

W I D

Wilkinson Interiors & Development
2664 Maplewood Lane
Santa Clara, Calif. 95051

March 28, 1993

SUBJECT: PRELIMINARY SITE CHARACTERIZATION
INVESTIGATION REPORT--1025 Eastshore
Highway, Albany, California

Ms. Juliet Shinn
Senior Hazardous Materials Specialist
#80 Swan Way
Oakland, California, 94621

Dear Ms. Shinn:

Enclosed is a copy of the PRELIMINARY SITE CHARACTERIZATION INVESTIGATION REPORT for our site.

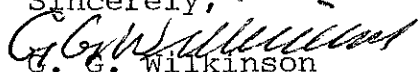
This report reveals no contamination in the monitor well water samples.

Former Hydraulic Pump Excavation Backfill: This report also documents the non-detect samples taken from this excavation plus the fact that this excavation was backfilled with free-flowing slurry on February 25, 1993.

We will monitor the water from the well in three months and advise you of the test results.

Contaminated stockpile of sand on the site: This is scheduled to be treated by Reed and Graham in San Jose the last week of April, 1993. (They are presently actually doing some maintenance work on the equipment so it could be a week earlier or a week later) .

Thanking you for your past help on our project.

Sincerely,

G. G. Wilkinson

Copy: Tad Tassone

Copy: David Glick

March 22, 1993

Mr. Gerry Wilkinson
Mr. Tad Tassone
Wilkinson Equipment Corporation
P. O. Box 7680
San Francisco, CA 94120

Subject: Preliminary Site Characterization Investigation Report
1025 Eastshore Highway, Albany, CA

Dear Messrs. Wilkinson and Tassone:

As requested and authorized, the attached Preliminary Site Characterization Investigation Report has been prepared to document the field investigation efforts performed at the subject site related to installation of one ground water monitoring well. The report presents the findings of the investigation and analytical testing performed on ground water samples obtained during the investigation along with conclusions and recommendations based on these findings.

In summary, the analytical testing did not detect Total Petroleum Hydrocarbons as gasoline, Total Petroleum Hydrocarbons as diesel, Volatile Aromatic Compounds (Benzene, Toluene, Ethyl Benzene, or Total Xylenes), or Oil & Grease in the ground water samples. The soil samples did not exhibit any indication of soil discoloration or contamination during the field investigation or during screening with a photoionization detector and were not submitted for analysis.

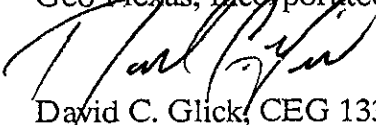
It is recommended that the ground water monitoring well at the site be sampled on a quarterly basis to monitor the absence of the hydrocarbon products in the ground water to support site closure.

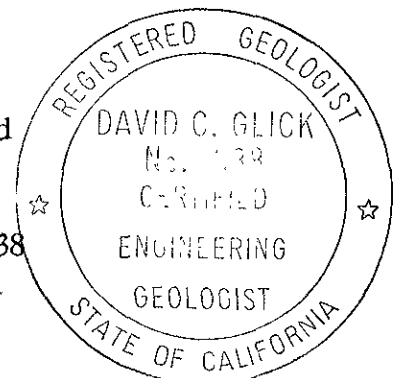
The attached report also documents the backfilling activities for the former hydraulic oil dispensing pump excavation which was located in the interior of the warehouse building at the project site.

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



PRELIMINARY SITE CHARACTERIZATION INVESTIGATION

for

WILKINSON EQUIPMENT CORPORATION

1025 EASTSHORE HIGHWAY

ALBANY, CA

Prepared for:

Wilkinson Equipment Corporation

P. O. Box 7680

San Francisco, CA 94120

Project C92054

March 22, 1993

PRELIMINARY SITE CHARACTERIZATION INVESTIGATION
for
WILKINSON EQUIPMENT CORPORATION
1025 EASTSHORE HIGHWAY, ALBANY, CA

INTRODUCTION

The project site is located at 1025 Eastshore Highway in the City of Albany, in Alameda County, California as indicated on Figure 1. The site has been, and currently is, occupied by an equipment rental facility. It is understood that six (6) underground storage tanks were removed from the site in October, 1992. The tanks included: (1) 8,000 gallon gasoline tank, (1) 4,000 gallon gasoline tank, (1) 8,000 gallon diesel tank, (1) 1,000 gallon waste oil tank, (1) 550 gallon motor oil tank, and (1) 550 gallon hydraulic oil tank and were located as indicated on Figure 2.

