

**SUPPLEMENTAL INVESTIGATION
501 SAN PABLO AVENUE
ALBANY, CALIFORNIA**

FOR

**LA MANCHA DEVELOPMENT COMPANY
100 WEBSTER STREET, SUITE 300
OAKLAND, CALIFORNIA**

FILE NO. 92284-ASA

MARCH 1992



ADVANCE SOIL TECHNOLOGY, INC.

Contamination, Monitoring Well, Soil, Foundation & Geological Services
12340 S. Saratoga-Sunnyvale Rd., Unit 4, Saratoga, CA 95070 (408) 446-0809 FAX (408) 446-0349

File No. 92284-ASA
March 17, 1992

La Mancha Development Company
100 Webster Street, Suite 300
Oakland, Ca 94607

ATTENTION: Mr. Linnard Lane

Subject: Proposed Retail Development
501 San Pablo Avenue
Albany, California
SUPPLEMENTAL DATA TO PHASE I SITE ASSESSMENT

Gentlemen:


Per your request, we are presenting herein the results of our supplemental data to phase I investigation for the subject property located at 501 San Pablo Avenue in Albany, California.


As of our phone conversation, the purpose of this supplemental investigation was to collect additional information concerning the subject property and perform limited soil and groundwater sampling to provide additional information to the original site assessment report that was prepared by Enviropro Inc.

This report summarizes our findings based on the field and laboratory analyses of the materials encountered in the exploratory borings.

If you have any questions or require additional information, please feel free to contact us at your convenience.

Very truly yours,
ADVANCE SOIL TECHNOLOGY, INC.


Mohsen Mahdavi
Project Engineer


Alex A. Kassai, P.E.
MM/AAK/BP

Copies: 3 To La Mancha Development Company

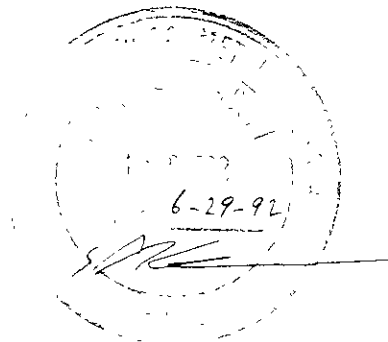


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SUPPLEMENTAL DATA FOR PHASE I SITE ASSESSMENT

FOR

PROPOSED RETAIL DEVELOPMENT

501 SAN PABLO AVENUE

ALBANY, CALIFORNIA

1.0 INTRODUCTION

The preliminary site assessment report was prepared for the subject site by Enviropro, Inc. and was presented in their technical report, project no. 110188 dated November 26, 1991.

In accordance with the Bank of America letter of January 30, 1992, additional information is required prior to environmental clearance for the subject property. This report is produced to provide supplemental data for the subject property.

This report presents and explains the details of this investigation, laboratory testing results, conclusions based on the field and laboratory data, and recommendations for further actions at the site.

The locations of the site is shown in Figure 1 and 2 of this report.

Figure 1, is the site plan for the subject property indicating the approximate locations of our exploratory borings drilled at the site.

1.1 SITE DESCRIPTION

The subject site is located south of Brighton Avenue at its intersection with San Pablo Avenue in Albany, California. The subject property was occupied by a one story stucco building and associated parking areas (refer to Figure 2 for site location). The building was vacant at the time of this investigation and was not being used for any special purpose. The site is bounded on the north by Brighton Avenue, on the west by San Pablo Avenue, On the east by single family residence, and on the south by a commercial building that is

utilized as a restaurant.

The general description referred to in this report is based on a site reconnaissance and site plan furnished to us by our client.

1.2 PURPOSE OF INVESTIGATION

As was mentioned earlier, this supplemental investigation is prepared to provide additional information concerning the subject property and determine if subject property is free of contamination from previous uses of the property. This investigation included collection of soil and groundwater samples from the site, aerial photo review, and limited regulatory agencies file review. Extensive public record were documented by Enviropro Inc., in their site assessment report for the site.

An investigative program was developed to collect the informations mentioned above and are presented in the following pages of this report.

1.3 METHODS OF INVESTIGATION

Advanced Soil Technology's investigation consisted of review of limited public record, available aerial photos concerning the site and vicinity; soil and groundwater sampling, and interview with longtime residents of the area.

1.4 PUBLIC RECORDS REVIEW

Review of the public records for the site and vicinity was presented in the original site assessment report prepared by Enviropro, inc. Public records review performed by our firm was limited to investigation of any new data that could be obtained from San Francisco Bay Regional Water Quality Control Board and Alameda County Department of Environmental Health concerning the underground storage tank that was removed from the site.

1.5 FIELD OBSERVATION

During our site reconnaissance, we did not detect any signs of spills or usage of hazardous substances at the site. Our site reconnaissance detected a monitoring well at the north side of the subject property, in the sidewalk area adjacent to Brighton Avenue. From review of the existing data, it is our understanding that the subject monitoring well was installed to monitor the groundwater at the location of the previous underground storage tank that was removed from this area.

1.6 VICINITY SITE USES

Vicinity site uses consist of residential and commercial developments. Our site reconnaissance revealed residential developments to the east, a restaurant on the south, fast food hamburger place and Goodyear tire on the north across Brighton Avenue, and commercial developments on the west across San Pablo Avenue.

