GeoPlexus, Inc.

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

January 19, 1995

Ms. Naomi English
Mr. Gary Nickles
1545 Scenic View Drive
San Leandro, California 94577

Subject: Proposal for Quarterly Ground Water Monitoring for Hooshi's Auto Property, 1499 Mac Arthur Blvd., Oakland, CA

Dear Ms. English and Mr. Nickles:

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 December 27, 1994. The report also summarizes the findings previously recorded by others and presents conclusions and recommendations based on these findings.

In summary, the water samples obtained from all three monitoring wells contained detectable concentrations of Total Petroleum Hydrocarbons as gasoline ranging from 770 to 94,000 parts per billion (ppb). Volatile Aromatic Compounds (Benzene, Toluene, Ethyl Benzene, and Xylenes) were also detected in the ground water samples. Benzene concentrations ranged from 22 to 11,000 ppb.

Monitoring Well MW-2 exhibited the highest concentrations of Total Petroleum Hydrocarbons and Volatile Aromatic Compounds and exhibited 1/4-inch of free product (which was removed during the purging process prior to sampling the well).

The next quarterly sampling event is scheduled to be performed in March, 1995.

Based on the results of the current monitoring, combined with the previous monitoring data, supplemental site characterization investigation efforts and soil/ground water remedial action could be required prior to achieving site closure. It is recommended that all subsequent investigation efforts be performed and incorporated into the selected remedial design efforts.

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

Copies of this report should be forwarded to:

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

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

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 Plexus, Incorporated

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

GeoPlexus, Inc.

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

DECEMBER, 1994 QUARTERLY

GROUND WATER MONITORING REPORT

for

HOOSHI'S AUTO PROPERTY

1499 MAC ARTHUR BOULEVARD

OAKLAND, CA

Prepared for:

Ms. Naomi English
Mr. Gary Nickles
1545 Scenic View Drive
San Leandro, California 94577

January 19, 1995

Project C94051

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

DECEMBER, 1994 QUARTERLY GROUND WATER MONITORING REPORT for HOOSHI'S AUTO PROPERTY 1499 MAC ARTHUR BOULEVARD OAKLAND, CA

INTRODUCTION

The project site is located at 14599 Mac Arthur Blvd. in the City of Oakland, Alameda County, California as indicated on Figure 1. The site is the location of a former gasoline station and is currently occupied as an automobile service center.

Three underground gasoline storage tank were reportedly removed from the property by KTW & Associates on October 3, 1990. The tanks reportedly consisted of two 1,000-gallon and one 500-gallon gasoline storage tanks which were located as indicated on Figure 2.

Five (5) soil samples were reportedly collected from the tank excavation and one additional soil sample was reportedly collected from below the pipelines. Analytical testing of the samples detected variable concentrations of gasoline compounds including Total Petroleum Hydrocarbons as gasoline ranging from below detectable limits to 450 parts per million (ppm). Additional soil excavation was not performed and the excavation was subsequently backfilled and re-surfaced.

A preliminary investigation was reportedly performed by others (untitled report dated June 29, 1993) which included installation of three ground water monitoring wells (see Figure 3). The three monitoring wells were reportedly sampled twice (January and April, 1993) to evaluate the ground water conditions and to establish the direction(s) of ground water flow at the project site. The ground water sampling/testing reportedly detected Total Petroleum Hydrocarbons as gasoline ranging from 539 to 149,000 parts per billion (ppb) and Volatile Aromatic Compounds (Benzene, Toluene, Ethyl Benzene, and Xylene) at various concentrations. The direction of ground water flow beneath the site was determined to be to the northeast (see Figure 3).

QUARTERLY MONITORING

To further monitor the ground water conditions at the site and to assess the remediation of the gasoline compounds in the underlying soil and ground water, Geo Plexus, Incorporated was retained to perform quarterly sampling of the monitoring wells and to perform analytical testing of the water samples.

GRADIENT SURVEY

The elevation of the top of the casing of the monitoring wells at the site were reportedly established by others during the previous investigation with reported vertical control of 0.01 foot.

Ground water elevations were measured in each well by Geo Plexus personnel 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 is at a depth of 12- to 14-feet below the ground surface with flow to the northeast as indicated on Figure 4. The ground water gradient was determined to be 0.09 ft/ft (also see Figure 4).

