GROUNDWATER MONITORING AND SAMPLING ANNUAL REPORT

OAKLAND POWER PLANT
50 MARTIN LUTHER KING JR. WAY
OAKLAND, CALIFORNIA
First Quarter 1997

Prepared for

Pacific Gas and Electric Company

April 1997

Prepared by

EMCON
1433 North Market Boulevard
Sacramento, California 95834

Project 0143-117.01

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FIGURES

1 INTRODUCTION

This report presents data collected during the first quarter 1997 monitoring period at Pacific Gas and Electric Company (PG&E) Oakland Power Plant, 50 Martin Luther King, Jr. Way, Oakland, California (see Figure 1).

2 GROUNDWATER GRADIENT AND DIRECTION

First quarter groundwater levels were measured at PG&E's Oakland Power Plant on February 28, 1997, using an electronic sounding device, and recorded on the monitoring well data form included in Appendix A. The groundwater elevations are summarized in the table. The February data were used in constructing a groundwater contour map (see Figure 2). February water levels ranged from a low of 9.11 feet above mean sea level (MSL) in well MW-1-3 to a high of 9.22 feet above MSL in well MW-1-2. The estimated groundwater gradient is approximately 0.001 foot per foot (ft/ft) to the northwest.

3 SAMPLING, ANALYSIS, AND MONITORING PROGRAM RESULTS

Groundwater samples were collected from wells MW-1-2, MW-1-3, and MW-2-3 on February 28, 1997, consistent with the protocol presented in Figure 3. Samples collected from wells MW-1-2, MW-1-3, and MW-2-3 were analyzed for diesel by the U.S. Environmental Protection Agency (USEPA) Method 3510/8015M. Based on a letter dated January 11, 1996, from Hazardous Materials Specialist, Jennifer Eberle, with the Alameda County Environmental Health Services Department, the analysis for BTEX was eliminated from well MW-2-3, as well as from the field blank. The analysis for BTEX in wells MW-1-2 and MW-1-3 was eliminated in the second quarter of 1994. Field readings from the first quarter 1997 (annual sampling event) monitoring event are recorded on the water sample field data sheets (see Appendix A) and summarized in the table.

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

An unknown hydrocarbon in the diesel range was detected in samples collected from wells MW-1-2, MW-1-3, and MW-2-3 at concentrations of 1,800, 1,500, and 610 micrograms per liter (µg/L), respectively.

4 FIELD AND 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 and analyzing it for diesel.

The field blank was collected to assess the effect of field environments on the analytical results and to identify false positives. No parameters were detected above their respective method reporting limits in the field blank, indicating no adverse effects from sampling or analytical procedures.

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

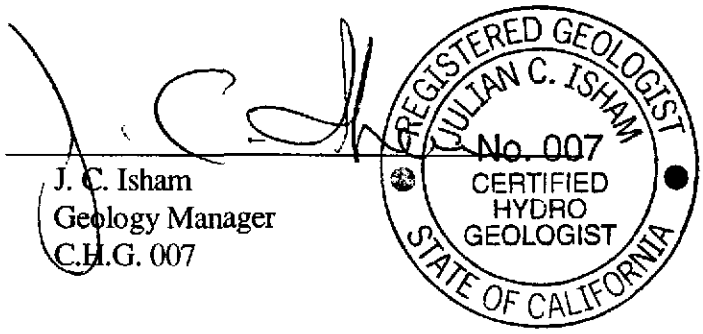
Holding times are established by the USEPA and refer to the maximum time allowed to pass between sample collection and analysis by the laboratory. These limits assist in determining data validity. The method blank results are used to assess the effect of the laboratory environment on the analytical results.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

