OHM Corporation

May 10, 1991

Ms. Susan Hugo
Hazardous Materials Specialist
Alameda County Health Care Services Agency
Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, CA 94621

Dear Ms. Hugo,

Enclosed please find one copy of the report of activities conducted at the former Boysen Paint facility located in Emeryville, California. If you have any questions regarding this report or the on-going investigation please contact me at (916) 928-1819.

Sincerely,

Scott Rice

Scott Rice
Project Hydrogeologist

enclosures:

1425 W. North Market Boulevard ■ Suite 9 ■ Sacramento, California 95834 ■ 916-928-1819

REPORT OF ACTIVITIES
CONDUCTED AT FORMER BOYSON PAINT FACILITY
EMERYVILLE, CALIFORNIA
MARCH TO JUNE, 1990

Presented to:

Ameritone Paint Corporation
Long Beach, California

O.H. Materials
Sacramento, California

Job # 5679
May 6, 1990

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 SITE LOCATION AND HISTORY

The Site encompasses the location of an underground storage tank located on 41st Street between Linden and Adeline streets in the City of Emeryville, California (Figure 1.1). The adjacent building was formerly operated by Boyson Paint Company, predecessor of Ameritone Paint Corporation but is now operated by Oakland National Engravers and a furniture restoration shop. The boundary line between the cities of Emeryville and Oakland crosses 41st Street in the vicinity of the site however the underground storage tank is located wholly within the limits of the City of Emeryville. The underground storage tank was formerly used to store mineral spirits but is not currently in use. The tank is located directly beneath the sidewalk on the northern side of 41st Street. Several aboveground and underground utility lines run directly over or in close proximity to the tank.

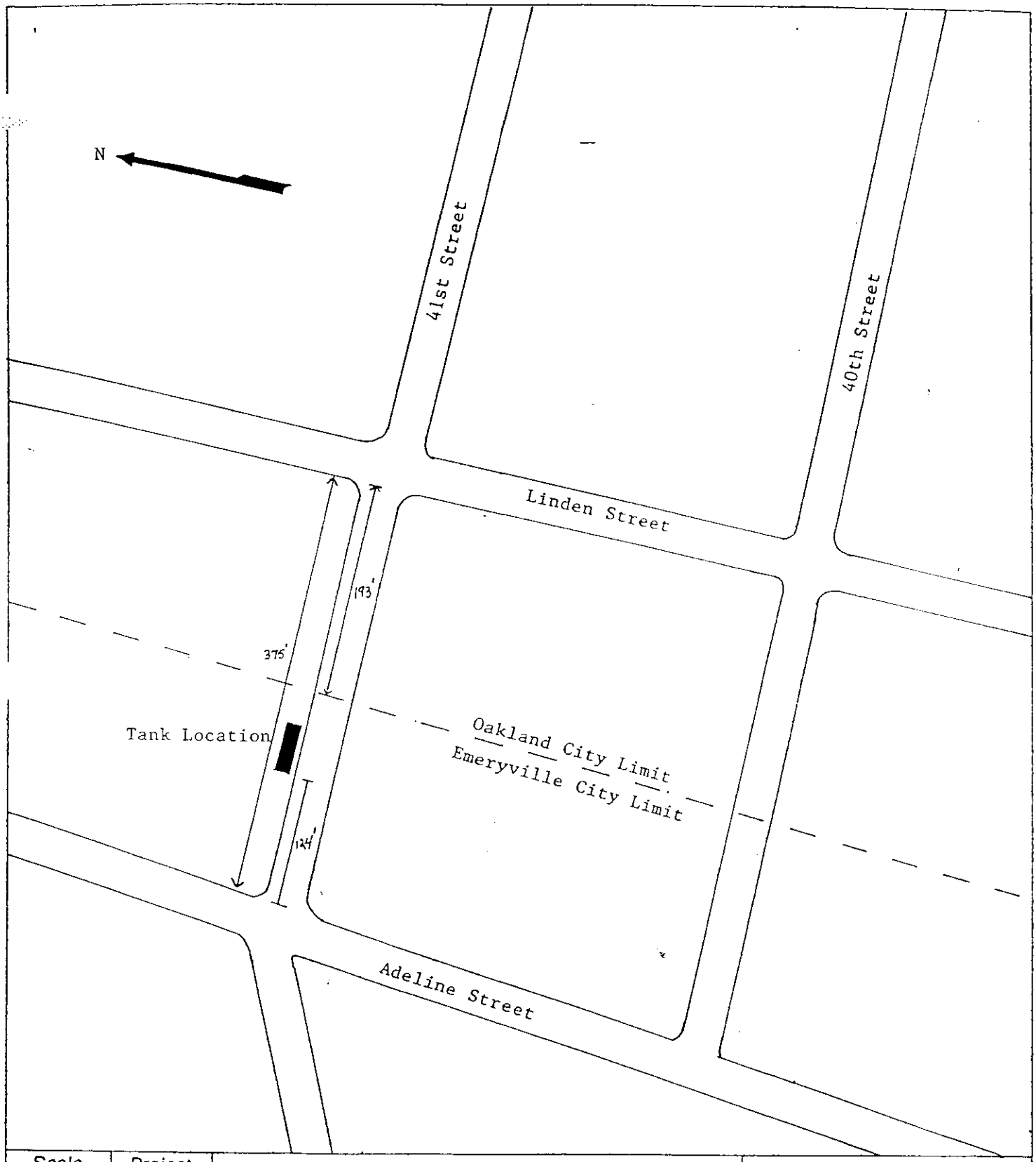
In November of 1987, Grow Group Incorporated, on behalf of of Ameritone Paint Corporation, a wholly-owned subsidiary, submitted a plan for the in-place closure of the tank to the Alameda County Department of Health. This plan was approved by the Department of Health in December of 1987. In February of 1988, OHM, acting on behalf of Ameritone Paint Corporation, installed a temporary groundwater monitor well and collected a groundwater sample for analysis. Based on the presence of methylene chloride in this temporary well, OHM recommended the installation of a permanent well at the site, the inspection of associated piping at the east end of the tank, and the removal and disposal of the contents of the tank. In March of 1988, OHM submitted a report presenting these data and recommendations to the Alameda County Department of Health. In September of 1988, after OHM had provided additional requested information, the Alameda County Department of Health approved the recommendations and requested that Ameritone Paint Corporation receive approval of the San Francisco Bay Regional Water Quality Control Board (RWQCB) before continuing. OHM, on behalf of Ameritone Paint Corporation, submitted the information to RWQCB in October of 1988. In January of 1990, RWQCB gave written approval for the recommendations for further work.

1.2 SCOPE OF WORK PERFORMED

Between March and May of 1990, OHM performed the following activities:

- site visit consisting of the measurement of liquid levels in the tank and the collection of samples of both the liquid in the tank and the overlying free product;
- removal of the concrete overlying an unidentified underground utility line and examination of this and other underground utilities in close proximity to the tank;

- removal of liquid and free product from the tank and disposal at a licensed waste recycling facility; and
- installation of a groundwater monitor well and the collection and analyses of a groundwater sample.