MONITORING WELL SAMPLING

Free product measurements were obtained for each monitoring well at the time of sample acquisition utilizing a sterile, dedicated-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 and MW-3.

One-quarter (1/4) inch of free gasoline product was observed in MW-2 prior to purging. The product was evacuated and the product was not observed following purging. Monitoring Well MW-2 exhibited significant gasoline odors as the 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.

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 A.

SUMMARY OF FINDINGS

Ground water elevations recorded during the sampling suggest that ground water is at a depth of 12- to 14-feet below the ground surface and ground water flows in a northeast direction at a gradient of 0.09 ft/ft.

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 three monitoring wells. Total Petroleum Hydrocarbons as gasoline concentrations ranged from 770 parts per billion (ppb) in Monitoring Well MW-1 to 94,000 ppb at Monitoring Well MW-2. Table 1 summarizes the current analytical test results along with the results of the previous analytical testing.

Figure 5 illustrate the distribution of Total Petroleum Hydrocarbons as gasoline in the ground water based on current analytical test data.

ppb

TABLE 1
SUMMARY OF GROUND WATER ANALYTICAL TEST DATA

Date Sampled	Total Petroleum Hydrocarbons	Benzene	Toluene	Ethyl-Benzene	Total Xylenes
Monitoring Well MW-1					
1-4-93 (1)	539	130	12	22	13
4-22-93 (1)	1,130	75	8.0	38	11
12-27-94 (2)	770	22	6.6	14	21
Monitoring Well MW-2		% benz			
1-4-93 (1)	149,000	21,700 = .15%	25,000	ND	7.760
4-22-93 (1)	136,300	9,900 = .07%	15,870	15,300	2,190
12-27-94 (2)	94,000	11,000 = .12%	18,000	2,700	16,000
Monitoring Well MW-3					
1-4-93 (1)	1,610	772	14	11	ND
4-22-93 (1)	3,040	980	34	19	16
12-27-94 (2)	2,600	180	9.0	7.2	13

Note: (1) Concentrations reported by others (Untitled Report dated June 29, 1993)
(2) 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 March, 1995.

Based on the results of the current monitoring, combined with the previous monitoring data, supplemental site characterization investigation efforts and soil/ground water remedial action could be required prior to achieving site closure. It is further recommended that all subsequent investigation efforts be performed concurrent with and/or incorporated into the remedial design efforts.

