Pacific Gas and Electric Company

Environmental Services Department
1919 Webster Street
Oakland, CA 94612
510/835-8500

July 25, 1997

Ms. Susan Hugo
Senior Hazardous Materials Specialist
Alameda County Environmental Health
Department
1131 Harbor Bay Parkway #250
Alameda, CA 94502-6577

Dear Ms. Hugo:

Re: PG&E Groundwater Monitoring and Sampling Report
Pacific Gas and Electric Company Emeryville Materials Facility
Emeryville, California

Enclosed are two copies of the above referenced report, performed for the second quarter of 1997 ending in June. The report was prepared by EMCON Associates and summarizes groundwater flow direction, hydraulic gradient, and the results of laboratory chemical analyses of groundwater samples collected in May 16, 1997.

Findings of the report include:

- The depth to groundwater ranges from 10.56 to 14.07 ft. below the surface. Groundwater flow was to the north with a gradient of 0.03 ft./ft. between wells ESE-2 and MW-4, and was toward the south with a gradient of 0.06 ft./ft. between wells ESE-4 and ESE-1.

- TEPH is present in well ESE-1 (510 µg/l) and ESE-2 (190 µg/l). All other compounds were below the method of detection limit.

If you have any questions about this report, please call me at (510) 874-2277.

Sincerely ,

Tony Jacob
Environmental Coordinator

Enclosures

cc: Rafat A. Shahid, Environmental health
Gil Jensen, Alameda County District Attorneys' Office
Gordon Coleman, Acting Chief, Environmental Protective Division
Kevin Graves, San Francisco RWQCB
Sum Arigala, San Francisco Bay RWQCB

GROUNDWATER MONITORING AND SAMPLING REPORT

EMERYVILLE MAINTENANCE FACILITY
4525 HOLLIS STREET
EMERYVILLE, CALIFORNIA
SECOND QUARTER 1997

Prepared for

Pacific Gas and Electric Company
Technical and Ecological Services

May 1997

Prepared by

EMCON
1433 North Market Boulevard
Sacramento, California 95834

Project 0143-014.02

CONTENTS

TABLES

FIGURES

1 INTRODUCTION

This report presents data collected during the second quarter 1997 monitoring period at the Pacific Gas and Electric Company (PG&E) Emeryville Maintenance facility at 4525 Hollis Street in Emeryville, California (see Figure 1).

2 GROUNDWATER GRADIENT AND DIRECTION

Second quarter groundwater levels were measured at the PG&E Maintenance Facility in Emeryville, California, on May 16, 1997, using an electronic sounding device, and recorded on the historical monitoring well data form included in Appendix A. The groundwater elevations are summarized in Table 1. The May data were used in constructing a groundwater contour map (see Figure 2). May water levels ranged from a low of 10.61 feet above mean sea level (MSL) in well ESE-1 to a high of 17.36 feet above MSL in well MW-4. The groundwater gradient is 0.03 foot per foot (ft/ft) to the north between monitoring wells ESE-2 and MW-4 and 0.06 ft/ft to the south between monitoring wells ESE-4 and ESE-1.

3 SAMPLING, ANALYSIS, AND MONITORING PROGRAM RESULTS

Groundwater samples were collected from wells ESE-1 through ESE-4 on May 16, 1997, consistent with the protocol presented in Figure 3, and analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by U.S. Environmental Protection Agency (USEPA) Method 602/8020; polychlorinated biphenyls (PCBs) by USEPA Method 3510/608; and total extractable petroleum hydrocarbons (TEPH) as mineral oil, by USEPA Method 3510/8015M. Temperature, pH, and electrical conductivity were measured in the field and recorded on the water sample field data sheets (see Appendix A). Groundwater samples were not collected from well MW-4. Field readings from the second quarter 1997 monitoring event are summarized in Table 1.

The analytical results are discussed below. Second quarter 1997 and historical analytical data are summarized in Table 2. Certified analytical reports and chain-of-custody records are included in Appendix B.

BTEX and PCBs were not detected at or above the method reporting limit (MRL) in any sample collected from ESE-1 through ESE-4. Mineral oil was detected in the samples collected from ESE-1 and ESE-2 at concentrations of 510 µg/L and 190 µg/L, respectively. Quantification for mineral oil is based on the response factor of diesel.

4 FIELD LABORATORY QUALITY CONTROL RESULTS

Analytical data were evaluated for accuracy and precision based on field and laboratory quality control (QC) sample performance. The field QC consisted of collecting one field blank (FB-1) and analyzing it for BTEX.

Field blanks are collected to assess the effect of field environments on the analytical results and to identify false positives. No parameters were detected above their respective MRLs in the field blank, indicating no adverse effects from sampling procedures.

The laboratory QC consisted of checking adherence to holding times and evaluating method blanks and matrix spike (MS) results.

Holding times are established by the USEPA and refer to the maximum time allowed to pass between sample collection and analysis by the laboratory. These limits assist in determining data validity. The method blank results are used to assess the effect of the laboratory environment on the analytical results. The MS recoveries are used to assess accuracy.

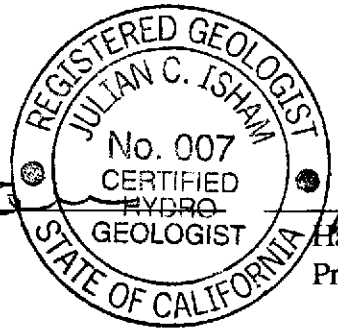
All analyses were done within the holding times specified by the USEPA. No compounds were detected in the daily method blanks. Recoveries of MS results, were within the laboratory acceptance limits.

The field and laboratory QC results indicate that the analytical data are of acceptable quality.

The material and data in this report were prepared under the supervision and direction of the undersigned.

EMCON

J.C. Isham
Geology Manager
C.H.G. 007



EMCON

Harold R. Duke
Project Manager

Table 1
Field Measurements
Second Quarter 1997 and Historical Data
Pacific Gas and Electric Company
Emeryville, California

Sample Designation	Date	Top-of-Casing Elevation (ft/MSL)[1]	Depth to Water (feet)	Groundwater Elevation (ft/MSL)	Measured Well Depth (feet)	pH (units)	Temperature (°F)	Electrical Conductivity (umhos/cm)
ESE-1	03/28/94	23.66	10.06	13.60	20.8	8.48	73.1	600
ESE-1	04/07/94	23.66	10.22	13.44	NM[3]	NS[4]	NS	NS
ESE-1	12/12/94	23.66	9.18	14.48	30.6	7.26	63.4	588
ESE-1	03/13/95	23.66	8.20	15.46	30.6	7.33	63.3	548
ESE-1	06/15/95	23.66	9.50	14.16	30.6	6.90	64	505
ESE-1	09/15/95	23.66	10.13	13.53	30.6	6.80	65.1	505
ESE-1	12/15/95	23.66	10.55	13.11	33.8	7.04	65.1	511
ESE-1	03/15/96	23.66	11.79	11.87	33.6	6.94	64.9	540
ESE-1	06/14/96	23.66	12.68	10.98	33.6	6.93	67.4	517
ESE-1	10/07/96	23.66	12.56	11.10	34.0	6.94	73.3	494
ESE-1	12/04/96	23.66	12.67	10.99	34.2	6.80	64.4	507
ESE-1	02/14/97	23.66	12.62	11.04	34.2	6.96	67.5	509
ESE-1	05/16/97	23.66	13.05	10.61	34.2	7.07	69.0	534
ESE-2	03/28/94	27.80	10.13	17.67	34.2	7.67	67.5	580
ESE-2	04/07/94	27.80	14.37	13.43	NM	NS	NS	NS
ESE-2	12/12/94	27.80	13.05	14.75	34.3	7.05	64.6	610
ESE-2	03/13/95	27.80	12.48	15.32	34.3	7.19	62.5	596
ESE-2	06/15/95	27.80	13.85	13.95	34.3	7.02	65.1	601
ESE-2	09/15/95	27.80	14.22	13.58	34.3	6.91	65.6	627
ESE-2	12/15/95	27.80	11.65	16.15	34.1	7.12	64.7	591
ESE-2	03/15/96	27.80	12.87	14.93	34.1	7.01	65.8	669
ESE-2	06/14/96	27.80	13.94	13.86	34.1	7.08	67.1	607
ESE-2	10/07/96	27.80	13.58	14.22	34.0	7.10	74.6	558
ESE-2	12/04/96	27.80	14.20	13.60	34.4	6.89	65.0	618
ESE-2	02/14/97	27.80	13.80	14.00	34.4	7.02	66.3	578
ESE-2	05/16/97	27.80	14.07	13.73	34.4	7.00	69.9	580

