GOOD CHEVROLET

1630 Park Street • Phone 415/522-9221
ALAMEDA, CA 94501

May 24, 1993

Ms. Juliet Shin
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Mr. Greg Zentner
Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Room 500
Oakland, CA 94612

Re: Quaterly Monitoring Report for 1630 Park Street - Alameda, CA

Dear Ms. Shin and Mr. Zentner:

Enclosed is a copy of the above-referenced report.

Good Chevrolet
by JoAnn Stewart

JKS:js

Enclosure

GeoPlexus, Inc.

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

May 13, 1993
Project C92020

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

Subject: April, 1993 Quarterly Ground Water Report for Good Chevrolet, 1630 Park Street, Alameda, CA.

Dear Ms. Stewart:

As requested and authorized, the attached April, 1993 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 monthly ground water elevations for February through April, 1993, along with the ground water sampling protocols and the results of the analytical testing performed on ground water samples collected on April 23, 1993.

In summary, the water samples obtained from Monitoring Wells MW-1, MW-2, and MW-3 contained detectable concentrations of Total Petroleum Hydrocarbons as gasoline ranging from 2,200-52,000 ppb and Volatile Aromatic Compounds (Benzene, Toluene, Ethyl Benzene, and Xylenes). The analytical test data reflects an erratic, and unexplained, increase in the concentrations in the gasoline constituents detected in Monitoring Wells MW-1, MW-2 and MW-3. ← Probably due to rise in water table.

Two "up-gradient" hydropunch samples were collected on April 23, 1993 to establish the "background" water quality of the project area. These grab water samples did not contain detectable concentrations of Total Petroleum Hydrocarbons as gasoline or Volatile Aromatic Compounds. As such, an "up-gradient and off-site" source does not appear to be a source of the erratic increase in the gasoline constituents detected.

Based on the findings of the quarterly monitoring, it is recommended that an additional site characterization investigation be performed to determine the source of the gasoline compounds and to characterize the extent of ground water contamination plume observed at the project site.

1900 Wyatt Drive, Suite 1, Santa Clara, California 95054 Phone 408/987-0210 Fax 408/988-0815

It is further recommended that a pump test be performed to assess the feasibility for a ground water extraction system, either for migration control and/or ground water remediation. The pump test could be performed by installing a temporary extraction pump in Monitoring Well MW-2 and monitoring the ground water draw-down effects at Monitoring Wells MW-1 and MW-3 as a result of ground water extraction. The results of the pump test could be used to perform a risk assessment for ground water impact and for design of a ground water extraction system (if required).

It has been a pleasure to be of service to you on this project. The next sampling event us scheduled to be performed in July, 1993.

Questions or comments regarding the attached report should be addressed to the undersigned.

Copies of this report should be forwarded to:

Ms. Juliet Shin
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

~~Mr. Greg Zentner~~ Mr. Richard Hiett
Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Room 500
Oakland, CA 94612

Respectfully submitted,

Geo Plexus, Incorporated

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

REGISTERED GEOLOGIST
DAVID C. GLICK
No. 1338
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

Enclosure: April, 1993 Quarterly Ground Water Monitoring Report

GeoPlexus, Inc.

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

APRIL, 1993 QUARTERLY

GROUND WATER MONITORING REPORT

for

GOOD CHEVROLET

1630 PARK STREET

ALAMEDA, CALIFORNIA

May 13, 1993

Project C92020

1900 Wyatt Drive, Suite 1, Santa Clara, California 95054 Phone 408/987-0210 Fax 408/988-0815

APRIL, 1993 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 ground water monitoring wells were reportedly sampled by Groundwater Technology, Inc. in January, 1989 (Groundwater Technology, Inc. letter report dated March 29, 1989) and again in July, 1989 (Groundwater Technology, Inc. letter report dated August 22, 1989). The wells were also reportedly sampled by Environmental Science Engineering, Inc. in April, 1991 (Environmental Science Engineering, Inc. report dated May 8, 1991).

Quarterly ground water monitoring was initiated by Geo Plexus in July, 1992. This report presents the ground water elevations recorded monthly in February, March and April, 1993 along with the ground water sampling protocol and the results of the analytical testing performed on ground water samples collected on April 23, 1993.