Scale	Project
not to scale	5679
Preparer	Date
SR	6/7/90

Figure 1.1
Site Location Map
Former Boysen Paint Facility
Emeryville, California

OHM Remedial Services Corporation
1425 N. Market Blvd. #9
Sacramento, California

2.0 TANK CONTENTS SAMPLING AND ANALYSIS

On March 13, 1990, OHM collected a sample of both the liquid within the tank and the free product overlying this liquid within the tank. The depth of liquid within the tank was approximately one foot at its deepest point. The thickness of the free product lying above the liquid was approximately 0.25 inches.

Samples were collected with a teflon bailer and transferred to 40 ml VOA vials, labelled, placed on ice, and delivered to ETC MultiTech Laboratories of Santa Rosa, California. Each sample was analyzed for total light petroleum hydrocarbons using EPA method 8015 and volatile organic constituents using EPA method 624. The following table shows the results of these analyses. The laboratory reports are included in Appendix A.

Table 2.1
Results of Laboratory Analyses of Liquid Samples

Constituent	Tank Liquid	Free Product
Total Petroleum Hydrocarbons (light)	15.0 mg/l	(*)
Methylene Chloride	16.9 mg/l	125 mg/l
Ethylbenzene	<2.5 mg/l	68.3 mg/l
m-Xylenes	<2.5 mg/l	299 mg/l
o+p-Xylenes	<2.5 mg/l	2300 mg/l
Other constituents per EPA Method 624	<2.5 mg/l	<2.5 mg/l

(*) when calibrated to Stoddard Solvent analyses indicated the sample contained 90% Stoddard Solvent.

Analysis of the sample of free product for Total Petroleum Hydrocarbons was conducted using Stoddard Solvent as a calibration standard. According to a representative of ETC-MultiTech Laboratories the presence of Stoddard Solvent and mineral spirits, the material which had been previously stored in the tank, provide very similar responses to this analytical method. The sample of free product also contained methylene chloride, ethylbenzene, and xylenes in concentrations ranging from 68.3 mg/l to 2300 mg/l.

The sample of liquid beneath the layer of free product contained methylene chloride at an order of magnitude less than the sample of free product but did not contain either ethylbenzene or xylenes. Methylene chloride was the only volatile organic constituent detected in the liquid sample.

A sample of the tank contents was collected during an earlier phase of site investigation in February of 1988. This sample contained total volatile hydrocarbons at a concentration of 37 mg/l, methylene chloride at a concentration of 2.1 mg/l, and xylene at a concentration of 2.4 mg/l. The differences in composition between this sample and the most recent sample may be related to the method of sampling and do not necessarily represent a change in concentration of the tank contents. The free product was separated from the remaining liquid during the most recent sampling but not during the sampling conducted in 1988.

3.0 TANK CONTENTS REMOVAL AND DISPOSAL

On April 4, 1990 the tank materials were pumped from the tank with a vacuum truck by H and H Ship Services and transferred to Solvent Services Inc. of San Jose for recycling under proper manifesting procedures. A copy of the manifest of this waste removal and recycling is shown in Appendix B. Approximately 610 gallons of material were removed from the tank or about 10% of the total volume of the tank. Approximately 6 gallons of sludge were also removed from the tank.

Once arriving at Solvent Services Inc., the waste was separated into recyclable solvents/petroleum hydrocarbons, sludge, and residual water. Solvent Services Inc. generally recycles solvents and petroleum hydrocarbons to local industries, often refineries. The portion of the sludge which is not recyclable is treated and/or disposed at a licensed landfill or other disposal facility. The residual water is disposed through deep-well injection.

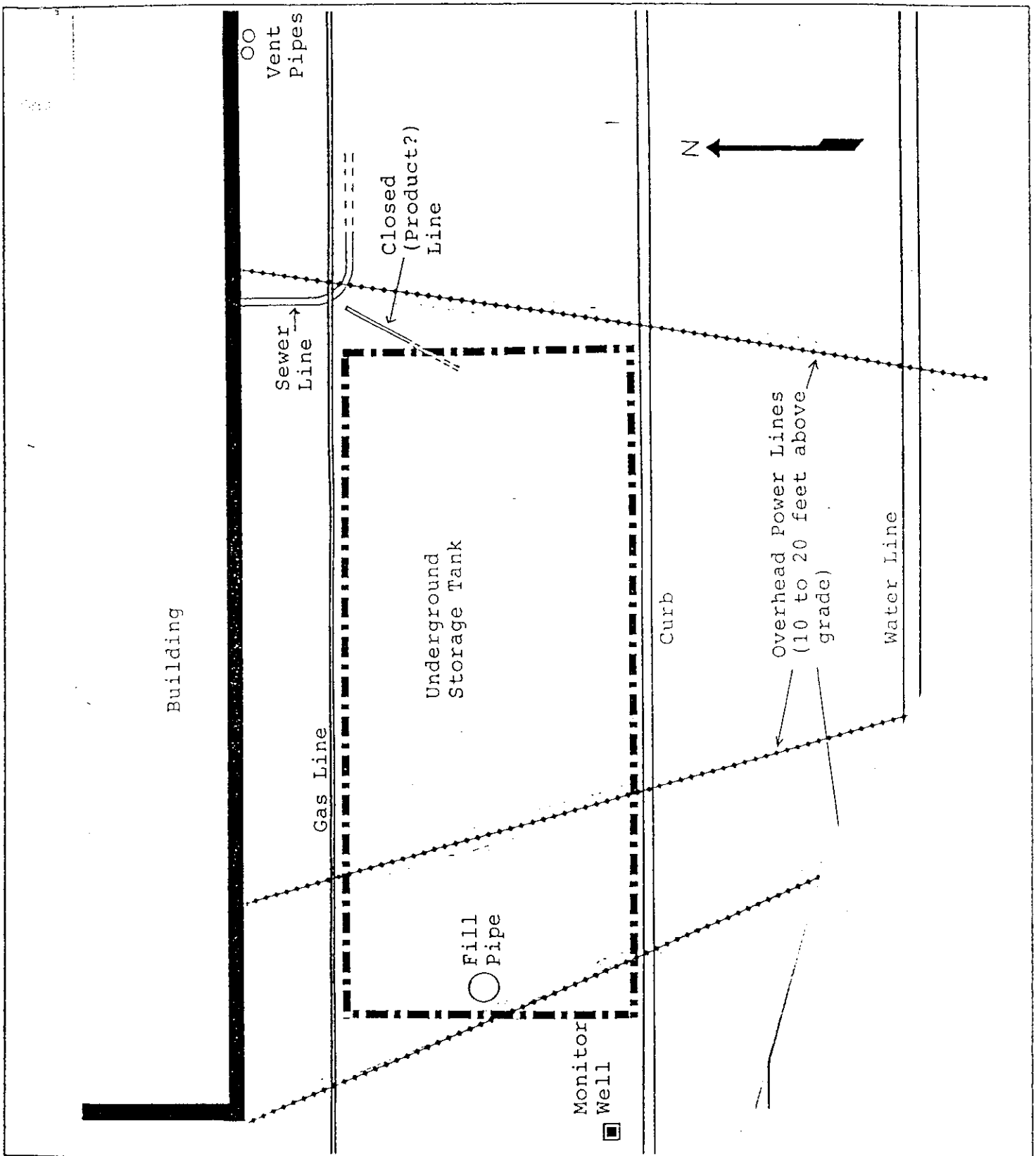
4.0 UNDERGROUND STRUCTURES EVALUATION

The following discussion of underground and aboveground utilities in close proximity to the underground storage tank is based upon a geophysical survey and on excavation and visual examination of on-site utilities. Figures 4.1 and 4.2 show the location of identified underground and aboveground utilities and their relation to the underground storage tank.

