SECOND QUARTER 2003 GROUNDWATER MONITORING REPORT

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

August 7, 2003

consulting
scientists and
engineers

SECOND QUARTER 2003
GROUNDWATER MONITORING
REPORT

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

August 7, 2003

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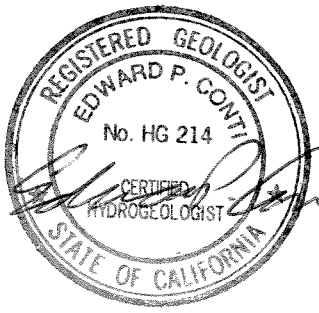
PROFESSIONAL CERTIFICATION

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.



August 7, 2003

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1.0 INTRODUCTION

This report presents the methods and results of the second 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 second 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 September 1987 (MFG, 2003b). 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. The sand is sporadically interbedded with thin lenses of "Bay Mud," consisting of a mixture of sand and silt (Environet, 2003).

Nineteen groundwater monitoring wells have been installed at the Site. Monitoring well construction details are included in Table 1.

In the eastern portion of the Site, groundwater has been measured in the 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). In the southwestern portion of the Site, 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 southwest 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 and at the Mad River Slough measuring point on May 21, 2003 using an electronic water level probe or a weighted tape. The depth to water measurements for May 21, 2003 are included in Table 2. The depth to water in the monitoring wells ranged from approximately 0.05 to 5.74 feet below the top of casing measuring points.

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 17.2 feet below the measuring point on the railroad bridge before the monitoring wells were measured and approximately 16.8 feet below the measuring point on the railroad bridge after the monitoring wells were measured (Table 2).

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 May 21, 2003, the calculated water level elevations in the monitoring wells ranged from approximately 4.0 to 10.0 feet above the North American Vertical Datum of 1988 (NAVD 88) (Table 2). The water level elevations in the Mad River Slough ranged from approximately 1.5 to 1.0 feet below the NAVD 88 during the water level measurement activities on May 21, 2003.

The water level elevations from May 21, 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 direction was to the east and northeast with a magnitude ranging from approximately 0.005 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 and MFG, 2003a). 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 direction was to the east-southeast and east with a magnitude of approximately 0.006 foot/foot.

4.0 GROUNDWATER SAMPLING AND ANALYSIS

4.1 Field Methods

On May 21, 22, and 23, 2003, monitoring wells MW-1 through MW-19D were purged and sampled. Each monitoring well was purged using a dedicated, disposable polyethylene 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 A.

After purging, the groundwater in each well was allowed to recover to at least 80 percent of the initial water column height before sampling, except for monitoring well MW-14, which only recovered to approximately 50 percent two hours after purging. Groundwater samples were collected from the 19 monitoring wells using the dedicated, disposable polyethylene bailers. Although not a requirement of the groundwater monitoring program, an additional groundwater sample was collected from monitoring well MW-7 using a peristaltic pump and dedicated polyethylene tubing and filtered in the field using a 0.45–micron filter. The initial volume of water collected from each well was used to measure the temperature, pH, and specific conductance of the groundwater samples. Total dissolved solids was also field-measured and recorded for 10 of the monitoring wells. 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 sealed with Teflon®-lined screw caps and a 1-quart plastic bottle sealed with a plastic screw cap. Groundwater sample from monitoring well MW-7 was also placed in a 1-liter amber glass bottle sealed with a Teflon®-lined screw cap. The filtered groundwater sample from monitoring well MW-7 (sample MW-7F) was placed in a 1-liter amber glass bottle and two 125-ml glass vials. After filling, the vials and bottles were labeled and placed in an ice-cooled, insulated chest for transport to the laboratory for analysis. Chain-of-custody records were completed for the samples and accompanied the samples until received by the laboratory. Copies of the chain-of-custody records for the groundwater samples are included in Appendix B.

A duplicate groundwater sample, identified as MW-A, was collected from monitoring well MW-7. This sample was placed in two additional 125-ml glass vials.

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 is temporarily stored at the Site in three labeled, Department of Transportation (DOT)-approved, 55-gallon drums (Section 5.0). Two of these drums were already partially filled with decontamination and purge water from the first quarter 2003 groundwater sampling event.

4.2 Chemical Analysis Methods and Results

Groundwater samples collected from the monitoring wells were analyzed by Alpha Analytical Laboratories Inc. of Ukiah, California, a laboratory certified by the California Department of Health Services (DHS). The groundwater samples were analyzed for chlorinated phenols using the Canadian Pulp Method and total dissolved solids (TDS) using EPA Method 160.1. Although not a requirement of the groundwater monitoring program, a filtered sample from monitoring well MW-7 (sample MW-7F) was analyzed for chlorinated phenols using the Canadian Pulp Method and the sample from monitoring well MW-1 was analyzed for chloride using EPA Method 300.0.

An unfiltered groundwater sample (sample MW-7) and a filtered groundwater sample (sample MW-7F) from monitoring well MW-7 were also sent to Frontier Analytical Laboratory of El Dorado Hills, California (Frontier), a laboratory certified by the DHS. Frontier analyzed the unfiltered groundwater sample for dioxins and furans using EPA Method 1613 in accordance with the annual requirements of the groundwater monitoring program for the Site. Although not a requirement of the groundwater monitoring program, the filtered groundwater sample from monitoring well MW-7 was also analyzed for dioxins and furans using EPA Method 1613.

The chemical analysis results of the groundwater samples are summarized in Table 3 for TDS, Table 4 for chlorinated phenols, Table 5 for dioxins and furans, and Table 6 for chloride. Copies of the laboratory reports and chain-of-custody records are included in Appendices B and C.

The TDS of the groundwater samples ranged from 360 to 3,200 milligrams per liter (mg/L).

Chlorinated phenols were only detected in the groundwater samples from shallow monitoring wells MW-7 and MW-8. The following analytes were detected in the groundwater samples from

monitoring well MW-7 (sample MW-7 and duplicate sample MW-A): pentachlorophenol (PCP) at concentrations of 16,000 and 19,000 micrograms per liter (µg/L); and 2,3,4,6-tetrachlorophenol (TCP) at concentrations of 400 and 470 µg/L. The chlorinated phenol PCP was detected in the groundwater sample from monitoring well MW-8 at a concentration of 1.0 µg/L. The chemical analysis results of the filtered sample from monitoring well MW-7 (sample MW-7F) indicated the presence of PCP at a concentration of 14,000 µg/L and 2,3,4,6-TCP at a concentration of 400 µg/L. The chlorinated phenols 2,4,6-trichlorophenol, 2,3,5,6-TCP, and 2,3,4,5-TCP were not detected at or above the laboratory reporting limits in any of the samples (Table 4).

Chlorinated phenols were not detected in any of the deep groundwater monitoring wells.

An interpreted isoconcentration contour map of dissolved PCP in shallow groundwater is presented in Figure 5. A map showing the distribution of dissolved PCP in deep groundwater (all sample results were "not detected") is presented in Figure 6.

The relative percent differences (RPDs) for the chlorinated phenols detected in the duplicate sample pair from monitoring well MW-7 (samples MW-7 and MW-A) during this sampling event were 17 percent for PCP and 16 percent for 2,3,4,6-TCP. The RPDs for this sampling event are considered acceptable.

Dioxins and furans were detected in the two groundwater samples (unfiltered sample MW-7 and filtered sample MW-7F) from monitoring well MW-7. Concentrations of dioxins ranged from not detected to 449 picograms per liter (pg/L) in the unfiltered sample and from not detected to 231 pg/L in the filtered sample. Concentrations of furans ranged from not detected to 20.7 (estimated) pg/L in the unfiltered sample and from not detected to 7.05 (estimated) pg/L in the filtered sample. The total concentration of dioxins was 550 (estimated) pg/L in the unfiltered sample and 281 (estimated) pg/L in the filtered sample. The total concentration of furans was 69.1 (estimated) pg/L in the unfiltered sample and 39.7 (estimated) pg/L in the filtered sample. The total toxicity equivalency related to the analytical method target analytes (TEQ) of the unfiltered sample was 2.66 pg/L and the TEQ for the filtered sample was 0.996 pg/L. The percent of the total TEQ that is related to 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) was zero for both groundwater samples (Table 5).

Chloride was detected in the groundwater sample from monitoring well MW-1 at a concentration of 12 mg/L.

Chemical analysis results of groundwater samples collected at the Site during previous sampling events are also summarized in this report and include the following constituents: 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 first and second quarter 2003 groundwater sampling events are being stored temporarily at the Site in three steel, 55-gallon drums (Section 4.1). The drums will be disposed of by SPI in accordance with applicable regulations.

6.0 MONITORING SCHEDULE

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

- Depth to groundwater 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; and
- Groundwater samples will be collected from all 19 monitoring wells and analyzed for chlorinated phenols using the Canadian Pulp Method and total dissolved solids using EPA Method 160.1.

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; maps showing isoconcentration contours of PCP, if detected, in shallow and deep groundwater; and copies of field groundwater sampling records, laboratory analytical reports, and sample 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.

MFG, Inc., 2003a. *First Quarter 2003 Groundwater Monitoring Report, Sierra Pacific Industries, Arcata Division Sawmill, 2593 New Navy Base Road, Arcata, California*: June 9.

MFG, Inc., 2003b. *Interim Remedial Measures Report, Sierra Pacific Industries, Arcata Division Sawmill, 2593 New Navy Base Road, Arcata, California*: June 10.

TABLES

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
	21-May-03	9.56	4.66	4.90
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
	21-May-03	9.49	5.45	4.04
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
	21-May-03	11.14	2.19	8.95
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
	21-May-03	10.71	1.18	9.53
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
	21-May-03	10.69	0.69	10.00

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-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
	21-May-03	9.77	0.60	9.17
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
	21-May-03	9.68	0.45	9.23
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
	21-May-03	10.30	0.49	9.81
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
	21-May-03	9.86	0.30	9.56
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
	21-May-03	9.80	0.52	9.28
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
	21-May-03	10.26	0.64	9.62

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-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
	21-May-03	10.73	0.70	10.03
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
	21-May-03	9.84	4.52	5.32
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
	21-May-03	9.02	1.69	7.33
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
	21-May-03	11.08	5.74	5.34
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
	21-May-03	9.80	4.11	5.69
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
	21-May-03	8.98	0.58	8.40
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	--	--
	21-May-03	9.53	0.05	9.48
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
	21-May-03	11.00	4.22	6.78

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)
SLOUGH	31-Mar-03	15.70	15.15	0.55
	31-Mar-03	15.70	15.84	-0.14
	21-May-03	15.70	17.23	-1.53
	21-May-03	15.70	16.75	-1.05

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

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

WELL NO.	DATE SAMPLED	TEMPERATURE [1] (ºC)	SPECIFIC CONDUCTANCE [1] (µmohs/cm)	pH [1] (std. units)	TDS [1] (mg/L)	TDS [2] (mg/L)
MW-1	20-Mar-03	14	2,600	6.5	--	--
	22-May-03	14	2,700	6.7	--	1,400
MW-2	20-Mar-03	13	2,100	6.2	--	--
	22-May-03	14	1,700	6.4	1,100	860
MW-3	20-Mar-03	13	1,100	6.4	--	--
	22-May-03	15	1,000	6.4	630	510
MW-4	20-Mar-03	14	830	6.5	--	--
	22-May-03	16	730	6.4	440	420
MW-5	20-Mar-03	14	670	6.6	--	--
	22-May-03	14	690	6.6	410	360
MW-6	20-Mar-03	11	950	6.6	--	--
	22-May-03	14	1,000	6.3	620	430
MW-7	20-Mar-03	11	910	6.6	--	--
	22-May-03	11	960	6.5	--	460
MW-8	18-Mar-03	14	730	6.4	--	--
	21-May-03	16	740	6.3	460	390
MW-9	18-Mar-03	14	820	6.4	--	--
	23-May-03	16	870	6.6	550	400
MW-10	18-Mar-03	14	920	6.4	--	--
	23-May-03	17	970	6.7	--	460
MW-11	20-Mar-03	14	870	6.4	--	--
	21-May-03	17	890	6.4	560	460
MW-12	18-Mar-03	15	830	6.3	--	--
	21-May-03	18	840	6.1	--	460
MW-13D	20-Mar-03	14	1,200	6.2	--	--
	22-May-03	14	1,100	6.2	--	600
MW-14	20-Mar-03	14	3,200	6.7	--	--
	22-May-03	15	3,400	6.6	--	2,100

TABLE 3

SUMMARY OF WATER QUALITY PARAMETERS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

WELL NO.	DATE SAMPLED	TEMPERATURE [1] (ºC)	SPECIFIC CONDUCTANCE [1] (µmohs/cm)	pH [1] (std. units)	TDS [1] (mg/L)	TDS [2] (mg/L)
MW-15D	20-Mar-03	13	1,300	6.8	--	--
	22-May-03	13	1,300	6.8	--	800
MW-16D	18-Mar-03	14	5,200	7.7	--	--
	23-May-03	14	5,200	7.6	--	3,200
MW-17	20-Mar-03	13	980	6.4	--	--
	22-May-03	15	1,000	6.5	--	450
MW-18	18-Mar-03	14	1,000	6.5	--	--
	23-May-03	17	980	6.6	610	640
MW-19D	20-Mar-03	16	810	6.7	--	--
	22-May-03	16	860	6.6	520	480

NOTES:

ºC	Degrees Celsius.
µmhos/cm	Micromhos per centimeter at 25 ºC.
mg/L	Milligrams per liter.
NA	Not applicable.
--	Not analyzed.
TDS	Total dissolved solids.
1.	Field-measured parameter.
2.	Laboratory-analysis using EPA Method 160.1.