GRADIENT SURVEY

The elevation of the top of the casing of the monitoring wells at the site were established during previous investigations (Environmental Science & Engineering, Inc.) 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 on a monthly basis to monitor the variations in the direction and gradient of ground water flow beneath the site. Prior to purging the monitoring wells for sampling, the depth to ground water in each well was measured to the nearest 0.01 foot with an electronic water level meter.

Ground water elevations recorded suggest that the ground water flow has varied from the northwest in February and April, 1993 to the north in March, 1993 as indicated on Figures 2, 3, and 4. The flow gradient has also varied from 0.016 to 0.027 ft/ft. The direction of ground water flow establishes Monitoring Wells MW-2 and MW-3 to be located in the general "down-gradient" direction from the former tanks (dependent on direction of flow).

MONITORING WELL SAMPLING

Free product measurements were obtained for each monitoring well at the time of each 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; however, the water samples obtained from the three wells exhibited gasoline odors.

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.

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. A travel blank (identified as MW-A) was obtained from the analytical testing laboratory, transported to the field with the sample vials, and was submitted along with other samples for analysis. 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 in 55-gallon drums 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 travel blank was submitted for analysis for Volatile Aromatics by EPA Method 8020. The analytical test data, along with the Chain-of-Custody Form are presented in Appendix A.

SUMMARY OF FINDINGS

Ground water elevations recorded during the sampling suggest that ground water is at a depth of 7-8.5 feet below the ground surface and the flow direction has been variable from north to northwest at gradients of 0.016 - 0.027 ft/ft. The flow directions establish Monitoring Wells MW-2 and MW-3 in the "down-gradient" direction from the location of the former underground storage tanks (dependent of flow direction).

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 Monitoring Wells MW-1, MW-2, and MW-3. Total Petroleum Hydrocarbons as gasoline concentrations ranged from 2,200 to 52,000 parts per billion (ppb). Benzene concentrations ranged from 720 to 13,000 ppb.

Table 1 summarizes the current analytical test results along with the results of the previous analytical testing.

The analytical test data (see Table 1) indicates that there was an erratic, and unexplained, increase in the concentrations in the gasoline constituents detected in Monitoring Wells MW-1, MW-2, and MW-3 this quarter.

TABLE 1

SUMMARY OF GROUND WATER ANALYTICAL TEST DATA

Date Sampled	Total Petroleum Hydrocarbons	Benzene	Toluene	Ethyl-Benzene	Total Xylenes
Monitoring Well MW-1					
1-21-87 (1)	21,020	1,148	8,627	1,792	6,012
1-11-89 (1)	1,400	74	10	13	5
7-12-89 (1)	1,200	470	49	45	33
4-09-91 (2)	850	260	10	15	12
7-14-92 (3)	13,000	2,300	1,200	1,200	1,200
10-7-92 (3)	3,600	1,600	80	120	120
1-11-93 (3)	1,200	410	16	23	19
4-23-93 (3)	2,200	720	180	82	150
Monitoring Well MW-2					
1-21-87 (1)	5,018	386	1,981	285	1,432
1-11-89 (1)	10,000	3,000	410	240	190
7-12-89 (1)	7,600	2,700	540	250	320
4-09-91 (2)	4,900	910	210	130	200
7-14-92 (3)	13,000	4,400	1,500	610	1,100
10-7-92 (3)	11,000	5,200	1,500	500	1,200
1-11-93 (3)	17,000	940	1,100	480	930
4-23-93 (3)	52,000	13,000	8,400	1,700	5,300
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	58	28
4-23-93 (3)	6,500	2,600	280	260	190

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 July, 1993.

Since the direction of ground water flow has been monitored monthly, and the variations in flow direction and gradient established, it is recommended that the monthly water elevation survey be concluded and that the water elevations be monitored quarterly with the sampling activities.

Based on the erratic increase and decreases in the gasoline constituents detected in Monitoring Wells MW-1, MW-2, and MW-3, it is recommended that additional site characterization investigations be performed to characterize the source and extent of ground water contamination plume (as requested by Alameda County Department of Environmental Health personnel).

It is further recommended that a pump test be performed to assess the feasibility for a ground water extraction system, either for migration control and/or ground water remediation. The pump test could be performed by installing a temporary extraction pump in Monitoring Well MW-2 and monitoring the ground water draw-down effects at Monitoring Wells MW-1 and MW-3 as a result of ground water extraction. The results of the pump test could be used to perform a risk assessment for ground water impact and for design of a ground water extraction system (if required).

