



GROUP 12 PW1238

Ms. Eva Chu
Hazardous Materials Specialist
Alameda County Health Care Services Agency
Department of Environmental Health
Hazardous Materials Division
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502-6577

March 08, 1996

Quantity in msl.
About ready for closure

RE: Third consecutive quarter (1st Quarter, 1996) groundwater monitoring at Geno's Country Store, 1000 North Vasco Road, Livermore, California.

Dear Ms. Chu;

This letter report provides the results of the third consecutive quarter (First Quarter, 1996) sampling of the monitoring wells at Geno's Country Store, located at 1000 North Vasco Road in Livermore, California (Figure 1).

Depth to water in each monitoring well was measured to +/- 0.01 feet using a Solinst Model 101 water level meter on February 05, 1996. The depth to water was converted to potentiometric surface elevation by subtracting the measured depths to water from the casing top elevation. This information is presented below.

WELL AND GROUNDWATER ELEVATIONS
FEBRUARY 05, 1996

Table with 5 columns: Well Number, Top of Casing Elevation (feet, msl), Time of Depth measurement, Depth to Water (feet), Groundwater Surface Elevation (feet, msl). Rows include MW-1, MW-2, and MW-3.

The groundwater flow direction (more precisely direction of groundwater gradient, since the horizontal hydraulic conductivity anisotropy is unknown) for the triangle with a well at each apex is N 52° W at a gradient of 0.0068. Figure 2 is a potentiometric surface map showing well locations and groundwater surface contours as measured on February 05, 1996. Historic water level information follows.

MW-1	07/24/95	08:45	8.68	517.82
	11/06/95	09:00	8.75	517.75
	02/05/96	10:14	7.58	518.92
MW-2	07/24/95	08:43	8.17	518.66
	11/06/95	08:56	8.35	518.48
	02/05/96	10:13	6.95	519.88
MW-3	07/24/95	08:40	7.60	518.40
	11/06/95	08:58	7.96	518.04
	02/05/96	10:12	6.28	519.72

GROUNDWATER FLOW DIRECTION AND GRADIENT

07/24/95 N 60° W at a gradient of 0.0065
(note typographic correction of direction from 08/16/95 report)
11/06/95 N 77° W at a gradient of 0.0072
02/05/96 N 52° W at a gradient of 0.0068

AVERAGE N 61.5° W at a gradient of 0.0068

Following water level measurements the groundwater surface at each monitoring well was checked for free product, observation of sheen, and odor. No free product or sheen was found. Groundwater from monitoring well MW-1 possessed a septic odor.

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 for TPH-D were collected directly from the end of the pump discharge tubing at the final purging rate of about two liters per minute into a one liter amber glass bottle. Groundwater samples for TPH-G plus BTEX were collected using a pump discharge rate of less than one liter per minute in 40-mL glass vials with Teflon™ septum lids, in duplicate.

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Groundwater sample bottles were labeled and placed in an ice chest with 2 Liter plastic bottles containing ice. Chain-of-Custody forms were filled out and were delivered with the ice chest to Chromalab, Inc. of Pleasanton, California, a state certified laboratory.

Groundwater samples from all three monitoring wells were found not to contain detectable concentrations of petroleum hydrocarbons. MW-1 was found to contain 280 µg/L of hydrocarbons in the diesel range that do not match any of the laboratory's petroleum hydrocarbon standard profiles. These could be organic acids or other biodegradation products or naturally occurring hydrocarbons from the soil and vegetation. The laboratory report and Chain-of-Custody documentation is contained in Attachment B. The historic groundwater sample analytical results are summarized below.

All concentrations are expressed in micrograms per liter (µg/L).

Well	TPH-D	TPH-G	Benzene	Toluene	Ethyl- benzene	Total Xylenes
MW-1						
07/24/95	910	<50	<0.5	<0.5	<0.5	<0.5
11/06/95	<50	<50	<0.5	<0.5	<0.5	<0.5
02/05/96	<50	<50	<0.5	<0.5	<0.5	<0.5
MW-2						
07/24/95	<50	<50	<0.5	<0.5	<0.5	<0.5
11/06/95	<50	<50	<0.5	<0.5	<0.5	<0.5
02/05/96	<50	<50	<0.5	<0.5	<0.5	<0.5
MW-3						
07/24/95	<50	60	<0.5	<0.5	<0.5	<0.5
11/06/95	<50	<50	<0.5	<0.5	<0.5	<0.5
02/05/96	<50	<50	<0.5	<0.5	<0.5	<0.5

(Note typographic correction of 07/24/95 "ND" values for TPH-G concentrations for MW-1 & -2 from 08/16/95 report).

