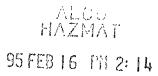


GOOD CHEVROLET

1630 Park Street • Phone 510/522-9221 ALAMEDA, CA 94501



12-25 - 1245 = O.4

cleanup

February 15, 1995

Ms. Eva Chu Alameda County Health Care Services Department of Environmental Health 1131 Harbor Bay Parkway, 2nd Floor Alameda, CA 94502

Re: 1630 Park Street, Alameda, CA

Dear Ms. Chu:

Enclosed please find a copy of our Quarterly Gound Water Monitoring Report and a letter from David Glick outlining our proposed workplan.

Should you have any questions, please call or write Mr. David Glick at Geo Plexus, Inc.

Thank you,

GOOD CHEVROLET

JoAnn Stewart

JKS: js

Enclosures





Health & Safety Training • Geo/Environmental Personnel • Engineering Geology Consultants • Environmental Management Consultants

SS FED 16 PH 2: February 4, 1995

Ms. JoAnn Stewart, General Manager Good Chevrolet 1630 Park Street Alameda, California 94501

Subject: January, 1995 Quarterly Ground Water Report for

Good Chevrolet, 1630 Park Street, Alameda, CA.

Dear Ms. Stewart:

As requested and authorized, the attached Quarterly Ground Water Monitoring Report has been prepared to document the monitoring well sampling efforts performed at the subject site. The report presents the recorded ground water elevations along with the ground water sampling protocols and the results of the analytical testing performed on ground water samples collected on January 26, 1995. The report also summarizes the findings recorded throughout the last year of monitoring and presents conclusions and recommendations based on these findings.

In summary, the water samples obtained from all five monitoring wells contained detectable concentrations of Total Petroleum Hydrocarbons as gasoline ranging from 110-7,900 ppb. Volatile Aromatic Compounds (Benzene, Toluene, Ethyl Benzene, and Xylenes) were also detected in the ground water samples.

Monitoring Well MW-5 (off-site and down- to cross-gradient well) continues to exhibit the highest concentrations of Total Petroleum Hydrocarbons and Volatile Aromatic Compounds with reduced concentrations on the subject property.

It is our opinion that this data is consistent with the findings of the supplemental site characterization investigations which indicated that the observed gasoline plume originates from a source located "down- to cross-gradient" from the project site and that the project site is a minor contributor to the plume and is not the source of the observed contamination.

The next quarterly sampling event is scheduled to be performed in April, 1995. It has been a pleasure to be of service to you on this project.

REGISTERED

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DAVID C. GLICK No. 1893 CERTIFIED

EMORREERING

GEOLOGIST OF CALIFORN

Copies of this report should be forwarded to:

Ms. Eva Chu Alameda County Health Care Services Department of Environmental Health 1131 Harbor Bay Parkway, 2nd Floor Alameda, CA 94502

It has been a pleasure to be of service to you on this project. Questions or comments regarding the attached report should be addressed to the undersigned.

Respectfully submitted,

Geo Piexus, Incorporated

David C. Glick, CEG 1338 Director, Geological and Environmental Services

Geo Plexus, Incorporated



Health & Safety Training • Geo/Environmental Personnel • Engineering Geology Consultants • Environmental Management Consultants

JANUARY, 1995 QUARTERLY GROUND WATER MONITORING REPORT

for

GOOD CHEVROLET

1630 PARK STREET

ALAMEDA, CALIFORNIA

February 4, 1995

Project C92020

JANUARY, 1995 QUARTERLY GROUND WATER MONITORING REPORT for GOOD CHEVROLET 1630 PARK STREET ALAMEDA, CALIFORNIA

INTRODUCTION

The project site is located at 1630 Park Street in the City of Alameda, in Alameda County, California as indicated on Figure 1. The site is the location of an automobile dealership and service center.

A 300 gallon waste oil storage tank and a 500 gallon underground gasoline storage tank were reportedly removed from the property by Petroleum Engineering, Inc. in October, 1986. A subsurface investigation including installation of three ground water monitoring wells (see Figure 2) was performed by Groundwater Technology, Inc. in January, 1987 (Groundwater Technology, Inc. Report Dated April 29, 1987).

The three monitoring wells have been monitored to evaluate the ground water conditions and to establish the direction(s) of ground water flow at the project site. The monitoring determined that the direction of flow beneath the site varies from a northwesterly direction to a northeasterly direction throughout the year. The quarterly sampling has also detected Total Petroleum Hydrocarbons as gasoline and Volatile Aromatic Compounds at various concentrations throughout the year.