Soil samples were obtained during the tank removal activities by Blain Tech Services, Inc. and were submitted for analytical testing. The soil samples did not contain detectable concentrations of Total Petroleum Hydrocarbons as gasoline, Total Petroleum Hydrocarbons as diesel, Oil and Grease, Volatile Aromatic Compounds, or Volatile Organic Compounds. A ground water sample was also obtained from the tank excavation which contained 1,100 parts per billion (ppb) of Total Petroleum Hydrocarbons as gasoline, 170 ppb Total Petroleum Hydrocarbons as diesel, and 1,300 ppb Oil and Grease.

SCOPE OF WORK

To assess the potential impact to the ground water resources present at the site, Geo Plexus, Incorporated performed an investigation as described below:

- (1) advancing one exploration boring to a maximum depth of 20 feet in the "down-gradient" area of the former underground storage tanks and completing the boring as a ground water monitoring well;
- (2) development of the monitoring well and collection of ground water samples for analytical testing;
- (3) performing analytical testing on the ground water samples; and
- (4) preparation of this report documenting the findings of the investigation and presenting the results of the analytical testing.

Specifics of the individual investigative phases are described in the following sections of this report.

GROUND WATER GRADIENT DATA REVIEW

Local ground water data (direction of flow and gradient) was obtained from the site characterization investigation reports for two adjacent properties including:

USDA Agricultural Research Facility, 800 Buchanan Street
E.C. Buehrer Associates, 1061 Eastshore Highway

Based on the information derived from the reports for these sites it was determined that the direction of ground water flow in the immediate vicinity of the project site is in a westerly direction as indicated on Figure 3.

SUBSURFACE INVESTIGATION

A Monitoring Well Permit was obtained from the Alameda County Flood Control and Water Conservation District (Zone 7) prior to drilling the boring (attached as Figure 4). One exploration boring was advanced in the "reported down-gradient" direction of the former underground storage tanks (see Figure 5) to characterize the underlying soils conditions and for construction of a monitoring well. The boring was drilled by West Hazmat Drilling, a State of California Licensed Drilling Contractor, C57 License No. 554979 and was logged under the supervision of a State of California Certified Engineering Geologist.

The boring was advanced using an eight (8) inch, nominal diameter, continuous flight hollow stem auger. Soil samples were obtained from the borings at five foot intervals through the use of a 2-inch I.D. split-barrel sampler. The sampler was advanced into the undisturbed soil ahead of the auger to obtain a core sample. Pre-cleaned brass liners were placed in the sampler to retain the soil. The drill cuttings and soil samples obtained from the borings were monitored during drilling to observe moisture changes in the soils and to determine the depth of the first saturated zone.

The drilling and sampling equipment was thoroughly steam cleaned before drilling began to prevent the introduction of off-site contamination and again upon completion of drilling. The sampling equipment was cleaned between each sample event by washing in a hot water bath with a phosphate-free detergent and then rinsed in a hot water bath to prevent cross contamination. The soil cuttings derived from the soil boring were placed with the stockpiled soils derived from the tank removal for disposal. The rinsate water derived from the steam cleaning was contained in 55-gallon containers for disposal.

SUBSURFACE CONDITIONS

The soil boring revealed 4 feet of stiff, dark olive-gray, fibrous (organic fibers) silty clay underlain by 4 feet of medium dense to dense, orange-brown, medium-grained silty sand and 4-5 feet of stiff to dense, orange-brown clayey sand/sandy clay. A saturated zone of dense, orange-brown clayey sand was encountered between 13-19 feet underlain by a stiff, gray-brown silty clay. The orange-brown sediments encountered from 4-19 feet appear to be characteristic of the Merritt Sand Formation. The boring was terminated upon intercepting the gray-brown silty clay (possible aquitard). The Boring Log is presented as Figure 6.

The soil samples obtained from the boring were observed in the field for evidence of contamination (i.e., discoloration, odor, visible product, etc.). The soil samples did not exhibit any indication of contamination and were not retained for analytical testing.

Ground water was encountered in the exploration borings at a depth of 14 feet below the ground surface at the time of drilling. Water stabilized in Monitoring Well MW-1 at a depth of 12 feet at the time of drilling and at 6.5 feet following development of the monitoring well.

MONITORING WELL INSTALLATION

Following completion of the drilling, the boring was completed as a monitoring well constructed in accordance with Alameda County Monitoring Well Construction Guidelines by installing 2-inch diameter polyvinyl chloride (PVC) flush-threaded casing and slotted pipe directly through the hollow stem auger. The slotted section of the PVC pipe installed through the saturated zone had 0.010 inch factory perforations. The PVC materials used in the well construction were thoroughly cleaned prior to introduction into the boring.

The monitoring well was filter-packed with clean #2/16 silica sand throughout the screened interval. The filter-pack material was installed in the annular spacing between the monitoring well pipe and the auger as the auger was removed. The filter-pack was extended two feet above the top of the screened interval. To assure continuity and integrity of the filter material, and to prevent the bore hole from caving, no more than five feet of auger was removed at a time during placement of the filter-pack.

