ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
80 Swan Way, Rm 200
Oakland, CA 94621
(510) 271-4530

StID 4139

September 22, 1995

Mr. Geno Macedo
5470Ø Beaver Ln
Byron, CA 94514

RE: QMR for 1000 North Vasco Rd, Livermore 94550

Dear Mr. Macedo:

I have completed review of H_20GEOL's August 1995 Soil Sampling, Monitoring Well Installation report for the above referenced site. Groundwater in the vicinity of the former diesel underground storage tank is detecting low levels of diesel contaminant. At this time, a quarter monitoring/sampling schedule should be established for this site. Quarterly monitoring reports (QMRs) are also due within 60 days upon completion of field work. The next sampling event should be in October 1995.

If you have any questions, I can be reached at (510) 567-6762.

eva chu
Hazardous Materials Specialist

cc: files

geno's.3

H2OGEOL
A GROUNDWATER CONSULTANCY

ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS DIVISION
95 NOV 28 PM 12:01

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

November 22, 1995

RE: Second consecutive quarter (4th Quarter, 1995) groundwater monitoring at Geno's Country Store, 1000 North Vasco Road, Livermore, California.

Dear Ms. Chu;

This letter report provides the results of the second consecutive quarter (Fourth Quarter, 1995) 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 November 06, 1995. 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
NOVEMBER 06, 1995

Well Number	Top of Casing Elevation (feet, msl)	Time of Depth measurement	Depth to Water (feet)	Groundwater Surface Elevation (feet, msl)
MW-1	526.50	09:00	8.75	517.75
MW-2	526.83	08:56	8.35	518.48
MW-3	526.00	08:58	7.96	518.04

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 77° W at a gradient of 0.0072. Figure 2 is a potentiometric surface map showing well locations and groundwater surface contours as measured on November 06, 1995. 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
MW-2	07/24/95	08:43	8.17	518.66
	11/06/95	08:56	8.35	518.48
MW-3	07/24/95	08:40	7.60	518.40
	11/06/95	08:58	7.96	518.04

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

AVERAGE N 68.5° W at a gradient of 0.0069

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 hydrocarbon 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.

The purge pump was slowly removed from each well while running to allow a sweeping of the wellbore, preventing significant surging of the wellbore and drainage of the discharge tubing into the well.

Groundwater samples for TPH-D were collected directly from the end of the pump discharge tubing into a one liter amber glass bottle. Groundwater samples for TPH-G plus BTEX were collected using a precleaned Teflon™ bailer suspended from a new nylon twine line. Water samples were transferred, in duplicate, from the bailer to 40-mL glass vials with Teflon™ septum lids using a precleaned Teflon™ pepcock type bottom emptying device.

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 Superior Analytical Laboratory, Inc. of Martinez, California, a state certified laboratory.

Groundwater samples from all three monitoring wells were found not to contain detectable concentrations of petroleum hydrocarbons. 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 ($\mu g/L$).

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
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
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
(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
US E.P.A.*Primary MCL's						
	na	na	5	1,000	700	10,000

