100 Pine Street, 10th Floor
San Francisco, CA 94111
(415) 434-9400 • FAX (415) 434-1365

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HAZMAT
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GEOMATRIX

STID
3410

25 March 1994
Project № 2462

Mr. Ronald J. Owcarz
Hazardous Materials Specialist
Alameda County Health Care Services Agency
Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621

Subject: Results of Site Investigation
Quan's Automotive Service
10100 E. 14th Street
Oakland, California

Dear Mr. Owcarz:

Geomatrix Consultants, Inc. (Geomatrix) has prepared this letter on behalf of Mr. Tony Chan, the owner of the subject site, to report the findings of site investigations conducted between September and December 1993. Site investigations were proposed in a Work Plan for Site Closure (Work Plan), prepared by Geomatrix and submitted to Alameda County Health Care Services Agency (ACHCSA) on 10 September 1993. The Work Plan was prepared in response to the ACHCSA's 6 August 1993 letter to Mr. Chan, requesting compliance with the California Code of Regulations, Title 23, Chapter 3, Subchapter 16, Article 7, Section 2670 regarding closure of a possible underground storage tank and to close the oil/water separator in accordance with East Bay Municipal Utility District (EBMUD) requirements.

BACKGROUND

The site is a former gasoline station with a building consisting of a double bay garage, office, and restrooms (Figure 1). Mr. Chan purchased the property approximately 2 years ago. Exxon Company U.S.A. reportedly occupied the site at one time, and left the property in the mid-1970s. As previously documented in our Work Plan, three underground storage tanks were removed from the site in 1974. Two 8,000-gallon capacity tanks (contents unknown) and one 500-gallon capacity waste oil tank were removed under an 8 March 1974 permit from the City of Oakland. Oakland Fire Department Fire Prevention Bureau records confirm the removal of the tanks in March 1974.

On 27 July 1993, an inspection conducted by the ACHCSA at the site indicated the presence of a possible UST based on observation of a "fill" port in the front of the property. The site inspection also identified a two-stage oil/water separator that was full

of waste oil. Geomatrix was retained in August 1993 by Mr. Chan to assist with UST compliance and oil/water separator closure issues.

UNDERGROUND STORAGE TANK INVESTIGATION

Geomatrix requested Gary Trumpp of Trumpp Brothers (Trumpp) of San Jose, California, a licensed environmental contractor, to visit the site in August 1993 to observe site conditions. According to Mr. Trumpp, no vent pipes were observed and a possible "fill" port in front of the building likely is a sanitary sewer cleanout. To evaluate where the "fill" port in the front of the property leads, Geomatrix retained an underground utility locator to delineate the suspected "fill" port line. On 16 September 1993, a Geomatrix representative, Mr. Trumpp, and a representative of Subdynamic Locating Services of San Jose,California, an underground utility locator, located and marked site utilities (Figure 1). The suspected "fill" port was identified as a sanitary sewer cleanout. The pipe running to the cleanout originated at the restrooms, while the pipe downstream of the cleanout leads to a sanitary sewer line in the street (Figure 1). A second sanitary sewer cleanout was identified immediately adjacent to the oil/water separator. As illustrated in Figure 1, a pipe runs from the cleanout next to the oil/water separator to the restroom drain pipe. In addition, no underground storage tanks, fill ports, or vent pipes were observed during the 16 September 1993 site visit and utility survey.

The 16 September 1993 underground utility survey also located a remote waste oil drain line [redacted] garage. As illustrated on Figure 1, the remote waste oil drain line runs to the former location of the 500-gallon underground waste oil tank which was removed in 1974. A large square patch of asphalt covers the former waste oil storage tank location.

OIL/WATER SEPARATOR INVESTIGATION

Geomatrix contacted Cynthia Adkisson of EBMUD on 19 August 1993 to discuss the requirements for closing the oil/water separator. Ms. Adkisson indicated that there were no requirements at that time for closure, except to seal the floor drain in the service bay and to recommend the tenant use best management practices for disposal of materials.

During the 16 September 1993 underground utility survey, a remote drain line was identified running between a floor drain in the southern service bay of the garage and the oil/water separator (Figure 1). On 15 October 1993, Geomatrix retained Trumpp to

empty and clean oil/water separator and associated piping. Prior to cleaning the oil/water separator, Geomatrix and Trumpp personnel observed that the oil/water separator contained mostly water with approximately 1/2-inch of waste oil. Oil and water were removed from the oil/water separator with a vacuum truck while simultaneously steam cleaning the floor drain, drain lines and oil/water separator. The fluid generated during cleaning of the oil/water separator was transported by Universal Hazardous Waste Manifest by Evergreen Environmental to their oil recycling center in Newark, California. A copy of the manifest is included in Attachment A. Trumpp filled both the oil/water and remote waste oil floor drains with concrete after plugging their respective drain lines.

Geomatrix personnel observed the condition of the cleaned oil/water separator. A crack in the concrete was observed in the oil/water separator walls approximately 8 inches below the garage floor. A gap in this seam was noticeably wide around the sanitary drain pipe in the northwest corner of the oil/water separator.

Geomatrix contracted a concrete corer to cut through the garage floor immediately adjacent to the northwest (boring B-1) and southeast (boring B-2) corners of the oil/water separator on 18 November 1993 (Figure 1). After coring holes in the concrete, a sample was collected from each boring with a decontaminated, stainless-steel hand auger from approximately 1 foot beneath ground surface (bgs). Borings could not be advanced by hand auger past 1 foot bgs due to concrete obstructions. Each sample was collected in a clean glass jar, labeled, and stored in an ice-cooled chest. The samples were delivered to Inchcape Testing Services: Anametrix Laboratories of San Jose, California, a state certified analytical laboratory, under Geomatrix's chain-of-custody procedures. Chain-of-custody records are included in Attachment B.

The soil samples were analyzed in accordance with Tri-Regional Guidelines for waste oil tanks for total petroleum hydrocarbons (TPH) as diesel by U.S. Environmental Protection Agency (EPA) Method 8015; TPH as gasoline by modified EPA Method 8015; volatile organic compounds, including benzene, toluene, ethylbenzene, and xylenes, by EPA Method 8240; semi-volatile organic compounds by EPA Method 8270; and lead, nickel, cadmium, chromium, and zinc by EPA Method 6010.

Analytical results are summarized on Table 1. Analytical results indicate that TPH as diesel, TPH as gasoline, volatile organic, semi-volatile organic, and metal compounds were detected in each of the soil samples. Laboratory analytical results reports are provided in Attachment B.

SUMMARY AND RECOMMENDATIONS

Soil samples collected adjacent to the oil/water separator contained significantly elevated concentrations of TPH as diesel, TPH as gasoline, and lead. These results suggest that leakage has occurred from the seam around the inside of the oil/water separator. Based on these results, Geomatrix recommends additional soil sampling around the oil/water separator to delineate the lateral and vertical extent of petroleum hydrocarbon compounds and total lead.

Information in our files indicates that groundwater at the site is likely to occur at depths between 20 to 30 feet bgs. Based on this information, the apparent leak source, and the high percentage of immobile high molecular weight hydrocarbons, we do not anticipate widespread migration of the petroleum hydrocarbons that would have impacted groundwater.