Table 1
Field Measurements
Second Quarter 1997 and Historical Data
Pacific Gas and Electric Company
Emeryville, California

Sample Designation	Date	Top-of-Casing Elevation (ft/MSL)[1]	Depth to Water (feet)	Groundwater Elevation (ft/MSL)	Measured Well Depth (feet)	pH (units)	Temperature (°F)	Electrical Conductivity (umhos/cm)
ESE-3	03/28/94	23.91	11.23	12.68	30.9	7.47	68.7	610
ESE-3	04/07/94	23.91	11.29	12.62	NM	NS	NS	NS
ESE-3	12/12/94	23.91	10.62	13.29	31.0	7.19	63.9	600
ESE-3	03/13/95	23.91	9.45	14.46	31.0	6.99	62.5	600
ESE-3	06/15/95	23.91	10.27	13.64	31.0	7.10	64.9	556
ESE-3	09/15/95	23.91	10.87	13.04	31.0	6.96	65.5	559
ESE-3	12/19/95	23.91	9.40	14.51	31.0	7.28	64.2	556
ESE-3	03/15/96	23.91	10.02	13.89	30.9	7.01	65.0	583
ESE-3	06/14/96	23.91	10.63	13.28	30.9	7.09	67.0	546
ESE-3	10/07/96	23.91	10.85	13.06	31.0	6.87	68.8	514
ESE-3	12/04/96 [5]	23.91	10.67	13.24	30.9	NM	NM	NM
ESE-3	02/14/97	23.91	10.75	13.16	30.9	7.01	65.9	506
ESE-3	05/16/97	23.91	10.99	12.92	31.0	7.40	69.9	539
ESE-4	03/28/94	24.33	10.63	13.70	31.4	7.77	66.3	610
ESE-4	04/07/94	24.33	10.85	13.48	NM	NS	NS	NS
ESE-4	12/12/94	24.33	9.63	14.70	31.6	7.11	63.1	591
ESE-4	03/13/95	24.33	8.90	15.43	31.6	7.16	61.2	595
ESE-4	06/15/95	24.33	9.81	14.52	31.6	7.05	64.1	565
ESE-4	09/15/95	24.33	10.85	13.48	31.6	7.01	66.3	584
ESE-4	12/15/95	24.33	8.72	15.61	31.6	7.05	64.6	555
ESE-4	03/15/96	24.33	9.29	15.04	31.5	7.01	63.7	600
ESE-4	06/14/96	24.33	10.23	14.10	31.5	7.04	66.0	591
ESE-4	10/07/96	24.33	10.44	13.89	31.5	6.89	70.1	541
ESE-4	12/04/96 [5]	24.33	10.31	14.02	31.5	NM	NM	NM
ESE-4	02/14/97	24.33	10.12	14.21	31.5	7.11	65.3	511
ESE-4	05/16/97	24.33	10.56	13.77	31.6	7.40	69.1	559

Table 1
Field Measurements
Second Quarter 1997 and Historical Data
Pacific Gas and Electric Company
Emeryville, California

Sample Designation	Date	Top-of-Casing Elevation (ft/MSL)[1]	Depth to Water (feet)	Groundwater Elevation (ft/MSL)	Measured Well Depth (feet)	pH (units)	Temperature (°F)	Electrical Conductivity (umhos/cm)
MW-4	03/13/95	28.14	9.84	18.30	14.7	NS	NS	NS
MW-4	06/15/95	28.14	10.74	17.40	14.7	NS	NS	NS
MW-4	09/15/95	28.14	10.90	17.24	14.7	NS	NS	NS
MW-4	12/15/95	28.14	6.53	21.61	14.7	NS	NS	NS
MW-4	03/15/96	28.14	8.12	20.02	14.7	NS	NS	NS
MW-4	06/14/96	28.14	10.78	17.36	14.7	NS	NS	NS
MW-4	10/07/96	28.14	10.81	17.33	14.7	NS	NS	NS
MW-4	12/04/96	28.14	10.44	17.70	14.7	NS	NS	NS
MW-4	02/14/97	28.14	10.41	17.73	14.7	NS	NS	NS
MW-4	05/16/97	28.14	10.78	17.36	14.7	NS	NS	NS

[1] ft/MSL = feet relative to mean sea level.
[2] umhos/cm = micromhos per centimeter at 77°F.
[3] NM = not measured.
[4] NS = not sampled.
[5] Wells not sampled due to construction in the area resulting in heavy traffic.

Table 2
Analytical Data
Second Quarter 1997 and Historical Data
Pacific Gas and Electric Company
Emeryville, California
(ug/l)[1]

Sample Designation	Sampling Date	Polychlorinated Biphenols	TEPH[2]	Benzene	Toluene	Ethylbenzene	Xylenes
ESE-1	03/28/94	<1	340	<0.3	<0.3	<0.3	<0.3
ESE-1	12/12/94	<0.5	80	<0.5	<0.5	<0.5	<0.5
ESE-1	03/13/95	1.3	500 [3]	<0.5	<0.5	<0.5	<0.5
ESE-1	06/15/95	<0.5	350 [3]	<0.5	<0.5	<0.5	<0.5
ESE-1	09/15/95	<0.5	470 [3]	<0.5	<0.5	<0.5	<0.5
ESE-1	12/15/95	<0.5	440 [3]	<0.5	<0.5	<0.5	<0.5
ESE-1	03/15/96	<0.5	277	<0.5	<0.5	<0.5	<0.5
ESE-1	06/14/96	<0.5	<500	<0.5	<0.5	<0.5	<0.5
ESE-1	10/07/96	<0.5	110 [4]	<0.5	<0.5	<0.5	<0.5
ESE-1	12/04/96	<0.5	430 [4]	<0.5	<0.5	<0.5	<0.5
ESE-1	02/14/97	<0.5	1,600	<0.5	<0.5	<0.5	<0.5
ESE-1	05/16/97	<0.5	510 [8]	<0.5	<0.5	<0.5	<0.5
ESE-2	03/28/94	<1	250	0.8	1.5	<0.3	2.7
ESE-2	12/12/94	<0.5	<50	<0.5	<0.5	<0.5	<0.5
ESE-2	03/13/95	<0.5	120 [5]	<0.5	<0.5	<0.5	<0.5
ESE-2	06/15/95	<0.5	<50	<0.5	<0.5	<0.5	<0.5
ESE-2	09/15/95	<0.5	<50	<0.5	<0.5	<0.5	<0.5
ESE-2	12/15/95	<0.5	<50	<0.5	<0.5	<0.5	<0.5
ESE-2	03/15/96	<0.5	<59	<0.5	<0.5	<0.5	<0.5
ESE-2	06/14/96	<0.5	<500	<0.5	<0.5	<0.5	<0.5
ESE-2	10/07/96	<0.5	150 [4]	<0.5	<0.5	<0.5	<0.5
ESE-2	12/04/96	<0.5	380 [4]	<0.5	<0.5	<0.5	<0.5
ESE-2	02/14/97	<0.5	510	<0.5	<0.5	<0.5	<0.5
ESE-2	05/16/97	<0.5	190 [8]	<0.5	<0.5	<0.5	<0.5

