Applied GeoSystems 3315 Almaden Expressway, Suite 34, San Jose, CA 95118 (408) 264-7723

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LIMITED SUBSURFACE ENVIRONMENTAL INVESTIGATION

at

ARCO Service Station No. 6113
785 East Stanley Boulevard
Livermore, California

Dec 89 01

AGS Job No. 69028-2

Report prepared for

ARCO Products Company
P.O. Box 5811
San Mateo, California 94403

by
Applied GeoSystems

George L. Williams
Assistant Project Geologist

Michael N. Clark
C.E.G. 1264

December 6, 1989

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December 6, 1989
AGS 69028-2

Mr. Kyle Christie
ARCO Products Company
P.O. Box 5811
San Mateo, California 94403

Subject: Limited Subsurface Environmental Investigation at ARCO Service Station No. 6113, 785 East Stanley Boulevard, Livermore, California.

Mr. Christie:

As you requested, the attached report discusses Applied GeoSystems' most recent phase of work at the above referenced site and summarizes the results of previous environmental investigations performed by Pacific Environmental Group, Inc. Our work was in response to a letter to ARCO Products Company (ARCO) from the Alameda County Environmental Health Department (ACEHD), dated May 4, 1989. Our work was limited to the investigation of the extent of hydrocarbon contamination related to the underground waste-oil tank formerly located at the site and included drilling three soil borings, constructing three 2-inch-diameter monitoring wells in the borings, developing the wells, collecting water samples for laboratory analysis, evaluating the ground-water gradient, and preparing this report documenting our findings, conclusions, and recommendations.

From the results of this investigation, Applied GeoSystems concludes the following.

- Soil in the locations drilled does not appear to beaffected by total petroleum hydrocarbons as gasoline and diesel (TPHg and TPHd) and TOG.
- No volatile or semivolatile organic compounds were detected in the soil samples.
- The metals lead, chromium, and zinc (Pb, Cr, and Zn) were detected at low concentrations in the soil samples collected from various depths. Detection of these generally consistent, low metal concentrations in the soil in the absence of other contaminants leads us to conclude that these levels appear to be natural background concentrations for the soil in the area.

- The metal concentrations detected in the soil by Anametrix, Inc., of San Jose, California (Hazardous Waste Testing Laboratory Certification No. 151), are below respective designated levels set by the California Regional Water Quality Control Board (CRWQCB) for ground-water protection.

- Ground-water samples from wells MW-1 and MW-3 have low concentrations of TPHg, benzene, toluene, ethylbenzene, and xylene. However, the concentrations detected for benzene are above MCL's.

- Ground water at the site appears to be confined or semi-confined, based on the earth materials encountered and the observed rise in ground water levels in the three ground-water monitoring wells.

- Ground water levels measured in the wells at the site indicate a gradient at the site which is inconsistent with the regional ground water flow direction. ?

Applied GeoSystems recommends that the wells be monitored on a quarterly basis for one year to: (1) confirm the present ground-water gradient direction and monitor any changes in the gradient; (2) confirm the presence of TPHg and BTEX in wells MW-1 and MW-3; and (3) monitor contaminant trends in the three wells.

We will also recommend installing at least one ground-water monitoring well downgradient of the waste-oil tank if TPHg and BTEX concentrations persist or tend to increase over time and if subsequent ground-water level measurements continue to indicate a northeasterly gradient.

Copies of this report should be sent to the following regulators:

(1) Mr. Scott Hugenberger
Regional Water Quality Control Board
San Francisco Bay Region
1111 Jackson Street
Oakland, California 94607

(2) Mr. Gil Wistar
Hazardous Materials Specialist
Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

Please call if you have questions regarding the contents of this report.

Sincerely,
Applied GeoSystems

George L. Williams
Assistant Project
Geologist

Enclosure: Report on Limited Subsurface Environmental Investigation

cc: Mr. Chris Winsor, ARCO Products Company

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LIMITED SUBSURFACE ENVIRONMENTAL INVESTIGATION at ARCO Station No. 6113 785 East Stanley Boulevard Livermore, California

For ARCO Products Company

INTRODUCTION

This report summarizes previous work conducted by Pacific Environmental Group (Pacific) and describes the limited subsurface environmental investigation performed by Applied GeoSystems at ARCO Products Company (ARCO) Station No. 6113, 785 East Stanley Boulevard, Livermore, California. This work was limited to evaluation of the lateral and vertical extent of hydrocarbon and metal contamination in the soil and potential impact on ground water near the former underground waste-oil tank. ARCO requested that Applied GeoSystems perform this investigation in response to a letter from Alameda County Department of Environmental Health (ACDEH) to ARCO, dated May 4, 1989.

Work at the site included: (1) drilling three soil borings to depths ranging between 39 and 46 feet below the ground surface; (2) collecting soil samples at intervals of no greater than five feet in the borings and logging the soil types encountered during drilling; (3) installing three 2-inch-diameter ground-water monitoring wells in the borings; (4) contracting a licensed surveyor to survey the well locations; (5) collecting and subjectively analyzing water samples from the wells at the site; and (6) analyzing soil and ground-water samples from each boring for total petroleum hydrocarbons (TPH); benzene, toluene, ethylbenzene, and xylene (BTEX); total petroleum oil and grease (TOG); lead, chromium, and zinc (Pb, Cr, Zn); volatile organic compounds (VOC); and semi-volatile organic compounds (semi-VOC).

SITE DESCRIPTION AND BACKGROUND

The site is an operating gasoline station and mini-market in a commercial and residential area. It is located on the southwestern corner of East Stanley Boulevard and Murrieta Boulevard in Livermore, California, as shown on the Site Vicinity Map (Plate P-1). The elevation of the site is 457 feet above mean sea level. The locations of a former underground waste-oil tank, underground gasoline-storage tanks, and selected site features are shown on the Generalized Site Plan (Plate P-2).

PREVIOUS WORK

Previous work performed at the site in January and February 1989 by Pacific and Crosby & Overton, Inc. (C&O), included soil excavation, removal of the 280-gallon waste-oil tank, and collection of soil samples for laboratory analysis. The waste- oil tank pit was excavated and the tank removed from the pit by C&O on January 26, 1989. During the removal of the waste-oil tank, Pacific observed that the tank displayed no sign of leakage from either the fill pipe or the tank and reported no detectable product odor in the soil beneath the tank. Pacific reported that soil removed from the northern wall of the tank excavation was slightly darker than soil from other areas of the excavation.

The tank pit was excavated to a depth of 7-1/2 feet below grade. Pacific collected a soil sample (WO-1) at this depth (two feet below the bottom of the former waste-oil tank) in the central portion of the excavation. Pacific also collected a soil sample (WOSW-N) from the discolored area at a depth of 5 feet in the northern wall of the tank excavation, as requested by Mr. Gil Wistar of ACDEH (Pacific Environmental Group, April 25, 1989). The soil samples were analyzed for (1) total oil and grease (TOG), (2) high boiling hydrocarbons (HBHC, calculated as oil and diesel), (3) semi-volatile organic compounds, (4) volatile organic compounds (VOC), and (5) cadmium, chromium, lead,

and zinc at International Technology Corporation (Hazardous Waste Testing Laboratory No. 137) in San Jose, California. The results of these analyses are shown in Table 1 and Table 2.

Pacific reported that concentrations of chromium, lead, zinc, and the nine semivolatile organic compounds listed in Table 2 were below the levels set by the California Regional Water Quality Control Board [CRWQCB] for these compounds in soil. Because elevated concentrations of TOG (660 to 1700 ppm) and HBHC (60 to 790 ppm) were detected in both samples, the pit was excavated further 2 feet laterally and 1 foot vertically on February 3, 1989. Soil sample WO-2 was collected at a depth of 8-1/2 feet from the center of the excavation, and soil sample WOSW-N2 was collected at a depth of 7 feet from the northern end of the excavation. These samples were analyzed at International Technology Corporation for total oil and grease (EPA Method 3550 and Standard Methods Section 503E) and high boiling hydrocarbons (calculated as oil and diesel by EPA Method 8015). The results of laboratory analysis of these samples are shown in Table 1.

As indicated in Pacific's report, the excavation was backfilled with clean fill material to the original grade. Pacific concluded that, due to the proximity of the excavation to the station building, further excavation would have threatened the stability of the station

building. The tank and stockpiled soil were disposed of as hazardous waste by C&O and ARCO at Chemical Waste Management's Kettleman Hills facility.

TABLE 1
RESULTS OF LABORATORY ANALYSIS OF SOIL SAMPLES
FOR PETROLEUM HYDROCARBONS AND METALS
ARCO Service Station No. 6113
785 East Stanley Boulevard
Livermore, California

Sample Identifier	TOG	HBHC DIESEL	HBHC OIL	ZN	PB	CD	CR
01/26/89							
WO-1	660	160	60	36	18	ND	35
WOSW-N	1700	490	790	43	16	ND	61
02/03/89							
WO-2	ND	ND	ND	NM	NM	NM	NM
WOSW-N2	1100	30	800	NM	NM	NM	NM

Results in parts per million (ppm).

TOG: Total oil and grease
HBHC: High boiling hydrocarbons
ZN: zinc PB: lead CD: cadmium CR: chromium

ND: Not detected NM: Not measured

TABLE 2
RESULTS OF LABORATORY ANALYSIS OF SOIL SAMPLES FOR SEMIVOLATILE ORGANIC COMPOUNDS
ARCO Service Station No. 6113
785 East Stanley Boulevard
Livermore, California

Sample Identifier	PYRENE	PHENANTHRANE	ANTHRACENE	FLOURANTHENE	BENZO(a)-ANTHRACENE
01/26/89					
WO-1	19	14	3.9	21	7.3
WOSW-N	13	15	3.5	15	5

Sample Identifier	CHRYSENE	BENZO(b)-FLOURANTHENE	BENZO(k)-FLOURANTHENE	BENZO(a)-PYRENE
01/26/89				
WO-1	7.2	4.4	4.4	ND
WOSW-N	5	ND	ND	3.4

Results in parts per million (ppm).
ND: Not detected

REGIONAL AND LOCAL HYDROGEOLOGY

The City of Livermore is located in the Livermore Valley, which is an intermontane valley in the Coast Ranges Geomorphic Province. The valley is approximately 13 miles long in an east-west direction and is 4 miles wide. The valley is surrounded by hills of the Diablo Range. The valley floor slopes gently toward the west. The principal

streams in the area are the Arroyo Valle and Arroyo Mocho, which flow toward the western end of the valley. Arroyo Mocho is approximately 1/10 mile south-southwest of the site.

Livermore Valley is underlain by non-water-bearing rocks, water-bearing rocks, and sediments. The water-bearing rocks and sediments comprise the Livermore Valley ground-water basin. Water-bearing rock units include the Tassajara Formation, the Livermore Formation, and valley-fill materials (California Department of Water Resources, 1966, 1974).

The Livermore Valley ground-water basin is divided into sub-basins on the basis of fault traces or other hydrologic discontinuities. The ground-water system in Livermore Valley is a multilayered system with an unconfined aquifer overlying a sequence of leaky or semiconfined aquifers. Ground water in the basin flows downslope toward the east-west-trending axis of the valley and then flows generally to the west. Regional ground water is inferred to flow to the west-northwest (Zone 7, Alameda County Flood Control, 1986). Ground water at the site flows to the northeast and is approximately 19 feet below the ground surface.

FIELD WORK

Three soil borings were drilled to depths between 39 and 44-1/2 feet below ground surface near the west end of the ARCO mini-market building. Soil boring B-1 was located approximately 10 feet from the former waste-oil tank location in the regionally inferred downgradient direction (west). Soil borings B-2 and B-3 were located approximately 46 feet west and 32 feet northwest of boring B-1, respectively, to evaluate the downgradient extent of soil and potential ground-water contamination. The locations of the borings are shown on Plate P-2.

The borings were drilled with a B-40 truck-mounted drill rig equipped with 6-inch-diameter, hollow-stem augers. The augers were steam-cleaned prior to drilling each boring to minimize the possibility of cross-contamination. As drilling progressed, an Applied GeoSystems geologist logged earth materials encountered in the borings by the Unified Soil Classification System, Plate P-3. Earth materials encountered in the borings were logged for inclusion in this report (Logs of Boring, Plates P-4 through P-9).

Soil cuttings generated during drilling were placed on and covered with Visquene. Soil cuttings were screened with an organic vapor meter (OVM). None of the soil cuttings were found to have concentrations of organic vapor. The soil cuttings remain at the site and are the responsibility of ARCO. A detailed summary of the field procedures

employed by Applied GeoSystems is enclosed in Appendix A of this report. The work for this investigation was performed in accordance with Site Safety Plan (AGS No. 69028-2S).

SOIL DESCRIPTION

The soil encountered during drilling generally was found to be clayey silt, with some gravel and sand. At the surface of the site, a silty sand layer, approximately 3 feet thick, overlies an approximately 6- to 10-foot-thick gravel-and-cobble lens and clayey gravel layer. An 18- to 24-foot-thick silty clay layer with interspersed gravel, pebbles, and fine sand is beneath the gravel and clayey gravels. Beneath the silty clay is a water-bearing silty to clayey-gravel approximately 6 feet thick. This water-bearing layer is underlain by a stiff silty clay of unknown total thickness greater than 3 feet. An interpretation of the distribution of earth materials at the site is shown on the geologic cross section A-A' and B-B' (Plates P-10 and P-11).

LABORATORY ANALYSIS

The following tests were performed on the soil samples collected from the waste-oil tank pit by Pacific, during their previous work at the site:

(1) Total petroleum hydrocarbons as gasoline (TPHg) by gas chromatography and flame ionization detector (GCFID) using EPA Method 5030.

(2) TPH as diesel (TPHd) by GCFID using either EPA Method 3510 or 3550.

(3) Total oil and grease (TOG) using Standard Method 503E.

(4) Benzene, toluene, ethylbenzene, and total xylenes (BTEX) by modified EPA Method 8020.

(5) Volatile and semivolatile organic compounds by EPA Methods 8240 and 8270, respectively.

(6) Lead, chromium, and zinc (Pb, Cr, and Zn) by EPA Method 6010.

The same analyses were applied to samples collected during Applied GeoSystems' investigation. Nine selected soil samples (three samples from each boring) and groundwater samples from each well were analyzed by Anametrix, Inc., of San Jose, California (Hazardous Waste Testing Laboratory Certification No. 151). Detection limits for the test methods used and concentrations detected are stated on the laboratory reports in Appendix B.

RESULTS OF LABORATORY ANALYSIS

Analysis of soil samples collected by Pacific from the tank pit showed metals, volatile organic compounds, and high boiling range petroleum hydrocarbons (Pacific Environmental Group, 1989). Analysis of soil samples collected by Applied GeoSystems from the borings, however, showed no TPHg, TPHd, TOG, or volatile or semivolatile organic compounds . The metals lead, chromium, and zinc (Pb, Cr, and Zn) were detected at generally low concentrations in the soil samples. The metal concentrations detected by Anametrix in the soil samples are below their respective designated levels set by the California Regional Water Quality Control Board (CRWQCB) for ground-water protection and are summarized in Table 3. Ground-water samples analyzed by Anametrix were reported to contain no detectable concentrations of volatile or semivolatile organic compounds. Ground-water samples analyzed from well MW-2 were reported to contain no detectable concentrations of TPHg, TPHd, TOG, and BTEX. However, water samples from wells MW-1 and MW-3 were reported to contain concentrations of BTEX and TPHg (TPHd and TOG were not detected). These results are summarized in Table 3 and 4 and are included in the results of laboratory analysis included in Appendix B to this report.

TABLE 3
METAL CONCENTRATIONS IN SOIL AND GROUND WATER
ARCO Station No. 6113
785 East Stanley Boulevard
San Jose, California

Sample Identifier	Cr	Pb	Zn
S-14.5-B1	51.5	11	43.8
S-34.5-B1	44	7.3	37.1
S-44.5-B1	44.2	11.5	49.7
S-19-B2	51	12.7	56.8
S-34-B2	76.7	7.46	31.6
S-41-B2	56.5	11.0	46.7
S-14-B3	61.6	10.1	49.9
S-34-B3	37.5	4.36	30.5
S-37.5-B3	37.2	8.36	47.6
W-22-MW1	0.063	<0.05	0.185
W-20-MW2	0.063	<0.05	0.170
W-21-MW3	0.443	<0.05	0.556

Results in milligrams per kilogram (mg/kg), or parts per million (ppm). Cr = Total Chromium Pb = Lead Zn = Zinc

Maximum Contaminant Levels (MCL):

Cr = 0.05ppm
Pb = 0.05ppm
Zn = 5.0 ppm

Soil Designated Levels:

Cr = 500 ppm
Pb = 500 ppm
Zn = 200,000 ppm

Sample identification:

S-41-B2
- S: Soil sample
- 41: Approximate sample depth
- B2: Boring number

W-21-MW3
- W: Ground-water sample
- 21: Approximate sample depth
- MW3: Monitoring-Well Number

TABLE 4
RESULTS OF LABORATORY ANALYSIS OF
GROUND-WATER SAMPLES
ARCO Station No. 6113
785 East Stanley Boulevard
San Jose, California

Sample Identifier	TPHg	B	E	T	X
10/12/89		3 PPB			
W-22-MW1	0.08	~~0.003~~	0.0007	0.001	0.001
W-20-MW2	<0.05	<0.0005	<0.0005	<0.0005	<0.001
W-21-MW3	0.170	0.0089	0.0011	0.0006	<0.001
		8.9 PPB			

Results in parts per million (ppm).

TPHg: Total petroleum hydrocarbons as gasoline
B:benzene E:ethylbenzene T:toluene X:total xylene isomers

Sample identification: W-21-MW3
- W-21-MW3 — Monitoring-Well number
- W-21-MW3 — Approximate sample depth in feet
- W-21-MW3 — Ground-water sample

EVALUATION OF GROUND-WATER GRADIENT

Ground-water levels were measured to evaluate ground-water gradient at the site. Mr. Ron Archer, a licensed land surveyor (C.E. 23721) from Pleasanton, California, referenced the elevation of the top of each well casing to National Geodetic Vertical Datum. An Applied GeoSystems geologist measured the static water level in each well

on September 20 and October 12, 1989. We used a Solinst water-level indicator to measure water levels in each well to the nearest 0.01 foot to allow calculation of the differences in water-level elevations between the wells. The water-level elevation differences were evaluated to construct a ground-water gradient map, Plate P-12, and are summarized in Table 5.

The local ground-water gradient and direction of ground-water flow is interpreted to be toward the northeast with a gradient of 0.028 (2.8 vertical feet per 100 feet of lateral distance). This interpreted direction of local ground-water flow is not consistent with the inferred direction of ground-water flow.

TABLE 5
GROUND-WATER ELEVATION DIFFERENCES
ARCO Station No. 6113
785 East Stanley Boulevard
San Jose, California

Date	Monitoring Well Number	Top of Casing (C)	Static Water Depth (W)	Calculated Water Level (C - W)
09/20/89	MW-1	457.04	21.03	436.01
	MW-2	457.74	20.67	437.07
	MW-3	456.97	20.98	435.99
10/12/89	MW-1	457.04	19.64	437.40
	MW-2	457.74	18.98	438.76
	MW-3	456.97	19.66	437.31

CONCLUSIONS

From the results of this investigation, Applied GeoSystems concludes that:

- soil in the locations drilled does not appear to be affected by TPHg, TPHd, TOG, VOC, or semi-VOC. This conclusion is based on no detectable concentrations of these compounds reported in the soil samples collected from borings B-1 through B-3.

- the concentrations of lead, chromium, and zinc (Pb, Cr, and Zn) reported by Anametrix in the soil samples are below their respective designated levels set by the CRWQCB for ground-water protection. The reported concentrations of these metals appear to be natural background concentrations for soil in the area. This conclusion is based on generally consistent low concentrations of these metals and the absence of other contaminants in the soil samples collected from various depths by Applied GeoSystems and Pacific.

- the concentrations of benzene detected in the water samples from MW-1 and MW-3 are above the maximum contaminant level (MCL) for benzene set by the California Department of Health Services (DHS). Benzene and TPHg were detected at 0.003 ppm and 0.08 ppm, respectively, in ground-water samples from well MW-1 and 0.0089 ppm and 0.170 ppm, respectively, in ground-water samples form well MW-3. The MCL for benzene is 0.001 ppm (1 PPB). Presently there is no MCL for TPHg, however, the levels of TPHg allowable in the ground water is guided by the levels of benzene in the ground water (Whyte, 1989).

- from present data, the source of TPHg and BTEX is unknown.

- Ground water at the site appears to be confined or semi-confined, based on the earth materials encountered during drilling and an observed rise in ground water levels in the three ground-water monitoring wells.

- Ground water levels measured in the wells at the site indicate a gradient at the site which is inconsistent with the regional ground water flow direction.

PLANNED SITE ACTION

Applied GeoSystems recommends that the wells be monitored on a quarterly basis for one year to: (1) confirm the present ground-water gradient direction and monitor any changes in the gradient; (2) confirm the presence of TPHg and BTEX in wells MW-1 and MW-3; and (3) monitor contaminant trends in the three wells.

We will also recommend installing at least one ground-water monitoring well downgradient of the waste-oil tank if TPHg and BTEX concentrations persist or tend to increase over time and if subsequent ground-water level measurements continue to indicate a northeasterly gradient.

REFERENCES

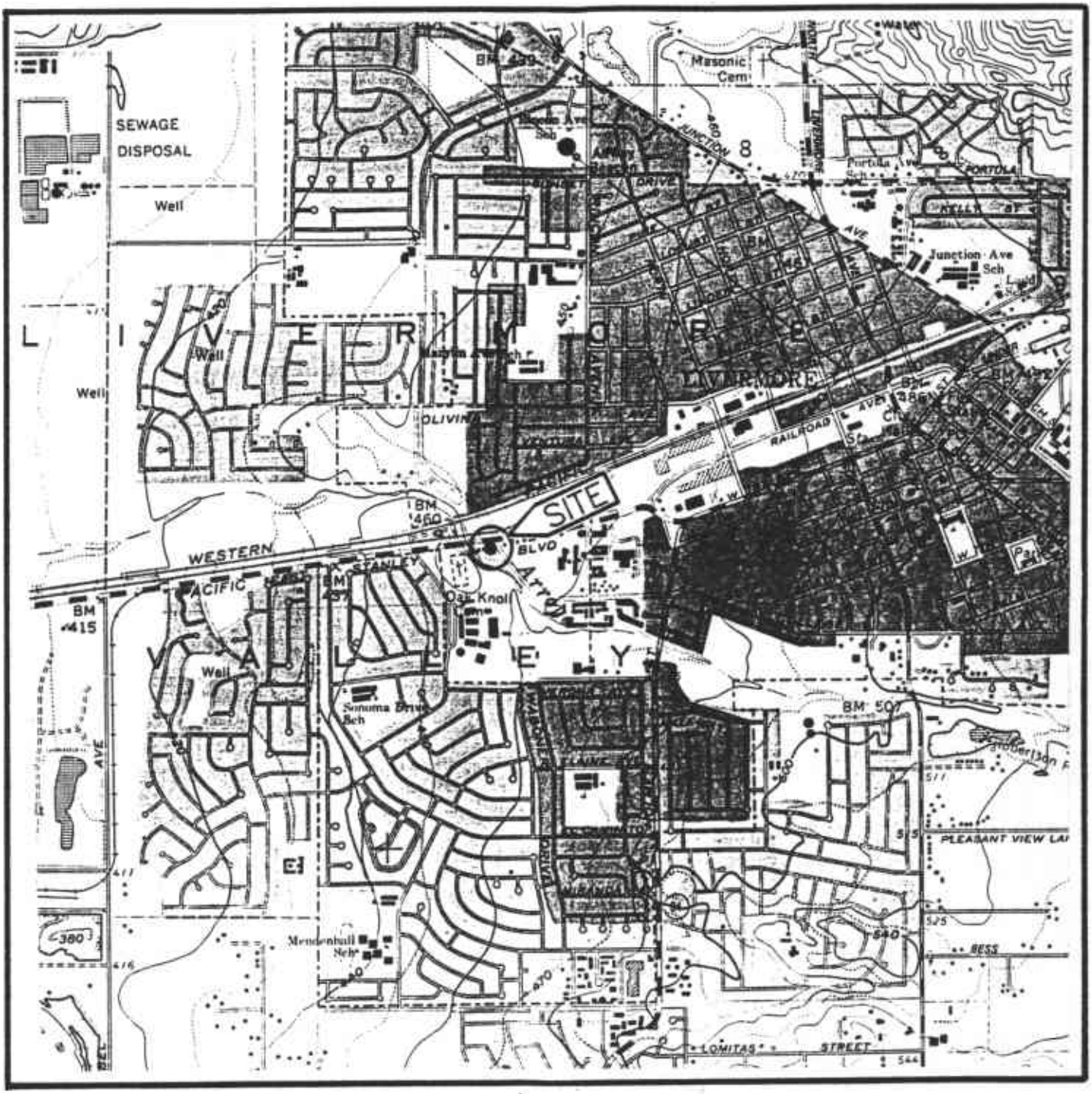
California Department of Water Resources. 1966. Evaluation of Ground-Water Resources, Livermore and Sunol Valleys. Bulletin No. 118-2, Appendix A.

California Department of Water Resources. 1974. Evaluation of Ground Water Resources, Livermore and Sunol Valleys. Bulletin No. 118-2, Appendix A.

Pacific Environmental Group. April 25, 1989. ARCO Station No.6113, 785 East Stanley Boulevard, Livermore, California. Project 330-53.01.

Alameda County Flood Control and Water Conservation District, Zone 7, Water Resources Engineering. 1986. Water Level Contours. 1 inch = 3000 feet scale map.

Whyte, Dyan of California Regional Water Quality Control Board, San Francisco Region. October 31, 1989. Personal telephone conversation with the author.



