

PACIFIC GAS AND ELECTRIC COMPANY

90 MAY 17 AM 11:45

PG&E

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316 "L" STREET • DAVIS, CALIFORNIA 95616 • (916) 753-5625

May 14, 1990

Ariu Levy - Hazardous Materials Specialist
Alameda Health Agency

ARIU LEVY:

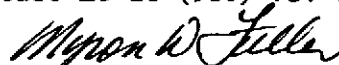
Enclosed are the laboratory test results for groundwater samples collected from four monitor wells (OW-1 to OW-4) on January 26, 1990. Also, enclosed are the field purge/sample data sheets and the chain-of-custody report. The samples designated "OW-5" on the laboratory data sheets are duplicate samples collected from well OW-3 for quality control purposes. Additionally, one set of field blanks were submitted for laboratory analysis. All samples were preserved and transmitted within allowable holding times under proper chain-of-custody record. Samples collected from each well were analyzed for total petroleum hydrocarbons by IR (EPA method 418.1); total petroleum hydrocarbons as diesel (TPHD) (EPA method 3550/8015); total petroleum hydrocarbons as gasoline (TPHG) with benzene, toluene, ethylbenzene, and xylenes (BTEX) distinction (EPA method 5030/8015/8020); and purgeable priority pollutants (EPA method 8240).

The laboratory detected TPHD in the ppb range in all of the samples, benzene and toluene near the detection limit in all wells except OW-4, xylenes near the detection limit in all wells, 1,1-Dichloroethane in all wells except OW-2, chlorobenzene near the detection limit in well OW-3, and various dichlorobenzenes in wells OW-1 and OW-3. Toluene, xylenes, and chloroform were detected in the field blank. All other results were nondetectable.

Only benzene was detected in concentrations exceeding maximum contamination levels for drinking water (3.2 ppb at well OW-1).

Water level measurements collected from the wells prior to sampling indicate that the uppermost groundwater beneath the site continues to flow to the southwest toward Coliseum Way.

Any questions regarding this information please contact me at (916) 757-5842.



MYRON W. FULLER
Environmental Coordinator
Fleet Management

MWF/dc

cc: Scott Hugenberger (w/attachments)

