Pacific Gas and Electric Company

One California Street, Room F-234
San Francisco, CA 94106
415/973-5600

October 10, 1990

Mr. Aria Levy
Hazardous Materials Specialist
Division of Hazardous Materials
Department of Environmental Health
Alameda Health Agency
80 Swan Way
Oakland, CA 94621

Dear Mr. Levy:

90 OCT 15 AM 11:47

Here are the results of the quarterly groundwater monitoring performed in July 1990 at the Coliseum Way GC Gas yard. Groundwater samples collected from monitoring wells OW-1 through OW-4 were analyzed for total petroleum hydrocarbons by IR (Standard method 503E); total petroleum hydrocarbons as diesel (EPA method 3510/8015); total petroleum hydrocarbons as gasoline (EPA method 5030/8015); and purgeable priority pollutants (EPA method 8240). The samples designated "OW-5" on the laboratory data sheets were blind duplicate samples collected from well OW-3 for quality control purposes. Additionally, a field blank was analyzed as a quality control check on field sampling techniques. All samples were preserved and transmitted within allowable holding times under proper chain-of-custody record.

Table 1 summarizes the laboratory results for petroleum hydrocarbons. The laboratory detected diesel hydrocarbons in all four wells. Gasoline hydrocarbons were not found in any of the samples.

Table 2 summarizes the purgeable priority pollutants detected in the groundwater samples. Three purgeable priority pollutants were detected in the low ppb range in some of the wells. No maximum contaminant level has been established for any of these compounds.

Laboratory results for the field blank were below the detection limit for all petroleum hydrocarbons and below the detection limit for all purgeable priority pollutants except for concentramethyl ethyl ketone (29 ppb). MEK is a commonly used laboratory solvent.

Water level measurements collected from the wells prior to sampling indicate that the uppermost groundwater beneath the site continues to flow to the west-southwest toward Coliseum Way. Included in this report are groundwater contour maps prepared from data collected during the last three quarterly monitoring events.

The next quarterly sampling will be performed in late October or early November. If you have further questions, please call me at 415/973-5615.

Sincerely,

Wally Pearce

WAP:kw

TABLE 1

Analytical Results of Groundwater Samples Collected on 5 July 1990. All results are in ppb.

Sample Location	TPHIR	TPH-D	TPH-G
OW-1	ND	200	ND
OW-2	ND	68	ND
0W-3	ND	500	ND
0W-3 (dup)	ND	450	ND
OW-4	ND	150	ND
Detection Limit	5000	50	50

TPHIR = total petroleum hydrocarbons by IR (EPA method 418.1)
TPH-D = total petroleum hydrocarbons as diesel (EPA method 3510/8015)
TPH-G = total petroleum hydrocarbons as gasoline (EPA method 5030/8015)