Table 2
Analytical Data
Second Quarter 1997 and Historical Data
Pacific Gas and Electric Company
Emeryville, California
(ug/l)[1]

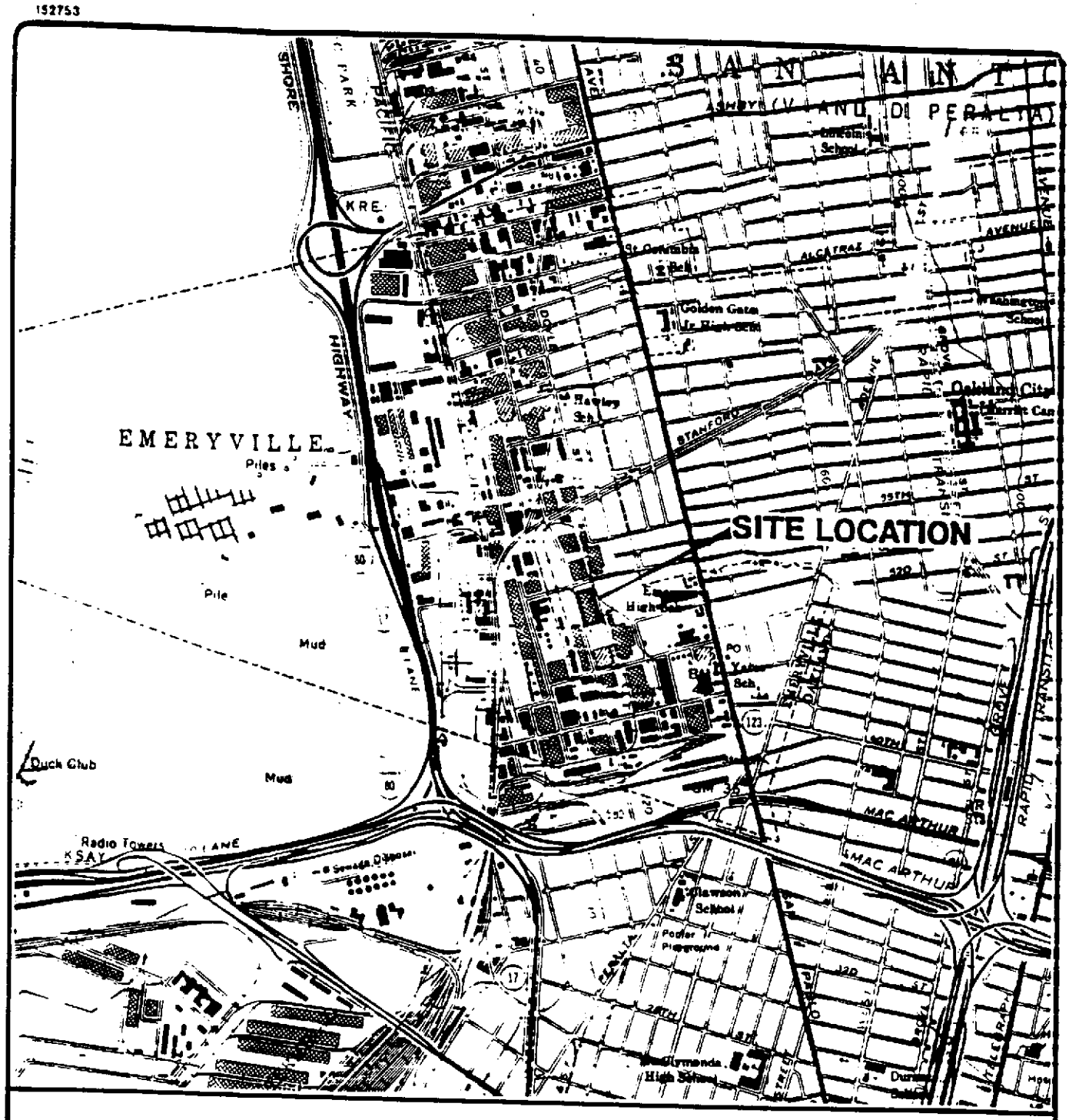
Sample Designation	Sampling Date	Polychlorinated Biphenols	TEPH[2]	Benzene	Toluene	Ethylbenzene	Xylenes
ESE-3	03/28/94	<1	<50	<0.3	<0.3	<0.3	<0.3
ESE-3	12/12/94	<0.5	<50	<0.5	<0.5	<0.5	<0.5
ESE-3	03/13/95	<0.5	<50	<0.5	<0.5	<0.5	<0.5
ESE-3	06/15/95	<0.5	<50	<0.5	<0.5	<0.5	<0.5
ESE-3	09/15/95	<0.5	<50	<0.5	<0.5	<0.5	<0.5
ESE-3	12/15/95	<0.5	<50	<0.5	<0.5	<0.5	<0.5
ESE-3	03/15/96	<0.5	<59	<0.5	<0.5	<0.5	<0.5
ESE-3	06/14/96	<0.5	<500	<0.5	<0.5	<0.5	<0.5
ESE-3	10/07/96	<0.5	<100	<0.5	<0.5	<0.5	<0.5
ESE-3	12/04/96 [6]	NA [7]	NA	NA	NA	NA	NA
ESE-3	02/14/97	<0.5	<100	<0.5	<0.5	<0.5	<0.5
ESE-3	05/16/97	<0.5	<110 [8]	<0.5	<0.5	<0.5	<0.5
ESE-4	03/28/94	<1	<50	<0.3	<0.3	<0.3	<0.3
ESE-4	12/12/94	<0.5	<50	<0.5	<0.5	<0.5	<0.5
ESE-4	03/13/95	<0.5	56 [5]	<0.5	<0.5	<0.5	<0.5
ESE-4	06/15/95	<0.5	<50	<0.5	<0.5	<0.5	<0.5
ESE-4	09/15/95	<0.5	<50	<0.5	<0.5	<0.5	<0.5
ESE-4	12/15/95	<0.5	57 [5]	<0.5	<0.5	<0.5	<0.5
ESE-4	03/15/96	<0.5	<59	<0.5	<0.5	<0.5	<0.5
ESE-4	06/14/96	<0.5	<500	<0.5	<0.5	<0.5	<0.5
ESE-4	10/07/96	<0.5	<100	<0.5	<0.5	<0.5	<0.5
ESE-4	12/04/96 [6]	NA	NA	NA	NA	NA	NA
ESE-4	02/14/97	<0.5	270 [4]	<0.5	<0.5	<0.5	<0.5
ESE-4	05/16/97	<0.5	<110 [8]	<0.5	<0.5	<0.5	<0.5

Table 2
Analytical Data
Second Quarter 1997 and Historical Data
Pacific Gas and Electric Company
Emeryville, California
(ug/l)[1]

Sample Designation	Sampling Date	Polychlorinated Biphenols	TEPH[2]	Benzene	Toluene	Ethylbenzene	Xylenes
Trip Blank	03/28/94	<1	<50	<0.3	<0.3	<0.3	<0.3
Trip Blank	12/12/94	NA	NA	<0.5	<0.5	<0.5	<0.5
Trip Blank	03/13/95	NA	NA	<0.5	<0.5	<0.5	<0.5
Trip Blank	06/15/95	NA	NA	<0.5	<0.5	<0.5	<0.5
Trip Blank	09/15/95	NA	NA	<0.5	<0.5	<0.5	<0.5
Trip Blank	12/15/95	NA	NA	<0.5	<0.5	<0.5	<0.5
Field Blank	03/28/94	NA	NA	NA	NA	NA	NA
Field Blank	12/12/94	NA	NA	<0.5	<0.5	<0.5	<0.5
Field Blank	03/13/95	NA	NA	<0.5	<0.5	<0.5	<0.5
Field Blank	06/15/95	NA	NA	<0.5	<0.5	<0.5	<0.5
Field Blank	09/15/95	NA	NA	<0.5	<0.5	<0.5	<0.5
Field Blank	12/15/95	NA	NA	<0.5	<0.5	<0.5	<0.5
Field Blank	03/15/96	NA	NA	<0.5	<0.5	<0.5	<0.5
Field Blank	06/14/96	NA	NA	<0.5	<0.5	<0.5	<0.5
Field Blank	10/07/96	NA	NA	<0.5	<0.5	<0.5	<0.5
Field Blank	12/04/96	NA	NA	<0.5	<0.5	<0.5	<0.5
Field Blank	02/14/97	NA	NA	<0.5	<0.5	<0.5	<0.5
Field Blank	05/16/97	NA	NA	<0.5	<0.5	<0.5	<0.5