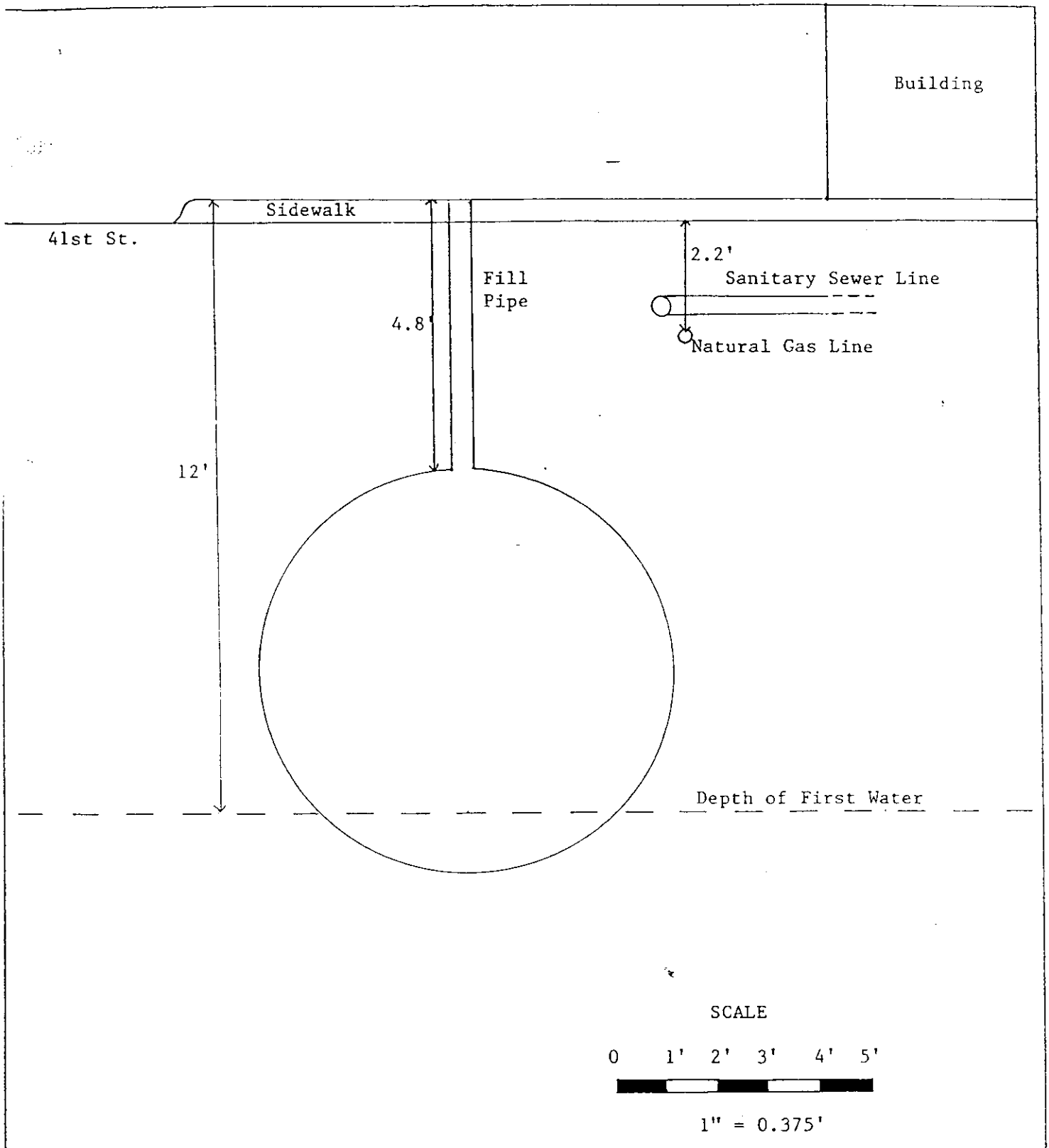
In May of 1987, OHM conducted a ground penetrating radar (GPR) survey of the site to identify buried structures that may affect proper closure of the tank. The survey identified three underground utility lines. A gas line was found parallel to the sidewalk and approximately two feet south of the building. A water pipeline was found running parallel to the sidewalk approximately seven feet south of the curb. A third unidentified structure was found at the eastern end of the tank. This structure appeared to traverse the sidewalk.

In April of 1990, OHM removed the portion of the sidewalk directly above the unidentified structure and excavated the area to determine the nature of the structure and its connection to the tank. At a depth of approximately 1.5 feet a pipe was encountered traversing the sidewalk at a location consistent with the results of the GPR survey. This pipe has a diameter of approximately 1.5 inches and dips to the southwest towards the tank. It apparently had once provided a connection between the tank and the adjacent building, however currently it has been cut and plugged about four feet south of the building. Two other utility lines were encountered during the excavation of this area. A two-inch diameter gas line identified by the GPR survey was encountered at a depth of 2.2 feet. This line is located 2.75 feet south of the building and not 2 feet as indicated by the GPR survey. A sewer line was also encountered at a depth of approximately 1.75 feet. This line appears to currently serve the restroom within the adjacent building. It leaves the building about two feet east of the eastern boundary of the tank then elbows to the east about 3.5 feet south of the building and parallels the sidewalk. U p o n measurement of the identified utilities, the excavation was refilled and the portion of the sidewalk which had been removed was replaced.

Two apparent vent lines were noted approximately ten feet east of the tank abutting the adjacent building. Tapping of the westernmost of these two lines produced a resonance within the underground storage tank indicating that this line may have served as a vent line for the tank during its operation. The easternmost line did not appear to have a connection with the tank.



Scale	Project	Figure 4.1	OHM Remedial Services Corporation
1" = 4'	5679	Location of Underground Storage Tank and Proximity to Utility Lines Former Boysen Paint Facility	1425 N. Market Blvd. #9 Sacramento, California
Preparer	Date		
SR	6/7/90		



Scale	Project
as shown	5679
parer	Date
SR	6/7/90

Figure 4.2
Cross Section of Storage Tank and Proximity to Utility Lines Former Boysen Paint Facility

OHM Remedial Services Corporation
1425 N. Market Blvd. #9
Sacramento, California

5.0 MONITOR WELL INSTALLATION AND SAMPLING

On May 15, 1990 a groundwater monitoring well was installed just to the west of the western end of the underground storage tank. The location of this well was chosen to provide groundwater quality data from an assumed downgradient direction from the underground storage tank. The well was drilled with a trailer-mounted drill rig because of facility constraints related to overhead power lines. The borehole was drilled to a total depth of 21.5 feet. A composite sample of the cuttings removed from the borehole during the drilling operation was collected in an 8-oz glass sample jar, labelled, and placed on ice for delivery to the analytical laboratory. This sample was analyzed for total light hydrocarbons using EPA method 8015. The results of this analyses were used to determine the proper disposal method for the cuttings. The results of these analyses are shown in Table 5.1. In addition, the cuttings were logged according to the Unified Soil Classification System. The subsurface soil at the site consists of sandy and silty clay to a depth of approximately 15 feet and sandy silt between the depths of 15 and 21.5 feet. Groundwater was encountered at a depth of 12 feet below ground surface. A copy of the borehole lithologic log is included in Appendix C.

