Fourth Quarter 2003 Groundwater Monitoring Report

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

Prepared for:

Sierra Pacific Industries

January 22, 2004

Project No. 9329, Task 2

Geomatrix Consultants

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GEOMATRIX

January 23, 2004
Project 9329, Task 2

Executive Officer
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Attention: Dean Prat

Subject: Fourth Quarter 2003 Groundwater Monitoring Report
Sierra Pacific Industries
Arcata Division Sawmill
2593 New Navy Base Road
Arcata, California

Dear Mr. Prat:

As requested by Sierra Pacific Industries, we have enclosed a copy of the subject report prepared on behalf of Sierra Pacific Industry Industries.

Sincerely yours,
GEOMATRIX CONSULTANTS, INC.

Ross Steenson, C.HG.
Senior Hydrogeologist

Edward P. Conti, C.E.G., C.HG.
Principal Geologist

RAS/EPC/abr
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Enclosure

cc: Bob Ellery, Sierra Pacific Industries (with enclosure)
Gordie Amos, Sierra Pacific Industries (with enclosure)
David Dun, Dun and Martinek, LLP (with enclosure)
Fred Evenson, Law Offices of Frederic Evenson (with enclosure)
Jim Lamport, Ecological Rights Foundation (with enclosure)

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2593 New Navy Base Road
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Prepared for:

Sierra Pacific Industries

Prepared by:

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GEOMATRIX

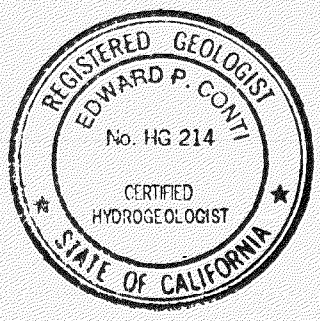
PROFESSIONAL CERTIFICATION

FOURTH QUARTER 2003 GROUNDWATER MONITORING REPORT
Sierra Pacific Industries
Arcata Division Sawmill
2593 New Navy Base Road
Arcata, California

January 23, 2004
Project No. 9329.000, Task 2

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

Edward P. Conti, C.E.G., C.HG.
Principal Geologist



GEOMATRIX

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FOURTH QUARTER 2003 GROUNDWATER MONITORING REPORT

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

1.0 INTRODUCTION

This report presents the methods and results of the Fourth Quarter 2003 groundwater monitoring event performed at the Sierra Pacific Industries (SPI) Arcata Division Sawmill located in Arcata, California (the site, Figure 1). The Fourth Quarter 2003 monitoring event was performed in accordance with Cleanup and Abatement Order (CAO) No. R1-2001-0200, issued by the California Regional Water Quality Control Board, North Coast Region (RWQCB) on October 31, 2001. On November 13, 2003, the RWQCB issued Cleanup and Abatement Order No. R1-2003-0127[1] and Monitoring and Reporting Program (MRP) No. R1-2003-0127. Geomatrix Consultants, Inc. (Geomatrix), has prepared this report on behalf of SPI in accordance with MRP No. R1-2003-0217. The purpose of this report is to provide the quarterly status of the monitoring activities conducted at the site.

This report is organized as follows:

- Background, including a discussion of site history, subsurface lithology, and hydrogeology is presented in Section 2.0.
- Field sampling and laboratory analysis methods are presented in Section 3.0.
- Depth to groundwater measurements and groundwater sample laboratory chemical analysis results, including quality assurance/quality control (QA/QC), are presented in Section 4.0.
- Wastewater disposal is discussed in Section 5.0.
- The future groundwater monitoring schedule is presented in Section 6.0.
- References used in preparation of this report are listed in Section 7.0.

[1] CAO No. R1-2003-0127 supercedes CAO No. R1-2001-0200.

2.0 SITE BACKGROUND

This section provides background information regarding the site setting and history. In addition, subsurface conditions including lithology and hydrogeology, are presented in this section. Subsurface lithology and hydrogeology at the site were previously investigated and described by Environet (Environet, 2003a).

2.1 HISTORY

The approximately 68-acre site is located on the Samoa Peninsula, inland from the northern shoreline of Humboldt Bay and approximately 4 miles east of the town of Arcata, California. The site is bounded to the north and east by the Mad River Slough, to the northwest by an old railroad grade, and to the south by New Navy Base Road and mud flats of Humboldt Bay (Figure 1).

The site is currently an active sawmill; current features are shown on Figure 2. The sawmill has operated at the site since approximately 1950. Prior to construction of the mill facilities, the site consisted of undeveloped sand dunes and mud flats. During construction of mill facilities in the 1950s and 1960s, portions of the Mad River Slough on the eastern, northern, and southern sides of the site were filled. The current mill facility consists of an administrative building, a main sawmill building, numerous wood-processing buildings, log storage areas, milled lumber storage areas, and loading/unloading areas. A 140-foot deep water supply well (Feature 48 on Figure 2) also is present on the site and provides water for log sprinkling. An older, shallow water supply well that is no longer used because it began to produce sand also is present adjacent to the deeper, in-service well.

Wood surface protection activities historically conducted at the site included the use of solution containing chlorinated phenols, including pentachlorophenol (PCP) and tetrachlorophenol (TCP), for sap stain and mold control on a small amount of milled lumber. The anti-stain solution was applied in an aboveground dip tank located in the middle of the former green chain located immediately south of the eastern end of the current sorter building (Feature 49 on Figure 2, and shown on Figure 3). Use of solution containing chlorinated phenols in the former green chain area of the site reportedly commenced in the early to mid-1960s and was discontinued in 1985 (Environet, 2002b). At the direction of the RWQCB, SPI stopped purchasing anti-stain solution containing chlorinated phenols in 1985 and commenced a process of relocating the remaining solution containing chlorinated phenols to a new dip tank facility for recycling (MFG, 2003a). Due to the difficulty of disposing of the old solution containing chlorinated phenols, the remaining solution from the old dip tank was mixed with a

new anti-stain solution that did not contain chlorinated phenols at the new dip tank facility (Feature 21 on Figure 2). Recycling of the solution containing chlorinated phenols in the new dip tank continued until 1987, at which time the drip basin adjacent to the old dip tank was cleaned out, filled with sand, and capped with 3 to 4 inches of concrete (MFG, 2003b). The new dip tank has been cleaned three times since 1987.

2.2 LITHOLOGY

The site is located adjacent to the Mad River Slough near the northern shoreline of Humboldt Bay. The eastern, northern, and southern portions of the site were filled in the 1950s and 1960s. Environmental borings have been completed at the site to approximately 20 feet below ground surface (bgs). Observations made during these investigations indicate that the shallow subsurface lithology at the site is predominantly fine- to medium-grained sand of apparent sand dune origin. The boring logs for several monitoring wells (MW-3, MW-10, MW-15D, MW-16D, and MW-17) indicate that finer-grained material (classified on the boring logs as "bay mud") was encountered at a depth of approximately 6 to 8 feet bgs. The log from the deeper boring at well MW-15D shows that bay mud was encountered to a depth of approximately 15 feet bgs, and sand was encountered beneath the bay mud. Sand reportedly was encountered from ground surface to total depth during installation of the 140-foot-deep water supply well (Feature 48 on Figure 2) (Environet, 2001). Woody material and fill were noted in the logs for monitoring wells MW-13D and MW-15D.

2.3 HYDROGEOLOGY

In 2002, 19 monitoring wells were installed at the site (Environet, 2002a, 2003a). Monitoring well construction details are included in Table 1. Measured depth to groundwater in the 19 groundwater monitoring wells installed at the site generally has ranged between approximately 0.5 and 5 feet bgs in the shallow wells (i.e., screened from 2 to 8 feet bgs) and between approximately 4 and 6 feet bgs in the deeper wells (i.e., screened from 15 to 20 feet bgs). In the eastern portion of the site, groundwater flow generally is to the east, toward the Mad River Slough (MFG and Geomatrix, 2003). In the southwestern portion of the site, groundwater flow is likely generally to the south-southeast, toward Humboldt Bay (MFG and Geomatrix, 2003). Tidal fluctuations in the Mad River Slough and nearby Humboldt Bay influence groundwater levels at the site in the vicinity of the slough. A 2002 tidal influence study conducted at the site by Environet suggested that tidal effects become negligible at distances greater than 100 feet from the slough shore (Environet, 2003a).

3.0 METHODOLOGY

3.1 FIELD METHODS

On November 3, 2003, depth to water was measured in all site monitoring wells (MW-1 through MW-19D) and at a monitoring point in the Mad River Slough with an Envirotech Ltd., Waterline Model 150 meter (Table 2). Water levels in all monitoring wells were measured on one day and prior to sampling to reduce the effects of natural fluctuations in groundwater elevation. Equipment used to measure depth to water in each well was decontaminated in a Liquinox® detergent solution and triple rinsed with distilled water between wells. The wells were measured monitored and sampled in order of lowest expected chemical concentration to highest expected chemical concentration, as determined by previous laboratory analytical results

On November 3 and 4, 2003, monitoring wells MW-1 through MW-19D were purged and sampled. Each monitoring well was purged using a dedicated, disposable Teflon® bailer to remove standing water in the well casing. The temperature, pH, and specific conductance of the water were monitored during purging and were recorded in the field. Purging was complete when the field-measured parameters were relatively stable and at least three casing volumes of water had been removed from each well. Copies of the groundwater sampling record field forms are included in Appendix 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 58 percent within three and a half hours after purging. Groundwater samples were collected from the 19 monitoring wells using the dedicated, disposable Teflon® bailers. The initial bailer volume of water collected from each well, except MW-14, during sampling was used to measure the temperature, pH, and specific conductance of the groundwater samples. For well MW-14, the final purge volume was used. Total dissolved solids (TDS) were also field-measured and recorded for each monitoring well at the time of sampling. The field parameters measured for the samples are provided in Table 3.

To assess the comparability of data collected using low-flow purging and sampling techniques with the bailer techniques, monitoring well MW-7 also was purged and sampled using a low-flow peristaltic pump and dedicated disposable tubing. The samples collected using bailer techniques were designated MW-7-200311-B, and the samples collected using low-flow techniques were designated MW-7-200311-LF (Appendix B). In addition, groundwater samples for geochemical parameter analysis were collected from wells MW-2, -3, -5, and -7 using the same low-flow technique.

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. 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.

One duplicate groundwater sample, identified as MW-A, was collected from monitoring well MW-8. This sample was placed in two additional 125-ml glass vials sealed with Teflon®-lined screw caps.

Dedicated bailers and a peristaltic pump with dedicated tubing were used for sampling and purging, and therefore no cleaning of these materials was performed. Water generated during groundwater sampling and water-level measurement equipment decontamination was temporarily stored at the site in three labeled, Department of Transportation (DOT)-approved, 55-gallon drums pending disposal (Section 5.0).

3.2 LABORATORY METHODS

Groundwater samples collected from the monitoring wells were submitted to Alpha Analytical Laboratories, Inc. (Alpha), of Ukiah, California, a California Department of Health Services (DHS) certified laboratory for laboratory chemical analysis. For this quarter, the samples were analyzed as follows.

- Chlorinated phenols using the Canadian Pulp Method—all 19 monitoring wells. For MW-7, two samples were collected: MW-7-200311-B (bailer method) and MW-7-200311-LF (low-flow method).

- Chlorinated phenols using the Canadian Pulp Method after laboratory filtration with a 0.7-micron glass fiber filter to assess the potential contribution of PCP-affected, entrained sediment to the quantitation—MW-7-200311-B-F (bailer) and MW-7-200311-LF-F (low-flow method).

- Total dissolved solids (TDS) using EPA Method 160.1—all 19 monitoring wells.

- Total suspended solids (TSS) using EPA Method 160.2—all samples from MW-7.

- Dioxins and furans using EPA Method 1613—MW-7. Alpha subcontracted this analysis to Frontier Analytical Laboratory of El Dorado Hills, California, a DHS-certified analytical laboratory.

- Geochemical parameters (calcium and magnesium [EPA Method 200.7]; total alkalinity and bicarbonate alkalinity as $CaCO_3$ [Standard Method 2320B]; chloride, nitrate, and sulfate [EPA Method 300.0]; dissolved iron and manganese [EPA Method 6010 and 200.7]; methane and carbon dioxide [RSK 175]; and total organic carbon [EPA Method 415.1])—MW-2, MW-3, MW-5, and MW-7. Alpha subcontracted the dissolved iron and manganese analyses by EPA Method 200.7 to STL-San Francisco of Pleasanton, California and subcontracted the methane and carbon dioxide analyses to K Prime, Inc. of Santa Rosa, California. Both of these laboratories are DHS-certified.

4.0 RESULTS

4.1 OCCURRENCE AND MOVEMENT OF GROUNDWATER

During the recent monitoring event, depth to groundwater measurements ranged from 0.92 to 5.17 feet below the measuring point (approximately ground surface) in the shallow wells (i.e., screened from 2 to 8 feet bgs). Groundwater elevations in the shallow monitoring wells at the site suggest that the lateral hydraulic gradient for shallow groundwater is generally to the east near the sorter building with a magnitude of approximately 0.005 to 0.007 foot/foot and to the northeast in the sawmill area with a magnitude of approximately 0.02 to 0.03 foot/foot.
A groundwater depression exists northeast of the sawmill building in the vicinity of monitoring well MW-2. Depth to groundwater measurements ranged from 4.26 to 5.51 feet below measuring point (approximately ground surface) in the deeper wells (i.e., screened from 15 to 20 feet bgs). Groundwater elevations in the deeper monitoring wells suggest that the lateral hydraulic gradient for deeper groundwater at the site is generally southeast with a magnitude of

approximately 0.003 to 0.008 foot/foot. Figures 4 and 5 present the potentiometric surface maps of the shallow and deeper groundwater, respectively.

4.2 GROUNDWATER ANALYTICAL RESULTS

The chemical analysis results of the groundwater samples are summarized in Table 3 (field-measured water quality parameters and laboratory TDS), Table 4 (chlorinated phenols), Table 5 (dioxins and furans), and Table 6 (geochemical parameters measured during this event). Copies of the laboratory reports and chain-of-custody records are included in Appendix B.

The TDS of the groundwater samples analyzed by the laboratory ranged from 310 to 2,800 milligrams per liter (mg/L). The TDS of the groundwater samples measured in field were generally 200 mg/L or more higher than their respective results measured by the laboratory.

The distribution of chlorinated phenols (PCP) in groundwater samples collected from the monitoring wells is presented on Figures 6 (shallow wells) and 7 (deeper wells). PCP was detected only in the groundwater samples collected from shallow monitoring well MW-7, at concentrations between 14,000 to 31,000 micrograms per liter (µg/L). Chlorinated phenols were not detected in any of the deeper groundwater monitoring wells.

During this event, groundwater samples were collected from well MW-7 using both a bailer and the low-flow method for chlorinated phenol analysis to evaluate the potential differences between sampling methods. In addition, sufficient volume was collected using each method to enable the laboratory to perform both unfiltered and filtered analyses to evaluate the potential contribution of entrained PCP-affected sediment to the quantitation of PCP in the sample. These samples were additionally analyzed for TSS to assess the concentration of suspended sediment in the samples before and after filtration. A table of results for PCP and TSS is presented below.

MW-7 Sample	PCP (µg/L)	TSS (mg/L)
Bailer, unfiltered	28,000	230
Bailer, filtered	31,000	6.2
Low-Flow, unfiltered	20,000	100
Low-Flow, filtered	14,000	6.6

Based on these data, the bailer sampling method produces more suspended sediment in the samples than the low-flow method. After filtration using a 0.7-micron glass fiber filter, the suspended sediment concentrations in samples using both methods are similar. Comparison of the unfiltered bailer sample against the unfiltered low-flow sample indicates that the unfiltered low-flow sample concentration is about 35 percent lower than the unfiltered bailer sample. Comparison of the unfiltered and filtered low-flow samples indicates that the PCP concentration is about 25 percent lower after filtration. These results suggest a correlation between the sediment concentration and PCP concentration. However, comparison of the unfiltered and filtered bailer samples indicates that the PCP concentration is about the same as before filtration. Based on this finding, it appears that there is not a clear correlation between sediment in the samples and PCP concentration.

The filtered, low-flow method sample from MW-7 was analyzed for dioxins and furans (Table 5). Concentrations of dioxins/furans, which refers to a complex mixture of various dioxin/furan congeners, are generally summarized in terms of 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) based on toxic equivalency factors adopted by the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (Cal-EPA, 2003). While 2,3,7,8-TCDD was not specifically detected, two dioxin congeners were detected, and the toxic equivalency (TEQ) calculated from these results was 0.004 picograms per liter.

Samples collected from MW-2, MW-3, MW-5, and MW-7 using low-flow methods were analyzed for geochemical parameters (Table 6). These results were discussed in Appendix B of the December 1, 2003 *Final Feasibility Study for Remediation of Wood Surface Protection Chemicals* (Geomatrix, 2003), and are not further discussed in this report.

4.2 LABORATORY DATA QUALITY REVIEW

The purpose of quality assurance and quality control (QA/QC) procedures is to assess the quality of the data by evaluating the accuracy, precision, and completeness of the data. During the November 2003 monitoring period, laboratory quality control samples consisting of method blanks, laboratory control samples, and matrix spike/matrix spike duplicate samples were used to provide internal quality control data. Data verification was performed consistent with the U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (U.S. EPA, 2002) and Organic Data Review (USEPA, 1999). A summary of data quality review for water samples collected on November 3 and 4, 2003 is presented below.

4.2.1 Data Precision

Data precision was evaluated by comparing analytical results from duplicate samples. The evaluation is based on calculating the relative percent difference (RPD) between duplicate samples. Laboratory control spike and laboratory spike duplicates (LCS/LCSD) samples were analyzed for each batch of project samples for the November sampling events. The reported RPDs for all LCS/LSCD were within method control limits. All RPDs for matrix spike and matrix spike duplicate (MS/MSD) analyses reported by the laboratory were also within method control limits.

4.2.2 Data Accuracy

Data accuracy is assessed by the analysis of surrogate samples, method blanks, LCS and MS samples. No compounds were detected above the laboratory reporting limit in any of the method blanks. Surrogates, LCS, and MS samples are evaluated based on recoveries, and the results are expressed as a percent of the true or known concentration added to the sample. For one laboratory batch, the LCS recovery for 2,3,5,6-tetrachlorophenol in the Canadian Pulp analysis was slightly above the control limits. There were no detections of this analyte within any primary samples so qualification of the data was not required. All surrogate recoveries were within control limits for the November sampling event. For the EPA Method 200.7 analysis of calcium and magnesium, one MS recovery for calcium was above QC limits. Based on the National Functional Guidelines, no qualification of the data was required because the analyte concentration in the spiked sample was greater than four times the spike concentration.

4.2.3 Data Quality

The laboratory quality control results indicate that the sampling and analyses were performed consistent with the analytical methods.

4.2.4 Data Completeness

The project manager has reviewed the data, and based on the high percentage of data meeting project QA/QC goals, the data obtained during this reporting period are considered complete.

5.0 WASTEWATER DISPOSAL

The purge water and equipment wash water generated during the fourth quarter 2003 groundwater sampling event was placed in three steel, 55-gallon drums for temporary storage. Two drums are partially filled with purge water, and, once completely filled with purge water, will be disposed of by SPI in accordance with applicable regulations. One drum was completely filled, and that drum was removed from the site on January 19, 2004 by Asbury

Environmental Services for transport to Demenno/Kerdoon in Compton, California for treatment. Following treatment, the water will be discharged to the Los Angeles Sanitation District. A copy of the Uniform Hazardous Waste Manifest for this shipment is included in Appendix C.

