Woodward-Clyde

Engineering & sciences applied to the earth & its environment

November 1, 1995
92CB040

Ms. Susan Hugo
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

**Subject: Continental Baking Company, 1010 46th Street, Oakland, CA
Quarterly Groundwater Monitoring Report**

Dear Ms. Hugo:

In response to your letter to Mr. Fred Dannecker, Continental Baking Company (CBC), requesting quarterly groundwater monitoring reporting, this letter report is being submitted. Woodward-Clyde Consultants is providing environmental consulting services to CBC and is submitting this report on their behalf.

GROUNDWATER ELEVATION

Water level measurements were performed on August 30, 1995 by WCC personnel. Water levels were measured in monitoring wells MW-1, 2 and 3 with an electronic water level sounder and recorded to the nearest 0.01 foot. Table 1 summarizes the groundwater elevation variation in the three monitoring wells since the first investigation at the CBC Oakland facility in May, 1994. Figure 1 is a location map of the CBC facility. Figure 2 is a groundwater elevation contour map for the event reported in the present quarterly report.

The reported results from the water elevation measurements are the following:

- In the third quarter of 1995, the groundwater elevation has fallen to about 49 to 54 feet above mean sea level (MSL).
- The groundwater flow direction was estimated to be towards the southwest.

The reported results during this quarter are generally consistent with previous results. The groundwater elevation fall may be attributed to seasonal variations.

ANALYTICAL RESULTS

Sampling activities were also performed in August, 1995 by WCC personnel. A copy of the field water sample logs is attached.

Prior to sampling, an oil/water interface probe was used to detect the presence of an immiscible layer. No measurable immiscible layer was detected in any of the wells.

The wetted casing volume was calculated for each well and approximately 4 casing volumes were removed from each well prior to sampling. In addition to the groundwater samples collected from the three monitoring wells, one duplicate sample was collected from well MW-3 and labelled MW-4. Samples were submitted for analysis for Total Petroleum Hydrocarbons (TPH) and quantified as Diesel (TPHd, modified EPA Method 8015) and gasoline (TPHg) and benzene, toluene, ethylbenzene, and xylene (BTEX, EPA Method 8020) and Total Recoverable Petroleum Hydrocarbons by Standard Method 5520BF. Sample analyses were performed by Anametrix Laboratories, San Jose, California. Copies of the laboratory data sheets and the chain-of-custody form are attached.

A quality assurance/quality control review of the analytical data was performed by a WCC chemist. The results of the review indicated that the data are of acceptable quality.

The reported results from the August, 1995 sampling and analysis effort are summarized in Table 2, and are the following:

- TPHg was detected at a concentration of 3300 μg/L in MW-1.
- The TPHd analysis detected concentrations of 350 μg/L in MW-1, 52 μg/L in MW-2 and 88 μg/L in MW-3. However, the detected concentrations were fully or partially unrepresentative of diesel fuel.
- Concentrations of BTEX were detected in monitoring well MW-1.
- Oil and Grease was not detected in any of the wells.

The reported results from this sampling and analysis effort are generally consistent with results reported for samples from these wells during the past year, although levels of all constituents continued to decrease in MW-1.

In the future, this project will be managed by Mr. Bill Copeland of our office. If you have any questions, please feel free to phone him at (510) 874-3192. I can be reached at my new home at (916) 583-4883.

Sincerely,

Jo Beth Folger

Jo Beth Folger, P.E.

Attachments

cc: Fred Dannecker, IBC-San Francisco
Travis Bryant, IBC-Kansas City, MO
Jim Hummert, WCC-SL
Bill Copeland, WCC
Donna Bodine, WCC