Source: U.S. Geological Survey
7.5-Minute Quadrangle

N

Approximate Scale

2000 1000 0 2000 4000

feet

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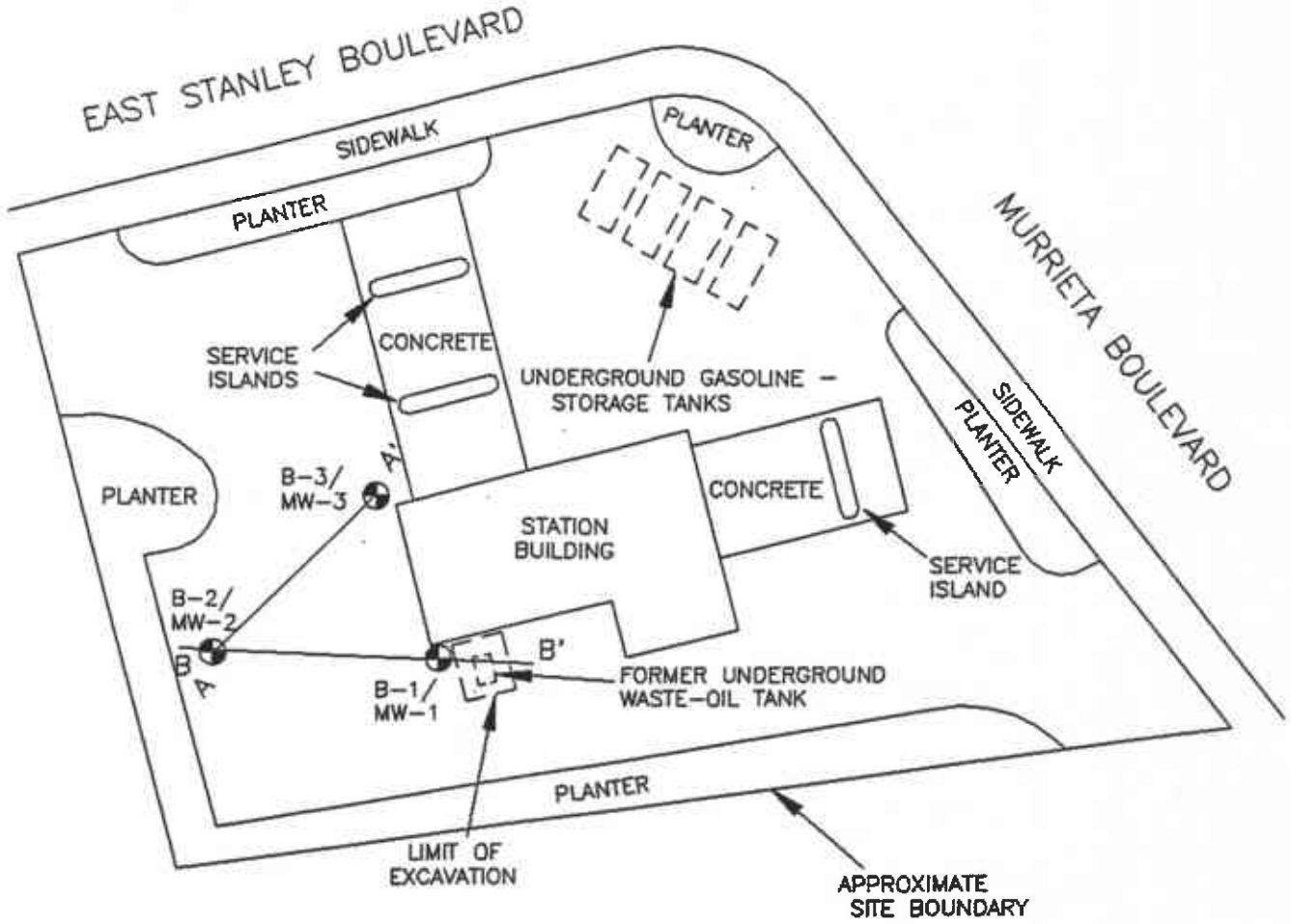
PROJECT NO. 69028-2

SITE VICINITY MAP
ARCO Service Station No. 6113
785 East Stanley Boulevard
Livermore, California

PLATE

P - 1



A A' = Cross section

B-3/MW-3 = Boring/monitoring well

N

Approximate Scale

40 20 0 40 80

feet

Source: Modified from plan supplied by ARCO

Applied GeoSystems

PROJECT NO. 69028-2

GENERALIZED SITE PLAN
ARCO Service Station No. 6113
785 East Stanley Boulevard
Livermore, California

PLATE

P - 2

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS		LTR	DESCRIPTION
Coarse-grained soils	Gravel and gravelly soils	GW	Well-graded gravels of gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels or gravel-sand mixtures, little or no fines
		GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
	Sand and sandy soils	SW	Well-graded sand of gravelly sands, little or no fines
		SP	Poorly-graded sands or gravelly sands, little or no fines
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures

MAJOR DIVISIONS		LTR	DESCRIPTION
Fine-grained soils	Silts and clays LL<50	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silt-clays of low plasticity
	Silts and clays LL>50	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils. Elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silts
Highly organic soils		PT	Peat and other highly organic soils

Depth through which sampler is driven

Relatively undisturbed sample

No sample recovered

Static water level observed in well

Initial water level observed in boring

S-10 Sample number

Sand pack

Bentonite annular seal

Neat cement annular seal

Caved native soil

Blank PVC

Machine-slotted PVC

P.I.D. Photoionization detector

BLOWS REPRESENT THE NUMBER OF BLOWS OF A 140-POUND HAMMER FALLING 30 INCHES TO DRIVE THE SAMPLER THROUGH EACH 6 INCHES OF AN 18-INCH PENETRATION.

DASHED LINES SEPARATING UNITS ON THE LOG REPRESENT APPROXIMATE BOUNDARIES ONLY. ACTUAL BOUNDARIES MAY BE GRADUAL. LOGS REPRESENT SUBSURFACE CONDITIONS AT THE BORING LOCATION AT THE TIME OF DRILLING ONLY.

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PROJECT NO. 69028-2

UNIFIED SOIL CLASSIFICATION SYSTEM AND SYMBOL KEY
ARCO Service Station No. 6113
785 East Stanley Boulevard
Livermore, California

PLATE
P - 3

Total depth of boring: 46 feet **Diameter of boring:** 6 inches **Date drilled:** 9-14-89

Casing diameter: 2 inches **Length:** 44 feet **Slot size:** 0.020-inch

Screen diameter: 2 inches **Length:** 15 feet **Material type:** Sch 40 PVC

Drilling Company: Exploration Geoservices **Driller:** Mike & Curtis

Method Used: Hollow-Stem Auger **Field Geologist:** George & Bill

Signature of Registered Professional: _____

Registration No.: _____ **State:** CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
0				GM/SM	Silty sand and gravel, brown, damp, loose.	
4				GC	Clayey gravel with some cobbles, yellow-brown, damp, dense.	
6	S-5	36 50	0			
10	S-10	50	0		Clayey coarse sand and gravel.	
12				ML	Clayey silt with minor gravel, abundant caliche, yellow-brown, damp to moist, low plasticity, hard.	
14	S-14.5	50	0			
20	S-19.5	23 40 50	0		Some sand, brown, low plasticity, very stiff to hard.	

(Section continues downward)

Applied GeoSystems

PROJECT NO. 69028-2

LOG OF BORING B-1/MW-1

ARCO Service Station No. 6113
785 East Stanley Boulevard
Livermore, California

PLATE

P - 4

Depth	Sample No.	BLOWS	P.I.D.	USCS Code	Description	Well Const.
22				ML	Clayey silt with some sand and gravel, brown, low plasticity, very stiff to hard.	
24		16				
26	S-24.5	32 32	0			
28						
30	S-29.5	36 50	0		Clayey silt with trace sand, yellow-brown, moist, medium plasticity, very stiff to hard.	
32						
34				SC	Clayey sand with some gravel, trace sand, yellow-brown, moist, low plasticity, dense.	
	S-34.5	50	0			
36						
38						
40		20 28			Clayey, medium to fine sand, yellow-brown, wet, low plasticity, medium dense.	
	S-39.5	50	0			
42						
44				CL	Silty clay with trace sand, yellow-brown, damp to moist, medium plasticity, stiff to hard.	
		26 42				
46	S-44.5	50	0			
					Total Depth = 46 feet.	
48						
50						

Applied GeoSystems

PROJECT NO. 69028-2

LOG OF BORING B-1/MW-1

ARCO Service Station No. 6113
785 East Stanley Boulevard
Livermore, California

PLATE

P - 5

Total depth of boring: 40 feet **Diameter of boring:** 6 inches **Date drilled:** 9-13-89

Casing diameter: 2 inches **Length:** 10 feet **Slot size:** 0.020-inch

Screen diameter: 2 inches **Length:** 38 feet **Material type:** Sch 40 PVC

Drilling Company: Exploration Geoservices **Driller:** Mike & Curtis

Method Used: Hollow-Stem Auger **Field Geologist:** George & Bill

Signature of Registered Professional: _____

Registration No.: _____ **State:** CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
0					Asphalt (9 inches).	
2				GM/SM	Silty sand, some gravel, brown, damp, loose.	
4	S-4	50	0	GC	Clayey gravel, light brown, damp, very dense.	
6					Clayey gravel, some cobbles, trace sand, damp, very dense.	
8						
10	S-9	26 50	0	GP	Coarse sand and gravel with some silt and clay brown, damp, medium to very dense.	
12						
14	S-14	50	0	ML	Clayey silt, yellow-brown, damp, low plasticity, hard.	
16						
18						
20	S-19	50	0		Clayey silt with sand.	
					(Section continues downward)	

Applied GeoSystems

PROJECT NO. 69028-2

LOG OF BORING B-2/MW-2

ARCO Service Station No. 6113
785 East Stanley Boulevard
Livermore, California

PLATE
P - 6

Depth	Sample No.	BLOWS	P.I.D.	USCS Code	Description	Well Const.
22				ML	Clayey silt with sand, yellow–brown, damp, low plasticity, hard.	
24	S–24	15 40 30	0		Clayey silt, trace sand, yellow–brown, damp, very stiff.	
26						
28						
30	S–29	50	0		Clayey silt, some gravel.	
32				GC	Clayey gravel with sand, light brown, moist, dense to very dense.	
34	S–34	40 50	0			
36					Wet.	
38				CL	Silty clay, light brown, damp, very stiff.	
40	S–39	30 50 42	0			
	S–41	45 50	0			
42					Total Depth = 41–1/2 feet.	
44						
46						
48						
50						

Applied GeoSystems

PROJECT NO. 69028-2

LOG OF BORING B-2/MW-2

ARCO Service Station No. 6113
785 East Stanley Boulevard
Livermore, California

PLATE

P - 7

Total depth of boring: 39 feet **Diameter of boring:** 6 inches **Date drilled:** 9-14-89

Casing diameter: 2 inches **Length:** 10 feet **Slot size:** 0.020-inch

Screen diameter: 2 inches **Length:** 38-1/2 feet **Material type:** Sch 40 PVC

Drilling Company: Exploration Geoservices **Driller:** Mike & Curtis

Method Used: Hollow-Stem Auger **Field Geologist:** George Williams

Signature of Registered Professional: _____

Registration No.: _____ **State:** CA

Depth	Sample No.	Blows	P.I.D.	USCS Code	Description	Well Const.
0						
					Asphalt (9 inches).	
2				GM/SM	Silty fine sand and gravel, brown, damp, loose.	
4				GP	Gravel and cobbles, some fine sand and silt, brown, damp, loose.	
6						
8				ML	Clayey silt, some coarse sand, yellow-brown, damp, low plasticity, very stiff.	
10	S-9	40 24 29	0			
12						
14	S-14	30 50	0			
16						
18				CL/GC	Silty clayey, gravel with pebbles, yellow-brown, damp, loose.	
20	S-19	50	0			

(Section continues downward)

Applied GeoSystems

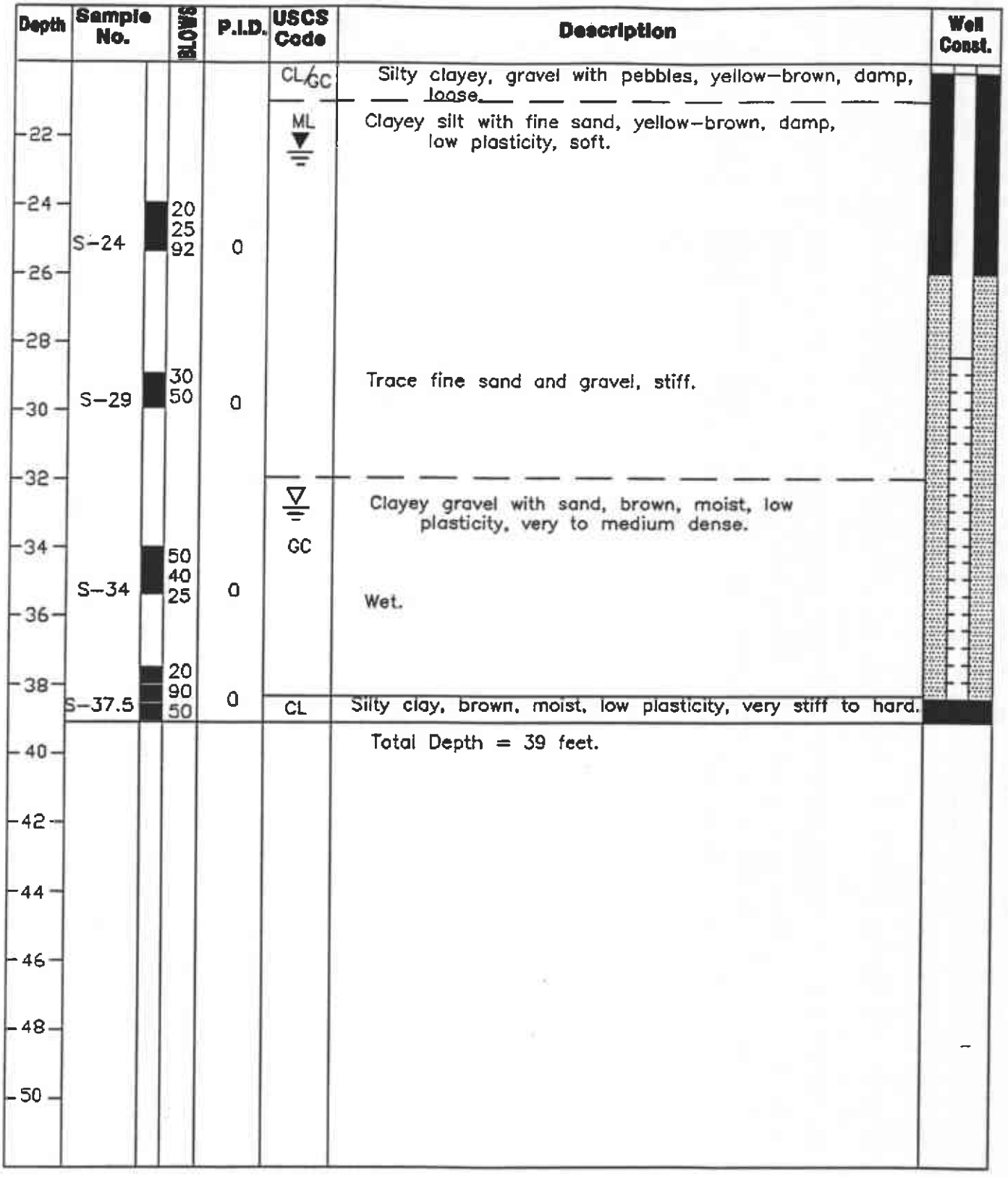
PROJECT NO. 69028-2

LOG OF BORING B-3/MW-3

ARCO Service Station No. 6113
785 East Stanley Boulevard
Livermore, California

PLATE

P - 8



Applied GeoSystems

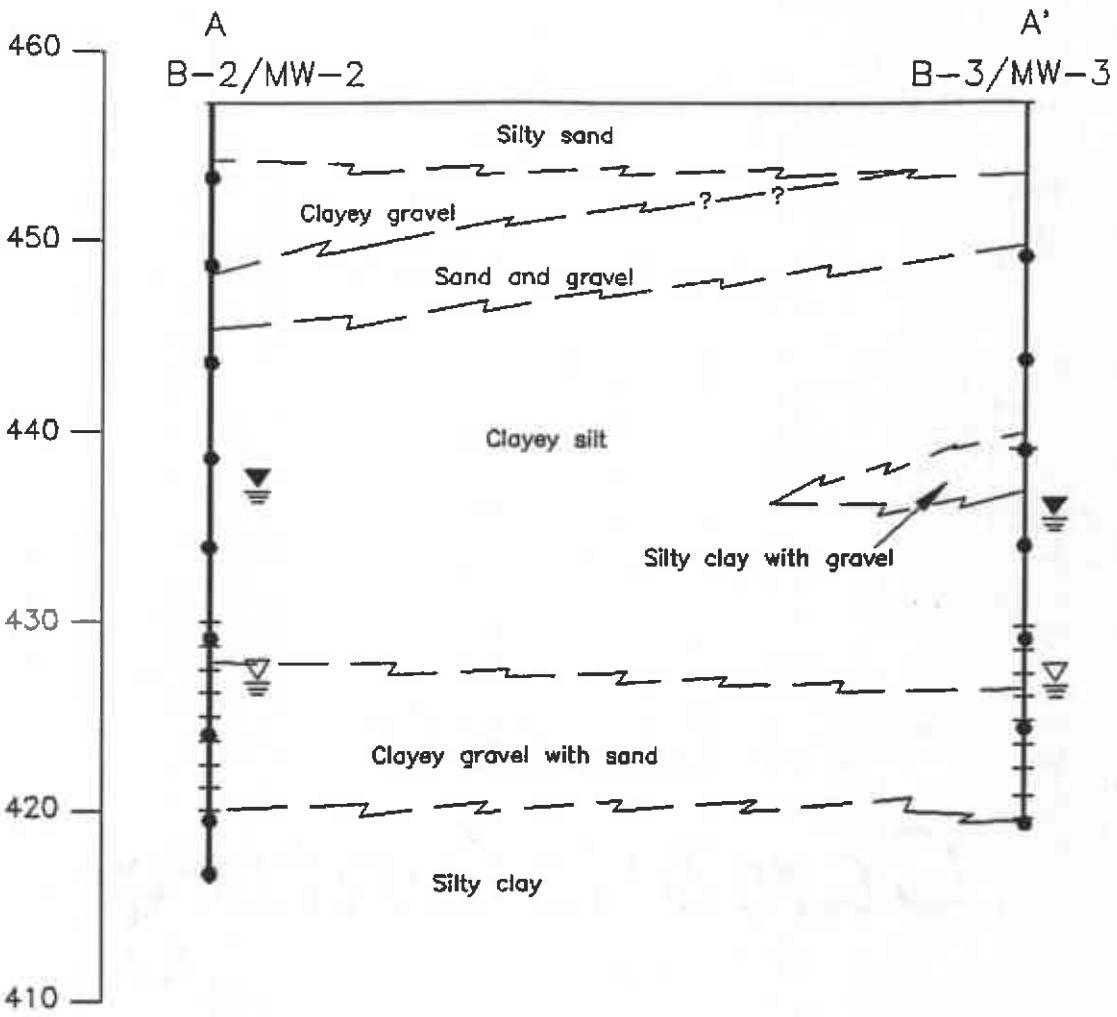
PROJECT NO. 69028-2

LOG OF BORING B-3/MW-3

ARCO Service Station No. 6113
785 East Stanley Boulevard
Livermore, California

PLATE

P - 9



= Soil sample

= Well casing

= Well screen

= Boring

= Initial water level in boring

= Static water level in well

Approximate Horizontal and Vertical Scale

10 5 0 10 20

feet

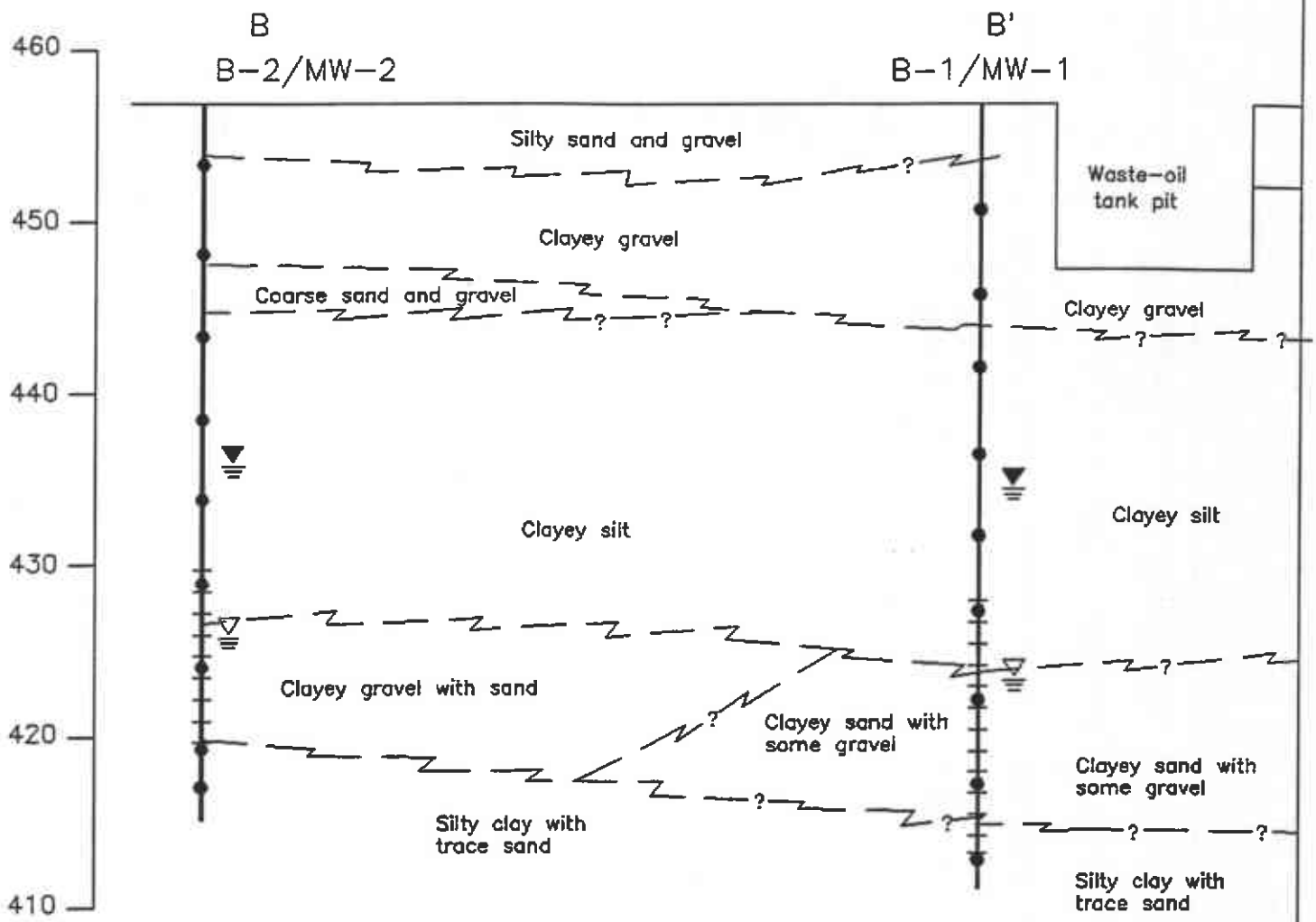
Applied GeoSystems

PROJECT NO. 69028-2

GEOLOGIC CROSS SECTION A-A'
ARCO Service Station No. 6113
785 East Stanley Boulevard
Livermore, California

PLATE

P - 10



= Soil sample

= Well casing

= Well screen

= Boring

= Initial water level in boring

= Static water level in well

Approximate Horizontal and Vertical-Scale

10 5 0 10 20

feet

Applied GeoSystems

PROJECT NO. 69028-2

GEOLOGIC CROSS SECTION B-B'
ARCO Service Station No. 6113
785 East Stanley Boulevard
Livermore, California

PLATE

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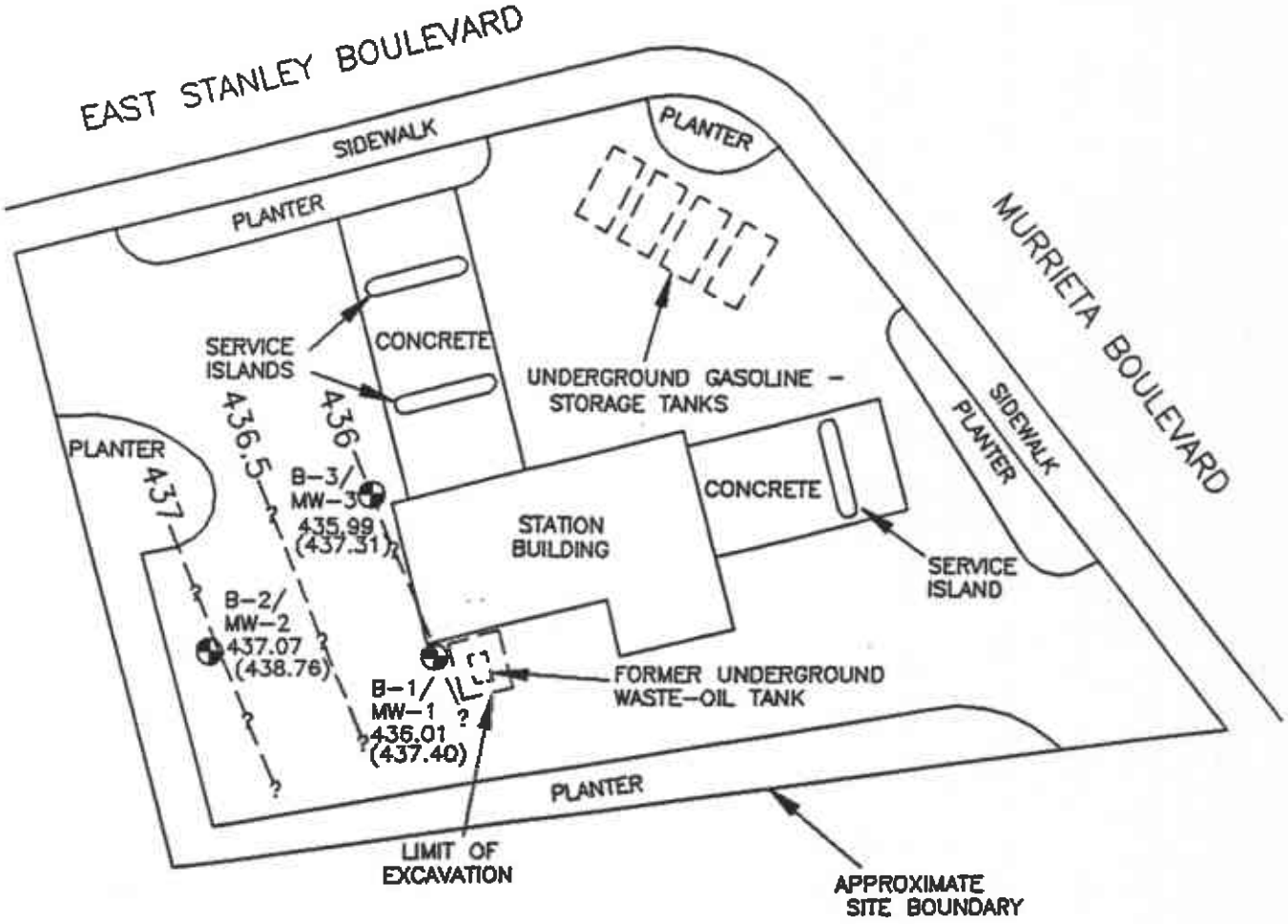

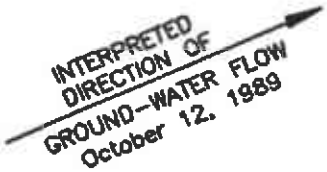

437 = Line of equal elevation of ground water in feet, October 12, 1989

(438.76) = Elevation of ground water in feet in well MW-2, September 20, 1989

437.07 = Elevation of ground water in feet in well MW-2, October 12, 1989

B-3/MW-3 = Boring/monitoring well

N

Approximate Scale

40 20 0 40 80

feet

Source: Modified from plan supplied by ARCO

Applied GeoSystems

PROJECT NO. 69028-2

GROUND-WATER GRADIENT MAP
ARCO Service Station No. 6113
785 East Stanley Boulevard
Livermore, California

PLATE

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FIELD METHODS

Site Safety Plan

Field work performed by Applied GeoSystems on behalf of ARCO Products Company at the site was conducted in accordance with Applied GeoSystems' Site Safety Plan No. 69028-2, dated September 11, 1989. This plan describes the safety requirements for the evaluation of soil and ground water, including soil sampling, drilling of soil borings, installation of monitoring wells, and sampling of ground-water monitoring wells at the site. The site safety plan is applicable to personnel of Applied GeoSystems and its subcontractors. Applied GeoSystems personnel and subcontractors of Applied GeoSystems scheduled to perform the work at the site were briefed on the contents of the site safety plan before work began. A copy of the site safety plan was available for reference by appropriate parties during the work. The Staff Geologist of Applied GeoSystems acted as the Site Safety Officer.