The well was constructed of two-inch diameter Schedule 40 PVC with a screened interval extending from 15 to 20 feet below ground surface. Due to the presence of fine-grained material in the aquifer sediments the screened casing was constructed of Schedule 40 PVC wit 0.010-inch thick slots. A filter pack of #2-16 grade sand was placed in the annular space between the borehole wall and the casing from the total depth of the borehole to a depth of 14 feet below ground surface. A one-foot thick bentonite seal was placed above the filter pack and the remaining annular space was filled with cement grout. The well was finished with a locking well cover flush to the ground surface.

Upon completion, the well was developed by bailing. Approximately 25 gallons were purged from the well using a stainless steel bailer prior to sampling. A groundwater sample was then collected in a teflon bailer, transferred to 40-ml VOA vials, sealed, labelled and placed on ice for delivery to the analytical laboratory. The groundwater sample was analyzed for total light hydrocarbons using EPA method 8015 and for volatile organic constituents using EPA method 624. The results of the laboratory analyses of the groundwater sample and the composite soil sample are shown in Table 5.1. The laboratory reports are included in Appendix A.

Table 5.1
Results of Laboratory Analyses
Groundwater and Composite Soil Samples

Constituent	Groundwater Sample	Composite Soil Sample
Total Petroleum Hydrocarbons (light)	57.0 mg/l	250 mg/kg
Methylene Chloride	0.0114 mg/l	na
Other constituents per EPA Method 624	<2.5 mg/l	na

? why composite must be discrete sample

na - analyses not conducted

6.0 CONCLUSIONS

Based upon the results of the laboratory analyses of the tank contents and the soil and groundwater from the monitor well the following conclusions are made concerning the presence of mineral spirits and associated constituents in the vadose zone soil and groundwater at the site.

- Results of laboratory analyses of the tank contents were consistent with the presence of mineral spirits. It is unknown if other materials had been stored in the tank since Boyson Paint Company ceased its use of the tank.

- Examination of the piping at the eastern end of the storage tank suggests that there are currently no product lines connecting the tank with the adjacent building. The existing utility lines with connections to the tank appear to be limited to the fill pipe, the plugged product line transverse to the sidewalk, and one vent line which surfaces east of the tank site. Apparently the second observed vent line has no connection to the storage tank and may have been a vent line for the former tank located east of the existing tank.

- Results of laboratory analyses of the composite soil and groundwater samples indicate that petroleum hydrocarbons consistent with the composition of mineral spirits are present in vadose zone soil and groundwater.

- Although the materials identified in the groundwater and soil are consistent with that which had been stored in the tank it is not possible to identify the existing storage tank as the source because there is information indicating that at least one additional underground tank was once located upgradient from the well location. In addition there are also several operating establishments adjacent to the site which are believed to use similar chemicals in their operations and represent other potential sources.

APPENDIX A

LABORATORY REPORTS

MULTI - TECH, A Division of
Environmental Testing and Certification Corp.
320 Tesconi Circle, Suite G
Santa Rosa, California 95401
707-544-5570

ETC - MULTI-TECH

APRIL 11, 1990

CLIENT: O.H. MATERIALS CORPORATION
3018 B ALVARADO
SAN LEANDRO, CA 94577

ATTN: SCOTT RICE

ANALYSIS: PRIORITY POLLUTANT VOLATILES, TOTAL VOLATILE HYDROCARBONS
PROJECT: GROW GROUP - EMERYVILLE, CA. PROJECT NUMBER: 5679
JOBLINK NUMBER: 802623
SAMPLE TYPE: LIQUID
COLLECTED BY: CLIENT

SAMPLE NO.	SAMPLE POINT	SAMPLE DATE	DATE IN LAB
MB0566	T-W TANK CONTENTS - WATER	03-13-90	03-14-90
MB0567	TC-FP TANK CONTENTS - FREE PRODUCT	03-13-90	03-14-90

This report is "PROPRIETARY AND CONFIDENTIAL" and delivered to, and intended for the exclusive use of the above named client only. Environmental Testing and Certification Corp. assumes no responsibility or liability for the reliance hereon or use hereof by anyone other than the above named client.

The analyses and data interpretation that form the basis of this report were prepared under the direct supervision and control of the undersigned who is solely responsible for the contents and conclusions therein.

Reviewed and Approved by: Thomas F. Cullen Jr.
Thomas F. Cullen Jr., Laboratory Director
ETC/Multi-Tech Laboratories, Inc.

4/12/90
Date

O.H. MATERIALS CORPORATION
APRIL 11, 1990

PROJECT: GROW GROUP - EMERYVILLE, CA. PROJECT NUMBER: 5679

PRIORITY POLLUTANT VOLATILES

SAMPLE NUMBER: MB0566

Date Analyzed: 04-10-90
QC Batch Number: 90-0577

SAMPLE NUMBER: MB0567

Date Analyzed: 04-09-90
QC Batch Number: 90-0577

TOTAL VOLATILE HYDROCARBONS

SAMPLE NUMBER: MB0566

Date Analyzed: 03-18-90
QC Batch Number: 90-0582

SAMPLE NUMBER: MB0567

Date Extracted: 04-03-90
Date Analyzed: 04-03-90
QC Batch Number: 90-0680

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AE .1, 1990

TABLE 1: QUANTITATIVE RESULTS

TOTAL VOLATILE HYDROCARBONS: LOW BOILING FRACTION (ZR35)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Joblink
MB0566	OHM-SAN LEANDRO	5679	1 TC-W	900313	802623

Compound	Results				
	Sample Concen. ug/L	Report DL ug/L	Blank Concen. ug/L	Batch #	
Petroleum Hydrocarbons(light)	15000	5000	ND	Q900582	

APR , 1990

TABLE 1: QUANTITATIVE RESULTS

PRIORITY POLLUTANT VOLATILES (ZR05)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Joblink
MB0566	OHM-SAN LEANDRO	5679	L TC-W	900313	802623

