

January 3, 1996

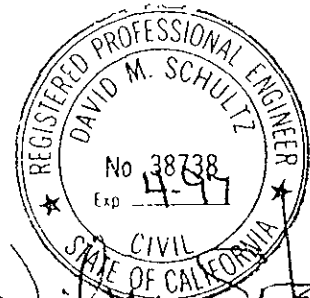
REGISTERED PROFESSIONAL ENGINEER
DAVID M. SCHULTZ
No. 38738
Exp. 4-97

QUARTERLY GROUNDWATER MONITORING REPORT
DECEMBER 5, 1995 GROUNDWATER SAMPLING
ASE JOB NO. 2545

at
Former Alameda Max's
1357 High Street
Alameda, California 94501

Prepared for:
Mr. James A. Phillipsen
3111 Marina Drive
Alameda, CA 94501

Prepared by:
AQUA SCIENCE ENGINEERS, INC.
2411 Old Crow Canyon Road, #4
San Ramon, CA 94583
(510) 820-9391



1.0 INTRODUCTION

Site Location (Site), See Figure 1

Former Alameda Max's
1357 High Street
Alameda, CA 94501

Property Owner

Mr. James A. Phillipson
3111 Marina Drive
Alameda, CA 94501

Environmental Consulting Firm

Aqua Science Engineers, Inc. (ASE)
2411 Old Crow Canyon Road, #4
San Ramon, CA 94583
Contact: Robert Kitay, Project Manager
(510) 820-9391

Agency Review

Alameda County Health Care Services Agency (ACHCSA)
1131 Harbor Bay Parkway
Alameda, CA 94502
Contact: Ms. Juliet Shin
(510) 567-6700

California Regional Water Quality Control Board (RWQCB),
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, CA 94612
Contact: Mr. Kevin Graves
(510) 286-4359

The following is a report detailing the results of the December 5, 1995, quarterly groundwater sampling at the above referenced site.

2.0 OIL SKIMMER

An oil skimmer operated in monitoring well MW-2 between September 15, 1995 and November 7, 1995 in order to remove the free-floating oil that has been present in this well. Approximately 65 gallons of oil and water were removed from the well during this period. Only a slight sheen is now present on the surface of groundwater in that well.

3.0 GROUNDWATER FLOW DIRECTION AND GRADIENT

On December 5, 1995, ASE environmental specialist Scott Ferriman measured the depth to water in each site well using an electric water level sounder. The surface of the groundwater was also checked for the presence of free-floating hydrocarbons or sheen. A slight sheen was present on the surface of the groundwater in monitoring well MW-2. No free-floating hydrocarbons or sheen was present on the surface of water from monitoring wells MW-1, MW-3 or MW-4. Depths to groundwater are presented in Table One.

Groundwater elevation contours are presented on Figure 2. On December 5, 1995, groundwater flowed to the southeast beneath the site at a gradient of 0.006-feet/foot, which is consistent with previous findings.

4.0 GROUNDWATER SAMPLE COLLECTION AND ANALYSIS

Prior to sampling, each monitoring well was purged of four well casing volumes of water using a 12 volt electric PVC pump. The pH, temperature and conductivity of the water were monitored during the purging, and samples were not collected until these parameters stabilized. Groundwater samples were then collected using dedicated polyethylene bailers. The samples were decanted from the bailers into 40-ml volatile organic analysis (VOA) vials and 1-liter amber glass bottles. The samples were preserved with hydrochloric acid, capped, labeled and placed into an ice chest containing wet ice for transport to American Environmental Network (AEN) of Pleasant Hill, California (DOHS #1172) under chain-of-custody.

The analytical results for this and previous quarters are presented in Tables Two and Three, and the certified laboratory report and chain-of-custody form are included as Appendix A.

The well purge water was placed in 55-gallon steel DOT 17H drums, labeled, and left on-site for temporary storage.

The groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) by modified EPA Method 5030/8015, total petroleum hydrocarbons as diesel (TPH-D) by modified EPA Method 3510/8015, total and hydrocarbon oil and grease (O&G) by Standard Method 5520 C&F, benzene, toluene, ethylbenzene and total xylenes (BTEX) and methyl t-butyl ether (MTBE) by EPA Method 8020, and volatile organic compounds (VOCs) by EPA Method 8010.

5.0 CONCLUSIONS

Only a slight sheen was present on the groundwater surface in monitoring well MW-2. Hydrocarbon concentrations in groundwater samples collected from monitoring wells MW-3 and MW-4 decreased slightly this quarter. TPH-G and BTEX concentrations in groundwater samples collected from monitoring well MW-1 increased slightly this quarter, but the TPH-D concentrations decreased to non-detectable this quarter. All of these concentrations are generally consistent with previous quarters results. Benzene concentrations in the groundwater samples collected from monitoring wells MW-1, MW-3 and MW-4 exceeded the California Department of Toxic Substances Control (DTSC) maximum contaminant level (MCL) for drinking water.

6.0 RECOMMENDATIONS

A workplan to destroy monitoring well MW-2, overexcavate and dispose of contaminated soil in the vicinity of the former waste oil tank, and replace monitoring well MW-2 following the backfilling will be submitted to the Alameda County Health Care Services Agency in January 1996. The field work is tentatively scheduled for late January or February 1996.