Soil Borings

Prior to the drilling of borings and construction of monitoring wells, permits were acquired from Zone 7, Alameda County Flood Control and Water Conservation District. Copies of the permits are included in Appendix B. Prior to drilling, Underground Service Alert was notified of our intent to drill, and known underground utility lines and structures were approximately marked.

The borings were drilled by a Mobile B-40 truck-mounted drill rig equipped with 6-inch-diameter, hollow-stem augers. The augers were steam-cleaned prior to drilling each boring to minimize the possibility of cross-contamination. After the borings were drilled, monitoring wells were constructed in the borings.

Three borings for ground-water monitoring wells were drilled to depths ranging between approximately 39 and 46 feet below the ground surface. These depths were beneath the first-encountered saturated zone, a short distance into a stratum beneath the saturated zone which was of sufficient moisture and consistency to be judged as a layer of low permeability by the field geologist.

Drill Cuttings

Drill cuttings subjectively evaluated as having hydrocarbon contamination at levels greater than 100 parts per million (ppm) were separated from those subjectively evaluated as having hydrocarbon contamination levels less than 100 ppm. Evaluation was based either on subjective evidence of soil discoloration or on measurements made with an OVM. Readings were collected by placing the intake probe of the OVM against the soil in the brass sleeve promptly after opening the sampler. The drill cuttings from the borings were placed on plastic and covered with plastic at the site.

Soil Sampling in Borings

Soil samples were collected at 5-foot intervals from the ground surface to the total depth of the borings. The soil samples were collected by advancing the boring to a point immediately above the sampling depth and then driving a California-modified, split-spoon sampler containing brass sleeves through the hollow center of the auger into the soil. The sampler and brass sleeves were laboratory-cleaned, steam-cleaned, or washed thoroughly with Alconox and water, prior to each use. The sampler was driven 18 inches with a standard 140-pound hammer repeatedly dropped 30 inches. The number of blows to drive the sampler each successive 6 inches was counted and recorded to evaluate the relative consistency of the soil.

The samples selected for laboratory analysis were removed from the sampler and quickly sealed in their brass sleeves with aluminum foil, plastic caps, and aluminized duct tape. The samples were labeled, promptly placed in iced storage, and delivered to a laboratory certified by the State of California to perform the analyses requested.

One of the samples in brass sleeves not selected for laboratory analysis at each sampling interval was tested in the field with an OVM. This testing was performed by placing the intake probe of the OVM against the soil in the brass sleeve promptly after opening the sampler. The OVM readings are presented in the Logs of boring.

Logging of Borings

A geologist was present to log the soil cuttings and samples by the Unified Soil Classification System. Samples not selected for chemical analysis and the soil in the sampler shoe were extruded in the field for inspection. Logs include descriptions of texture, color, moisture, plasticity, consistency, blow counts, and any other characteristics noted. Logs also include subjective evidence for the presence of hydrocarbons, such as soil staining, obvious product odor, and OVM readings.

Monitoring-Well Construction

Monitoring wells were constructed in selected borings of clean, 2-inch-diameter, thread-jointed, Schedule 40 polyvinyl chloride (PVC) casing. No chemical cements, glues, or solvents were used in well construction. Each casing bottom was sealed with a threaded end-plug and each casing top with a locking plug. The screened portions of the wells were constructed of machine-slotted PVC casing with 0.020-inch-wide slots. The screened sections in ground-water monitoring wells were placed to allow monitoring during seasonal fluctuations of ground-water levels.

The annular space of each well was backfilled with No. 3 sorted sand to approximately 2 feet above the top of the screened casing. A 1- to 2-foot-thick bentonite plug was placed above the sand as a seal against cement entering the filter pack. The remaining annulus was backfilled with a slurry of water, neat cement, and bentonite to approximately 1 foot below the ground surface.

An aluminum utility box with a PVC apron was placed over each wellhead and set in concrete placed flush with the surrounding ground surface. Each wellhead cover has a watertight seal to protect the monitoring well against surface-water infiltration and requires a special wrench to open. This design discourages vandalism and reduces the possibility of accidental disturbance of the well.

Ground-Water Monitoring Well Development

The monitoring wells were developed with a submersible pump. The wells were pumped dry, allowed to recharge, and pumped dry again until the water removed from the wells was clear. The wells were allowed to equilibrate for at least 48 hours after development prior to sampling.

Ground-Water Sampling

The static water level in each well was measured to the nearest 0.01 foot with a Solinst electric water-level sounder cleaned with Alconox and water before use in each well. The liquid in the onsite wells was examined for visual evidence of hydrocarbons by gently lowering approximately half the length of a Teflon bailer cleaned with Alconox and water past the air-water interface. The sample was retrieved and inspected for floating product, sheen, emulsion, color, and clarity.

Wells that did not contain floating product were purged with a submersible pump. The pump, cables, and hoses were cleaned with Alconox and water prior to use in each well. The wells were purged until withdrawal was of sufficient duration to result in stabilized pH, temperature, and electrical conductivity of the water, as measured with portable meters calibrated to a standard buffer and conductivity standard. If the well was dewatered, the water level was allowed to recover to at least 80 percent of the initial

water level. Prior to the collection of each ground water sample, the Teflon bailer was cleaned with Alconox and rinsed with tap water and deionized water, and the latex gloves worn by the sampler were changed. Hydrochloric acid was added to the sample vials as a preservative. A sample method blank was collected by pouring distilled water into the bailer and then into sample vials. A sample of the formation water then was collected from the surface of the water in each of the wells using the Teflon bailer. The water samples were sealed in laboratory-cleaned, 40-milliliter glass vials with Teflon-lined lids, such that no air bubbles were detected. The samples then were labeled and promptly placed in iced storage. A field log of well-evacuation procedures and parameter monitoring was maintained.

Sample Labeling and Handling

Sample containers were labeled in the field with the job number, sample location and depth, and date, and promptly placed in iced storage for transport to the laboratory. A Chain of Custody Record was initiated by the geologist and updated throughout handling of the samples and accompanied the samples to a laboratory certified by the State of California for the analyses requested. Copies of the Chain of Custody Records are included in Appendix B of this report. Samples were transported to the laboratory promptly to help ensure that recommended sample holding times would not be exceeded. Samples will be properly disposed of after their useful life has expired.

ANAMETRIX INC
Environmental & Analytical Chemistry
1961 Concourse Drive, Suite E, San Jose, CA 95131
(408) 432-8192 • Fax (408) 432-8198

REPORT

George Williams
Applied GeoSystems
3315 Almaden Expressway
Suite 34
San Jose, CA 95118

October 05, 1989
Anametrix W.O.#: 8909189
Date Received : 09/21/89
Project Number : 69028-1

Dear Mr. Williams:

Your samples have been received for analysis. The REPORT SUMMARY lists your sample identifications and the analytical methods you requested. The following sections are included in this report: RESULTS, EXTRA COMPOUNDS and QUALITY ASSURANCE.

NOTE: 1) Amounts reported are net values, i.e. corrected for method blank contamination.
2) The following footnotes are applicable to Methods 624/8240:

* A Method 624 priority pollutant compound (Federal Register, 10/26/84)
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL)
\# An additional compound analyzed for by Anametrix, Inc.
ND: Not detected at or above the practical quantitation limit for the method.

If there is any more that we can do, please give us a call. Thank you for using ANAMETRIX, INC.

Sincerely,

ANAMETRIX, INC.

Burt Sutherland
Laboratory Director

BWS/dmt

REPORT SUMMARY
ANAMETRIX, INC. (408) 432-8192

Client : Applied GeoSystems
Address : 3315 Almaden Expressway
Suite 34
City : San Jose, CA 95118
Attn. : George Williams

Anametrix W.O.#: 8909189
Date Received : 09/21/89
Purchase Order#: N/A
Project No. : 69028-1
Date Released : 10/05/89

Anametrix I.D.	Sample I.D.	Matrix	Date Sampled	Method	Date Extract	Date Analyzed	Inst I.D.
RESULTS							
8909189-01	W-22-MW1	WATER	09/20/89	8240		09/25/89	F3
8909189-02	W-20-MW2	WATER	09/20/89	8240		09/25/89	F3
8909189-03	W-21-MW3	WATER	09/20/89	8240		09/25/89	F3
TENTATIVELY INDENTIFIED COMPOUNDS (Extra)							
8909189-01	W-22-MW1	WATER	09/20/89	XTRAS		09/25/89	F3
8909189-03	W-21-MW3	WATER	09/20/89	XTRAS		09/25/89	F3
QUALITY ASSURANCE (QA)							
3CB0925V00	METHOD BLANK	WATER	N/A	8240		09/25/89	F3

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 69028-1 W-22-MW1
Matrix : WATER
Date sampled : 09/20/89
Date analyzed: 09/25/89
Dilut. factor: NONE

Anametrix I.D. : 8909189-01
Analyst : MCT
Supervisor : PG
Date released : 10/05/89
Instrument ID : F3

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
74-87-3	* Chloromethane	10	ND
75-01-4	* Vinyl Chloride	10	ND
74-83-9	* Bromomethane	10	ND
75-00-3	* Chloroethane	10	ND
75-69-4	* Trichlorofluoromethane	5	ND
75-35-4	* 1,1-Dichloroethene	5	ND
76-13-1	# Trichlorotrifluoroethane	5	ND
67-64-1	**Acetone	20	ND
75-15-0	**Carbondisulfide	5	ND
75-09-2	* Methylene Chloride	5	ND
156-60-5	* Trans-1,2-Dichloroethene	5	ND
75-34-3	* 1,1-Dichloroethane	5	ND
78-93-3	**2-Butanone	20	ND
156-59-2	* Cis-1,2-Dichloroethene	5	ND
67-66-3	* Chloroform	5	ND
71-55-6	* 1,1,1-Trichloroethane	5	ND
56-23-5	* Carbon Tetrachloride	5	ND
71-43-2	* Benzene	5	ND
107-06-2	* 1,2-Dichloroethane	5	ND
79-01-6	* Trichloroethene	5	ND
78-87-5	* 1,2-Dichloropropane	5	ND
75-27-4	* Bromodichloromethane	5	ND
110-75-8	* 2-Chloroethylvinylether	5	ND
108-05-4	**Vinyl Acetate	10	ND
10061-02-6	* Trans-1,3-Dichloropropene	5	ND
108-10-1	**4-Methyl-2-Pentanone	10	ND
108-88-3	* Toluene	5	ND
10061-01-5	* cis-1,3-Dichloropropene	5	ND
79-00-5	* 1,1,2-Trichloroethane	5	ND
127-18-4	* Tetrachloroethene	5	ND
591-78-6	**2-Hexanone	10	ND
124-48-1	* Dibromochloromethane	5	ND
108-90-7	* Chlorobenzene	5	ND
100-41-4	* Ethylbenzene	5	ND
1330-20-7	**Total Xylenes	5	ND
100-42-5	**Styrene	5	ND
75-25-2	* Bromoform	5	ND
79-34-5	* 1,1,2,2-Tetrachloroethane	5	ND
541-73-1	* 1,3-Dichlorobenzene	5	ND
106-46-7	* 1,4-Dichlorobenzene	5	ND
95-50-1	* 1,2-Dichlorobenzene	5	ND

CAS #	Surrogate Compounds	Limits	% Recovery
17060-07-0	1,2-Dichloroethane-d4	75-113%	106%
2037-26-5	Toluene-d8	83-110%	89%
460-00-4	p-Bromofluorobenzene	82-114%	100%

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 69028-1 W-20-MW2
Matrix : WATER
Date sampled : 09/20/89
Date analyzed: 09/25/89
Dilut. factor: NONE

Anametrix I.D. : 8909189-02
Analyst : MCT
Supervisor : PG
Date released : 10/05/89
Instrument ID : F3

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
74-87-3	* Chloromethane	10	ND
75-01-4	* Vinyl Chloride	10	ND
74-83-9	* Bromomethane	10	ND
75-00-3	* Chloroethane	10	ND
75-69-4	* Trichlorofluoromethane	5	ND
75-35-4	* 1,1-Dichloroethene	5	ND
76-13-1	# Trichlorotrifluoroethane	5	ND
67-64-1	**Acetone	20	ND
75-15-0	**Carbondisulfide	5	ND
75-09-2	* Methylene Chloride	5	ND
156-60-5	* Trans-1,2-Dichloroethene	5	ND
75-34-3	* 1,1-Dichloroethane	5	ND
78-93-3	**2-Butanone	20	ND
156-59-2	* Cis-1,2-Dichloroethene	5	ND
67-66-3	* Chloroform	5	ND
71-55-6	* 1,1,1-Trichloroethane	5	ND
56-23-5	* Carbon Tetrachloride	5	ND
71-43-2	* Benzene	5	ND
107-06-2	* 1,2-Dichloroethane	5	ND
79-01-6	* Trichloroethene	5	ND
78-87-5	* 1,2-Dichloropropane	5	ND
75-27-4	* Bromodichloromethane	5	ND
110-75-8	* 2-Chloroethylvinylether	5	ND
108-05-4	**Vinyl Acetate	10	ND
10061-02-6	* Trans-1,3-Dichloropropene	5	ND
108-10-1	**4-Methyl-2-Pentanone	10	ND
108-88-3	* Toluene	5	ND
10061-01-5	* cis-1,3-Dichloropropene	5	ND
79-00-5	* 1,1,2-Trichloroethane	5	ND
127-18-4	* Tetrachloroethene	5	ND
591-78-6	**2-Hexanone	10	ND
124-48-1	* Dibromochloromethane	5	ND
108-90-7	* Chlorobenzene	5	ND
100-41-4	* Ethylbenzene	5	ND
1330-20-7	**Total Xylenes	5	ND
100-42-5	**Styrene	5	ND
75-25-2	* Bromoform	5	ND
79-34-5	* 1,1,2,2-Tetrachloroethane	5	ND
541-73-1	* 1,3-Dichlorobenzene	5	ND
106-46-7	* 1,4-Dichlorobenzene	5	ND
95-50-1	* 1,2-Dichlorobenzene	5	ND

CAS #	Surrogate Compounds	Limits	% Recovery
17060-07-0	1,2-Dichloroethane-d4	75-113%	105%
2037-26-5	Toluene-d8	83-110%	89%
460-00-4	p-Bromofluorobenzene	82-114%	97%

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 69028-1 W-21-MW3
Matrix : WATER
Date sampled : 09/20/89
Date analyzed: 09/25/89
Dilut. factor: NONE

Anametrix I.D. : 8909189-03
Analyst : MCT
Supervisor : PG
Date released : 10/05/89
Instrument ID : F3

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
74-87-3	* Chloromethane	10	ND
75-01-4	* Vinyl Chloride	10	ND
74-83-9	* Bromomethane	10	ND
75-00-3	* Chloroethane	10	ND
75-69-4	* Trichlorofluoromethane	5	ND
75-35-4	* 1,1-Dichloroethene	5	ND
76-13-1	# Trichlorotrifluoroethane	5	ND
67-64-1	**Acetone	20	ND
75-15-0	**Carbondisulfide	5	ND
75-09-2	* Methylene Chloride	5	ND
156-60-5	* Trans-1,2-Dichloroethene	5	ND
75-34-3	* 1,1-Dichloroethane	5	ND
78-93-3	**2-Butanone	20	ND
156-59-2	* Cis-1,2-Dichloroethene	5	ND
67-66-3	* Chloroform	5	ND
71-55-6	* 1,1,1-Trichloroethane	5	ND
56-23-5	* Carbon Tetrachloride	5	ND
71-43-2	* Benzene	5	ND
107-06-2	* 1,2-Dichloroethane	5	ND
79-01-6	* Trichloroethene	5	ND
78-87-5	* 1,2-Dichloropropane	5	ND
75-27-4	* Bromodichloromethane	5	ND
110-75-8	* 2-Chloroethylvinylether	5	ND
108-05-4	**Vinyl Acetate	10	ND
10061-02-6	* Trans-1,3-Dichloropropene	5	ND
108-10-1	**4-Methyl-2-Pentanone	10	ND
108-88-3	* Toluene	5	ND
10061-01-5	* cis-1,3-Dichloropropene	5	ND
79-00-5	* 1,1,2-Trichloroethane	5	ND
127-18-4	* Tetrachloroethene	5	ND
591-78-6	**2-Hexanone	10	ND
124-48-1	* Dibromochloromethane	5	ND
108-90-7	* Chlorobenzene	5	ND
100-41-4	* Ethylbenzene	5	ND
1330-20-7	**Total Xylenes	5	ND
100-42-5	**Styrene	5	ND
75-25-2	* Bromoform	5	ND
79-34-5	* 1,1,2,2-Tetrachloroethane	5	ND
541-73-1	* 1,3-Dichlorobenzene	5	ND
106-46-7	* 1,4-Dichlorobenzene	5	ND
95-50-1	* 1,2-Dichlorobenzene	5	ND

CAS #	Surrogate Compounds	Limits	% Recovery
17060-07-0	1,2-Dichloroethane-d4	75-113%	103%
2037-26-5	Toluene-d8	83-110%	89%
460-00-4	p-Bromofluorobenzene	82-114%	97%

ORGANICS ANALYSIS DATA SHEET - 624/8240 TENTATIVELY IDENTIFIED COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: 69028-1 W-22-MW1	Anametrix I.D.	: 8909189-01
Matrix	: WATER	Analyst	: ARL
Date Sampled	: 09/20/89	Supervisor	: PG
Analyzed VOA	: 09/25/89	Date Released	: 10/05/89
Dilution VOA	: NONE		

	CAS #	Scan#	Volatile Fraction Compound Name	Det. Limit ppb	Amt. Found ppb
1		392	unknown	5	5

Tentatively identified compounds are significant chromatographic peaks (TICs) other than priority pollutants. TIC spectra are compared with entries in the National Bureau of Standards mass spectral library. Identification is made by following US EPA guidelines and acceptance criteria. TICs are quantitated by using the area of the nearest internal standard and assuming a response factor of one (1). Values calculated are ESTIMATES ONLY.

ORGANICS ANALYSIS DATA SHEET - 624/8240 TENTATIVELY IDENTIFIED COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: 69028-1 W-21-MW3	Anametrix I.D.	: 8909189-03
Matrix	: WATER	Analyst	: ARL
Date Sampled	: 09/20/89	Supervisor	: PG
Analyzed VOA	: 09/25/89	Date Released	: 10/05/89
Dilution VOA	: NONE		

	CAS #	Scan#	Volatile Fraction Compound Name	Det. Limit ppb	Amt. Found ppb
1		391	unknown	5	20
2		524	unknown	5	10

Tentatively identified compounds are significant chromatographic peaks (TICs) other than priority pollutants. TIC spectra are compared with entries in the National Bureau of Standards mass spectral library. Identification is made by following US EPA guidelines and acceptance criteria. TICs are quantitated by using the area of the nearest internal standard and assuming a response factor of one (1). Values calculated are ESTIMATES ONLY.

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : METHOD BLANK
Matrix : WATER
Date sampled : N/A
Date analyzed: 09/25/89
Dilut. factor: NONE

Anametrix I.D. : 3CB0925V00
Analyst : MCT
Supervisor : PG
Date released : 10/05/89
Instrument ID : F3

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
74-87-3	* Chloromethane	10	ND
75-01-4	* Vinyl Chloride	10	ND
74-83-9	* Bromomethane	10	ND
75-00-3	* Chloroethane	10	ND
75-69-4	* Trichlorofluoromethane	5	ND
75-35-4	* 1,1-Dichloroethene	5	ND
76-13-1	# Trichlorotrifluoroethane	5	ND
67-64-1	**Acetone	20	ND
75-15-0	**Carbondisulfide	5	ND
75-09-2	* Methylene Chloride	5	ND
156-60-5	* Trans-1,2-Dichloroethene	5	ND
75-34-3	* 1,1-Dichloroethane	5	ND
78-93-3	**2-Butanone	20	ND
156-59-2	* Cis-1,2-Dichloroethene	5	ND
67-66-3	* Chloroform	5	ND
71-55-6	* 1,1,1-Trichloroethane	5	ND
56-23-5	* Carbon Tetrachloride	5	ND
71-43-2	* Benzene	5	ND
107-06-2	* 1,2-Dichloroethane	5	ND
79-01-6	* Trichloroethene	5	ND
78-87-5	* 1,2-Dichloropropane	5	ND
75-27-4	* Bromodichloromethane	5	ND
110-75-8	* 2-Chloroethylvinylether	5	ND
108-05-4	**Vinyl Acetate	10	ND
10061-02-6	* Trans-1,3-Dichloropropene	5	ND
108-10-1	**4-Methyl-2-Pentanone	10	ND
108-88-3	* Toluene	5	ND
10061-01-5	* cis-1,3-Dichloropropene	5	ND
79-00-5	* 1,1,2-Trichloroethane	5	ND
127-18-4	* Tetrachloroethene	5	ND
591-78-6	**2-Hexanone	10	ND
124-48-1	* Dibromochloromethane	5	ND
108-90-7	* Chlorobenzene	5	ND
100-41-4	* Ethylbenzene	5	ND
1330-20-7	**Total Xylenes	5	ND
100-42-5	**Styrene	5	ND
75-25-2	* Bromoform	5	ND
79-34-5	* 1,1,2,2-Tetrachloroethane	5	ND
541-73-1	* 1,3-Dichlorobenzene	5	ND
106-46-7	* 1,4-Dichlorobenzene	5	ND
95-50-1	* 1,2-Dichlorobenzene	5	ND

CAS #	Surrogate Compounds	Limits	% Recovery
17060-07-0	1,2-Dichloroethane-d4	75-113%	105%
2037-26-5	Toluene-d8	83-110%	95%
460-00-4	p-Bromofluorobenzene	82-114%	91%

REPORT SUMMARY
ANAMETRIX, INC. (408) 432-8192

Client	: Applied GeoSystems	Anametrix W.O.#:	0909189
Address	: 3315 Almaden Expressway	Date Received :	09/21/89
	Suite 34	Purchase Order#:	N/A
City	: San Jose, CA 95118	Project No. :	69028-1
Attn.	: George Williams	Date Released :	10/05/89

Anametrix I.D.	Sample I.D.	Matrix	Date Sampled	Method	Date Extract	Date Analyzed	Inst I.D.
RESULTS							
8909189-01	W-22-MW1	WATER	09/20/89	8270	09/22/89	09/29/89	F2
8909189-02	W-20-MW2	WATER	09/20/89	8270	09/22/89	09/29/89	F2
8909189-03	W-21-MW3	WATER	09/20/89	8270	09/22/89	10/02/89	F2
QUALITY ASSURANCE (QA)							
2CB0922C01	METHOD BLANK	WATER	N/A	8270	09/22/89	09/29/89	F2
8909189-02	W-20-MW2	WATER	09/20/89	SPIKE	09/22/89	09/29/89	F2

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: 69028-1 W-22-MW1	Anametrix I.D.	: 8909189-01
Matrix	: WATER	Analyst	: ARL
Date sampled	: 09/20/89	Supervisor	: PG
Date ext.	: 09/22/89	Date released	: 10/05/89
Date analyzed	: 09/29/89	Volume ext.	: 965 ml
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
62-75-9	* N-Nitrosodimethylamine	10	ND
108-95-2	* Phenol	10	ND
62-53-3	**Aniline	10	ND
111-44-4	* bis(-2-Chloroethyl)Ether	10	ND
95-57-8	* 2-Chlorophenol	10	ND
541-73-1	* 1,3-Dichlorobenzene	10	ND
106-46-7	* 1,4-Dichlorobenzene	10	ND
100-51-6	**Benzyl Alcohol	10	ND
95-50-1	* 1,2-Dichlorobenzene	10	ND
95-48-7	**2-Methylphenol	10	ND
108-60-1	**bis(2-chloroisopropyl)Ether	10	ND
106-44-5	**4-Methylphenol	10	ND
621-64-7	* N-Nitroso-Di-n-Propylamine	10	ND
67-72-1	* Hexachloroethane	10	ND
98-95-3	* Nitrobenzene	10	ND
78-59-1	* Isophorone	10	ND
88-75-5	* 2-Nitrophenol	10	ND
105-67-9	* 2,4-Dimethylphenol	10	ND
65-85-0	**Benzoic Acid	50	ND
111-91-1	* bis(-2-Chloroethoxy)Methane	10	ND
120-83-2	* 2,4-Dichlorophenol	10	ND
120-82-1	* 1,2,4-Trichlorobenzene	10	ND
91-20-3	* Naphthalene	10	ND
106-47-8	**4-Chloroaniline	10	ND
87-68-3	* Hexachlorobutadiene	10	ND
59-50-7	* 4-Chloro-3-Methylphenol	10	ND
91-57-6	**2-Methylnaphthalene	10	ND
77-47-4	* Hexachlorocyclopentadiene	10	ND
88-06-2	* 2,4,6-Trichlorophenol	10	ND
95-95-4	**2,4,5-Trichlorophenol	50	ND
91-58-7	* 2-Chloronaphthalene	10	ND
88-74-4	**2-Nitroaniline	50	ND
131-11-3	* Dimethyl Phthalate	10	ND
208-96-8	* Acenaphthylene	10	ND
99-09-2	**3-Nitroaniline	50	ND
83-32-9	* Acenaphthene	10	ND
51-28-5	* 2,4-Dinitrophenol	50	ND
100-02-7	* 4-Nitrophenol	50	ND
132-64-9	**Dibenzofuran	10	ND

ND : Not detected at or above the practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: 69028-1 W-22-MW1	Anametrix I.D.	: 8909189-01
Matrix	: WATER	Analyst	: ARL
Date sampled	: 09/20/89	Supervisor	: PG
Date ext.	: 09/22/89	Date released	: 10/05/89
Date analyzed	: 09/29/89	Volume ext.	: 965 ml
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
121-14-2	* 2,4-Dinitrotoluene	10	ND
606-20-2	* 2,6-Dinitrotoluene	10	ND
84-66-2	* Diethylphthalate	10	ND
7005-72-3	* 4-Chlorophenyl-phenylether	10	ND
86-73-7	* Fluorene	10	ND
100-01-6	**4-Nitroaniline	50	ND
534-52-1	**4,6-Dinitro-2-Methylphenol	50	ND
86-30-6	* N-Nitrosodiphenylamine	10	ND
122-66-7	**Azobenzene	10	ND
101-55-3	* 4-Bromophenyl-phenylether	10	ND
118-74-1	* Hexachlorobenzene	10	ND
87-86-5	* Pentachlorophenol	50	ND
85-01-8	* Phenanthrene	10	ND
120-12-7	* Anthracene	10	ND
84-74-2	* Di-n-Butylphthalate	10	ND
206-44-0	* Fluoranthene	10	ND
92-87-5	* Benzidine	50	ND
129-00-0	* Pyrene	10	ND
85-68-7	* Butylbenzylphthalate	10	ND
91-94-1	* 3,3'-Dichlorobenzidine	20	ND
56-55-3	* Benzo(a)Anthracene	10	ND
117-81-7	* bis(2-Ethylhexyl)Phthalate	10	ND
218-01-9	* Chrysene	10	ND
117-84-0	* Di-n-Octyl Phthalate	10	ND
205-99-2	* Benzo(b)Fluoranthene	10	ND
207-08-9	* Benzo(k)Fluoranthene	10	ND
50-32-8	* Benzo(a)Pyrene	10	ND
193-39-5	* Indeno(1,2,3-cd)Pyrene	10	ND
53-70-3	* Dibenz(a,h)Anthracene	10	ND
191-24-2	* Benzo(g,h,i)Perylene	10	ND