LIMITATIONS

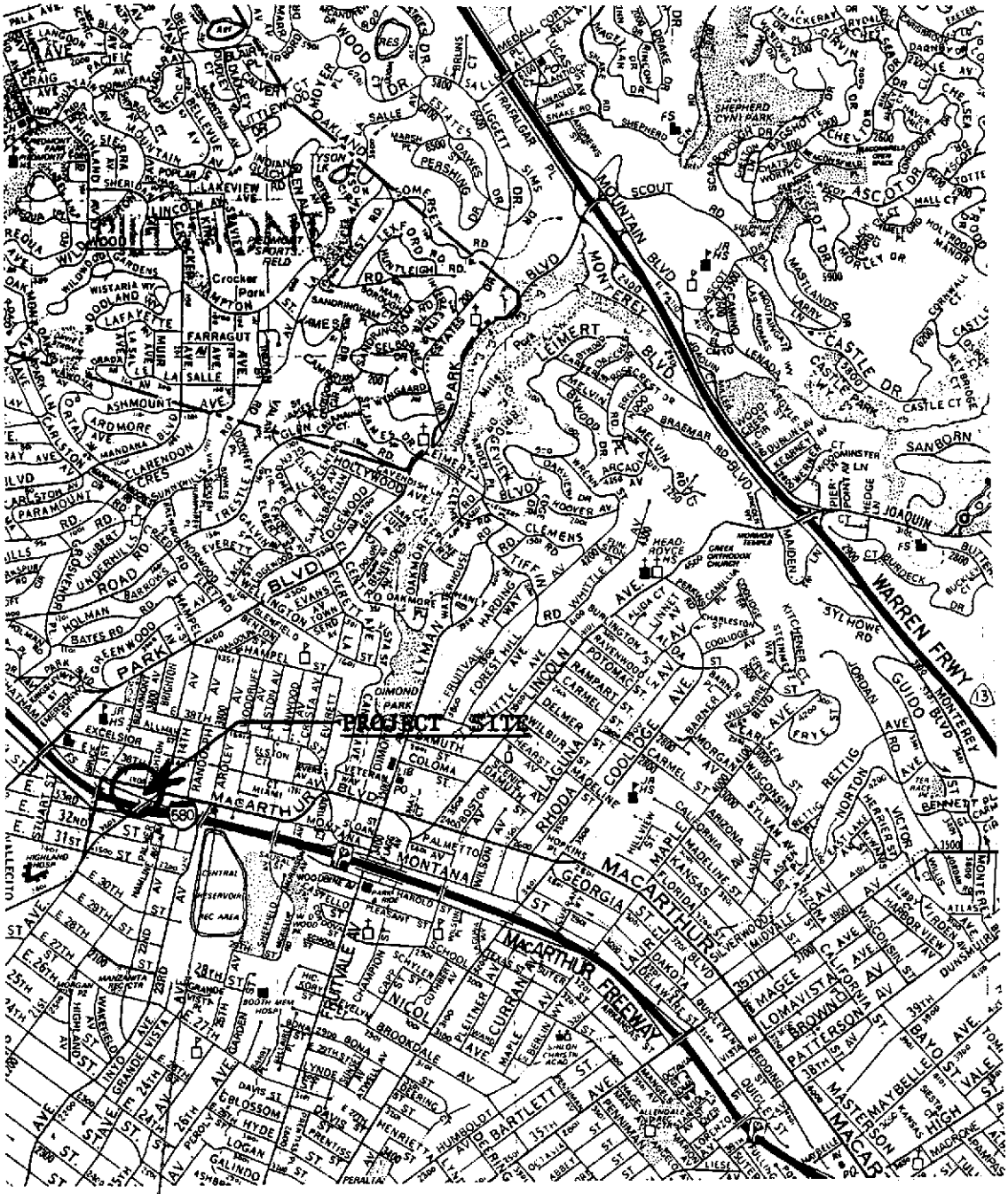
We have only observed a small portion of the pertinent subsurface and ground water conditions present at the site. The conclusions and recommendations made herein are based on the assumption that subsurface and ground water conditions do not deviate appreciably from those described in the reports and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