A one foot thick layer of bentonite pellets was placed above the filter material to provide an annular seal. The bentonite was hydrated with water prior to placement of the grout seal. The remainder of the boring was filled with an 11-sack cement-sand slurry to within one foot of grade. A locking cap was placed on the PVC well casing and a water tight aluminum traffic box was installed in concrete flush with the ground surface over the well casing. Figure 7 illustrates the construction of Monitoring Well MW-1.

MONITORING WELL DEVELOPMENT

The monitoring well was allowed to stabilize for a minimum of 72 hours between construction and development activities. Free product measurements were obtained prior to development utilizing an acrylic 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, visible sheen, or odors were not observed in the monitoring well.

The initial well development was through the use of a Brainard Kilman 1.7-inch hand pump (to remove sediment) and was followed by purging with a teflon bailer. The well was developed until a minimum of four well volumes had been purged and the discharged water appeared clear of sediment. Electrical conductivity, temperature, and pH of the ground water was recorded throughout the development process. The well development continued until the electrical conductivity, temperature, and pH of the discharged water stabilized (nine well volumes actually evacuated). Depth to water measurements were recorded prior to and following the well development activities. Ground water stabilized at a depth of 6.5 feet below the ground surface.

MONITORING WELL SAMPLING

The monitoring well was allowed to stabilize for a minimum of 72 hours between development and sampling activities. Free product measurements were obtained at the time of sample acquisition utilizing an acrylic bailer lowered into the wells to obtain a surface 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, visible sheen, or odors were not observed in the monitoring well.

Prior to sampling, a minimum of four well volumes were purged from the 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. Water samples for analytical testing were obtained through the use of the teflon bailer. The water developed from the monitoring wells was contained on-site pending receipt of the laboratory test results.

The water samples were collected in sterilized glass vials with Teflon lined screw caps. The water samples collected for Volatile Organics were collected in 40 mil. vials acidified with HCL by the analytical laboratory. The water samples collected for Total Petroleum Hydrocarbons as diesel and Oil & Grease were collected in sterilized 1-liter amber jars 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 added to the sample. The samples were placed on ice immediately for transport to the laboratory under chain-of-custody documentation.

ANALYTICAL TESTING

The ground water samples were submitted to and tested by McCampbell Analytical, Inc., a State of California, Department of Health Services certified testing laboratory. Analytical testing was scheduled and performed in accordance with the State of California, Regional Water Quality Control Board and Alameda County Guidelines. The analytical test data, along with the Chain-of-Custody Forms are presented in Appendix A.

The water samples were tested for Total Petroleum Hydrocarbons as gasoline by Method GCFID 5030/8015, Total Petroleum Hydrocarbons as diesel by Method GCFID 3550/8015, Oil and Grease by EPA Method 5520, and Volatile Aromatics by EPA Method 8020 as indicated on the Chain-of-Custody Form.

FORMER HYDRAULIC DISPENSER PUMP EXCAVATION BACKFILL

Geo Plexus, Incorporated personnel visited the subject site on January 28, 1993 to collect additional soil samples for analytical testing from the side walls and bottom of the excavation (see Figure 2) which was generated during, and subsequent to, the removal of a hydraulic oil dispenser pump (reference Geo Plexus Letter report dated February 13, 1993). The excavation was approximately 4 feet wide, approximately 5 feet long, and approximately 3 to 3 1/2 feet deep.

Five sample locations were identified where additional soil samples were obtained to determine the extent of soil contamination previously identified in the excavation. A hand-auger was used to facilitate collection of the soil samples at distances of 1-2 feet laterally from the existing excavation sidewall and a depth of 2 feet below the base of the excavation. The soil samples obtained during this sample event did not exhibit discoloration (sidewall samples were orange-brown fill soil and bottom sample was dark gray fibrous silty clay) or exhibit odors suggestive of hydrocarbon contamination (oil & grease, gasoline, or diesel).

The analytical testing did not detect reportable concentrations of Oil & Grease in the soil samples obtained from the excavation by Geo Plexus personnel.

Following discussions with Alameda County Department of Environmental Health personnel, and concurrence that additional work was not required, the loose, wet soil material which remained in the bottom and along the sidewalls of the excavation was removed by hand excavation techniques (approximately 1 cubic yard of soil) and stockpiled with the soil removed from the underground storage tanks for disposal. The excavation was subsequently backfilled with a free-flowing, self-compacting, 2-sack cement-sand slurry material on February 25, 1993.

CONCLUSIONS

The soil boring revealed 4 feet of stiff, dark olive-gray, fibrous (organic fibers) silty clays underlain by 14 feet of medium dense to dense, orange-brown, silty sand, clayey sand/sandy clay and clayey sand characteristic of the Merritt Sand Formation. The boring was terminated upon intercepting a gray-brown silty clay (possible aquitard) at 19-20 feet.

