



GROWTH

Growth Environmental Services, Inc.

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*Recd 7/20/95
offcopy*

July 6, 1995

REF: SF009404

Ralph Hill
Hill Lumber Company
1259 Brighton Avenue
Albany, CA
(510) 525-1000


SUBJECT: Quarterly Groundwater Monitoring Well Sampling at Former Hill Lumber Facility, 1259 Brighton Avenue, Albany, CA

Dear Mr. Hill:

Enclosed are the groundwater sampling results for quarterly sampling at the above referenced property. If required by Alameda County the next quarterly sampling round should be conducted in July.

We are pleased to be able to perform this work for you and look forward to working with you in the future. Please call if you have any questions regarding this report.

Sincerely,
GROWTH ENVIRONMENTAL SERVICES, INC.


Donald A. Kubik, Jr.
Project Manager

Enclosure

cc.: Susan Hugo, Alameda County
Dale Hudson, Albany Unified School District
Gregory Mix, Land Planning Consultants, Inc.
Sang-Jin Nam, Lozano, Smith, Smith, Woliver & Behrens
Alberta Steele
Jerome Blank Reality
Richard J. Breitwieser

**QUARTERLY
MONITORING REPORT
July 1995**

**PROJECT SITE:
Hill Lumber
1259 Brighton Avenue
Albany**

PREPARED FOR:

**Mr. Ralph Hill
Hill Lumber Company
1259 Brighton Avenue
Albany, CA**

SUBMITTED TO:

**Susan Hugo
Alameda County Health Agency
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 74621
(510) 271-4320
(510) 569-4757 FAX**

PROJECT NO. SF009404

TABLE OF CONTENTS

	<u>Page</u>
LIST OF TABLES	ii
LIST OF FIGURES	ii
1.0 INTRODUCTION	1
1.1 Site Location and Description	1
1.2 Background	1
2.0 GROUNDWATER MONITORING	5
2.1 Groundwater Level Measurements	5
2.2 Monitoring Well Sampling	5
3.0 RESULTS	6
3.1 Subsurface Hydraulic Conditions	6
3.2 Groundwater Flow Direction and Gradient	6
3.3 Monitoring Well Sampling Analytical Results	6
4.0 SCHEDULE OF ACTIVITIES FOR NEXT QUARTER	10
4.1 Quarterly Groundwater Elevation Measurement	10
4.2 Quarterly Sampling	10
5.0 CONCLUSIONS AND RECOMMENDATIONS	10
5.1 Conclusions	10
5.2 Recommendations	10
6.0 LIMITATIONS	11
APPENDIX A Sampling Event Data Sheets	
APPENDIX B Analytical Data Sheets and Chain-of-Custody Records for Monitoring Well Sampling, April 24, 1995	

LIST OF TABLES

TABLE 1	Well Construction Data	7
TABLE 2	Groundwater Elevation Data, 7/13/95-4/24/95	8
TABLE 3	Groundwater Analytical Results	9

LIST OF FIGURES

FIGURE 1	Site Location Map	3
FIGURE 2	Site Plan w/ Groundwater Flow Directions	4

1.0 INTRODUCTION

1.1 Site Location and Description

The project site is located at 1259 Brighton Avenue, Albany, California (Figure 1). The site is in a residential/industrial area and is currently vacant. Existing structures on the site include warehouse and milling structures. The site has a relative elevation of approximately 60 feet above mean sea level (msl). It is approximately 0.9 miles east of the San Francisco Bay. The known past uses of the site include a lumber yard and related lumber milling operations.

1.2 Background

The subject site was used as a lumber yard and retail lumber store since 1922. From the 1930's to the 1950's, the lumber yard operated a 500-gallon underground leaded gasoline tank located in the loading dock area adjacent to the east side of the building. From the 1950's to 1991, Hill Lumber maintained a 1,000-gallon underground gasoline tank located below the sidewalk adjacent to Brighton Avenue.

