



GROVE VALVE AND REGULATOR COMPANY

A CALIFORNIA CORPORATION
6529 HOLLIS STREET, OAKLAND, CALIFORNIA 94608

KENNETH G. BANKS
PRESIDENT AND CHIEF OPERATING OFFICER

(510) 655-7700

SHC 5762

April 24, 1995

Ms. Susan Hugo
Alameda County Department of Environmental Health
Environmental Protection Division
1131 Harbor Bay Parkway, Room 250
Alameda, CA 94502-6577

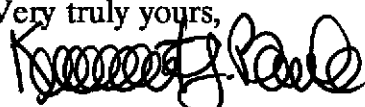
**RE: Status of Environmental Investigation of Soil and
Groundwater at Grove Valve and Regulator Company
6529 Hollis Street, Emeryville, CA 94608**

Dear Ms. Hugo:

We are in receipt of your letter dated March 9, 1995 requesting Grove Valve and Regulator Company to furnish a workplan to your office that summarizes our investigation of contamination at the site. The enclosed workplan addresses each of the four items requested. Supporting documents are included as attachments.

We conducted another round of groundwater monitoring on April 3, 1995. These results are included.

Also enclosed is a check in the amount of \$1,800 made payable to Environmental Health Services, as requested in your letter. Please note that management has changed here at Grove and you may address future correspondence to me. Thank you.

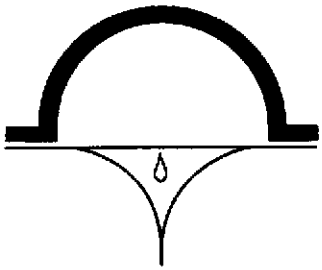
Very truly yours,

Kenneth G. Banks

KGB/dmg

Enclosures

95 MAY -2 PM 1:35
FACULTY

95 MAY -2 PM 1:35



ROBIN K. SPENCER

Certified Hazardous Materials Manager
Registered Environmental Assessor

WORKPLAN

**STATUS OF ENVIRONMENTAL INVESTIGATION
OF SOIL AND GROUNDWATER AT
GROVE VALVE AND REGULATOR COMPANY**

ENVIRONMENTAL PROTECTION

95 MAY -2 PM 1:30

ENVIRONMENTAL PROTECTION

Prepared for

Grove Valve And Regulator Company
6529 Hollis Street
Emeryville, Ca 94608

Prepared by

Robin K. Spencer, CHMM, R.E.A.
6 Via San Inigo
Orinda, CA 94563

April 1995

ENVIRONMENTAL PROTECTION

SECTION 1.0

INTRODUCTION

Grove Valve and Regulator Company (Grove) began an environmental assessment of soil and groundwater on their property in 1992. The results of the investigation were transmitted to the Regional Water Quality Control Board by letter June 24, 1992. Since that time three rounds of groundwater sampling have taken place. On March 9, 1995, the Alameda County Environmental Health Department, Environmental Protection Division requested Grove to furnish their office with a workplan that specifically addressed four issues of concern. These issues are discussed below. Supporting documentation is included as Attachments.

SECTION 2.0

DISCUSSION OF ISSUES OF CONCERN

Four issues of concern were expressed by Alameda County.

2.1 Status of the investigation regarding the contamination at the site including source identification and corrective actions taken to date.

An investigation of the environmental conditions at Grove was conducted in February and March 1992. Six soil borings were drilled and three shallow groundwater wells were installed near the property boundary. Additional groundwater samples were collected and analyzed in October 1992, February 1993, and April 1995. In April 1992, a water level survey and a literature survey were conducted. The water level survey was designed to identify if there was any impact by tidal fluctuation or precipitation on groundwater levels which might influence the movement of groundwater beneath the site. The literature survey consisted of reviewing regulatory agency documents prepared for nearby sites which had had environmental investigations, reviewing regulatory agency lists, and interviewing knowledgeable regulatory staff and locals to see if a potential existed for neighboring properties to contribute to the concentrations of contaminants found in the groundwater underlying the Grove property. The report on these surveys is included as Attachment A. Tidal and precipitation effects are negligible and the source of trichloroethylene (TCE) in groundwater at the perimeter of the Grove property is still unknown. No source has been identified and no corrective actions have been taken to date.

2.2 Complete soil and groundwater definition of the extent of the petroleum hydrocarbon and chlorinated solvents found at the site.

Attachment B consists of tables showing the levels of petroleum hydrocarbon and chlorinated solvents found in soil and groundwater for the past rounds of sampling. Samples were collected on Grove property only. Also included with Attachment B are maps showing the location of the boreholes and wells. Groundwater data is given under Issue 2.3 below.

In two locations, oil and grease (Method 5520 E/F) was found at the surface (6") in concentrations of 230 mg/kg. At Soil Boring 3, the concentrations decreased to 30 mg/kg at 3 feet and ND at 5 feet. At Soil Boring 4, on the north side of the main facility, the concentrations decreased to 50 mg/kg at 3 feet and increased to 2500 mg/kg at 5 feet. Trichloroethylene concentrations at 6 ug/kg and 40 ug/kg were found in this borehole at depths of 6 inches and 5 feet, respectively. Trichloroethylene was found at a concentration of 120 ug/kg at 25 feet in Boring MW-3.

In two wells, MW-1 at the southeast corner and MW-3 at the northwest corner of the property, concentrations of halogenated volatile organics were reported. The summary of analyses for groundwater samples in Attachment B show a steady decline in cis-1,2-dichloroethene (from 33 to 20 ug/L in MW-1) and trichloroethylene (from 103 to 79 ug/L in MW-1 and from 1300 to 800 ug/L in MW-3). Vinyl chloride in MW-3 has increased from 2 to 9 ug/L in MW-3.

2.3 Status of the groundwater monitoring program, frequency of sampling events, and the groundwater data collected during the last sampling event.

On February 26, 1993, Mr. Brian Oliva of the Alameda County Department of Environmental Health, Hazardous Materials Division and Mr. Lester Feldman of the San Francisco Bay Regional Water Quality Control Board were each sent a copy of all groundwater monitoring results to date. A copy of this submittal is included as Attachment C. A groundwater gradient to the west was indicated; the gradient is shown in groundwater contour maps also included in Attachment C. As stated above, groundwater has been sampled on four occasions: March 1992, October 1992, February 1993, and April 1995. Groundwater monitoring results from the April 1995 sampling are included in Attachment C.

2.4 Copies of the groundwater monitoring well completion diagrams and boring logs.

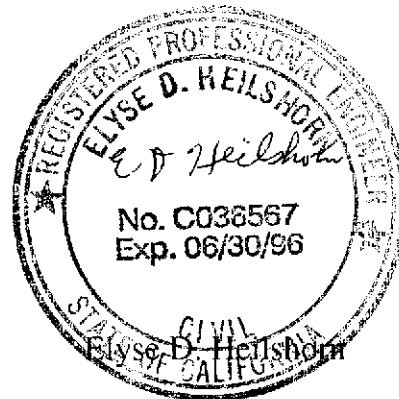
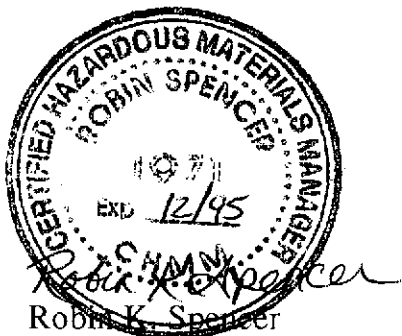
Copies of the groundwater monitoring well completion diagrams and the boring logs are included as Attachment D.

SECTION 3.0

QUALIFICATIONS OF LEAD PROFESSIONALS

Robin Spencer is an environmental scientist with 14 years experience in the environmental and hazardous materials fields. She is a Certified Hazardous Materials Manager and Registered Environmental Assessor in the State of California. She was the project manager for the soils and groundwater investigation conducted in April 1992 by Woodward-Clyde Consultants, her former employer. Currently she is an independent consultant.

Elyse Heilshorn is a consulting environmental engineer and a registered civil engineer in the State of California, a Certified Hazardous Materials Manager, and a Registered Environmental Assessor. She has 18 years experience in the environmental field as an engineer and a chemist.



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ATTACHMENT A

- Report on the Water Level Survey and the Literature Survey at and around Grove Valve

May 15, 1992

Mr. John Tescher
President
Grove Valve and Regulator Company
6529 Hollis Street
Emeryville, CA 94608

Subject: Results of Water Level and Literature Survey
Grove Valve and Regulator Company

Dear Mr. Tescher,

Earlier this year, Woodward-Clyde Consultants (WCC) conducted a Level II Environmental Assessment of the Main Plant and Equipment Testing Facility to achieve a baseline characterization of the environmental conditions at these facilities. One of the results of the Level II Assessment was finding trichloroethene (TCE) contamination at concentrations above state and federal drinking water standards at two of the three monitoring wells. The upgradient well in the parking lot, MW-1, had a concentration of 103 ug/L TCE and the downgradient well by the Southern Pacific railroad tracks, MW-3, had a concentration of 1300 ug/L TCE. The locations of the wells and the TCE concentrations are shown on Figure 1. This letter report documents the subsequent investigation to gather further information on the possible source of contamination.

Woodward-Clyde Consultants Scope of Work

The level of TCE contamination was unexpected. Woodward-Clyde Consultants proposed a survey of water level measurements to determine if there was any impact of tides or precipitation on water levels which might influence the movement of groundwater. With the assistance of Grove staff this water level survey was conducted over a six-day period and evaluated. Specific details of the water level survey are given below.

In addition to the water level survey, WCC proposed to conduct a literature survey to ascertain if the potential exists for neighboring properties to contribute to the concentrations of contaminants in the groundwater observed during the Level II Environmental Assessment. At issue were the chemical use and environmental status of neighboring facilities and any hydrogeologic

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studies associated with those facilities which may reveal information affecting Grove.

The scope of this assignment consisted of reviewing regulatory agency documents, especially those related to the the Myers Container Corporation (Myers) state superfund site two blocks away on San Pablo Avenue, reviewing Sanborn maps, reviewing agency lists of of contaminators and inquiring of other consulting firms if they were aware of studies which may have been conducted in the Grove neighborhood.

In addition, staff members at regulatory agencies responsible for sites in Emeryville were contacted and interviewed. Public files were reviewed for all sites on file near Grove: Myers, Oliver Rubber, Emeryville Redevelopment Agency (Transo/LaCoste site) and Bayox. As part of the remedial investigation/feasibility study (RI/FS) for the Myers site, a recent review of Sanborn maps, aerial photos, agency lists, and other phases of property assessment had been performed. This was reviewed and was found sufficiently recent to preclude further Sanborn map or aerial photo review as part of this study. Specific details of the literature survey are presented below.

Results of Water Level Survey

The water level survey was conducted by Grove staff over the 6-day period of April 6-13, 1992 (excluding the weekend). Grove staff had been instructed by WCC in the operation of the water level recorder, how to perform consistent water level measurements, and the frequency of measurements. Water level measurement were taken at each of the three monitoring wells at approximately 3-hour intervals during the 6-day period. The attached Table 1 presents the water level data. The attached Figures 2 through 4 graph the measurements. Generally, the water levels only fluctuated about one-tenth of a foot over most of the days. Over the weekend of April 11-12, a rainfall occurred which may have influenced a trend to higher water level measurements in the three wells. Tide tables corrected to the nearest measuring station of Oakland Matson Wharf were consulted to determine tidal influence on water levels. The water levels fluctuated so little that the influence of tidal action was considered negligible.

Results of Literature Survey - Geohydrological and Environmental Review

A review of portions of reports of investigation at the four sites near Grove was made. These reports were reviewed at the Regional Water Quality Control Board (RWQCB) and the Cal-EPA Department of Toxic Substances Control (DTSC).

The first site is the closest, being due south of the Engineering Testing Facility at the southern end of Bay Street. The site is known as the "Transco/LaCoste Site," in the report dated 10/26/90, by Harding Lawson and Associates, (HLA) of Novato, CA, for the City of Emeryville Redevelopment Agency.



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In the HLA report, the groundwater gradient for the Transco/LaCoste site is similar (but slightly less) than the gradient measured at Grove. The direction, west/northwest, of the gradient is parallel to the gradient at Grove. Based on the position of the two sites and the westerly direction of groundwater flow, the Transco/LaCoste site is crossgradient from Grove. Therefore, the two sites should have little or no impact on the groundwater below either. The HLA report also indicated that at the time of the report groundwater was being pumped at the Emery Bay Apartments which could have some effect on the gradient and direction of flow. The extracted groundwater was being treated through the use of an air stripper to remove hydrocarbon contamination.

Analysis of groundwater at the Transco/LaCoste site did indicate detection of TCE in one well in March of 1990 but at low levels (0.99 µg/L). Based on two boring logs the soil is similar to the soil under Grove property, especially the soil under the Engineering Test Facility.

The other site is the Myers Container Corporation (Myers) site which is east/northeast of Grove along 66th Street. Myers is a state Superfund site and a RI/FS is being conducted by TRC Environmental of Petaluma, CA.

Based on groundwater measurements from multiple wells at the Myers site the gradient is approximately the same as at Grove and in a parallel direction. Due to the relative position of the Myers site it is also slightly crossgradient of Grove. In other words, contaminants in groundwater under Myers would probably pass to the north of the Main Plant building of Grove on their predominantly western flow.

Analytical results of groundwater from wells at the Myers site indicate the presence of several organic contaminants. One well (W-2), has consistently had TCE detected in it at levels of 46 to 110 µg/L. Other wells at the Myers site including wells on the west end (towards Grove) have indicated nondetectable (<5 µg/L) levels of TCE or other volatile organic compounds.

The soils under Myers based on the boring logs in the report are very similar to that under the north side of Grove. Near-surface soils are predominantly clay and silt with some layers of more porous materials below about 10 feet.

From a review of these data, it is likely that neither the Transco/LaCoste nor the Myers sites have influenced the TCE concentrations at the perimeter of the Grove site.

The other two sites, Bayox and Oliver Rubber, had limited investigations performed. Bayox had had a fuel leak from an underground deisel tank in 1988. The tank was removed and any contaminated soil was excavated. Oliver Rubber had a leaking tank as well and also has a high lead level in soil that was part of a parcel of land leased to Myers. Based on these limited reports, neither site would have influenced TCE in groundwater found below Grove.



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Results of Interviews with Regulatory Agencies

A reconnaissance of the area was made between San Pablo Avenue to the east, Bay Street to the west, and between 63rd and 67th Streets to the south and north, respectively. Names and addresses of businesses having a remote chance of solvent use were recorded. Knowledgeable staff from Grove Valve, B. Tallent and S. Knutson, a long-time local resident, J. Rodoni, and the Emeryville Fire Department (EFD) Chief, R Vittori were shown the list of businesses and questioned about the possibility of any of the businesses using solvents. From these interviews, the list was reduced to 31 businesses that possibly use or have used solvents. This list is shown in Table 2.

This list was given to professional staff at two regulatory agencies, DTSC in Emeryville and Alameda County Health Department (Alameda County) in Oakland and the EFD. Knowledgeable staff in these departments and that of the RWQCB were interviewed at least once in regards to their knowledge of environmental contamination or investigations at these businesses or in the Grove area. The names of those spoken to and specifics of these conversations are given below.

DTSC: Karen Toth, Environmental Specialist

The only business of concern on the DTSC Active Site Tracking List and in the general area of Grove is the state superfund site, Myers, on San Pablo Avenue, two blocks to the east as described above. This site is undergoing a RI/FS and a number of documents have been prepared describing the surface and subsurface investigations. A synopsis of the Myers contamination was given above.

Alameda County: Brian Oliva, Susan Hugo, Dennis Burns, Hazardous Materials Specialists

Mr. Oliva is the current staff person responsible for Emeryville and was unaware of any TCE enforcements. He has been at this position only a few months and was preceded by Ms. Hugo and Mr. Burns. Ms. Hugo had no recollection of any TCE spills or problems. Mr. Burns has kept the active Emeryville contaminant cases and now, with Ms. Hugo, chiefly enforces leaky underground tanks. He couldn't think of any industry which had any TCE plume or problems. His position as an Alameda County enforcer is that

- Emeryville is a "problem child since it's been reclaimed from the bay and filled and that the RWQCB generally agrees with the theory yet doesn't make exceptions on cleanups."
- Emeryville is normally considered low priority by Alameda County which tends not to make companies look for contamination because there is so much residual contamination from past industrial use.



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- Alameda County has a Memorandum of Understanding (MOU) with DTSC and the RWQCB to enforce Title 22 of the California Code of Regulations. Alameda County acts as an agent for these two agencies.
- Under Proposition 65 (Prop 65), Grove is required to notify both the RWQCB and Alameda County of the TCE in groundwater. Under Prop 65, Grove will be required to monitor quarterly for one year. Alameda County would be the lead agency for this monitoring activity.
- If the property were to be sold, a case could be made to reduce the groundwater monitoring under closure regulations. The buyer would assume the environmental encumbrances.
- There are "weird" groundwater gradient effects in Emeryville. A report by the consultant Bill Dubrovsky, 3931 Luneman Rd., Placerville, CA presents the most comprehensive geological study of the Emeryville area to Mr. Burns' knowledge. Mr. Dubrovsky compiled all geological and geohydrologic studies performed in Emeryville to about 1989 to write this report.