6.0 FUTURE MONITORING SCHEDULE

The first quarter 2004 monitoring event will be conducted in February or March 2004 in accordance with MRP No. R1-2003-0217.

7.0 REFERENCES

Cal-EPA, 2003, *Adoption of the Revised Toxic Equivalency Factors (TEFWHO-97) for PCDDs, PCDFs, and Dioxin-like PCBs* (memorandum), Office of Environmental Health Hazard Assessment, August 29.

EnviroNet Consulting (Environet), 2001, *Report on Hydrogeologic Investigations at Sierra-Pacific Industries*, Arcata Division Sawmill, Arcata, California, October 23.

EnviroNet, 2002a, *Report on Recent Hydrogeologic Investigation at Sierra-Pacific Industries*, Arcata Division Sawmill, Arcata, California, April 19.

EnviroNet, 2002b, *Interim Feasibility Study to Remediate Chlorophenols in Soil and Groundwater*, Arcata Division Sawmill, prepared for Sierra Pacific Industries, Arcata, California, May 1.

Environet, 2003a, *Results of the Remedial Investigation for Sierra Pacific Industries*, Arcata Division Sawmills, Arcata, California, May 1.

Geomatrix, 2003, *Final Feasibility Study for Remediation of Wood Surface Protection Chemicals*, Arcata Division Sawmill, prepared for Sierra Pacific Industries, Arcata, California, December 1.

MFG, Inc. (MFG), 2003a, *Plywood Covered Ditch Investigation Report*, Sierra Pacific Industries Arcata Division Sawmill, June 9.

MFG, 2003b, *Interim Remedial Measures Report*, Arcata Division Sawmill, prepared for Sierra Pacific Industries, Arcata, California, June 10.

MFG and Geomatrix, 2003, *Third Quarter 2003 Groundwater Monitoring Report*, Arcata Division Sawmill, prepared for Sierra Pacific Industries, Arcata, California, November 3.

U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, *Contract Laboratory Program National Functional Guidelines for Organic* (October, 1999) *and Inorganic* (July, 2002) *Data Review*.

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)
Shallow Wells									
MW-1	5-Mar-02	8	8	2	2.0 – 8.0	0.01	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-2	5-Mar-02	9	8	2	2.0 – 8.0	0.01	1.5 – 9.0	1.0 – 1.5	0 – 1.0
MW-3	5-Mar-02	8.5	8	2	2.0 – 8.0	0.01	1.5 – 8.5	1.0 – 1.5	0 – 1.0
MW-4	5-Mar-02	8	8	2	2.0 – 8.0	0.01	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-5	7-Mar-02	8	8	2	2.0 – 8.0	0.01	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-6	7-Mar-02	8	8	2	2.0 – 8.0	0.01	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-7	7-Mar-02	8	8	2	2.0 – 8.0	0.01	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-8	8-Mar-02	8	8	2	2.0 – 8.0	0.01	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-9	8-Mar-02	8	8	2	2.0 – 8.0	0.01	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-10	11-Nov-02	9.5	8	2	2.0 – 8.0	0.01	1.5 – 9.5	1.0 – 1.5	0 – 1.0
MW-11	12-Nov-02	8.5	8	2	2.0 – 8.0	0.01	1.5 – 8.5	1.0 – 1.5	0 – 1.0
MW-12	12-Nov-02	9.5	8	2	2.0 – 8.0	0.01	1.5 – 9.5	1.0 – 1.5	0 – 1.0
MW-14	13-Nov-02	8	8	2	2.0 – 8.0	0.01	1.5 – 8.0	1.0 – 1.5	0 – 1.0
MW-17	14-Nov-02	9	8	2	2.0 – 8.0	0.01	1.5 – 9.0	1.0 – 1.5	0 – 1.0
MW-18	13-Nov-02	9.5	8	4	2.0 – 8.0	0.01	1.5 – 9.5	1.0 – 1.5	0 – 1.0
Deep Wells									
MW-13D	12-Nov-02	21	20	2	15.0 – 20.0	0.01	13.5 – 21.0	12.0 – 13.5	0 – 12.0
MW-15D	13-Nov-02	21	20	2	15.0 – 20.0	0.01	14.0 – 21.0	12.0 – 14.0	0 – 12.0
MW-16D	14-Nov-02	21.5	20	2	15.0 – 20.0	0.01	14.0 – 21.5	12.0 – 14.0	0 – 12.0
MW-19D	14-Nov-02	21.5	20	2	15.0 – 20.0	0.01	14.0 – 21.0	12.0 – 14.0	0 – 12.0

Abbreviation
ft bgl = feet below ground level

Notes:

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)
Shallow Wells				
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
	27-Aug-03	9.56	4.55	5.01
	03-Nov-03	9.56	4.20	5.36
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
	27-Aug-03	9.49	5.09	4.40
	03-Nov-03	9.49	5.17	4.32
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
	27-Aug-03	11.14	2.08	9.06
	03-Nov-03	11.14	2.35	8.79
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
	27-Aug-03	10.71	1.36	9.35
	03-Nov-03	10.71	1.64	9.07
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
	27-Aug-03	10.69	0.84	9.85
	03-Nov-03	10.69	0.92	9.77

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
	27-Aug-03	9.77	0.70	9.07
	03-Nov-03	9.77	1.21	8.56
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
	27-Aug-03	9.68	0.61	9.07
	03-Nov-03	9.68	1.13	8.55
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
	27-Aug-03	10.30	0.91	9.39
	03-Nov-03	10.30	1.36	8.94
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
	27-Aug-03	9.86	0.81	9.05
	03-Nov-03	9.86	1.19	8.67
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
	27-Aug-03	9.80	1.02	8.78
	03-Nov-03	9.80	1.43	8.37

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-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
	27-Aug-03	10.26	1.19	9.07
	03-Nov-03	10.26	1.56	8.70
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
	27-Aug-03	10.73	1.12	9.61
	03-Nov-03	10.73	1.68	9.05
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
	27-Aug-03	9.02	2.27	6.75
	03-Nov-03	9.02	2.52	6.50
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
	27-Aug-03	8.98	1.06	7.92
	03-Nov-03	8.98	1.30	7.68
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
	27-Aug-03	9.53	0.55	8.98
	03-Nov-03	9.53	0.95	8.58
Deep Wells				
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
	27-Aug-03	9.84	4.45	5.39
	03-Nov-03	9.84	4.30	5.54
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
	27-Aug-03	11.08	5.71	5.37
	03-Nov-03	11.08	5.51	5.57

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-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
	27-Aug-03	9.80	3.95	5.85
	03-Nov-03	9.80	4.26	5.54
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
	27-Aug-03	11.00	4.26	6.74
	03-Nov-03	11.00	4.61	6.39
Mad River 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
	27-Aug-03	15.70	16.20	-0.50
	27-Aug-03	15.70	12.60	3.10
	03-Nov-03	15.70	9.63	6.07
	03-Nov-03	15.70	10.53	5.17

Abbreviations:

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.

Notes:

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.

GEOMATRIX

TABLE 3

SUMMARY OF WATER QUALITY PARAMETERS AND LOABORATORY-ANALYZED TOTAL DISSOLVED SOLIDS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

WELL NO.	DATE SAMPLED	Field Measurements				Laboratory Measurement
		Tempurature [1] (ºC)	Specific Conductance [1] (µmohs/cm)	pH [1] (std. units)	TDS [1] (mg/L)	TDS [2] (mg/L)
Shallow Wells						
MW-1	20-Mar-03	14	2,600	6.5	--	--
	22-May-03	14	2,700	6.7	--	1,400
	27-Aug-03	18	2,500	6.7	1,800	1,400
	04-Nov-03	16.9	2,440	6.59	1,800	1,300
MW-2	20-Mar-03	13	2,100	6.2	--	--
	22-May-03	14	1,700	6.4	1100	860
	27-Aug-03	18	1,500	6.6	1,100	760
	03-Nov-03	16.3	1,590	6.32	1,125	760
MW-3	20-Mar-03	13	1,100	6.4	--	--
	22-May-03	15	1,000	6.4	630	510
	27-Aug-03	20	1,000	6.5	720	470
	03-Nov-03	16.3	986	6.55	--	410
MW-4	20-Mar-03	14	830	6.5	--	--
	22-May-03	16	730	6.4	440	420
	27-Aug-03	21	730	6.5	500	340
	03-Nov-03	17.8	758	6.55	516	310
MW-5	20-Mar-03	14	670	6.6	--	--
	22-May-03	14	690	6.6	410	360
	27-Aug-03	18	670	6.7	450	360
	03-Nov-03	17.2	661	6.57	450	380
MW-6	20-Mar-03	11	950	6.6	--	--
	22-May-03	14	1,000	6.3	620	430
	27-Aug-03	17	890	6.4	620	410
	04-Nov-03	12.8	918	6.55	634	430
MW-7	20-Mar-03	11	910	6.6	--	--
	22-May-03	11	960	6.5	--	460
	27-Aug-03	14	840	6.6	580	400
	03-Nov-03	12.4	869	6.55	597	460
MW-8	18-Mar-03	14	730	6.4	--	--
	21-May-03	16	740	6.3	460	390
	27-Aug-03	21	730	6.2	500	370
	04-Nov-03	17.2	745	6.38	507	380
MW-9	18-Mar-03	14	820	6.4	--	--
	23-May-03	16	870	6.6	550	400
	27-Aug-03	20	830	6.2	570	350
	04-Nov-03	16.7	821	6.57	563	350
MW-10	18-Mar-03	14	920	6.4	--	--
	23-May-03	17	970	6.7	--	460
	27-Aug-03	22	860	6.3	600	400
	04-Nov-03	17.9	878	6.56	604	430
MW-11	20-Mar-03	14	870	6.4	--	--
	21-May-03	17	890	6.4	560	460
	27-Aug-03	23	870	6.2	600	440
	04-Nov-03	18.6	877	6.57	600	450

TABLE 3

SUMMARY OF WATER QUALITY PARAMETERS
AND LOABORATORY-ANALYZED TOTAL DISSOLVED SOLIDS
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

WELL NO.	DATE SAMPLED	Field Measurements				Laboratory Measurement
		Tempurature [1] (ºC)	Specific Conductance [1] (µmohs/cm)	pH [1] (std. units)	TDS [1] (mg/L)	TDS [2] (mg/L)
MW-12	18-Mar-03	15	830	6.3	--	--
	21-May-03	18	840	6.1	--	460
	27-Aug-03	23	870	6.2	600	480
	04-Nov-03	18.1	916	6.45	631	480
MW-14	20-Mar-03	14	3,200	6.7	--	--
	22-May-03	15	3,400	6.6	--	2,100
	27-Aug-03 [3]	20	3,600	6.6	2,300	1,900
	11/4/2003 [3]	15.9	3,330	6.64	2,520	2,100
MW-17	20-Mar-03	13	980	6.4	--	--
	22-May-03	15	1,000	6.5	--	450
	27-Aug-03	19	860	7	600	420
	04-Nov-03	14.9	920	6.64	635	450
MW-18	18-Mar-03	14	1,000	6.5	--	--
	23-May-03	17	980	6.6	610	640
	27-Aug-03	23	1,100	6.3	780	520
	04-Nov-03	16.7	1,092	6.58	760	490
Deep Well						
MW-13D	20-Mar-03	14	1,200	6.2	--	--
	22-May-03	14	1,100	6.2	--	--
	27-Aug-03	15	1,100	6.1	750	690
	04-Nov-03	14.8	1,020	6.13	--	580
MW-15D	20-Mar-03	13	1,300	6.8	--	--
	22-May-03	13	1,300	6.8	--	800
	27-Aug-03	14	1,300	6.3	900	810
	04-Nov-03	14	1,290	6.75	--	790
MW-16D	18-Mar-03	14	5,200	7.7	--	--
	23-May-03	14	5,200	7.6	--	3,200
	27-Aug-03	16	5,000	7.4	3,400	3,000
	04-Nov-03	15.5	4,770	7.64	3,700	2,800
MW-19D	20-Mar-03	16	810	6.7	--	--
	22-May-03	16	860	6.6	520	480
	27-Aug-03	17	810	6.5	560	410
	03-Nov-03	16.9	759	6.67	517	370

Abbreviations:
ºC = degrees Celsius
µmhos/cm = micromhos per centimeter at 25 ºC
mg/L = milligrams per liter
-- = not analyzed
TDS = total dissolved solids.

Notes:
1. Field-measured parameter.
2. Laboratory analysis using EPA Method 160.1.
3. Measurements obtained from final purge volume.

TABLE 4
SUMMARY OF CHEMICAL ANALYSES OF GROUNDWATER SAMPLES FROM MONITORING WELLS FOR CHLORINATED PHENOLS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Concentrations in micrograms per liter (µg/L)

Well Number	Date Sampled	Penta-chlorophenol	2,4,6-trichloro-phenol	2,3,5,6-tetrachloro-phenol	2,3,4,6-tetrachloro-phenol	2,3,4,5-tetrachloro-phenol
Shallow Wells						
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
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	04-Nov-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
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	4-Nov-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
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	4-Nov-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

Concentrations in micrograms per liter (µg/L)

Well Number	Date Sampled	Penta-chlorophenol	2,4,6-trichloro-phenol	2,3,5,6-tetrachloro-phenol	2,3,4,6-tetrachloro-phenol	2,3,4,5-tetrachloro-phenol
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
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	4-Nov-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
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	4-Nov-03	<1.0	<1.0	<1.0	<1.0	<1.0
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
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	4-Nov-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

Concentrations in micrograms per liter (µg/L)

Well Number	Date Sampled	Penta-chlorophenol	2,4,6-trichloro-phenol	2,3,5,6-tetrachloro-phenol	2,3,4,6-tetrachloro-phenol	2,3,4,5-tetrachloro-phenol
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
	27-Aug-03	31,000	< 1.5	41	710	39
	27-Aug-03 [3]	18,000	< 1.0	28	450	26
Bailer/Unfiltered	3-Nov-03	28,000	<5.0	36	580	35
Bailer/Filtered	3-Nov-03	31,000	<5.0	47	740	43
Low Flow/Unfiltered	3-Nov-03	20,000	<5.0	28	450	24
Low Flow/Filtered	3-Nov-03	14,000	<5.0	19	300	17
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
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	4-Nov-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
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	04-Nov-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

Concentrations in micrograms per liter (µg/L)

Well Number	Date Sampled	Penta-chlorophenol	2,4,6-trichloro-phenol	2,3,5,6-tetrachloro-phenol	2,3,4,6-tetrachloro-phenol	2,3,4,5-tetrachloro-phenol
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
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	4-Nov-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
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	4-Nov-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
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	4-Nov-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
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	4-Nov-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
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	4-Nov-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
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	4-Nov-03	<1.0	<1.0	<1.0	<1.0	<1.0
Deep Wells						
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
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	4-Nov-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

Concentrations in micrograms per liter (µg/L)

Well Number	Date Sampled	Penta-chlorophenol	2,4,6-trichloro-phenol	2,3,5,6-tetrachloro-phenol	2,3,4,6-tetrachloro-phenol	2,3,4,5-tetrachloro-phenol
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
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	4-Nov-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
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	4-Nov-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
	27-Aug-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	4-Nov-03	<1.0	<1.0	<1.0	<1.0	<1.0

Abbreviation:
< = Target analyte was not detected at or above the laboratory reporting limit shown.
Notes:
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 pentachlorophenol 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 FOR DIOXINS AND FURANS
Sierra Pacific Industries
Arcata Sawmil Division
Arcata, California

Sample Location	MW-7			MW-7			MW-7			MW-7		
Sample Type	Groundwater, unfiltered			Groundwater, unfiltered			Groundwater, filtered			Groundwater, unfiltered		
Sample Date	9/16/2002			5/22/2003			5/22/2003			11/3/2003		
	Concen-tration Congeners (pg/L)	WHO TEFs 1998	TCDD Eq. (pg/L)	Concen-tration Congeners (pg/L)	WHO TEFs 1998	TCDD Eq. (pg/L)	Concen-tration Congeners (pg/L)	WHO TEFs 1998	TCDD Eq. (pg/L)	Concen-tration Congeners (pg/L)	WHO TEFs 1998	TCDD Eq. (pg/L)
Dioxins												
2,3,7,8-TCDD	-3.12 U	1.00	0	-1.62 U	1.00	0	-1.27 U	1.00	0	-2.22 U	1.00	0
1,2,3,7,8-PeCDD	-3.45 U	1.00	0	-4.05 U	1.00	0	-2 U	1.00	0	-4.82 U	1.00	0
1,2,3,4,7,8-HxCDD	-5.82 U	0.10	0	22.6 J	0.10	2.26	7.89 J	0.10	0.789	-9.48 U	0.10	0
1,2,3,6,7,8-HxCDD	-6.31 U	0.10	0	-3.83 U	0.10	0	-2.47 U	0.10	0	-10.4 U	0.10	0
1,2,3,7,8,9-HxCDD	-5.32 U	0.10	0	-3.1 U	0.10	0	-1.97 U	0.10	0	-9.25 U	0.10	0
1,2,3,4,6,7,8-HpCDD	32.4	0.01	0.324	30.2	0.01	0.302	16.3	0.01	0.163	-9.54 U	0.01	0
OCDD	144	0.0001	0.0144	449	0.0001	0.0449	231	0.0001	0.0231	41.1 J	0.0001	0.00411
Furans												
2,3,7,8-TCDF	-3.36 U	0.10	0	-1.26 U	0.10	0	-1.01 U	0.10	0	-2.29 U	0.10	0
1,2,3,7,8-PeCDF	-4.21 U	0.05	0	-2.04 U	0.05	0	-1.66 U	0.05	0	-7.96 U	0.05	0
2,3,4,7,8-PeCDF	-4.59 U	0.50	0	-2.02 U	0.50	0	-1.64 U	0.50	0	-5.93 U	0.50	0
1,2,3,4,7,8-HxCDF	-2.38 U	0.10	0	-1.02 U	0.10	0	-1.09 U	0.10	0	-2.11 U	0.10	0
1,2,3,6,7,8-HxCDF	-2.81 U	0.10	0	-1.17 U	0.10	0	-1.28 U	0.10	0	-2.51 U	0.10	0
2,3,4,6,7,8-HxCDF	-2.86 U	0.10	0	-1.19 U	0.10	0	-1.4 U	0.10	0	-2.63 U	0.10	0
1,2,3,7,8,9-HxCDF	-2.99 U	0.10	0	-1.15 U	0.10	0	-1.67 U	0.10	0	-3.12 U	0.10	0
1,2,3,4,6,7,8-HpCDF	6.59	0.01	0.0659	4.97 J	0.01	0.0497	2.09 J	0.01	0.0209	-3.03 U	0.01	0
1,2,3,4,7,8,9-HpCDF	-6.67 U	0.01	0	-0.807 U	0.01	0	-1.19 U	0.01	0	-4.42 U	0.01	0
OCDF	22.2	0.0001	0.00222	20.7 J	0.0001	0.00207	7.05 J	0.0001	0.000705	-10.6 U	0.0001	0
Total TCDD/TCDF TEQ (pg/L)			**0.407**			**2.66**			**0.997**			**0.004**

Abbreviations:
- = Target analyte was not detected
'at or above the laboratory reporting limit shown.
HpCDD = heptachlorodibenzo-p-dioxin
HpCDF = heptachlorodibenzofuran
HxCDD = hexachlorodibenzo-p-dioxin
HxCDF = hexachlorodibenzofuran
J = Analyte concentration was below the calibration range.
NA = not applicable
OCDD = octachlorodibenzo-p-dioxin
OCDF = octachlorodibenzofuran
PeCDD = pentachlorodibenzo-p-dioxin
PeCDF = pentachlorodibenzofuran
pg/L = picograms per liter
TCDD = tetrachlorodibenzo-p-dioxin
TCDF = tetrachlorodibenzofuran
TEF = toxicity equivalency factor (unitless)
TEQ = toxicity equivalency

Notes:
1. Total concentration includes target and non-target analytes.
2. Calculated by multiplying the congener concentration by its TEF.
3. When an analyte concentration was not detected, it was assigned a concentration of 0 pg/L to calculate TEQ.
4. 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.
5. 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.
6. Filtered sample.
7. World Health Organization, 1998.