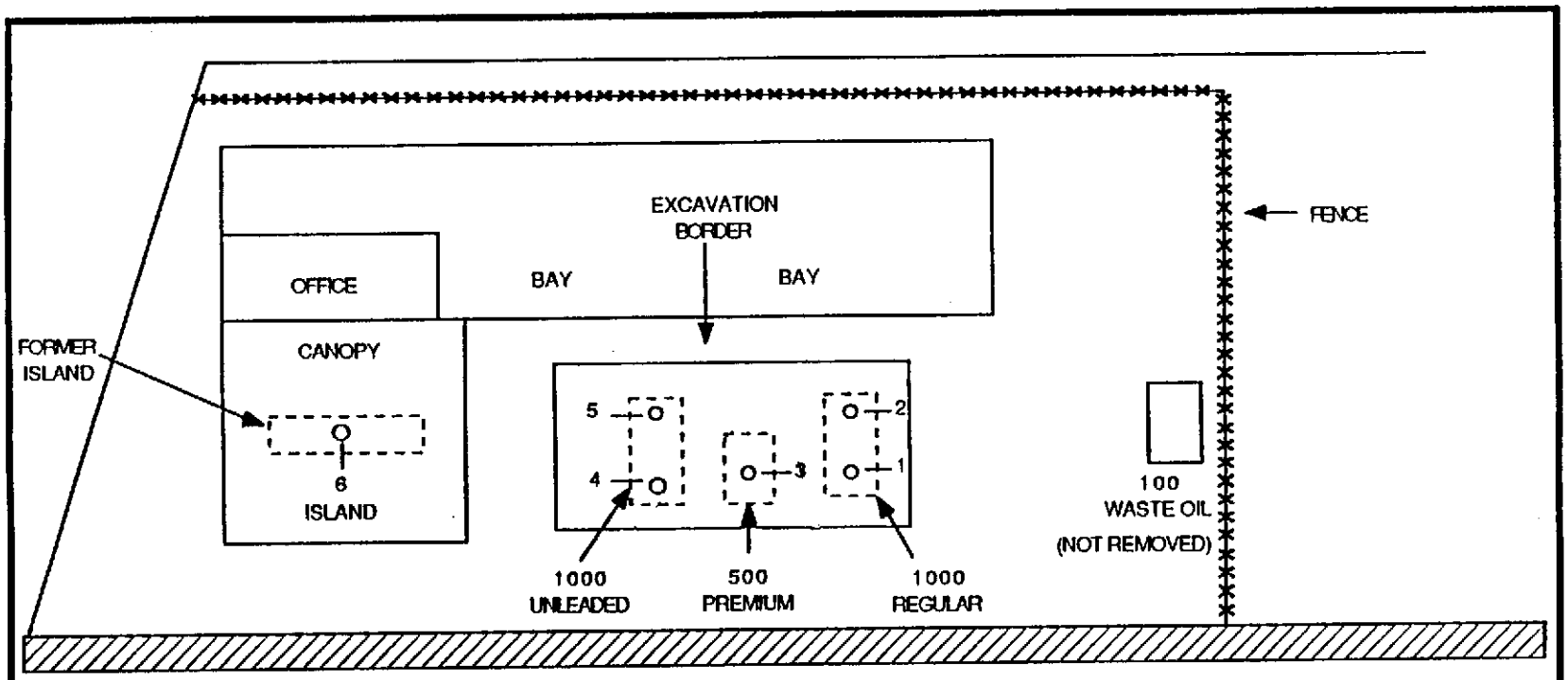
Geo Plexus, Incorporated



Source: Thomas Brothers Maps

GeoPlexus, Inc.

LOCATION PLAN		
DATE 1/19/95	SCALE n/a	DRAWN BY dcg
HOOSHI'S AUTOMOTIVE		
	Figure 1	



SITE/TANK LOCATION PLAN

DATE 1/19/95 | SCALE n/a | DRAWN BY dcg

HOOSHI'S AUTOMOTIVE

Figure 2

SCALE NTS
DATE 10/18/90
DRAWN BY EMM

KTW & ASSOCIATES
43289 Osgood Road, Fremont, Ca 94539
(415) 623-0480
Cal. State Cont. Lic. #572427

PROJECT NO.: 1099

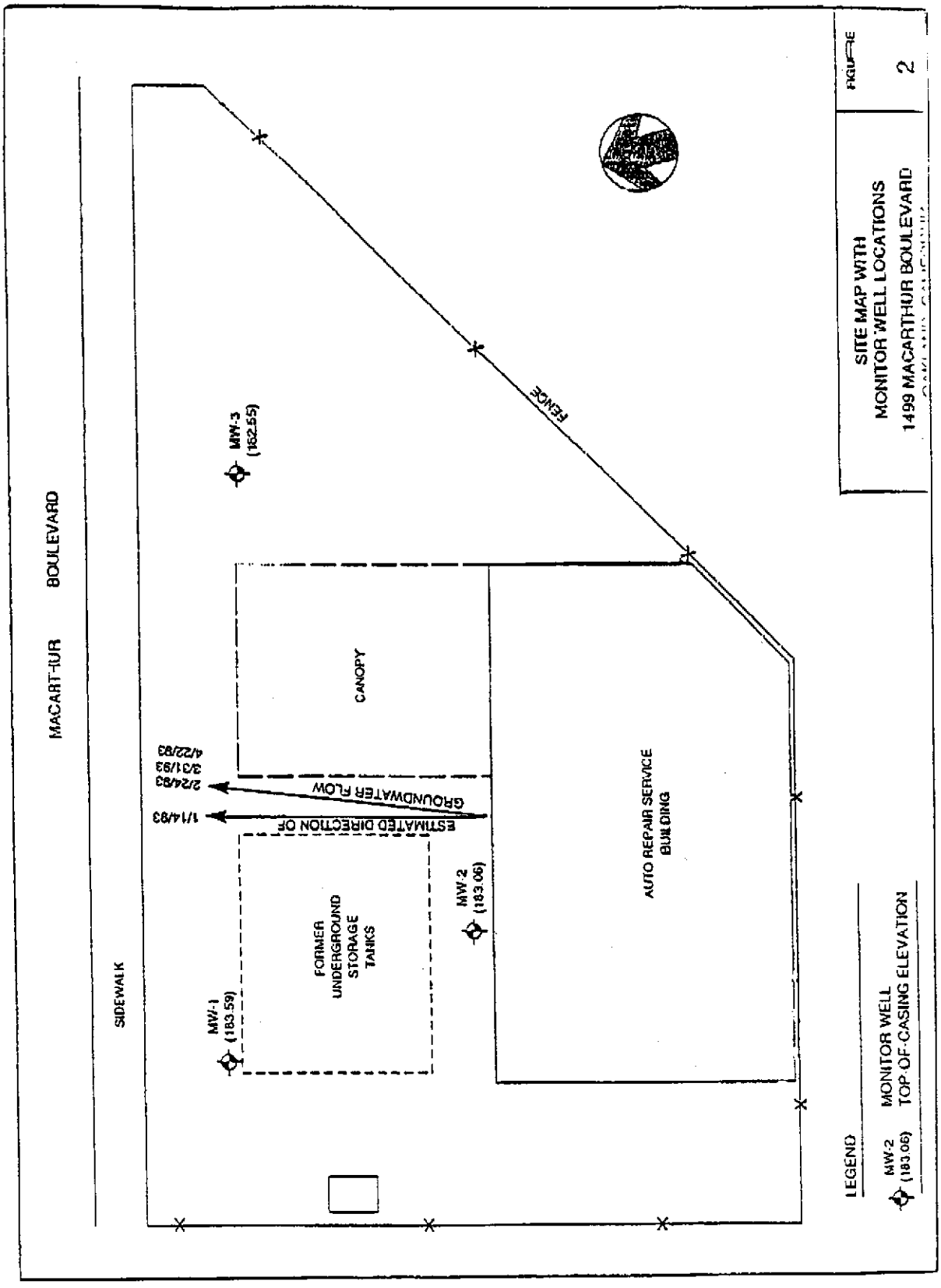
HOOSHIS AUTO SERVICE
1499 Mac Arthur Blvd.
Oakland, California