The next quarterly groundwater sampling is scheduled for March 1996.

7.0 REPORT LIMITATIONS

The results of this report represent the conditions at the time of the groundwater sampling at the specific locations where the groundwater samples were collected, and for the specific parameters analyzed for by the laboratory. It does not fully characterize the site for contamination resulting from sources other than the former underground storage tanks and associated plumbing at the site, or for parameters not analyzed for by the laboratory. All of the laboratory work cited in this report was prepared under the direction of independent Cal-EPA certified laboratory.

The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

Aqua Science Engineers appreciates the opportunity to provide environmental consulting services to you, and trust that this report meets your needs. Please feel free to call us at (510) 820-9391 if you have any questions or comments.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.



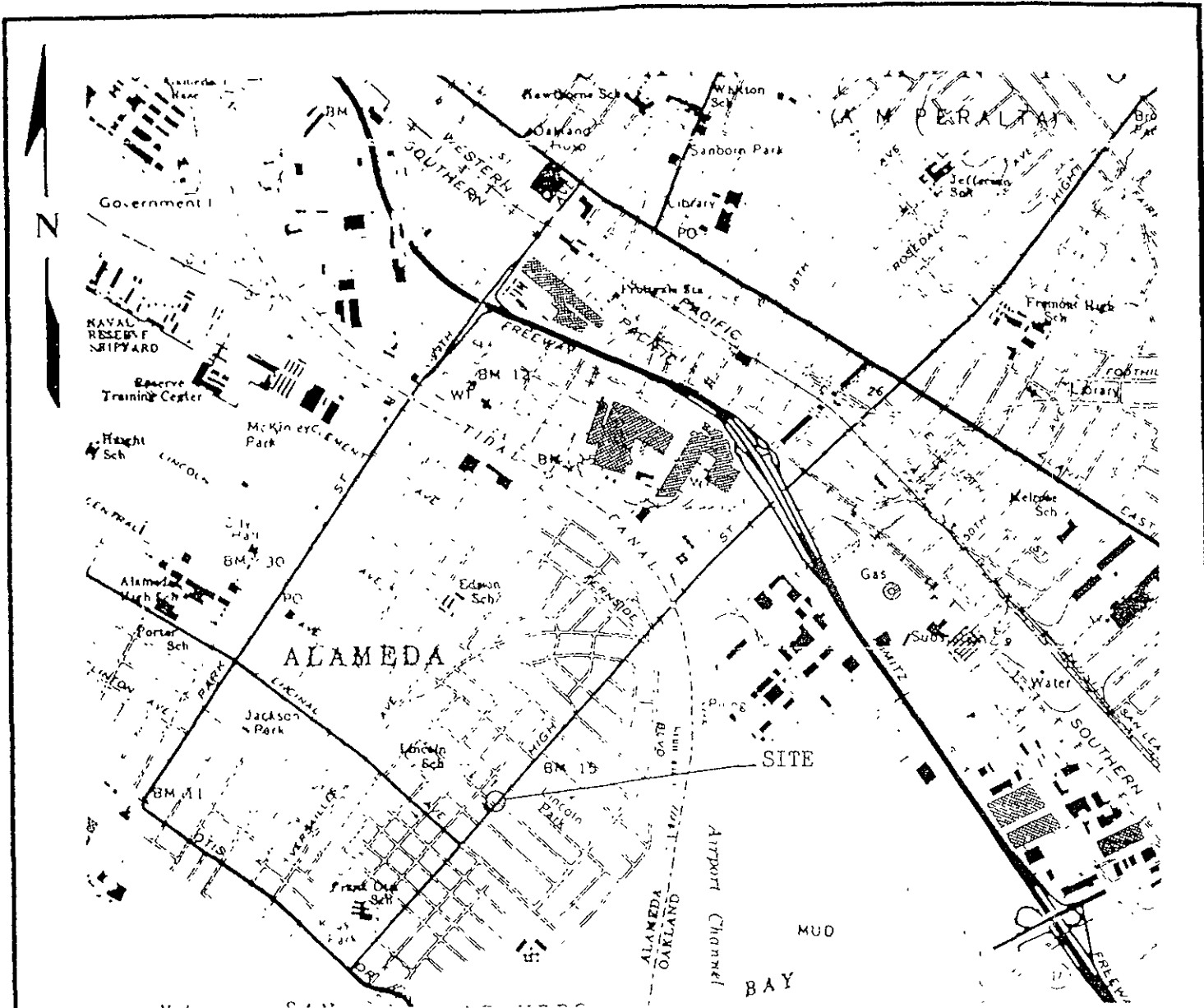
Robert E. Kitay, R.E.A.
Project Geologist



Attachments: Figures 1 and 2
Tables 1, 2 and 3
Appendices A and B

cc: Ms. Juliet Shin, Alameda County Health Care Services Agency
Mr. Kevin Graves, RWQCB, San Francisco Bay Region

