

**GROUNDWATER MONITORING WELL  
INSTALLATION REPORT**

ALCO  
HAZAR  
RUG-1 Pp 4: 16

STIP 3676

**PROJECT SITE:**

**1259 BRIGHTON AVENUE  
ALBANY, CALIFORNIA**

**PREPARED FOR:**

**RALPH HILL  
HILL LUMBER COMPANY  
1259 BRIGHTON AVENUE  
ALBANY, CALIFORNIA  
(510) 525-1000**

**PREPARED BY:**

**RAFAEL GALLARDO  
CERTIFIED ENVIRONMENTAL CONSULTING, INC.  
536 STONE ROAD, SUITE J  
BENICIA, CA 94510-1113  
(707) 745-0171**

**CEC PROJECT # 157-1660  
JULY, 1994**



**CERTIFIED  
ENVIRONMENTAL  
CONSULTING INC.**

July 14, 1994

**REF: 157-1660**

Mr. Ralph Hill  
Hill Lumber Company  
125911 Division Street  
Napa, CA 94559  
(707) 252-9100  
(707) 252-8516 FAX

**SUBJECT: REPORT ON INSTALLATION OF GROUNDWATER MONITORING  
WELLS AT 1259 BRIGHTON AVENUE, ALBANY, CALIFORNIA.**

Dear Mr. Hill:

Certified Environmental Consulting, Inc., (CEC), is pleased to submit this report on the installation and sampling of 3 groundwater monitoring wells located at 1259 Brighton Avenue, Albany, California.

If you have any questions regarding this report, please call me at (707) 745-0171.

Respectfully,

Rafael Gallardo  
Project Manager/Geologist

Stanley L. Klemetson, Ph.D., P.E.  
Executive Vice President

Enclosure

cc:

Susan Hugo            Richard J. Breitwieser  
Dale Hudson  
Gregory Mix  
Sang-Jin Nam  
Albert Steele  
Jerome Blank Realty

## TABLE OF CONTENTS

TABLE OF CONTENTS	i
EXECUTIVE SUMMARY	1
SITE HISTORY	2
SCOPE OF WORK	5
GEOLOGY AND HYDROGEOLOGY	6
WELL SURVEY AND SAMPLING	7
DRILLING	9
SOIL SAMPLING	10
GROUNDWATER SAMPLING	11
ANALYTICAL RESULTS	12
CONCLUSIONS	14
RECOMMENDATIONS	15
LIMITATIONS	16
APPENDIX A - DRILLING LOGS (JULY 6, 1994)	
APPENDIX B - LABORATORY ANALYSIS RESULTS	
APPENDIX C - WELL SURVEY DATA	
APPENDIX D - SAMPLING EVENT DATA SHEETS	

## FIGURES

FIGURE 1	SITE LOCATION MAP	3
FIGURE 2	WELL LOCATION MAP	8

## EXECUTIVE SUMMARY

On July 6, 1994, Certified Environmental Consulting, Inc. (CEC) installed 2 groundwater monitoring wells and 1 piezometer at 1259 Brighton Avenue, Albany, California. The purpose for the installation of the wells and piezometer was to determine if the groundwater was impacted by the contaminated surface soils. MW-1 was continuously cored to a depth 28.0 feet, so that an accurate profile of the underlying soils could be interpreted and later used for the design of the screen intervals for the remaining wells. MW-2, and MW-3 were drilled to a depth of 28.0 feet. Visual soil samples were collected at 5-foot intervals, with the exception of MW-1, which was continuously cored. One soil sample was collected from MW-2 and MW-3 at a depth of 11.0 feet below grade surface (bgs). The samples were delivered to Campbell Analytical for TPH-D, TPH-G and BTEX analysis. A soil sample was attempted in the backfill material at MW-1 at a depth of 10.0 feet, but could not be retrieved. Groundwater samples were collected after the wells were developed.

The results of the analytical data indicated non-detectable levels of TPH-G, and BTEX in the groundwater samples collected from the three wells, however, trace levels of TPH-D (110 ppb), were detected in MW-1 only. The presence of Diesel in the groundwater at Boring MW-1 could indicate an outside source, or the possibility that the compaction equipment leaked fuel onto the baserock used to backfill the excavation. According to Mr. Hill, of Hill Lumber, diesel fuel was never used at the site.

Based on the information collected, CEC concludes that the groundwater was free of TPH-G, and BTEX at the time of sampling and that the appearance of trace levels of TPH-D in MW-1 are not of sufficient quantities to cause any harm to the environment. CEC recommends monitoring of the wells for one year and site closure.

## SITE DESCRIPTION

The site is located at 1259 Brighton Avenue, Albany, California (see Figure 1). El Cerrito Creek is approximately 350 feet north of the assessment site, and San Francisco Bay is located approximately one-mile to the west. The site is situated adjacent to the BART line tracks and path way to the west. The assessment site is currently occupied by the City of Albany Corporation Yard.

## SITE HISTORY

The assessment 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 eastside 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. TPH-G concentration levels below the 500-gallon tank ranged between 210 to 890 ppm. TPH-G concentration levels below the 1,000-gallon tank ranged between 2 and 3,700 ppm. The excavations were backfilled to grade with pea gravel and repaved.

On July 11, 1991, Certified Environmental Consulting, Inc. (CEC), drilled 4 borings within approximately 10 feet of the tank excavations. CEC concluded that the soil contamination was limited to 2 small areas extending approximately 2 to 4 feet around each tank. CEC collected an uncased water sample from the area of the former 1,000-gallon tank. The water sample revealed the presence of TPH-G (2,925 ppb) and Benzene (59 ppb).