SAMPLE LOCATION MAP

1= TPIKA-N
2 = TPIKA-S
3 = TPO.5K-C
4 = TPIKB-N
5 = TPIKB-S
6 = TP-L-1

SOURCE: KTW & ASSOCIATES

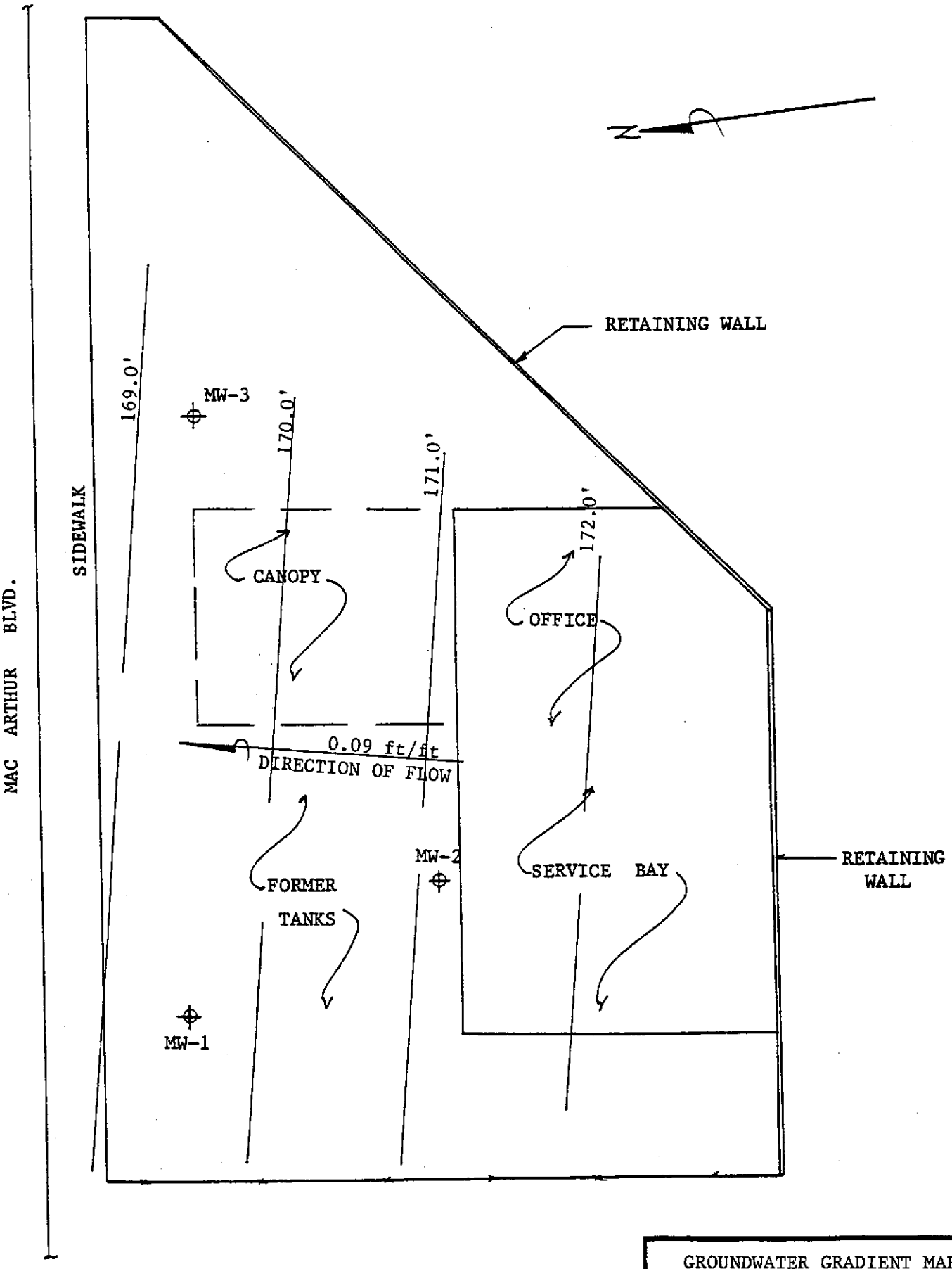
GeoPlexus, Inc.