TABLE 1

SUMMARY OF GROUNDWATER ELEVATION
CONTINENTAL BAKING COMPANY, OAKLAND, CA

Well Identification	Date	Top of Casing Elevation (feet above MSL)	Depth to water (feet below top of casing)	Water Surface Elevation (feet above MSL)
MW-1	5/26/94	61.84	9.27	52.57
	7/29/94	61.84	9.81	52.03
	8/26/94	61.84	9.87	51.97
	10/4/94	61.84	9.89	51.95
	10/27/94	61.84	9.94	51.90
	11/30/94	61.84	8.92	52.92
	1/3/95	61.84	8.79	53.05
	1/31/95	61.84	8.33	53.51
	3/16/95	61.84	8.07	53.77
	6/12/95	61.84	9.02	52.82
	8/30/95	61.84	9.44	52.40
MW-2	5/26/94	63.10	9.30	53.80
	7/29/94	63.10	9.70	53.40
	8/26/94	63.10	9.89	53.21
	10/4/94	63.10	9.86	53.24
	10/27/94	63.10	9.96	53.14
	11/30/94	63.10	8.95	54.15
	1/3/95	63.10	8.15	54.95
	1/31/95	63.10	6.96*	56.14
	3/16/95	63.10	6.37*	56.73
	6/12/95	63.10	9.07	54.03
	8/30/95	63.10	9.53	53.57
MW-3	5/26/94	62.51	12.88	49.63
	7/29/94	62.51	13.61	48.90
	8/26/94	62.51	13.71	48.80
	10/4/94	62.51	13.74	48.77
	10/27/94	62.51	13.77	48.74
	11/30/94	62.51	11.85	50.66
	1/3/95	62.51	12.09	50.42
	1/31/95	62.51	10.64	51.87
	3/16/95	62.51	10.79	51.72
	6/12/95	62.51	12.05	50.46
	8/30/95	62.51	13.54	48.97

* Noted to be under pressure when opened.

TABLE - 2

SUMMARY OF ANALYTICAL RESULTS
CONTINENTAL BAKING COMPANY, OAKLAND, CALIFORNIA

Parameters		TPH diesel	TPH gasoline	TPH BTEX				
				benzene	toluene	ethyl-benzene	total zylenes	total oil & grease
EPA Method		8015		8020				5520 BF
Units		(μg/L)		(μg/L)				(mg/L)
Well Number	Date							
MW-1	5/26/94	1300	12000	57	340	370	3100	<5.0
	8/26/94	510[1]/650[1]	6700/8400	22/35	71/97	310/410	1000/1400	<5.0/<5.0
	11/30/94	1300	29000	480	1100	1200	5300	<5.0
	3/16/95	1900	29000	140	1400	1800	9700	<5.0
	6/12/95	810[1]/540[1]	3900/11000	23/280	57/610	200/400	680/2000	<5.0/<5.0
	8/30/95	350[1]	3300	26	36	250	490	<5.0
MW-2	5/26/94	<50/<50	<50/<50	0.50/<0.50	0.50/<0.50	0.50/<0.50	0.50/<0.50	<5.0
	8/26/94	<50	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	11/30/94	<50	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	3/16/95	<50/<50	<50/<50	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50	<5.0
	6/12/95	<50	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	8/30/95	52[3]	<50	<0.50	<0.50	<0.50	<0.50	<5.0
MW-3	5/26/94	99	<50	<0.50	<0.50	<0.50	1.7	<5.0
	8/26/94	66[2]	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	11/30/94	78/85	100/100	<0.50/1.9	<0.50/0.50	<0.50/1.0	2.1/4.3	<5.0
	3/16/95	<50	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	6/12/95	120[2]	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	8/30/95	88[3]/57[3]	<50/<50	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50	<5.0/<5.0

Results of duplicate sample analyses are shown by a dash ("/")