LIMITATIONS

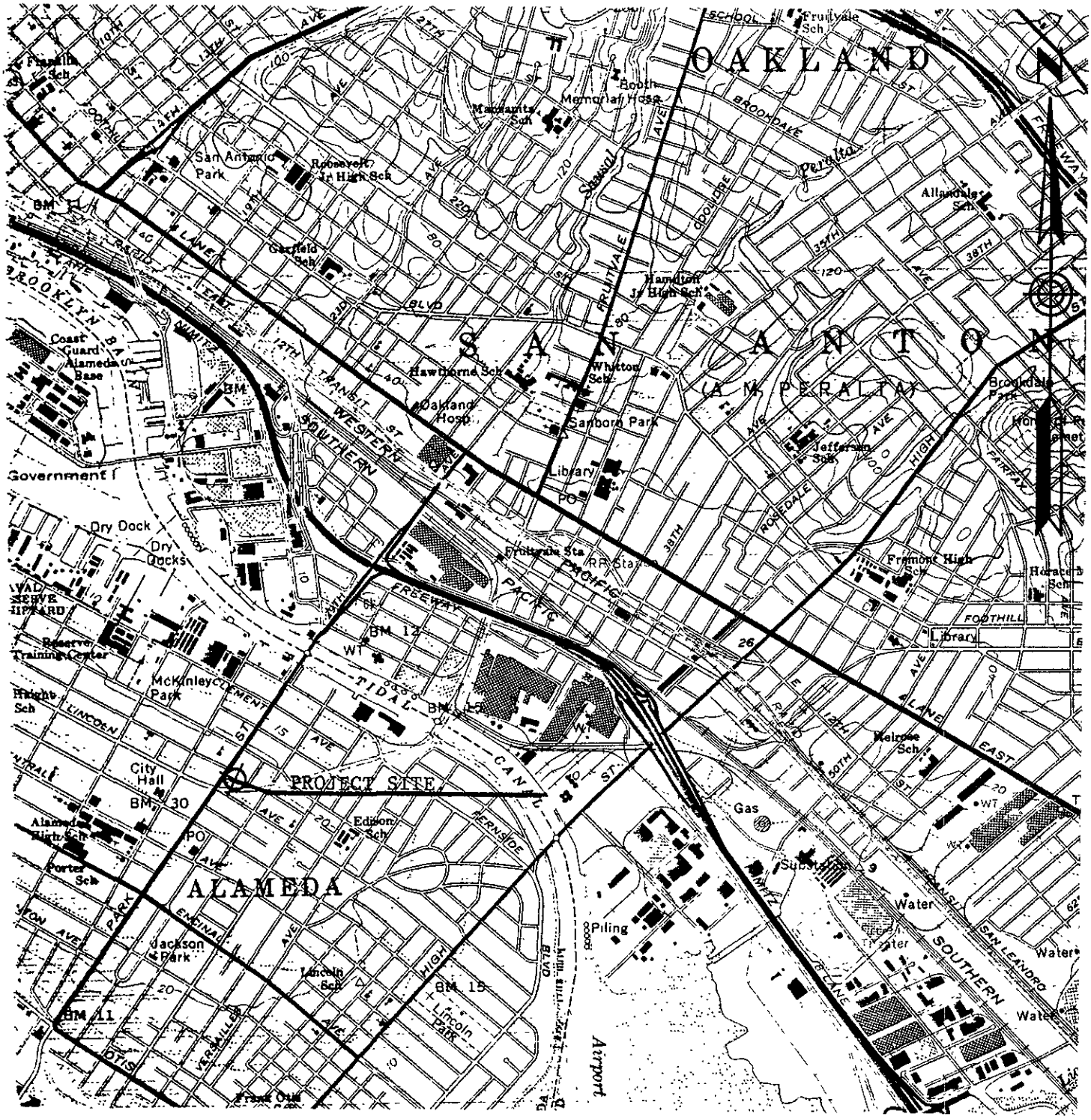
We have only observed a small portion of the pertinent subsurface and ground water conditions present at the site. The conclusions and recommendations made herein are based on the assumption that subsurface and ground water conditions do not deviate appreciably from those described in the reports and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