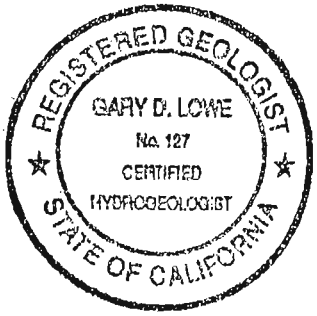
na - not available

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

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

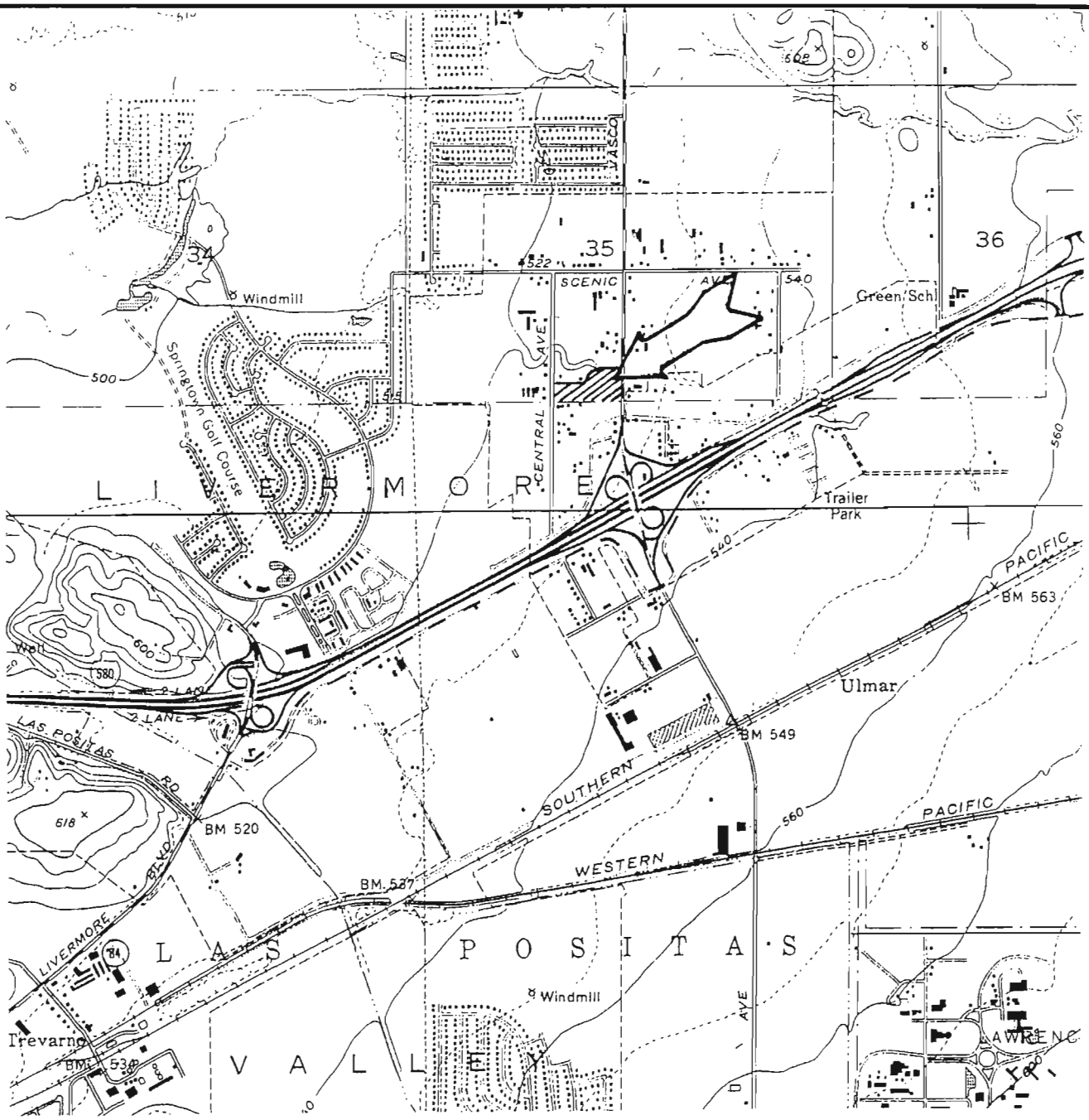
Please do not hesitate to call me at (510) 373-9211 should you have any questions.