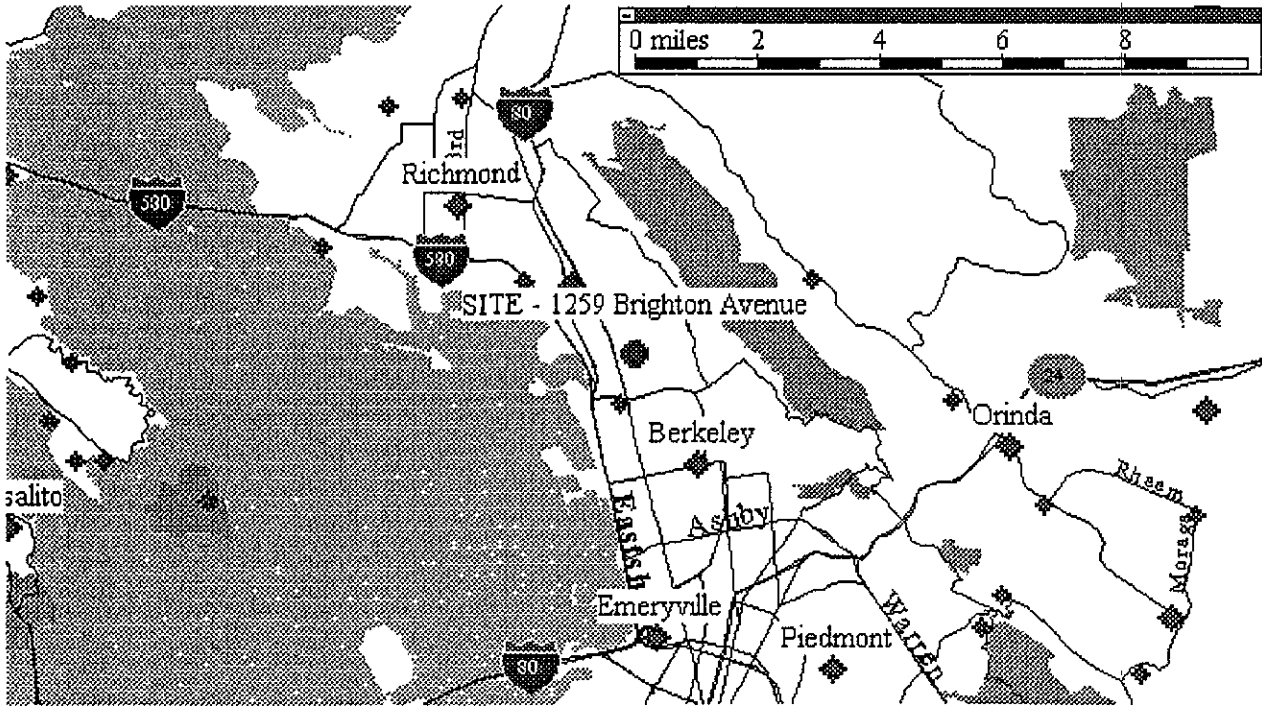
On April 17, 1991, SEMCO, Inc., of Modesto, California, removed both tanks. Total Petroleum Hydrocarbons as Gasoline (TPH-G) concentration levels below the 500-gallon tank ranged between 210 milligrams per kilogram (mg/Kg) or parts per million (ppm) to 890 mg/Kg. TPH-G concentration levels below the 1,000-gallon tank ranged between 2 mg/Kg and 3,700 mg/Kg. The excavations were backfilled to grade with pea gravel and repaved.

On July 11, 1991, Certified Environmental Consulting, Inc., currently Growth Environmental Services, Inc. (GROWTH), drilled 4 borings within approximately 10 feet of the tank excavations. GROWTH concluded that the soil contamination was limited to 2 small areas extending approximately 2 to 4 feet around each tank. GROWTH collected an uncased water sample from the area of the former 1,000-gallon tank. The water sample analytical results indicated the presence of TPH-G (2,925 micrograms per liter ($\mu\text{g/L}$) or parts per billion (ppb)) and benzene (59 $\mu\text{g/L}$).

On June 17, 1992, GROWTH submitted a work plan to Solano County for monitoring well installation and remediation at the assessment site.