2.0 Field Investigation

Total of three exploratory borings were drilled at the site on February 24, 1992 to the depth of 15 feet below the existing ground surface at the locations indicated in Figure 2. The borings were advanced with a truck mounted drill rig utilizing a six inch diameter continuous flight auger. Soil samples were extracted as the borings progressed by driving a modified california split spoon sampler into the ground. A 140 pound hammer with a free fall of 30 inches were utilized to drive the sampler into the ground. Samples were retained within brass liners inside the split spoon sampler. A soil filled liner from each sampled interval was removed from the spoon, wrapped in foil, sealed with plastic caps, then placed on ice for transport (under chain-of-custody documentation) to a State Certified Laboratory. Prior to drilling, all drilling equipments were steam cleaned and all brass liners and sampling equipment were thoroughly washed in Alconox solution and rinsed with deionized water to minimize contamination of the borings. Drill cuttings were stockpiled at the site and covered by plastic. This material shall be properly disposed of in an appropriate disposal or at the site by the owner based on the results of the laboratory analysis.

2.1 GROUNDWATER SAMPLING

Groundwater samples were collected from two bore holes B-1(TMW-1), B-3(TMW-2), and the existing monitoring well MW-HS. After borings B-1 and B-3 were drilled to the designated depth, augers were pulled-out and 0.020 slotted screen and blank threaded PVC pipes were dropped in the hole and sand were placed in the hole and around the pipe. After placement of PVC pipes in the hole, the temporary wells were purged utilizing a clean teflon bailer. The groundwater inside the bailer was inspected for any sign of floating product or sheen. Approximately five volume of the well were purged prior to groundwater sampling. Groundwater was then bailed-out and poured into proper 40 ml containers for transport to a State certified analytical laboratory. After proper sampling of the groundwater, PVC pipes were removed from the bore holes and then the holes were backfilled with grout.

Groundwater samples were then placed on ice and transported to the laboratory under the chain-of-custody documentation.

2.2 LABORATORY METHODS

State-Certified Anametrix laboratory, performed analytical testing on soil and groundwater samples collected from the site. Total of four soil samples, two from boring B-1 and two from boring B-3 were transported to the laboratory for analysis. The two samples from each boring were composited in the laboratory and then were analyzed for Zinc, Tin and Lead. Three groundwater samples were analyzed for total petroleum hydrocarbons and BTEX (Benzene, Toluene, Ethyl-Benzene, and Xylenes).

A copy of Anametrix laboratory report is presented in Appendix "B" of this report.

2.3 SOIL PROFILE

Exploratory borings drilled at the site revealed a layer of highly expansive black clay that extended to the depth of approximately five feet below the surface. This soil was moist and firm. At this point a light brown silty clay soil was encountered in the boring which was less expansive and extended to the depth of approximately 9 to 10 feet below the surface. A brown gravelly silty clay was encountered in the borings that extended to the depth of 13 to 14 feet below the surface. This soil was moist and medium dense. A layer of gray sandstone was encountered in the borings that extended to the bottom of the exploratory borings.

Groundwater was detected at depth 10 to 11.5 feet below the surface. Figures 3 through 5 in appendix "A" are the logs of exploratory borings at the site.

3.0 FINDINGS OF INVESTIGATION

3.1 PUBLIC RECORDS

As was mentioned earlier in this report, limited public record search was conducted for the site and vicinity because of the public records information presented in Enviropro report prepared for the subject property. Most of our effort was concentrated on obtaining documents in regard to the removal of the previous underground storage tank from this property and obtaining information about groundwater flow direction and its gradient from the sites at the vicinity of this property.

No records could be located at the San Francisco Bay Regional Water Quality Control Board for the subject site despite many efforts by our staff.

Contacts with Alameda County Department of Environmental Health did not reveal any additional information concerning the site.

No documents could be obtained to indicate the type of monitoring that shall be conducted at the subject property due to removal of the previous underground storage tank.

3.2 AERIAL PHOTO REVIEW

Available historical aerial photos for the subject property and vicinity were reviewed by our firm at Pacific Aerial Survey in Oakland, California.

Available photos from year 1947 to present were reviewed by our firm for the subject site and vicinity. No photos prior to 1947 could be obtained for the site and vicinity. The following stereo photos were reviewed by our firm for the site:

3/24/1947 AV-11-03-08 & 09
3/31/1949 AGV-921

8/14/1953 AV-119-08-19 & 20
5/02/1969 AV-902-07-11 & 12
5/06/1975 AV-1193-07-10 & 11
1981 AV-2040-07-13
6/12/1990 AV-3845-6-13 & 14

Review of the above-mentioned photos did not reveal storage or activities such as gas-stations at the site which may have caused hazardous conditions at the property. These photos revealed residential and commercial developments at the vicinity of the site. No heavy industrial activities were observed by us at the vicinity of the site during this review.

3.2.1 INTERVIEW WITH NEIGHBORS

We have contacted some of the long time resident of the area in regard to the usage of the property in the past. They have indicated that the property was utilized as sheet metal fabrication as far as they remember. They do not recall any other business activity that was performed at the site beside the sheet metal fabrication.

3.2.2 LABORATORY TEST RESULTS

The laboratory test results on the soil samples collected from the site, at the locations of our exploratory borings revealed insignificant amount of Zinc, Tin, and Lead in the soil in accordance with Title 22 of State of California Administrative Code.