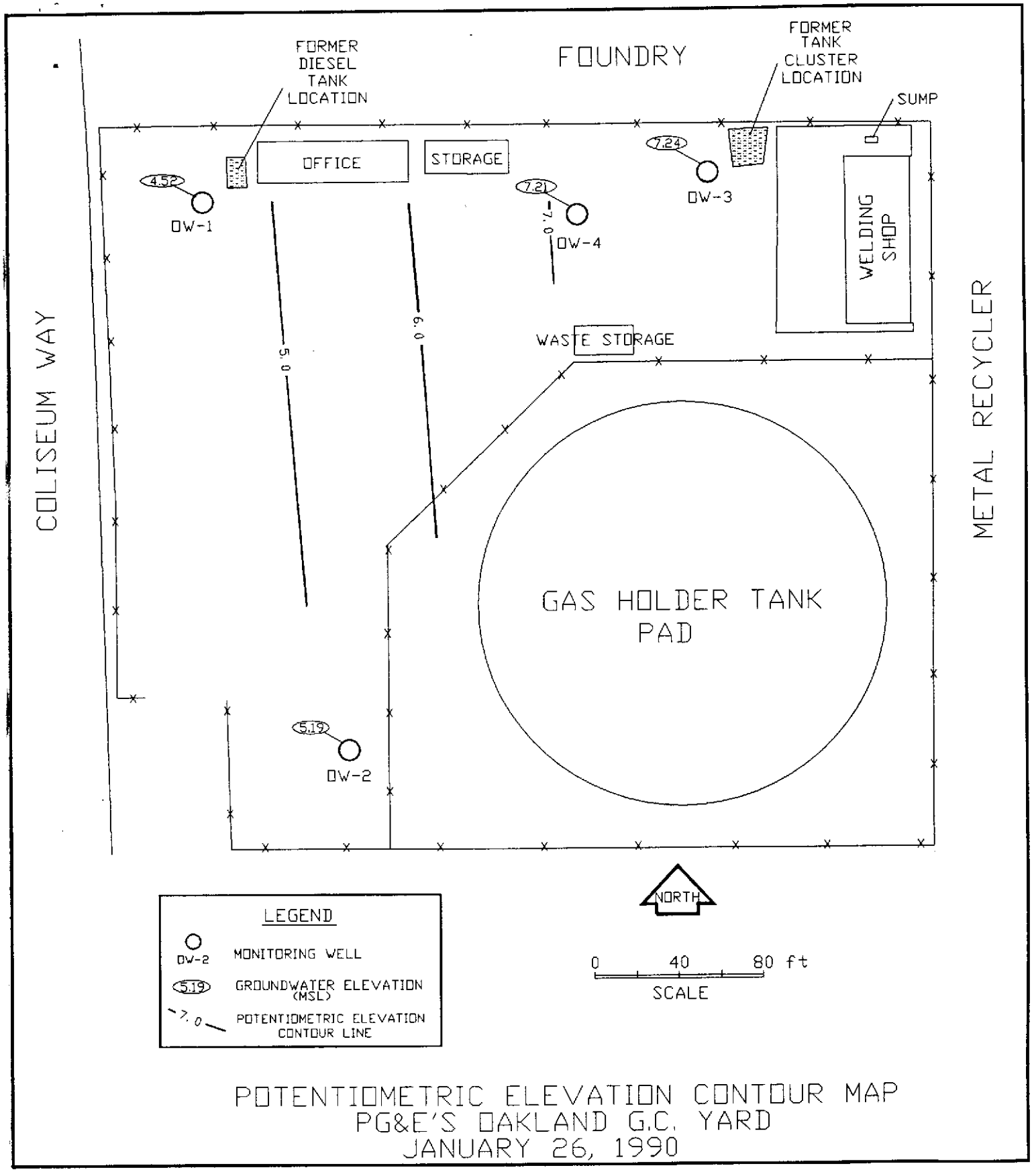
ND = not detected at or above method detection limit.