Compound	Results				
	Sample Concen. ug/L	Report DL ug/L	Blank Concen. ug/L	Batch #	
Chloromethane	ND	5000	ND	Q900577	
Bromomethane	ND	5000	ND	Q900577	
Dichlorodifluoromethane	ND	5000	ND	Q900577	
Vinyl chloride	ND	5000	ND	Q900577	
Chloroethane	ND	5000	ND	Q900577	
Methylene chloride	16900	2500	13.2	Q900577	
Acrolein	ND	500000	ND	Q900577	
Acetone	ND	50000	ND	Q900577	
Carbon disulfide	ND	2500	ND	Q900577	
Acrylonitrile	ND	250000	ND	Q900577	
Trichlorofluoromethane	ND	5000	ND	Q900577	
1,1-Dichloroethene	ND	2500	ND	Q900577	
1,1-Dichloroethane	ND	2500	ND	Q900577	
trans-1,2-Dichloroethene	ND	2500	ND	Q900577	
Chloroform	ND	2500	ND	Q900577	
1,2-Dichloroethane	ND	2500	ND	Q900577	
2-Butanone	ND	5000	ND	Q900577	
1,1,1-Trichloroethane	ND	2500	ND	Q900577	
Carbon tetrachloride	ND	2500	ND	Q900577	
Vinyl acetate	ND	5000	ND	Q900577	
Bromodichloromethane	ND	2500	ND	Q900577	
1,2-Dichloropropane	ND	2500	ND	Q900577	
cis-1,3-Dichloropropene	ND	2500	ND	Q900577	
Trichloroethene	ND	2500	ND	Q900577	
Dibromochloromethane	ND	2500	ND	Q900577	
1,1,2-Trichloroethane	ND	2500	ND	Q900577	
Benzene	ND	2500	ND	Q900577	
trans-1,3-Dichloropropene	ND	2500	ND	Q900577	
2-Chloroethylvinyl ether	ND	5000	ND	Q900577	
Bromoform	ND	2500	ND	Q900577	
2-Hexanone	ND	5000	ND	Q900577	
4-Methyl-2-pentanone	ND	5000	ND	Q900577	
Tetrachloroethene	ND	2500	ND	Q900577	
1,1,2,2-Tetrachloroethane	ND	2500	ND	Q900577	
Toluene	ND	2500	ND	Q900577	
Chlorobenzene	ND	2500	ND	Q900577	
Ethylbenzene	ND	2500	ND	Q900577	
Styrene	ND	2500	ND	Q900577	
m-Xylene	ND	2500	ND	Q900577	

TABLE 1: QUANTITATIVE RESULTS

A 10, 1990

PRIORITY POLLUTANT VOLATILES (ZR05)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Joblink
MB0566	OHM-SAN LEANDRO	5679	L TC-W	900313	802623

Compound	Results				
	Sample Concen. ug/L	Report DL ug/L	Blank Concen. ug/L	Batch #	
o+p-Xylenes	ND	2500	ND	Q900577	
1,2-Dichlorobenzene	ND	5000	ND	Q900577	
1,3-Dichlorobenzene	ND	5000	ND	Q900577	
1,4-Dichlorobenzene	ND	5000	ND	Q900577	

This sample was analyzed outside the holding times; therefore the results should be considered minimum values.

TABLE 2: METH(PERFORMANCE DATA

10, 1990

Surrogate Recovery

Chain of Custody Data Required for ETC Data Management Summary Reports					
MB0566	OHM-SAN LEANDRO	5679	L TC-W	900313	0
ETC Sample No.	Company	Facility	Sample Point	Date	Time Hours

Compound	Amount added ug	% Recovery	Control Limits	
			Lower	Upper
VOLATILE FRACTION (GC/MS)				
1,2-Dichloroethane-D4	.250	93	76	114
Bromofluorobenzene	.250	100	86	115
Toluene-D8	.250	104	88	110
BASE/NEUTRAL FRACTION (GC/MS)				
Nitrobenzene-D5	-	-	-	-
2-Fluorobiphenyl	-	-	-	-
Terphenyl-D14	-	-	-	-
ACID FRACTION (GC/MS)				
Phenol-D6	-	-	-	-
2-Fluorophenol	-	-	-	-
2,4,6-Tribromophenol	-	-	-	-
PESTICIDE/PCB FRACTION (GC)				
Dibutylchlorendate	-	-	-	-
Bromochloromethane	-	-	-	-
a,a,a-Trifluorotoluene	-	-	-	-

TABLE 1: QUANTIT. IVE RESULTS

TOTAL VOLATILE HYDROCARBONS: LOW BOILING FRACTION (ZR35)

CHAIN OF CUSTODY DATA REQUIRED FOR ETC DATA MANAGEMENT SUMMARY REPORTS

ETC Sample No.	Company	Facility	Sample Point	Date	Joblink
MB0566	OHM-SAN LEANDRO	5679	L TC-W	900313	802623

Compound	Results				
	Sample Concen. %	Report DL %	Blank Concen.	Batch #	
TVH Stoddard Solvent	90	0.0002	ND	Q900680	

NOTE: SAMPLE CALIBRATED TO STODDARD SOLVENTS.

QC DATA

BLANK SPIKE = 125% RECOVERY.
MATRIX SPIKE & MATRIX SPIKE DUPLICATE = NOTE: THIS SAMPLE CONTAINED COMPOUNDS AT A LEVEL GREATER THAN 1000 PPM; THEREFORE, MATRIX SPIKES DO NOT PROVIDE VALID RECOVERY DATA.

TABLE 1: QUANTITA..VE RESULTS

APR , 1990

PRIORITY POLLUTANT VOLATILES (ZR05)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Joblink
MB0567	OHM-SAN LEANDRO	5679	L TC-FP	900313	802623

Compound	Results			
	Sample Concen. ug/L	Report DL ug/L	Blank Concen. ug/L	Batch #
Chloromethane	ND	100000	ND	Q900577
Bromomethane	ND	100000	ND	Q900577
Dichlorodifluoromethane	ND	100000	ND	Q900577
Vinyl chloride	ND	100000	ND	Q900577
Chloroethane	ND	100000	ND	Q900577
Methylene chloride	1250000	50000	12.0	Q900577
Acrolein	ND	10000000	ND	Q900577
Acetone	ND	1000000	ND	Q900577
Carbon disulfide	ND	50000	ND	Q900577
Acrylonitrile	ND	5000000	ND	Q900577
Trichlorofluoromethane	ND	100000	ND	Q900577
1,1-Dichloroethene	ND	50000	ND	Q900577
1,1-Dichloroethane	ND	50000	ND	Q900577
trans-1,2-Dichloroethene	ND	50000	ND	Q900577
Chloroform	ND	50000	ND	Q900577
1,2-Dichloroethane	ND	50000	ND	Q900577
2-Butanone	ND	100000	ND	Q900577
1,1,1-Trichloroethane	ND	50000	ND	Q900577
Carbon tetrachloride	ND	50000	ND	Q900577
Vinyl acetate	ND	100000	ND	Q900577
Bromodichloromethane	ND	50000	ND	Q900577
1,2-Dichloropropane	ND	50000	ND	Q900577
cis-1,3-Dichloropropene	ND	50000	ND	Q900577
Trichloroethene	ND	50000	ND	Q900577
Dibromochloromethane	ND	50000	ND	Q900577
1,1,2-Trichloroethane	ND	50000	ND	Q900577
Benzene	ND	50000	ND	Q900577
trans-1,3-Dichloropropene	ND	50000	ND	Q900577
2-Chloroethylvinyl ether	ND	100000	ND	Q900577
Bromoform	ND	50000	ND	Q900577
2-Hexanone	ND	100000	ND	Q900577
4-Methyl-2-pentanone	ND	100000	ND	Q900577
Tetrachloroethene	ND	50000	ND	Q900577
1,1,2,2-Tetrachloroethane	ND	50000	ND	Q900577
Toluene	ND	50000	ND	Q900577
Chlorobenzene	ND	50000	ND	Q900577
Ethylbenzene	68300	50000	ND	Q900577
Styrene	ND	50000	ND	Q900577
m-Xylene	299000	50000	ND	Q900577