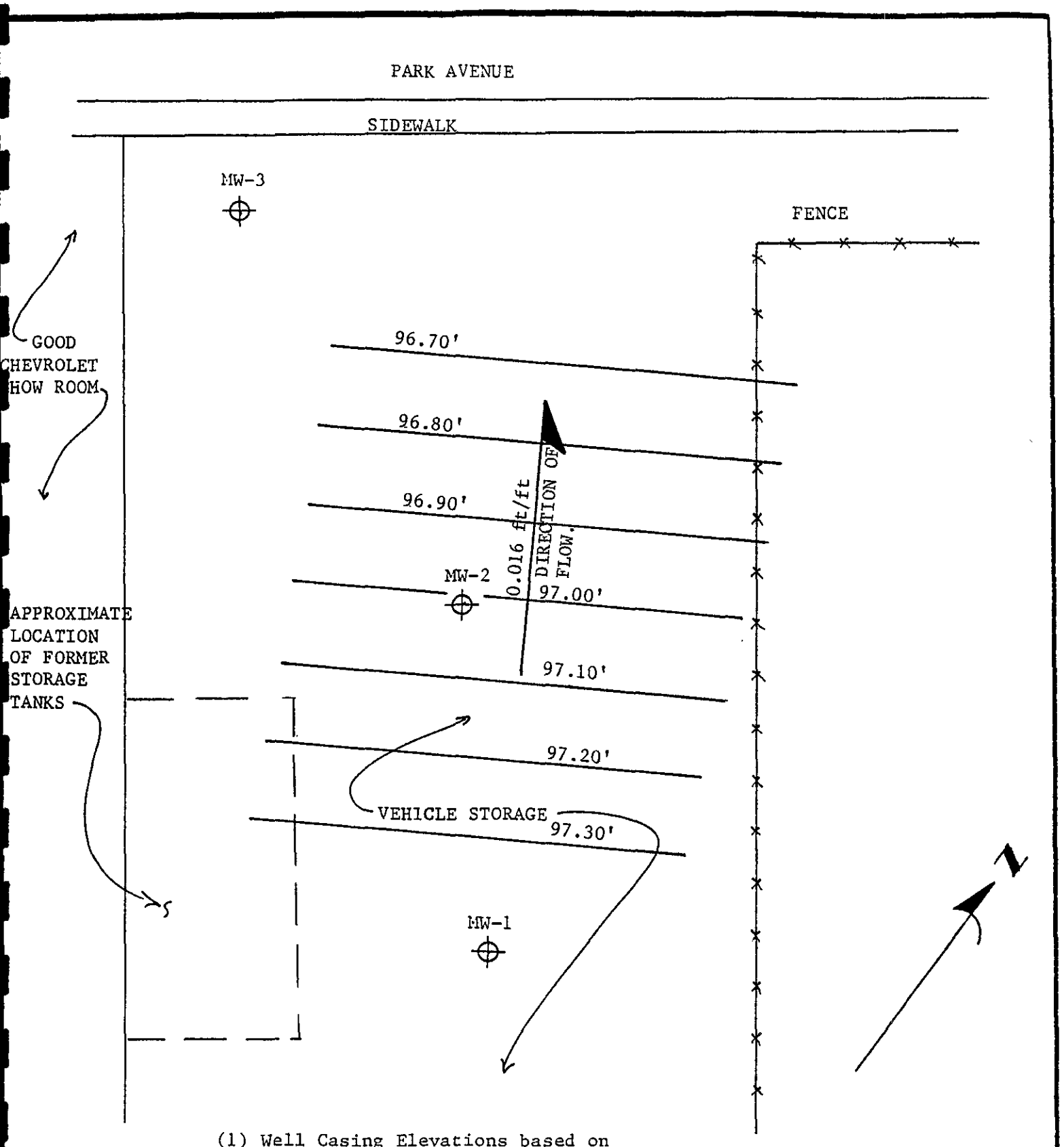
If you have questions regarding the findings, conclusions, or recommendations contained in this report, please contact us. We appreciate the opportunity to serve you.

Geo Plexus, Incorporated



GOOD CHEVROLET		
DATE 10-9-92	SCALE 1"=2000'	DRAWN BY deg
LOCATION MAP		
	Figure 1	

GeoPlexus, Inc.