Harold R. Duke
Project Manager

Table
Oakland Power Plant
First Quarter 1997 Monitoring Data

Sample Designation	Sampling Date	Top of Casing (ft/MSL)	Depth to Groundwater (ft)	Groundwater Elevation (ft/MSL)	TPHD ug/L	Benzene ug/L	Toluene ug/L	Ethyl-benzene ug/L	Total Xylenes ug/L
MW-1-2	06/22/93	13.95	5.05	8.90	1,500 [1]	<0.5	<0.5	<0.5	<0.5
MW-1-2	09/22/93		5.91	8.04	240	<0.5	<0.5	<0.5	<0.5
Dup	09/22/93		---	---	---	<0.5	<0.5	<0.5	<0.5
MW-1-2	12/28/93		4.77	9.18	200	<0.5	<0.5	<0.5	<0.5
Dup	12/28/93		---	---	---	<0.5	<0.5	<0.5	<0.5
MW-1-2	04/11/94		4.66	9.29	---	<0.5	<0.5	<0.5	<0.5
Dup	04/11/94		---	---	---	<0.5	<0.5	<0.5	<0.5
MW-1-2	04/20/94		4.86	9.09	600	---	---	---	---
MW-1-2	06/29/94		5.18	8.77	520	---	---	---	---
MW-1-2	10/07/94		4.55	9.40	590	---	---	---	---
MW-1-2	01/03/95		4.11	9.84	650 [1]	---	---	---	---
MW-1-2	03/24/95		3.57	10.38	740 [1]	---	---	---	---
MW-1-2	06/30/95		4.69	9.26	540	---	---	---	---
MW-1-2	10/12/95		5.35	8.60	230 [1]	---	---	---	---
MW-1-2	01/18/96		4.19	9.76	600 [1]	---	---	---	---
MW-1-2	02/19/96		4.03	9.92	670 [1]	---	---	---	---
MW-1-2	02/28/97		4.73	9.22	1,800 [1]	---	---	---	---
MW-1-3	06/22/93	14.01	5.15	8.86	160 [1]	<0.5	<0.5	<0.5	<0.5
MW-1-3	09/22/93		5.57	8.44	430	<0.5	<0.5	<0.5	<0.5
MW-1-3	12/28/93		5.13	8.88	<50	<0.5	<0.5	<0.5	<0.5
MW-1-3	04/11/94		5.01	9.00	---	<0.5	<0.5	<0.5	<0.5
MW-1-3	04/20/94		5.09	8.92	<50	---	---	---	---
MW-1-3	06/29/94		5.30	8.71	280 [1]	---	---	---	---
MW-1-3	10/07/94		5.69	8.32	160 [1]	---	---	---	---
MW-1-3	01/03/95		4.62	9.39	210 [1]	---	---	---	---