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

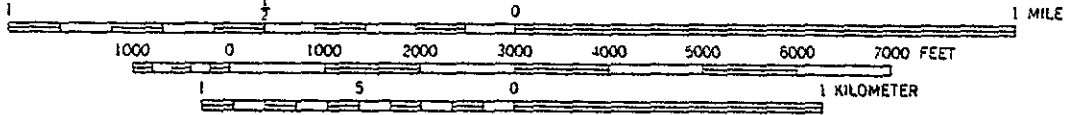
On September 17, 1992, CEC submitted a soil remediation report. The report indicated that the contaminated soil was successfully removed, with the exception of small amounts of inaccessible contaminated soil below the warehouse and office building foundations, a gas line on Hill Lumber property, and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

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

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



SCALE 1:24000



CONTOUR INTERVAL 20 FEET



FIGURE 1  
 SITE LOCATION MAP  
 HILL LUMBER COMPANY  
 1259 BRIGHTON AVE., ALBANY, CA  
 JOB NO. 157-1660

On June 13, 1994, CEC submitted a work plan summary letter to Ms. Susan Hugo, of The Alameda County Health Agency, for the installation of 2 groundwater monitoring wells and 1 piezometer at the site. The work plan was accepted.

## SCOPE OF WORK

This report details the work performed during the installation of the 2 monitoring wells and one piezometer on July 6, 1994. The purpose for the installation of the groundwater monitoring wells and piezometer was to determine if the groundwater was impacted by the previously contaminated soil. The hydraulic gradient and direction of flow were calculated. The following actions were taken:

- Three borings were drilled to a depth of approximately 28 feet.
- The borings were converted into groundwater monitoring wells (MW-1, and MW-2), and a piezometer (MW-3).
- One boring, (MW-1) was continuously cored to determine the screening parameters, and (MW-2, and MW-3) were sampled at 5-foot intervals for visual soil classification.
- Two Soil samples were taken, ( MW-2 and MW-3) at a depth of 11.0 feet. The samples were delivered to an analytical laboratory for analysis of TPH-D, TPH-G, and BTEX.
- The soil cuttings were placed in DOT approved 55-gallon drums and stored on site pending laboratory analysis.
- The wells (3), were surveyed to determine the hydraulic gradient and direction of groundwater flow.
- The wells were developed, sampled, and analyzed for TPH-D, TPH-G, and BTEX.
- A report disclosing work performed, data collected, conclusions and recommendations was prepared.



## **GEOLOGY AND HYDROGEOLOGY**

### **Geology**

The site rests on Quaternary Holocene younger alluvium deposits (Qa), consisting of unconsolidated, moderately sorted, sand and silt, with sandy silty clays down to approximately 18.0 feet. Underlying the younger alluvium at a depth of approximately 18 to 25 feet are undivided bedrock units (TKJu) of Tertiary, Cretaceous, and Jurassic age. These units consist of highly weathered, highly fractured, and friable sandstone and shale.

### **Hydrogeology**

The site is located within the East Bay Plain. The East Bay Plain covers an area of approximately 114 square miles. Two types of geologic units are found in the East Bay Plain: Consolidated rocks ranging in age from Jurassic to Tertiary; and unconsolidated deposits of Pleistocene and Holocene age. The consolidated rocks are more than 10,000 feet thick. The unconsolidated deposits are a maximum thickness of approximately 1,100 feet.

The groundwater basin of the East Bay Plain consists of a random sequence of sand and gravel aquifers interspaced with clay and silt aquicludes. The inferred Groundwater direction is to the west-northwest, towards the direction of the San Francisco Bay. Groundwater was encountered below the assessment site at a depth of approximately 10.5 feet below grade surface (bgs).

### **Active Faulting and Seismicity:**

The assessment property is not located within the Alquist-Priolo Special Studies Zones Act, which was signed into California Law on December 22, 1972 (Hart, 1985). Under this Act, Special Studies Zones are delineated along known active faults. An active fault is one that has shown surface displacement within Holocene Time (approximately the last 11,000 years). The active faults which would have the most affect on the site would be the historic Hayward fault located approximately 1 mile to the east.

The entire San Francisco Bay Area is located within a region subject to a high level of seismic activity. Therefore, the assessment site will probably experience strong seismic shaking within its lifetime.

## DRILLING

On July 6, 1994, Certified Environmental Consulting, Inc. (CEC) arrived at the assessment site. Three borings were drilled to a depth of approximately 28.0 feet using a CME 55 truck mounted rig with 8.25-inch O.D. hollow stem augers, and equipped with a 140-lb. hammer. The 3 borings were converted into 2 groundwater monitoring wells, (MW-1, and MW-2) and 1 piezometer, (MW-3), (see Figure 2).

### SITE SOILS

The site consisted of approximately 2 to 4.0 feet of fill, consisting of dark brown sandy gravelly clay. MW-1 contained approximately 11.5 feet of baserock fill. The underlying soils consisted of dark grey to yellow brown sandy to silty clays to a depth of approximately 16.0 feet. At 16.0 feet, the soil changed to a yellow brown clayey sandy gravel. Bedrock was observed at approximately 18.5 feet. The bedrock consisted of weathered sandstone layers followed by weathered shale beds at approximately 25.0 feet, (See Drilling Logs in Appendix A) .

### PRELIMINARY FINDINGS

#### Boring MW-1 (Continuous core)

The surface was covered with a 4-inch layer of concrete (sidewalk), followed by 11.5 feet of brownish grey baserock. A yellow brown sandy clay was observed below the baserock to a depth of approximately 16.0 feet. A yellow brown clayey sandy gravel underlying the sandy clay, was observed at a depth of approximately 16.0 feet. At a depth of 18.5 feet, bedrock was observed consisting of alternating weathered sandstone, and friable grey shale beds. The boring was terminated at a depth of 28.0 feet bgs.

Groundwater was first observed at a depth of approximately 9.3 feet.

A soil sample was attempted in the backfill at 10.0 feet, but no soil was recovered from the sampler tube because the boring was in the tank excavation backfill material.