Once the lateral and vertical extent of hydrocarbon compounds and lead in soil have been defined, remedial alternatives will be considered. Based on the present information and our experience, we anticipate that these alternatives will include no-action and/or excavation and disposal of affected soil.

Please contact either of the undersigned if you have any questions or require additional information.

Sincerely,

GEOMATRIX CONSULTANTS

Gregory R. Kamman, R.G.
Project Geologist

Tom Graf, P.E.
Principal Engineer

GRK/slr
CONTR\2462RSLT.LTR

Attachments

GEOMATRIX

SITE PLAN & BORING LOCATIONS
10100 E. 14th Street Site
Oakland, California

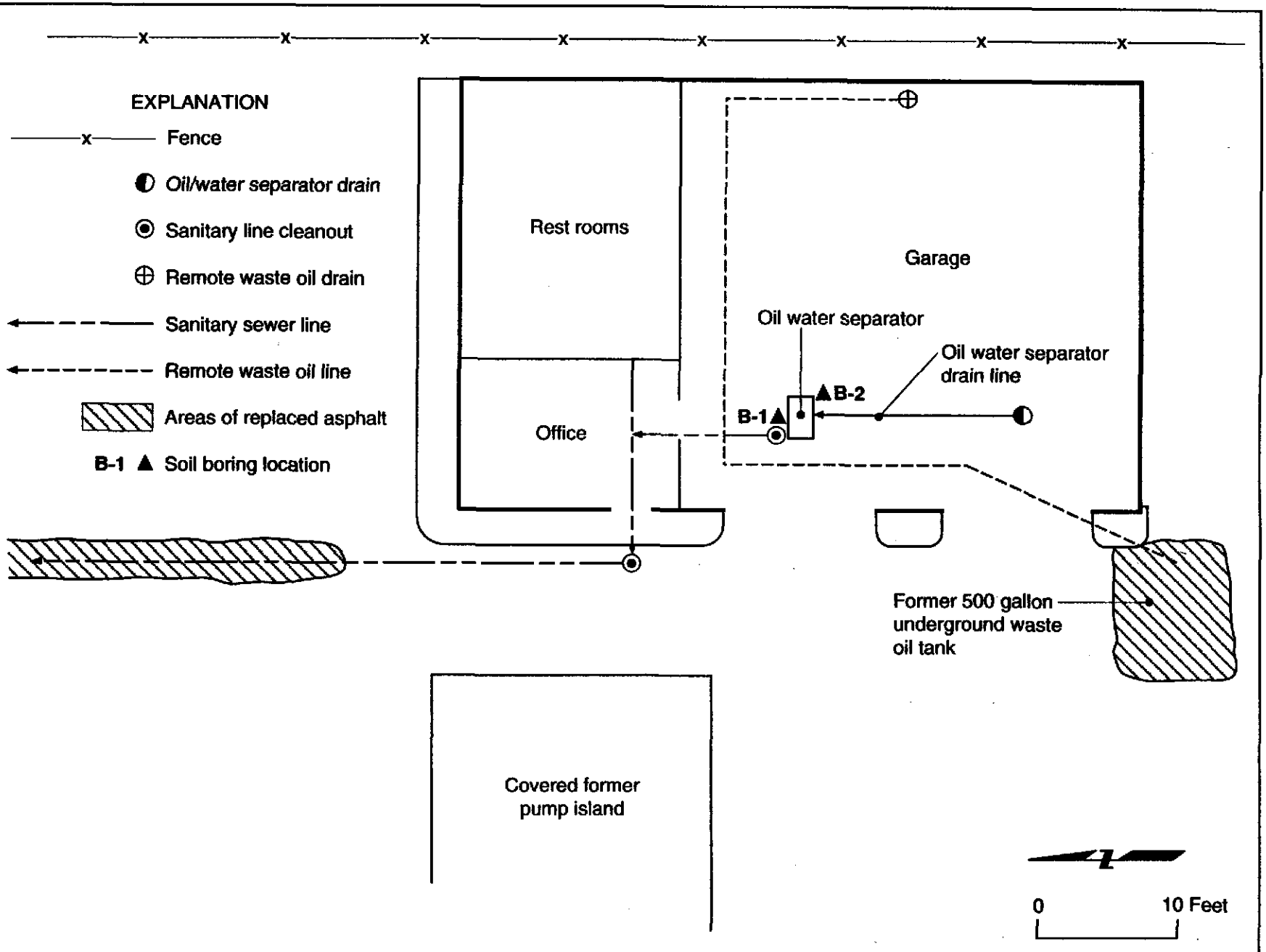

Figure 1

Project No. 2462A

GEOMATRIX

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED ON 18 NOVEMBER 1993

10100 E. 14th Street
Oakland, California

Compound	Concentration (mg/kg)	
	B-1	B-2
methylene chloride	0.39	ND
benzene	0.25	ND
toluene	9.5	6.7
ethylbenzene	4.6	3.8
xylenes	49	56
naphthalene	8.8	18
2-methylnaphthalene	11	24
butylbenzylphthalate	7.6	ND
bis(2-ethylhexyl)phthalate	9.8	9.8
TPH as diesel	36,000	33,000
TPH as gasoline	920	560
cadmium	3.9	23.1
chromium	27.6	32
nickel	29.7	32.1
lead	1140	3800
zinc	340	958

Note:
Samples collected by Geomatrix Consultants, Inc., and analyzed by Inchcape Testing Services: Anametrix Laboratories using EPA Methods 8015, 8240, 8279, and 6010.

State of California—Environmental Protection Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-94)
Please print or type. *Form designed for use on elite (12-pitch) typewriter.*

See Instructions on back of page 6.

Department of Toxic Substances Control
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAC000948712 — Manifest Document No.
2. Page 1 of
Information in the shaded areas is not required by Federal law.

GENERATOR

3. Generator's Name and Mailing Address
TONY CHAN
78 PARK MANOR DRIVE, DALY CITY, CALIFORNIA 94105
4. Generator's Phone (415) 334-4484

5. Transporter 1 Company Name
EVERGREEN ENVIRONMENTAL
6. US EPA ID Number
CAD980695761

7. Transporter 2 Company Name
8. US EPA ID Number

9. Designated Facility Name and Site Address
EVERGREEN OIL
6880 SMITH AVE.
NEWARK, CA 94560
10. US EPA ID Number
CAD078088741

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol
a. NON-RCRA HAZARDOUS WASTE LIQUID	001	TT	000350	
b.				
c.				
d.				

15. Special Handling Instructions and Additional Information
WEAR RUBBER GLOVES 24 HOUR EMERGENCY (510) 795-9400
KIRK HAYWARD - (CONTACT) DOT GUIDES #27

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable federal, state and international laws.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
TONY CHAN		10	15	93

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
ETEL SIFUENTES JR.		10	15	93

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
ETEL SIFUENTES		10	15	93

DO NOT WRITE BELOW THIS LINE.