Table
Oakland Power Plant
First Quarter 1997 Monitoring Data

Sample Designation	Sampling Date	Top of Casing (ft/MSL)	Depth to Groundwater (ft)	Groundwater Elevation (ft/MSL)	TPHD ug/L	Benzene ug/L	Toluene ug/L	Ethyl-benzene ug/L	Total Xylenes ug/L
MW-1-3	06/30/95		4.89	9.12	231 [1]	---	---	---	---
MW-1-3	10/12/95		5.43	8.58	190 [1]	---	---	---	---
MW-1-3	01/18/96		4.72	9.29	240 [1]	---	---	---	---
MW-1-3	02/19/96		4.41	9.60	290 [1]	---	---	---	---
MW-1-3	02/28/97		4.90	9.11	1,500 [1]	---	---	---	---
MW-2-3	06/22/93	13.91	5.00	8.91	560 [2]	3	<0.5	<0.5	<0.5
MW-2-3	09/22/93		5.50	8.41	460	<0.5	<0.5	<0.5	<0.5
MW-2-3	12/28/93		4.74	9.17	<50 [3]	<0.5	<0.5	<0.5	<0.5
MW-2-3	04/11/94		5.62	8.29	---	<0.5	<0.5	<0.5	<0.5
MW-2-3	04/20/94		5.83	8.08	<50	---	---	---	---
MW-2-3	06/29/94		5.14	8.77	920 [1,4]	<0.5	<0.5	<0.5	<0.5
MW-2-3	10/07/94		5.50	8.41	<50	16	13	6	24
MW-2-3	01/03/95		4.11	9.80	190 [1]	<0.5	<0.5	<0.5	<0.5
MW-2-3	03/24/95		3.47	10.44	110 [1]	<0.5	<0.5	<0.5	<0.5
Dup	03/24/95		---	---	---	<0.5	<0.5	<0.5	<0.5
MW-2-3	06/30/95		4.66	9.25	187 [1]	<0.5	<0.5	<0.5	<0.5
Dup	06/30/95		---	---	---	<0.5	<0.5	<0.5	<0.5
MW-2-3	10/12/95		5.30	8.61	290 [1]	<0.5	<0.5	<0.5	<0.5
MW-2-3	01/18/96		4.15	9.76	370 [1]	---	---	---	---
MW-2-3	02/19/96		3.97	9.94	320 [1]	---	---	---	---
MW-2-3	02/28/97		4.70	9.21	610 [1]	---	---	---	---
Travel Blank	09/22/93				---	<0.5	<0.5	<0.5	<0.5
Travel Blank	12/28/93				---	<0.5	<0.5	<0.5	<0.5
Travel Blank	04/11/94				---	<0.5	<0.5	<0.5	<0.5
Travel Blank	01/03/95				---	<0.5	<0.5	<0.5	<0.5

Table
Oakland Power Plant
First Quarter 1997 Monitoring Data

Sample Designation	Sampling Date	Top of Casing (ft/MSL)	Depth to Groundwater (ft)	Groundwater Elevation (ft/MSL)	TPHD ug/L	Benzene ug/L	Toluene ug/L	Ethyl-benzene ug/L	Total Xylenes ug/L
Travel Blank	03/24/95				---	<0.5	0.5	<0.5	<0.5
Travel Blank	06/30/95				---	<0.5	<0.5	<0.5	<0.5
Travel Blank	10/12/95				---	<0.5	<0.5	<0.5	<0.5
Trip Blank	01/18/96				<50	---	---	---	---
Field Blank	02/19/96				<50	---	---	---	---
Field Blank	02/28/97				<50	---	---	---	---

TPHD = Total petroleum hydrocarbons as diesel.

ft/MSL = Feet with respect to mean sea level.

ug/L = Micrograms per liter.

Dup = Blind duplicate.

[1] Unknown hydrocarbon in diesel range quantified as diesel.