TABLE 2

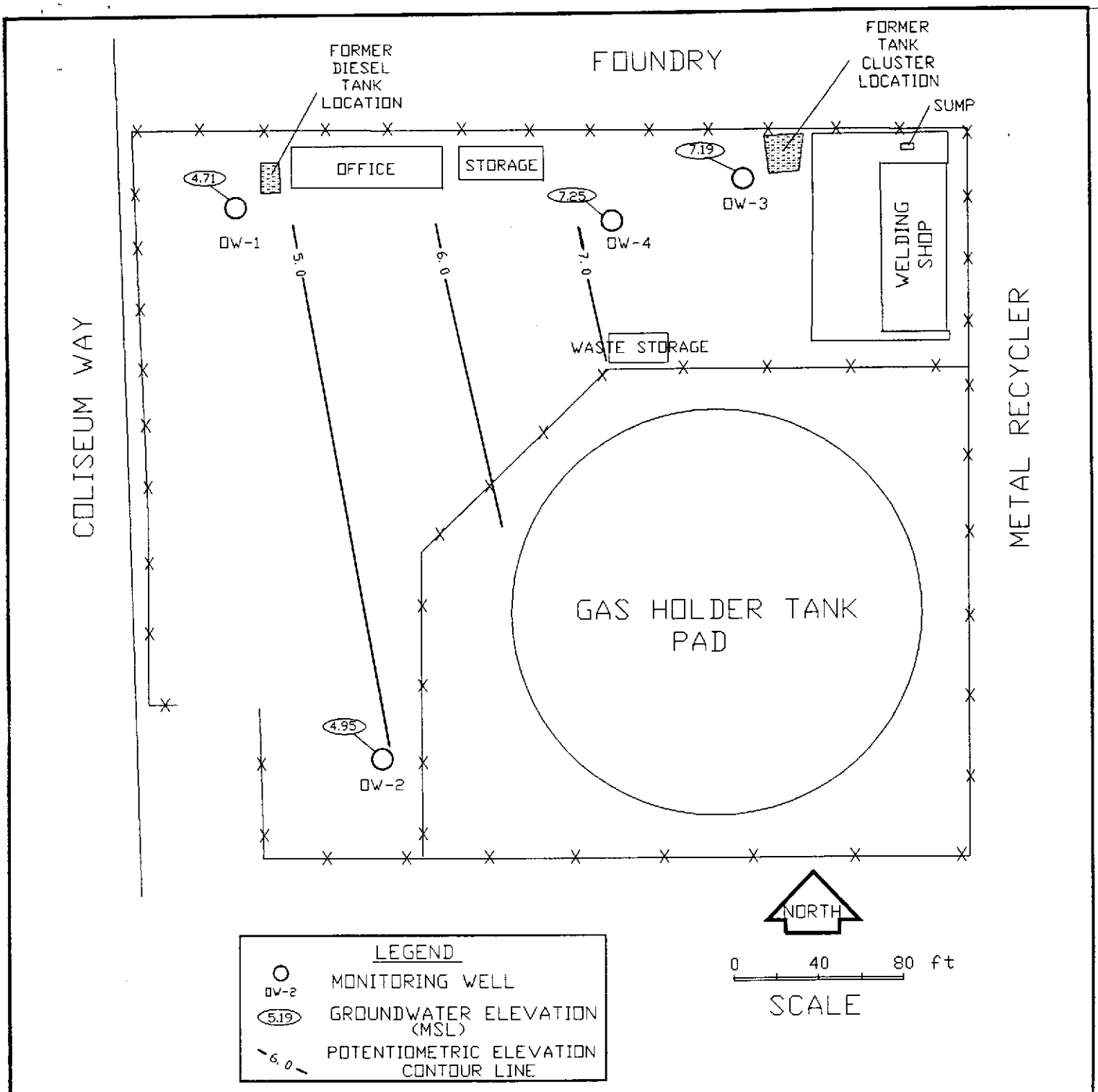
Purgeable Priority Pollutants Detected in the Groundwater Samples Collected on 5 July 1990. All results are in ppb.

Compound	Well OW-1	OW-2	0W-3 (dup)	OW-3	OW-4	MDL
1,1-Dichloroethane	2	ND	21	17	5	1
1,2-Dichlorobenzene	ND	ND	2	1	ND	1
1,3-Dichlorobenzene	4	ND	2	2	ND	1