CAS #	Surrogate Compounds	Limits	%Recovery
367-12-4	2-Fluorophenol	11-70%	42%
4165-62-2	Phenol-d6	10-62%	32%
4165-60-0	Nitrobenzene-d5	20-105%	63%
321-60-8	2-Fluorobiphenyl	26-110%	64%
118-79-6	2,4,6-Tribromophenol	26-154%	115%
1718-51-0	Terphenyl-d14	16-131%	112%

ND : Not detected at or above the practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: 69028-1 W-20-MW2	Anametrix I.D.	: 8909189-02
Matrix	: WATER	Analyst	: ARL
Date sampled	: 09/20/89	Supervisor	: PG
Date ext.	: 09/22/89	Date released	: 10/05/89
Date analyzed	: 09/29/89	Volume ext.	: 940 ml
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
62-75-9	* N-Nitrosodimethylamine	10	ND
108-95-2	* Phenol	10	ND
62-53-3	**Aniline	10	ND
111-44-4	* bis(-2-Chloroethyl)Ether	10	ND
95-57-8	* 2-Chlorophenol	10	ND
541-73-1	* 1,3-Dichlorobenzene	10	ND
106-46-7	* 1,4-Dichlorobenzene	10	ND
100-51-6	**Benzyl Alcohol	10	ND
95-50-1	* 1,2-Dichlorobenzene	10	ND
95-48-7	**2-Methylphenol	10	ND
108-60-1	**bis(2-chloroisopropyl)Ether	10	ND
106-44-5	**4-Methylphenol	10	ND
621-64-7	* N-Nitroso-Di-n-Propylamine	10	ND
67-72-1	* Hexachloroethane	10	ND
98-95-3	* Nitrobenzene	10	ND
78-59-1	* Isophorone	10	ND
88-75-5	* 2-Nitrophenol	10	ND
105-67-9	* 2,4-Dimethylphenol	10	ND
65-85-0	**Benzoic Acid	50	ND
111-91-1	* bis(-2-Chloroethoxy)Methane	10	ND
120-83-2	* 2,4-Dichlorophenol	10	ND
120-82-1	* 1,2,4-Trichlorobenzene	10	ND
91-20-3	* Naphthalene	10	ND
106-47-8	**4-Chloroaniline	10	ND
87-68-3	* Hexachlorobutadiene	10	ND
59-50-7	* 4-Chloro-3-Methylphenol	10	ND
91-57-6	**2-Methylnaphthalene	10	ND
77-47-4	* Hexachlorocyclopentadiene	10	ND
88-06-2	* 2,4,6-Trichlorophenol	10	ND
95-95-4	**2,4,5-Trichlorophenol	50	ND
91-58-7	* 2-Chloronaphthalene	10	ND
88-74-4	**2-Nitroaniline	50	ND
131-11-3	* Dimethyl Phthalate	10	ND
208-96-8	* Acenaphthylene	10	ND
99-09-2	**3-Nitroaniline	50	ND
83-32-9	* Acenaphthene	10	ND
51-28-5	* 2,4-Dinitrophenol	50	ND
100-02-7	* 4-Nitrophenol	50	ND
132-64-9	**Dibenzofuran	10	ND

ND : Not detected at or above the practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: 69028-1 W-20-MW2	Anametrix I.D.	: 8909189-02
Matrix	: WATER	Analyst	: ARL
Date sampled	: 09/20/89	Supervisor	: PG
Date ext.	: 09/22/89	Date released	: 10/05/89
Date analyzed	: 09/29/89	Volume ext.	: 940 ml
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
121-14-2	* 2,4-Dinitrotoluene	10	ND
606-20-2	* 2,6-Dinitrotoluene	10	ND
84-66-2	* Diethylphthalate	10	ND
7005-72-3	* 4-Chlorophenyl-phenylether	10	ND
86-73-7	* Fluorene	10	ND
100-01-6	**4-Nitroaniline	50	ND
534-52-1	**4,6-Dinitro-2-Methylphenol	50	ND
86-30-6	* N-Nitrosodiphenylamine	10	ND
122-66-7	**Azobenzene	10	ND
101-55-3	* 4-Bromophenyl-phenylether	10	ND
118-74-1	* Hexachlorobenzene	10	ND
87-86-5	* Pentachlorophenol	50	ND
85-01-8	* Phenanthrene	10	ND
120-12-7	* Anthracene	10	ND
84-74-2	* Di-n-Butylphthalate	10	ND
206-44-0	* Fluoranthene	10	ND
92-87-5	* Benzidine	50	ND
129-00-0	* Pyrene	10	ND
85-68-7	* Butylbenzylphthalate	10	ND
91-94-1	* 3,3'-Dichlorobenzidine	20	ND
56-55-3	* Benzo(a)Anthracene	10	ND
117-81-7	* bis(2-Ethylhexyl)Phthalate	10	ND
218-01-9	* Chrysene	10	ND
117-84-0	* Di-n-Octyl Phthalate	10	ND
205-99-2	* Benzo(b)Fluoranthene	10	ND
207-08-9	* Benzo(k)Fluoranthene	10	ND
50-32-8	* Benzo(a)Pyrene	10	ND
193-39-5	* Indeno(1,2,3-cd)Pyrene	10	ND
53-70-3	* Dibenz(a,h)Anthracene	10	ND
191-24-2	* Benzo(g,h,i)Perylene	10	ND

CAS #	Surrogate Compounds	Limits	%Recovery
367-12-4	2-Fluorophenol	11-70%	49%
4165-62-2	Phenol-d6	10-62%	37%
4165-60-0	Nitrobenzene-d5	20-105%	74%
321-60-8	2-Fluorobiphenyl	26-110%	76%
118-79-6	2,4,6-Tribromophenol	26-154%	109%
1718-51-0	Terphenyl-d14	16-131%	103%

ND : Not detected at or above the practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: 69028-1 W-21-MW3	Anametrix I.D.	: 8909189-03
Matrix	: WATER	Analyst	: ARL
Date sampled	: 09/20/89	Supervisor	: PG
Date ext.	: 09/22/89	Date released	: 10/05/89
Date analyzed	: 10/02/89	Volume ext.	: 935 ml
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
62-75-9	* N-Nitrosodimethylamine	10	ND
108-95-2	* Phenol	10	ND
62-53-3	**Aniline	10	ND
111-44-4	* bis(-2-Chloroethyl)Ether	10	ND
95-57-8	* 2-Chlorophenol	10	ND
541-73-1	* 1,3-Dichlorobenzene	10	ND
106-46-7	* 1,4-Dichlorobenzene	10	ND
100-51-6	**Benzyl Alcohol	10	ND
95-50-1	* 1,2-Dichlorobenzene	10	ND
95-48-7	**2-Methylphenol	10	ND
108-60-1	**bis(2-chloroisopropyl)Ether	10	ND
106-44-5	**4-Methylphenol	10	ND
621-64-7	* N-Nitroso-Di-n-Propylamine	10	ND
67-72-1	* Hexachloroethane	10	ND
98-95-3	* Nitrobenzene	10	ND
78-59-1	* Isophorone	10	ND
88-75-5	* 2-Nitrophenol	10	ND
105-67-9	* 2,4-Dimethylphenol	10	ND
65-85-0	**Benzoic Acid	50	ND
111-91-1	* bis(-2-Chloroethoxy)Methane	10	ND
120-83-2	* 2,4-Dichlorophenol	10	ND
120-82-1	* 1,2,4-Trichlorobenzene	10	ND
91-20-3	* Naphthalene	10	ND
106-47-8	**4-Chloroaniline	10	ND
87-68-3	* Hexachlorobutadiene	10	ND
59-50-7	* 4-Chloro-3-Methylphenol	10	ND
91-57-6	**2-Methylnaphthalene	10	ND
77-47-4	* Hexachlorocyclopentadiene	10	ND
88-06-2	* 2,4,6-Trichlorophenol	10	ND
95-95-4	**2,4,5-Trichlorophenol	50	ND
91-58-7	* 2-Chloronaphthalene	10	ND
88-74-4	**2-Nitroaniline	50	ND
131-11-3	* Dimethyl Phthalate	10	ND
208-96-8	* Acenaphthylene	10	ND
99-09-2	**3-Nitroaniline	50	ND
83-32-9	* Acenaphthene	10	ND
51-28-5	* 2,4-Dinitrophenol	50	ND
100-02-7	* 4-Nitrophenol	50	ND
132-64-9	**Dibenzofuran	10	ND

ND : Not detected at or above the practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: 69028-1 W-21-MW3	Anametrix I.D.	: 8909189-03
Matrix	: WATER	Analyst	: AAL
Date sampled	: 09/20/89	Supervisor	: PG
Date ext.	: 09/22/89	Date released	: 10/05/89
Date analyzed	: 10/02/89	Volume ext.	: 935 ml
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
121-14-2	* 2,4-Dinitrotoluene	10	ND
606-20-2	* 2,6-Dinitrotoluene	10	ND
84-66-2	* Diethylphthalate	10	ND
7005-72-3	* 4-Chlorophenyl-phenylether	10	ND
86-73-7	* Fluorene	10	ND
100-01-6	**4-Nitroaniline	50	ND
534-52-1	**4,6-Dinitro-2-Methylphenol	50	ND
86-30-6	* N-Nitrosodiphenylamine	10	ND
122-66-7	**Azobenzene	10	ND
101-55-3	* 4-Bromophenyl-phenylether	10	ND
118-74-1	* Hexachlorobenzene	10	ND
87-86-5	* Pentachlorophenol	50	ND
85-01-8	* Phenanthrene	10	ND
120-12-7	* Anthracene	10	ND
84-74-2	* Di-n-Butylphthalate	10	ND
206-44-0	* Fluoranthene	10	ND
92-87-5	* Benzidine	50	ND
129-00-0	* Pyrene	10	ND
85-68-7	* Butylbenzylphthalate	10	ND
91-94-1	* 3,3'-Dichlorobenzidine	20	ND
56-55-3	* Benzo(a)Anthracene	10	ND
117-81-7	* bis(2-Ethylhexyl)Phthalate	10	ND
218-01-9	* Chrysene	10	ND
117-84-0	* Di-n-Octyl Phthalate	10	ND
205-99-2	* Benzo(b)Fluoranthene	10	ND
207-08-9	* Benzo(k)Fluoranthene	10	ND
50-32-8	* Benzo(a)Pyrene	10	ND
193-39-5	* Indeno(1,2,3-cd)Pyrene	10	ND
53-70-3	* Dibenz(a,h)Anthracene	10	ND
191-24-2	* Benzo(g,h,i)Perylene	10	ND

CAS #	Surrogate Compounds	Limits	%Recovery
367-12-4	2-Fluorophenol	11-70%	38%
4165-62-2	Phenol-d6	10-62%	28%
4165-60-0	Nitrobenzene-d5	20-105%	57%
321-60-8	2-Fluorobiphenyl	26-110%	51%
118-79-6	2,4,6-Tribromophenol	26-154%	102%
1718-51-0	Terphenyl-d14	16-131%	125%

ND : Not detected at or above the practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: METHOD BLANK	Anametrix I.D.	: 2CB0922C01
Matrix	: WATER	Analyst	: ARL
Date sampled	: N/A	Supervisor	: PG
Date ext.	: 09/22/89	Date released	: 10/05/89
Date analyzed	: 09/29/89	Volume ext.	: 1 LITER
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
62-75-9	* N-Nitrosodimethylamine	10	ND
108-95-2	* Phenol	10	ND
62-53-3	**Aniline	10	ND
111-44-4	* bis(-2-Chloroethyl)Ether	10	ND
95-57-8	* 2-Chlorophenol	10	ND
541-73-1	* 1,3-Dichlorobenzene	10	ND
106-46-7	* 1,4-Dichlorobenzene	10	ND
100-51-6	**Benzyl Alcohol	10	ND
95-50-1	* 1,2-Dichlorobenzene	10	ND
95-48-7	**2-Methylphenol	10	ND
108-60-1	**bis(2-chloroisopropyl)Ether	10	ND
106-44-5	**4-Methylphenol	10	ND
621-64-7	* N-Nitroso-Di-n-Propylamine	10	ND
67-72-1	* Hexachloroethane	10	ND
98-95-3	* Nitrobenzene	10	ND
78-59-1	* Isophorone	10	ND
88-75-5	* 2-Nitrophenol	10	ND
105-67-9	* 2,4-Dimethylphenol	10	ND
65-85-0	**Benzoic Acid	50	ND
111-91-1	* bis(-2-Chloroethoxy)Methane	10	ND
120-83-2	* 2,4-Dichlorophenol	10	ND
120-82-1	* 1,2,4-Trichlorobenzene	10	ND
91-20-3	* Naphthalene	10	ND
106-47-8	**4-Chloroaniline	10	ND
87-68-3	* Hexachlorobutadiene	10	ND
59-50-7	* 4-Chloro-3-Methylphenol	10	ND
91-57-6	**2-Methylnaphthalene	10	ND
77-47-4	* Hexachlorocyclopentadiene	10	ND
88-06-2	* 2,4,6-Trichlorophenol	10	ND
95-95-4	**2,4,5-Trichlorophenol	50	ND
91-58-7	* 2-Chloronaphthalene	10	ND
88-74-4	**2-Nitroaniline	50	ND
131-11-3	* Dimethyl Phthalate	10	ND
208-96-8	* Acenaphthylene	10	ND
99-09-2	**3-Nitroaniline	50	ND
83-32-9	* Acenaphthene	10	ND
51-28-5	* 2,4-Dinitrophenol	50	ND
100-02-7	* 4-Nitrophenol	50	ND
132-64-9	**Dibenzofuran	10	ND

ND : Not detected at or above the practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

CLP SEMI-VOLATILE MATRIX SPIKE REPORT -- EPA METHOD 8270
ANAMETRIX, INC. (408) 629-1132

Sample I.D.	: 69028-1 W-20-MW2	Anametrix I.D.	: 8909189-02
Matrix	: WATER	Analyst	: ARL
Date Sampled	: 09/20/89	Supervisor	: PG
Date extracted	: 09/22/89	Date Released	: 10/05/89
Date analyzed	: 09/29/89	Instrument I.D.	: F2

COMPOUND	SPIKE AMT. (UG/L)	8909189 MS (UG/L)	%REC MS	8909189 MSD (UG/L)	%REC MSD	RPD	%REC. LIMITS*
PHENOL	100	25	25%				10-43%
2-CHLOROPHENOL	100	46	46%				13-84%
1,4-DICHLOROBENZENE	50	18	36%				12-68%
NITROSODIPROPYLAMINE	50	37	74%				25-96%
1,2,4-TRICHLOROBENZENE	50	22	44%				17-70%
4-CHLORO-3-METHYLPHENOL	100	68	68%				10-127%
ACENAPHTHENE	50	42	84%				27-123%
4-NITROPHENOL	100	21	21%				10-66%
2,4-DINITROTOLUENE	50	57	114%				43-117%
PENTACHLOROPHENOL	100	54	54%				10-151%
PYRENE	50	69	138%				47-148%

* Limits established by Anametrix, Inc.

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: METHOD BLANK	Anametrix I.D.	: 2CB0922C01
Matrix	: WATER	Analyst	: ARL
Date sampled	: N/A	Supervisor	: PG
Date ext.	: 09/22/89	Date released	: 10/05/89
Date analyzed	: 09/29/89	Volume ext.	: 1 LITER
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
121-14-2	* 2,4-Dinitrotoluene	10	ND
606-20-2	* 2,6-Dinitrotoluene	10	ND
84-66-2	* Diethylphthalate	10	ND
7005-72-3	* 4-Chlorophenyl-phenylether	10	ND
86-73-7	* Fluorene	10	ND
100-01-6	**4-Nitroaniline	50	ND
534-52-1	**4,6-Dinitro-2-Methylphenol	50	ND
86-30-6	* N-Nitrosodiphenylamine	10	ND
122-66-7	**Azobenzene	10	ND
101-55-3	* 4-Bromophenyl-phenylether	10	ND
118-74-1	* Hexachlorobenzene	10	ND
87-86-5	* Pentachlorophenol	50	ND
85-01-8	* Phenanthrene	10	ND
120-12-7	* Anthracene	10	ND
84-74-2	* Di-n-Butylphthalate	10	ND
206-44-0	* Fluoranthene	10	ND
92-87-5	* Benzidine	50	ND
129-00-0	* Pyrene	10	ND
85-68-7	* Butylbenzylphthalate	10	ND
91-94-1	* 3,3'-Dichlorobenzidine	20	ND
56-55-3	* Benzo(a)Anthracene	10	ND
117-81-7	* bis(2-Ethylhexyl)Phthalate	10	ND
218-01-9	* Chrysene	10	ND
117-84-0	* Di-n-Octyl Phthalate	10	ND
205-99-2	* Benzo(b)Fluoranthene	10	ND
207-08-9	* Benzo(k)Fluoranthene	10	ND
50-32-8	* Benzo(a)Pyrene	10	ND
193-39-5	* Indeno(1,2,3-cd)Pyrene	10	ND
53-70-3	* Dibenz(a,h)Anthracene	10	ND
191-24-2	* Benzo(g,h,i)Perylene	10	ND

CAS #	Surrogate Compounds	Limits	%Recovery
367-12-4	2-Fluorophenol	11-70%	36%
4165-62-2	Phenol-d6	10-62%	26%
4165-60-0	Nitrobenzene-d5	20-105%	55%
321-60-8	2-Fluorobiphenyl	26-110%	54%
118-79-6	2,4,6-Tribromophenol	26-154%	91%
1718-51-0	Terphenyl-d14	16-131%	110%

ND : Not detected at or above the practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

REPORT SUMMARY
ANAMETRIX, INC. (408) 432-8192

Client	: Applied GeoSystems	Anametrix W.O.#:	1909189
Address	: 3315 Almaden Expressway	Date Received :	09/21/89
	Suite 34	Purchase Order#:	N/A
City	: San Jose, CA 95118	Project No. :	69028-1
Attn.	: George Williams	Date Released :	10/05/89

Anametrix I.D.	Sample I.D.	Matrix	Date Sampled	Method	Date Extract	Date Analyzed	Inst I.D.
RESULTS							
8909189-01	W-22-MW1	WATER	09/20/89	TPH	09/22/89	10/01/89	N/A
8909189-02	W-20-MW2	WATER	09/20/89	TPH	09/22/89	10/01/89	N/A
8909189-03	W-21-MW3	WATER	09/20/89	TPH	09/22/89	10/01/89	N/A

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: 69028-1 W-22-MW1	Anametrix I.D.	: 8909189-01
Matrix	: WATER	Analyst	: KD
Date sampled	: 09/20/89	Supervisor	: TC
Date anl.TPHg	: 09/22/89	Date released	: 10/05/89
Date ext.TPHd	: 09/22/89	Date ext. TOG	: 09/25/89
Date anl.TPHd	: 10/01/89	Date anl. TOG	: 09/25/89

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
71-43-2	Benzene	0.5	3.0
108-88-3	Toluene	0.5	1.0
100-41-4	Ethylbenzene	0.5	0.7
1330-20-7	Total Xylenes	1	1
	TPH as Gasoline	50	80
	TPH as Diesel	50	ND
	Total Oil & Grease	5000	ND

ND - Below reporting limit.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
TOG - Total Oil & Grease is determined by Standard Method 503E.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: 69028-1 W-20-MW2	Anametrix I.D.	: 8909189-02
Matrix	: WATER	Analyst	: KD
Date sampled	: 09/20/89	Supervisor	: TC
Date anl.TPHg	: 09/22/89	Date released	: 10/05/89
Date ext.TPHd	: 09/22/89	Date ext. TOG	: 09/25/89
Date anl.TPHd	: 10/01/89	Date anl. TOG	: 09/25/89

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
71-43-2	Benzene	0.5	ND
108-88-3	Toluene	0.5	ND
100-41-4	Ethylbenzene	0.5	ND
1330-20-7	Total Xylenes	1	ND
	TPH as Gasoline	50	ND
	TPH as Diesel	50	ND
	Total Oil & Grease	5000	ND

ND - Below reporting limit.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
TOG - Total Oil & Grease is determined by Standard Method 503E.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: 69028-1 W-21-MW3	Anametrix I.D.	: 8909189-03
Matrix	: WATER	Analyst	: KD
Date sampled	: 09/20/89	Supervisor	: TC
Date anl.TPHg	: 09/22/89	Date released	: 10/05/89
Date ext.TPHd	: 09/22/89	Date ext. TOG	: 09/25/89
Date anl.TPHd	: 10/01/89	Date anl. TOG	: 09/25/89

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
71-43-2	Benzene	0.5	8.9
108-88-3	Toluene	0.5	0.6
100-41-4	Ethylbenzene	0.5	1.1
1330-20-7	Total Xylenes	1	ND
	TPH as Gasoline	50	170
	TPH as Diesel	50	ND
	Total Oil & Grease	5000	ND

ND - Below reporting limit.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
TOG - Total Oil & Grease is determined by Standard Method 503E.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

REPORT SUMMARY
ANAMETRIX, INC. (408) 432-8192

Client	: Applied GeoSystems	Anametrix W.O.#:	2909189
Address	: 3315 Almaden Expressway	Date Received :	09/21/89
	Suite 34	Purchase Order#:	N/A
City	: San Jose, CA 95118	Project No. :	69028-1
Attn.	: George Williams	Date Released :	10/05/89

Anametrix I.D.	Sample I.D.	Matrix	Date Sampled	Method	Date Extract	Date Analyzed	Inst I.D.
RESULTS							
8909189-01	W-22-MW1	WATER	09/20/89	METALS		09/25/89	AA1
8909189-02	W-20-MW2	WATER	09/20/89	METALS		09/25/89	AA1
8909189-03	W-21-MW3	WATER	09/20/89	METALS		09/25/89	AA1
QUALITY ASSURANCE (QA)							
MB092289W	METHOD BLANK	WATER	N/A	METALS		09/25/89	AA1

ANALYSIS DATA SHEET - INDIVIDUAL METALS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 69028-1 W-22-MW1
Matrix : WATER
Date Sampled : 09/20/89
Date Prepared: 09/22/89
Date Analyzed: 09/25/89

Anametrix ID : 8909189-01
Analyst : MN
Supervisor :
Instrument ID: AA1
Date released: 10/05/89

EPA METHOD NO.	COMPOUNDS	Detection Limit (mg/l)	Amount Found (mg/l)
7190	Total Chromium (TTL Cr)	0.04	0.063
7420	Lead (Pb)	0.05	ND
7950	Zinc (Zn)	0.01	0.185

ND : Not detected at or above the practical quantitation limit for the method.

ANALYSIS DATA SHEET - INDIVIDUAL METALS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 69028-1 W-20-MW2
Matrix : WATER
Date Sampled : 09/20/89
Date Prepared: 09/22/89
Date Analyzed: 09/25/89

Anametrix ID : 8909189-02
Analyst : MW
Supervisor : RM
Instrument ID: AA1
Date released: 10/05/89

EPA METHOD NO.	COMPOUNDS	Detection Limit (mg/l)	Amount Found (mg/l)
7190	Total Chromium (TTL Cr)	0.04	0.063
7420	Lead (Pb)	0.05	ND
7950	Zinc (Zn)	0.01	0.170

ND : Not detected at or above the practical quantitation limit for the method.

ANALYSIS DATA SHEET - INDIVIDUAL METALS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 69028-1 W-21-MW3
Matrix : WATER
Date Sampled : 09/20/89
Date Prepared: 09/22/89
Date Analyzed: 09/25/89

Anametrix ID : 8909189-03
Analyst : MN
Supervisor : RM
Instrument ID: AA1
Date released: 10/05/89

EPA METHOD NO.	COMPOUNDS	Detection Limit (mg/l)	Amount Found (mg/l)
7190	Total Chromium (TTL Cr)	0.04	0.443
7420	Lead (Pb)	0.05	ND
7950	Zinc (Zn)	0.01	0.556

ND : Not detected at or above the practical quantitation limit for the method.

ANALYSIS DATA SHEET - INDIVIDUAL METALS
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : METHOD BLANK
Matrix : WATER
Date Sampled : N/A
Date Prepared: 09/22/89
Date Analyzed: 09/25/89

Anametrix ID : MB092289W
Analyst : MN
Supervisor : RM
Instrument ID: AA1
Date released: 10/05/89

EPA METHOD NO.	COMPOUNDS	Detection Limit (mg/l)	Amount Found (mg/l)
7190	Total Chromium (TTL Cr)	0.04	ND
7420	Lead (Pb)	0.05	ND
7950	Zinc (Zn)	0.01	ND

ND : Not detected at or above the practical quantitation limit for the method.

CHAIN OF CUSTODY RECORD

San Jose Branch
3315 Almaden Expressway, Suite 34
San Jose, CA 95118 (408)264-7723

Applied GeoSystems

SAMPLER (signature): Steve Strauss

Phone: 408-264-7723

LABORATORY:
Anametrix Laboratories
1961 Concourse Dr.
San Jose, CA

TURNAROUND TIME: 2-weeks

Project Leader: George Williams

Phone No. 408-264-7723

SHIPPING INFORMATION:

Shipper

Address

Date Shipped

Service Used

Airbill No. Cooler No.

Relinquished by: (signatures)	Received by: (signatures)	Date	Time
Steve Strauss		9-21-89	106[illegible]
	Received for laboratory by: [illegible signature]	9/21/89	10:55

LABORATORY SHOULD SIGN UPON RECEIPT AND RETURN A COPY OF THIS FORM WITH THE LABORATORY RESULTS

Sample No.	Site Identification	Date Sampled	Analyses Requested	Sample Condition Upon Receipt
W-22-MW1	69028-1	9-20-89	TPHg, BTEX	40ml, HCl, iced
			TPHd	1l, iced
			SM 503E	1l, iced
			8270 (semi-VO)	1l, iced
			8240 (VOC)	40ml, iced
			Pb, Cr, Zn 6010	500ml, HNO_3, iced
W-20-MW2	69028-1	9-20-89	same as above	
W-21-MW3	69028-1	9-20-89	same as above	

ANAMETRIX INC
Environmental & Analytical Chemistry
1961 Concourse Drive, Suite E, San Jose, CA 95131
(408) 432-8192 • Fax (408) 432-8198

REPORT

George Williams
Applied GeoSystems
Suite 34
3315 Almaden Expressway
San Jose, CA 95118

September 28, 1989
Anametrix W.O.#: 8909158
Date Received : 09/15/89
Project No. : ARCO #6113

Dear Mr. Williams:

Your samples have been received for analysis. The REPORT SUMMARY lists your sample identifications and the analytical methods you requested. The following sections are included in this report: RESULTS and QUALITY ASSURANCE.

NOTE: 1) Amounts reported are net values, i.e. corrected for method blank contamination.
2) Surrogate recovery for 1,2-Dichloroethane-d4 was outside established QC limits in samples S-41-B2 and S-34-B3.
3) Matrix spike recoveries for Benzene, Trichloroethene, Tetrachloroethene and 1,2-Dichlorobenzene were outside established QC limits for sample S-19-B2.

If there is any more that we can do, please give us a call. Thank you for using ANAMETRIX, INC.

Sincerely,

ANAMETRIX, INC.