California*Primary MCL's

na	na	1	na	680	1,750
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US E.P.A.*Primary MCL's

na	na	5	1,000	700	10,000
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na - not available

Marshack, Jon B., D. Env. 1991, A Compilation of Water Quality Goals, Central Valley Regional Water Quality Control Board.

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The fourth consecutive quarter (Second Quarter, 1996) sampling event at Geno's Country Store, located at 1000 North Vasco Road in Livermore, California is scheduled for the week of May 05, 1996.

Please do not hesitate to call me at (510) 373-9211 should you have any questions.

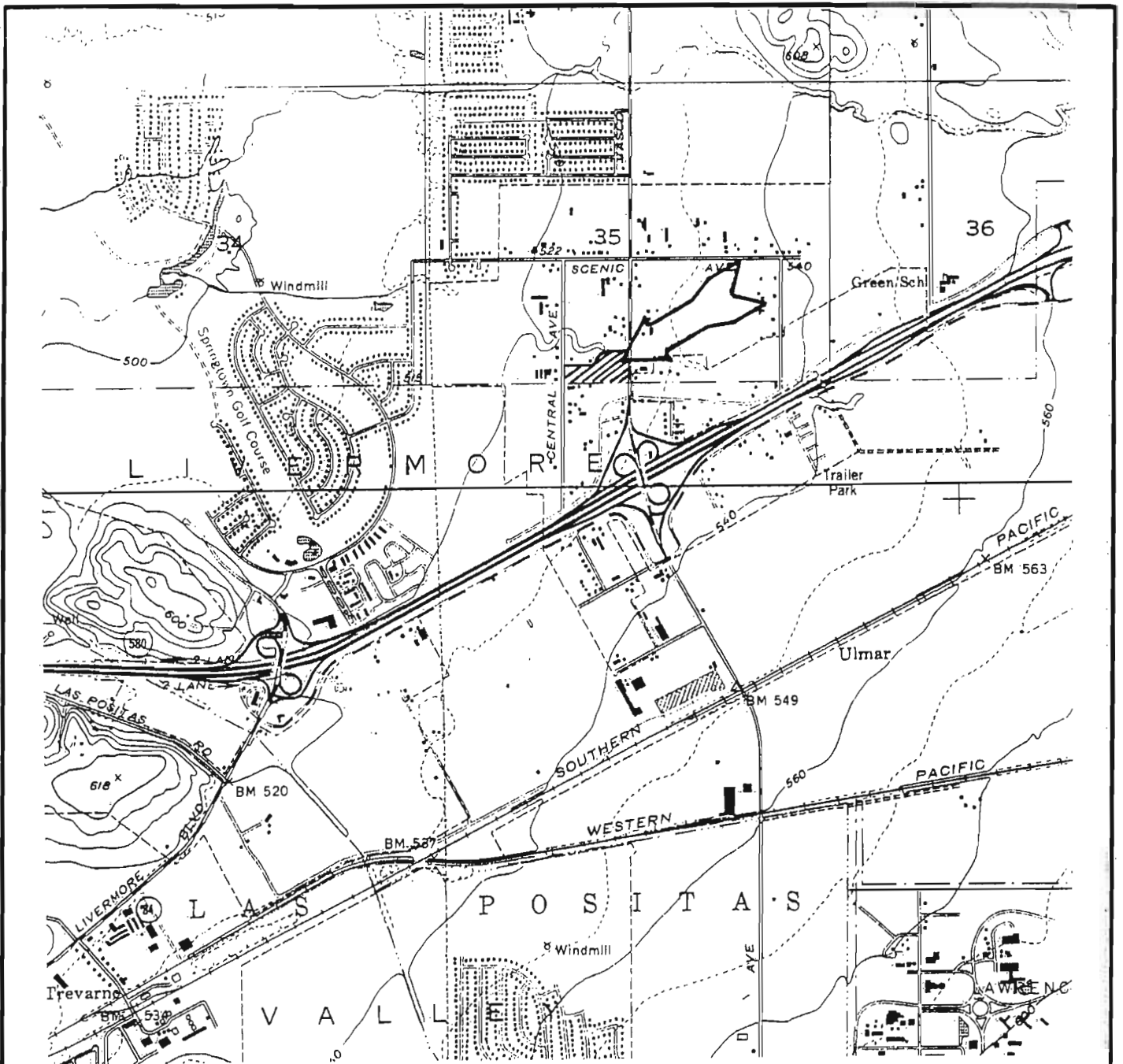
Sincerely,



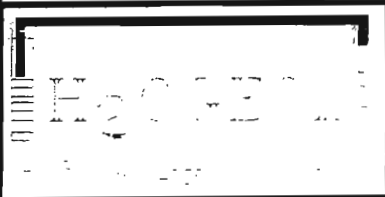
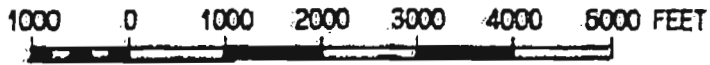
Gary D. Lowe, R.G., C.E.G., C.H.
Principal, Hydrogeologist
Sole Proprietor



xc: Mr. Geno Macedo, Geno's Country Store, 1000 North Vasco Road,
Livermore, 94550

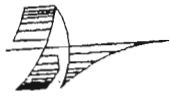


Base from U.S. Geological Survey Altamont 7.5 Minute Series Topographic Map



SITE LOCATION MAP
 GENO'S COUNTRY STORE
 1000 NORTH VASCO ROAD
 LIVERMORE, CALIFORNIA

FIGURE
 1



SCALE: 1" = 50'