#### Boring MW-2

The surface was covered by a 4.0-foot layer of fill material consisting of dark brown to grayish brown sandy gravelly clay to clayey gravel. A dark grey silty clay was observed below the fill to a depth of approximately 8.5 feet. Underlying this layer was a yellow brown sandy clay, containing vertical grey fractures. A slight petroleum odor was noted at a depth of 10.5 feet and

MW-3 ANALYTICAL

COMPOUND	SOIL @ 1'	WATER
TPH(C)	ND	ND
TPH(G)	ND	ND
BENZENE	ND	ND
TOLUENE	ND	ND
ETHYL BENZENE	ND	ND
XYLENES	ND	ND

SOIL SAMPLE VALUES IN PPM  
 WATER SAMPLE VALUES IN PPB  
 ND = NOT DETECTED

MW-3



OFFICE BUILDING

GROUNDWATER  
 FLOW DIRECTION

DRAINAGE  
 DITCH

FENCE

FORMER 500 GALLON  
 LEADED GAS UST  
 REMOVED 4/91



MW-2 ANALYTICAL

COMPOUND	SOIL @ 1'	WATER
TPH(C)	ND	ND
TPH(G)	ND	ND
BENZENE	ND	ND
TOLUENE	ND	ND
ETHYL BENZENE	ND	ND
XYLENES	0.012	ND

SOIL SAMPLE VALUES IN PPM  
 WATER SAMPLE VALUES IN PPB  
 ND = NOT DETECTED

MW-2



MW-1



FORMER 1000  
 GALLON LEADED  
 GAS UST  
 REMOVED 4/91

MW-1 ANALYTICAL

COMPOUND	SOIL @ 1'	WATER
TPH(C)	NOT TESTED	ND
TPH(G)	NOT TESTED	ND
BENZENE	NOT TESTED	ND
TOLUENE	NOT TESTED	ND
ETHYL BENZENE	NOT TESTED	ND
XYLENES	NOT TESTED	ND

SOIL SAMPLE VALUES IN PPM  
 WATER SAMPLE VALUES IN PPB  
 ND = NOT DETECTED  
 NO SOIL SAMPLE BVS RECOVERED



BRIGHTON AVENUE

HILL LUMBER COMPANY  
 1259 BRIGHTON AVENUE, ALBANY, CA  
 MONITORING WELL LOCATIONS



CERTIFIED  
 ENVIRONMENTAL  
 CONSULTING

536 STONE ROAD, SUITE J, BENICIA, CA 94510  
 (707) 745-0171 / (707) 745-0163 FAX

FIGURE 2

JOB # 92-157-1660

ended at 11.0 feet. At a depth of approximately 15.0 feet, a yellow brown clayey sandy gravel was observed. The tip of the sampler was wet at a depth of approximately 17.0 feet. Bedrock was encountered at a depth of approximately 20.5 feet. The bedrock consisted of alternating layers of weathered sandstone containing clay seams and weathered, friable grey shale.

Groundwater was first encountered at a depth of approximately 17.0 feet.

The boring was terminated at a depth of 28.0 feet.

One soil sample was collected at a depth of 11.0 feet. The sample was sent to an analytical lab for TPH-D, TPH-G, and BTEX analysis.

#### Boring MW-3 (Piezometer)

The surface was covered by 1.5 feet of baserock followed by 2.5 feet of fill consisting of dark brown to yellow brown gravelly clay. Below the fill at a depth of approximately 4.0 feet, a yellow brown sandy clay (residual) containing trace gravel was encountered. Underlying this zone was a yellow brown sandy gravelly clay. Moisture was noted on the shoe of the sampler at a depth of approximately 11.75 feet. Bedrock was encountered at a depth of approximately 13.0 feet. The bedrock consisted of alternating layers of weathered sandstone containing clay seams, and grey weathered, friable, shale.

Groundwater was first encountered at a depth of approximately 11.75 feet.

The boring was terminated at a depth of 29.5 feet.

One soil sample was collected at 11.0 feet. The sample was sent to an analytical laboratory for TPH-D, TPH-G, and BTEX analysis.

## SOIL SAMPLING

The soil samples were collected using a 2-inch California Split Spoon Sampler containing 3, six-inch-long brass tubes. The sampler was driven into the ground 18 inches, using a 140-lb. hammer with a 30-inch drop. The borings, were sampled at 5-foot intervals, with the exception of MW-1, which was continuously cored.

The sampler barrel was decontaminized before and after each use by using an Alconox solution wash and tap water. Each sample was covered at each end with Teflon sheeting and PVC end caps. The samples were then placed in an ice chest filled with ice for transportation to an analytical laboratory.

A total of 2 soil samples were collected from the 3 borings.

## GROUNDWATER SAMPLING

Initial sampling of the Groundwater was not performed during the drilling of the monitoring wells.

On July 13, 1994, the monitoring wells were developed, purged, and sampled. The depth to water was measured at each well prior to development. The wells were sampled using the current standards for monitoring well sampling. Plastic disposable bailers were used to sample each well. Each well was sampled for TPH-D, TPH-G, and BTEX. The samples were placed in an ice chest containing ice and delivered to McCampbell Analytical for analysis.

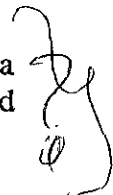
## WELL SURVEY AND SAMPLING

On July 13, 1994, the monitoring wells, and piezometer, were surveyed by CEC (See Table 1, Appendix C). The City of Albany's survey point of 71.67 feet, was used as a starting elevation. The survey point was located on Spokane Avenue at the corner of Brighton Avenue. The results of the survey indicated a hydraulic gradient of .021 ft/ft, and a groundwater direction towards the west, southwest, (See Figure).

## CLEANUP

The boring cuttings and rinseate water were placed in 55 gallon DOT approved drums and properly labeled. A total of 5 drums were left on site pending laboratory results.