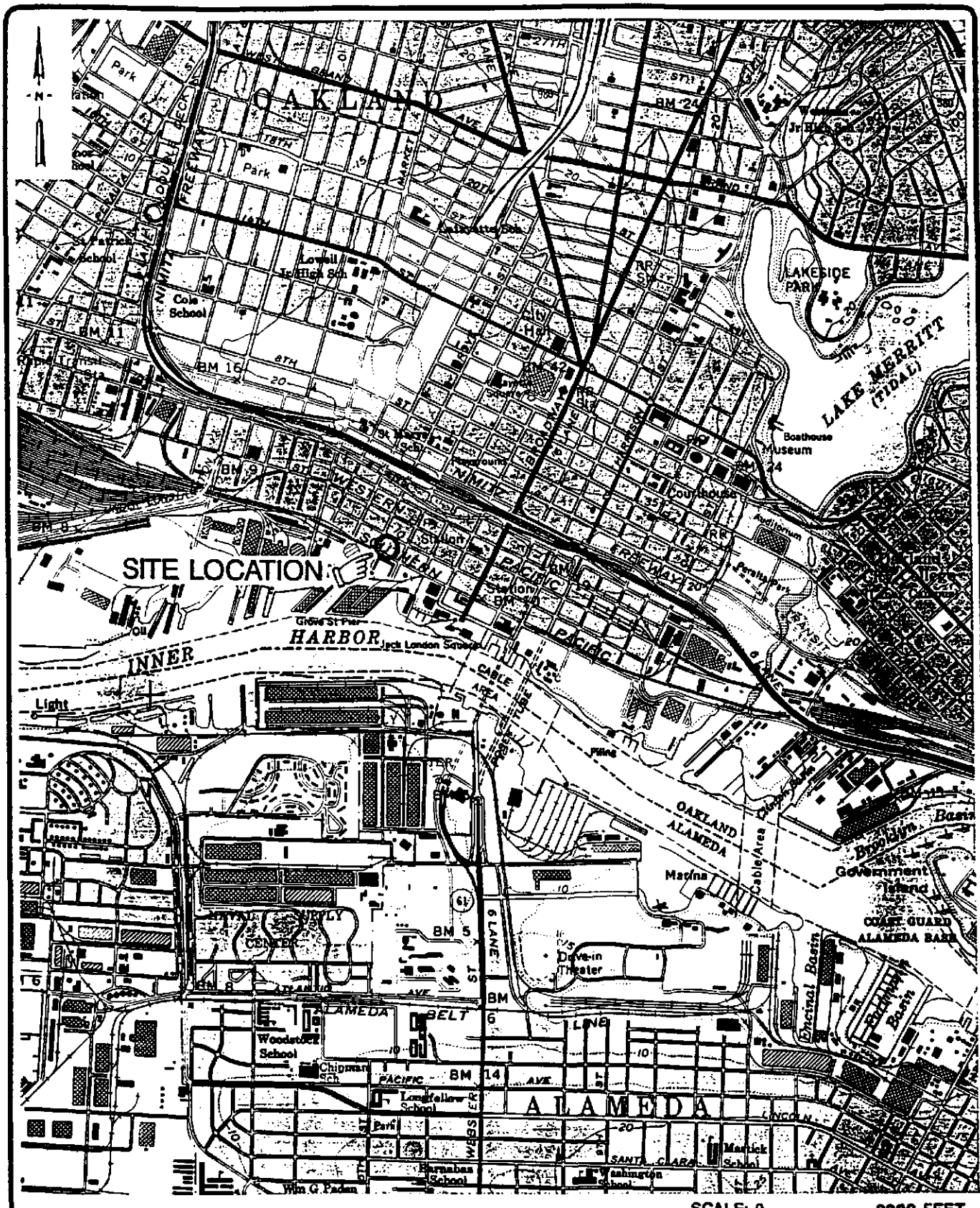
[2] Motor oil at a concentration of 3.1 milligrams per liter detected in sample.

[3] Motor oil at a concentration of 2.9 milligrams per liter detected in sample.

[4] Unknown hydrocarbon in motor oil range was also observed in sample.

-- = Not analyzed.

152753



Base map from U.S. Geologic Survey 7.5 minute series
quadrangle: Oakland West, California