Dioxins and furans were analyzed using EPA Method 1613.

TABLE 6

SUMMARY OF CHEMICAL ANALYSIS OF GROUNDWATER SAMPLES FROM MONITORING WELLS FOR GEOCHEMICAL PARAMETERS

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Concentrations reported in milligrams per liter (mg/l)

Well	Sample Date	Field Measurements					Laboratory Analysis										
		Eh (mV)[2, 3]	Dissolved Oxygen[3]	Specific Conductance (µS/cm)[3]	Temperature (°C)[3]	pH[3]	Nitrate	Manganese (II)	Iron (II)	Sulfate	Carbon Dioxide	Methane	Total Organic Carbon	Chloride	Total Alkalinity as Calcium Carbonate	Calcium	Magnesium
Shallow Wells																	
MW-1	11/04/03	222	0.2	2371	17.3	6.44	ns	ns	ns	ns	ns	ns	ns	ns	ns[5]	ns	ns
MW-2 (Downgradient)	11/03/03	226	0.4	1583	15.9	6.21	2.8	6	30	<0.5	314.32	3.766	33.9	240	520	66	40
MW-3 (Crossgradient)	11/03/03	201	0.3	922	16.5	6.34	4.6	3.9	9.1	<0.5	173.945	5.44	18.0	37	460	55	36
MW-4	11/03/03	207	0.1	673	18.4	6.34	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
MW-5 (Upgradient)	11/03/03	255	0.3	655	17.4	6.25	<1.0[4]	0.42	0.97	<0.5	125.486	9.211	9.36	25	350	28	45
MW-6	11/04/03	236	0.2	890	12.7	6.34	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
MW-7 (Former Green Chain Area)	11/03/03	197	0.1	863	12.7	6.38	<1.0	13	2.3	<0.5	152.071	8.791	28.1	45	420	26	42
MW-8	11/04/03	237	0.3	738	17.0	6.16	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
MW-9	11/04/03	211	0.2	809	16.6	6.37	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
MW-10	11/04/03	215	0.1	884	18.1	6.39	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
MW-11	11/04/03	196	0.2	872	18.5	6.39	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
MW-12	11/04/03	251	0.4	812	17.5	6.17	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
MW-14	11/04/03	234	0.2	2693	16.2	6.33	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
MW-17	11/04/03	240	0.2	973	14.9	6.36	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
MW-18	11/04/03	198	0.2	953	16.9	6.43	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
Deep Wells																	
MW-13D	11/04/03	253	0.1	672	15.6	5.88	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
MW-15D	11/04/03	255	0.3	1241	14.2	6.49	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
MW-16D	11/04/03	246	0.1	4609	15.8	7.52	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
MW-19D	11/03/03	197	0.3	729	17.5	6.49	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns

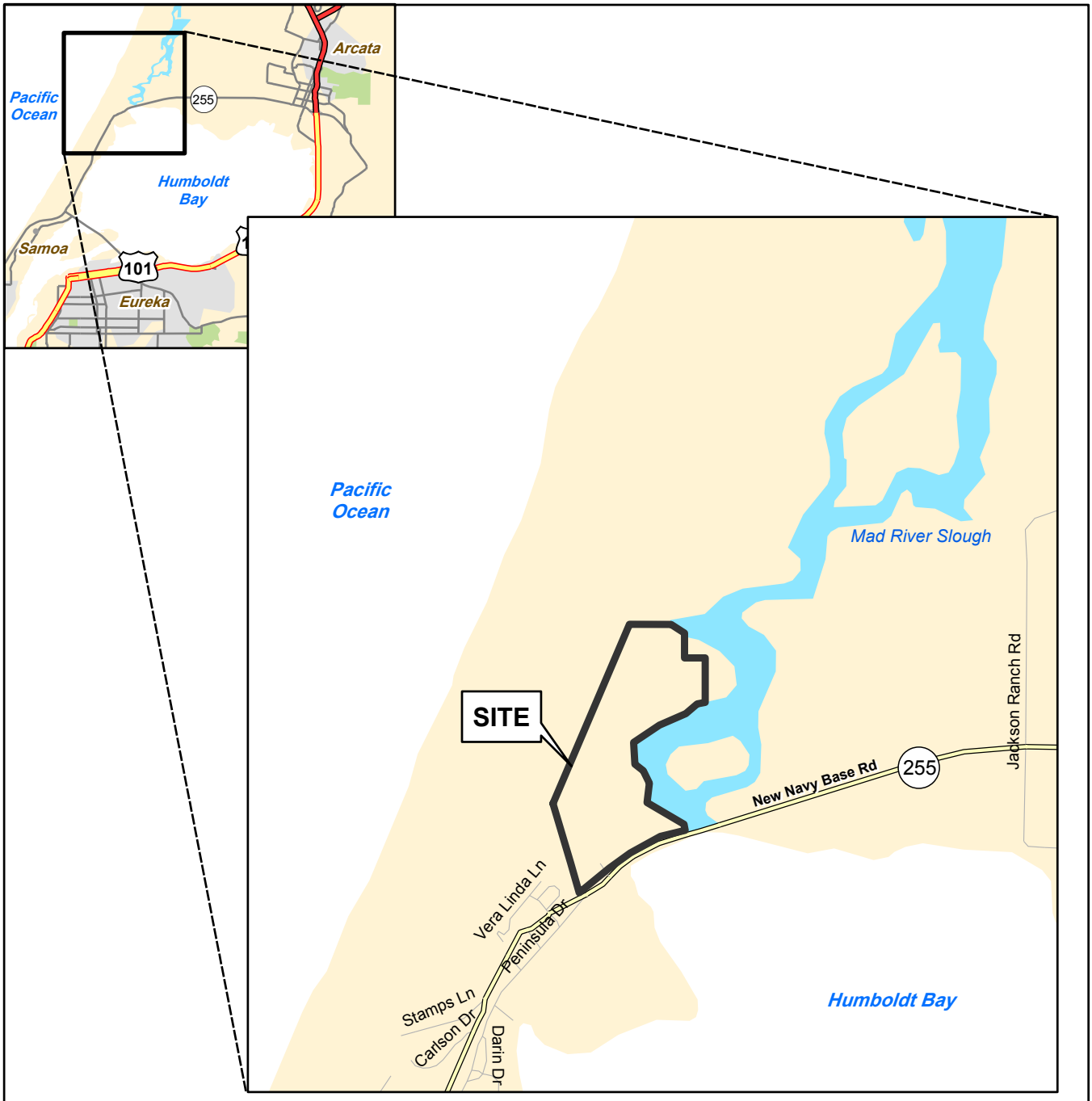
Notes:

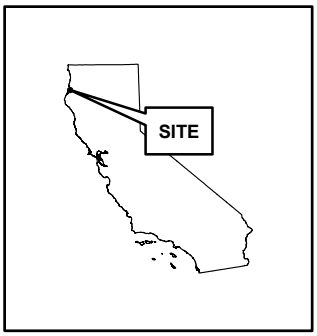
1. Samples collected by Geomatrix and analyzed by EPA Method 415.1 (total organic carbon), EPA Method 200 (calcium and magnesium), EPA Method 300 (chloride, nitrate and sulfate), EPA Method 6010B (Iron (II) and Manganese (II)), Standard Methods 2320B (total alkalinity), RSK 175 (carbon dioxide and methane).
2. Eh = reduction-oxidation potential standardized to hydrogen electrode for silver/silver-chloride electrode (199 millivolts was added to the field measurement).
3. Water quality parameters measured in the field in a flow-through cell.
4. < = Not detected at or above laboratory reporting limit
5. - = not sampled

Abbreviations:
mV = millivolts
µS/cm = microSiemens per centimeter
°C = Degrees Celsius

GEOMATRIX

FIGURES





California

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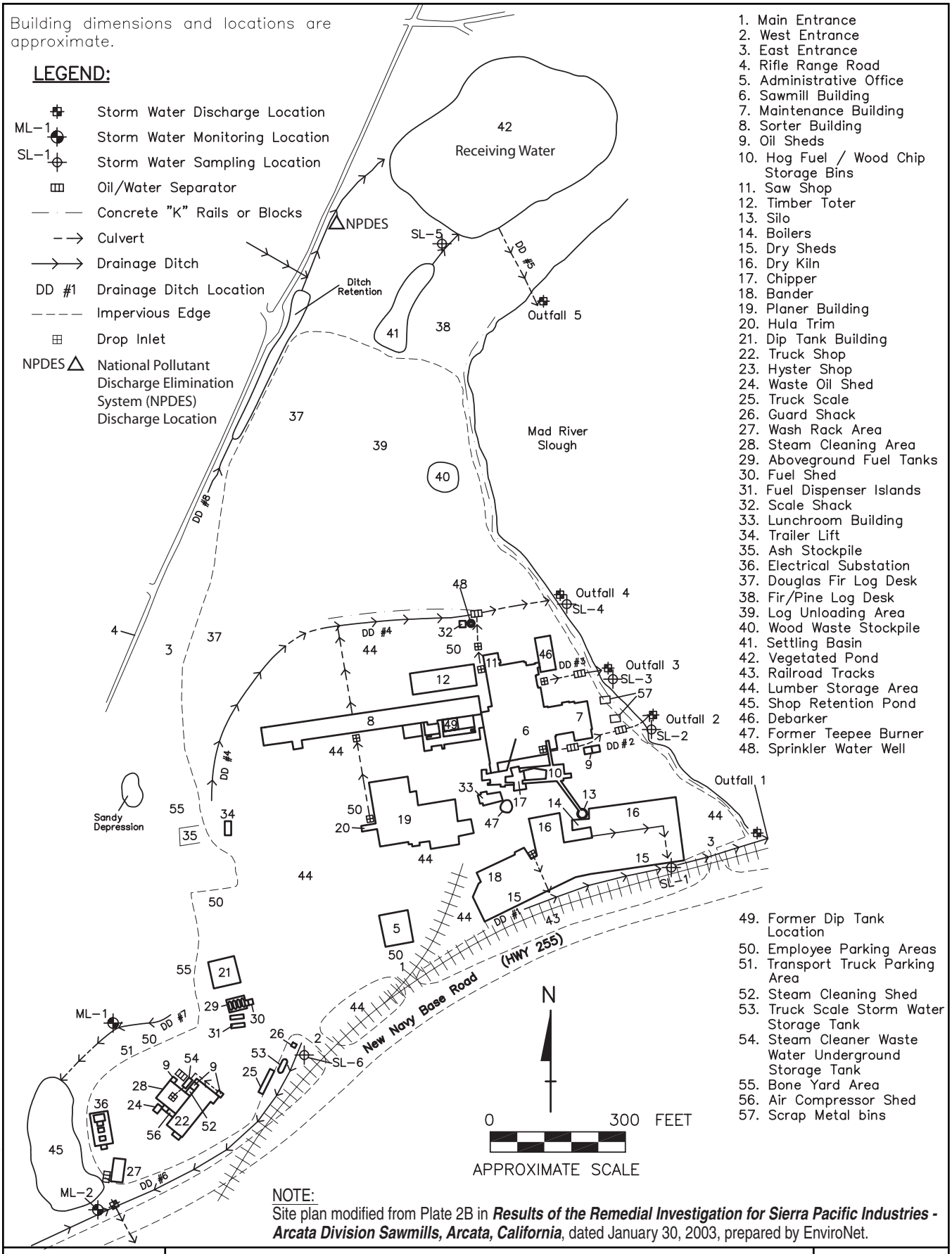
GEOMATRIX

SITE LOCATION MAP
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Project No.
9329

Figure No.
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.

GEOMATRIX

SITE PLAN
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Project No.
9329

Figure
2

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SETTLING BASIN

STORMWATER DISCHARGE - OUTFALL 4

MAD RIVER SLOUGH BOUNDARY

SCALE SHACK

WELL HOUSE

MAD RIVER SLOUGH

MW-4

MW-19D

MW-3

MW-15D

MW-5

MW-6

MW-7

SAW MILL BUILDING

STORMWATER DISCHARGE - OUTFALL 3

MW-1

MW-2

MW-13D

SETTLING BASIN

FORMER GREEN CHAIN AREA

SORTER

B-33

B-37

B-36

MAINTENANCE BUILDING

MW-8

MW-9

MW-18

MW-10

STORMWATER DISCHARGE - OUTFALL 2

MW-14

SETTLING BASIN

SETTLING BASIN

OIL SHED

MW-12

APPROXIMATE LIMIT OF INTERIM REMEDIAL MEASURES SOURCE AREA REMOVAL (June - November 2003)

MW-11

MW-17

MW-16D

CHIPPER

PLANER BUILDING

EXPLANATION

MW-1 MONITORING WELL (D = DEEP)

SITE BEST MANAGEMENT PRACTICES

STORM DRAIN

IMPERVIOUS EDGE

N

0 50

SCALE IN FEET

BASEMAP SOURCE:
"SITE PLAN, SPI Arcata Mill" Sheet C-3 by Carlton Engineering, dated 5/6/02.

SAMPLE LOCATION DATA SOURCES:
(1) "Results of the Remedial Investigation for SPI Arcata Sawmill, Arcata, California", by Environet, dated 1/2003.
(2) "Report on Interim Remedial Measures: Source Area Removal, SPI Arcata Sawmill", by Geomatrix, dated 12/2003.
(3) "Former Teepee Burner Investigation Report", by MFG, Inc., dated 7/21/03.

FORMER GREEN CHAIN AREA PLAN
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

GEOMATRIX

Project No. 9329

Figure 3

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SETTLING BASIN
STORMWATER DISCHARGE - OUTFALL 4
MAD RIVER SLOUGH BOUNDARY
SCALE SHACK
WELL HOUSE
MAD RIVER SLOUGH
MW-19D
MW-4 (9.07)
MW-3 (8.79)
MW-15D
MW-5 (9.77)
(8.56) MW-6
STORMWATER DISCHARGE - OUTFALL 3
(5.36) MW-1
(4.32) MW-2
MW-13D
SAW MILL BUILDING
SETTLING BASIN
MW-7 (8.55)
FORMER GREEN CHAIN AREA
MAINTENANCE BUILDING
SORTER
(8.94) MW-8
MW-9 (8.67)
(8.58) MW-18
MW-10 (8.37)
STORMWATER DISCHARGE - OUTFALL 2
(6.50) MW-14
SETTLING BASIN
OIL SHED
(9.05) MW-12
APPROXIMATE LIMIT OF INTERIM REMEDIAL MEASURES SOURCE AREA REMOVAL (June - November 2003)
(8.70) MW-11
(7.68) MW-17
MW-16D
CHIPPER
PLANER BUILDING

9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5

EXPLANATION

- MW-1 — MONITORING WELL (D = DEEP)
- SITE BEST MANAGEMENT PRACTICES
- STORM DRAIN
- IMPERVIOUS EDGE
- (5.36) GROUNDWATER ELEVATION IN FEET ABOVE THE NORTH AMERICAN VERTICAL DATUM OF 1988
- 5.0 — POTENTIOMETRIC SURFACE CONTOURS; 0.5 FOOT CONTOUR INTERVAL
- GROUNDWATER FLOW DIRECTION

N

0 50
SCALE IN FEET

BASEMAP SOURCE:
"SITE PLAN, SPI Arcata Mill" Sheet C-3 by Carlton Engineering, dated 5/6/02.

SAMPLE LOCATION DATA SOURCES:
(1) "Results of the Remedial Investigation for SPI Arcata Sawmill, Arcata, California", by Environet, dated 1/2003.
(2) "Report on Interim Remedial Measures: Source Area Removal, SPI Arcata Sawmill", by Geomatrix, dated 12/2003.
(3) "Former Teepee Burner Investigation Report", by MFG, Inc., dated 7/21/03.

POTENTIOMETRIC SURFACE MAP OF SHALLOW GROUNDWATER NOVEMBER 3, 2003
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

GEOMATRIX | Project No. 9329 | Figure 4

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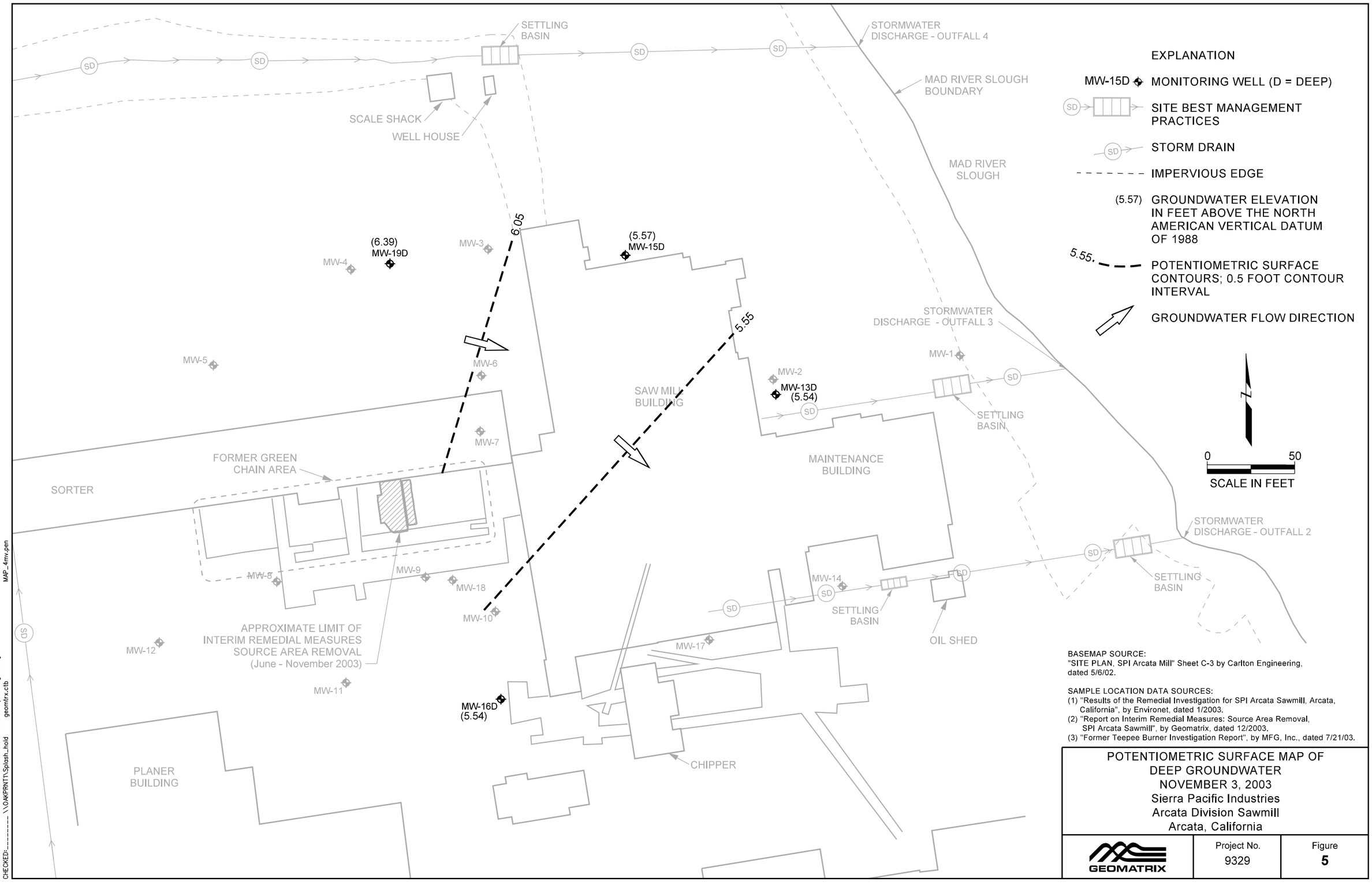

BASEMAP SOURCE:
"SITE PLAN, SPI Arcata Mill" Sheet C-3 by Carlton Engineering, dated 5/6/02.