On September 17, 1992, GROWTH submitted a soil remediation report to Solano County. The report indicated that the contaminated soil was successfully removed, with the exception of small amounts of inaccessible contaminated soil below the warehouse and office building foundations, a gas line on Hill Lumber property, and below a buried water conduit on BART property. Monitoring wells were not installed at the assessment site.

On November 17, 1992, GROWTH submitted a letter to Ms. Susan Hugo, of the Alameda County Health Agency, indicating the results of the stockpile sampling at the site.



PROJECT:
HILL LUMBER

PROJECT NO.:
SF009404
FILE NO.:
1660.DWG

FIGURE 1 SITE LOCATION PLAN



DRAWING DATE:
7/2/95
DRAWN BY:
RCT

HILL LUMBER COMPANY
1259 BRIGHTON AVENUE, ALBANY, CA

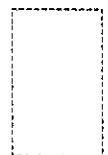
On March 3, 1993, GROWTH submitted a letter to Mr. Ralph Hill indicating that the stockpiled soil was no longer considered hazardous.

On July 14, 1994, GROWTH submitted a report on the installation of two monitoring wells, and one piezometer at the assessment site. The groundwater laboratory analyses indicated non-detectable results for TPH-G and BTEX; however, trace levels (110 ppb) of Total Petroleum Hydrocarbons as Diesel (TPH-D) were detected in the groundwater sample collected from MW-1.

On October 20, 1994, GROWTH submitted a second quarter monitoring report. In that report GROWTH noted a slight increase of TPH-D in MW-1 from non-detectable concentrations in July, 1994 to 130 µg/L, and a lower concentrations of diesel in MW-2, (93 ppb). GROWTH recommended that piezometer MW-3 be included in this quarter sampling event, due to detection of TPH-D in monitoring well MW-2.



FORMER 500 GALLON
LEADED GAS UST
REMOVED 4/91



MW-3

FORMER HILL LUMBER LOCATION

DRAINAGE
DITCH

GROUNDWATER
FLOW DIRECTION

FENCE

7/19/94, 1/31/95, & 4/24/95
10/10/94

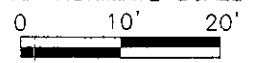


MW-2

MW-1

FORMER 1000
GALLON LEADED
GAS UST
REMOVED 4/91

APPROXIMATE SCALE



BRIGHTON AVENUE



MONITORING WELL

PROJECT
HILL LUMBER

PROJECT NO.
SF009404
FILE NO.:
1660 DWG

FIGURE 2 SITE PLAN
W/ GROUNDWATER FLOW DIRECTION



DRAWING DATE
7/2/95
DRAWN BY:
RCT

HILL LUMBER COMPANY
1259 BRIGHTON AVENUE, ALBANY, CA

2.0 GROUNDWATER MONITORING

2.1 Groundwater Level Measurements

Groundwater elevations were measured in wells MW-1, MW-2, and MW-3 on April 24, 1995. Static water levels were recorded to the nearest 0.01 foot using an electronic water level sounder. The static groundwater elevation for MW-1, MW-2, and MW-3 were recorded on Sample Event Data Sheets during quarterly sampling events. Water levels were collected prior to well purging.

2.2 Monitoring Well Sampling

The groundwater monitoring wells, MW-1, MW-2, and MW-3, were sampled on April 24, 1995. The wells were purged before sampling. The temperature, electric conductivity, pH, and turbidity were measured and recorded. The purging continued until the turbidity was less than 100 NTU and the temperature, electric conductivity, and pH were relatively stable. Approximately three casing volumes of groundwater were removed from each well. The sampling event data sheets are presented in Appendix A.

3.0 RESULTS

3.1 Subsurface Hydraulic Conditions

Groundwater Elevation

Well construction and groundwater elevation data collected from the three wells are presented in Tables 1 and 2. Based on groundwater level measurements collected on April 24, 1995, the depth to groundwater in the wells ranged from 7.77 ft to 9.04 ft below the tops of casings across the site. Groundwater levels decreased when compared with groundwater level data collected last quarter.