Blue: GENERATOR SENDS THIS COPY TO DTSC WITHIN 30 DAYS.
To: P.O. Box 400, Sacramento, CA 95812-0400

DTSC 8022A (12/91)
EPA 8700—22

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7550

#274

9311075

(15)

Chain-of-Custody Record

No. 3698

Date: 11/18/93

Page 1 of 1

Project No.: 2462

Samplers (Signatures): Gregory R. Kamman

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	metals	Cooled	Soil (S) or water (W)	Acidified	Number of containers
(1) 11/18/93	14:40	B-1-1.0			X	X	X	X		X	X	S		1
(2) 11/18/93	14:50	B-2-1.0			X	X	X	X		X	X	S		1

ANALYSES

REMARKS

Additional comments

metals = Zn, Ni, Cd, Cr, Pb by EPA Method 6010

TPH gasoline by EPA 8015

TPH diesel by EPA 8015

Turnaround time: Standard

Results to: TOM GRAF

Total No. of containers: 2

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:	Method of shipment:
Gregory R. Kamman	11/18/93	Thomas R Jones	11/19/93	Benny S. Carrasco	11/19/93	COURIER PICKUP
Signature: GREGORY R. KAMMAN	16:00	Signature:		Signature:		Laboratory comments and Log No.:
Printed name: GEOMATRIX		Printed name: THOMAS R JONES		Printed name: BENNY S. CARRASCO		
Company:		Company: GEOMATRIX		Company: ANAMETRIX		
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**	
Signature: Thomas R Jones		Signature: Benny S. Carrasco	13:40	Signature: Maria Barajas	16:30	
Printed name: THOMAS R JONES		Printed name: BENNY S. CARRASCO		Printed name:		
Company: GEOMATRIX		Company: ANAMETRIX		Company: Anametrix		

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

Inchcape Testing Services
Anametrix Laboratories

1961 Concourse Drive
Suite E
San Jose, CA 95131
Tel: 408-432-8192
Fax: 408-432-8198

MR. TOM GRAF
GEOMATRIX CONSULTANTS INC.
100 PINE STREET, SUITE 1000
SAN FRANCISCO, CA 94111

Workorder # : 9311275
Date Received : 11/19/93
Project ID : 2462
Purchase Order: N/A

The following samples were received at Anametrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9311275- 1	B-1-1.0
9311275- 2	B-2-1.0

This report consists of 30 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Grinnetham for

Sarah Schoen, Ph.D.
Laboratory Director

12/08/93
Date

ANAMETRIX REPORT DESCRIPTION
GCMS

Organic Analysis Data Sheets (OADS)

OADS forms contain tabulated results for target compounds. The OADS are grouped by method and, within each method, organized sequentially in order of increasing Anametrix ID number.

Tentatively Identified Compounds (TICs)

TIC forms contain tabulated results for non-target compounds detected in GC/MS analyses. TICs must be requested at the time samples are submitted at Anametrix. TIC forms immediately follow the OADS form for each sample. If TICs are requested but not found, then TIC forms will not be included with the report.

Surrogate Recovery Summary (SRS)

SRS forms contain quality assurance data. An SRS form will be printed for each method, if the method requires surrogate compounds. They will list surrogate percent recoveries for all samples and any method blanks. Any surrogate recovery outside the established limits will be flagged with an "*", and the total number of surrogates outside the limits will be listed in the column labelled "Total Out".

Matrix Spike Recovery Form (MSR)

MSR forms contain quality assurance data. They summarize percent recovery and relative percent difference information for matrix spikes and matrix spike duplicates. This information is a statement of both accuracy and precision. Any percent recovery or relative percent difference outside established limits will be flagged with an "*", and the total number outside the limits will be listed at the bottom of the page. Not all reports will contain an MSR form.

Qualifiers

Anametrix uses several data qualifiers (Q) in it's report forms. These qualifiers give additional information on the compounds reported. They should help a data reviewer to verify the integrity of the analytical results. The following is a list of qualifiers and their meanings:

- U - Indicates that the compound was analyzed for, but was not detected at or above the specified reporting limit.
- B - Indicates that the compound was detected in the associated method blank.
- J - Indicates that the compound was detected at an amount below the specified reporting limit. Consequently, the amount should be considered an approximate value. Tentatively identified compounds will always have a "J" qualifier because they are not included in the instrument calibration.
- E - Indicates that the amount reported exceeded the linear range of the instrument calibration.
- D - Indicates that the compound was detected in an analysis performed at a secondary dilution.
- A - Indicates that the tentatively identified compound is a suspected aldol condensation product. This is common in EPA Method 8270 soil analyses.

Absence of a qualifier indicates that the compound was detected at a concentration at or above the specified reporting limit.

REPORTING CONVENTIONS

- Due to a size limitation in our data processing step, only the first eight (8) characters of your project ID and sample ID will be printed on the report forms. However, the report cover letter and report summary pages display up to twenty (20) characters of your project and sample IDs.
- Amounts reported are gross values, i.e., not corrected for method blank contamination.

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

MR. TOM GRAF
GEOMATRIX CONSULTANTS INC.
100 PINE STREET, SUITE 1000
SAN FRANCISCO, CA 94111

Workorder # : 9311275
Date Received : 11/19/93
Project ID : 2462
Purchase Order: N/A
Department : GCMS
Sub-Department: GCMS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9311275- 1	B-1-1.0	SOIL	11/18/93	8240
9311275- 2	B-2-1.0	SOIL	11/18/93	8240
9311275- 1	B-1-1.0	SOIL	11/18/93	8270
9311275- 2	B-2-1.0	SOIL	11/18/93	8270

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

MR. TOM GRAF
GEOMATRIX CONSULTANTS INC.
100 PINE STREET, SUITE 1000
SAN FRANCISCO, CA 94111

Workorder # : 9311275
Date Received : 11/19/93
Project ID : 2462
Purchase Order: N/A
Department : GCMS
Sub-Department: GCMS

QA/QC SUMMARY :

- Xylene (total) quantitation is within the calibration range for EPA Method 8240 analysis of sample B-1-1.0.

Department Supervisor 12-3-93 Date

Chemist 12-3-93 Date

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

Project ID : 2462
Sample ID : B-1-1.0
Matrix : SOIL
Date Sampled :11/18/93
Date Analyzed :11/23/93
Instrument ID : MSD2

Anametrix ID : 9311275-01
Analyst : DP
Supervisor : LW

Dilution Factor : 50.0
Conc. Units : ug/Kg

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	500.	ND	U
75-01-4	Vinyl chloride	500.	ND	U
74-83-9	Bromomethane	500.	ND	U
75-00-3	Chloroethane	500.	ND	U
75-69-4	Trichlorofluoromethane	250.	ND	U
75-35-4	1,1-Dichloroethene	250.	ND	U
76-13-1	Trichlorotrifluoroethane	250.	ND	U
67-64-1	Acetone	1000.	ND	U
75-15-0	Carbon disulfide	250.	ND	U
75-09-2	Methylene chloride	250.	390.	B
156-60-5	Trans-1,2-dichloroethene	250.	ND	U
75-34-3	1,1-Dichloroethane	250.	ND	U
156-59-2	Cis-1,2-dichloroethene	250.	ND	U
78-93-3	2-Butanone	1000.	ND	U
67-66-3	Chloroform	250.	ND	U
71-55-6	1,1,1-Trichloroethane	250.	ND	U
56-23-5	Carbon tetrachloride	250.	ND	U
108-05-4	Vinyl acetate	500.	ND	U
71-43-2	Benzene	250.	250.	
107-06-2	1,2-Dichloroethane	250.	ND	U
79-01-6	Trichloroethene	250.	ND	U
78-87-5	1,2-Dichloropropane	250.	ND	U
75-27-4	Bromodichloromethane	250.	ND	U
10061-01-5	Cis-1,3-dichloropropene	250.	ND	U
108-10-1	4-Methyl-2-pentanone	500.	ND	U
108-88-3	Toluene	250.	9500.	
10061-02-6	Trans-1,3-dichloropropene	250.	ND	U
79-00-5	1,1,2-Trichloroethane	250.	ND	U
127-18-4	Tetrachloroethene	250.	ND	U
591-78-6	2-Hexanone	500.	ND	U
124-48-1	Dibromochloromethane	250.	ND	U
108-90-7	Chlorobenzene	250.	ND	U
100-41-4	Ethylbenzene	250.	4600.	
1330-20-7	Xylene (Total)	250.	49000.	E
100-42-5	Styrene	250.	ND	U
75-25-2	Bromoform	250.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	250.	ND	U
541-73-1	1,3-Dichlorobenzene	250.	ND	U
106-46-7	1,4-Dichlorobenzene	250.	ND	U
95-50-1	1,2-Dichlorobenzene	250.	ND	U