10/95

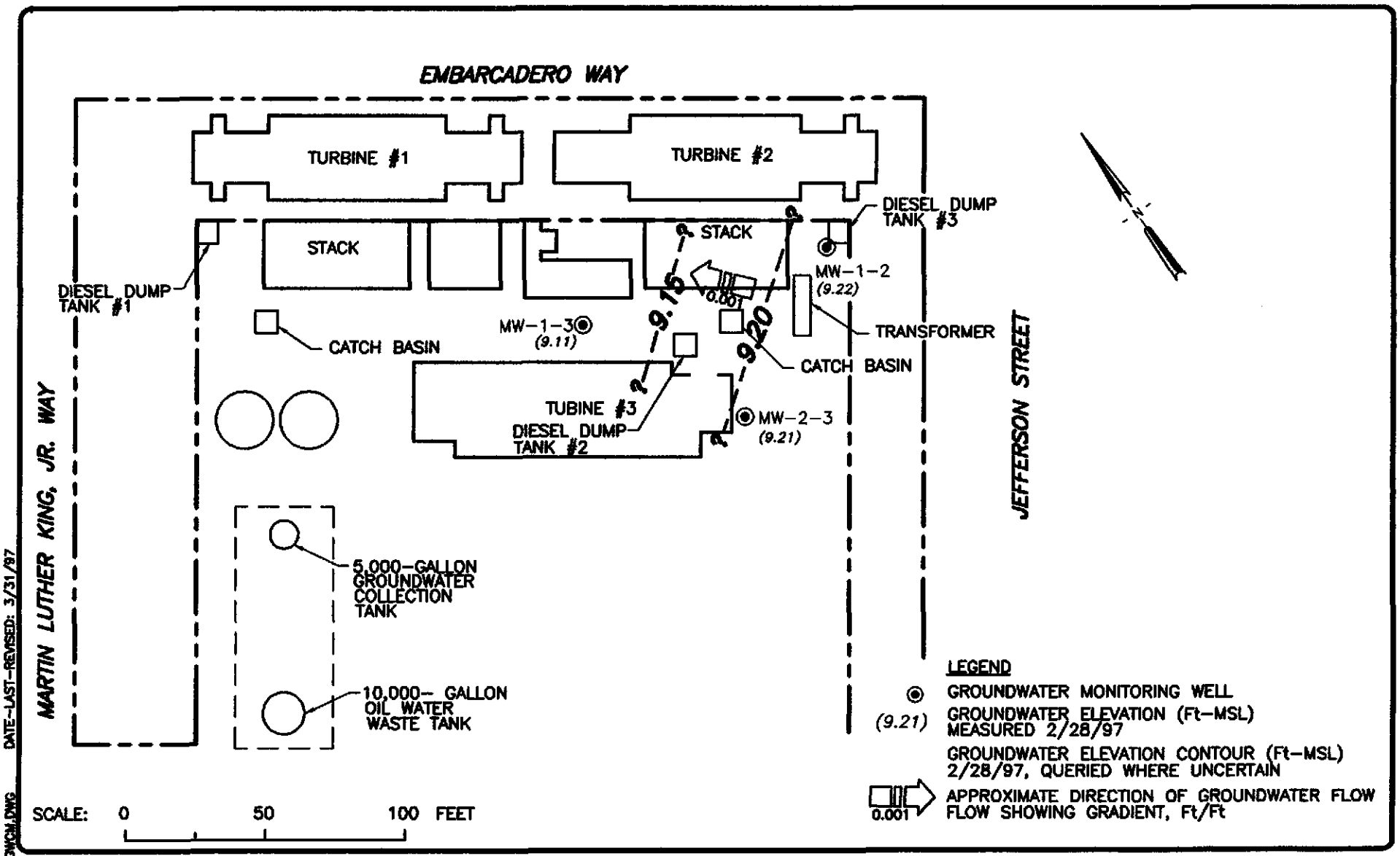
emcon

PACIFIC GAS AND ELECTRIC COMPANY
OAKLAND POWER PLANT
50 MARTIN LUTHER KING, JR. WAY
OAKLAND, CALIFORNIA

SITE LOCATION MAP

FIGURE
1

PROJECT NO.
0143-117.01



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PACIFIC GAS & ELECTRIC
OAKLAND POWER PLANT
OAKLAND, CALIFORNIA

GROUNDWATER CONTOUR MAP
FIRST QUARTER 1997

FIGURE
2
PROJECT NO.
0143-117.01

MONITORING WELL PURGING PROTOCOL

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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.