[1] ug/l = micrograms per liter.
[2] TEPH = total extractable petroleum hydrocarbons.
[3] Compounds similar to client-supplied transformer oil were found.
[4] Hydrocarbon reported does not match the pattern of laboratory standard for mineral oil.
[5] Compounds in diesel range not similar to laboratory standard for transformer oil.
[6] Wells not sampled due to construction in the area resulting in heavy traffic.
[7] NA = not analyzed.
[8] Quantitation for mineral oil is based on the response factor of diesel.

152753

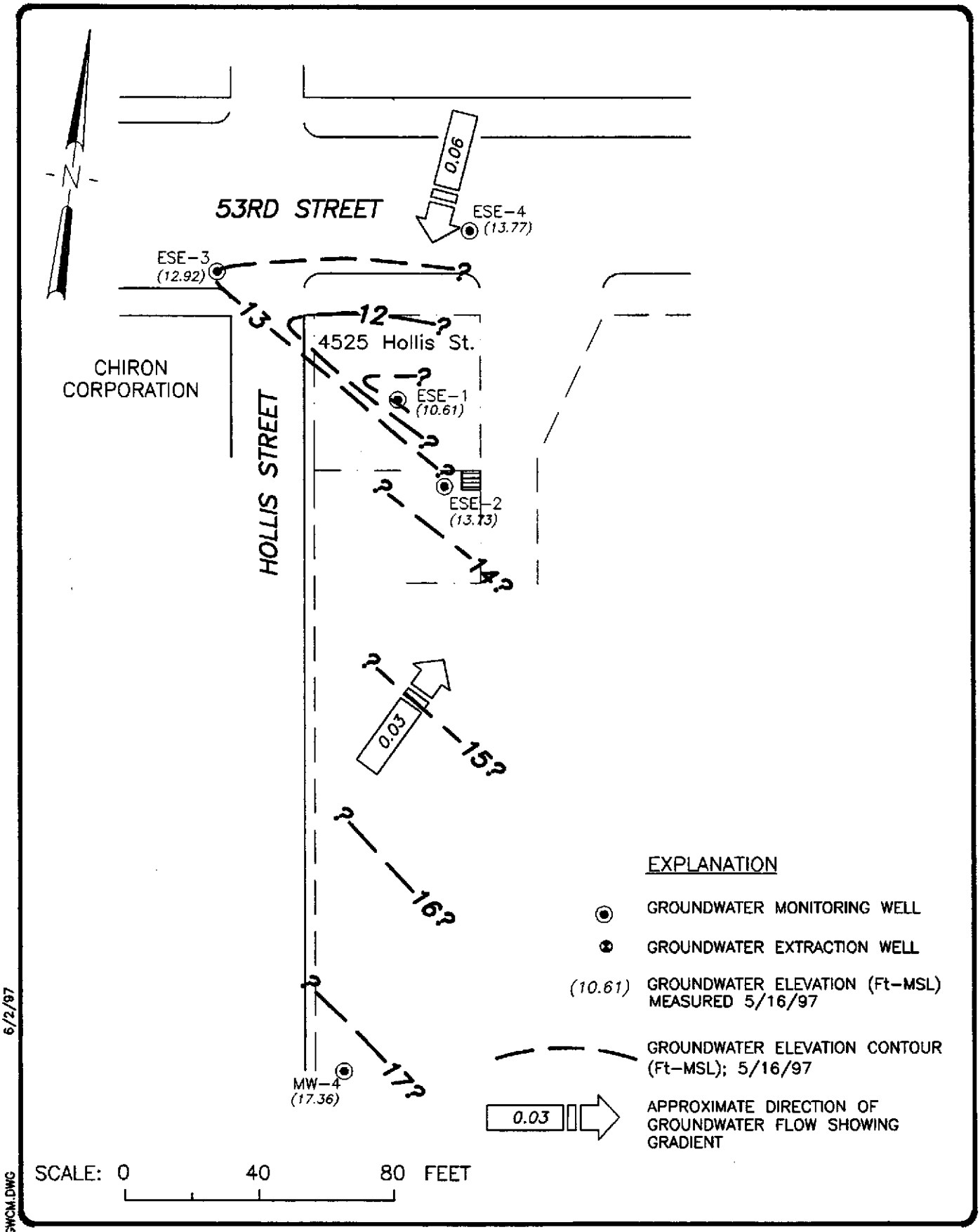


EMCON Associates

PACIFIC GAS & ELECTRIC COMPANY
QUARTERLY MONITORING PROGRAM
EMERYVILLE, CALIFORNIA

SITE LOCATION

FIGURE
1
PROJECT NO.
143-014.02



6/2/97

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emcon

PACIFIC GAS AND ELECTRIC
EMERYVILLE MAITENANCE FACILITY
EMERYVILE, CALIFORNIA
QUARTERLY MONITORING REPORT
GROUNDWATER CONTOUR MAP
SECOND QUARTER 1997

FIGURE
2
PROJECT NO.
20143-014.02

MONITORING WELL PURGING PROTOCOL

EMCON

MEASURE AND RECORD DEPTH TO WATER AND WELL TOTAL DEPTH

CHECK FOR FLOATING PRODUCT

YES

MEASURE AND DOCUMENT FLOATING PRODUCT THICKNESS. DO NOT SAMPLE WELL FOR DISSOLVED CONSTITUENTS.

NO

CALCULATE PURGE VOLUME BY USING THE FOLLOWING EQUATION:

$$P = \pi r^2 h \times 7.48 \times 3$$

where:

- P = calculated purge volume (gallons)
- π = 3.14
- r = radius of well casing in feet
- h = height of water column in feet

EVACUATE WATER FROM WELL EQUAL TO THE CALCULATED PURGE VOLUME WHILE MONITORING GROUND-WATER STABILIZATION INDICATOR PARAMETERS (pH, CONDUCTIVITY, TEMPERATURE) AND TURBIDITY AT INTERVALS OF ONE CASING VOLUME.

WELL EVACUATED TO PRACTICAL LIMITS OF DRYNESS BEFORE REMOVING CALCULATED PURGE VOLUME

NO

FINAL TWO SETS OF GROUND-WATER STABILIZATION INDICATOR PARAMETER MEASUREMENTS MEET THE FOLLOWING CRITERIA:

pH	= ±	0.05 pH units
COND.	= ±	3 %
TEMP.	= ±	1.0 °F
TURBIDITY	= ±	<5 NTU

YES

WELL PURGING CRITERIA MET; PROCEED TO WELL SAMPLING

NO

CONTINUE PURGING; EVACUATE ADDITIONAL CASING VOLUME OF WATER, MONITORING INDICATOR PARAMETERS FOR STABILITY.

YES

WELL RECHARGES TO A LEVEL SUFFICIENT FOR SAMPLE COLLECTION WITHIN 24 HOURS OF EVACUATION TO DRYNESS.

YES

FIELD TEST FIRST RECHARGE WATER FOR INDICATOR PARAMETERS AND TURBIDITY, THEN PROCEED TO WELL SAMPLING.