Burt Sutherland
Laboratory Director

BWS/lm

REPORT SUMMARY
ANAMETRIX, INC. (408) 432-8192

Client : Applied GeoSystems
Address : 3315 Almaden Expressway
Suite 34
City : San Jose, CA 95118
Attn. : George Williams

Anametrix W.O.#: 1909158
Date Received : 09/15/89
Purchase Order#: N/A
Project No. : ARCO #6113
Date Released : 09/28/89

Anametrix I.D.	Sample I.D.	Matrix	Date Sampled	Method	Date Extract	Date Analyzed	Inst I.D.
RESULTS							
8909158-01	S-14.5-B1	SOIL	09/13/89	8240		09/21/89	F1
8909158-02	S-34.5-B1	SOIL	09/13/89	8240		09/21/89	F1
8909158-03	S-44.5-B1	SOIL	09/13/89	8240		09/21/89	F1
8909158-04	S-19-B2	SOIL	09/13/89	8240		09/21/89	F1
8909158-05	S-34-B2	SOIL	09/14/89	8240		09/21/89	F1
8909158-06	S-41-B2	SOIL	09/14/89	8240		09/21/89	F1
8909158-07	S-14-B3	SOIL	09/14/89	8240		09/21/89	F1
8909158-08	S-34-B3	SOIL	09/14/89	8240		09/21/89	F1
8909158-09	S-37.5-B3	SOIL	09/14/89	8240		09/21/89	F1
QUALITY ASSURANCE (QA)							
1CB0921V00	METHOD BLANK	SOIL	N/A	8240		09/21/89	F1
8909158-04	S-19-B2	SOIL	09/13/89	SPIKE		09/21/89	F1

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : ARCO #6113 S-14.5-B1
Matrix : SOIL
Date sampled : 09/13/89
Date analyzed: 09/21/89
Dilut. factor: NONE

Anametrix I.D. : 8909158-01
Analyst : ARL
Supervisor : PG
Date released : 09/28/89
Instrument ID : F1

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
74-87-3	* Chloromethane	10	ND
75-01-4	* Vinyl Chloride	10	ND
74-83-9	* Bromomethane	10	ND
75-00-3	* Chloroethane	10	ND
75-69-4	* Trichlorofluoromethane	5	ND
75-35-4	* 1,1-Dichloroethene	5	ND
76-13-1	# Trichlorotrifluoroethane	5	ND
67-64-1	**Acetone	20	ND
75-15-0	**Carbondisulfide	5	ND
75-09-2	* Methylene Chloride	5	ND
156-60-5	* Trans-1,2-Dichloroethene	5	ND
75-34-3	* 1,1-Dichloroethane	5	ND
78-93-3	**2-Butanone	20	ND
156-59-2	* Cis-1,2-Dichloroethene	5	ND
67-66-3	* Chloroform	5	ND
71-55-6	* 1,1,1-Trichloroethane	5	ND
56-23-5	* Carbon Tetrachloride	5	ND
71-43-2	* Benzene	5	ND
107-06-2	* 1,2-Dichloroethane	5	ND
79-01-6	* Trichloroethene	5	ND
78-87-5	* 1,2-Dichloropropane	5	ND
75-27-4	* Bromodichloromethane	5	ND
110-75-8	* 2-Chloroethylvinylether	5	ND
108-05-4	**Vinyl Acetate	10	ND
10061-02-6	* Trans-1,3-Dichloropropene	5	ND
108-10-1	**4-Methyl-2-Pentanone	10	ND
108-88-3	* Toluene	5	ND
10061-01-5	* cis-1,3-Dichloropropene	5	ND
79-00-5	* 1,1,2-Trichloroethane	5	ND
127-18-4	* Tetrachloroethene	5	ND
591-78-6	**2-Hexanone	10	ND
124-48-1	* Dibromochloromethane	5	ND
108-90-7	* Chlorobenzene	5	ND
100-41-4	* Ethylbenzene	5	ND
1330-20-7	**Total Xylenes	5	ND
100-42-5	**Styrene	5	ND
75-25-2	* Bromoform	5	ND
79-34-5	* 1,1,2,2-Tetrachloroethane	5	ND
541-73-1	* 1,3-Dichlorobenzene	5	ND
106-46-7	* 1,4-Dichlorobenzene	5	ND
95-50-1	* 1,2-Dichlorobenzene	5	ND

CAS #	Surrogate Compounds	Limits	% Recovery
17060-07-0	1,2-Dichloroethane-d4	75-130%	80%
2037-26-5	Toluene-d8	74-121%	101%
460-00-4	p-Bromofluorobenzene	70-124%	87%

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : ARCO #6113 S-44.5-B1
Matrix : SOIL
Date sampled : 09/13/89
Date analyzed: 09/21/89
Dilut. factor: NONE

Anametrix I.D. : 8909158-03
Analyst : ARL
Supervisor : PG
Date released : 09/28/89
Instrument ID : F1

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
74-87-3	* Chloromethane	10	ND
75-01-4	* Vinyl Chloride	10	ND
74-83-9	* Bromomethane	10	ND
75-00-3	* Chloroethane	10	ND
75-69-4	* Trichlorofluoromethane	5	ND
75-35-4	* 1,1-Dichloroethene	5	ND
76-13-1	# Trichlorotrifluoroethane	5	ND
67-64-1	**Acetone	20	ND
75-15-0	**Carbondisulfide	5	ND
75-09-2	* Methylene Chloride	5	ND
156-60-5	* Trans-1,2-Dichloroethene	5	ND
75-34-3	* 1,1-Dichloroethane	5	ND
78-93-3	**2-Butanone	20	ND
156-59-2	* Cis-1,2-Dichloroethene	5	ND
67-66-3	* Chloroform	5	ND
71-55-6	* 1,1,1-Trichloroethane	5	ND
56-23-5	* Carbon Tetrachloride	5	ND
71-43-2	* Benzene	5	ND
107-06-2	* 1,2-Dichloroethane	5	ND
79-01-6	* Trichloroethene	5	ND
78-87-5	* 1,2-Dichloropropane	5	ND
75-27-4	* Bromodichloromethane	5	ND
110-75-8	* 2-Chloroethylvinylether	5	ND
108-05-4	**Vinyl Acetate	10	ND
10061-02-6	* Trans-1,3-Dichloropropene	5	ND
108-10-1	**4-Methyl-2-Pentanone	10	ND
108-88-3	* Toluene	5	ND
10061-01-5	* cis-1,3-Dichloropropene	5	ND
79-00-5	* 1,1,2-Trichloroethane	5	ND
127-18-4	* Tetrachloroethene	5	ND
591-78-6	**2-Hexanone	10	ND
124-48-1	* Dibromochloromethane	5	ND
108-90-7	* Chlorobenzene	5	ND
100-41-4	* Ethylbenzene	5	ND
1330-20-7	**Total Xylenes	5	ND
100-42-5	**Styrene	5	ND
75-25-2	* Bromoform	5	ND
79-34-5	* 1,1,2,2-Tetrachloroethane	5	ND
541-73-1	* 1,3-Dichlorobenzene	5	ND
106-46-7	* 1,4-Dichlorobenzene	5	ND
95-50-1	* 1,2-Dichlorobenzene	5	ND

CAS #	Surrogate Compounds	Limits	% Recovery
17060-07-0	1,2-Dichloroethane-d4	75-130%	90%
2037-26-5	Toluene-d8	74-121%	101%
460-00-4	p-Bromofluorobenzene	70-124%	96%

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-19-B2	Anametrix I.D.	: 8909158-04
Matrix	: SOIL	Analyst	: ARL
Date sampled	: 09/13/89	Supervisor	: PG
Date analyzed	: 09/21/89	Date released	: 09/28/89
Dilut. factor	: NONE	Instrument ID	: F1

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
74-87-3	* Chloromethane	10	ND
75-01-4	* Vinyl Chloride	10	ND
74-83-9	* Bromomethane	10	ND
75-00-3	* Chloroethane	10	ND
75-69-4	* Trichlorofluoromethane	5	ND
75-35-4	* 1,1-Dichloroethene	5	ND
76-13-1	# Trichlorotrifluoroethane	5	ND
67-64-1	**Acetone	20	ND
75-15-0	**Carbondisulfide	5	ND
75-09-2	* Methylene Chloride	5	ND
156-60-5	* Trans-1,2-Dichloroethene	5	ND
75-34-3	* 1,1-Dichloroethane	5	ND
78-93-3	**2-Butanone	20	ND
156-59-2	* Cis-1,2-Dichloroethene	5	ND
67-66-3	* Chloroform	5	ND
71-55-6	* 1,1,1-Trichloroethane	5	ND
56-23-5	* Carbon Tetrachloride	5	ND
71-43-2	* Benzene	5	ND
107-06-2	* 1,2-Dichloroethane	5	ND
79-01-6	* Trichloroethene	5	ND
78-87-5	* 1,2-Dichloropropane	5	ND
75-27-4	* Bromodichloromethane	5	ND
110-75-8	* 2-Chloroethylvinylether	5	ND
108-05-4	**Vinyl Acetate	10	ND
10061-02-6	* Trans-1,3-Dichloropropene	5	ND
108-10-1	**4-Methyl-2-Pentanone	10	ND
108-88-3	* Toluene	5	ND
10061-01-5	* cis-1,3-Dichloropropene	5	ND
79-00-5	* 1,1,2-Trichloroethane	5	ND
127-18-4	* Tetrachloroethene	5	ND
591-78-6	**2-Hexanone	10	ND
124-48-1	* Dibromochloromethane	5	ND
108-90-7	* Chlorobenzene	5	ND
100-41-4	* Ethylbenzene	5	ND
1330-20-7	**Total Xylenes	5	ND
100-42-5	**Styrene	5	ND
75-25-2	* Bromoform	5	ND
79-34-5	* 1,1,2,2-Tetrachloroethane	5	ND
541-73-1	* 1,3-Dichlorobenzene	5	ND
106-46-7	* 1,4-Dichlorobenzene	5	ND
95-50-1	* 1,2-Dichlorobenzene	5	ND

CAS #	Surrogate Compounds	Limits	% Recovery
17060-07-0	1,2-Dichloroethane-d4	75-130%	74%
2037-26-5	Toluene-d8	74-121%	98%
460-00-4	p-Bromofluorobenzene	70-124%	94%

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : ARCO #6113 S-34-B2
Matrix : SOIL
Date sampled : 09/14/89
Date analyzed: 09/21/89
Dilut. factor: NONE

Anametrix I.D. : 8909158-05
Analyst : ARL
Supervisor : PG
Date released : 09/28/89
Instrument ID : F1

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
74-87-3	* Chloromethane	10	ND
75-01-4	* Vinyl Chloride	10	ND
74-83-9	* Bromomethane	10	ND
75-00-3	* Chloroethane	10	ND
75-69-4	* Trichlorofluoromethane	5	ND
75-35-4	* 1,1-Dichloroethene	5	ND
76-13-1	# Trichlorotrifluoroethane	5	ND
67-64-1	**Acetone	20	ND
75-15-0	**Carbondisulfide	5	ND
75-09-2	* Methylene Chloride	5	ND
156-60-5	* Trans-1,2-Dichloroethene	5	ND
75-34-3	* 1,1-Dichloroethane	5	ND
78-93-3	**2-Butanone	20	ND
156-59-2	* Cis-1,2-Dichloroethene	5	ND
67-66-3	* Chloroform	5	ND
71-55-6	* 1,1,1-Trichloroethane	5	ND
56-23-5	* Carbon Tetrachloride	5	ND
71-43-2	* Benzene	5	ND
107-06-2	* 1,2-Dichloroethane	5	ND
79-01-6	* Trichloroethene	5	ND
78-87-5	* 1,2-Dichloropropane	5	ND
75-27-4	* Bromodichloromethane	5	ND
110-75-8	* 2-Chloroethylvinylether	5	ND
108-05-4	**Vinyl Acetate	10	ND
10061-02-6	* Trans-1,3-Dichloropropene	5	ND
108-10-1	**4-Methyl-2-Pentanone	10	ND
108-88-3	* Toluene	5	ND
10061-01-5	* cis-1,3-Dichloropropene	5	ND
79-00-5	* 1,1,2-Trichloroethane	5	ND
127-18-4	* Tetrachloroethene	5	ND
591-78-6	**2-Hexanone	10	ND
124-48-1	* Dibromochloromethane	5	ND
108-90-7	* Chlorobenzene	5	ND
100-41-4	* Ethylbenzene	5	ND
1330-20-7	**Total Xylenes	5	ND
100-42-5	**Styrene	5	ND
75-25-2	* Bromoform	5	ND
79-34-5	* 1,1,2,2-Tetrachloroethane	5	ND
541-73-1	* 1,3-Dichlorobenzene	5	ND
106-46-7	* 1,4-Dichlorobenzene	5	ND
95-50-1	* 1,2-Dichlorobenzene	5	ND

CAS #	Surrogate Compounds	Limits	% Recovery
17060-07-0	1,2-Dichloroethane-d4	75-130%	87%
2037-26-5	Toluene-d8	74-121%	100%
460-00-4	p-Bromofluorobenzene	70-124%	96%

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : ARCO #6113 S-41-B2
Matrix : SOIL
Date sampled : 09/14/89
Date analyzed: 09/21/89
Dilut. factor: NONE

Anametrix I.D. : 8909158-06
Analyst : ARL
Supervisor : PG
Date released : 09/28/89
Instrument ID : F1

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
74-87-3	* Chloromethane	10	ND
75-01-4	* Vinyl Chloride	10	ND
74-83-9	* Bromomethane	10	ND
75-00-3	* Chloroethane	10	ND
75-69-4	* Trichlorofluoromethane	5	ND
75-35-4	* 1,1-Dichloroethene	5	ND
76-13-1	# Trichlorotrifluoroethane	5	ND
67-64-1	**Acetone	20	ND
75-15-0	**Carbondisulfide	5	ND
75-09-2	* Methylene Chloride	5	ND
156-60-5	* Trans-1,2-Dichloroethene	5	ND
75-34-3	* 1,1-Dichloroethane	5	ND
78-93-3	**2-Butanone	20	ND
156-59-2	* Cis-1,2-Dichloroethene	5	ND
67-66-3	* Chloroform	5	ND
71-55-6	* 1,1,1-Trichloroethane	5	ND
56-23-5	* Carbon Tetrachloride	5	ND
71-43-2	* Benzene	5	ND
107-06-2	* 1,2-Dichloroethane	5	ND
79-01-6	* Trichloroethene	5	ND
78-87-5	* 1,2-Dichloropropane	5	ND
75-27-4	* Bromodichloromethane	5	ND
110-75-8	* 2-Chloroethylvinylether	5	ND
108-05-4	**Vinyl Acetate	10	ND
10061-02-6	* Trans-1,3-Dichloropropene	5	ND
108-10-1	**4-Methyl-2-Pentanone	10	ND
108-88-3	* Toluene	5	ND
10061-01-5	* cis-1,3-Dichloropropene	5	ND
79-00-5	* 1,1,2-Trichloroethane	5	ND
127-18-4	* Tetrachloroethene	5	ND
591-78-6	**2-Hexanone	10	ND
124-48-1	* Dibromochloromethane	5	ND
108-90-7	* Chlorobenzene	5	ND
100-41-4	* Ethylbenzene	5	ND
1330-20-7	**Total Xylenes	5	ND
100-42-5	**Styrene	5	ND
75-25-2	* Bromoform	5	ND
79-34-5	* 1,1,2,2-Tetrachloroethane	5	ND
541-73-1	* 1,3-Dichlorobenzene	5	ND
106-46-7	* 1,4-Dichlorobenzene	5	ND
95-50-1	* 1,2-Dichlorobenzene	5	ND

CAS #	Surrogate Compounds	Limits	% Recovery
17060-07-0	1,2-Dichloroethane-d4	75-130%	71%
2037-26-5	Toluene-d8	74-121%	103%
460-00-4	p-Bromofluorobenzene	70-124%	89%

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-14-B3	Anametrix I.D.	: 8909158-07
Matrix	: SOIL	Analyst	: ARL
Date sampled	: 09/14/89	Supervisor	: PG
Date analyzed	: 09/21/89	Date released	: 09/28/89
Dilut. factor	: NONE	Instrument ID	: F1

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
74-87-3	* Chloromethane	10	ND
75-01-4	* Vinyl Chloride	10	ND
74-83-9	* Bromomethane	10	ND
75-00-3	* Chloroethane	10	ND
75-69-4	* Trichlorofluoromethane	5	ND
75-35-4	* 1,1-Dichloroethene	5	ND
76-13-1	# Trichlorotrifluoroethane	5	ND
67-64-1	**Acetone	20	ND
75-15-0	**Carbondisulfide	5	ND
75-09-2	* Methylene Chloride	5	ND
156-60-5	* Trans-1,2-Dichloroethene	5	ND
75-34-3	* 1,1-Dichloroethane	5	ND
78-93-3	**2-Butanone	20	ND
156-59-2	* Cis-1,2-Dichloroethene	5	ND
67-66-3	* Chloroform	5	ND
71-55-6	* 1,1,1-Trichloroethane	5	ND
56-23-5	* Carbon Tetrachloride	5	ND
71-43-2	* Benzene	5	ND
107-06-2	* 1,2-Dichloroethane	5	ND
79-01-6	* Trichloroethene	5	ND
78-87-5	* 1,2-Dichloropropane	5	ND
75-27-4	* Bromodichloromethane	5	ND
110-75-8	* 2-Chloroethylvinylether	5	ND
108-05-4	**Vinyl Acetate	10	ND
10061-02-6	* Trans-1,3-Dichloropropene	5	ND
108-10-1	**4-Methyl-2-Pentanone	10	ND
108-88-3	* Toluene	5	ND
10061-01-5	* cis-1,3-Dichloropropene	5	ND
79-00-5	* 1,1,2-Trichloroethane	5	ND
127-18-4	* Tetrachloroethene	5	ND
591-78-6	**2-Hexanone	10	ND
124-48-1	* Dibromochloromethane	5	ND
108-90-7	* Chlorobenzene	5	ND
100-41-4	* Ethylbenzene	5	ND
1330-20-7	**Total Xylenes	5	ND
100-42-5	**Styrene	5	ND
75-25-2	* Bromoform	5	ND
79-34-5	* 1,1,2,2-Tetrachloroethane	5	ND
541-73-1	* 1,3-Dichlorobenzene	5	ND
106-46-7	* 1,4-Dichlorobenzene	5	ND
95-50-1	* 1,2-Dichlorobenzene	5	ND

CAS #	Surrogate Compounds	Limits	% Recovery
17060-07-0	1,2-Dichloroethane-d4	75-130%	86%
2037-26-5	Toluene-d8	74-121%	104%
460-00-4	p-Bromofluorobenzene	70-124%	90%

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : ARCO #6113 S-34-B3
Matrix : SOIL
Date sampled : 09/14/89
Date analyzed: 09/21/89
Dilut. factor: NONE

Anametrix I.D. : 8909158-08
Analyst : ARL
Supervisor : PG
Date released : 09/28/89
Instrument ID : F1

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
74-87-3	* Chloromethane	10	ND
75-01-4	* Vinyl Chloride	10	ND
74-83-9	* Bromomethane	10	ND
75-00-3	* Chloroethane	10	ND
75-69-4	* Trichlorofluoromethane	5	ND
75-35-4	* 1,1-Dichloroethene	5	ND
76-13-1	# Trichlorotrifluoroethane	5	ND
67-64-1	**Acetone	20	ND
75-15-0	**Carbondisulfide	5	ND
75-09-2	* Methylene Chloride	5	ND
156-60-5	* Trans-1,2-Dichloroethene	5	ND
75-34-3	* 1,1-Dichloroethane	5	ND
78-93-3	**2-Butanone	20	ND
156-59-2	* Cis-1,2-Dichloroethene	5	ND
67-66-3	* Chloroform	5	ND
71-55-6	* 1,1,1-Trichloroethane	5	ND
56-23-5	* Carbon Tetrachloride	5	ND
71-43-2	* Benzene	5	ND
107-06-2	* 1,2-Dichloroethane	5	ND
79-01-6	* Trichloroethene	5	ND
78-87-5	* 1,2-Dichloropropane	5	ND
75-27-4	* Bromodichloromethane	5	ND
110-75-8	* 2-Chloroethylvinylether	5	ND
108-05-4	**Vinyl Acetate	10	ND
10061-02-6	* Trans-1,3-Dichloropropene	5	ND
108-10-1	**4-Methyl-2-Pentanone	10	ND
108-88-3	* Toluene	5	ND
10061-01-5	* cis-1,3-Dichloropropene	5	ND
79-00-5	* 1,1,2-Trichloroethane	5	ND
127-18-4	* Tetrachloroethene	5	ND
591-78-6	**2-Hexanone	10	ND
124-48-1	* Dibromochloromethane	5	ND
108-90-7	* Chlorobenzene	5	ND
100-41-4	* Ethylbenzene	5	ND
1330-20-7	**Total Xylenes	5	ND
100-42-5	**Styrene	5	ND
75-25-2	* Bromoform	5	ND
79-34-5	* 1,1,2,2-Tetrachloroethane	5	ND
541-73-1	* 1,3-Dichlorobenzene	5	ND
106-46-7	* 1,4-Dichlorobenzene	5	ND
95-50-1	* 1,2-Dichlorobenzene	5	ND

CAS #	Surrogate Compounds	Limits	% Recovery
17060-07-0	1,2-Dichloroethane-d4	75-130%	72%
2037-26-5	Toluene-d8	74-121%	101%
460-00-4	p-Bromofluorobenzene	70-124%	97%

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-37.5-B3	Anametrix I.D.	: 8909158-09
Matrix	: SOIL	Analyst	: ARL
Date sampled	: 09/14/89	Supervisor	: PG
Date analyzed	: 09/21/89	Date released	: 09/28/89
Dilut. factor	: NONE	Instrument ID	: F1

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
74-87-3	* Chloromethane	10	ND
75-01-4	* Vinyl Chloride	10	ND
74-83-9	* Bromomethane	10	ND
75-00-3	* Chloroethane	10	ND
75-69-4	* Trichlorofluoromethane	5	ND
75-35-4	* 1,1-Dichloroethene	5	ND
76-13-1	# Trichlorotrifluoroethane	5	ND
67-64-1	**Acetone	20	ND
75-15-0	**Carbondisulfide	5	ND
75-09-2	* Methylene Chloride	5	ND
156-60-5	* Trans-1,2-Dichloroethene	5	ND
75-34-3	* 1,1-Dichloroethane	5	ND
78-93-3	**2-Butanone	20	ND
156-59-2	* Cis-1,2-Dichloroethene	5	ND
67-66-3	* Chloroform	5	ND
71-55-6	* 1,1,1-Trichloroethane	5	ND
56-23-5	* Carbon Tetrachloride	5	ND
71-43-2	* Benzene	5	ND
107-06-2	* 1,2-Dichloroethane	5	ND
79-01-6	* Trichloroethene	5	ND
78-87-5	* 1,2-Dichloropropane	5	ND
75-27-4	* Bromodichloromethane	5	ND
110-75-8	* 2-Chloroethylvinylether	5	ND
108-05-4	**Vinyl Acetate	10	ND
10061-02-6	* Trans-1,3-Dichloropropene	5	ND
108-10-1	**4-Methyl-2-Pentanone	10	ND
108-88-3	* Toluene	5	ND
10061-01-5	* cis-1,3-Dichloropropene	5	ND
79-00-5	* 1,1,2-Trichloroethane	5	ND
127-18-4	* Tetrachloroethene	5	ND
591-78-6	**2-Hexanone	10	ND
124-48-1	* Dibromochloromethane	5	ND
108-90-7	* Chlorobenzene	5	ND
100-41-4	* Ethylbenzene	5	ND
1330-20-7	**Total Xylenes	5	ND
100-42-5	**Styrene	5	ND
75-25-2	* Bromoform	5	ND
79-34-5	* 1,1,2,2-Tetrachloroethane	5	ND
541-73-1	* 1,3-Dichlorobenzene	5	ND
106-46-7	* 1,4-Dichlorobenzene	5	ND
95-50-1	* 1,2-Dichlorobenzene	5	ND

CAS #	Surrogate Compounds	Limits	% Recovery
17060-07-0	1,2-Dichloroethane-d4	75-130%	79%
2037-26-5	Toluene-d8	74-121%	100%
460-00-4	p-Bromofluorobenzene	70-124%	92%

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 624/8240
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : METHOD BLANK
Matrix : SOIL
Date sampled : N/A
Date analyzed: 09/21/89
Dilut. factor: NONE

Anametrix I.D. : 1CB0921V00
Analyst : ARL
Supervisor : PG
Date released : 09/28/89
Instrument ID : F1

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
74-87-3	* Chloromethane	10	ND
75-01-4	* Vinyl Chloride	10	ND
74-83-9	* Bromomethane	10	ND
75-00-3	* Chloroethane	10	ND
75-69-4	* Trichlorofluoromethane	5	ND
75-35-4	* 1,1-Dichloroethene	5	ND
76-13-1	# Trichlorotrifluoroethane	5	ND
67-64-1	**Acetone	20	ND
75-15-0	**Carbondisulfide	5	ND
75-09-2	* Methylene Chloride	5	ND
156-60-5	* Trans-1,2-Dichloroethene	5	ND
75-34-3	* 1,1-Dichloroethane	5	ND
78-93-3	**2-Butanone	20	ND
156-59-2	* Cis-1,2-Dichloroethene	5	ND
67-66-3	* Chloroform	5	ND
71-55-6	* 1,1,1-Trichloroethane	5	ND
56-23-5	* Carbon Tetrachloride	5	ND
71-43-2	* Benzene	5	ND
107-06-2	* 1,2-Dichloroethane	5	ND
79-01-6	* Trichloroethene	5	ND
78-87-5	* 1,2-Dichloropropane	5	ND
75-27-4	* Bromodichloromethane	5	ND
110-75-8	* 2-Chloroethylvinylether	5	ND
108-05-4	**Vinyl Acetate	10	ND
10061-02-6	* Trans-1,3-Dichloropropene	5	ND
108-10-1	**4-Methyl-2-Pentanone	10	ND
108-88-3	* Toluene	5	ND
10061-01-5	* cis-1,3-Dichloropropene	5	ND
79-00-5	* 1,1,2-Trichloroethane	5	ND
127-18-4	* Tetrachloroethene	5	ND
591-78-6	**2-Hexanone	10	ND
124-48-1	* Dibromochloromethane	5	ND
108-90-7	* Chlorobenzene	5	ND
100-41-4	* Ethylbenzene	5	ND
1330-20-7	**Total Xylenes	5	ND
100-42-5	**Styrene	5	ND
75-25-2	* Bromoform	5	ND
79-34-5	* 1,1,2,2-Tetrachloroethane	5	ND
541-73-1	* 1,3-Dichlorobenzene	5	ND
106-46-7	* 1,4-Dichlorobenzene	5	ND
95-50-1	* 1,2-Dichlorobenzene	5	ND

CAS #	Surrogate Compounds	Limits	% Recovery
17060-07-0	1,2-Dichloroethane-d4	75-130%	85%
2037-26-5	Toluene-d8	74-121%	103%
460-00-4	p-Bromofluorobenzene	70-124%	91%

CLP VOLATILE MATRIX SPIKE REPORT -- EPA METHOD 8240
ANAMETRIX, INC. (408) 629-1132

Sample I.D. : ARCO #6113 S-19-B2
Matrix : SOIL
Date sampled : 09/13/89
Date analyzed : 09/21/89

Anametrix I.D. : 8909158-04
Analyst : ARL
Supervisor : PG
Date released : 09/28/89
Instrument I.D.: F1

COMPOUND	SPIKE AMT. (UG/KG)	8909158 MS (UG/KG)	%REC MS	8909158 MSD (UG/KG)	%REC MSD	RPD	%REC LIMITS*
1,1-DICHLOROETHENE	50	52	104%	55	110%	6%	37-155%
FREON 113	50	45	90%	53	106%	16%	48-161%
METHYLENE CHLORIDE	50	55	110%	58	116%	5%	46-141%
CHLOROFORM	50	52	104%	58	116%	11%	68-126%
1,1,1-TRICHLOROETHANE	50	46	92%	50	100%	8%	57-149%
BENZENE	50	63	126%	69	138%	9%	64-134%
1,2-DICHLOROETHANE	50	62	124%	62	124%	0%	49-128%
TRICHLOROETHENE	50	65	130%	67	134%	3%	60-110%
TOLUENE	50	63	126%	65	130%	3%	67-134%
TETRACHLOROETHENE	50	65	130%	66	132%	2%	70-130%
CHLOROBENZENE	50	64	128%	64	128%	0%	70-131%
1,2-DICHLOROBENZENE	50	67	134%	71	142%	6%	63-130%

* Limits established by Anametrix, Inc.