SAMPLE LOCATION DATA SOURCES:
(1) "Results of the Remedial Investigation for SPI Arcata Sawmill, Arcata, California", by Environet, dated 1/2003.
(2) "Report on Interim Remedial Measures: Source Area Removal, SPI Arcata Sawmill", by Geomatrix, dated 12/2003.
(3) "Former Teepee Burner Investigation Report", by MFG, Inc., dated 7/21/03.

POTENTIOMETRIC SURFACE MAP OF DEEP GROUNDWATER NOVEMBER 3, 2003
Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

GEOMATRIX | Project No. 9329 | Figure 5

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SETTLING BASIN

STORMWATER DISCHARGE - OUTFALL 4

MAD RIVER SLOUGH BOUNDARY

MAD RIVER SLOUGH

SCALE SHACK

WELL HOUSE

SD

MW-7				
Constituent	PCP concentration			
	Bailer unfiltered	Bailer filtered	Low flow unfiltered	Low flow filtered
PCP	28,000	31,000	20,000	14,000

MW-4 (<1.0)

MW-19D

MW-3 (<1.0)

MW-15D

MW-5 (<1.0)

(<1.0) MW-6

MW-7

(<1.0) MW-2

MW-13D

SAW MILL BUILDING

STORMWATER DISCHARGE - OUTFALL 3

MW-1 (<1.0)

SETTLING BASIN

FORMER GREEN CHAIN AREA

SORTER

MAINTENANCE BUILDING

(<1.0) MW-9

MW-8 (<1.0)

(<1.0) MW-18

MW-10 (<1.0)

APPROXIMATE LIMIT OF INTERIM REMEDIAL MEASURES SOURCE AREA REMOVAL (June - November 2003)

MW-12 (<1.0)

MW-11 (<1.0)

MW-16D

(<1.0) MW-17

(<1.0) MW-14

SETTLING BASIN

OIL SHED

STORMWATER DISCHARGE - OUTFALL 2

SETTLING BASIN

CHIPPER

PLANER BUILDING

GS

N

0 50

SCALE IN FEET

EXPLANATION

MW-1 MONITORING WELL (D = DEEP)

SITE BEST MANAGEMENT PRACTICES

STORM DRAIN

IMPERVIOUS EDGE

(<1.0) NOT DETECTED ABOVE LISTED REPORTING LIMIT

CONCENTRATIONS IN MICROGRAMS PER LITER (µg/L)

ABBREVIATION:

PCP = Pentachlorophenol

BASEMAP SOURCE:
"SITE PLAN, SPI Arcata Mill" Sheet C-3 by Carlton Engineering, dated 5/6/02.

SAMPLE LOCATION DATA SOURCES:
(1) "Results of the Remedial Investigation for SPI Arcata Sawmill, Arcata, California", by Environet, dated 1/2003.
(2) "Report on Interim Remedial Measures: Source Area Removal, SPI Arcata Sawmill", by Geomatrix, dated 12/2003.
(3) "Former Teepee Burner Investigation Report", by MFG, Inc., dated 7/21/03.

PCP ANALYTICAL RESULTS FOR SHALLOW GROUNDWATER NOVEMBER 3-4, 2003

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

GEOMATRIX

Project No. 9329

Figure 6

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SETTLING BASIN
STORMWATER DISCHARGE - OUTFALL 4
MAD RIVER SLOUGH BOUNDARY
SCALE SHACK
WELL HOUSE
MAD RIVER SLOUGH
(<1.0) MW-19D
MW-4
MW-3
(<1.0) MW-15D
STORMWATER DISCHARGE - OUTFALL 3
MW-5
MW-6
MW-1 (<1.0)
MW-2
MW-13D (<1.0)
SAW MILL BUILDING
SETTLING BASIN
MW-7
FORMER GREEN CHAIN AREA
MAINTENANCE BUILDING
SORTER
MW-8
MW-9
MW-18
MW-10
STORMWATER DISCHARGE - OUTFALL 2
MW-14
SETTLING BASIN
SETTLING BASIN
APPROXIMATE LIMIT OF INTERIM REMEDIAL MEASURES SOURCE AREA REMOVAL (June - November 2003)
MW-12
MW-17
OIL SHED
MW-11
MW-16D (<1.0)
CHIPPER
PLANER BUILDING

EXPLANATION

MW-13D — MONITORING WELL (D = DEEP)

SITE BEST MANAGEMENT PRACTICES

STORM DRAIN

IMPERVIOUS EDGE

(<1.0) — NOT DETECTED ABOVE LISTED REPORTING LIMIT

CONCENTRATIONS IN MICROGRAMS PER LITER (µg/L)

N

0 50

SCALE IN FEET

BASEMAP SOURCE:
"SITE PLAN, SPI Arcata Mill" Sheet C-3 by Carlton Engineering, dated 5/6/02.

SAMPLE LOCATION DATA SOURCES:
(1) "Results of the Remedial Investigation for SPI Arcata Sawmill, Arcata, California", by Environet, dated 1/2003.
(2) "Report on Interim Remedial Measures: Source Area Removal, SPI Arcata Sawmill", by Geomatrix, dated 12/2003.
(3) "Former Teepee Burner Investigation Report", by MFG, Inc., dated 7/21/03.

PCP ANALYTICAL RESULTS FOR DEEPER GROUNDWATER NOVEMBER 3-4, 2003

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

GEOMATRIX | Project No. 9329 | Figure 7

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APPENDIX A

Groundwater Sampling Record Field Forms

WATER LEVEL MONITORING RECORD

WELL NUMBER or DATE: 11/7/03

Project No: 030229.2 Project Name: SPI Arcata Sawmill PAGE: 1 of 1

Weather Conditions: Sunny

Measuring Point of Well (MP): Notch or North

Measuring Device: Envirotech LTD, Waterline Model 150

Observations / Comments:

DATE or WELL	TIME	MP ELEVATION (feet, NGVD)	DEPTH TO WATER (feet below MP)	CONVERSIONS or CORRECTIONS TO DEPTH TO WATER	WATER LEVEL ELEVATION (feet, NGVD)	REMARKS MP	MEASURED BY
MW-1	925	9.56	4.20			Notch	M.Hillyard
MW-2	933	9.49	5.17			Notch	
MW-3	950	11.14	2.35			North	
MW-4	1001	10.71	1.64			Notch	
MW-5	1014	10.69	0.92			North	
MW-6	1021	9.77	1.21			North	
MW-7	1023	9.68	1.13			North	
MW-8	850	10.30	1.36			Notch	
MW-9	843	9.86	1.19			Notch	
MW-10	853	9.80	1.43			Notch	
MW-11	835	10.26	1.56			Notch	
MW-12	825	10.73	1.68			Notch	
MW-13D	935	9.84	4.30			Notch	
MW-14	915	9.02	2.52			Notch	
MW-15D	943	11.08	5.51			Notch	
MW-16D	903	9.80	4.26			Notch	
MW-17	908	8.98	1.30			North	
MW-18	~~853~~	9.53	0.95			North	
MW-19D	1007	11.00	4.61			Notch	
RR	812	15.70	9.63				
RR	1033	15.70	10.53				✓

Measured by: M. Hillyard

Checked by:

Water Levels Form, Rev. 8-8-95

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-1

Project No: 030275.2 Project Name: SPI Arcata Sawmill Date 11/04/03

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): 4.39

Total Depth (ft. BMP): 7.65 Water Column Height (ft.): 3.26

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

Casing Volume (gal.): .53 2X: 1.06 3X 1.6 4X

Water Level (ft.BMP) at End of Purge: 4.62

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 Teflon Bailer Sampling: Disposable Teflon 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: 447, 2070 µmhos

Other: TDS Ultrameter Field Calibration: 300, 1500 ppm

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
1257	0.5		15.1	6.63		2370	Yellow	clear		
1259	1.0		16.9	6.59		2410	"	cloudy		Hach sodo.
1:04	1.8		16.9	6.59		2400	"	"		sample
								TDS: 1800 ppm		

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 4.62 Recovery %: 92.9 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
108	1 L	glass	2	N	--	TPH/TCP	
108	1/2 gal	plastic	1	N	-	TDS	

Chain-of-Custody Record No.

McCulley, Frick & Gilman, Inc.

GW Sample Form MACICAD Revised: 9-6-95

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-2

Project No: 030275.2 Project Name: SPI Arcata Sawmill Date 11/3/03

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): 5.17

Total Depth (ft. BMP): 7.60 Water Column Height (ft.): 2.43

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

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

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

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

QUALITY ASSURANCE

METHODS (describe):

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

Purging: Disposable Teflon Barter Sampling: Disposable Teflon 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: 447, 2070 µmhos

Other: TDS uHrameter Field Calibration: 300, 1500 ppm

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
212	0		15.9	6.27		1607	[illegible]	clear		
214	.4		16.1	6.34		1590	"	<1		
217	1.5		16.3	6.32		1580	"	slight tr Lot.		[illegible]
								TDS = 1125 ppm		

SAMPLE INVENTORY

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

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
2:30	2-125 mL	glass	2	N	—	PCP/HCP	
2:30	½ Gal	plastic	1	N	—	TDS	

Chain-of-Custody Record No.

McCulley, Frick & Gilman, Inc.

GW Sample Form MAC/CAD Revised: 9-8-95

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-3

Project No: 030275.2 Project Name: SPI Arcata Sawmill Date 11/3 /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): 2.35

Total Depth (ft. BMP): 7.70 Water Column Height (ft.): 5.35

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

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

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

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

QUALITY ASSURANCE

METHODS (describe):

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

Purging: Disposable Teflon Bailer Sampling: Disposable Teflon 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: 447, 2070 µmhos

Other: TDS ultrameter Field Calibration: 300, 1500 ppm

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
335	1.0		15.7	6.67		966	clear	clear		H_2S odor
338	2.0		15.9	6.57		982	light gray	clear		
340	3.0		16.3	6.55		956	"	"		Sample

SAMPLE INVENTORY

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

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
343	2-125mL	glass	2	N	—	PCP/TCP	
343	½ Gal	Plastic	1	N	—	TDS	

Chain-of-Custody Record No.

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-4

Project No: 030275.2 Project Name: SPI Arcata Sawmill Date 11/3/03

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): 1.64

Total Depth (ft. BMP): 7.63 Water Column Height (ft.): 5.99

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

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

Water Level (ft.BMP) at End of Purge: 2.10

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 Teflon Bailer Sampling: Disposable Teflon 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: 447, 2070 µmhos

Other: TDS Ultrameter Field Calibration: 300, 1500 ppm

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
439	0.5		16.1	6.64		759	clear	clear		
441	1.5		17.1	6.55		805	clear	slightly cloudy		
443	2.5		17.5	6.54		786	light gray	"		
444			17.8	6.55		758	"	"		Sample
								TDS = 516 ppm		

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 2.13 Recovery %: 52.3 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
448	125 mL	glass	2	N	-	BTEX	
443	½ gal	plastic	1	N	-	TDS	

Chain-of-Custody Record No.

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-5

Project No: 030275.2 Project Name: SPI Arcata Sawmill Date 11/3/03

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): 0.92

Total Depth (ft. BMP): 7.6 Water Column Height (ft.): 6.68

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

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

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

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

QUALITY ASSURANCE

METHODS (describe):

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

Purging: Disposable Teflon Bailer Sampling: Disposable Teflon 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: 447, 2070 µmhos

Other: TDS Ultrameter Field Calibration: 300, 1500 ppm

SAMPLING MEASUREMENTS

Date/ Time	Purge Characteristics: Cumul.Vol. (gal)	Purge Rate (gpm)	Water Quality Data: Temp. (°C)	pH	Specific Conductance (µmhos/cm): @ Field Temp.	@ 25 °C.	Appearance: Color	Turbidity & Sediment	Intake Depth (ft. BMP)	Remarks
2:54	0.5		15.3	6.75		671				Clear
2:57	1.5		16.6	6.57		663				"
2:59	2.5		17.1	6.56		663				
3:01	3.5		17.2	6.57		661		TDS=450ppm		Sed's

SAMPLE INVENTORY

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

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
303	2-125mL	P	2	N	-	PCP/TCP	
	1/2 Gal	P	1	N	-	TDS	

Chain-of-Custody Record No.

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-6

Project No: 030275.2 Project Name: SPI Arcata Sawmill Date 11/4/03

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): 1.21

Total Depth (ft. BMP): 7.6 Water Column Height (ft.): 6.39

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

Casing Volume (gal.): 1.04 2X: 2.1 3X: 3.15 4X:

Water Level (ft.BMP) at End of Purge: 1.83

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 Teflon Bailer Sampling: Disposable Teflon 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: 447, 2070 µmhos

Other: TDS Ultrameter Field Calibration: 300, 1500 ppm

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
2357	1.0		11.7	6.83		891	Tan	Clear		
2400	2.0		12.4	6.54		913	"	Cloudy		
2402	3.0		12.7	6.59		913	"	"		
2413	3.3		12.8	6.55		912	"	TDS: 634 ppm		Sample

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 1.83 Recovery %: 90.3 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
2357	125mL	glass	2	N	—	PCE/TCE	
2405	1/2 gal	plastic	1	N	—	TDS	

Chain-of-Custody Record No.

McCulley, Frick & Gilman, Inc.

GW Sample Form MAC/CAD Revised: 9-8-95

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-7

Project No: 030275.2 Project Name: SPI Arcata Sawmill Date 11/3/03

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): 1.13

Total Depth (ft. BMP): 7.63 Water Column Height (ft.): 6.5

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

Casing Volume (gal.): 1.06 2X: 2.12 3X 3.18 4X

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

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

QUALITY ASSURANCE

METHODS (describe):

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

Purging: Disposable Teflon Bailer Sampling: Disposable Teflon 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: 447, 2070 µmhos

Other: TDS ultrameter Field Calibration: 300, 1500 ppm

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
12:08	0		17.1	6.15		661	slightly yellow	clear		TDS=591 ppm
12:13	1		12.3	6.71		870	"	"		
12:16	2		12.7	6.54		956	"			
12:19	3		12.6	6.61		1009	"	slightly cloudy		TDS=700 ppm
12:22	4		12.4	6.55		867	"	"		TDS=597 ppm
12:30										Sample

SAMPLE INVENTORY

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

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
12:30	125 mL	glass	2	N	-	PCP/TCP	
12:30	1/2 gal	plastic	1	N	-	TDS	

Chain-of-Custody Record No.

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-8

Project No: 030275.2 Project Name: SPI Arcata Sawmill Date 11/4/03

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): 1.33

Total Depth (ft. BMP): 7.64 Water Column Height (ft.): 6.31

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

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

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

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 Teflon Bailer Sampling: Disposable Teflon 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: 447, 2070 µmhos

Other: TDS Ultrameter Field Calibration: 30V, 1500ppm

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
856	0.5		15.1	6.54		751	lt yellow	clear		
858	1.5		16.4	6.38		736	"	slightly cloudy		
900	2.5		17.0	6.38		739				
901	3.5		17.2	6.39		745		TDS 52 ppm		sample

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 1.55 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)
903	125	plastic	2	N	—	BCI/TCP	
907	125	plastic	2	N	—	BCI/TCP	Dup MW-4
903	½ Gal	plastic	1	N	—	TDS	

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McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-9

Project No: 030275.2 Project Name: SPI Arcata Sawmill Date 11/04/03

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): 1.16

Total Depth (ft. BMP): 7.6 Water Column Height (ft.): 6.44

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

Casing Volume (gal.): 1.05 2X: 2.1 3X 3.15 4X

Water Level (ft.BMP) at End of Purge: 1.37

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 Teflon Bailer Sampling: Disposable Teflon 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: 447, 2070 µmhos

Other: TDS Ultrameter Field Calibration: 300, 1500ppm

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
947	0.5		15.0	6.55		819	lt yellow	clear		
949	1.5		16.2	6.56		828	lt gray	cloudy		
950	2.5		16.4	6.56		824	"	"		
952			16.7	6.57		821	"	TDS=563ppm		sample

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 1.37 Recovery %: 96.7 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
949	125mL	glass	2	N	—	PCP/TCP	
949.5	½ Gal	plastic	1	N	—	TDS	

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McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-10

Project No: 030275.2 Project Name: SPI Arcata Sawmill Date 11/6/03

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): 1.42

Total Depth (ft. BMP): 7.70 Water Column Height (ft.): 6.28

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

Casing Volume (gal.): 1.02 2X: 2 3X 3 4X

Water Level (ft.BMP) at End of Purge: 2.10

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 Teflon Bailer Sampling: Disposable Teflon 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: 447, 2070 µmhos

Other: TDS Ultrameter Field Calibration: 300, 1500 ppm

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
1108	.5		17.1	6.94		893	Mye/br	Clear		
1110	1.5		17.8	6.58		870	lt gray	cloudy		
1112	2.5		17.9	6.54		871	"	"		
1113	3.0		17.9	6.56		878	"	" TDS = 604 ppm		Sample

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 2.10 Recovery %: 89.2 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
1115	125 mL	glass	2	N	—	PCP/TCP	
1115	1/2 gal	plastic	1	N	—	TDS	

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McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-11

Project No: 030275.2 Project Name: SPI Arcata Sawmill Date 11/4/03

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): 1.61

Total Depth (ft. BMP): 8.5 Water Column Height (ft.): 6.89

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

Casing Volume (gal.): 1.12 2X: 2.25 3X 3.37 4X

Water Level (ft.BMP) at End of Purge: 1.70

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 Teflon Bailer Sampling: Disposable Teflon 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: 447, 2070 µmhos

Other: TDS Ultrameter Field Calibration: 300, 1500 ppm

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
922	0.5		16.8	6.65		877	lt yellow	clear		
924	1.5		18.3	6.54		887	lt yellow	cloudy		
925	2.5		18.5	6.57		881	"	"		
926	3.5		18.6	6.57		877	"	TDS=600ppm		Sample

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 1.70 Recovery %: 98.7 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
930	125mL	glass	2	N	—	PCP/TCP	
930	1/2 Gal.	plastic	1	N	—	TDS	

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McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-12

Project No: 030275.2 Project Name: SPI Arcata Sawmill Date 11/4/03

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): 1.55

Total Depth (ft. BMP): 8.33 Water Column Height (ft.): 6.78

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

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

Water Level (ft.BMP) at End of Purge: 2.8

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 Teflon Bailer Sampling: Disposable Teflon 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: 447, 2070 µmhos

Other: TDS Ultrameter Field Calibration: 300, 1500 ppm

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
8300	0.5		15.0	6.64		828	clear	clear		
833	1.5		17.2	6.51		907	lt yellow	clear		
835	2.5		17.8	6.45		911	"	"		
836	3.5		18.1	6.45		916		TDS=631 ppm		Sample

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 2.8 Recovery %: 81.6 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
8400	2-125mL	plastic	2	N	-	PCP/CP	PCP/CP
8400	1/2 Gal	plastic	1	N	-	TDS	TDS

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GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-13D

Project No: 030275.2 Project Name: SPI Arcata Sawmill Date 11/4/03

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): 4.36

Total Depth (ft. BMP): 14.9 Water Column Height (ft.): 14.54

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

Casing Volume (gal.): 3.1 2X: 6.2 3X: 9.3 4X:

Water Level (ft.BMP) at End of Purge: 5.0

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 Teflon Bailer Sampling: Disposable Teflon 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: 447, 2070 µmhos

Other: TDS Ultrameter Field Calibration: 500, 1500 ppm

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
122	10		15.5	6.70		666	Light brn.	Clear		
127	3.5		15.6	6.18		757	"	"		H_2S odor
131	5		14.7	6.09		779	"	"		
134	6.5		14.7	6.08		820	"	"		
136	8.0		14.6	6.07		925	"	"		
140	9.0		14.7	6.17	6.17	965	"	"		
143	9.5		14.8	6.13		1020	"	"		Sample

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 5.0 Recovery %: 95.6 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
148	125 mL	Glass	2	N	—	PCP/TCP	
146	1/2 gal	Plastic	1	N	—	TDS	

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McCulley, Frick & Gilman, Inc.