Laboratory analyses performed on the groundwater samples collected from the temporary wells and monitoring well revealed the following compounds in the groundwater:

SAMPLE NO.	COMPOUNDS	CONCENTRATIONS	DETECTION LIMITS
	(ppb)	(ppb)	(ppb)
MW-HS	TPH-G	670	50
	Benzene	3.9	0.50
	Toluene	4.9	0.50
	Ethyl-Benzene	16	0.50
	Xylenes	11	0.50
MW-1	TPH-G	ND	50
	Benzene	ND	0.50
	Toluene	ND	0.50
	Ethyl-Benzene	ND	0.50
	Xylenes	ND	0.50
MW-2	TPH	ND	50
	Benzene	ND	0.50
	Toluene	ND	0.50
	Ethyl-Benzene	ND	0.50
	Xylenes	ND	0.50

3.2.3 ASBESTOS

Asbestos study for the subject site was performed by Robert Gils Associates, Inc., and was presented in their report of November 18, 1991. A copy of this report is presented in Appendix "C" of this report.

3.2.4 ABOVE-GROUND STORAGE TANK

Our site reconnaissance and aerial photo review did not reveal above-ground storage tank at the subject property in the past and at the present time.

3.2.5 AIR EMISSIONS

Because of the type of operation at the subject property, no hazardous air emissions were released to the atmosphere.

3.2.6 RADON

Scientific sources outlined in "Reference" section of this report were reviewed in our investigation to define the "RADON" conditions in the soil at the subject property.

Our review of the sources mentioned above and the type of soils encountered at the site does not indicate that "RADON" can be a problem at the site.

No evidence of Radon emissions has been documented at the vicinity of the site and within the subject area.

3.2.7 PESTICIDES AND HERBICIDES

Heavy agricultural activities have not been revealed at the site or vicinity to indicate usage of pesticides and herbicides at the subject property.

3.2.8 WASTE GENERATION AND DISPOSAL

No special permits were issued to the site for any hazardous waste disposal. Our discussion with the representative of the owner revealed that the only material generated from the operation at the site was metal scraps which was sold to metal scrap shop.

4.0 GROUNDWATER FLOW DIRECTION

Records review in San Francisco Bay Regional Water Quality Control Board for the sites in the vicinity of the subject property revealed groundwater flow direction toward south to southwest. Preliminary survey of temporary wells at the site revealed groundwater flow direction toward west-northwest. Groundwater elevation data for existing monitoring well MW-HS was not utilized in the evaluation of the groundwater flow because of perched water conditions in that well.

Summary of groundwater data is outlined in TABLE I of Appendix "A".

5.0 DISCUSSIONS

The laboratory test results on the soil samples collected from the site at the location of the exploratory borings revealed insignificant concentrations of Zinc, Tin, and Lead; below the action levels established by Title 22 of California Administrative Code, Environmental Health as was discussed in the preceding section of this report. Concentration of Total Petroleum Hydrocarbons and BTEX (Benzene, Toluene, Ethyl-Benzene, and Xylenes) were detected in only one out of three groundwater samples that were collected from existing monitoring well and two other temporary wells at the site. Petroleum compounds were detected only in the sample collected from the monitoring well installed within the previous underground storage tank at the site. Review of the recent test results with previous test results from the same monitoring well suggests that the concentrations of these compounds are getting lower in the groundwater. It appears that the conditions of the groundwater at

this location is improving based on the fact that the source of contamination has been removed from the site.

During our search of public records and field investigations, no other factors of concern were detected at the site which could have resulted in the contamination of the site.

6.0 RECOMMENDATION

Quarterly groundwater monitoring be performed at the location of the existing monitoring well(MW-HS) at the site to monitor the concentration of petroleum compounds in the groundwater.

7.0 REPORTAGE

It is the responsibility of the owner to supply a copy of this report to the San Francisco Bay Regional Water Quality Control Board (RWQCB) and Alameda County Department of Environmental Health for their comments and additional requirements.

8.0 LIMITATIONS

This study was a limited study and within the limits prescribed by our client and for analyses mentioned in this report, after being prepared in accordance with the standards of care exercised by members of our profession currently practicing under similar conditions.

The laboratory analyses were performed on the soil and groundwater samples that were collected at the location of the borings shown in Figure 2. It is possible that variation in the soil and groundwater may exist beyond the points explored in our investigation. Despite reasonable care during our investigation, we may fail to detect hazardous substances or underground tanks at the site.

This document and the information contained herein have been prepared solely for the use of La Mancha Development Company.

It should be recognized that the environmental evaluations are not an exact science and the conclusions are made with an incomplete knowledge or the conditions present at the site.

More extensive studies will reduce the uncertainty associated with these studies.

The results of the laboratory analysis presented in this report were obtained from the samples obtained at the time of this investigation and at the locations mentioned in our report.

Please note that it is the responsibility of the owner or his representative to report the contamination of soil and groundwater to the appropriate agencies in a timely manner. No other warranty, expressed or implied, is made.

REFERENCES

San Francisco Bay Regional Water Quality Control Board, North Bay Site Management System.

San Francisco Bay Regional Water Quality Control Board, North Bay Fuel Leaks.

Alameda County Department Of Environmental Health, Hazardous Waste Management.

Pacific Aerial Survey, Oakland, California.

United States Department of The Interior, Geological Survey. Indoor Radon and its sources in the ground., by Allan B. Tanner, open file report 86-222, dated 1986.

Institute for environmental studies, college of New Jersey, Radon and the environment, by William J. Makofske and Michael R. Edelstein., 1988.

Title 22 of California Administrative Code, Environmental Health.