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)
MW-1	14-Mar-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	18-Jul-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	16-Sep-02	1.8	< 1.0	< 1.0	< 1.0	< 1.0
	03-Oct-02 [2]	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	02-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-2	14-Mar-02	7.4	< 1.0	< 1.0	< 1.0	< 1.0
	18-Jul-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	16-Sep-02	2.5	< 1.0	< 1.0	< 1.0	< 1.0
	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-3	14-Mar-02	1.2	< 1.0	< 1.0	< 1.0	< 1.0
	18-Jul-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	16-Sep-02	5.0	< 1.0	< 1.0	< 1.0	< 1.0
	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-4	14-Mar-02	8.6	< 1.0	< 1.0	< 1.0	< 1.0
	18-Jul-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	16-Sep-02	5.7	< 1.0	< 1.0	< 1.0	< 1.0
	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-5	14-Mar-02	4.3	< 1.0	< 1.0	< 1.0	< 1.0
	18-Jul-02	9.1	< 1.0	< 1.0	< 1.0	< 1.0
	16-Sep-02	25	< 1.0	< 1.0	< 1.0	< 1.0
	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	20-Mar-03 [3]	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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)
MW-6	14-Mar-02	4.5	< 1.0	< 1.0	< 1.0	< 1.0
	18-Jul-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	16-Sep-02	6.3	< 1.0	< 1.0	< 1.0	< 1.0
	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-7	14-Mar-02	31,000	< 1.0	41	650	24
	18-Jul-02	33,000	< 1.0	< 1.0	990	56
	16-Sep-02	44,000	< 1.0	< 1.0	920	64
	03-Dec-02	46,000	< 1.3	76	1,300	52
	14-Jan-03 [4]	51,000	2.4	< 1.0	970	52
	20-Mar-03	19,000	< 1.0	36	460	22
	22-May-03	19,000	< 1.0	< 1.0	470	< 100
	22-May-03 [3]	16,000	< 1.0	< 1.0	400	< 100
	22-May-03 [5]	14,000	< 1.0	< 1.0	400	< 100
MW-8	14-Mar-02	22	< 1.0	< 1.0	< 1.0	< 1.0
	18-Jul-02	31	< 1.0	< 1.0	< 1.0	< 1.0
	16-Sep-02	4.8	< 1.0	< 1.0	< 1.0	< 1.0
	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	18-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	21-May-03	1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-9	14-Mar-02	94	3.1	21	130	5.5
	18-Jul-02	2.1	< 1.0	< 1.0	< 1.0	< 1.0
	16-Sep-02	3.1	< 1.0	< 1.0	< 1.0	< 1.0
	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	18-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	23-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-10	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	18-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	23-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-11	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	21-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-12	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	18-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	21-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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)
MW-13D	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-14	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-15D	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-16D	03-Dec-02	1.3	< 1.0	< 1.0	< 1.0	< 1.0
	18-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	23-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-17	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-18	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	18-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	23-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-19D	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	22-May-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

NOTES:

PCP Pentachlorophenol.
TCP Tetrachlorophenol.
µg/L Micrograms per liter.
< Target analyte was not detected at or above the laboratory reporting limit shown.
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. 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.
5. Filtered sample.

Chlorinated phenols were analyzed using the Canadian Pulp Method.

TABLE 5

SUMMARY OF CHEMICAL ANALYSES OF GROUNDWATER SAMPLES FROM MONITORING WELL MW-7 FOR DIOXINS AND FURANS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

SAMPLE ID	SAMPLE DATE	2, 3, 7, 8-TCDD (pg/L)	1, 2, 3, 7, 8-PeCDD (pg/L)	1, 2, 3, 4, 7, 8-HxCDD (pg/L)	1, 2, 3, 6, 7, 8-HxCDD (pg/L)	1, 2, 3, 7, 8, 9-HxCDD (pg/L)	1, 2, 3, 4, 6, 7, 8-HpCDD (pg/L)	OCDD (pg/L)	2, 3, 7, 8-TCDF (pg/L)	1, 2, 3, 7, 8-PeCDF (pg/L)	2, 3, 4, 7, 8-PeCDF (pg/L)	1, 2, 3, 4, 7, 8-HxCDF (pg/L)	1, 2, 3, 6, 7, 8-HxCDF (pg/L)	2, 3, 4, 6, 7, 8-HxCDF (pg/L)	1, 2, 3, 7, 8, 9-HxCDF (pg/L)	1, 2, 3, 4, 6, 7, 8-HpCDF (pg/L)	1, 2, 3, 4, 7, 8, 9-HpCDF (pg/L)	OCDF (pg/L)	TOTAL TEQ [1,2] (pg/L)	PERCENT 2, 3, 7, 8-TCDD [3] (%)
MW-7	16-Sep-02 [4]	<3.12	<3.45	<5.82	<6.31	<5.32	32.4	144	<3.36	<4.21	<4.59	<2.38	<2.81	<2.86	<2.99	6.59	<6.67	22.2	0.407	0
	22-May-03	<1.62	<4.05	22.6 J	<3.83	<3.10	30.2	449	<1.26	<2.04	<2.02	<1.02	<1.17	<1.19	<1.15	4.97 J	<0.807	20.7 J	2.66	0
	22-May-03 [5]	<1.27	<2.00	7.89 J	<2.47	<1.97	16.3 J	231	<1.01	<1.66	<1.64	<1.09	<1.28	<1.40	<1.67	2.09 J	<1.19	7.05 J	0.996	0
	TEF[6]:	1	1	0.1	0.1	0.1	0.01	0.0001	0.1	0.05	0.5	0.1	0.1	0.1	0.1	0.01	0.01	0.0001	--	--

NOTES:

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
TEQ	Toxicity equivalency.
pg/L	Picograms per liter.
--	Not applicable
<	Target analyte was not detected at or above the laboratory reporting limit shown.
J	Analyte concentration was below the calibration range.
TEF	Toxicity equivalency factor (unitless).
1.	Calculated by multiplying the congener concentration by its TEF.
2.	When an analyte concentration was not detected, it was assigned a concentration of 0 pg/L to calculate TEQ.
3.	Calculated by dividing the concentration of 2, 3, 7, 8-TCDD by the Total TEQ. When the concentration of 2, 3, 7, 8-TCDD was not detected, it was assigned a concentration of 0 pg/L for this calculation.
4.	Data were obtained from *Results of the 3rd Quarter 2002 Groundwater Monitoring and Sampling Event for Sierra Pacific Industries - Arcata Division Sawmills, Arcata, California* , dated November 25, 2002, prepared by Environet Consulting.
5.	Filtered sample.
6.	World Health Organization, 1997 (WHO-97) adopted from F.X.R. van Leeuwen, 1997.

Dioxins and furans were analyzed using EPA Method 1613.

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)
MW-1	25-Mar-02	45.7	110	520
	22-May-03	--	--	12
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.
--	Not analyzed.

Chloride was analyzed using EPA Method 300.0.
March 2002 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 $CaCO_3$/L)	FREE CO_2 (mg CO_2/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)
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	<0.50	<2.0	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.
--	Not analyzed.
<	Target analyte was not detected at or above the laboratory reporting limit shown
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)
MW-7	14-Jan-03	< 0.15	< 0.2	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.0002	< 0.05	< 0.05	< 0.2	< 0.01	< 0.4	< 0.05	< 0.05

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.

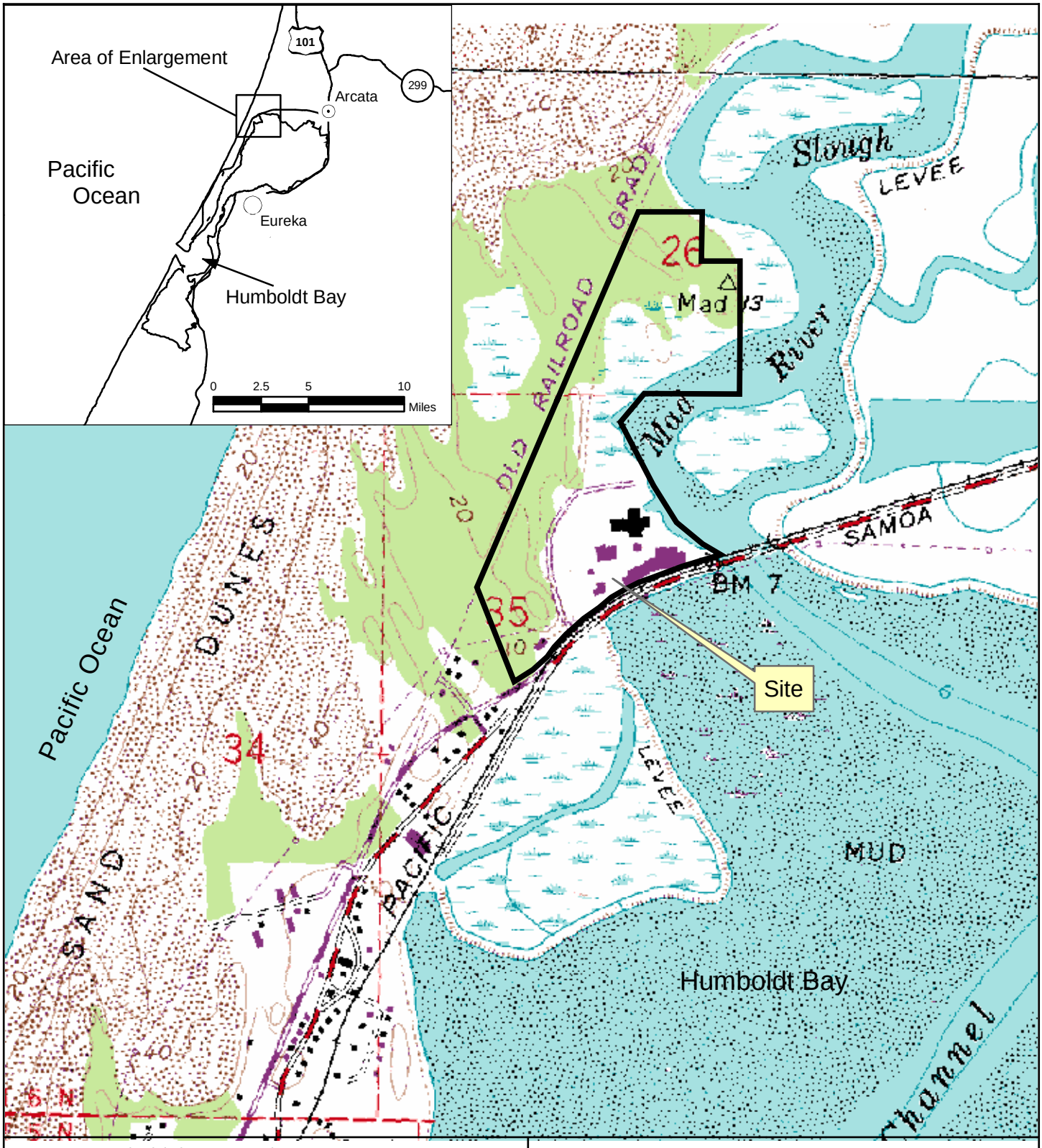
< Target analyte was not detected at or above the laboratory reporting limit shown.

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.

FIGURES

H:\Projects\030229-SPI\fig1_arcata



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

Site Boundary

0 500 1,000 2,000
Feet
Approximate Scale

N

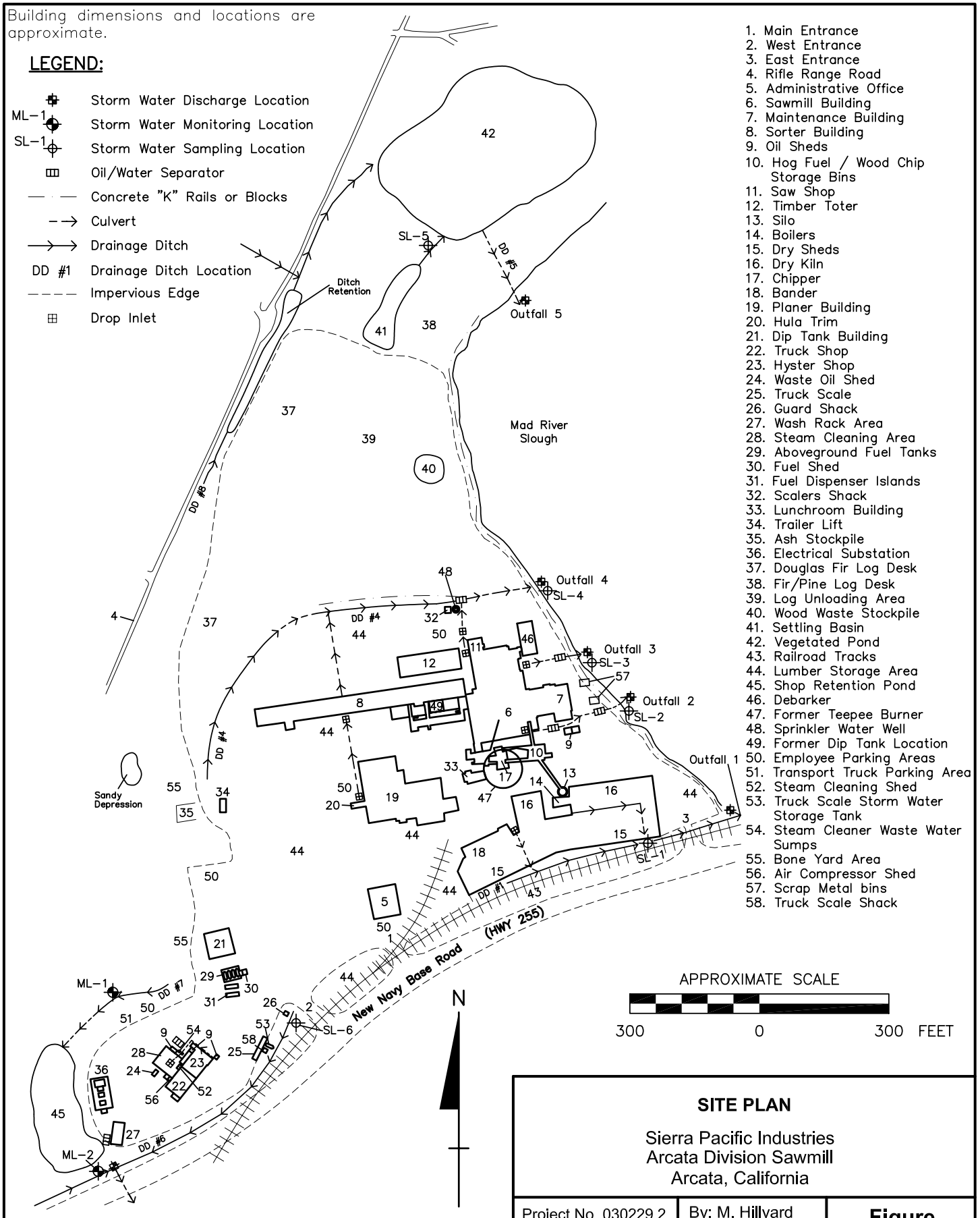
LOCATION MAP

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

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

MFG, Inc.
consulting scientists and engineers

H:\Projects\030229-SPI\Task 2\2nd QMR 2003\Figures\Arcata site plan.dwg PLOT SCALE 1:1



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 Consulting.