3.2 Groundwater Flow Direction and Gradient

Groundwater flow direction was determined using the groundwater elevation data for the April 1995 monitoring event presented in Table 2. The groundwater elevation data indicate a general groundwater flow direction toward the southeast. The groundwater flow direction is consistent with the flow direction determined in January, 1995. The calculated hydraulic gradient in the direction of groundwater flow is 0.017 feet per foot.

3.3 Monitoring Well Sampling Analytical Results

The analytical results of the April 1994 sampling of monitoring wells MW-1, MW-2 and MW-3 are presented in Table 3 with the results of previous sampling event. The laboratory analytical data sheets and chain-of-custody records for the April, 1995 sampling are included as Appendix B.

TPH-G, TPH-D and BTEX were not detected in groundwater samples collected from the three on-site wells.

TABLE 1
WELL CONSTRUCTION DATA

Hill Lumber
1259 Brighton Avenue
Albany, CA

Well	Diameter (Inches)	Date Drilled	Total Boring Depth (Feet)	Top of Casing Elevation	Screened Interval (feet below grade)
MW-1	2	7/6/94	28	61.77	13-28
MW-2	2	7/6/94	28	61.37	12-28
MW-3	2	7/6/94	29.5	60.47	12-28

TABLE 2

GROUNDWATER ELEVATION DATA, 7/13/94-4/24/95

Hill Lumber
1259 Brighton Avenue
Albany, CA

	MW-1	MW-2	MW-3	Date
SWL	8.85	9.04	7.77	4/24/95
GSE	52.92	52.33	52.70	
SWL	8.03	8.15	6.91	1/31/95
GSE	53.74	53.22	53.56	
SWL	9.32	9.42	8.20	10/10/94
GSE	52.45	51.95	52.27	
SWL	9.23	9.38	8.13	7/13/94
GSE	52.54	51.99	52.34	

GSE - Groundwater Surface Elevation
SWL - Static Water Level

TABLE 3
GROUNDWATER ANALYTICAL RESULTS FOR
Hill Lumber
1259 Brighton Avenue
Albany, CA

Well ID	Sample Date	TPH-G ppb	TPH-D ppb	Benzene ppb	Toluene ppb	Ethyl- benzene ppb	Xylenes ppb
MW-1	4/24/95	ND	ND	ND	ND	ND	ND
	1/31/95	ND	52	ND	ND	ND	ND
	10/10/94	ND	130	ND	ND	ND	ND
	7/13/94	ND	110	ND	ND	ND	ND
MW-2	4/24/95	ND	ND	ND	ND	ND	ND
	1/31/95	ND	ND	ND	ND	ND	ND
	10/10/94	ND	93	ND	ND	ND	ND
	7/13/94	ND	ND	ND	ND	ND	1.0
MW-3	4/24/95	ND	ND	ND	ND	ND	ND
	1/31/95	ND	ND	ND	ND	ND	ND
	10/10/94	NT	NT	NT	NT	NT	NT
	7/13/94	ND	ND	ND	ND	ND	ND
mcl*		None Listed	None Listed	1	1000	680	1750

*California Department of Health Services primary maximum contamination level for drinking water. Marshack, J.B., 1989, *A Compilation of Water Quality Goals, Staff Report of the California Regional Water Quality Control Board, Central Valley Region*, 15 p.

ND - Non-detectable levels.
 NT - Not Tested

4.0 SCHEDULE OF ACTIVITIES FOR NEXT QUARTER

4.1 Quarterly Groundwater Elevation Measurement

Groundwater surface elevation measurements and groundwater flow direction calculations will be made during next quarterly sampling event, during the last week of July.

4.2 Quarterly Sampling

The next quarterly sampling event will occur in the last week of July. The next report will present the results of the July, 1995 sampling and recommendations for future work.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Groundwater samples collected during the April, 1995 sampling event contained no detectable TPH-G, TPH-D, and BTEX. Groundwater flow direction and gradient remained consistent with previous sampling events.

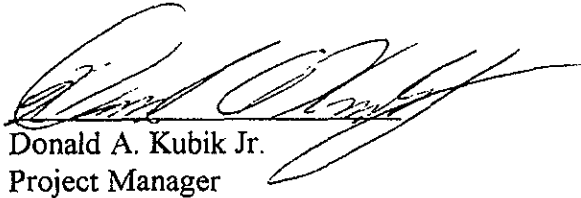
5.2 Recommendations

GROWTH recommends continued quarterly monitoring. Once four consistent quarters of non-detectable results are obtained, case closure should be requested.