On July 8, 1994, the results of the soil analysis were non-detect. Ms. Susan Hugo, of Alameda County Health was informed of the results and authorized CEC to spread the cuttings around the area of the wells.



## ANALYTICAL RESULTS

A total of 2 soil samples were obtained from the 3 borings and analyzed for TPH-D, TPH-G, and BTEX. Groundwater samples were not collected during well drilling. The following are the results of the analysis, (See data summary on Figure 2):

### GROUNDWATER

#### Analytical Results

The results of the well sampling revealed non-detect levels of TPH-G, and BTEX, in monitor wells 1, 2, and 3. Trace levels of TPH-D (110 ppb) were detected in monitoring well MW-1. Monitoring Wells MW-2, and MW-3 were non-detect for TPH-D.

### SOIL

The analytical results were non-detect for both samples.

## CONCLUSIONS

Based on the laboratory analytical obtained during the soil and well sampling, the following conclusions can be made:

1. The soil and groundwater samples collected below the assessment site did not contain measurable levels of **TPH-G**, or **BTEX**.
2. Trace levels of **TPH-D** (110 ppb), were detected in the groundwater at MW-1. **TPH-D** levels for MW-2, and MW-3 were non-detectable.
3. The existing diesel fuel detected in MW-1 may have been generated from the compaction equipment used to backfill the excavation. Diesel fuel was never used during the occupation of Hill Lumber.
4. Bedrock was encountered at a depth between 13.0 and 18.0 feet below grade surface (bgs).



## RECOMMENDATIONS

Based on the data collected and observations recorded during the installation of the monitoring wells, CEC supports the following step-wise recommendations:

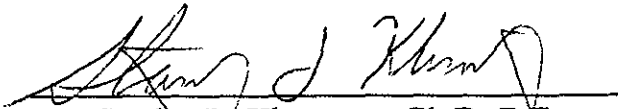
- Well monitoring for one-year for MW-1 and MW-2.
- CEC requests that the analytical data collected from the 2 monitoring wells, and piezometer be used as the first quarterly sampling.
- Site closure at the end of one-year.
- Calculation of the hydraulic gradient and direction of flow for each of the remaining quarters.

## LIMITATIONS

This report was prepared by Certified Environmental Consulting, Inc. under the professional direction and review of the person whose name and seal are shown below.

This report has been prepared according to generally accepted geologic and environmental practices. No other warranty, either expressed or implied about the professional advice provided is made. The conclusions and recommendations contained in this report are based on currently available information, and site conditions as they existed at the time of the investigation.



  
Stanley L. Klemetson, Ph.D, P.E.  
Executive Vice President

APPENDIX A  
DRILLING LOGS  
JULY 6, 1994



**CERTIFIED ENVIRONMENTAL CONSULTING**

536 STONE ROAD SUITE J BENICIA CA 94510  
(707) 745-0171 / (800) 228-0171 / (707) 745-0163 FAX

BORING NUMBER **MW-1**

SHEET 1 OF 1

PROJECT **Hill Lumber Company**

LOCATION **1259 Brighton Avenue.**

CONTRACT NUMBER **157-1660**

COORDINATES

LOGGED BY **R. Gallardo**

SURFACE ELEVATION

DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL	ELEVATION FEET
DEPTH FEET	LAB SAMPLE	SAMPLE TYPE	BLOW COUNTS	Recovery %	HNu (ppm)				
0						0 - 4" Concrete 4" - 11.5' Brown Grey base rock			
5									
10			3 3 3	0			<b>SANDY CLAY (CL)</b> Yellow brown, medium stiff, leopard texture, carbon nodules.		
15									
20			8 7 13 8 8 11 19 21 9 19 39 30			<b>CLAYEY SANDY GRAVEL (GC)</b> yellow brown, medium dense, moist, 1/4" to 1/2" sub angular clasts Residual soil, weathered bedrock.			
25						<b>GREY WEATHERED SHALE</b>			
						<b>SANDSTONE</b> weathered, yellow brown with clay seams weathered sandstone bedrock			
						Total depth of boring 28 feet			

DRILLING CONTRACTOR **SES**  
 DRILLING METHOD **HSA**  
 DRILLING EQUIPMENT **CME55**  
 DRILLING STARTED **7/6/94** ENDED **7/6/94**

REMARKS  
 See key sheet for symbols and abbreviations used above.



**CERTIFIED ENVIRONMENTAL CONSULTING**

336 STONE ROAD SUITE J BENICIA CA 94510  
(707) 745-0171 / (800) 226-0171 / (707) 745-0163 FAX

BORING NUMBER **MW-2**

SHEET 1 OF 1

PROJECT **Hill Lumber Company**

LOCATION **1259 Brighton Avenue.**

COORDINATES

CONTRACT NUMBER **157-1660**

SURFACE ELEVATION

DATUM

LOGGED BY **R. Gallardo**

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL	ELEVATION FEET
DEPTH FEET	LAB SAMPLE	SAMPLE TYPE	BLOW COUNTS	Recovery %	HNu (ppm)				
							<b>Base Rock</b> brown		
							<b>Gravelly Clay (Fill)</b> Dark Brown to Yellow Brown		
5			1 4 6 7	0			<b>Sandy Clay (CL)</b> yellow brown, stiff, moist, with trace gravel leopard texture		
10			4 8 13				<b>Sandy Gravelly Clay (CL)</b> yellow-brown, stiff, moist, wet on shoe @ 11.75'		
15			7 6 6 10				<b>SANDSTONE</b> Yellow Brown, weathered bedrock with clay seams		
20			7 20 25 27						
25			9 14 26 34				<b>SHALE (SH)</b> gray, weathered Total depth of boring 29.5 feet		

DRILLING CONTRACTOR **SES**  
 DRILLING METHOD **HSA**  
 DRILLING EQUIPMENT **CME55**  
 DRILLING STARTED **7/6/94** ENDED **7/6/94**

REMARKS

See key sheet for symbols and abbreviations used above.