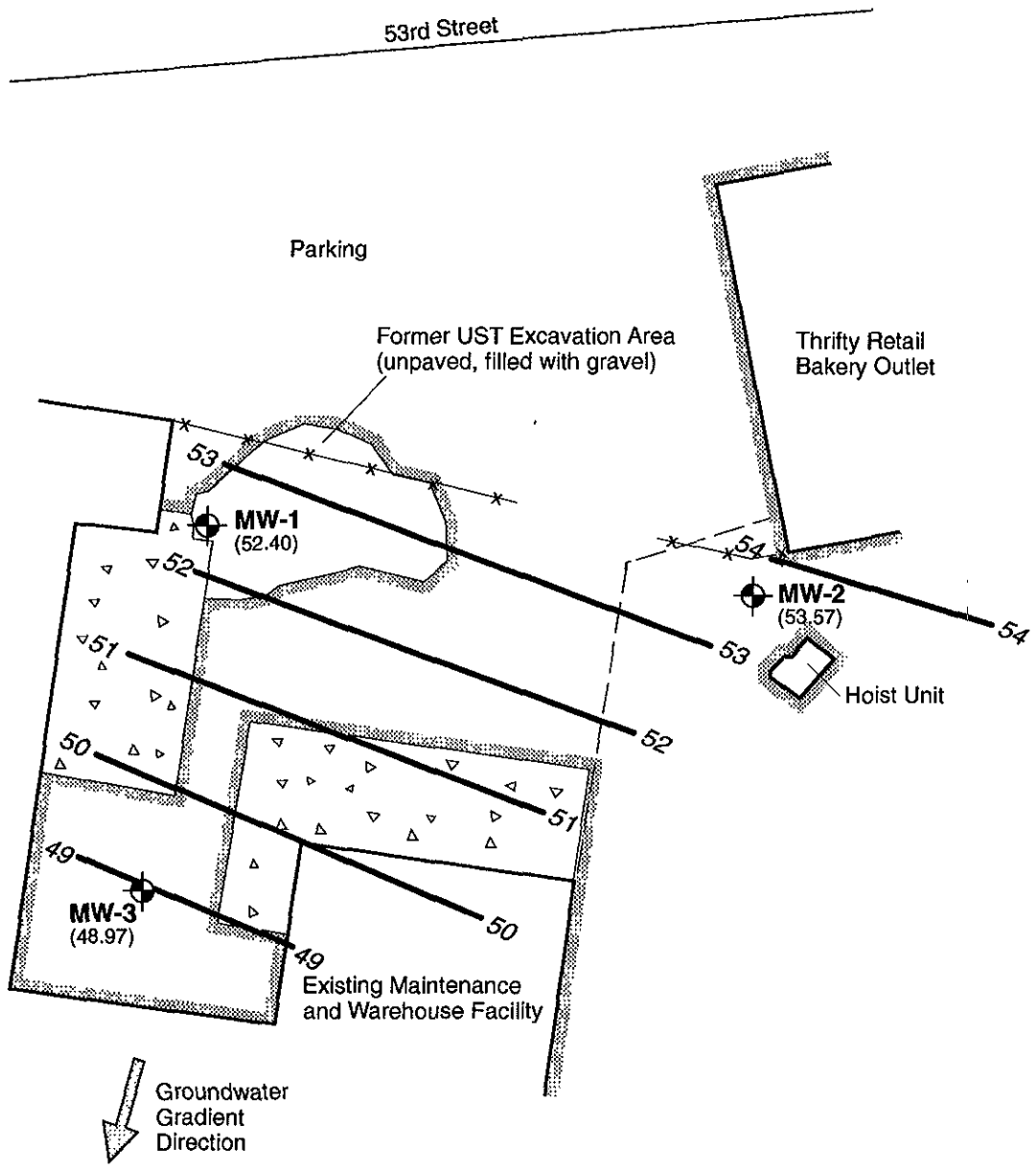
(1) Primarily due to lighter petroleum product of hydrocarbon range C6-C12, possibly gasoline.

(2) Primarily due to heavier petroleum product of hydrocarbon range C18-C36.

(3) Due to a combination of diesel and a discrete peak not indicative of diesel fuel.

Project No. 92CB040	Continental Baking Company 1010 46th Street Oakland, California	SITE LOCATION	Figure 1
Woodward-Clyde Consultants			

92CB040-0000/061893



LEGEND

52 — 52 Approximate Groundwater Contour (feet above mean sea level)

MW-1 Approximate Well Location

Asphalt

Concrete

N

0 20 40

feet

Project No. 92CB040	Continental Baking Company 1010 46th Street Oakland, CA	GROUNDWATER ELEVATION CONTOURS AUGUST 30, 1995	Figure 2
Woodward-Clyde Consultants			

92CB040-0010/103195/gos,mci

Sample No.

8-30-95

MW-1 9.44'
MW-2 9.53'
MW-3 13.54

WATER SAMPLE LOG

Sample No. MW-1

Project No.: 92CB040 Date: 8-30-95

Project Name: CBC-Oakland

Sample Location: MW-1

Well Description: 4" PVC w/ locking cap

Weather Conditions: clear

Observations / Comments:

Quality Assurance

Sampling Method: Disposable bailer

Method to Measure Water Level: 200' Solinst

Pump Lines: (New) / Cleaned Bailer Lines: (New) / Cleaned

Method of cleaning Pump / Bailer: N/A

pH Meter No.: 217256 Calibrated 4.00/7.00

Specific Conductance Meter No.: 13748 Calibrated red-lined

Comments: TD=20.2-9.44 = 10.76 X.653 = 7.03 X4 = 28.1

Sampling Measurements

Water Level (below MP) at Start 9.44 End: 9.45

Measuring Point (MP): Notch @ Top of Casing

Time	Discharge (gallons)	pH	Temp. (°C)	Specific Conductance (µmhos / cm)	Turbidity	Color	Odor	Comments
12:03	7	7.01	20.5	365	>100	Light Tan	Slight HC	
12:07	14	7.02	20	389	"	"	"	
12:10	21	7.05	20	392	"	"	"	
12:14	28	7.04	20	393	"	"	"	

Total Discharge: 28.5 gallons Casing Volumes Removed:

Method of disposal of discharged water: 55 gallon drum

Number and size of sample containers filled: @13:00, full sweep

Collected by: J. HAUS

Woodward-Clyde Consultants
500 12th Street, Suite 100, Oakland, CA 94607-4014
(415) 893-3600

Sample No.