GW Sample Form MAC/CAD Revised: 9-8-95

GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-14

Project No: 030275.2 Project Name: SPI Arcata Sawmill Date 11/4/03

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): 2.55
Total Depth (ft. BMP): 7.70 Water Column Height (ft.): 5.15
Casing Diameter (in. ID): 2-Inch Multiplication Factor: 0.163
Casing Volume (gal.): .85 2X: 1.7 3X 2.5 4X
Water Level (ft.BMP) at End of Purge: 6.62
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 Teflon Bailer Sampling: Disposable Teflon 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: 447, 2070 µmhos
Other: TDS Ultrameter Field Calibration: 300, 1500 ppm

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
1136	0.5		15.8	6.68		2450	Amber	Clear		H_2S odor
1138	1.5		16.5	6.52		2990	"	"		
1139	2.0		16.9	6.54		3220	"	Cloudy		
1141	2.5		16.9	6.57		3378	"	"		No recovery
1300	2.5		15.9	6.64		3330	amber	TDS=2520 ppm		

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 4.69 Recovery %: 58.4 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
1300	125mL	glass	2	N	—	VOC/TPH	
1300	½ gal	plastic	1	N	—	TDS	

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McCulley, Frick & Gilman, Inc.

GW Sample Form MAC/CAD Revised: 9-8-95

GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-15D

Project No: 030275.2 Project Name: SPI Arcata Sawmill Date 11/4/03

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): 5.58

Total Depth (ft. BMP): 19.75 Water Column Height (ft.): 14.17

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: 5.68

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 Teflon Bailer Sampling: Disposable Teflon 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: 447, 2070 µmhos

Other: TDS Ultrameter Field Calibration: 300, 1500 ppm

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
205	0.5		14.0	6.94		69 6	clear	clear		
207	2.0		14.2	6.63		825	Hazy	clear		
210	4		14.0	6.67		1263	"	"		
214	6		14.0	6.76		1290	"	"		
216	7		14.0	6.75		1290	"	"		Sample

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 5.68 Recovery %: 99% Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
2120	1/2 Gal	glass	2	N	—	PCB/TCP	
2200	1/2 Gal	plastic	1	N	—	TDS	

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GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-16D

Project No: 030275.2 Project Name: SPI Arcata Sawmill Date 11/4/03

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

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): 4.23

Total Depth (ft. BMP): 19.30 Water Column Height (ft.): 15.07

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

Casing Volume (gal.): 2.5 2X: 5 3X 7.4 4X

Water Level (ft.BMP) at End of Purge: 4.36

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 Teflon Bailer Sampling: Disposable Teflon 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: 447, 2070 µmhos

Other: TDS Ultrameter Field Calibration: 300, 1500 ppm

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
1137	0.5		15.4	7.85		4080	dk brown	clear		
1159	1.5		16.0	7.71		1640	"	"		
1201	3.0		15.7	7.59		4730	"	"		
1207	5.0		15.2	7.61		4840	"	"		
1209	6.5		15.5	7.65		4760	"	"		
1211	7.5		15.5	7.64		4770		TDS=3700ppm		sample

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 4.36 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)
1215	120 mL	glass	2	N	—	PCP/TCP	
1215	½ Gal	plastic	1	N	—	TDS	

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GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-17

Project No: 030275.2 Project Name: SPI Arcata Sawmill Date 11/4/03

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

Sampled by: Matt Hillyard

Measuring Point (MP) of Well: 9.98

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): 1.31

Total Depth (ft. BMP): 7.40 Water Column Height (ft.): 6.09

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

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

Water Level (ft.BMP) at End of Purge: 2.1

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 Teflon Bailer Sampling: Disposable Teflon Bailer

Disposal of Discharged Water: 55-Gallon Drum

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

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

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

Conductivity Meter: Ultrameter Field Calibration: 447, 2070 µmhos

Other: TDS Ultrameter Field Calibration: 300, 1500 PPm

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
1230	1.0		14.0	7.14		948	Clear	clear		
1232	2		14.6	6.75		916	light gray	Slightly cloudy		
1234	3		14.9	6.64		960	"	"		
1236	3.5		14.9	6.64		920	"	TDS: 635 ppm		Sample

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 2.1 Recovery %: 87.0 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
1238	125 mL	glass	2	N	—	PCP/TCP	
1239	1 L	plastic	1	N	—	TDS	

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GROUNDWATER SAMPLING RECORD

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SAMPLE NUMBER: MW-18

Project No: 030275.2 Project Name: SPI Arcata Sawmill Date 11/4/03

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): 0.98

Total Depth (ft. BMP): 7.80 Water Column Height (ft.): 6.82

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

Casing Volume (gal.): 4.45 2X: 8.9 3X 13.4 4X

Water Level (ft.BMP) at End of Purge: 1.75

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 Teflon Bailer Sampling: Disposable Teflon 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: 447, 2070 µmhos

Other: TDS Ultrameter Field Calibration: 300, 1500 ppm

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
1012	1.0		15.9	6.66		970	lt yellow	clear		
1014	2.5		16.4	6.54		1009	"	"		
1018	4.0		16.5	6.54		1074	"	"		
1019	6		16.4	6.58		1124	"	"		
1023	8		16.4	6.61		1132	"	"		
1027	10		16.3	6.6		1127	"	"		
1030	12		16.7	6.59		1097	"	"		
1032	13.5		16.7	6.58		1092	"	TDS = 760 ppm		Sample

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 1.75 Recovery %: 88.7 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
1035	125 mL	glass	2	N	—	PCP/TCP	
1035	1/2 Gal	plastic	1	N	—	TDS	

Chain-of-Custody Record No.

McCulley, Frick & Gilman, Inc.

GROUNDWATER SAMPLING RECORD

PAGE: 1 of: 1

SAMPLE NUMBER: MW-19D

Project No: 030275.2 Project Name: SPI Arcata Sawmill Date 11/3/03

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): 4.61

Total Depth (ft. BMP): 19.66 Water Column Height (ft.): 15.05

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: 5.23

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 Teflon Bailer Sampling: Disposable Teflon 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: 447, 2070 µmhos

Other: TDS Ultrameter Field Calibration: 300, 1500 ppm

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
409	0.5		16.5	6.83		749	light gray	slightly cloudy		
413	2.0		17.2	6.67		735	"	"		
416	4.0		17.0	6.69		745	"	"		
421	6.0		16.7	6.69		750	"	"		
424	7.5		16.9	6.67		759	"	TDS=517ppm		

SAMPLE INVENTORY

Water Level (ft. BMP) Before Sampling: 5.23 Recovery %: 95.9 Sample Intake Depth (ft. BMP):

Bottles Collected: Time	Volume	Composition (glass, plastic)	Quantity	Filtration (Y/N)	Preservation (type)	Analysis	Remarks (quality control sample, other)
433	2-125ml	glass	2	N	—	PCP/TCP	
437	½ Gal	plastic	1	N	—	TDS	

Chain-of-Custody Record No.

McCulley, Frick & Gilman, Inc.

GW Sample Form MAC/CAD Revised: 9-8-95

APPENDIX B

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

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

4TH QUARTER 2003 GW MONITORING

MW-1, 6, 8, 9, 10, 11, 12, 13D, 14, 15D, 16D, 17, 18, and MW-A (Blind Duplicate of MW-8)

Chlorinated Phenols

17 November 2003

Geomatrix Consultants
Attn: Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
RE: SPI - (GeoMatrix)
Work Order: A311112

Enclosed are the results of analyses for samples received by the laboratory on 11/05/03 15:55. If you have any questions concerning this report, please feel free to contact me.

RECEIVED
NOV 20 2003
GEOMATRIX CONSULTANTS, INC.

Sincerely,

Karen Daly

Karen A. Daly 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

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/17/03 13:25
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311112	11/05/2003 15:55	GEOMAT	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-14	A311112-01	Water	11/04/03 15:00	11/05/03 15:55
MW-6	A311112-02	Water	11/04/03 14:45	11/05/03 15:55
MW-15D	A311112-03	Water	11/04/03 14:20	11/05/03 15:55
MW-13D	A311112-04	Water	11/04/03 13:48	11/05/03 15:55
MW-1	A311112-05	Water	11/04/03 13:08	11/05/03 15:55
MW-17	A311112-06	Water	11/04/03 12:38	11/05/03 15:55
MW-16D	A311112-07	Water	11/04/03 12:15	11/05/03 15:55
MW-10	A311112-08	Water	11/04/03 11:15	11/05/03 15:55
MW-18	A311112-09	Water	11/04/03 10:35	11/05/03 15:55
MW-9	A311112-10	Water	11/04/03 09:52	11/05/03 15:55
MW-11	A311112-11	Water	11/04/03 09:30	11/05/03 15:55
MW-8	A311112-12	Water	11/04/03 09:03	11/05/03 15:55
MW-A (Blind Duplicate of MW-8)	A311112-13	Water	11/04/03 00:00	11/05/03 15:55
MW-12	A311112-14	Water	11/04/03 08:40	11/05/03 15:55

Karen A. Daly For Sheri L. Speaks
Project Manager

11/17/03

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

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/17/03 13:25
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311112	11/05/2003 15:55	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
MW-14 (A311112-01)			**Sample Type: Water**			**Sampled: 11/04/03 15:00**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK31314	11/08/03	11/10/03	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	"	"	"	"		*94.8 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	1	**2100 mg/l**		**10**	
MW-6 (A311112-02)			**Sample Type: Water**			**Sampled: 11/04/03 14:45**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK31314	11/08/03	11/10/03	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*87.1 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	1	**430 mg/l**		**10**	
MW-15D (A311112-03)			**Sample Type: Water**			**Sampled: 11/04/03 14:20**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK31314	11/08/03	11/10/03	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	"	"	"	"		*85.9 %*	*79-119*		

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

Karen A. Daly For Sheri L. Speaks
Project Manager

11/17/03

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

CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/17/03 13:25
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311112	11/05/2003 15:55	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
MW-15D (A311112-03)			**Sample Type: Water**			**Sampled: 11/04/03 14:20**			
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	1	**790 mg/l**		**10**	
MW-13D (A311112-04)			**Sample Type: Water**			**Sampled: 11/04/03 13:48**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK31314	11/08/03	11/10/03	1	ND ug/l		1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "		1.0	
Pentachlorophenol	"	"	"	"	"	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		*90.8 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	1	**580 mg/l**		**10**	
MW-1 (A311112-05)			**Sample Type: Water**			**Sampled: 11/04/03 13:08**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK31314	11/08/03	11/10/03	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*		

Karen A. Daly For Sheri L. Speaks
Project Manager

11/17/03

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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/17/03 13:25
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311112	11/05/2003 15:55	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
MW-1 (A311112-05)			**Sample Type: Water**			**Sampled: 11/04/03 13:08**			
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	1	**1300 mg/l**		**10**	
MW-17 (A311112-06)			**Sample Type: Water**			**Sampled: 11/04/03 12:38**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK31314	11/08/03	11/10/03	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	"	"	"	"		*89.6 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	1	**450 mg/l**		**10**	
MW-16D (A311112-07)			**Sample Type: Water**			**Sampled: 11/04/03 12:15**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK31314	11/08/03	11/10/03	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	"	"	"	"		*85.1 %*	*79-119*		

Karen A. Daly For Sheri L. Speaks
Project Manager

11/17/03

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

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/17/03 13:25
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311112	11/05/2003 15:55	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-16D (A311112-07)			**Sample Type: Water**			**Sampled: 11/04/03 12:15**		
Conventional Chemistry Parameters by APHA/EPA Methods								
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	1	**2800 mg/l**	**10**	
MW-10 (A311112-08)			**Sample Type: Water**			**Sampled: 11/04/03 11:15**		
Chlorinated Phenols by Canadian Pulp Method								
2,4,6-Trichlorophenol	EnvCan	AK31314	11/08/03	11/10/03	1	ND ug/l	1.0	
2,3,5,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,6-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	"	"	"	"	ND "	1.0	
Pentachlorophenol	"	"	"	"	"	ND "	1.0	
Surrogate: Tribromophenol	"	"	"	"		*80.3 %* *79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods								
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	1	**430 mg/l**	**10**	
MW-18 (A311112-09)			**Sample Type: Water**			**Sampled: 11/04/03 10:35**		
Chlorinated Phenols by Canadian Pulp Method								
2,4,6-Trichlorophenol	EnvCan	AK31314	11/08/03	11/10/03	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	"	"	"	"		*91.6 %* *79-119*		

Karen A. Daly For Sheri L. Speaks
Project Manager

11/17/03

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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/17/03 13:25
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311112	11/05/2003 15:55	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
MW-18 (A311112-09)			**Sample Type: Water**			**Sampled: 11/04/03 10:35**			
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	1	**490 mg/l**		**10**	
MW-9 (A311112-10)			**Sample Type: Water**			**Sampled: 11/04/03 09:52**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK31314	11/08/03	11/10/03	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	"	"	"	"		*85.5 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	1	**350 mg/l**		**10**	
MW-11 (A311112-11)			**Sample Type: Water**			**Sampled: 11/04/03 09:30**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK31314	11/08/03	11/10/03	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	"	"	"	"		*78.7 %*	*79-119*		

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

Karen A. Daly For Sheri L. Speaks
Project Manager

11/17/03

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

CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/17/03 13:25
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311112	11/05/2003 15:55	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
MW-11 (A311112-11)			**Sample Type: Water**			**Sampled: 11/04/03 09:30**			
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	1	**450 mg/l**		**10**	
MW-8 (A311112-12)			**Sample Type: Water**			**Sampled: 11/04/03 09:03**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK31314	11/08/03	11/10/03	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	AK31019	11/10/03	11/13/03	1	**380 mg/l**		**10**	
MW-A (A311112-13)			**Sample Type: Water**			**Sampled: 11/04/03 00:00**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK31314	11/08/03	11/11/03	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	"	"	"	"		*91.6 %*	*79-119*		
MW-12 (A311112-14)			**Sample Type: Water**			**Sampled: 11/04/03 08:40**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK31314	11/08/03	11/10/03	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	"	"	"	"		*89.2 %*	*79-119*		

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Karen A. Daly For Sheri L. Speaks
Project Manager

11/17/03

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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/17/03 13:25
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311112	11/05/2003 15:55	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-12 (A311112-14)			**Sample Type: Water**			**Sampled: 11/04/03 08:40**		
Conventional Chemistry Parameters by APHA/EPA Methods								
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	1	**480 mg/l**	10	

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

Karen A. Daly For Sheri L. Speaks
Project Manager

11/17/03

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

CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/17/03 13:25
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311112	11/05/2003 15:55	GEOMAT	

Chlorinated Phenols by Canadian Pulp Method - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	SourceResult Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AK31314 - Solvent Extraction										
Blank (AK31314-BLK1)				Prepared: 11/08/03 Analyzed: 11/10/03						
2,4,6-Trichlorophenol	ND	1.0	ug/l							
2,3,5,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,6-Tetrachlorophenol	ND	1.0	"							
2,3,4,5-Tetrachlorophenol	ND	1.0	"							
Pentachlorophenol	ND	1.0	"							
Surrogate: Tribromophenol	*25.4*		"	*24.9*		*102*	*79-119*			
LCS (AK31314-BS1)				Prepared: 11/08/03 Analyzed: 11/10/03						
2,4,6-Trichlorophenol	5.04	1.0	ug/l	5.00		101	81-120			
2,3,5,6-Tetrachlorophenol	5.59	1.0	"	5.00		112	78-108			QL-03
2,3,4,6-Tetrachlorophenol	4.87	1.0	"	5.00		97.4	76-108			
2,3,4,5-Tetrachlorophenol	4.57	1.0	"	5.00		91.4	80-116			
Pentachlorophenol	4.82	1.0	"	5.00		96.4	86-109			
Surrogate: Tribromophenol	*27.1*		"	*24.9*		*109*	*79-119*			
Matrix Spike (AK31314-MS1)	**Source: A311112-02**			Prepared: 11/08/03 Analyzed: 11/10/03						
2,4,6-Trichlorophenol	4.57	1.0	ug/l	5.00	ND	91.4	75-125			
2,3,5,6-Tetrachlorophenol	5.08	1.0	"	5.00	ND	102	69-115			
2,3,4,6-Tetrachlorophenol	4.43	1.0	"	5.00	ND	88.6	66-117			
2,3,4,5-Tetrachlorophenol	4.39	1.0	"	5.00	ND	87.8	70-115			
Pentachlorophenol	4.52	1.0	"	5.00	ND	90.4	55-124			
Surrogate: Tribromophenol	*24.8*		"	*24.9*		*99.6*	*79-119*			
Matrix Spike Dup (AK31314-MSD1)	**Source: A311112-02**			Prepared: 11/08/03 Analyzed: 11/10/03						
2,4,6-Trichlorophenol	4.91	1.0	ug/l	5.00	ND	98.2	75-125	7.17	20	
2,3,5,6-Tetrachlorophenol	5.41	1.0	"	5.00	ND	108	69-115	6.29	20	

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Project Manager

11/17/03

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2101 Webster Street, 12th Floor
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Attn: Geomatrix Consultants

Report Date: 11/17/03 13:25
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311112	11/05/2003 15:55	GEOMAT	

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 AK31314 - Solvent Extraction										
Matrix Spike Dup (AK31314-MSD1)	**Source: A311112-02**			Prepared: 11/08/03		Analyzed: 11/10/03				
2,3,4,6-Tetrachlorophenol	4.72	1.0	"	5.00	ND	94.4	66-117	6.34	20	
2,3,4,5-Tetrachlorophenol	4.47	1.0	"	5.00	ND	89.4	70-115	1.81	20	
Pentachlorophenol	4.60	1.0	"	5.00	ND	92.0	55-124	1.75	20	
Surrogate: Tribromophenol	*25.9*		"	*24.9*		*104*	*79-119*			