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

Project ID : 2462
Sample ID : B-2-1.0
Matrix : SOIL
Date Sampled :11/18/93
Date Analyzed :11/23/93
Instrument ID : MSD2

Anametrix ID : 9311275-02
Analyst : DP
Supervisor : W

Dilution Factor : 200.0
Conc. Units : ug/Kg

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	2000.	ND	U
75-01-4	Vinyl chloride	2000.	ND	U
74-83-9	Bromomethane	2000.	ND	U
75-00-3	Chloroethane	2000.	ND	U
75-69-4	Trichlorofluoromethane	1000.	ND	U
75-35-4	1,1-Dichloroethene	1000.	ND	U
76-13-1	Trichlorotrifluoroethane	1000.	ND	U
67-64-1	Acetone	4000.	ND	U
75-15-0	Carbon disulfide	1000.	ND	U
75-09-2	Methylene chloride	1000.	ND	U
156-60-5	Trans-1,2-dichloroethene	1000.	ND	U
75-34-3	1,1-Dichloroethane	1000.	ND	U
156-59-2	Cis-1,2-dichloroethene	1000.	ND	U
78-93-3	2-Butanone	4000.	ND	U
67-66-3	Chloroform	1000.	ND	U
71-55-6	1,1,1-Trichloroethane	1000.	ND	U
56-23-5	Carbon tetrachloride	1000.	ND	U
108-05-4	Vinyl acetate	2000.	ND	U
71-43-2	Benzene	1000.	ND	U
107-06-2	1,2-Dichloroethane	1000.	ND	U
79-01-6	Trichloroethene	1000.	ND	U
78-87-5	1,2-Dichloropropane	1000.	ND	U
75-27-4	Bromodichloromethane	1000.	ND	U
10061-01-5	Cis-1,3-dichloropropene	1000.	ND	U
108-10-1	4-Methyl-2-pentanone	2000.	ND	U
108-88-3	Toluene	1000.	6700.	
10061-02-6	Trans-1,3-dichloropropene	1000.	ND	U
79-00-5	1,1,2-Trichloroethane	1000.	ND	U
127-18-4	Tetrachloroethene	1000.	ND	U
591-78-6	2-Hexanone	2000.	ND	U
124-48-1	Dibromochloromethane	1000.	ND	U
108-90-7	Chlorobenzene	1000.	ND	U
100-41-4	Ethylbenzene	1000.	3800.	
1330-20-7	Xylene (Total)	1000.	56000.	
100-42-5	Styrene	1000.	ND	U
75-25-2	Bromoform	1000.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	1000.	ND	U
541-73-1	1,3-Dichlorobenzene	1000.	ND	U
106-46-7	1,4-Dichlorobenzene	1000.	ND	U
95-50-1	1,2-Dichlorobenzene	1000.	ND	U

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

Project ID :
Sample ID : VBLK2S
Matrix : SOIL
Date Sampled : 0/ 0/ 0
Date Analyzed :11/23/93
Instrument ID : MSD2

Anametrix ID : BN2304A1
Analyst : bp
Supervisor : ww

Dilution Factor : 1.0
Conc. Units : ug/Kg

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	3.	J
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

SURROGATE RECOVERY SUMMARY -- EPA METHOD 8240
ANAMETRIX, INC. (408)432-8192

Project ID : 2462
Matrix : SOLID

Anametrix ID : 9311275
Analyst : DP
Supervisor : W

	SAMPLE ID	SU1	SU2	SU3
1	VBLK2S	103	102	104
2	LCS2K	105	103	104
3	B-1-1.0	105	102	103
4	B-2-1.0	104	102	96
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	QC LIMITS
SU1 = 1,2-Dichloroethane-d4	(85-121)
SU2 = Toluene-d8	(83-117)
SU3 = 1,4-Bromofluorobenzene	(82-116)

* Values outside of Anametrix QC limits

LABORATORY CONTROL SPIKE RECOVERY FORM --- EPA METHOD 8240

ANAMETRIX, INC. (408)432-8192

Project/Case	:	Anametrix ID	: MN2301A1
Matrix	: SOIL	Analyst	: DP
Date Sampled	: 0/ 0/00	Supervisor	: W
Date Analyzed	: 11/23/93	SDG/Batch	:
Instrument ID	: MSD2		

LCS2K

COMPOUND	SPIKE ADDED (ug/Kg	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	%REC LIMITS
1,1-Dichloroethene	50	0	44	88	78-150
Benzene	50	0	49	98	85-120
Trichloroethene	50	0	50	100	64-135
Toluene	50	0	50	100	88-119
Chlorobenzene	50	0	54	108	86-116

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

Project ID : 2462
Sample ID : B-1-1.0
Matrix : SOIL
Date Sampled :11/18/93
Date Extracted :11/29/93
Amount Extracted : 30.0 g
Date Analyzed :12/ 1/93
Instrument ID : MSD4

Anametrix ID : 9311275-01
Analyst : LY
Supervisor : MKS

Dilution Factor : 10.0
Conc. Units : ug/Kg

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
62-75-9	N-Nitrosodimethylamine	3300.	ND	U
108-95-2	Phenol	3300.	ND	U
4165-61-1	Aniline	3300.	ND	U
111-44-4	bis(2-Chloroethyl)ether	3300.	ND	U
95-57-8	2-Chlorophenol	3300.	ND	U
541-73-1	1,3-Dichlorobenzene	3300.	ND	U
106-46-7	1,4-Dichlorobenzene	3300.	ND	U
100-51-6	Benzyl Alcohol	3300.	ND	U
95-48-7	2-Methylphenol	3300.	ND	U
95-50-1	1,2-Dichlorobenzene	3300.	ND	U
108-60-1	2,2'-oxybis(1-Chloropropane)	3300.	ND	U
106-44-5	4-Methylphenol	3300.	ND	U
621-64-7	N-Nitroso-di-n-propylamine	3300.	ND	U
67-72-1	Hexachloroethane	3300.	ND	U
98-95-3	Nitrobenzene	3300.	ND	U
78-59-1	Isophorone	3300.	ND	U
105-67-9	2,4-Dimethylphenol	3300.	ND	U
88-75-5	2-Nitrophenol	3300.	ND	U
65-85-0	Benzoic Acid	17000.	ND	U
111-91-1	bis(2-Chloroethoxy)methane	3300.	ND	U
120-83-2	2,4-Dichlorophenol	3300.	ND	U
120-82-1	1,2,4-Trichlorobenzene	3300.	ND	U
91-20-3	Naphthalene	3300.	8800.	
106-47-8	4-Chloroaniline	3300.	ND	U
87-68-3	Hexachlorobutadiene	3300.	ND	U
59-50-7	4-Chloro-3-methylphenol	3300.	ND	U
91-57-6	2-Methylnaphthalene	3300.	11000.	
77-47-4	Hexachlorocyclopentadiene	3300.	ND	U
88-06-2	2,4,6-Trichlorophenol	3300.	ND	U
95-95-4	2,4,5-Trichlorophenol	17000.	ND	U
91-58-7	2-Chloronaphthalene	3300.	ND	U
88-74-4	2-Nitroaniline	17000.	ND	U
131-11-3	Dimethylphthalate	3300.	ND	U