RWQCB: Rich Hyatt, Environmental Specialist

Mr. Hyatt is the RWQCB staff person responsible for Emeryville water quality. His position on the TCE in groundwater is:

- "Emeryville has contamination, period. Solvents and heavy metals are ubiquitous. 1300 ug/l is not relatively high".
- With the reporting of the groundwater monitoring results, the Grove site would be placed on the North Bay Toxic Leak List. This is a long list with sites that have reported contamination.
- Once the site is put on the North Bay Toxic Leak List, it is a question of manpower whether or not the site is pursued by the RWQCB. Perhaps a staff person would make a visit. Probably Grove would be requested to monitor the wells quarterly.
- There is a section in the Water Code which could be interpreted that the groundwater monitoring results must be reported to the RWQCB.

EFD: Frank Alhino, Fire Marshal

Fire Marshal Alhino is reviewing the Hazardous Materials Management Plans (HMMP) submitted by local businesses which use or generate hazardous materials. He is also contacting local businesses to identify the types or names of solvents used, if any. The results of Fire Marshal Alhino's review and survey will be documented in another letter report to Grove as soon as they are available.



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Results of Agency List Review

Several agency lists were reviewed to see if any sites had been added or deleted from those sites reported in the 1990 Canonie Environmental Services Corporation (Canonie) Level I environmental assessment. In addition, the section on agency lists in the Myers Container Corporation RI/FS Workplan (October 1990) was reviewed. Except for those firms noted above, i.e., Myers, Oliver Rubber, Bayox, and Emeryville Redevelopment Agency, no businesses were listed which had more than a leaking underground storage tank. Specifically, the lists reviewed with businesses cited were:

- RWQCB North Bay Toxic Leaks List: Myers and Oliver Rubber
- RWQCB Fuel Leaks List: Henry Horn & Sons, Emeryville Bay Front/U.S. Postal Service, Bay Center Project, Liquid Sugar, Inc., FABCO, and HFH Limited
- RWQCB Chemical Release List: Emeryville Redevelopment Agency
- California State Bond Expenditure Sites (State Superfund): Myers

Conclusions

The water level and literature survey was conducted to determine if, by measuring water levels in monitoring wells and comparing the levels to corrected tide tables, reviewing agency lists and files, and conducting interviews with knowledgeable persons, a case could be made that the TCE in groundwater found at the perimeter of the Grove property could be ascribed to an offsite source. Water level data indicated very little fluctuation, suggesting that tidal influence is negligible. Data available from the regulatory agencies are limited to only those sites known to the agencies undergoing environmental investigations. Interviews from knowledgeable persons indicate the possible (and even the probable) use of solvents by many neighboring businesses. Confirmation of neighbors' solvent use may be forthcoming from the EFD review of HMMP Plans and interviews with businesses.

Based on the data collected from the water level and literature survey at this point, the source of the TCE in groundwater at the perimeter of the Grove property is still unknown.

Limitations

This work was limited to available and published documents in the public domain and to interviews of staff representing the agencies cited above. Every opportunity to validate the data reviewed or received was made, yet no warranty as to the accuracy of the data reviewed or received is expressed or implied.



Woodward-Clyde Consultants

Woodward-Clyde Consultants appreciates the opportunity to have assisted Grove in this survey. If you have questions or comments on the content of this report please do not hesitate to call me at 874-1747.

Sincerely yours,

WOODWARD-CLYDE CONSULTANTS

Robin Spencer, CHMM, R.E.A.
Project Manager

RS:rs
Attachments:

Water Level Measurement Tables
List of Sites in the Vicinity of Grove Valve Submitted to Agency Review
Grove Valve Site Map
Water Level Measurement Graphs



ATTACHMENT B

- Soil and Groundwater Analytical Data Tables for Investigation Conducted at Grove Valve
- Location Maps for Boreholes and Wells at Grove Valve

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Table 1. SUMMARY OF ANALYSES FOR SOIL SAMPLES FROM GROVE VALVE AND REGULATOR COMPANY

BORING/ WELL NUMBER	Date	OIL & GREASE	AROMATIC VOLATILE HYDROCARBONS			HALOGENATED VOLATILE ORGANICS		ORGANOCHLORINE
		HYDROCARBONS	EPA Method 8020			EPA METHOD 8010**		PESTICIDES and PCBs
		STD Method 5520 E/F (mg/kg)	B-T-E-X (µg/kg)	Chlorobenzene (µg/kg)	1,2-Dichlorobenzene (µg/kg)	Trichloroethene (µg/kg)	All other target compounds (µg/kg)	EPA METHOD 8080** (µg/kg)
SB-1-6*	25-Feb-92	ND	ND	ND	ND	ND	ND	ND
SB-1-6*-A	25-Feb-92	20	ND	ND	ND	ND	ND	ND
SB-1-3*	25-Feb-92	20	ND	ND	ND	ND	ND	ND
SB-1-5*	25-Feb-92	ND	--	--	--	--	--	--
SB-2-6*	25-Feb-92	ND	ND	ND	ND	ND	ND	ND
SB-2-3*	25-Feb-92	ND	ND	ND	ND	ND	ND	ND
SB-3-6*	25-Feb-92	230	ND	ND	ND	ND	ND	ND
SB-3-3*	25-Feb-92	30	ND	ND	ND	ND	ND	ND
SB-3-5*	25-Feb-92	ND	--	--	--	--	--	--
SB-4-6*	25-Feb-92	230	ND	ND	ND	6	ND	ND
SB-4-3*	25-Feb-92	50	ND	ND	ND	ND	ND	ND
SB-4-5*	25-Feb-92	2500	ND	ND	ND	40	ND	--
SB-5-6*	25-Feb-92	40	ND	ND	ND	ND	ND	ND
SB-5-3*	25-Feb-92	ND	ND	ND	ND	ND	ND	ND
SB-5-5*	25-Feb-92	10	--	--	--	--	--	--
SB-6-6*	25-Feb-92	80	ND	ND	ND	ND	ND	ND
SB-6-3*	25-Feb-92	30	ND	ND	ND	ND	ND	ND
SB-6-5*	25-Feb-92	10	--	--	--	--	--	--
MW-1-6*	27-Feb-92	ND	ND	ND	ND	ND	ND	ND
MW-1-5*	27-Feb-92	ND	ND	ND	ND	ND	ND	ND
MW-1-15*	27-Feb-92	ND	ND	ND	ND	ND	ND	ND
MW-1-25*	27-Feb-92	ND	ND	ND	ND	ND	ND	ND
MW-2-6*	26-Feb-92	ND	ND	ND	ND	ND	ND	ND
MW-2-10*	26-Feb-92	ND	ND	ND	ND	ND	ND	ND
MW-2-20*	26-Feb-92	ND	ND	ND	ND	ND	ND	ND
MW-2-25*	26-Feb-92	ND	ND	ND	ND	ND	ND	ND
MW-3-5*	26-Feb-92	20	ND	ND	ND	ND	ND	ND
MW-3-5*	26-Feb-92	ND	ND	ND	ND	ND	ND	ND
MW-3-15*	26-Feb-92	ND	ND	ND	ND	ND	ND	ND
MW-3-25*	26-Feb-92	ND	ND	ND	ND	120	ND	ND
MW-3-25*-A	26-Feb-92	ND	ND	ND	ND	100	ND	ND
Detection Limits		10	5***	5	5	5	5	5***

GENERAL NOTES

A samples are laboratory prepared splits

ND denotes not detected above analytical detection limit.

-- denotes sample was not analyzed for this constituent.

B-T-E-X denotes Benzene, Toluene, Ethylbenzene and Xylenes

SPECIFIC NOTES

* = total of 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, and 1,4-Dichlorobenzene

** = see lab sheets for complete list of method-specific target compounds.

*** = detection limits vary by individual constituents

Table 2. SUMMARY OF ANALYSES FOR GROUNDWATER SAMPLES FROM GROVE VALVE AND REGULATOR COMPANY

WELL NUMBER	Date	OIL & GREASE HYDROCARBONS		AROMATIC VOLATILE HYDROCARBONS				HALOGENATED VOLATILE ORGANICS							ORGANOCHLORINE PESTICIDES and PCBs
		STD Method 5520 C/F (mg/L)	EPA Method 8020			Bromo-dichloro-methane (µg/L)	EPA Method 8010**						EPA Method 8080** (µg/L)		
			B-T-E-X (µg/L)	Chloro-benzene (µg/L)	1,2-Dichloro-benzene (µg/L)		Chloro-lorn (µg/L)	1,1-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	cis-1,2-Dichloroethene (µg/L)	trans-1,2-Dichloroethene (µg/L)	1,1,1-Trichloroethane (µg/L)		Trichloro-ethene (µg/L)	Vinyl Chloride (µg/L)
MW-1	2-Mar-92	ND	ND	ND	ND	ND	ND	ND	ND	31.0	12.0	ND	100.0	ND	ND
MW-2	2-Mar-92	ND	ND	ND	ND	ND	3.0	ND	2.0	ND	0.6	4.0	ND	ND	
MW-2-DUP	2-Mar-92	ND	ND	ND	ND	ND	3.0	ND	2.0	ND	0.6	4.0	ND	ND	
MW-3	2-Mar-92	ND	ND	ND	ND	0.5	0.6	2.0	18.0	ND	0.5	1300.0	5.0	ND	
RINSATE	2-Mar-92	ND	ND	ND	ND	1.0	36.0	ND	ND	ND	ND	ND	ND	ND	
Detection Limits		0.5	0.5***	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.05***

REGULATORY STANDARDS

EPA	MCL	--	5.0	--	75.0	100.0	--	7.0	70.0	100.0	200.0	5.0	2.0
CA-STATE	MCL	--	1.0	--	5.0	--	5.0	6.0	6.0	10.0	200.0	5.0	0.5

GENERAL NOTES

ND denotes not detected above analytical detection limit.

-- denotes sample not regulated or no MCL established.

B-T-E-X denotes Benzene, Toluene, Ethylbenzene, and Xylenes.

SPECIFIC NOTES

* = total of 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, and 1,4-Dichlorobenzene

** = see lab sheets for complete list of method-specific target compounds.

*** = detection limits vary by individual constituents

SHADED = amount exceeds either EPA or CA State Maximum Contaminant Level (MCL)

Table 3. WATER LEVEL MEASUREMENTS RELATIVE TO MEAN SEA LEVEL (MSL), GROVE VALVE and REGULATOR COMPANY

(All measurements are in feet)

Well Number	Adjacent Ground Elevation (Note 1)	Top of Well Casing Elevation (Note 1)	Sounding Date	Depth to Top of Groundwater (Note 2)	Groundwater Elevation (Note 1)
MW-1	20.89	20.72	3/2/92	4.28	16.44
			3/26/92	4.89	15.83
MW-2	16.28	15.95	3/2/92	7.90	8.05
			3/26/92	6.10	9.85
MW-3	17.47	16.98	3/2/92	9.22	7.76
			3/26/92	8.38	8.60

NOTES

1. Based upon USC and GS datum in feet relative to MSL; adjacent ground elevation refers to steel rim of Christy box reference mark.
2. Relative to top-of-well-casing

TABLE 2. LIST OF SITES IN THE VICINITY OF GROVE VALVE
SUBMITTED TO AGENCIES FOR REVIEW AND COMMENT

A.A. Johnson & Son, 1164 66th St. Oakland
Aalborg Ciserv of San Francisco, 1315 67th St., Emeryville
American Transit Supply, about 6450 Hollis St., Emeryville
Atlas Pacific Engineering, 1321 67th St., Emeryville ***
Autumn Press, 1280 65th St., Emeryville *
Bacchus Press, 1287 66th St., Emeryville *
Baker Metal Products, 1265 65th St., Emeryville *
Bayox, Marshal St. at Ocean, Emeryville *CLOSED*
California Pacific, 6450 Bay St., Emeryville
Card House Distributing, 1303 66th St., Emeryville
Conversion Techniques, 1309 66th St., Emeryville
Copper & Brass Sales, Inc., 1295 67th St., Emeryville *CLOSED*
Coulter Steel & Forge Co., 1494 67th St., Emeryville *** *CLOSED*
E.E. Richter & Sons (may be under Richter), 6598 Hollis St., Emeryville *
Fabco Automotive Corp., 1249 67th St., Emeryville ***
General Auto, about 1300 66th St., Emeryville *
Geo. Martin & Sons (may be under Martin), 1250 67th St., Emeryville *
Grove Valve and Regulator Co., 6529 Hollis St., Emeryville ***
Knopp, Inc. 1307 66th St., Emeryville
Lawrence Berkeley Lab Storehouse, 64th St., Emeryville
LSI (Liquid Sugar Inc.), 1285 66th St., Emeryville *** *US FUEL*
McGrath Steel, 6655 Hollis St., Emeryville *** *US FUEL*
Meyers Containers Corp., 6549 San Pablo Ave., Oakland ***
Monarch Tool & Engineering, 1463 67th St., Emeryville ***
Oakland Diesel, about 1309 65th St., Emeryville
Oliver Rubber Co., 1200 65th St., Emeryville *** *CLOSED*
Peet's Coffee, 1310 65th St., Emeryville *CLOSED*
Qualimatrix, 1410 64th St., Emeryville *
Rix Industries, 6460 Hollis St., Emeryville *** ✓
Roller Press, 6647 Hollis St., Emeryville ***
Ryerson Steel, 1465 65th St., Emeryville *
Rypins-Lipinski & Associates, 1490 66th St. and 1499 67th St., Emery. *
U.C. Berkeley Central Storehouse, 1180 67th St., Emeryville/Oakland *

NOTE:

The list is divided into three categories. Those with three "****" are the businesses which probably use or have used solvents; those with a single "*" are the businesses which possibly use or have used solvents; those with no "*" are businesses which might use or have used solvents.

This list was sent to the Cal-EPA DTSC, Alameda County Health Department, and the Emeryville Fire Department for review and comment.

TABLE 1 - WATER LEVEL MEASUREMENTS

RECORDED AT MONITORING WELLS MW-1, MW-2 AND MW-3

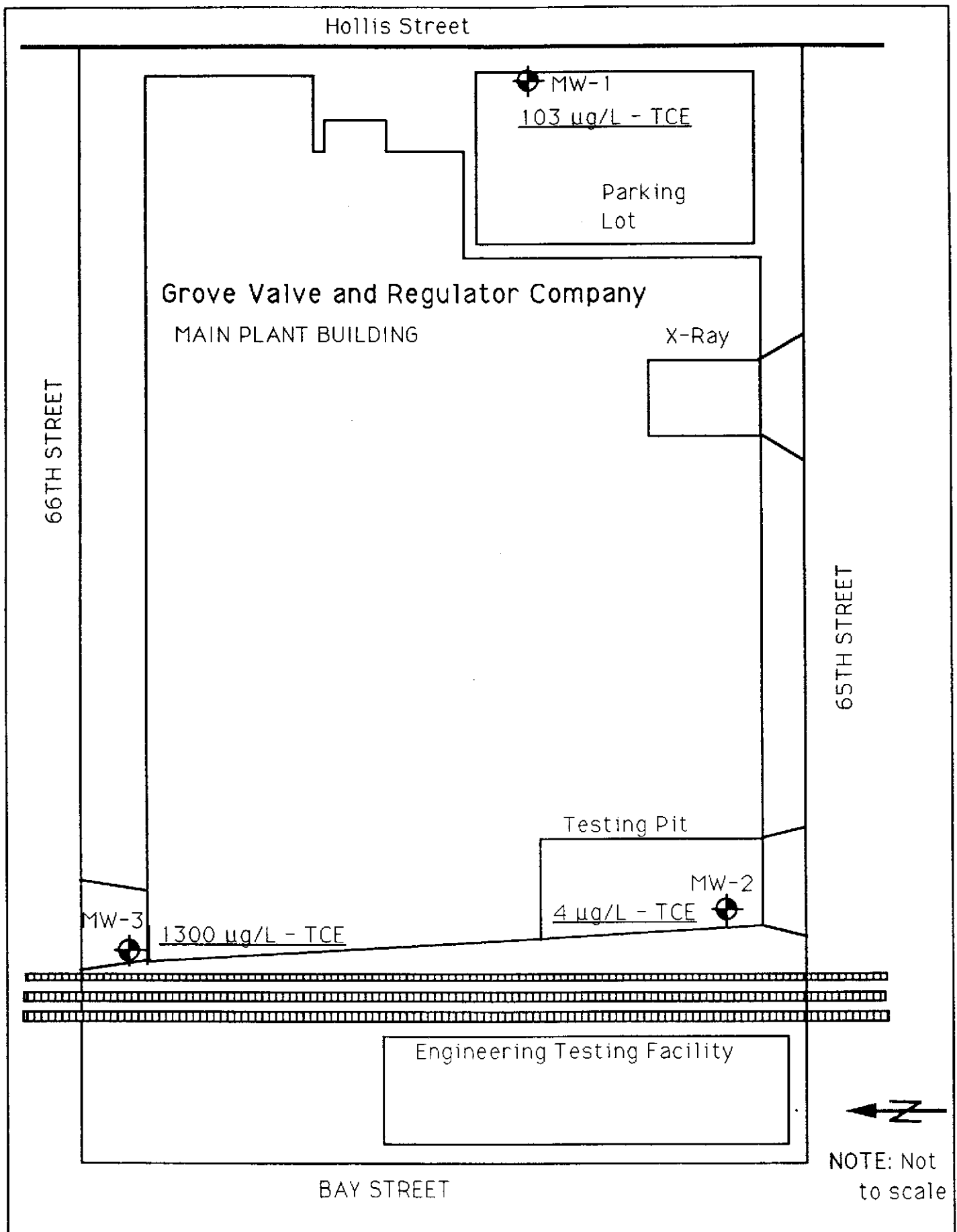
GROVE VALVE AND REGULATOR COMPANY

WELL NO.	SOUNDING DATE	SOUNDING TIME	D. to TOP G.W.		WELL NO.	SOUNDING DATE	SOUNDING TIME	D. To TOP G.W.
MONDAY				TUESDAY				
MW-1	4/6/92	6:00AM	5.52	MW-1	4/7/92	6:00AM	5.60	
MW-2		6:15	6.30	MW-2		6:10	6.67	
MW-3		6:30	8.54	MW-3		6:15	8.25	
MW-1		9:50	5.58	MW-1		9:45	5.62	
MW-2		10:00	6.50	MW-2		9:55	6.68	
MW-3		10:00	8.34	MW-3		10:00	8.22	
MW-1		12:45PM	5.66	MW-1		12:30PM	5.65	
MW-2		1:00	6.72	MW-2		12:40	6.66	
MW-3		1:15	8.22	MW-3		12:45	8.21	
MW-1		3:00	5.67	MW-1		3:15	5.66	
MW-2		3:15	6.68	MW-2		3:30	6.62	
MW-3		3:30	8.21	MW-3		3:45	8.20	
MW-1		6:00	5.60	MW-1		6:00	5.60	
MW-2		6:15	6.64	MW-2		6:15	6.61	
MW-3		6:25	8.20	MW-3		6:25	8.20	
WEDNESDAY				THURSDAY				
MW-1	4/8/92	6:00AM	5.60	MW-1	4/9/92	6:00AM	5.64	
MW-2		6:10	6.64	MW-2		6:10	6.65	
MW-3		6:15	8.26	MW-3		6:15	8.25	
MW-1		9:00	5.62	MW-1		9:00	5.64	
MW-2		9:10	6.70	MW-2		9:10	6.70	
MW-3		9:15	8.20	MW-3		9:15	8.21	
MW-1		12:00PM	5.67	MW-1		12:00PM	5.68	
MW-2		12:10	6.69	MW-2		12:10	6.73	
MW-3		12:15	8.21	MW-3		12:15	8.21	
MW-1		3:00	5.67	MW-1		3:00	5.67	
MW-1		3:15	6.63	MW-2		3:15	6.70	
MW-2		3:30	8.20	MW-3		3:30	8.21	
MW-1		6:00	5.62	MW-1		6:00	5.68	
MW-2		6:15	6.63	MW-2		6:15	6.73	
MW-3		6:25	8.20	MW-3		6:25	8.22	