MW-1 MONITORING WELL NAME/NUMBER



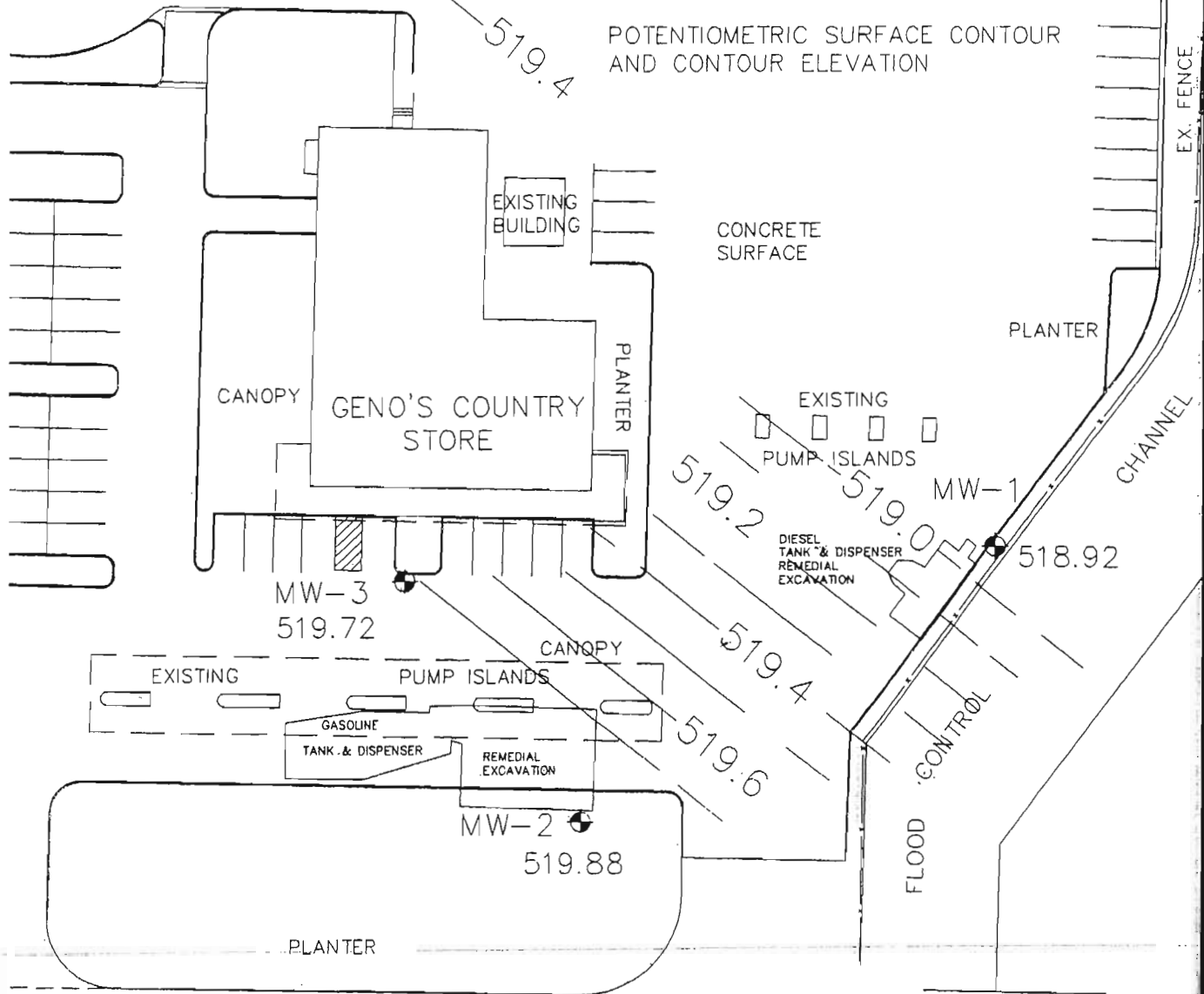
MONITORING WELL LOCATION

519.88 GROUNDWATER ELEVATION AT WELL

POTENTIOMETRIC SURFACE CONTOUR AND CONTOUR ELEVATION

519.4

EX. FENCE



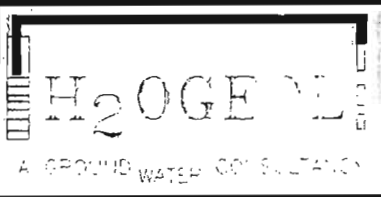
VASCO ROAD

POTENTIOMETRIC SURFACE MAP FOR 02/05/96

GENO'S COUNTRY STORE
1000 NORTH VASCO ROAD
LIVERMORE, CALIFORNIA

FIGURE

2





P.O.Box 2165 ▪ Livermore, California 94551 ▪ 510-373-9211

ATTACHMENT A

FIELD DATA SHEET
LOG OF WELL SAMPLING ACTIVITIES

LOG OF WELL SAMPLING ACTIVITIES

Well Identification: MW- 1 Project Name: Geno's Deli & Shell
 Date: 02/05/96
 Project Name: 1000 North Vasco Road, Livermore, California

Sampled by: G. Lowe Weather Conditions: Clear, 65°F, calm

Well Location: planter along creek Well Casing Diameter: 2-inch Depth of Well Casing: 15.68

Measuring Point: Top of PVC Casing Initial Depth to Water: 7.58 Final Depth to Water: Not measured

Casing Volume (1 vol./ 3 vol): 1.7 / 3.9 Well Borehole Volume: _____

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

Sampling Method: Peristaltic Pump
Grundfos Submersible Pump
ES-60 Submersible Pump ✓
Teflon Bailer

Purging Rate: See below Total Discharge: 6.2 Casing Volumes Purged: 4.7

Comments: _____

Waste Water Disposal: To property site drum.

Starting Time: 11:15

Time Pump on: 11:18