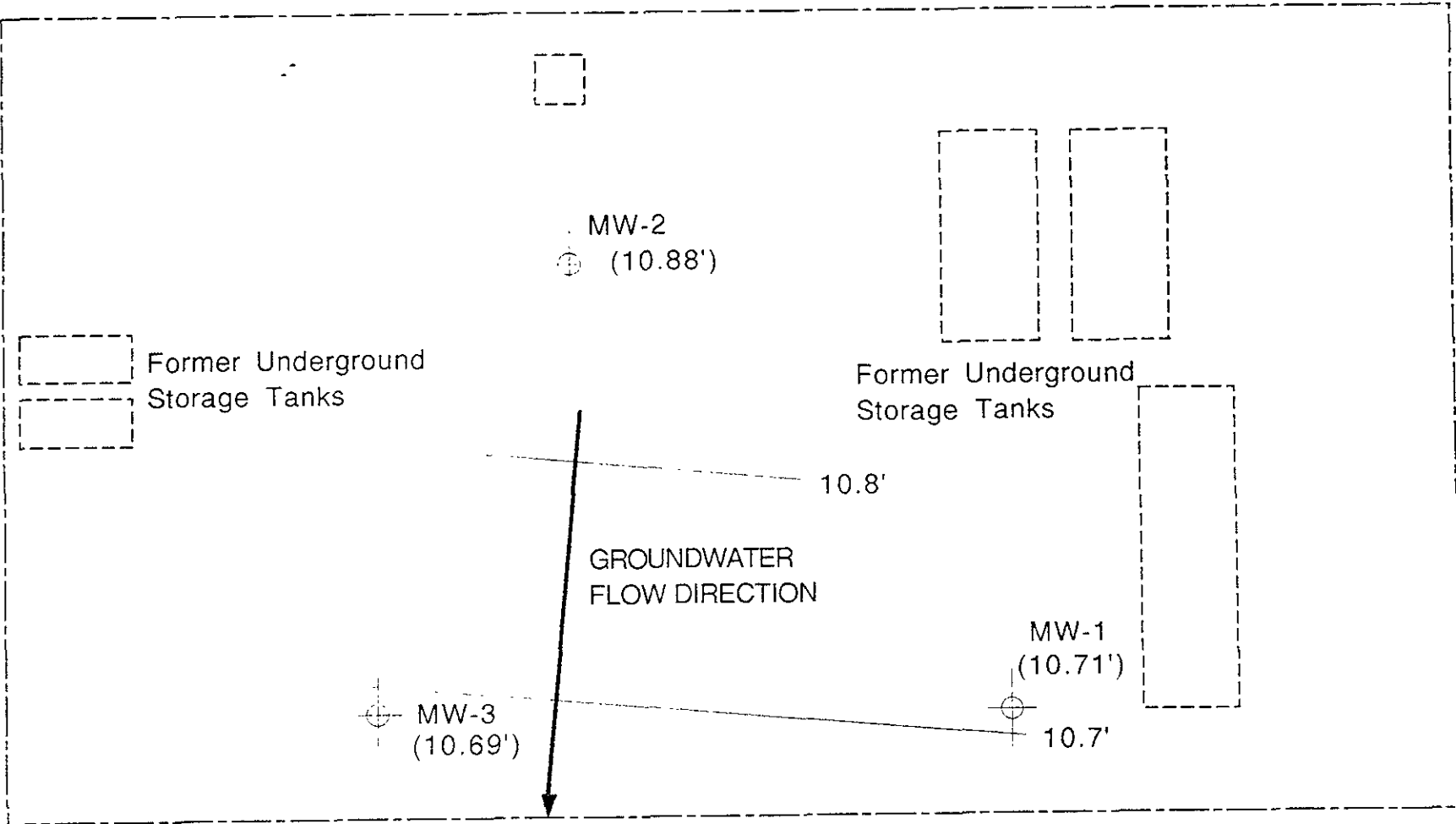
FIGURES



SITE LOCATION MAP	
Alameda Max's 1357 High Street Alameda, California	
Aqua Science Engineers	Figure 1

BASE: Oakland East and Oakland West 7.5 minute quadrangle topographic map dated 1960 scale 1:24,000

VAN BUREN STREET



MW-2
(10.88')

Former Underground
Storage Tanks

Former Underground
Storage Tanks

10.8'

GROUNDWATER
FLOW DIRECTION

MW-1
(10.71')

MW-3
(10.69')

10.7'

HIGH STREET

10.6'

NORTH

MW-4
(10.52')

SCALE: 1" = 10'

GROUNDWATER ELEVATION
CONTOUR MAP - 12/05/95

Former Alameda Max's
1357 High Street
Alameda, California

AQUA SCIENCE ENGINEERS, INC.

Figure 2

TABLES

TABLE ONE
Summary of Groundwater Well Survey Data

Well I.D.	Date of Measurement	Top of Casing Elevation (relative to project datum)	Depth to Water (feet)	Groundwater Elevation (project data)
MW-1	04-06-94	15.00	3.92	11.08
	08-02-94		4.10	10.90
	10-04-94		4.42	10.58
	12-14-94		3.42	11.58
	03-16-95		3.21	11.79
	06-06-95		3.84	11.16
	09-14-95		4.18	10.82
	12-05-95		4.28	10.72
MW-2	04-06-94	14.37	3.02	11.35
	08-02-94		3.32	11.18*
	12-14-94		2.90	11.52*
	03-16-95		Unknown	Unknown
	06-06-95		Unknown	Unknown
	09-14-95		Unknown	Unknown
	12-05-95		3.49	10.88
MW-3	04-06-94	14.56	3.51	11.05
	08-02-94		3.68	10.88
	10-04-94		3.97	10.59
	12-14-94		3.04	11.52
	03-16-95		2.84	11.72
	06-06-95		3.44	11.12
	09-14-95		3.76	10.80
	12-05-95		3.87	10.69
MW-4	10-04-94	14.70	4.31	10.39
	12-14-94		3.62	11.08
	03-16-95		3.48	11.22
	06-06-95		3.86	10.84
	09-14-95		4.10	10.60
	12-05-95		4.18	10.52