A supplemental investigation was performed which included advancing 7 soil borings across the parking area of the property. This investigation identified high concentrations of Total Petroleum Hydrocarbons as gasoline and Volatile Aromatic Compounds (Benzene, Toluene, Ethyl Benzene, and Xylene) in the immediate vicinity of the former underground storage tanks at depths of 5-12 feet below the ground surface. The borings identified concentrations of Total Petroleum Hydrocarbons as gasoline as high as 15,000 parts per million (ppm) decreasing to 1,000 ppm within 30-feet from the former tanks (lateral direction) and decreasing to 1,800 ppm at the down-gradient property boundary.

Two additional ground water monitoring wells were installed in April, 1994 to further characterize the down-gradient water conditions. The findings of the initial ground water samples indicated a significant increase in concentrations of Total Petroleum Hydrocarbons as gasoline and Volatile Aromatic Compounds down-gradient of the property suggesting that additional sources of contamination exists. The ground water monitoring suggests the existence of an off-site and down-gradient source of the gasoline constituents.

GRADIENT SURVEY

The elevation of the top of the casing of the monitoring wells at the site were established during previous investigations with reported vertical control of 0.01 foot. Ground water elevations were measured in each well to the nearest 0.01 foot with an electronic water level meter (prior to purging) to monitor the variations in the direction and gradient of ground water flow beneath the site.

Ground water elevations recorded suggest that the ground water flow is to the northwest as indicated on Figure 2. The ground water gradient was determined to be 0.0169 ft/ft (also see Figure 2). The direction of ground water flow places Monitoring Wells MW-2 and MW-3 in the "down-gradient" direction from the former tanks.

MONITORING WELL SAMPLING

Free product measurements were obtained for each monitoring well at the time of sample acquisition utilizing a teflon bailer lowered into the well to obtain a water sample. The bailer was used to collect a water sample to observe the presence of hydrocarbon odors, visible sheen, or free product. Free product or visible sheens were not observed in the initial bailer water samples or following purging of the wells from Monitoring Wells MW-1 through MW-5; however, the water samples obtained from the wells MW-1, MW-2, and MW-5 exhibited gasoline odors. Monitoring Well MW-5 exhibited significant odors as purging continued.

Prior to sampling the monitoring wells, four to six well volumes were purged from each well through the use of a teflon bailer. Electrical conductivity, temperature, and pH of the ground water were recorded throughout the purging process. The purging activities continued until the electrical conductivity, temperature, and pH of the discharged water stabilized and the water appeared free of suspended solids. The purge logs are included as Appendix A.

Water samples for analytical testing were obtained through the use of a teflon bailer and were collected in sterilized glass vials with Teflon lined screw caps. The samples were immediately sealed in the vials and properly labeled including: the date, time, sample location, project number, and indication of any preservatives (HCl) added to the sample. The samples were placed on ice immediately for transport to the laboratory under chain-of-custody documentation.

The water obtained from the monitoring wells during the purging and sampling activities was contained on-site pending receipt of the laboratory test results.

ANALYTICAL TESTING

The ground water samples were submitted to and tested by McCampbell Analytical, Inc., a State of California certified laboratory. Analytical testing was scheduled and performed in accordance with the State of California, Regional Water Quality Control Board and Alameda County Department of Environmental Health Guidelines.

The samples were tested for Total Petroleum Hydrocarbons as gasoline by Method GCFID 5030/8015 and Volatile Aromatics by EPA Method 8020/5030. The analytical test data, along with the Chain-of-Custody Form are presented in Appendix B.

SUMMARY OF FINDINGS

Ground water elevations recorded during the sampling suggest that ground water is at a depth of 7-9 feet below the ground surface and flows in a north-northwest direction at a gradient of 0.0169 ft/ft. This flow direction is consistent with the variable northwest to northeast directions recorded for the site throughout the last year. The flow directions establishes that Monitoring Wells MW-2 and MW-3 are located in the "down-gradient" direction from the location of the former underground storage tanks.

The analytical test results for the ground water samples obtained for this sampling event detected reportable quantities of Total Petroleum Hydrocarbons as gasoline and Volatile Aromatics (BTXE) for the samples from all five monitoring wells. Table 1 summarizes the current analytical test results along with the results of the previous analytical testing.

Total Petroleum Hydrocarbons as gasoline concentrations ranged from 110 parts per billion (ppb) in Monitoring Well MW-4 to 7,900 ppb at Monitoring Well MW-5.