SITE PLAN

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Project No. 030229.2	By: M. Hillyard	**Figure 2**
Date: June 27, 2003	Checked: CGS	

MFG, Inc.
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H:\Projects\030229-SPI\Task 2\2nd QMR 2003\Figures\shallow gw.dwg PLOT SCALE 1:1

LEGEND:

MW–1 (5.08) — MONITORING WELL LOCATION (GROUNDWATER ELEVATION) D = DEEP WELL

—5.0— POTENTIOMETRIC SURFACE CONTOURS; 1.0 FOOT CONTOUR INTERVAL

DIRECTION OF GROUNDWATER FLOW

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

DITCH #4

SEPARATOR

SCALE SHACK

WELL HOUSE

MAD RIVER SLOUGH

MW–4 (9.53)

MW–19D

MW–3 (8.95)

MW–15D

DEBARKER

MOTOR SHOP & ELECTRICAL STORAGE

SAW SHOP

TIMBER TOTER

MW–5 (10.00)

MW–6 (9.17)

SORTER

MW–7 (9.23)

SEPARATOR

MW–2 (4.04)

MW–13D

MW–1 (4.90)

MAINTENANCE BUILDING

SAW MILL BUILDING

CONCRETE CAP 1.5'

MW–8 (9.81)

MW–9 (9.56)

MW–18 (9.48)

MW–12 (10.03)

MW–10 (9.28)

MW–11 (9.62)

MW–14 (7.33)

LUNCH ROOM, REST ROOM, OFFICE, STORAGE BAY

OIL SHED

MW–16D

MW–17 (8.40)

PLANER BUILDING

CHIPPER

HOG FUEL/ WOODWASTE BINS

10.0 9.0 8.0 7.0 6.0 5.0

POTENTIOMETRIC SURFACE MAP OF SHALLOW GROUNDWATER - MAY 21, 2003

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Project No. 030229.2	By: M. Hillyard	**Figure 3**
Date: June 26, 2003	Checked: CGS	

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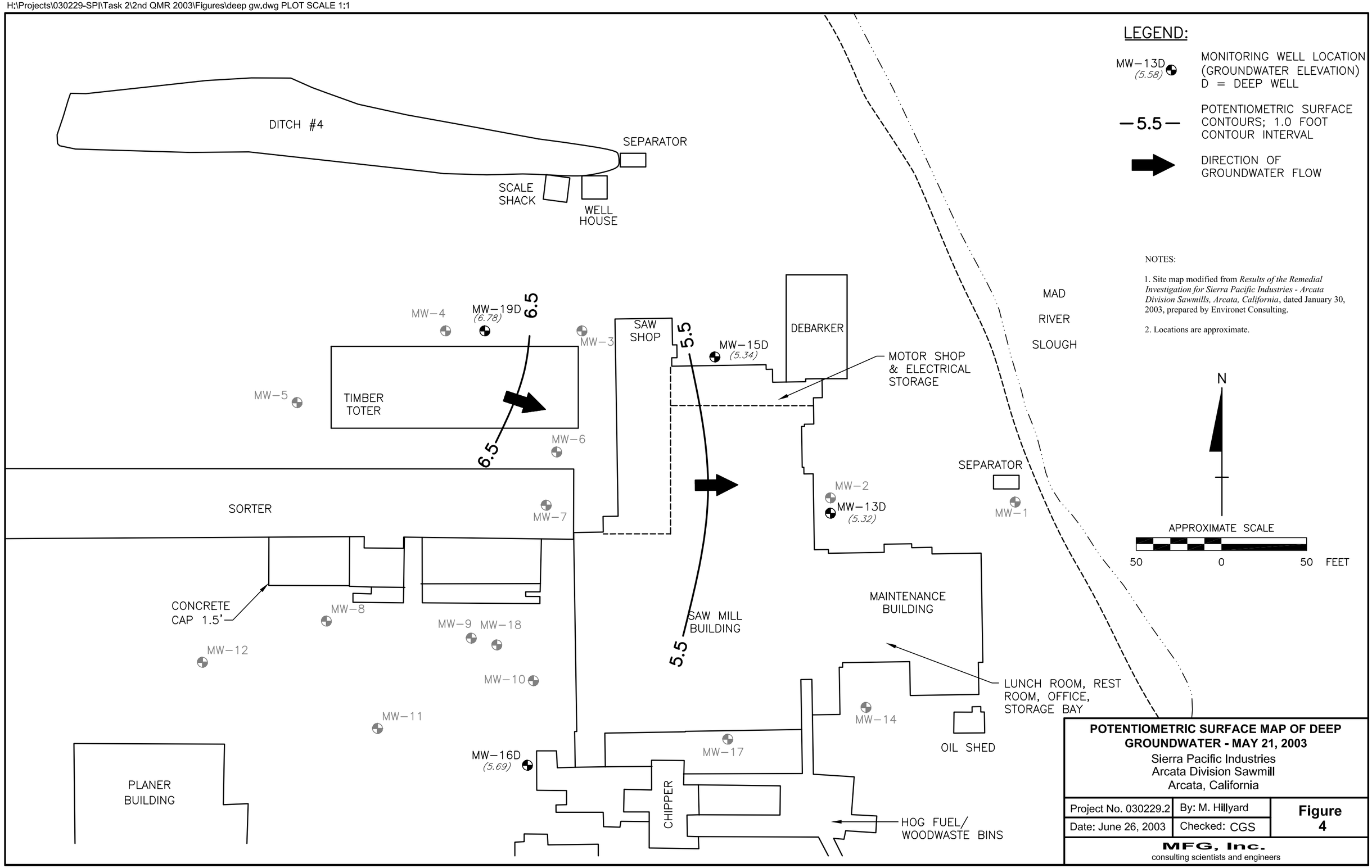
H:\Projects\030229-SPI\Task 2\2nd QMR 2003\Figures\deep gw.dwg PLOT SCALE 1:1



POTENTIOMETRIC SURFACE MAP OF DEEP GROUNDWATER - MAY 21, 2003

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Project No. 030229.2	By: M. Hillyard	**Figure 4**
Date: June 26, 2003	Checked: CGS	

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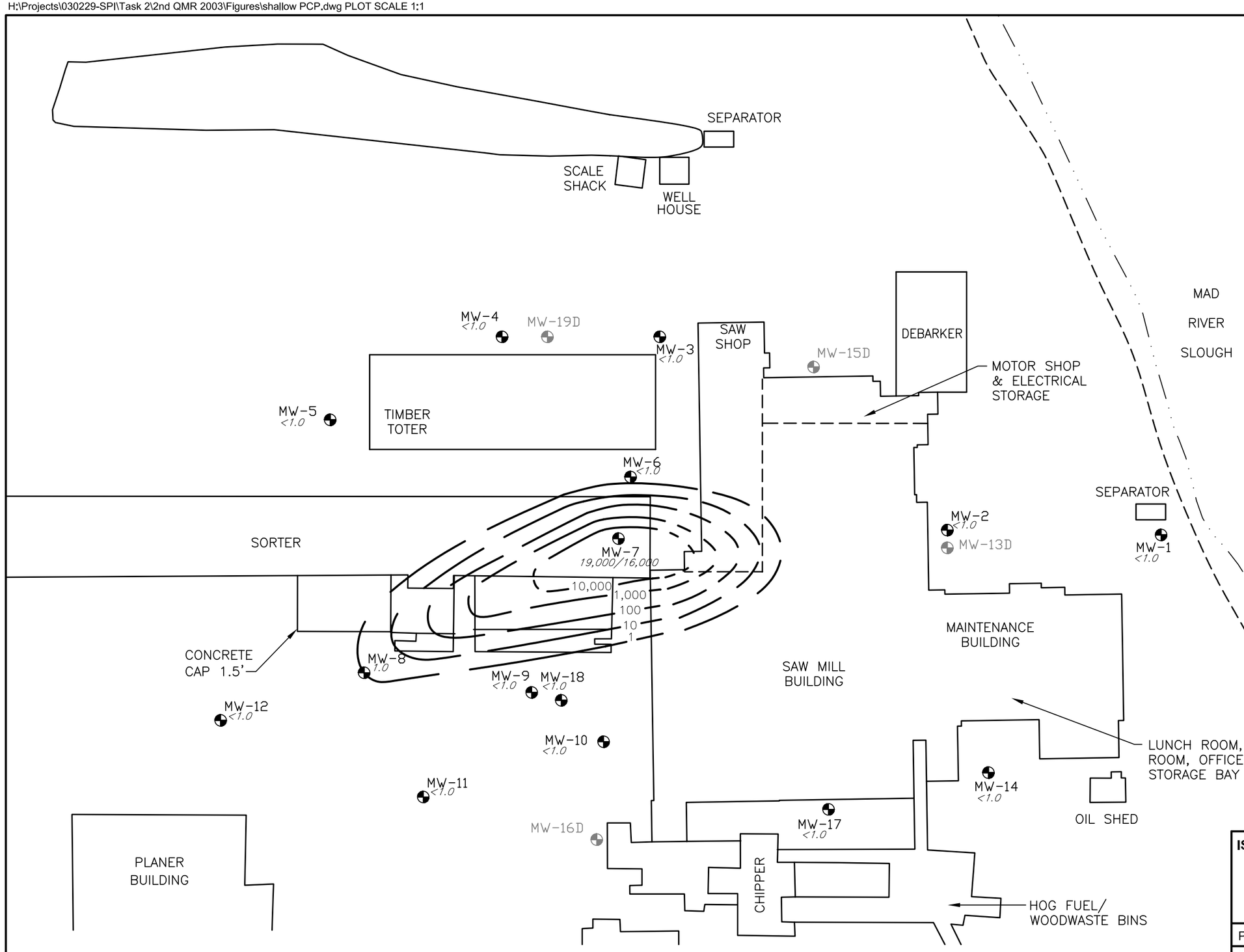
H:\Projects\030229-SPI\Task 2\2nd QMR 2003\Figures\shallow PCP.dwg PLOT SCALE 1:1



LEGEND:

- MW-1 (1.0) — MONITORING WELL LOCATION (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
- <1.0 — NOT DETECTED ABOVE LISTED REPORTING LIMIT

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.

3. PCP results for well MW-7 include the duplicate sample result.

ISOCONCENTRATION CONTOUR MAP OF DISSOLVED PCP IN SHALLOW GROUNDWATER - MAY 2003

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Project No. 030229.2	By: M. Hillyard	**Figure 5**
Date: June 27, 2003	Checked: CGS	

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H:\Projects\030229-SPI\Task 2\2nd QMR 2003\Figures\deep PCP.dwg PLOT SCALE 1:1

LEGEND:

MW-13D (<1.0)	MONITORING WELL LOCATION (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
<1.0	NOT DETECTED ABOVE LISTED REPORTING LIMIT

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.