. = Adjusted for the presence of free-floating oil by the equation: Adjusted Groundwater Elevation = Top of Casing Elevation - Depth to Groundwater + (0.8 x Floating Hydrocarbon Thickness)

TABLE TWO
Summary of Chemical Analysis of GROUNDWATER Samples
 All results are in parts per billion

Sample & Date	TPH Gasoline	TPH Diesel	Oil & Grease	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE
<u>MW-1</u>								
04/04/94	80	<50	<500	<0.5	<0.5	0.5	2	---
08/02/94	60	500	<1,000	<0.5	<0.5	<0.5	<2	---
12/14/94	200	1,500	<1,000	<0.5	<0.5	6	<2	---
03/16/95	200	1,600	<500	<0.5	<0.5	3	<2	---
06/06/95	<50	680	<500	<0.5	<0.5	<0.5	<2	---
09/14/95	<50	500	<500	<0.5	<0.5	0.8	<2	---
1 2 1 5 1 9 5	6 9	<50	<1,000	1	6	2	1 2	<50
<u>MW-2</u>								
04/04/94	150	<50	6,200	0.6	1	2	6	---
08/02/94	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS							
12/14/94	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS							
03/16/95	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS							
06/06/95	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS							
09/14/95	NOT SAMPLED DUE TO FREE-FLOATING HYDROCARBONS							
1 2 1 5 1 9 5	1 1 0	<50	2,000*	<0.5	<0.5	<0.5	<2	<50
<u>MW-3</u>								
04/04/94	1,200	180	<500	3	27	44	230	---
08/02/94	2,700	<50	<1,000	6	16	70	470	---
12/14/94	2,600	80	<1,000	9	30	78	430	---
03/16/95	1,200	300	<500	4	16	38	270	---
06/06/95	500	300	<500	2	1	13	61	---
09/14/95	730	300	<500	3	5	28	94	---
1 2 1 5 1 9 5	3 6 0	<50	<1,000	3	5	8	3 3	<50
<u>MW-4</u>								
10/04/94	500	200	<1,000	2	19	14	70	---
12/14/94	1,500	200	<1,000	8	37	68	190	---
03/16/95	500	300	<500	3	5	23	41	---
06/06/95	1,600	620	<500	5.9	48	83	240	---
09/14/95	2,900	300	600	13	79	180	450	---
1 2 1 5 1 9 5	1,500	500	<1,000	9	27	72	130	<50
EPA METHOD	5030/ 8015	3510/ 8015	5520 B&F	8020	8020	8020	8020	8020

Notes:

MTBE = Methyl t-butyl ether

--- = Not analyzed

* = Hydrocarbon oil and grease; total oil and grease is 3,000 ppb

TABLE THREE
Summary of Chemical Analysis of GROUNDWATER Samples
Volatile Organic Compounds
All results in parts per billion

Sample I.D.	Date of Sampling	TCE	Other VOCs
-----	-----	-----	-----
MW-1	08-02-94	<0.5	<0.5
	12-14-94	<0.5	<0.5
	03-16-95	<0.5	<0.5
	06-06-95	<0.5	<0.5
	12-05-95	<0.5	<0.5-2
MW-2	04-04-94	0.7	<0.5
	08-02-94	NOT SAMPLED DUE TO FLOATING HYDROCARBONS	
	12-14-94	NOT SAMPLED DUE TO FLOATING HYDROCARBONS	
	03-16-95	NOT SAMPLED DUE TO FLOATING HYDROCARBONS	
	06-06-95	NOT SAMPLED DUE TO FLOATING HYDROCARBONS	
	12-05-95	<0.5	<0.5-2
MW-3	08-02-94	<0.5	<0.5
	12-14-94	<0.5	<0.5
	03-16-95	<0.5	<0.5
	06-06-95	<0.5	<0.5
	12-05-95	<0.5	<0.5-2
MW-4	10-04-94	<0.5	<0.5
	12-14-94	<0.5	<0.5
	03-16-95	<0.5	<0.5
	06-06-95	<0.5	<0.5
	12-05-95	<0.5	<0.5-2
EPA METHOD		8010	8010

TCE = Trichloroethene

VOCs = volatile organic compounds

APPENDIX A

California EPA Certified Laboratory
Report of Groundwater Samples

American Environmental Network

Certificate of Analysis

DQHS Certification 1172

AIHA Accreditation 11134

PAGE 1

AQUA SCIENCE ENGINEERS, INC
2411 OLD CROW CANYON RD #4
SAN RAMON, CA 94583

ATTN: SCOTT FERRIMAN
CLIENT PROJ. ID: 2545
CLIENT PROJ NAME: PHILLIPSEN

REPORT DATE 12/26/95

DATE(S) SAMPLED. 12/05/95

DATE RECEIVED 12/06/95

AEN WORK ORDER: 9512066

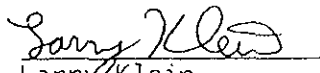
PROJECT SUMMARY

On December 6, 1995, this laboratory received 4 water sample(s)