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

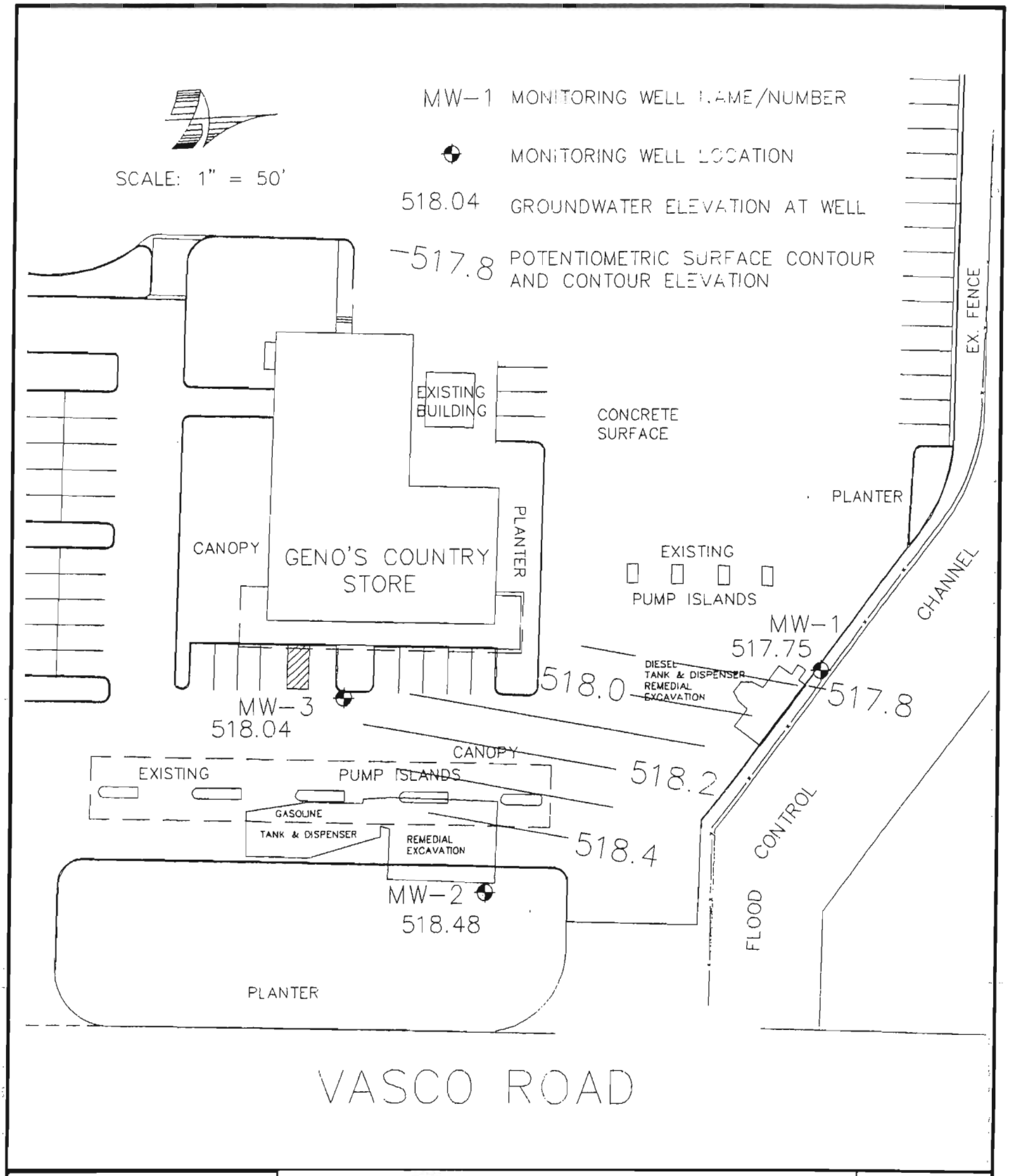


Base from U.S. Geological Survey Altamont 7.5 Minute Series Topographic Map

ECOTECH

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

FIGURE
1



H2OGEOL
A GROUND WATER CONSULTANCY

POTENTIOMETRIC SURFACE MAP FOR 11/06/95

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

FIGURE
2

H2OGEOL
A GROUNDWATER CONSULTANCY

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 1000 North Vasco Road, Livermore, California Date: 11/06/95

Sampled by: G. Lowe Weather Conditions: Clear, 68°F, calm

Well Location: Northeast in planter Well Casing Diameter: 2-inch Depth of Well Casing: 15.65

Measuring Point: Top of PVC Casing Initial Depth to Water: 8.75 Final Depth to Water: Not measured

Casing Volume (1 vol / 3 vol): 1.1 / 3.3 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: 36 Casing Volumes Purged: 3.3

Comments: slight fuel odor

Waste Water Disposal: To property ~~owner~~ soil remediation pile

Starting Time: 9:40

Time Pump on: 9:42

Date	Time	Gal. Purged	pH	T deg. F	Diluted S.C.		Dil. Factor		S.C. (uS/cm)	Color
11/06/95	9:43	1.3	7.53	66.7		x		=	2320	Yel. Brown
"	9:45	2.6	7.45	68.8		x		=	2340	" "
"	9:46	2.8	7.47	69.1		x		=	2370	" "
"	9:48	3.0	7.44	69.3		x		=	2370	" "
"	9:53	3.6	7.49	69.0		x		=	2340	" "
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		