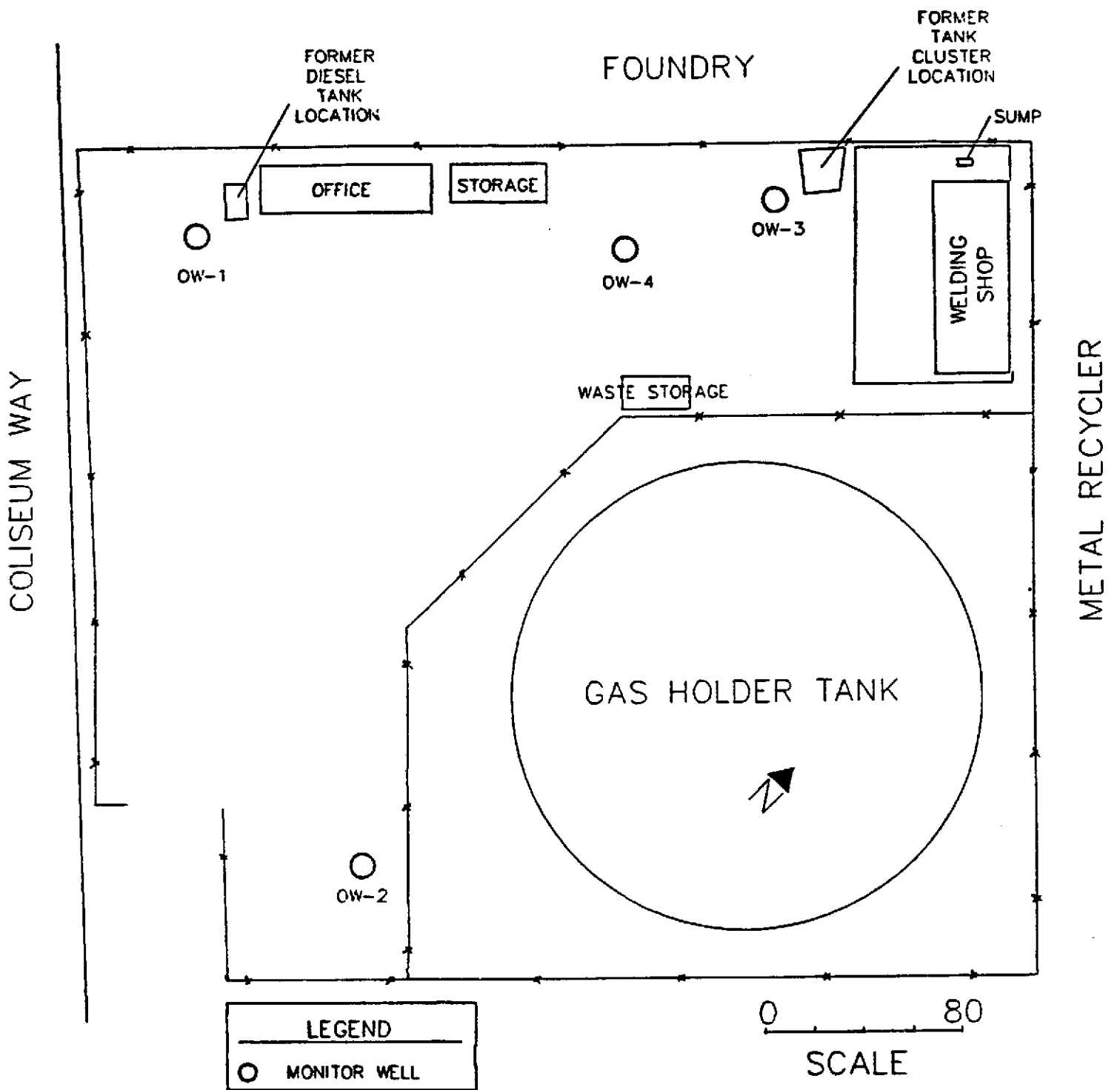


FIGURE 2. SITE PLAN AND MONITOR WELL LOCATIONS

Analytical Report

LOG NO: E90-01-768

Received: 26 JAN 90

Reported: 12 FEB 90

Mr. Eric Johnson
PG&E Technical & Eco. Services
3400 Crow Canyon Road
San Ramon, California 94583

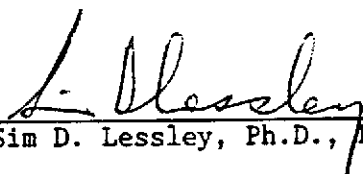
Purchase Order: Z19-0-128-89

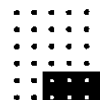
Project: 3647

REPORT OF ANALYTICAL RESULTS

Page 10

LOG NO	SAMPLE DESCRIPTION	DATE SAMPLED	
01-768-7	Detection Limit		
01-768-8	EPA Method Number		
PARAMETER		01-768-7	01-768-8
Dibromochloromethane, ug/L		1	8240
Ethylbenzene, ug/L		1	8240
Freon 113, ug/L		1	8240
Methyl ethyl ketone, ug/L		20	8240
Methyl isobutyl ketone, ug/L		1	8240
Methylene chloride, ug/L		1	8240
Styrene, ug/L		1	8240
Trichloroethene, ug/L		1	8240
Trichlorofluoromethane, ug/L		1	8240
Toluene, ug/L		1	8240
Tetrachloroethene, ug/L		1	8240
Vinyl acetate, ug/L		1	8240
Vinyl chloride, ug/L		1	8240
Total Xylene Isomers, ug/L		1	8240
trans-1,3-Dichloropropene, ug/L		1	8240


Sim D. Lessley, Ph.D., Laboratory Director



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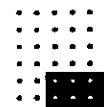
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Project: 3647

REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION	DATE SAMPLED	
01-768-7	Detection Limit		
01-768-8	EPA Method Number		
PARAMETER		01-768-7	01-768-8
Purgeable Priority Pollutants			
Date Extracted		01.31.90	01.31.90
1,1,1-Trichloroethane, ug/L		1	8240
1,1,2,2-Tetrachloroethane, ug/L		1	8240
1,1,2-Trichloroethane, ug/L		1	8240
1,1-Dichloroethane, ug/L		1	8240
1,1-Dichloroethene, ug/L		1	8240
1,2-Dichloroethane, ug/L		1	8240
1,2-Dichloroethene (Total), ug/L		1	8240
1,2-Dichloropropane, ug/L		1	8240
1,3-Dichloropropene, ug/L		1	8240
2-Chloroethylvinylether, ug/L		1	8240
2-Hexanone, ug/L		1	8240
Acetone, ug/L		10	8240
Acrolein, ug/L		10	8240
Acrylonitrile, ug/L		10	8240
Bromodichloromethane, ug/L		1	8240
Bromomethane, ug/L		1	8240
Benzene, ug/L		1	8240
Bromoform, ug/L		1	8240
Chlorobenzene, ug/L		1	8240
Carbon Tetrachloride, ug/L		1	8240
Chloroethane, ug/L		1	8240
Chloroform, ug/L		1	8240
Chloromethane, ug/L		1	8240
Carbon Disulfide, ug/L		1	8240



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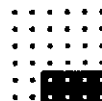
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Project: 3647

REPORT OF ANALYTICAL RESULTS

Page 8

LOG NO	SAMPLE DESCRIPTION	DATE SAMPLED	
01-768-7	Detection Limit		
01-768-8	EPA Method Number		
PARAMETER		01-768-7	01-768-8
Petroleum Hydrocarbons by IR, mg/L		5	418.1
Diesel Method 3510			
Date Analyzed		02.03.90	02.03.90
Dilution Factor, Times		1	1
Fuel Hydrocarbons, ug/L		50	3510
Other Diesel Method 3510		---	---
TPH-Volatile Hydrocarbons/BTEX			
Date Analyzed		02.03.90	02.03.90
Dilution Factor, Times		1	1
Benzene, ug/L		0.3	8015
Ethylbenzene, ug/L		0.3	8015
Toluene, ug/L		0.3	8015
Total Xylene Isomers, ug/L		0.3	8015
C4 to C12 Hydrocarbons, ug/L		50	8015
Other TPH-Volatile Hydrocarbons/BTEX		---	---



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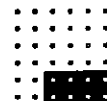
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Project: 3647

REPORT OF ANALYTICAL RESULTS

Page 7

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-768-6	OAK G.C. Field Blank	26 JAN 90
PARAMETER	01-768-6	
Ethylbenzene, ug/L	<1	
Freon 113, ug/L	<1	
Methyl ethyl ketone, ug/L	<20	
Methyl isobutyl ketone, ug/L	<1	
Methylene chloride, ug/L	<1	
Styrene, ug/L	<1	
Trichloroethene, ug/L	<1	
Trichlorofluoromethane, ug/L	<1	
Toluene, ug/L	<1	
Tetrachloroethene, ug/L	<1	
Vinyl acetate, ug/L	<1	
Vinyl chloride, ug/L	<1	
Total Xylene Isomers, ug/L	<1	
trans-1,3-Dichloropropene, ug/L	<1	



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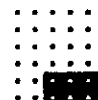
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Project: 3647

REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-768-6	OAK G.C. Field Blank	26 JAN 90
PARAMETER	01-768-6	
Purgeable Priority Pollutants		
Date Extracted	01.31.90	
1,1,1-Trichloroethane, ug/L	<1	
1,1,2,2-Tetrachloroethane, ug/L	<1	
1,1,2-Trichloroethane, ug/L	<1	
1,1-Dichloroethane, ug/L	<1	
1,1-Dichloroethene, ug/L	<1	
1,2-Dichloroethane, ug/L	<1	
1,2-Dichloroethene (Total), ug/L	<1	
1,2-Dichloropropane, ug/L	<1	
1,3-Dichloropropene, ug/L	<1	
2-Chloroethylvinylether, ug/L	<1	
2-Hexanone, ug/L	<1	
Acetone, ug/L	<10	
Acrolein, ug/L	<10	
Acrylonitrile, ug/L	<10	
Bromodichloromethane, ug/L	<1	
Bromomethane, ug/L	<1	
Benzene, ug/L	<1	
Bromoform, ug/L	<1	
Chlorobenzene, ug/L	<1	
Carbon Tetrachloride, ug/L	<1	
Chloroethane, ug/L	<1	
Chloroform, ug/L	22	
Chloromethane, ug/L	<1	
Carbon Disulfide, ug/L	<1	
Dibromochloromethane, ug/L	<1	



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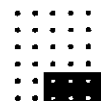
Purchase Order: Z19-0-128-89