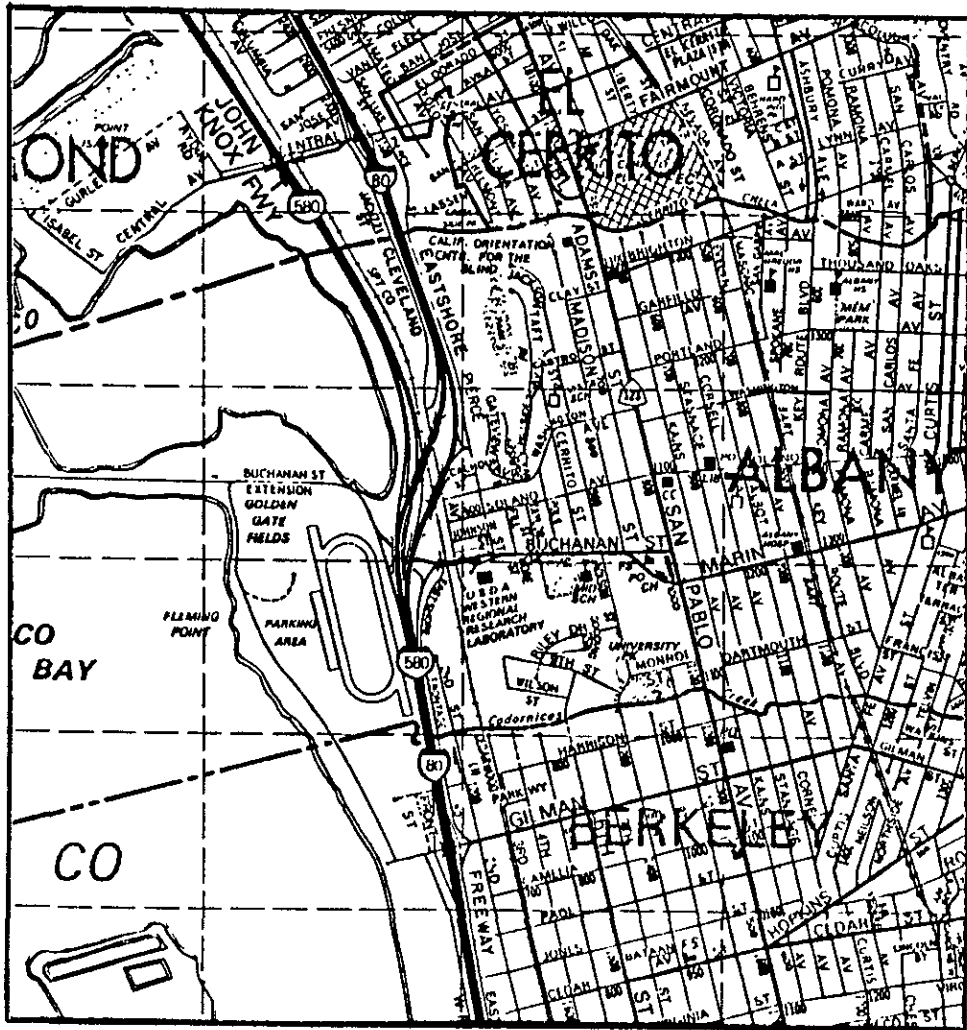
APPENDIX "A"

