H2OGEOL!
A GROUND WATER CONSULTANCY

Ms. Madhulla Logan
Hazardous Materials Specialist
Alameda County Health Care Services Agency
Environmental Health Services
Environmental Protection (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

November 30, 1998

RE: Third of Four Required Groundwater Monitoring Events (Fourth Quarter, 1998) at Runnels Industries, Inc., 3590 Enterprise Avenue, Hayward, CA.

Dear Ms. Logan;

This letter report documents the third of the four quarterly groundwater monitoring events required in your letter dated April 06, 1998 that was addressed to Mr. Al Gant at Runnels Industries, Inc., 3590 Enterprise Avenue in Hayward, California. The location of the 3590 Enterprise Avenue property is shown in Figure 1.

1.0 POTENTIOMETRIC SURFACE GRADIENT AND DIRECTION OF GRADIENT

Depth to water in each monitoring well was measured to +/- 0.01 feet using a Solinst Model 101 water level meter between 08:04 and 08:11 on November 03, 1998. The depth to water was converted to potentiometric surface elevation by subtracting the measured depths to water from the casing top elevation. This information in presented in Table 1 along with the water surface elevations from previous monitoring events.

For the five monitoring wells there are four triangles with a well at each apex for which a groundwater gradient and flow direction (more precisely direction of groundwater gradient, since the horizontal hydraulic conductivity anisotropy is unknown) may be calculated using the three-point problem approach. The groundwater gradient direction and gradient for each of the triangles are included in Table 2 that also provides this information for previous monitoring events.

Figure 2 presents a potentiometric surface map showing well locations and groundwater surface contours as measured on November 03, 1998 using the method of minimum area triangles in a minimum bounded field. The average direction of groundwater gradient on November 03, 1998 was south 67.77 degrees west with a slope (gradient) of 0.0043 feet per foot.

2.0 MONITORING WELL PURGING AND SAMPLING

The monitoring wells were purged by pumping with an "ES-60" submersible pump marketed for monitoring well purging by Enviro-Tech Services Co. of Martinez, California. Field measured water quality parameters were measured using a Cambridge Scientific Industries Hydac™ Conductivity Temperature pH Tester. Well purging activities and the field measured water quality parameters are documented in Attachment A. For each well, purging continued until specific conductance stabilized to +/- 5% on consecutive readings.

Groundwater samples were collected for halogenated volatile organic compound analysis by U.S. EPA Method 8010 from monitoring wells MW-1 through MW-5. The samples were collected directly from the discharge end of the purge pump delivery tubing at a pumping rate of less than 1 L/minute. Water samples were collected, in duplicate, into 40-mL glass vials with Teflon™ septum lids.

Groundwater sample bottles were labeled and placed in an ice chest with a 2 Liter plastic bottle containing ice. A Chain-of-Custody form was filled out and was delivered with the ice chest to Chromalab, Inc. of Pleasanton, California, a state certified laboratory (DTSC No. 1094).

3.0 GROUNDWATER ANALYTICAL RESULTS

Groundwater samples from MW-1 through MW-5 were submitted to Chromalab for analysis by EPA Method 8010 for halogenated volatile organic compounds. Copies of the laboratory report and chain-of-custody documentation are contained in Attachment B.

Eight Method 8010 analytes were identified in groundwater from the five monitoring wells at the 3590 Enterprise Avenue property. These compounds and their respective maximum contaminant levels (MCLs) are listed below

Concentration in micrograms per Liter	MW-1	MW-2	MW-3	MW-4	MW-5	MCL
1,1-Dichloroethane	<0.50	3.7	4.7	<0.50	15	5.0
1,2-Dichloroethane	<0.50	<0.50	<0.50	<0.50	<0.50	5.0
1,1-Dichloroethene	2.3	3.0	10	<0.50	150	6.0
Trans-1,2-Dichloroethene	0.80	<0.50	<0.50	<0.50	<0.50	10.0
Cis-1,2-Dichloroethene	2.2	<0.50	<0.50	<0.50	<0.50	6.0
Trichloroethene	28	3.4	<0.50	<0.50	5.3	5.0

Primary compounds 1,1-Dichloroethane (11-DCA) and 1,1-Dichloroethene (11-DCE) were present in up/cross gradient wells MW-3 and MW-2. Down/cross gradient well MW-1 contained 11-DCE. The 11-DCE concentration exceeded its MCL in well MW-3. These compounds were otherwise below their respective MCLs in the other wells referred to.

In centrally located monitoring well MW-5 Trichloroethene (TCE) was almost equal to its MCL, 11-DCA exceeded its MCL by a factor of three and 11-DCE by a factor of 25. In light of this and the previous groundwater data, including location B-7, reported in the September 30, 1997 Additional Site Investigations report, an off site source to the east is suggested.

Primary compounds TCE was found in down/cross gradient well MW-1 and MW-4. The MCL for TCE was exceeded in MW-1.

The fourth and final requested quarterly monitoring event is scheduled for the week of February 01, 1999.

Please do not hesitate to call me at 925-373-9211 should you have any questions.