Monitoring Well MW-5 (down- to cross-gradient well) continues to exhibit the highest concentrations of Total Petroleum Hydrocarbons and Volatile Aromatic Compounds with reduced concentrations on the subject property which suggests that the source of the observed gasoline plume is located down-gradient from the project site.

Figures 3 and 4 illustrate the distribution of Total Petroleum Hydrocarbons as gasoline and Benzene in the ground water based on current analytical test data.

TABLE 1
SUMMARY OF GROUND WATER ANALYTICAL TEST DATA

Date Sampled	Total Petroleum Hydrocarbons	Benzene	<u>Toluene</u>	Ethyl- <u>Benzene</u>	Total <u>Xylenes</u>
Monitoring	Well MW-1				
1-21-87 ⁽¹⁾ 1-11-89 ⁽¹⁾	21,020 1,400	1,148 74	8,627 10	1,792 13	6,012 5
7-12-89 (1)	1,200	470	49 10	45 15	33
4-09-91 (2) 7-14-92 (3)	850 13,000	260 2,300	10 1,200	15 1,200	12 1,200
10-7-92 ⁽³⁾	3.600	1,600	80	120	120
1-11-93 ⁽³⁾ 4-23-93 ⁽³⁾	2,200	410 720	16 180	23 82	19 150
7-08-93 (3)	3,200	1,200	110	97	100
10-15-93 (3 1-25-94 (3)	1,600	1,400 680	43 16	94 41	36 35
4-28-94 (3)	6.100	1,900	380	250	340
7-27-94 ⁽³⁾ 10-27-94 ⁽³⁾	3.000	1,800 1,100	<i>5</i> 10 79	220 82	450 87
1-26-95 (3)	1,600	660	100	82	87
Monitoring	Well MW-2				
$1-21-87 \binom{1}{1}$	5,018	386	1,981	285	1,432
1-11-89 ⁽¹⁾ 7-12-89 ⁽¹⁾	10,000 7,600	3,000 2,700	410 540	240 250	190 320
4-09-91 ⁽²⁾	4,900	910	210	130	200
7-14-92 (3) 10-7-92 (3)	13,000	4,400 5,200	1,500	610	1,100
1-11-93 (3)	17,000	5,200 940	1,500 1,100	500 480	1,200 930
4-23-93 (3)	52,000	13,000	8,400	1,700	5,300
7-08-93 (3) 10-15-93 (3)	6,400 17,000	2,500 3,900	470 870	280 500	530 940
1-25-94 ⁽³⁾	16-000	5,400	1,140	640	1,500
4-28-94 (3) 7-27-94 (3)	15.000	4,000	910 760	480 630	1,200
10-27-94 (3	9,500	6,000 2,700	230	320	1,600 640
1-26-95 (3)	5,900	1,900	290	230	500

<u>TABLE 1</u> (Continued)

SUMMARY OF GROUND WATER ANALYTICAL TEST DATA

Date	Total Petroleum	_		Ethyl-	Total
Sampled	<u>Hydrocarbons</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Benzene</u>	<u>Xylenes</u>
Monitoring	Well MW-3				
1-21-87 (1)	10,287	1,428	3,281	610	2,761
1-11-89 (1)	5,300	1,800	340	150	160
7-12-89 (1)	7,800	3,100	900	300	480
4-09-91 (2)	9,400	1,400	730	200	510
7-14-92 (3)	17,000	3,500	390	390	260
10-7-92 (3)	9,200	4,300	470	390	610
1-11-93 (3)	2,000	740	29	5 8	28
4-23-93 (3)	6,500	2,600	280	260	190
7-08-93 (3)	5,200	2,100	260	250	180
10-15-93 (3	11,000	3,500	580	430	370
1-25-94 (3)	6,200	2,500	270	160	28
4-28-94 (3)	5,300	1,700	190	210	180
7-27-94 (3)		2,000	360	260	330
10-27-94 (3	8,000	2,200	580	260	470
1-26-95 (3)	3,700	1,200	150	150	190
Monitoring	Well MW-4				
4-28-94 (3)		3.8	2.9	2.1	3.1
7-27-94 (3)	180	15	9.2	7.6	28
10-27-94 (3	130	8.6	6.6	4.5	17
1-26-95 (3)	110	6.5	1.2	1.8	11
Monitoring	<u> Well MW-5</u>				
4-28-94 (3)	30,000	4,000	3,000	810	3,500
7-27-94 (3)	9,300	2,000	800	290	940
10-27-94 ⁽³	15.000	2,700	1,300	420	1,100
1-26-95 (3)	7,900	2,100	680	240	860

Note: (1) Concentrations reported by Groundwater Technology, Inc.