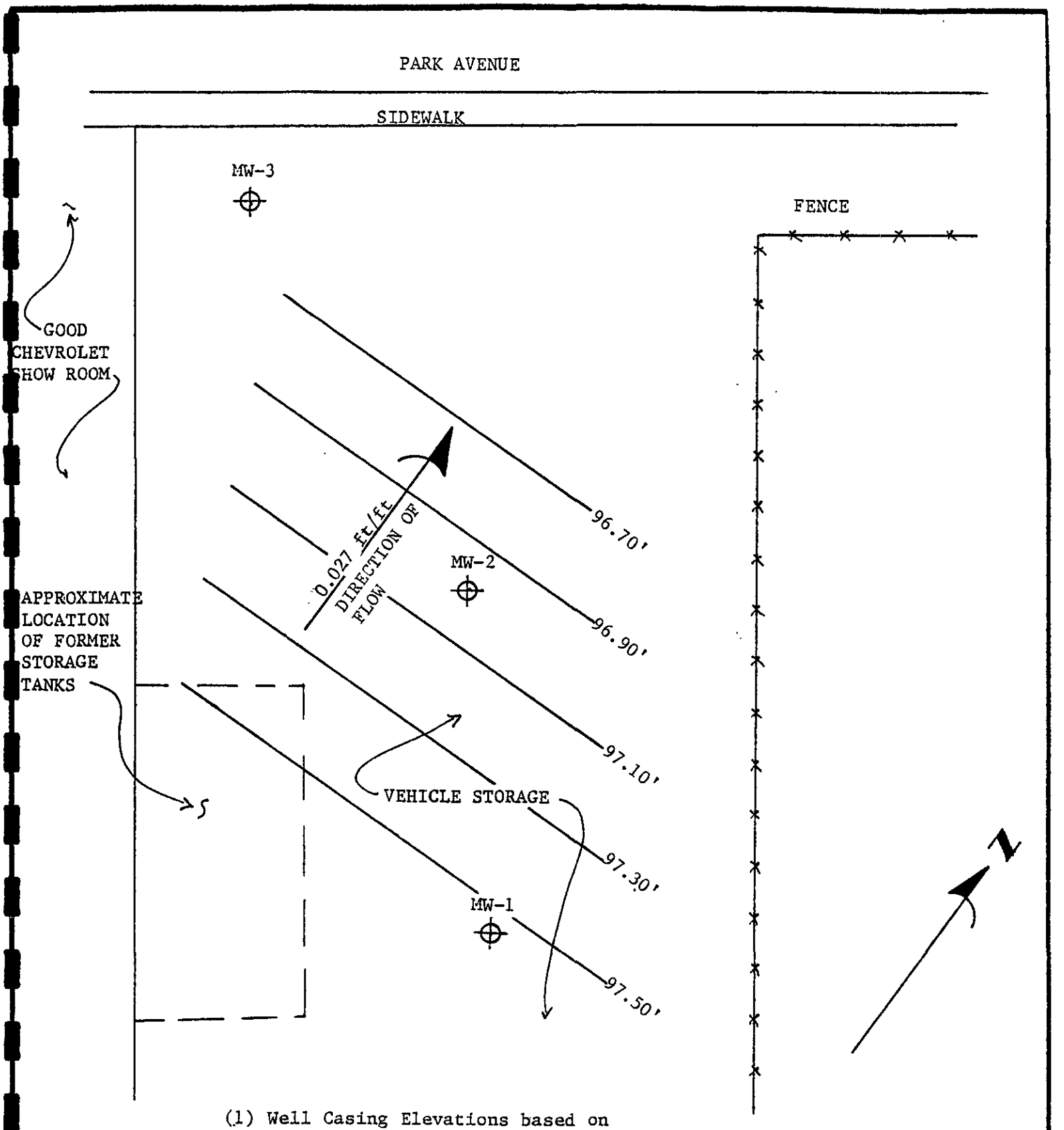


(1) Well Casing Elevations based on Environmental Science & Engineering, Inc. Report dated 5/8/91 (referenced to temporary bench mark)

	Casing Elev.	Depth to water.	Water Elev.
MW-1	104.76'	-7.32'	97.44'
MW-2	104.86'	-7.85'	97.01'
MW-3	104.52'	-7.98'	96.54'

GeoPlexus, Inc.