APR 1990

TABLE 1: QUANTITATIVE RESULTS

PRIORITY POLLUTANT VOLATILES (ZR05)

Chain of Custody Data Required for ETC Data Management Summary Reports					
MB0567	OHM-SAN LEANDRO	5679	L TC-FP	900313	802623
ETC Sample No.	*Company*	*Facility*	*Sample Point*	*Date*	*Joblink*

Compound	*Results*			
	Sample Concen. ug/L	*Report DL ug/L*	*Blank Concen. ug/L*	*Batch #*
o+p-Xylenes	2300000	50000	ND	Q900577
1,2-Dichlorobenzene	ND	100000	ND	Q900577
1,3-Dichlorobenzene	ND	100000	ND	Q900577
1,4-Dichlorobenzene	ND	100000	ND	Q900577

This sample was analyzed outside the holding times; therefore the results should be considered minimum values.

TABLE 2: METHOD . ERFORMANCE DATA

Surrogate Recovery

Chain of Custody Data Required for ETC Data Management Summary Reports						
MB0567	OHM-SAN LEANDRO	5679	L TC-FP	900313		0
ETC Sample No.	Company	Facility	Sample Point	Date	Time	Hours

Compound	Amount added ug	% Recovery	Control Limits	
			Lower	Upper
VOLATILE FRACTION (GC/MS)				
1,2-Dichloroethane-D4	.250	102	76	114
Bromofluorobenzene	.250	106	86	115
Toluene-D8	.250	108	88	110
BASE/NEUTRAL FRACTION (GC/MS)				
Nitrobenzene-D5	-	-	-	-
2-Fluorobiphenyl	-	-	-	-
Terphenyl-D14	-	-	-	-
ACID FRACTION (GC/MS)				
Phenol-D6	-	-	-	-
2-Fluorophenol	-	-	-	-
2,4,6-Tribromophenol	-	-	-	-
PESTICIDE/PCB FRACTION (GC)				
Dibutylchlorendate	-	-	-	-
Bromochloromethane	-	-	-	-
a,a,a-Trifluorotoluene	-	-	-	-

TABLE 1: QUALITY ASSURANCE DATA

A[illegible] 10, 1990

PRIORITY POLLUTANT VOLATILES (ZR05)

Chain of Custody Data Required for ETC Data Management Summary Reports

See Below

ETC Batch No.

Compound	QC Blank and Spiked Data			QC Matrix Spike			QC Duplicate			
	Blank Concen. ug/L	Concen. Added ug/L	% Recov	Unspiked Sample ug/L	Concen. Added ug/L	% Recov	First ug/L	Second ug/L	RPD	Batch #
1,1-Dichloroethene	ND	20.0	111	ND	50.0	90	44.8	47.7	6	Q900577
Trichloroethene	ND	20.0	98	ND	50.0	91	45.6	47.6	4	Q900577
Benzene	ND	20.0	94	ND	50.0	89	44.3	46.6	5	Q900577
Toluene	ND	20.0	98	ND	50.0	93	47.8	50.0	5	Q900577
Chlorobenzene	ND	20.0	98	ND	50.0	93	46.5	48.9	5	Q900577

TABLE 1: QUALITY SURANCE DATA

APR 11, 1990

TOTAL VOLATILE HYDROCARBONS: LOW BOILING FRACTION (ZR35)

Chain of Custody Data Required for ETC Data Management Summary Reports

See Below

ETC Batch No.

Compound	QC Blank and Spiked Data			QC Matrix Spike			QC Duplicate			
	Blank Concen. ug/L	Concen. Added ug/L	% Recov	Unspiked Sample ug/L	Concen. Added ug/L	% Recov	First ug/L	Second ug/L	RPD	Batch #
Petroleum Hydrocarbons(light)	ND	2000	100	15000	100000	98	113000	109000	4	Q900582

OHM Corporation

Environmental Testing
and Certification Corp.

RECEIVED
JUN - 8 1990

JUNE 5, 1990

CLIENT: O.H. MATERIALS CORPORATION
1425 W. NORTH MARKET BLVD.
SUITE #9
SACRAMENTO, CA 95834

ATTN: SCOTT RICE

ANALYSIS: PRIORITY POLLUTANT VOLATILES, TOTAL VOLATILE HYDROCARBONS
PROJECT: GROW GROUP EMERYVILLE, CA. PROJECT NUMBER: 5679
JOBLINK NUMBER: 802947
SAMPLE TYPE: LIQUID & WASTE
COLLECTED BY: CLIENT

SAMPLE NO.	SAMPLE POINT	SAMPLE DATE	DATE IN LAB
MB2121	COMPOSITE SOIL SAMPLE 1- 8 oz. GLASS JAR	05-15-90	05-16-90
MB2122	MW GROUNDWATER SAMPLE 6-40 ml VOA VIALS	05-15-90	05-16-90

The analyses and data interpretation that form the basis of this report were prepared under the direct supervision and control of the undersigned who is solely responsible for the contents and conclusions therein.

Reviewed and Approved by: Thomas F. Cullen Jr., Laboratory Director for
ETC Santa Rosa

6/5/90
Date

O.H. MATERIALS CORPORATION
JUNE 5, 1990

PROJECT: GROW GROUP EMERYVILLE, CA. PROJECT NUMBER: 5679

SAMPLE NUMBER: MB2122

PRIORITY POLLUTANT VOLATILES

Date Analyzed: 05-23-90
QC Batch Number: 90-0950

SAMPLE NUMBER: MB2121

TOTAL VOLATILE HYDROCARBONS

Date Extracted: 05-23-90
Date Analyzed: 05-30-90
QC Batch Number: 90-0902

SAMPLE NUMBER: MB2122

TOTAL VOLATILE HYDROCARBONS

Date Analyzed: 06-01-90
QC Batch Number: 90-1006

pg

JUL 4, 1990

TABLE 1: QUANTITATIVE RESULTS

TOTAL VOLATILE HYDROCARBONS: LOW BOILING FRACTION (ZR35)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Joblink
MB2122	O. H. MATERIALS	5679	L MW	900517	802947

Compound	Results				
	Sample Concen. ug/L	Report DL ug/L	Blank Concen. ug/L	Batch #	
Petroleum Hydrocarbons(light)	57000	1000	ND	Q901006	

The analysis of this sample indicates recovery similar to mineral spirits.

MAY 31, 1990

TABLE 1: QUANTITATIVE RESULTS

TOTAL VOLATILE HYDROCARBONS: LOW BOILING FRACTION (ZR35)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Joblink
MB2121	O. H. MATERIALS	5679	S COMPOSIT	900517	802947

Compound	Results				
	Sample Concen. mg/kg	Report DL mg/kg	Blank Concen. mg/kg	Batch #	
Petroleum Hydrocarbons(light)	250	2.0	ND	Q900962	

- The analysis of this sample indicates the presence of medium to high boiling point hydrocarbons. Such hydrocarbons are typically found in diesel fuel and fuel oils.