The soil samples obtained from the borings were observed in the field for evidence of contamination (i.e., discoloration, odor, visible product, etc.). The soil samples did not exhibit any indication of contamination and were not retained for analytical testing.

Ground water was encountered at a depth of 14 feet below the ground surface at the time of drilling and stabilized at 6.5 feet following development of the well.

The analytical testing did not detect Total Petroleum Hydrocarbons as gasoline, Total Petroleum Hydrocarbons as diesel, Oil & Grease, or Volatile Aromatic Compounds (Benzene, Toluene, Ethyl Benzene, or Xylenes) in the ground water sample obtained from Monitoring Well MW-1.

RECOMMENDATION

It is recommended that the ground water monitoring well at the site be sampled on a quarterly basis to monitor the absence of the hydrocarbon products in the ground water to support site closure.

LIMITATIONS

We have only observed a small portion of the pertinent soil and ground water conditions present at the site. Subsurface conditions across the site have been extrapolated from information obtained from review of existing documents and from the field investigation. The conclusions made herein are based on the assumption that soil 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.

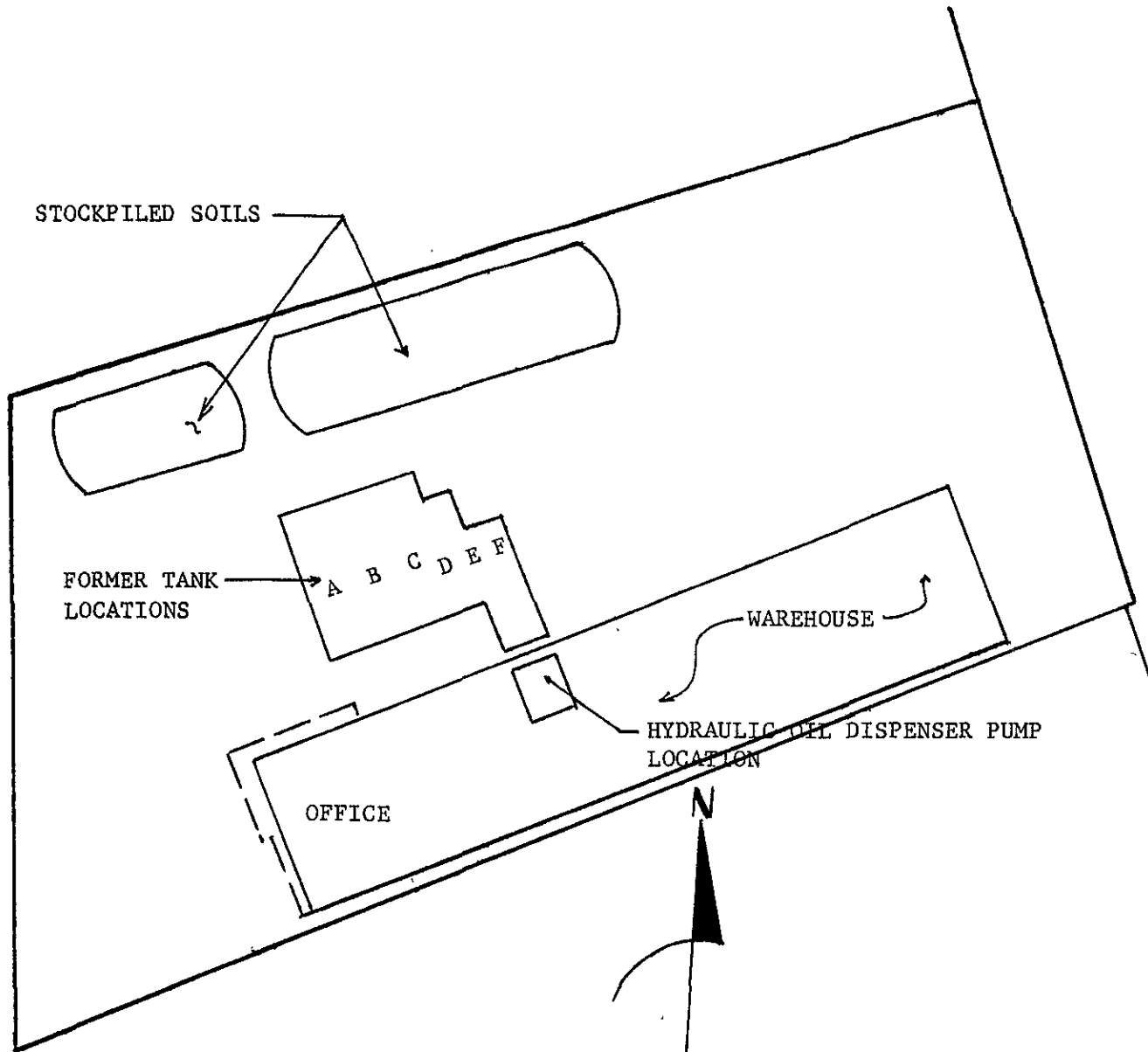
If you have questions regarding the findings, conclusions, or recommendations contained in this report, please contact us. We appreciate the opportunity to serve you.