Sincerely,

Gary D. Lowe, R.G., C.E.G., C.H.G.
Principal, Hydrogeologist

REGISTERED GEOLOGIST
GARY D. LOWE
No. 1559
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

REGISTERED GEOLOGIST
GARY D. LOWE
No. 127
CERTIFIED HYDROGEOLOGIST
STATE OF CALIFORNIA

xc: Mr. Al Gant

TABLE 1
WATER LEVEL MEASUREMENTS
RUNNELS INDUSTRIES, INC.
3590 ENTERPRISE AVENUE, HAYWARD, CALIFORNIA

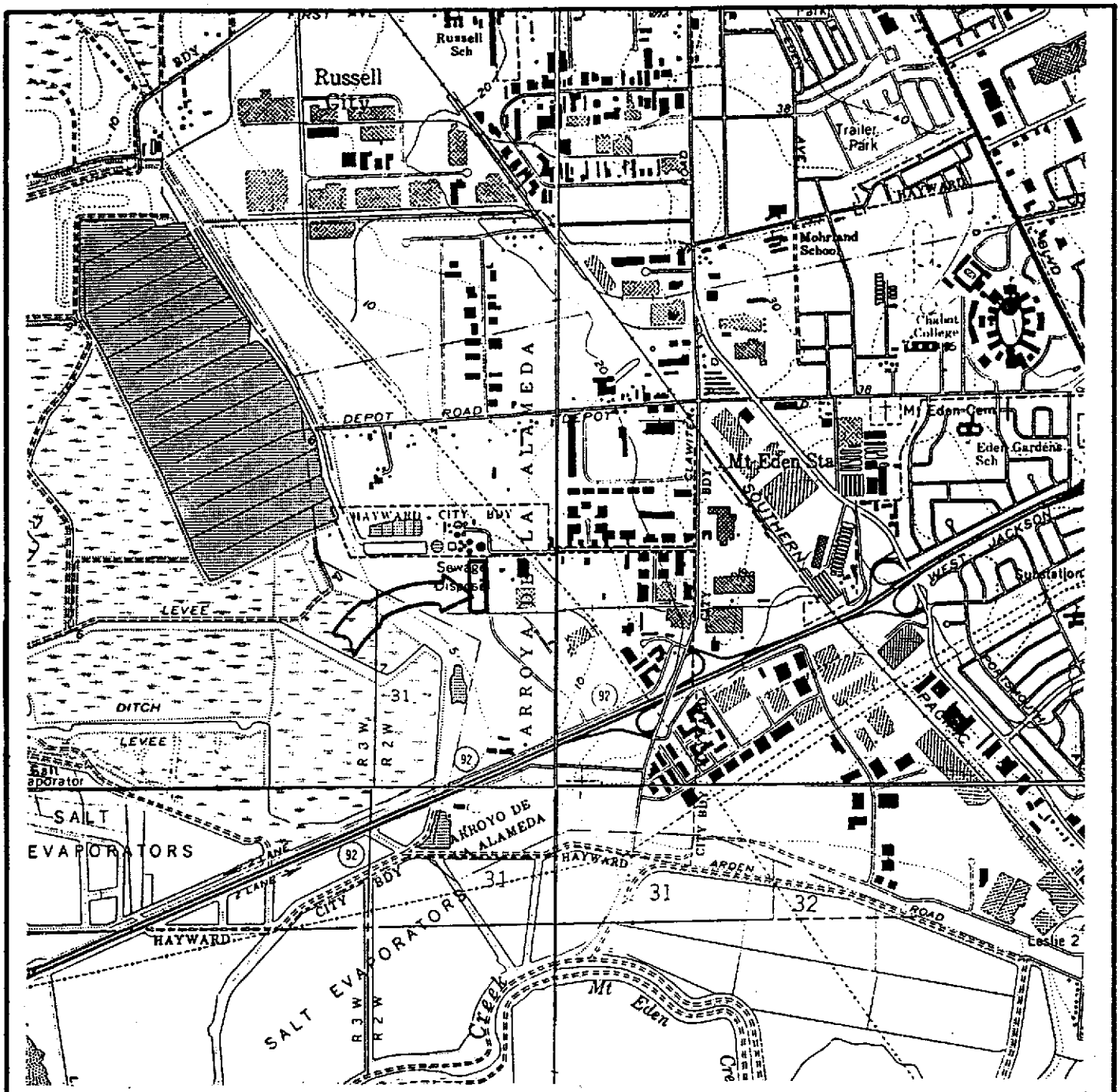
WELL		TIME	DEPTH TO WATER feet	GROUNDWATER ELEVATION
MW-1. Inst.12/03/85. TD = 15.65. Screen Interval not available.	EL:			9.96
	8/20/97	7:48	8.56	1.40
	5/7/98	8:54	7.78	2.18
	8/3/98	8:04	8.36	1.60
	11/3/98	8:04	8.44	1.52
MW-2. Inst. 08/18/97. TD = 12.14. Screen Interval 7.1-12.1.	EL:			8.86
	8/20/97	7:26	6.41	2.45
	5/7/98	8:52	5.84	3.02
	8/3/98	8:06	6.10	2.76
	11/3/98	8:06	6.22	2.64
MW-3. Inst. 08/18/97. TD = 12.15. Screen Interval 7.1-12.1.	EL:			7.91
	8/20/97	7:18	5.77	2.14
	5/7/98	8:49	4.56	3.35
	8/3/98	8:08	5.77	2.14
	11/3/98	8:08	5.98	1.93
MW-4. Inst. 08/18/97. TD = 12.65. Screen Interval 7.6-12.6.	EL:			8.47
	8/20/97	7:44	7.34	1.13
	5/7/98	8:47	6.36	2.11
	8/3/98	8:10	7.27	1.20
	11/3/98	8:10	7.29	1.18
MW-5. Inst. 08/18/97. TD = 12.68. Screen Interval 7.5-12.65.	EL:			8.86
	8/20/97	7:35	7.55	1.31
	5/7/98	8:44	6.62	2.24
	8/3/98	8:12	7.30	1.56
	11/3/98	8:11	7.45	1.41

TABLE 2
POTENTIOMETRIC SURFACE GRADIENTS AND DIRECTIONS
RUNNELS INDUSTRIES, INC.
3590 ENTERPRISE AVENUE, HAYWARD, CALIFORNIA