SEPARATOR
SCALE SHACK
WELL HOUSE
MW-4
MW-19D <1.0
MW-3
SAW SHOP
DEBARKER
MW-15D <1.0
MOTOR SHOP & ELECTRICAL STORAGE
MW-5
TIMBER TOTER
MW-6
MAD RIVER SLOUGH
SORTER
MW-7
SEPARATOR
MW-2
MW-13D <1.0
MW-1
MAINTENANCE BUILDING
CONCRETE CAP 1.5'
MW-8
MW-9
MW-18
SAW MILL BUILDING
MW-12
MW-10
LUNCH ROOM, REST ROOM, OFFICE, STORAGE BAY
MW-11
MW-14
OIL SHED
MW-16D <1.0
MW-17
PLANER BUILDING
CHIPPER
HOG FUEL/ WOODWASTE BINS

N

APPROXIMATE SCALE
50 0 50 FEET

DISSOLVED PCP IN DEEP GROUNDWATER - MAY 2003
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Project No. 030229.2	By: M. Hillyard	**Figure 6**
Date: June 27, 2003	Checked: CGS	

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APPENDIX A

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 5/22/03

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): 4.71

Total Depth (ft. BMP): 7.55 feet Water Column Height (ft.): 2.84

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

Casing Volume (gal.): 1.5 2X: 1.0 3X: 1.5 4X: 2.0

Water Level (ft.BMP) at End of Purge: 5.40

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 Polyethylene Bailer Sampling: Disposable Polyethylene 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: 2070 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
315	0		14.8	7.31	3044		clear	None		
316	.5	0.5	14.5	6.87	2775		"	"		
317	1.0	0.5	14.5	6.71	2630		dk gray brn	high		sand from bottom
320	1.5	.17	14.4	6.69	2654		"	"		" " "
Auc		.3								

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 5.10 Recovery %: 86.3 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
325	125 mL	glass	2	N	N+	PCP/TCP	
325	1Q+	plastic	1	N	NA	TDS + Chlorides	

Chain-of-Custody Record No. 43293

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 5/22/03

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): 5.50

Total Depth (ft. BMP): 7.65 feet Water Column Height (ft.): 2.15

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

Casing Volume (gal.): .35 2X: .7 3X 1.05 4X 1.4

Water Level (ft.BMP) at End of Purge: 5.56

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: 4, 7, 10

Conductivity Meter: Ultrameter Field Calibration: 2070 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
418	0		14.3	6.45	1675		clear	slight		hit bottom well
420	.5	.25	13.9	6.36	1710		clear	sand		sand from bottom well
422	1.0	.25	13.9	6.35	1718		"	"		" "
423	1.5	.5	13.9	6.36	1704		"	"		" "
Ave		.3						TDS = 1070 ppm		

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 5.55 Recovery %: 97.7 Sample Intake Depth (ft. BMP):

Time	Volume	Bottles Collected: Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
426	125 mL	glass	2	N	NA	PCB/TCP	
426	1 Qt	plastic	1	N	NA	TDS	

Chain-of-Custody Record No. 43293

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 5/22/03

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): 2.20

Total Depth (ft. BMP): 7.77 feet Water Column Height (ft.): 5.57

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

Casing Volume (gal.): .9 2X: 1.8 3X 2.7 4X 3.6

Water Level (ft.BMP) at End of Purge: 2.25

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: Disposable PolyethyleneBailer

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: 2070 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
127	0		15.4	6.59	960		Clear	Sm. orange particles		
129	1	.5	15.1	6.56	1100		"			
130	2	1	14.8	6.39	1085		"	few sand		
134	3	.25	14.9	6.40	1030		"	"		Sample
Ave.		.43						TDS = 627 ppm		

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 2.25 Recovery %: 99.1 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
139	125mL	glass	2	N	N/A	PCP/TCP	
138	1QT	plastic	1	N	N/A	TDS	

Chain-of-Custody Record No. 43293

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-4

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 5/22/03

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): 1.18

Total Depth (ft. BMP): 7.76 feet Water Column Height (ft.): 6.58

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: 1.62

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

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Liquinox detergent + distilled water, triple rinse distilled water

Purging: disposable poly bailer Sampling: disposable poly 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: 2070 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
1214	0		18.6	6.99	833		slightly cloudy	small amount particles		
1216	1	.5	17.3	6.36	865		"	"		
1219	2	.33	16.4	6.38	847		"	"		
1220	3	1	16.1	6.40	766					
1222	3.6	.3	15.8	6.39	729			TDS=410		sample
Ave		.45								

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 1.62 Recovery %: 93 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
1226	125mL	glass	2	N	NA	8021/8260	
1226	1QT	plastic	1	N	NA	TDS	

Chain-of-Custody Record No. 43293

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-5

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 5/23/03

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): 0.71

Total Depth (ft. BMP): 7.68 feet Water Column Height (ft.): 6.97

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

Casing Volume (gal.): 1.15 2X: 2.3 3X 3.45 4X

Water Level (ft.BMP) at End of Purge: 0.85

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

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: disposable poly bailer Sampling: disposable poly 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: 2070 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
1019	0		16.5	6.99	679		Clear	—		
1017	1	.33	14.5	6.76	688		Clear	—		
1019	2	.5	14.3	6.65	690		"			
1021	3	.5	14.3	6.64	687		"			
1023	4	.5	14.4	6.61	684		"	TDS=414 ppm		Sample
Ave.	8	.44								
	8									

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 0.85 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)
1026	125mL	glass	2	N	N/A	PCP/TCP	
1026	1L	plastic	1	N	N/A	TDS	

Chain-of-Custody Record No. 43293

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-6

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 5/22/03

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

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 9.77

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): 0.60

Total Depth (ft. BMP): 7.72 feet Water Column Height (ft.): 7.12

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: 1.20

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

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: disposable poly bailer Sampling: disposable poly 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: 2070 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
935	0		16.2	7.40	852		Clear	small organic particles		
936	1	1	13.8	6.64	978		"	"		
938	2	.5	13.9	6.43	1063		slightly gray	"		
940	3	.5	13.9	6.38	991		"	"		
941	4	1	13.8	6.34	1020		"	TDS=625 ppm		Sample
Ave	5	.67								
	6									

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 1.20 Recovery %: 91.6 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
945	125 mL	glass	2	N	NA	PCP/TCP	
945	1 L	plastic	1	N	NA	TDS	

Chain-of-Custody Record No. 43294

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-7

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 5/29/03

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

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 9.68

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): 0.45

Total Depth (ft. BMP): 7.74 feet 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: 0.50

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

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: Disp. poly bailer Sampling: peristaltic pump/disposable 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: 2070 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
1041	0		11.5	6.63	864		clear	clear		
1042	1	1	11.2	6.49	926			"		
1044	2	.5	11.0	6.41	970			"		
1045	3	1	11.1	6.33	1141			slightly		
1047	4	.5	11.1	6.55	1000			"		
1048	5	1	11.0	6.50	960			"		
Ave	6	.714								

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 0.50 Recovery %: 99.3 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
1125	125mL	glass	4	N	NA	PCB/TCP	(2-MW-7)(2-MW-A)
1145	125mL	glass	2	Y	NA	PCB/TCP	MW-7F
1125	1L	glass	1	N	NA	dioxin/furan	MW-7
1140	1L	glass	1	Y	NA	dioxin/furan	MW-7F
1120	1QT	plastic	TDS 1	N			

Chain-of-Custody Record No. 43294

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GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-8

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 5/7/03

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

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 10.3

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): 0.49

Total Depth (ft. BMP): 7.73 feet Water Column Height (ft.): 7.24

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: 0.74

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

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: disposable poly bailer Sampling: disposable poly 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: 2070 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
338	0		17.0	6.55	745		clear	clear		
340	1	.5	15.6	6.38	739			"		
342	2	.5	15.3	6.35	739			"		
345	3	.33	15.5	6.34	740			"		
346	3.8 gal	.4	15.5	6.33	743			460 ppm TDS		Sample
Ave.	5	.48								
	6									

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 0.74 Recovery %: 96.5 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
352	125 mL	glass	2	N	NA	PCP/TCP	
352	1 L	plastic	1	N	NA	TDS	

Chain-of-Custody Record No. 43294

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-9

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 5/23/03

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

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 9.86

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): 0.20

Total Depth (ft. BMP): 7.71 feet Water Column Height (ft.): 7.51

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

Casing Volume (gal.): 1.22 2X: 2.44 3X 3.66 4X

Water Level (ft.BMP) at End of Purge: 0.54

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

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: disposable poly bailer Sampling: disposable poly 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: 2070 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
1027	0		18.1	6.71	857		clear	slightly cloudy		small grain particles
1030	1	.33	16.0	6.64	895		"	"		" " "
1032	2	.5	15.7	6.62	870		"	"		" " "
1033	3	1	15.6	6.66	870		"	cloudy		" " "
1035	4	.5	15.5	6.62	870		"	"		" " "
Ave.	5	.5						TDS=549 ppm		
	6									

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 0.55 Recovery %: 96 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
1038	125mL	glass	2	N	NA	PCP/TCP	
1036	1 Qt	plastic	1	N	NA	TDS	

Chain-of-Custody Record No. 43298

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-10

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 5/23/03

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

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 9.80

Screened Interval (ft.BGL): 2.0-8.0

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

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 0.41

Total Depth (ft. BMP): 7.76 Water Column Height (ft.): 7.35

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: 1.50

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

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: disposable poly bailer Sampling: disposable poly 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: 2070 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
855	0		19.5	7.24	900		clear	slightly cloudy		small silt particles
859	2	.5	17.2	6.87	950		lt gray	"		
901	3	.5	17.2	6.72	965		"	"		
903	4	.5	17.2	6.71	970		"	"		Sample
Ave	4	.5								
	5									
	6									

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 1.30 Recovery %: 87.9 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
906	125mL	glass	2	N	NA	PCP/TCP	
906	1 Qt	plastic	1	N	N,T	TDS	

Chain-of-Custody Record No. 43298

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-11

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 5/21/03

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

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 10.26

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): 0.64

Total Depth (ft. BMP): 8 Water Column Height (ft.): 7.36

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: 0.72

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

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: disposable poly bailer Sampling: disposable poly 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: 2070 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
423	0		21.7	6.42			slightly gray	small amount particles		
426	1	.33	18.3	6.43	895		lt gray	"		
428	2	.5	17.3	6.41	890		"	"		
430	3	.5	16.9	6.39	893		"	"		
432	4	.5	17.4	6.40	894		"	TDS=555 ppm		Sample
Ave	5	.44								
	6									

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 0.72 Recovery %: 98.9 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
4:34	120 mL	glass	2	N	NA	PH TDS	
4:34	1 L	plastic	1	N	NA	TDS	

Chain-of-Custody Record No. 43298

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-12

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 5/21/03

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

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 10.73

Screened Interval (ft.BGL): 2.0-8.0

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

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 0.70

Total Depth (ft. BMP): 8 Water Column Height (ft.): 7.3

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: 1.78

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

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: disposable poly bailer Sampling: disposable poly 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: 2070 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
256	0		21.0	5.41	748		clear	None		
258	1	.5	18.0	5.78	797					
300	2	.5	17.7	5.89	842					
302	3	.5	17.4	5.99	836					
304	4	.5	17.5	6.11	842					
306	4.5	.25	17.7	6.13	845					Sample
Ave	8	.45								

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 1.78 Recovery %: 85.2 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
310	125mL	glass	2	N	N A	TCL/TCP	
310	1L	plastic	1	N	NA	TDS	

Chain-of-Custody Record No. 43298

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-13D

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 5/29/03

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): 4.65

Total Depth (ft. BMP): 19.01 Water Column Height (ft.): 14.36

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

Casing Volume (gal.): 2.35 2X: 4.7 3X 7.05 4X

Water Level (ft.BMP) at End of Purge: 5.59

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

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: disposable poly bailer Sampling: disposable poly 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: 2070 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
342	0		15.4	7.06	731		clear	very little		
346	2 1/4	.5	13.6	6.54	797		"	"		
350	4 1/2	.5	13.6	6.29	820		"	"		
355	6 3/4	.4	13.5	6.16	940		"	"		
356	7.1 1/4	.36	13.5	6.16	1040		light brn	"		
400	8 5/8	.5	13.7	6.16	1093		light brn	"		sample
Ave	7.1	.44								

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 5.4 Recovery %: 94.8 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
400	17 mL	glass	3	N	HCl	8021/HCP	
	1 Qt	plastic	1	N	NA	TDS	

Chain-of-Custody Record No. 43299

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-14

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 5/7/03

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

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 9.02

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): 1.62

Total Depth (ft. BMP): 7.80 Water Column Height (ft.): 6.18

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

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

Water Level (ft.BMP) at End of Purge: 6.88

Total Depth (ft. BMP) at End of Purge: 0.92 MP

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: disposable poly bailer Sampling: disposable poly 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: 2070 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
249	0		17.0	6.74	2846		Clear	none		
251	1	.5	16.3	6.62	2891		lt brn			
253	2	.5	15.5	6.58	3160		"			
257	3	.25	15.2	6.58	3450		brown			bottom of well No recharge
Ave	4	.375								
	5									
	6									

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 4.59 Recovery %: 51.9 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
505	125ml	glass	2	N	NA	PCE/TCE	
505	1 QT	plastic	1	N	NA	TDS	

Chain-of-Custody Record No. 43298

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-15D

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 5/23/03

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

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 11.08

Screened Interval (ft.BGL): 15.0-20.0

Filter Pack Interval (ft.BGL): 14.0-21.0

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 5.82

Total Depth (ft. BMP): 19.80 Water Column Height (ft.): 13.98

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: 5.91

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

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: disposable poly bailer Sampling: disposable poly 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: 2070 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
203	0		13.5	6.72	695		clear	white flakes		
207	2	.5	13.1	6.60	1245		"	"		
210	4	.67	13.1	6.74	1329		"	"		
217	6	.29	13.1	6.86	1342		V. lt. brn	V. lt. brn		
220	7	.33	13.1	6.82	1338		"	"		Sample
Ave.	5	.41								
	6									
	7									
	8									

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 5.91 Recovery %: 99.4 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
223	125mL	glass	2	N	NA	PCP/TCP	
223	1QT	plastic	1	N	NA	TDS	