WATER SAMPLE LOG

Sample No. MW-2

Project No.: 92CB040 Date: 8/30/95

Project Name: CBC - Oakland

Sample Location: MW-2

Well Description: 4" PVC w/locking cap

Weather Conditions: clear

Observations / Comments:

Quality Assurance

Sampling Method: Disposable bailer

Method to Measure Water Level: 200' Solinst

Pump Lines: (New) / Cleaned Bailer Lines: (New) / Cleaned

Method of cleaning Pump / Bailer: N/A

pH Meter No.: 217256 Calibrated 4.00/7.00

Specific Conductance Meter No.: 13748 Calibrated red-lined

Comments: TD = 19.55 - 9.53 = 10.02 x .653 = 6.54 x 4 = 26.2

Sampling Measurements

Water Level (below MP) at Start: 9.53 End: 9.82

Measuring Point (MP): Notch @ Top of Casing

Time	Discharge (gallons)	pH	Temp. (°C)	Specific Conductance (µmhos / cm)	Turbidity	Color	Odor	Comments
11:25	7	7.17	20	445	LOW	CLR	ND	
11:33	14	7.07	20	460	>100	TAN	ND	
11:55	21	7.17	20	438	"	"	"	
12:30	28	7.13	20	450	"	"	"	

Total Discharge: 28 gallons Casing Volumes Removed:

Method of disposal of discharged water: 55 gallon drum

Number and size of sample containers filled: @1315; Full sweep

Collected by: J.H.

Woodward-Clyde Consultants
500 12th Street, Suite 100, Oakland, CA 94607-4014
(415) 893-3600

Sample No.

WATER SAMPLE LOG

Sample No. MW-3

Project No.: 92CB040 Date: 8-30-95

Project Name: CBC-Oakland

Sample Location: MW-3

Well Description: 4" PVC w/locking cap

Weather Conditions: clear

Observations / Comments: Duplicate labeled as MW-4 @ 12:45

Quality Assurance

Sampling Method: Disposable bailer

Method to Measure Water Level: 200' Solinst

Pump Lines: (New) / Cleaned Bailer Lines: (New) / Cleaned

Method of cleaning Pump / Bailer: N/A

pH Meter No.: 217256 Calibrated 4.00/7.00

Specific Conductance Meter No.: 13748 Calibrated red-lined

Comments: TD = 19.44 - 13.54 = 5.9 X .653 = 3.85 X4 = 15.4

Sampling Measurements

Water Level (below MP) at Start: 13.54 End: 14.02

Measuring Point (MP): Notch @ Top of Casing

Time	Discharge (gallons)	pH	Temp. (°C)	Specific Conductance (µmhos / cm)	Turbidity	Color	Odor	Comments
11:08	5	6.68	19	870	>100	GRAY	ND	
11:17	9	7.00	19	850	"	"	"	
11:45	13	7.08	19	860	"	"	"	
12:22	16	7.07	19	850	"	"	"	

Total Discharge: 16 gallons Casing Volumes Removed:

Method of disposal of discharged water: 55 gallon drum

Number and size of sample containers filled: @ 1330; full sweep

Collected by: J. H.

Woodward-Clyde Consultants
500 12th Street, Suite 100, Oakland, CA 94607-4014
(415) 893-3600

Inchcape Testing Services
Anametrix Laboratories

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

MS. JO BETH FOLGER
WOODWARD-CLYDE CONSULTANTS
500 12TH STREET, SUITE 100
OAKLAND, CA 94607-4041

Workorder # : 9508333
Date Received : 08/30/95
Project ID : 92CB040/0012
Purchase Order: N/A

The following samples were received at Anametrix for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9508333- 1	MW-1
9508333- 2	MW-2
9508333- 3	MW-3
9508333- 4	MW-4
9508333- 5	TBLANK

This report is organized in sections according to the specific Anametrix laboratory group which performed the analysis(es) and generated the data.

The results contained within this report relate to only the sample(s) tested. Additionally, these data should be considered in their entirety and Anametrix cannot be responsible for the detachment, separation, or otherwise partial use of this report.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234.

If you have any further questions or comments on this report, please call your project manager as soon as possible. Thank you for using Inchcape Testing Services.

Nicki Heath for
Susan Kraska Yeager
Laboratory Director

Christina V. Rayburn
Project Manager

9/12/94
Date

This report consists of 18 pages.