VICINITY MAP

SITE PLAN

BORING LOGS

GROUNDWATER DATA



TOMAS BROS. MAP
ALAMEDA COUNTY 1991

PAGE 1, SQUARE D-2

Project: 92284-ASA

VICINITY MAP

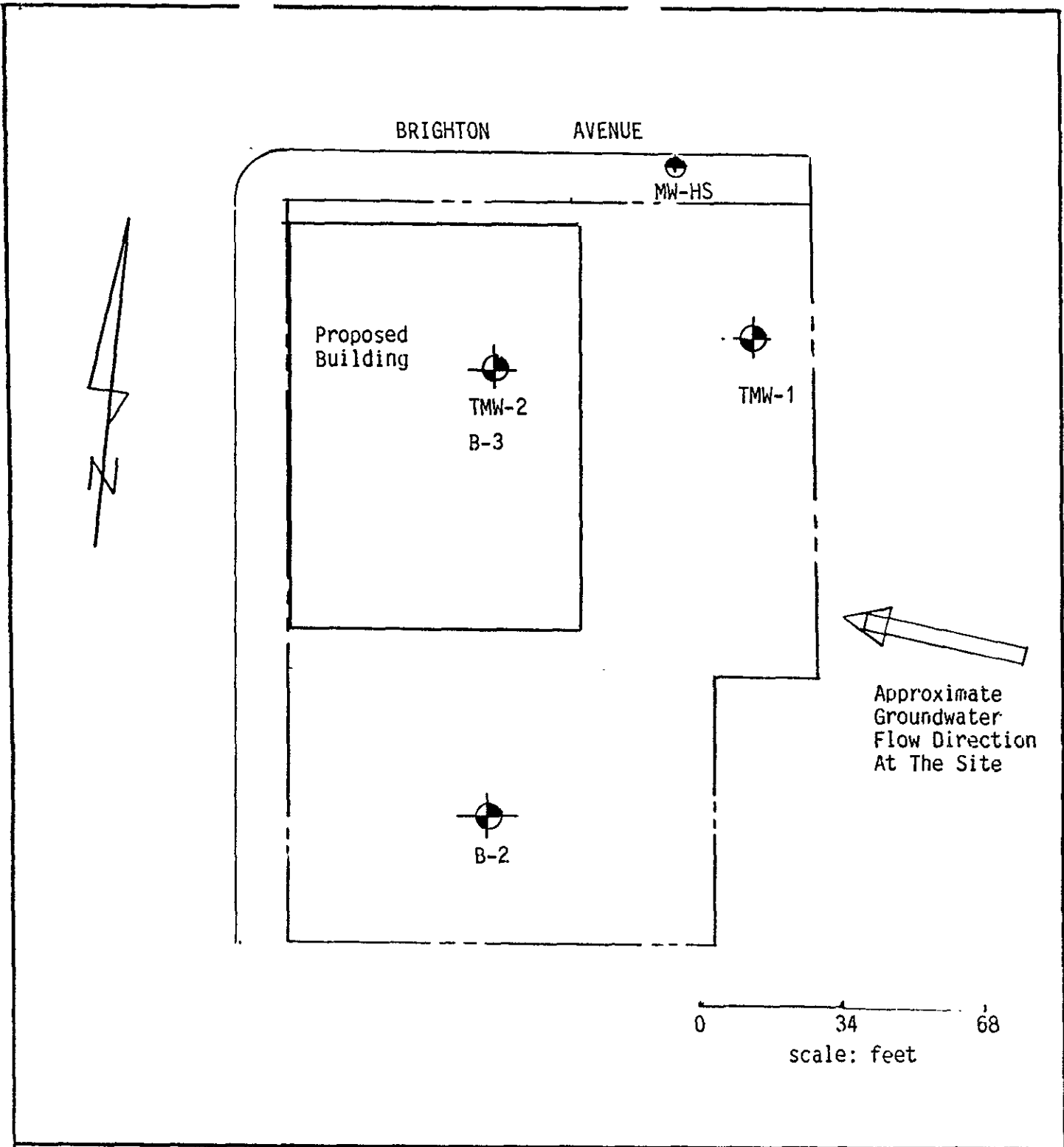
Date: March 92

Figure: 1



ADVANCE SOIL TECHNOLOGY, INC.

Contamination, Monitoring Well, Soil, Foundation & Geological Services
12340 S. Saratoga-Sunnyvale Rd., Unit 4, Saratoga, CA 95070 (408) 446-0809



Project: 92284-ASA

SITE PLAN

Date: March 1992



ADVANCE SOIL TECHNOLOGY, INC.

Contamination, Monitoring Well, Soil, Foundation & Geological Services
 12340 S. Saratoga-Sunnyvale Rd., Unit 4, Saratoga, CA 95070 (408) 446-0609

Figure: 2

Date Drilled: 2/24

Logged By: A.K.

Boring No. TMW-1

DESCRIPTION	Sample	Depth (Feet)	Sample No.	Dry Density (p.c.f)	Water % Content	Penetration Resistance (Blows/Foot)	Direct Shear	
							" ϕ " Degree	"C" Cohesion
Concrete slab								
Black silty clay, moist, firm, Highly expansive Color change to lighter brown, less expansive,	X		1-1			10		
	X	5	1-2			12		
mottled brown silty clay, moist, stiff, Gravelly clay, moist, stiff, ∇	X	10	1-3			34		
Sandstone Rock fragments, dense,		15						
Exploratory boring terminated at 15 feet		20						
		25						
		30						

EXPLORATION BORING LOG

SAN PABLO AVENUE AND
BRIGHTON AVE
ALBANY, CALIFORNIA

Project NO. 92284-S

Figure: 3



ADVANCE SOIL TECHNOLOGY, INC.

Date Drilled: 2/24/5_

Logged By: A.K.

Boring No. B-2

DESCRIPTION	Sample	Depth (Feet)	Sample No.	Dry Density (p.c.f)	Water % Content	Penetration Resistance (Blows/Foot)	Direct Shear	
							" ϕ " Degree	"C" Cohesion
Black silty clay, moist, stiff,		5						
Color change to lighter brown, moist, stiff,		10						
Brown gravelly silty clay, moist, stiff Sandy gravel, moist, medium dense,		15						
Weathered sandstone, medium dense,		20						
Exploratory boring terminated at 15 feet		25						
		30						

EXPLORATION BORING LOG

SAN PABLO AVENUE AND
BRIGHTON AVE
ALBANY, CALIFORNIA



ADVANCE SOIL TECHNOLOGY, INC.

Project NO. 92284-S

Figure: 4

Date Drilled: 2/24, 1

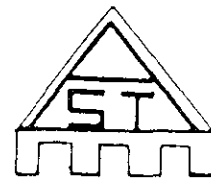
Logged By: A.K.

Boring No. TMW-2
B-3

DESCRIPTION	Sample	Depth (Feet)	Sample No.	Dry Density (p.c.f)	Water % Content	Penetration Resistance (Blows/Foot)	Direct Shear	
							"φ" Degree	"C" Cohesion
Concrete slab	⊗		3-1			14		
Black silty clay, moist, stiff, Color change to lighter brown, clay, moist, stiff,	⊗	5	3-2			16		
Gray silty sand with gravel and clay binder,	⊗	10						
Gray silty sand with rock fragments, Sandstone, very hard,	⊗	15						
Exploratory boring terminated at 15 feet		20						
		25						
		30						

EXPLORATION BORING LOG

SAN PABLO AVE NUE AND
BRIGHTON AVE
ALBANY, CALIFORNIA



ADVANCE SOIL TECHNOLOGY, INC.