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

Project ID : 2462
Sample ID : B-1-1.0
Matrix : SOIL
Date Sampled :11/18/93
Date Extracted :11/29/93
Amount Extracted : 30.0 g
Date Analyzed :12/ 1/93
Instrument ID : MSD4

Anametrix ID : 9311275-01
Analyst : LM
Supervisor : MCG

Dilution Factor : 10.0
Conc. Units : ug/Kg

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
606-20-2	2,6-Dinitrotoluene	3300.	ND	U
208-96-8	Acenaphthylene	3300.	ND	U
99-09-2	3-Nitroaniline	17000.	ND	U
83-32-9	Acenaphthene	3300.	ND	U
51-28-5	2,4-Dinitrophenol	17000.	ND	U
100-02-7	4-Nitrophenol	17000.	ND	U
132-64-9	Dibenzofuran	3300.	ND	U
121-14-2	2,4-Dinitrotoluene	3300.	ND	U
84-66-2	Diethylphthalate	3300.	ND	U
7005-72-3	4-Chlorophenyl-phenylether	3300.	ND	U
86-73-7	Fluorene	3300.	ND	U
100-01-6	4-Nitroaniline	17000.	ND	U
534-52-1	4,6-Dinitro-2-methylphenol	17000.	ND	U
86-30-6	N-Nitrosodiphenylamine (1)	3300.	ND	U
103-33-3	Azobenzene	3300.	ND	U
101-55-3	4-Bromophenyl-phenylether	3300.	ND	U
118-74-1	Hexachlorobenzene	3300.	ND	U
87-86-5	Pentachlorophenol	17000.	ND	U
85-01-8	Phenanthrene	3300.	ND	U
120-12-7	Anthracene	3300.	ND	U
84-74-2	Di-n-butylphthalate	3300.	ND	U
206-44-0	Fluoranthene	3300.	ND	U
92-87-5	Benzidine	3300.	ND	U
129-00-0	Pyrene	3300.	ND	U
85-68-7	Butylbenzylphthalate	3300.	7600.	
117-81-7	bis(2-Ethylhexyl)phthalate	3300.	9800.	
91-94-1	3,3'-Dichlorobenzidine	6700.	ND	U
56-55-3	Benzo(a)anthracene	3300.	ND	U
218-01-9	Chrysene	3300.	ND	U
117-84-0	Di-n-octylphthalate	3300.	ND	U
205-99-2	Benzo(b)fluoranthene	3300.	ND	U
207-08-9	Benzo(k)fluoranthene	3300.	ND	U
50-32-8	Benzo(a)pyrene	3300.	ND	U
193-39-5	Indeno(1,2,3-cd)pyrene	3300.	ND	U
53-70-3	Dibenz(a,h)anthracene	3300.	ND	U
191-24-2	Benzo(g,h,i)perylene	3300.	ND	U

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

Project ID : 2462
Sample ID : B-2-1.0
Matrix : SOIL
Date Sampled :11/18/93
Date Extracted :11/29/93
Amount Extracted : 30.0 g
Date Analyzed :12/ 1/93
Instrument ID : MSD4

Anametrix ID : 9311275-02
Analyst : WA
Supervisor : MS

Dilution Factor : 10.0
Conc. Units : ug/Kg

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
62-75-9	N-Nitrosodimethylamine	3300.	ND	U
108-95-2	Phenol	3300.	ND	U
4165-61-1	Aniline	3300.	ND	U
111-44-4	bis(2-Chloroethyl)ether	3300.	ND	U
95-57-8	2-Chlorophenol	3300.	ND	U
541-73-1	1,3-Dichlorobenzene	3300.	ND	U
106-46-7	1,4-Dichlorobenzene	3300.	ND	U
100-51-6	Benzyl Alcohol	3300.	ND	U
95-48-7	2-Methylphenol	3300.	ND	U
95-50-1	1,2-Dichlorobenzene	3300.	ND	U
108-60-1	2,2'-oxybis(1-Chloropropane)	3300.	ND	U
106-44-5	4-Methylphenol	3300.	ND	U
621-64-7	N-Nitroso-di-n-propylamine	3300.	ND	U
67-72-1	Hexachloroethane	3300.	ND	U
98-95-3	Nitrobenzene	3300.	ND	U
78-59-1	Isophorone	3300.	ND	U
105-67-9	2,4-Dimethylphenol	3300.	ND	U
88-75-5	2-Nitrophenol	3300.	ND	U
65-85-0	Benzoic Acid	17000.	ND	U
111-91-1	bis(2-Chloroethoxy)methane	3300.	ND	U
120-83-2	2,4-Dichlorophenol	3300.	ND	U
120-82-1	1,2,4-Trichlorobenzene	3300.	ND	U
91-20-3	Naphthalene	3300.	18000.	
106-47-8	4-Chloroaniline	3300.	ND	U
87-68-3	Hexachlorobutadiene	3300.	ND	U
59-50-7	4-Chloro-3-methylphenol	3300.	ND	U
91-57-6	2-Methylnaphthalene	3300.	24000.	
77-47-4	Hexachlorocyclopentadiene	3300.	ND	U
88-06-2	2,4,6-Trichlorophenol	3300.	ND	U
95-95-4	2,4,5-Trichlorophenol	17000.	ND	U
91-58-7	2-Chloronaphthalene	3300.	ND	U
88-74-4	2-Nitroaniline	17000.	ND	U
131-11-3	Dimethylphthalate	3300.	ND	U

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

Project ID : 2462
Sample ID : B-2-1.0
Matrix : SOIL
Date Sampled :11/18/93
Date Extracted :11/29/93
Amount Extracted : 30.0 g
Date Analyzed :12/ 1/93
Instrument ID : MSD4