**CERTIFIED ENVIRONMENTAL CONSULTING**

536 STONE ROAD SUITE J BENICIA CA 94510  
(707) 745-0171 / (800) 228-0171 / (707) 745-0163 FAX

BORING NUMBER **MW-3**  
PROJECT **Hill Lumber Company**  
LOCATION **1259 Brighton Avenue.**  
CONTRACT NUMBER **157-1660**  
LOGGED BY **R. Gallardo**

SHEET 1 OF 1

COORDINATES  
SURFACE ELEVATION                      DATUM

SAMPLE INFORMATION						STRATA	DESCRIPTION	WELL CONSTRUCTION DETAIL	ELEVATION FEET
DEPTH FEET	LAB SAMPLE	SAMPLE TYPE	BLOW COUNTS	Recovery %	HNu (ppm)				
5			2 4 10			<u>Sandy Gravelly Clay(CL)</u> dark brown			
						<u>Base Rock</u> gray brown			
						<u>Silty Clay(CL)</u> Dark Gray, stiff, moist			
10			2 6 9			<u>SANDY CLAY(CL)</u> Yellow Brown, stiff, moist, Petroleum odor @10.0' vertical gray streaks of contaminated soil			
15			6 9 9			<u>CLAYEY SANDY GRAVEL (GC)</u> Yellow brown, medium dense, moist to wet @ tip 17.0'			
20			9 10 13			<u>SANDSTONE</u> Yellow Brown weathered bedrock with clay seams			
25			12 18 29			<u>SHALE(SH)</u> Medium Gray weathered			
			10 17 23			Total depth of boring 28 feet			

DRILLING CONTRACTOR **SES**  
DRILLING METHOD **HSA**  
DRILLING EQUIPMENT **CME55**  
DRILLING STARTED **7/6/94** ENDED **7/6/94**

REMARKS  
See key sheet for symbols and abbreviations used above.

**APPENDIX B**

**LABORATORY ANALYSIS RESULTS**



CERTIFIED ENVIRONMENTAL CONSULTING INC.

# Chain of Custody Record

536 Stone Road, Ste. J., Benicia, CA 94510-1016  
 Ofc. (707) 745-0171 (800) 228-0171 Fax. (707) 745-0163

Date \_\_\_\_\_ Sheet \_\_\_\_\_ of \_\_\_\_\_

Project Number: 157-1660  
 Project Name: HILL LUMBER  
 Address: \_\_\_\_\_

Sampler's Name: \_\_\_\_\_  
 Sampler's Signature: Rafael Garrido  
Rafael Garrido

Sample Number	Location	Date	Time
MW-3-1	11-11.5	7-6-94	2:30 PM
MW-2-1	11-11.5	7-6-94	11:45 AM

Parameters										
TPH as Gasoline 8015	TPH as Diesel 8015	TPH-G and B.T.E.X. 8015/8020	B.T.X. & E 8020	Oil and Grease 5520	Volatile Organics (8010)	CAM Metals (17)	Pt. Pollutant Metals (15)	Base/Neut/Acids (Organic)	Pesticides 8140/8141	Matrix (Soil/Water)
	X	X								
	X	X								

Lab Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone Number: \_\_\_\_\_  
 Turnaround Time:  
 Rush  24 Hour  48 Hour  5-Day  
 Report to: \_\_\_\_\_

Comments:  
 36541  
 36542

Relinquished By	Date	Time	Received By	Date	Time
<u>Rafael Garrido</u>	7-8-94	1:00 P	<u>Ron Hamilton</u>	7-8-94	1:00 P
<u>Ron Hamilton</u>	7-8-94	3:00 P	<u>Steve Price</u>	7-8-94	3:00 pm
Dispatched By	Date	Time	Received in Lab By	Date	Time

Total Number of Containers This Sheet: \_\_\_\_\_  
 Method of Shipment: \_\_\_\_\_  
 Special Shipment / Handling or Storage Requirements: \_\_\_\_\_

2590 ACEC 641



McCAMPBELL ANALYTICAL INC.

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

Certified Environmental Consulting 536 Stone Road, Ste. J Benicia, CA 94510-1016	Client Project ID: # 157-1660; Hill Lumber	Date Sampled: 07/06/94
	Client Contact: Rafael Gallardo	Date Received: 07/08/94
	Client P.O:	Date Extracted: 07/08/94
		Date Analyzed: 07/08-07/09/94

**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 GC/FID(5030)

Lab ID	Client ID	Matrix	TPH(g) <sup>+</sup>	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec. Surrogate
36541	MW-3-1	S	ND	ND	ND	ND	ND	107
36542	MW-2-1	S	ND,b	ND	ND	ND	0.012	106
Detection Limit unless otherwise stated; ND means Not Detected	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 samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L  
 # cluttered chromatogram; sample peak co-elutes 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 are significant; no recognizable pattern; 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 phase is present.

McCAMPBELL ANALYTICAL INC.

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

Certified Environmental Consulting 536 Stone Road, Ste. J Benicia, CA 94510-1016	Client Project ID: # 157-1660; Hill Lumber	Date Sampled: 07/06/94
		Date Received: 07/08/94
	Client Contact: Rafael Gallardo	Date Extracted: 07/08/94
	Client P.O:	Date Analyzed: 07/08/94

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

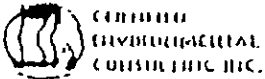
EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d) <sup>+</sup>	% Recovery Surrogate
36541	MW-3-1	S	ND	100
36542	MW-2-1	S	ND	100
Detection Limit unless otherwise stated; ND means Not Detected	W		50 ug/L	
	S		10 mg/kg	

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

# cluttered chromatogram; surrogate and sample peaks co-elute or surrogate peak is on elevated baseline

+ 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) modified diesel?; light(CL) or heavy(CH) diesel compounds are 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 phase is present.