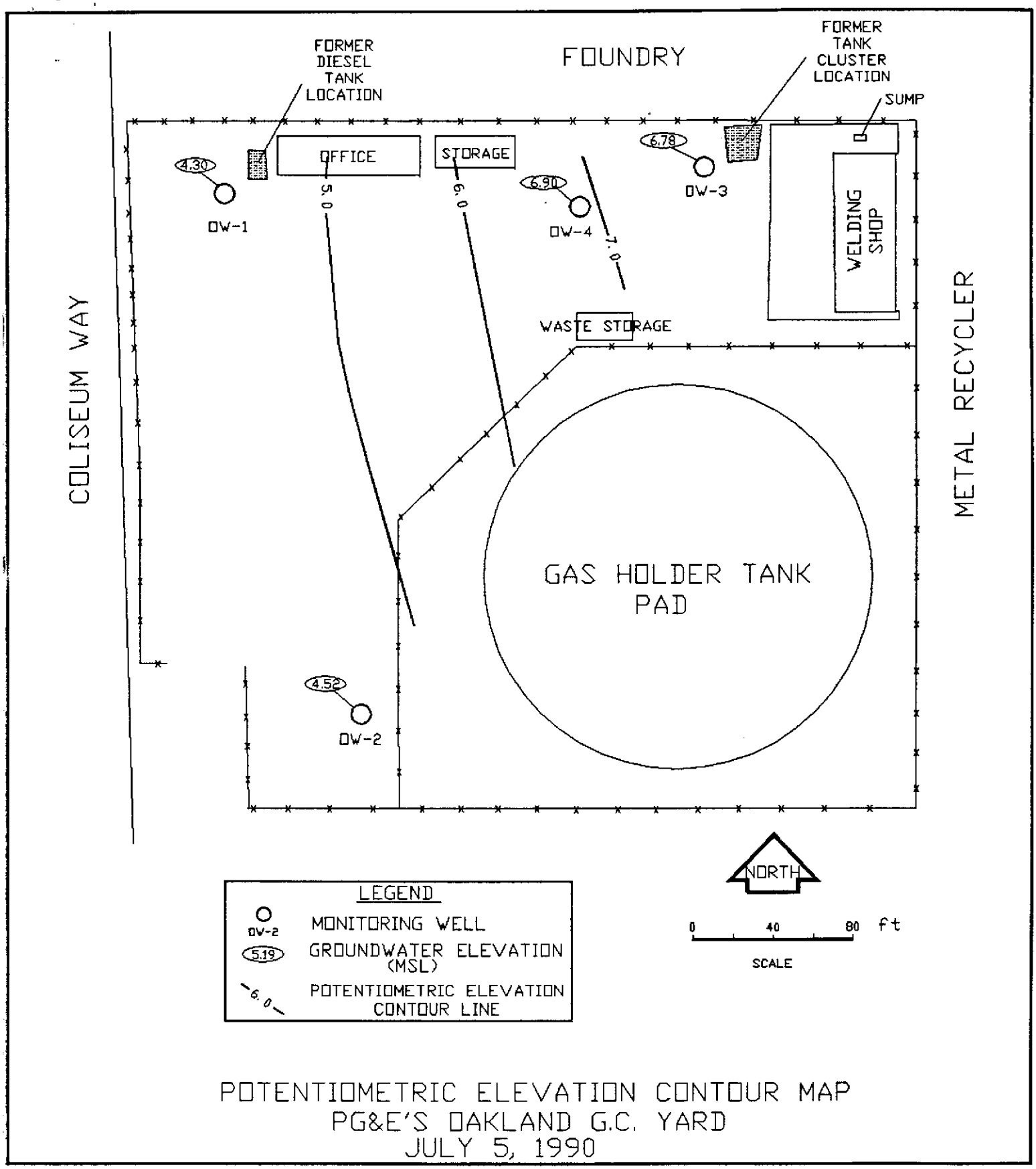
ND = not detected at or above method detection limit
MDL= method detection limit



POTENTIOMETRIC ELEVATION CONTOUR MAP
PG&E'S OAKLAND G.C. YARD
JANUARY 26, 1990



POTENTIOMETRIC ELEVATION CONTOUR MAP
PG&E'S OAKLAND G.C. YARD
JUNE 15, 1990



POTENTIOMETRIC ELEVATION CONTOUR MAP
PG&E'S OAKLAND G.C. YARD
JULY 5, 1990

Analytical Report

LOG NO: E90-07-078

Received: 05 JUL 90
Reported: 30 JUL 90

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

Purchase Order: Z19-0-128-89

Project: 7823

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-078-1	OW-4	05 JUL 90
07-078-2	OW-3	05 JUL 90
07-078-3	OW-2	05 JUL 90
07-078-4	OW-1	05 JUL 90
07-078-5	OW-5	05 JUL 90