Anametrix ID : 9311275-02
Analyst : LH
Supervisor : MET

Dilution Factor : 10.0
Conc. Units : ug/Kg

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
606-20-2	2,6-Dinitrotoluene	3300.	ND	U
208-96-8	Acenaphthylene	3300.	ND	U
99-09-2	3-Nitroaniline	17000.	ND	U
83-32-9	Acenaphthene	3300.	ND	U
51-28-5	2,4-Dinitrophenol	17000.	ND	U
100-02-7	4-Nitrophenol	17000.	ND	U
132-64-9	Dibenzofuran	3300.	ND	U
121-14-2	2,4-Dinitrotoluene	3300.	ND	U
84-66-2	Diethylphthalate	3300.	ND	U
7005-72-3	4-Chlorophenyl-phenylether	3300.	ND	U
86-73-7	Fluorene	3300.	ND	U
100-01-6	4-Nitroaniline	17000.	ND	U
534-52-1	4,6-Dinitro-2-methylphenol	17000.	ND	U
86-30-6	N-Nitrosodiphenylamine (1)	3300.	ND	U
103-33-3	Azobenzene	3300.	ND	U
101-55-3	4-Bromophenyl-phenylether	3300.	ND	U
118-74-1	Hexachlorobenzene	3300.	ND	U
87-86-5	Pentachlorophenol	17000.	ND	U
85-01-8	Phenanthrene	3300.	ND	U
120-12-7	Anthracene	3300.	ND	U
84-74-2	Di-n-butylphthalate	3300.	ND	U
206-44-0	Fluoranthene	3300.	ND	U
92-87-5	Benzidine	3300.	ND	U
129-00-0	Pyrene	3300.	ND	U
85-68-7	Butylbenzylphthalate	3300.	ND	U
117-81-7	bis(2-Ethylhexyl)phthalate	3300.	9800.	
91-94-1	3,3'-Dichlorobenzidine	6700.	ND	U
56-55-3	Benzo(a)anthracene	3300.	ND	U
218-01-9	Chrysene	3300.	ND	U
117-84-0	Di-n-octylphthalate	3300.	ND	U
205-99-2	Benzo(b)fluoranthene	3300.	ND	U
207-08-9	Benzo(k)fluoranthene	3300.	ND	U
50-32-8	Benzo(a)pyrene	3300.	ND	U
193-39-5	Indeno(1,2,3-cd)pyrene	3300.	ND	U
53-70-3	Dibenz(a,h)anthracene	3300.	ND	U
191-24-2	Benzo(g,h,i)perylene	3300.	ND	U

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

Project ID :
Sample ID : SBLK4I
Matrix : SOIL
Date Sampled : 0/ 0/ 0
Date Extracted :11/29/93
Amount Extracted : 30.0 g
Date Analyzed :12/ 1/93
Instrument ID : MSD4

Anametrix ID : BN29H1B1
Analyst : LH
Supervisor : MES

Dilution Factor : 1.0
Conc. Units : ug/Kg

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
62-75-9	N-Nitrosodimethylamine	330.	ND	U
108-95-2	Phenol	330.	ND	U
4165-61-1	Aniline	330.	ND	U
111-44-4	bis(2-Chloroethyl)ether	330.	ND	U
95-57-8	2-Chlorophenol	330.	ND	U
541-73-1	1,3-Dichlorobenzene	330.	ND	U
106-46-7	1,4-Dichlorobenzene	330.	ND	U
100-51-6	Benzyl Alcohol	330.	ND	U
95-48-7	2-Methylphenol	330.	ND	U
95-50-1	1,2-Dichlorobenzene	330.	ND	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330.	ND	U
106-44-5	4-Methylphenol	330.	ND	U
621-64-7	N-Nitroso-di-n-propylamine	330.	ND	U
67-72-1	Hexachloroethane	330.	ND	U
98-95-3	Nitrobenzene	330.	ND	U
78-59-1	Isophorone	330.	ND	U
105-67-9	2,4-Dimethylphenol	330.	ND	U
88-75-5	2-Nitrophenol	330.	ND	U
65-85-0	Benzoic Acid	1700.	ND	U
111-91-1	bis(2-Chloroethoxy)methane	330.	ND	U
120-83-2	2,4-Dichlorophenol	330.	ND	U
120-82-1	1,2,4-Trichlorobenzene	330.	ND	U
91-20-3	Naphthalene	330.	ND	U
106-47-8	4-Chloroaniline	330.	ND	U
87-68-3	Hexachlorobutadiene	330.	ND	U
59-50-7	4-Chloro-3-methylphenol	330.	ND	U
91-57-6	2-Methylnaphthalene	330.	ND	U
77-47-4	Hexachlorocyclopentadiene	330.	ND	U
88-06-2	2,4,6-Trichlorophenol	330.	ND	U
95-95-4	2,4,5-Trichlorophenol	1700.	ND	U
91-58-7	2-Chloronaphthalene	330.	ND	U
88-74-4	2-Nitroaniline	1700.	ND	U
131-11-3	Dimethylphthalate	330.	ND	U

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

Project ID :
Sample ID : SBLK4I
Matrix : SOIL
Date Sampled : 0/ 0/ 0
Date Extracted :11/29/93
Amount Extracted : 30.0 g
Date Analyzed :12/ 1/93
Instrument ID : MSD4

Anametrix ID : BN29H1B1
Analyst : LH
Supervisor : MJ

Dilution Factor : 1.0
Conc. Units : ug/Kg

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
606-20-2	2,6-Dinitrotoluene	330.	ND	U
208-96-8	Acenaphthylene	330.	ND	U
99-09-2	3-Nitroaniline	1700.	ND	U
83-32-9	Acenaphthene	330.	ND	U
51-28-5	2,4-Dinitrophenol	1700.	ND	U
100-02-7	4-Nitrophenol	1700.	ND	U
132-64-9	Dibenzofuran	330.	ND	U
121-14-2	2,4-Dinitrotoluene	330.	ND	U
84-66-2	Diethylphthalate	330.	ND	U
7005-72-3	4-Chlorophenyl-phenylether	330.	ND	U
86-73-7	Fluorene	330.	ND	U
100-01-6	4-Nitroaniline	1700.	ND	U
534-52-1	4,6-Dinitro-2-methylphenol	1700.	ND	U
86-30-6	N-Nitrosodiphenylamine (1)	330.	ND	U
103-33-3	Azobenzene	330.	ND	U
101-55-3	4-Bromophenyl-phenylether	330.	ND	U
118-74-1	Hexachlorobenzene	330.	ND	U
87-86-5	Pentachlorophenol	1700.	ND	U
85-01-8	Phenanthrene	330.	ND	U
120-12-7	Anthracene	330.	ND	U
84-74-2	Di-n-butylphthalate	330.	ND	U
206-44-0	Fluoranthene	330.	ND	U
92-87-5	Benzidine	330.	ND	U
129-00-0	Pyrene	330.	ND	U
85-68-7	Butylbenzylphthalate	330.	ND	U
117-81-7	bis(2-Ethylhexyl)phthalate	330.	ND	U
91-94-1	3,3'-Dichlorobenzidine	670.	ND	U
56-55-3	Benzo(a)anthracene	330.	ND	U
218-01-9	Chrysene	330.	ND	U
117-84-0	Di-n-octylphthalate	330.	ND	U
205-99-2	Benzo(b)fluoranthene	330.	ND	U
207-08-9	Benzo(k)fluoranthene	330.	ND	U
50-32-8	Benzo(a)pyrene	330.	ND	U
193-39-5	Indeno(1,2,3-cd)pyrene	330.	ND	U
53-70-3	Dibenz(a,h)anthracene	330.	ND	U
191-24-2	Benzo(g,h,i)perylene	330.	ND	U