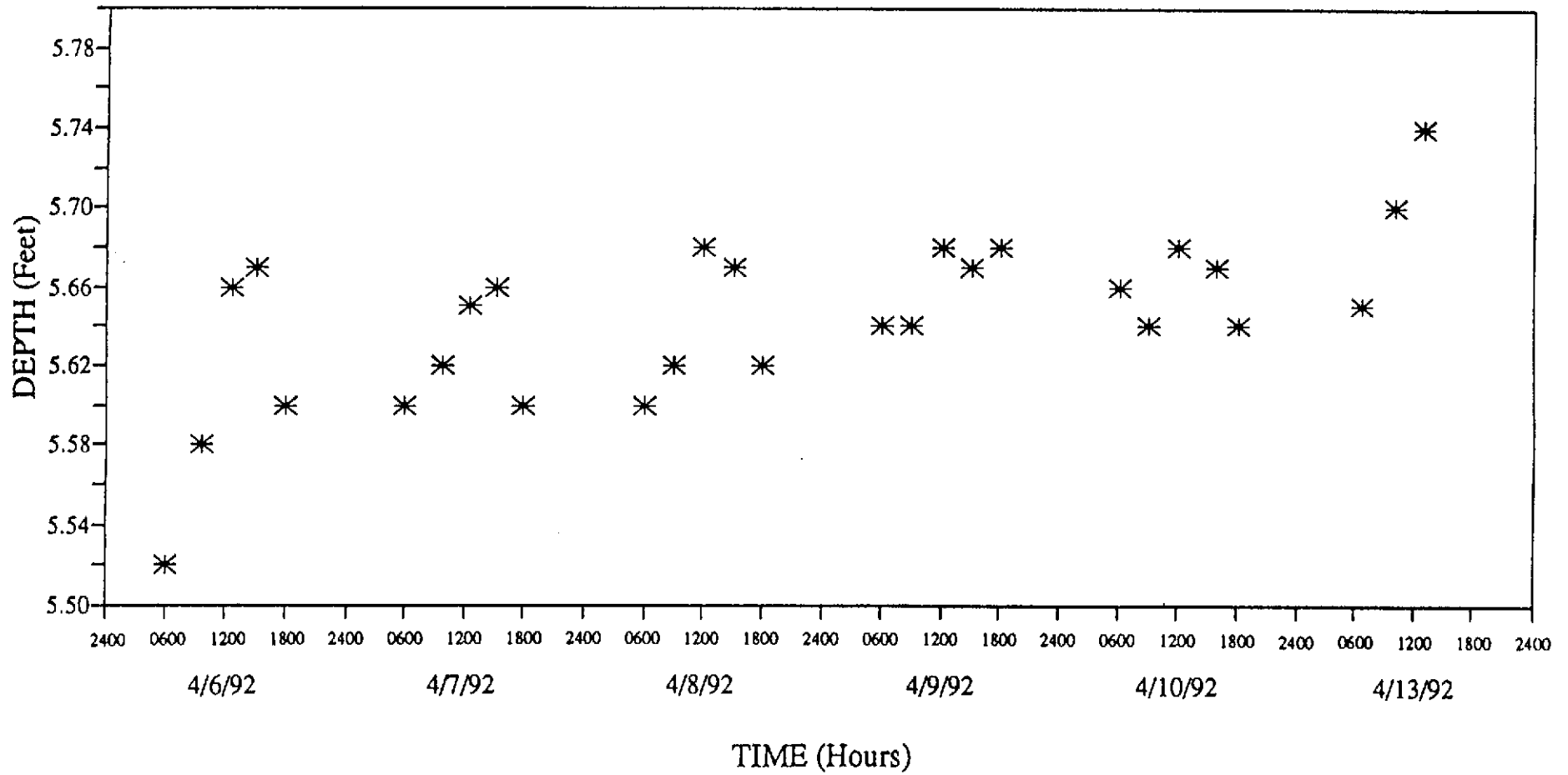
TABLE 1 - WATER LEVEL MEASUREMENTS
 RECORDED AT MONITORING WELLS MW-1, MW-2 AND MW-3

GROVE VALVE AND REGULATOR COMPANY

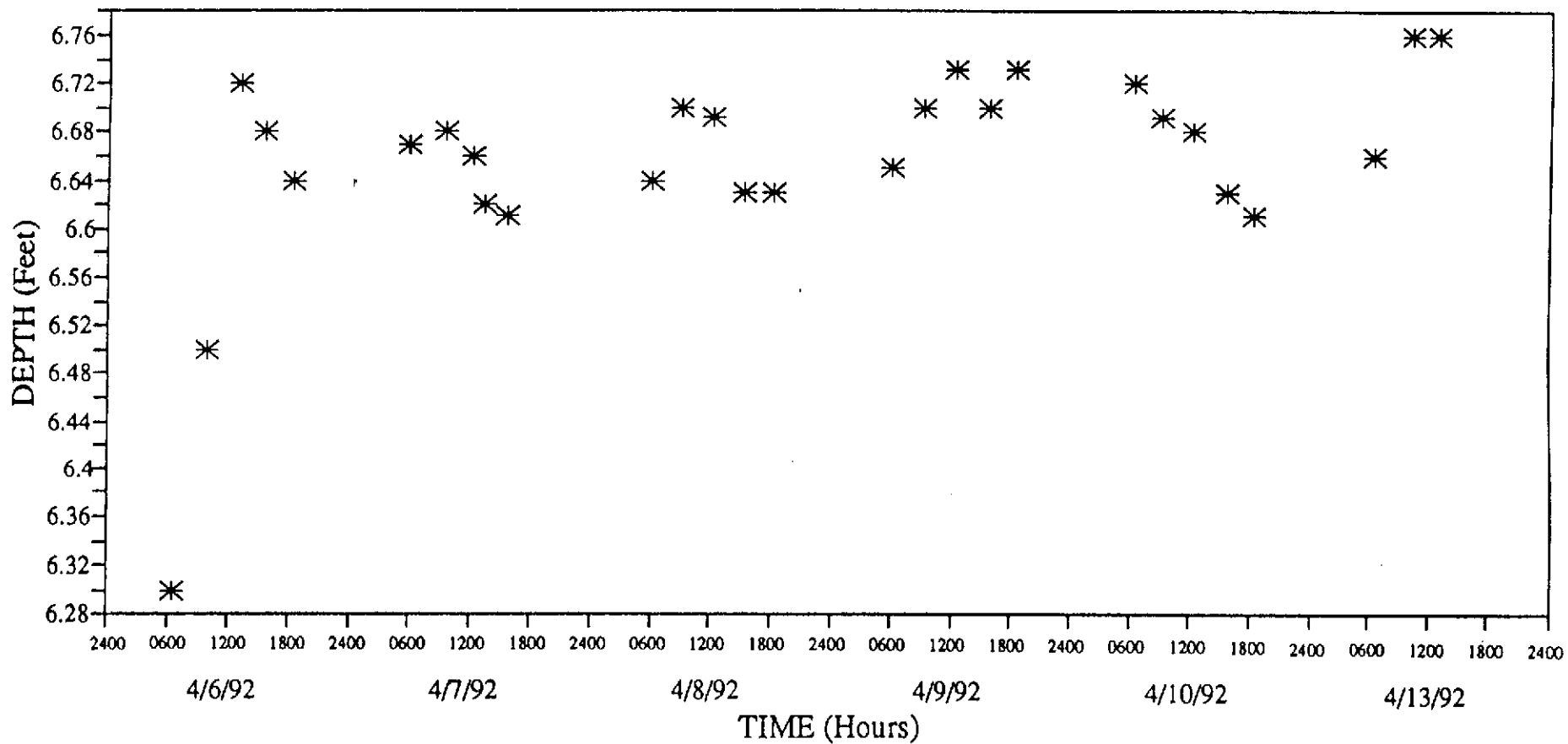
WELL NO.	SOUNDING DATE	SOUNDING TIME	D. to Top G.W.	WELL NO.	SOUNDING DATE	SOUNDING TIME	D. to TOP G.W.
FRIDAY				MONDAY			
MW-1	4/10/92	6:00AM	5.66	MW-1	4/13/92	6:30AM	5.65
MW-2		6:10	6.72	MW-2		6:40	6.66
MW-3		6:15	8.28	MW-3		6:45	8.52
MW-1		9:00	5.64	MW-1		10:00	5.70
MW-2		9:10	6.69	MW-2		10:10	6.76
MW-3		9:15	8.21	MW-3		10:15	8.22
MW-1		12:00PM	5.68	MW-1		1:00PM	5.74
MW-2		12:10	6.68	MW-2		1:10	6.76
MW-3		12:15	8.21	MW-3		1:15	8.22
MW-1		3:45	5.67				
MW-2		3:55	6.63				
MW-3		4:05	8.20				
MW-1		6:00	5.64				
MW-2		6:15	6.61				
MW-3		6:25	8.19				



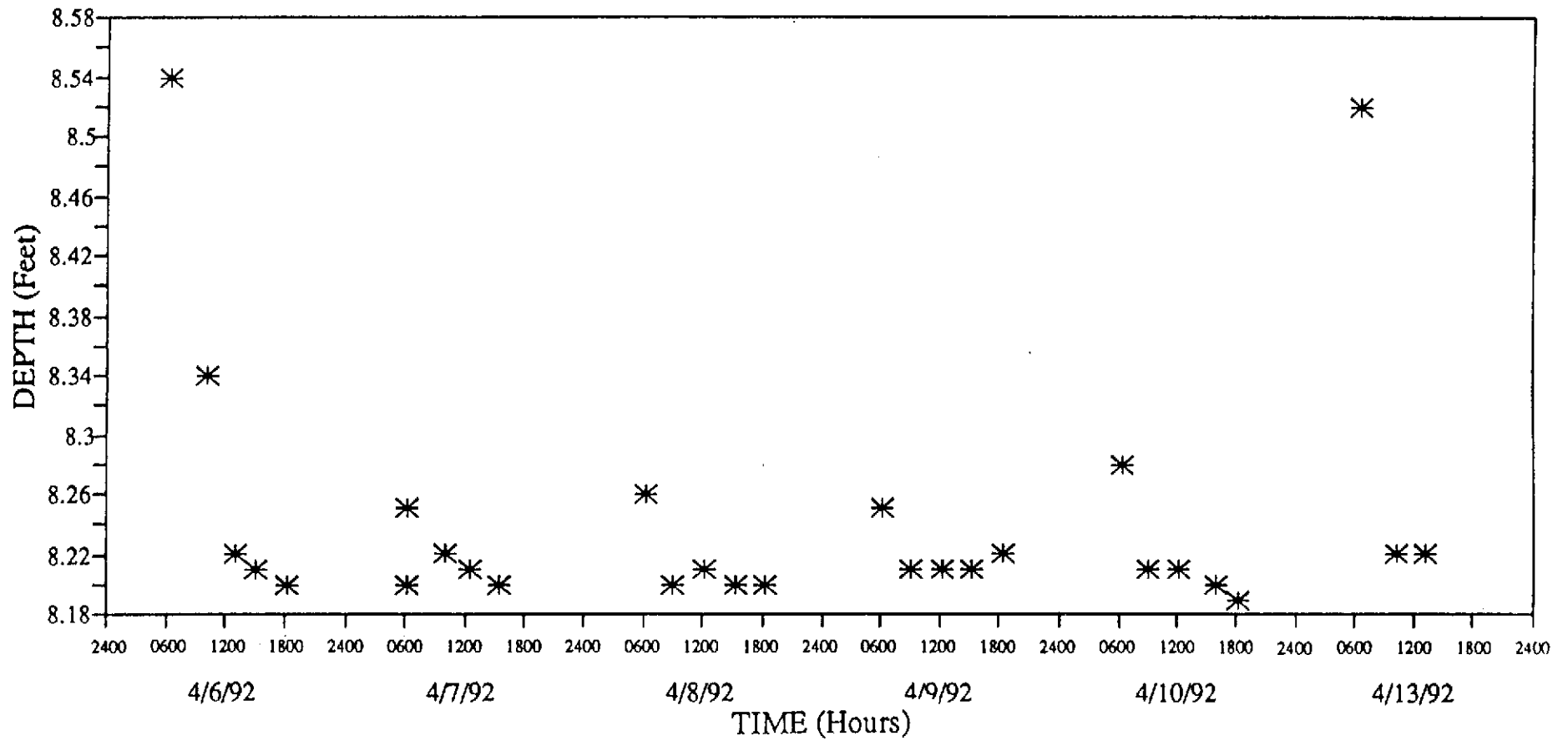
Project No. 92C091A	Grove Valve	Trichloroethene (TCE) in Groundwater March 2, 1992	Figure 1
Woodward-Clyde Consultants		Grove Valve and Regulator Company	



Project No. 92C091A	Grove Valve	Water Level Measurements Recorded at MW-1 April 6-13, 1992	Figure 2
Woodward-Clyde Consultants			



Project No. 92C091A	Grove Valve	Water Level Measurements Recorded at MW-2 April 6-13, 1992	Figure 3
Woodward-Clyde Consultants			



Project No. 92C091A	Grove Valve	Water Level Measurements Recorded at MW-3 April 6-13, 1992	Figure 4
Woodward-Clyde Consultants			

TABLE 1
SUMMARY OF ANALYSES FOR GROUNDWATER SAMPLES FROM GROVE VALVE AND REGULATOR COMPANY

Well Number	Date	HALOGENATED VOLATILE ORGANICS EPA Method 8010*							
		Chloroform (µg/L)	1,1- Dichloroethane (µg/L)	1,1- Dichloroethene (µg/L)	cis-1,2- Dichloroethene (µg/L)	trans-1,2- Dichloroethene (µg/L)	1,1,1- Trichloroethane (µg/L)	Trichloroethene (µg/L)	Vinyl Chloride (µg/L)
MW-1	15 Oct 1992	ND	ND	ND	24.0	8.0	ND	99.0	ND
MW-1 Dup	15 Oct 1992	ND	ND	ND	24.0	8.0	ND	98.0	ND
MW-2	15 Oct 1992	ND	2.0	ND	1.0	ND	0.8	3.0	ND
MW-3	15 Oct 1992	ND	0.7	1.0	13.0	ND	0.7	1100.0	2.0
Detection Limits		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
EPA	MCL	100.0	--	7.0	70.0	100.0	200.0	5.0	2.0
CA-STATE	MCL	--	5.0	6.0	6.0	10.0	200.0	5.0	0.5

General Notes

"ND" denotes not detected above analytical detection limit

"--" denotes sample not regulated or no MCL established

Specific Notes

* = see lab sheets for complete list of method-specific target compounds

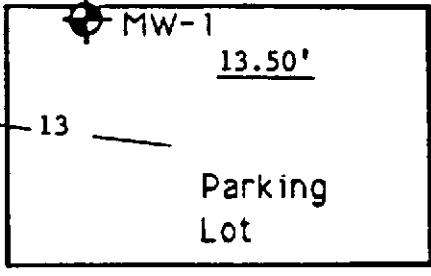
Shaded area = amount exceeds either EPA or CA State Maximum Contaminant Level (MCL)

Hollis Street

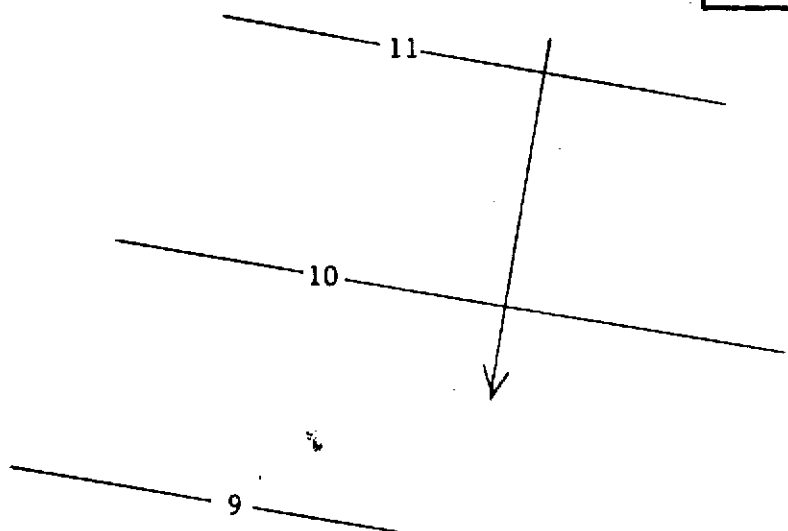
66TH STREET

65TH STREET

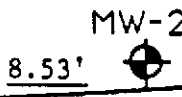
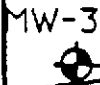
Grove Valve and Regulator Company
MAIN PLANT BUILDING



X-Ray



Testing Pit



Engineering Testing Facility

BAY STREET



NOTE: Not to scale

Project No. 92C091A	Grove Valve	Groundwater Elevation in Feet Above MSL October 15, 1992	Figure 1
Woodward-Clyde Consultants		Grove Valve and Regulator Company	

Certificate of Analysis

PAGE 1 OF 8

DOHS CERTIFICATION NO. E772

AIHA ACCREDITATION NO. 332

WOODWARD-CLYDE CONSULTANTS
500 12TH STREET
SUITE 100
OAKLAND, CA 94607-4014
ATTN: GEORGE CHANG

REPORT DATE: 10/27/92

DATE SAMPLED: 10/15/92

DATE RECEIVED: 10/15/92

CLIENT PROJECT ID: 92C0544-1000
PROJ. NAME: GROVE VALVE

QUANTEQ JOB NO: 9210113

PROJECT SUMMARY:

On October 15, 1992, this laboratory received five (5) water samples. Samples were received cold and in appropriate preserved containers.