PARAMETER	07-078-1	07-078-2	07-078-3	07-078-4	07-078-5
Petroleum Hydrocarbons by IR, mg/L	<5	<5	<5	<5	<5
TPH - Semivolatile Hydrocarbons					
Date Analyzed	07.12.90	07.12.90	07.12.90	07.12.90	07.12.90
Dilution Factor, Times	1	5	1	1	5
C12 to C25 Hydrocarbons, ug/L	150	500	68	200	450
C12-C25 Fuel characterization, .	DIESEL	DIESEL	DIESEL	DIESEL	DIESEL
Other TPH - Semivolatile Hydrocarbons	---	---	---	---	---
TPH - Volatile Hydrocarbons					
Date Analyzed	07.17.90	07.17.90	07.17.90	07.17.90	07.17.90
Dilution Factor, Times	1	1	1	1	1
C4 to C12 Hydrocarbons, ug/L	<50	<50	<50	<50	<50
Other TPH - Volatile Hydrocarbons	---	---	---	---	---

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

1255 Powell Street
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BCA B C Analytical

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07-078-1	OW-4	05 JUL 90
07-078-2	OW-3	05 JUL 90
07-078-3	OW-2	05 JUL 90
07-078-4	OW-1	05 JUL 90
07-078-5	OW-5	05 JUL 90

PARAMETER	07-078-1	07-078-2	07-078-3	07-078-4	07-078-5
Vol.Pri.Poll. (EPA-8240)					
Date Analyzed	07.10.90	07.14.90	07.11.90	07.10.90	07.14.90
Date Extracted	07.10.90	07.14.90	07.11.90	07.10.90	07.14.90
Dilution Factor, Times	1	1	1	1	1
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	5	21	<1	2	17
1,1-Dichloroethene, ug/L	<1	<1	<1	<1	<1
1,2-Dichloroethane, ug/L	<1	<1	<1	<1	<1
1,2-Dichlorobenzene, ug/L	<1	2	<1	<1	1
1,2-Dichloropropane, ug/L	<1	<1	<1	<1	<1
1,3-Dichlorobenzene, ug/L	<1	2	<1	4	2
1,3-Dichloropropene, ug/L	<1	<1	<1	<1	<1
1,4-Dichlorobenzene, ug/L	<1	<1	<1	11	<1
2-Chloroethylvinylether, ug/L	<1	<1	<1	<1	<1
2-Hexanone, ug/L	<1	<1	<1	<1	<1
4-Methyl-2-Pentanone, 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

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-078-1	OW-4	05 JUL 90
07-078-2	OW-3	05 JUL 90
07-078-3	OW-2	05 JUL 90
07-078-4	OW-1	05 JUL 90
07-078-5	OW-5	05 JUL 90

PARAMETER	07-078-1	07-078-2	07-078-3	07-078-4	07-078-5
Benzene, ug/L	<1	<1	<1	<1	<1
Bromoform, ug/L	<1	<1	<1	<1	<1
Chlorobenzene, ug/L	<1	<1	<1	<1	<1
Carbon Tetrachloride, ug/L	<1	<1	<1	<1	<1
Chloroethane, ug/L	<1	<1	<1	<1	<1
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
Methylene chloride, ug/L	<5	<5	<5	<5	<5
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
cis-1,2-Dichloroethene, ug/L	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene, ug/L	<1	<1	<1	<1	<1

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07-078-1	OW-4	05 JUL 90
07-078-2	OW-3	05 JUL 90
07-078-3	OW-2	05 JUL 90
07-078-4	OW-1	05 JUL 90
07-078-5	OW-5	05 JUL 90

PARAMETER	07-078-1	07-078-2	07-078-3	07-078-4	07-078-5
trans-1,3-Dichloropropene, ug/L	<1	<1	<1	<1	<1

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
07-078-6	Field Blank	05 JUL 90

PARAMETER	07-078-6
TPH - Volatile Hydrocarbons	
Date Analyzed	07.17.90
Dilution Factor, Times	1
C4 to C12 Hydrocarbons, ug/L	<50
Other TPH - Volatile Hydrocarbons	---