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11/17/03

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CHEMICAL EXAMINATION REPORT

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2101 Webster Street, 12th Floor
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Attn: Geomatrix Consultants

Report Date: 11/17/03 13:25
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311112	11/05/2003 15:55	GEOMAT	

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 AK31019 - General Preparation										
Blank (AK31019-BLK1)				Prepared: 11/10/03 Analyzed: 11/13/03						
Total Dissolved Solids	ND	10	mg/l							
Duplicate (AK31019-DUP1)		**Source: A311112-07**		Prepared: 11/10/03 Analyzed: 11/13/03						
Total Dissolved Solids	2980	10	mg/l		2800			6.23	30	

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Project Manager

11/17/03

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Geomatrix Consultants
2101 Webster Street, 12th Floor
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Attn: Geomatrix Consultants

Report Date: 11/17/03 13:25
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311112	11/05/2003 15:55	GEOMAT	

Notes and Definitions

QL-03	Although the LCS/LCSD recovery for this analyte is outside of in-house developed control limits, it is within the EPA recommended range of 70-130%.
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

Chain-of Custody Record

017242

Date: 11/4/03 | Page 1 of 1

Project No.: 9329.000.016

Samplers (Signature:)

Date	Time	Sample Number		EPA Method 8021 (Full Scan)	EPA Method 8021 (Hal. VOCs only)	EPA Method 8021 (BETX only)	EPA Method 8260	EPA Method 8270 (Full Scan)	EPA Method 8270 SIM (PAHS only)	Method 8015m (Gasoline)	Method 8015m (Diesel)	Method 8015m (Motor Oil)	Silica Gel Cleanup	Chlorophenols	TDS	Soil (S), Water (W) Vapor (V), or Other (o)	Filtered	Preserved	Cooled	No. of Containers	Additional Comments
11/4/03	3pm	MW-14	1											X	X	W	NO	NO	YES	3	Chlorophenols shall be analyzed by the Canadian Pulp Method
	245pm	MW-6	2											X	X					3	
	220pm	MW-15D	3											X	X					3	
	148pm	MW-13D	4											X	X					3	Send Invoice directly to Sierra Pacific Industries
	108pm	MW-1	5											X	X					3	
	1238pm	MW-17	6											X	X					3	
	1215pm	MW-16D	7											X	X					3	
	1115am	MW-10	8											X	X					3	
	1035am	MW-18	9											X	X					3	
	952am	MW-9	10											X	X					3	
	930am	MW-11	11											X	X					3	
	903am	MW-8	12											X	X					3	
		MW-A	13											X						2	
	840am	MW-12	14											X	X					3	

Laboratory: ALPHA ANALYTICAL

Turnaround Time: NORMAL

Results to: Ross Stevenson

Total No. of Containers: 41

Relinquished by (Signature):	Date: 11/4/03	Relinquished by (Signature):	Date:	Relinquished by (Signature):	Date:
Printed Name: Jane's Hornibrook	Time: 1540	Printed Name:	Time:	Printed Name:	Time:
Company: Geomatrix		Company:		Company:	
Received by: J. Hornibrook	Date: 11/5	Received by: Leslie Quinn	Date: 11/5/03	Received by:	Date:
Printed Name:	Time: 10:55	Printed Name: Leslie Quinn	Time: 1555	Printed Name:	Time:
Company:		Company: Alpha Labs		Company:	

Method of Shipment: ALPHA ANALYTICAL Pickup

Laboratory Comments and Log No.: A311112

Geomatrix Consultants
2101 Webster Street, 12th Floor • Oakland, CA 94612
Phone: 510-663-4100 Fax: 510-663-4141

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4TH QUARTER 2003 GW MONITORING
MW-2,3,4,5, and 19D
Chlorinated Phenols

14 November 2003

Geomatrix Consultants
Attn: Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
RE: SPI - (GeoMatrix)
Work Order: A311060

Enclosed are the results of analyses for samples received by the laboratory on 11/04/03 15:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Melanie B. Neece

Melanie B. Neece For Sheri L. Speaks
Project Manager

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

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/14/03 16:52
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311060	11/04/2003 15:05	GEOMAT	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-4	A311060-01	Water	11/04/03 16:48	11/04/03 15:05
MW-3	A311060-02	Water	11/04/03 15:43	11/04/03 15:05
MW-5	A311060-03	Water	11/04/03 15:03	11/04/03 15:05
MW-2	A311060-04	Water	11/04/03 14:20	11/04/03 15:05
MW-19D	A311060-05	Water	11/04/03 14:20	11/04/03 15:05

Melanie B. Neece For Sheri L. Speaks
Project Manager

11/14/2003

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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/14/03 16:52
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311060	11/04/2003 15:05	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
MW-4 (A311060-01)			**Sample Type: Water**			**Sampled: 11/04/03 16:48**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK30702	11/05/03	11/05/03	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	"	"	"	"		*92.0 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AK31018	11/10/03	11/13/03	1	**310 mg/l**		**10**	
MW-3 (A311060-02)			**Sample Type: Water**			**Sampled: 11/04/03 15:43**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK30702	11/05/03	11/05/03	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	"	"	"	"		*83.5 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AK31018	11/10/03	11/13/03	1	**410 mg/l**		**10**	
MW-5 (A311060-03)			**Sample Type: Water**			**Sampled: 11/04/03 15:03**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK30702	11/05/03	11/05/03	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	"	"	"	"		*97.2 %*	*79-119*		

Melanie B. Neece For Sheri L. Speaks
Project Manager

11/14/2003

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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/14/03 16:52
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311060	11/04/2003 15:05	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
MW-5 (A311060-03)			**Sample Type: Water**			**Sampled: 11/04/03 15:03**			
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AK31018	11/10/03	11/13/03	1	**380 mg/l**		**10**	
MW-2 (A311060-04)			**Sample Type: Water**			**Sampled: 11/04/03 14:20**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK30702	11/05/03	11/05/03	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	"	"	"	"		*99.2 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AK31018	11/10/03	11/13/03	1	**760 mg/l**		**10**	
MW-19D (A311060-05)			**Sample Type: Water**			**Sampled: 11/04/03 14:20**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK30702	11/05/03	11/05/03	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	"	"	"	"		*92.8 %*	*79-119*		

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Project Manager

11/14/2003

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CHEMICAL EXAMINATION REPORT

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2101 Webster Street, 12th Floor
Oakland, CA 94612
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Report Date: 11/14/03 16:52
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311060	11/04/2003 15:05	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-19D (A311060-05)			**Sample Type: Water**			**Sampled: 11/04/03 14:20**		
Conventional Chemistry Parameters by APHA/EPA Methods								
Total Dissolved Solids	EPA 160.1	AK31018	11/10/03	11/13/03	1	**370 mg/l**	**10**	

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Report Date: 11/14/03 16:52
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311060	11/04/2003 15:05	GEOMAT	

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 AK30702 - Solvent Extraction										
Blank (AK30702-BLK1)				Prepared & Analyzed: 11/05/03						
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	*26.3*		"	*24.9*		*106*	*79-119*			
LCS (AK30702-BS1)				Prepared & Analyzed: 11/05/03						
2,4,6-Trichlorophenol	4.21	1.0	ug/l	5.00		84.2	81-120			
2,3,5,6-Tetrachlorophenol	4.88	1.0	"	5.00		97.6	78-108			
2,3,4,6-Tetrachlorophenol	4.65	1.0	"	5.00		93.0	76-108			
2,3,4,5-Tetrachlorophenol	4.42	1.0	"	5.00		88.4	80-116			
Pentachlorophenol	4.60	1.0	"	5.00		92.0	86-109			
Surrogate: Tribromophenol	*24.1*		"	*24.9*		*96.8*	*79-119*			
Matrix Spike (AK30702-MS1)	**Source: A311060-01**			Prepared & Analyzed: 11/05/03						
2,4,6-Trichlorophenol	4.92	1.0	ug/l	5.00	ND	98.4	75-125			
2,3,5,6-Tetrachlorophenol	4.75	1.0	"	5.00	ND	95.0	69-115			
2,3,4,6-Tetrachlorophenol	4.20	1.0	"	5.00	ND	84.0	66-117			
2,3,4,5-Tetrachlorophenol	4.38	1.0	"	5.00	ND	87.6	70-115			
Pentachlorophenol	4.66	1.0	"	5.00	ND	93.2	55-124			
Surrogate: Tribromophenol	*25.4*		"	*24.9*		*102*	*79-119*			
Matrix Spike Dup (AK30702-MSD1)	**Source: A311060-01**			Prepared & Analyzed: 11/05/03						
2,4,6-Trichlorophenol	4.52	1.0	ug/l	5.00	ND	90.4	75-125	8.47	20	
2,3,5,6-Tetrachlorophenol	4.76	1.0	"	5.00	ND	95.2	69-115	0.210	20	

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Melanie B. Neece For Sheri L. Speaks
Project Manager

11/14/2003

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CHEMICAL EXAMINATION REPORT

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Attn: Geomatrix Consultants

Report Date: 11/14/03 16:52
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311060	11/04/2003 15:05	GEOMAT	

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 AK30702 - Solvent Extraction										
Matrix Spike Dup (AK30702-MSD1)	**Source: A311060-01**			Prepared & Analyzed: 11/05/03						
2,3,4,6-Tetrachlorophenol	4.62	1.0	"	5.00	ND	92.4	66-117	9.52	20	
2,3,4,5-Tetrachlorophenol	4.35	1.0	"	5.00	ND	87.0	70-115	0.687	20	
Pentachlorophenol	4.61	1.0	"	5.00	ND	92.2	55-124	1.08	20	
Surrogate: Tribromophenol	*23.6*		"	*24.9*		*94.8*	*79-119*			

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Melanie B. Neece For Sheri L. Speaks
Project Manager

11/14/2003

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

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/14/03 16:52
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311060	11/04/2003 15:05	GEOMAT	

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 AK31018 - General Preparation										
Blank (AK31018-BLK1)				Prepared: 11/10/03 Analyzed: 11/13/03						
Total Dissolved Solids	ND	10	mg/l							
Duplicate (AK31018-DUP1)		**Source: A311060-04**		Prepared: 11/10/03 Analyzed: 11/13/03						
Total Dissolved Solids	753	10	mg/l		760			0.925	30	

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

Melanie B. Neece For Sheri L. Speaks 11/14/2003
Project Manager

Alpha Analytical Laboratories Inc.
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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/14/03 16:52
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

rder Number	Receipt Date/Time	Client Code	Client PO/Reference
A311060	11/04/2003 15:05	GEOMAT	

Notes and Definitions

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

Chain-of Custody Record

016800

Date: 11/3/23

Page 1 of 1

Project No.: 9329.000.016

Samplers (Signature:)

Date	Time	Sample Number	
11/3/03	448	MW-4	-1
	343	MW-3	-2
	303	MW-5	-3
	220	MW-2	-4
↓	433	MW-19D	-5

ANALYSES

EPA Method 8021 (Full Scan)	EPA Method 8021 (Hal. VOCs only)	EPA Method 8021 (BETX only)	EPA Method 8260	EPA Method 8270 (Full Scan)	EPA Method 8270 SIM (PAHS only)	Method 8015m (Gasoline)	Method 8015m (Diesel)	Method 8015m (Motor Oil)	Silica Gel Cleanup	Chlorophenols	TDS
										X	X
										↓	↓

REMARKS

Soil (S), Water (W) Vapor (V), or Other (o)	Filtered	Preserved	Cooled	No. of Containers	Additional Comments
W	No	No	Yes	3	Chlorophenols shall be
↓	↓	↓	↓	3	analyzed by the
				3	Canadian Pulp Method
				3	
				3	
					Bill directly to
					Sierra Pacific Industries

Laboratory: ALPHA ANALYTICAL

Turnaround Time: Normal

Results to: Rex Stanson

Total No. of Containers: 15

Additional Comments: Bailer

Relinquished by (Signature):	Date: 11/3/03	Relinquished by (Signature):	Date: 11/4	Relinquished by (Signature):	Date:
Printed Name: James Thomas	Time: 1725	Printed Name: Jack Matthews	Time: 15:05	Printed Name:	Time:
Company:		Company: Alpha		Company:	
Received by: J. Matthews	Date: 11/4	Received by: Shon Speaks	Date: 11/4/03	Received by:	Date:
Printed Name:	Time: 10:55	Printed Name: Shon Speaks	Time: 15:05	Printed Name:	Time:
Company:		Company: ALPHA		Company:	

Method of Shipment: ALPHA ANALYTICAL Pickup

Laboratory Comments and Log No.: Cooler Temp 2.6

A311060-

Geomatrix Consultants
2101 Webster Street, 12th Floor • Oakland, CA 94612
Phone: 510-663-4100 Fax: 510-663-4141

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07 November 2003

4TH QUARTER 2003 GW MONITORING
MW-7 Bailer
Chlorinated Phenols

Geomatrix Consultants
Attn: Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
RE: SPI - (GeoMatrix)
Work Order: A311062

Enclosed are the results of analyses for samples received by the laboratory on 11/04/03 15:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Melanie B. Neece

Melanie B. Neece For Sheri L. Speaks
Project Manager

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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/07/03 15:07
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311062	11/04/2003 15:05	GEOMAT	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW7-200311-B-U	A311062-01	Water	11/03/03 12:30	11/04/03 15:05
MW7-200311-B-F	A311062-02	Water	11/03/03 12:30	11/04/03 15:05

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Melanie B. Neece For Sheri L. Speaks
Project Manager

11/7/2003

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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/07/03 15:07
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311062	11/04/2003 15:05	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
MW7-200311-B-U (A311062-01)			**Sample Type: Water**			**Sampled: 11/03/03 12:30**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK30702	11/05/03	11/06/03	10	ND ug/l		5.0	R-01
2,3,5,6-Tetrachlorophenol	"	"	"	"	1	**36 "**		**1.0**	
2,3,4,6-Tetrachlorophenol	"	"	"	11/05/03	"	**580 "**		**1.0**	
2,3,4,5-Tetrachlorophenol	"	"	"	11/06/03	"	**35 "**		**1.0**	
Pentachlorophenol	"	"	"	"	"	**28000 "**		**1.0**	
Surrogate: Tribromophenol	"	"	"	"		*97.6 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Dissolved Solids	EPA 160.1	AK30507	"	11/07/03	1	**460 mg/l**		**10**	
Total Suspended Solids	EPA 160.2	AK30509	11/05/03	11/06/03	"	**230 "**		**1.0**	
MW7-200311-B-F (A311062-02)			**Sample Type: Water**			**Sampled: 11/03/03 12:30**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK30702	11/05/03	11/06/03	10	ND ug/l		5.0	R-01
2,3,5,6-Tetrachlorophenol	"	"	"	"	1	**47 "**		**1.0**	
2,3,4,6-Tetrachlorophenol	"	"	"	11/05/03	"	**740 "**		**1.0**	
2,3,4,5-Tetrachlorophenol	"	"	"	11/06/03	"	**43 "**		**1.0**	
Pentachlorophenol	"	"	"	"	"	**31000 "**		**1.0**	
Surrogate: Tribromophenol	"	"	"	"		*102 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Suspended Solids	EPA 160.2	AK30509	11/05/03	11/06/03	1	**6.2 mg/l**		**1.0**	

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Melanie B. Neece For Sheri L. Speaks
Project Manager

11/7/2003

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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/07/03 15:07
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311062	11/04/2003 15:05	GEOMAT	

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 AK30702 - Solvent Extraction										
Blank (AK30702-BLK1)				Prepared & Analyzed: 11/05/03						
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	*26.3*		"	*24.9*		*106*	*79-119*			
LCS (AK30702-BS1)				Prepared & Analyzed: 11/05/03						
2,4,6-Trichlorophenol	4.21	1.0	ug/l	5.00		84.2	81-120			
2,3,5,6-Tetrachlorophenol	4.88	1.0	"	5.00		97.6	78-108			
2,3,4,6-Tetrachlorophenol	4.65	1.0	"	5.00		93.0	76-108			
2,3,4,5-Tetrachlorophenol	4.42	1.0	"	5.00		88.4	80-116			
Pentachlorophenol	4.60	1.0	"	5.00		92.0	86-109			
Surrogate: Tribromophenol	*24.1*		"	*24.9*		*96.8*	*79-119*			
Matrix Spike (AK30702-MS1)	**Source: A311060-01**			Prepared & Analyzed: 11/05/03						
2,4,6-Trichlorophenol	4.92	1.0	ug/l	5.00	ND	98.4	75-125			
2,3,5,6-Tetrachlorophenol	4.75	1.0	"	5.00	ND	95.0	69-115			
2,3,4,6-Tetrachlorophenol	4.20	1.0	"	5.00	ND	84.0	66-117			
2,3,4,5-Tetrachlorophenol	4.38	1.0	"	5.00	ND	87.6	70-115			
Pentachlorophenol	4.66	1.0	"	5.00	ND	93.2	55-124			
Surrogate: Tribromophenol	*25.4*		"	*24.9*		*102*	*79-119*			
Matrix Spike Dup (AK30702-MSD1)	**Source: A311060-01**			Prepared & Analyzed: 11/05/03						
2,4,6-Trichlorophenol	4.52	1.0	ug/l	5.00	ND	90.4	75-125	8.47	20	
2,3,5,6-Tetrachlorophenol	4.76	1.0	"	5.00	ND	95.2	69-115	0.210	20	

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Melanie B. Neece For Sheri L. Speaks
Project Manager

11/7/2003

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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/07/03 15:07
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311062	11/04/2003 15:05	GEOMAT	

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 AK30702 - Solvent Extraction										
Matrix Spike Dup (AK30702-MSD1)	**Source: A311060-01**			Prepared & Analyzed: 11/05/03						
2,3,4,6-Tetrachlorophenol	4.62	1.0	"	5.00	ND	92.4	66-117	9.52	20	
2,3,4,5-Tetrachlorophenol	4.35	1.0	"	5.00	ND	87.0	70-115	0.687	20	
Pentachlorophenol	4.61	1.0	"	5.00	ND	92.2	55-124	1.08	20	
Surrogate: Tribromophenol	*23.6*		"	*24.9*		*94.8*	*79-119*			

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Melanie B. Neece For Sheri L. Speaks
Project Manager

11/7/2003

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CHEMICAL EXAMINATION REPORT

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2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/07/03 15:07
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311062	11/04/2003 15:05	GEOMAT	

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 AK30507 - General Preparation										
Blank (AK30507-BLK1)				Prepared: 11/05/03 Analyzed: 11/07/03						
Total Dissolved Solids	ND	10	mg/l							
Duplicate (AK30507-DUP1)	**Source: A310586-01**			Prepared: 11/05/03 Analyzed: 11/07/03						
Total Dissolved Solids	5130	10	mg/l		5100			0.587	30	
Batch AK30509 - General Preparation										
Blank (AK30509-BLK1)				Prepared: 11/05/03 Analyzed: 11/06/03						
Total Suspended Solids	ND	1.0	mg/l							
Duplicate (AK30509-DUP1)	**Source: A311062-01**			Prepared: 11/05/03 Analyzed: 11/06/03						
Total Suspended Solids	230	1.0	mg/l		230			0.00	30	

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Melanie B. Neece For Sheri L. Speaks
Project Manager

11/7/2003

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Attn: Geomatrix Consultants

Report Date: 11/07/03 15:07
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311062	11/04/2003 15:05	GEOMAT	

Notes and Definitions

R-01	The Reporting Limit for this analyte has been raised to account for matrix interference.
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

Chain-of Custody Record

016799

Date:

Page 1 of 1

Project No.: 9329,000.0 16

Samplers (Signature:) Matt Hagel

Date	Time	Sample Number
11/3/03	1230	MW7-200311-B-U ①
11/3/03	1230	MW7-200311-B-F ②

ANALYSES

EPA Method 8021 (Full Scan)	EPA Method 8021 (Hal. VOCs only)	EPA Method 8021 (BETX only)	EPA Method 8260	EPA Method 8270 (Full Scan)	EPA Method 8270 SIM (PAHS only)	Method 8015m (Gasoline)	Method 8015m (Diesel)	Method 8015m (Motor Oil)	Silica Gel Cleanup	Chlorophenols	TDS	TSS
-1										X	X	X
-2										X		X

REMARKS

Soil (S), Water (W) Vapor (V), or Other (o)	Filtered	Preserved	Cooled	No. of Containers
W	No	No	Yes	4
W	No	No	Yes	3
				7

Additional Comments

SEND INVOICE DIRECTLY to Sierra Pacific Industries

Chlorophenols shall be analyzed by the Canadian Pulp Method

① MW7200311-B-U shall be analyzed without Filtration.