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REPORT OF ANALYTICAL RESULTS

Page 5

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-768-6	OAK G.C. Field Blank	26 JAN 90
PARAMETER	01-768-6	
TPH-Volatile Hydrocarbons/BTEX		
Date Analyzed	02.03.90	
Dilution Factor, Times	1	
Benzene, ug/L	<0.3	
Ethylbenzene, ug/L	<0.3	
Toluene, ug/L	0.5	
Total Xylene Isomers, ug/L	1.1	
C4 to C12 Hydrocarbons, ug/L	<50	
Other TPH-Volatile Hydrocarbons/BTEX	---	



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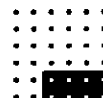
REPORT OF ANALYTICAL RESULTS

Page 4

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-768-1	OAK OW-1	26 JAN 90
01-768-2	OAK OW-2	26 JAN 90
01-768-3	OAK OW-3	26 JAN 90
01-768-4	OAK OW-4	26 JAN 90
01-768-5	OAK OW-5	26 JAN 90

PARAMETER	01-768-1	01-768-2	01-768-3	01-768-4	01-768-5
P - Dichlorobenzene, ug/L	5	---	2	---	2

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.



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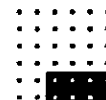
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REPORT OF ANALYTICAL RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES					DATE SAMPLED
01-768-1	OAK OW-1					26 JAN 90
01-768-2	OAK OW-2					26 JAN 90
01-768-3	OAK OW-3					26 JAN 90
01-768-4	OAK OW-4					26 JAN 90
01-768-5	OAK OW-5					26 JAN 90
PARAMETER	01-768-1	01-768-2	01-768-3	01-768-4	01-768-5	
Petroleum Hydrocarbons by IR, mg/L	<5	<5	<5	<5	<5	
Diesel Method 3510						
Date Analyzed	02.03.90	02.03.90	02.03.90	02.03.90	02.03.90	
Dilution Factor, Times	1	1	1	1	1	
Fuel Hydrocarbons, ug/L	190	130	440	150	550	
Fuel Characterization, .	DIESEL	DIESEL	DIESEL	DIESEL	DIESEL	
Other Diesel Method 3510	---	---	---	---	---	
TPH-Volatile Hydrocarbons/BTEX						
Date Analyzed	02.03.90	02.03.90	02.03.90	02.03.90	02.03.90	
Dilution Factor, Times	1	1	1	1	1	
Benzene, ug/L	3.2	0.4	0.5	<0.3	0.6	
Ethylbenzene, ug/L	<0.3	<0.3	<0.3	<0.3	0.4	
Toluene, ug/L	2.3	0.4	0.4	<0.3	0.5	
Total Xylene Isomers, ug/L	2.6	0.4	0.7	0.6	1.3	
C4 to C12 Hydrocarbons, ug/L	<50	<50	<50	<50	<50	
Other TPH-Volatile Hydrocarbons/BTEX---	---	---	---	---	---	

This Fuel characterization is a qualitative identification based upon a visual comparison of sample chromatograms with those from authentic standards.



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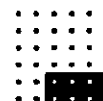
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Project: 3647

REPORT OF ANALYTICAL RESULTS

Page 3

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
01-768-1	OAK OW-1	26 JAN 90				
01-768-2	OAK OW-2	26 JAN 90				
01-768-3	OAK OW-3	26 JAN 90				
01-768-4	OAK OW-4	26 JAN 90				
01-768-5	OAK OW-5	26 JAN 90				
PARAMETER	01-768-1	01-768-2	01-768-3	01-768-4	01-768-5	
Chloroform, ug/L	<1	<1	<1	<1	<1	
Chloromethane, ug/L	<1	<1	<1	<1	<1	
Carbon Disulfide, ug/L	<1	<1	<1	<1	<1	
Dibromochloromethane, ug/L	<1	<1	<1	<1	<1	
Ethylbenzene, ug/L	<1	<1	<1	<1	<1	
Freon 113, ug/L	<1	<1	<1	<1	<1	
Methyl ethyl ketone, ug/L	<20	<20	<20	<20	<20	
Methyl isobutyl ketone, ug/L	<1	<1	<1	<1	<1	
Methylene chloride, ug/L	<1	<1	<1	<1	<1	
Styrene, ug/L	<1	<1	<1	<1	<1	
Trichloroethene, ug/L	<1	<1	<1	<1	<1	
Trichlorofluoromethane, ug/L	<1	<1	<1	<1	<1	
Toluene, ug/L	<1	<1	<1	<1	<1	
Tetrachloroethene, ug/L	<1	<1	<1	<1	<1	
Vinyl acetate, ug/L	<1	<1	<1	<1	<1	
Vinyl chloride, ug/L	<1	<1	<1	<1	<1	
Total Xylene Isomers, ug/L	<1	<1	<1	<1	<1	
trans-1,3-Dichloropropene, ug/L	<1	<1	<1	<1	<1	
Semi-Quantified Results **						
Diisopropylether, ug/L	5	---	9	---	8	
M - Dichlorobenzene, ug/L	1	---	3	---	3	
O - Dichlorobenzene, ug/L	---	---	2	---	2	