Client requested samples be analyzed for Halogenated Volatile Organics by EPA Method 8010.

Sample identification, methodologies, results and dates analyzed are summarized on the following pages.

All laboratory quality control parameters were found to be within established limits. Batch QC data is included at the end of this report.

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



Larry Klein
Laboratory Manager

Results FAXed 10/26/92

WOODWARD-CLYDE CONSULTANTS

SAMPLE ID: MW-1
CLIENT PROJ. ID: 92C0544-1000 GROVE VALVE
DATE SAMPLED: 10/15/92
DATE RECEIVED: 10/15/92
REPORT DATE: 10/27/92

QUANTEQ LAB NO: 9210113-01A
QUANTEQ JOB NO: 9210113
DATE ANALYZED: 10/16/92
INSTRUMENT: G

EPA METHOD 8010 (WATER MATRIX)
HALOGENATED VOLATILE ORGANICS

COMPOUND	CAS #	CONCENTRATION (ug/L)	DETECTION LIMIT (ug/L)
Bromodichloromethane	75-27-4	ND	0.5
Bromoform	75-25-2	ND	0.5
Bromomethane	74-83-9	ND	0.5
Carbon Tetrachloride	56-23-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
Chloroethane	75-00-3	ND	0.5
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.5
Dibromochloromethane	124-48-1	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Dichlorodifluoromethane	75-71-8	ND	0.5
1,1-Dichloroethane	75-34-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.5
1,1-Dichloroethene	75-35-4	ND	0.5
cis-1,2-Dichloroethene	156-59-2	24	0.5
trans-1,2-Dichloroethene	156-60-5	8	0.5
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-Dichloropropene	10061-02-6	ND	0.5
Methylene Chloride	75-09-2	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.5
Trichloroethene	79-01-6	99	0.5
Trichlorofluoromethane	75-69-4	ND	0.5
1,1,2-Trichloro- 1,2,2-trifluoroethane	76-13-1	ND	0.5
Vinyl Chloride	75-01-4	ND	0.5

ND = Not Detected

WOODWARD-CLYDE CONSULTANTS

SAMPLE ID: MW-2
CLIENT PROJ. ID: 92C0544-1000 GROVE VALVE
DATE SAMPLED: 10/15/92
DATE RECEIVED: 10/15/92
REPORT DATE: 10/27/92

QUANTEQ LAB NO: 9210113-02A
QUANTEQ JOB NO: 9210113
DATE ANALYZED: 10/16/92
INSTRUMENT: G

EPA METHOD 8010 (WATER MATRIX)
HALOGENATED VOLATILE ORGANICS

COMPOUND	CAS #	CONCENTRATION (ug/L)	DETECTION LIMIT (ug/L)
Bromodichloromethane	75-27-4	ND	0.5
Bromoform	75-25-2	ND	0.5
Bromomethane	74-83-9	ND	0.5
Carbon Tetrachloride	56-23-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
Chloroethane	75-00-3	ND	0.5
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.5
Dibromochloromethane	124-48-1	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Dichlorodifluoromethane	75-71-8	ND	0.5
1,1-Dichloroethane	75-34-3	2	0.5
1,2-Dichloroethane	107-06-2	ND	0.5
1,1-Dichloroethene	75-35-4	ND	0.5
cis-1,2-Dichloroethene	156-59-2	1	0.5
trans-1,2-Dichloroethene	156-60-5	ND	0.5
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-Dichloropropene	10061-02-6	ND	0.5
Methylene Chloride	75-09-2	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	0.8	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.5
Trichloroethene	79-01-6	3	0.5
Trichlorofluoromethane	75-69-4	ND	0.5
1,1,2-Trichloro- 1,2,2-trifluoroethane	76-13-1	ND	0.5
Vinyl Chloride	75-01-4	ND	0.5

ND = Not Detected

WOODWARD-CLYDE CONSULTANTS

SAMPLE ID: MW-3
 CLIENT PROJ. ID: 92C0544-1000 GROVE VALVE
 DATE SAMPLED: 10/15/92
 DATE RECEIVED: 10/15/92
 REPORT DATE: 10/27/92

QUANTEQ LAB NO: 9210113-03A
 QUANTEQ JOB NO: 9210113
 DATE ANALYZED: 10/16-19/92
 INSTRUMENT: G

EPA METHOD 8010 (WATER MATRIX) HALOGENATED VOLATILE ORGANICS

COMPOUND	CAS #	CONCENTRATION (ug/L)	DETECTION LIMIT (ug/L)
Bromodichloromethane	75-27-4	ND	0.5
Bromoform	75-25-2	ND	0.5
Bromomethane	74-83-9	ND	0.5
Carbon Tetrachloride	56-23-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
Chloroethane	75-00-3	ND	0.5
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.5
Dibromochloromethane	124-48-1	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Dichlorodifluoromethane	75-71-8	ND	0.5
1,1-Dichloroethane	75-34-3	0.7	0.5
1,2-Dichloroethane	107-06-2	0.6	0.5
1,1-Dichloroethene	75-35-4	1	0.5
cis-1,2-Dichloroethene	156-59-2	13	0.5
trans-1,2-Dichloroethene	156-60-5	ND	0.5
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-Dichloropropene	10061-02-6	ND	0.5
Methylene Chloride	75-09-2	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	0.7	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.5
Trichloroethene	79-01-6	1,100	5
Trichlorofluoromethane	75-69-4	ND	0.5
1,1,2-Trichloro- 1,2,2-trifluoroethane	76-13-1	ND	0.5
Vinyl Chloride	75-01-4	2	0.5

ND = Not Detected

WOODWARD-CLYDE CONSULTANTS

SAMPLE ID: MW-4
CLIENT PROJ. ID: 92C0544-1000 GROVE VALVE
DATE SAMPLED: 10/15/92
DATE RECEIVED: 10/15/92
REPORT DATE: 10/27/92

QUANTEQ LAB NO: 9210113-04A
QUANTEQ JOB NO: 9210113
DATE ANALYZED: 10/16-19/92
INSTRUMENT: G

EPA METHOD 8010 (WATER MATRIX)
HALOGENATED VOLATILE ORGANICS

COMPOUND	CAS #	CONCENTRATION (ug/L)	DETECTION LIMIT (ug/L)
Bromodichloromethane	75-27-4	ND	0.5
Bromoform	75-25-2	ND	0.5
Bromomethane	74-83-9	ND	0.5
Carbon Tetrachloride	56-23-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
Chloroethane	75-00-3	ND	0.5
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.5
Dibromochloromethane	124-48-1	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Dichlorodifluoromethane	75-71-8	ND	0.5
1,1-Dichloroethane	75-34-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.5
1,1-Dichloroethene	75-35-4	ND	0.5
cis-1,2-Dichloroethene	156-59-2	24	0.5
trans-1,2-Dichloroethene	156-60-5	8	0.5
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-Dichloropropene	10061-02-6	ND	0.5
Methylene Chloride	75-09-2	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.5
Trichloroethene	79-01-6	98	0.5
Trichlorofluoromethane	75-69-4	ND	0.5
1,1,2-Trichloro-			
1,2,2-trifluoroethane	76-13-1	ND	0.5
Vinyl Chloride	75-01-4	ND	0.5

ND = Not Detected

WOODWARD-CLYDE CONSULTANTS

SAMPLE ID: TRIP BLANK
CLIENT PROJ. ID: 92C0544-1000 GROVE VALVE
DATE SAMPLED: 10/15/92
DATE RECEIVED: 10/15/92
REPORT DATE: 10/27/92

QUANTEQ LAB NO: 9210113-05A
QUANTEQ JOB NO: 9210113
DATE ANALYZED: 10/16/92
INSTRUMENT: G

EPA METHOD 8010 (WATER MATRIX)
HALOGENATED VOLATILE ORGANICS

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

ND = Not Detected

QUALITY CONTROL DATA

INSTRUMENT: G

QUANTEQ JOB NO: 9210113

CLIENT PROJ. ID: 92C0544-1000

SURROGATE STANDARD RECOVERY SUMMARY

METHOD 8010/8020
(WATER MATRIX)

SAMPLE IDENTIFICATION			SURROGATE RECOVERY (PERCENT)		
Date Analyzed	Client Id.	Lab No.	Bromochloro-methane	1-Bromo-2-chloro-propane	1-Chloro-2-fluoro-benzene
10/16/92	MW-1	01A	103.1	93.2	93.5
10/16/92	MW-2	02A	96.1	91.0	94.1
10/16/92	MW-3	03A	101.3	96.2	95.9
10/16/92	MW-4	04A	103.5	87.4	93.6
10/16/92	TRIP BLANK	05A	94.1	87.1	96.8

CURRENT QC LIMITS (Revised 01/06/92)

<u>ANALYTE</u>	<u>PERCENT RECOVERY</u>
Bromochloromethane	(70-127)
1-Bromo-2-chloropropane	(71-128)
1-Chloro-2-fluorobenzene	(76-124)

QUALITY CONTROL DATA

DATE ANALYZED: 10/16/92

QUANTEQ JOB NO: 9210113

INSTRUMENT: G

CLIENT PROJ. ID: 92C0544-1000

MATRIX SPIKE RECOVERY SUMMARY

METHOD 8010/8020
(WATER MATRIX)

ANALYTE	Spike Conc. (ug/L)	Sample Result (ug/L)	MS Result (ug/L)	MSD Result (ug/L)	Average Percent Recovery	RPD
1,1-Dichloroethene	50.0	ND	38.8	39.9	78.7	2.8
Trichloroethene	50.0	ND	44.6	45.9	90.5	2.9
Benzene	50.0	ND	47.5	47.2	94.7	0.6
Toluene	50.0	ND	46.7	46.8	93.5	0.2
Chlorobenzene	50.0	ND	36.9	39.0	75.9	5.5

CURRENT QC LIMITS (Revised 06/22/92)

Analyte	Percent Recovery	RPD
1,1-Dichloroethene	(52-116)	5.6
Trichloroethene	(68-123)	5.8
Benzene	(79-112)	5.0
Toluene	(77-113)	5.0
Chlorobenzene	(62-104)	5.5

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference
ND = Not Detected

R-3,S-2

QUANTEQ Lab

Woodward-Clyde Consultants

500 12th Street, Suite 100, Oakland, CA 94607-4014
(510) 893-3600

9210113

Chain of Custody Record

PROJECT NO. GROVE-VALVE 92C0544-1000			Sample Matrix (Soil, Water, Air)	ANALYSES				Number of Containers	REMARKS (Sample preservation, handling procedures, etc.)
SAMPLES: (Signature) <i>Bill [Signature]</i>				EPA Method 8010	EPA Method	EPA Method	EPA Method		
DATE	TIME	SAMPLE NUMBER							
10/15/92	1150	MW-1 OIAB	W	X				2	All 40ml vials preserved w/ HCl by lab for EPA 8010
10/15/92	1435	MW-2 OZAB	W	X				2	
10/15/92	1555	MW-3 O3AB	W	X				2	
10/15/92	1250	MW-4 O4AB	W	X				2	
10/15/92		trip blank O5AB	W	X				2	
									<p style="text-align: center; border: 1px solid black; border-radius: 50%; padding: 10px; display: inline-block;">Standard TAT</p> <p>Sad results to George Chang @ (510) 874-3287 WCC-Oakland</p>
							TOTAL NUMBER OF CONTAINERS	10	
RELINQUISHED BY: (Signature) <i>Bill [Signature]</i>		DATE/TIME 10/15/92 11705	RECEIVED BY: (Signature)		RELINQUISHED BY: (Signature)		DATE/TIME	RECEIVED BY: (Signature)	
METHOD OF SHIPMENT: Hand Delivery			SHIPPED BY: (Signature)		COURIER: (Signature)		RECEIVED FOR LAB BY: (Signature) <i>Dennis Harrington</i>	DATE/TIME 10/15/92 1705	

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

PAGE 1

GROVE VALVE & REGULATOR CO.
6529 HOLLIS STREET
EMERYVILLE, CA 94608

ATTN: BILL TALLENT
CLIENT PROJ. ID: -

REPORT DATE: 04/13/95

DATE(S) SAMPLED: 04/03/95

DATE RECEIVED: 04/03/95

AEN WORK ORDER: 9504009

P.O. NUMBER: PB40198

PROJECT SUMMARY:

On April 3, 1995, this laboratory received 3 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

GROVE VALVE & REGULATOR CO.

SAMPLE ID: MW1
 AEN LAB NO: 9504009-01
 AEN WORK ORDER: 9504009
 CLIENT PROJ. ID: -

DATE SAMPLED: 04/03/95
 DATE RECEIVED: 04/03/95
 REPORT DATE: 04/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	04/08/95
Bromoform	75-25-2	ND	0.5	ug/L	04/08/95
Bromomethane	74-83-9	ND	2	ug/L	04/08/95
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	04/08/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	04/08/95
Chloroethane	75-00-3	ND	2	ug/L	04/08/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	04/08/95
Chloroform	67-66-3	ND	0.5	ug/L	04/08/95
Chloromethane	74-87-3	ND	2	ug/L	04/08/95
Dibromochloromethane	124-48-1	ND	0.5	ug/L	04/08/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	04/08/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	04/08/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	04/08/95
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	04/08/95
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	04/08/95
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	04/08/95
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	04/08/95
cis-1,2-Dichloroethene	156-59-2	20 *	0.5	ug/L	04/08/95
trans-1,2-Dichloroethene	156-60-5	7 *	0.5	ug/L	04/08/95
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	04/08/95
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	04/08/95
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	04/08/95
Methylene Chloride	75-09-2	ND	2	ug/L	04/08/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	04/08/95
Tetrachloroethene	127-18-4	ND	0.5	ug/L	04/08/95
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	04/08/95
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	04/08/95
Trichloroethene	79-01-6	79 *	0.5	ug/L	04/08/95
Trichlorofluoromethane	75-69-4	ND	2	ug/L	04/08/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	04/08/95
Vinyl Chloride	75-01-4	ND	2	ug/L	04/08/95
EPA 8020 - Water matrix	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	04/08/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	04/08/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	04/08/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	04/08/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	04/08/95
Ethylbenzene	100-41-4	ND	0.5	ug/L	04/08/95
Toluene	108-88-3	ND	0.5	ug/L	04/08/95
Xylenes, total	1330-20-7	ND	2	ug/L	04/08/95

GROVE VALVE & REGULATOR CO.

SAMPLE ID: MW1
AEN LAB NO: 9504009-01
AEN WORK ORDER: 9504009
CLIENT PROJ. ID: -

DATE SAMPLED: 04/03/95
DATE RECEIVED: 04/03/95
REPORT DATE: 04/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
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ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GROVE VALVE & REGULATOR CO.