Chain-of-Custody Record No. 43299

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-16D

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 5/23/03

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

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 9.80

Screened Interval (ft.BGL): 15.0-20.0

Filter Pack Interval (ft.BGL): 14.0-21.5

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 4.00

Total Depth (ft. BMP): 19.49 Water Column Height (ft.): 15.49

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

Casing Volume (gal.): 2.5 2X: 5.0 3X 7.5 4X

Water Level (ft.BMP) at End of Purge: 4.14

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

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: disposable poly bailer Sampling: disposable poly 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: 2070 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
819	0		14.3	8.05	4470		brown	clear		
823	2	.5	14.2	7.85	4640		"	"		
826	4	.67	14.4	7.65	5230		"	"		
830	6	.5	14.4	7.62	5380		"	"		
833	8	.67	14.4	7.61	5200		"	"		
Ave.	5	.57								
	6									
	7									
	8									

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 4.13 Recovery %: 99.2 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
837	125mL	glass	2	N	NA	PCB/TCP	
837	1 Qt	plastic	1	N	NA	TDS	

Chain-of-Custody Record No. 43291

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-17

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 5/23/03

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

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 8.98

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): 0.55

Total Depth (ft. BMP): 7.50 Water Column Height (ft.): 6.95

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

Casing Volume (gal.): 1.13 2X: 2.26 3X 3.39 4X

Water Level (ft.BMP) at End of Purge: 1.55

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

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: disposable poly bailer. Sampling: disposable poly 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: 2070 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
423	0		16.5	6.70	890		Clear	Orange particles		
444	1	.5	14.6	6.45	1040		Hazy			
446	2	.5	14.6	6.54	1019		gray	Cloudy		
448	3	.5	14.5	6.56	1009		"	"		
449	3.5	.5	14.6	6.54	995		"	"		sample
Ave.		.5								

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 1.41 Recovery %: 87.8 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
452	125mL	glass	2	N	NA	PCP/HCP	
	1QT	plastic	1	N	NA	TDS	

Chain-of-Custody Record No. 43299

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-18

Project No: 030229.2 Project Name: SPI Arcata Sawmill Date 5/13/03

Sampling Location (well ID, etc.): MW-18
Sampled by: Matt Hillyard
Measuring Point (MP) of Well: 9.53
Screened Interval (ft.BGL): 2.0-8.0
Filter Pack Interval (ft.BGL): 1.5-9.5
Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): Over casing
Total Depth (ft. BMP): 8.86 Water Column Height (ft.): 8.86
Casing Diameter (in. ID): 4-Inch Multiplication Factor: 0.653
Casing Volume (gal.): 5.8 2X: 11.6 3X 17.4 4X
Water Level (ft.BMP) at End of Purge: 1.13
Total Depth (ft. BMP) at End of Purge:

QUALITY ASSURANCE

METHODS (describe):
Cleaning Equipment: Same as MW-1
Purging: disposable poly bailer Sampling: disposable poly 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: 2070 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
937	0 0		19.0	6.74	945		Horange	cloudy		
944	5	.71	17.9	6.62	1005		"	"		
950	10	.83	17.7	6.57	1205		clear	slightly cloudy		
954	14	1	16.9	6.66	1010		"	"		
1000	17.5	.58	16.8	6.65	980		"	"		Sample
Ave		.76						TDS=609ppm		

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 2.95 Recovery %: 89.3 Sample Intake Depth (ft. BMP):

Time	Volume	Bottles Collected: Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
1003	125mL	glass	2	N	NA	EC@TCP	
1003	12+	glass	1	N	NA	TDS	

Chain-of-Custody Record No. 43299

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 5/22/03

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

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 11.0

Screened Interval (ft.BGL): 15.0-20.0

Filter Pack Interval (ft.BGL): 14.0-21.0

Casing Stick-Up/Down (ft.):

Starting Water Level (ft. BMP): 4.22

Total Depth (ft. BMP): 19.74 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: 5.85

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

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Same as MW-1

Purging: disposable poly bailer Sampling: disposable poly 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: 2070 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
1246	0		16.1	6.58	840		Clear	Small orange particles		
1250	2	.5	15.6	6.56	840		Cl	"		
1253	4	.67	15.6	6.58	855		"	"		
1258	6	.4	15.7	6.60	860					
103	7.84	.36	15.4	6.60	864		"	"		Sample
Ave	8	.46						TDS=515 ppm		
	16									
	24									
	32									

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 5.85 Recovery %: 89.5 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
107	125mL	glass	2	N	NA	PCP/TCP	
107	1Qt	plastic	1	N	NA	TDS	

Chain-of-Custody Record No. 43301

McCulley, Frick & Gilman, Inc.

APPENDIX B

Laboratory Report and Chain-of-Custody Records
for Groundwater Samples Analyzed
for Chlorinated Phenols, Total Dissolved Solids and Chloride

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
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09 June 2003

MFG, Inc - Arcata
Attn: Ed Conti
1165 G. Street, Suite E
Arcata, CA 95521
RE: SPI Arcata Sawmill
Work Order: A305489

Enclosed are the results of analyses for samples received by the laboratory on 05/23/03 15:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nena M. Burgess For Sheri L. Speaks
Project Manager

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: Ed Conti

Report Date: 06/09/03 13:30
Project No: 030229.2
Project ID: SPI Arcata Sawmill

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A305489	05/23/2003 15:30	MFGARC	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	A305489-01	Water	05/22/03 15:25	05/23/03 15:30
MW-2	A305489-02	Water	05/22/03 16:26	05/23/03 15:30
MW-3	A305489-03	Water	05/22/03 13:38	05/23/03 15:30
MW-4	A305489-04	Water	05/22/03 12:26	05/23/03 15:30
MW-5	A305489-05	Water	05/22/03 10:26	05/23/03 15:30
MW-6	A305489-06	Water	05/22/03 09:45	05/23/03 15:30
MW-7	A305489-07	Water	05/22/03 11:25	05/23/03 15:30
MW-7F	A305489-08	Water	05/22/03 11:45	05/23/03 15:30
MW-A	A305489-09	Water	05/22/03 11:25	05/23/03 15:30
MW-7	A305489-10	Water	05/22/03 11:25	05/23/03 15:30
MW-7F	A305489-11	Water	05/22/03 11:40	05/23/03 15:30
MW-8	A305489-12	Water	05/21/03 15:52	05/23/03 15:30
MW-9	A305489-13	Water	05/23/03 10:38	05/23/03 15:30
MW-10	A305489-14	Water	05/23/03 09:06	05/23/03 15:30
MW-11	A305489-15	Water	05/21/03 16:34	05/23/03 15:30
MW-12	A305489-16	Water	05/21/03 15:10	05/23/03 15:30
MW-14	A305489-17	Water	05/22/03 17:05	05/23/03 15:30
MW-13D	A305489-18	Water	05/22/03 16:05	05/23/03 15:30
MW-15D	A305489-19	Water	05/22/03 14:23	05/23/03 15:30
MW-16D	A305489-20	Water	05/23/03 08:37	05/23/03 15:30
MW-17	A305489-21	Water	05/22/03 16:52	05/23/03 15:30
MW-18	A305489-22	Water	05/23/03 10:03	05/23/03 15:30
MW-19D	A305489-23	Water	05/22/03 13:07	05/23/03 15:30

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Nena M. Burgess For Sheri L. Speaks
Project Manager

6/9/03

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CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Ed Conti

Report Date: 06/09/03 13:30
Project No: 030229.2
Project ID: SPI Arcata Sawmill

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A305489	05/23/2003 15:30	MFGARC	

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JUN 12 2003
Tetra Tech/MFG, Inc.

Nena M. Burgess For Sheri L. Speaks
Project Manager

6/9/03

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Attn: Ed Conti

Report Date: 06/09/03 13:30
Project No: 030229.2
Project ID: SPI Arcata Sawmill

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A305489	05/23/2003 15:30	MFGARC	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		POL	NOTE
MW-1 (A305489-01)			**Sample Type: Water**			**Sampled: 05/22/03 15:25**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/03/03	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 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AE32717	05/27/03	05/30/03	1	**1400 mg/l**		**10**	
Anions by EPA Method 300.0									
Chloride	EPA 300.0	AE32307	05/23/03	05/23/03	1	**12 mg/l**		**0.50**	
MW-2 (A305489-02)			**Sample Type: Water**			**Sampled: 05/22/03 16:26**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/03/03	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	"	"	"	"		*97.6 %*	*79-119*		

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6/9/03

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CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Ed Conti

Report Date: 06/09/03 13:30
Project No: 030229.2
Project ID: SPI Arcata Sawmill

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A305489	05/23/2003 15:30	MFGARC	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		POL	NOTE
MW-2 (A305489-02)			**Sample Type: Water**			**Sampled: 05/22/03 16:26**			
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AE32717	05/27/03	05/30/03	1	**860 mg/l**		**10**	
MW-3 (A305489-03)			**Sample Type: Water**			**Sampled: 05/22/03 13:38**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/03/03	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	"	"	"	"		*98.0 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AE32717	05/27/03	05/30/03	1	**510 mg/l**		**10**	
MW-4 (A305489-04)			**Sample Type: Water**			**Sampled: 05/22/03 12:26**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/03/03	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	"	"	"	"		*104 %*	*79-119*		

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Tetra Tech/MFG, Inc.

Nena M. Burgess For Sheri L. Speaks
Project Manager

6/9/03

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CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Ed Conti

Report Date: 06/09/03 13:30
Project No: 030229.2
Project ID: SPI Arcata Sawmill

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A305489	05/23/2003 15:30	MFGARC	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		POL	NOTE
MW-4 (A305489-04)			**Sample Type: Water**			**Sampled: 05/22/03 12:26**			
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AE32717	05/27/03	05/30/03	1	**420 mg/l**		**10**	
MW-5 (A305489-05)			**Sample Type: Water**			**Sampled: 05/22/03 10:26**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/03/03	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	"	"	"	"		*114 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AE32717	05/27/03	05/30/03	1	**360 mg/l**		**10**	
MW-6 (A305489-06)			**Sample Type: Water**			**Sampled: 05/22/03 09:45**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/03/03	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	"	"	"	"		*108 %*	*79-119*		

Tetra Tech/MFG, Inc.

Nena M. Burgess For Sheri L. Speaks
Project Manager

6/9/03

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CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Ed Conti

Report Date: 06/09/03 13:30
Project No: 030229.2
Project ID: SPI Arcata Sawmill

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A305489	05/23/2003 15:30	MFGARC	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		POL	NOTE
MW-6 (A305489-06)			**Sample Type: Water**			**Sampled: 05/22/03 09:45**			
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AE32717	05/27/03	05/30/03	1	**430 mg/l**		**10**	
MW-7 (A305489-07)			**Sample Type: Water**			**Sampled: 05/22/03 11:25**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/03/03	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	06/06/03	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	100	**470 "**		**100**	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		100	R-05
Pentachlorophenol	"	"	"	"	1000	**19000 "**		**1000**	
Surrogate: Tribromophenol	"	"	"	*06/03/03*		*109 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AE32717	05/27/03	05/30/03	1	**460 mg/l**		**10**	
MW-7F (A305489-08)			**Sample Type: Water**			**Sampled: 05/22/03 11:45**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/03/03	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	06/06/03	100	**400 "**		**100**	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		100	R-05
Pentachlorophenol	"	"	"	"	1000	**14000 "**		**1000**	
Surrogate: Tribromophenol	"	"	"	*06/03/03*		*99.2 %*	*79-119*		
MW-A (A305489-09)			**Sample Type: Water**			**Sampled: 05/22/03 11:25**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/03/03	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	06/06/03	100	**400 "**		**100**	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		100	R-05
Pentachlorophenol	"	"	"	"	1000	**16000 "**		**1000**	
Surrogate: Tribromophenol	"	"	"	*06/03/03*		*96.0 %*	*79-119*		

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Tetra Tech/MFG, Inc.

Nena M. Burgess For Sheri L. Speaks
Project Manager

6/9/03

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CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Ed Conti

Report Date: 06/09/03 13:30
Project No: 030229.2
Project ID: SPI Arcata Sawmill

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A305489	05/23/2003 15:30	MFGARC	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		POL	NOTE
MW-A (A305489-09)			**Sample Type: Water**			**Sampled: 05/22/03 11:25**			
MW-8 (A305489-12)			**Sample Type: Water**			**Sampled: 05/21/03 15:52**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/06/03	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	"	"	"	"	"	**1.0 "**		**1.0**	
Surrogate: Tribromophenol	"	"	"	"		*92.4 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AE32717	05/27/03	05/30/03	1	**390 mg/l**		**10**	
MW-9 (A305489-13)			**Sample Type: Water**			**Sampled: 05/23/03 10:38**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/06/03	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	"	"	"	"		*96.0 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AE32717	05/27/03	05/30/03	1	**400 mg/l**		**10**	
MW-10 (A305489-14)			**Sample Type: Water**			**Sampled: 05/23/03 09:06**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/05/03	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	

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Tetra Tech/MFG, Inc.

Nena M. Burgess For Sheri L. Speaks
Project Manager

6/9/03

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CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Ed Conti

Report Date: 06/09/03 13:30
Project No: 030229.2
Project ID: SPI Arcata Sawmill

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A305489	05/23/2003 15:30	MFGARC	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		POL	NOTE
MW-10 (A305489-14)			**Sample Type: Water**			**Sampled: 05/23/03 09:06**			
Chlorinated Phenols by Canadian Pulp Method (cont'd)									
Surrogate: Tribromophenol	*EnvCan*	"	"	*06/05/03*		*114 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AE32717	05/27/03	05/30/03	1	**460 mg/l**		**10**	
MW-11 (A305489-15)			**Sample Type: Water**			**Sampled: 05/21/03 16:34**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/05/03	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	"	"	"	"		*116 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AE32717	05/27/03	05/30/03	1	**460 mg/l**		**10**	
MW-12 (A305489-16)			**Sample Type: Water**			**Sampled: 05/21/03 15:10**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/05/03	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 %*	*79-119*		

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Tetra Tech/MFG, Inc.

Nena M. Burgess For Sheri L. Speaks
Project Manager

6/9/03

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
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CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Ed Conti

Report Date: 06/09/03 13:30
Project No: 030229.2
Project ID: SPI Arcata Sawmill

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A305489	05/23/2003 15:30	MFGARC	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		POL	NOTE
MW-12 (A305489-16)			**Sample Type: Water**			**Sampled: 05/21/03 15:10**			
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AE32717	05/27/03	05/30/03	1	**460 mg/l**		**10**	
MW-14 (A305489-17)			**Sample Type: Water**			**Sampled: 05/22/03 17:05**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/05/03	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	"	"	"	"		*109 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AE32717	05/27/03	05/30/03	1	**2100 mg/l**		**10**	
MW-13D (A305489-18)			**Sample Type: Water**			**Sampled: 05/22/03 16:05**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/05/03	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	"	"	"	"		*109 %*	*79-119*		

Nena M. Burgess For Sheri L. Speaks
Project Manager

6/9/03

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CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Ed Conti

Report Date: 06/09/03 13:30
Project No: 030229.2
Project ID: SPI Arcata Sawmill

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A305489	05/23/2003 15:30	MFGARC	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		POL	NOTE
MW-13D (A305489-18)			**Sample Type: Water**			**Sampled: 05/22/03 16:05**			
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AE32717	05/27/03	05/30/03	1	**600 mg/l**		**10**	
MW-15D (A305489-19)			**Sample Type: Water**			**Sampled: 05/22/03 14:23**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/03/03	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	"	"	"	"		*88.8 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AE32717	05/27/03	05/30/03	1	**800 mg/l**		**10**	
MW-16D (A305489-20)			**Sample Type: Water**			**Sampled: 05/23/03 08:37**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/05/03	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	"	"	"	"		*94.0 %*	*79-119*		

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CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Ed Conti

Report Date: 06/09/03 13:30
Project No: 030229.2
Project ID: SPI Arcata Sawmill

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A305489	05/23/2003 15:30	MFGARC	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		POL	NOTE
MW-16D (A305489-20)			**Sample Type: Water**			**Sampled: 05/23/03 08:37**			
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AE32717	05/27/03	05/30/03	1	**3200 mg/l**		**10**	
MW-17 (A305489-21)			**Sample Type: Water**			**Sampled: 05/22/03 16:52**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/05/03	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	"	"	"	"		*112 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AE32717	05/27/03	05/30/03	1	**450 mg/l**		**10**	
MW-18 (A305489-22)			**Sample Type: Water**			**Sampled: 05/23/03 10:03**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/05/03	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 %*	*79-119*		

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Project Manager

6/9/03

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CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Ed Conti

Report Date: 06/09/03 13:30
Project No: 030229.2
Project ID: SPI Arcata Sawmill

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A305489	05/23/2003 15:30	MFGARC	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		POL	NOTE
MW-18 (A305489-22)			**Sample Type: Water**			**Sampled: 05/23/03 10:03**			
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AE32717	05/27/03	05/30/03	1	**640 mg/l**		**10**	
MW-19D (A305489-23)			**Sample Type: Water**			**Sampled: 05/22/03 13:07**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AF30907	05/28/03	06/05/03	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	"	"	"	"		*104 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AE32717	05/27/03	05/30/03	1	**480 mg/l**		**10**	

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CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Ed Conti

Report Date: 06/09/03 13:30
Project No: 030229.2
Project ID: SPI Arcata Sawmill

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A305489	05/23/2003 15:30	MFGARC	

SourceResult

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 AF30907 - Solvent Extraction										
Blank (AF30907-BLK1)				Prepared: 05/28/03 Analyzed: 06/03/03						
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	*24.6*		"	*24.9*		*98.8*	*79-119*			
LCS (AF30907-BS1)				Prepared: 05/28/03 Analyzed: 06/03/03						
2,4,6-Trichlorophenol	5.2	1.0	ug/l	5.00		104	81-120			
2,3,5,6-Tetrachlorophenol	4.5	1.0	"	5.00		90.0	78-108			
2,3,4,6-Tetrachlorophenol	4.8	1.0	"	5.00		96.0	76-108			
2,3,4,5-Tetrachlorophenol	5.0	1.0	"	5.00		100	80-116			
Pentachlorophenol	5.0	1.0	"	5.00		100	86-109			
Surrogate: Tribromophenol	*24.9*		"	*24.9*		*100*	*79-119*			
Matrix Spike (AF30907-MS1)	**Source: A305489-19**			Prepared: 05/28/03 Analyzed: 06/03/03						
2,4,6-Trichlorophenol	5.5	1.0	ug/l	5.00	ND	110	75-125			
2,3,5,6-Tetrachlorophenol	4.1	1.0	"	5.00	ND	82.0	69-115			
2,3,4,6-Tetrachlorophenol	4.1	1.0	"	5.00	ND	82.0	66-117			
2,3,4,5-Tetrachlorophenol	4.6	1.0	"	5.00	ND	92.0	70-115			
Pentachlorophenol	4.3	1.0	"	5.00	ND	86.0	55-124			
Surrogate: Tribromophenol	*23.5*		"	*24.9*		*94.4*	*79-119*			
Matrix Spike Dup (AF30907-MSD1)	**Source: A305489-19**			Prepared: 05/28/03 Analyzed: 06/03/03						
2,4,6-Trichlorophenol	5.6	1.0	ug/l	5.00	ND	112	75-125	1.80	20	
2,3,5,6-Tetrachlorophenol	4.1	1.0	"	5.00	ND	82.0	69-115	0.00	20	

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Project Manager

6/9/03

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CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Ed Conti

Report Date: 06/09/03 13:30
Project No: 030229.2
Project ID: SPI Arcata Sawmill

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A305489	05/23/2003 15:30	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 AF30907 - Solvent Extraction										
Matrix Spike Dup (AF30907-MSD1)	**Source: A305489-19**			Prepared: 05/28/03		Analyzed: 06/03/03				
2,3,4,6-Tetrachlorophenol	4.4	1.0	"	5.00	ND	88.0	66-117	7.06	20	
2,3,4,5-Tetrachlorophenol	4.7	1.0	"	5.00	ND	94.0	70-115	2.15	20	
Pentachlorophenol	4.5	1.0	"	5.00	ND	90.0	55-124	4.55	20	
Surrogate: Tribromophenol	*24.0*		"	*24.9*		*96.4*	*79-119*			

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CHEMICAL EXAMINATION REPORT

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Arcata, CA 95521
Attn: Ed Conti

Report Date: 06/09/03 13:30
Project No: 030229.2
Project ID: SPI Arcata Sawmill

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A305489	05/23/2003 15:30	MFGARC	

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AE32717 - General Preparation										
Blank (AE32717-BLK1)				Prepared: 05/27/03 Analyzed: 05/30/03						
Total Dissolved Solids	ND	10	mg/l							
Duplicate (AE32717-DUP1)		**Source: A305489-20**		Prepared: 05/27/03 Analyzed: 05/30/03						
Total Dissolved Solids	3280	10	mg/l		3200			2.47	30	

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Tetra Tech/MFG, Inc.

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Project Manager

6/9/03

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CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
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Arcata, CA 95521
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Report Date: 06/09/03 13:30
Project No: 030229.2
Project ID: SPI Arcata Sawmill

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A305489	05/23/2003 15:30	MFGARC	

Anions by EPA Method 300.0 - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AE32307 - General Preparation										
Blank (AE32307-BLK1)				Prepared & Analyzed: 05/23/03						
Chloride	ND	0.50	mg/l							
LCS (AE32307-BS1)				Prepared & Analyzed: 05/23/03						
Chloride	2.77	0.50	mg/l	3.00		92.3	90-110			
LCS Dup (AE32307-BSD1)				Prepared & Analyzed: 05/23/03						
Chloride	2.84	0.50	mg/l	3.00		94.7	90-110	2.50	20	
Duplicate (AE32307-DUP1)		Source: A305479-07		Prepared & Analyzed: 05/23/03						
Chloride	20.9	1.0	mg/l		21			0.477	200	
Matrix Spike (AE32307-MS1)		Source: A305479-07		Prepared & Analyzed: 05/23/03						
Chloride	25.7	1.0	mg/l	5.00	21	94.0	80-120			
Matrix Spike Dup (AE32307-MSD1)		Source: A305479-07		Prepared & Analyzed: 05/23/03						
Chloride	25.5	1.0	mg/l	5.00	21	90.0	80-120	0.781	20	

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Project Manager

6/9/03

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CHEMICAL EXAMINATION REPORT

MFG, Inc - Arcata
1165 G. Street, Suite E
Arcata, CA 95521
Attn: Ed Conti

Report Date: 06/09/03 13:30
Project No: 030229.2
Project ID: SPI Arcata Sawmill

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A305489	05/23/2003 15:30	MFGARC	

Notes and Definitions

R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.
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

MFG, INC.

CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

COC No. 43293

☒ Arcata Office
1165 G Street, Suite E
Arcata, CA 95521-5817
Tel: (707) 826-8430
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☐ Boulder Office
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☐ Irvine Office
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Irvine, CA 92614-5850
Tel: (949) 253-2951
Fax: (949) 253-2954

☐ Osburn Office
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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: SBI-Arcata PAGE: 1 OF: 5

SAMPLER (Signature): Matt Hillyard PROJECT MANAGER: Ed Conti DATE: 5/23/03

METHOD OF SHIPMENT: Courier CARRIER/WAYBILL NO: _____ DESTINATION: Alpha

SAMPLES

Field Sample Identification	Sample DATE	Sample TIME	Matrix*	Preservation HCl	Preservation HNO_3	Preservation H_2SO_4	Preservation COLD	Preservation	FILTRATION*	Containers VOLUME (ml/oz)	Containers TYPE*	Containers NO.
MW-1 A305489-1	5/22	1525	AQ							125mL	G	2
MW-1	5/22	1525	AQ							1Qt	P	1
MW-2 -2	5/22	1626	AQ							125mL	G	2
MW-2	5/22	1626	AQ							1Qt	P	1
MW-3 -3	5/22	1338								125mL	G	2
MW-3	5/22	1338								1Qt	P	1
MW-4 -4	5/22	1226								125mL	G	2
MW-4	5/22	1226								1Qt	P	1
MW-5 -5	5/22	1026								125mL	G	2
MW-5	5/22	1026	V				V			1Qt	P	1

TOTAL NUMBER OF CONTAINERS

ANALYSIS REQUEST

Constituents/Method PCP/TCP	TDS	Chloride			Handling HOLD	RUSH	STANDARD	Remarks
X							X	email results matt.hillyard@mfgenv.com PCP/TCP by Canadian pulp Method
	X	X					V	
X								
	X							
X								
	X							
X								
	X							
X								
	X						V	

LABORATORY COMMENTS/CONDITION OF SAMPLES

Cooler Temp:

RELINQUISHED BY:

SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
Matt Hillyard	Matt Hillyard	MFG	5/23/03	1200
[signature]		AAL	5/23/03	1530

RECIEVED BY:

SIGNATURE	PRINTED NAME	COMPANY
[signature]	T DALY	Alpha Labs
S. Speaks	S. Speaks	Alpha LABORATORY

RECEIVED
JUN 2 2003
MFG, Inc.

*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. 43294

☒ Arcata Office
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Fax: (949) 253-2954

☐ Osburn Office
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Tel: (208) 556-6811
Fax: (208) 556-7271

☐ San Francisco Office
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☐ Seattle Office
19203 36th Avenue W.
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Tel: (425) 921-4000
Fax: (425) 921-4040

PROJECT NO: 030229.2 PROJECT NAME: SPI - Arcata PAGE: 2 OF: 5

SAMPLER (Signature): Matt Hillyard PROJECT MANAGER: Ed Conti DATE: 5/23/03

METHOD OF SHIPMENT: Courier CARRIER/WAYBILL NO: _____ DESTINATION: Alpha

SAMPLES

ANALYSIS REQUEST

Field Sample Identification	Sample DATE	Sample TIME	Matrix*	Preservation HCl	Preservation HNO_3	Preservation H_2SO_4	Preservation COLD	Preservation	FILTRATION*	Containers VOLUME (ml/oz)	Containers TYPE*	Containers NO.	Constituents/Method PCP/TCP	Constituents/Method TDS	Constituents/Method Dioxin/Furans	Constituents/Method	Constituents/Method	Handling HOLD	Handling RUSH	Handling STANDARD	Remarks
MW-6 A305489-6	5/22	945	AQ				X			125mL	G	2	X							X	Dioxin/Furans by EPA 1613
MW-6	5/22	945								1Qt	P	1		X							
MW-7 -7	5/22	1125								125mL	G	2	X								
MW-7	5/22	1120								1Qt	P	1		X							
MW-7F -8	5/22	1145							X	125mL	G	2	X								
~~MW-A~~ MW-A -9	5/22	1125								125mL	G	2	X								
MW-7 -10	5/22	1125								1L	G	1			X						Sub to Front.
MW-7F -11	5/22	1140							X	1L	G	1			X						
MW-8 -12	5/21	1552								125mL	G	2	X								
MW-8	5/21	1552								1Qt	P	1		X							

TOTAL NUMBER OF CONTAINERS

LABORATORY COMMENTS/CONDITION OF SAMPLES

Cooler Temp:

RELINQUISHED BY:

SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
Matt Hillyard	Matt Hillyard	MFG	5/23/03	1200
RECEIVED			5/23/03	1530

RECIEVED BY:

SIGNATURE	PRINTED NAME	COMPANY
T DALY	T DALY	Alpha Labs
S. Speaks	S. Speaks	Alpha LABORATORY

JUN 12 2003

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.

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COC No. 43298

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Fax: (425) 921-4040

☐ _____

PROJECT NO: 030229.2 PROJECT NAME: SPI-Arcata PAGE: 3 OF: 5

SAMPLER (Signature): Matt Hillyard PROJECT MANAGER: Ed Conti DATE: 5/23/03

METHOD OF SHIPMENT: _____ CARRIER/WAYBILL NO: _____ DESTINATION: Alpha

SAMPLES

Field Sample Identification	Sample DATE	Sample TIME	Matrix*	Preservation HCl	Preservation HNO_3	Preservation H_2SO_4	Preservation COLD	FILTRATION*	Containers VOLUME (ml/oz)	Containers TYPE*	Containers NO.
MW-9) A305489-13	5/23	1038	AQ				X		125mL	G	2
MW-9)	5/23	1038							1Qt	P	1
MW-10)	5/23	906							125mL	G	2
MW-10) -14	5/23	906							1Qt	P	1
MW-11)	5/21	1634							125mL	G	2
MW-11) -15	5/21	1634							1Qt	P	1
MW-12)	5/21	1510							125mL	G	2
MW-12) -16	5/21	1510							1Qt	P	1
MW-14) 5/22	5/22	1705							125mL	G	2
MW-14) -17 5/22	5/22	1705							1Qt	P	1

TOTAL NUMBER OF CONTAINERS

ANALYSIS REQUEST

Constituents/Method PLP/TCP	Constituents/Method TDS	Handling HOLD	Handling RUSH	Handling STANDARD	Remarks
X				X	
	X				
X					
	X				
X					
	X				
X					
	X				
X					
	X				

LABORATORY COMMENTS/CONDITION OF SAMPLES

Cooler Temp:

RELINQUISHED BY:

SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
Matt Hillyard	Matt Hillyard	MFG	5/27/03	1200
T Daly			5/29/03	1530

RECIEVED BY:

SIGNATURE	PRINTED NAME	COMPANY
T Daly	T DALY	Alpha Labs
S. Speaks	S Speaks	Alpha LABORATORY

RECEIVED
JUN 12 2003

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

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MFG, INC.

CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

COC No. 43299

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☐ _____

PROJECT NO: 030229.2 PROJECT NAME: SFI-Arcata PAGE: 4 OF: 5

SAMPLER (Signature): Matt Hilyard PROJECT MANAGER: Ed Conti DATE: 5/23/03

METHOD OF SHIPMENT: Courier CARRIER/WAYBILL NO: _____ DESTINATION: Alpha

SAMPLES

Field Sample Identification	Sample DATE	Sample TIME	Matrix*	Preservation HCl	Preservation HNO_3	Preservation H_2SO_4	Preservation COLD	FILTRATION*	Containers VOLUME (ml/oz)	Containers TYPE*	Containers NO.
MW-13D (A305489-18)	5/22	1605	AQ				X		125mL	G	2
MW-13D	5/22	1605							1Qt	P	1
MW-15D	5/22	1423							125mL	G	2
MW-15D (19)	5/22	1423							1Qt	P	1
MW-16D	5/23	837							125mL	G	2
MW-16D (20)	5/23	837							1Qt	P	1
MW-17	5/22	1652							125mL	G	2
MW-17 (21)	5/22	1652							1Qt	P	1
MW-18	5/23	1003							125mL	G	2
MW-18 (22)	5/23	1003							1Qt	P	1

TOTAL NUMBER OF CONTAINERS

ANALYSIS REQUEST

Constituents/Method					Handling			Remarks
Pcp/TCP	TDS				HOLD	RUSH	STANDARD	
X							X	
	X						↓	
X							↓	
	X						↓	
X							↓	
	X						↓	
X							↓	
	X						↓	
X							↓	
	X						↓	

LABORATORY COMMENTS/CONDITION OF SAMPLES

Cooler Temp:

RELINQUISHED BY:

SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
Matt Hilyard	Matt Hilyard	MFG	5/23/03	1200
T Daly			5/23/03	1530

RECIEVED BY:

SIGNATURE	PRINTED NAME	COMPANY
T Daly	T DALY	Alpha Labs
S. Spacks	S. Spacks	Alpha LABORATORY

RECEIVED
JUN 12 2003

*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

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MFG, INC.

CHAIN-OF-CUSTODY RECORD AND REQUEST FOR ANALYSIS

COC No. 43301

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☐ _____

PROJECT NO: 030229.2 PROJECT NAME: SPI - Arcata PAGE: 5 OF: 5

SAMPLER (Signature): Matt Hilyard PROJECT MANAGER: Ed Conti DATE: 5/23/03

METHOD OF SHIPMENT: courier CARRIER/WAYBILL NO: _____ DESTINATION: Alpha

SAMPLES

Field Sample Identification	Sample DATE	Sample TIME	Sample Matrix*	Preservation HCl	Preservation HNO_3	Preservation H_2SO_4	Preservation COLD	Preservation	FILTRATION*	Containers VOLUME (ml/oz)	Containers TYPE*	Containers NO.
MW-19D (A305489-23)	5/22	1307	AQ				X			125mL	G	2
MW-19D	5/22	1307	AQ				X			1QT	P	1
Temp												

TOTAL NUMBER OF CONTAINERS

ANALYSIS REQUEST

Constituents/Method PCP/TCP	TOS	Temperature			Handling HOLD	RUSH	STANDARD	Remarks
X							X	
	X						X	
		X					X	= 5.3°

LABORATORY COMMENTS/CONDITION OF SAMPLES Cooler Temp:

RELINQUISHED BY: SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME	RECIEVED BY: SIGNATURE	PRINTED NAME	COMPANY
Matt Hilyard	Matt Hilyard	MFG	5/23/03	1200	T Daly	T. DALY	Alpha Labs
T Daly			5/23/03	1500	S. Speaks	S. Speaks	Alpha LABORATORY

RECEIVED JUN 1 2 2003

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

APPENDIX C

Laboratory Report and Chain-of-Custody Record for Groundwater Samples Analyzed for Dioxins and Furans

FRONTIER
ANALYTICAL LABORATORY

July 2, 2003

FAL Project ID: 1798 Addendum

Mr. Jason Triolo
MFG, Inc.
180 Howard Street, Suite 200
San Francisco, CA 94105-1617

Dear Mr. Triolo,

Enclosed is the amended report for Frontier Analytical Laboratory project **1798**. This corresponds to Alpha Analytical Laboratories, Inc. subcontract order # A305489. The two aqueous samples received on 5/28/03 were extracted and analyzed by EPA Method 1613 for tetra through octa chlorinated dibenzo dioxins and furans. Alpha Analytical Laboratories, Inc. requested a turnaround time of 14 days for project **1798**. Frontier Analytical Laboratory successfully fulfilled this request.

The report was amended to include MS/MSD data as well as to customize the analytical data sheets to include all the MFG, Inc. requested reporting information. The pagination for the entire project has the suffix "A" signifying the report has been amended.

The following report consists of an Analytical Data section and a Sample Receipt section. The Analytical Data section contains the project-sample tracking log, qualifier reference guide, ML/MDL form and the analytical results. The Sample Receipt section contains a copy of your original chain of custody, our sample login form and a sample photo.

If you have any questions regarding project **1798**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Bradley B. Silverbush
Director of Operations

RECEIVED
JUL - 3 2003
MFG, Inc.

FRONTIER ANALYTICAL LABORATORY
5172 Hillsdale Circle • El Dorado Hills, CA 95762
Tel (916) 934-0900 • Fax (916) 934-0999
dioxin@frontieranalytical.com

Frontier Analytical Laboratory

Project-Sample Tracking Log

FAL Project ID: 1798

Received on: 05/28/03 **Project Due:** 06/12/03 **Storage:** R-2

FAL Sample ID	Client Project ID	Client Sample ID	Requested Method/s	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
1798-01-SA	A305489	A305489-10	1613	Aqueous	5/22/03	11:25 AM	05/21/04
1798-02-SA	A305489	A305489-11	1613	Aqueous	5/22/03	11:40 AM	05/21/04

FRONTIER ANALYTICAL LABORATORY

Qualifier Reference Guide

A	Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
B	Analyte is present in Method Blank
C	Chemical Interference
D	Presence of Diphenyl Ethers
E	Analyte concentration is above calibration range
F	Analyte confirmation on secondary column
J‡	Analyte concentration is below calibration range
M	Maximum possible concentration
S	Sample acceptance criteria not met
X	Matrix interferences
*	Result taken from dilution or reinjection
-	Analyte Not Detected

‡ "J" values are equivalent to DNQ (detected but not qualified) for California Toxics Rule (CTR)/National Pollutant Discharge Elimination System (NPDES) samples

EPA Method 1613/8290 Aqueous MDL
(SPE Extraction)

FRONTIER ANALYTICAL LABORATORY

Analyte	ML	MDL
2,3,7,8-TCDD	5.00	1.36
1,2,3,7,8-PeCDD	25.0	2.08
1,2,3,4,7,8-HxCDD	25.0	2.97
1,2,3,6,7,8-HxCDD	25.0	3.23
1,2,3,7,8,9-HxCDD	25.0	2.90
1,2,3,4,6,7,8-HpCDD	25.0	1.74
OCDD	50.0	6.49
2,3,7,8-TCDF	5.00	1.23
1,2,3,7,8-PeCDF	25.0	1.79
2,3,4,7,8-PeCDF	25.0	1.72
1,2,3,4,7,8-HxCDF	25.0	1.04
1,2,3,6,7,8-HxCDF	25.0	1.26
1,2,3,7,8,9-HxCDF	25.0	1.34
2,3,4,6,7,8-HxCDF	25.0	1.51
1,2,3,4,6,7,8-HpCDF	25.0	1.18
1,2,3,4,7,8,9-HpCDF	25.0	1.34
OCDF	50.0	3.98

Project **1475**, extracted 1/6/03; analyzed 1/14/03. Based on a 1.0 Liter sample, pg/L.

EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 1798-01-MB | Date Extracted: 6/3/03 | ICal: PCDDFAL1-3-8 | Acquired: 5-JUN-03
Client ID: Method Blank | Date Received: NA | GC Column: db5
Matrix: Aqueous | Amount: 1.000 L | Units: pg/L | WHO TEQ: 0.00
Extraction Batch No.: 1778 | MS/MSD Batch No.: 1514

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	1.36		-					
1,2,3,7,8-PeCDD	-	3.61		-					
1,2,3,4,7,8-HxCDD	-	3.68		-					
1,2,3,6,7,8-HxCDD	-	3.98		-	Total Tetra-Dioxins	-	1.36		0
1,2,3,7,8,9-HxCDD	-	3.19		-	Total Penta-Dioxins	-	3.61		0
1,2,3,4,6,7,8-HpCDD	-	3.29		-	Total Hexa-Dioxins	-	3.98		0
OCDD	-	9.90		-	Total Hepta-Dioxins	-	3.29		0
2,3,7,8-TCDF	-	1.15		-					
1,2,3,7,8-PeCDF	-	1.56		-					
2,3,4,7,8-PeCDF	-	1.59		-					
1,2,3,4,7,8-HxCDF	-	1.53		-					
1,2,3,6,7,8-HxCDF	-	1.92		-					
2,3,4,6,7,8-HxCDF	-	2.01		-					
1,2,3,7,8,9-HxCDF	-	2.58		-	Total Tetra-Furans	-	1.15		0
1,2,3,4,6,7,8-HpCDF	-	1.14		-	Total Penta-Furans	-	1.61		0
1,2,3,4,7,8,9-HpCDF	-	1.52		-	Total Hexa-Furans	-	2.58		0
OCDF	-	3.51		-	Total Hepta-Furans	-	1.52		0

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	77.6	25.0 - 164	
13C-1,2,3,7,8-PeCDD	73.9	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	80.3	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	80.5	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	82.4	23.0 - 140	
13C-OCDD	80.6	17.0 - 157	
13C-2,3,7,8-TCDF	78.0	24.0 - 169	
13C-1,2,3,7,8-PeCDF	76.0	24.0 - 185	
13C-2,3,4,7,8-PeCDF	76.5	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	95.5	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	94.2	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	90.1	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	84.7	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	86.7	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	93.4	26.0 - 138	
13C-OCDF	90.4	17.0 - 157	
Cleanup Surrogate			
37Cl-2,3,7,8-TCDD	90.0	35.0 - 197	

Analyst: _____
Date: 7/1/03

Reviewed by: _____
Date: 7/1/03

EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 1798-01-OPR
Client ID: OPR
Matrix: Aqueous
Extraction Batch No.: 1778

Date Extracted: 6/3/03
Date Received: NA
Amount: 1.000 L

ICal: PCDDFAL1-3-8
GC Column: db5
Units: ng/mL
MS/MSD Batch No.: 1514

Acquired: 5-JUN-03
WHO TEQ: NA

Compound	Conc	QC Limits
2,3,7,8-TCDD	10.5	6.70 - 15.8
1,2,3,7,8-PeCDD	52.5	35.0 - 71.0
1,2,3,4,7,8-HxCDD	51.7	35.0 - 82.0
1,2,3,6,7,8-HxCDD	53.5	38.0 - 67.0
1,2,3,7,8,9-HxCDD	49.1	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	52.7	35.0 - 70.0
OCDD	104	78.0 - 144
2,3,7,8-TCDF	10.5	7.50 - 15.8
1,2,3,7,8-PeCDF	47.7	40.0 - 67.0
2,3,4,7,8-PeCDF	46.8	34.0 - 80.0
1,2,3,4,7,8-HxCDF	47.8	36.0 - 67.0
1,2,3,6,7,8-HxCDF	49.7	42.0 - 65.0
2,3,4,6,7,8-HxCDF	48.6	39.0 - 65.0
1,2,3,7,8,9-HxCDF	50.2	35.0 - 78.0
1,2,3,4,6,7,8-HpCDF	48.4	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	49.4	39.0 - 69.0
OCDF	97.2	63.0 - 170