- (2) Concentrations reported by Environmental Science & Engineering, Inc.
- (3) Samples obtained and reported by Geo Plexus, Inc.

RECOMMENDATIONS

It is recommended that the existing ground water monitoring wells located at the project site continue to be monitored and sampled quarterly in accordance with the established/approved quarterly monitoring program. The next sampling event is scheduled for April, 1995.

LIMITATIONS

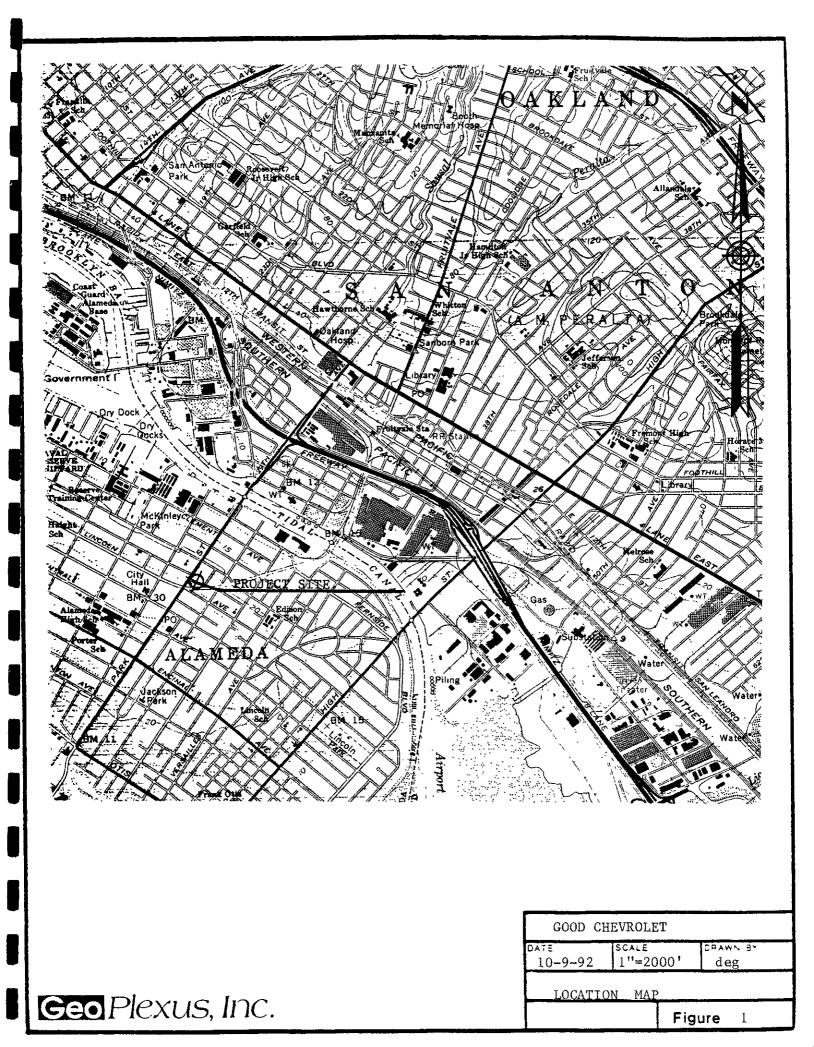
We have only observed a small portion of the pertinent subsurface and ground water conditions present at the site. The conclusions and recommendations made herein are based on the assumption that subsurface and ground water conditions do not deviate appreciably from those described in the reports and observed during the field investigation.