NO

RECORD WELL AS DRY FOR PURPOSES OF SAMPLING.

EMCON

MONITORING WELL PURGING PROTOCOL

FIGURE 3

APPENDIX A

HISTORICAL MONITORING WELL DATA FORM AND WATER SAMPLE FIELD DATA SHEETS

EMCON - Field Services
1921 Ringwood Avenue
San Jose, California

Signature

Historical Monitoring Well Data
PG&E Emeryville
0143-014.002

Well ID	Date	Depth to Floating Product (feet)	First Depth to Water (feet)	Second Depth to Water (feet)	Floating Product Thickness (feet)	Well Total Depth (feet)	Comments
Depth to liquid : 0.01 foot							Total depth : 0.1 foot
	09/15/95		10.13	10.13	ND	30.6	
	12/15/95		10.55	10.55	ND	33.8	
	03/15/96		11.79	11.79	ND	33.6	
ESE-1	5/16/97		13.05	13.05	ND	34.2	3476 Time: 0959 Lock: ~~Stone~~
	09/15/95		14.22	14.22	ND	34.3	
	12/15/95		11.65	11.65	ND	34.1	
	03/15/96		12.87	12.87	ND	34.1	
ESE-2			14.07	14.07	ND	34.4	Time: 0957 Lock: Dolphin
	09/15/95		10.87	10.87	ND	31.0	
	12/15/95		9.40	9.40	ND	31.0	
	03/15/96		10.02	10.02	ND	30.9	
ESE-3			10.99	10.99	ND	31.0	Time: 1002 Lock: ~~3210~~
	09/15/95		10.85	10.85	ND	31.6	
	12/15/95		8.72	8.72	ND	31.6	
	03/15/96		9.29	9.29	ND	31.5	3900
ESE-4			10.56	10.56	ND	31.6	Time: 1007 Lock: ~~3210~~
	09/15/95		10.90	10.90	ND	14.7	
	12/15/95		6.53	6.53	ND	14.7	
	03/15/96		8.12	8.12	ND	14.7	
MW-4			10.78	10.78	NO	14.7	Time: 0945 Lock: ~~None~~ None

Rev 3, 2/94

WATER SAMPLE FIELD DATA SHEET

EMCON ASSOCIATES

PROJECT NO: 20143-014.002 SAMPLE ID: ESE-1

PURGED BY: M. Ross CLIENT NAME: PG&E Emeryville

SAMPLED BY: M. Ross LOCATION: Emeryville, Ca

TYPE: Ground Water ✓ Surface Water ___ Treatment Effluent ___ Other ___

CASING DIAMETER (inches): 2 ✓ 3 ___ 4 ___ 4.5 ___ 6 ___ Other ___

.653

CASING ELEVATION (feet/MSL): NR

DEPTH TO WATER (feet): 13.05

DEPTH OF WELL (feet): 34.2

VOLUME IN CASING (gal.): 3.45

CALCULATED PURGE (gal.): 13.81

ACTUAL PURGE VOL. (gal.): 14.0

DATE PURGED: 5/16/97 Start (2400 Hr) 1038 End (2400 Hr) 1059

DATE SAMPLED: 5/16/97 Start (2400 Hr) 1115 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1042	3.5	6.73	612	75.6	BRN	Heavy
1047	7.0	6.81	582	72.6	BRN	Heavy
1059	10.5	7.04	550	69.7	BRN	Heavy
1059	14.2	7.07	534	69.0	BRN	Heavy

D. O. (ppm): NR ODOR: NONE

Field QC samples collected at this well: NR

Parameters field filtered at this well: NR

COLOR: NR (COBALT 0 - 500)

TURBIDITY: NR (NTU 0 - 200 or 0 - 1000)

PURGING EQUIPMENT

___ 2" Bladder Pump
___ Centrifugal Pump
___ Submersible Pump
___ Well Wizard™
___ Bailer (Teflon®)
✓ Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated
Other: ___

SAMPLING EQUIPMENT

___ 2" Bladder Pump
___ ODL Sampler
___ Dipper
___ Well Wizard™
✓ Bailer (Teflon®)
___ Bailer (Stainless Steel)
___ Submersible Pump
___ Dedicated
Other: ___

WELL INTEGRITY: OK LOCK #: 3476

REMARKS ___

Meter Calibration: Date: 5/16/97 Time: 1030 Meter Serial #: 9105 Temperature °F: 65.0

(EC 1000) 1073 1000 ; (Cl ___ ; (pH 7) 700 700 ; (pH 10) 1089 1000 ; (pH 4) 399 ___)

Location of previous calibration: F

Signature: Melissa Ross Reviewed By: ___ Page 1 of 4

Rev 3, 2/94

WATER SAMPLE FIELD DATA SHEET

EMCON ASSOCIATES

PROJECT NO: 20143-014.002 SAMPLE ID: ESE-2

PURGED BY: M Ross CLIENT NAME: PG&E Emeryville

SAMPLED BY: M. Ross LOCATION: Emeryville, Ca

TYPE: Ground Water ✓ Surface Water ___ Treatment Effluent ___ Other ___

CASING DIAMETER (inches): 2 ✓ 3 ___ 4 ___ 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL):	NR	VOLUME IN CASING (gal.):	3.31
DEPTH TO WATER (feet):	14.07	CALCULATED PURGE (gal.):	13.27
DEPTH OF WELL (feet):	34.4	ACTUAL PURGE VOL. (gal.):	13.5

DATE PURGED: 5/16/97 Start (2400 Hr) 1121 End (2400 Hr) 1140

DATE SAMPLED: 5/16/97 Start (2400 Hr) 1150 End (2400 Hr) ___

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1125	3.5	2.13	617	71.6	BRN	Heavy
1129	7.0	2.11	576	70.2	BRN	Heavy
1135	10.5	2.05	606	70.0	BRN	Heavy
1140	13.5	2.00	580	69.9	BRN	Heavy

D. O. (ppm): NR ODOR: None

Field QC samples collected at this well: FB-1 @ 1145

Parameters field filtered at this well: NR

COLOR: NR (COBALT 0 - 500)

TURBIDITY: NR (NTU 0 - 200 or 0 - 1000)

PURGING EQUIPMENT

- ___ 2" Bladder Pump
- ___ Centrifugal Pump
- ___ Submersible Pump
- ___ Well Wizard™
- ___ Bailer (Teflon®)
- ✓ Bailer (PVC)
- ___ Bailer (Stainless Steel)
- ___ Dedicated

Other: ___

SAMPLING EQUIPMENT

- ___ 2" Bladder Pump
- ___ DDL Sampler
- ___ Dipper
- ___ Well Wizard™
- ✓ Bailer (Teflon®)
- ___ Bailer (Stainless Steel)
- ___ Submersible Pump
- ___ Dedicated

Other: ___

WELL INTEGRITY: OK LOCK #: OK

REMARKS: ___

Meter Calibration: Date: 5/16/97 Time: 1030 Meter Serial #: 9105 Temperature °F: ___

(EC 1000 ___ / ___) (DI ___) (pH 7 ___ / ___) (pH 10 ___ / ___) (pH 4 ___ / ___)

Location of previous calibration: ESE-1

Signature: [signature] Reviewed By: [signature] Page 2 of 4

Rev 3.2/94

WATER SAMPLE FIELD DATA SHEET

EMCON ASSOCIATES

PROJECT NO: 20143.014.002 | SAMPLE ID: ESE-3

PURGED BY: M. Ross | CLIENT NAME: PG+E Emeryville

SAMPLED BY: M. Ross | LOCATION: Emeryville, Ca

TYPE: Ground Water ✓ Surface Water ___ Treatment Effluent ___ Other ___

CASING DIAMETER (inches): 2 ✓ 3 ___ 4 ___ 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL): NR