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
07-078-6	Field Blank	05 JUL 90

PARAMETER	07-078-6
Vol.Pri.Poll. (EPA-8240)	
Date Analyzed	07.10.90
Date Extracted	07.10.90
Dilution Factor, Times	1
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-Dichlorobenzene, ug/L	<1
1,2-Dichloropropane, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,3-Dichloropropene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
2-Chloroethylvinylether, ug/L	<1
2-Hexanone, ug/L	<1
4-Methyl-2-Pentanone, ug/L	<10
Acetone, ug/L	<10
Acrolein, ug/L	<10
Acrylonitrile, ug/L	<1
Bromodichloromethane, ug/L	<1
Bromomethane, ug/L	<1
Benzene, ug/L	<1
Bromoform, ug/L	<1
Chlorobenzene, ug/L	<1
Carbon Tetrachloride, ug/L	

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
07-078-6	Field Blank	05 JUL 90

PARAMETER	07-078-6
Chloroethane, ug/L	<1
Chloroform, ug/L	<1
Chloromethane, ug/L	<1
Carbon Disulfide, ug/L	<1
Dibromochloromethane, ug/L	<1
Ethylbenzene, ug/L	<1
Freon 113, ug/L	<1
Methyl ethyl ketone, ug/L	29
Methylene chloride, ug/L	<5
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
cis-1,2-Dichloroethene, ug/L	<1
trans-1,2-Dichloroethene, ug/L	<1
trans-1,3-Dichloropropene, ug/L	<1

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

1255 Powell Street
Emeryville, CA 94608

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Fax: 415/547-3643

BCA B C Analytical

PG&E WATER PURGING & SAMPLING LOG

SITE Oakland GC JOB ID 7263 WELL NO OW-1
SAMPLING DATE 7-5-96, by RMG, LAD WEATHER: Clear
PURGE DATE 7-5-96, by RMG, LAD

WATER ELEVATION/VOLUME CALCULATIONS

Description of Measuring Point (MP): TOC @ Back Rim

Total depth of well: 17.30 ft
Depth (from MP) to Water: 5.10 ft Screen interval from ___ ft to ___ ft.
Total water depth: 12.20 ft Hydrocarbons present: Yes ___ No ___
Measurement method: Solinst Hydrocarbons thickness: ___

PURGE VOLUME CALCULATION

12.20 ft water * casing factor = 2.07 gal/casing vol. * 3 volumes = 6.21 Total gals purged.

Casing Factor: (circle one) For 2" dia = 0.17 gal/ft
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 Start	Time End	Cumulative Discharge (gal)	pH	Conductivity µmho/cm	Turbidity	°C Temp	Comments
11:15	11:16	3	6.5	236	7	21.6	
	11:17	5	6.2	236	21	21.2	
	11:18	6.2	6.1	236	C	21.4	

Method of discharge disposal Ground
Method of purging/sampling Hand pump/teflon bailer
Method of cleaning bailer/pump: Alconox WIDE rinse
Pump lines/bailer ropes new, cleaned or dedicated? (circle one)

pH meter Myron calibrated YES conductivity meter Myron calibrated YES
temp corrected? no

SAMPLES

Lab analyses to be performed TPH-G, TPH-D, OTG, EPA624
Laboratory B+C

Remarks ___

PG&E WATER PURGING & SAMPLING LOG

SITE Oakland Gc JOB ID 7823 WELL NO CW-2
SAMPLING DATE 7-5-9_, by RMG, EAD WEATHER: Clear
PURGE DATE 7-5-9_, by RMG, EAD

WATER ELEVATION/VOLUME CALCULATIONS

Description of Measuring Point (MP): TOC @ Black Mark

Total depth of well: 19.05 ft
Depth (from MP) to Water: 3.91 ft
Total water depth: 15.14 ft
Measurement method: Solinst

Screen interval from ____ ft to ____ ft.
Hydrocarbons present: Yes ___ No ___
Hydrocarbons thickness: ________