② MW7200311-B-F shall be filtered using a 0.7 micron glass fiber filter prior to chlorophenol and TSS analysis

BAILER sampling

Laboratory: ALPHA ANALYTICAL

Turnaround Time: 48 Hr RUSH

Results to: ROCS STEENSON

Total No. of Containers: 7

Relinquished by (Signature)	Date: 11/3/03 Time: 1730	Relinquished by (Signature): J. Matthews	Date: 11/4 Time: 15:05	Relinquished by (Signature):	Date: Time:
Printed Name: James Hannibal		Printed Name: Jack Matthews		Printed Name:	
Company: Geomatrix		Company: Alpha		Company:	
Received by: J. Matthews	Date: 11/4 Time: 10:55	Received by: Shen Speaks	Date: 11/4/03 Time: 15:05	Received by:	Date: Time:
Printed Name:		Printed Name: Shen Speaks		Printed Name:	
Company:		Company: Alpha		Company:	

Method of Shipment: ALPHA Analytical Pickup

Laboratory Comments and Log No.: Coolers TEMP 2.6

A3110602

Geomatrix Consultants
2101 Webster Street, 12th Floor • Oakland, CA 94612
Phone: 510-663-4100 Fax: 510-663-4141

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
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07 November 2003

4TH QUARTER 2003 GW MONITORING

MW-7 Low Flow

Chlorinated Phenols

Geomatrix Consultants
Attn: Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
RE: SPI - (GeoMatrix)
Work Order: A311061

Enclosed are the results of analyses for samples received by the laboratory on 11/04/03 15:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Melanie B. Neece

Melanie B. Neece For Sheri L. Speaks
Project Manager

Alpha Analytical Laboratories Inc.
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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/07/03 10:25
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311061	11/04/2003 15:05	GEOMAT	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW7-200311-LF-U	A311061-01	Water	11/03/03 11:25	11/04/03 15:05
MW7-200311-LF-F	A311061-02	Water	11/03/03 11:25	11/04/03 15:05

Melanie B. Neece For Sheri L. Speaks
Project Manager

11/7/2003

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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/07/03 10:25
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311061	11/04/2003 15:05	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT		PQL	NOTE
MW7-200311-LF-U (A311061-01)			**Sample Type: Water**			**Sampled: 11/03/03 11:25**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK30702	11/05/03	11/06/03	10	ND ug/l		5.0	R-01
2,3,5,6-Tetrachlorophenol	"	"	"	"	1	**28** "		**1.0**	
2,3,4,6-Tetrachlorophenol	"	"	"	11/05/03	"	**450** "		**1.0**	
2,3,4,5-Tetrachlorophenol	"	"	"	11/06/03	"	**24** "		**1.0**	
Pentachlorophenol	"	"	"	"	"	**20000** "		**1.0**	
Surrogate: Tribromophenol	"	"	"	"		*107 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Suspended Solids	EPA 160.2	AK30509	11/05/03	11/06/03	1	**100 mg/l**		**1.0**	
IW7-200311-LF-F (A311061-02)			**Sample Type: Water**			**Sampled: 11/03/03 11:25**			
Chlorinated Phenols by Canadian Pulp Method									
2,4,6-Trichlorophenol	EnvCan	AK30702	11/05/03	11/06/03	10	ND ug/l		5.0	R-01
2,3,5,6-Tetrachlorophenol	"	"	"	"	1	**19** "		**1.0**	
2,3,4,6-Tetrachlorophenol	"	"	"	11/05/03	"	**300** "		**1.0**	
2,3,4,5-Tetrachlorophenol	"	"	"	11/06/03	"	**17** "		**1.0**	
Pentachlorophenol	"	"	"	"	"	**14000** "		**1.0**	
Surrogate: Tribromophenol	"	"	"	"		*92.8 %*	*79-119*		
Conventional Chemistry Parameters by APHA/EPA Methods									
Total Suspended Solids	EPA 160.2	AK30509	11/05/03	11/06/03	1	**6.6 mg/l**		**1.0**	

Melanie B. Neece For Sheri L. Speaks
Project Manager

11/7/2003

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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/07/03 10:25
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311061	11/04/2003 15:05	GEOMAT	

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 AK30702 - Solvent Extraction										
Blank (AK30702-BLK1)				Prepared & Analyzed: 11/05/03						
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	*26.3*		"	*24.9*		*106*	*79-119*			
LCS (AK30702-BS1)				Prepared & Analyzed: 11/05/03						
2,4,6-Trichlorophenol	4.21	1.0	ug/l	5.00		84.2	81-120			
2,3,5,6-Tetrachlorophenol	4.88	1.0	"	5.00		97.6	78-108			
2,3,4,6-Tetrachlorophenol	4.65	1.0	"	5.00		93.0	76-108			
2,3,4,5-Tetrachlorophenol	4.42	1.0	"	5.00		88.4	80-116			
Pentachlorophenol	4.60	1.0	"	5.00		92.0	86-109			
Surrogate: Tribromophenol	*24.1*		"	*24.9*		*96.8*	*79-119*			
Matrix Spike (AK30702-MS1)	**Source: A311060-01**			Prepared & Analyzed: 11/05/03						
2,4,6-Trichlorophenol	4.92	1.0	ug/l	5.00	ND	98.4	75-125			
2,3,5,6-Tetrachlorophenol	4.75	1.0	"	5.00	ND	95.0	69-115			
2,3,4,6-Tetrachlorophenol	4.20	1.0	"	5.00	ND	84.0	66-117			
2,3,4,5-Tetrachlorophenol	4.38	1.0	"	5.00	ND	87.6	70-115			
Pentachlorophenol	4.66	1.0	"	5.00	ND	93.2	55-124			
Surrogate: Tribromophenol	*25.4*		"	*24.9*		*102*	*79-119*			
Matrix Spike Dup (AK30702-MSD1)	**Source: A311060-01**			Prepared & Analyzed: 11/05/03						
2,4,6-Trichlorophenol	4.52	1.0	ug/l	5.00	ND	90.4	75-125	8.47	20	
2,3,5,6-Tetrachlorophenol	4.76	1.0	"	5.00	ND	95.2	69-115	0.210	20	

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

Melanie B. Neece For Sheri L. Speaks
Project Manager

11/7/2003

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

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/07/03 10:25
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311061	11/04/2003 15:05	GEOMAT	

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 AK30702 - Solvent Extraction										
Matrix Spike Dup (AK30702-MSD1)	**Source: A311060-01**			Prepared & Analyzed: 11/05/03						
2,3,4,6-Tetrachlorophenol	4.62	1.0	"	5.00	ND	92.4	66-117	9.52	20	
2,3,4,5-Tetrachlorophenol	4.35	1.0	"	5.00	ND	87.0	70-115	0.687	20	
Pentachlorophenol	4.61	1.0	"	5.00	ND	92.2	55-124	1.08	20	
Surrogate: Tribromophenol	*23.6*		"	*24.9*		*94.8*	*79-119*			

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Melanie B. Neece For Sheri L. Speaks
Project Manager

11/7/2003

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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/07/03 10:25
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311061	11/04/2003 15:05	GEOMAT	

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 AK30509 - General Preparation										
Blank (AK30509-BLK1)				Prepared: 11/05/03 Analyzed: 11/06/03						
Total Suspended Solids	ND	1.0	mg/l							
Duplicate (AK30509-DUP1)		**Source: A311062-01**		Prepared: 11/05/03 Analyzed: 11/06/03						
Total Suspended Solids	230	1.0	mg/l		230			0.00	30	

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

Melanie B. Neece For Sheri L. Speaks
Project Manager

11/7/2003

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

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/07/03 10:25
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311061	11/04/2003 15:05	GEOMAT	

Notes and Definitions

R-01	The Reporting Limit for this analyte has been raised to account for matrix interference.
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

Chain-of Custody Record

016798

Date: 11/3/03 | Page 1 of 1

Project No.: 9329.000.016

Samplers (Signature:)

Date	Time	Sample Number
11/3/03	1125	MW7-200311-LF-U ①
11/3/03	1125	MW-7-200311-LF-F ②

ANALYSES

EPA Method 8021 (Full Scan)	EPA Method 8021 (Hal. VOCs only)	EPA Method 8021 (BETX only)	EPA Method 8260	EPA Method 8270 (Full Scan)	EPA Method 8270 SIM (PAHS only)	Method 8015m (Gasoline)	Method 8015m (Diesel)	Method 8015m (Motor Oil)	Silica Gel Cleanup	Chlorophenols	TSS	EPA 1613
-1										X	X	
-2										X	X	

REMARKS

Soil (S), Water (W) Vapor (V), or Other (o)	Filtered	Preserved	Cooled	No. of Containers
W	No	No	Yes	3
W	No	No	Yes	3

Additional Comments

Send Invoice to Sierra Pacific Industries

chlorophenols shall be analyzed by the Canadian Pulp Method

① MW-7-200311-LF-U Shall be analyzed without Filtration

② MW-7-200311-LF-F Shall be filtered using a 0.7 micron glass fiber filter prior to chlorophenol & TSS analysis. After filtration submit 2x1L bottles to Frontier for EPA 1613 analysis

LOW FLOW SAMPLING

Laboratory: ALPHA ANALYTICAL

Turnaround Time: 48HR RUSH

Results to: Ross Stenson

Total No. of Containers: 6

Relinquished by (Signature):	Date: 11/3/03	Relinquished by (Signature):	Date: 11/4	Relinquished by (Signature):	Date:	Method of Shipment: ALPHA ANALYTICAL Pickup
Printed Name: James Hamblin	Time: 1725	Printed Name: Jack Matthews	Time: 15:05	Printed Name:	Time:	Laboratory Comments and Log No.: Cooler TEMP 2.6
Company:		Company: Alpha		Company:		A311061
Received by:	Date: 11/4	Received by: Sheri Speaks	Date: 11/4/03	Received by:	Date:	
Printed Name:	Time: 10:55	Printed Name: Sheri Speaks	Time: 15:05	Printed Name:	Time:	
Company:		Company: Alpha		Company:		

Geomatrix Consultants
2101 Webster Street, 12th Floor • Oakland, CA 94612
Phone: 510-663-4100 Fax: 510-663-4141

FRONTIER
ANALYTICAL LABORATORY

November 20, 2003

RECEIVED 11-24-2003

FAL Project ID: 2318

4TH QUARTER 2003 GW MONITORING
MW-7

Mr. Orrin Plocher
MFG, Inc.
875 Crescent Way
Arcata, CA 95521

Dear Mr. Plocher,

Enclosed are the results for Frontier Analytical Laboratory project **2318**. This corresponds to Alpha Analytical Laboratories, Inc. subcontract order # A311061. The one aqueous sample received on 11/7/03 was 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 ten business days for project **2318**. Frontier Analytical Laboratory successfully fulfilled this request.

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 the chain of custody, sample login form and sample photo.

If you have any questions regarding project **2318**, 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

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

Sample Tracking Log

FAL Project ID: 2318

Received on: **11/07/2003** Project Due: **11/24/2003** Storage: **R1**

FAL Sample ID	Dup	Client Project ID	Client Sample ID	Requested Method	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
2318-001-SA	1	A311061	A311061-02	EPA 1613 D/F	Aqueous	11/03/2003	11:25 am	11/02/2004

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
NP	Not Provided
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 quantified) for California Toxics Rule (CTR)/National Pollutant Discharge Elimination System (NPDES) samples

EPA Method 1613/8290 Aqueous MDL
(SPE Extraction)

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: 2318-001-MB
Client ID: Method Blank
Matrix: Aqueous
Extraction Batch No.: 0128

Date Extracted: 11/13/03
Date Received: NA
Amount: 1.000 L

ICal: pcddfal1-11-06-03 Acquired: 14-NOV-03
GC Column: db5
Units: pg/L WHO TEQ: 0.00
MS/MSD Batch No.: 0126

Compound	Conc	DL	Qual	WHO Tox
2,3,7,8-TCDD	-	3.56		-
1,2,3,7,8-PeCDD	-	6.79		-
1,2,3,4,7,8-HxCDD	-	10.2		-
1,2,3,6,7,8-HxCDD	-	10.6		-
1,2,3,7,8,9-HxCDD	-	9.64		-
1,2,3,4,6,7,8-HpCDD	-	11.0		-
OCDD	-	21.0		-
2,3,7,8-TCDF	-	2.76		-
1,2,3,7,8-PeCDF	-	6.34		-
2,3,4,7,8-PeCDF	-	6.00		-
1,2,3,4,7,8-HxCDF	-	2.52		-
1,2,3,6,7,8-HxCDF	-	3.35		-
2,3,4,6,7,8-HxCDF	-	3.34		-
1,2,3,7,8,9-HxCDF	-	4.64		-
1,2,3,4,6,7,8-HpCDF	-	3.35		-
1,2,3,4,7,8,9-HpCDF	-	3.80		-
OCDF	-	17.8		-

Compound	Conc	DL	Qual	#Hom
Total Tetra-Dioxins	-	3.56		0
Total Penta-Dioxins	-	6.79		0
Total Hexa-Dioxins	-	10.6		0
Total Hepta-Dioxins	-	11.0		0
Total Tetra-Furans	-	2.76		0
Total Penta-Furans	-	6.34		0
Total Hexa-Furans	-	4.64		0
Total Hepta-Furans	-	3.80		0

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	80.2	25.0 - 164	
13C-1,2,3,7,8-PeCDD	104	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	68.0	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	69.4	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	75.5	23.0 - 140	
13C-OCDD	76.1	17.0 - 157	
13C-2,3,7,8-TCDF	95.4	24.0 - 169	
13C-1,2,3,7,8-PeCDF	107	24.0 - 185	
13C-2,3,4,7,8-PeCDF	107	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	60.2	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	57.2	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	65.4	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	62.9	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	71.9	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	82.4	26.0 - 138	
13C-OCDF	65.0	17.0 - 157	

Cleanup Surrogate			
37Cl-2,3,7,8-TCDD	74.9	35.0 - 197	

Analyst: _____
Date: 11/17/03

Reviewed by: _____
Date: 11/20/03

EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 2318-001-OPR
Client ID: OPR
Matrix: Aqueous
Extraction Batch No.: 0128

Date Extracted: 11/13/03
Date Received: NA
Amount: 1.000 L

ICal: pcddfal1-11-06-03 Acquired: 14-NOV-03
GC Column: db5
Units: ng/mL WHO TEQ: NA
MS/MSD Batch No.: 0126

Compound	Conc	QC Limits
2,3,7,8-TCDD	10.3	6.70 - 15.8
1,2,3,7,8-PeCDD	45.1	35.0 - 71.0
1,2,3,4,7,8-HxCDD	47.7	35.0 - 82.0
1,2,3,6,7,8-HxCDD	48.9	38.0 - 67.0
1,2,3,7,8,9-HxCDD	48.6	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	44.7	35.0 - 70.0
OCDD	94.8	78.0 - 144
2,3,7,8-TCDF	9.82	7.50 - 15.8
1,2,3,7,8-PeCDF	44.3	40.0 - 67.0
2,3,4,7,8-PeCDF	43.9	34.0 - 80.0
1,2,3,4,7,8-HxCDF	43.2	36.0 - 67.0
1,2,3,6,7,8-HxCDF	50.1	42.0 - 65.0
2,3,4,6,7,8-HxCDF	49.1	39.0 - 65.0
1,2,3,7,8,9-HxCDF	45.4	35.0 - 78.0
1,2,3,4,6,7,8-HpCDF	42.1	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	46.2	39.0 - 69.0
OCDF	86.4	63.0 - 170

Internal Standards	% Rec	QC Limits
13C-2,3,7,8-TCDD	65.4	20.0 - 175
13C-1,2,3,7,8-PeCDD	82.2	21.0 - 227
13C-1,2,3,4,7,8-HxCDD	56.3	21.0 - 193
13C-1,2,3,6,7,8-HxCDD	57.5	25.0 - 163
13C-1,2,3,4,6,7,8-HpCDD	71.1	26.0 - 166
13C-OCDD	77.3	13.0 - 198
13C-2,3,7,8-TCDF	70.9	22.0 - 152
13C-1,2,3,7,8-PeCDF	78.7	21.0 - 192
13C-2,3,4,7,8-PeCDF	84.2	13.0 - 328
13C-1,2,3,4,7,8-HxCDF	50.5	19.0 - 202
13C-1,2,3,6,7,8-HxCDF	51.5	21.0 - 159
13C-2,3,4,6,7,8-HxCDF	54.5	17.0 - 205
13C-1,2,3,7,8,9-HxCDF	54.1	22.0 - 176
13C-1,2,3,4,6,7,8-HpCDF	59.6	21.0 - 158
13C-1,2,3,4,7,8,9-HpCDF	74.4	20.0 - 186
13C-OCDF	61.8	13.0 - 198

Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	65.3	31.0 - 191

Analyst: _____
Date: 11/17/03

Reviewed by: _____
Date: 11/20/03

EPA Method 1613
PCDD/F

MW-7-200311-LF-F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 2318-001-SA
Client ID: A311061-02
Matrix: Aqueous
Extraction Batch No.: 0128

Date Extracted: 11/13/03
Date Received: 11/7/03
Amount: 0.965 L

ICal: pcddfal1-11-06-03 Acquired: 14-NOV-03
GC Column: db5
Units: pg/L WHO TEQ: 0.00411
MS/MSD Batch No.: 0126

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	2.22		-					
1,2,3,7,8-PeCDD	-	4.82		-					
1,2,3,4,7,8-HxCDD	-	9.48		-					
1,2,3,6,7,8-HxCDD	-	10.4		-	Total Tetra-Dioxins	-	2.22		0
1,2,3,7,8,9-HxCDD	-	9.25		-	Total Penta-Dioxins	-	4.82		0
1,2,3,4,6,7,8-HpCDD	-	9.54		-	Total Hexa-Dioxins	-	10.4		0
OCDD	41.1	-	J	0.00411	Total Hepta-Dioxins	-	9.54		0
2,3,7,8-TCDF	-	2.29		-					
1,2,3,7,8-PeCDF	-	7.96		-					
2,3,4,7,8-PeCDF	-	5.93		-					
1,2,3,4,7,8-HxCDF	-	2.11		-					
1,2,3,6,7,8-HxCDF	-	2.51		-					
2,3,4,6,7,8-HxCDF	-	2.63		-					
1,2,3,7,8,9-HxCDF	-	3.12		-	Total Tetra-Furans	-	4.84		0
1,2,3,4,6,7,8-HpCDF	-	3.03		-	Total Penta-Furans	-	7.96		0
1,2,3,4,7,8,9-HpCDF	-	4.42		-	Total Hexa-Furans	-	5.82		0
OCDF	-	10.6		-	Total Hepta-Furans	-	4.42		0