Client requested sample(s) be analyzed for organic parameters. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090


Larry Klein
Laboratory Director

AQUA SCIENCE ENGINEERS, INC

AEN JOB NO: 9512066
 DATE SAMPLED: 12/05/95
 DATE RECEIVED: 12/06/95
 CLIENT PROJ ID: 2545

Client Sample Id	AEN Lab Id	Purgeable Hydrocarbons as Gasoline (ug/L)	Extractable Hydrocarbons as Diesel (ug/L)	Oil & Grease (ug/L)	Hydrocarbons (ug/L)
MW-1	01	69	ND	ND	ND
MW-2	02	110	ND	3,000	2,000
MW-3	03	360	ND	ND	ND
MW-4	04	1,500	500	ND	ND
Reporting Limit		50	50	1000	1000
EPA Method:		5030 GCFID	3510 GCFID	5520C	5520F
Date Extracted:		NA	12/11/95	12/12/95	12/12/95
Date Analyzed:		12/11/95	12/13-14/95	12/12/95	12/12/95

Client Sample Id	AEN Lab Id	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	Methyl t-Butyl Ether (ug/L)
MW-1	01	1	6	2	12	ND
MW-2	02	ND	ND	ND	ND	ND
MW-3	03	3	5	2	33	ND
MW-4	04	9	27	72	130	ND
Reporting Limit		0.5	0.5	0.5	2	50
EPA Method:		8020	8020	8020	8020	8020
Date Analyzed:		12/11/95	12/11/95	12/11/95	12/11/95	12/11/95

NA = Not Applicable
 ND = Not Detected

AQUA SCIENCE ENGINEERS, INC

SAMPLE ID: MW-1
 AEN LAB NO: 9512066-01
 AEN WORK ORDER: 9512066
 CLIENT PROJ. ID: 2545

DATE SAMPLED: 12/05/95
 DATE RECEIVED: 12/06/95
 REPORT DATE: 12/26/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	12/11/95
Bromoform	75-25-2	ND	0.5	ug/L	12/11/95
Bromomethane	74-83-9	ND	2	ug/L	12/11/95
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	12/11/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	12/11/95
Chloroethane	75-00-3	ND	2	ug/L	12/11/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	12/11/95
Chloroform	67-66-3	ND	0.5	ug/L	12/11/95
Chloromethane	74-87-3	ND	2	ug/L	12/11/95
Dibromochloromethane	124-48-1	ND	0.5	ug/L	12/11/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	12/11/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	12/11/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	12/11/95
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	12/11/95
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	12/11/95
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	12/11/95
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	12/11/95
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	12/11/95
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	12/11/95
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	12/11/95
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	12/11/95
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	12/11/95
Methylene Chloride	75-09-2	ND	2	ug/L	12/11/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	12/11/95
Tetrachloroethene	127-18-4	ND	0.5	ug/L	12/11/95
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	12/11/95
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	12/11/95
Trichloroethene	79-01-6	ND	0.5	ug/L	12/11/95
Trichlorofluoromethane	75-69-4	ND	2	ug/L	12/11/95
1,1,2-Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	12/11/95
Vinyl Chloride	75-01-4	ND	2	ug/L	12/11/95

ND = Not detected at or above the reporting limit
 * = Value above reporting limit

AQUA SCIENCE ENGINEERS, INC

SAMPLE ID: MW-2
 AEN LAB NO: 9512066-02
 AEN WORK ORDER: 9512066
 CLIENT PROJ. ID: 2545

DATE SAMPLED: 12/05/95
 DATE RECEIVED: 12/06/95
 REPORT DATE: 12/26/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	12/11/95
Bromoform	75-25-2	ND	0.5	ug/L	12/11/95
Bromomethane	74-83-9	ND	2	ug/L	12/11/95
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	12/11/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	12/11/95
Chloroethane	75-00-3	ND	2	ug/L	12/11/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	12/11/95
Chloroform	67-66-3	ND	0.5	ug/L	12/11/95
Chloromethane	74-87-3	ND	2	ug/L	12/11/95
Dibromochloromethane	124-48-1	ND	0.5	ug/L	12/11/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	12/11/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	12/11/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	12/11/95
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	12/11/95
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	12/11/95
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	12/11/95
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	12/11/95
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	12/11/95
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	12/11/95
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	12/11/95
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	12/11/95
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	12/11/95
Methylene Chloride	75-09-2	ND	2	ug/L	12/11/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	12/11/95
Tetrachloroethene	127-18-4	ND	0.5	ug/L	12/11/95
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	12/11/95
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	12/11/95
Trichloroethene	79-01-6	ND	0.5	ug/L	12/11/95
Trichlorofluoromethane	75-69-4	ND	2	ug/L	12/11/95
1,1,2-Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	12/11/95
Vinyl Chloride	75-01-4	ND	2	ug/L	12/11/95