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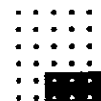
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Page 2

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
01-768-1	OAK OW-1	26 JAN 90				
01-768-2	OAK OW-2	26 JAN 90				
01-768-3	OAK OW-3	26 JAN 90				
01-768-4	OAK OW-4	26 JAN 90				
01-768-5	OAK OW-5	26 JAN 90				
PARAMETER	01-768-1	01-768-2	01-768-3	01-768-4	01-768-5	
Purgeable Priority Pollutants						
Date Extracted	01.31.90	01.31.90	01.31.90	01.31.90	01.31.90	
1,1,1-Trichloroethane, ug/L	<1	<1	<1	<1	<1	
1,1,2,2-Tetrachloroethane, ug/L	<1	<1	<1	<1	<1	
1,1,2-Trichloroethane, ug/L	<1	<1	<1	<1	<1	
1,1-Dichloroethane, ug/L	4	<1	30	5	29	
1,1-Dichloroethene, ug/L	<1	<1	<1	<1	<1	
1,2-Dichloroethane, ug/L	<1	<1	<1	<1	<1	
1,2-Dichloroethene (Total), ug/L	<1	<1	<1	<1	<1	
1,2-Dichloropropane, ug/L	<1	<1	<1	<1	<1	
1,3-Dichloropropene, ug/L	<1	<1	<1	<1	<1	
2-Chloroethylvinylether, ug/L	<1	<1	<1	<1	<1	
2-Hexanone, ug/L	<1	<1	<1	<1	<1	
Acetone, ug/L	<10	<10	<10	<10	<10	
Acrolein, ug/L	<10	<10	<10	<10	<10	
Acrylonitrile, ug/L	<10	<10	<10	<10	<10	
Bromodichloromethane, ug/L	<1	<1	<1	<1	<1	
Bromomethane, ug/L	<1	<1	<1	<1	<1	
Benzene, ug/L	<1	<1	<1	<1	<1	
Bromoform, ug/L	<1	<1	<1	<1	<1	
Chlorobenzene, ug/L	<1	<1	2	<1	2	
Carbon Tetrachloride, ug/L	<1	<1	<1	<1	<1	
Chloroethane, ug/L	<1	<1	<1	<1	<1	



BROWN AND CALDWELL ANALYTICAL LABORATORIES

BATCH QC REPORT Definitions and Terms

- Accuracy:** The ability of a procedure to determine the "true" concentration of an analyte.
- Batch:** A group of samples analyzed sequentially using the same calibration curve, reagents, and instrument.
- Laboratory Control Standard (LCS):** Laboratory reagent water spiked with known compounds and subjected to the same procedures as the samples. The LCS thus indicates the accuracy of the analytical method and, because it is prepared from a different source than the standard used to calibrate the instrument, it also serves to double-check the calibration.
- LC Result:** Laboratory result of an LCS analysis.
- LT Result:** Expected result, or true value, of the LCS analysis.
- Matrix QC:** Quality control tests performed on actual client samples. For most inorganic analyses, the laboratory uses a pair of duplicate samples and a spiked sample. For most organic analyses, the laboratory uses a pair of spiked samples (duplicate spikes).
- Percent Recovery:** The percentage of analyte recovered.
For LCS, the percent recovery calculation is
$$LC \div LT \times 100.$$

