x Volume	5 Oz Syringes glass														WIP complete
2	Well 14 B		815		4X Volume															only.
3	Well 14 C		840		8X Volume															Sampler - Danny
4	Well 13 28'		1050																	Interphase
5	Well 6 23'		1140																	
6	Well 5 10'		1200																	
7	Well 10		1245																	
8	Well 12		150																	
9	Well 4 8'		200																	
10	Well 4-A 15'		220																	

Turn-Around Time
- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☐ Normal TAT

*Requires PRIOR approval additional charges apply

Requested due date ____

Relinquished by: (Sampler's Signature)	Date:	Time:	Relinquished by:	Date:	Time:
Relinquished by	Date:	Time:	Relinquished by	Date:	Time
			Relinquished by:	Date:	Time:
			Received for Laboratory by:	Date:	Time

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

To be completed by Laboratory personnel:
Samples chilled? Yes No
Custody seals? Yes No
All sample containers intact? Yes No
Courier UPS/Fed Ex Hand carried

Sample Disposal
- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal

Laboratory Notes: Well 8 8' refusal / Well 6 8' ~~[illegible]~~' refusal / Well 12 8' refusal

Sample Locator No.

Centrum Analytical Laboratories, Inc.

290 TENNESSEE STREET
REDLANDS, CA 92373
www.centrum-labs.com

(909) 798-9336 • (800) 798-9336
FAX (909) 793-1559
lab@centrum-labs.com

Centrum Job # M4-0258

Chain of Custody Record

Page 2 of ____

Project No	Project Name: Cal Mar
Project Manager:	Phone: Fax:
Client Name (Report and Billing): Interphase	Address: (Report and Billing)

Please Circle Analyses Requested

Centrum ID (Lab use only)	Sample ID (As it should appear on report) 25.5'	Date sampled	Time sampled	Sample matrix	Site location	Containers: # and type	8015M: Diesel, Fuel Screen	8015M: Gas, BTEX/MtBE	418.1 (TRPH), 413.2		GCMS: 8260, 8021, 624, 524.2	GCMS: 8270, 625	8080: Pesticides, PCBs, Pest/PCB		Metals: Title 22 (CAM), RCRA, PP	pH, TDS, TSS, Conductivity	Flashpoint, Hex Cr			Remarks/Special Instructions
11	Well 4-B	4-22-49		Vapor		5 Vial Syringe														
	B																			

Turn-Around Time

- ☐ 24 Hr. RUSH*
- ☐ 48 Hr. RUSH*
- ☐ Normal TAT

*Requires PRIOR approval, additional charges apply

Requested due date _____

Relinquished by: (Sampler's Signature)	Date:	Time:	Relinquished by:	Date:	Time:
Relinquished by:	Date:	Time:	Relinquished by:	Date:	Time:
			Relinquished by:	Date:	Time:
			Received for Laboratory by:	Date:	Time:

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

To be completed by Laboratory personnel:

Samples chilled? Yes No

Custody seals? Yes No

All sample containers intact? Yes No

Courier UPS/Fed Ex Hand carried

Sample Disposal

- ☐ Client will pick up
- ☐ Return to client
- ☐ Lab disposal

Laboratory Notes: Well 4 B+C Disposal

Sample Locator No.

White Copy - Original (Accompanies Samples) Yellow Copy - Centrum Files Pink Copy - Centrum duplicate Gold Copy - Client Copy