REPORT SUMMARY
ANAMETRIX, INC. (408) 432-8192

Client	: Applied GeoSystems	Anametrix W.O.#:	3909158
Address	: 3315 Almaden Expressway	Date Received :	09/15/89
	Suite 34	Purchase Order#:	N/A
City	: San Jose, CA 95118	Project No. :	ARCO #6113
Attn.	: George Williams	Date Released :	09/28/89

Anametrix I.D.	Sample I.D.	Matrix	Date Sampled	Method	Date Extract	Date Analyzed	Inst I.D.
RESULTS - Part 1							
8909158-01	S-14.5-B1	SOIL	09/13/89	8270	09/18/89	09/25/89	F2
8909158-02	S-34.5-B1	SOIL	09/13/89	8270	09/18/89	09/25/89	F2
8909158-03	S-44.5-B1	SOIL	09/13/89	8270	09/18/89	09/25/89	F2
8909158-04	S-19-B2	SOIL	09/13/89	8270	09/18/89	09/25/89	F2
RESULTS - Part 2							
8909158-05	S-34-B2	SOIL	09/14/89	8270	09/18/89	09/25/89	F2
8909158-06	S-41-B2	SOIL	09/14/89	8270	09/18/89	09/25/89	F2
8909158-07	S-14-B3	SOIL	09/14/89	8270	09/18/89	09/25/89	F2
8909158-08	S-34-B3	SOIL	09/14/89	8270	09/18/89	09/25/89	F2
8909158-09	S-37.5-B3	SOIL	09/14/89	8270	09/18/89	09/26/89	F2
2CB0918C02	METHOD BLANK	SOIL	N/A	8270	09/18/89	09/25/89	F2
8909158-03	S-44.5-B1	SOIL	09/13/89	SPIKE	09/18/89	09/25/89	F2

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-14.5-B1	Anametrix I.D.	: 8909158-01
Matrix	: SOIL	Analyst	: AKL
Date sampled	: 09/13/89	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/25/89	Weight ext.	: 30 g
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
62-75-9	* N-Nitrosodimethylamine	330	ND
108-95-2	* Phenol	330	ND
62-53-3	**Aniline	330	ND
111-44-4	* bis(-2-Chloroethyl)Ether	330	ND
95-57-8	* 2-Chlorophenol	330	ND
541-73-1	* 1,3-Dichlorobenzene	330	ND
106-46-7	* 1,4-Dichlorobenzene	330	ND
100-51-6	**Benzyl Alcohol	330	ND
95-50-1	* 1,2-Dichlorobenzene	330	ND
95-48-7	**2-Methylphenol	330	ND
108-60-1	**bis(2-chloroisopropyl)Ether	330	ND
106-44-5	**4-Methylphenol	330	ND
621-64-7	* N-Nitroso-Di-n-Propylamine	330	ND
67-72-1	* Hexachloroethane	330	ND
98-95-3	* Nitrobenzene	330	ND
78-59-1	* Isophorone	330	ND
88-75-5	* 2-Nitrophenol	330	ND
105-67-9	* 2,4-Dimethylphenol	330	ND
65-85-0	**Benzoic Acid	1600	ND
111-91-1	* bis(-2-Chloroethoxy)Methane	330	ND
120-83-2	* 2,4-Dichlorophenol	330	ND
120-82-1	* 1,2,4-Trichlorobenzene	330	ND
91-20-3	* Naphthalene	330	ND
106-47-8	**4-Chloroaniline	330	ND
87-68-3	* Hexachlorobutadiene	330	ND
59-50-7	* 4-Chloro-3-Methylphenol	330	ND
91-57-6	**2-Methylnaphthalene	330	ND
77-47-4	* Hexachlorocyclopentadiene	330	ND
88-06-2	* 2,4,6-Trichlorophenol	330	ND
95-95-4	**2,4,5-Trichlorophenol	1600	ND
91-58-7	* 2-Chloronaphthalene	330	ND
88-74-4	**2-Nitroaniline	1600	ND
131-11-3	* Dimethyl Phthalate	330	ND
208-96-8	* Acenaphthylene	330	ND
99-09-2	**3-Nitroaniline	1600	ND
83-32-9	* Acenaphthene	330	ND
51-28-5	* 2,4-Dinitrophenol	1600	ND
100-02-7	* 4-Nitrophenol	1600	ND
132-64-9	**Dibenzofuran	330	ND

ND : Not detected at or above the practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-14.5-B1	Anametrix I.D.	: 8909158-01
Matrix	: SOIL	Analyst	: ARL
Date sampled	: 09/13/89	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/25/89	Weight ext.	: 30 g
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
121-14-2	* 2,4-Dinitrotoluene	330	ND
606-20-2	* 2,6-Dinitrotoluene	330	ND
84-66-2	* Diethylphthalate	330	ND
7005-72-3	* 4-Chlorophenyl-phenylether	330	ND
86-73-7	* Fluorene	330	ND
100-01-6	**4-Nitroaniline	1600	ND
534-52-1	**4,6-Dinitro-2-Methylphenol	1600	ND
86-30-6	* N-Nitrosodiphenylamine	330	ND
122-66-7	**Azobenzene	330	ND
101-55-3	* 4-Bromophenyl-phenylether	330	ND
118-74-1	* Hexachlorobenzene	330	ND
87-86-5	* Pentachlorophenol	1600	ND
85-01-8	* Phenanthrene	330	ND
120-12-7	* Anthracene	330	ND
84-74-2	* Di-n-Butylphthalate	330	ND
206-44-0	* Fluoranthene	330	ND
92-87-5	* Benzidine	1600	ND
129-00-0	* Pyrene	330	ND
85-68-7	* Butylbenzylphthalate	330	ND
91-94-1	* 3,3'-Dichlorobenzidine	660	ND
56-55-3	* Benzo(a)Anthracene	330	ND
117-81-7	* bis(2-Ethylhexyl)Phthalate	330	ND
218-01-9	* Chrysene	330	ND
117-84-0	* Di-n-Octyl Phthalate	330	ND
205-99-2	* Benzo(b)Fluoranthene	330	ND
207-08-9	* Benzo(k)Fluoranthene	330	ND
50-32-8	* Benzo(a)Pyrene	330	ND
193-39-5	* Indeno(1,2,3-cd)Pyrene	330	ND
53-70-3	* Dibenz(a,h)Anthracene	330	ND
191-24-2	* Benzo(g,h,i)Perylene	330	ND

CAS #	Surrogate Compounds	Limits	%Recovery
367-12-4	2-Fluorophenol	15-83%	47%
4165-62-2	Phenol-d6	18-92%	48%
4165-60-0	Nitrobenzene-d5	12-80%	46%
321-60-8	2-Fluorobiphenyl	16-100%	53%
118-79-6	2,4,6-Tribromophenol	15-135%	68%
1718-51-0	Terphenyl-d14	15-117%	100%

ND : Not detected at or above practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-34.5-B1	Anametrix I.D.	: 8909158-02
Matrix	: SOIL	Analyst	: 4RL
Date sampled	: 09/13/89	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/25/89	Weight ext.	: 30 g
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
62-75-9	* N-Nitrosodimethylamine	330	ND
108-95-2	* Phenol	330	ND
62-53-3	**Aniline	330	ND
111-44-4	* bis(-2-Chloroethyl)Ether	330	ND
95-57-8	* 2-Chlorophenol	330	ND
541-73-1	* 1,3-Dichlorobenzene	330	ND
106-46-7	* 1,4-Dichlorobenzene	330	ND
100-51-6	**Benzyl Alcohol	330	ND
95-50-1	* 1,2-Dichlorobenzene	330	ND
95-48-7	**2-Methylphenol	330	ND
108-60-1	**bis(2-chloroisopropyl)Ether	330	ND
106-44-5	**4-Methylphenol	330	ND
621-64-7	* N-Nitroso-Di-n-Propylamine	330	ND
67-72-1	* Hexachloroethane	330	ND
98-95-3	* Nitrobenzene	330	ND
78-59-1	* Isophorone	330	ND
88-75-5	* 2-Nitrophenol	330	ND
105-67-9	* 2,4-Dimethylphenol	330	ND
65-85-0	**Benzoic Acid	1600	ND
111-91-1	* bis(-2-Chloroethoxy)Methane	330	ND
120-83-2	* 2,4-Dichlorophenol	330	ND
120-82-1	* 1,2,4-Trichlorobenzene	330	ND
91-20-3	* Naphthalene	330	ND
106-47-8	**4-Chloroaniline	330	ND
87-68-3	* Hexachlorobutadiene	330	ND
59-50-7	* 4-Chloro-3-Methylphenol	330	ND
91-57-6	**2-Methylnaphthalene	330	ND
77-47-4	* Hexachlorocyclopentadiene	330	ND
88-06-2	* 2,4,6-Trichlorophenol	330	ND
95-95-4	**2,4,5-Trichlorophenol	1600	ND
91-58-7	* 2-Chloronaphthalene	330	ND
88-74-4	**2-Nitroaniline	1600	ND
131-11-3	* Dimethyl Phthalate	330	ND
208-96-8	* Acenaphthylene	330	ND
99-09-2	**3-Nitroaniline	1600	ND
83-32-9	* Acenaphthene	330	ND
51-28-5	* 2,4-Dinitrophenol	1600	ND
100-02-7	* 4-Nitrophenol	1600	ND
132-64-9	**Dibenzofuran	330	ND

ND : Not detected at or above the practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-34.5-B1	Anametrix I.D.	: 8909158-02
Matrix	: SOIL	Analyst	: ARL
Date sampled	: 09/13/89	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/25/89	Weight ext.	: 30 g
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
121-14-2	* 2,4-Dinitrotoluene	330	ND
606-20-2	* 2,6-Dinitrotoluene	330	ND
84-66-2	* Diethylphthalate	330	ND
7005-72-3	* 4-Chlorophenyl-phenylether	330	ND
86-73-7	* Fluorene	330	ND
100-01-6	**4-Nitroaniline	1600	ND
534-52-1	**4,6-Dinitro-2-Methylphenol	1600	ND
86-30-6	* N-Nitrosodiphenylamine	330	ND
122-66-7	**Azobenzene	330	ND
101-55-3	* 4-Bromophenyl-phenylether	330	ND
118-74-1	* Hexachlorobenzene	330	ND
87-86-5	* Pentachlorophenol	1600	ND
85-01-8	* Phenanthrene	330	ND
120-12-7	* Anthracene	330	ND
84-74-2	* Di-n-Butylphthalate	330	ND
206-44-0	* Fluoranthene	330	ND
92-87-5	* Benzidine	1600	ND
129-00-0	* Pyrene	330	ND
85-68-7	* Butylbenzylphthalate	330	ND
91-94-1	* 3,3'-Dichlorobenzidine	660	ND
56-55-3	* Benzo(a)Anthracene	330	ND
117-81-7	* bis(2-Ethylhexyl)Phthalate	330	ND
218-01-9	* Chrysene	330	ND
117-84-0	* Di-n-Octyl Phthalate	330	ND
205-99-2	* Benzo(b)Fluoranthene	330	ND
207-08-9	* Benzo(k)Fluoranthene	330	ND
50-32-8	* Benzo(a)Pyrene	330	ND
193-39-5	* Indeno(1,2,3-cd)Pyrene	330	ND
53-70-3	* Dibenz(a,h)Anthracene	330	ND
191-24-2	* Benzo(g,h,i)Perylene	330	ND

CAS #	Surrogate Compounds	Limits	%Recovery
367-12-4	2-Fluorophenol	15-83%	68%
4165-62-2	Phenol-d6	18-92%	69%
4165-60-0	Nitrobenzene-d5	12-80%	63%
321-60-8	2-Fluorobiphenyl	16-100%	75%
118-79-6	2,4,6-Tribromophenol	15-135%	77%
1718-51-0	Terphenyl-d14	15-117%	103%

ND : Not detected at or above practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-44.5-B1	Anametrix I.D.	: 8909158-03
Matrix	: SOIL	Analyst	: ARL
Date sampled	: 09/13/89	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/25/89	Weight ext.	: 30 g
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
62-75-9	* N-Nitrosodimethylamine	330	ND
108-95-2	* Phenol	330	ND
62-53-3	**Aniline	330	ND
111-44-4	* bis(-2-Chloroethyl)Ether	330	ND
95-57-8	* 2-Chlorophenol	330	ND
541-73-1	* 1,3-Dichlorobenzene	330	ND
106-46-7	* 1,4-Dichlorobenzene	330	ND
100-51-6	**Benzyl Alcohol	330	ND
95-50-1	* 1,2-Dichlorobenzene	330	ND
95-48-7	**2-Methylphenol	330	ND
108-60-1	**bis(2-chloroisopropyl)Ether	330	ND
106-44-5	**4-Methylphenol	330	ND
621-64-7	* N-Nitroso-Di-n-Propylamine	330	ND
67-72-1	* Hexachloroethane	330	ND
98-95-3	* Nitrobenzene	330	ND
78-59-1	* Isophorone	330	ND
88-75-5	* 2-Nitrophenol	330	ND
105-67-9	* 2,4-Dimethylphenol	330	ND
65-85-0	**Benzoic Acid	1600	ND
111-91-1	* bis(-2-Chloroethoxy)Methane	330	ND
120-83-2	* 2,4-Dichlorophenol	330	ND
120-82-1	* 1,2,4-Trichlorobenzene	330	ND
91-20-3	* Naphthalene	330	ND
106-47-8	**4-Chloroaniline	330	ND
87-68-3	* Hexachlorobutadiene	330	ND
59-50-7	* 4-Chloro-3-Methylphenol	330	ND
91-57-6	**2-Methylnaphthalene	330	ND
77-47-4	* Hexachlorocyclopentadiene	330	ND
88-06-2	* 2,4,6-Trichlorophenol	330	ND
95-95-4	**2,4,5-Trichlorophenol	1600	ND
91-58-7	* 2-Chloronaphthalene	330	ND
88-74-4	**2-Nitroaniline	1600	ND
131-11-3	* Dimethyl Phthalate	330	ND
208-96-8	* Acenaphthylene	330	ND
99-09-2	**3-Nitroaniline	1600	ND
83-32-9	* Acenaphthene	330	ND
51-28-5	* 2,4-Dinitrophenol	1600	ND
100-02-7	* 4-Nitrophenol	1600	ND
132-64-9	**Dibenzofuran	330	ND

ND : Not detected at or above the practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-44.5-B1	Anametrix I.D.	: 8909158-03
Matrix	: SOIL	Analyst	: ARL
Date sampled	: 09/13/89	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/25/89	Weight ext.	: 30 g
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
121-14-2	* 2,4-Dinitrotoluene	330	ND
606-20-2	* 2,6-Dinitrotoluene	330	ND
84-66-2	* Diethylphthalate	330	ND
7005-72-3	* 4-Chlorophenyl-phenylether	330	ND
86-73-7	* Fluorene	330	ND
100-01-6	**4-Nitroaniline	1600	ND
534-52-1	**4,6-Dinitro-2-Methylphenol	1600	ND
86-30-6	* N-Nitrosodiphenylamine	330	ND
122-66-7	**Azobenzene	330	ND
101-55-3	* 4-Bromophenyl-phenylether	330	ND
118-74-1	* Hexachlorobenzene	330	ND
87-86-5	* Pentachlorophenol	1600	ND
85-01-8	* Phenanthrene	330	ND
120-12-7	* Anthracene	330	ND
84-74-2	* Di-n-Butylphthalate	330	ND
206-44-0	* Fluoranthene	330	ND
92-87-5	* Benzidine	1600	ND
129-00-0	* Pyrene	330	ND
85-68-7	* Butylbenzylphthalate	330	ND
91-94-1	* 3,3'-Dichlorobenzidine	660	ND
56-55-3	* Benzo(a)Anthracene	330	ND
117-81-7	* bis(2-Ethylhexyl)Phthalate	330	ND
218-01-9	* Chrysene	330	ND
117-84-0	* Di-n-Octyl Phthalate	330	ND
205-99-2	* Benzo(b)Fluoranthene	330	ND
207-08-9	* Benzo(k)Fluoranthene	330	ND
50-32-8	* Benzo(a)Pyrene	330	ND
193-39-5	* Indeno(1,2,3-cd)Pyrene	330	ND
53-70-3	* Dibenz(a,h)Anthracene	330	ND
191-24-2	* Benzo(g,h,i)Perylene	330	ND

CAS #	Surrogate Compounds	Limits	%Recovery
367-12-4	2-Fluorophenol	15-83%	76%
4165-62-2	Phenol-d6	18-92%	76%
4165-60-0	Nitrobenzene-d5	12-80%	72%
321-60-8	2-Fluorobiphenyl	16-100%	80%
118-79-6	2,4,6-Tribromophenol	15-135%	84%
1718-51-0	Terphenyl-d14	15-117%	116%

ND : Not detected at or above practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-19-B2	Anametrix I.D.	: 8909158-04
Matrix	: SOIL	Analyst	: ARL
Date sampled	: 09/13/89	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/25/89	Weight ext.	: 30 g
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
62-75-9	* N-Nitrosodimethylamine	330	ND
108-95-2	* Phenol	330	ND
62-53-3	**Aniline	330	ND
111-44-4	* bis(-2-Chloroethyl)Ether	330	ND
95-57-8	* 2-Chlorophenol	330	ND
541-73-1	* 1,3-Dichlorobenzene	330	ND
106-46-7	* 1,4-Dichlorobenzene	330	ND
100-51-6	**Benzyl Alcohol	330	ND
95-50-1	* 1,2-Dichlorobenzene	330	ND
95-48-7	**2-Methylphenol	330	ND
108-60-1	**bis(2-chloroisopropyl)Ether	330	ND
106-44-5	**4-Methylphenol	330	ND
621-64-7	* N-Nitroso-Di-n-Propylamine	330	ND
67-72-1	* Hexachloroethane	330	ND
98-95-3	* Nitrobenzene	330	ND
78-59-1	* Isophorone	330	ND
88-75-5	* 2-Nitrophenol	330	ND
105-67-9	* 2,4-Dimethylphenol	330	ND
65-85-0	**Benzoic Acid	1600	ND
111-91-1	* bis(-2-Chloroethoxy)Methane	330	ND
120-83-2	* 2,4-Dichlorophenol	330	ND
120-82-1	* 1,2,4-Trichlorobenzene	330	ND
91-20-3	* Naphthalene	330	ND
106-47-8	**4-Chloroaniline	330	ND
87-68-3	* Hexachlorobutadiene	330	ND
59-50-7	* 4-Chloro-3-Methylphenol	330	ND
91-57-6	**2-Methylnaphthalene	330	ND
77-47-4	* Hexachlorocyclopentadiene	330	ND
88-06-2	* 2,4,6-Trichlorophenol	330	ND
95-95-4	**2,4,5-Trichlorophenol	1600	ND
91-58-7	* 2-Chloronaphthalene	330	ND
88-74-4	**2-Nitroaniline	1600	ND
131-11-3	* Dimethyl Phthalate	330	ND
208-96-8	* Acenaphthylene	330	ND
99-09-2	**3-Nitroaniline	1600	ND
83-32-9	* Acenaphthene	330	ND
51-28-5	* 2,4-Dinitrophenol	1600	ND
100-02-7	* 4-Nitrophenol	1600	ND
132-64-9	**Dibenzofuran	330	ND

ND : Not detected at or above the practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-19-B2	Anametrix I.D.	: 8909158-04
Matrix	: SOIL	Analyst	: ARL
Date sampled	: 09/13/89	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/25/89	Weight ext.	: 30 g
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
121-14-2	* 2,4-Dinitrotoluene	330	ND
606-20-2	* 2,6-Dinitrotoluene	330	ND
84-66-2	* Diethylphthalate	330	ND
7005-72-3	* 4-Chlorophenyl-phenylether	330	ND
86-73-7	* Fluorene	330	ND
100-01-6	**4-Nitroaniline	1600	ND
534-52-1	**4,6-Dinitro-2-Methylphenol	1600	ND
86-30-6	* N-Nitrosodiphenylamine	330	ND
122-66-7	**Azobenzene	330	ND
101-55-3	* 4-Bromophenyl-phenylether	330	ND
118-74-1	* Hexachlorobenzene	330	ND
87-86-5	* Pentachlorophenol	1600	ND
85-01-8	* Phenanthrene	330	ND
120-12-7	* Anthracene	330	ND
84-74-2	* Di-n-Butylphthalate	330	ND
206-44-0	* Fluoranthene	330	ND
92-87-5	* Benzidine	1600	ND
129-00-0	* Pyrene	330	ND
85-68-7	* Butylbenzylphthalate	330	ND
91-94-1	* 3,3'-Dichlorobenzidine	660	ND
56-55-3	* Benzo(a)Anthracene	330	ND
117-81-7	* bis(2-Ethylhexyl)Phthalate	330	ND
218-01-9	* Chrysene	330	ND
117-84-0	* Di-n-Octyl Phthalate	330	ND
205-99-2	* Benzo(b)Fluoranthene	330	ND
207-08-9	* Benzo(k)Fluoranthene	330	ND
50-32-8	* Benzo(a)Pyrene	330	ND
193-39-5	* Indeno(1,2,3-cd)Pyrene	330	ND
53-70-3	* Dibenz(a,h)Anthracene	330	ND
191-24-2	* Benzo(g,h,i)Perylene	330	ND

CAS #	Surrogate Compounds	Limits	%Recovery
367-12-4	2-Fluorophenol	15-83%	75%
4165-62-2	Phenol-d6	18-92%	78%
4165-60-0	Nitrobenzene-d5	12-80%	67%
321-60-8	2-Fluorobiphenyl	16-100%	77%
118-79-6	2,4,6-Tribromophenol	15-135%	77%
1718-51-0	Terphenyl-d14	15-117%	114%

ND : Not detected at or above practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-34-B2	Anametrix I.D.	: 8909158-05
Matrix	: SOIL	Analyst	: ARL
Date sampled	: 09/14/89	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/25/89	Weight ext.	: 30 g
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
62-75-9	* N-Nitrosodimethylamine	330	ND
108-95-2	* Phenol	330	ND
62-53-3	**Aniline	330	ND
111-44-4	* bis(-2-Chloroethyl)Ether	330	ND
95-57-8	* 2-Chlorophenol	330	ND
541-73-1	* 1,3-Dichlorobenzene	330	ND
106-46-7	* 1,4-Dichlorobenzene	330	ND
100-51-6	**Benzyl Alcohol	330	ND
95-50-1	* 1,2-Dichlorobenzene	330	ND
95-48-7	**2-Methylphenol	330	ND
108-60-1	**bis(2-chloroisopropyl)Ether	330	ND
106-44-5	**4-Methylphenol	330	ND
621-64-7	* N-Nitroso-Di-n-Propylamine	330	ND
67-72-1	* Hexachloroethane	330	ND
98-95-3	* Nitrobenzene	330	ND
78-59-1	* Isophorone	330	ND
88-75-5	* 2-Nitrophenol	330	ND
105-67-9	* 2,4-Dimethylphenol	330	ND
65-85-0	**Benzoic Acid	1600	ND
111-91-1	* bis(-2-Chloroethoxy)Methane	330	ND
120-83-2	* 2,4-Dichlorophenol	330	ND
120-82-1	* 1,2,4-Trichlorobenzene	330	ND
91-20-3	* Naphthalene	330	ND
106-47-8	**4-Chloroaniline	330	ND
87-68-3	* Hexachlorobutadiene	330	ND
59-50-7	* 4-Chloro-3-Methylphenol	330	ND
91-57-6	**2-Methylnaphthalene	330	ND
77-47-4	* Hexachlorocyclopentadiene	330	ND
88-06-2	* 2,4,6-Trichlorophenol	330	ND
95-95-4	**2,4,5-Trichlorophenol	1600	ND
91-58-7	* 2-Chloronaphthalene	330	ND
88-74-4	**2-Nitroaniline	1600	ND
131-11-3	* Dimethyl Phthalate	330	ND
208-96-8	* Acenaphthylene	330	ND
99-09-2	**3-Nitroaniline	1600	ND
83-32-9	* Acenaphthene	330	ND
51-28-5	* 2,4-Dinitrophenol	1600	ND
100-02-7	* 4-Nitrophenol	1600	ND
132-64-9	**Dibenzofuran	330	ND

ND : Not detected at or above the practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-34-B2	Anametrix I.D.	: 8909158-05
Matrix	: SOIL	Analyst	: ARL
Date sampled	: 09/14/89	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/25/89	Weight ext.	: 30 g
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
121-14-2	* 2,4-Dinitrotoluene	330	ND
606-20-2	* 2,6-Dinitrotoluene	330	ND
84-66-2	* Diethylphthalate	330	ND
7005-72-3	* 4-Chlorophenyl-phenylether	330	ND
86-73-7	* Fluorene	330	ND
100-01-6	**4-Nitroaniline	1600	ND
534-52-1	**4,6-Dinitro-2-Methylphenol	1600	ND
86-30-6	* N-Nitrosodiphenylamine	330	ND
122-66-7	**Azobenzene	330	ND
101-55-3	* 4-Bromophenyl-phenylether	330	ND
118-74-1	* Hexachlorobenzene	330	ND
87-86-5	* Pentachlorophenol	1600	ND
85-01-8	* Phenanthrene	330	ND
120-12-7	* Anthracene	330	ND
84-74-2	* Di-n-Butylphthalate	330	ND
206-44-0	* Fluoranthene	330	ND
92-87-5	* Benzidine	1600	ND
129-00-0	* Pyrene	330	ND
85-68-7	* Butylbenzylphthalate	330	ND
91-94-1	* 3,3'-Dichlorobenzidine	660	ND
56-55-3	* Benzo(a)Anthracene	330	ND
117-81-7	* bis(2-Ethylhexyl)Phthalate	330	ND
218-01-9	* Chrysene	330	ND
117-84-0	* Di-n-Octyl Phthalate	330	ND
205-99-2	* Benzo(b)Fluoranthene	330	ND
207-08-9	* Benzo(k)Fluoranthene	330	ND
50-32-8	* Benzo(a)Pyrene	330	ND
193-39-5	* Indeno(1,2,3-cd)Pyrene	330	ND
53-70-3	* Dibenz(a,h)Anthracene	330	ND
191-24-2	* Benzo(g,h,i)Perylene	330	ND