CAMPBELL  
ANALYTICAL  
CORPORATION INC.

# Chain of Custody Record

536 Stone Road, Ste. J., Benetah, CA 94510-1016  
Ofc. (707) 745-0171 (800) 228-0171 Fax. (707) 745-0163

Date: 7-13-94 Sheet 1 of 1

Project Number: 94-157-1660  
Project Name: Hill Lumber  
Address: 1259 Brighton Ave  
ALBANY, Ca.

Sampler's Name: TROY V. PEW  
Sampler's Signature: [Signature]

Parameters										
TPH as Gasoline 8015	TPH as Diesel 8015	TPH-G and E.T.E.X. 8015/8020	E.T.X. & E 8020	Oil and Grease 5520	Volatile Organics (8010)	CAM Metals (17)	P. Pollutant Metals (13)	Base/New/Acids (Organic)	Pesticides 8140/8141	
	X	X								
	↓	↓								

Lab Name: Mc Campbell  
Address: 110 E. Del. Ave. South  
S 2 Packwood, Ca

Phone Number: 510-298-1620

Turnaround Time  
 Rush  
 24 Hour  
 48 Hour  
 5-Day  
 Report to: R. GARLAND

Comments  
35652  
35653  
35654

Sample Number	Location	Date	Time
<u>MW-1</u>		<u>7-13-94</u>	
<u>MW-2</u>		↓	
<u>MW-3</u>		↓	

Relinquished By	Date	Time	Received By	Date	Time
<u>[Signature]</u>	<u>7-14-94</u>	<u>12:50</u>	<u>Heidi Ricca</u>	<u>7/14/94</u>	<u>12:50</u>
Dispatched By	Date	Time	Received in Lab by	Date	Time

Total Number of Containers This Sheet: 12  
 Method of Shipment: \_\_\_\_\_  
 Special Shipment / Handling or Storage Requirements: \_\_\_\_\_  
 PRESERVATIVE:  LAST D&G METALS OTHER  
 APPROPRIATE CONTAINERS:

ICP ✓  
 GOOD CONDITION ✓  
 HEAD SPACE ABSENT ✓

07-20-1994 04:50PM FROM McCampbell Analytical Inc TO CEC BENICIA P.02

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

Certified Environmental Consulting 536 Stone Road, Ste. J Benicia, CA 94510-1016	Client Project ID: # 94-157-1660; Hill Lumber, Albany	Date Sampled: 07/13/94
	Client Contact: Rafael Gallardo	Date Received: 07/14/94
	Client P.O:	Date Extracted: 07/14/94
		Date Analyzed: 07/14/94

**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) <sup>+</sup>	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec. Surrogate
36652	MW-1	W	ND	ND	ND	ND	ND	98
36653	MW-2	W	ND.b	ND	ND	ND	1.0	101
36654	MW-3	W	ND	ND	ND	ND	ND	105
Detection Limit unless otherwise stated; ND means Not Detected	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 samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

# cluttered chromatogram: sample peak co-elutes 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 are significant; no recognizable pattern; 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 phase is present.

McCAMPBELL ANALYTICAL INC.	110 2nd Avenue South, #D7, Pacheco, CA 94553 Tel: 510-798-1620 Fax: 510-798-1622
----------------------------	---

Certified Environmental Consulting 536 Stone Road, Ste. J  Benicia, CA 94510-1016	Client Project ID: # 94-157-1660; Hill Lumber, Albany	Date Sampled: 07/13/94
	Client Contact: Rafael Gallardo	Date Received: 07/14/94
	Client P.O:	Date Extracted: 07/16/94
		Date Analyzed: 07/19-07/20/94

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

EPA methods modified 8013, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d) <sup>+</sup>	% Recovery Surrogate
36652	MW-1	W	110.b	100
36653	MW-2	W	ND	100
36654	MW-3	W	ND	102
Detection Limit unless otherwise stated; ND means Not Detected	W	50 ug/L		
	S	10 mg/kg		

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

<sup>#</sup> cluttered chromatogram; surrogate and sample peaks co-elute or surrogate peak is on elevated baseline

<sup>+</sup> 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) modified diesel?; light(CL) or heavy(CH) diesel compounds are 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 phase is present.

APPENDIX C  
WELL SURVEY DATA



CERTIFIED  
ENVIRONMENTAL  
CONSULTING INC.