SAMPLE ID: MW2
 AEN LAB NO: 9504009-02
 AEN WORK ORDER: 9504009
 CLIENT PROJ. ID: -

DATE SAMPLED: 04/03/95
 DATE RECEIVED: 04/03/95
 REPORT DATE: 04/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	04/08/95
Bromoform	75-25-2	ND	0.5	ug/L	04/08/95
Bromomethane	74-83-9	ND	2	ug/L	04/08/95
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	04/08/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	04/08/95
Chloroethane	75-00-3	ND	2	ug/L	04/08/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	04/08/95
Chloroform	67-66-3	ND	0.5	ug/L	04/08/95
Chloromethane	74-87-3	ND	2	ug/L	04/08/95
Dibromochloromethane	124-48-1	ND	0.5	ug/L	04/08/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	04/08/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	04/08/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	04/08/95
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	04/08/95
1,1-Dichloroethane	75-34-3	2 *	0.5	ug/L	04/08/95
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	04/08/95
1,1-Dichloroethene	75-35-4	ND	0.5	ug/L	04/08/95
cis-1,2-Dichloroethene	156-59-2	0.9 *	0.5	ug/L	04/08/95
trans-1,2-Dichloroethene	156-60-5	ND	0.5	ug/L	04/08/95
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	04/08/95
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	04/08/95
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	04/08/95
Methylene Chloride	75-09-2	ND	2	ug/L	04/08/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	04/08/95
Tetrachloroethene	127-18-4	ND	0.5	ug/L	04/08/95
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	04/08/95
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	04/08/95
Trichloroethene	79-01-6	5 *	0.5	ug/L	04/08/95
Trichlorofluoromethane	75-69-4	ND	2	ug/L	04/08/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	04/08/95
Vinyl Chloride	75-01-4	ND	2	ug/L	04/08/95
EPA 8020 - Water matrix	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	04/08/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	04/08/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	04/08/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	04/08/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	04/08/95
Ethylbenzene	100-41-4	ND	0.5	ug/L	04/08/95
Toluene	108-88-3	ND	0.5	ug/L	04/08/95
Xylenes, total	1330-20-7	ND	2	ug/L	04/08/95

GROVE VALVE & REGULATOR CO.

SAMPLE ID: MW2
AEN LAB NO: 9504009-02
AEN WORK ORDER: 9504009
CLIENT PROJ. ID: -

DATE SAMPLED: 04/03/95
DATE RECEIVED: 04/03/95
REPORT DATE: 04/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
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ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GROVE VALVE & REGULATOR CO.

SAMPLE ID: MW3
 AEN LAB NO: 9504009-03
 AEN WORK ORDER: 9504009
 CLIENT PROJ. ID: -

DATE SAMPLED: 04/03/95
 DATE RECEIVED: 04/03/95
 REPORT DATE: 04/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
EPA 8010 - Water matrix	EPA 8010				
Bromodichloromethane	75-27-4	ND	0.5	ug/L	04/08/95
Bromoform	75-25-2	ND	0.5	ug/L	04/08/95
Bromomethane	74-83-9	ND	2	ug/L	04/08/95
Carbon Tetrachloride	56-23-5	ND	0.5	ug/L	04/08/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	04/08/95
Chloroethane	75-00-3	ND	2	ug/L	04/08/95
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5	ug/L	04/08/95
Chloroform	67-66-3	ND	0.5	ug/L	04/08/95
Chloromethane	74-87-3	ND	2	ug/L	04/08/95
Dibromochloromethane	124-48-1	ND	0.5	ug/L	04/08/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	04/08/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	04/08/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	04/08/95
Dichlorodifluoromethane	75-71-8	ND	2	ug/L	04/08/95
1,1-Dichloroethane	75-34-3	ND	0.5	ug/L	04/08/95
1,2-Dichloroethane	107-06-2	ND	0.5	ug/L	04/08/95
1,1-Dichloroethene	75-35-4	1 *	0.5	ug/L	04/08/95
cis-1,2-Dichloroethene	156-59-2	28 *	0.5	ug/L	04/08/95
trans-1,2-Dichloroethene	156-60-5	1 *	0.5	ug/L	04/08/95
1,2-Dichloropropane	78-87-5	ND	0.5	ug/L	04/08/95
cis-1,3-Dichloropropene	10061-01-5	ND	0.5	ug/L	04/08/95
trans-1,3-Dichloropropene	10061-02-6	ND	0.5	ug/L	04/08/95
Methylene Chloride	75-09-2	ND	2	ug/L	04/08/95
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5	ug/L	04/08/95
Tetrachloroethene	127-18-4	2 *	0.5	ug/L	04/08/95
1,1,1-Trichloroethane	71-55-6	ND	0.5	ug/L	04/08/95
1,1,2-Trichloroethane	79-00-5	ND	0.5	ug/L	04/08/95
Trichloroethene	79-01-6	800/*	0.5	ug/L	04/10/95
Trichlorofluoromethane	75-69-4	ND	2	ug/L	04/08/95
1,1,2Trichlorotrifluoroethane	76-13-1	ND	0.5	ug/L	04/08/95
Vinyl Chloride	75-01-4	9 *	2	ug/L	04/08/95
EPA 8020 - Water matrix	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	04/08/95
Chlorobenzene	108-90-7	ND	0.5	ug/L	04/08/95
1,2-Dichlorobenzene	95-50-1	ND	0.5	ug/L	04/08/95
1,3-Dichlorobenzene	541-73-1	ND	0.5	ug/L	04/08/95
1,4-Dichlorobenzene	106-46-7	ND	0.5	ug/L	04/08/95
Ethylbenzene	100-41-4	ND	0.5	ug/L	04/08/95
Toluene	108-88-3	ND	0.5	ug/L	04/08/95
Xylenes, total	1330-20-7	ND	2	ug/L	04/08/95

GROVE VALVE & REGULATOR CO.

SAMPLE ID: MW3
AEN LAB NO: 9504009-03
AEN WORK ORDER: 9504009
CLIENT PROJ. ID: -

DATE SAMPLED: 04/03/95
DATE RECEIVED: 04/03/95
REPORT DATE: 04/13/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
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ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9504009

CLIENT PROJECT ID: -

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: EPA 8010/8020

AEN JOB NO: 9504009
 INSTRUMENT: G
 MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery		
			Bromochloro-methane	1-Bromo-3-chloro-propane	1-Chloro-2-fluoro-benzene
04/08/95	MW1	01	102	103	95
04/08/95	MW2	02	93	101	94
04/08/95	MW3	03	103	103	97
QC Limits			70-130	70-130	70-130

DATE ANALYZED: 04/08/95
 SAMPLE SPIKED: 9504052-03
 INSTRUMENT: G

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
1,1-Dichloroethene	50	105	4	37-156	20
Trichloroethene	50	108	2	54-122	20
Benzene	50	101	1	65-122	20
Toluene	50	99	1	68-124	20
Chlorobenzene	50	94	1	54-141	20

Daily method blanks for all associated analytical runs showed no contamination over the reporting limit.

*** END OF REPORT ***

Reporting Information:

American Environmental Network



P-3.5-3

Page _____ of _____

1. Client: GROVE VALVE
 Address: 6529 Hollis St.
EMERYVILLE CA 94608
 Contact: BILL TAILENT
 Alt. Contact: _____

3440 Vincent Road, Pleasant Hill, CA 94523
 Phone (510) 930-9090
 FAX (510) 930-0256

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

9504009

Lab Job Number: _____
 Lab Destination: _____
 Date Samples Shipped: 7:30/9:35 AM 4-3-95
 Lab Contact: ROBIN
 Date Results Required: STANDARD T.A.T.
 Date Report Required: " "
 Client Phone No.: 510-655-7700 PAGE 510-308-4048
 Client FAX No.: 510-308-4048

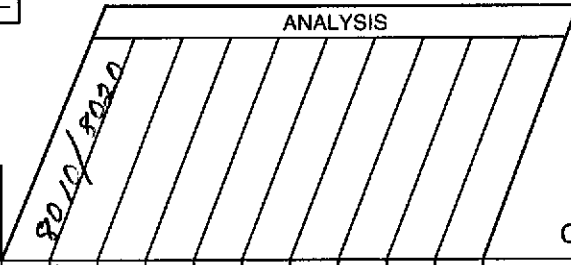
Address Report To:
 2. SAME

Send Invoice To:
 3. SAME

Send Report To: ① or 2 (Circle one)

Client P.O. No.: PB40198 Client Project I.D. No.: _____

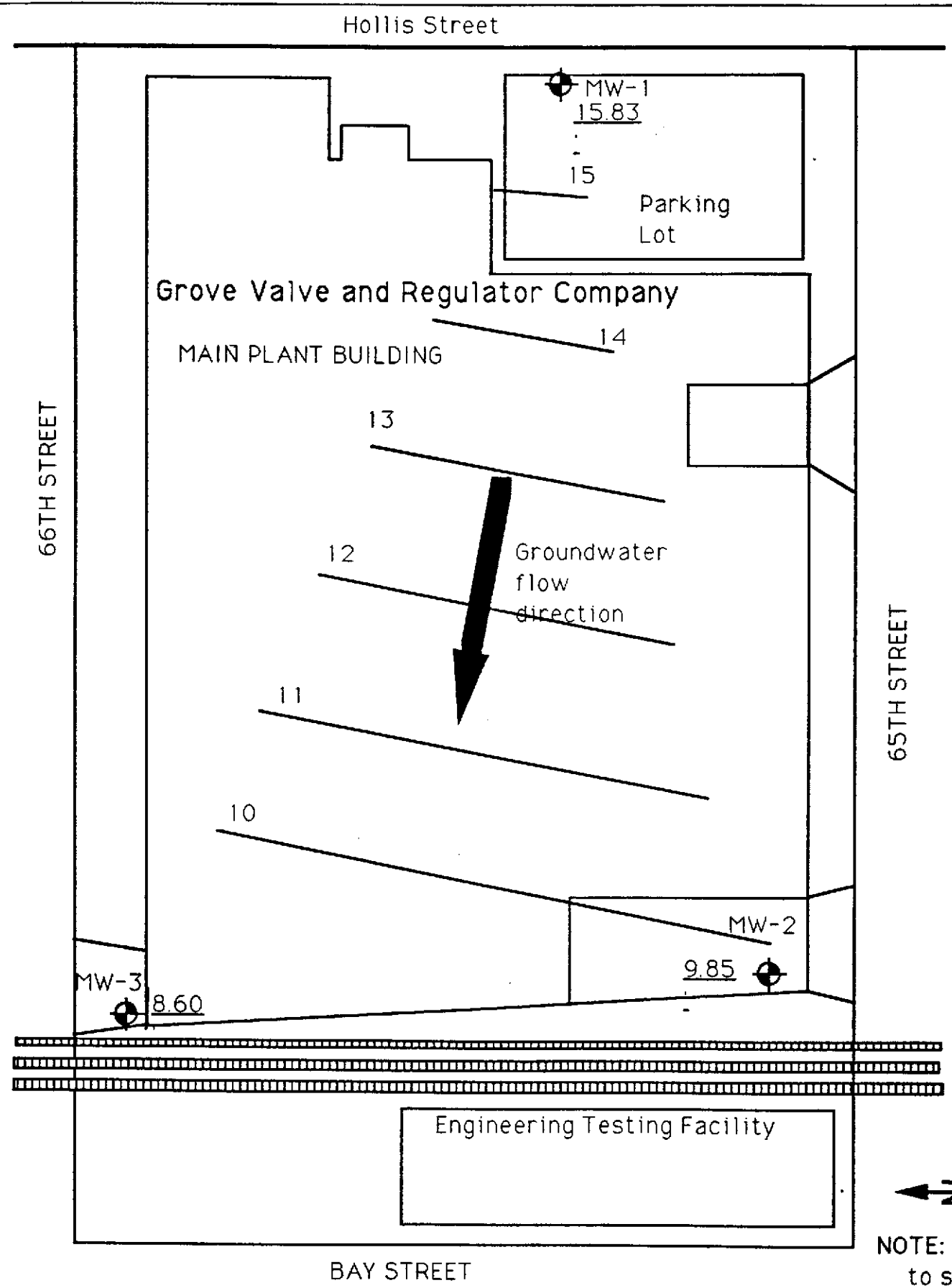
Sample Team Member (s) _____



Lab Number	Client Sample Identification	Air Volume	Date/Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	Comments / Hazards
O1A-C	M W 1		<u>7:30 AM 4-3-95</u>	<u>7</u>	<u>HCL</u>	<u>3</u>		
O2A-C	M W 2		<u>8:30 AM 4-3-95</u>	<u>7</u>	<u>HCL</u>	<u>3</u>		
O3A-C	M W 3		<u>9:25 AM 4-3-95</u>	<u>7</u>	<u>HCL</u>	<u>3</u>		

Relinquished by: (Signature) <u>[Signature]</u>	DATE <u>4-3-95</u>	TIME <u>11:55</u>	Received by: (Signature) <u>Michael E. Keltner</u>	DATE <u>4/3/95</u>	TIME <u>12:00</u>
Relinquished by: (Signature) <u>Michael E. Keltner</u>	DATE <u>4/3/95</u>	TIME <u>12:35</u>	Received by: (Signature) <u>Gina Ojalespie</u>	DATE <u>4-3-95</u>	TIME <u>12:35</u>
Relinquished by: (Signature) _____	DATE _____	TIME _____	Received by: (Signature) _____	DATE _____	TIME _____
Method of Shipment _____			Lab Comments _____		

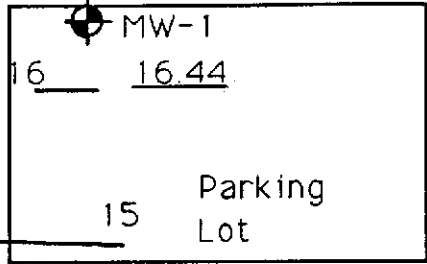
*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter
 4) PVC filter, diam. _____ pore size _____ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample
 10) Other _____ 11) Other _____



NOTE: Not to scale

Project No. 92C091A	Grove Valve	Groundwater elevation in feet above MSL March 2, 1992 Grove Valve and Regulator Company	Figure 4
Woodward-Clyde Consultants			

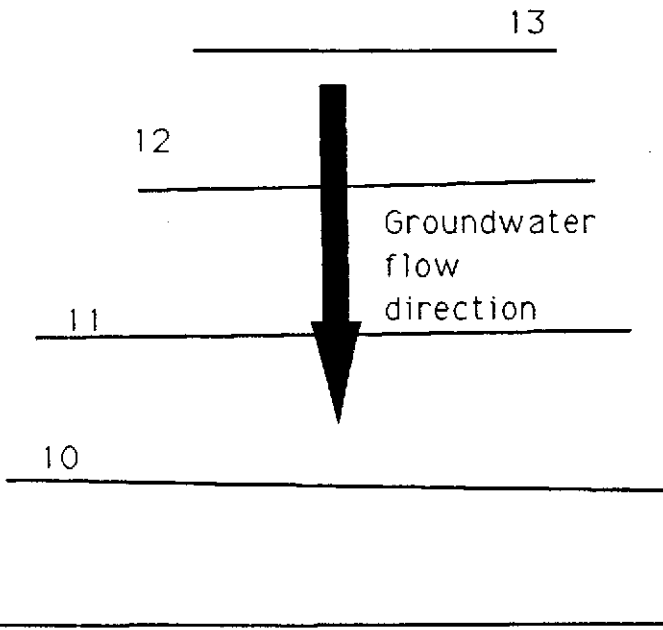
Hollis Street



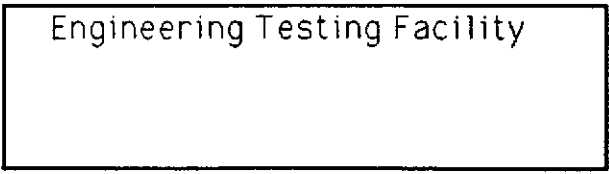
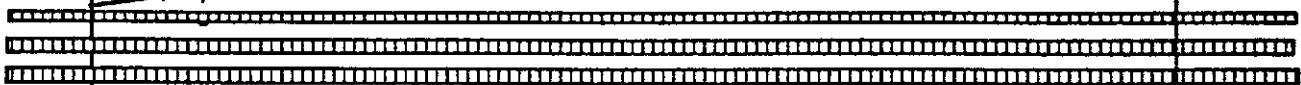
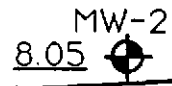
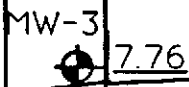
Grove Valve and Regulator Company

MAIN PLANT BUILDING 14

66TH STREET



65TH STREET



BAY STREET



NOTE: Not to scale

Project No. 92C091A	Grove Valve	Groundwater elevation in feet above MSL March 26, 1992	Figure 5
Woodward-Clyde Consultants		Grove Valve and Regulator Company	

ATTACHMENT D

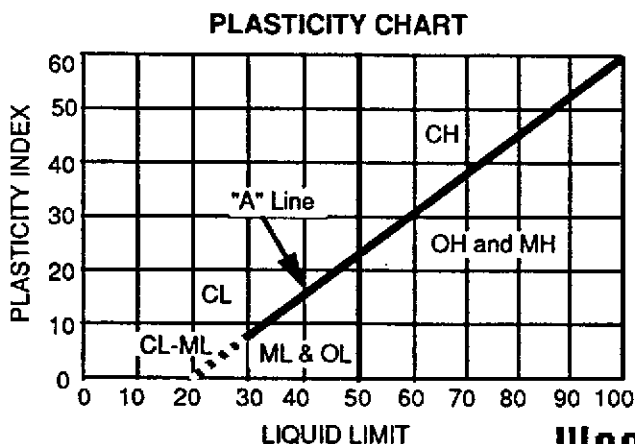
- Groundwater Well Completion Diagrams and Soil Boring Logs, Grove Valve