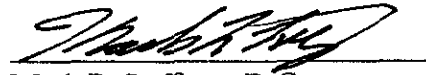
6.0 LIMITATIONS

This report has been prepared in accordance with generally accepted environmental, geological and engineering practices. No warranty, either expressed or implied, is made as to the professional advice presented herein. The analysis, conclusions and recommendations contained in this report are based upon site conditions as they existed at the time of the investigation, and they are subject to change.

The conclusions presented in this report are professional opinions based solely upon visual observations of the site and vicinity and interpretation of available information as described in this report. The scope of services performed in execution of this investigation may not be appropriate to satisfy the needs of other users, and any use or reuse of this document or its findings, conclusions or recommendations presented herein is at the sole risk of said user.



Donald A. Kubik Jr.
Project Manager



Mark R. Lafferty, R.G.
Director of Geosciences
R.G. No. 4701



APPENDIX A

Sampling Event Data Sheets

SAMPLING EVENT DATA SHEET

(fill out completely)

WELL OR LOCATION MW-1

PROJECT Hill Lumber EVENT Quarterly SAMPLER T. P. New DATE 04-24-95

Well / Hydrologic statistics	Action	Time	Pump rate	IWL (low yield)
	Start pump / Begin	12:05		
	Stop	12:30		
	Sampled	15:11		
	(Final IWL)	8.87		
Purge calculation				
$\frac{163}{\text{gal/ft.}} \cdot 17.85 \text{ ft.} = 2.9 \text{ gals} \times 3 = 8.7 \text{ gals.}$				
Head purge calculation (Airlift only)				
$\frac{\text{gal/ft.}}{\text{packer to SWL}} \cdot \text{ft.} = \text{gals.}$				

Equipment Used / Sampling Method / Description of Event: 2" submersible pump control box Generator 30' nylon braided tubing HYDAC slope indicator, H2O level row box ONE 55 gal drum	Purge minimum of 3 well volumes. Monitor temp, conductivity, pH, and turbidity, at volume intervals. Allow to recharge to at least 80% original SWL. Sample using disposable teflon bailer. Samples on Ice.
Actual gallons purged <u>9</u> Actual volumes purged <u>3+</u> Well yield \oplus <u>HY</u> (see below)	COC # _____ Sample I.D. _____ Analysis _____ Lab _____ <u>042495 MW1</u> <u>TPH-6</u> <u>McLumpfield</u> <u>TPH-10</u> <u>RSTEX</u>

Purge H₂O stored on site in DOT 55 gal. drums

Additional comments:
 SWL - 11:35
 Highly turbid at start, BK GRY silt.

Sampling conditions good, clear skv @ 75'

Gallons purged	TEMP °C (°F) (circle one)	EC (us/cm)	PH	TURBIDITY (NTU)	SWL	HZ
1. .1	67.4	4060	6.96	40.7	9.0	80
2. 3	63.8	4080	6.97	149.0	8.95	75
3. 6	62.7	4900	6.95	52.2	9.0	80
4. 8.5	63.0	4940	6.96	20.8	9.1	83
5.						

* Take measurement at approximately each casing volume purged.

\oplus HY - Minimal W.L. drop MY - WL drop - able to purge 3 volumes during one sitting by reducing pump rate or cycling pump. LY - Able to purge 3 volumes by returning later or next day. VLY - Minimal recharge - unable to purge 3 volumes.