DATE: 7-13-94  
PAGE 1 OF 1

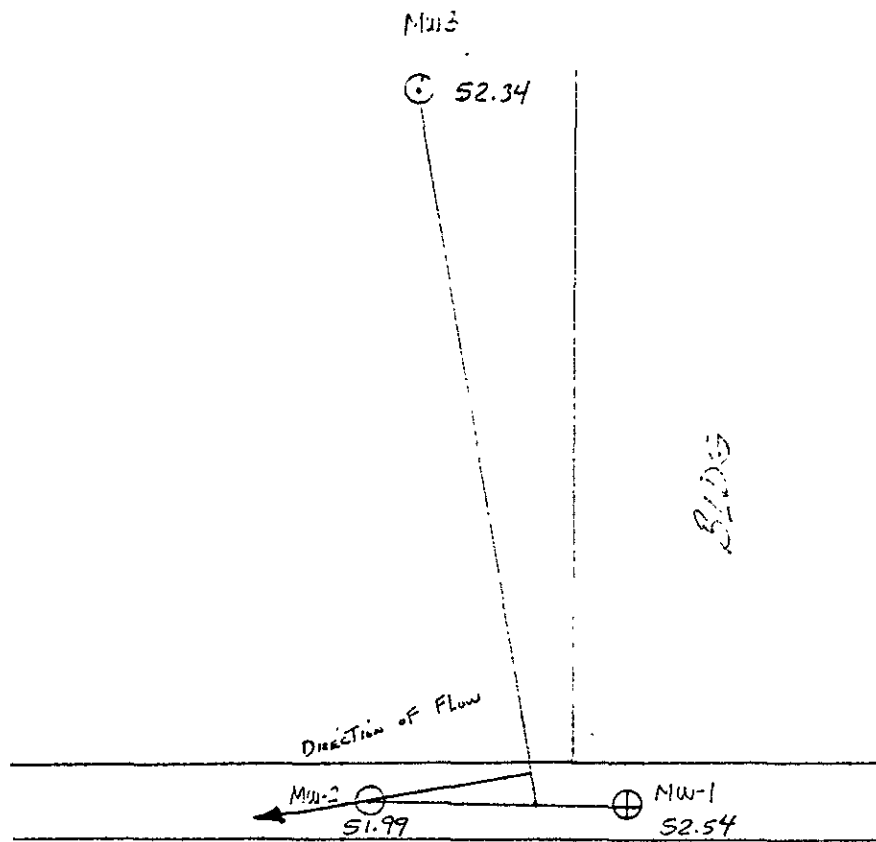
TABLE 1  
FILED SURVEY RECORD

CLIENT Hill Lumber Company LOCATION Albany, CA  
SURVEYORS R. Gallardo WEATHER 5-10 MPH 68°

STATION	BACK SIGHT	HI	FORE SIGHT	ELEVATION	WATER DEPTH	WATER ELEVATION
<u>City of Albany Survey</u>	<u>71.67</u>		<u>Corner of Brighton and Spokane on Spokane</u>			
	<u>0.23</u>			<u>71.90</u>		
		<u>9.77</u>		<u>62.13</u>		
	<u>4.80</u>			<u>66.93</u>		
<u>MW-1</u>		<u>5.16</u>	<u>61.77</u>	<u>9.23</u>	<u>52.54</u>	
<u>MW-2</u>		<u>5.56</u>	<u>61.37</u>	<u>9.38</u>	<u>51.99</u>	
<u>MW-3</u>		<u>6.46</u>	<u>60.47</u>	<u>8.13</u>	<u>52.34</u>	

NOTES: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Hill LUMBER CALCULATIONS



$$\frac{52.34 - 51.99}{52.54 - 51.99} = \frac{X}{26.5}$$

$$\frac{.35}{.55} = .636 = \frac{X}{26.5}$$

$$X = 16.86$$

$$\frac{52.34 - 51.99}{17} = \frac{.35}{17}$$

$$j = .021$$



**APPENDIX D**  
**SAMPLING EVENT DATA SHEETS**

# SAMPLING EVENT DATA SHEET

(fill out completely)

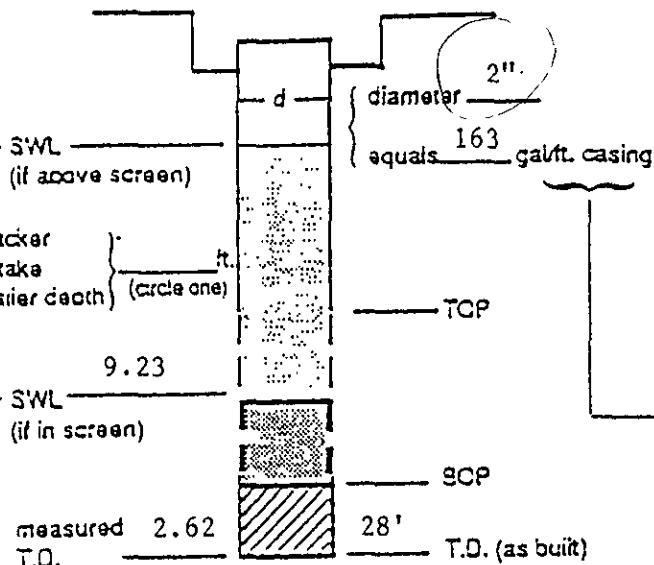
WELL OR LOCATION MW-1

PROJECT Hill Lumber EVENT Quarterly & Development SAMPLER T. Pew DATE 7-13-94

### Well Hydrologic statistics

Well type MW  
(MW, EW, etc.)

diameter 2"  
equals 163 gal/ft. casing



Action	Time	Pump rate	IWL (low yield)
Start pump / Begin	12:53		
Stop	1:24		
Sampled	2:10		
(Final IWL)	9.3		

### Purge calculation

$$.163 \text{ gal/ft.} \times 15.97 \text{ ft.} = 2.6 \text{ gals} \times 3 = 7.8 \text{ gals.}$$

SWL to BOP or packer to BOP      one volume      purge volume- 3 casings

### Head purge calculation (Airlift only)

gals/ft.      ft.      gals.      packer to SWL

Equipment Used / Sampling Method / Description of Event:  
 Submersible pump      Well is a great producer  
 Control Box  
 Generator  
 DAC  
 Disposable Bailer  
 25' Tubing  
 55 gallon drum

Actual gallons purged	<u>40</u>
Actual volumes purged	<u>15</u>
Well yield (see below)	<u>HY</u>

COC #	Analysis	Lab
Sample I.D. <u>MW-1</u>	<u>TPH-D</u>	<u>McC Campbell</u>
	<u>TPH-G</u>	
	<u>BTEX</u>	

Additional comments:  
 Sampling conditions good.  
 Well casing swabbed at 5' intervals then full casing.

Gallons purged	TEMP °C/°F (circle one)	EC (µs/cm)	PH	TURBIDITY (NTU)
1	69.6	1003	9.29	
2. 8	66.3	467	7.46	
16	66.5	520	6.99	
4. 24	66.8	588	6.97	
6. 38	66.9	652	6.54	

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.