GOOD CHEVROLET		
DATE 2/5/93	SCALE 1"= 10'	DRAWN BY twf
GRADIENT PLAN		
	Figure 2	



(1) Well Casing Elevations based on Environmental Science & Engineering, Inc. Report dated 5/8/91 (referenced to temporary bench mark)

	Casing Elev.	Depth to water.	Water Elev.
MW-1	104.76'	-7.20'	97.56'
MW-2	104.86'	-7.77'	96.99'
MW-3	104.52'	-7.94'	96.58'

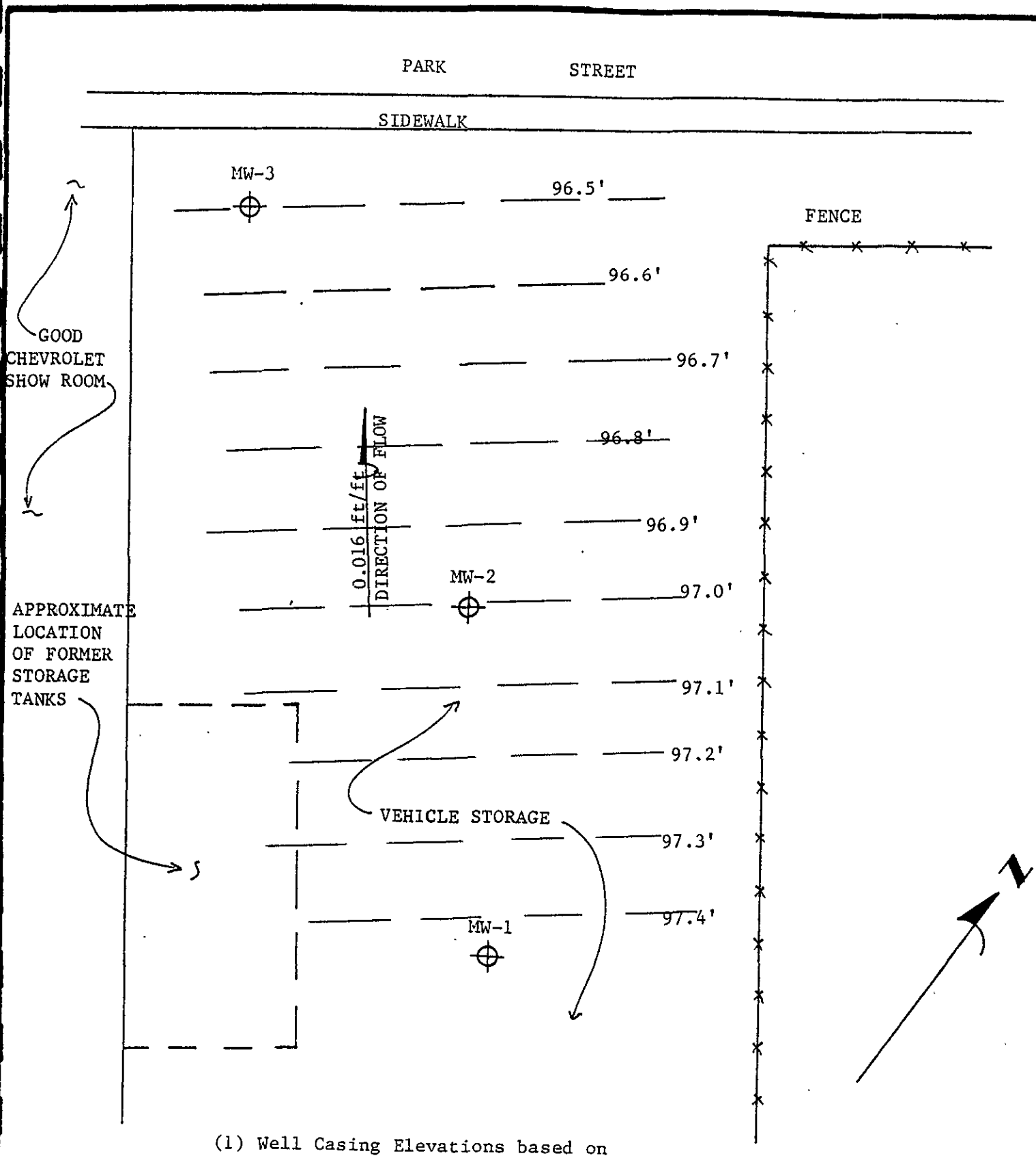
GeoPlexus, Inc.