For spike recoveries, the percent recovery calculation is
$$\frac{(S \text{ Bar} - \text{Sample Concentration})}{\text{Spike Amount}} \times 100$$
- Precision:** The reproducibility of a procedure demonstrated by the agreement between analyses performed on either duplicates of the same sample or a pair of duplicate spikes.
- R1, R2 Result:** Result of the analysis of replicate aliquots of a sample, with R1 indicating the first analysis of the sample and R2 its corresponding duplicate; used to determine precision.
- Relative Percent Difference (RPD):** Calculated using one of the following:
$$\frac{(R1 - R2) \times 100}{(R1 + R2) \div 2} \qquad \frac{(S1 - S2) \times 100}{(S1 + S2) \div 2}$$
- S Bar Result:** The average of spike analysis results.
- S1, S2 Result:** Result of the analysis of replicate spiked aliquots, with S1 indicating one spike of the sample and S2 the second spike; used to determine precision and accuracy.
- True value:** The theoretical, or expected, result of a spike sample analysis.

BC ANALYTICAL

BATCH QC REPORT
ORDER E9001768

Page 1

DATE REPORTED : 02/15/90

LABORATORY CONTROL STANDARDS

PARAMETER	DATE ANALYZED	BATCH NUMBER	LC RESULT	LT RESULT	UNIT	PERCENT RECOVERY
Petroleum Hydrocarbons by IR Diesel Method 3510	02.09.90	14	5	6	mg/L	83
Dilution Factor	02.03.90	26	1	1	Times	100
Fuel Hydrocarbons	02.03.90	26	567	1000	ug/L	57
TPH-Volatile Hydrocarbons/BTEX						
Dilution Factor	02.03.90	30	1	1	Times	100
Benzene	02.03.90	30	100	100	ug/L	100
Ethylbenzene	02.03.90	30	100	100	ug/L	100
Toluene	02.03.90	30	100	100	ug/L	100
Total Xylene Isomers	02.03.90	30	200	200	ug/L	100
C4 to C12 Hydrocarbons	02.03.90	30	984	909	ug/L	108

BC ANALYTICAL

BATCH QC REPORT
ORDER E9001768

Page 1

DATE REPORTED : 02/15/90

MATRIX QC PRECISION (DUPLICATES)

PARAMETER	DATE ANALYZED	BATCH NUMBER	R1 RESULT	R2 RESULT	UNIT	RELATIVE % DIFF
Petroleum Hydrocarbons by IR	02.09.90	14	<5	<5	mg/L	NA

BC ANALYTICAL

BATCH QC REPORT
ORDER E9001768

Page 1

DATE REPORTED : 02/15/90

MATRIX QC PRECISION (DUPLICATE SPIKES)

PARAMETER	DATE ANALYZED	BATCH NUMBER	S1 RESULT	S2 RESULT	UNIT	RELATIVE % DIFF
Diesel Method 3510						
Dilution Factor	02.03.90	26	1	1	Times	0
Fuel Hydrocarbons	02.03.90	26	1440	698	ug/L	69
TPH-Volatile Hydrocarbons/BTEX						
Dilution Factor	02.03.90	30	1	1	Times	0
Benzene	02.03.90	30	100	99.3	ug/L	1
Ethylbenzene	02.03.90	30	103	101	ug/L	2
Toluene	02.03.90	30	81	80.7	ug/L	0
Total Xylene Isomers	02.03.90	30	181	184	ug/L	2
C4 to C12 Hydrocarbons	02.03.90	30	1360	1370	ug/L	1
TPH-Volatile Hydrocarbons/BTEX						
Dilution Factor	02.03.90	30	1	1	Times	0
Benzene	02.03.90	30	83.0	87.7	ug/L	6
Ethylbenzene	02.03.90	30	88.7	89.7	ug/L	1
Toluene	02.03.90	30	74.4	77.7	ug/L	4
Total Xylene Isomers	02.03.90	30	155	161	ug/L	4
C4 to C12 Hydrocarbons	02.03.90	30	884	893	ug/L	1

BC ANALYTICAL

BATCH QC REPORT
ORDER E9001768

DATE REPORTED : 02/15/90

MATRIX QC ACCURACY (SPIKES)