SAMPLE CLASSIFICATION CHART

UNIFIED SOIL CLASSIFICATION SCHEME			
MAJOR DIVISIONS	SYMBOLS	GRAPHIC COLUMN	TYPICAL NAMES
<p style="text-align: center;">GRAVELS</p> <p style="text-align: center;">(More than 1/2 of coarse fraction > no. 4 sieve size)</p> <hr/> <p style="text-align: center;">SANDS</p> <p style="text-align: center;">(More than 1/2 of coarse fraction < no. 4 sieve size)</p>	GW		Well-graded gravels and gravel-sand mixtures, little or no fines
	GP		Poorly-graded gravels or gravel-sand mixtures, little or no fines
	GM		Silty gravels, gravel-sand-silt mixtures
	GC		Clayey gravels, gravel-sand-clay mixtures
	SW		Well-graded sands or gravelly sands, little or no fines
	SP		Poorly-graded sands or gravelly sands, little or no fines
	SM		Silty sands, sand-silt mixtures
	SC		Clayey sands, sand-clay mixtures
<p style="text-align: center;">SILTS & CLAYS</p> <p style="text-align: center;">LL < 50</p> <hr/> <p style="text-align: center;">SILTS & CLAYS</p> <p style="text-align: center;">LL > 50</p>	ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
	CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL		Organic silts and organic silty clays of low plasticity
	MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
	CH		Inorganic clays of high plasticity, fat clays
	OH		Organic clays of medium to high plasticity, organic silty clays, organic silts
Pt			Peat and other highly organic soils

CLASSIFICATION MODIFIERS	
TRACE	0 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
AND	35 - 50%
± MODIFIERS	

GRAIN SIZE CLASSIFICATION		
CLASSIFICATION	RANGE OF GRAIN SIZES	
	U.S Standard Sieve Size	Grain Size in Millimeters
BOULDERS	Above 12"	Above 305
COBBLES	12" to 3"	305 to 76.2
GRAVEL coarse (c) fine (f)	3" to No. 4 3" to 3/4" 3/4" to No. 4	76.2 to 4.76 76.2 to 19.1 19.1 to 4.76
SAND coarse (c) medium (m) fine (f)	No. 4 to No. 200 No. 4 to No. 10 No. 10 to No. 40 No. 40 to No. 200	4.76 to 0.074 4.76 to 2.00 2.00 to 0.420 0.420 to 0.074
SILT & CLAY	Below No. 200	Below 0.074



Woodward-Clyde Consultants



SAMPLE CLASSIFICATION CHART

MOISTURE CONTENT

DRY	- LITTLE/NO PERCEPTIBLE MOISTURE
DAMP	- SOME PERCEPTIBLE MOISTURE, NOT COMPACTABLE
MOIST	- COMPACTABLE
WET	- ABOVE COMPACTABLE RANGE
SATURATED	- PORES, VOIDS FILLED WITH WATER
	- WATER TABLE (AT TIME OF DRILLING)

SORTING (So = P $\frac{75}{25}$)

	So
EXTREMELY WELL	1.0-1.1
VERY WELL	1.1-1.2
WELL	1.2-1.4
MODERATELY	1.4-2.0
POORLY	2.0-2.7
VERY POORLY	2.7-5.0

SOIL CONSISTANCY

SILT, SAND and GRAVEL	BLOWS/FT 2 1/2 in. O.D. SAMPLER	CLAY	BLOWS/FT 2 1/2 in. O.D. SAMPLER	THUMB PENETRATION
Very loose	< 6	Very Soft	< 3	Very easily - inches
Loose	6 - 16	Soft	3 - 6	Easily - inches
Medium Dense	16 - 47	Medium (firm)	6 - 13	Moderate effort - inches
Dense	47 - 78	Stiff	13 - 23	Indented easily
Very Dense	> 78	Very Stiff	23 - 47	Indented by nail
		Hard	> 47	Difficult by nail

SOIL BORING AND WELL CONSTRUCTION LEGEND

	MODIFIED CALIFORNIA SAMPLE RECOVERY		BLANK CASING
	WATER LEVEL OBSERVED IN BORING		SCREENED CASING
	STATIC WATER LEVEL MEASURED IN WELL		CEMENT GROUT
NOTE: BLOW COUNT (BLOWS/FT) REPRESENTS THE NUMBER OF BLOWS OF A 140- POUND HAMMER FALLING 30 INCHES PER BLOW REQUIRED TO DRIVE A SAMPLER THROUGH THE LAST 12 INCHES OF AN 18- INCH PENETRATION			BENTONITE
			SAND PACK

NOTE: THE LINE SEPARATING STRATA ON THE LOGS REPRESENTS APPROXIMATE BOUNDARIES ONLY. THE ACTUAL TRANSITION MAY BE GRADUAL. NO WARRANTY IS PROVIDED AS TO THE CONTINUITY OF SOIL STRATA BETWEEN BORINGS. LOGS REPRESENT THE SOIL SECTION OBSERVED AT THE BORING LOCATION ON THE DATE OF DRILLING ONLY.



Hollis Street

66TH STREET

65TH STREET

Grove Valve and Regulator Company
MAIN PLANT BUILDING

MW-1

6" - ND
 5' - ND
 15' - ND
 25' - ND

Parking Lot

SB-4

6" - 230 mg/kg
 3' - 50 mg/kg
 5' - 2500 mg/kg

SB-1

6" - ND
 3' - 20 mg/kg
 5' - ND

SB-2

6" - ND
 3' - ND

MW-3

6" - 20 mg/kg
 5' - ND
 15' - ND
 25' - ND

SB-3

6" - 230 mg/kg
 3' - 30 mg/kg
 5' - ND

MW-2

6" - ND
 10' - ND
 20' - ND
 25' - ND



Engineering Testing Facility

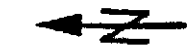
SB-5

SB-6

6" - 40 mg/kg
 3' - ND
 5' - 10 mg/kg

6" - 80 mg/kg
 3' - 30 mg/kg
 5' - 10 mg/kg

BAY STREET



NOTE: Not to scale

Project No. 92C091A	Grove Valve	Oil & Grease (Hydrocarbon) results in soil, Grove Valve and Regulator Company	Figure 2
Woodward-Clyde Consultants			

ATTACHMENT C

- February 26, 1993 letter to Mr. Brian Oliva and Mr. Lester Feldman Transmitting Groundwater Analytical Results
- Groundwater Gradient Contour Maps
- Groundwater Analytical Results for Samples Collected April 3, 1995 at Grove Valve

ENVIRONMENTAL
PROTECTION
95 MAY -2 PM 1:36

February 26, 1993



GROVE VALVE AND REGULATOR COMPANY

6529 HOLLIS STREET OAKLAND, CALIFORNIA 94608

(510) 655 7700 FAX (510) 422-2150

Mr. Lester Feldman
Environmental Specialist
Regional Water Quality Control Board
2101 Webster Street, Suite 500
Oakland, CA 94612

**RE: Groundwater Monitoring Results for
Grove Valve and Regulator Company
6529 Hollis Street, Oakland, CA 94608**

Dear Mr. Feldman:

We have completed our second update of groundwater sampling and analysis at the three groundwater monitoring wells located at 6529 Hollis Street in Oakland.

The laboratory analysis shows the same Halogenated Volatile Organics and Aromatic Volatile Organics during this sampling as in samples taken in April and October 1992. Concentration levels of chemicals changed a little. The upgradient well MW-1 now showing trichloroethene at 53 ug/L is down from 99 ug/L and the downgradient well MW-3 showing 1200 ug/L is up from 1100 ug/L in October 1991 samples taken from MW-3 in April 1992 showed 1300 ug/L of trichloroethene.

We will continue to monitor the groundwater on a periodic basis and send copies of all laboratory analysis to you. Also, at the recommendation of Mr. Richard Hyatt, we will send copies of all past and future reports to Mr. Brian Oliva at the Alameda County Health Care Services, Department of Environmental Health.

If you have any questions or comments regarding this matter, please feel free to contact me.

Regards,

Bill Tallent
Plant Services Manager

BT/dmg

Enclosures

cc: Brian Oliva
Alameda County Health Care Services



GROVE VALVE AND REGULATOR COMPANY

6529 HOLLIS STREET, OAKLAND, CALIFORNIA 94608

(510) 655-7700 FAX (510) 420-2150

February 26, 1993

Mr. Brian Oliva
Hazardous Materials Specialist
Alameda County Health Care Services
Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Suite 200
Oakland, CA 94621

**RE: Groundwater Monitoring Results for
Grove Valve and Regulator Company
6529 Hollis Street, Oakland, CA 94608**

Dear Mr. Oliva:

Grove Valve and Regulator Company (Grove), with the assistance of its consultants, Woodward-Clyde, in April 1992 performed an investigation of environmental conditions at its facility located at 6529 Hollis Street in Oakland, California. The purpose was to establish a baseline characterization of soil conditions across the property and of groundwater conditions at or near the property boundary.

We sent reports and copies of analytical results to Mr. Lester Feldman at the Regional Water Quality Control Board (RWQCB) in June and November 1992. In a telephone conversation with Mr. Richard Hyatt of RWQCB in January 1993, he suggested I inform your office of our findings. Based on this data and to bring you up to date, we are sending you copies of reports sent to RWQCB in June and November 1992. Also included are copies of analytical results from water samples taken in February 1993.

Grove intends to continue to monitor the groundwater on a periodic basis. We will send the analytical results to you and to the RWQCB.

If you have any questions or comments regarding this matter, please feel free to contact me.

Regards,

Bill Tallent
Plant Services Manager

BT/dmg

Enclosures

Quanteq Laboratories

An Ecologics Company

Certificate of Analysis

PAGE 1 OF 5

DOHS CERTIFICATION NO. E772

AIHA ACCREDITATION NO. 332

GROVE VALVE & REGULATOR CO.
6529 HOLLIS STREET
EMERYVILLE, CA 94608

ATTN: BILL TALLENT

CLIENT PROJ. ID: MW1
P.O. NO: PB40198

REPORT DATE: 02/17/93

DATE SAMPLED: 02/04/93

DATE RECEIVED: 02/04/93

QUANTEQ JOB NO: 9302052


PROJECT SUMMARY:

On February 4, 1993, this laboratory received one (1) water sample.

Client requested sample be analyzed for Halogenated Volatile Organics by EPA Method 8010 and Aromatic Volatile Organics by EPA Method 8020. Sample identification, results and dates analyzed are summarized on the following pages of this report.

All laboratory quality control parameters were found to be within established limits. Batch QC data is included at the end of this report.

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


Larry Klein
Laboratory Manager

Results FAXed 02/16/93

GROVE VALVE & REGULATOR CO.

SAMPLE ID: MW 1
 CLIENT PROJ. ID: MW1
 DATE SAMPLED: 02/04/93
 DATE RECEIVED: 02/04/93
 REPORT DATE: 02/17/93

QUANTEQ LAB NO: 9302052-01A
 QUANTEQ JOB NO: 9302052
 DATE ANALYZED: 02/11/93
 INSTRUMENT: G

EPA METHOD 8010 (WATER MATRIX)
 HALOGENATED VOLATILE ORGANICS

COMPOUND	CAS #	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Bromodichloromethane	75-27-4	ND	0.5
Bromoform	75-25-2	ND	0.5
Bromomethane	74-83-9	ND	0.5
Carbon Tetrachloride	56-23-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
Chloroethane	75-00-3	ND	0.5
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.5
Dibromochloromethane	124-48-1	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Dichlorodifluoromethane	75-71-8	ND	0.5
1,1-Dichloroethane	75-34-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.5
1,1-Dichloroethene	75-35-4	ND	0.5
cis-1,2-Dichloroethene	156-59-2	15	0.5
trans-1,2-Dichloroethene	156-60-5	5	0.5
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-Dichloropropene	10061-02-6	ND	0.5
Methylene Chloride	75-09-2	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.5
Trichloroethene	79-01-6	53	0.5
Trichlorofluoromethane	75-69-4	ND	0.5
1,1,2-Trichloro- 1,2,2-trifluoroethane	76-13-1	ND	0.5
Vinyl Chloride	75-01-4	ND	0.5

ND = Not Detected

GROVE VALVE & REGULATOR CO.

SAMPLE ID: MW 1
 CLIENT PROJ. ID: MW1
 DATE SAMPLED: 02/04/93
 DATE RECEIVED: 02/04/93
 REPORT DATE: 02/17/93

QUANTEQ LAB NO: 9302052-01A
 QUANTEQ JOB NO: 9302052
 DATE ANALYZED: 02/11/93
 INSTRUMENT: G

EPA METHOD 8020 (WATER MATRIX)
 AROMATIC VOLATILE ORGANICS

COMPOUND	CAS #	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Benzene	71-43-2	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
Toluene	108-88-3	ND	0.5
Xylenes, Total	1330-20-7	ND	2

ND = Not Detected

QUALITY CONTROL DATA

INSTRUMENT: G

QUANTEQ JOB NO: 9302052

CLIENT PROJ. ID: MW1

SURROGATE STANDARD RECOVERY SUMMARY

METHOD 8010/8020
(WATER MATRIX)

SAMPLE IDENTIFICATION			SURROGATE RECOVERY (PERCENT)		
Date Analyzed	Client Id.	Lab Id.	Bromochloro-methane	1-Bromo-2-chloro-propane	1-Chloro-2-fluoro-benzene
02/11/93	MW 1	01A	111.6	107.0	104.2

CURRENT QC LIMITS (Revised 06/22/92)

<u>ANALYTE</u>	<u>PERCENT RECOVERY</u>
Bromochloromethane	(65-138)
1-Bromo-2-chloropropane	(62-141)
1-Chloro-2-fluorobenzene	(74-124)

QUALITY CONTROL DATA

DATE ANALYZED: 02/11/93
CLIENT PROJ. ID: MW1

QUANTEQ JOB NO: 9302052
SAMPLE SPIKED: D.I. WATER
INSTRUMENT: G

MATRIX SPIKE RECOVERY SUMMARY

METHOD 8010/8020
(WATER MATRIX)

ANALYTE	Spike Conc. (ug/L)	Sample Result (ug/L)	MS Result (ug/L)	MSD Result (ug/L)	Average Percent Recovery	RPD
1,1-Dichloroethene	50.0	ND	43.3	44.1	87.4	1.8
Trichloroethene	50.0	ND	42.9	45.1	88.0	5.0
Benzene	50.0	ND	48.3	49.4	97.7	2.2
Toluene	50.0	ND	48.4	49.6	98.0	2.4
Chlorobenzene	50.0	ND	41.6	42.8	84.4	2.8

CURRENT QC LIMITS (Revised 06/22/92)

Analyte	Percent Recovery	RPD
1,1-Dichloroethene	(52-116)	6
Trichloroethene	(68-123)	8
Benzene	(79-112)	5
Toluene	(77-113)	5
Chlorobenzene	(62-104)	6

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference
ND = Not Detected

QUANTEQ Laboratories
 ANALYTICAL REQUEST/CHAIN OF CUSTODY FORM
 (Complete Information on Opposite Side)

CLIENT GROVE VALVE
 CLIENT JOB REF.: MW 1
 LAB PROJECT NO: 9302052
 (lab use only)

Date: 2-4-93
 SAMPLER(S): _____

CLIENT SAMPLE IDENTIFICATION	DATE Taker	Lab Number (lab use only)	AIR VOLUME (Liters)	NO. CONT.	SAMPLE TYPE *	ANALYSES										COMMENTS/ INTERFERENCES			
MW 1 WATER	2-4-93	OIAB		2	7	X													

DATE RESULTS REQUIRED: STANDARD T.A.T.

Relinquished by: (Signature) <i>[Signature]</i>	Date <u>2-4-93</u>	Time <u>3:50 PM</u>	Received by: (Signature) <i>[Signature]</i>	Date <u>2-4-93</u>	Time <u>19:50</u>
Relinquished by: (Signature) <i>[Signature]</i>	Date <u>2-4-93</u>	Time <u>1705</u>	Received by: (Signature)	Date	Time
Dispatched by: (Signature)	Date	Time	Received for lab by: (Signature) <i>[Signature]</i>	Date <u>2-4-93</u>	Time <u>1705</u>
Method of Shipment:			Lab Comments:		

*SAMPLE TYPE (SPECIFY): (1) 37 mm 0.8 um MCEF; 2) 25 mm 0.8 um MCEF; (3) 25 mm 0.4 um polycarb. filter; (4) PVC filter, diam. pore size ; (5) Charcoal tube; (6) Silica gel tube (7) Water; (8) Soil; (9) Bulk Sample;

Quanteq Laboratories

An Ecologies Company

Certificate of Analysis

PAGE 1 OF 5

DOHS CERTIFICATION NO. E772

AIHA ACCREDITATION NO. 332

GROVE VALVE & REGULATOR CO.
6529 HOLLIS STREET
EMERYVILLE, CA 94608

ATTN: BILL TALLENT

CLIENT PROJ. ID: MW2
P.O. NO: PB40198

REPORT DATE: 02/17/93

DATE SAMPLED: 02/04/93

DATE RECEIVED: 02/04/93

QUANTEQ JOB NO: 9302053

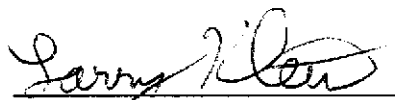
PROJECT SUMMARY:

On February 4, 1993, this laboratory received one (1) water sample.

Client requested sample be analyzed for Halogenated Volatile Organics by EPA Method 8010 and Aromatic Volatile Organics by EPA Method 8020. Sample identification, results and dates analyzed are summarized on the following pages of this report.

All laboratory quality control parameters were found to be within established limits. Batch QC data is included at the end of this report.

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



Larry Klein
Laboratory Manager

Results FAXed 02/16/93

GROVE VALVE & REGULATOR CO.

SAMPLE ID: MW 2
 CLIENT PROJ. ID: MW2
 DATE SAMPLED: 02/04/93
 DATE RECEIVED: 02/04/93
 REPORT DATE: 02/17/93

QUANTEQ LAB NO: 9302053-01A
 QUANTEQ JOB NO: 9302053
 DATE ANALYZED: 02/12/93
 INSTRUMENT: G

EPA METHOD 8010 (WATER MATRIX)
 HALOGENATED VOLATILE ORGANICS

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

ND = Not Detected

GROVE VALVE & REGULATOR CO.