SAMPLING EVENT DATA SHEET

(fill out completely)

WELL OR LOCATION MW-2

PROJECT Mill Lumber EVENT Quarterly SAMPLER T. FEW DATE 84-24-95

Well / Hydrologic statistics		Action	Time	Pump rate	IWL (low yield)	
Well type <u>MW</u> (MW, EW, etc.)		Start pump / Begin	12:43			
		Stop	1:05			
		Sampled	15:28			
		(Final IWL)	9.06			
		Purge calculation				
		$\frac{163 \text{ gal/ft.}}{17.56 \text{ ft.}} = 2.9 \text{ gals} \times 3 = 8.7 \text{ gals.}$ <p style="text-align: center;">SWL to BOP or packer to BOP one volume purge volume - 3 casings</p>				
Head purge calculation (Airlift only)						
$\text{gal/ft.} \times \text{ft.} = \text{gals.}$ <p style="text-align: center;">packer to SWL</p>						

Equipment Used / Sampling Method / Description of Event: 2" submersible pump control box Generator 30' nylon braided tubing HYDAC slope indicator 7001 BOP	Purge minimum of 3 well volumes. Monitor Temp, conductivity, Ph, and turbidity at volume intervals. Allow to recharge to at least 80% original SWL. Sample using disposable teflon Bailer. Samples on Ice
Actual gallons purged <u>11</u> Actual volumes purged <u>3x</u> Well yield \oplus <u>LY</u> (see below)	COC # _____ Sample I.D. Analysis Lab <u>242495 MW2</u> <u>TPH-D</u> <u>M. Longwell</u> <u>TPH-G</u> <u>ISPEX</u>

Purge H₂O stored on site in Dot 55 gal drums

Additional comments:
 SWL - 11:35

Sampling conditions Good - clear sky 75°

Gallons purged *	TEMP °C (°F) (circle one)	EC (us/cm) <u>646</u>	PH	TURBIDITY (NTU)	SWI	H ₂
1. 1	67.9	646	6.97	129.0	12.65	92
2. 3	63.3	606	6.88	294.0	12.5	89
3. 6	64.3	595	6.97	82.0	12.5	88
4. 8.5	65.6	593	6.98	196	12.3	85
5. 10.5	64.2	580	6.98	84.1	12.4	85

* Take measurement at approximately each casing volume purged.

\oplus HY - Minimal W.L drop MY - WL drop - able to purge 3 volumes during one sitting by reducing pump rate or cycling pump. LY - Able to purge 3 volumes by returning later or next day. VLY - Minimal recharge - unable to purge 3 volumes.

SAMPLING EVENT DATA SHEET

(fill out completely)

WELL OR LOCATION MW-3

PROJECT Hill Number EVENT Quantity SAMPLER T. Peal DATE 8-24-95

Well / Hydrologic statistics	Action	Time	Pump rate	IWL (low yield)
Well type <u>MW</u> (MW, EW, etc.)	Start pump / Begin	<u>13:43</u>		
<p>diameter <u>2"</u> equals <u>.163</u> gal/ft. casing</p> <p>SWL (if above screen)</p> <p>packer intake bailer depth } ft. (circle one)</p> <p>SWL <u>7.77</u> (if in screen)</p> <p>measured T.D. <u>27.75</u></p> <p>TOP</p> <p>BOP</p> <p><u>28</u> T.D. (as built)</p>	Stop	<u>14:51</u>		
	Sampled	<u>15:30</u>		
	(Final IWL)	<u>8.01</u>		
	Purge calculation			
$\frac{.163 \text{ gal/ft.} \cdot 1498 \text{ ft.}}{\text{SWL to BOP or packer to BOP}} = \frac{3.3 \text{ gals}}{\text{one volume}} \times 3 = \frac{9.9 \text{ gals.}}{\text{purge volume- 3 casings}}$				
Head purge calculation (Airlift only)				
$\frac{\text{gal/ft.} \cdot \text{ft.}}{\text{packer to SWL}} = \text{gals.}$				

Equipment Used / Sampling Method / Description of Event: 2" submersible pump control box generator 30' Nylon Braided tubing NYDAC slope indicator, H ₂ O level Tool Box	Purge Minimum of 3 well volumes, Monitor Temp, conductivity, PH and turbidity at volume intervals * unable to purge 3 volumes constituents stable at 7 gallons sampled using disposable Teflon bailer	Actual gallons purged <u>7</u> Actual volumes purged <u>≈ 2.7</u> Well yield ⊕ <u>VLY</u> (see below)
Purge water stored on site in DOT 55gal drum		COC # _____ Sample I.D. <u>MW2495 MW3</u> Analysis <u>T.M.D.</u> Lab <u>McLander II</u> <u>T.M.G.</u> <u>BTEX</u>

Additional comments: Samples on Ice.