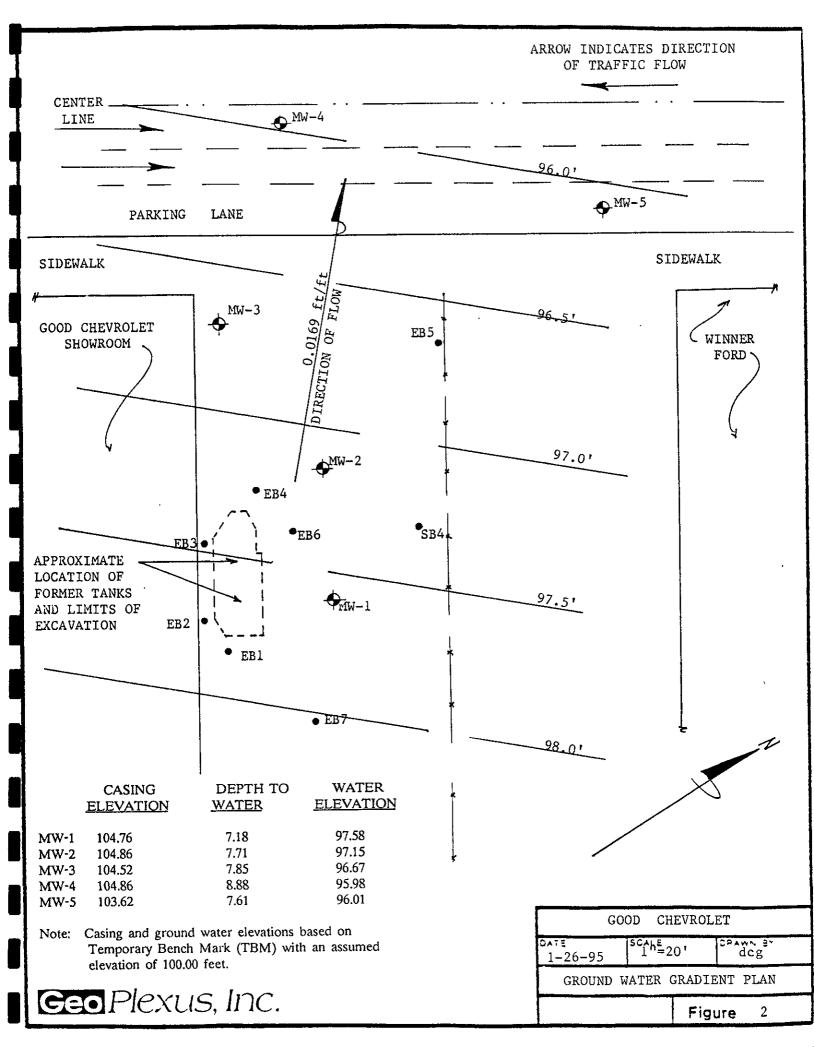
Geo Plexus, Incorporated provides consulting services in the fields of Geology and Engineering Geology performed in accordance with presently accepted professional practices. Professional judgments presented herein are based partly on information obtained from review of published documents, partly on evaluations of the technical information gathered, and partly on general experience in the fields of geology and engineering geology.

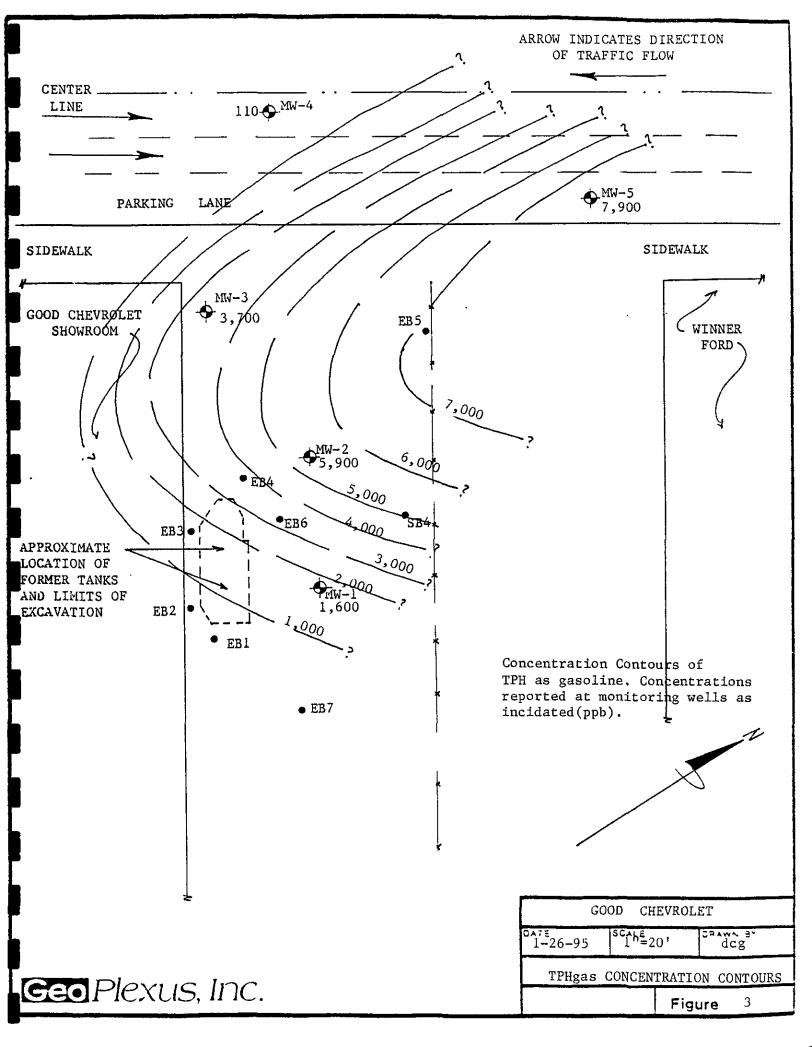
No attempt was made to verify the accuracy of the published information prepared by others used in preparation of this assessment report.