SAMPLE ID: MW 2
 CLIENT PROJ. ID: MW2
 DATE SAMPLED: 02/04/93
 DATE RECEIVED: 02/04/93
 REPORT DATE: 02/17/93

QUANTEQ LAB NO: 9302053-01A
 QUANTEQ JOB NO: 9302053
 DATE ANALYZED: 02/12/93
 INSTRUMENT: G

EPA METHOD 8020 (WATER MATRIX)
 AROMATIC VOLATILE ORGANICS

COMPOUND	CAS #	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Benzene	71-43-2	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
Toluene	108-88-3	ND	0.5
Xylenes, Total	1330-20-7	ND	2

ND = Not Detected



QUALITY CONTROL DATA

INSTRUMENT: G

QUANTEQ JOB NO: 9302053

CLIENT PROJ. ID: MW2

SURROGATE STANDARD RECOVERY SUMMARY

METHOD 8010/8020
(WATER MATRIX)

SAMPLE IDENTIFICATION			SURROGATE RECOVERY (PERCENT)		
Date Analyzed	Client Id.	Lab Id.	Bromochloro-methane	1-Bromo-2-chloro-propane	1-Chloro-2-fluoro-benzene
02/12/93	MW 2	01A	104.5	105.6	100.8

CURRENT QC LIMITS (Revised 06/22/92)

<u>ANALYTE</u>	<u>PERCENT RECOVERY</u>
Bromochloromethane	(65-138)
1-Bromo-2-chloropropane	(62-141)
1-Chloro-2-fluorobenzene	(74-124)

QUALITY CONTROL DATA

DATE ANALYZED: 02/11/93

QUANTEQ JOB NO: 9302053

CLIENT PROJ. ID: MW2

SAMPLE SPIKED: D.I. WATER

INSTRUMENT: G

MATRIX SPIKE RECOVERY SUMMARY

METHOD 8010/8020
(WATER MATRIX)

ANALYTE	Spike Conc. (ug/L)	Sample Result (ug/L)	MS Result (ug/L)	MSD Result (ug/L)	Average Percent Recovery	RPD
1,1-Dichloroethene	50.0	ND	43.3	44.1	87.4	1.8
Trichloroethene	50.0	ND	42.9	45.1	88.0	5.0
Benzene	50.0	ND	48.3	49.4	97.7	2.2
Toluene	50.0	ND	48.4	49.6	98.0	2.4
Chlorobenzene	50.0	ND	41.6	42.8	84.4	2.8

CURRENT QC LIMITS (Revised 06/22/92)

Analyte	Percent Recovery	RPD
1,1-Dichloroethene	(52-116)	6
Trichloroethene	(68-123)	8
Benzene	(79-112)	5
Toluene	(77-113)	5
Chlorobenzene	(62-104)	6

MS = Matrix Spike
 MSD = Matrix Spike Duplicate
 RPD = Relative Percent Difference
 ND = Not Detected

QUANTEQ Laboratories
ANALYTICAL REQUEST/CHAIN OF CUSTODY FORM
(Complete Information on Opposite Side)

CLIENT GROVE VALVE
CLIENT JOB REF.: MW 2
LAB PROJECT NO: 9302053
(lab use only)

Date: 2-4-93
SAMPLER(S): _____

CLIENT SAMPLE IDENTIFICATION	DATE Taken	Lab Number (lab use only)	AIR VOLUME (Liters)	NO. CONT.	SAMPLE TYPE *	ANALYSES										COMMENTS / INTERFERENCES			
MW 2 WATER	2-4-93	DIAB		2	7	X													

DATE RESULTS REQUIRED: STANDARD TAT.

Relinquished by: (Signature) <i>[Signature]</i>	Date <u>2-4-93</u>	Time <u>3:50PM</u>	Received by: (Signature) <i>[Signature]</i>	Date <u>2-4-93</u>	Time <u>15:50</u>
Relinquished by: (Signature) <i>[Signature]</i>	Date <u>2-4-93</u>	Time <u>17:09</u>	Received by: (Signature)	Date	Time
Dispatched by: (Signature)	Date	Time	Received for lab by: (Signature) <i>Gina Gillespie</i>	Date <u>2-4-93</u>	Time <u>1705</u>
Method of Shipment:			Lab Comments:		

*SAMPLE TYPE (SPECIFY): (1) 37 mm 0.8 um MCEF; (2) 25 mm 0.8 um MCEF; (3) 25 mm 0.4 um polycarb. filter; (4) PVC filter, diam. pore size ; (5) Charcoal tube; (6) Silica gel tube (7) Water; (8) Soil; (9) Bulk Sample;

Quanteq Laboratories

An Ecologics Company

Certificate of Analysis

PAGE 1 OF 5

DOHS CERTIFICATION NO. E772

AIHA ACCREDITATION NO. 332

GROVE VALVE & REGULATOR CO.
6529 HOLLIS STREET
EMERYVILLE, CA 94608

ATTN: BILL TALLENT

CLIENT PROJ. ID: MW3
P.O. NO: PB40198

REPORT DATE: 02/19/93

DATE SAMPLED: 02/04/93

DATE RECEIVED: 02/04/93

QUANTEQ JOB NO: 9302054

PROJECT SUMMARY:

On February 4, 1993, this laboratory received one (1) water sample.

Client requested sample be analyzed for Halogenated Volatile Organics by EPA Method 8010 and Aromatic Volatile Organics by EPA Method 8020. Sample identification, results and dates analyzed are summarized on the following pages of this report.

All laboratory quality control parameters were found to be within established limits. Batch QC data is included at the end of this report.

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



Larry Klein
Laboratory Manager

Results FAXed 02/16/93

GROVE VALVE & REGULATOR CO.

SAMPLE ID: MW 3
CLIENT PROJ. ID: MW3
DATE SAMPLED: 02/04/93
DATE RECEIVED: 02/04/93
REPORT DATE: 02/19/93

QUANTEQ LAB NO: 9302054-01A
QUANTEQ JOB NO: 9302054
DATE ANALYZED: 02/12-15/93
INSTRUMENT: G

EPA METHOD 8010 (WATER MATRIX)
HALOGENATED VOLATILE ORGANICS

COMPOUND	CAS #	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Bromodichloromethane	75-27-4	ND	0.5
Bromoform	75-25-2	ND	0.5
Bromomethane	74-83-9	ND	0.5
Carbon Tetrachloride	56-23-5	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
Chloroethane	75-00-3	ND	0.5
2-Chloroethyl Vinyl Ether	110-75-8	ND	0.5
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.5
Dibromochloromethane	124-48-1	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Dichlorodifluoromethane	75-71-8	ND	0.5
1,1-Dichloroethane	75-34-3	ND	0.5
1,2-Dichloroethane	107-06-2	ND	0.5
1,1-Dichloroethene	75-35-4	1	0.5
cis-1,2-Dichloroethene	156-59-2	13	0.5
trans-1,2-Dichloroethene	156-60-5	1	0.5
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-Dichloropropene	10061-02-6	ND	0.5
Methylene Chloride	75-09-2	ND	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.5
Trichloroethene	79-01-6	1,200	0.5
Trichlorofluoromethane	75-69-4	ND	0.5
1,1,2-Trichloro- 1,2,2-trifluoroethane	76-13-1	ND	0.5
Vinyl Chloride	75-01-4	3	0.5

ND = Not Detected

GROVE VALVE & REGULATOR CO.

SAMPLE ID: MW 3
CLIENT PROJ. ID: MW3
DATE SAMPLED: 02/04/93
DATE RECEIVED: 02/04/93
REPORT DATE: 02/19/93

QUANTEQ LAB NO: 9302054-01A
QUANTEQ JOB NO: 9302054
DATE ANALYZED: 02/12-15/93
INSTRUMENT: G

EPA METHOD 8020 (WATER MATRIX)
AROMATIC VOLATILE ORGANICS

COMPOUND	CAS #	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L) :
Benzene	71-43-2	ND	0.5
Chlorobenzene	108-90-7	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Ethylbenzene	100-41-4	ND	0.5
Toluene	108-88-3	ND	0.5
Xylenes, Total	1330-20-7	ND	2

ND = Not Detected

QUALITY CONTROL DATA

INSTRUMENT: G

QUANTEQ JOB NO: 9302054

CLIENT PROJ. ID: MW3

SURROGATE STANDARD RECOVERY SUMMARY

METHOD 8010/8020
(WATER MATRIX)

SAMPLE IDENTIFICATION			SURROGATE RECOVERY (PERCENT)		
Date Analyzed	Client Id.	Lab Id.	Bromochloro-methane	1-Bromo-2-chloro-propane	1-Chloro-2-fluoro-benzene
02/12/93	MW 3	01A	128.3	129.3	106.4

CURRENT QC LIMITS (Revised 06/22/92)

<u>ANALYTE</u>	<u>PERCENT RECOVERY</u>
Bromochloromethane	(65-138)
1-Bromo-2-chloropropane	(62-141)
1-Chloro-2-fluorobenzene	(74-124)

QUALITY CONTROL DATA

DATE ANALYZED: 02/12/93

QUANTEQ JOB NO: 9302054

CLIENT PROJ. ID: MW3

SAMPLE SPIKED: D.I. WATER

INSTRUMENT: G

MATRIX SPIKE RECOVERY SUMMARY

METHOD 8010/8020
(WATER MATRIX)

ANALYTE	Spike Conc. (ug/L)	Sample Result (ug/L)	MS Result (ug/L)	MSD Result (ug/L)	Average Percent Recovery	RPD
1,1-Dichloroethene	50.0	ND	43.5	45.0	88.5	3.4
Trichloroethene	50.0	ND	44.6	46.9	91.5	5.0
Benzene	50.0	ND	46.5	48.3	94.8	3.8
Toluene	50.0	ND	46.6	47.8	94.4	2.5
Chlorobenzene	50.0	ND	45.5	48.0	93.5	5.3

CURRENT QC LIMITS (Revised 06/22/92)

<u>Analyte</u>	<u>Percent Recovery</u>	<u>RPD</u>
1,1-Dichloroethene	(52-116)	6
Trichloroethene	(68-123)	8
Benzene	(79-112)	5
Toluene	(77-113)	5
Chlorobenzene	(62-104)	6

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference
ND = Not Detected

QUANTEQ Laboratories
ANALYTICAL REQUEST/CHAIN OF CUSTODY FORM
(Complete Information on Opposite Side)

CLIENT GROVE
CLIENT JOB REF.: MW3
LAB PROJECT NO: 9302054
(lab use only)

Date: 2-4-93
SAMPLER(S): _____

CLIENT SAMPLE IDENTIFICATION	DATE Taker	Lab Number (lab use only)	AIR VOLUME (Liters)	NO. CONT.	SAMPLE TYPE *	ANALYSES												COMMENTS/ INTERFERENCES					
						1	2	3	4	5	6	7	8	9	10	11	12						
MW3 WATER	2-4-93	DIAB		2	7	X																	

DATE RESULTS REQUIRED: STANDARD T.A.T.

Relinquished by: (Signature) <u>[Signature]</u>	Date <u>2-4-93</u>	Time <u>3:50 PM</u>	Received by: (Signature) <u>[Signature]</u>	Date <u>2-4-93</u>	Time <u>15:50</u>
Relinquished by: (Signature) <u>[Signature]</u>	Date <u>2-4-93</u>	Time <u>17:25</u>	Received by: (Signature) <u>[Signature]</u>	Date <u>2-4-93</u>	Time <u>17:05</u>
Dispatched by: (Signature) <u>[Signature]</u>	Date <u>2-4-93</u>	Time <u>17:25</u>	Received for lab by: (Signature) <u>Gina Gillespie</u>	Date <u>2-4-93</u>	Time <u>17:05</u>
Method of Shipment:			Lab Comments:		

*SAMPLE TYPE (SPECIFY): (1) 37 mm 0.8 um NCEF; (2) 25 mm 0.8 um NCEF; (3) 25 mm 0.4 um polycarb. filter; (4) PVC filter, diam. _____ pore size _____; (5) Charcoal tube; (6) Silica gel tube (7) Water; (8) Soil; (9) Bulk Sample; (10) Other _____ (11) Other _____



GROVE VALVE AND REGULATOR COMPANY

6529 HOLLIS STREET OAKLAND, CALIFORNIA 94608

(510) 655-7700 FAX (510) 420-2150

November 30, 1992

Mr. Lester Feldman
Environmental Specialist
Regional Water Quality Control Board
2101 Webster Street, Suite 500
Oakland, California 94612

Subject: Grove Valve and Regulator Company
6529 Hollis Street, Emeryville, CA 94608

Dear Mr. Feldman:

Pursuant to our letter to you dated June 24, 1992 (copy enclosed) we have completed our first update of the groundwater chemical analysis at the three groundwater monitoring wells located at 6529 Hollis Street, Emeryville, CA. The update was performed by our consultants, Woodward-Clyde, based on a new round of sampling taken on October 15, 1992.

The chemical analysis of the groundwater showed the same chemicals to be present during this sampling round as during the earlier sampling round. However, the concentrations of chemicals declined from the earlier sampling, with the upgradient well now showing a concentration of 99 hg/L trichloroethene and the downgradient well showing 1100 hg/L trichloroethene. Readings at the third well continued to be below detection or present MCL standards.

Based on this data, Grove intends to continue to monitor the groundwater on a periodic basis to confirm that the contamination is localized and not the result of on-site sources. We will send the analytical results to you and to other appropriate agencies. If you have any comments or questions on this matter, please do not hesitate to call Mr. Bill Talent, Plant Services Manager, at 655-7700.

Very truly yours,

GROVE VALVE AND REGULATOR COMPANY


John P. Tescher
President and Chief Operating Officer

JPT:sdb
Enclosure

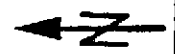
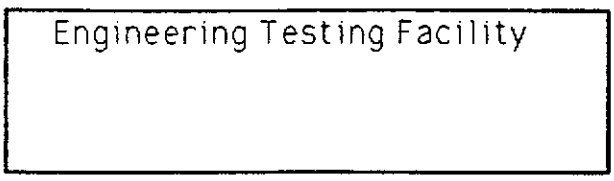
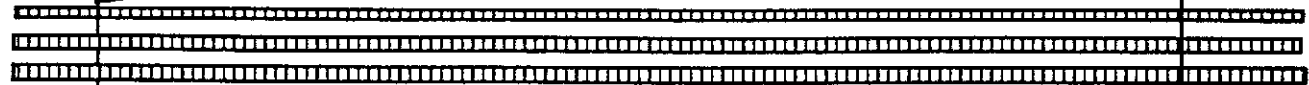
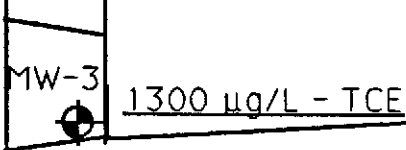
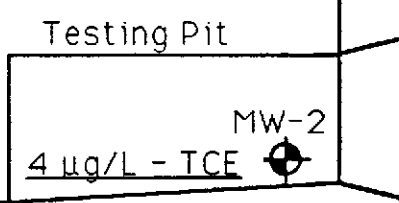
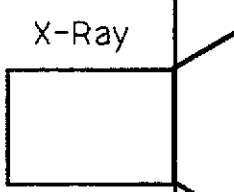
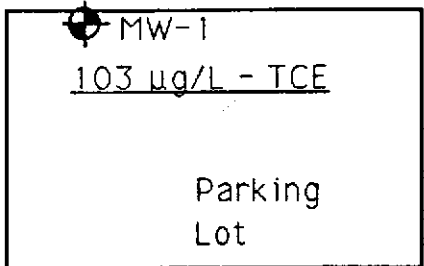
Hollis Street

66TH STREET

65TH STREET

BAY STREET

Grove Valve and Regulator Company
MAIN PLANT BUILDING



NOTE: Not to scale

Project No. 92C091A	Grove Valve	Trichloroethene (TCE) in Groundwater March 2, 1992	Figure 3
Woodward-Clyde Consultants		Grove Valve and Regulator Company	

BORING LOCATION <u>SB-1, on loading ramp, near X-ray pit</u>		ELEVATION AND DATUM <u>Not surveyed</u>	
DRILLING AGENCY <u>Woodward-Clyde Consultants</u>	DRILLER <u>K. Guyer & J. Haus</u>	DATE STARTED <u>2/25/92</u> DATE FINISHED <u>2/25/92</u>	
DRILLING EQUIPMENT <u>Hand Auger</u>		COMPLETION DEPTH <u>5' 6"</u>	SAMPLER <u>Slide-weight drive Sampler</u>
DRILLING METHOD <u>3-inch Solid stem auger</u>		NO. OF SAMPLES	DIST. <u>3</u>
LOGGED BY: <u>K. Guyer</u>		WATER LEVEL	FIRST
CHECKED BY: <u>R. Spencer</u>		COMPL.	<u>24 HRS.</u>

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION	USCS	Moisture Content	Dry Density
0			Cement			
1	A		SILTY SANDY GRAVEL (FILL) Tan, fine sand, gravel to 1 1/2", subrounded, trace clay, damp (may be due to cement coring)	GM		H Nu = 2 ppm
2			SANDY CLAY tan, coarse sand, moist.	SC		
3	B		CLAYEY SAND reddish brown, similar to above but with less clay.	SC		H Nu = 7 ppm
4			SILTY CLAY tan, some fine sand and few pebbles, moist	CL		
5	C					H Nu = 10 ppm
6			Total Depth 5' 6"			