SWL - 11:35

SWL - 1 gallon - 10.1 - 13:52

SWL - 2 gallons - 10.65 - 14:09

SWL - 4 gals. 11:25 - 14:20

Slow producer

Gallons purged	TEMP °C (circle one)	EC (µs/cm)	PH	TURBIDITY (NTU)	SWL	H ₂
1. 1	65.9	728	6.98	820	9.74	75
2. 2	70.7	705	6.99	81.0	10.02	79
3. 3	70.0	736	6.98	39.6	11.25	82
4. 5	70.6	720	6.99	15.89	11.25	82
5. 7	67.9 67.9	684 684	6.99	167.8	11.09	83

* Take measurement at approximately each casing volume purged.

⊕ HY - Minimal W.L. drop MY - WL drop - able to purge 3 volumes during one sitting by reducing pump rate or cycling pump.

LY - Able to purge 3 volumes by returning later or next day. VLY - Minimal recharge - unable to purge 3 volumes.

APPENDIX B

Analytical Data Sheets and Chain-of-Custody Records
for Monitor Well Sampling, April 24, 1995

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

05/02/95

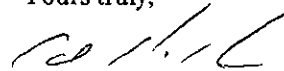
Dear Don:

Enclosed are:

- 1). the results of 3 samples from your # 157-1660; Hill Lumber project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,



Edward Hamilton

Growth Environmental Services 536 Stone Road, Suite J Benicia, Ca. 94510-1016	Client Project ID: # 157-1660; Hill Lumber	Date Sampled: 04/24/95
		Date Received: 04/25/95
	Client Contact: Don Kubik	Date Extracted: 04/26/95
	Client P.O: # 1566	Date Analyzed: 04/26/95

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g) ⁺	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec. Surrogate
51942	042495MW1	W	ND	ND	ND	ND	ND	104
51943	042495MW2	W	ND	ND	ND	ND	ND	107
51944	042495MW3	W	ND	ND	ND	ND	ND	107
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W	50 ug/L	0.5	0.5	0.5	0.5	0.5	
	S	1.0 mg/kg	0.005	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; sample peak coelutes with surrogate peak

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment; j) no recognizable pattern.

Growth Environmental Services 536 Stone Road, Suite J Benicia, Ca. 94510-1016	Client Project ID: # 157-1660; Hill Lumber	Date Sampled: 04/24/95
		Date Received: 04/25/95
	Client Contact: Don Kubik	Date Extracted: 04/28/95
	Client P.O: # 1566	Date Analyzed: 04/28-04/29/95

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d) ⁺	% Recovery Surrogate
51942	042495MW1	W	ND	100
51943	042495MW2	W	ND	100
51944	042495MW3	W	ND	99
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W	50 ug/L		
	S	1.0 mg/kg		

* water samples are reported in ug/L, soil samples in mg/kg, and all TCLP and STLC extracts in mg/L

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment.

QC REPORT FOR HYDROCARBON ANALYSES

Date: 04/26/95

Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		
	Sample	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	100.6	108.5	100	100.6	108.5	7.5
Benzene	0	10.8	10.5	10	108.0	105.0	2.8
Toluene	0	10.6	10.5	10	106.0	105.0	0.9
Ethyl Benzene	0	10.5	10.3	10	105.0	103.0	1.9
Xylenes	0	33.2	32.7	30	110.7	109.0	1.5
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

QC REPORT FOR HYDROCARBON ANALYSES

Date: 04/28-04/29/95

Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		
	Sample	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	95.3	95.1	100	95.3	95.1	0.2
Benzene	0	10.4	10.9	10	104.0	109.0	-4.7
Toluene	0	10.2	10.6	10	102.0	106.0	3.8
Ethyl Benzene	0	10.1	10.4	10	101.0	104.0	2.9
Xylenes	0	31.7	32.7	30	105.7	109.0	3.1
TPH (diesel)	0	158	160	150	106	107	1.2
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