Geo Plexus, Incorporated



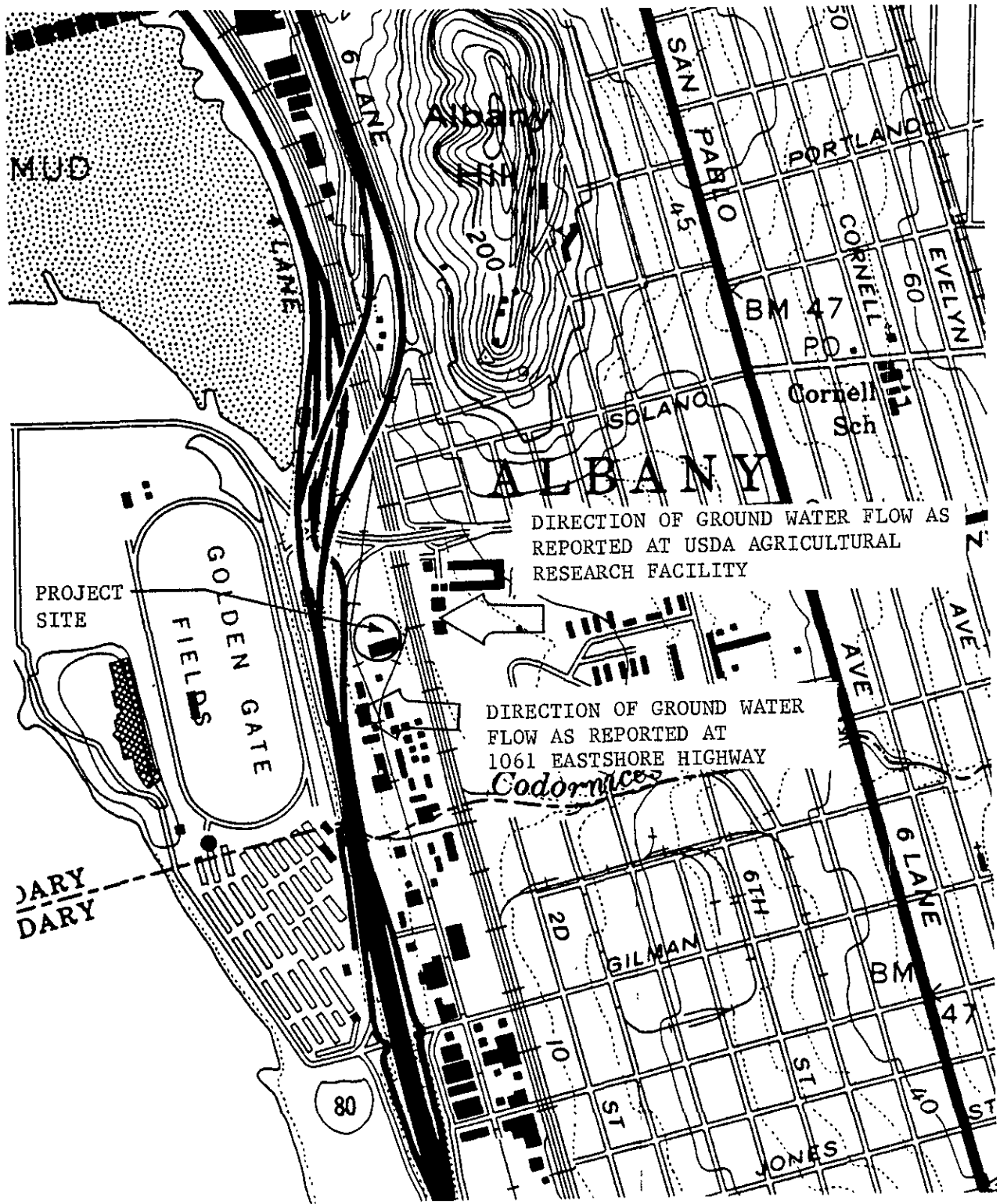
WILKINSON EQUIPMENT		
DATE 1/8/93	SCALE 1"=2000'	DRAWN BY dgc
VICINITY MAP		
Figure 1		

EASTSHORE HIGHWAY



- TANK A 3,000 gal gasoline
- TANK B 3,000 gal diesel
- TANK C 4,000 gal gasoline
- TANK D 1,000 gal waste oil
- TANK E 550 gal new motor oil
- TANK F 550 gal hydraulic oil