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

MS. JO BETH FOLGER
WOODWARD-CLYDE CONSULTANTS
500 12TH STREET, SUITE 100
OAKLAND, CA 94607-4041

Workorder # : 9508333
Date Received : 08/30/95
Project ID : 92CB040/0012
Purchase Order: N/A
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9508333- 1	MW-1	WATER	08/30/95	TPHd
9508333- 2	MW-2	WATER	08/30/95	TPHd
9508333- 3	MW-3	WATER	08/30/95	TPHd
9508333- 4	MW-4	WATER	08/30/95	TPHd
9508333- 1	MW-1	WATER	08/30/95	TPHgBTEX
9508333- 2	MW-2	WATER	08/30/95	TPHgBTEX
9508333- 3	MW-3	WATER	08/30/95	TPHgBTEX
9508333- 4	MW-4	WATER	08/30/95	TPHgBTEX
9508333- 5	TBLANK	WATER	08/25/95	TPHgBTEX

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

MS. JO BETH FOLGER
WOODWARD-CLYDE CONSULTANTS
500 12TH STREET, SUITE 100
OAKLAND, CA 94607-4041

Workorder # : 9508333
Date Received : 08/30/95
Project ID : 92CB040/0012
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- All holding times have been met for the analyses reported in this section.
- The concentration reported as diesel for sample MW-1 is primarily due to the presence of a lighter petroleum product of hydrocarbon range C6-C12, possibly gasoline.
- The concentrations reported as diesel for samples MW-2, MW-3, and MW-4 are due to the presence of a combination of diesel and a discrete peak not indicative of diesel fuel.

Department Supervisor — Date 9/11/95

Chemist — Date 09111195

Organic Analysis Data Sheet
Total Petroleum Hydrocarbons as Gasoline with BTEX
ITS - Anametrix Laboratories - (408)432-8192

Lab Workorder : 9508333 Client Project ID : 92CB040/0012

Matrix : WATER Units : ug/L

Compound Name	Method Reporting Limit*	Client ID MW-1 Lab ID 9508333-01	Client ID MW-2 Lab ID 9508333-02	Client ID MW-3 Lab ID 9508333-03	Client ID MW-4 Lab ID 9508333-04	Client ID TBLANK Lab ID 9508333-05
Benzene	0.50	26	ND	ND	ND	ND
Toluene	0.50	36	ND	ND	ND	ND
Ethylbenzene	0.50	250	ND	ND	ND	ND
Total Xylenes	0.50	490	ND	ND	ND	ND
TPH as Gasoline	50	3300	ND	ND	ND	ND
Surrogate Recovery		112%	111%	99%	104%	112%
Instrument ID		HP21	HP21	HP21	HP21	HP21
Date Sampled		08/30/95	08/30/95	08/30/95	08/30/95	08/30/95
Date Analyzed		09/11/95	09/01/95	09/01/95	09/01/95	09/01/95
RLMF		25	1	1	1	1
Filename Reference		FQG33301.D	FRG33302.D	FPG33303.D	FPG33304.D	FRG33305.D

* The Method Reporting Limit must be multiplied by the Reporting Limit Multiplication Factor (RLMF) to achieve the compound's reporting limit in the analysis.

ND : Not detected at or above the reporting limit for the analysis as performed.
TPHg : Determined by GC/FID following sample purge & trap by EPA Method 5030.
BTEX : Determined by modified EPA Method 8020 following sample purge & trap by EPA Method 5030.

Lab Control Limits for surrogate compound p-Bromofluorobenzene are 61-139%.

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

Peggie Dawson 9/12/95
Analyst Date

Supervisor Date

Issued on 9/12/95 @ 12:43 pm

Organic Analysis Data Sheet
Total Petroleum Hydrocarbons as Gasoline with BTEX
ITS - Anametrix Laboratories - (408)432-8192

Lab Workorder : 9508333 | Client Project ID : 92CB040/0012

Matrix : WATER | Units : ug/L

Compound Name	Method Reporting Limit*	Client ID	Client ID	Client ID	Client ID	Client ID
		Lab ID	Lab ID	Lab ID	Lab ID	Lab ID
		METHOD BLANK	METHOD BLANK	METHOD BLANK		
Benzene	0.50	ND	ND	ND		
Toluene	0.50	ND	ND	ND		
Ethylbenzene	0.50	ND	ND	ND		
Total Xylenes	0.50	ND	ND	ND		
TPH as Gasoline	50	ND	ND	ND		
Surrogate Recovery		106%	111%	99%		
Instrument ID		HP21	HP21	HP21		
Date Sampled		N/A	N/A	N/A		
Date Analyzed		08/31/95	09/01/95	09/11/95		
RLMF		1	1	1		
Filename Reference		BG3101E1.D	BS0101E1.D	BS1101E1.D		

* The Method Reporting Limit must be multiplied by the Reporting Limit Multiplication Factor (RLMF) to achieve the compound's reporting limit in the analysis.