Project NO. 92284-S

Figure: 5

TABLE I
GROUNDWATER ELEVATION DATA

<u>LOCATION</u>	<u>TOP OF WELLS</u>	<u>ELEV.</u>	<u>DEPTH TO WATER</u>	<u>GROUNDWATER ELEV.</u>
		<u>ft.</u>	<u>ft.</u>	<u>ft.</u>
TMW-1	BM	25.40	8.33	17.07
TMW-2		25.62	9.70	16.70
B-2		24.60	8.10	16.50

- * Elevations mentioned above are based on the assumed bench mark elevation of 25.40 for TMW-1.
- * Monitoring of the groundwater based on the above information revealed groundwater flow toward west-northwest direction.

APPENDIX "B"

LABORATORY REPORTS

CHAIN-OF-CUSTODY

ANAMETRIX INC

Environmental & Analytical Chemistry
 1961 Concourse Drive, Suite E, San Jose, CA 95131
 (408) 432 8192 • Fax (408) 432 8198

**REPORT**

MR. ALI KASSAI
 ADVANCE SOIL TECHNOLOGY, INC.
 12340 S. SARATOGA-SUNNYVALE ROAD, UNIT 4
 SARATOGA, CA 95070

Workorder # : 9202271
 Date Received : 02/25/92
 Project ID : 92284-SC
 Purchase Order: N/A

The following samples were received at Anamatrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9202271- 1	1-1,1-2
9202271- 2	3-1,3-2
9202271- 3	MW-1
9202271- 4	MW-2
9202271- 5	MW-HS

This report consists of 6 pages not including the cover letter, and is organized in sections according to the specific Anamatrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anamatrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anamatrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anamatrix.

Sarah Schoen, Ph.D.
 Laboratory Director

3-11-92

Date

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. ALI KASSAI
ADVANCE SOIL TECHNOLOGY, INC.
12340 S. SARATOGA-SUNNYVALE ROAD, UNIT 4
SARATOGA, CA 95070

Workorder # : 9202271
Date Received : 02/25/92
Project ID : 92284-SC
Purchase Order: N/A
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9202271- 3	MW-1	WATER	02/24/92	TPHg/BTEX
9202271- 4	MW-2	WATER	02/24/92	TPHg/BTEX
9202271- 5	MW-HS	WATER	02/25/92	TPHg/BTEX

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. ALI KASSAI
ADVANCE SOIL TECHNOLOGY, INC.
12340 S. SARATOGA-SUNNYVALE ROAD, UNIT 4
SARATOGA, CA 95070

Workorder # : 9202271
Date Received : 02/25/92
Project ID : 92284-SC
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9202271- 1	1-1,1-2	SOIL	02/24/92	6010
9202271- 2	3-1,3-2	SOIL	02/24/92	6010

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. ALI KASSAI
ADVANCE SOIL TECHNOLOGY, INC.
12340 S. SARATOGA-SUNNYVALE ROAD, UNIT 4
SARATOGA, CA 95070

Workorder # : 9202271
Date Received : 02/25/92
Project ID : 92284-SC
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

QA/QC SUMMARY :

- No QA/QC problems encountered for this workorder.

Manny Nguyen 3/11/92
Department/Supervisor Date

Mona Kame 3/11/92
Chemist Date

ANALYSIS DATA SHEET - INDIVIDUAL METALS
ANAMETRIX, INC. - (408) 432-8192

Anamatrix W.O.: 9202271
Matrix : SOIL
Date Sampled : 02/24/92
Project Number: 92284-SC

Date Prepared : 03/09/92
Date Analyzed : 03/10/92
Date Released : 03/11/92
Instrument I.D.: ICP1

ELEMENTS		Lead (Pb)	Tin (Sn)	Zinc (Zn)
EPA METHOD		6010	6010	6010
REPORTING LIMIT		2.0	2.0	1.0
ANAMETRIX ID	CLIENT ID	(mg/Kg)	(mg/Kg)	(mg/Kg)
9202271-01	1-1,1-2	7.4	36.3	45.7
9202271-02	3-1,3-2	8.9	35.5	45.2
MB0309SA	METHOD BLANK	ND	ND	ND

ND : Not detected at or above the practical quantitation limit for the method.

All Metals by EPA Method 6010/7000, Test Method for Evaluating Solid Waste, SW-846 3rd Edition November 1986, and California Code of Regulations Title 22. or Method for Chemical Analysis of Water and Wastes, EPA, 3rd edition, 1983.

Manny Gaye 3/11/92
Supervisor Date

Hong Kame 3/11/92
Chemist Date

PROJECT NUMBER		PROJECT NAME				Number of Containers	Type of Containers	Type of Analysis										Condition of Samples	Initial			
92284-SC		SAN PABLO / ALBANY								ZINC	LEAD	TIN										
Send Report Attention of:				Report Due		Verbal Due																
ALEX KASSAI				/ /		/ /																
Sample Number	Date	Time	Comp	Grab	Station Location																	
① 1-1	2/24/92	9:15 A.M.			Composite	1	6 liter	X													HEADSPACE	
1-2	2/24/92	9:30 A.M.					1	"	X													
② 3-1	2/24/92	10:32 A.M.			Composite	1	"	X													HEADSPACE	
3-2	2/24/92	10:46 A.M.					1	"	X													
③ MW-1	2/24/92	4:25 P.M.				2	comb	X														
④ MW-2	2/24/92	1:15 P.M.				4	comb	X														

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
<i>[Signature]</i>	2/25/92	<i>[Signature]</i>	2/25/92
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

Remarks:

COMPANY: Advance Soil Technology, Inc
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APPENDIX "C"

ASBESTOS REPORT

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**Asbestos and PCB Impact Study
Granholt Sheetmetal Works
505-507 San Pablo Avenue
Albany, California**

November 18, 1991

Asbestos and PCB Impact Study
Granholt Sheetmetal Works
Albany, California

November 18, 1991

The following is a report of the study conducted by RGA on October 31, 1991 at Granholt Sheetmetal Works located at 505-507 San Pablo Avenue, Albany, California.