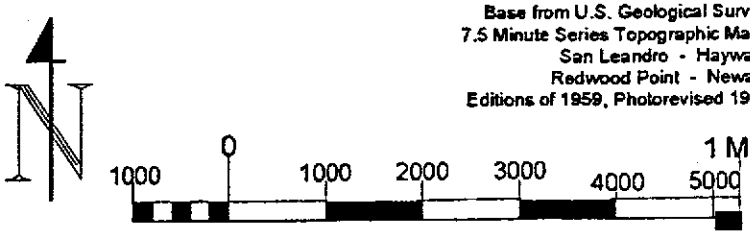
WELL TRIANGLE			GRADIENT	GRADIENT DIRECTION
8/20/97				
MW-1	MW-2	MW-5	0.0049	S 59.43 °W
MW-2	MW-3	MW-5	0.0074	S 82.55 °W
MW-3	MW-4	MW-5	0.0053	N 73.08 °W
MW-1	MW-4	MW-5	0.0015	S 46.79 °W
		AVE	0.0048	S 73.92 °W
5/7/98				
MW-1	MW-2	MW-5	0.0039	S 69.98 °W
MW-2	MW-3	MW-5	0.0080	N 84.72 °W
MW-3	MW-4	MW-5	0.0067	N 65.82 °W
MW-1	MW-4	MW-5	0.0015	S 77.59 °W
		AVE	0.0050	S 89.26 °W
8/3/98				
MW-1	MW-2	MW-5	0.0054	S 62.85 °W
MW-2	MW-3	MW-5	0.0064	S 74.01 °W
MW-3	MW-4	MW-5	0.0049	S 85.54 °W
MW-1	MW-4	MW-5	0.0034	S 61.53 °W
		AVE	0.0050	S 70.98 °W
11/3/98				
MW-1	MW-2	MW-5	0.0052	S 58.61 °W
MW-2	MW-3	MW-5	0.0063	S 71.32 °W
MW-3	MW-4	MW-5	0.0038	N 86.52 °W
MW-1	MW-4	MW-5	0.0020	S 47.69 °W
		AVE	0.0043	S 67.77 °W

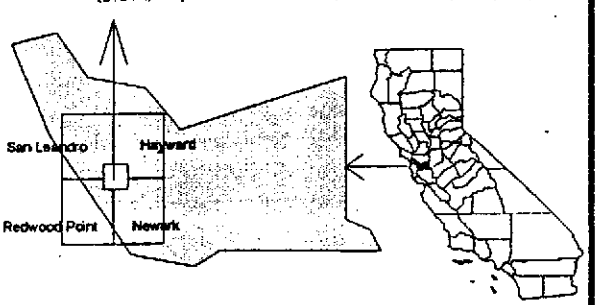
TABLE 3
VOLATILE HALOGENATED ORGANIC COMPOUNDS
IN GROUNDWATER
RUNNELS INDUSTRIES, INC.
3590 ENTERPRISE AVENUE, HAYWARD, CALIFORNIA
(all concentrations in micrograms per liter)

	Vinyl chloride	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	TRANS-1,2-Dichloroethene	CIS-1,2-Dichloroethene	Trichloroethene	Tetrachloroethene
MW-1. Installed 12/03/85. TD = 15.65. Screen Interval not available.										
8/20/97	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	44	< 5.0
5/7/98	< 0.5	< 0.5	< 0.5	2.4	< 0.5	< 0.5	< 0.5	3.3	39	1.3
8/3/98	< 0.5	< 0.5	< 0.5	2.2	< 0.5	< 0.5	< 0.5	3.0	36	1.1
11/3/98	< 0.5	< 0.5	< 0.5	2.3	< 0.5	< 0.5	0.80	2.2	28	< 0.5
MW-2. Installed 08/18/97. TD = 12.14. Screen Interval 7.1-12.1										
8/20/97	< 0.5	4.5	< 0.5	3.9	< 0.5	< 0.5	< 0.5	< 0.5	5.0	< 0.5
5/7/98	< 0.5	0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
8/3/98	< 0.5	1.1	< 0.5	1.1	< 0.5	< 0.5	< 0.5	< 0.5	2.2	< 0.5
11/3/98	< 0.5	3.7	< 0.5	3.0	< 0.5	< 0.5	< 0.5	< 0.5	3.4	< 0.5
MW-3. Installed 08/18/97. TD = 12.15. Screen Interval 7.1-12.1										
8/20/97	< 0.5	5.9	< 0.5	13	0.6	< 0.5	< 0.5	< 0.5	0.5	< 0.5
5/7/98	< 0.5	2.9	< 0.5	4.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
8/3/98	< 0.5	2.7	< 0.5	7.3	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
11/3/98	< 0.5	4.7	< 0.5	10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW-4. Installed 08/18/97. TD = 12.65. Screen Interval 7.6-12.6										
8/20/97	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5
5/7/98	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	2.7	< 0.5
8/3/98	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.72	< 0.5
11/3/98	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW-5. Installed 08/18/97. TD = 12.68. Screen Interval 7.5-12.65										
8/20/97	< 0.5	25	< 0.5	170	< 0.5	0.9	< 0.5	< 0.5	8.6	< 0.5
5/7/98	0.5	16	< 0.5	140	< 0.5	< 0.5	< 0.5	< 0.5	7.4	< 0.5
8/3/98	< 0.5	16	0.53	150	< 0.5	< 0.5	< 0.5	< 0.5	7.5	< 0.5
11/3/98	< 0.5	15	< 0.5	150	< 0.5	< 0.5	< 0.5	< 0.5	5.3	< 0.5



Base from U.S. Geological Survey
7.5 Minute Series Topographic Maps
San Leandro - Hayward
Redwood Point - Newark
Editions of 1959, Photorevised 1980