ND : Not detected at or above the reporting limit for the analysis as performed.
TPHg : Determined by GC/FID following sample purge & trap by EPA Method 5030.
BTEX : Determined by modified EPA Method 8020 following sample purge & trap by EPA Method 5030.

Lab Control Limits for surrogate compound p-Bromofluorobenzene are 61-139%.

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

Peggie Davison 9/12/95
Analyst Date

Supervisor 9/12/95
Date

Matrix Spike Report

Total Petroleum Hydrocarbons as BTEX

ITS - Anametrix Laboratories - (408)432-8192

Project ID : 92CB040/0012
Sample ID : MW-2
Matrix : WATER
Date Sampled : 08/30/95

Laboratory ID : 9508333-02
Analyst : AD
Supervisor : CS
Instrument ID : HP21
Units : ug/L

COMPOUND NAME	SPIKE AMOUNT	SAMPLE RESULTS	MS RECOVERY	MSD RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS
Benzene	10	ND	101%	106%	45-139	-5%	30
Toluene	10	ND	100%	106%	51-138	-6%	30
Ethylbenzene	10	ND	102%	108%	48-146	-6%	30
Total Xylenes	10	ND	106%	117%	50-139	-10%	30
Surrogate Recovery		111%	104%	104%			
Date Analyzed		09/01/95	09/01/95	09/01/95			
Multiplier		1	1	1			
Filename Reference		FRG33302.D	FMG33302.D	FDG33302.D			

* Limits established by Inchcape Testing Services, Anametrix Laboratories.

Laboratory Control Spike Report
Total Petroleum Hydrocarbons as BTEX
ITS - Anametrix Laboratories - (408)432-8192

Instrument ID : HP21
Matrix : LIQUID

Analyst : KD
Supervisor : cs
Units : ug/L

COMPOUND NAME	SPIKE AMOUNT	LCS RECOVERY	RECOVERY LIMITS
Benzene	10	108%	52-133
Toluene	10	110%	57-136
Ethylbenzene	10	110%	56-139
Total Xylenes	10	117%	56-141
Surrogate Recovery		104%	61-139
Date Analyzed		08/31/95	
Multiplier		1	
Filename Reference		MG3101E1.D	

* Limits established by Inchcape Testing Services, Anametrix Laboratories.

Laboratory Control Spike Report
Total Petroleum Hydrocarbons as BTEX
ITS - Anametrix Laboratories - (408)432-8192

Instrument ID : HP21
Matrix : LIQUID

Analyst : RD
Supervisor : [illegible]
Units : ug/L

COMPOUND NAME	SPIKE AMOUNT	LCS RECOVERY	RECOVERY LIMITS
Benzene	10	106%	52-133
Toluene	10	107%	57-136
Ethylbenzene	10	108%	56-139
Total Xylenes	10	112%	56-141
Surrogate Recovery		106%	61-139
Date Analyzed		09/01/95	
Multiplier		1	
Filename Reference		MS0101E1.D	

* Limits established by Inchcape Testing Services, Anametrix Laboratories.

Laboratory Control Spike Report
Total Petroleum Hydrocarbons as Gasoline
ITS - Anametrix Laboratories - (408)432-8192

Instrument ID : HP21
Matrix : LIQUID

Analyst : RO
Supervisor : ⌀
Units : ug/L

COMPOUND NAME	SPIKE AMOUNT	LCS RECOVERY	RECOVERY LIMITS
Gasoline	500	98%	67-127
Surrogate Recovery		97%	61-139
Date Analyzed		09/11/95	
Multiplier		1	
Filename Reference		MS1101E1.D	

* Limits established by Inchcape Testing Services, Anametrix Laboratories.

TOTAL PETROLEUM HYDROCARBONS AS DIESEL

INCHCAPE TESTING SERVICES - ANAMETRIX

(408) 432-8192

DATA SUMMARY FORM

Anametrix Workorder:	9508333	Client Project ID:	92CB040/0012
Matrix:	WATER	Date Released:	9/7/95
Date Extracted:	9/5/95	Concentration Units:	ug/L
Instrument ID:	HP27		

Anametrix ID	Client ID	Date Sampled	Date Analyzed	Dilution Factor	Reporting Limit	Amount Found	Surrogate Recovery
9508333-01	MW-1	8/30/95	9/6/95	1	50	350	92%
9508333-02	MW-2	8/30/95	9/6/95	1	50	52	98%
9508333-03	MW-3	8/30/95	9/6/95	1	50	88	95%
9508333-04	MW-4	8/30/95	9/6/95	1	50	57	92%
BS0511F9	Method Blank	-----	9/5/95	1	50	ND	91%

ND: Not detected at or above the reporting limit for the method.
TPHd: Total Petroleum Hydrocarbons as C10-C28 is determined by GC/FID (modified EPA Method 8015) following sample extraction by EPA Method 3510.
Surrogate recovery quality control limits for o-terphenyl are 67-103%.
All testing procedures follow California Department of Health Services approved methods.