ND = Not detected at or above the reporting limit

* = Value above reporting limit

AQUA SCIENCE ENGINEERS, INC

SAMPLE ID: MW-3
 AEN LAB NO: 9512066-03
 AEN WORK ORDER: 9512066
 CLIENT PROJ. ID: 2545

DATE SAMPLED: 12/05/95
 DATE RECEIVED: 12/06/95
 REPORT DATE: 12/26/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	12/11/95
Bromoform	75-25-2	ND	0.5	ug/L	12/11/95
Bromomethane	74-83-9	ND	2	ug/L	12/11/95
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	12/11/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	12/11/95
Chloroethane	75-00-3	ND	2	ug/L	12/11/95
2 Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	12/11/95
Chloroform	67-66-3	ND	0.5	ug/L	12/11/95
Chloromethane	74-87-3	ND	2	ug/L	12/11/95
Dibromochloromethane	124-48-1	ND	0.5	ug/L	12/11/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	12/11/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	12/11/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	12/11/95
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	12/11/95
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	12/11/95
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	12/11/95
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	12/11/95
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	12/11/95
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	12/11/95
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	12/11/95
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	12/11/95
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	12/11/95
Methylene Chloride	75-09-2	ND	2	ug/L	12/11/95
1,1,2,2 Tetrachloroethane	79-34-5	ND	0.5	ug/L	12/11/95
Tetrachloroethene	127-18-4	ND	0.5	ug/L	12/11/95
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	12/11/95
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	12/11/95
Trichloroethene	79-01-6	ND	0.5	ug/L	12/11/95
Trichlorofluoromethane	75-69-4	ND	2	ug/L	12/11/95
1,1,2-Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	12/11/95
Vinyl Chloride	75-01-4	ND	2	ug/L	12/11/95

ND = Not detected at or above the reporting limit

* = Value above reporting limit

AQUA SCIENCE ENGINEERS, INC

SAMPLE ID: MW-4
 AEN LAB NO: 9512066-04
 AEN WORK ORDER: 9512066
 CLIENT PROJ. ID: 2545

DATE SAMPLED: 12/05/95
 DATE RECEIVED: 12/06/95
 REPORT DATE: 12/26/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	12/11/95
Bromoform	75-25-2	ND	0.5	ug/L	12/11/95
Bromomethane	74-83-9	ND	2	ug/L	12/11/95
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	12/11/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	12/11/95
Chloroethane	75-00-3	ND	2	ug/L	12/11/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	12/11/95
Chloroform	67-66-3	ND	0.5	ug/L	12/11/95
Chloromethane	74-87-3	ND	2	ug/L	12/11/95
Dibromochloromethane	124-48-1	ND	0.5	ug/L	12/11/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	12/11/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	12/11/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	12/11/95
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	12/11/95
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	12/11/95
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	12/11/95
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	12/11/95
cis-1,2-Dichloroethene	156-59-2	ND	0.5	ug/L	12/11/95
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	12/11/95
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	12/11/95
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	12/11/95
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	12/11/95
Methylene Chloride	75-09-2	ND	2	ug/L	12/11/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	12/11/95
Tetrachloroethene	127-18-4	ND	0.5	ug/L	12/11/95
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	12/11/95
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	12/11/95
Trichloroethene	79-01-6	ND	0.5	ug/L	12/11/95
Trichlorofluoromethane	75-69-4	ND	2	ug/L	12/11/95
1,1,2-Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	12/11/95
Vinyl Chloride	75-01-4	ND	2	ug/L	12/11/95

ND = Not detected at or above the reporting limit

* = Value above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9512066

CLIENT PROJECT ID. 2545

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

*, Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: SM 5520

AEN JOB NO: 9512066
 DATE EXTRACTED: 12/01/95
 DATE ANALYZED: 12/01/95
 SAMPLE SPIKED: DI WATER
 INSTRUMENT GRAVIMETRIC
 MATRIX: WATER

Method Spike Recovery Summary

Analyte	Spike Added (mg/L)	Duplicate Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits	
					Percent Recovery	RPD
Oil	91.1	86.3	94	2	83-102	5

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit.

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9512066
 DATE EXTRACTED: 12/11/95
 INSTRUMENT: C
 MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
12/13/95	MW-1	01	115
12/14/95	MW-2	02	111
12/14/95	MW-3	03	97
12/14/95	MW-4	04	100
QC Limits:			59-118

DATE EXTRACTED: 12/11/95
 DATE ANALYZED: 12/13/95
 SAMPLE SPIKED: DJ WATER
 INSTRUMENT: C

Method Spike Recovery Summary

Analyte	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
Diesel	2.03	76	12	58-107	15

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit

QUALITY CONTROL DATA

METHOD: EPA 8010

AEN JOB NO: 9512066
 INSTRUMENT: G, I
 MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id	Lab Id.	Percent Recovery	
			Bromochloro-methane	1-Bromo-3-chloro-propane
12/11/95	MW-1	01	81	78
12/11/95	MW-2	02	90	84
12/11/95	MW-3	03	72	94
12/11/95	MW-4	04	79	97
QC Limits:			70-130	70-130

DATE ANALYZED: 12/10/95
 SAMPLE SPIKED: 9512016-11
 INSTRUMENT G

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
1,1-Dichloroethene	50	83	3	37-156	20
Trichloroethene	50	101	3	54-122	20
Chlorobenzene	50	86	<1	54-141	20

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9512066
 INSTRUMENT: H
 MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id	Lab Id	Percent Recovery Fluorobenzene
12/11/95	MW-1	01	99
12/11/95	MW-2	02	98
12/11/95	MW-3	03	97
12/11/95	MW-4	04	94
QC Limits.			70-130

DATE ANALYZED 12/10/95
 SAMPLE SPIKED 9512039-01
 INSTRUMENT H

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
Benzene	46.4	102	3	85-109	17
Toluene	109	103	2	87-111	16
Hydrocarbons as Gasoline	1000	112	3	66-117	19

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit.