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MONITORING WELL PURGING PROTOCOL

FIGURE 3

EMCON - Field Services
1921 Ringwood Avenue
San Jose, California

Signature

Historical Monitoring Well Data
PG&E Oakland
20143-117.001

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
	10/12/95		5.35	5.35	ND	13.5	
	02/19/96		4.03	4.03	ND	13.5	
MW-1-2			4.73	4.73	ND	13.6	Time: 1020 Lock: 0464
	10/12/95		5.43	5.43	ND	7.2	
	02/19/96		4.41	4.41	ND	7.1	
MW-1-3			4.90	4.90	ND	7.2	Time: 1014 Lock: NONE
	10/12/95		5.30	5.30	ND	13.3	
	02/19/96		3.97	3.97	ND	13.3	
MW-2-3			4.70	4.70	ND	13.4	Time: 1028 Lock: 3204

Rev. 3, 2/94

WATER SAMPLE FIELD DATA SHEET

EMCON ASSOCIATES

PROJECT NO: 20143-117-001 SAMPLE ID: MW-1-2

PURGED BY: M. GALLEGOS CLIENT NAME: PG&E - OAKLAND POWER

SAMPLED BY: ↓ LOCATION: OAKLAND, CA

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

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

CASING ELEVATION (feet/MSL):	N/R	VOLUME IN CASING (gal.):	5.79
DEPTH TO WATER (feet):	4.73	CALCULATED PURGE (gal.):	17.38
DEPTH OF WELL (feet):	13.6	ACTUAL PURGE VOL. (gal.):	9.0

DATE PURGED: 2-28-97 Start (2400 Hr) 1056 End (2400 Hr) 1059

DATE SAMPLED: ↓ Start (2400 Hr) 1110 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1057	6.0	6.70	1685	60.2	Sl. yellowish	mod
	well D.Y. @		9.0 Gallons			
1110	recharge	7.28	1797	63.3		

D. O. (ppm): N/R ODOR: Strong

COLOR (COBALT 0 - 500): N/R

TURBIDITY (NTU 0 - 200 or 0 - 1000): N/R

Field QC samples collected at this well: N/R

Parameters field filtered at this well: N/R

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
___ 2" Bladder Pump	___ Bailer (Teflon®)	___ 2" Bladder Pump	X Bailer (Teflon®)
X Centrifugal Pump	___ Bailer (PVC)	___ DDL Sampler	___ Bailer (Stainless Steel)
___ Submersible Pump	___ Bailer (Stainless Steel)	___ Dipper	___ Submersible Pump
___ Well Wizard™	___ Dedicated	___ Well Wizard™	___ Dedicated
Other: ___		Other: ___	

WELL INTEGRITY: OK LOCK #: ___

REMARKS: All samples taken

Meter Calibration: Date: 2/28/97 Time: 1050 Meter Serial #: 9204 Temperature °F: 64-9

(EC 1000 997 / 1000) (DI ___) (pH 7 695 / 700) (pH 10 997 / 1000) (pH 4 398 / ___)

Location of previous calibration: ___

Signature: Manuel J. Gallegos Reviewed By: ___ Page 1 of 3

Rev. 3, 2/94

WATER SAMPLE FIELD DATA SHEET

EMCON ASSOCIATES

PROJECT NO: 20143-017.001 SAMPLE ID: MW-1-3

PURGED BY: M. Gallegos CLIENT NAME: PG&E - Oakland Power P

SAMPLED BY: ↓ LOCATION: OAKLAND, CA

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

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

CASING ELEVATION (feet/MSL):	NR	VOLUME IN CASING (gal.):	1.50
DEPTH TO WATER (feet):	4.90	CALCULATED PURGE (gal.):	4.50
DEPTH OF WELL (feet):	7.2	ACTUAL PURGE VOL (gal.):	2.0

DATE PURGED: 2-28-97 Start (2400 Hr) 1114 End (2400 Hr) 1117

DATE SAMPLED: ↓ Start (2400 Hr) 1125 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1115	1.5	7.69	2280	61.3	Yellow	mod
	well ran dry at		2.0 gallons		↓	↓
1127	Recharge	7.70	2070	58.8		