DEPTH TO WATER (feet): 3.10

DEPTH OF WELL (feet): 10.99

VOLUME IN CASING (gal.): 3.26

CALCULATED PURGE (gal.): 13.06

ACTUAL PURGE VOL. (gal.): 13.5

DATE PURGED: 5/16/97 Start (2400 Hr) 1200 End (2400 Hr) 1225

DATE SAMPLED: 5/16/97 Start (2400 Hr) 1235 End (2400 Hr) ___

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1203	3.5	7.47	571	73.6	BRN	Heavy
1217	7.0	7.42	547	70.6	BRN	Heavy
1221	10.5	7.47	550	70.8	BRN	Heavy
1225	13.5	7.40	539	69.9	BRN	Heavy
~~1225~~						

D. O. (ppm): NR ODOR: None

COLOR (COBALT 0 - 500): NR

TURBIDITY (NTU 0 - 200 or 0 - 1000): NR

Field QC samples collected at this well: NR

Parameters field filtered at this well: NR

PURGING EQUIPMENT

___ 2" Bladder Pump
___ Centrifugal Pump
___ Submersible Pump
___ Well Wizard™
___ Bailer (Teflon®)
✓ Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated
Other: ___

SAMPLING EQUIPMENT

___ 2" Bladder Pump
___ QDL Sampler
___ Dipper
___ Well Wizard™
✓ Bailer (Teflon®)
___ Bailer (Stainless Steel)
___ Submersible Pump
___ Dedicated
Other: ___

WELL INTEGRITY: OK LOCK #: —

REMARKS: ___

Meter Calibration: Date: 5/16/97 Time: 1030 Meter Serial #: 9105 Temperature °F: ___

(EC 1000 ___ / ___) (DI ___) (pH 7 ___ / ___ pH 10 ___ / ___) (pH 4 ___ / ___)

Location of previous calibration: ESE-1

Signature: [signature] Reviewed By: mr Page 3 of 4

Rev 3.2/94

WATER SAMPLE FIELD DATA SHEET

EMCON ASSOCIATES

PROJECT NO: 20143-014.002 | SAMPLE ID: ESG-4

PURGED BY: M. Ross | CLIENT NAME: PG&E Emeryville

SAMPLED BY: M. Ross | LOCATION: Emeryville, Ca

TYPE: Ground Water ✓ Surface Water ___ Treatment Effluent ___ Other ___

CASING DIAMETER (inches): 2 ✓ 3 ___ 4 ___ 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL):	NR	VOLUME IN CASING (gal.):	3.43
DEPTH TO WATER (feet):	10.56	CALCULATED PURGE (gal.):	13.73
DEPTH OF WELL (feet):	31.6	ACTUAL PURGE VOL. (gal.):	14.00

DATE PURGED: 5/16/97 Start (2400 Hr) 1246 End (2400 Hr) 1305

DATE SAMPLED: 5/16/97 Start (2400 Hr) 1310 End (2400 Hr) ___

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1249	3.5	7.55	570	70.4	BRN	Heavy
1252	7.0	7.43	553	68.7	BRN	Heavy
1255	10.5	7.42	551	68.7	BRN	Heavy
1303	14.0	7.40	559	69.1	BRN	Heavy

D. O. (ppm): NR ODOR: NONE

Field QC samples collected at this well: NR

Parameters field filtered at this well: NR

(COBALT 0 - 500): NR

(NTU 0 - 200 or 0 - 1000): NR

PURGING EQUIPMENT

___ 2" Bladder Pump
___ Centrifugal Pump
___ Submersible Pump
___ Well Wizard™
✓ Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated
Other: ___

SAMPLING EQUIPMENT

___ 2" Bladder Pump
___ DDL Sampler
___ Dipper
___ Well Wizard™
✓ Bailer (Teflon®)
___ Bailer (Stainless Steel)
___ Submersible Pump
___ Dedicated
Other: ___

WELL INTEGRITY: OK LOCK #: 3900

REMARKS: ___

Meter Calibration: Date: 5/16/97 Time: 1030 Meter Serial #: 9105 Temperature °F: ___

(EC 1000 ___ / ___) (DI ___) (pH 7 ___ / ___ pH 10 ___ / ___) (pH 4 ___ / ___)

Location of previous calibration: ESG-1

Signature: [signature] Reviewed By: [signature] Page 4 of 4

EMCON - Drum Inventory Record

20143-014.002
Project No

Emeryville, CA
Location

5/16/97
Date

PG&E
Client

M. Rose
Sampler

FRIDAY
Day of Week

DRUM NUMBER OR ID	WELL OR SOURCE ID(s)	TYPE OF MATERIAL	AMOUNT OF MATERIAL IN DRUM	DATE ACCUMULATED OR GENERATED
(A)	ESE-1, ESE-2 ESE-3, ESE-4	H2O	50.0	5/16/97

Sketch locations of drums, include drum ID's

COMMENTS:

Number of Drums From This Event 1

Total Number of Drums At Site 1

EMCON
GROUNDWATER SAMPLING AND ANALYSIS REQUEST FORM

PROJECT NAME: **PG&E-Emeryville**
4525 Hollis Street, Emeryville, CA
DATE SUBMITTED: **16-May-97**

SPECIAL INSTRUCTIONS / CONSIDERATIONS :
Quarterly Water Quality Monitoring - Third Month of the Quarter

Survey water levels prior to well purging and sampling.
Purge four casing volumes prior to sample collection
Purge and sample using bailers.
Drum purge water; use the drums supplied by PG&E
~~Chromalab will pick up the samples on Friday, May 16th at 3:00;~~ bring the ~~samples back to the office.~~

Authorization: _____

Project No. : **20143-014.002**

Send Results To: **J. C. Isham**

Coordinator: **Steve Horton**

Well Locks:
PG&E

PG&E Project
Coordinator: **Mr. Fred Flint** Phone No.: **(510) 866-5808**
Site Contact: **Mr. [illegible] Byrd** Phone No.: **(510) 450-5740**

Well ID or Source	Casing Diameter (inches)	Casing Length (feet)	ANALYSES REQUESTED
ESE-1	2.0	30.6	**PCBs by EPA 8080** **BTEX by EPA 602** **TEPH as mineral oil by EPA 3510/8015**
ESE-2	2.0	34.3	
ESE-3	2.0	31.0	
ESE-4	2.0	31.6	
FB-1	NA	NA	**BTEX by EPA 602**
MW-4	2.0	14.7	**Water Level & Total Depth Only**

Laboratory and Lab QC Instructions:
Tier I QC; all samples are to be analyzed by Chromalab

APPENDIX B

CERTIFIED ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

CHROMALAB, INC.

Environmental Services (SDB)

RECEIVED
JUN 02 1997
EMCON/SACRAMENTO

May 27, 1997

Submission #: 9705240

EMCON ASSOCIATES-SACRAMENTO

Atten: J.C. Isham

Project: PGE-EMERYVILLE
Received: May 16, 1997

Project#: 20143-014.002

re: One sample for Polychlorinated Biphenyls (PCBs) analysis.
Method: *SW846 Method 8080A Nov 1990*

Client Sample ID: **ESE-1**
Spl#: 132256
Sampled: May 16, 1997

Matrix: WATER
Run#: 6956

Extracted: May 21, 1997
Analyzed: May 21, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
AROCLOR 1016	N.D.	0.50	N.D.	--	1
AROCLOR 1221	N.D.	0.50	N.D.	--	1
AROCLOR 1232	N.D.	0.50	N.D.	--	1
AROCLOR 1242	N.D.	0.50	N.D.	--	1
AROCLOR 1248	N.D.	0.50	N.D.	--	1
AROCLOR 1254	N.D.	0.50	N.D.	--	1
AROCLOR 1260	N.D.	0.50	N.D.	106	1