*** END OF REPORT ***

Aqua Science Engineers, Inc.
 2411 Old Crow Canyon Road, #4,
 San Ramon, CA 94583
 (510) 820-9391 - FAX (510) 837-4853

Chain of Custody 9512066

DATE 12-5-95 PAGE 1 OF 1

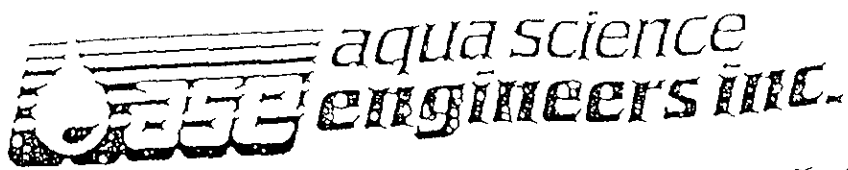
SAMPLERS (SIGNATURE) Scott T. Ferriman (PHONE NO.) 510 820-9391 PROJECT NAME Phillipsen NO. 2545
 ADDRESS 1357 High Street, Alameda, CA

ANALYSIS REQUEST					TPH GASOLINE (EPA 5030/8015)	TPH GASOLINE/BTEX 16 (EPA 5030/8015-8020)	TPH DIESEL (EPA 3510/8015)	PURGABLE AROMATICS (EPA 602/6020)	PURGABLE HALOCARBONS (EPA 601/8010) <u>CAF</u>	VOLATILE ORGANICS (EPA 624/8240)	BASE/NEUTRALS, ACIDS (EPA 625/8250)	OIL & GREASE (EPA 5520 ExF of 867) <u>G</u>	LUFT METALS (5) (EPA 6010+7000)	TITLE 22 (CAM 17) (EPA 6010+7000)	TCCLP (EPA 1311/1310)	STLC- CAM MET (EPA 1311/1310)	REACTIVITY CORROSION IGNITABILITY	MTBF
SPECIAL INSTRUCTIONS:	SAMPLE ID.	DATE	TIME	MATRIX														
	MW-1	12-5-95	10:44	water	7	X	X		X			X						X
	MW-2		12:42		7	X	X		X			X						X
	MW-3		11:40		7	X	X		X			X						X
	MW-4		14:05		7	X	X		X			X						X

RELINQUISHED BY <u>Scott T. Ferriman</u> (signature)	RECEIVED BY <u>N. Herrick</u> (signature)	RELINQUISHED BY <u>N. Herrick</u> (signature)	RECEIVED BY LABORATORY <u>Gene Bellucci</u> (signature)	COMMENTS Normal TAT
11:29 (time)	11:29 (time)	16:00 (time)	 (time)	
12/6/95 (date)	12-6-95 (date)	12-6-95 (date)	12/6/95 (date)	
Company- ASE	Company- AEM	Company-	Company- AEM	

APPENDIX B

Well Sampling Field Logs



WELL SAMPLING FIELD LOG

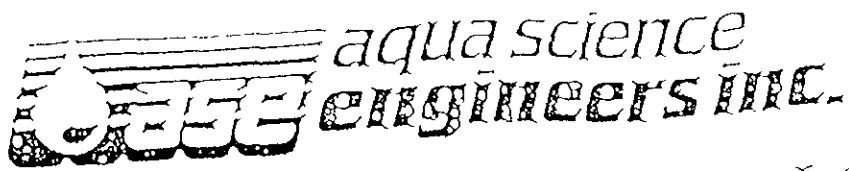
Project Name and Address: Phillipsen
 Job #: 2545 Date of sampling: 12-5-95
 Well Name: MW-1 Sampled by: SF
 Total depth of well (feet): 18.14 Well diameter (inches): 4"
 Depth to water before sampling (feet): 4.28
 Thickness of floating product if any: none
 Depth of well casing in water (feet): 13.86
 Number of gallons per well casing volume (gallons): 9
 Number of well casing volumes to be removed: 4
 Req'd volume of groundwater to be purged before sampling (gallons): 36
 Equipment used to purge the well: 12 volt PVC Bp Pump
 Time Evacuation Began: 10:11 Time Evacuation Finished: 10:37
 Approximate volume of groundwater purged: 36
 Did the well go dry?: no After how many gallons: —
 Time samples were collected: 10:44
 Depth to water at time of sampling: 4.72
 Percent recovery at time of sampling: 97%
 Samples collected with Dedicated Bailer
 Sample color: none Odor: Slight HC odor
 Description of sediment in sample: Small amount of Brown silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
<u>1</u>	<u>68.8</u>	<u>7.67</u>	<u>856</u>
<u>2</u>	<u>69.0</u>	<u>7.63</u>	<u>791</u>
<u>3</u>	<u>69.2</u>	<u>7.54</u>	<u>734</u>
<u>4</u>	<u>69.4</u>	<u>7.53</u>	<u>671</u>