Source: Untitled Report dated June 29, 1993

MONITORING WELL LOCATION PLAN		
DATE 1/19/95	SCALE n/a	DRAWN BY dcg
HOOSHI'S AUTOMOTIVE		
	Figure 3	

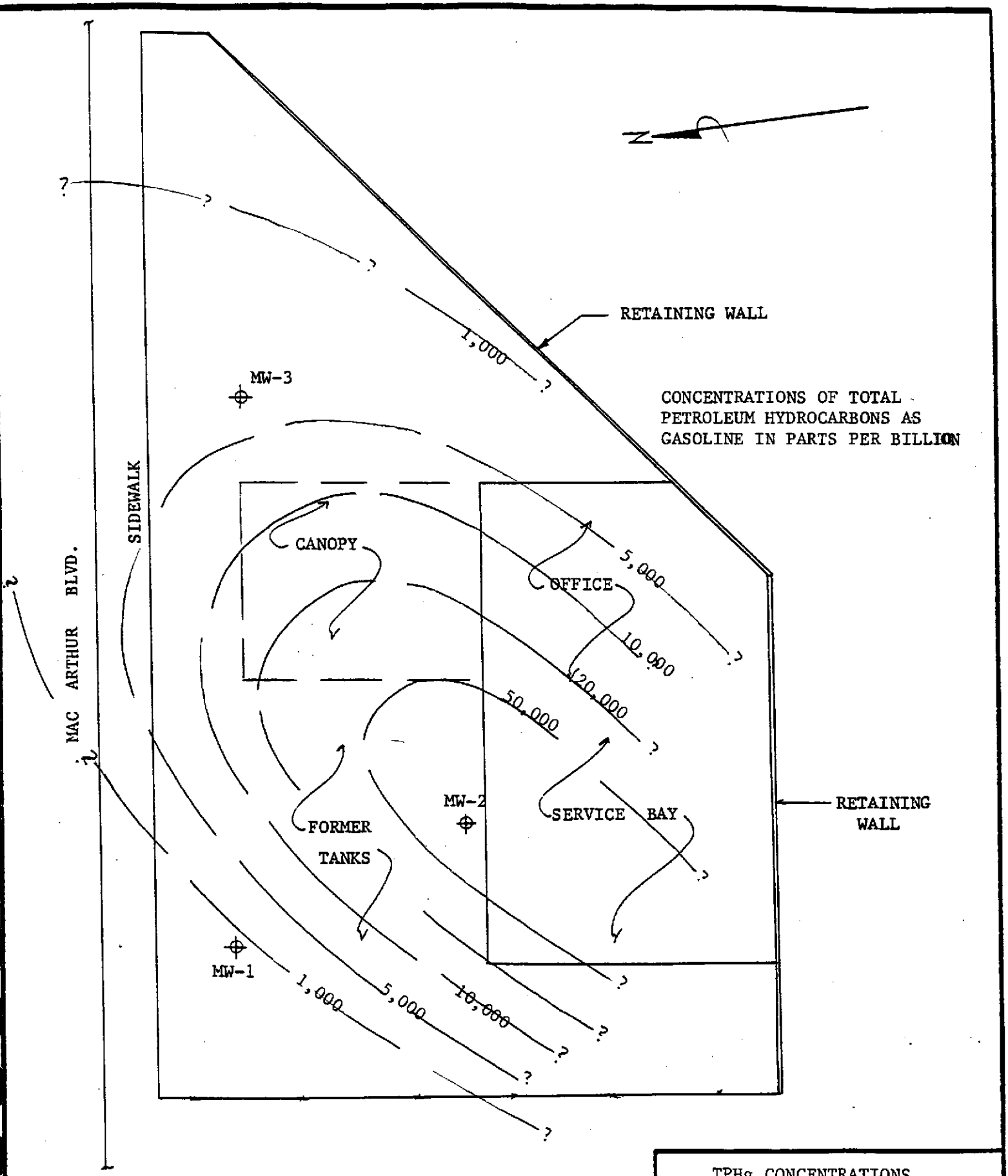
GeoPlexus, Inc.