PARAMETER	DATE ANALYZED	BATCH NUMBER	SBAR RESULT	TRUE VALUE	UNIT	PERCENT RECOVERY
Diesel Method 3510						
Fuel Hydrocarbons	02.03.90	26	1069	2130	ug/L	47
TPH-Volatile Hydrocarbons/BTEX						
Benzene	02.03.90	30	99.65	111	ug/L	89
Ethylbenzene	02.03.90	30	102	100	ug/L	102
Toluene	02.03.90	30	80.85	100	ug/L	81
Total Xylene Isomers	02.03.90	30	182.5	212	ug/L	85
C4 to C12 Hydrocarbons	02.03.90	30	1365	1240	ug/L	114
TPH-Volatile Hydrocarbons/BTEX						
Benzene	02.03.90	30	85.35	100	ug/L	85
Ethylbenzene	02.03.90	30	89.2	100	ug/L	89
Toluene	02.03.90	30	76.05	100	ug/L	76
Total Xylene Isomers	02.03.90	30	158	200.6	ug/L	79
C4 to C12 Hydrocarbons	02.03.90	30	888.5	909	ug/L	98

BC ANALYTICAL

BATCH QC REPORT
ORDER E9001768

DATE REPORTED : 02/15/90

METHOD BLANKS AND REPORTING DETECTION LIMIT (RDL)

PARAMETER	DATE ANALYZED	BATCH NUMBER	BLANK RESULT	RDL	UNIT
Petroleum Hydrocarbons by IR	02.09.90	14	2	NA	mg/L
TPH-Volatile Hydrocarbons/BTEX					
Date Analyzed	02.03.90	30	02.03.90	NA	Date
Dilution Factor	02.03.90	30	1	NA	Times
Benzene	02.03.90	30	0	0.3	ug/L
Ethylbenzene	02.03.90	30	0	0.3	ug/L
Toluene	02.03.90	30	0.28	0.3	ug/L
Total Xylene Isomers	02.03.90	30	0.28	0.3	ug/L
C4 to C12 Hydrocarbons	02.03.90	30	5.7	50	ug/L

: ORDER PLACED FOR CLIENT: PG&E Technical & Eco. Services 9001768 :
 : BC ANALYTICAL : EMVL LAB : 15:10:07 15 FEB 1990 - P. 1 :
 =====

SAMPLES...	SAMPLE DESCRIPTION..	DETERM CODE....	DATE....	METHOD.....	EQUIP. ID.NO
			ANALYZED		
9001768*1	OAK OW-1	PETROHC	02.09.90	418.1	513-03 7453
		DIESEL.3510	02.03.90	3510	516-08 7258
		GASOLINE.5030.B	02.03.90	8015	516-19 7194
		TEX			
		8240.NP	01.31.90	8240	517-03 7038
9001768*2	OAK OW-2	PETROHC	02.09.90	418.1	513-03 7453
		DIESEL.3510	02.03.90	3510	516-08 7258
		GASOLINE.5030.B	02.03.90	8015	516-19 7194
		TEX			
		8240.NP	01.31.90	8240	517-03 7038
9001768*3	OAK OW-3	PETROHC	02.09.90	418.1	513-03 7453
		DIESEL.3510	02.03.90	3510	516-08 7258
		GASOLINE.5030.B	02.03.90	8015	516-19 7194
		TEX			
		8240.NP	01.30.90	8240	517-03 7038
9001768*4	OAK OW-4	PETROHC	02.09.90	418.1	513-03 7453
		DIESEL.3510	02.03.90	3510	516-08 7258
		GASOLINE.5030.B	02.03.90	8015	516-19 7194
		TEX			
		8240.NP	01.31.90	8240	517-03 7038
9001768*5	OAK OW-5	PETROHC	02.09.90	418.1	513-03 7453
		DIESEL.3510	02.03.90	3510	516-08 7258
		GASOLINE.5030.B	02.03.90	8015	516-19 7194
		TEX			
		8240.NP	01.31.90	8240	517-03 7038
9001768*6	OAK G.C. Field Blank	GASOLINE.5030.B	02.03.90	8015	516-19 7194
		TEX			
		8240.NP	01.31.90	8240	517-03 7038
9001768*7	Detection Limit	PETROHC	02.09.90	418.1	513-03 7453
		DIESEL.3510	02.03.90	3510	516-08 7258
		GASOLINE.5030.B	02.03.90	8015	516-19 7194
		TEX			
		8240.NP	01.31.90	8240	517-03 7038
9001768*8	EPA Method Number	PETROHC	02.09.90	418.1	513-03 7453
		DIESEL.3510	02.03.90	3510	516-08 7258
		GASOLINE.5030.B	02.03.90	8015	516-19 7194
		TEX			
		8240.NP	01.31.90	8240	517-03 7038

Notes: Equipment = BC Analytical identification number for a particular piece of analytical equipment.