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	iced?	Analysis
<u>MW-</u>	<u>2</u>	<u>40 ml vials</u>	<u>HCl</u>	<u>Yes</u>	<u>TPHg/BTEX</u>
<u> </u>	<u>2</u>	<u>" "</u>	<u>HCl</u>	<u> </u>	<u>8010</u>
<u> </u>	<u>2</u>	<u>1 e Amber</u>	<u>non</u>	<u> </u>	<u>TP4D</u>
<u>↓</u>	<u>1</u>	<u>" "</u>	<u>HCl</u>	<u>↓</u>	<u>O+G 5520 BF</u>



WELL SAMPLING FIELD LOG

Project Name and Address: Phillipsen
 Job #: 2545 Date of sampling: 12-5-95
 Well Name: MW-2 Sampled by: SF
 Total depth of well (feet): 13.74 Well diameter (inches): 4"
 Depth to water before sampling (feet): 3.49
 Thickness of floating product if any: sheen
 Depth of well casing in water (feet): 10.25
 Number of gallons per well casing volume (gallons): 6.8
 Number of well casing volumes to be removed: 4
 Req'd volume of groundwater to be purged before sampling (gallons): 27
 Equipment used to purge the well: 4" PVC Bailor
 Time Evacuation Began: 12:01 Time Evacuation Finished: 12:27
 Approximate volume of groundwater purged: 27
 Did the well go dry?: no After how many gallons: —
 Time samples were collected: 12:42
 Depth to water at time of sampling: 4.24
 Percent recovery at time of sampling: 93%
 Samples collected with: Dedicated Bailor
 Sample color: Cloudy Odor: Strong HC Odor
 Description of sediment in sample: Small amount of Brown Silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	70.1	7.91	406
2	71.2	7.85	384
3	71.3	7.90	380
4	71.2	7.89	383

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	iced?	Analysis
MW-	2	40 ml vials	HCl	Yes	TPHg/BTEX
↓	2	" "	HCl	↓	8010
↓	2	1 e Amber	none	↓	TPHd
↓	1	" "	HCl	↓	O+G 5520 BF

WELL SAMPLING FIELD LOG

Project Name and Address: Phillipsen
 Job #: 2545 Date of sampling: 12-5-95
 Well Name: MW-3 Sampled by: SF
 Total depth of well (feet): 16.84 Well diameter (inches): 4"
 Depth to water before sampling (feet): 3.87
 Thickness of floating product if any: none
 Depth of well casing in water (feet): 12.97
 Number of gallons per well casing volume (gallons): 8.6
 Number of well casing volumes to be removed: 4
 Req'd volume of groundwater to be purged before sampling (gallons): 34
 Equipment used to purge the well: 12 volt PVC Pump
 Time Evacuation Began: 11:08 Time Evacuation Finished: 11:32
 Approximate volume of groundwater purged: 34
 Did the well go dry?: no After how many gallons: —
 Time samples were collected: 11:40
 Depth to water at time of sampling: 4.08
 Percent recovery at time of sampling: 98%
 Samples collected with: Dedicated Butler
 Sample color: none Odor: Moderate HC odor
 Description of sediment in sample: small amount of Brown silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	70.0	7.58	360
2	69.8	7.53	323
3	69.9	7.50	314
4	70.1	7.51	308

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	iced?	Analysis
MW-	2	40 ml vials	HCl	Yes	TPH _g /BTEX
↓	2	" "	HCl	↓	8010
↓	2	1 e Amber	none	↓	TPH _D
↓	1	" "	HCl	↓	OTG 5520 BF

WELL SAMPLING FIELD LOG

Project Name and Address: Phillipsen
 Job #: 2545 Date of sampling: 12-5-95
 Well Name: Mw-4 Sampled by: SF
 Total depth of well (feet): 13.12 Well diameter (inches): 2"
 Depth to water before sampling (feet): 4.18
 Thickness of floating product if any: none
 Depth of well casing in water (feet): 8.9
 Number of gallons per well casing volume (gallons): 1.5
 Number of well casing volumes to be removed: 4
 Req'd volume of groundwater to be purged before sampling (gallons): 6
 Equipment used to purge the well: 12 volt PVC Pump
 Time Evacuation Began: 13:22 Time Evacuation Finished: 13:46
 Approximate volume of groundwater purged: 8
 Did the well go dry?: no After how many gallons: —
 Time samples were collected: 14:05
 Depth to water at time of sampling: 4.54
 Percent recovery at time of sampling: 96%
 Samples collected with: Dedicated Butler
 Sample color: none Odor: Moderate HC Odor
 Description of sediment in sample: small amount of brown silt

CHEMICAL DATA

Volume Purged	Temp	pH	Conductivity
1	70.6	7.37	491
2	69.3	7.20	486
3	69.6	7.13	487
4	70.1	7.09	544
5	70.2	7.22	495

SAMPLES COLLECTED

Sample	# of containers	Volume & type container	Pres	iced?	Analysis
Mw-	2	40 ml vials	HG	Yes	TPHg/BTEX
↓	2	" "	HG	↓	SO10
↓	2	1 e Amber	none	↓	TPH0
↓	1	" "	HCC	↓	OTG 5520 BF