Scope of Work

1. Survey all levels of the subject building for suspect asbestos-containing materials. Collect a representative number of bulk samples of each suspect material. Inspect the building for PCB-containing materials such as transformers and light ballasts. Research catalog number of items with manufacturer to determine possible PCB content.
2. Analyze asbestos bulk samples using polarized light microscopy (PLM) in accordance with the EPA Interim Method for the Determination of Asbestos in Bulk Insulation.
3. Submit a final written survey report including survey and sampling notes, analytical and research results, recommendations, health risk information, and project summary.

ASBESTOS

Methods and Sampling Strategy

Asbestos-containing building materials (ACBM) including surfacing and miscellaneous materials were sampled during the survey.

As far as possible, every space in the building was viewed and suspect materials were inspected by the investigators to determine condition and friability. Multiple samples were collected from each homogeneous material within a functional space. A detailed list of the samples collected for each space is included. Note that destructive testing was not conducted during the survey. This means that unidentified asbestos-containing materials such as pipe lagging or cements may be hidden between wall spaces. Providing these materials are not disturbed during renovation, construction, demolition or other physical activity they pose an insignificant risk to employees and staff.

11/18/91
RGA

Results

A total of seven (7) homogeneous materials were identified and twenty one (21) samples were collected during the survey. Five (5) of the homogeneous materials sampled tested positive for asbestos content.

Facility Description

This facility is a single story warehouse with a two story office/storage space on the west end of the facility. The building area is approximately 10,000 ft². Exterior walls are stucco. The roof pan is wood with built up tar and felt roofing system. Spray-on acoustical material is located on the ceiling in the lobby. Interior walls are wallboard and wood. Floors consist of exposed concrete, floor tile and carpet.

Two HVAC units are located within the facility on the second floor above the office/lobby area. Some of the HVAC ductwork is insulated with asbestos-containing materials.

Asbestos-Containing Materials

Homogeneous materials are discussed for the facility investigated.

Surfacing Materials

Acoustical Ceiling Spray

Thermal System Insulation

Duct insulation
Duct-tape

Miscellaneous Materials

Wallboard mud

Background Information

The presence of asbestos in buildings does not mean that the health of building occupants is in danger. As long as asbestos-containing material (ACM) remains in good condition and is not disturbed, exposure is unlikely. When ACM is disturbed by building maintenance, repair, renovation, damage or other activities, asbestos fibers are released creating a potential hazard to building occupants. Although not required to do so by federal law, the prudent building owner will take steps to limit building occupants' exposure to airborne asbestos.

ACM in buildings is found in three forms: 1) sprayed on or trowelled on ceilings and walls (surfacing material); 2) in insulation around hot or cold pipes, ducts, boilers, and tanks (thermal system insulation); and 3) in a variety of other products such as ceiling and floor tiles and wallboards (miscellaneous materials). In general, ACM in the first two categories is of the greatest concern, especially if it is friable.

Much of what is known about asbestos-related diseases comes from studying workers in various asbestos industries. Exposure to levels of airborne asbestos typical of the asbestos workplace prior to 1972 has been linked with numerous ailments including a debilitating lung disease called asbestosis, a rare cancer of the chest and abdominal lining called mesothelioma, and cancers of the lung, esophagus, stomach, colon, and other organs. In 1972, federal exposure standards were imposed.

The relationship between exposure levels and health risk is complex. The potential for disease appears to be related to the physical and chemical characteristics of asbestos fibers as well as concentrations of fibers in the air. Data on asbestos workers indicates that the risk of asbestosis, lung cancer, and mesothelioma increase in direct proportion to an increase in total asbestos dose. Because there is no direct information on health risk from exposure to asbestos in buildings with ACM, the risks are estimated by extrapolation from studies of asbestos industry workers. The estimates indicate that only a small proportion of people exposed to low levels of asbestos will develop asbestos-related diseases. However, combining smoking with occupational exposure to asbestos increases the lung cancer rate above the rate due to either smoking or asbestos exposure alone. Asbestos exposure in children is a particular concern because children have a greater remaining lifespan than adults and therefore have a greater lifetime risk of developing disease.

Federal Regulations Regarding Asbestos In Buildings

Both the Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (OSHA) have published regulations to reduce asbestos exposure. EPA regulations focus on application and removal of asbestos-containing materials in new or remodeled buildings, and identification of friable asbestos in schools. The EPA also regulates the industrial emission of asbestos fibers and the disposal of asbestos waste. OSHA addresses worker protection in the workplace.

The first EPA regulations were issued in 1973 under the National Emission Standards for Hazardous Air Pollutants (NESHAPS) as authorized by the Clean Air Act. The first regulations were directed largely at the asbestos industries, but also partially banned spray-applied ACM in new buildings and established procedures for handling ACM during demolition. The regulations were revised in 1975 and 1978 to cover building renovations, use of all types of insulating ACM in new buildings, and asbestos emissions from ACM waste disposal.

The OSHA regulations were first issued in 1972 and modified in 1986. They specified airborne exposure standards for asbestos workers, engineering and administrative controls, workplace practices, and medical surveillance and worker protection requirements. In 1972, OSHA announced its intention to tighten the exposure standards.