ID.NO = BC Analytical employee identification number of analyst.



CHAIN OF CUSTODY RECORD
Technical and Ecological Services
 3400 Crow Canyon Road, San Ramon, California 94583

SHIP TO: 1255 Powell St
EMERYVILLE, CA
 ATTENTION: CHI-SAN HO PHONE: 428-2300

9001768

Page 1 of 1

Project Number: 36A7		Project Name: OAKLAND G.C. YARD			Project Manager: E. JOHNSON		EPA 624 TSP-SP-MS-MS-MS-MS D-16 MS-1 101, F-1625						
Sampler: (Signature) <i>Robert M Gray</i>		Field Team Leader: R. M Gray											
SAMPLE NUMBER	DATE	TIME	SAMPLE TYPE	SAMPLE INFORMATION	STATION LOCATION	NUMBER OF CONTAINERS					REMARKS		
	1-24	1215	GW	OAK-OW-1		8	/	/	/	/			
	1-26	1245	GW	OAK-OW-2		8	/	/	/	/			
	1-26	1100	GW	OAK-OW-3		8	/	/	/	/			
	1-26	1145	GW	OAK-OW-4		8	/	/	/	/			
	1-26	1120	GW	OAK-OW-5		8	/	/	/	/			
	1-16	1020	AW	OAK G.C.	Field Blank	4	X			X	CONTRACT # - EP-0-128-B9		
Relinquished By: (Signature) <i>Robert M Gray</i>		Date/Time: 1/26/89 1250		Received By: (Signature) <i>[Signature]</i>		Relinquished By: (Signature)		Date/Time:		Received By: (Signature)		Ship Via:	
Relinquished By: (Signature)		Date/Time:		Received By: (Signature)		Relinquished By: (Signature)		Date/Time:		Received By: (Signature)		BL/Arbill Number:	
Relinquished By: (Signature)		Date/Time:		Received By: (Signature)		Relinquished By: (Signature)		Date/Time:		Received By: (Signature)		Date:	

PG&E WATER PURGING & SAMPLING LOG

SITE DAK GC JOB ID 3617
 SAMPLING DATE 1-26-90, by RMP
 PURGE DATE 1-26-90, by RMP

WELL NO OW-1
 WEATHER: Clear

WATER ELEVATION/VOLUME CALCULATIONS

Description of Measuring Point (MP): TOC @ Blackmark

Total depth of well: 17.91 ft
 Depth (from MP) to Water: 5.48 ft Screen interval from ft to ft.
 Total water depth: 12.43 ft Hydrocarbons present: Yes No
 Measurement method: Solinst Hydrocarbons thickness:

PURGE VOLUME CALCULATION

12.43 ft water * casing factor -2.1 gal/casing vol. * 3 volumes = 6.3 Total gals purged.
 Casing Factor: For 2" dia = 0.17 gal/ft
 (circle one) For 3" dia = 0.38 gal/ft
 For 4" dia = 0.66 gal/ft

DRAWDOWN DETERMINATION

Water level begin time: time pump on
 Water level end time: time pump off

PURGING

Time		Cumulative Discharge (gal)	pH	Conductivity μ mho/cm	Turbidity	°C Temp	Comments
Start	End						
1155	1203	5	7.17	970	clear	24	
	1205	6	7.10	950	"	25	
	1210	7	7.10	940	"	25	

Method of discharge disposal ground
 Method of purging/sampling Honda pump / teflon bailer
 Method of cleaning bailer/pump: Alconex DI H₂O
Pump lines/bailer ropes new, cleaned or dedicated? (circle one)

pH meter myron L calibrated yes conductivity meter myron L calibrated yes
 temp corrected? -1.5

SAMPLES

Lab analyses to be performed EP1624, OTG, TPH-D, TOT-FUELS
 Laboratory BAC

Remarks Clear H₂O quick recharge