SB-1

BORING LOCATION <u>SB-2, Center of Main Plant building, near previous S4 boring</u>		ELEVATION AND DATUM <u>Not surveyed</u>	
DRILLING AGENCY <u>Woodward-Clyde Consultants</u>	DRILLER <u>K. Guyer & J. Haus</u>	DATE STARTED <u>2/25/92</u>	DATE FINISHED <u>2/25/92</u>
DRILLING EQUIPMENT <u>Hand Auger</u>		COMPLETION DEPTH <u>3' 6"</u>	SAMPLER <u>Slide-weight drive Sampler</u>
DRILLING METHOD <u>3-inch Solid stem auger</u>		NO. OF SAMPLES <u>2</u>	DIST. <u>2</u>
LOGGED BY: <u>K. Guyer</u>		WATER LEVEL <u>FIRST</u>	COMPL. <u>24 HRS.</u>
CHECKED BY: <u>R. Spencer</u>			

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION	USCS	Moisture Content	Dry Density
0 - 1	A	8	Cement SILTY SAND (FILL) reddish light brown, coarse sand, trace gravel to 1/2", dry H Nu = 0 ppm	SM		
1 - 3	B	50	H Nu = 7 ppm			
3 - 4			REFUSAL, possibly hit old pavement			
4 - 6						

BORING LOCATION SB-3, Southwest end of Main Plant building, in test pit		ELEVATION AND DATUM Not surveyed	
DRILLING AGENCY Woodward-Clyde Consultants	DRILLER K. Guyer & J. Haus	DATE STARTED 2/25/92 DATE FINISHED 2/25/92	
DRILLING EQUIPMENT Hand Auger		COMPLETION DEPTH 5' 6"	SAMPLER Slide-weight drive Sampler
DRILLING METHOD 3-inch Solid stem auger		NO. OF SAMPLES DIST. 3	UNDIST.
LOGGED BY: K. Guyer		WATER LEVEL FIRST	COMPL. 24 HRS.
CHECKED BY: R. Spencer			

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION	USCS	Moisture Content	Dry Density pcf
			Cement			
1	A	26	SILTY SANDY GRAVEL (FILL) light brown, fine sand, gravel to 1", subrounded, damp H Nu = 0 ppm	GM		
2			SILTY CLAY tan, highly plastic, some medium to coarse sand, damp. H Nu = 0 ppm	CL		
3	B	50				
4						
5	C	22	More sand with minor iron staining H Nu = 1 ppm			
6			Total Depth 5' 6"			
			SB-3			

BORING LOCATION SB-4, Between fence and north side of building, near previous S1 boring		ELEVATION AND DATUM Not surveyed	
DRILLING AGENCY Woodward-Clyde Consultants	DRILLER K. Guyer & J. Haus		DATE STARTED 2/25/92 DATE FINISHED 2/25/92
DRILLING EQUIPMENT Hand Auger		COMPLETION DEPTH 5' 6"	SAMPLER Slide-weight drive Sampler
DRILLING METHOD 3-inch Solid stem auger		NO. OF SAMPLES DIST. 3	UNDIST.
LOGGED BY: K. Guyer		WATER LEVEL FIRST	COMPL. 24 HRS.
CHECKED BY: R. Spencer			

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION	USCS	Moisture Content	Dry Density
0			Cement			
0 - 1	A	30	SANDY GRAVEL (FILL) reddish brown, fine sand, gravel to 1", trace silt size, dry (damp to wet at 2') H Nu = 1 ppm	GM		
1 - 2			CLAY blue gray, highly plastic, few 1/4" pebbles, moist. H Nu = 3 ppm	CH		
2 - 3			CLAYEY SAND reddish brown, similar to above but with less clay. H Nu = 7 ppm	SC		
3 - 4	B	20				
4 - 5			SANDY GRAVEL reddish brown, poorly sorted, trace silt size, damp. H Nu = 11 ppm	GM		
5 - 6	C	30				
6			Total Depth 5' 6"			

SB-4

BORING LOCATION SB-5, Inside Engineering Test Facility building, west center		ELEVATION AND DATUM Not surveyed	
DRILLING AGENCY Woodward-Clyde Consultants	DRILLER K. Guyer & J. Haus	DATE STARTED 2/25/92 DATE FINISHED 2/25/92	
DRILLING EQUIPMENT Hand Auger		COMPLETION DEPTH 5' 6"	SAMPLER Slide-weight drive Sampler
DRILLING METHOD 3-inch Solid stem auger		NO. OF SAMPLES 3	UNDIST.
LOGGED BY: K. Guyer		WATER LEVEL FIRST	COMPL. 24 HRS.
CHECKED BY: R. Spencer			

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION	USCS	Moisture Content	Dry Density pct
0			Cement			
0.5 - 1.0	A	8	SANDY GRAVEL (FILL) brown, loose, fine sand, gravel to 1", dry	GM	H Nu = 0 ppm	
1.0 - 3.0			SANDY CLAY dark brown, some red brick chips, few 1/4" angular pebbles, moist	SC		
3.0 - 4.5	B	4	CLAYEY GRAVEL brown, poorly sorted, some sand in lenses, damp.	GC	H Nu = 0 ppm	
4.5 - 5.5					H Nu = 0 ppm	
5.5 - 6.0	C	30				
			Total Depth 5' 6"			

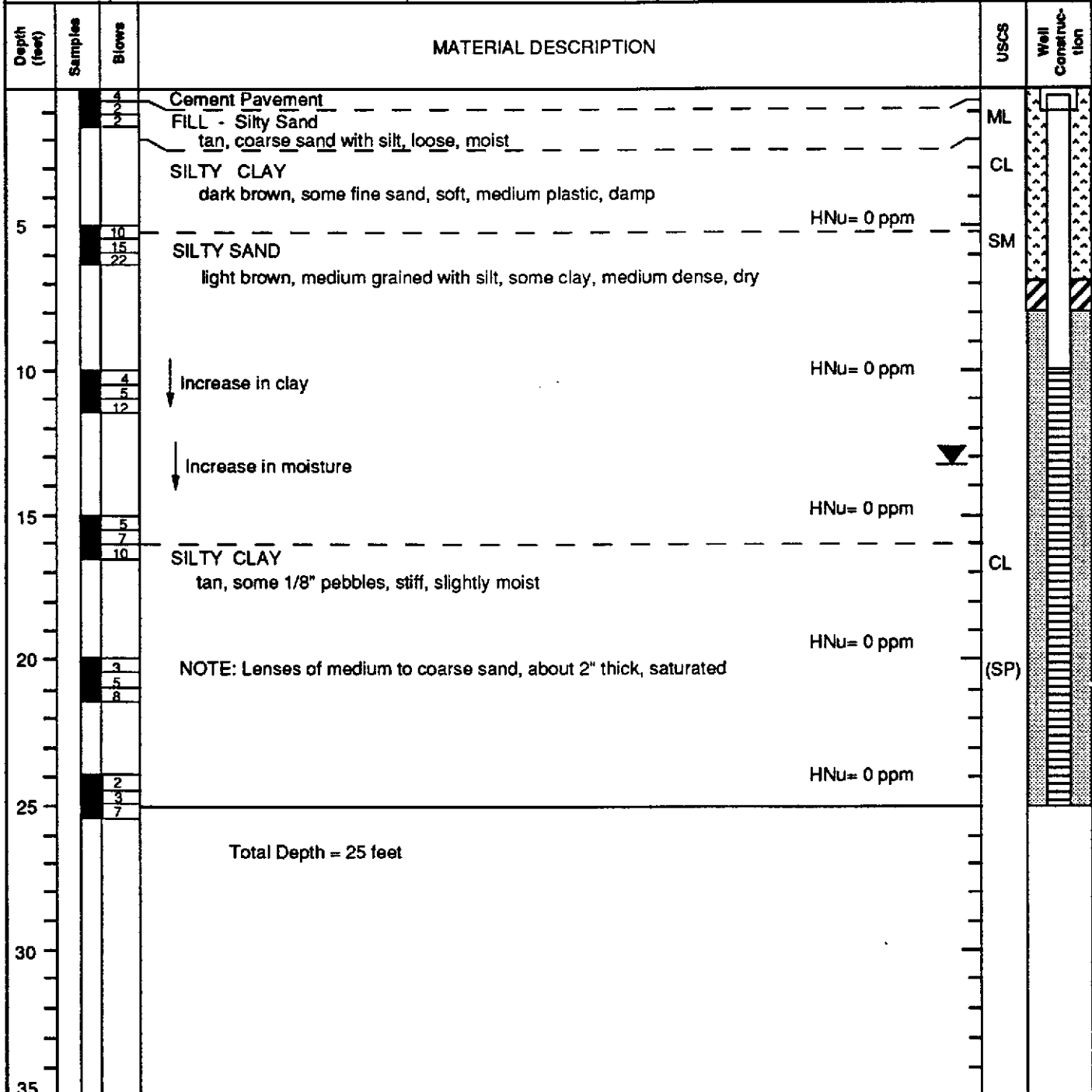
SB-5

BORING LOCATION SB-6, Inside Engineering Test Facility building, south end		ELEVATION AND DATUM Not Surveyed	
DRILLING AGENCY Woodward-Clyde Consultants	DRILLER K. Guyer & J. Haus	DATE STARTED 2/25/92 DATE FINISHED 2/25/92	
DRILLING EQUIPMENT Hand Auger		COMPLETION DEPTH 5' 6"	SAMPLER Slide-weight drive Sampler
DRILLING METHOD 3-inch Solid stem auger		NO. OF SAMPLES DIST. 3	UNDIST.
LOGGED BY: K. Guyer		WATER LEVEL FIRST	COMPL. 24 HRS.
CHECKED BY: R. Spencer			

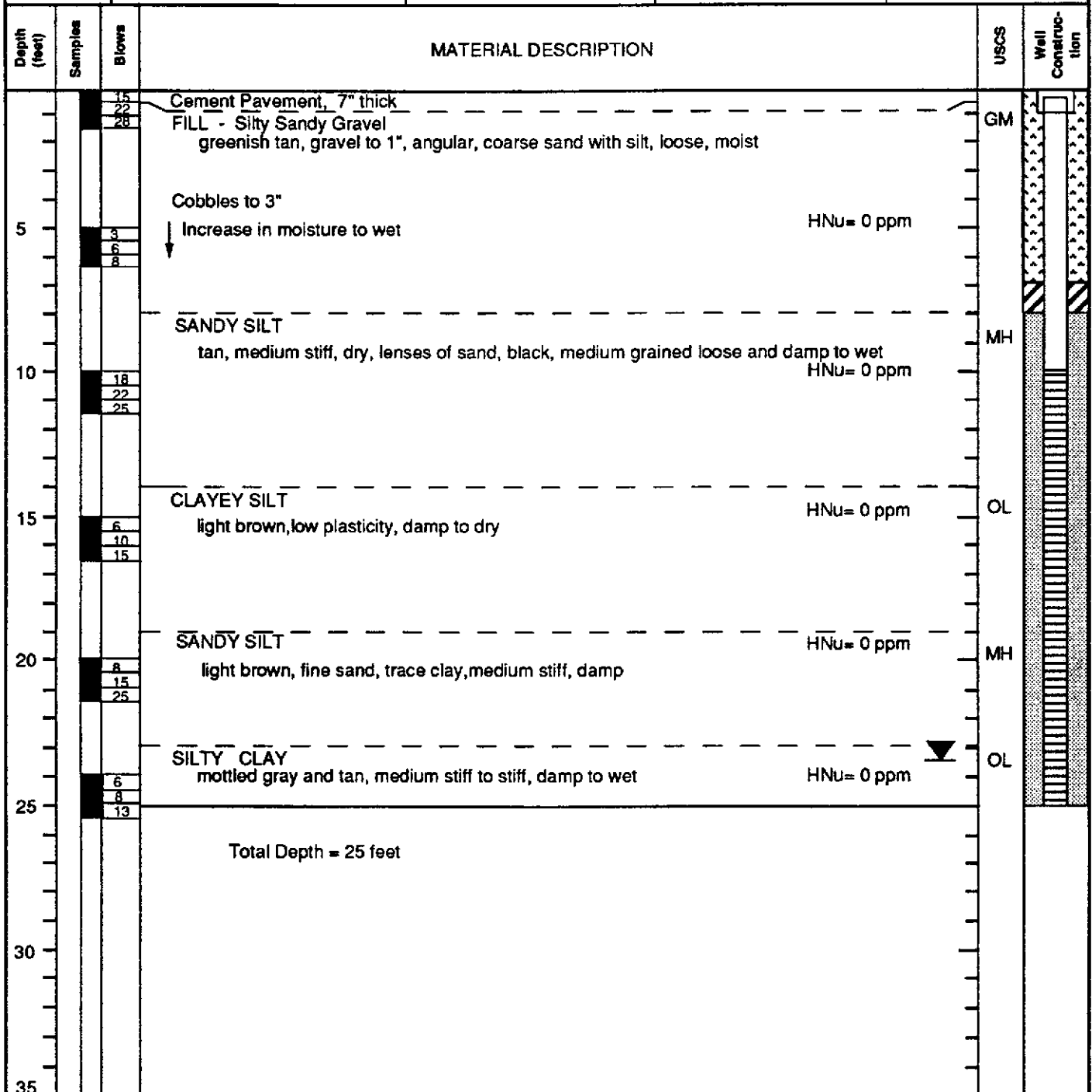
Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION	USCS	Moisture Content	Dry Density pcf
0			Cement			
1	A	8	SILTY SAND (FILL) brown, loose, fine sand, gravel to 1", trace clay, dry to damp H Nu = 0 ppm	SM		
2			CLAYEY SANDY GRAVEL dark brown, gravel to 1", moist	GC		
3	B	5	H Nu = 0ppm			
4			H Nu = 0 ppm			
5	C	8				
6			Total Depth 5' 6"			

SB-6

MONITORING WELL LOCATION Grove Valve and Regulator 6529 Hollis Street, Emeryville, CA		MW-1 Southeast parking lot		ELEVATION AND DATUM 20.72' MSL	
DRILLING AGENCY Kvitthaug Well Drilling		DRILLER Rodney Furlow		DATE STARTED DATE FINISHED 2/27/92	
DRILLING EQUIPMENT Mobile Drill B-61				COMPLETION DEPTH 25	SAMPLER 2" split spoon
DRILLING METHOD Hollow stem auger		DRILL BIT		NO. OF SAMPLES	DIST. --
SIZE AND TYPE OF CASING 4" Schedule 40 PVC		FROM 0.0 TO 10.0 FT.	WATER LEVEL	FIRST -7.52	COMPL. -- 24 HRS. 15.62
TYPE OF PERFORATION 0.020" Slot		FROM 10.0 TO 25.0 FT.	LOGGED BY: K. O. Guyer		CHECKED BY: R. Ely
SIZE AND TYPE OF PACK #2/12 Monterey sand		FROM 8.0 TO 25.0 FT.			
TYPE OF SEAL	NO. 1 1/4" Bentonite pellets	FROM 7.0 TO 8.0 FT.			
	NO. 2 Neat cement grout	FROM surface TO 7.0 FT.			



MONITORING WELL LOCATION Grove Valve and Regulator 6529 Hollis Street, Emeryville, CA		MW-2 Southwest corner of Main Plant building		ELEVATION AND DATUM 15.95' MSL	
DRILLING AGENCY Kvithaug Well Drilling		DRILLER Rodney Furlow		DATE STARTED 2/26/92	
DRILLING EQUIPMENT Mobile Drill B-61				DATE FINISHED	
DRILLING METHOD Hollow stem auger		DRILL BIT		COMPLETION DEPTH 25	
SIZE AND TYPE OF CASING 4" Schedule 40 PVC		FROM 0.0 TO 10.0 FT.		SAMPLER 2" split spoon	
TYPE OF PERFORATION 0.020" Slot		FROM 10.0 TO 25.0 FT.		NO. OF SAMPLES DIST. UNDIST. 6	
SIZE AND TYPE OF PACK #2/12 Monterey sand		FROM 8.0 TO 25.0 FT.		WATER LEVEL FIRST -7.35 COMPL. -- 24 HRS. 9.1	
TYPE OF SEAL		NO. 1 1/4" Bentonite pellets FROM 7.0 TO 8.0 FT.		LOGGED BY:	
		NO. 2 Neat cement grout FROM surface TO 7.0 FT.		K. O. Guyer	
				CHECKED BY: R. Ely	



M183

MONITORING WELL LOCATION Grove Valve and Regulator 6529 Hollis Street, Emeryville, CA outside of Main Plant bldg.		MW-3 Northwest corner		ELEVATION AND DATUM 16.98' MSL	
DRILLING AGENCY Kvithaug Well Drilling		DRILLER Rodney Furlow		DATE STARTED 2/26/92	
DRILLING EQUIPMENT Mobile Drill B-61				DATE FINISHED	
DRILLING METHOD Hollow stem auger		DRILL BIT		COMPLETION DEPTH 25	
SIZE AND TYPE OF CASING 4" Schedule 40 PVC		FROM 0.0 TO 10.0 FT.		SAMPLER 2" split spoon	
TYPE OF PERFORATION 0.020" Slot		FROM 10.0 TO 25.0 FT.		NO. OF SAMPLES DIST. UNDIST. 6	
SIZE AND TYPE OF PACK #2/12 Monterey sand		FROM 8.0 TO 25.0 FT.		WATER LEVEL FIRST -6.02 COMPL. 24 HRS. 8.38	
TYPE OF SEAL		NO. 1 1/4" Bentonite pellets FROM 7.0 TO 8.0 FT.		LOGGED BY: K. O. Guyer	
		NO. 2 Neat cement grout FROM surface TO 7.0 FT.			