Dennis Mayugba
Chemist

Alex Tam
Semivolatiles Supervisor

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

May 27, 1997 *Submission #:* 9705240

EMCON ASSOCIATES-SACRAMENTO

Atten: J.C. Isham

Project: PGE-EMERYVILLE *Project#:* 20143-014.002
Received: May 16, 1997

re: One sample for Polychlorinated Biphenyls (PCBs) analysis.
Method: *SW846 Method 8080A Nov 1990*

Client Sample ID: **ESE-2**
Spl#: 132257 *Matrix:* WATER *Extracted:* May 21, 1997
Sampled: May 16, 1997 *Run#:* 6956 *Analyzed:* May 22, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
AROCLOR 1016	N.D.	0.50	N.D.	--	1
AROCLOR 1221	N.D.	0.50	N.D.	--	1
AROCLOR 1232	N.D.	0.50	N.D.	--	1
AROCLOR 1242	N.D.	0.50	N.D.	--	1
AROCLOR 1248	N.D.	0.50	N.D.	--	1
AROCLOR 1254	N.D.	0.50	N.D.	--	1
AROCLOR 1260	N.D.	0.50	N.D.	106	1

Dennis Mayugba
Chemist

Alex Tam
Semivolatiles Supervisor

916-928-3341 GC 05/23

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

8051 D:QC0405 DENNIS 16:04

CHROMALAB, INC.

Environmental Services (SDB)

May 27, 1997

Submission #: 9705240

EMCON ASSOCIATES-SACRAMENTO

Atten: J.C. Isham

Project: PGE-EMERYVILLE
Received: May 16, 1997

Project#: 20143-014.002

re: One sample for Polychlorinated Biphenyls (PCBs) analysis.
Method: *SW846 Method 8080A Nov 1990*

Client Sample ID: **ESE-3**
Spl#: 132258
Sampled: May 16, 1997

Matrix: WATER
Run#: 6956

Extracted: May 21, 1997
Analyzed: May 22, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
AROCLOR 1016	N.D.	0.50	N.D.	--	1
AROCLOR 1221	N.D.	0.50	N.D.	--	1
AROCLOR 1232	N.D.	0.50	N.D.	--	1
AROCLOR 1242	N.D.	0.50	N.D.	--	1
AROCLOR 1248	N.D.	0.50	N.D.	--	1
AROCLOR 1254	N.D.	0.50	N.D.	--	1
AROCLOR 1260	N.D.	0.50	N.D.	106	1

Dennis Mayugba
Chemist

Alex Tam
Semivolatiles Supervisor

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

May 27, 1997

Submission #: 9705240

EMCON ASSOCIATES-SACRAMENTO

Atten: J.C. Isham

Project: PGE-EMERYVILLE
Received: May 16, 1997

Project#: 20143-014.002

re: One sample for Polychlorinated Biphenyls (PCBs) analysis.
Method: *SW846 Method 8080A Nov 1990*

Client Sample ID: **ESE-4**
Spl#: 132259
Sampled: May 16, 1997

Matrix: WATER
Run#: 6956

Extracted: May 21, 1997
Analyzed: May 22, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
AROCLOR 1016	N.D.	0.50	N.D.	--	1
AROCLOR 1221	N.D.	0.50	N.D.	--	1
AROCLOR 1232	N.D.	0.50	N.D.	--	1
AROCLOR 1242	N.D.	0.50	N.D.	--	1
AROCLOR 1248	N.D.	0.50	N.D.	--	1
AROCLOR 1254	N.D.	0.50	N.D.	--	1
AROCLOR 1260	N.D.	0.50	N.D.	106	1

Dennis Mayugba
Chemist

Alex Tam
Semivolatiles Supervisor

916-928-3341 GC 05/23

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

May 23, 1997 *Submission #:* 9705240

EMCON ASSOCIATES-SACRAMENTO

Atten: J.C. Isham

Project: PGE-EMERYVILLE *Project#:* 20143-014.002
Received: May 16, 1997

re: One sample for TEPH analysis.
Method: *EPA 8015M*

Client Sample ID: **ESE-1**
Spl#: 132256 *Matrix:* WATER *Extracted:* May 20, 1997
Sampled: May 16, 1997 *Run#:* 6934 *Analyzed:* May 21, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
MINERAL OIL	510	110	N.D.	60.0	1

NOTE: Quantitation for the above Analyte is based on the response factor of Diesel.

Bruce Havlik
Chemist

Alex Tam
Semivolatiles Supervisor

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

May 23, 1997

Submission #: 9705240

EMCON ASSOCIATES-SACRAMENTO

Atten: J.C. Isham

Project: PGE-EMERYVILLE
Received: May 16, 1997

Project#: 20143-014.002

re: One sample for TEPH analysis.
Method: *EPA 8015M*

Client Sample ID: **ESE-2**
Spl#: 132257
Sampled: May 16, 1997

Matrix: WATER
Run#: 6934

Extracted: May 20, 1997
Analyzed: May 21, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
MINERAL OIL	190	110	N.D.	60.0	1

NOTE: Quantitation for the above Analyte is based on the response factor of Diesel.

Bruce Havlik
Chemist

Alex Tam
Semivolatiles Supervisor

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

May 23, 1997 *Submission #:* 9705240

EMCON ASSOCIATES-SACRAMENTO

Atten: J.C. Isham

Project: PGE-EMERYVILLE *Project#:* 20143-014.002
Received: May 16, 1997

re: One sample for TEPH analysis.
Method: *EPA 8015M*

Client Sample ID: **ESE-3**
Spl#: 132258 *Matrix:* WATER *Extracted:* May 20, 1997
Sampled: May 16, 1997 *Run#:* 6934 *Analyzed:* May 21, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
MINERAL OIL	N.D.	110	N.D.	60.0	1

NOTE: Quantitation for the above Analyte is based on the response factor of Diesel.

Bruce Havlik
Chemist

Alex Tam
Semivolatiles Supervisor

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

May 23, 1997 *Submission #:* 9705240

EMCON ASSOCIATES-SACRAMENTO

Atten: J.C. Isham

Project: PGE-EMERYVILLE *Project#:* 20143-014.002
Received: May 16, 1997

re: One sample for TEPH analysis.
Method: *EPA 8015M*

Client Sample ID: **ESE-4**
Spl#: 132259 *Matrix:* WATER *Extracted:* May 20, 1997
Sampled: May 16, 1997 *Run#:* 6934 *Analyzed:* May 20, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
MINERAL OIL	N.D.	110	N.D.	60.0	1

NOTE: Quantitation for the above Analyte is based on the response factor of Diesel.

Bruce Havlik
Chemist

Alex Tam
Semivolatiles Supervisor

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

May 23, 1997 *Submission #:* 9705240

EMCON ASSOCIATES-SACRAMENTO

Atten: J.C. Isham

Project: PGE-EMERYVILLE *Project#:* 20143-014.002
Received: May 16, 1997

re: One sample for BTEX analysis.
Method: SW846 8020A Nov 1990

Client Sample ID: **FB-1**
Spl#: 132260 *Matrix:* WATER
Sampled: May 16, 1997 *Run#:* 6942 *Analyzed:* May 20, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
BENZENE	N.D.	0.50	N.D.	91	1
TOLUENE	N.D.	0.50	N.D.	88	1
ETHYL BENZENE	N.D.	0.50	N.D.	92	1
XYLENES	N.D.	0.50	N.D.	88	1

Kayvan Kimyai
Chemist

Marianne Alexander
Gas/BTEX Supervisor

916-928-3341

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

GC V132 O:BTEXQC022
KAYVAN 08:3:

CHROMALAB, INC.