MAY 23, 1990

TABLE 1: QUANTITATIVE RESULTS

PRIORITY POLLUTANT VOLATILES (ZR05)

Chain of Custody Data Required for ETC Data Management Summary Reports					
MB2122	O. H. MATERIALS	5679	L MW	900517	802947
ETC Sample No.	*Company*	*Facility*	*Sample Point*	*Date*	*Joblink*

Compound	*Results*				
	Sample Concen. ug/L	*Report DL ug/L*	*Blank Concen. ug/L*	*Batch #*	
1,3-Dichlorobenzene	ND	10.0	ND	Q900950	
1,4-Dichlorobenzene	ND	10.0	ND	Q900950	
m+p-Xylenes	ND	5.00	ND	Q900950	
o-Xylene	ND	5.00	ND	Q900950	

Surrogate recovery for Bromofluorobenzene was outside the acceptable range. Analysis of the sample showed substantial matrix interference due to the presence of hydrocarbons. This was confirmed by re-analysis.

TABLE 1: QUANTITATIVE RESULTS

M[illegible] 23, 1990

PRIORITY POLLUTANT VOLATILES (ZR05)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Joblink
MB2122	O. H. MATERIALS	5679	L MW	900517	802947

Compound	Results			
	Sample Concen. ug/L	Report DL ug/L	Blank Concen. ug/L	Batch #
Chloromethane	ND	10.0	ND	Q900950
Bromomethane	ND	10.0	ND	Q900950
Dichlorodifluoromethane	ND	10.0	ND	Q900950
Vinyl chloride	ND	10.0	ND	Q900950
Chloroethane	ND	10.0	ND	Q900950
Methylene chloride	11.4	5.00	13.9	Q900950
Acrolein	ND	1000	ND	Q900950
Acetone	ND	100	ND	Q900950
Carbon disulfide	ND	5.00	ND	Q900950
Acrylonitrile	ND	500	ND	Q900950
Trichlorofluoromethane	ND	10.0	ND	Q900950
1,1-Dichloroethene	ND	5.00	ND	Q900950
1,1-Dichloroethane	ND	5.00	ND	Q900950
trans-1,2-Dichloroethene	ND	5.00	ND	Q900950
Chloroform	ND	5.00	ND	Q900950
1,2-Dichloroethane	ND	5.00	ND	Q900950
2-Butanone	ND	10.0	ND	Q900950
1,1,1-Trichloroethane	ND	5.00	ND	Q900950
Carbon tetrachloride	ND	5.00	ND	Q900950
Vinyl acetate	ND	10.0	ND	Q900950
Bromodichloromethane	ND	5.00	ND	Q900950
1,2-Dichloropropane	ND	5.00	ND	Q900950
cis-1,3-Dichloropropene	ND	5.00	ND	Q900950
Trichloroethene	ND	5.00	ND	Q900950
Dibromochloromethane	ND	5.00	ND	Q900950
1,1,2-Trichloroethane	ND	5.00	ND	Q900950
Benzene	ND	5.00	ND	Q900950
trans-1,3-Dichloropropene	ND	5.00	ND	Q900950
2-Chloroethylvinyl ether	ND	10.0	ND	Q900950
Bromoform	ND	5.00	ND	Q900950
2-Hexanone	ND	10.0	ND	Q900950
4-Methyl-2-pentanone	ND	10.0	ND	Q900950
Tetrachloroethene	ND	5.00	ND	Q900950
1,1,2,2-Tetrachloroethane	ND	5.00	ND	Q900950
Toluene	ND	5.00	ND	Q900950
Chlorobenzene	ND	5.00	ND	Q900950
Ethylbenzene	ND	5.00	ND	Q900950
Styrene	ND	5.00	ND	Q900950
1,2-Dichlorobenzene	ND	10.0	ND	Q900950

TABLE 2: METHOD PERFORMANCE DATA

MAY 23, 1990

Surrogate

Chain of Custody Data Required for ETC Data Management Summary Reports						
MB2122	O. H. MATERIALS	5679	L MW	900517		0
ETC Sample No.	Company	Facility	Sample Point	Date	Time	Hours

Compound	Amount added ug	% Recovery	Control Limits	
			Lower	Upper
VOLATILE FRACTION (GC/MS)				
1,2-Dichloroethane-D4	.250	84	76	114
Bromofluorobenzene	.250	199	86	115
Toluene-D8	.250	102	88	110
BASE/NEUTRAL FRACTION (GC/MS)				
Nitrobenzene-D5	-	-	-	-
2-Fluorobiphenyl	-	-	-	-
Terphenyl-D14	-	-	-	-
ACID FRACTION (GC/MS)				
Phenol-D6	-	-	-	-
2-Fluorophenol	-	-	-	-
2,4,6-Tribromophenol	-	-	-	-
PESTICIDE/PCB FRACTION (GC)				
Dibutylchlorendate	-	-	-	-
Bromochloromethane	-	-	-	-
a,a,a-Trifluorotoluene	-	-	-	-

TABLE 1: QUALITY ASSURANCE DATA

MAY 23, 1990

PRIORITY POLLUTANT VOLATILES (ZR05)

Chain of Custody Data Required for ETC Data Management Summary Reports

See Below

ETC Batch No.

Compound	QC Blank and Spiked Data			QC Matrix Spike			QC Duplicate			
	Blank Concen. ug/L	Concen. Added ug/L	% Recov	Unspiked Sample ug/L	Concen. Added ug/L	% Recov	First ug/L	Second ug/L	RPD	Batch #
1,1-Dichloroethene	ND	20.0	101	ND	50.0	89	44.4	41.1	7	Q900950
Trichloroethene	ND	20.0	105	ND	50.0	107	53.3	52.2	2	Q900950
Benzene	ND	20.0	100	ND	50.0	89	44.6	42.9	4	Q900950
Toluene	ND	20.0	104	ND	50.0	103	51.3	52.9	3	Q900950
Chlorobenzene	ND	20.0	96	ND	50.0	107	53.7	56.5	5	Q900950

Surrogate recovery for Bromofluorobenzene was outside the acceptable range on the Matrix Spike and Matrix Spike Duiplicate due to substantial matrix interference from hydrocarbons present in the sample. This was confirmed by re-analysis.

MA 31, 1990

TABLE 1: QUALITY ..SSURANCE DATA

TOTAL VOLATILE HYDROCARBONS: LOW BOILING FRACTION (ZR35)

Chain of Custody Data Required for ETC Data Management Summary Reports

See Below

ETC Batch No.

Compound	QC Blank and Spiked Data			QC Matrix Spike			QC Duplicate			
	Blank Concen. mg/kg	Concen. Added mg/kg	% Recov	Unspiked Sample mg/kg	Concen. Added mg/kg	% Recov	First mg/kg	Second mg/kg	RPD	Batch #
Petroleum Hydrocarbons(light)	ND	100	105	45	100	33	78	86	10	Q900962

The recoveries on replicate spikes are not within three standard deviations of our data base average, indicating possible matrix interference.