SURROGATE RECOVERY SUMMARY -- EPA METHOD 8270
ANAMETRIX, INC. (408)432-8192

Project ID : 2462
Matrix : SOLID

Anametrix ID : 9311275
Analyst : LY
Supervisor : MG

	SAMPLE ID	SU1	SU2	SU3	SU4	SU5	SU6
1	SBLK4I	62	66	68	66	66	60
2	LCS4I	71	76	77	73	79	68
3	B-1-1.0	80	98	77	86	72	78
4	B-2-1.0	76	79	90	83	82	76
5							
6							
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30							

	QC LIMITS
SU1 = 2-Fluorophenol	(25-121)
SU2 = Phenol-d5	(24-113)
SU3 = Nitrobenzene-d5	(23-120)
SU4 = 2-Fluorobiphenyl	(30-115)
SU5 = 2,4,6-Tribromophenol	(19-122)
SU6 = Terphenyl-d14	(18-137)

* Values outside of Anametrix QC limits

LABORATORY CONTROL SPIKE RECOVERY FORM — EPA METHOD 8270
ANAMETRIX, INC. (408)432-8192

Project/Case	:	Anametrix ID	: MN29H1B1
Matrix	: SOIL	Analyst	: LY
Date Sampled	: 0/ 0/00	Supervisor	: MCS
Date Extracted	: 11/29/93	SDG/Batch	:
Date Analyzed	: 12/1/93		
Instrument ID	: MSD4	Level	: Low

LCS4I

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	%REC LIMITS
Phenol	2500	0	1900	76	33-105
2-Chlorophenol	2500	0	1900	76	41-102
1,4-Dichlorobenzene	1700	0	1300	76	35-98
N-nitroso-di-n-propylamine	1700	0	1400	82	39-117
1,2,4-Trichlorobenzene	1700	0	1300	76	39-105
4-Chloro-3-methylphenol	2500	0	1900	76	42-108
Acenaphthene	1700	0	1300	76	41-102
4-Nitrophenol	2500	0	1900	76	26-113
2,4-Dinitrotoluene	1700	0	1300	76	38-96
Pentachlorophenol	2500	0	2000	80	41-121
Pyrene	1700	0	1400	82	41-110

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

MR. TOM GRAF
GEOMATRIX CONSULTANTS INC.
100 PINE STREET, SUITE 1000
SAN FRANCISCO, CA 94111

Workorder # : 9311275
Date Received : 11/19/93
Project ID : 2462
Purchase Order: N/A
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9311275- 1	B-1-1.0	SOIL	11/18/93	TPHd
9311275- 2	B-2-1.0	SOIL	11/18/93	TPHd
9311275- 1	B-1-1.0	SOIL	11/18/93	TPHg
9311275- 2	B-2-1.0	SOIL	11/18/93	TPHg

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

MR. TOM GRAF
GEOMATRIX CONSULTANTS INC.
100 PINE STREET, SUITE 1000
SAN FRANCISCO, CA 94111

Workorder # : 9311275
Date Received : 11/19/93
Project ID : 2462
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- The concentrations reported as diesel for samples B-1-1.0 and B-2-1.0 are primarily due to the presence of a heavier petroleum product of hydrocarbon range C18-C36, possibly motor oil.
- The diesel surrogate recoveries for samples B-1-1.0 and B-2-1.0 are outside of quality control limits due to a matrix effect.

Cheryl Balmer 12/8/93
Department Supervisor Date

Reggie Dawson 12/8/93
Chemist Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9311275 Project Number : 2462
Matrix : SOIL Date Released : 11/29/93
Date Sampled : 11/18/93

COMPOUNDS	Reporting Limit (mg/Kg)	Sample I.D.# B-1-1.0 -01	Sample I.D.# B-2-1.0 -02	Sample I.D.# BN2201E2 BLANK	Sample I.D.# BN2301E2 BLANK
TPH as Gasoline	0.5	920	560	ND	ND
% Surrogate Recovery		127%	118%	107%	98%
Instrument I.D.		HP4	HP12	HP4	HP12
Date Analyzed		11/23/93	11/23/93	11/23/93	11/23/93
RLMF		250	100	1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

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

Reggie Dawson 12/3/93
Analyst Date

Cheryl Balmer 12/3/93
Supervisor Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS AS DIESEL
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9311275
Matrix : SOIL
Date Sampled : 11/18/93
Date Extracted: 11/23/93

Project Number : 2462
Date Released : 12/02/93
Instrument I.D.: HP9

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (mg/Kg)	Amount Found (mg/Kg)	Surrogate %Rec
9311275-01	B-1-1.0	12/01/93	5000	36000	370%
9311275-02	B-2-1.0	11/27/93	2000	33000	400%
BN23H1F1	METHOD BLANK	11/26/93	10	ND	63%

Note : Reporting limit is obtained by multiplying the dilution factor times 10 mg/Kg.
The surrogate recovery limits for C25 are 30-130%.

ND - Not detected at or above the practical quantitation limit for the method.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following sample extraction by EPA Method 3510.

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

Reggie Dawson 12/8/93
Analyst Date

Cheryl Bedman 12/8/93
Supervisor Date

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

Sample I.D. : LAB CONTROL SAMPLE
Matrix : SOIL
Date Sampled : N/A
Date Analyzed : 11/22/93

Anametrix I.D. : MN2202E1
Analyst : RD
Supervisor : WS
Date Released : 11/24/93
Instrument I.D.: HP4

COMPOUND	SPIKE AMT. (mg/Kg)	REC LCS (mg/Kg)	%REC LCS	% REC LIMITS *
GASOLINE	0.50	0.48	96%	58-130
SURROGATE			104%	53-147

* Quality control limits established by Anametrix, Inc.

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

Sample I.D. : LAB CONTROL SAMPLE
Matrix : SOIL
Date Sampled : N/A
Date Analyzed : 11/23/93

Anametrix I.D. : MN2302E1
Analyst : RD
Supervisor : [illegible]
Date Released : 11/29/93
Instrument I.D.: HP12

COMPOUND	SPIKE AMT. (mg/Kg)	REC LCS (mg/Kg)	%REC LCS	% REC LIMITS *
GASOLINE	0.50	0.40	80%	58-130
p-BFB			79%	53-147

* Quality control limits established by Anametrix, Inc.

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

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: MN23H1F1
Matrix	: SOIL	Analyst	: RD
Date Sampled	: N/A	Supervisor	: [illegible]
Date Extracted	: 11/23/93	Date Released	: 12/02/93
Date Analyzed	: 11/26/93	Instrument I.D.	: HP9

COMPOUND	SPIKE AMT (mg/Kg)	REC LCS (mg/Kg)	% REC LCS	% REC LIMITS *
DIESEL	125	105	84%	48-113
SURROGATE			65%	30-130

* Quality control limits established by Anametrix, Inc.

ANAMETRIX REPORT DESCRIPTION
INORGANICS

Analytical Data Report (ADR)

The ADR contains tabulated results for inorganic analytes. All field samples, QC samples and blanks were prepared and analyzed according to procedures in the following references:

- "Test Methods for Evaluating Solid Waste," SW-846, EPA, 3rd Edition, November 1986.
- "Methods for Chemical Analysis of Water and Wastes," EPA, 3rd Edition, 1983.
- CCR Title 22, Section 66261, Appendix II, California Waste Extraction Test.
- CCR Title 22, Section 66261, Appendix XI, Organic Lead.
- "Standard Methods for the Examination of Water and Wastewater," APHA, AWWA, WEF, 18th Edition, 1992.
- USEPA Contract Laboratory Program Statement of Work for Inorganic Analyses, ILM02.1, 1991.