Sample Identification: GENO/MW-1 Sample Time: 9:54

TURBIDITY ANALYSIS

Finishing Time: 9:59 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: 11/06/95

Sampled by: G. Lowe Weather Conditions: Clear, 66°F, calm

Well Location: ~~eastern~~ west of site along Vasco Rd. Well Casing Diameter: 2-inch Depth of Well Casing: 15.76

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

Casing Volume (1 vol./ 3 vol): 1.1 / 3.3 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: 34 Casing Volumes Purged: 3.1

Comments:

Waste Water Disposal: To property ~~site drum~~. soil remediation pile

Starting Time: 8:59

Time Pump on: 9:05

Date	Time	Gal. Purged	pH	T deg. F	Diluted S.C.		Dil. Factor		S.C. (uS/cm)	Color
11/06/95	9:10	2.1	7.21	68.4		x		=	2110	yel. Brown
"	9:12	2.7	7.26	68.4		x		=	2430	colorless
"	9:14	3.0	7.30	68.2		x		=	2450	"
"	9:16	3.2	7.27	68.4		x		=	2440	"
"	9:17	3.3	7.31	68.2		x		=	2400	"
"	9:18	3.4	7.32	68.4		x		=	2420	"
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		

Sample Identification: GENO/MW-2 Sample Time: 9:20

TURBIDITY ANALYSIS

Finishing Time: 9:24 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: 11/06/95

Sampled by: G. Lowe Weather Conditions: clear, calm, 67°F

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

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

Casing Volume (1 vol.; 3 vol) 1:1 / 3:3 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: 38 Casing Volumes Purged: 3.5

Comments: _____

Waste Water Disposal: To property ~~area from~~. Soil remediation pit.

Starting Time: 9:24

Time Pump on: 9:26

Date	Time	Gal. Purged	pH	T deg. F	Diluted S.C.		Dil. Factor		S.C. (µS/cm)	Color
11/06/95	9:27	1.6	7.15	68.4		x		=	3110	Colorless
"	9:30	2.6	7.15	69.6		x		=	3200	"
"	9:31	3.0	7.21	68.8		x		=	3180	"
"	9:34	3.1	7.18	68.7		x		=	3170	"
"	9:35	3.8	7.22	68.8		x		=	3170	"
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		
	:					x		=		

Sample Identification: GENO/MW-3 Sample Time: 9:36

TURBIDITY ANALYSIS

Finishing Time: 9:40 Time Analyzed: _____ NTU Value: _____

H2OGEOL
A GROUNDWATER CONSULTANCY

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

ATTACHMENT B

LABORATORY ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY DOCUMENTATION

Superior
Analytical Laboratory

H2OGEOL A GROUNDWATER CONSULTANCY
P.O.BOX 2165
LIVERMORE, CA 94551

Date: November 15, 1995

Attn: GARY D. LOWE

Laboratory Number : 20454

Project Number/Name : GENO'S DELI AND SHELL

This report has been reviewed and

approved for release.

Senior Chemist
Account Manager

Customer Service: (800) 521-6109 • Laboratory: (510) 313-0850 • Facsimile: (510) 229-0916
Post Office Box 2648 • 835 Arnold Drive • Suite #106 • Martinez, California 94553
1555 Burke Street • Suite A • San Francisco, California 94124

Superior
Analytical Laboratory

H2OGEOL A GROUNDWATER CONSULTANCY
Attn: GARY D. LOWE

Project GENO'S DELI AND SHELL
Reported on November 9, 1995

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

Chronology

Laboratory Number 20454

Sample ID	Sampled	Received	Extract.	Analyzed	QC Batch	LAB #
GENO/MW-1	11/06/95	11/06/95	11/08/95	11/08/95	BK081.37	01
GENO/MW-2	11/06/95	11/06/95	11/08/95	11/08/95	BK081.37	02
GENO/MW-3	11/06/95	11/06/95	11/08/95	11/08/95	BK081.37	03