GOOD CHEVROLET

DATE	SCALE	DRAWN BY
3/19/93	1"= 10'	twf

GRADIENT PLAN

Figure 3



(1) Well Casing Elevations based on Environmental Science & Engineering, Inc. Report dated 5/8/91 (referenced to temporary bench mark)

	Casing Elev.	Depth to water.	Water Elev.
MW-1	104.76'	-7.31	97.45
MW-2	104.86'	-7.86	97.00
MW-3	104.52'	-8.02	96.50

GeoPlexus, Inc.

GOOD CHEVROLET		
DATE 4/23/93	SCALE 1"= 10'	DRAWN BY twf
GRADIENT PLAN		
	Figure 4	

APPENDIX A

CHAIN-OF-CUSTODY FORM
AND
ANALYTICAL TEST DATA

Geo Plexus, Inc. CHAIN-OF-CUSTODY Phone: (408) 987-0210 Fax: (408) 988 0815

PROJECT NUMBER: C92020

PROJECT NAME: GOOD CHEVROLET

Send Report Attention of: DAVID GLICK

Report Due: / /

Verbal Due: / /

Sample Number	Date	Time	Comp	Grab	Station Location	Number of Cntnrs	Type of Containers	TPHG	TPHD	BTEX	Oil&Grease						Condition of Samples	Initial
mw1-WS1A,B	4/23/93	1235		1	MON WELL 1	2 EA	ACIDIFIED 40 ml VOA	✓		✓							Good	EH
mw2-WS1A,B		1315		1	MON WELL 2			✓		✓								
mw3-WS1A,B		1355		1	MON WELL 3			✓		✓								
mwA, WS1A,B		0800		1	MON WELL A			✓		✓								

30321
30322
30323
30324

VOAS | O & G | METALS | OTHER

ICE/T° ✓ PRESERVATIVE ✓

GOOD CONDITION ✓ APPROPRIATE CONTAINERS ✓

HEAD SPACE ABSENT ✓

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[signature]	4/26/93 0855	James R Hamilton	4/26/93 0855
James R Hamilton	4/26/93 10:15	[signature]	4-26 10:15

Remarks: Purchase Order No.: 93-3024

STANDARD TURNAROUND

COMPANY: Geo Plexus, Inc.

ADDRESS: 1900 Wyatt Drive, Suite 1 Santa Clara, CA 95054

PHONE : (408)987-0210 FAX : (408)988-0815

2066

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

GEO Plexus, Inc. 1900 Wyatt Drive, #1 Santa Clara, CA 95054	Client Project ID: #C92020; Good Chevrolet	Date Sampled: 04/23/93
		Date Received: 04/26/93
	Client Contact: David Glick	Date Extracted:
	Client P.O: 93-3024	Date Analyzed: 05/03-05/04/93

Low Boiling Point (C6-C12) TPH* as Gasoline and BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(G)+	Benzene	Toluene	Ethyl Benzene	Xylenes	% Rec. Surrogate
30321	MW1-WS1A,B	W	2200,a	720	180	82	150	102
30322	MW2-WS1A,B	W	52,000,a	13,000	8400	1700	5300	94
30323	MW3-WS1A,B	W	6500,a	2600	280	260	190	97
30324	MWA-WS1A,B	W	ND	ND	ND	ND	ND	116
Detection Limit unless otherwise stated; ND means Not Detected		W	50 ug/L	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.005	0.005	0.005	0.005	

*water samples are reported in ug/L and soils in mg/kg

cluttered chromatogram; sample peak co-elutes with surrogate peak

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) predominately unmodified or weakly modified gasoline; b) heavier gasoline range compounds predominate (aged gasoline?); c) lighter gasoline range compounds predominate (the most mobile gasoline compounds); d) heavy and light gasoline range compounds predominate (aged gasoline together with introduced light compounds?); e) gasoline range compounds predominate; no recognizable pattern; f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds predominate.

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT

Date: 05/03-05/04/93 Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
TPH (gas)	0.0	110.5	107.7	102	108	106	2.5
Benzene	0.0	10.5	10.7	10	105	107	1.9
Toluene	0.0	11.0	10.9	10	110	109	0.9
Ethyl Benzene	0.0	10.9	10.9	10	109	109	0.0
Xylenes	0.0	32.0	31.6	30	107	105	1.3
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil & grease)	2600	25800	27000	23700	98	103	4.5

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100