D. O. (ppm): NR ODOR: none. COLOR: NR (COBALT 0 - 500) TURBIDITY: NR (NTU 0 - 200 or 0 - 1000)

Field QC samples collected at this well: NR

Parameters field filtered at this well: NR

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
___ 2" Bladder Pump	___ Bailer (Teflon®)	___ 2" Bladder Pump	X Bailer (Teflon®)
___ Centrifugal Pump	X Bailer (PVC)	___ DDL Sampler	___ Bailer (Stainless Steel)
___ Submersible Pump	___ Bailer (Stainless Steel)	___ Dipper	___ Submersible Pump
___ Well Wizard™	___ Dedicated	___ Well Wizard™	___ Dedicated
Other: ___		Other: ___	

WELL INTEGRITY: OK LOCK #: ___

REMARKS: All samples taken.

Meter Calibration: Date: 2-28-97 Time: ___ Meter Serial #: 9204 Temperature °F: ___

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

Location of previous calibration: MW-1-2

Signature: Manuel J. Gallegos Reviewed By: ___ Page 2 of 3

Rev. 3, 2/94

EMCON ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 20143-117.001 SAMPLE ID: MW-2-3

PURGED BY: M. Gallegos CLIENT NAME: PG&E - Power Plant

SAMPLED BY: ✓ LOCATION: OAKLAND, 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.): 5.68

DEPTH TO WATER (feet): 4.70 CALCULATED PURGE (gal.): 17.05

DEPTH OF WELL (feet): 13.4 ACTUAL PURGE VOL. (gal.): 6.5

DATE PURGED: 2-28-97 Start (2400 Hr) 1133 End (2400 Hr) 1137

DATE SAMPLED: ✓ Start (2400 Hr) 1145 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1135	6.0	7.30	2070	60.6	Clear	light
	well dry at 6.5 gallons					
1148	recharge	7.45	2350	63.0	Brown	Heavy

D. O. (ppm): NR ODOR: none NR (COBALT 0 - 500) NR (NTU 0 - 200 or 0 - 1000)

Field QC samples collected at this well: QC-1 (1155)

Parameters field filtered at this well: NR

PURGING EQUIPMENT

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

SAMPLING EQUIPMENT

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

WELL INTEGRITY: OK LOCK #: ____

REMARKS: all samples taken

Meter Calibration: Date: 2/28/97 Time: ____ Meter Serial #: 9204 Temperature °F: ____

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

Location of previous calibration: MW-1-2

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

EMCON - Drum Inventory Record

20143-117.001	Oakland, CA	2/28/97
Project No	**Location**	**Date**
PG&E-Oakland	M. Gallegos	Friday
Client	**Sampler**	**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	MW-1-2 MW-1-3 MW-2-3			

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: **PACIFIC GAS & ELECTRIC-Oakland Power Plant**
50 Martin Luther King Way
DATE SUBMITTED: **28-Feb-97**

SPECIAL INSTRUCTIONS / CONSIDERATIONS :
Annual Water Quality Monitoring

BRING TWO DRUMS AND FIELD BLANK WATER FOR TPH-DIESE
MUST BE ON SITE BY 10:00AM. Gate is not staffed. Ring bell to be let in.
Take some extra locks along
Survey water levels prior to well purging and sampling.
Purge three casing volumes prior to sample collection
Purge with a jacuzzi or with bailers; sample with teflon bailers.
Drum purge water. Label and store drums by Hazardous
Waste storage area shed on the west side of the yard.

Deliver the samples to Chromalab when finished. (See attached map)

Authorization: _____

Project No. : **20143-117.001**
Task Code: _____

Send Results To: **JC Isham**

Coordinator: **Steve Horton**

Well Locks:
3490

TES Contact: **Fred Flint** Phone No.: **(510) 866-5808**
Site Contact: **NA** Phone No.: **NA**

Well ID or Source	Casing Diameter (inches)	Casing Length (feet)	ANALYSES REQUESTED
MW-1-2	4.0	13.5	**TPHD by EPA 3510/8015M** (Fill 2, 1 Liter Glass, NP)
MW-1-3	4.0	7.2	
MW-2-3	4.0	12.3	
Sample In Indicated Order			
QC-1 (Field Blank)			**TPHD by EPA 3510/8015M** (2, 1 Liter Glass, NP)

Laboratory and Lab QC Instructions: **all samples submitted to Chromalab; please send results to JC Isham**

CHROMALAB, INC.