CAS #	Surrogate Compounds	Limits	%Recovery
367-12-4	2-Fluorophenol	15-83%	59%
4165-62-2	Phenol-d6	18-92%	61%
4165-60-0	Nitrobenzene-d5	12-80%	58%
321-60-8	2-Fluorobiphenyl	16-100%	70%
118-79-6	2,4,6-Tribromophenol	15-135%	74%
1718-51-0	Terphenyl-d14	15-117%	110%

ND : Not detected at or above practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-41-B2	Anametrix I.D.	: 8909158-06
Matrix	: SOIL	Analyst	: ARL
Date sampled	: 09/14/89	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/25/89	Weight ext.	: 30 g
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
62-75-9	* N-Nitrosodimethylamine	330	ND
108-95-2	* Phenol	330	ND
62-53-3	**Aniline	330	ND
111-44-4	* bis(-2-Chloroethyl)Ether	330	ND
95-57-8	* 2-Chlorophenol	330	ND
541-73-1	* 1,3-Dichlorobenzene	330	ND
106-46-7	* 1,4-Dichlorobenzene	330	ND
100-51-6	**Benzyl Alcohol	330	ND
95-50-1	* 1,2-Dichlorobenzene	330	ND
95-48-7	**2-Methylphenol	330	ND
108-60-1	**bis(2-chloroisopropyl)Ether	330	ND
106-44-5	**4-Methylphenol	330	ND
621-64-7	* N-Nitroso-Di-n-Propylamine	330	ND
67-72-1	* Hexachloroethane	330	ND
98-95-3	* Nitrobenzene	330	ND
78-59-1	* Isophorone	330	ND
88-75-5	* 2-Nitrophenol	330	ND
105-67-9	* 2,4-Dimethylphenol	330	ND
65-85-0	**Benzoic Acid	1600	ND
111-91-1	* bis(-2-Chloroethoxy)Methane	330	ND
120-83-2	* 2,4-Dichlorophenol	330	ND
120-82-1	* 1,2,4-Trichlorobenzene	330	ND
91-20-3	* Naphthalene	330	ND
106-47-8	**4-Chloroaniline	330	ND
87-68-3	* Hexachlorobutadiene	330	ND
59-50-7	* 4-Chloro-3-Methylphenol	330	ND
91-57-6	**2-Methylnaphthalene	330	ND
77-47-4	* Hexachlorocyclopentadiene	330	ND
88-06-2	* 2,4,6-Trichlorophenol	330	ND
95-95-4	**2,4,5-Trichlorophenol	1600	ND
91-58-7	* 2-Chloronaphthalene	330	ND
88-74-4	**2-Nitroaniline	1600	ND
131-11-3	* Dimethyl Phthalate	330	ND
208-96-8	* Acenaphthylene	330	ND
99-09-2	**3-Nitroaniline	1600	ND
83-32-9	* Acenaphthene	330	ND
51-28-5	* 2,4-Dinitrophenol	1600	ND
100-02-7	* 4-Nitrophenol	1600	ND
132-64-9	**Dibenzofuran	330	ND

ND : Not detected at or above the practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-41-B2	Anametrix I.D.	: 8909158-06
Matrix	: SOIL	Analyst	: ARL
Date sampled	: 09/14/89	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/25/89	Weight ext.	: 30 g
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
121-14-2	* 2,4-Dinitrotoluene	330	ND
606-20-2	* 2,6-Dinitrotoluene	330	ND
84-66-2	* Diethylphthalate	330	ND
7005-72-3	* 4-Chlorophenyl-phenylether	330	ND
86-73-7	* Fluorene	330	ND
100-01-6	**4-Nitroaniline	1600	ND
534-52-1	**4,6-Dinitro-2-Methylphenol	1600	ND
86-30-6	* N-Nitrosodiphenylamine	330	ND
122-66-7	**Azobenzene	330	ND
101-55-3	* 4-Bromophenyl-phenylether	330	ND
118-74-1	* Hexachlorobenzene	330	ND
87-86-5	* Pentachlorophenol	1600	ND
85-01-8	* Phenanthrene	330	ND
120-12-7	* Anthracene	330	ND
84-74-2	* Di-n-Butylphthalate	330	ND
206-44-0	* Fluoranthene	330	ND
92-87-5	* Benzidine	1600	ND
129-00-0	* Pyrene	330	ND
85-68-7	* Butylbenzylphthalate	330	ND
91-94-1	* 3,3'-Dichlorobenzidine	660	ND
56-55-3	* Benzo(a)Anthracene	330	ND
117-81-7	* bis(2-Ethylhexyl)Phthalate	330	ND
218-01-9	* Chrysene	330	ND
117-84-0	* Di-n-Octyl Phthalate	330	ND
205-99-2	* Benzo(b)Fluoranthene	330	ND
207-08-9	* Benzo(k)Fluoranthene	330	ND
50-32-8	* Benzo(a)Pyrene	330	ND
193-39-5	* Indeno(1,2,3-cd)Pyrene	330	ND
53-70-3	* Dibenz(a,h)Anthracene	330	ND
191-24-2	* Benzo(g,h,i)Perylene	330	ND

CAS #	Surrogate Compounds	Limits	%Recovery
367-12-4	2-Fluorophenol	15-83%	60%
4165-62-2	Phenol-d6	18-92%	61%
4165-60-0	Nitrobenzene-d5	12-80%	58%
321-60-8	2-Fluorobiphenyl	16-100%	61%
118-79-6	2,4,6-Tribromophenol	15-135%	57%
1718-51-0	Terphenyl-d14	15-117%	89%

ND : Not detected at or above practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-14-B3	Anametrix I.D.	: 8909158-07
Matrix	: SOIL	Analyst	: ARL
Date sampled	: 09/14/89	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/25/89	Weight ext.	: 30 g
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
62-75-9	* N-Nitrosodimethylamine	330	ND
108-95-2	* Phenol	330	ND
62-53-3	**Aniline	330	ND
111-44-4	* bis(-2-Chloroethyl)Ether	330	ND
95-57-8	* 2-Chlorophenol	330	ND
541-73-1	* 1,3-Dichlorobenzene	330	ND
106-46-7	* 1,4-Dichlorobenzene	330	ND
100-51-6	**Benzyl Alcohol	330	ND
95-50-1	* 1,2-Dichlorobenzene	330	ND
95-48-7	**2-Methylphenol	330	ND
108-60-1	**bis(2-chloroisopropyl)Ether	330	ND
106-44-5	**4-Methylphenol	330	ND
621-64-7	* N-Nitroso-Di-n-Propylamine	330	ND
67-72-1	* Hexachloroethane	330	ND
98-95-3	* Nitrobenzene	330	ND
78-59-1	* Isophorone	330	ND
88-75-5	* 2-Nitrophenol	330	ND
105-67-9	* 2,4-Dimethylphenol	330	ND
65-85-0	**Benzoic Acid	1600	ND
111-91-1	* bis(-2-Chloroethoxy)Methane	330	ND
120-83-2	* 2,4-Dichlorophenol	330	ND
120-82-1	* 1,2,4-Trichlorobenzene	330	ND
91-20-3	* Naphthalene	330	ND
106-47-8	**4-Chloroaniline	330	ND
87-68-3	* Hexachlorobutadiene	330	ND
59-50-7	* 4-Chloro-3-Methylphenol	330	ND
91-57-6	**2-Methylnaphthalene	330	ND
77-47-4	* Hexachlorocyclopentadiene	330	ND
88-06-2	* 2,4,6-Trichlorophenol	330	ND
95-95-4	**2,4,5-Trichlorophenol	1600	ND
91-58-7	* 2-Chloronaphthalene	330	ND
88-74-4	**2-Nitroaniline	1600	ND
131-11-3	* Dimethyl Phthalate	330	ND
208-96-8	* Acenaphthylene	330	ND
99-09-2	**3-Nitroaniline	1600	ND
83-32-9	* Acenaphthene	330	ND
51-28-5	* 2,4-Dinitrophenol	1600	ND
100-02-7	* 4-Nitrophenol	1600	ND
132-64-9	**Dibenzofuran	330	ND

ND : Not detected at or above the practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-14-B3	Anametrix I.D.	: 8909158-07
Matrix	: SOIL	Analyst	: ARL
Date sampled	: 09/14/89	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/25/89	Weight ext.	: 30 g
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
121-14-2	* 2,4-Dinitrotoluene	330	ND
606-20-2	* 2,6-Dinitrotoluene	330	ND
84-66-2	* Diethylphthalate	330	ND
7005-72-3	* 4-Chlorophenyl-phenylether	330	ND
86-73-7	* Fluorene	330	ND
100-01-6	**4-Nitroaniline	1600	ND
534-52-1	**4,6-Dinitro-2-Methylphenol	1600	ND
86-30-6	* N-Nitrosodiphenylamine	330	ND
122-66-7	**Azobenzene	330	ND
101-55-3	* 4-Bromophenyl-phenylether	330	ND
118-74-1	* Hexachlorobenzene	330	ND
87-86-5	* Pentachlorophenol	1600	ND
85-01-8	* Phenanthrene	330	ND
120-12-7	* Anthracene	330	ND
84-74-2	* Di-n-Butylphthalate	330	ND
206-44-0	* Fluoranthene	330	ND
92-87-5	* Benzidine	1600	ND
129-00-0	* Pyrene	330	ND
85-68-7	* Butylbenzylphthalate	330	ND
91-94-1	* 3,3'-Dichlorobenzidine	660	ND
56-55-3	* Benzo(a)Anthracene	330	ND
117-81-7	* bis(2-Ethylhexyl)Phthalate	330	ND
218-01-9	* Chrysene	330	ND
117-84-0	* Di-n-Octyl Phthalate	330	ND
205-99-2	* Benzo(b)Fluoranthene	330	ND
207-08-9	* Benzo(k)Fluoranthene	330	ND
50-32-8	* Benzo(a)Pyrene	330	ND
193-39-5	* Indeno(1,2,3-cd)Pyrene	330	ND
53-70-3	* Dibenz(a,h)Anthracene	330	ND
191-24-2	* Benzo(g,h,i)Perylene	330	ND

CAS #	Surrogate Compounds	Limits	%Recovery
367-12-4	2-Fluorophenol	15-83%	67%
4165-62-2	Phenol-d6	18-92%	68%
4165-60-0	Nitrobenzene-d5	12-80%	68%
321-60-8	2-Fluorobiphenyl	16-100%	79%
118-79-6	2,4,6-Tribromophenol	15-135%	73%
1718-51-0	Terphenyl-d14	15-117%	116%

ND : Not detected at or above practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-34-B3	Anametrix I.D.	: 8909158-08
Matrix	: SOIL	Analyst	: AKL
Date sampled	: 09/14/89	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/25/89	Weight ext.	: 30 g
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
62-75-9	* N-Nitrosodimethylamine	330	ND
108-95-2	* Phenol	330	ND
62-53-3	**Aniline	330	ND
111-44-4	* bis(-2-Chloroethyl)Ether	330	ND
95-57-8	* 2-Chlorophenol	330	ND
541-73-1	* 1,3-Dichlorobenzene	330	ND
106-46-7	* 1,4-Dichlorobenzene	330	ND
100-51-6	**Benzyl Alcohol	330	ND
95-50-1	* 1,2-Dichlorobenzene	330	ND
95-48-7	**2-Methylphenol	330	ND
108-60-1	**bis(2-chloroisopropyl)Ether	330	ND
106-44-5	**4-Methylphenol	330	ND
621-64-7	* N-Nitroso-Di-n-Propylamine	330	ND
67-72-1	* Hexachloroethane	330	ND
98-95-3	* Nitrobenzene	330	ND
78-59-1	* Isophorone	330	ND
88-75-5	* 2-Nitrophenol	330	ND
105-67-9	* 2,4-Dimethylphenol	330	ND
65-85-0	**Benzoic Acid	1600	ND
111-91-1	* bis(-2-Chloroethoxy)Methane	330	ND
120-83-2	* 2,4-Dichlorophenol	330	ND
120-82-1	* 1,2,4-Trichlorobenzene	330	ND
91-20-3	* Naphthalene	330	ND
106-47-8	**4-Chloroaniline	330	ND
87-68-3	* Hexachlorobutadiene	330	ND
59-50-7	* 4-Chloro-3-Methylphenol	330	ND
91-57-6	**2-Methylnaphthalene	330	ND
77-47-4	* Hexachlorocyclopentadiene	330	ND
88-06-2	* 2,4,6-Trichlorophenol	330	ND
95-95-4	**2,4,5-Trichlorophenol	1600	ND
91-58-7	* 2-Chloronaphthalene	330	ND
88-74-4	**2-Nitroaniline	1600	ND
131-11-3	* Dimethyl Phthalate	330	ND
208-96-8	* Acenaphthylene	330	ND
99-09-2	**3-Nitroaniline	1600	ND
83-32-9	* Acenaphthene	330	ND
51-28-5	* 2,4-Dinitrophenol	1600	ND
100-02-7	* 4-Nitrophenol	1600	ND
132-64-9	**Dibenzofuran	330	ND

ND : Not detected at or above the practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-34-B3	Anametrix I.D.	: 8909158-08
Matrix	: SOIL	Analyst	: ARL
Date sampled	: 09/14/89	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/25/89	Weight ext.	: 30 g
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
121-14-2	* 2,4-Dinitrotoluene	330	ND
606-20-2	* 2,6-Dinitrotoluene	330	ND
84-66-2	* Diethylphthalate	330	ND
7005-72-3	* 4-Chlorophenyl-phenylether	330	ND
86-73-7	* Fluorene	330	ND
100-01-6	**4-Nitroaniline	1600	ND
534-52-1	**4,6-Dinitro-2-Methylphenol	1600	ND
86-30-6	* N-Nitrosodiphenylamine	330	ND
122-66-7	**Azobenzene	330	ND
101-55-3	* 4-Bromophenyl-phenylether	330	ND
118-74-1	* Hexachlorobenzene	330	ND
87-86-5	* Pentachlorophenol	1600	ND
85-01-8	* Phenanthrene	330	ND
120-12-7	* Anthracene	330	ND
84-74-2	* Di-n-Butylphthalate	330	ND
206-44-0	* Fluoranthene	330	ND
92-87-5	* Benzidine	1600	ND
129-00-0	* Pyrene	330	ND
85-68-7	* Butylbenzylphthalate	330	ND
91-94-1	* 3,3'-Dichlorobenzidine	660	ND
56-55-3	* Benzo(a)Anthracene	330	ND
117-81-7	* bis(2-Ethylhexyl)Phthalate	330	ND
218-01-9	* Chrysene	330	ND
117-84-0	* Di-n-Octyl Phthalate	330	ND
205-99-2	* Benzo(b)Fluoranthene	330	ND
207-08-9	* Benzo(k)Fluoranthene	330	ND
50-32-8	* Benzo(a)Pyrene	330	ND
193-39-5	* Indeno(1,2,3-cd)Pyrene	330	ND
53-70-3	* Dibenz(a,h)Anthracene	330	ND
191-24-2	* Benzo(g,h,i)Perylene	330	ND

CAS #	Surrogate Compounds	Limits	%Recovery
367-12-4	2-Fluorophenol	15-83%	69%
4165-62-2	Phenol-d6	18-92%	69%
4165-60-0	Nitrobenzene-d5	12-80%	64%
321-60-8	2-Fluorobiphenyl	16-100%	81%
118-79-6	2,4,6-Tribromophenol	15-135%	78%
1718-51-0	Terphenyl-d14	15-117%	113%

ND : Not detected at or above practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-37.5-B3	Anametrix I.D.	: 8909158-09
Matrix	: SOIL	Analyst	: ARL
Date sampled	: 09/14/89	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/26/89	Weight ext.	: 30 g
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
62-75-9	* N-Nitrosodimethylamine	330	ND
108-95-2	* Phenol	330	ND
62-53-3	**Aniline	330	ND
111-44-4	* bis(-2-Chloroethyl)Ether	330	ND
95-57-8	* 2-Chlorophenol	330	ND
541-73-1	* 1,3-Dichlorobenzene	330	ND
106-46-7	* 1,4-Dichlorobenzene	330	ND
100-51-6	**Benzyl Alcohol	330	ND
95-50-1	* 1,2-Dichlorobenzene	330	ND
95-48-7	**2-Methylphenol	330	ND
108-60-1	**bis(2-chloroisopropyl)Ether	330	ND
106-44-5	**4-Methylphenol	330	ND
621-64-7	* N-Nitroso-Di-n-Propylamine	330	ND
67-72-1	* Hexachloroethane	330	ND
98-95-3	* Nitrobenzene	330	ND
78-59-1	* Isophorone	330	ND
88-75-5	* 2-Nitrophenol	330	ND
105-67-9	* 2,4-Dimethylphenol	330	ND
65-85-0	**Benzoic Acid	1600	ND
111-91-1	* bis(-2-Chloroethoxy)Methane	330	ND
120-83-2	* 2,4-Dichlorophenol	330	ND
120-82-1	* 1,2,4-Trichlorobenzene	330	ND
91-20-3	* Naphthalene	330	ND
106-47-8	**4-Chloroaniline	330	ND
87-68-3	* Hexachlorobutadiene	330	ND
59-50-7	* 4-Chloro-3-Methylphenol	330	ND
91-57-6	**2-Methylnaphthalene	330	ND
77-47-4	* Hexachlorocyclopentadiene	330	ND
88-06-2	* 2,4,6-Trichlorophenol	330	ND
95-95-4	**2,4,5-Trichlorophenol	1600	ND
91-58-7	* 2-Chloronaphthalene	330	ND
88-74-4	**2-Nitroaniline	1600	ND
131-11-3	* Dimethyl Phthalate	330	ND
208-96-8	* Acenaphthylene	330	ND
99-09-2	**3-Nitroaniline	1600	ND
83-32-9	* Acenaphthene	330	ND
51-28-5	* 2,4-Dinitrophenol	1600	ND
100-02-7	* 4-Nitrophenol	1600	ND
132-64-9	**Dibenzofuran	330	ND

ND : Not detected at or above the practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-37.5-B3	Anametrix I.D.	: 8909158-09
Matrix	: SOIL	Analyst	: ARL
Date sampled	: 09/14/89	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/26/89	Weight ext.	: 30 g
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
121-14-2	* 2,4-Dinitrotoluene	330	ND
606-20-2	* 2,6-Dinitrotoluene	330	ND
84-66-2	* Diethylphthalate	330	ND
7005-72-3	* 4-Chlorophenyl-phenylether	330	ND
86-73-7	* Fluorene	330	ND
100-01-6	**4-Nitroaniline	1600	ND
534-52-1	**4,6-Dinitro-2-Methylphenol	1600	ND
86-30-6	* N-Nitrosodiphenylamine	330	ND
122-66-7	**Azobenzene	330	ND
101-55-3	* 4-Bromophenyl-phenylether	330	ND
118-74-1	* Hexachlorobenzene	330	ND
87-86-5	* Pentachlorophenol	1600	ND
85-01-8	* Phenanthrene	330	ND
120-12-7	* Anthracene	330	ND
84-74-2	* Di-n-Butylphthalate	330	ND
206-44-0	* Fluoranthene	330	ND
92-87-5	* Benzidine	1600	ND
129-00-0	* Pyrene	330	ND
85-68-7	* Butylbenzylphthalate	330	ND
91-94-1	* 3,3'-Dichlorobenzidine	660	ND
56-55-3	* Benzo(a)Anthracene	330	ND
117-81-7	* bis(2-Ethylhexyl)Phthalate	330	ND
218-01-9	* Chrysene	330	ND
117-84-0	* Di-n-Octyl Phthalate	330	ND
205-99-2	* Benzo(b)Fluoranthene	330	ND
207-08-9	* Benzo(k)Fluoranthene	330	ND
50-32-8	* Benzo(a)Pyrene	330	ND
193-39-5	* Indeno(1,2,3-cd)Pyrene	330	ND
53-70-3	* Dibenz(a,h)Anthracene	330	ND
191-24-2	* Benzo(g,h,i)Perylene	330	ND

CAS #	Surrogate Compounds	Limits	%Recovery
367-12-4	2-Fluorophenol	15-83%	76%
4165-62-2	Phenol-d6	18-92%	76%
4165-60-0	Nitrobenzene-d5	12-80%	74%
321-60-8	2-Fluorobiphenyl	16-100%	78%
118-79-6	2,4,6-Tribromophenol	15-135%	86%
1718-51-0	Terphenyl-d14	15-117%	109%

ND : Not detected at or above practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: METHOD BLANK	Anametrix I.D.	: 2CB0918C02
Matrix	: SOIL	Analyst	: ARL
Date sampled	: N/A	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/25/89	Weight ext.	: 30 g
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
62-75-9	* N-Nitrosodimethylamine	330	ND
108-95-2	* Phenol	330	ND
62-53-3	**Aniline	330	ND
111-44-4	* bis(-2-Chloroethyl)Ether	330	ND
95-57-8	* 2-Chlorophenol	330	ND
541-73-1	* 1,3-Dichlorobenzene	330	ND
106-46-7	* 1,4-Dichlorobenzene	330	ND
100-51-6	**Benzyl Alcohol	330	ND
95-50-1	* 1,2-Dichlorobenzene	330	ND
95-48-7	**2-Methylphenol	330	ND
108-60-1	**bis(2-chloroisopropyl)Ether	330	ND
106-44-5	**4-Methylphenol	330	ND
621-64-7	* N-Nitroso-Di-n-Propylamine	330	ND
67-72-1	* Hexachloroethane	330	ND
98-95-3	* Nitrobenzene	330	ND
78-59-1	* Isophorone	330	ND
88-75-5	* 2-Nitrophenol	330	ND
105-67-9	* 2,4-Dimethylphenol	330	ND
65-85-0	**Benzoic Acid	1600	ND
111-91-1	* bis(-2-Chloroethoxy)Methane	330	ND
120-83-2	* 2,4-Dichlorophenol	330	ND
120-82-1	* 1,2,4-Trichlorobenzene	330	ND
91-20-3	* Naphthalene	330	ND
106-47-8	**4-Chloroaniline	330	ND
87-68-3	* Hexachlorobutadiene	330	ND
59-50-7	* 4-Chloro-3-Methylphenol	330	ND
91-57-6	**2-Methylnaphthalene	330	ND
77-47-4	* Hexachlorocyclopentadiene	330	ND
88-06-2	* 2,4,6-Trichlorophenol	330	ND
95-95-4	**2,4,5-Trichlorophenol	1600	ND
91-58-7	* 2-Chloronaphthalene	330	ND
88-74-4	**2-Nitroaniline	1600	ND
131-11-3	* Dimethyl Phthalate	330	ND
208-96-8	* Acenaphthylene	330	ND
99-09-2	**3-Nitroaniline	1600	ND
83-32-9	* Acenaphthene	330	ND
51-28-5	* 2,4-Dinitrophenol	1600	ND
100-02-7	* 4-Nitrophenol	1600	ND
132-64-9	**Dibenzofuran	330	ND

ND : Not detected at or above the practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 625/8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: METHOD BLANK	Anametrix I.D.	: 2CB0918C02
Matrix	: SOIL	Analyst	: ARL
Date sampled	: N/A	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/25/89	Weight ext.	: 30 g
Dilut. factor	: NONE	Instrument ID	: F2

CAS #	Compound Name	Reporting Limit (ug/Kg)	Amount Found (ug/Kg)
121-14-2	* 2,4-Dinitrotoluene	330	ND
606-20-2	* 2,6-Dinitrotoluene	330	ND
84-66-2	* Diethylphthalate	330	ND
7005-72-3	* 4-Chlorophenyl-phenylether	330	ND
86-73-7	* Fluorene	330	ND
100-01-6	**4-Nitroaniline	1600	ND
534-52-1	**4,6-Dinitro-2-Methylphenol	1600	ND
86-30-6	* N-Nitrosodiphenylamine	330	ND
122-66-7	**Azobenzene	330	ND
101-55-3	* 4-Bromophenyl-phenylether	330	ND
118-74-1	* Hexachlorobenzene	330	ND
87-86-5	* Pentachlorophenol	1600	ND
85-01-8	* Phenanthrene	330	ND
120-12-7	* Anthracene	330	ND
84-74-2	* Di-n-Butylphthalate	330	ND
206-44-0	* Fluoranthene	330	ND
92-87-5	* Benzidine	1600	ND
129-00-0	* Pyrene	330	ND
85-68-7	* Butylbenzylphthalate	330	ND
91-94-1	* 3,3'-Dichlorobenzidine	660	ND
56-55-3	* Benzo(a)Anthracene	330	ND
117-81-7	* bis(2-Ethylhexyl)Phthalate	330	ND
218-01-9	* Chrysene	330	ND
117-84-0	* Di-n-Octyl Phthalate	330	ND
205-99-2	* Benzo(b)Fluoranthene	330	ND
207-08-9	* Benzo(k)Fluoranthene	330	ND
50-32-8	* Benzo(a)Pyrene	330	ND
193-39-5	* Indeno(1,2,3-cd)Pyrene	330	ND
53-70-3	* Dibenz(a,h)Anthracene	330	ND
191-24-2	* Benzo(g,h,i)Perylene	330	ND

CAS #	Surrogate Compounds	Limits	%Recovery
367-12-4	2-Fluorophenol	15-83%	85%
4165-62-2	Phenol-d6	18-92%	79%
4165-60-0	Nitrobenzene-d5	12-80%	80%
321-60-8	2-Fluorobiphenyl	16-100%	85%
118-79-6	2,4,6-Tribromophenol	15-135%	85%
1718-51-0	Terphenyl-d14	15-117%	115%

ND : Not detected at or above practical quantitation limit for the method.
* A 625 approved compound (Federal Register, 10/26/84).
** A compound on the U.S. EPA CLP Hazardous Substance List (HSL).

CLP SEMI-VOLATILE MATRIX SPIKE REPORT -- EPA METHOD 8270
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-44.5-B1	Anametrix I.D.	: 8909158-03
Matrix	: SOIL	Analyst	: ARL
Date sampled	: 09/13/89	Supervisor	: PG
Date ext.	: 09/18/89	Date released	: 09/28/89
Date analyzed	: 09/25/89	Instrument I.D.	: F2

COMPOUND	SPIKE AMT. (UG/KG)	8909158 MS (UG/KG)	%REC. MS	8909158 MSD (UG/KG)	%REC. MSD	RPD	%REC LIMITS*
PHENOL	3300	1800	55%	1400	42%	-25%	18-85%
2-CHLOROPHENOL	3300	1800	55%	1400	42%	-25%	15-79%
1,4-DICHLOROBENZENE	1700	1100	65%	780	46%	-34%	10-76%
NITROSODIPROPYLAMINE	1700	1200	71%	960	56%	-22%	16-83%
1,2,4-TRICHLOROBENZENE	1700	1100	65%	830	49%	-28%	12-78%
4-CHLORO-3-METHYLPHENOL	3300	2100	64%	1900	58%	-10%	39-96%
ACENAPHTHENE	1700	1400	82%	1300	76%	-7%	10-116%
4-NITROPHENOL	3300	2200	67%	2200	67%	0%	29-116%
2,4-DINITROTOLUENE	1700	1600	94%	1600	94%	0%	27-104%
PENTACHLOROPHENOL	3300	2200	67%	2200	67%	0%	18-125%
PYRENE	1700	2000	118%	2100	124%	5%	33-129%

Limits established by Anametrix, Inc.