Matrix Spike Report (MSR)

The MSR summarizes percent recovery and relative percent difference information for matrix spikes and matrix spike duplicates. This information is a statement of both accuracy and precision. MSRs may not be provided with all analytical reports. Anametrix control limit for MSR is 75-125% with 25% for RPD limits.

Laboratory Control Sample Report (LCSR)

The LCSR summarizes percent recovery information for laboratory control spikes on reagent water or soil. This information is a statement of performance for the method, i.e., the samples are properly prepared and analyzed according to the applicable methods. Anametrix control limit for LCSR is 80-120%.

Method Blank Report (MBR)

The MBR summarizes quality control information for reagents used in preparing samples. The absolute value of each analyte measured in the method blank should be below the method reporting limit for that analyte.

Post Digestion Spike Report (PDSR)

The PDSR summarizes percent recovery information for post digestion spikes. A post digestion spike is performed for a particular analyte if the matrix spike recovery is outside of established control limits. Any percent recovery for a post digestion spike outside of established limits for an analyte indicates probable matrix effects and interferences for that analyte. Anametrix control limit for PDSR is 85-115%.

Qualifiers (Q)

Anametrix uses several data qualifiers in inorganic reports. These qualifiers give additional information on the analytes reported. The following is a list of qualifiers and their meanings:

I - Sample was analyzed at the stated dilution due to spectral interferences.
U - Analyte concentration was below the method reporting limit. For matrix and post digestion spike reports, a value of "0.0" is entered for calculation of the percent recovery.
B - Sample concentration was below the reporting limit but above the instrument detection limit. Result is entered for calculation of the percent recovery only.
H - Spike percent recovery was outside of Anametrix control limits due to interferences from relatively high concentration level of the analyte in the unspiked sample.
L - Reporting limit was increased to compensate for background absorbances or matrix interferences.

Comment Codes

In addition to qualifiers, the following codes are used in the comment section of all reports to give additional information about sample preparation methods:

A - Sample was prepared for silver based on the silver digestion method developed by the Southern California Laboratory, Department of Health Services, "Acid Digestion for Sediments, Sludges, Soils and Solid Wastes. A Proposed Alternative to EPA SW846, Method 3050." Environmental Science and Technology, 1989, 23, 898-900.
T - Spikes were prepared after extraction by the Toxicity Characteristic Leaching Procedure (TCLP).
C - Spikes were prepared after extraction by the California Waste Extraction Test (CWET) method.
D - Reported results are dissolved, not total, metals.

Reporting Conventions

Analytical values reported are gross values, i.e., <u>not</u> corrected for method blank contamination. Solid matrices are reported on a wet weight basis, unless specifically requested otherwise. Unless noted, all samples were prepared according to procedures in the EPA Contract Laboratory Program Statement of Work, ILM02.1, 1991.

/6996/disk30MH; mlw/disk61

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

MR. TOM GRAF
GEOMATRIX CONSULTANTS INC.
100 PINE STREET, SUITE 1000
SAN FRANCISCO, CA 94111

Workorder # : 9311275
Date Received : 11/19/93
Project ID : 2462
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9311275- 1	B-1-1.0	SOIL	11/18/93	6010
9311275- 2	B-2-1.0	SOIL	11/18/93	6010

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

MR. TOM GRAF
GEOMATRIX CONSULTANTS INC.
100 PINE STREET, SUITE 1000
SAN FRANCISCO, CA 94111

Workorder # : 9311275
Date Received : 11/19/93
Project ID : 2462
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

QA/QC SUMMARY :

- No QA/QC problems encountered for samples.

Department Supervisor 12/6/93 Date

Chemist 12/03/93 Date

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

Anametrix I.D.: 9311275-01
Client I.D. : B-1-1.0
Project I.D. : 2462
Reporting Unit: mg/Kg
Matrix : SOIL

Date Sampled : 11/18/93
Analyst : MK
Supervisor : MW
Date Released : 12/01/93
Instrument I.D. : ICP1

ANALYTE-METHOD	DATE PREPARED	DATE ANALYZED	REPORT LIMIT	DIL. FACTOR	RESULT	Q
Cadmium-6010	11/22/93	11/23/93	0.25	1	3.9	
Chromium-6010	11/22/93	11/23/93	0.50	1	27.6	
Nickel-6010	11/22/93	11/23/93	2.0	1	29.7	
Lead-6010	11/22/93	11/23/93	10.0	5	1140	
Zinc-6010	11/22/93	11/23/93	1.0	1	340	

COMMENT:

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

Anametrix I.D.: 9311275-02
Client I.D. : B-2-1.0
Project I.D. : 2462
Reporting Unit: mg/Kg
Matrix : SOIL

Date Sampled : 11/18/93
Analyst : MK
Supervisor : MW
Date Released : 12/01/93
Instrument I.D. : ICP1

ANALYTE-METHOD	DATE PREPARED	DATE ANALYZED	REPORT LIMIT	DIL. FACTOR	RESULT	Q
Cadmium-6010	11/22/93	11/23/93	0.25	1	23.1	
Chromium-6010	11/22/93	11/23/93	0.50	1	32.0	
Nickel-6010	11/22/93	11/23/93	2.0	1	32.1	
Lead-6010	11/22/93	11/23/93	20.0	10	3800	
Zinc-6010	11/22/93	11/23/93	10.0	10	958	

COMMENT:

METHOD BLANK REPORT
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.# : 9311275
Method Blank I.D.: MB1122SA
Project I.D. : 2462
Matrix : SOIL
Reporting Unit : mg/Kg

Analyst : MK
Supervisor : MW
Date Released : 12/01/93
Instrument I.D. : ICP1

ANALYTE-METHOD	DATE PREPARED	DATE ANALYZED	REPORTING LIMIT	RESULT	Q
Cadmium-6010	11/22/93	11/22/93	0.25	ND	
Chromium-6010	11/22/93	11/22/93	0.50	ND	
Nickel-6010	11/22/93	11/22/93	2.0	ND	
Lead-6010	11/22/93	11/22/93	2.0	ND	
Zinc-6010	11/22/93	11/22/93	1.0	ND	

COMMENT:

LABORATORY CONTROL SAMPLE REPORT
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.# : 9311275
Spike I.D. : LCS1122SA
Project I.D. : 2462
Matrix : SOIL
Reporting Unit : mg/Kg

Analyst : MK
Supervisor : MW
Date Released : 12/01/93
Instrument I.D : ICP1

ANALYTE-METHOD	DATE PREPARED	DATE ANALYZED	SPIKE AMT.	METHOD SPIKE	% REC.	Q
Cadmium-6010	11/22/93	11/22/93	2.5	2.6	104	
Chromium-6010	11/22/93	11/22/93	10.0	9.2	92.0	
Nickel-6010	11/22/93	11/22/93	25.0	26.0	104	
Lead-6010	11/22/93	11/22/93	25.0	22.5	90.0	
Zinc-6010	11/22/93	11/22/93	25.0	25.7	103	

COMMENT: