First Quarter 2003 Groundwater Monitoring Report

Sierra Pacific Industries
Arcata Division Sawmill
2593 New Navy Base Road
Arcata, California

June 9, 2003

MFG, Inc.
consulting scientists and engineers

FIRST QUARTER 2003 GROUNDWATER MONITORING REPORT

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Arcata Division Sawmill
2593 New Navy Base Road
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June 9, 2003

Prepared For:

SIERRA PACIFIC INDUSTRIES

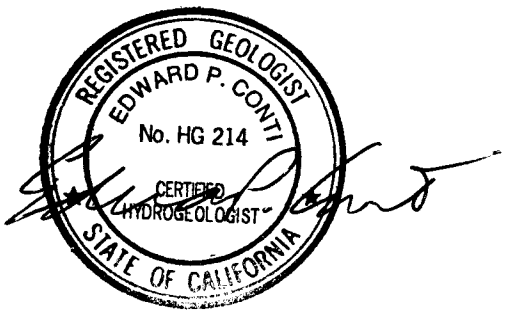
Prepared By:

MFG, INC.
1165 G Street, Suite E
Arcata, California 95521
(707) 826-8430

MFG Project No. 030229.2

PROFESSIONAL CERTIFICATION

This report has been prepared by MFG, Inc. under the professional supervision of Edward P. Conti. The findings, recommendations, specifications and/or professional opinions presented in this report have been prepared in accordance with generally accepted professional hydrogeologic practice, and within the scope of the project. There is no other warranty, either express or implied.



Edward P. Conti
C.HG. No. HG 214
Senior Consulting Geologist
MFG, INC.

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1.0 INTRODUCTION

This report presents the methods and results of the first quarter 2003 groundwater monitoring event performed at the Sierra Pacific Industries (SPI) Arcata Division Sawmill. The Arcata Division Sawmill is located at 2593 New Navy Base Road in Arcata, California (the Site). The Site location is shown in Figure 1. A Site plan is shown in Figure 2. This report was prepared by MFG, Inc. on behalf of SPI.

The first quarter groundwater monitoring event consisted of measuring the depth to water in 19 monitoring wells at the Site and in the Mad River Slough and collecting groundwater samples from 19 monitoring wells at the Site.

This report is organized as described below. Background information is provided in Section 2.0. Water level measurements and an evaluation of the lateral hydraulic gradient are included in Section 3.0. Groundwater sampling methods and chemical analysis results are presented in Section 4.0. The disposal of wastewater is discussed in Section 5.0. The monitoring schedule is presented in Section 6.0, and references cited in this report are listed in Section 7.0.

2.0 BACKGROUND

The Site is located on the Samoa Peninsula in Arcata, Humboldt County, California (Figure 1). The Site was originally undeveloped land, consisting of sand dunes and mud flats, until approximately 1950 when SPI converted the land into a lumber mill. During conversion, SPI filled in portions of the Site. SPI began operations at this facility before the area was completely filled in. The mill has been active from 1950 to present day.

In the early to mid-1960s, the mill started using anti-stain products that contained pentachlorophenol (PCP) and tetrachlorophenol (TCP) on a small amount of milled lumber (Environet, 2003). Historical records indicate that the anti-stain solution was stored in a dip tank that was located at the former green chain (Environet, 2003). The former green chain was located to the south of the current sorter building and immediately west of the current sawmill building (Figure 2). The use of anti-stain solutions containing PCP and TCP was discontinued in July 1985. The area of the former green chain is currently covered with concrete or asphalt and various equipment used to move lumber and lumber cutting by-products.

The subsurface lithology and hydrogeology at the Site was previously investigated and described by Environet Consulting (Environet, 2003). The subsurface lithology consists primarily of fine- to medium-grained sand of apparent sand dune origin to a depth of approximately 22 feet below ground level (bgl), the maximum depth explored during previous drilling activities at the Site. The sand is sporadically interbedded with thin lenses of "Bay Mud," consisting of a mixture of sand and silt (Environet, 2003).

In the eastern portion of the Site, groundwater has been measured in existing monitoring wells at depths ranging from approximately 1 to 5 feet bgl and the groundwater flow direction is generally to the east, toward the Mad River Slough (Figure 2) (Environet, 2003). Groundwater was measured at a depth of approximately 2 feet bgl in a temporary monitoring well that was installed in April 2003 in the vicinity of the Truck Shop, which is located immediately south of the Hyster Shop. Based on the proximity of the Truck Shop to Humboldt Bay, the groundwater flow direction in this area is likely to the south-southeast, toward Humboldt Bay.

3.0 EVALUATION OF LATERAL HYDRAULIC GRADIENT

3.1 Water Level Measurements

MFG measured the depth to water in all 19 monitoring wells on March 18, 2003 using an electronic water level probe. On March 31, 2003, MFG measured the depth to water in all 19 wells and at the Mad River Slough measuring point. Monitoring well construction details are included in Table 1. The depth to water measurements for March 18 and 31, 2003 are included in Table 2. The depth to water in the monitoring wells ranged from approximately 0.1 to 5.4 feet below the top of casing measuring points, except monitoring well MW-18 where the water level rose above the top of casing measuring point upon opening the well. MFG is in the process of adding a short section of removable PVC blank casing to well MW-18 to prevent a reoccurrence during future seasonally high water table fluctuations.

The depth to water in the tidally influenced Mad River Slough was measured from a surveyed measuring point on the railroad bridge adjacent to the Site. The water in the slough was measured at approximately 15.2 feet below the measuring point on the railroad bridge before the monitoring wells were measured and approximately 15.8 feet below the measuring point on the railroad bridge after the monitoring wells were measured (Table 2). A copy of the elevation survey report for the tide measuring point on the railroad bridge is included in Appendix A.

3.2 Lateral Hydraulic Gradient

Water level elevations were calculated using the depth-to-water measurements and the measuring point elevations of the wells. On March 18, 2003, the calculated water level elevations in the monitoring wells ranged from approximately 4.3 to 9.8 feet above the North American Vertical Datum of 1988 (NAVD 88) (Table 2). On March 31, 2003, the calculated water level elevations in the monitoring wells ranged from 4.1 to 10 feet above the NAVD 88 (Table 2). The water level elevations in the Mad River Slough ranged from approximately 0.6 feet above the NAVD 88 to 0.1 feet below the NAVD 88 during the water level measurement activities on March 31, 2003.

The water level elevations from March 31, 2003 were plotted and contoured on a Site plan to interpret the potentiometric surface for shallow and deep groundwater. The interpreted potentiometric surface for shallow groundwater is shown on Figure 3. The potentiometric surface contours for shallow

groundwater indicate that the lateral hydraulic gradient was to the east and northeast with a magnitude ranging from approximately 0.007 foot/foot near the sorter to approximately 0.03 foot/foot in the sawmill area. A groundwater depression exists in the vicinity of well MW-2 that is consistent with previous monitoring events (Environet, 2002). The interpreted potentiometric surface for deep groundwater is shown on Figure 4. The potentiometric surface contours for deep groundwater indicate that the lateral hydraulic gradient was to the east with a magnitude of approximately 0.003 foot/foot.

4.0 GROUNDWATER SAMPLING AND ANALYSIS

4.1 Field Methods

On March 18 and 20, 2003, monitoring wells MW-1 through MW-19D were purged and sampled. Each monitoring well was purged using a dedicated, disposable Teflon® bailer to remove standing water in the well casing. The temperature, pH and specific conductance of the water were monitored during purging and were recorded in the field. Purging was complete when the field-measured parameters were relatively stable and at least three casing volumes of water had been removed from each well. Copies of the groundwater sampling record field forms are included in Appendix B.

After purging, the groundwater in each well was allowed to recover to at least 80 percent of the initial water column height before sampling. Groundwater samples were collected from the monitoring wells using disposable Teflon® bailers. The initial volume of water collected from each well was used to measure the temperature, pH, and specific conductance of the groundwater samples. The field parameters measured for the samples are provided in Table 3.

Groundwater samples collected from each monitoring well were placed in two 125-milliliter (ml) glass vials. The vials were sealed with Teflon®-lined screw caps. After filling, the vials were labeled and placed in an ice-cooled, insulated chest for transport to the laboratory for analysis. A chain-of-custody record was completed for the samples and accompanied the samples until received by the laboratory. A copy of the chain-of-custody record for the samples is included in Appendix C.

All non-disposable equipment used to measure water levels and purge and sample the wells was washed in a solution of Liquinox® detergent and distilled water and rinsed three times with distilled water before each use. Water generated during groundwater sampling and equipment decontamination was temporarily stored at the Site in two labeled, Department of Transportation (DOT)-approved, 55-gallon drums prior to disposal (Section 5.0).

4.2 Chemical Analysis Methods and Results

The groundwater samples collected from the monitoring wells were analyzed by Alpha Analytical Laboratories Inc. of Ukiah, California (Alpha), a laboratory certified by the California Department of

Health Services (DHS). Alpha analyzed the groundwater samples for chlorinated phenols using the Canadian Pulp Method.

The chemical analysis results for the groundwater samples are presented in Table 4. Copies of the laboratory report and chain-of-custody record are included in Appendix C.

Chlorinated phenols were only detected in the groundwater sample from monitoring well MW-7. The following analytes were detected in the sample from well MW-7: pentachlorophenol (PCP) at a concentration of 19,000 micrograms per liter (µg/L); 2,3,5,6-tetrachlorophenol at a concentration of 36 µg/L; 2,3,4,6-tetrachlorophenol at a concentration of 460 µg/L; and 2,3,4,5-tetrachlorophenol at a concentration of 22 µg/L. The analyte 2,4,6-trichlorophenol was not detected at or above the laboratory reporting limit (Appendix C). An interpreted isoconcentration contour map of dissolved PCP in shallow groundwater is presented in Figure 5.

Chemical analysis results of groundwater samples collected at the Site during previous sampling events are also presented in this report and include the following constituents: dioxins and furans (Table 5); total organic carbon (TOC), chemical oxygen demand (COD) and chloride (Table 6); natural attenuation parameters (Table 7); and metals (Table 8).

5.0 DISPOSAL OF WASTEWATER

The purge water and equipment wash water generated during the groundwater sampling event are being stored temporarily at the Site in steel, 55-gallon drums (Section 4.1). The drums will be disposed of in accordance with applicable regulations.

6.0 MONITORING SCHEDULE

The second quarter 2003 groundwater monitoring event will be conducted in May 2003. This groundwater monitoring event will consist of the following activities:

- Water levels will be measured in all 19 groundwater monitoring wells;
- Water levels will be measured at the Mad River Slough measuring point before and after the monitoring well measurements;
- Groundwater samples will be collected from all 19 monitoring wells and analyzed for chlorinated phenols using the Canadian Pulp Method; and
- A groundwater sample from monitoring well MW-7 will be analyzed for dioxins and furans using EPA Method 1613/8290.

The methods and results of the sampling event will be presented in a groundwater monitoring report. The report will include: a summary of the activities performed; a discussion of the results; tables consisting of groundwater elevation and laboratory chemical analysis data; maps showing the locations of monitoring wells, the lateral hydraulic gradient of the shallow and deep groundwater and isoconcentration contours of PCP in shallow groundwater; and copies of field data sheets, laboratory analytical reports, and chain of-custody records.

7.0 REFERENCES

Environet Consulting (Environet), 2002. *Results of the 3rd Quarter 2002 Groundwater Monitoring and Sampling Event for Sierra Pacific Industries – Arcata Division Sawmills, Arcata, California*: November 25.

Environet Consulting (Environet), 2003. *Results of the Remedial Investigation for Sierra Pacific Industries –Arcata Division Sawmills, Arcata, California*: January 30.

TABLE 1

MONITORING WELL CONSTRUCTION DETAILS [1]

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

WELL NO.	DATE INSTALLED	TOTAL BORING DEPTH (ft bgl)	TOTAL WELL DEPTH (ft bgl)	WELL DIAMETER (inches)	SCREENED INTERVAL (ft bgl)	SCREEN SLOT SIZE (inches)	FILTER PACK INTERVAL (ft bgl)	BENTONITE SEAL INTERVAL (ft bgl)	SURFACE SEAL INTERVAL [2] (ft bgl)
MW-1	5-Mar-02	8.0	8.0	2	2.0 – 8.0	0.010	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-2	5-Mar-02	9.0	8.0	2	2.0 – 8.0	0.010	1.5 – 9.0	1.0 – 1.5	0 – 1.0
MW-3	5-Mar-02	8.5	8.0	2	2.0 – 8.0	0.010	1.5 – 8.5	1.0 – 1.5	0 – 1.0
MW-4	5-Mar-02	8.0	8.0	2	2.0 – 8.0	0.010	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-5	7-Mar-02	8.0	8.0	2	2.0 – 8.0	0.010	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-6	7-Mar-02	8.0	8.0	2	2.0 – 8.0	0.010	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-7	7-Mar-02	8.0	8.0	2	2.0 – 8.0	0.010	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-8	8-Mar-02	8.0	8.0	2	2.0 – 8.0	0.010	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-9	8-Mar-02	8.0	8.0	2	2.0 – 8.0	0.010	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-10	11-Nov-02	9.5	8.0	2	2.0 – 8.0	0.010	1.5 – 9.5	1.0 – 1.5	0 – 1.0
MW-11	12-Nov-02	8.5	8.0	2	2.0 – 8.0	0.010	1.5 – 8.5	1.0 – 1.5	0 – 1.0
MW-12	12-Nov-02	9.5	8.0	2	2.0 – 8.0	0.010	1.5 – 9.5	1.0 – 1.5	0 – 1.0
MW-13D	12-Nov-02	21.0	20.0	2	15.0 – 20.0	0.010	13.5 – 21.0	12.0 – 13.5	0 – 12.0
MW-14	13-Nov-02	8.0	8.0	2	2.0 – 8.0	0.010	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-15D	13-Nov-02	21.0	20.0	2	15.0 – 20.0	0.010	14.0 – 21.0	12.0 – 14.0	0 – 12.0
MW-16D	14-Nov-02	21.5	20.0	2	15.0 – 20.0	0.010	14.0 – 21.5	12.0 – 14.0	0 – 12.0
MW-17	14-Nov-02	9.0	8.0	2	2.0 – 8.0	0.010	1.5 – 9.0	1.0 – 1.5	0 – 1.0
MW-18	13-Nov-02	9.5	8.0	4	2.0 – 8.0	0.010	1.5 – 9.5	1.0 – 1.5	0 – 1.0
MW-19D	14-Nov-02	21.5	20.0	2	15.0 – 20.0	0.010	14.0 – 21.0	12.0 – 14.0	0 – 12.0

NOTES:
ft bgl Feet below ground level.
1 Construction details for wells MW-1 through MW-9 were obtained from *Report on Recent Hydrogeologic Investigations at Sierra-Pacific Industries, Arcata Division Sawmill*, dated April 19, 2002 prepared by Environet Consulting. Construction details for wells MW-10 through MW-19D were obtained from *Results of the Remedial Investigation for Sierra Pacific Industries – Arcata Division Sawmills, Arcata, California*, dated January 30, 2003, prepared by Environet Consulting.
2 Surface seal interval includes the concrete surface seal and neat cement sanitary seal.

TABLE 2

SUMMARY OF WATER LEVEL MEASUREMENTS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

WELL NO.	MEASUREMENT [1] DATE	MP ELEVATION [2] (ft NAVD 88)	DEPTH TO WATER (ft bMP)	WATER LEVEL ELEVATION (ft NAVD 88)
MW-1	14-Mar-02	9.56	5.31	4.25
	18-Jul-02	9.56	4.52	5.04
	16-Sep-02	9.56	4.37	5.19
	02-Dec-02	9.56	4.18	5.38
	18-Mar-03	9.56	4.09	5.47
	31-Mar-03	9.56	4.48	5.08
MW-2	14-Mar-02	9.49	4.52	4.97
	18-Jul-02	9.49	5.43	4.06
	16-Sep-02	9.49	5.28	4.21
	02-Dec-02	9.49	5.17	4.32
	18-Mar-03	9.49	5.16	4.33
	31-Mar-03	9.49	5.43	4.06
MW-3	14-Mar-02	11.14	2.19	8.95
	18-Jul-02	11.14	2.79	8.35
	16-Sep-02	11.14	2.96	8.18
	02-Dec-02	11.14	2.75	8.39
	18-Mar-03	11.14	2.30	8.84
	31-Mar-03	11.14	1.96	9.18
MW-4	14-Mar-02	10.71	1.52	9.19
	18-Jul-02	10.71	1.84	8.87
	16-Sep-02	10.71	2.04	8.67
	02-Dec-02	10.71	1.80	8.91
	18-Mar-03	10.71	1.52	9.19
	31-Mar-03	10.71	0.93	9.78
MW-5	14-Mar-02	10.69	0.95	9.74
	18-Jul-02	10.69	1.26	9.43
	16-Sep-02	10.69	1.35	9.34
	02-Dec-02	10.69	1.23	9.46
	18-Mar-03	10.69	0.87	9.82
	31-Mar-03	10.69	0.63	10.06
MW-6	14-Mar-02	9.77	0.85	8.92
	18-Jul-02	9.77	1.27	8.50
	16-Sep-02	9.77	1.51	8.26
	02-Dec-02	9.77	1.30	8.47
	18-Mar-03	9.77	0.89	8.88
	31-Mar-03	9.77	0.37	9.40

TABLE 2

SUMMARY OF WATER LEVEL MEASUREMENTS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

WELL NO.	MEASUREMENT [1] DATE	MP ELEVATION [2] (ft NAVD 88)	DEPTH TO WATER (ft bMP)	WATER LEVEL ELEVATION (ft NAVD 88)
MW-7	14-Mar-02	9.68	0.73	8.95
	18-Jul-02	9.68	1.15	8.53
	16-Sep-02	9.68	1.37	8.31
	02-Dec-02	9.68	1.19	8.49
	18-Mar-03	9.68	0.75	8.93
	31-Mar-03	9.68	0.26	9.42
MW-8	14-Mar-02	10.30	0.92	9.38
	18-Jul-02	10.30	1.24	9.06
	16-Sep-02	10.30	1.52	8.78
	02-Dec-02	10.30	1.34	8.96
	18-Mar-03	10.30	0.95	9.35
	31-Mar-03	10.30	0.29	10.01
MW-9	14-Mar-02	9.86	0.71	9.15
	18-Jul-02	9.86	1.13	8.73
	16-Sep-02	9.86	1.40	8.46
	02-Dec-02	9.86	1.18	8.68
	18-Mar-03	9.86	0.79	9.07
	31-Mar-03	9.86	0.11	9.75
MW-10	02-Dec-02	9.80	1.35	8.45
	18-Mar-03	9.80	0.95	8.85
	31-Mar-03	9.80	0.30	9.50
MW-11	02-Dec-02	10.26	1.55	8.71
	18-Mar-03	10.26	1.12	9.14
	31-Mar-03	10.26	0.40	9.86
MW-12	02-Dec-02	10.73	1.56	9.17
	18-Mar-03	10.73	1.15	9.58
	31-Mar-03	10.73	0.55	10.18
MW-13D	02-Dec-02	9.84	4.18	5.66
	18-Mar-03	9.84	4.21	5.63
	31-Mar-03	9.84	4.26	5.58
MW-14	02-Dec-02	9.02	2.40	6.62
	18-Mar-03	9.02	2.21	6.81
	31-Mar-03	9.02	1.77	7.25

TABLE 2

SUMMARY OF WATER LEVEL MEASUREMENTS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

WELL NO.	MEASUREMENT [1] DATE	MP ELEVATION [2] (ft NAVD 88)	DEPTH TO WATER (ft bMP)	WATER LEVEL ELEVATION (ft NAVD 88)
MW-15D	02-Dec-02	11.08	5.31	5.77
	18-Mar-03	11.08	5.44	5.64
	31-Mar-03	11.08	5.46	5.62
MW-16D	02-Dec-02	9.80	3.99	5.81
	18-Mar-03	9.80	4.17	5.63
	31-Mar-03	9.80	3.91	5.89
MW-17	02-Dec-02	8.98	1.27	7.71
	18-Mar-03	8.98	0.94	8.04
	31-Mar-03	8.98	0.32	8.66
MW-18	02-Dec-02	9.53	0.94	8.59
	18-Mar-03	9.53	0.52	9.01
	31-Mar-03 [3]	9.53	--	--
MW-19D	02-Dec-02	11.00	4.31	6.69
	18-Mar-03	11.00	4.23	6.77
	31-Mar-03	11.00	4.02	6.98
SLOUGH	31-Mar-03	15.70	15.15	0.55
	31-Mar-03	15.70	15.84	-0.14

NOTES:

ft NAVD 88	Feet above North American Vertical Datum of 1988.
ft bMP	Feet below measuring point.
--	Not measured.
SLOUGH	Mad River Slough measuring point on railroad bridge. Water level measurements are obtained before and after the water level measurements in the monitoring wells.
1.	Data prior to March 18, 2003 were obtained from *Results of the Remedial Investigation for Sierra Pacific Industries - Arcata Division Sawmills, Arcata, California* , dated January 30, 2003, prepared by Environet Consulting.
2.	Monitoring wells MW-10 through MW-19D were surveyed by Omsberg & Company on January 27, 2003.
3.	Water level was above the top of casing measuring point.

TABLE 3

SUMMARY OF WATER QUALITY PARAMETERS MEASURED IN THE FIELD

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

WELL NO.	DATE SAMPLED	TEMPERATURE (ºC)	SPECIFIC CONDUCTIVITY (µmohs/cm)	pH (std. units)
MW-1	20-Mar-03	14	2,600	6.5
MW-2	20-Mar-03	13	2,100	6.2
MW-3	20-Mar-03	13	1,100	6.4
MW-4	20-Mar-03	14	800	6.5
MW-5	20-Mar-03	14	700	6.6
MW-6	20-Mar-03	11	1,000	6.6
MW-7	20-Mar-03	11	900	6.6
MW-8	18-Mar-03	14	700	6.4
MW-9	18-Mar-03	14	800	6.4
MW-10	18-Mar-03	14	900	6.4
MW-11	20-Mar-03	14	900	6.4
MW-12	18-Mar-03	15	800	6.3
MW-13D	20-Mar-03	14	1,200	6.2
MW-14	20-Mar-03	14	3,000	6.7
MW-15D	20-Mar-03	13	1,300	6.8
MW-16D	18-Mar-03	14	5,200	7.7
MW-17	20-Mar-03	13	1,000	6.4
MW-18	18-Mar-03	14	1,000	6.5
MW-19D	20-Mar-03	16	800	6.7

NOTES:

ºC	Degrees Celsius.
µmhos/cm	Micromhos per centimeter.

TABLE 4

SUMMARY OF CHEMICAL ANALYSES OF GROUNDWATER SAMPLES FROM MONITORING WELLS FOR CHLORINATED PHENOLS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

WELL NO.	DATE SAMPLED [1]	PCP (µg/L)	2,4,6-TRI-CHLORO-PHENOL (µg/L)	2,3,5,6-TCP (µg/L)	2,3,4,6-TCP (µg/L)	2,3,4,5-TCP (µg/L)
	Reporting Limit:	1.0	1.0	1.0	1.0	1.0
MW-1	14-Mar-02	ND	ND	ND	ND	ND
	18-Jul-02	ND	ND	ND	ND	ND
	16-Sep-02	1.8	ND	ND	ND	ND
	03-Oct-02 [2]	ND	ND	ND	ND	ND
	02-Dec-02	ND	ND	ND	ND	ND
	20-Mar-03	ND	ND	ND	ND	ND
MW-2	14-Mar-02	7.4	ND	ND	ND	ND
	18-Jul-02	ND	ND	ND	ND	ND
	16-Sep-02	2.5	ND	ND	ND	ND
	03-Dec-02	ND	ND	ND	ND	ND
	20-Mar-03	ND	ND	ND	ND	ND
MW-3	14-Mar-02	1.2	ND	ND	ND	ND
	18-Jul-02	ND	ND	ND	ND	ND
	16-Sep-02	5.0	ND	ND	ND	ND
	03-Dec-02	ND	ND	ND	ND	ND
	20-Mar-03	ND	ND	ND	ND	ND
MW-4	14-Mar-02	8.6	ND	ND	ND	ND
	18-Jul-02	ND	ND	ND	ND	ND
	16-Sep-02	5.7	ND	ND	ND	ND
	03-Dec-02	ND	ND	ND	ND	ND
	20-Mar-03	ND	ND	ND	ND	ND
MW-5	14-Mar-02	4.3	ND	ND	ND	ND
	18-Jul-02	9.1	ND	ND	ND	ND
	16-Sep-02	25	ND	ND	ND	ND
	03-Dec-02	ND	ND	ND	ND	ND
	20-Mar-03	ND	ND	ND	ND	ND
	20-Mar-03 [3]	ND	ND	ND	ND	ND
MW-6	14-Mar-02	4.5	ND	ND	ND	ND
	18-Jul-02	ND	ND	ND	ND	ND
	16-Sep-02	6.3	ND	ND	ND	ND
	03-Dec-02	ND	ND	ND	ND	ND
	20-Mar-03	ND	ND	ND	ND	ND

TABLE 4

SUMMARY OF CHEMICAL ANALYSES OF GROUNDWATER SAMPLES FROM MONITORING WELLS FOR CHLORINATED PHENOLS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

WELL NO.	DATE SAMPLED [1]	PCP (µg/L)	2,4,6-TRI-CHLORO-PHENOL (µg/L)	2,3,5,6-TCP (µg/L)	2,3,4,6-TCP (µg/L)	2,3,4,5-TCP (µg/L)
	Reporting Limit:	1.0	1.0	1.0	1.0	1.0
MW-7	14-Mar-02	31,000	ND	41	650	24
	18-Jul-02	33,000	ND	ND	990	56
	16-Sep-02	44,000	ND	ND	920	64
	03-Dec-02	46,000	ND [1.3]	76	1,300	52
	14-Jan-03 [4]	51,000	2.4	ND	970	52
	20-Mar-03	19,000	ND	36	460	22
MW-8	14-Mar-02	22	ND	ND	ND	ND
	18-Jul-02	31	ND	ND	ND	ND
	16-Sep-02	4.8	ND	ND	ND	ND
	03-Dec-02	ND	ND	ND	ND	ND
	18-Mar-03	ND	ND	ND	ND	ND
MW-9	14-Mar-02	94	3.1	21	130	5.5
	18-Jul-02	2.1	ND	ND	ND	ND
	16-Sep-02	3.1	ND	ND	ND	ND
	03-Dec-02	ND	ND	ND	ND	ND
	18-Mar-03	ND	ND	ND	ND	ND
MW-10	03-Dec-02	ND	ND	ND	ND	ND
	18-Mar-03	ND	ND	ND	ND	ND
MW-11	03-Dec-02	ND	ND	ND	ND	ND
	20-Mar-03	ND	ND	ND	ND	ND
MW-12	03-Dec-02	ND	ND	ND	ND	ND
	18-Mar-03	ND	ND	ND	ND	ND
MW-13D	03-Dec-02	ND	ND	ND	ND	ND
	20-Mar-03	ND	ND	ND	ND	ND
MW-14	03-Dec-02	ND	ND	ND	ND	ND
	20-Mar-03	ND	ND	ND	ND	ND
MW-15D	03-Dec-02	ND	ND	ND	ND	ND
	20-Mar-03	ND	ND	ND	ND	ND
MW-16D	03-Dec-02	1.3	ND	ND	ND	ND
	18-Mar-03	ND	ND	ND	ND	ND

TABLE 4

SUMMARY OF CHEMICAL ANALYSES OF GROUNDWATER SAMPLES FROM MONITORING WELLS FOR CHLORINATED PHENOLS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

WELL NO.	DATE SAMPLED [1]	PCP (µg/L)	2,4,6-TRI-CHLORO-PHENOL (µg/L)	2,3,5,6-TCP (µg/L)	2,3,4,6-TCP (µg/L)	2,3,4,5-TCP (µg/L)
	Reporting Limit:	1.0	1.0	1.0	1.0	1.0
MW-17	03-Dec-02	ND	ND	ND	ND	ND
	20-Mar-03	ND	ND	ND	ND	ND
MW-18	03-Dec-02	ND	ND	ND	ND	ND
	18-Mar-03	ND	ND	ND	ND	ND
MW-19D	03-Dec-02	ND	ND	ND	ND	ND
	20-Mar-03	ND	ND	ND	ND	ND

NOTES:

PCP Pentachlorophenol.
TCP Tetrachlorophenol.
µg/L Micrograms per liter.
ND Not detected.
[ ] Indicates the reporting limit if different than that at the top of the column.

1. Data prior to March 18, 2003 were obtained from *Results of the Remedial Investigation for Sierra Pacific Industries - Arcata Division Sawmills, Arcata, California* , dated Jananury 30, 2003, prepared by Environet Consulting.
2. Confirmation sample collected due to detection of PCP on September 16, 2002.
3. Duplicate sample.
4. Sample also contained 280 µg/L of 2,3,4-trichlorophenol and 190 µg/L of 2,4,5-trichlorophenol.

Chlorinated phenols were analyzed using the Canadian Pulp Method.

TABLE 5

SUMMARY OF CHEMICAL ANALYSIS OF THE GROUNDWATER SAMPLE FROM MONITORING WELL MW-7 FOR DIOXINS AND FURANS COLLECTED ON SEPTEMBER 16, 2002

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

DIOXINS/FURANS	MW-7 (pg/L)	TEF [1]	TEQ [2, 3] (pg TCDD equiv./L)
2, 3, 7, 8-TCDD	ND	1	0
1, 2, 3, 7, 8-PeCDD	ND	1	0
1, 2, 3, 4, 7, 8-HxCDD	ND	0.1	0
1, 2, 3, 6, 7, 8-HxCDD	ND	0.1	0
1, 2, 3, 7, 8, 9-HxCDD	ND	0.1	0
1, 2, 3, 4, 6, 7, 8-HpCDD	32.4	0.01	0.3
OCDD	144	0.0001	0.01
2, 3, 7, 8-TCDF	ND	0.1	0
1, 2, 3, 7, 8-PeCDF	ND	0.05	0
2, 3, 4, 7, 8-PeCDF	ND	0.5	0
1, 2, 3, 4, 7, 8-HxCDF	ND	0.1	0
1, 2, 3, 6, 7, 8-HxCDF	ND	0.1	0
2, 3, 4, 6, 7, 8-HxCDF	ND	0.1	0
1, 2, 3, 4, 7, 8, 9-HxCDF	ND	0.1	0
1, 2, 3, 4, 6, 7, 8-HpCDF	6.59	0.01	0.07
1, 2, 3, 4, 7, 8, 9-HpCDF	ND	0.01	0
OCDF	22.2	0.0001	0
		Total TEQ [3]	0.4
		Percent 2, 3, 7, 8-TCDD [4]	0

NOTES:

TEF	Toxicity equivalency factor (unitless).
TEQ	Toxicity equivalency.
pg/L	Picograms per liter.
pg TCDD equiv./L	Picograms of TCDD equivalent per liter.
TCDD	Tetrachlorodibenzo-p-dioxin.
PeCDD	Pentachlorodibenzo-p-dioxin.
HxCDD	Hexachlorodibenzo-p-dioxin.
HpCDD	Heptachlorodibenzo-p-dioxin.
OCDD	Octachlorodibenzo-p-dioxin.
TCDF	Tetrachlorodibenzofuran.
PeCDF	Pentachlorodibenzofuran.
HxCDF	Hexachlorodibenzofuran.
HpCDF	Heptachlorodibenzofuran.
OCDF	Octachlorodibenzofuran.
ND	Not detected.
1.	World Health Organization, 1997 (WHO-97) adopted from F.X.R. van Leeuwen, 1997.
2.	Calculated by multiplying the congener concentration by its TEF.
3.	NDs were assigned a concentration of 0 pg/L to calculate TEQ.
4.	Calculated by dividing the TEQ for 2, 3, 7, 8-TCDD by the Total TEQ.

Dioxins and furans were analyzed using EPA Method 1613/8290.

Data were obtained from *Results of the Remedial Investigation for Sierra Pacific Industries - Arcata Division Sawmills, Arcata, California* , dated Jananury 30, 2003, prepared by Environet Consulting.

TABLE 6

SUMMARY OF CHEMICAL ANALYSES OF GROUNDWATER SAMPLES FROM MONITORING WELLS FOR TOC, COD AND CHLORIDE

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

WELL NO.	DATE SAMPLED	TOC (mg/L)	COD (mg/L)	Chloride (mg/L)
	Reporting Limit:	1.00	10	0.50
MW-1	25-Mar-02	45.7	110	520
MW-2	25-Mar-02	31.1	100	200
MW-3	25-Mar-02	20.0	57	41
MW-4	25-Mar-02	17.1	47	32
MW-5	25-Mar-02	9.04	28	16
MW-6	25-Mar-02	14.6	47	40
MW-7	25-Mar-02	23.2	57	73
MW-8	25-Mar-02	20.1	47	23
MW-9	25-Mar-02	12.3	47	37

NOTES:
TOC Total organic carbon. Analyzed using EPA Method 415.1.
COD Chemical oxygen demand. Analyzed using EPA Method 410.2.
mg/L Milligrams per liter.

Chloride was analyzed using EPA Method 300.0.
Data were obtained from the laboratory report provided in the *Report on Recent Hydrogeologic Investigation at Sierra Pacific Industries, Arcata Division Sawmill, 2293 Samoa Road, Arcata, California* , dated April 19, 2002, prepared by Environet Consulting.

TABLE 7

SUMMARY OF CHEMICAL ANALYSES OF GROUNDWATER SAMPLES FROM MONITORING WELLS FOR NATURAL ATTENUATION PARAMETERS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

WELL No.	DATE SAMPLED	CONDUCTIVITY (µS/cm)	TOTAL ALKALINITY (mg CaCO3/L)	FREE CO_2 (mg CO2/L)	NO_3^{-1} (mg/L)	SO_4^{-2} (mg/L)	Mn (mg/L)	Fe^{+2} (mg/L)	Ca (mg/L)	Mg (mg/L)	ORP (mV)	TSS (mg/L)	TDS (mg/L)	DO [1] (mg/L)	pH (std. units)	METHANE (mg/L)
Reporting Limit:		NA	5.0	50	0.50	2.0	0.30	3.6	1.0	1.0	NA	5.0	10	0.10	NA	0.2
MW-3	14-Jan-03	1,050	420	--	--	--	5.3	32	59	49	130	220	550	9.3	6.38	--
MW-7	14-Jan-03	660	350	280	ND	ND	2.9	35	30	50	190	950	560	8.6	6.45	50

NOTES:

CO_2	Carbon dioxide. Free CO_2 was calculated using SM 4500 CO_2-D.
NO_3^{-1}	Nitrate. Analyzed using EPA Method 300.0.
SO_4^{-2}	Sulfate. Analyzed using EPA Method 300.0.
Mn	Manganese. Analyzed using EPA Method 6010.
Fe^{+2}	Ferrous iron. Analyzed using EPA Method 3500.
Ca	Calcium. Analyzed using EPA Method 6010.
Mg	Magnesium. Analyzed using EPA Method 6010.
ORP	Oxidation reduction potential. Analyzed using SM 2580.
TSS	Total suspended solids. Analyzed using SM 2540 D.
TDS	Total dissolved oxygen. Analyzed using SM 2540 C.
DO	Dissolved oxygen. Analyzed using SM 4500-O, G.

Conductivity was analyzed using SM 2510.
Total alkalinity was analyzed using SM 2320B.
pH was analyzed using SM 4500.
Methane was analyzed using modified EPA Method 8015.

µS/cm	Microsiemens per centimeter.
mg $CaCO_3$/L	Milligrams of calcium carbonate per liter.
mg CO_2/L	Milligrams of carbon dioxide per liter.
mg/L	Milligrams per liter.
mV	Millivolts.
NA	Not applicable.
--	Not analyzed.
ND	Not detected.
1.	Laboratory measurement.

Data were obtained from *Results of the Remedial Investigation for Sierra Pacific Industries - Arcata Division Sawmills, Arcata, California,* dated January 30, 2003, prepared by Environet Consulting.

TABLE 8

SUMMARY OF CHEMICAL ANALYSES OF GROUNDWATER SAMPLES FROM MONITORING WELLS FOR METALS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

WELL NO.	DATE SAMPLED	Sb (mg/L)	As (mg/L)	Ba (mg/L)	Be (mg/L)	Cd (mg/L)	Cr (mg/L)	Co (mg/L)	Cu (mg/L)	Pb (mg/L)	Hg (mg/L)	Mo (mg/L)	Ni (mg/L)	Se (mg/L)	Ag (mg/L)	Tl (mg/L)	V (mg/L)	Zn (mg/L)
	Reporting Limit:	0.15	0.20	0.05	0.01	0.01	0.01	0.05	0.05	0.05	0.0002	0.05	0.05	0.20	0.01	0.40	0.05	0.05
MW-7	14-Jan-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES:

Sb	Antimony	Hg	Mercury
As	Arsenic	Mo	Molybdenum
Ba	Barium	Ni	Nickel
Be	Beryllium	Se	Selenium
Cd	Cadmium	Ag	Silver
Cr	Chromium	Tl	Thallium
Co	Cobalt	V	Vanadium
Cu	Copper	Zn	Zinc
Pb	Lead		
mg/L	Milligrams per liter.		
ND	Not detected.		

Metals were analyzed using EPA Methods 6010 and 7470.

Data were obtained from *Results of the Remedial Investigation for Sierra Pacific Industries - Arcata Division Sawmills, Arcata, California* , dated January 30, 2003, prepared by Environet Consulting.

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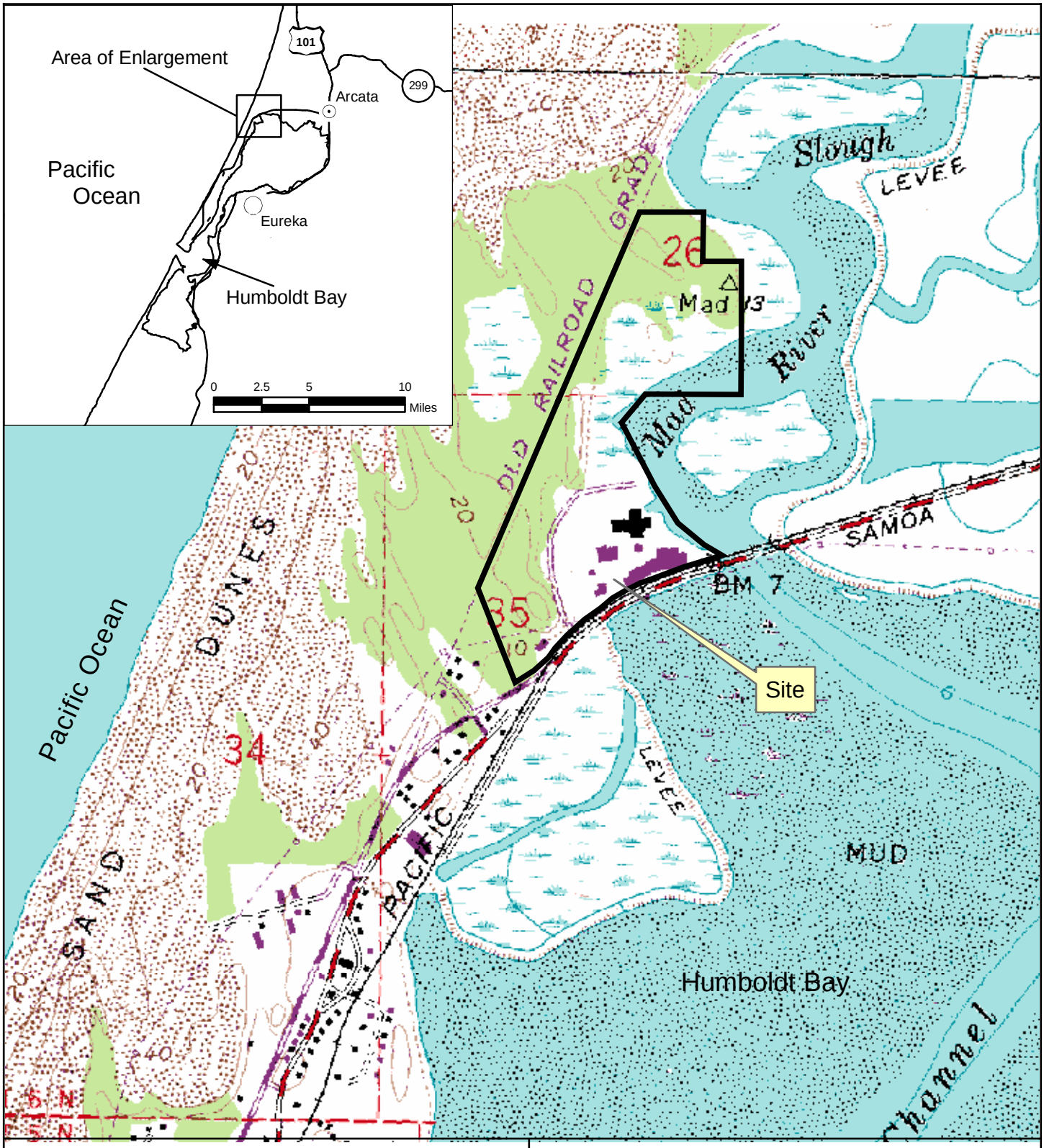

Source: USGS 24k Digital Raster Graph,
Eureka Quadrangle, Year - 1972

Site Boundary

0 500 1,000 2,000
Feet
Approximate Scale

N

LOCATION MAP

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Project No. 030229	By: I.Pryor	**Figure 1**
Date: 6/6/03	Checked: O.Plocher	

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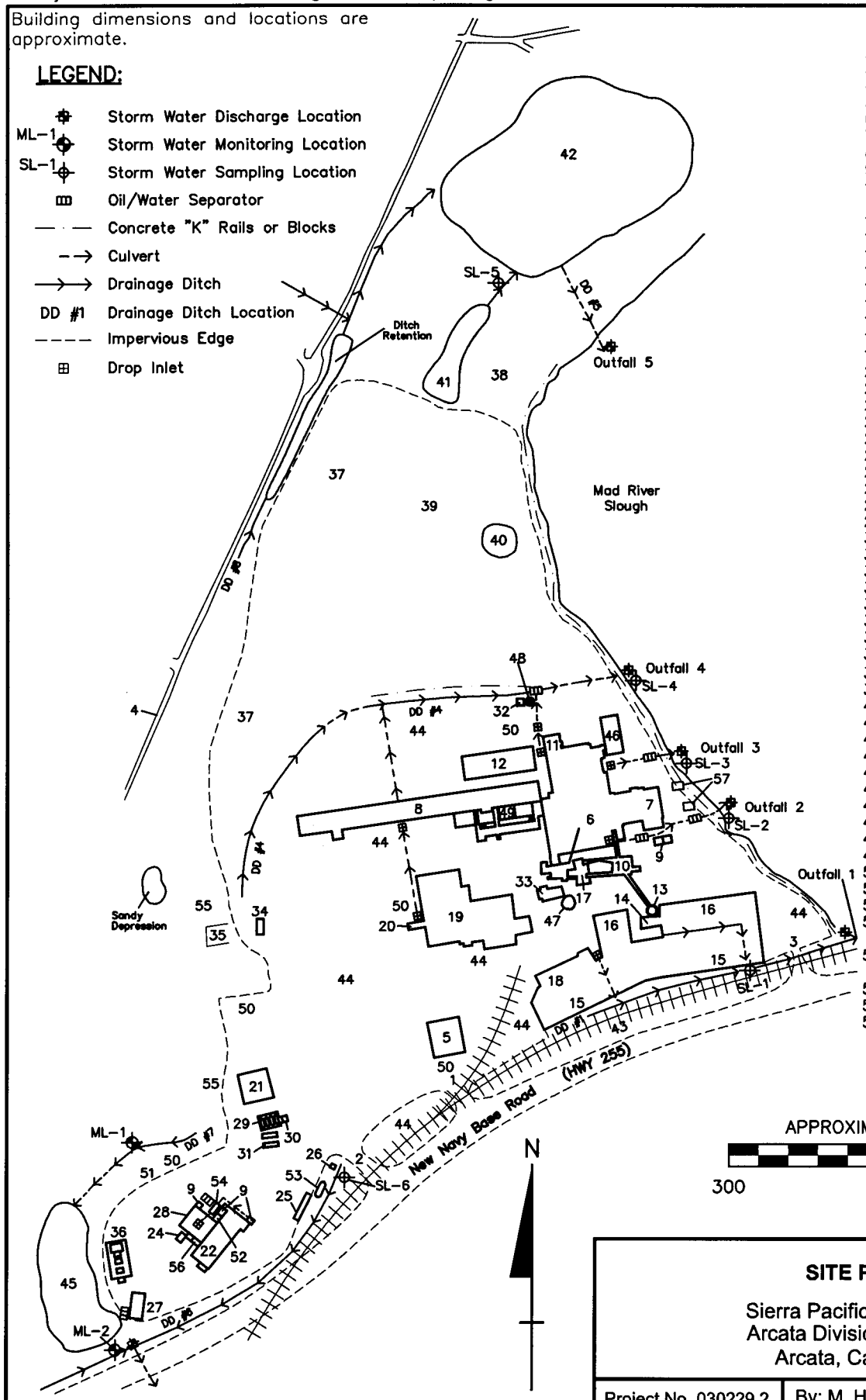
H:\Projects\030229-SPI\Task 2\1st QMR\Figures\Arcata site plan.dwg PLOT SCALE 1:1

Building dimensions and locations are approximate.

LEGEND:

- Storm Water Discharge Location
- ML-1 Storm Water Monitoring Location
- SL-1 Storm Water Sampling Location
- Oil/Water Separator
- Concrete "K" Rails or Blocks
- Culvert
- Drainage Ditch
- DD #1 Drainage Ditch Location
- Impervious Edge
- Drop Inlet



1. Main Entrance
2. West Entrance
3. East Entrance
4. Rifle Range Road
5. Administrative Office
6. Sawmill Building
7. Maintenance Building
8. Sorter Building
9. Oil Sheds
10. Hog Fuel / Wood Chip Storage Bins
11. Saw Shop
12. Timber Toter
13. Silo
14. Boilers
15. Dry Sheds
16. Dry Kiln
17. Chipper
18. Bander
19. Planer Building
20. Hula Trim
21. Dip Tank Building
22. Truck Shop
23. Hyster Shop
24. Waste Oil Shed
25. Truck Scale
26. Guard Shack
27. Wash Rack Area
28. Steam Cleaning Area
29. Aboveground Fuel Tanks
30. Fuel Shed
31. Fuel Dispenser Islands
32. Scale Shack
33. Lunchroom Building
34. Trailer Lift
35. Ash Stockpile
36. Electrical Substation
37. Douglas Fir Log Desk
38. Fir/Pine Log Desk
39. Log Unloading Area
40. Wood Waste Stockpile
41. Settling Basin
42. Vegetated Pond
43. Railroad Tracks
44. Lumber Storage Area
45. Shop Retention Pond
46. Debarker
47. Former Teepee Burner
48. Sprinkler Water Well
49. Former Dip Tank Location
50. Employee Parking Areas
51. Transport Truck Parking Area
52. Steam Cleaning Shed
53. Truck Scale Storm Water Storage Tank
54. Steam Cleaner Waste Water Underground Storage Tank
55. Bone Yard Area
56. Air Compressor Shed
57. Scrap Metal bins

APPROXIMATE SCALE

300 0 300 FEET

N

NOTE:
Site plan modified from Plate 2B in *Results of the Remedial Investigation for Sierra Pacific Industries - Arcata Division Sawmills, Arcata, California*, dated January 30, 2003, prepared by EnviroNet.

SITE PLAN

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Project No. 030229.2	By: M. Hillyard	**Figure 2**
Date: May 29, 2003	Checked: CGS	

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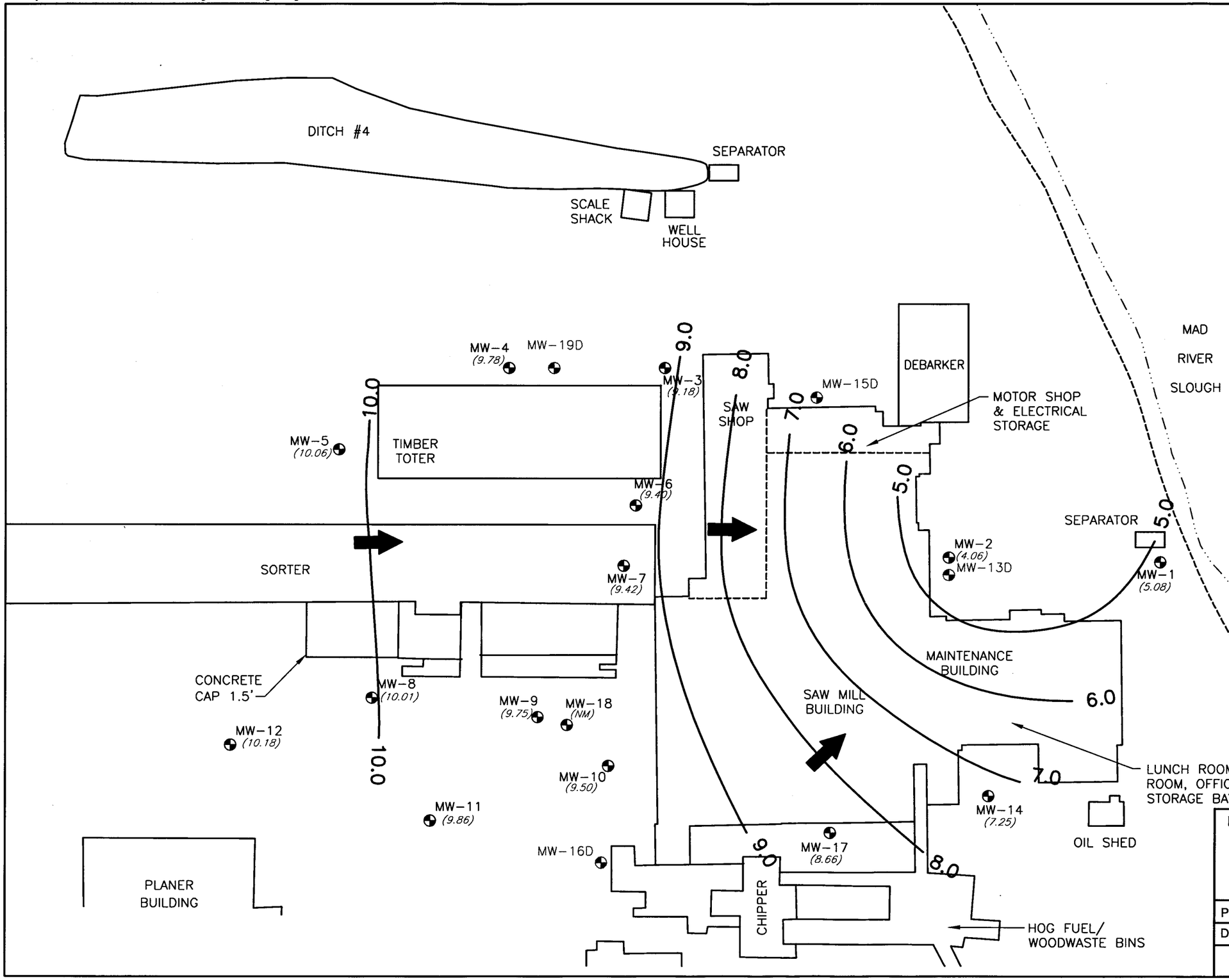

LEGEND:

MW-1 (5.08)	MONITORING WELL LOCATION (GROUNDWATER ELEVATION) D = DEEP WELL
—5.0—	POTENTIOMETRIC SURFACE CONTOURS; 1.0 FOOT INTERVAL
➡	DIRECTION OF GROUNDWATER FLOW
NM	NOT MEASURED. WATER LEVEL ABOVE THE TOP OF CASING MEASURING POINT

NOTES:

1. Site map modified from *Results of the Remedial Investigation for Sierra Pacific Industries - Arcata Division Sawmills, Arcata, California*, dated January 30, 2003, prepared by Environet Consulting.

2. Locations are approximate.

N

APPROXIMATE SCALE

50 0 50 FEET

POTENTIOMETRIC SURFACE MAP OF SHALLOW GROUNDWATER - MARCH 31, 2003

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Project No. 030229.2	By: S. Gallegos	**Figure 3**
Date: May 28, 2003	Checked: CGS	

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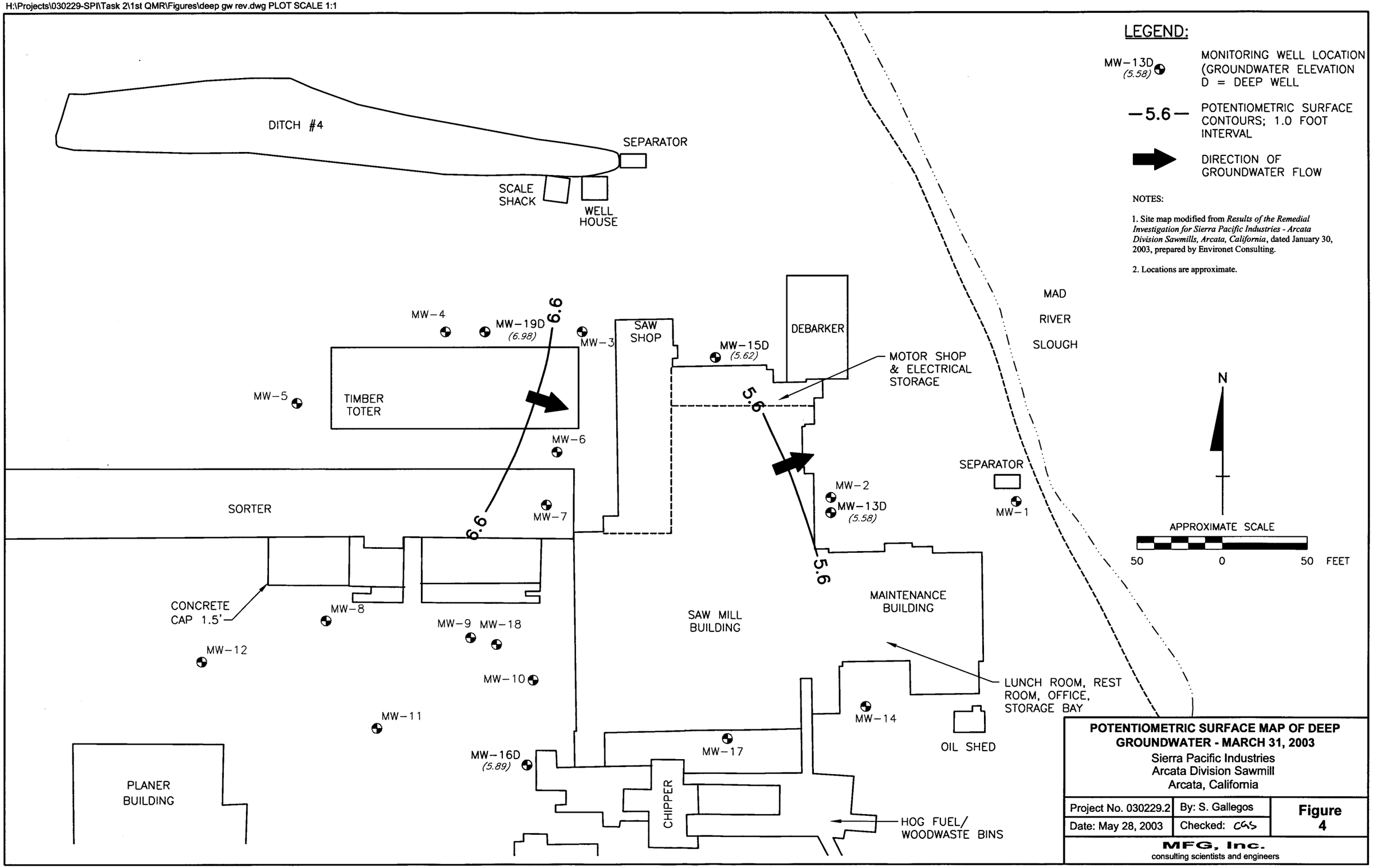

POTENTIOMETRIC SURFACE MAP OF DEEP GROUNDWATER - MARCH 31, 2003

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Project No. 030229.2	By: S. Gallegos	**Figure 4**
Date: May 28, 2003	Checked: CAS	

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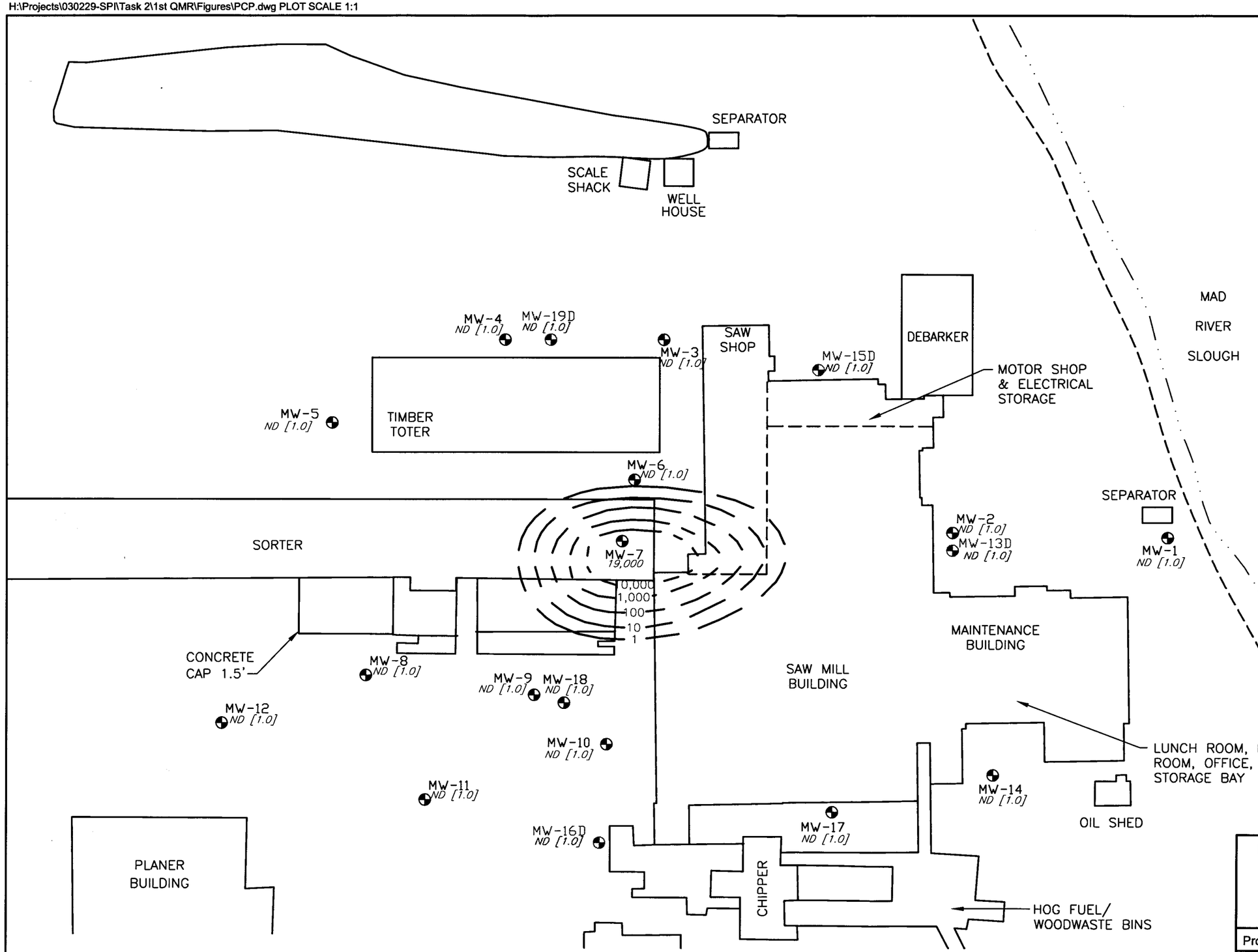

LEGEND:

MW-1	MONITORING WELL LOCATION W/ PCP CONCENTRATION D = DEEP
—1,000—	LINE OF EQUAL CONCENTRATION IN µg/L; CONTOUR INTERVAL IS LOGARITHMIC (DASHED WHERE INFERRED)
µg/L	MICROGRAMS PER LITER
ND	NOT DETECTED
[ ]	REPORTING LIMIT SHOWN IN BRACKETS

NOTES:

1. Site map modified from *Results of the Remedial Investigation for Sierra Pacific Industries - Arcata Division Sawmills, Arcata, California*, dated January 30, 2003, prepared by Environet Consulting.

2. Locations are approximate.

ISOCONCENTRATION CONTOUR MAP OF PCP IN SHALLOW GROUNDWATER - MARCH 2003
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Project No. 030229.2	By: M. Hillyard	**Figure 5**
Date: June 6, 2003	Checked: CG,S	

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APPENDIX A

Elevation Survey Report for the Measuring Point Located on the Railroad Bridge Over the Mad River Slough

OMSBERG & COMPANY

SURVEYORS ENGINEERS

May 5, 2003

Matt Hillyard
MFG, Inc.
A Tetra Tech Company
1165 "G" Street
Arcata, CA 95521

Dear Matt:

At your request, we performed a survey to establish an elevation on a steel plate "temporary bench mark". The elevations are as follows:

1. 2" Brass Cap Bench Mark "J-735 Reset"

   Elevation = 14.90'

2. Steel Plate – Temporary Bench Mark

   Elevation = 15.70'

Elevation datum is NAVD 88

Please call if you have any questions.

Kenneth J. Omsberg, Jr. LS 4446
Expires 9-30-05

304 N STREET EUREKA, CA 95501 (707) 443-8651 FAX (707) 443-0422

APPENDIX B

Groundwater Sampling Record Field Forms

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-1

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 3/20/03

Sampling Location (well ID, etc.): MW-1

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 9.56

Screened Interval (ft.BGL): 2.0-8.0

Filter Pack Interval (ft.BGL): 1.5-8.0

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 4.52

Total Depth (ft. BMP): 7.55 feet Water Column Height (ft.): 3.03

Casing Diameter (in. ID): 2-Inch Multiplication Factor: 0.163

Casing Volume (gal.): .5 2X: 1.0 3X 1.5 4X —

Water Level (ft.BMP) at End of Purge: 4.93

Total Depth (ft. BMP) at End of Purge: —

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Liquinox detergent & distilled water solution followed by triple rinse w/ distilled water.

Purging: Disposable PolyethyleneBailer Sampling: Bailer

Disposal of Discharged Water: 55-Gallon Drum

INSTRUMENTS (indicate make, model, i.d.):

Water Level: Envirotech LTD, Waterline Model 150 Thermometer: Ultrameter

pH Meter: Ultrameter Field Calibration: pH 4, 7, 10

Conductivity Meter: Ultrameter Field Calibration: 2060 umhos

Other: Field Calibration:

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm): @ Field Temp.	@ 25 °C.	Appearance: Color	Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
1045	0						lt yellow			
1050	5	0.1	14.5	6.76	2790		gray/brn	slightly cloudy		
1053	1.0	.17	14.1	6.54	2570		"	"		
1056	1.5	.17	13.9	6.53	2550		"	"		
Ave		.14								

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 4.93 Recovery %: 86.5 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
1057	125mL	glass	2	N	NA	PCP/TCP	

Chain-of-Custody Record No. 43284

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-2

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 3/20/03

Sampling Location (well ID, etc.): MW-2

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 9.49

Screened Interval (ft.BGL): 2.0-8.0

Filter Pack Interval (ft.BGL): 1.5-9.0

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 5.20

Total Depth (ft. BMP): 7.65 feet Water Column Height (ft.): 2.45

Casing Diameter (in. ID): 2-Inch Multiplication Factor: 0.163

Casing Volume (gal.): 0.4 2X: 0.8 3X 1.2 4X —

Water Level (ft.BMP) at End of Purge:

Total Depth (ft. BMP) at End of Purge:

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Liquinox detergent & distilled water solution followed by triple rinse w/ distilled water.

Purging: Disposable Polythylene Bailer Sampling: Disposable Polythylene Bailer

Disposal of Discharged Water: 55-Gallon Drum

INSTRUMENTS (indicate make, model, i.d.):

Water Level: Envirotech LTD, Waterline Model 150 Thermometer: Ultrameter

pH Meter: Ultrameter Field Calibration: pH 4, 7, 10

Conductivity Meter: Ultrameter Field Calibration: 2060 umhos

Other: Field Calibration:

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm) @ Field Temp.	Specific Conductance (µmhos/cm) @ 25 °C.	Appearance: Color	Appearance: Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
1210	0						clear			H2S odor
1213	.5	.16	13.6	6.20	2140		"			
1215	1.0	.25	13.4	6.22	2100		"	Slightly cloudy		
1217	1.5	.25	13.2	6.18	2070		"	"		
Ave		.21								

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 5.25 Recovery %: 98.0 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
1219	125mL	glass	2	N	NA	PCP/TCP	

Chain-of-Custody Record No. 43284

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-3

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 3/20/03

Sampling Location (well ID, etc.): MW-3

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 11.14

Screened Interval (ft.BGL): 2.0-8.0

Filter Pack Interval (ft.BGL): 1.5-8.5

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 2.09

Total Depth (ft. BMP): 7.77 feet Water Column Height (ft.): 5.68

Casing Diameter (in. ID): 2-Inch Multiplication Factor: 0.163

Casing Volume (gal.): .9 2X: 1.8 3X 2.7 4X —

Water Level (ft.BMP) at End of Purge:

Total Depth (ft. BMP) at End of Purge: —

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Liquinox detergent & distilled water solution followed by triple rinse w/ distilled water.

Purging: Disposable PolyethyleneBailer Sampling: Bailer

Disposal of Discharged Water: 55-Gallon Drum

INSTRUMENTS (indicate make, model, i.d.):

Water Level: Envirotech LTD, Waterline Model 150 Thermometer: Ultrameter

pH Meter: Ultrameter Field Calibration: pH 4, 7, 10

Conductivity Meter: Ultrameter Field Calibration: 2060 mmhos

Other: Field Calibration:

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm): @ Field Temp.	@ 25 °C.	Appearance: Color	Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
328	0						clear			orange scum
330	1	.5	13.3	6.60	1086		"			
332	2	.5	13.1	6.41	1110		"			
335	3	.33	13.1	6.41	1085		"			
Ave	4	.43								
	5									
	6									

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 2.25 Recovery %: 97.2 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
3:37	125mL	glass	2	N	NA	PCP/TCP	

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McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-4

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 3/29/03

Sampling Location (well ID, etc.): MW-4

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 10.71

Screened Interval (ft.BGL): 2.0 - 8.0

Filter Pack Interval (ft.BGL): 1.5 - 8.0

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 1.41

Total Depth (ft. BMP): 7.76 feet Water Column Height (ft.): 6.35

Casing Diameter (in. ID): 2-Inch Multiplication Factor: 0.163

Casing Volume (gal.): 1 2X: 2 3X 3 4X —

Water Level (ft.BMP) at End of Purge: 2.0

Total Depth (ft. BMP) at End of Purge: —

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: Bailer Sampling: Bailer

Disposal of Discharged Water: 55-Gallon Drum

INSTRUMENTS (indicate make, model, i.d.):

Water Level: Envirotech LTD, Waterline Model 150 Thermometer: Ultrameter

pH Meter: Ultrameter Field Calibration: pH 4, 7, 10

Conductivity Meter: Ultrameter Field Calibration: 2060 umhos

Other: Field Calibration:

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm): @ Field Temp.	@ 25 °C.	Appearance: Color	Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
223	0						clear			orange scum
226	1	.33	14.4	6.71	868		"			
228	2	.5	14.5	6.40	852		"			
230	3	.5	14.4	6.45	828		"			
Ave	4	4.3								
	5									
	6									

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 1.90 Recovery %: 92.1 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
232	125mL	glass	2	N	NA	PCP/TCP	

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GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-5

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 3/24/03

Sampling Location (well ID, etc.): MW-5

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 10.69

Screened Interval (ft.BGL): 2.0-8.0

Filter Pack Interval (ft.BGL): 1.5-8.0

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 0.73

Total Depth (ft. BMP): 7.68 feet Water Column Height (ft.): 6.95

Casing Diameter (in. ID): 2-Inch Multiplication Factor: 0.163

Casing Volume (gal.): 1.1 2X: 2.2 3X 3.3 4X

Water Level (ft.BMP) at End of Purge: 1.0

Total Depth (ft. BMP) at End of Purge:

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: Bailer Sampling: Bailer

Disposal of Discharged Water: 55-Gallon Drum

INSTRUMENTS (indicate make, model, i.d.):

Water Level: Envirotech LTD, Waterline Model 150 Thermometer: Ultrameter

pH Meter: Ultrameter Field Calibration: pH 4, 7, 10

Conductivity Meter: Ultrameter Field Calibration: 2060 umhos

Other: Field Calibration:

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm): @ Field Temp.	@ 25 °C.	Appearance: Color	Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
4:00	0						clear			
4:02	1	.5	13.6	6.70	675		"			
4:04	2	.5	13.5	6.65	675		"			
4:06	3	.5	13.5	6.60	673		"			
4:07	3.5	.5	13.5	6.60	673		"			
Ave										

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 0.98 Recovery %: 96.4 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
4:08	125mL	glass	2	N	NA	PCP/TCP	MW-5
"	"	"	"	"	"	"	MW-A duplicate

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GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-6

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 3/29/03

Sampling Location (well ID, etc.): MW-6

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 9.77

Screened Interval (ft.BGL): 2-8

Filter Pack Interval (ft.BGL): 1.5-8

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 0.80

Total Depth (ft. BMP): 7.72 feet Water Column Height (ft.): 6.92

Casing Diameter (in. ID): 2-Inch Multiplication Factor: 0.163

Casing Volume (gal.): 1-1 2X: 2.2 3X 3.3 4X —

Water Level (ft.BMP) at End of Purge:

Total Depth (ft. BMP) at End of Purge: —

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: Bailer Sampling: Bailer

Disposal of Discharged Water: 55-Gallon Drum

INSTRUMENTS (indicate make, model, i.d.):

Water Level: Envirotech LTD, Waterline Model 150 Thermometer: Ultrameter

pH Meter: Ultrameter Field Calibration: pH 4, 7, 10

Conductivity Meter: Ultrameter Field Calibration: 2060 umhos

Other: Field Calibration:

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm): @ Field Temp.	@ 25 °C.	Appearance: Color	Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
425	0						clear			orange scum
428	1	.33	10.8	6.63	919		"			
430	2	.5	10.7	6.57	944		"			
432	3	.5	10.8	6.53	968		grayish brn			
433	3.8	.8	10.6	6.58	951		"			
Ave		.48								

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 1.60 Recovery %: 80.0 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
435	125mL	glass	2	N	NA	PCP/TCP	

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GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-7

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 3/20/03

Sampling Location (well ID, etc.): MW-7

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 9.68

Screened Interval (ft.BGL): 2 - 8

Filter Pack Interval (ft.BGL): 1.5 - 8

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 0.72

Total Depth (ft. BMP): 7.74 feet Water Column Height (ft.): 7.02

Casing Diameter (in. ID): 2-Inch Multiplication Factor: 0.163

Casing Volume (gal.): 1.1 2X: 2.2 3X 3.3 4X

Water Level (ft.BMP) at End of Purge: 1.65

Total Depth (ft. BMP) at End of Purge:

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: Bailer Sampling: Bailer

Disposal of Discharged Water: 55-Gallon Drum

INSTRUMENTS (indicate make, model, i.d.):

Water Level: Envirotech LTD, Waterline Model 150 Thermometer: Ultrameter

pH Meter: Ultrameter Field Calibration: pH 4, 7, 10

Conductivity Meter: Ultrameter Field Calibration: 2060 mmhos

Other: Field Calibration:

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm): @ Field Temp.	@ 25 °C.	Appearance: Color	Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
449	0						Clear			Orange Sawm
451	1	.5	10.7	6.57	879		"			
453	2	.5	10.7	6.53	890		"			
454	3	1	10.7	6.56	906		"			
457	3.6	.6	10.7	6.56	907		"			
Ave		.6								

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 1.40 Recovery %: 90.3 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
457	125mL	glass	2	N	NA	PCP/TCP	

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GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-8

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 3/18/03

Sampling Location (well ID, etc.): MW-8

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 10.3

Screened Interval (ft.BGL): 2-8

Filter Pack Interval (ft.BGL): 1.5-8

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 0.95

Total Depth (ft. BMP): 7.73 feet Water Column Height (ft.): 6.78

Casing Diameter (in. ID): 2-Inch Multiplication Factor: 0.163

Casing Volume (gal.): 1.1 2X: 2.2 3X 3.3 4X —

Water Level (ft.BMP) at End of Purge: 1.22

Total Depth (ft. BMP) at End of Purge: —

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: Bailer Sampling: Bailer

Disposal of Discharged Water: 55-Gallon Drum

INSTRUMENTS (indicate make, model, i.d.):

Water Level: Envirotech LTD, Waterline Model 150 Thermometer: Ultrameter

pH Meter: Ultrameter Field Calibration: pH 4, 7, 10

Conductivity Meter: Ultrameter Field Calibration: 2060 umhos

Other: Field Calibration:

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm): @ Field Temp.	@ 25 °C.	Appearance: Color	Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
1204	0						clear			some foam
1206	1	.25	14.4	6.55	727		"			1+2 sodon
1210	2	.5	14.3	6.36	725		"			
1245	3	.03	15.3	6.8	736		lt brn			
1247	4	.5	14.2	6.45	731		"			
1249	4.5	.25	14.0	6.39	729					
Ave		.1								

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 1.22 Recovery %: 960 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
1250	125mL	glass	2	N	NA	PCP/TCP	

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GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-9

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 3/16/03

Sampling Location (well ID, etc.): MW-9

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 9.86

Screened Interval (ft.BGL): 2-8

Filter Pack Interval (ft.BGL): 1.5-8

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 6.79

Total Depth (ft. BMP): 7.71 feet Water Column Height (ft.): 6.92

Casing Diameter (in. ID): 2-Inch Multiplication Factor: 0.163

Casing Volume (gal.): 1-1 2X: 2.2 3X 3.3 4X –

Water Level (ft.BMP) at End of Purge:

Total Depth (ft. BMP) at End of Purge:

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: Bailer Sampling: Bailer

Disposal of Discharged Water: 55-Gallon Drum

INSTRUMENTS (indicate make, model, i.d.):

Water Level: Envirotech LTD, Waterline Model 150 Thermometer: Ultrameter

pH Meter: Ultrameter Field Calibration: pH 4, 7, 10

Conductivity Meter: Ultrameter Field Calibration: 2060 umhos

Other: Field Calibration:

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm): @ Field Temp.	@ 25 °C.	Appearance: Color	Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
104	0						Clear			brown foam/scum on top
107	1	.33	14.4	6.80	820		1+ turb			
110	2	.33	14.1	6.46	814		"			
112	3	.5	14.1	6.44	810		"			
114	4	.5	14.1	6.43	819		"			
Ave	~~8~~	0.4								
	~~6~~									

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 7.93 Recovery %: 98 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
114	125mL	glass	2	N	NA	PCP/TCP	

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GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-10

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 3/18/03

Sampling Location (well ID, etc.): MW-10

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 9.80

Screened Interval (ft.BGL): 2-8

Filter Pack Interval (ft.BGL): 1.5-9.5

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 0.99

Total Depth (ft. BMP): 7.16 Water Column Height (ft.): 6.81

Casing Diameter (in. ID): 2-Inch Multiplication Factor: 0.163

Casing Volume (gal.): 1X: 1.1 2X: 2.2 3X: 3.3 4X:

Water Level (ft.BMP) at End of Purge:

Total Depth (ft. BMP) at End of Purge:

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: Bailer Sampling: Bailer

Disposal of Discharged Water: 55-Gallon Drum

INSTRUMENTS (indicate make, model, i.d.):

Water Level: Envirotech LTD, Waterline Model 150 Thermometer: Ultrameter

pH Meter: Ultrameter Field Calibration: pH 4, 7, 10

Conductivity Meter: Ultrameter Field Calibration: 2060 umhos

Other: Field Calibration:

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm): @ Field Temp.	@ 25 °C.	Appearance: Color	Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
2:42	0									scum/film on top
2:45	1	.33	15.2	6.80	899		Clear			
2:48	2	.33	14.7	6.48	940		"			
2:51	3	.33	14.6	6.46	948		"			
2:53	4	.5	14.5	6.45	972		"			
Ave	~~3~~	.44								
	~~3~~									

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 1.45 Recovery %: 92.7 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
255	125mL	glass	2	N	NA	PCP/TCP	

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GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-11

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 3/20/03

Sampling Location (well ID, etc.): MW-11

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 10.26

Screened Interval (ft.BGL): 2-8

Filter Pack Interval (ft.BGL): 1.5-8.5

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 1.05

Total Depth (ft. BMP): 8.47 Water Column Height (ft.): 7.42

Casing Diameter (in. ID): 2-Inch Multiplication Factor: 0.163

Casing Volume (gal.): 1.2 2X: 2.4 3X 3.6 4X —

Water Level (ft.BMP) at End of Purge:

Total Depth (ft. BMP) at End of Purge:

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: Bailer Sampling: Bailer

Disposal of Discharged Water: 55-Gallon Drum

INSTRUMENTS (indicate make, model, i.d.):

Water Level: Envirotech LTD, Waterline Model 150 Thermometer: Ultrameter

pH Meter: Ultrameter Field Calibration: pH 4, 7, 10

Conductivity Meter: Ultrameter Field Calibration: 2060 umhos

Other: Field Calibration:

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm) @ Field Temp.	@ 25 °C.	Appearance: Color	Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
9:04	0									
909	1	.2	14.5	5.73	884		light brn			some wood particles
912	2	.33	14.5	6.10	876		clear			
914	3	.5	14.6	6.35	879					
916	4	.5	14.4	6.40	870					
Ave	5	.33								
	6									

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 1.53 Recovery %: 93.5 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
920	125mL	glass	2	N	NA	PCP/TCP	

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GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-12

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 3/18/03

Sampling Location (well ID, etc.): MW-12

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 10.73

Screened Interval (ft.BGL): 2-8

Filter Pack Interval (ft.BGL): 1.5-9.5

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 1.15

Total Depth (ft. BMP): 8.44 Water Column Height (ft.): 7.29

Casing Diameter (in. ID): 2-Inch Multiplication Factor: 0.163

Casing Volume (gal.): 1.2 2X: 2.4 3X 3.6 4X —

Water Level (ft.BMP) at End of Purge: 3.1

Total Depth (ft. BMP) at End of Purge: —

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: same as MW-1

Purging: Bailer Sampling: Bailer

Disposal of Discharged Water: 55-Gallon Drum

INSTRUMENTS (indicate make, model, i.d.):

Water Level: Envirotech LTD, Waterline Model 150 Thermometer: Ultrameter

pH Meter: Ultrameter Field Calibration: pH 4, 7, 10

Conductivity Meter: Ultrameter Field Calibration: 2060 umhos

Other: Field Calibration:

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm): @ Field Temp.	@ 25 °C.	Appearance: Color	Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
1142	0						clear			
1144	1	.5	15.4	5.90	772		darker			
1146	2	.5	15.0	6.22	817		1+brn			
1147	3	1	14.9	6.27	804		"			
1149	4	.7	14.9	6.29	829		"			
Ave	3	.57								
	6									

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 2.05 Recovery %: 87.7 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
1157	125mL	glass	2	N	NA	PCP/TCD	

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GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-13D

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 3/29/03

Sampling Location (well ID, etc.): MW-13D

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 9.84

Screened Interval (ft.BGL): 15.0-20.0

Filter Pack Interval (ft.BGL): 13.5-21.0

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 4.48

Total Depth (ft. BMP): 19.01 Water Column Height (ft.): 15.52

Casing Diameter (in. ID): 2-Inch Multiplication Factor: 0.163

Casing Volume (gal.): 2.5 2X: 5 3X: 7.5 4X:

Water Level (ft.BMP) at End of Purge:

Total Depth (ft. BMP) at End of Purge:

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: Bailer Sampling: Bailer

Disposal of Discharged Water: 55-Gallon Drum

INSTRUMENTS (indicate make, model, i.d.):

Water Level: Envirotech LTD, Waterline Model 150 Thermometer: Ultrameter

pH Meter: Ultrameter Field Calibration: pH 4, 7, 10

Conductivity Meter: Ultrameter Field Calibration: 2060 umhos

Other: Field Calibration:

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm): @ Field Temp.	@ 25 °C.	Appearance: Color	Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
1124	0						clear			
1129	2	.4	14.4	7.2	790		"			
1136	4	.66	14.2	6.14	830		"			
1145	6	.2	14.1	6.24	1030		"			
1152	7.5	.21	13.9	6.18	1160		"			
1153	8	.5	13.7	6.20	1160		"			
Ave		.27								

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 5.00 Recovery %: 96.4 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
1155	125mL	glass	2	N	NA	PCP/TCP	

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GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-14

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 3/20/03

Sampling Location (well ID, etc.): MW-14

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 9.02

Screened Interval (ft.BGL): 2-8

Filter Pack Interval (ft.BGL): 1.5-8

Casing Stick-Up/Down (ft.): ____

Starting Water Level (ft. BMP): 1.97

Total Depth (ft. BMP): 7.8 Water Column Height (ft.): 5.83

Casing Diameter (in. ID): 2-Inch Multiplication Factor: 0.163

Casing Volume (gal.): 1 2X: 2 3X 3 4X ____

Water Level (ft.BMP) at End of Purge: ____

Total Depth (ft. BMP) at End of Purge: ____

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: Bailer Sampling: Bailer

Disposal of Discharged Water: 55-Gallon Drum

INSTRUMENTS (indicate make, model, i.d.):

Water Level: Envirotech LTD, Waterline Model 150 Thermometer: Ultrameter

pH Meter: Ultrameter Field Calibration: pH 4,7,10

Conductivity Meter: Ultrameter Field Calibration: 2060 umhos

Other: Field Calibration:

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm): @ Field Temp.	@ 25 °C.	Appearance: Color	Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
1014	0						Yellowish			Hz Sodor
1018	1	.25	13.9	6.63	2850		"			
1022	2	.25	13.8	6.65	3050		"			
1025	3	.33	13.8	6.65	3225		Iron			
Ave	4	.27								
	5									
	6									

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 4.30 Recovery %: 60 Sample Intake Depth (ft. BMP): ____

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
1230	125mL	glass	2	N	NA	PCP/TCP	24hrs, no recovery

Chain-of-Custody Record No. 43285

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-15D

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 3/20/03

Sampling Location (well ID, etc.): MW-15D

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 1108

Screened Interval (ft.BGL): 15 - 20

Filter Pack Interval (ft.BGL): 14 - 21

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 5.51

Total Depth (ft. BMP): 19.8 Water Column Height (ft.): 14.29

Casing Diameter (in. ID): 2-Inch Multiplication Factor: 0.163

Casing Volume (gal.): 2.3 2X: 4.6 3X 6.9 4X

Water Level (ft.BMP) at End of Purge:

Total Depth (ft. BMP) at End of Purge:

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: Bailer Sampling: Bailer

Disposal of Discharged Water: 55-Gallon Drum

INSTRUMENTS (indicate make, model, i.d.):

Water Level: Envirotech LTD, Waterline Model 150 Thermometer: Ultrameter

pH Meter: Ultrameter Field Calibration: pH 4, 7, 10

Conductivity Meter: Ultrameter Field Calibration: 2060 umhos

Other: Field Calibration:

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm): @ Field Temp.	@ 25 °C.	Appearance: Color	Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
136	0						clear			
143	2	.29	13.2	6.83	1140		"			
148	4	.4	13.2	6.87	1299		lt brn			
154	6	.33	13.1	6.81	1309		"			
158	7.5	.34	13.1	6.78	1312					
Avg										

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 5.53 Recovery %: 99.9 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
200	125mL	glass	2	N	NA	PCP/TCP	

Chain-of-Custody Record No. 43285

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-16D

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 3/18/03

Sampling Location (well ID, etc.): MW-16D

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 9.80

Screened Interval (ft.BGL): 15-20

Filter Pack Interval (ft.BGL): 14 - 21.5

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 4.17

Total Depth (ft. BMP): 19.44 Water Column Height (ft.): 15.27

Casing Diameter (in. ID): 2-Inch Multiplication Factor: 0.163

Casing Volume (gal.): 2.5 2X: 5 3X 7.5 4X

Water Level (ft.BMP) at End of Purge:

Total Depth (ft. BMP) at End of Purge:

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: Bailer Sampling: Bailer

Disposal of Discharged Water: 55-Gallon Drum

INSTRUMENTS (indicate make, model, i.d.):

Water Level: Envirotech LTD, Waterline Model 150 Thermometer: Ultrameter

pH Meter: Ultrameter Field Calibration: pH 4, 7, 10

Conductivity Meter: Ultrameter Field Calibration: 2040 umhos

Other: Field Calibration:

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm): @ Field Temp.	@ 25 °C.	Appearance: Color	Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
314	0									
324	2	-33	14.8	7.56	4830		dk brn			
330	4	-33	14.7	7.48	5730		"			
337	6	-29	14.5	7.78	9320		"			
340	7	-33	14.4	7.68	5250		"			
342	8	-50	14.4	7.70	5175		"			

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 4.01 Recovery %: 101 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
346	125mL	glass	2	N	NA	PCP/TCP	

Chain-of-Custody Record No. 43285

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-17

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 3/20/03

Sampling Location (well ID, etc.): MW-17

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 8.98

Screened Interval (ft.BGL): 2-8

Filter Pack Interval (ft.BGL): 1.5-9

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 0.94

Total Depth (ft. BMP): 7.50 Water Column Height (ft.): 6.56

Casing Diameter (in. ID): 2-Inch Multiplication Factor: 0.163

Casing Volume (gal.): 1 1 2X: 2.2 3X 3.3 4X

Water Level (ft.BMP) at End of Purge:

Total Depth (ft. BMP) at End of Purge:

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: Bailer Sampling: Bailer

Disposal of Discharged Water: 55-Gallon Drum

INSTRUMENTS (indicate make, model, i.d.):

Water Level: Envirotech LTD, Waterline Model 150 Thermometer: Ultrameter

pH Meter: Ultrameter Field Calibration: pH 4, 7, 10

Conductivity Meter: Ultrameter Field Calibration: 2060 umhos

Other: Field Calibration:

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm): @ Field Temp.	@ 25 °C.	Appearance: Color	Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
941	0									Orange Scum/film
945	1	.25	12.0	6.6	930		lt gray			
948	2	.33	12.1	6.6	990		"			
951	3	.33	12.1	6.59	998		"			
954	4	.33	12.9	6.56	984		"			
AVG	4	.31								

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 1.7 Recovery %: 88.4 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
1055	125mL	glass	2	N	NA	PCP/TCP	

Chain-of-Custody Record No. 43285

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 2

SAMPLE NUMBER: MW-18

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 3/18/03

Sampling Location (well ID, etc.): MW-18

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 9.53

Screened Interval (ft.BGL): 2-8

Filter Pack Interval (ft.BGL): 1.5-9.5

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 1.57

Total Depth (ft. BMP): 8.86 Water Column Height (ft.): 8.29

Casing Diameter (in. ID): 4-Inch Multiplication Factor: 0.653

Casing Volume (gal.): 5.4 2X: 10.8 3X 16.2 4X

Water Level (ft.BMP) at End of Purge:

Total Depth (ft. BMP) at End of Purge:

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: Bailer Sampling: Bailer

Disposal of Discharged Water: 55-Gallon Drum

INSTRUMENTS (indicate make, model, i.d.):

Water Level: Envirotech LTD, Waterline Model 150 Thermometer: Ultrameter

pH Meter: Ultrameter Field Calibration: pH 4, 7, 10

Conductivity Meter: Ultrameter Field Calibration: 2060 umhos

Other: Field Calibration:

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm): @ Field Temp.	@ 25 °C.	Appearance: Color	Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
132	0	0								reflective film
137	2	.4	14.5	6.70	1010		lt brn			
142	4	.4	14.7	6.59	1057		"			
149	6	.29	14.3	6.58	1097		"			
153	8	.5	14.2	6.55	1135		"			
158	10	.4	14.0	6.54	1120		lt brn clear			
203	12	.4	14.0	6.53	1000		"			
208	14	.4	13.9	6.53	987		"			
212	15	.25	13.9	6.49	1046		"			

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: Recovery %: Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
							(See Page 2 of 2)

Chain-of-Custody Record No. See page 2 of 2

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

PAGE: 2 of: 2

SAMPLE NUMBER: MW-18

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 3/18/03

Sampling Location (well ID, etc.): MW-18

Sampled by: Matt Hillyard

Measuring Point (MP) of Well:

Screened Interval (ft.BGL):

Filter Pack Interval (ft.BGL):

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): .57

Total Depth (ft. BMP): 8.86 Water Column Height (ft.): 8.29

Casing Diameter (in. ID): 4-Inch Multiplication Factor: 0.653

Casing Volume (gal.): 5-4 2X: 10.8 3X 16.2 4X

Water Level (ft.BMP) at End of Purge:

Total Depth (ft. BMP) at End of Purge:

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: Bailer Sampling: Bailer

Disposal of Discharged Water: 55-Gallon Drum

INSTRUMENTS (indicate make, model, i.d.):

Water Level: Envirotech LTD, Waterline Model 150 Thermometer: Ultrameter

pH Meter: Ultrameter Field Calibration: pH 4, 7, 10

Conductivity Meter: Ultrameter Field Calibration: 2060 mmhos

Other: Field Calibration:

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm): @ Field Temp.	@ 25 °C.	Appearance: Color	Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
2:17	16	0.2	14.0	6.43	1026		lt brn clear			
Avg		0.36								

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 0.87 Recovery %: 96.4 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
220	125mL	glass	2	N	NA	PCP/TCP	

Chain-of-Custody Record No. 43285

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-19D

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 3/29/03

Sampling Location (well ID, etc.): MW-19D

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: TI

Screened Interval (ft.BGL): 15-20

Filter Pack Interval (ft.BGL): 14-21.

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 4.20

Total Depth (ft. BMP): 19.74 Water Column Height (ft.): 15.77

Casing Diameter (in. ID): 2-Inch Multiplication Factor: 0.163

Casing Volume (gal.): 2.6 2X: 5.2 3X 7.8 4X

Water Level (ft.BMP) at End of Purge: 6.80

Total Depth (ft. BMP) at End of Purge:

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: Bailer Sampling: Bailer

Disposal of Discharged Water: 55-Gallon Drum

INSTRUMENTS (indicate make, model, i.d.):

Water Level: Envirotech LTD, Waterline Model 150 Thermometer: Ultrameter

pH Meter: Ultrameter Field Calibration: pH 4, 7, 10

Conductivity Meter: Ultrameter Field Calibration: 2060 mmhos

Other: Field Calibration:

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm): @ Field Temp.	@ 25 °C.	Appearance: Color	Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
248	0						clear			Orange scum
255	2	.29	15.6	7.0	786		lt brn			
300	4	.4	15.8	6.65	800		"			
307	6	.29	15.8	6.64	805		"			
311	8	.4	15.8	6.65	810		"			
Ave		.35								

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 7.10 Recovery %: 81.3 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
313	125mL	glass	2	N	NA	PCP/TCP	

Chain-of-Custody Record No. 43285

McCulley, Frick & Gilman, Inc.

APPENDIX C

Laboratory Report and Chain-of-Custody Record for Groundwater Samples

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

17 April 2003

MFG, Inc - Arcata
Attn: Matt Hillyard
1165 G. Street, Suite E
Arcata, CA 95521

RE: SPI - Arcata

Work Order: A303520

Enclosed are the results of analyses for samples received by the laboratory on 03/21/03 16:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Cheryl Watson For Sheri L. Speaks
Project Manager

This represents an amended copy of the original report

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Matt Hillyard

Report Date: 04/17/03 10:01
Project No: 030229.2
Project ID: SPI - Arcata

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A303520	03/21/2003 16:45	MFGARC	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	A303520-01	Water	03/20/03 10:57	03/21/03 16:45
MW-2	A303520-02	Water	03/20/03 12:19	03/21/03 16:45
MW-3	A303520-03	Water	03/20/03 15:37	03/21/03 16:45
MW-4	A303520-04	Water	03/20/03 14:32	03/21/03 16:45
MW-5	A303520-05	Water	03/20/03 16:08	03/21/03 16:45
MW-6	A303520-06	Water	03/20/03 16:35	03/21/03 16:45
MW-7	A303520-07	Water	03/20/03 16:57	03/21/03 16:45
MW-8	A303520-08	Water	03/18/03 12:50	03/21/03 16:45
MW-9	A303520-09	Water	03/18/03 13:14	03/21/03 16:45
MW-10	A303520-10	Water	03/18/03 14:55	03/21/03 16:45
MW-11	A303520-11	Water	03/20/03 09:12	03/21/03 16:45
MW-12	A303520-12	Water	03/18/03 11:55	03/21/03 16:45
MW-13D	A303520-13	Water	03/20/03 11:55	03/21/03 16:45
MW-14	A303520-14	Water	03/20/03 12:30	03/21/03 16:45
MW-15D	A303520-15	Water	03/20/03 14:00	03/21/03 16:45
MW-16D	A303520-16	Water	03/18/03 15:46	03/21/03 16:45
MW-17	A303520-17	Water	03/20/03 10:55	03/21/03 16:45
MW-18	A303520-18	Water	03/18/03 14:20	03/21/03 16:45
MW-19D	A303520-19	Water	03/20/03 15:13	03/21/03 16:45
MW-A	A303520-20	Water	03/20/03 00:00	03/21/03 16:45

This represents an amended copy of the original report

Cheryl Watson For Sheri L. Speaks
Project Manager

4/17/03

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Matt Hillyard

Report Date: 04/17/03 10:01
Project No: 030229.2
Project ID: SPI - Arcata

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A303520	03/21/2003 16:45	MFGARC	

This represents an amended copy of the original report

Cheryl Watson For Sheri L. Speaks
Project Manager

4/17/03

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Matt Hillyard

Report Date: 04/17/03 10:01
Project No: 030229.2
Project ID: SPI - Arcata

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A303520	03/21/2003 16:45	MFGARC	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-1 (A303520-01)			**Sample Type: Water**			**Sampled: 03/20/03 10:57**		
Chlorinated Phenols by Canadian Pulp Method								
2,4,6-Trichlorophenol	EnvCan	AC32615	03/24/03	03/24/03	1	ND ug/l	1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
Pentachlorophenol	"	"	"	"	"	ND "	1.0	
Surrogate: Tribromophenol	"	"	"	"		*95.6 %* *50-150*		
MW-2 (A303520-02)			**Sample Type: Water**			**Sampled: 03/20/03 12:19**		
Chlorinated Phenols by Canadian Pulp Method								
2,4,6-Trichlorophenol	EnvCan	AC32615	03/24/03	03/24/03	1	ND ug/l	1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
Pentachlorophenol	"	"	"	"	"	ND "	1.0	
Surrogate: Tribromophenol	"	"	"	"		*73.9 %* *50-150*		
MW-3 (A303520-03)			**Sample Type: Water**			**Sampled: 03/20/03 15:37**		
Chlorinated Phenols by Canadian Pulp Method								
2,4,6-Trichlorophenol	EnvCan	AC32615	03/24/03	03/24/03	1	ND ug/l	1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
Pentachlorophenol	"	"	"	"	"	ND "	1.0	
Surrogate: Tribromophenol	"	"	"	"		*83.1 %* *50-150*		
MW-4 (A303520-04)			**Sample Type: Water**			**Sampled: 03/20/03 14:32**		
Chlorinated Phenols by Canadian Pulp Method								
2,4,6-Trichlorophenol	EnvCan	AC32615	03/24/03	03/24/03	1	ND ug/l	1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
Pentachlorophenol	"	"	"	"	"	ND "	1.0	

This represents an amended copy of the original report

Cheryl Watson For Sheri L. Speaks
Project Manager

4/17/03

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Matt Hillyard

Report Date: 04/17/03 10:01
Project No: 030229.2
Project ID: SPI - Arcata

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A303520	03/21/2003 16:45	MFGARC	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-4 (A303520-04)			**Sample Type: Water**			**Sampled: 03/20/03 14:32**		
Chlorinated Phenols by Canadian Pulp Method (cont'd)								
Surrogate: Tribromophenol	*EnvCan*	"	"	*03/24/03*		*99.6 %*	*50-150*	
MW-5 (A303520-05)			**Sample Type: Water**			**Sampled: 03/20/03 16:08**		
Chlorinated Phenols by Canadian Pulp Method								
2,4,6-Trichlorophenol	EnvCan	AC32615	03/24/03	03/24/03	1	ND ug/l	1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
Pentachlorophenol	"	"	"	"	"	ND "	1.0	
Surrogate: Tribromophenol	"	"	"	"		*101 %*	*50-150*	
MW-6 (A303520-06)			**Sample Type: Water**			**Sampled: 03/20/03 16:35**		
Chlorinated Phenols by Canadian Pulp Method								
2,4,6-Trichlorophenol	EnvCan	AC32615	03/24/03	03/24/03	1	ND ug/l	1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
Pentachlorophenol	"	"	"	"	"	ND "	1.0	
Surrogate: Tribromophenol	"	"	"	"		*92.8 %*	*50-150*	
MW-7 (A303520-07)			**Sample Type: Water**			**Sampled: 03/20/03 16:57**		
Chlorinated Phenols by Canadian Pulp Method								
2,4,6-Trichlorophenol	EnvCan	AC32615	03/24/03	03/24/03	1	ND ug/l	1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	03/25/03	"	**36 "**	**1.0**	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	**460 "**	**1.0**	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	**22 "**	**1.0**	
Pentachlorophenol	"	"	"	"	"	**19000 "**	**1.0**	
Surrogate: Tribromophenol	"	"	"	*03/24/03*		*76.7 %*	*50-150*	
MW-8 (A303520-08)			**Sample Type: Water**			**Sampled: 03/18/03 12:50**		
Chlorinated Phenols by Canadian Pulp Method								
2,4,6-Trichlorophenol	EnvCan	AC32615	03/24/03	03/24/03	1	ND ug/l	1.0	

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Cheryl Watson For Sheri L. Speaks
Project Manager

4/17/03

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Matt Hillyard

Report Date: 04/17/03 10:01
Project No: 030229.2
Project ID: SPI - Arcata

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A303520	03/21/2003 16:45	MFGARC	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
MW-8 (A303520-08)			**Sample Type: Water**			**Sampled: 03/18/03 12:50**			
Chlorinated Phenols by Canadian Pulp Method (cont'd)									
2,3,5,6-Tetrachlorophenol	EnvCan	"	"	03/24/03	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*101 %*	*50-150*		
MW-9 (A303520-09)			**Sample Type: Water**			**Sampled: 03/18/03 13:14**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AC32615	03/24/03	03/24/03	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*98.8 %*	*50-150*		
MW-10 (A303520-10)			**Sample Type: Water**			**Sampled: 03/18/03 14:55**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AC32615	03/24/03	03/24/03	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*101 %*	*50-150*		
MW-11 (A303520-11)			**Sample Type: Water**			**Sampled: 03/20/03 09:12**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AC32616	03/25/03	03/25/03	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*83.1 %*	*50-150*		

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Cheryl Watson For Sheri L. Speaks
Project Manager

4/17/03

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e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Matt Hillyard

Report Date: 04/17/03 10:01
Project No: 030229.2
Project ID: SPI - Arcata

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A303520	03/21/2003 16:45	MFGARC	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-11 (A303520-11)			**Sample Type: Water**			**Sampled: 03/20/03 09:12**		
MW-12 (A303520-12)			**Sample Type: Water**			**Sampled: 03/18/03 11:55**		
Chlorinated Phenols by Canadian Pulp Method								
2,4,6-Trichlorophenol	EnvCan	AC32616	03/25/03	03/25/03	1	ND ug/l	1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
Pentachlorophenol	"	"	"	"	"	ND "	1.0	
Surrogate: Tribromophenol	"	"	"	"		*81.5 %* *50-150*		
MW-13D (A303520-13)			**Sample Type: Water**			**Sampled: 03/20/03 11:55**		
Chlorinated Phenols by Canadian Pulp Method								
2,4,6-Trichlorophenol	EnvCan	AC32616	03/25/03	03/25/03	1	ND ug/l	1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
Pentachlorophenol	"	"	"	"	"	ND "	1.0	
Surrogate: Tribromophenol	"	"	"	"		*92.0 %* *50-150*		
MW-14 (A303520-14)			**Sample Type: Water**			**Sampled: 03/20/03 12:30**		
Chlorinated Phenols by Canadian Pulp Method								
2,4,6-Trichlorophenol	EnvCan	AC32616	03/25/03	03/25/03	1	ND ug/l	1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
Pentachlorophenol	"	"	"	"	"	ND "	1.0	
Surrogate: Tribromophenol	"	"	"	"		*80.7 %* *50-150*		
MW-15D (A303520-15)			**Sample Type: Water**			**Sampled: 03/20/03 14:00**		
Chlorinated Phenols by Canadian Pulp Method								
2,4,6-Trichlorophenol	EnvCan	AC32616	03/25/03	03/25/03	1	ND ug/l	1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	

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Cheryl Watson For Sheri L. Speaks
Project Manager

4/17/03

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e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Matt Hillyard

Report Date: 04/17/03 10:01
Project No: 030229.2
Project ID: SPI - Arcata

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A303520	03/21/2003 16:45	MFGARC	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
MW-15D (A303520-15)			**Sample Type: Water**			**Sampled: 03/20/03 14:00**			
Chlorinated Phenols by Canadian Pulp Method (cont'd)									
Pentachlorophenol	EnvCan	"	"	03/25/03	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*89.2 %*	*50-150*		
MW-16D (A303520-16)			**Sample Type: Water**			**Sampled: 03/18/03 15:46**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AC32616	03/25/03	03/25/03	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*87.6 %*	*50-150*		
MW-17 (A303520-17)			**Sample Type: Water**			**Sampled: 03/20/03 10:55**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AC32616	03/25/03	03/25/03	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*90.4 %*	*50-150*		
MW-18 (A303520-18)			**Sample Type: Water**			**Sampled: 03/18/03 14:20**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AC32616	03/25/03	03/25/03	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*83.9 %*	*50-150*		
MW-19D (A303520-19)			**Sample Type: Water**			**Sampled: 03/20/03 15:13**			
Chlorinated Phenols by Canadian Pulp Method									

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Project Manager

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e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Matt Hillyard

Report Date: 04/17/03 10:01
Project No: 030229.2
Project ID: SPI - Arcata

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A303520	03/21/2003 16:45	MFGARC	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
MW-19D (A303520-19)			**Sample Type: Water**			**Sampled: 03/20/03 15:13**			
Chlorinated Phenols by Canadian Pulp Method (cont'd)									
2,4,6-Trichlorophenol	EnvCan	AC32616	03/25/03	03/25/03	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*106 %*	*50-150*		
MW-A (A303520-20)			**Sample Type: Water**			**Sampled: 03/20/03 00:00**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AC32616	03/25/03	03/25/03	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*100 %*	*50-150*		

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Project Manager

4/17/03

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Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A303520	03/21/2003 16:45	MFGARC	

Chlorinated Phenols by Canadian Pulp Method - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AC32615 - Solvent Extraction										
Blank (AC32615-BLK1)				Prepared & Analyzed: 03/24/03						
2,4,6-Trichlorophenol	ND	1.0	ug/l							
2,3,5,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,5-Tetrachlorophenol	ND	1.0	"							
Pentachlorophenol	ND	1.0	"							
Surrogate: Tribromophenol	*25.0*		"	*24.9*		*100*	*50-150*			
LCS (AC32615-BS1)				Prepared & Analyzed: 03/24/03						
2,4,6-Trichlorophenol	5.07	1.0	ug/l	5.00		101	85-115			
2,3,5,6-Tetrachlorophenol	4.68	1.0	"	5.00		93.6	85-115			
2,3,4,6-Tetrachlorophenol	4.51	1.0	"	5.00		90.2	85-115			
2,3,4,5-Tetrachlorophenol	4.57	1.0	"	5.00		91.4	85-115			
Pentachlorophenol	4.40	1.0	"	5.00		88.0	85-115			
Surrogate: Tribromophenol	*23.5*		"	*24.9*		*94.4*	*50-150*			
Matrix Spike (AC32615-MS1)	**Source: A303496-01**			Prepared & Analyzed: 03/24/03						**A-01**
2,4,6-Trichlorophenol	4.88	1.0	ug/l	5.00	ND	97.6	80-120			
2,3,5,6-Tetrachlorophenol	4.47	1.0	"	5.00	ND	89.4	80-120			
2,3,4,6-Tetrachlorophenol	4.31	1.0	"	5.00	ND	86.2	80-120			
2,3,4,5-Tetrachlorophenol	4.32	1.0	"	5.00	ND	86.4	80-120			
Pentachlorophenol	4.08	1.0	"	5.00	ND	81.6	80-120			
Surrogate: Tribromophenol	*22.0*		"	*24.9*		*88.4*	*50-150*			
Batch AC32616 - Solvent Extraction										
Blank (AC32616-BLK1)				Prepared & Analyzed: 03/25/03						
2,4,6-Trichlorophenol	ND	1.0	ug/l							
2,3,5,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,6-Tetrachlorophenol	ND	1.0	"							

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Project Manager

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e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

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Attn: Matt Hillyard

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Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A303520	03/21/2003 16:45	MFGARC	

Chlorinated Phenols by Canadian Pulp Method - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AC32616 - Solvent Extraction										
Blank (AC32616-BLK1)				Prepared & Analyzed: 03/25/03						
2,3,4,5-Tetrachlorophenol	ND	1.0	"							
Pentachlorophenol	ND	1.0	"							
Surrogate: Tribromophenol	*25.8*		"	*24.9*		*104*	*50-150*			
LCS (AC32616-BS1)				Prepared & Analyzed: 03/25/03						
2,4,6-Trichlorophenol	5.46	1.0	ug/l	5.00		109	85-115			
2,3,5,6-Tetrachlorophenol	4.98	1.0	"	5.00		99.6	85-115			
2,3,4,6-Tetrachlorophenol	4.90	1.0	"	5.00		98.0	85-115			
2,3,4,5-Tetrachlorophenol	4.81	1.0	"	5.00		96.2	85-115			
Pentachlorophenol	4.77	1.0	"	5.00		95.4	85-115			
Surrogate: Tribromophenol	*25.8*		"	*24.9*		*104*	*50-150*			
Matrix Spike (AC32616-MS1)	**Source: A303520-11**			Prepared & Analyzed: 03/25/03						
2,4,6-Trichlorophenol	5.09	1.0	ug/l	5.00	ND	102	80-120			
2,3,5,6-Tetrachlorophenol	4.49	1.0	"	5.00	ND	89.8	80-120			
2,3,4,6-Tetrachlorophenol	4.28	1.0	"	5.00	ND	85.6	80-120			
2,3,4,5-Tetrachlorophenol	4.36	1.0	"	5.00	ND	87.2	80-120			
Pentachlorophenol	4.06	1.0	"	5.00	ND	81.2	80-120			
Surrogate: Tribromophenol	*22.9*		"	*24.9*		*92.0*	*50-150*			
Matrix Spike Dup (AC32616-MSD1)	**Source: A303520-11**			Prepared & Analyzed: 03/25/03						
2,4,6-Trichlorophenol	5.15	1.0	ug/l	5.00	ND	103	80-120	1.17	20	
2,3,5,6-Tetrachlorophenol	4.49	1.0	"	5.00	ND	89.8	80-120	0.00	20	
2,3,4,6-Tetrachlorophenol	4.44	1.0	"	5.00	ND	88.8	80-120	3.67	20	
2,3,4,5-Tetrachlorophenol	4.43	1.0	"	5.00	ND	88.6	80-120	1.59	20	
Pentachlorophenol	4.23	1.0	"	5.00	ND	84.6	80-120	4.10	20	
Surrogate: Tribromophenol	*23.0*		"	*24.9*		*92.4*	*50-150*			

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Cheryl Watson For Sheri L. Speaks
Project Manager

4/17/03

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e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

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A303520	03/21/2003 16:45	MFGARC	

Notes and Definitions

A-01	The Matrix Spike Duplicate (MSD) for this batch was not valid due to a failure to add sample reagents. The batch was accepted based on acceptable LCS, MS and surrogate recovery on all samples.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis,
RPD	Relative Percent Difference
PQL	Practical Quantitation Limit

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MFG, INC.
CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

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☒ Arcata Office
1165 G Street, Suite E
Arcata, CA 95521-5817
Tel: (707) 826-8430
Fax: (707) 826-8437

☐ Boulder Office
4900 Pearl East Circle
Suite 300W
Boulder, CO 80301-6118
Tel: (303) 447-1823
Fax: (303) 447-1836

☐ Irvine Office
17770 Cartwright Road
Suite 500
Irvine, CA 92614-5850
Tel: (949) 253-2951
Fax: (949) 253-2954

☐ Osburn Office
P.O. Box 30
Wallace, ID
83873-0030
Tel: (208) 556-6811
Fax: (208) 556-7271

☐ San Francisco Office
180 Howard Street, Suite 200
San Francisco, CA 94105-1617
Phone (415) 495-7110 – Fax (415) 495-7107

☐ Seattle Office
19203 36th Avenue W.
Suite 101
Lynnwood, WA 98036-5707
Tel: (425) 921-4000
Fax: (425) 921-4040

☐

PROJECT NO: 030229.2 PROJECT NAME: SPI - Arcata PAGE: 1 OF: 2
SAMPLER (Signature): Matt Hillyard PROJECT MANAGER: Orrin Plocher DATE: 3/21/03
METHOD OF SHIPMENT: Courier CARRIER/WAYBILL NO: DESTINATION: Alpha Analytical

SAMPLES														ANALYSIS REQUEST								
	Sample			Preservation						Containers			Constituents/Method					Handling			Remarks
Field Sample Identification	DATE	TIME	Matrix*	HCl	HNO_3	H_2SO_4	COLD		FILTRATION*	VOLUME (ml/oz)	TYPE*	NO.	PCP/TCP					HOLD	RUSH	STANDARD	email results to matt.hillyard@mfgenv.com
MW-1 A303526-1	3/20	1057	AQ				X			125ml	G	2	X							X	Canadian pulp method
MW-2 -2	3/20	1219	↓				↓			↓	↓	↓	↓							↓	↓
MW-3 -3	3/20	1537	↓				↓			↓	↓	↓	↓							↓	↓
MW-4 -4	3/20	1432	↓				↓			↓	↓	↓	↓							↓	↓
MW-5 -5	3/20	1608	↓				↓			↓	↓	↓	↓							↓	↓
MW-6 -6	3/20	1635	↓				↓			↓	↓	↓	↓							↓	↓
MW-7 -7	3/20	1657	↓				↓			↓	↓	↓	↓							↓	↓
MW-8 -8	3/18	1250	↓				↓			↓	↓	↓	↓							↓	↓
MW-9 -9	3/18	1314	↓				↓			↓	↓	↓	↓							↓	↓
MW-10 -10	3/18	1455	↓				↓			↓	↓	↓	↓							↓	↓

TOTAL NUMBER OF CONTAINERS: 20

LABORATORY COMMENTS/CONDITION OF SAMPLES

Cooler Temp:

RELINQUISHED BY: SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME	RECIEVED BY: SIGNATURE	PRINTED NAME	COMPANY
Matt Hillyard	Matt Hillyard	MFG	3/21/03	1305	John Taylor	John Taylor	Alpha
John Taylor	John Taylor	Alpha	3/21/03	1614	[illegible]	[illegible]	Alpha
							LABORATORY Alpha Analytical

*KEY Matrix: AQ - aqueous NA - nonaqueous SO - soil SL - sludge P - petroleum A - air OT - other Containers: P - plastic G - glass T - teflon B - brass OT - other Filtration: F - filtered U - unfiltered

DISTRIBUTION: PINK: Field Copy YELLOW: Laboratory Copy WHITE: Return to Originator

MFG, INC.

CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

COC No. [illegible]

☒ Arcata Office	☐ Boulder Office	☐ Irvine Office	☐ Osburn Office	☐ San Francisco Office	☐ Seattle Office	☐
1165 G Street, Suite E Arcata, CA 95521-5817 Tel: (707) 826-8430 Fax: (707) 826-8437	4900 Pearl East Circle Suite 300W Boulder, CO 80301-6118 Tel: (303) 447-1823 Fax: (303) 447-1836	17770 Cartwright Road Suite 500 Irvine, CA 92614-5850 Tel: (949) 253-2951 Fax: (949) 253-2954	P.O. Box 30 Wallace, ID 83873-0030 Tel: (208) 556-6811 Fax: (208) 556-7271	180 Howard Street, Suite 200 San Francisco, CA 94105-1617 Phone (415) 495-7110 – Fax (415) 495-7107	19203 36th Avenue W. Suite 101 Lynnwood, WA 98036-5707 Tel: (425) 921-4000 Fax: (425) 921-4040	

PROJECT NO: 030229.2 PROJECT NAME: SPI - Arcata PAGE: 2 OF: 2

SAMPLER (Signature): Matt Hillyard PROJECT MANAGER: Orrin Plocher DATE: 3/21/03

METHOD OF SHIPMENT: Courier CARRIER/WAYBILL NO: ______ DESTINATION: Alpha Analytical

RECEIVED
APR 2 8 2003
Tetra Tech/MFG, Inc.

Field Sample Identification	Date	Time	Matrix*	HCl	HNO_3	H_2SO_4	COLD		FILTRATION*	VOLUME (ml/oz)	TYPE*	NO.	PCP/TCP					HOLD	RUSH	STANDARD	Remarks
																					email results to matt.hillyard@mfgenv.com
MW-11 A3-3582-11	3/20	912	AQ				X			125ml	G	2	X							X	Canadian Pulp method
MW-12 12	3/18	1155	↓				↓			↓	↓	↓	↓							↓	↓
MW-13 13	3/20	1155	↓				↓			↓	↓	↓	↓							↓	[illegible] 13B
MW-14 14	3/20	1230	↓				↓			↓	↓	↓	↓							↓	↓
MW-15 15	3/20	1400	↓				↓			↓	↓	↓	↓							↓	[illegible] 15B
MW-16 16	3/18	1546	↓				↓			↓	↓	↓	↓							↓	[illegible] 16D
MW-17 17	3/20	1055	↓				↓			↓	↓	↓	↓							↓	↓
MW-18 18	3/18	1420	↓				↓			↓	↓	↓	↓							↓	↓
MW-19 19	3/20	1513	↓				↓			↓	↓	↓	↓							↓	[illegible] 19D
MW-A 20	3/20		↓				↓			↓	↓	↓	↓							↓	↓

TOTAL NUMBER OF CONTAINERS: 20

LABORATORY COMMENTS/CONDITION OF SAMPLES

Cooler Temp:

RELINQUISHED BY: Signature	Printed Name	Company	Date	Time	RECEIVED BY: Signature	Printed Name	Company
Matt Hillyard	Matt Hillyard	MFG	3/21/03	1305	John Taylor	John Taylor	Alpha
John Taylor	John Taylor	Alpha	3/31/03	1645	[illegible]	[illegible]	Alpha
							LABORATORY: Alpha Analytical

*KEY Matrix: AQ - aqueous NA - nonaqueous SO - soil SL - sludge P - petroleum A - air OT - other Containers: P - plastic G - glass T - teflon B - brass OT - other Filtration: F - filtered U - unfiltered

DISTRIBUTION: PINK: Field Copy YELLOW: Laboratory Copy WHITE: Return to Originator