QC Samples

QC Batch #	QC Sample ID	Type	Ref.	Matrix	Extract.	Analyzed
BK081.37-02	Laboratory Spike	LS		Water	11/08/95	11/08/95
BK081.37-06	42-7-8	MS	20446-03	Water	11/08/95	11/08/95
BK081.37-07	42-7-8	MSD	20446-03	Water	11/08/95	11/08/95
BK081.37-01	Method Blank	MB		Water	11/08/95	11/08/95
BK081.37-03	Laboratory Spike	LS		Water	11/08/95	11/08/95
BK081.37-08	42-7-8	MS	20446-03	Water	11/08/95	11/08/95
BK081.37-08	42-7-8	MSD	20446-03	Water	11/08/95	11/08/95

Superior Analytical Laboratory

HYDROGEOL A GROUNDWATER CONSULTANCY
Attn: GARY D. LOWE

Project GENO'S DELI AND SHELL
Reported on November 9, 1995

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
20454-01	GENO/MW-1	Water	1.0	-
20454-02	GENO/MW-2	Water	1.0	-
20454-03	GENO/MW-3	Water	1.0	-

R E S U L T S O F A N A L Y S I S

Compound	20454-01 Conc. ug/L	RL	20454-02 Conc. ug/L	RL	20454-03 Conc. ug/L	RL
Gasoline_Range	ND	50	ND	50	ND	50
Benzene	ND	0.5	ND	0.5	ND	0.5
Toluene	ND	0.5	ND	0.5	ND	0.5
Ethyl Benzene	ND	0.5	ND	0.5	ND	0.5
Total Xylenes	ND	0.5	ND	0.5	ND	0.5
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (S5)	101		102		103	

Superior Analytical Laboratory

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

Quality Assurance and Control Data

Laboratory Number: 20454
Method Blank(s)

	BK081.37-01 Conc. ug/L	RL
Gasoline_Range	ND	50
Benzene	ND	0.5
Toluene	ND	0.5
Ethyl Benzene	ND	0.5
Total Xylenes	ND	0.5
>> Surrogate Recoveries (%) <<		
Trifluorotoluene (SS)	101	

Superior Analytical Laboratory

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

Quality Assurance and Control Data

Laboratory Number: 20454

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
For Water Matrix (ug/L)						
BK081.37 02 / - Laboratory Control Spikes						
Benzene		20	21	105	65-125	
Toluene		20	21	105	65-125	
Ethyl Benzene		20	21	105	65-125	
Total Xylenes		60	59	98	65-125	
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)				101	50-150	
For Water Matrix (ug/L)						
BK081.37 03 / - Laboratory Control Spikes						
Gasoline_Range		2000	1900	95	65-135	
For Water Matrix (ug/L)						
BK081.37 06 / 07 - Sample Spiked: 20446 - 03						
Benzene	ND	20	20/21	100/105	65-125	5
Toluene	ND	20	20/21	100/105	65-125	5
Ethyl Benzene	ND	20	21/21	105/105	65-125	0
Total Xylenes	ND	60	59/60	98/100	65-125	2
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)				100/104	50-150	
For Water Matrix (ug/L)						
BK081.37 08 / 08 - Sample Spiked: 20446 - 03						
Gasoline_Range	ND	2000	1800/1800	90/90	65-135	

Superior Analytical Laboratory

Narrative:

Definitions:
ND = Not Detected
RL = Reporting Limit
NA = Not Analysed
RPD = Relative Percent Difference
ug/L = parts per billion (ppb)
mg/L = parts per million (ppm)
ug/kg = parts per billion (ppb)
mg/kg = parts per million (ppm)

Superior Analytical Laboratory

H2OGEOL A GROUNDWATER CONSULTANCY
Attn: GARY D. LOWE

Project GENO'S DELI AND SHELL
Reported on November 14, 1995

Total Extractable Petroleum Hydrocarbons
by EPA SW-846 Method 8015M

Chronology

Laboratory Number 20454

Sample ID	Sampled	Received	Extract.	Analyzed	QC Batch	LAB #
GENO/MW-1	11/06/95	11/06/95	11/07/95	11/09/95	BK071.21	01
GENO/MW-2	11/06/95	11/06/95	11/07/95	11/09/95	BK071.21	02
GENO/MW-3	11/06/95	11/06/95	11/07/95	11/09/95	BK071.21	03