Date	Time	Gal. Purged	pH	T deg. F	Diluted S.C.	Dil. Factor	S.C. (µS/cm)	Color
02/05/96	11:21	4.5	7.86	67.8		x	= 2,140	Lt. yellow
"	11:23	5.0	7.79	68.1		x	= 2,150	" "
"	11:25	5.5	7.74	68.2		x	= 2,130	" "
"	11:27	5.7	7.72	68.0		x	= 2,170	" "
"	11:29	6.0	7.74	68.1		x	= 2,140	" "
"	11:30	6.2	7.71	68.2		x	= 2,160	" "
	:					x	=	
	:					x	=	
	:					x	=	
	:					x	=	
	:					x	=	

Sample Identification: GENO/MW- 1 Sample Time: 11:32

TURBIDITY ANALYSIS

Finishing Time: 11:54 Time Analyzed: _____ NTU Value: _____

LOG OF WELL SAMPLING ACTIVITIES

Well Identification: MW-2 Project Name: Geno's Deli & Shell
1000 North Vasco Road, Livermore, California Date: 02/05/96

Sampled by: G. Lowe Weather Conditions: clear, 65°F, calm

Well Location: East planter Well Casing Diameter: 2-inch Depth of Well Casing: 15.26

Measuring Point: Top of PVC Casing Initial Depth to Water: 6.95 Final Depth to Water: Not measured

Casing Volume (1 vol./ 3 vol): 1.3 / 3.9 Well Borehole Volume: _____

Purging Method: Centrifugal Pump/Peristaltic Pump Sampling Method: Peristaltic Pump
Grundfos Submersible Pump Grundfos Submersible Pump
Centrifugal Pump/ES-60 Submersible ES-60 Submersible Pump
ES-60 Submersible Pump X Teflon Bailor

Purging Rate: See below Total Discharge: 6.1 Casing Volumes Purged: 4.7

Comments: _____

Waste Water Disposal: To property site drum.