Internal Standards	% Rec	QC Limits
13C-2,3,7,8-TCDD	85.4	20.0 - 175
13C-1,2,3,7,8-PeCDD	74.5	21.0 - 227
13C-1,2,3,4,7,8-HxCDD	77.9	21.0 - 193
13C-1,2,3,6,7,8-HxCDD	79.2	25.0 - 163
13C-1,2,3,4,6,7,8-HpCDD	69.0	26.0 - 166
13C-OCDD	69.8	13.0 - 198
13C-2,3,7,8-TCDF	82.6	22.0 - 152
13C-1,2,3,7,8-PeCDF	78.0	21.0 - 192
13C-2,3,4,7,8-PeCDF	81.2	13.0 - 328
13C-1,2,3,4,7,8-HxCDF	89.7	19.0 - 202
13C-1,2,3,6,7,8-HxCDF	87.0	21.0 - 159
13C-2,3,4,6,7,8-HxCDF	88.8	17.0 - 205
13C-1,2,3,7,8,9-HxCDF	76.2	22.0 - 176
13C-1,2,3,4,6,7,8-HpCDF	77.7	21.0 - 158
13C-1,2,3,4,7,8,9-HpCDF	78.4	20.0 - 186
13C-OCDF	77.8	13.0 - 198

Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	104	31.0 - 191

Analyst: _____
Date: 7/1/03

Reviewed by: _____
Date: 7/1/03

EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 1798-01-SA
Client ID: A305489-10
Matrix: Aqueous
Extraction Batch No.: 1778

Date Extracted: 6/3/03
Date Received: 5/28/03
Amount: 0.960 L

ICal: PCDDFAL1-3-8
GC Column: db5
Units: pg/L
MS/MSD Batch No.: 1514

Acquired: 5-JUN-03
WHO TEQ: 2.66

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	1.62		-					
1,2,3,7,8-PeCDD	-	4.05		-					
1,2,3,4,7,8-HxCDD	22.6	-	J	2.26					
1,2,3,6,7,8-HxCDD	-	3.83		-	Total Tetra-Dioxins	-	1.62		0
1,2,3,7,8,9-HxCDD	-	3.10		-	Total Penta-Dioxins	13.6	-	J	2
1,2,3,4,6,7,8-HpCDD	30.2	-		0.302	Total Hexa-Dioxins	32.4	-		2
OCDD	449	-		0.0449	Total Hepta-Dioxins	55.5	-		2
2,3,7,8-TCDF	-	1.26		-					
1,2,3,7,8-PeCDF	-	2.04		-					
2,3,4,7,8-PeCDF	-	2.02		-					
1,2,3,4,7,8-HxCDF	-	1.02		-					
1,2,3,6,7,8-HxCDF	-	1.17		-					
2,3,4,6,7,8-HxCDF	-	1.19		-					
1,2,3,7,8,9-HxCDF	-	1.15		-	Total Tetra-Furans	20.1	-		4
1,2,3,4,6,7,8-HpCDF	4.97	-	J	0.0497	Total Penta-Furans	4.34	-	J	1
1,2,3,4,7,8,9-HpCDF	-	0.807		-	Total Hexa-Furans	4.50	-	J	1
OCDF	20.7	-	J	0.00207	Total Hepta-Furans	19.5	-	J	2

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	81.6	25.0 - 164	
13C-1,2,3,7,8-PeCDD	75.9	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	82.7	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	83.3	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	78.7	23.0 - 140	
13C-OCDD	83.6	17.0 - 157	
13C-2,3,7,8-TCDF	83.0	24.0 - 169	
13C-1,2,3,7,8-PeCDF	82.5	24.0 - 185	
13C-2,3,4,7,8-PeCDF	82.6	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	87.5	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	87.8	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	84.0	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	82.7	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	83.7	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	89.1	26.0 - 138	
13C-OCDF	91.7	17.0 - 157	

Cleanup Surrogate			
37Cl-2,3,7,8-TCDD	83.6	35.0 - 197	

Analyst: _____
Date: 7/1/03

Reviewed by: _____
Date: 7/1/03

EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 1798-02-SA | Date Extracted: 6/3/03 | ICal: PCDDFAL1-3-8 | Acquired: 5-JUN-03
Client ID: A305489-11 | Date Received: 5/28/03 | GC Column: db5
Matrix: Aqueous | Amount: 0.954 L | Units: pg/L | WHO TEQ: 0.996
Extraction Batch No.: 1778 | MS/MSD Batch No.: 1514

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	1.27		-					
1,2,3,7,8-PeCDD	-	2.00		-					
1,2,3,4,7,8-HxCDD	7.89	-	J	0.789					
1,2,3,6,7,8-HxCDD	-	2.47		-	Total Tetra-Dioxins	-	1.27		0
1,2,3,7,8,9-HxCDD	-	1.97		-	Total Penta-Dioxins	9.60	-	J	2
1,2,3,4,6,7,8-HpCDD	16.3	-	J	0.163	Total Hexa-Dioxins	11.6	-	J	2
OCDD	231	-		0.0231	Total Hepta-Dioxins	28.8	-		2
2,3,7,8-TCDF	-	1.01		-					
1,2,3,7,8-PeCDF	-	1.66		-					
2,3,4,7,8-PeCDF	-	1.64		-					
1,2,3,4,7,8-HxCDF	-	1.09		-					
1,2,3,6,7,8-HxCDF	-	1.28		-					
2,3,4,6,7,8-HxCDF	-	1.40		-					
1,2,3,7,8,9-HxCDF	-	1.67		-	Total Tetra-Furans	26.8	-	M	5
1,2,3,4,6,7,8-HpCDF	2.09	-	J	0.0209	Total Penta-Furans	-	1.66		0
1,2,3,4,7,8,9-HpCDF	-	1.19		-	Total Hexa-Furans	-	1.67		0
OCDF	7.05	-	J	0.000705	Total Hepta-Furans	5.83	-	J	2

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	87.5	25.0 - 164	
13C-1,2,3,7,8-PeCDD	79.9	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	91.9	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	89.1	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	85.2	23.0 - 140	
13C-OCDD	93.9	17.0 - 157	
13C-2,3,7,8-TCDF	90.4	24.0 - 169	
13C-1,2,3,7,8-PeCDF	89.8	24.0 - 185	
13C-2,3,4,7,8-PeCDF	90.9	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	96.2	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	95.3	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	91.7	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	90.5	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	91.5	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	96.7	26.0 - 138	
13C-OCDF	96.1	17.0 - 157	

Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	98.7	35.0 - 197

Analyst: _____
Date: 7/1/03

Reviewed by: _____
Date: 7/1/03

EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 1514-03-MS/MSD
Client ID: 056 MS/MSD
Matrix: Aqueous
Extraction Batch No.: 1510

Date Extracted: 1/28/03
Date Received: 1/17/03
Sample Amount: 1.013 L
MS Amount: 1.008 L
MSD Amount: 1.010 L

ICal: PCDDFAL1-1-20
GC Column: db5
Units: pg
MS/MSD Batch No.: 1514

MS Acquired: 30-JAN-03
MSD Acquired: 30-JAN-03
WHO TEQ: NA

Compound	Amount Spiked	Sample Amount	MS Amount	MSD Amount	% RSD	Qual
2,3,7,8-TCDD	200	-	228	230	0.873	
1,2,3,7,8-PeCDD	1000	-	1190	1160	2.55	
1,2,3,4,7,8-HxCDD	1000	-	1230	1170	5.00	
1,2,3,6,7,8-HxCDD	1000	-	1180	1170	0.851	
1,2,3,7,8,9-HxCDD	1000	-	1190	1180	0.844	
1,2,3,4,6,7,8-HpCDD	1000	-	1100	1110	0.905	
OCDD	2000	-	2450	2440	0.409	
2,3,7,8-TCDF	200	-	223	218	2.27	
1,2,3,7,8-PeCDF	1000	-	1160	1080	7.14	
2,3,4,7,8-PeCDF	1000	-	1160	1180	1.71	
1,2,3,4,7,8-HxCDF	1000	-	989	1080	8.80	
1,2,3,6,7,8-HxCDF	1000	-	1030	1070	3.81	
2,3,4,6,7,8-HxCDF	1000	-	1030	1010	1.96	
1,2,3,7,8,9-HxCDF	1000	-	1060	1020	3.85	
1,2,3,4,6,7,8-HpCDF	1000	-	1020	1050	2.90	
1,2,3,4,7,8,9-HpCDF	1000	-	1040	1050	0.957	
OCDF	2000	-	1990	2060	3.46	
Internal Standards		**% Rec**	**% Rec**	**% Rec**	**QC Limits**	
13C-2,3,7,8-TCDD	2000	95.5	81.2	78.1	25.0 - 150	
13C-1,2,3,7,8-PeCDD	2000	101	95.3	77.6	25.0 - 150	
13C-1,2,3,4,7,8-HxCDD	2000	80.2	72.1	65.8	25.0 - 150	
13C-1,2,3,6,7,8-HxCDD	2000	88.8	74.6	66.6	25.0 - 150	
13C-1,2,3,4,6,7,8-HpCDD	2000	90.1	75.1	64.7	25.0 - 150	
13C-OCDD	4000	97.6	80.2	68.1	25.0 - 150	
13C-2,3,7,8-TCDF	2000	88.8	81.1	88.6	25.0 - 150	
13C-1,2,3,7,8-PeCDF	2000	92.4	76.8	81.2	25.0 - 150	
13C-2,3,4,7,8-PeCDF	2000	88.9	81.8	75.0	25.0 - 150	
13C-1,2,3,4,7,8-HxCDF	2000	76.2	66.0	57.4	25.0 - 150	
13C-1,2,3,6,7,8-HxCDF	2000	75.8	65.4	58.4	25.0 - 150	
13C-2,3,4,6,7,8-HxCDF	2000	74.9	68.3	62.1	25.0 - 150	
13C-1,2,3,7,8,9-HxCDF	2000	82.3	67.4	62.8	25.0 - 150	
13C-1,2,3,4,6,7,8-HpCDF	2000	71.1	58.2	50.6	25.0 - 150	
13C-1,2,3,4,7,8,9-HpCDF	2000	70.1	59.4	52.5	25.0 - 150	
13C-OCDF	4000	89.5	72.0	64.8	25.0 - 150	
Cleanup Surrogate						
37Cl-2,3,7,8-TCDD	800	107	104	106	25.0 - 150	

Analyst: _____
Date: 7/1/03

RECEIVED
JUL - 3 2003
MFG, Inc.

Reviewed by: _____
Date: 7/1/03

1798
2°

SUBCONTRACT ORDER

Alpha Analytical Laboratories, Inc.

A305489

SENDING LABORATORY:	RECEIVING LABORATORY:
Alpha Analytical Laboratories, Inc.	Frontier Analytical Laboratory
P.O. Box 1508 (208 Mason St.)	5172 Hillsdale Circle
Ukiah, CA 95482	El Dorado, CA 95762
Phone: (707)468-0401	Phone :916-934-0900
Fax: (707)468-5267	Fax: 916-934-0999
Project Manager: Sheri L. Speaks	**Terms: Net 30**

Analysis	Due	Expires	Comments
A305489-10 MW-7 [Water] Sampled 05/22/03 11:25 Pacific			
Dioxins Full List	06/09/03 12:00	05/21/04 11:25	
Containers Supplied:			
1L Amber- Unpres. (A)			
A305489-11 MW-7F [Water] Sampled 05/22/03 11:40 Pacific			
Dioxins Full List	06/09/03 12:00	05/21/04 11:40	
Containers Supplied:			
1L Amber- Unpres. (A)			

☐ *Report to State*

System Name: _____ **Employed by:** _____

User ID: _____ **Sampler:** _____

System Number: _____

Results & INV TO SPI.

Sierra Pacific Ind.

RECEIVED
JUL - 3 2003
MFG, Inc.

Released By	Date	Received By	Date
Sheri Speaks	52303	Kathy Sap	5/28/03 11:00
Released By	Date	Received By	Date

FRONTIER ANALYTICAL LABORATORY

Frontier Analytical Laboratory

Sample Login Form

RECEIVED
JUL - 3 2003
MFG, Inc.

Project ID: **1798**

Client:	Alpha Analytical (SPI)
Client Project ID:	A305489
Date Received:	05/28/03 TAT: 14
Time Received:	11:00 AM
Received By:	kz
# of Samples Received:	2 # of Dups: 0
Storage Location:	R-2

Checklist	Yes	No	N/A	Comments
Method of Delivery:	X			Fed-Ex/UPS/**Courier**/Other
Shipping container received intact?	X			
Custody seals(s) present and intact?			X	
Method of cooling:	X			Ice/**Blue ice**/Dry ice/Other
Sample arrival temperature (C):	X			2 degrees C
Sample containers intact?	X			
Chain of Custody present and complete?	X			
Return shipping container to client?	X			
Test for residual chlorine?	X			Thiosulfate added? no
Earliest sample hold time expiration:	X			Date: 5/21/04
Adequate Sample Volume?	X			
Anomalies or additional comments:				

FRONTIER
ANALYTICAL LABORATORY