SOURCE: Untitled Report dated June 29, 1993

GeoPlexus, Inc.

GROUNDWATER GRADIENT MAP		
DATE 12/27/94	SCALE 1" = 50'	DRAWN BY dcg
HOOSHI'S AUTOMOTIVE		
	Figure 4	



SOURCE: Untitled Report dated June 29, 1993

GeoPlexus, Inc.

TPHg CONCENTRATIONS		
DATE	SCALE	DRAWN BY
1/15/95	1" = 50'	dcg
HOOSHI'S AUTOMOTIVE		
	Figure 5	

APPENDIX A

CHAIN-OF-CUSTODY FORM
AND
ANALYTICAL TEST DATA

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

CHAIN-OF-CUSTODY

3470 AGP151

PROJECT NUMBER	PROJECT NAME
C94051	Aoshi's Auto Naomi English

Send Report Attention of: David Glick

Report Due: / /

Verbal Due: / /

Sample Number	Date	Time	Comp	Grab	Station Location	Number of Cntnrs	Type of Containers	Type of Analysis: TPH g / BTEX	Condition of Samples	Initial
MW1-W31A13	12/27/94	1049		1	MONWELL 1	2	Acid Pres 40 ml VOA	✓	43392	
MW2-W31A13	"	1135		1	MONWELL 2	"	"	✓	43393	
MW3-W31A13	"	1115		1	MONWELL 3	"	"	✓	43394	

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	12/29/94 1525	ABC/AERO 658	12-29-94 1525
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Walter Bergmann	1530 943	Erin Mahoney	12/30 9:43
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

Remarks: STANDARD TURNAROUND

VOAs | O&G | METALS | OTHER

ICE/T* ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓

PRESERVATIVE ✓
APPROPRIATE
CONTAINERS ✓

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: # C94051; Hooshi's Auto, Naomi English	Date Sampled: 12/27/94
		Date Received: 12/30/94
	Client Contact: David Glick	Date Extracted: 12/30/94
	Client P.O:	Date Analyzed: 12/30/94

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)

Lab ID	Client ID	Matrix	TPH(g)+	Benzene	Toluene	Ethylben-zene	Xylenes	% Rec. Surrogate
43392	MW1-WS1A	W	770,b,d	22	6.6	14	21	118#
43393	MW2-WS1A	W	94,000,a	11,000	18,000	2700	16,000	98
43394	MW3-WS1A	W	2600,b,d	180	9.0	7.2	13	118#
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, soil samples in mg/kg, and all TCLP extracts in mg/L

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) 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.

DHS Certification No. 1644

Edward Hamilton, Lab Director