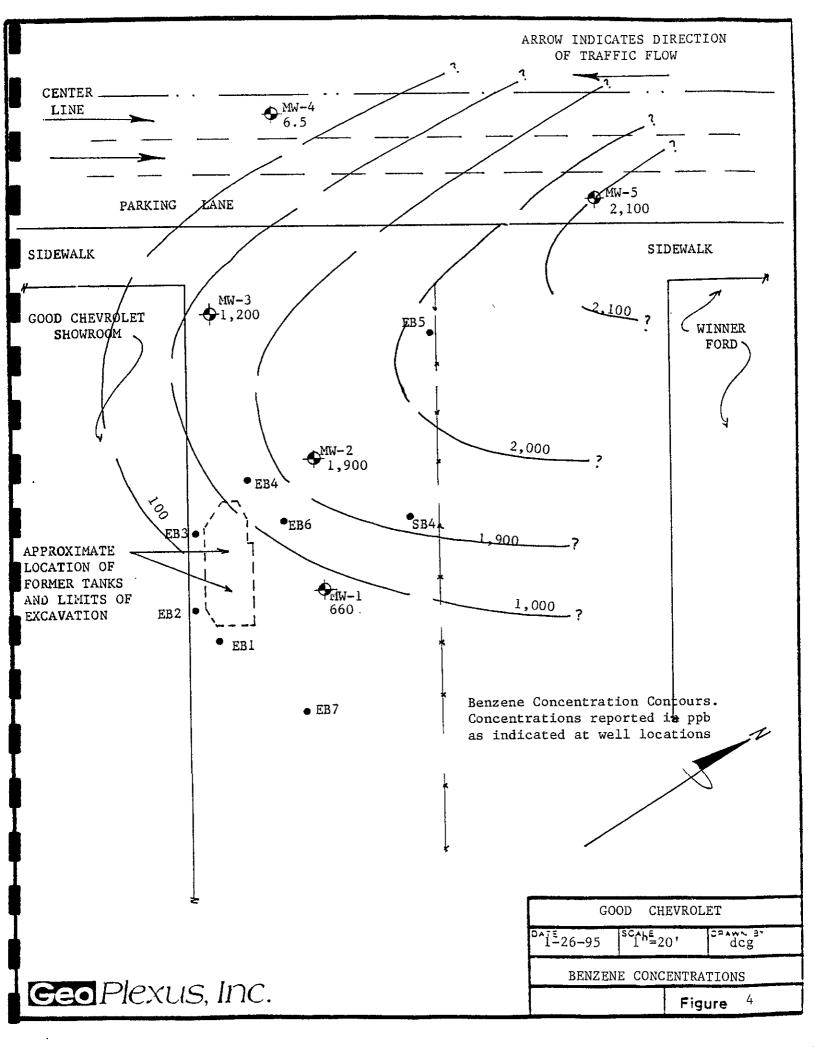
If you have questions regarding the findings, conclusions, or recommendations contained in this report, please contact us. We appreciate the opportunity to serve you.