REPORT SUMMARY
ANAMETRIX, INC. (408) 432-8192

Client : Applied GeoSystems
Address : 3315 Almaden Expressway
Suite 34
City : San Jose, CA 95118
Attn. : George Williams

Anametrix W.O.#: 8909158
Date Received : 09/15/89
Purchase Order#: N/A
Project No. : ARCO #6113
Date Released : 09/25/89

Anametrix I.D.	Sample I.D.	Matrix	Date Sampled	Method	Date Extract	Date Analyzed	Inst I.D.
RESULTS							
8909158-01	S-14.5-B1	SOIL	09/13/89	TPH	09/18/89	09/20/89	N/A
8909158-02	S-34.5-B1	SOIL	09/13/89	TPH	09/18/89	09/20/89	N/A
8909158-03	S-44.5-B1	SOIL	09/13/89	TPH	09/18/89	09/20/89	N/A
8909158-04	S-19-B2	SOIL	09/13/89	TPH	09/18/89	09/20/89	N/A
8909158-05	S-34-B2	SOIL	09/14/89	TPH	09/18/89	09/20/89	N/A
8909158-06	S-41-B2	SOIL	09/14/89	TPH	09/18/89	09/20/89	N/A
8909158-07	S-14-B3	SOIL	09/14/89	TPH	09/18/89	09/20/89	N/A
8909158-08	S-34-B3	SOIL	09/14/89	TPH	09/18/89	09/20/89	N/A
8909158-09	S-37.5-B3	SOIL	09/14/89	TPH	09/18/89	09/20/89	N/A
QUALITY ASSURANCE (QA)							
8909158-03	S-44.5-B1	SOIL	09/13/89	SPIKE	09/18/89	09/21/89	N/A
8909158-09	S-37.5-B3	SOIL	09/13/89	SPIKE		09/21/89	N/A
8909158-03	S-44.5-B1	SOIL	09/13/89	SPIKE	09/18/89	09/19/89	N/A

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-14.5-B1	Anametrix I.D.	: 8909158-01
Matrix	: SOIL	Analyst	: CB
Date sampled	: 09/13/89	Supervisor	:
Date anl.TPHg	: 09/19/89	Date released	: 09/25/89
Date ext.TPHd	: 09/18/89	Date ext. TOG	: 09/18/89
Date anl.TPHd	: 09/20/89	Date anl. TOG	: 09/19/89

CAS #	Compound Name	Detection Limit (ug/kg)	Amount Found (ug/kg)
71-43-2	Benzene	5	ND
108-88-3	Toluene	5	ND
100-41-4	Ethylbenzene	5	ND
1330-20-7	Total Xylenes	5	ND
	TPH as Gasoline	1000	ND
	TPH as Diesel	10000	ND
	Total Oil & Grease	30000	ND

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
TOG - Total Oil & Grease is determined by Standard Method 503E.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-34.5-B1	Anametrix I.D.	: 8909158-02
Matrix	: SOIL	Analyst	: CB
Date sampled	: 09/13/89	Supervisor	: BMJ
Date anl.TPHg	: 09/19/89	Date released	: 09/25/89
Date ext.TPHd	: 09/18/89	Date ext. TOG	: 09/18/89
Date anl.TPHd	: 09/20/89	Date anl. TOG	: 09/19/89

CAS #	Compound Name	Detection Limit (ug/kg)	Amount Found (ug/kg)
71-43-2	Benzene	5	ND
108-88-3	Toluene	5	ND
100-41-4	Ethylbenzene	5	ND
1330-20-7	Total Xylenes	5	ND
	TPH as Gasoline	1000	ND
	TPH as Diesel	10000	ND
	Total Oil & Grease	30000	ND

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
TOG - Total Oil & Grease is determined by Standard Method 503E.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-44.5-B1	Anametrix I.D.	: 8909158-03
Matrix	: SOIL	Analyst	: QB
Date sampled	: 09/13/89	Supervisor	: MJ
Date anl.TPHg	: 09/19/89	Date released	: 09/25/89
Date ext.TPHd	: 09/18/89	Date ext. TOG	: 09/18/89
Date anl.TPHd	: 09/20/89	Date anl. TOG	: 09/19/89

CAS #	Compound Name	Detection Limit (ug/kg)	Amount Found (ug/kg)
71-43-2	Benzene	5	ND
108-88-3	Toluene	5	ND
100-41-4	Ethylbenzene	5	ND
1330-20-7	Total Xylenes	5	ND
	TPH as Gasoline	1000	ND
	TPH as Diesel	10000	ND
	Total Oil & Grease	30000	ND

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
TOG - Total Oil & Grease is determined by Standard Method 503E.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-19-B2	Anametrix I.D.	: 8909158-04
Matrix	: SOIL	Analyst	: CB
Date sampled	: 09/13/89	Supervisor	: JM
Date anl.TPHg	: 09/19/89	Date released	: 09/25/89
Date ext.TPHd	: 09/18/89	Date ext. TOG	: 09/18/89
Date anl.TPHd	: 09/20/89	Date anl. TOG	: 09/19/89

CAS #	Compound Name	Detection Limit (ug/kg)	Amount Found (ug/kg)
71-43-2	Benzene	5	ND
108-88-3	Toluene	5	ND
100-41-4	Ethylbenzene	5	ND
1330-20-7	Total Xylenes	5	ND
	TPH as Gasoline	1000	ND
	TPH as Diesel	10000	ND
	Total Oil & Grease	30000	ND

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
TOG - Total Oil & Grease is determined by Standard Method 503E.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-34-B2	Anametrix I.D.	: 8909158-05
Matrix	: SOIL	Analyst	: CB
Date sampled	: 09/14/89	Supervisor	: [illegible]
Date anl.TPHg	: 09/19/89	Date released	: 09/25/89
Date ext.TPHd	: 09/18/89	Date ext. TOG	: 09/18/89
Date anl.TPHd	: 09/20/89	Date anl. TOG	: 09/19/89

CAS #	Compound Name	Detection Limit (ug/kg)	Amount Found (ug/kg)
71-43-2	Benzene	5	ND
108-88-3	Toluene	5	ND
100-41-4	Ethylbenzene	5	ND
1330-20-7	Total Xylenes	5	ND
	TPH as Gasoline	1000	ND
	TPH as Diesel	10000	ND
	Total Oil & Grease	30000	ND

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
TOG - Total Oil & Grease is determined by Standard Method 503E.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-41-B2	Anametrix I.D.	: 8909158-06
Matrix	: SOIL	Analyst	: CB
Date sampled	: 09/14/89	Supervisor	: [illegible]
Date anl.TPHg	: 09/19/89	Date released	: 09/25/89
Date ext.TPHd	: 09/18/89	Date ext. TOG	: 09/18/89
Date anl.TPHd	: 09/20/89	Date anl. TOG	: 09/19/89

CAS #	Compound Name	Detection Limit (ug/kg)	Amount Found (ug/kg)
71-43-2	Benzene	5	ND
108-88-3	Toluene	5	ND
100-41-4	Ethylbenzene	5	ND
1330-20-7	Total Xylenes	5	ND
	TPH as Gasoline	1000	ND
	TPH as Diesel	10000	ND
	Total Oil & Grease	30000	ND

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
TOG - Total Oil & Grease is determined by Standard Method 503E.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-14-B3	Anametrix I.D.	: 8909158-07
Matrix	: SOIL	Analyst	: CB
Date sampled	: 09/14/89	Supervisor	: RJ
Date anl.TPHg	: 09/19/89	Date released	: 09/25/89
Date ext.TPHd	: 09/18/89	Date ext. TOG	: 09/18/89
Date anl.TPHd	: 09/20/89	Date anl. TOG	: 09/19/89

CAS #	Compound Name	Detection Limit (ug/kg)	Amount Found (ug/kg)
71-43-2	Benzene	5	ND
108-88-3	Toluene	5	ND
100-41-4	Ethylbenzene	5	ND
1330-20-7	Total Xylenes	5	ND
	TPH as Gasoline	1000	ND
	TPH as Diesel	10000	ND
	Total Oil & Grease	30000	ND

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
TOG - Total Oil & Grease is determined by Standard Method 503E.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-34-B3	Anametrix I.D.	: 8909158-08
Matrix	: SOIL	Analyst	:
Date sampled	: 09/14/89	Supervisor	:
Date anl.TPHg	: 09/19/89	Date released	: 09/25/89
Date ext.TPHd	: 09/18/89	Date ext. TOG	: 09/18/89
Date anl.TPHd	: 09/20/89	Date anl. TOG	: 09/19/89

CAS #	Compound Name	Detection Limit (ug/kg)	Amount Found (ug/kg)
71-43-2	Benzene	5	ND
108-88-3	Toluene	5	ND
100-41-4	Ethylbenzene	5	ND
1330-20-7	Total Xylenes	5	ND
	TPH as Gasoline	1000	ND
	TPH as Diesel	10000	ND
	Total Oil & Grease	30000	ND

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
TOG - Total Oil & Grease is determined by Standard Method 503E.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-37.5-B3	Anametrix I.D.	: 8909158-09
Matrix	: SOIL	Analyst	: CB
Date sampled	: 09/14/89	Supervisor	: [illegible]
Date anl.TPHg	: 09/19/89	Date released	: 09/25/89
Date ext.TPHd	: 09/18/89	Date ext. TOG	: 09/18/89
Date anl.TPHd	: 09/20/89	Date anl. TOG	: 09/19/89

CAS #	Compound Name	Detection Limit (ug/kg)	Amount Found (ug/kg)
71-43-2	Benzene	5	ND
108-88-3	Toluene	5	ND
100-41-4	Ethylbenzene	5	ND
1330-20-7	Total Xylenes	5	ND
	TPH as Gasoline	1000	ND
	TPH as Diesel	10000	ND
	Total Oil & Grease	30000	ND

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
TOG - Total Oil & Grease is determined by Standard Method 503E.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

TOTAL EXTRACTABLE HYDROCARBON MATRIX SPIKE REPORT
EPA METHOD 3550 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : ARCO #6113 S-44.5-B1
Matrix : SOIL
Date sampled : 09/13/89
Date extracted: 09/18/89
Date analyzed : 09/21/89

Anametrix I.D. : 8909158-03
Analyst : CB
Supervisor : MJ
Date Released : 09/25/89

COMPOUND	SPIKE AMT. (UG/Kg)	MS (UG/Kg)	%REC MS	MSD (UG/Kg)	%REC MSD	RPD	%REC LIMITS
Diesel	83000	60000	72%	57000	69%	-5%	50-150

* Limits established by Anametrix, Inc.

TOTAL VOLATILE HYDROCARBON MATRIX SPIKE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: ARCO #6113 S-37.5-B3	Anametrix I.D.	: 8909158-09
Matrix	: SOIL	Analyst	: CB
Date sampled	: 09/14/89	Supervisor	: DJ
Date analyzed	: 09/19/89	Date Released	: 09/25/89

COMPOUND	SPIKE AMT. (ug/Kg)	MS (ug/Kg)	%REC MS	MSD (ug/Kg)	%REC MSD	RPD	%REC LIMITS
Gasoline	1000	1000	100%	1000	100%	0%	50-150

* Limits established by Anametrix, Inc.

TOTAL OIL AND GREASE MATRIX SPIKE
STANDARD METHOD 503E
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : ARCO #6113 S-44.5-B1
Matrix : SOIL
Date sampled : 09/13/89
Date extracted: 09/18/89
Date analyzed : 09/19/89

Anametrix I.D. : 8909158-03
Analyst : JS
Supervisor : DDG
Date Released : 09/26/89

COMPOUND	SPIKE AMT. (UG/Kg)	8909158 MS (UG/Kg)	%REC MS	8909158 MSD (UG/Kg)	%REC MSD	RPD	%REC LIMITS
Motor Oil	300000	270000	90%	290000	97%	7%	45-115%

REPORT SUMMARY
ANAMETRIX, INC. (408) 432-8192

Client	: Applied GeoSystems	Anametrix W.O.#:	0909158
Address	: 3315 Almaden Expressway	Date Received :	09/15/89
	Suite 34	Purchase Order#:	N/A
City	: San Jose, CA 95118	Project No. :	ARCO #6113
Attn.	: George Williams	Date Released :	09/25/89

Anametrix I.D.	Sample I.D.	Matrix	Date Sampled	Method	Date Extract	Date Analyzed	Inst I.D.
RESULTS							
8909158-01	S-14.5-B1	SOIL	09/13/89	METALS		09/18/89	ICP1
8909158-02	S-34.5-B1	SOIL	09/13/89	METALS		09/18/89	ICP1
8909158-03	S-44.5-B1	SOIL	09/13/89	METALS		09/18/89	ICP1
8909158-04	S-19-B2	SOIL	09/13/89	METALS		09/18/89	ICP1
8909158-05	S-34-B2	SOIL	09/14/89	METALS		09/18/89	ICP1
8909158-06	S-41-B2	SOIL	09/14/89	METALS		09/18/89	ICP1
8909158-07	S-14-B3	SOIL	09/14/89	METALS		09/18/89	ICP1
8909158-08	S-34-B3	SOIL	09/14/89	METALS		09/18/89	ICP1
8909158-09	S-37.5-B3	SOIL	09/14/89	METALS		09/18/89	ICP1
QUALITY ASSURANCE (QA)							
MB091889S	METHOD BLANK	SOIL	N/A	METALS		09/18/89	ICP1

ANALYSIS DATA SHEET - INDIVIDUAL METALS EPA METHOD 6010
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : ARCO #6113 S-14.5-B1
Matrix : SOIL
Date Sampled : 09/13/89
Date Prepared: 09/18/89
Date Analyzed: 09/18/89

Anametrix ID : 8909158-01
Analyst : MN
Supervisor : RR
Instrument ID: ICP1
Date released: 09/25/89

EPA METHOD NO.	COMPOUNDS	Detection Limit (mg/kg)	Amount Found (mg/kg)
6010	Total Chromium (Ttl Cr)	0.5	51.5
6010	Lead (Pb)	1.0	11.0
6010	Zinc (Zn)	0.5	43.8

ND : Not detected at or above the practical quantitation limit for the method.

ANALYSIS DATA SHEET - INDIVIDUAL METALS EPA METHOD 6010
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : ARCO #6113 S-34.5-B1
Matrix : SOIL
Date Sampled : 09/13/89
Date Prepared: 09/18/89
Date Analyzed: 09/18/89

Anametrix ID : 8909158-02
Analyst : MN
Supervisor : R~
Instrument ID: ICP1
Date released: 09/25/89

EPA METHOD NO.	COMPOUNDS	Detection Limit (mg/kg)	Amount Found (mg/kg)
6010	Total Chromium (Ttl Cr)	0.5	44.0
6010	Lead (Pb)	1.0	7.30
6010	Zinc (Zn)	0.5	37.1

ND : Not detected at or above the practical quantitation limit for the method.

ANALYSIS DATA SHEET - INDIVIDUAL METALS EPA METHOD 6010
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : ARCO #6113 S-44.5-B1
Matrix : SOIL
Date Sampled : 09/13/89
Date Prepared: 09/18/89
Date Analyzed: 09/18/89

Anametrix ID : 8909158-03
Analyst : MN
Supervisor : RM
Instrument ID: ICP1
Date released: 09/25/89

EPA METHOD NO.	COMPOUNDS	Detection Limit (mg/kg)	Amount Found (mg/kg)
6010	Total Chromium (Ttl Cr)	0.5	44.2
6010	Lead (Pb)	1.0	11.5
6010	Zinc (Zn)	0.5	49.7

ND : Not detected at or above the practical quantitation limit for the method.

ANALYSIS DATA SHEET - INDIVIDUAL METALS EPA METHOD 6010
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : ARCO #6113 S-19-B2
Matrix : SOIL
Date Sampled : 09/13/89
Date Prepared: 09/18/89
Date Analyzed: 09/18/89

Anametrix ID : 8909158-04
Analyst : MN
Supervisor : RM
Instrument ID: ICP1
Date released: 09/25/89

EPA METHOD NO.	COMPOUNDS	Detection Limit (mg/kg)	Amount Found (mg/kg)
6010	Total Chromium (Ttl Cr)	0.5	51.0
6010	Lead (Pb)	1.0	12.7
6010	Zinc (Zn)	0.5	56.8

ND : Not detected at or above the practical quantitation limit for the method.

ANALYSIS DATA SHEET - INDIVIDUAL METALS EPA METHOD 6010
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : ARCO #6113 S-34-B2
Matrix : SOIL
Date Sampled : 09/14/89
Date Prepared: 09/18/89
Date Analyzed: 09/18/89

Anametrix ID : 8909158-05
Analyst : MN
Supervisor : RM
Instrument ID: ICP1
Date released: 09/25/89

EPA METHOD NO.	COMPOUNDS	Detection Limit (mg/kg)	Amount Found (mg/kg)
6010	Total Chromium (Ttl Cr)	0.5	76.7
6010	Lead (Pb)	1.0	7.46
6010	Zinc (Zn)	0.5	31.6

ND : Not detected at or above the practical quantitation limit for the method.

ANALYSIS DATA SHEET - INDIVIDUAL METALS EPA METHOD 6010
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : ARCO #6113 S-41-B2
Matrix : SOIL
Date Sampled : 09/14/89
Date Prepared: 09/18/89
Date Analyzed: 09/18/89

Anametrix ID : 8909158-06
Analyst : MN
Supervisor : RM
Instrument ID: ICP1
Date released: 09/25/89

EPA METHOD NO.	COMPOUNDS	Detection Limit (mg/kg)	Amount Found (mg/kg)
6010	Total Chromium (Ttl Cr)	0.5	56.5
6010	Lead (Pb)	1.0	11.0
6010	Zinc (Zn)	0.5	46.7

ND : Not detected at or above the practical quantitation limit for the method.

ANALYSIS DATA SHEET - INDIVIDUAL METALS EPA METHOD 6010
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : ARCO #6113 S-14-B3
Matrix : SOIL
Date Sampled : 09/14/89
Date Prepared: 09/18/89
Date Analyzed: 09/18/89

Anametrix ID : 8909158-07
Analyst : MN
Supervisor : RM
Instrument ID: ICP1
Date released: 09/25/89

EPA METHOD NO.	COMPOUNDS	Detection Limit (mg/kg)	Amount Found (mg/kg)
6010	Total Chromium (Ttl Cr)	0.5	61.6
6010	Lead (Pb)	1.0	10.1
6010	Zinc (Zn)	0.5	49.9

ND : Not detected at or above the practical quantitation limit for the method.

ANALYSIS DATA SHEET - INDIVIDUAL METALS EPA METHOD 6010
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : ARCO #6113 S-34-B3
Matrix : SOIL
Date Sampled : 09/14/89
Date Prepared: 09/18/89
Date Analyzed: 09/18/89

Anametrix ID : 8909158-08
Analyst : MN
Supervisor : RM
Instrument ID: ICP1
Date released: 09/25/89

EPA METHOD NO.	COMPOUNDS	Detection Limit (mg/kg)	Amount Found (mg/kg)
6010	Total Chromium (Ttl Cr)	0.5	37.5
6010	Lead (Pb)	1.0	4.36
6010	Zinc (Zn)	0.5	30.5

ND : Not detected at or above the practical quantitation limit for the method.

ANALYSIS DATA SHEET - INDIVIDUAL METALS EPA METHOD 6010
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : ARCO #6113 S-37.5-B3
Matrix : SOIL
Date Sampled : 09/14/89
Date Prepared: 09/18/89
Date Analyzed: 09/18/89

Anametrix ID : 8909158-09
Analyst : MN
Supervisor : RM
Instrument ID: ICP1
Date released: 09/25/89

EPA METHOD NO.	COMPOUNDS	Detection Limit (mg/kg)	Amount Found (mg/kg)
6010	Total Chromium (Ttl Cr)	0.5	37.2
6010	Lead (Pb)	1.0	8.36
6010	Zinc (Zn)	0.5	47.6

ND : Not detected at or above the practical quantitation limit for the method.

ANALYSIS DATA SHEET - INDIVIDUAL METALS EPA METHOD 6010
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : METHOD BLANK
Matrix : SOIL
Date Sampled : N/A
Date Prepared: 09/18/89
Date Analyzed: 09/18/89

Anametrix ID : MB091889S
Analyst : MNJ
Supervisor : RV
Instrument ID: ICP1
Date released: 09/25/89

EPA METHOD NO.	COMPOUNDS	Detection Limit (mg/kg)	Amount Found (mg/kg)
6010	Total Chromium (Ttl Cr)	0.5	ND
6010	Lead (Pb)	1.0	ND
6010	Zinc (Zn)	0.5	ND

ND : Not detected at or above the practical quantitation limit for the method.

CHAIN OF CUSTODY RECORD

San Jose Branch
3315 Almaden Expressway, Suite 34
San Jose, CA 95118 (408)264-7723

Applied GeoSystems

SAMPLER (signature): George L. Williams
Phone: (408) 264-7723

LABORATORY:

TURNAROUND TIME: 2 weeks
Project Leader: George Williams
Phone No. (408) 264-7723

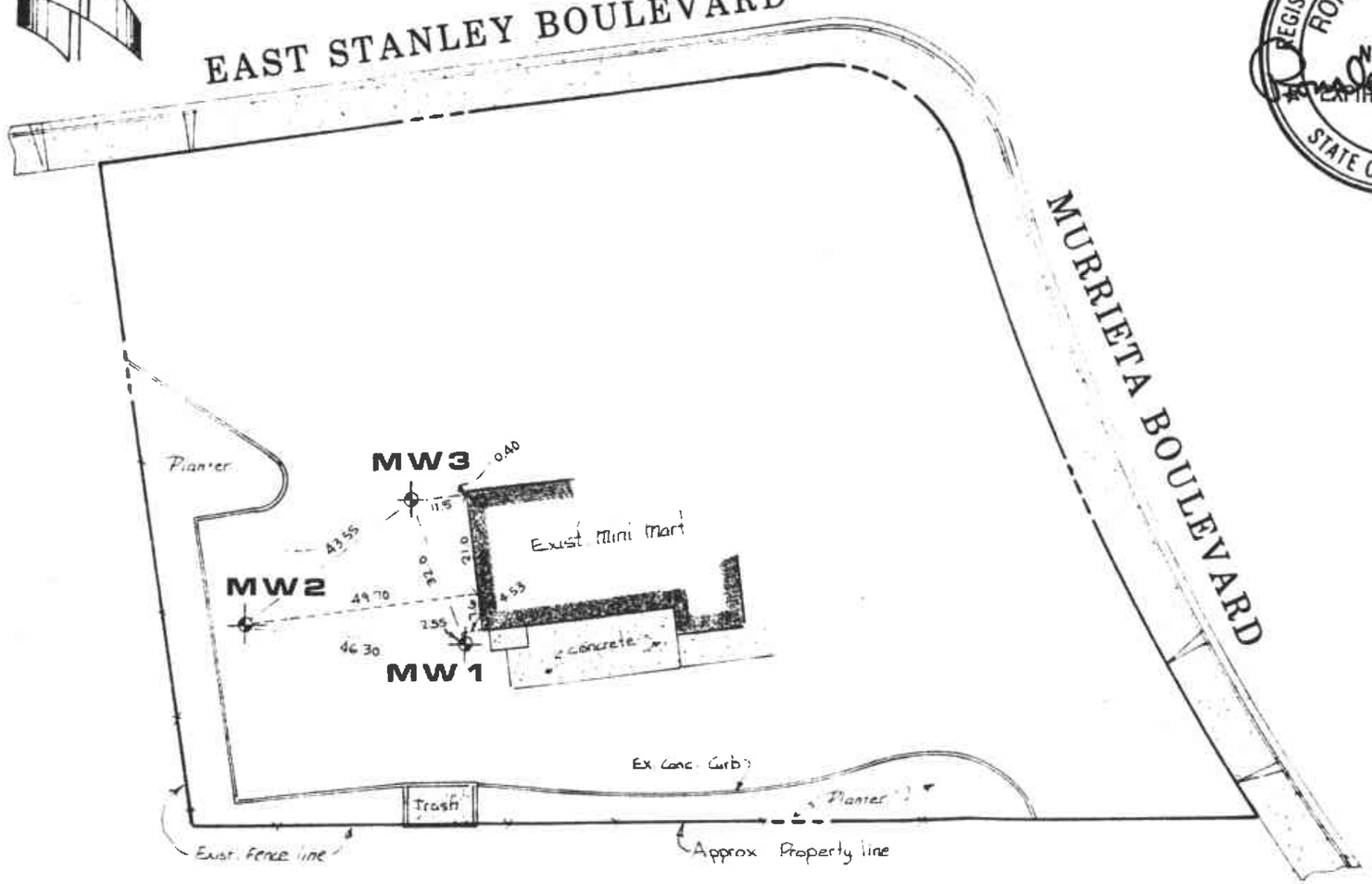
SHIPPING INFORMATION:
Shipper
Address
Date Shipped
Service Used
Airbill No. Cooler No.

Relinquished by: (signatures)	Received by: (signatures)	Date	Tim
George L. Williams II			
	Received for laboratory by: Kelli Hernandez	9/15/89	16

LABORATORY SHOULD SIGN UPON RECEIPT AND RETURN A COPY OF THIS FORM WITH THE LABORATORY RESULTS

Sample No.	Site Identification	Date Sampled	Analyses Requested {ON ALL Samples}	Sample Condition Upon Receipt
S-14½-B1	ARCO #6113	9/13/89	TOG, TPH-d, TPH-g w/BTEX,	
S-34½-B1		9/13/89	EPA 8270, EPA 8240, EPA 6010	
S-44½-B1		9/13/89	(Pb, Cr, Zn = Lead, Chromium, Zinc)	
S-19-B2		9/13/89		
S-34-B2		9/14/89		
S-41-B2		9/14/89		
S-14-B3		9/14/89		
S-34-B3		9/14/89		
S-37½-B3	ARCO #6113	9/14/89		

1" = 30'



1" = 30'

0 15 30 60 90

Graphic Scale

REGISTERED PROFESSIONAL ENGINEER
RONALD H. ARCHER
No. 2372
EXPIRES 12/31/89
CIVIL
STATE OF CALIFORNIA

North

Vicinity Map
No Scale

OCTOBER 4, 1988 JOB NO. 1610

PLAT OF EXISTING MONITOR WELLS LOCATED AT ARCO SELF SERVICE STATION NO. 6113, AND MINI MART, AT 755 EAST STANLEY BOULEVARD, CITY OF LIVERMORE, ALAMEDA COUNTY, CALIFORNIA.

FOR: APPLIED GEOSYSTEMS. (SAN JOSE OFFICE)
PROJECT NO. 69028-2

BENCHMARK: TOP OF PIN SET IN CONCRETE IN A THE MOST WESTERLY MONUMENT AT THE INTERSECTION OF EAST STANLEY BOULEVARD AND FENTON AVENUE. ELEVATION TAKEN AS 455.896, CITY OF LIVERMORE DATUM.

MONITOR WELL DATA TABLE

WELL DESIGNATION	ELEVATION	DESCRIPTION
MW-1	457.04	TOP OF PVC CASING
	457.43	TOP OF BOX
MW-2	457.74	TOP OF PVC CASING
	458.08	TOP OF BOX
MW-3	456.97	TOP OF PVC CASING
	457.23	TOP OF BOX

RON ARCHER
CIVIL ENGINEER, INC.
CONSULTING • PLANNING • DESIGN • SURVEYING
[illegible] Main Ave. Suite E • Pleasanton, CA 94566
[illegible]