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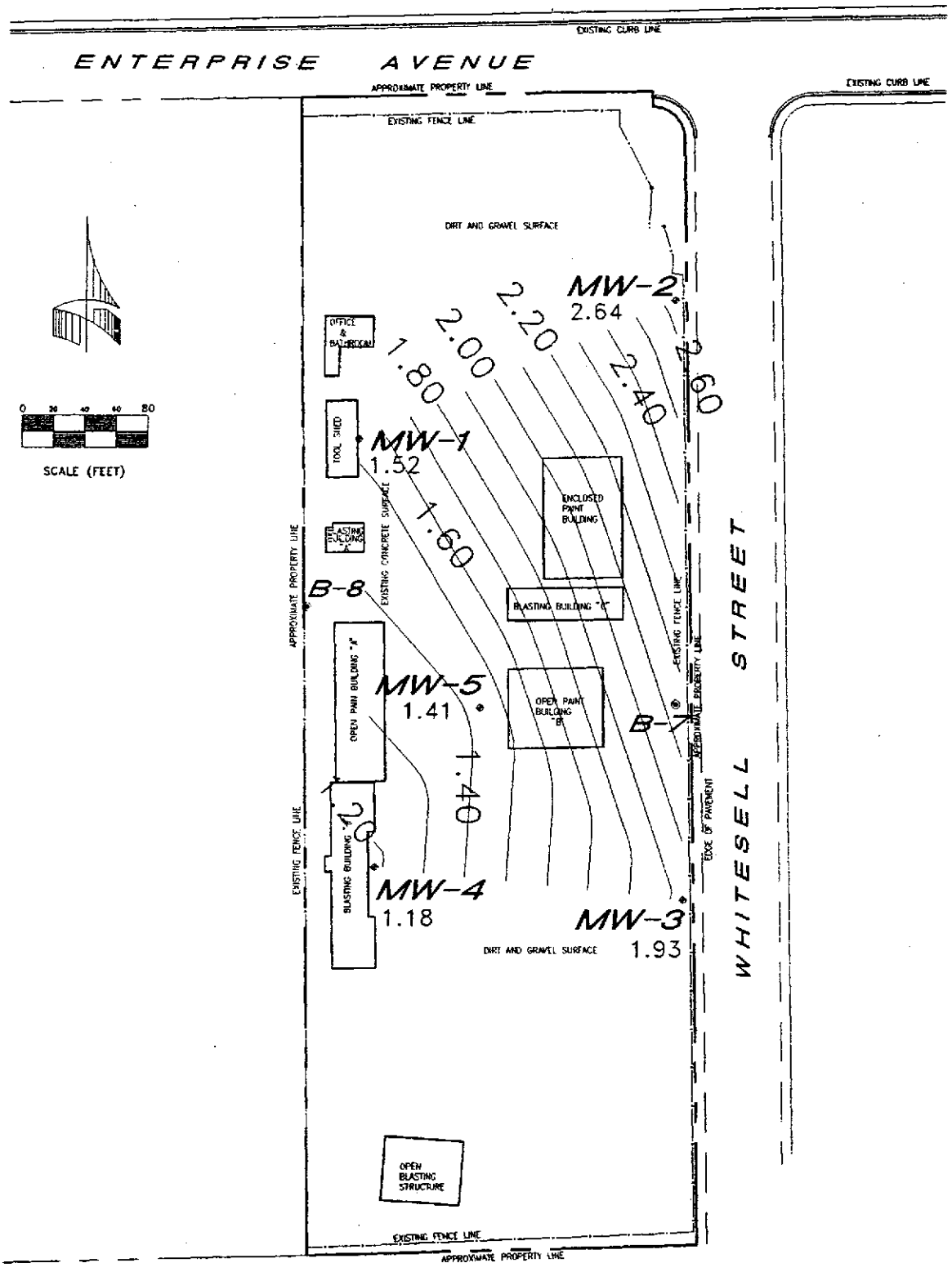
SITE LOCATION MAP
RUNNELS INDUSTRIES, INC.
3590 ENTERPRISE AVENUE
HAYWARD, CALIFORNIA

FIGURE
1



Well survey by Ron Archer, Civil Engineer, Inc., August 20, 1997. Top of casing elevations: MW-1 = 9.96; MW-2 = 8.86; MW-3 = 7.91; MW-4 = 8.47; and MW-5 = 8.86.

CONTOUR INTERVAL 0.1 FEET

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POTENTIOMETRIC SURFACE MAP FOR 11/03/98
RUNNELS INDUSTRIES, INC.
3590 ENTERPRISE AVENUE
HAYWARD, CALIFORNIA

FIGURE
2

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P.O. Box 2165 ■ Livermore, California 94551 ■ (925) 373-9211

ATTACHMENT A

FIELD DATA SHEET
LOG OF WELL SAMPLING ACTIVITIES

LOG OF WELL SAMPLING ACTIVITIES

Well Identification: MW- 1   Project Name: 3590 Enterprise Avenue, Hayward, CA   Date: 11/03/98

Sampled by: G. Lowe   Weather Conditions: ______

Well Location: ______   Well Casing Diameter: 2-inch   Depth of Well Casing: 15.65

Measuring Point: Top of PVC Casing   Initial Depth to Water: 8.44   Final Depth to Water: Not measured

Casing Volume (1 vol./ 3 vol): 1.15/3.46   Well Borehole Volume: ______

Purging Method:
- Centrifugal Pump/Peristaltic Pump
- Grundfos Submersible Pump
- Centrifugal Pump/ES-60 Submersible
- ES-40/-60 Submersible Pump X

Sampling Method:
- Peristaltic Pump
- Grundfos Submersible Pump
- Teflon Bailer
- ES Sub. Pump @ < 1L/min. X

Purging Rate: See below   Total Discharge: 45   Casing Volumes Purged: 3.9

Comments: ______

Waste Water Disposal: To drum.