The OSHA regulations apply to all workplace activities involving asbestos, including removal of ACM from buildings.

OSHA's worker exposure standards are inappropriate for interpretation of safety in non-industrial settings for three reasons. First, the standards were set to protect workers only against asbestosis, which rarely occurs at lower exposure levels typical of buildings with ACM. Second, the measurement technique that determines OSHA compliance (PCM) does not distinguish between asbestos and non-asbestos fibers. Third, PCM does not measure the small asbestos fibers typically found in buildings with ACM.

In industrial settings where most airborne fibers are expected to be asbestos, the measurement problem is not a major shortcoming. However, the OSHA measurements may be misleading in building environments because building air often contains many different types of fibrous materials.

The EPA's interpretation of asbestos risk is the only published document which deals with ACM in a non-industrial setting. Other regulatory concerns include California Proposition 65 and California Assembly Bill 3717.

Recommendations for Asbestos-Containing Materials

1. Implement an operations, maintenance, and repair (O&M) program whenever any friable asbestos-containing building material (ACBM) is present or assumed to be present.
2. Abate any damaged and/or deteriorated asbestos-containing insulation.

Polychlorinated Biphenyls (PCB's)

Approximately 10% of the light ballasts were examined for information pertaining to PCB content. Advanced Transformer Co., Jefferson Electric Co., and Universal Thermo-matic were listed as transformer manufacturers. The manufacturers were not able to provide a definitive answer as to whether or not the ballasts contained PCB's. Based on the patent and catalog numbers engraved on the ballasts, however, the manufacturers claim that there is a high probability that they were manufactured before 1979 and contain PCB's.

Polychlorinated Biphenyl is an operational term given to a series of chemical compounds produced industrially by chlorination of biphenyl with anhydrous chlorine and iron filings or ferric chloride as a catalyst. PCB's are known carcinogens which maintain an extremely long half-life within living organisms. A waste containing PCB's above the total threshold limit concentration (TTLC) of 50 mg/Kg (22 Code of California Regulation,

section 66696) is considered hazardous and must be managed as such. The state of California regulates PCB's as a hazardous waste.

There were no transformers visible on site.

Recommendations for PCB-containing Materials

1. Based on information obtained by the manufacturers, dispose of the light ballasts as PCB-containing.

Should you have any questions concerning this report, please do not hesitate to call.

Sincerely,

Robert E. Gils (rs)

Robert E. Gils, CIH #1151

John C. Alden Jr.

John Alden Jr.
Environmental Consultant

TABLE I

Date: 11/07/91

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Job: 100757

ASBESTOS BULK SAMPLE REPORT
 Granholt Sheetmetal Works
 501-505 San Pablo Avenue
 Albany, California

AREA	Sample	Sample Location	Sample Results	Percent	Date of Survey
001	ROOF TAR, ROOF,				NON-FRIABLE
	028663	Southeast corner of roof	No Asbestos Detected		10/31/91
	028661	Southwest corner	No Asbestos Detected		10/31/91
	028664	West end - center	No Asbestos Detected		10/31/91
002	BEIGE 12"X12" FLOOR TILE, LOBBY, RESTROOMS, OFFICES,				NON-FRIABLE
	028675	Beck office	No Asbestos Detected		10/31/91
	028676	Lobby	No Asbestos Detected		10/31/91
	028673	Lobby restroom	No Asbestos Detected		10/31/91
003	CORRUGATED DUCT INSULATION, ABOVE OFFICES,				FRIABLE
	028755	First duct, front	Chrysotile	30	10/31/91
	028756	HVAC duct - third duct, end	Chrysotile	30	10/31/91
	028740	second duct, center	Chrysotile	30	10/31/91
	028742	Smaller duct	Chrysotile	30	10/31/91
004	NON-CORRUGATED DUCT WRAP, ABOVE OFFICES,				FRIABLE
	025072	Center duct	Chrysotile	50	10/31/91
	028672	East end of duct	Chrysotile	50	10/31/91
	025067	End of corner duct	Chrysotile	50	10/31/91
	028759	Near heater	Chrysotile	50	10/31/91
005	DUCT SEAM TAPE, ABOVE OFFICES,				FRIABLE
	028741	Duct seam	Chrysotile	50	10/31/91
	028757	Duct seam	Chrysotile	50	10/31/91
006	WALLBOARD MUD, OFFICES,				NON-FRIABLE
	028731	Back office, restroom	Chrysotile	2	10/31/91
	028754	Shop wall	Chrysotile	2	10/31/91
007	ACOUSTICAL CEILING SPRAY, LOBBIES,				FRIABLE
	025062	Lobby	Chrysotile	20	10/31/91
	028659	Rear lobby	Chrysotile	20	10/31/91
008	FLOOR TILE MASTIC, LOBBY AND BACK OFFICES,				NON-FRIABLE
	286750	Back office	No Asbestos Detected		10/31/91
	286760	lobby	No Asbestos Detected		10/31/91
	286730	Lobby restroom	No Asbestos Detected		10/31/91

All analyses utilize EPA Anterior Method for the Determination of Asbestos in Bulk Insulation (1992). The absence of asbestos in vinyl floor tiles and similar materials cannot be conclusively established by this method, and should be confirmed by an independent analytical method such as Transmission Electron Microscopy (TEM). Detection limit: 1% asbestos ("T. det."). Quantification range: 1-100%. ND = None detected.