WILKINSON EQUIPMENT		
DATE 1-10-93	SCALE 1"=50'	DRAWN BY dcb/tf
SITE PLAN		
		Figure 2



WILKINSON EQUIPMENT		
DATE 1/8/93	SCALE na	DRAWN BY dcb
GROUND WATER DATA		
		Figure 3



ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE

PLEASANTON, CALIFORNIA 94588

VOICE (510) 484-2600

FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT Wilkinson Equipment Corporation
1025 Eastshore Highway
Albany, Ca

PERMIT NUMBER 93079
LOCATION NUMBER _____

CLIENT
Name Gerry Wilkinson
Address 2664 Maple Wood Lane Phone (408) 296-5386
City Santa Clara, CA Zip 95051

PERMIT CONDITIONS

Circled Permit Requirements Apply

APPLICANT
Name Geo Plexus, Inc.
Address 1900 Wyatt DR. Suite 1 Phone (408) 987-0210
City Santa Clara, CA. Zip 95054

A. GENERAL

1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

TYPE OF PROJECT

Well Construction	_____	Geotechnical Investigation	_____
Cathodic Protection	_____	General	_____
Water Supply	_____	Contamination	<u>X</u>
Monitoring	<u>X</u>	Well Destruction	_____

B. WATER WELLS, INCLUDING PIEZOMETERS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

PROPOSED WATER SUPPLY WELL USE

Domestic	_____	Industrial	_____	Other	_____
Municipal	_____	Irrigation	_____		

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

DRILLING METHOD:

Mud Rotary	_____	Air Rotary	_____	Auger	<u>X</u>
Cable	_____	Other	_____		

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

DRILLER'S LICENSE NO. C57 554979

E. WELL DESTRUCTION. See attached.

WELL PROJECTS

Drill Hole Diameter	<u>8</u> in.	Maximum	
Casing Diameter	<u>2</u> in.	Depth	<u>25</u> ft.
Surface Seal Depth	<u>5</u> ft.	Number	<u>1</u>

GEOTECHNICAL PROJECTS

Number of Borings	_____	Maximum	
Hole Diameter	_____ in.	Depth	_____ ft.

ESTIMATED STARTING DATE 3/8/93
ESTIMATED COMPLETION DATE 3/8/93

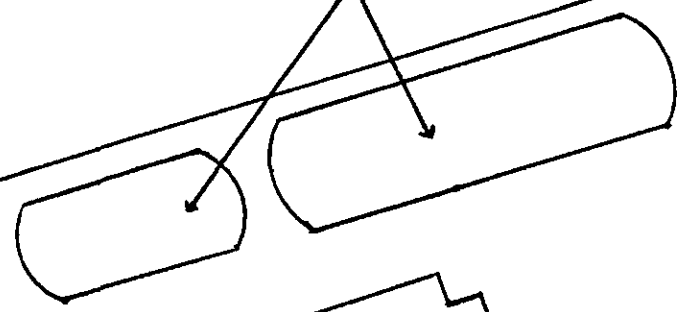
Approved Wyman Hong Date 18 Feb 93
Wyman Hong

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68

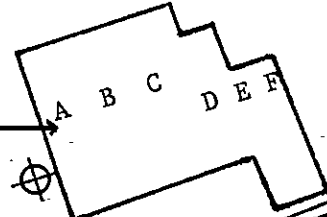
APPLICANT'S SIGNATURE [Signature] Date 1/19/93
CEG 1338