PURGE VOLUME CALCULATION

15.14 ft water * casing factor = 2.57 gal/casing vol. * 3 volumes = 7.71 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 Start	Time End	Cumulative Discharge (gal)	pH	Conductivity µmho/cm	Turbidity	°C Temp	Comments
11:2[illegible]	11:29	4	6.3	1005	19	21.0	
	11:29	6	6.4	1057	17	21.1	
	11:35	7.7	6.3	1156	28[illegible]	19.3	[illegible]

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

pH meter Myron L calibrated yes conductivity meter Myron L calibrated yes
temp corrected? no

SAMPLES

Lab analyses to be performed TPH-G, TPH-D, O+G, EPA624
Laboratory B+C

Remarks ________

PG&E WATER PURGING & SAMPLING LOG

SITE Oakland GC JOB ID 7823 WELL NO CW-2
SAMPLING DATE 7-5-95, by RMG, EAD WEATHER: clear
PURGE DATE 7-5-95, by RMG, EAD

WATER ELEVATION/VOLUME CALCULATIONS

Description of Measuring Point (MP): TOC @ Black Mark

Total depth of well: 18.30 ft
Depth (from MP) to Water: 5.36 ft
Total water depth: 12.94 ft
Measurement method: Solinst
Screen interval from ___ ft to ___ ft.
Hydrocarbons present: Yes ___ No ___
Hydrocarbons thickness: ___

PURGE VOLUME CALCULATION

12.94 ft water * casing factor = 2.2 gal/casing vol. * 3 volumes = 6.60 Total gals purged.

Casing Factor (circle one): For 2" dia = 0.17 gal/ft; 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 Start	Time End	Cumulative Discharge (gal)	pH	Conductivity µmho/cm	Turbidity	°C Temp	Comments
1057	1059	3	6.0	1008	35	20.1	
	1110	5	6.3	935	14	19.6	
	1101	6.6	6.6	1503	27	19.4	
	1103	7.0	6.6	1501	20	19.4	

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

pH meter Hydrolab calibrated yes conductivity meter Hydrolab calibrated yes
temp corrected? no

SAMPLES

Lab analyses to be performed TPH-G, TPH-D, 503AHE(O+G), EPA 624
Laboratory B+C

Remarks sample OW-5 was blind duplicate of this sample

PG&E WATER PURGING & SAMPLING LOG

SITE OAKLAND GX JOB ID 7823 WELL NO DW-5
SAMPLING DATE 7-5-92, by RHG, EAD WEATHER: clear
PURGE DATE 7-5-92, by RHG, EAD

WATER ELEVATION/VOLUME CALCULATIONS

Description of Measuring Point (MP): TOC @ PVC MARK

Total depth of well: 21.22 ft
Depth (from MP) to Water: 4.11 ft
Total water depth: 10.11 ft
Measurement method: Sounder

Screen interval from ___ ft to ___ ft.
Hydrocarbons present: Yes ___ No ___
Hydrocarbons thickness: ___

PURGE VOLUME CALCULATION

___ ft water * casing factor = 2.74 gal/casing vol. * 3 volumes = 8.22 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 Start	Time End	Cumulative Discharge (gal)	pH	Conductivity µmho/cm	Turbidity	°C Temp	Comments
10:45	10:50	3	5.6	1670	252	21.2	
	10:55	5	5.3	1173	82	19.5	
	10:57	6.2	5.3	1172	252	21.3	PUMP RAN DRY

Method of discharge disposal Ground
Method of purging/sampling Honda pump / teflon bailer
Method of cleaning bailer/pump: Alconox w/DI Rinse
Pump lines/bailer ropes new, cleaned or dedicated? (circle one)

pH meter Myron L calibrated YES conductivity meter Myron L calibrated YES
temp corrected? NO

SAMPLES

Lab analyses to be performed TPH, TPH-D, O&G, 624
Laboratory BTL

Remarks well drawdown to dry after 6.5 gals, quick recharge.