Starting Time: 10:52

Time Pump on: 10:54

Date	Time	Gal. Purged	pH	T deg. F	Diluted S.C.	Dil. Factor	S.C. (µS/cm)	Color
02/05/96	11:00	4.9	7.74	66.0		x	= 2,210	26. yellow
"	11:04	5.2	7.65	67.1		x	= 2,340	" "
"	11:05	5.5	7.64	66.9		x	= 2,310	" "
"	11:06	5.8	7.65	67.0		x	= 2,340	" "
"	11:08	6.1	7.61	66.8		x	= 2,350	" "
	:					x	=	
	:					x	=	
	:					x	=	
	:					x	=	
	:					x	=	
	:					x	=	

Sample Identification: GENO/MW-2 Sample Time: 11:10

TURBIDITY ANALYSIS

Finishing Time: 11:15 Time Analyzed: _____ NTU Value: _____

LOG OF WELL SAMPLING ACTIVITIES

Well Identification: MW- 3 Project Name: Geno's Deli & Shell
1000 North Vasco Road, Livermore, California Date: 02/05/96

Sampled by: G. Lowe Weather Conditions: Clear, 63°F, calm

Well Location: Front of store Well Casing Diameter: 2-inch Depth of Well Casing: 15.05

Measuring Point: Top of PVC Casing Initial Depth to Water: 6.28 Final Depth to Water: Not measured

Casing Volume (1 vol./ 3 vol): 1.4 / 4.2 Well Borehole Volume: _____

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

Sampling Method: Peristaltic Pump
Grundfos Submersible Pump
ES-60 Submersible Pump ✓
Teflon Bailer †

Purging Rate: See below Total Discharge: 6.0 Casing Volumes Purged: 5.5

Comments: _____

Waste Water Disposal: To property site drum.

Starting Time: 10:19

Time Pump on: 10:23

Date	Time	Gal. Purged	pH	T deg. F	Diluted S.C.	Dil. Factor	S.C. (uS/cm)	Color
02/05/96	10:28	4.3	7.12	66.0		x	= 2320	16. yellow
"	10:36	5.2	6.68	68.0		x	= 2490	" "
"	10:38	5.5	6.87	67.9		x	= 2500	" "
"	10:40	5.7	7.00	67.8		x	= 2500	" "
"	10:42	5.9	6.95	68.0		x	= 2490	" "
"	10:43	6.0	7.03	67.9		x	= 2500	" "
	:					x	=	
	:					x	=	
	:					x	=	
	:					x	=	
	:					x	=	

Sample Identification: GENO/MW-3 Sample Time: 10:44

TURBIDITY ANALYSIS

Finishing Time: 10:52 Time Analyzed: _____ NTU Value: _____



P.O.Box 2165 • Livermore, California 94551 • 510-373-9211

ATTACHMENT B

LABORATORY ANALYTICAL RESULTS
AND CHAIN-OF-CUSTODY DOCUMENTATION

CHROMALAB, INC.

Environmental Services (SDB)

February 20, 1996

Submission #: 9602034

H2O GEOL

REVISED REPORT FROM 2/08/96


Atten: Gary Lowe


Project: GENO'S COUNTRY STORE
Received: February 6, 1996

re: 3 samples for Diesel analysis.
Method: EPA 3510/8015M

Sampled: February 5, 1996 Matrix: WATER Extracted: February 8, 1996
Run: 10337-K Analyzed: February 12, 1996

Spl #	Sample ID	DIESEL (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
117546	MW-1	N.D.	50	N.D.	81
	For above sample:	Hydrocarbons in the Diesel range do not match any of our petroleum hydrocarbon standard profiles. Compared to our Diesel standard, amount is 280 ug/L.			
117547	MW-2	N.D.	50	N.D.	81
117548	MW-3	N.D.	50	N.D.	81


Kayvan Kimyai
Chemist


Alex Tam
Semivolatiles Supervisor