QC Samples

QC Batch #	QC Sample ID	TypeRef.	Matrix	Extract.	Analyzed
BK071.21-01	Method Blank	MB	Water	11/07/95	11/08/95
BK071.21-02	Laboratory Spike	LS	Water	11/07/95	11/08/95
BK071.21-03	Laboratory Spike Duplicate	LSD	Water	11/07/95	11/08/95

Superior Analytical Laboratory

H2OGEOL A GROUNDWATER CONSULTANCY
Attn: GARY D. LOWE

Project GENO'S DELI AND SHELL
Reported on November 14, 1995

Total Extractable Petroleum Hydrocarbons
by EPA SW-846 Method 8015M

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
20454-01	GENO/MW-1	Water	1.0	-
20454-02	GENO/MW-2	Water	1.0	-
20454-03	GENO/MW-3	Water	1.0	-

R E S U L T S O F A N A L Y S I S

Compound	20454-01 Conc. ug/L	RL	20454-02 Conc. ug/L	RL	20454-03 Conc. ug/L	RL
Diesel:	ND	50	ND**	50	ND	50
>> Surrogate Recoveries (%) <<						
Tetracosane	80		61		86	

Superior Analytical Laboratory

Total Extractable Petroleum Hydrocarbons
by EPA SW-846 Method 8015M

Quality Assurance and Control Data

Laboratory Number: 20454
Method Blank(s)

	BK071.21-01
	Conc. RL
	ug/L
Diesel:	ND 50
>> Surrogate Recoveries (%) <<	
Tetracosane	108

Superior Analytical Laboratory

Total Extractable Petroleum Hydrocarbons
by EPA SW-846 Method 8015M

Quality Assurance and Control Data

Laboratory Number: 20454

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
For Water Matrix (ug/L) BK071.21 02 / 03 - Laboratory Control Spikes						
Diesel:		250	233/205	93/82	50-150	13
>> Surrogate Recoveries (%) <<						
Tetracosane				69/55	50-150	

** - Hydrocarbons were found in the range of diesel, but do not resemble a diesel fingerprint.

Definitions:

ND	= Not Detected		
RL	= Reporting Limit		
NA	= Not Analysed		
RPD	= Relative Percent Difference		
ug/L	= parts per billion (ppb)	ug/kg	= parts per billion (ppb)
mg/L	= parts per million (ppm)	mg/kg	= parts per million (ppm)

CHAIN OF CUSTODY

H_2OGEOL • GROUNDWATER CONSULTANCY

P.O. BOX 2165
LIVERMORE, CALIFORNIA 94551-2165

DATE: 11/06/95 PAGE 1 of 1

Sample Source:
Geno's Deli & Shell
1000 North Vasco Road
Livermore, California

SAMPLER(S): Gary D. Lowe

SAMPLER'S SIGNATURE: Gary D. Lowe

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

FAX RESULTS TO (510) 373-9222

SAMPLE ID.	DATE	TIME	MATRIX	LAB ID.	Total Petroleum Hydrocarbons as Diesel (EPA 3550/8015)	Total petroleum Hydrocarbons as Gasoline + BTEX (EPA 5030/8015M + 8020/602)	ANALYTE				NUMBER OF CONTAINERS
GENO/MW-1	11/06/95	09:54	WATER		X	X					3
GENO/MW-2	11/06/95	09:20	WATER		X	X					3
GENO/MW-3	11/06/95	09:34	WATER		X	X					3

Please initial:
Samples Stored in ice
Appropriate containers
Samples preserved
VOA's w/ no headspace
Comments:

Please note special pricing
per Quotation No. 95-00931
10-Day TAT

RELINQUISHED BY:
SIGNATURE Gary D. Lowe
PRINTED NAME Gary D. Lowe TIME 14:12
COMPANY H_2OGEOL DATE 11/06/95

RELINQUISHED BY:
SIGNATURE
PRINTED NAME TIME
COMPANY DATE

RECEIVED BY:
SIGNATURE
PRINTED NAME TIME
COMPANY DATE

RECEIVED BY LABORATORY:
SIGNATURE TIME 2:10
PRINTED NAME Kelly Fairchild 11/6/95
COMPANY Superior Analytical, Inc. DATE 11/06/95

20454