Starting Time: ______

Time Pump on: 09:[illegible]

Date	Time	Gal. Purged	pH	T deg. F	Diluted S.C.		Dil. Factor		S.C. (µS/cm)	Color
11/03/98	:					x		=		
	09:06	3	7.45	64.7		x		=	1,225?	
	09:[illegible]	[illegible]	7.15	64.1		x		=	[illegible]	
	09:[illegible]	4	7.13	64.1		x		=	[illegible]	
	09:[illegible]	[illegible]	7.26?	64.4		x		=	[illegible]	
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		

Sample Identification: 3590-MW- 1   Sample Time: 09:[illegible]

TURBIDITY ANALYSIS

Finishing Time: ______   Time Analyzed: ______   NTU Value: ______

LOG OF WELL SAMPLING ACTIVITIES

Well Identification: MW- 2   Project Name: 3590 Enterprise Avenue, Hayward, CA   Date: 11/03/98

Sampled by: G. Lowe   Weather Conditions: ______

Well Location: ______   Well Casing Diameter: 2-inch   Depth of Well Casing: 12.14

Measuring Point: Top of PVC Casing   Initial Depth to Water: 6.22   Final Depth to Water: Not measured

Casing Volume (1 vol./ 3 vol): 0.85/2.54   Well Borehole Volume: ______

Purging Method:
- Centrifugal Pump/Peristaltic Pump
- Grundfos Submersible Pump
- Centrifugal Pump/ES-60 Submersible
- ES-40/-60 Submersible Pump X

Sampling Method:
- Peristaltic Pump
- Grundfos Submersible Pump
- Teflon Bailer
- ES Sub. Pump @ < 1L/min. X

Purging Rate: See below   Total Discharge: 4   Casing Volumes Purged: 4.2

Comments: ______

Waste Water Disposal: To drum.

Starting Time: ______

Time Pump on: 0553

Date	Time	Gal. Purged	pH	T deg. F	Diluted S.C.		Dil. Factor		S.C. (µS/cm)	Color
11/03/98	:					x		=		
	[illegible]:54	[illegible]	[illegible]	[illegible]		x		=	[illegible]	
	05:[illegible]	2	[illegible]	[illegible]		x		=	[illegible]	
	05:[illegible]	[illegible]	[illegible]	[illegible]		x		=	[illegible]	
	05:[illegible]	4	[illegible]	[illegible]		x		=	[illegible]	
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		

Sample Identification: 3590-MW- 2   Sample Time: [illegible]:58

TURBIDITY ANALYSIS

Finishing Time: ______   Time Analyzed: ______   NTU Value: ______

LOG OF WELL SAMPLING ACTIVITIES

Well Identification: MW- 3 Project Name: 3590 Enterprise Avenue, Hayward, CA Date: 11/03/98

Sampled by: G. Lowe Weather Conditions:

Well Location: 6 Well Casing Diameter: 2-inch Depth of Well Casing: 12.15

Measuring Point: Top of PVC Casing Initial Depth to Water: 5.78 Final Depth to Water: Not measured

Casing Volume (1 vol./ 3 vol): 0.99/ 2.96 Well Borehole Volume:

Purging Method:
- Centrifugal Pump/Peristaltic Pump
- Grundfos Submersible Pump
- Centrifugal Pump/ES-60 Submersible
- ES-40/-60 Submersible Pump X

Sampling Method:
- Peristaltic Pump
- Grundfos Submersible Pump
- Teflon Bailer
- ES Sub. Pump @ < 1L/min. X

Purging Rate: See below Total Discharge: 4 Casing Volumes Purged: 4

Comments:

Waste Water Disposal: To drum.

Starting Time:

Time Pump on: 0841

Date	Time	Gal. Purged	pH	T deg. F	Diluted S.C.		Dil. Factor		S.C. (µS/cm)	Color
11/03/98	:					x		=		
	08:41	2½	7.43	66.0		x		=	1269	
	08:47	3	7.41	66.4		x		=	1270	
	[illegible]	3½	7.36	67.2		x		=	1716	
	[illegible]	4	7.41	67.4		x		=	1219	
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		

Sample Identification: 3590.MW- [illegible] Sample Time: [illegible]

TURBIDITY ANALYSIS

Finishing Time: Time Analyzed: NTU Value:

LOG OF WELL SAMPLING ACTIVITIES

Well Identification: MW- 4 Project Name: 3590 Enterprise Avenue, Hayward, CA Date: 11/03/98

Sampled by: G. Lowe Weather Conditions:

Well Location: 6 Well Casing Diameter: 2-inch Depth of Well Casing: 12.65

Measuring Point: Top of PVC Casing Initial Depth to Water: 7.27 Final Depth to Water: Not measured

Casing Volume (1 vol./ 3 vol): 0.86/ 2.57 Well Borehole Volume:

Purging Method:
- Centrifugal Pump/Peristaltic Pump
- Grundfos Submersible Pump
- Centrifugal Pump/ES-60 Submersible
- ES-40/-60 Submersible Pump X

Sampling Method:
- Peristaltic Pump
- Grundfos Submersible Pump
- Teflon Bailer
- ES Sub. Pump @ < 1L/min. X

Purging Rate: See below Total Discharge: 4 Casing Volumes Purged: 4.65

Comments:

Waste Water Disposal: To drum.