EASTSHORE HIGHWAY

STOCKPILED SOILS



FORMER TANK LOCATIONS



MONITORING WELL MW-1



WAREHOUSE



OFFICE

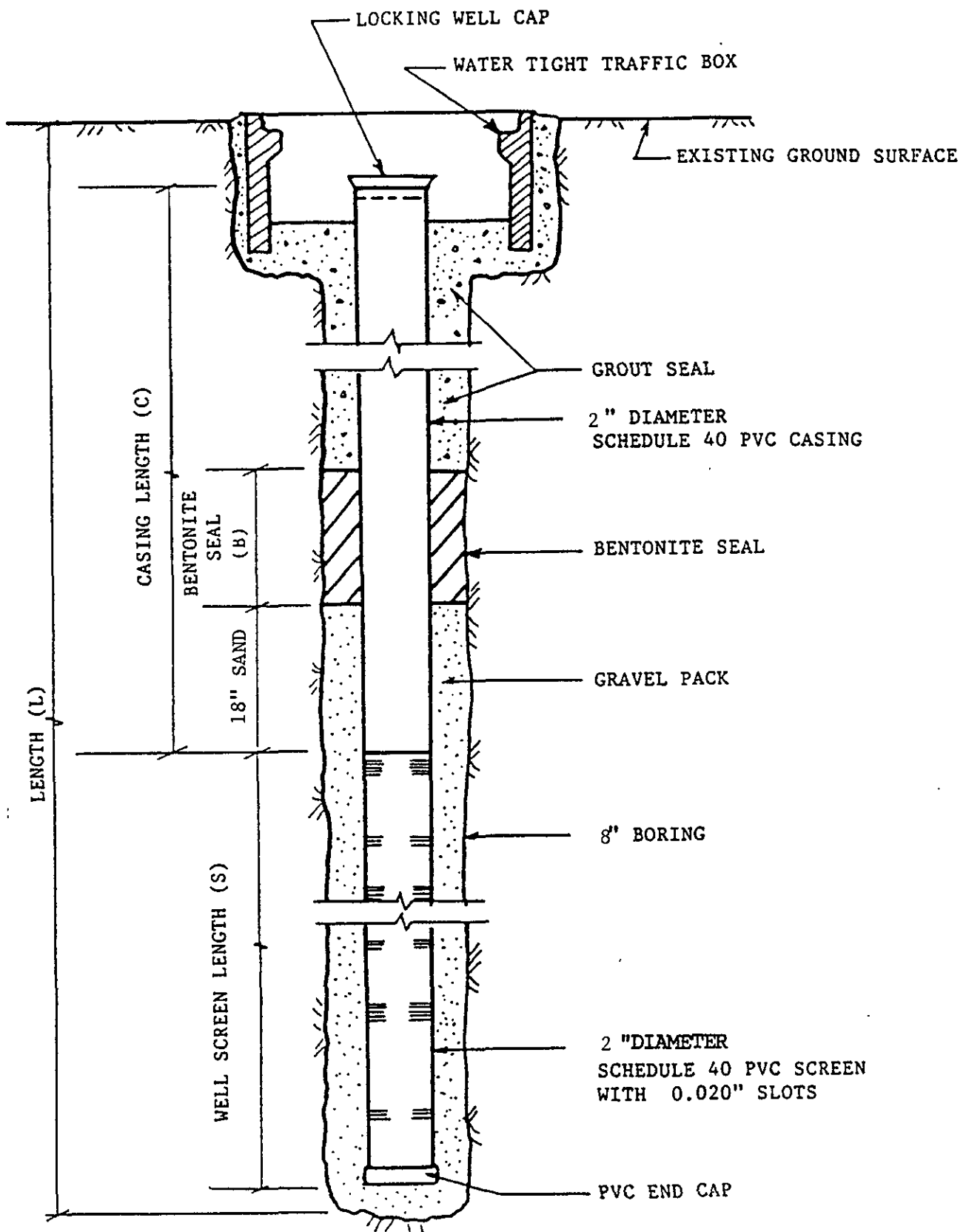
HYDRAULIC OIL DISPENSER PUMP LOCATION

- TANK A 8,000 gal. gasoline
- TANK B 3,000 gal. diesel
- TANK C 4,000 gal. gasoline
- TANK D 1,000 gal. waste oil
- TANK E 550 gal. new motor oil
- TANK F 550 gal. hydraulic oil

WILKINSON EQUIPMENT		
DATE	SCALE	DRAWN BY
3/4/93	1" = 50'	dcg/twf
MONITORING WELL LOCATION		
		Figure 5

SUBSURFACE DATA LOG

DRY DENSITY (lbs cu. ft.)	MOISTURE (% of dry wt.)	"N" VALUE (blows/ft.)	OVM READING (pprb)	SAMPLE TYPE	DEPTH (ft.)	LOG	U.S.C.
							LOG No. <u>MW-1</u> DATE: <u>2-25-93</u> LOCATION: <u>Wilkinson/Clementina Equipment</u> EQUIPMENT: <u>West Hazmat B-61</u> PROJECT No. _____
							3" PCC/3" Aggregate Base
						CL	<u>SILTY CLAY</u> , olive to dark-gray, moist, stiff high organic fiber content
	30	0	S1	5		SM	<u>SILTY SAND</u> , orange-brown, moist, dense, medium to coarse grained sand
	42	0	S2	10		ML/ CL	<u>CLAYEY SAND/SANDY CLAY</u> , orange-brown, moist, dense to stiff ∇ water level stabilized at time of drilling ∇ water first encountered
	14	0	S3	15		SC	<u>CLAYEY SAND</u> , orange-brown to medium brown, wet, dense
	24	0	S4	20		SC	<u>CLAYEY SANDY GRAVEL</u> , orange-brown, wet, dense
						CL	<u>SILTY CLAY</u> , gray-brown, moist, stiff
							Bottom of boring 20 feet. 2-inch dia. monitoring well constructed ∇ indicates water level