CP Patel 09/11/95
Analyst Date

Cheryl Beckman 9/11/95
Supervisor Date

TOTAL PETROLEUM HYDROCARBONS AS DIESEL

INCHCAPE TESTING SERVICES - ANAMETRIX

(408) 432-8192

MATRIX SPIKE RECOVERY REPORT

Client Project ID:	N/A	Anametrix ID:	N/A
Client Sample ID:	BATCH SPIKE	Date Released:	9/11/95
Date Sampled:	9/1/95	Instrument ID:	HP29
Date Extracted:	9/5/95	Matrix:	WATER
Date Analyzed:	9/6/95	Concentration Units:	ug/L

COMPOUND NAME	SPIKE AMT	SAMPLE CONC	MS CONC	% REC MS	MSD CONC	%REC MSD	RPD
Diesel	1250	0	1320	106%	1400	112%	6%
o-Terphenyl				98%		105%	

Quality control limits for MS/MSD recovery are 32-143%

Quality control limits for RPD(relative percent difference) are +/- 30%.

Quality control limits for o-terphenyl recovery are 55-129%

TOTAL PETROLEUM HYDROCARBONS AS DIESEL
INCHCAPE TESTING SERVICES - ANAMETRIX
(408) 432-8192

LABORATORY CONTROL SAMPLE REPORT

Client Project ID:	92CB040/0012	Anametrix ID:	M/NS0511F9
Matrix:	WATER	Date Released:	9/7/95
Date Extracted:	9/5/95	Instrument ID:	HP27
Date Analyzed:	9/5/95	Concentration Units:	ug/L

COMPOUND NAME	SPIKE AMT	LCS CONC	% REC LCS	LCSD CONC	%REC LCSD	RPD
Diesel	1250	860	69%	870	70%	1%
o-Terphenyl			82%		85%	

Quality control limits for LCS/LCSD recovery are 38-96%.

Quality control limits for RPD(relative percent difference) are +/- 18%.

Quality control limits for o-terphenyl recovery are 67-103%.

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

MS. JO BETH FOLGER
WOODWARD-CLYDE CONSULTANTS
500 12TH STREET, SUITE 100
OAKLAND, CA 94607-4041

Workorder # : 9508333
Date Received : 08/30/95
Project ID : 92CB040/0012
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9508333- 1	MW-1	WATER	08/30/95	5520BF
9508333- 2	MW-2	WATER	08/30/95	5520BF
9508333- 3	MW-3	WATER	08/30/95	5520BF
9508333- 4	MW-4	WATER	08/30/95	5520BF

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

MS. JO BETH FOLGER
WOODWARD-CLYDE CONSULTANTS
500 12TH STREET, SUITE 100
OAKLAND, CA 94607-4041

Workorder # : 9508333
Date Received : 08/30/95
Project ID : 92CB040/0012
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

QA/QC SUMMARY :

- All holding times have been met for the analyses reported in this section.
- Insufficient water sample was received for a Matrix Spike and Matrix Spike Duplicate analysis for Method 5520BF. A Laboratory Control Sample and Laboratory Control Sample Duplicate were extracted and analyzed instead.

Department Supervisor 9/11/95 Date

Chemist 9/11/95 Date

ANALYSIS DATA SHEET - TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
INCHCAPE TESTING SERVICES - ANAMETRIX LABORATORY (408) 432-8192

PROJECT I.D. : 92CB040/0012
MATRIX : WATER
DATE SAMPLED : 08/30/95
DATE EXTRACTED : 09/05/95
DATE ANALYZED : 09/07/95

ANAMETRIX I.D. : 9508333
ANALYST : AK
SUPERVISOR : CW
DATE RELEASED : 09/11/95

WORKORDER #	SAMPLE I.D.	REPORTING LIMIT (mg/L)	AMOUNT FOUND (mg/L)
9508333-01	MW-1	5.0	ND
9508333-02	MW-2	5.0	ND
9508333-03	MW-3	5.0	ND
9508333-04	MW-4	5.0	ND
BS0511W4	METHOD BLANK	5.0	ND

ND - Not detected above the reporting limit for the method.