Environmental Services (SDB)

May 23, 1997 *Submission #:* 9705240

EMCON ASSOCIATES-SACRAMENTO

Atten: J.C. Isham

Project: PGE-EMERYVILLE *Project#:* 20143-014.002
Received: May 16, 1997

re: One sample for BTEX analysis.
Method: SW846 8020A Nov 1990

Client Sample ID: **ESE-2**
Spl#: 132257 *Matrix:* WATER
Sampled: May 16, 1997 *Run#:* 6942 *Analyzed:* May 20, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
BENZENE	N.D.	0.50	N.D.	91	1
TOLUENE	N.D.	0.50	N.D.	88	1
ETHYL BENZENE	N.D.	0.50	N.D.	92	1
XYLENES	N.D.	0.50	N.D.	88	1

Kayvan Kimyai
Chemist

Marianne Alexander
Gas/BTEX Supervisor

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

May 23, 1997 *Submission #:* 9705240

EMCON ASSOCIATES-SACRAMENTO

Atten: J.C. Isham

Project: PGE-EMERYVILLE *Project#:* 20143-014.002
Received: May 16, 1997

re: One sample for BTEX analysis.
Method: SW846 8020A Nov 1990

Client Sample ID: **ESE-1**
Spl#: 132256 *Matrix:* WATER
Sampled: May 16, 1997 *Run#:* 6942 *Analyzed:* May 20, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
BENZENE	N.D.	0.50	N.D.	91	1
TOLUENE	N.D.	0.50	N.D.	88	1
ETHYL BENZENE	N.D.	0.50	N.D.	92	1
XYLENES	N.D.	0.50	N.D.	88	1

Kayvan Kimyai
Chemist

Marianne Alexander
Gas/BTEX Supervisor

916-928-3341

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

GC V132 O:BTEXQC02
KAYVAN 05:

CHROMALAB, INC.

Environmental Services (SDB)

May 23, 1997 *Submission #:* 9705240

EMCON ASSOCIATES-SACRAMENTO

Atten: J.C. Isham

Project: PGE-EMERYVILLE *Project#:* 20143-014.002
Received: May 16, 1997

re: One sample for BTEX analysis.
Method: SW846 8020A Nov 1990

Client Sample ID: **ESE-3**
Spl#: 132258 *Matrix:* WATER
Sampled: May 16, 1997 *Run#:* 6942 *Analyzed:* May 20, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
BENZENE	N.D.	0.50	N.D.	91	1
TOLUENE	N.D.	0.50	N.D.	88	1
ETHYL BENZENE	N.D.	0.50	N.D.	92	1
XYLENES	N.D.	0.50	N.D.	88	1

Kayvan Kimyai
Chemist

Marianne Alexander
Gas/BTEX Supervisor

916-928-3341

GCV132O:BTEXQC02
KAYVAN 08:

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

May 23, 1997 *Submission #:* 9705240

EMCON ASSOCIATES-SACRAMENTO

Atten: J.C. Isham

Project: PGE-EMERYVILLE *Project#:* 20143-014.002
Received: May 16, 1997

re: One sample for BTEX analysis.
Method: SW846 8020A Nov 1990

Client Sample ID: **ESE-4**
Spl#: 132259 *Matrix:* WATER
Sampled: May 16, 1997 *Run#:* 6942 *Analyzed:* May 20, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
BENZENE	N.D.	0.50	N.D.	91	1
TOLUENE	N.D.	0.50	N.D.	88	1
ETHYL BENZENE	N.D.	0.50	N.D.	92	1
XYLENES	N.D.	0.50	N.D.	88	1

Kayvan Kimyai
Chemist

Marianne Alexander
Gas/BTEX Supervisor

916-928-3341

GC V132 O:BTEXQC022
KAYVAN 06:21

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

2401/1[redacted]29[redacted]-[redacted]2200 33745

EMCON - San Jose

CHAIN OF CUSTODY /LABORATORY ANALYSIS REQUEST FORM

1921 Ringwood Avenue, San Jose, CA 95131 (408) 453-7300 FAX (408) 437-9526

Date 5/16/97 Page 1 of 1

Project Name: Pacific Gas & Electric - Emeryville
Project Number: 20143-014.002
Project Manager: J.C. Isham

Company/Address: EMCON
1433 North Market Boulevard
Sacramento, CA 95834-1943
Phone: (916) 928-3300
(916) 928-3341 **(fax)**
Sampler's Signature: Mike Ross

Sample I.D.	Date	Time	LAB I.D.	Sample Matrix	Number of Containers	BTEX EPA 602	PCBs EPA 8080	TEPH as mineral oil by EPA 3510/8015	REMARKS
						Analysis Requested			
									Preservations
ESE-1	5/16/97	1115		H2O	6	HCl X	NP X	NP X	
ESE-2	"	1150		"	6	"	"	"	
ESE-3	"	1235		"	6	"	"	"	
ESE-4	"	1310		"	6	"	"	"	
FB-1	"	1155		"	8	"			

JOB #: 9705240 REP: GC
CLIENT: EMCON
DATE: 05/23/97
SEF #: 33745

Relinquished By	Received By
Signature: Mike Ross	Signature
Printed Name: EMCON	Printed Name
Firm	Firm
Date/Time: 5/16/97 1500	Date/Time
Relinquished By	Received By
Signature	Signature: Mk Naranjo
Printed Name	Printed Name: Chromalab
Firm	Firm: 5-16-97 1500
Date/Time	Date/Time

TURNAROUND REQUIREMENTS
___ 24 hr ___ 48 hr
X Standard
___ Provide Verbal Preliminary Results
X Provide FAX Preliminary Results
Requested Report Date ___

REPORT REQUIREMENTS
X I. Routine Report
___ II. Report (includes DUP, MS MSD, as required, may be charged as samples)
___ III. Data Validation Report (includes All Raw Data)
___ RWQCB (MDLs/PQLs/TRACE#)

INVOICE INFORMATION
P.O. # ___
Bill to: ___

SAMPLE RECEIPT
Shipping VIA: ___
Shipping #: ___
Condition: ___
Lab No: ___

Special Instructions/Comments:

Please fax *chain-of-custody* to Fred Flint *prior* to conducting analysis; please fax *analytical results* to Fred Flint *after* conducting analysis (fax # 510-866-5681)

Send results to J.C. Isham at Emcon-Sacramento **(please FAX preliminary results)**
Use Dielectric standard previously supplied to Chromalab for TEPH Analysis

CHROMALAB, INC.

Environmental Service (SDB)

Sample Receipt Checklist

Client Name: **EMCON ASSOCIATES-SACRAMENTO** Date/Time Received: 05/16/97 | 1500

Reference/Submis: 33745 | 9705240 Received by: MN

Checklist completed by: Chris Rowley 5/19/97 Reviewed by: MN 5/19

Signature Date Initials | Date

Matrix: H2O Carrier name: Client - C/L _____

Shipping container/cooler in good condition?	Yes ✓	No ___	Not Present ___
Custody seals intact on shipping container/cooler?	Yes ___	No ___	Not Present ✓
Custody seals intact on sample bottles?	Yes ___	No ___	Not Present ✓
Chain of custody present?	Yes ✓	No ___	
Chain of custody signed when relinquished and received?	Yes ✓	No ___	
Chain of custody agrees with sample labels?	Yes ✓	No ___	
Samples in proper container/bottle?	Yes ✓	No ___	
Sample containers intact?	Yes ✓	No ___	
Sufficient sample volume for indicated test?	Yes ✓	No ___	
All samples received within holding time?	Yes ✓	No ___	
Container/Temp Blank temperature in compliance? Temp: 11.0 °C	Yes ___	No ✓	
Water - VOA vials have zero headspace? No VOA vials submitted ___	Yes ✓	No ___	
Water - pH acceptable upon receipt? YES Adjusted? ___ Checked by CR (chemist for VOAs)			

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted: _____ **Date contacted:** _____ **Person contacted:** _____

Contacted by: _____ **Regarding:** _____

Comments: Samples rec'd out of acceptable temp. range of 2-8°C

Corrective Action: Samples recd within 2 hours of sampling time