L = 20 feet
 S = 15 feet
 C = 5 feet
 B = 1 foot

MONITORING WELL MW-1		
DATE 2-25-93	SCALE n/a	DRAWN BY dgc
WILKINSON EQUIPMENT CORPORATION		
		Figure 7

APPENDIX A
CHAIN-OF-CUSTODY FORMS
AND
ANALYTICAL TEST DATA

PROJECT NUMBER		PROJECT NAME				Number of Cntrs	Type of Containers	Type of Analysis				Condition of Samples	Initial	
C92054		Clementina/Willkinson						TPHG	TPHD	BTEX	Oil & Grease			
Send Report Attention of:		Report Due		Verbal Due										
David Glick		1 1		1 1										
Sample Number	Date	Time	Comp	Grab	Station Location									
MW-A WS-1 A,B	3/4/93	0900		1	mon well A	2 ea	Acidified 40 mL VOR'S	1		1			Good	EG
MW-1 WS-1 A,B,C	↓	1334		1	mon well 1	3 ea	↓	1		1			↓	↓
MW-1 WS-2 A,B,C	↓	1340		1	mon well 1	3 ea	1 LTR			1	1		↓	↓
						ICE/GOOD CONDITION ✓ PRESERVATIVE ✓ X HEAD SPACE APPROPRIATE ✓ CONTAINED ✓								

No. 21756
No. 21757
No. 21758

Relinquished by: (Signature) <i>Tom [Signature]</i>	Date/Time 3-8-93 1130	Received by: (Signature) <i>James R. Hamilton</i>	Date/Time 3-8-93 11:30
Relinquished by: (Signature) <i>James R. Hamilton</i>	Date/Time 3-8-93 5:23	Received by: (Signature) <i>Ed [Signature]</i>	Date/Time 3-8-93 5:23
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

Remarks: Purchase Order No.: 93-3016
Standard Turn Around

COMPANY: Geo Plexus, Inc.
ADDRESS: 1900 Wyatt Drive, Suite 1 Santa Clara, CA 95054

GEO Plexus, Inc. 1900 Wyatt Drive, #1 Santa Clara, CA 95054	Client Project ID: #C92054; Clmentina/Wilkinson	Date Sampled: 03/04/93
	Client Contact: David Glick	Date Received: 03/08/93
	Client P.O:	Date Extracted:
		Date Analyzed: 03/09/93

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
21756	MW-A WS-1AB	W	ND	ND	ND	ND	ND	104
21757	MW-1 WS-1 A	W	ND	ND	ND	ND	ND	101
Detection Limit unless otherwise stated; ND means Not Detected	W	50 ug/L	0.5	0.5	0.5	0.5	0.5	
	S	1.0 mg/kg	0.005	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.

EH Edward Hamilton, Lab Director

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: #C92054; Clmentina/Wilkinson	Date Sampled: 03/04/93
	Client Contact: David Glick	Date Received: 03/08/93
	Client P.O:	Date Extracted: 03/13/93
		Date Analyzed: 03/13/93

Medium Boiling Point (C10-C23) TPH* as Diesel

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(D) ⁺
21758	MW-1 WS-2 A	W	ND
Detection Limit unless otherwise stated; ND means Not Detected	W	50 ug/L	
	S	10 mg/kg	

*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 diesel; b) diesel range compounds predominate; no recognizable pattern; c) diesel range compounds together with gasoline range compounds; d) gasoline range compounds predominate; e) medium boiling point pattern that does not match diesel(); f) one to a few isolated peaks present; g) oil range compounds predominate.

EH
Edward Hamilton, Lab Director

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: #C92054; Clementina/Wilkinson	Date Sampled: 03/04/93
	Client Contact: David Glick	Date Received: 03/08/93
	Client P.O:	Date Extracted: 03/12/93
		Date Analyzed: 03/12/93

Total Recoverable Petroleum Hydrocarbons as Oil & Grease (with Silica Gel Clean-up) *
 Standard Methods 5520 E&F or 503 D&E for solids and 5520 B&F or 503 A&E for liquids

Lab ID	Client ID	Matrix	TRPH
21758	MW-1 WS-2 A	W	ND
Detection Limit unless otherwise stated; ND means Not Detected	W	5 mg/L	
	S	50 mg/kg	

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

 54 Edward Hamilton, Lab Director

QC REPORT

Date: 03/08-03/13/93

Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		
	Sample	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	108.6	110.8	102	107	109	2.0
Benzene	0.0	9.1	8.9	10	91	89	2.2
Toluene	0.0	10.4	10.0	10	104	100	3.9
Ethyl Benzene	0.0	10.7	10.4	10	107	104	2.8
Xylenes	0.0	32.0	30.9	30	107	103	3.5
TPH (diesel)	0	564	549	600	94	91	2.7
TRPH (oil & grease)	2500	27700	29700	23700	106	115	7.0

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$