TRPH - Total Recoverable Petroleum Hydrocarbons are determined by Standard Method 5520BF.

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

LAB CONTROL SAMPLE REPORT - TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
INCHCAPE TESTING SERVICES - ANAMETRIX LABORATORIES (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: M/NS0511W4
Matrix	: WATER	Analyst	: AK
Date Extracted	: 09/05/95	Supervisor	: CM
Date Analyzed	: 09/07/95	Date Released	: 09/11/95

COMPOUND	SPIKE AMT. (mg/L)	LCS (mg/L)	%REC LCS	LCSD (mg/L)	%REC LCSD	% RPD	REC LIMITS
MOTOR OIL	50	45	90	44	88	2	44-128

* Quality control limits established by Anametrix Laboratories.

TRPH - Total Recoverable Petroleum Hydrocarbons are determined by Standard Method 5520BF.

7057 9508333 (14/42) (13)

Woodward-Clyde Consultants

500 12th Street, Suite 100, Oakland, CA 94607-4041
(415) 893-3600

Chain of Custody Record

PROJECT NO. 92CB040/0012

SAMPLERS: (Signature) Jon Haus

	DATE	TIME	SAMPLE NUMBER	General Mineral	Priority Pollutant Metals	EPA Method 624	EPA Method 625	EPA Method 608	TPHG/BTEX	TPH(d)	5520 BF				Number of Containers	REMARKS (Sample preservation, handling procedures, etc.)
1	8/30/95	1300	MW-1						3	2	2				7	Standard T.A.T.
2	"	1315	MW-2						3	2	2				7	
3	"	1330	MW-3						3	2	2				7	
4	8/30/95	1245	MW-4						3	2	2				7	
5	8/25/95	—	Trip blank						3						3	

TOTAL NUMBER OF CONTAINERS: 31

Results to: Jo Beth Folger

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Jon Haus	8/30/95 14:35	[signature] 8.30.95 1435	[signature] 8.30.95 1725		

METHOD OF SHIPMENT:	SHIPPED BY (Signature)	COURIER: (Signature)	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
			[signature]	8/30/95 1725

Inchcape Testing Services
Anametrix Laboratories

SAMPLE RECEIVING CHECKLIST

WORKORDER NUMBER: 9508333 CLIENT PROJECT ID: 92CB040/0012

COOLER

Shipping slip (airbill, etc.) present?	YES	NO	(N/A)
If YES, enter carrier name and airbill # : ____			
Custody Seal on the outside of cooler?	YES	NO	(N/A)
Condition: INTACT ____ BROKEN ____			
Temperature of sample (s) within range?	(YES)	NO	N/A
List temperature of cooler (s): 6C, 6C			

SAMPLES

Chain of custody seal present for each container?	YES	NO	(N/A)
Condition: INTACT ____ BROKEN ____			
Samples arrived within holding time?	(YES)	NO	N/A
Samples in proper containers for methods requested?	(YES)	NO	
Condition of containers: INTACT ✓ BROKEN ____			
If NO, were samples transferred to proper container? ____			
Were VOA containers received with zero headspace?	(YES)	NO	N/A
If NO, was it noted on the chain of custody? ____			
Were container labels complete? (ID, date, time preservative, etc.)	(YES)	NO	
Were samples preserved with the proper preservative?	(YES)	NO	N/A
If NO, was the proper preservative added at time of receipt? ____			
pH check of samples required at time of receipt?	(YES)	NO	
If YES, pH checked and recorded by: JP			
Sufficient amount of sample received for methods requested?	(YES)	NO	
If NO, has the client or lab project manager been notified? ____			
Field blanks received with sample batch? # of Sets: ____	YES	NO	(N/A)
Trip blanks received with sample batch? # of Sets: 1	(YES)	NO	N/A

CHAIN OF CUSTODY

Chain of custody received with samples?	(YES)	NO
Has it been filled out completely and in ink?	(YES)	NO
Sample ID's on chain of custody agree with container labels?	(YES)	NO
Number of containers indicated on chain of custody agree with number received?	(YES)	NO
Analysis methods clearly specified?	(YES)	NO
Sampling date and time indicated?	(YES)	NO
Proper signatures of sampler, courier, sample custodian in appropriate place? with time and date?	(YES)	NO
Turnaround time? REGULAR ✓ RUSH ____		

Any NO response and/or any "BROKEN" that was checked must be detailed in the Corrective Action Form.

Sample Custodian: JP Date: 8/30/95 Project Manager: CVK Date: 8/31/95