Starting Time:

Time Pump on: 0824

Date	Time	Gal. Purged	pH	T deg. F	Diluted S.C.		Dil. Factor		S.C. (µS/cm)	Color
11/03/98	:					x		=		
	08:30	2½	7.67	66.2		x		=	2400	
	08:34	3	7.62	65.9		x		=	2410	
	08:42	3½	7.62	65.9		x		=	2380	
	08:37	4	7.61	65.5		x		=	2400	
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		

Sample Identification: 3590.MW- 4 Sample Time: 0824

TURBIDITY ANALYSIS

Finishing Time: Time Analyzed: NTU Value:

LOG OF WELL SAMPLING ACTIVITIES

Well Identification: MW- 5 Project Name: 3590 Enterprise Avenue, Heyward, CA Date: 11/03/98

Sampled by: G. Lowe Weather Conditions: _____

Well Location: _____ Well Casing Diameter: 2-inch Depth of Well Casing: 12.5'

Measuring Point: Top of PVC Casing Initial Depth to Water: 7.45 Final Depth to Water: Not measured

Casing Volume (1 vol./ 3 vol): 0.53/ 2.5 Well Borehole Volume: _____

Purging Method:
- Centrifugal Pump/Peristaltic Pump
- Grundfos Submersible Pump
- Centrifugal Pump/ES-60 Submersible
- ES-40/-60 Submersible Pump X

Sampling Method:
- Peristaltic Pump
- Grundfos Submersible Pump
- Teflon Bailer
- ES Sub. Pump @ < 1L/min. X

Purging Rate: See below Total Discharge: 4 Casing Volumes Purged: 4.8

Comments: _____

Waste Water Disposal: To drum.

Starting Time: _____

Time Pump on: 03:12

Date	Time	Gal. Purged	pH	T deg. F	Diluted S.C.		Dil. Factor		S.C. (µS/cm)	Color
11/03/98	:					x		=		
	03:20	2.5	7.06	64.7		x		=	1615	
	03:30	3	7.09	65.6		x		=	1654	
	03:41	3.5	7.03	66.0		x		=	1673	
	03:52	4	7.01	66.0		x		=	1652	
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		

Sample Identification: 3590/MW- 5 Sample Time: 04 22

TURBIDITY ANALYSIS

Finishing Time: _____ Time Analyzed: _____ NTU Value: _____

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P.O. Box 2165 ■ Livermore, California 94551 ■ (925) 373-9211

ATTACHMENT B

LABORATORY ANALYTICAL REPORT
SAMPLE CHAIN OF CUSTODY

CHROMALAB, INC.

Environmental Services (SDB)

November 12, 1998 *Submission #:* 9811045

H2OGEOL

Attn: Gary Lowe

Project: RUNNELS INDUSTRIES
Received: November 3, 1998

re: One sample for Volatile Halogenated Organics analysis.
Method: *SW846 Method 8010A July 1992*

Client Sample ID: **3590/MW-1**
Spl#: 213612 *Matrix:* WATER
Sampled: November 3, 1998 *Run#:* 15926 *Analyzed:* November 9, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
VINYL CHLORIDE	N.D.	0.50	N.D.	--	1
CHLOROETHANE	N.D.	0.50	N.D.	--	1
TRICHLOROFLUOROMETHANE	N.D.	0.50	N.D.	--	1
1,1-DICHLOROETHENE	2.3	0.50	N.D.	80.0	1
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--	1
TRANS-1,2-DICHLOROETHENE	0.80	0.50	N.D.	--	1
CIS-1,2-DICHLOROETHENE	2.2	0.50	N.D.	--	1
1,1-DICHLOROETHANE	N.D.	0.50	N.D.	--	1
CHLOROFORM	N.D.	3.0	N.D.	--	1
1,1,1-TRICHLOROETHANE	N.D.	0.50	N.D.	--	1
CARBON TETRACHLORIDE	N.D.	0.50	N.D.	--	1
1,2-DICHLOROETHANE	N.D.	0.50	N.D.	--	1
TRICHLOROETHENE	28	0.50	N.D.	83.0	1
Note: VALUE IS TAKEN FROM GC/MS RUN EPA METHOD 8240A					
1,2-DICHLOROPROPANE	N.D.	0.50	N.D.	--	1
BROMODICHLOROMETHANE	N.D.	0.50	N.D.	--	1
2-CHLOROETHYL VINYL ETHER	N.D.	0.50	N.D.	--	1
TRANS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.	--	1
CIS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.	--	1
1,1,2-TRICHLOROETHANE	N.D.	0.50	N.D.	--	1
TETRACHLOROETHENE	N.D.	0.50	N.D.	--	1
DIBROMOCHLOROMETHANE	N.D.	0.50	N.D.	--	1
CHLOROBENZENE	N.D.	0.50	N.D.	69.0	1
BROMOFORM	N.D.	2.0	N.D.	--	1
1,1,2,2-TETRACHLOROETHANE	N.D.	0.50	N.D.	--	1
1,3-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
1,4-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
1,2-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
TRICHLOROTRIFLUOROETHANE	N.D.	2.0	9.80	--	1
CHLOROMETHANE	N.D.	1.0	N.D.	--	1
BROMOMETHANE	N.D.	1.0	N.D.	--	1

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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

November 12, 1998 *Submission #:* 9811045

H2OGEOL

Attn: Gary Lowe

Project: RUNNELS INDUSTRIES
Received: November 3, 1998

re: One sample for Volatile Halogenated Organics analysis.
Method: *SW846 Method 8010A July 1992*

Client Sample ID: **3590/MW-2**
Spl#: 213613 *Matrix:* WATER
Sampled: November 3, 1998 *Run#:* 15926 *Analyzed:* November 9, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
VINYL CHLORIDE	N.D.	0.50	N.D.	--	
CHLOROETHANE	N.D.	0.50	N.D.	--	
TRICHLOROFLUOROMETHANE	N.D.	0.50	N.D.	--	
1,1-DICHLOROETHENE	3.0	0.50	N.D.	80.0	
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--	
TRANS-1,2-DICHLOROETHENE	N.D.	0.50	N.D.	--	
CIS-1,2-DICHLOROETHENE	N.D.	0.50	N.D.	--	
1,1-DICHLOROETHANE	3.7	0.50	N.D.	--	
CHLOROFORM	N.D.	3.0	N.D.	--	
1,1,1-TRICHLOROETHANE	N.D.	0.50	N.D.	--	
CARBON TETRACHLORIDE	N.D.	0.50	N.D.	--	
1,2-DICHLOROETHANE	N.D.	0.50	N.D.	--	
TRICHLOROETHENE	3.4	0.50	N.D.	83.0	
1,2-DICHLOROPROPANE	N.D.	0.50	N.D.	--	
BROMODICHLOROMETHANE	N.D.	0.50	N.D.	--	
2-CHLOROETHYL VINYL ETHER	N.D.	0.50	N.D.	--	
TRANS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.	--	
CIS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.	--	
1,1,2-TRICHLOROETHANE	N.D.	0.50	N.D.	--	
TETRACHLOROETHENE	N.D.	0.50	N.D.	--	
DIBROMOCHLOROMETHANE	N.D.	0.50	N.D.	--	
CHLOROBENZENE	N.D.	0.50	N.D.	69.0	
BROMOFORM	N.D.	2.0	N.D.	--	
1,1,2,2-TETRACHLOROETHANE	N.D.	0.50	N.D.	--	
1,3-DICHLOROBENZENE	N.D.	0.50	N.D.	--	
1,4-DICHLOROBENZENE	N.D.	0.50	N.D.	--	
1,2-DICHLOROBENZENE	N.D.	0.50	N.D.	--	
TRICHLOROTRIFLUOROETHANE	N.D.	2.0	9.80	--	
CHLOROMETHANE	N.D.	1.0	N.D.	--	
BROMOMETHANE	N.D.	1.0	N.D.	--	

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CHROMALAB, INC.

Environmental Services (SDB)

November 12, 1998 *Submission #:* 9811045

H2OGEOL

Attn: Gary Lowe

Project: RUNNELS INDUSTRIES
Received: November 3, 1998

re: One sample for Volatile Halogenated Organics analysis.
Method: *SW846 Method 8010A July 1992*

Client Sample ID: 3590/MW-3
Spl#: 213614 *Matrix:* WATER
Sampled: November 3, 1998 *Run#:* 15926 *Analyzed:* November 9, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
VINYL CHLORIDE	N.D.	0.50	N.D.	--	1
CHLOROETHANE	N.D.	0.50	N.D.	--	1
TRICHLOROFLUOROMETHANE	N.D.	0.50	N.D.	--	1
1,1-DICHLOROETHENE	10	0.50	N.D.	80.0	1
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--	1
TRANS-1,2-DICHLOROETHENE	N.D.	0.50	N.D.	--	1
CIS-1,2-DICHLOROETHENE	N.D.	0.50	N.D.	--	1
1,1-DICHLOROETHANE	4.7	0.50	N.D.	--	1
CHLOROFORM	N.D.	3.0	N.D.	--	1
1,1,1-TRICHLOROETHANE	N.D.	0.50	N.D.	--	1
CARBON TETRACHLORIDE	N.D.	0.50	N.D.	--	1
1,2-DICHLOROETHANE	N.D.	0.50	N.D.	--	1
TRICHLOROETHENE	N.D.	0.50	N.D.	83.0	1
1,2-DICHLOROPROPANE	N.D.	0.50	N.D.	--	1
BROMODICHLOROMETHANE	N.D.	0.50	N.D.	--	1
2-CHLOROETHYL VINYL ETHER	N.D.	0.50	N.D.	--	1
TRANS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.	--	1
CIS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.	--	1
1,1,2-TRICHLOROETHANE	N.D.	0.50	N.D.	--	1
TETRACHLOROETHENE	N.D.	0.50	N.D.	--	1
DIBROMOCHLOROMETHANE	N.D.	0.50	N.D.	--	1
CHLOROBENZENE	N.D.	0.50	N.D.	69.0	1
BROMOFORM	N.D.	2.0	N.D.	--	1
1,1,2,2-TETRACHLOROETHANE	N.D.	0.50	N.D.	--	1
1,3-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
1,4-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
1,2-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
TRICHLOROTRIFLUOROETHANE	N.D.	2.0	9.80	--	1
CHLOROMETHANE	N.D.	1.0	N.D.	--	1
BROMOMETHANE	N.D.	1.0	N.D.	--	1

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CHROMALAB, INC.

Environmental Services (SDB)

November 12, 1998 *Submission #:* 9811045

H2OGEOL

Attn: Gary Lowe

Project: RUNNELS INDUSTRIES
Received: November 3, 1998

re: One sample for Volatile Halogenated Organics analysis.
Method: *SW846 Method 8010A July 1992*

Client Sample ID: 3590/MW-4
Spl#: 213615 *Matrix:* WATER
Sampled: November 3, 1998 *Run#:* 15926 *Analyzed:* November 9, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTI FACTO
VINYL CHLORIDE	N.D.	0.50	N.D.	--	
CHLOROETHANE	N.D.	0.50	N.D.	--	
TRICHLOROFLUOROMETHANE	N.D.	0.50	N.D.	--	
1,1-DICHLOROETHENE	N.D.	0.50	N.D.	80.0	
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--	
TRANS-1,2-DICHLOROETHENE	N.D.	0.50	N.D.	--	
CIS-1,2-DICHLOROETHENE	N.D.	0.50	N.D.	--	
1,1-DICHLOROETHANE	N.D.	0.50	N.D.	--	
CHLOROFORM	N.D.	3.0	N.D.	--	
1,1,1-TRICHLOROETHANE	N.D.	0.50	N.D.	--	
CARBON TETRACHLORIDE	N.D.	0.50	N.D.	--	
1,2-DICHLOROETHANE	N.D.	0.50	N.D.	--	
TRICHLOROETHENE	N.D.	0.50	N.D.	83.0	
1,2-DICHLOROPROPANE	N.D.	0.50	N.D.	--	
BROMODICHLOROMETHANE	N.D.	0.50	N.D.	--	
2-CHLOROETHYL VINYL ETHER	N.D.	0.50	N.D.	--	
TRANS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.	--	
CIS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.	--	
1,1,2-TRICHLOROETHANE	N.D.	0.50	N.D.	--	
TETRACHLOROETHENE	N.D.	0.50	N.D.	--	
DIBROMOCHLOROMETHANE	N.D.	0.50	N.D.	--	
CHLOROBENZENE	N.D.	0.50	N.D.	69.0	
BROMOFORM	N.D.	2.0	N.D.	--	
1,1,2,2-TETRACHLOROETHANE	N.D.	0.50	N.D.	--	
1,3-DICHLOROBENZENE	N.D.	0.50	N.D.	--	
1,4-DICHLOROBENZENE	N.D.	0.50	N.D.	--	
1,2-DICHLOROBENZENE	N.D.	0.50	N.D.	--	
TRICHLOROTRIFLUOROETHANE	N.D.	2.0	9.80	--	
CHLOROMETHANE	N.D.	1.0	N.D.	--	
BROMOMETHANE	N.D.	1.0	N.D.	--	