Geo Plexus, Incorporated









APPENDIX A WELL PURGE LOGS

WA	TER SA	MPLE	LOG	Sa	ımple Numbe	er MW-	(
Job Num	ber:			Dated Sa	mpled:	24-95	
Job Number: Dated Sampled:							
Sample Location: GOOD CHEUROLET, ALMNEDA, CA							
Person	Sampling: _	て. ^	LCYER	-	<u></u>	· · · · · · · · · · · · · · · · · · ·	
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				ox was		e RINSE	
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	i	·	-		Canbrated		
IMMISC	IMMISCIBLE LAYER Top Bottom Sampling/Detection Method						
	SAMPLING MEASUREMENTS Well Identification Male To be to Water 7.18 Well Depth 20.01 Groundwater Elevation Ref. Pt. Elev.						
Ref. Pt. De	scription	<u> </u>			ner.	Pt. Elev	
	•		,				
	Discharge	r	Toma	X (840	· I	<u> </u>	
Time	Discharge (Gallons)	pН	Temp. (°C)	Conductivity	Color	Odor	Turbidity
	φ	6.63	59.8	0.83	Clear	SL. gas	
	2	6.70	61.5	(.34	murky	WOD GVZ	
	4	6.74	40.4	1.34	\	\	
	6	6.7H	41.6	l ·37			
	පි	4.75	42.0	1.37			
_	9.5	6.90	41.8	1.34	¥	Ý	
<u> </u>							
SAMPL	ING DATA						
			. 53				0 = .
	_	_		· -		Volume Pumpe	4 7.2 941
			_	10N BALL	<u></u>	<u></u>	<u> </u>
Containe	rs 40 ml	_ ^c	431F48	V=115			
Sample S	Storage Meth	od	<u></u>				
Constitue	ents and Para	meters					
			·				

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WA	TER SA	MPLE	E LOG	Sa	imple Numbe	r	1-2
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Project N	lame: <u>උ</u>	00 C	HEU ROL	<u> </u>			
Sample L	مک ocation:	20D C	teu 1201	et, Au	meda,	CA	
Person	Sampling: _	Τ.	Meyer				
Weather	Conditions: _	Clau	24				
Observati	ions/Commen	its:					
<u></u>			· · · · · · · · · · · · · · · · · · ·	·			
QUALIT	Υ	Sa	mplina me	thod: T%	flow BA	ti ler	
ASSURANCE Method to measure						a_	
Pump lin	es or bailer re				n Rope		
-		-			- DOUNE		
pH Meter	No:	· ·			Calibrated		
Specific (Conductance	Meter No:	· 		Calibrated		
IMMISC	IBLE LAYE	R Top_	· · · · · · · · · · · · · · · · · · ·	Bottom	Sampling	/Detection Met	hod
SAMPL	.ING				n to Water 7.7		******
	JREMENTS	2			Ref. P		
Ref. Pt. De	scription		•	· · · · · · · · · · · · · · · · · · ·			
Measureme	ent Technique _	· · · · · · · · · · · · · · · · · · ·			· · ·		
Time	Discharge (Gallons)	pН	Temp. (°C)	メ t e e o Conductivity	Color	Odor	Turbidity
	ф	6.88	ه.۱۰	1.32	Clear	moo. 9 ms	
	2	6.85	છે. ાગ	1. વા	54. Blue		
	7	4.85	62.8	1.35	Blue-grey		
	(a	6.94	67.1	1.46	\		
	B	6.85	62.5	l · 3 g		V	
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SAMPL	ING DATA				<u> </u>		
	513		12				6
					Total	Volume Pumpe	4 5 9 KL
					<u></u>		
Containe	rs	·- 					
Sample S	Storage Metho	od			<u></u>		
Constitue	ints and Para	meters					
			···				

WA	TER SA	MPL	E LOG	Sa	imple Numbe		1-3
Job Numi	ber:			Dated Sa	mpled:\	-24-95	
				Let			
Sample L	ocation: <u>4</u>	son C	HEVROLE	T, ALA	NEDA, C	4	
Person	Sampling: _	τ.,	Neyee				
Weather (Conditions: _	Clo	184			<u>,, - , , , ,</u>	
Observati	ions/Commen	nts:					
		 					