Environmental Services (SDB)

March 7, 1997

Submission #: 9702358

EMCON ASSOCIATES-SACRAMENTO

Atten: J.C. Isham

Project: PG&E OAKLAND
Received: February 28, 1997

Project#: 20143-117.001

re: 4 samples for TPH - Diesel analysis.
Method: *EPA 8015M*

Matrix: WATER
Sampled: February 28, 1997 *Run#:* 5620
Extracted: March 6, 1997
Analyzed: March 6, 1997

Spl#	CLIENT SPL ID	DIESEL (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
119470	MW-1-2	1800	50	N.D.	92.0	1
	Note: *Hydrocarbon reported is in the late Diesel Range and does not match our Diesel Standard.*					

Matrix: WATER
Sampled: February 28, 1997 *Run#:* 5620
Extracted: March 6, 1997
Analyzed: March 7, 1997

Spl#	CLIENT SPL ID	DIESEL (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
119471	MW-1-3	1500	50	N.D.	92.0	1
	Note: *Hydrocarbon reported is in the late Diesel Range and does not match our Diesel Standard.*					
119472	MW-2-3	610	50	N.D.	92.0	1
	Note: *Hydrocarbon reported is in the late Diesel Range and does not match our Diesel Standard.*					
119473	QC-1	N.D.	50	N.D.	92.0	1

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

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 2-28-97 Page ___ of ___

Project Name: Pacific Gas & Electric, Oakland
Project Number: 20143-117.001
Project Manager: J. C. Isham

Company/Address: EMCON
1433 North Market Blvd, Suite 2
Sacramento, CA 95834-9014
Phone: (916) 928-0415

Sampler's Signature: Manuel Gallegos

SUBM #: 9702358 REP: GC
CLIENT: EMCON
DUE: 03/07/97
REF #: 32274

Sample I.D.	Date	Time	LAB I.D.	Sample Matrix	Number of Containers	TPH-DIESEL (EPA 3510/8015M)	Analysis Requested									Preservations
						NP										
MW-1-2	2/28/97	1110		H2O	2	X										
MW-1-3		1125		H2O	2	X										
MW-2-3		1145		H20	2	X										
QC-1	↓			H20	2	X										

Relinquished By	Received By
Signature: Manuel Gallegos	Signature: Mimie Pak
Printed Name: EMCON	Printed Name: Chromalab
Firm: 2/28/97 1248	Firm: 2/28/97 1248
Date/Time	Date/Time
Relinquished By	Received By
Signature	Signature
Printed Name	Printed Name
Firm	Firm
Date/Time	Date/Time

TURNAROUND REQUIREMENTS
___ 24 hr ___ 48 hr
X Standard
___ Provide Verbal Preliminary Results
___ 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:
Tier I QC

Please send results to JC Isham

CHROMALAB, INC.
Environmental Service (SDB)

Sample Receipt Checklist

Client Name: EMCON Date/Time Received: 2/28/97 (Date) 1248 (Time)

Reference/Subm #: 32274/9702358 Received by: MP

Checklist completed by: Chris Rowley 3/3/97 (Signature / Date) Reviewed By: mp 3/3/97 (Initial/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: 11.4 °C Yes		No ✓
Water - VOA vials have zero headspace?	No VOA vials submitted ✓	Yes	No
Water - pH acceptable upon receipt? Yes	adjusted? —	Checked by MP	/chemist for VOAs

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

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

Contacted by: _____ Regarding: _____

Comments: Sample received out of acceptable ~~damage~~ temp. range of 2-8°C OR 3/5/97

Corrective Action: _____