TABLE 1: QUALITY ASSURANCE DATA

JUN 4, 1990

TOTAL VOLATILE HYDROCARBONS: LOW BOILING FRACTION (ZR35)

Chain of Custody Data Required for ETC Data Management Summary Reports

See Below

ETC Batch No.

Compound	QC Blank and Spiked Data			QC Matrix Spike			QC Duplicate			
	Blank Concen. ug/L	Concen. Added ug/L	% Recov	Unspiked Sample ug/L	Concen. Added ug/L	% Recov	First ug/L	Second ug/L	RPD	Batch #
Petroleum Hydrocarbons(light)	ND	2000	115	ND	2000	85	1700	1900	11	Q901006

OHM

CHAIN-OF-CUSTODY RECORD

Form 9019
Field [illegible]hnical Services
Rev. 03/88

No. 49031

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME	PROJECT LOCATION
Grow Group	Emeryville, CA

PROJ. NO.	PROJECT CONTACT	PROJECT TELEPHONE NO.
5679	Scott Rice	9169281819

CLIENT'S REPRESENTATIVE	PROJECT MANAGER/SUPERVISOR
Henry Jones	Scott Rice

ITEM NO	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS): Mod EPA 8015 (Light); EPA Method 624	REMARKS
1	Composite	5/15	0900	✓		Composite soil sample 1 - 8oz glass jar	1	✓	MB2121
2	MW	5/15	1300		✓	Groundwater Sample 6 - 40ml VOA vials	6	✓ ✓	Sediment in vials MB2122
3									
4									
5									
6									
7									
8									
9									
10									

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	—	—	FED-EX		
2	1-2	FED-EX	[signature]	5/20/91	1130
3					
4					

REMARKS
Normal Turn Around Time
ETC Multitech - Santa Rosa, CA

Results to:
Scott Rice, O.H. Materials
1425 N Market Blvd #9
Sacramento CA 95834

SAMPLER'S SIGNATURE: Scott Rice

A Subsidiary of Environmental Treatment and Technologies Corp.
The Environmental Services Company

LAB COPY

APPENDIX B

HAZARDOUS WASTE MANIFEST FOR TANK WASTE DISPOSAL

State of California—Health and Welfare Agency
Approved OMB No. 2050—0039 (Expires 9-30-91)
Please print or type. *(Form designed for use on elite (12-pitch typewriter).*

Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: CAD000626389 | Manifest Document No.: 00001 | 2. Page 1 of 1 | Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: GROW GROUP, INC. 4000 Dupont Circle, Louisville, KY 40207
4. Generator's Phone (502) 893-1441

A. State Manifest Document Number: 90003918
B. State Generator's ID

5. Transporter 1 Company Name: H & H Ship Service Company | 6. US EPA ID Number: CAD004771168
C. State Transporter's ID: 103561
D. Transporter's Phone: (415) 543-4835

7. Transporter 2 Company Name | 8. US EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address: SOLVENT SERVICE CO., INC. 1021 Berryessa Road San Jose, CA 95133 | 10. US EPA ID Number: CAD059494310
G. State Facility's ID: CAD059494310
H. Facility's Phone: (408) 453-6046

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. HAZARDOUS WASTE LIQUID, N.O.S. ORM-E NA 9189	[illegible]	[illegible]	[illegible]	[illegible]	State 135 EPA/Other
b.					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above

K. Handling Codes for Wastes Listed Above: a. b. c. d.

15. Special Handling Instructions and Additional Information
SSI#HWL2002
JOB SITE: GROW GROUP, INC. 41st & Linden Emeryville, CA
APPROPRIATE PROTECTIVE CLOTHING AND RESPIRATOR

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: HENRY JONES | Signature: [signature] | Month Day Year: 04 02 90

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: RAYMOND L. JIMENEZ | Signature: [signature] | Month Day Year: 04 02 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name | Signature | Month Day Year

DHS 8022 A (1/88)
EPA 8700—22
(Rev. 9-88) Previous editions are obsolete.

Do Not Write Below This Line

YELLOW: GENERATOR RETAINS

APPENDIX C

MONITOR WELL LITHOLOGIC LOG AND WELL CONSTRUCTION

SG Results - Supplemental Soil Gas Investigation

Purpose
Procedures
Results
Conclusions

Intro
- Background
- Objective

Procedures
- Field
- Analytical

Results
- 3 AOC
- 4 Depths
- NDs correlation - vacuum, lithology ?
- pattern consist w/ gw flow ?

Conclusions
- Sources
- Extent
- RAP

PART 1

PAGE 1 OF 1

JOB NO. 5679

BORE HOLE NO. MW

PROJECT: Grow Group Inc.

LOCATION: — Emeryville, CA

DRILLING CONTRACTOR: Aqua Science Engineering

DRILLING EQUIPMENT: truck-mounted solid stem

HYDROGEOLOGIST: Scott Rice

DRILLER:

DATE START/TIME: 5/15/90 0800

DATE FINISH/TIME: 5/15/90 1200

SURFACE ELEVATION:

TOTAL DEPTH: 22 feet

WELL CASING: 2" Schedule 40 P

SCREEN TYPE: 2" Sched. 40 PVC

LENGTH: 5 feet

SLOT: 0.010-inch

GROUND WATER

DATE	TIME	DEPTH	WEATHER
5/15/90	1349	7.76 feet	

	CASING	CORE	SAMPLER	TUBE
TYPE				
DIAMETER				
HAMMER WT.				
FALL				

REMARKS

BORE HOLE LOG

DEPTH	SAMPLE NUMBER	BLOW COUNT PER 6'	RECOVERY	LITHOLOGIC DESCRIPTION	REMARKS	GRAPHIC LOG
				CL - slightly sandy clay, dark gray to black, moist, plastic, moderately firm		
				CL - slightly sandy clay, dark gray to black, moist, 10-15% sand, plastic, moderately firm		
				CL - silty clay, greenish gray, moist, 30% silt, trace sand, moderately firm, moderate plasticity		
10				ML/CL - clayey silty and silty clay, greenish gray, moist, 20% fine to medium sand, firm, low plasticity, iron stained zones		
				ML/CL SM/SC - sandy silt and clay, olive gray, moist, 30-40% sand, 60-70% silt and clay, poorly sorted, subangular particles to 5 mm diameter, moderately firm but friable, not plastic	first water; driller notes softer sediments	
15				ML SM - sandy silt, greenish gray to brown, moist, 30% sand, poorly sorted, soft, low plasticity		
				ML SM - sandy silt, medium brown, moist, 30% sand, poorly sorted, soft, low plasticity		
20				ML SM - sandy silt, light brown, mosit, 30% sand, poorly sorted, soft, not plastic, <10% clay		
				Total Depth of Borehole	Total Depth	
25				Well Construction CASING 20' to 15' - 0.010" slotted PVC casing 15' to grade - blank sched. 40 PVC casing ANNULAR SPACE MATERIALS 21.5' to 14' - #2-16 grade sand filter pack 14' to 12' - bentonite seal 12' to grade - cement/bentonite grout		
30						