				about TELI	on Balen	<u> </u>	
QUALITY Sampling method: ASSURANCE Method to measure							
Pump line	ee or hailer r				Rope		
· ·		•			Double		
	-				Calibrated		
•					Calibrated		1
				····			
	IBLE LAYE				_ Sampling		
SAMPL MEASU	.ING JREMENTS	2			n to Water <u>7.85</u>		1
	·	Gro		ation	Ref. P	t. Elev.	
		r				· · · · · · · · · · · · · · · · · · ·	
Time	Discharge (Gallons)	pН	Temp.	Conductivity	Color	Odor	Turbidity
	ф	4.82	62.3	0.59	Clean	Now E	
	2	6.81	٧3،4	0.57	Clear	١	
	7	6.85	43.2	0.59	cloudy		
	4	4.90	43.1	0.43	cloudy		
	8	6.80	63.2	0.63	\	\ \ \	
SAMPL	ING DATA						
	248		(4		_	_	
					Total		O SAL
	rs				<u> </u>		
Constitue	onts and Para	meters _					
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WA	TER SA	MPLE	LOG	Sar	nple Number	, VYV-	. 5
Job Numb	er:			Dated San	npled:	1-26-95	
Project Na	ame:	90 C	HZVRE	LET			
Sample Le	ocation: <u>4</u>	<u> </u>	CHEVEZ	ica, KI	LAMEDA	CA	
Person	Sampling:	D.6	nck			, , , , , , , , , , , , , , , , , , , ,	
				RAIN			
Observation	ons/Comment	s:					
		<u>-</u>	, , , , , , , , , , , , , , , , , , ,			<u></u>	
			line mot	hod: Ts-Clo	a) Bailed		
QUALIT' ASSURA				asure water leve			
Dunn line	e er boilor ro	_		nated: <u>المحب</u>			1
				ox BATh			
	BLE LAYER			Bottom			
SAMPL MEASU	ING JREMENTS			Depth			
Ref. Pt. De	scription						
Measurem	ent Technique _						
Time	Discharge (Gallons)	pН	Temp.	メ (ののも Conductivity	Color	Odor	Turbidity
	ф	697	63.4	0.72	Clean	5TRON9	
	3	6.92	64.1	1,13	\	\	
	5	6.97	43.4	1.15			
•	8	6.94	43.1	1.12			
	סו	6.92	43.8	1.15			
	13	6.94	43.2	1.14	1	V	
SAMP	LING DATA						
	. 27	أجمييهم	(0				u 13eac
				_ Pumping Rate		volume rumpe	ou <u> </u>
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Containe	ers						
·	ū						
Constitu	ents and Para	ameters			<u></u>		
			<u></u>				

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APPENDIX B

CHAIN-OF-CUSTODY FORM AND ANALYTICAL TEST DATA Georeexus, inc.

1900 Wyatt Drive, Suite 1, Santa Clara, California 95054 Phone 408/987-0210 Fax 408/988 0815 359/A/18159 PROJECT NUMBER ! PROJECT NAME Type of Analysis Good Cherrold C92020 18/2X Send Report Attention of: Report Due Verbal Due Runber Type Condition Digno Chell Initial Containers Cotors Samples Sample Number Date lime Сопр Grab Station Location mul-1/20/15 1140 Acar her 43934 MEN Well 1 Zex MUZup in vert 43935 MON WELL 2 1215 WHAIB MW3-43936 MONWAL 3 1024 WILAB ow/4-43937 mor wall 4 1015 USIAB 1 MON W41 5 mus -43938 1130 WSIA.B PRESERVADUE NOS JOS 6 14.7510 OTHER ICE/T APPROTRIATE CONTAINERS GOOD CONDITION HEAD SPACE ABSENT 🛂 Relinquished by (Signature) Date/Time Received by: (Signature) Date/Time Remarks: 57770) AND Tunnanown) Relinquished by/(Signature) Date/Time Received by: (Signature) Date/Time K-30-95 11:55 AM Relinquished by: (Signature) | Date/lime Received by: (Signature)

Date/Time

Client Project ID: # C92020;	Good Date Sampled: 01/26/95
Chevrolet	Date Received: 01/30/95
Client Contact: David Glick	Date Extracted: 01/30-01/31/95
Client P.O:	Date Analyzed: 01/30-01/31/95
	Chevrolet Client Contact: David Glick

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with BTEX* EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030) Ethylben-% Rec. Xylenes Client ID Matrix $TPH(g)^{\dagger}$ Benzene Toluene Lab ID zene Surrogate W 82 96 43934 MWI-WSIA 1600.a 660 100 100 W 1900 290 230 500 100 43935 MW2-W\$1A 5900,a 43936 MW3-WS1A W 3700.a 1200 150 150 190 99 W 11 99 43937 MW4-W\$1A 110.a 6.5 1.2 1.8 W 43938 MW5-WS1A 7900,a 2100 680 240 860 98 W Detection Limit unless other-50 ug/L 0.5 0.50.50.5wise stated; ND means Not Detected S 0.005 0.005 1.0 mg/kg0.005 0.005

^{*}water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

d cluttered chromatogram; sample peak co-clutes with surrogate peak

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant (aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds are significant; no recognizable pattern; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible phase is present.