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CHROMALAB, INC.

Environmental Services (SDB)

November 12, 1998 *Submission #:* 9811045

H2OGEOL

Atten: Gary Lowe

Project: RUNNELS INDUSTRIES
Received: November 3, 1998

re: One sample for Volatile Halogenated Organics analysis.
Method: *SW846 Method 8010A July 1992*

Client Sample ID: **3590/MW-5**
Spl#: 213616 *Matrix:* WATER
Sampled: November 3, 1998 *Run#:* 15926 *Analyzed:* November 9, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
VINYL CHLORIDE	N.D.	0.50	N.D.	--	1
CHLOROETHANE	N.D.	0.50	N.D.	--	1
TRICHLOROFLUOROMETHANE	N.D.	0.50	N.D.	--	1
1,1-DICHLOROETHENE	150	0.50	N.D.	80.0	1
Note: VALUE IS TAKEN FROM GC/MS RUN EPA METHOD 8240A					
METHYLENE CHLORIDE	N.D.	5.0	N.D.	--	1
TRANS-1,2-DICHLOROETHENE	N.D.	0.50	N.D.	--	1
CIS-1,2-DICHLOROETHENE	N.D.	0.50	N.D.	--	1
1,1-DICHLOROETHANE	15	0.50	N.D.	--	1
CHLOROFORM	N.D.	3.0	N.D.	--	1
1,1,1-TRICHLOROETHANE	N.D.	0.50	N.D.	--	1
CARBON TETRACHLORIDE	N.D.	0.50	N.D.	--	1
1,2-DICHLOROETHANE	N.D.	0.50	N.D.	--	1
TRICHLOROETHENE	5.3	0.50	N.D.	83.0	1
1,2-DICHLOROPROPANE	N.D.	0.50	N.D.	--	1
BROMODICHLOROMETHANE	N.D.	0.50	N.D.	--	1
2-CHLOROETHYL VINYL ETHER	N.D.	0.50	N.D.	--	1
TRANS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.	--	1
CIS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.	--	1
1,1,2-TRICHLOROETHANE	N.D.	0.50	N.D.	--	1
TETRACHLOROETHENE	N.D.	0.50	N.D.	--	1
DIBROMOCHLOROMETHANE	N.D.	0.50	N.D.	--	1
CHLOROBENZENE	N.D.	0.50	N.D.	69.0	1
BROMOFORM	N.D.	2.0	N.D.	--	1
1,1,2,2-TETRACHLOROETHANE	N.D.	0.50	N.D.	--	1
1,3-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
1,4-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
1,2-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
TRICHLOROTRIFLUOROETHANE	N.D.	2.0	9.80	--	1
CHLOROMETHANE	N.D.	1.0	N.D.	--	1
BROMOMETHANE	N.D.	1.0	N.D.	--	1

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9811045 / 213612-213616

42930

CUSTODY

PAGE 1 of 1

H2OGEOL & GROUNDHEAT
P.O. BOX 2165
LIVERMORE, CALIFORNIA 9455

SUBK #: 9811045 REF: GC
CLIENT: H2OGEOL
DUE: 11/10/98
REF #:42930

SAMPLER(S): Gary O. Lowe

SAMPLER'S SIGNATURE:

SAMPLE RECIEPT
TOTAL No of CONTAINERS 10
CHAIN OF CUSTODY SEALS
RECD GOOD CONDITION/COLD Y
CONFORMS TO RECORD Yes
LAB NO

FAX RESULTS TO (510) 373-9222

ANALYTE: Halogenated Holocarbon Compounds EPA 8010

SAMPLE ID.	DATE	TIME	MATRIX	LAB ID.	NUMBER OF CONTAINERS
3590/MW-1	11/03/98	09:10	WATER		2
3590/MW-2	11/03/98	09:58	WATER		2
3590/MW-3	11/03/98	08:45	WATER		2
3590/MW-4	11/03/98	08:34	WATER		2
3590/MW-5	11/03/98	09:22	WATER		2

NOTE
10-DAY
TURNAROUND

RELINQUISHED BY:
SIGNATURE TIME
PRINTED NAME Gary O. Lowe 11:15
COMPANY H2OGEOL DATE 11/03/98

RELINQUISHED BY:
SIGNATURE TIME
PRINTED NAME DATE
COMPANY

RECEIVED BY:
SIGNATURE D Cassidy 12:45
PRINTED NAME C. Cassidy TIME 11:37 DATE
COMPANY

RECEIVED BY LABORATORY:
SIGNATURE TIME
PRINTED NAME DATE
COMPANY Chromalab, Inc. 11/03/98