# SAMPLING EVENT DATA SHEET

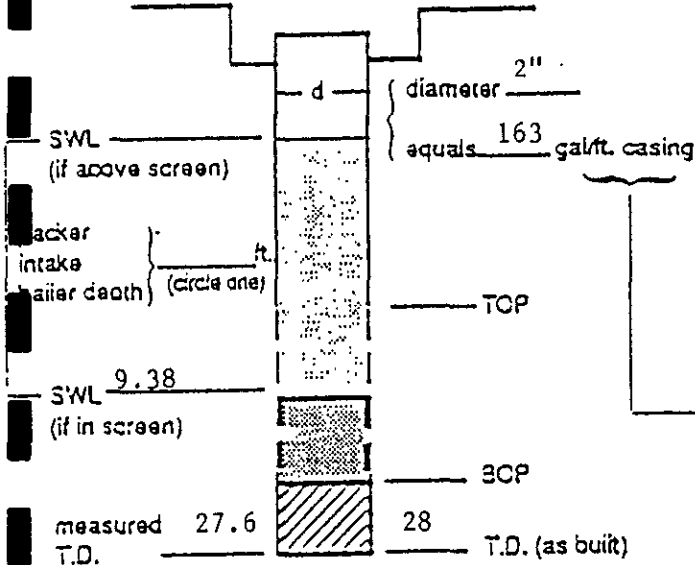
(fill out completely)

WELL OR LOCATION MW-2

PROJECT Hill Lumber EVENT Quarterly & Development SAMPLER T. Pew DATE 7-13-94

Well / Hydrologic statistics

Well type MW  
(MW, EW, etc.)



Action	Time	Pump rate	IWL (low yield)
Start pump / Begin	2:00		
Stop	2:57		
Sampled	3:23		
(Final IWL)	9.6		

Purge calculation

$$163 \text{ gal/ft.} \times 1822 \text{ ft.} = 2.9 \text{ gals} \times 3 = 8.9 \text{ gals.}$$

SWL to BOP or packer to BOP      one volume      purge volume - 3 casings

Head purge calculation: (Airlift only)

gal/ft.      ft.      gals.  
packer to SWL

Equipment Used / Sampling Method / Description of Event:

2" Submersible Pump      Decent Producer  
 Control Box  
 Generator  
 HYDAC  
 Disposable Bailer  
 35' Tubing  
 (1) 55 gallon drum

Actual gallons purged 40  
 Actual volumes purged 13.7  
 Well yield  $\ominus$  MY  
 (see below)

COC #	Analysis	Lab
Sample I.D. <u>MW-2</u>	<u>TPH-D</u>	<u>McC Campbell</u>
	<u>TPH-G</u>	
	<u>Btex</u>	

Additional comments:

Sampling conditions good.  
 Well casing swabbed at 5' intervals then full casing.

Gallons purged	TEMP °C/°F (circle one)	EC (µs/cm)	PH	TURBIDITY (NTU)
1	71.3	1283	6.65	
2. 8	68.8	737	6.78	
16	66.8	799	6.71	
4. 24	65.1	626	6.67	
36	67.7	639	6.61	

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

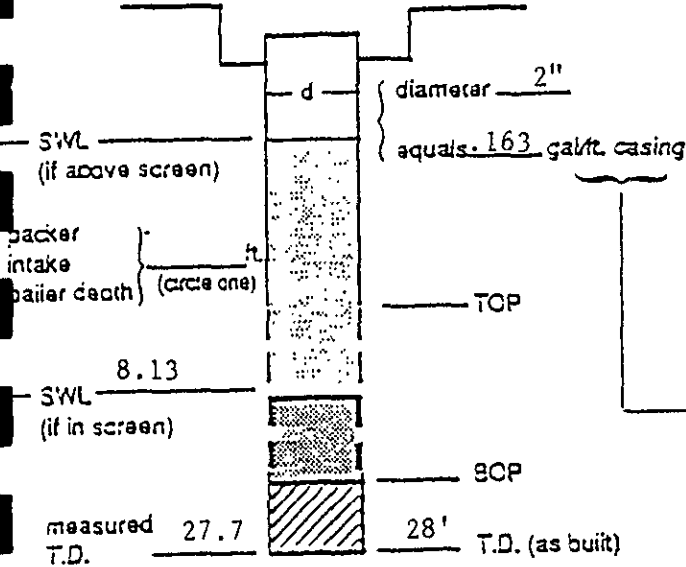
(fill out completely)

WELL OR LOCATION MW-3

PROJECT Hill Lumber EVENT Quarterly & Development SAMPLER T. Pew DATE 7-13-94

Well / Hydrologic statistics

Well type MW  
(MW, EW, etc.)



Action	Time	Pump rate	IWL (low yield)
Start pump / Begin	3:33		
Dry			
Stop	4:10		
Sampled (Final IWL)	9.5		
<b>Purge calculation</b>			
$.163 \text{ gal/ft} \cdot 19.57 \text{ ft} = 3.2 \text{ gals} \times 3 = 9.6 \text{ gals.}$			
<b>Head purge calculation (Airlift only)</b>			
$\text{gal/ft} \cdot \text{ft} = \text{gals.}$			

Equipment Used / Sampling Method / Description of Event:  
 2" Submersible Pump  
 Control Box  
 Generator  
 HYDAC  
 Disposable Bailer  
 35' Tubing  
 (1) 55 gallon drum  
 Very Slow Producer

Actual gallons purged	20
Actual volumes purged	6.25
Well yield (see below)	LY

COC #	Analysis	Lab
Sample I.D. MW-3	TPH-D	McCampbell
	TPH-G	
	Btex	

Additional comments:  
 Sampling conditions good.  
 Well casing swabbed at 5' intervals then full casing

Gallons purged	TEMP °C/°F (circle one)	EC (µs/cm)	PH	TURBIDITY (NTU)
1	67.9	1768	6.80	
2	66.8	1006	6.86	
3	66.3	980	6.91	
4				
5				

\* 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.