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	92.1	25.0 - 164	
13C-1,2,3,7,8-PeCDD	149	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	77.2	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	75.5	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	96.0	23.0 - 140	
13C-OCDD	100	17.0 - 157	
13C-2,3,7,8-TCDF	93.5	24.0 - 169	
13C-1,2,3,7,8-PeCDF	108	24.0 - 185	
13C-2,3,4,7,8-PeCDF	138	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	67.7	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	70.8	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	71.7	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	76.0	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	104	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	76.8	26.0 - 138	
13C-OCDF	99.3	17.0 - 157	

Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	93.0	35.0 - 197

Analyst: _____
Date: 11/17/03

Reviewed by: _____
Date: 11/20/03

EPA Method 1613
PCDD/F

ANALYTICAL LABORATORY

FAL ID: 2302-001-MS/MSD
Client ID: S3J0138-04
Matrix: Aqueous
Extraction Batch No.: 0126

Date Extracted: 11/5/03
Date Received: 10/29/03
Sample Amount: 0.997 L
MS Amount: 0.998 L
MSD Amount: 1.009 L

ICal: PCDDFAL1-11-06-03
GC Column: db5
Units: pg
MS/MSD Batch No.: 0126

MS Acquired: 8-NOV-03
MSD Acquired: 8-NOV-03
WHO TEQ: NA

Compound	Amount Spiked	Sample Amount	MS Amount	MSD Amount	% RSD	Qual
2,3,7,8-TCDD	200	-	192	182	5.35	
1,2,3,7,8-PeCDD	1000	-	894	854	4.58	
1,2,3,4,7,8-HxCDD	1000	-	915	900	1.65	
1,2,3,6,7,8-HxCDD	1000	-	957	885	7.82	
1,2,3,7,8,9-HxCDD	1000	-	1020	974	4.61	
1,2,3,4,6,7,8-HpCDD	1000	-	888	849	4.49	
OCDD	2000	-	1850	1750	5.56	
2,3,7,8-TCDF	200	-	203	199	1.99	
1,2,3,7,8-PeCDF	1000	-	904	870	3.83	
2,3,4,7,8-PeCDF	1000	-	908	905	0.330	
1,2,3,4,7,8-HxCDF	1000	-	870	861	1.04	
1,2,3,6,7,8-HxCDF	1000	-	867	832	412	
2,3,4,6,7,8-HxCDF	1000	-	911	862	5.53	
1,2,3,7,8,9-HxCDF	1000	-	902	886	1.79	
1,2,3,4,6,7,8-HpCDF	1000	-	851	815	4.32	
1,2,3,4,7,8,9-HpCDF	1000	-	832	814	2.19	
OCDF	2000	-	1870	1830	2.16	

Internal Standards		% Rec	% Rec	% Rec	QC Limits
13C-2,3,7,8-TCDD	2000	97.1	95.9	88.6	25.0 - 150
13C-1,2,3,7,8-PeCDD	2000	134	134	121	25.0 - 150
13C-1,2,3,4,7,8-HxCDD	2000	81.9	89.2	77.1	25.0 - 150
13C-1,2,3,6,7,8-HxCDD	2000	83.7	81.4	64.7	25.0 - 150
13C-1,2,3,4,6,7,8-HpCDD	2000	84.0	94.9	69.3	25.0 - 150
13C-OCDD	4000	100	82.2	66.5	25.0 - 150
13C-2,3,7,8-TCDF	2000	102	102	96.1	25.0 - 150
13C-1,2,3,7,8-PeCDF	2000	97.0	113	91.2	25.0 - 150
13C-2,3,4,7,8-PeCDF	2000	122	122	106	25.0 - 150
13C-1,2,3,4,7,8-HxCDF	2000	57.6	71.7	57.0	25.0 - 150
13C-1,2,3,6,7,8-HxCDF	2000	70.3	79.0	64.3	25.0 - 150
13C-2,3,4,6,7,8-HxCDF	2000	63.0	71.8	68.3	25.0 - 150
13C-1,2,3,7,8,9-HxCDF	2000	66.4	83.6	66.4	25.0 - 150
13C-1,2,3,4,6,7,8-HpCDF	2000	86.1	86.7	76.0	25.0 - 150
13C-1,2,3,4,7,8,9-HpCDF	2000	70.7	88.8	68.8	25.0 - 150
13C-OCDF	4000	81.2	72.9	60.3	25.0 - 150
Cleanup Surrogate					
37Cl-2,3,7,8-TCDD	800	82.6	87.1	84.8	25.0 - 150

Analyst: _____
Date: 11/17/03

Reviewed by: _____
Date: 11/20/03

SUBCONTRACT ORDER

Alpha Analytical Laboratories, Inc.

A311061

2318/30

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
A311061-02 MW7-200311-LF-F [Water] Sampled 11/03/03 11:25 Pacific			**SEE NOTES**
Dioxins Full List 1613	11/06/03 15:00	11/02/04 11:25	
Containers Supplied:			

☐ *Report to State*

System Name: _____ Employed by: _____

User ID: _____ Sampler: _____

System Number: _____

Results to MFG, INC
INV. to Sierra Pacific.

Sheri Speaks 11-6-03 _____ 11/7/03 @ 0745

Released By Date Received By Date

Released By Date Received By Date

Frontier Analytical Laboratory

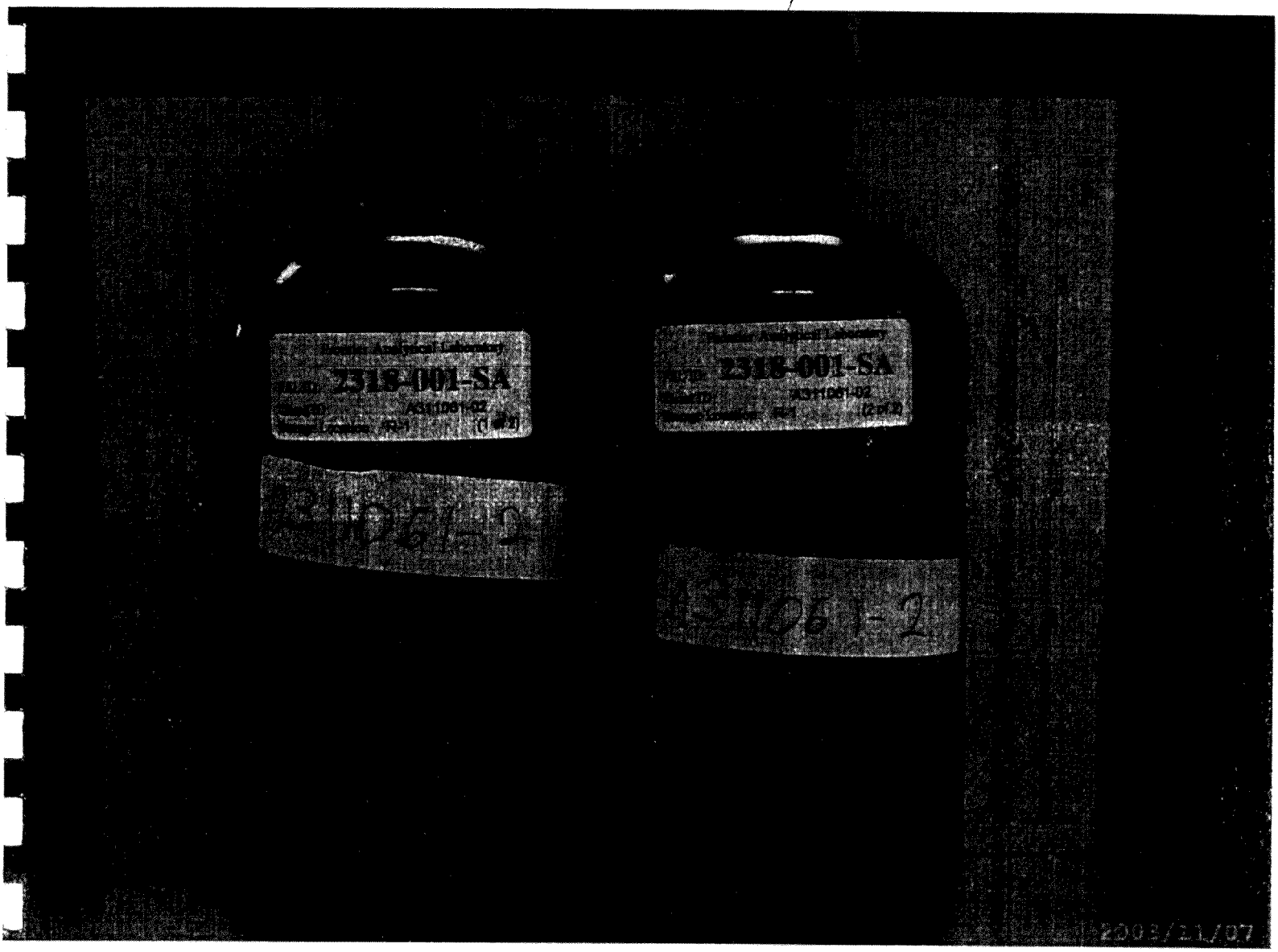
Sample Login Form

FAL Project ID: **2318**

Client:	Alpha Analytical Laboratories, Inc.
Client Project ID:	A311061
Date Received:	11/07/2003
Time Received:	07:45 am
Received By:	NM
Logged In By:	KZ
# of Samples Received:	1
Duplicates:	1
Storage Location:	R1

Method of Delivery:	Other
Tracking Number:	CA Overnight
Shipping Container Received Intact	Yes
Custody seals(s) present?	No
Custody seals(s) intact?	No
Sample Arrival Temperature (C)	3
Cooling Method	Blue Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	Yes
Test for residual Chlorine	Yes
Thiosulfate Added	No
Earliest Sample Hold Time Expiration	11/02/2004
Adequate Sample Volume	Yes
Anomalies or additional comments:	

FRONTIER
ANALYTICAL LABORATORY



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

11 November 2003

4TH QUARTER 2003 GW MONITORING

MW-2, 3, 5, and 7

Geochemical parameters

Geomatrix Consultants
Attn: Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
RE: SPI - (GeoMatrix)
Work Order: A311059

Enclosed are the results of analyses for samples received by the laboratory on 11/04/03 15:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Melanie B. Neece

Melanie B. Neece 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

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/11/03 10:32
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311059	11/04/2003 15:05	GEOMAT	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-2-200311	A311059-01	Water	11/03/03 14:05	11/04/03 15:05
MW-3-200311	A311059-02	Water	11/03/03 15:30	11/04/03 15:05
MW-5-200311	A311059-03	Water	11/03/03 14:50	11/04/03 15:05
MW-7-200311	A311059-04	Water	11/03/03 11:25	11/04/03 15:05

Melanie B. Neece For Sheri L. Speaks
Project Manager

11/11/2003

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

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/11/03 10:32
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311059	11/04/2003 15:05	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-2-200311 (A311059-01)			**Sample Type: Water**			**Sampled: 11/03/03 14:05**		
Metals by EPA 200 Series Methods								
Calcium	EPA 200.7	AK30501	11/05/03	11/10/03	1	**66 mg/l**	**1.0**	
Magnesium	"	"	"	"	"	**40 "**	**1.0**	
Conventional Chemistry Parameters by APHA/EPA Methods								
Total Alkalinity as CaCO3	SM2320B	AK30414	11/04/03	11/04/03	1	**520 mg/l**	**1.0**	
Carbonate Alkalinity as CaCO3	"	"	"	"	"	ND "	1.0	
Bicarbonate Alkalinity as CaCO3	"	"	"	"	"	**520 "**	**1.0**	
Hydroxide Alkalinity as CaCO3	"	"	"	"	"	ND "	1.0	
Anions by EPA Method 300.0								
Chloride	EPA 300.0	AK30404	11/04/03	11/04/03	50	**240 mg/l**	**25**	
Nitrate as NO3	"	"	"	11/04/03	1	**2.8 "**	**1.0**	
Sulfate as SO4	"	"	"	"	"	ND "	0.50	
MW-3-200311 (A311059-02)			**Sample Type: Water**			**Sampled: 11/03/03 15:30**		
Metals by EPA 200 Series Methods								
Calcium	EPA 200.7	AK30501	11/05/03	11/10/03	1	**55 mg/l**	**1.0**	
Magnesium	"	"	"	"	"	**36 "**	**1.0**	
Conventional Chemistry Parameters by APHA/EPA Methods								
Total Alkalinity as CaCO3	SM2320B	AK30414	11/04/03	11/04/03	1	**460 mg/l**	**1.0**	
Carbonate Alkalinity as CaCO3	"	"	"	"	"	ND "	1.0	
Bicarbonate Alkalinity as CaCO3	"	"	"	"	"	**460 "**	**1.0**	
Hydroxide Alkalinity as CaCO3	"	"	"	"	"	ND "	1.0	

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

Melanie B. Neece For Sheri L. Speaks
Project Manager

11/11/2003

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

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/11/03 10:32
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311059	11/04/2003 15:05	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-3-200311 (A311059-02)			**Sample Type: Water**			**Sampled: 11/03/03 15:30**		
Anions by EPA Method 300.0								
Chloride	EPA 300.0	AK30404	11/04/03	11/04/03	25	**37 mg/l**	**12**	
Nitrate as NO3	"	"	"	11/04/03	1	**4.6 "**	**1.0**	
Sulfate as SO4	"	"	"	"	"	ND "	0.50	
MW-5-200311 (A311059-03)			**Sample Type: Water**			**Sampled: 11/03/03 14:50**		
Metals by EPA 200 Series Methods								
Calcium	EPA 200.7	AK30501	11/05/03	11/10/03	1	**28 mg/l**	**1.0**	
Magnesium	"	"	"	"	"	**45 "**	**1.0**	
Conventional Chemistry Parameters by APHA/EPA Methods								
Total Alkalinity as CaCO3	SM2320B	AK30414	11/04/03	11/04/03	1	**350 mg/l**	**1.0**	
Carbonate Alkalinity as CaCO3	"	"	"	"	"	ND "	1.0	
Bicarbonate Alkalinity as CaCO3	"	"	"	"	"	**350 "**	**1.0**	
Hydroxide Alkalinity as CaCO3	"	"	"	"	"	ND "	1.0	
Anions by EPA Method 300.0								
Chloride	EPA 300.0	AK30404	11/04/03	11/04/03	20	**25 mg/l**	**10**	
Nitrate as NO3	"	"	"	11/04/03	1	ND "	1.0	
Sulfate as SO4	"	"	"	"	"	ND "	0.50	
MW-7-200311 (A311059-04)			**Sample Type: Water**			**Sampled: 11/03/03 11:25**		
Metals by EPA 200 Series Methods								
Calcium	EPA 200.7	AK30501	11/05/03	11/10/03	1	**26 mg/l**	**1.0**	
Magnesium	"	"	"	"	"	**42 "**	**1.0**	

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Melanie B. Neece For Sheri L. Speaks
Project Manager

11/11/2003

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

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/11/03 10:32
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311059	11/04/2003 15:05	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-7-200311 (A311059-04)			**Sample Type: Water**			**Sampled: 11/03/03 11:25**		
Conventional Chemistry Parameters by APHA/EPA Methods								
Total Alkalinity as CaCO3	SM2320B	AK30414	11/04/03	11/04/03	1	**420 mg/l**	**1.0**	
Carbonate Alkalinity as CaCO3	"	"	"	"	"	ND "	1.0	
Bicarbonate Alkalinity as CaCO3	"	"	"	"	"	**420 "**	**1.0**	
Hydroxide Alkalinity as CaCO3	"	"	"	"	"	ND "	1.0	
Anions by EPA Method 300.0								
Chloride	EPA 300.0	AK30404	11/04/03	11/04/03	20	**45 mg/l**	**10**	
Nitrate as NO3	"	"	"	11/04/03	1	ND "	1.0	
Sulfate as SO4	"	"	"	"	"	ND "	0.50	

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Melanie B. Neece For Sheri L. Speaks
Project Manager

11/11/2003

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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/11/03 10:32
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311059	11/04/2003 15:05	GEOMAT	

Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AK30501 - EPA 3005A SoftDigest										
Blank (AK30501-BLK1)				Prepared: 11/05/03 Analyzed: 11/10/03						
Calcium	ND	1.0	mg/l							
Magnesium	ND	1.0	"							
LCS (AK30501-BS1)				Prepared: 11/05/03 Analyzed: 11/10/03						
Calcium	10.7	1.0	mg/l	10.0		107	85-115			
Magnesium	10.2	1.0	"	10.0		102	85-115			
LCS Dup (AK30501-BSD1)				Prepared: 11/05/03 Analyzed: 11/10/03						
Calcium	10.5	1.0	mg/l	10.0		105	85-115	1.89	20	
Magnesium	9.88	1.0	"	10.0		98.8	85-115	3.19	20	
Duplicate (AK30501-DUP1)	**Source: A311059-01**			Prepared: 11/05/03 Analyzed: 11/10/03						
Calcium	70.4	1.0	mg/l		66			6.45	20	
Magnesium	42.5	1.0	"		40			6.06	20	
Matrix Spike (AK30501-MS1)	**Source: A311059-01**			Prepared: 11/05/03 Analyzed: 11/10/03						
Calcium	80.3	1.0	mg/l	10.0	66	143	70-130			QM-4X
Magnesium	52.6	1.0	"	10.0	40	126	70-130			
Matrix Spike Dup (AK30501-MSD1)	**Source: A311059-01**			Prepared: 11/05/03 Analyzed: 11/10/03						
Calcium	78.4	1.0	mg/l	10.0	66	124	70-130	2.39	20	
Magnesium	51.2	1.0	"	10.0	40	112	70-130	2.70	20	

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Melanie B. Neece For Sheri L. Speaks
Project Manager

11/11/2003

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

CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/11/03 10:32
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311059	11/04/2003 15:05	GEOMAT	

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 AK30404 - General Preparation										
Blank (AK30404-BLK1)				Prepared & Analyzed: 11/04/03						
Nitrate as NO3	ND	1.0	mg/l							
Chloride	ND	0.50	"							
Sulfate as SO4	ND	0.50	"							
LCS (AK30404-BS1)				Prepared & Analyzed: 11/04/03						
Nitrate as NO3	4.41	1.0	mg/l	4.43		99.5	90-110			
Chloride	2.94	0.50	"	3.00		98.0	90-110			
Sulfate as SO4	7.97	0.50	"	8.00		99.6	90-110			
LCS Dup (AK30404-BSD1)				Prepared & Analyzed: 11/04/03						
Nitrate as NO3	4.42	1.0	mg/l	4.43		99.8	90-110	0.227	20	
Chloride	2.98	0.50	"	3.00		99.3	90-110	1.35	20	
Sulfate as SO4	7.94	0.50	"	8.00		99.2	90-110	0.377	20	
Duplicate (AK30404-DUP1)		**Source: A311059-03**		Prepared & Analyzed: 11/04/03						
Nitrate as NO3	ND	20	mg/l		ND				200	
Chloride	25.2	10	"		25			0.797	20	
Sulfate as SO4	ND	10	"		ND				20	
Matrix Spike (AK30404-MS1)		**Source: A311059-03**		Prepared & Analyzed: 11/04/03						
Nitrate as NO3	230	20	mg/l	222	ND	103	80-120			
Chloride	68.2	10	"	50.0	25	86.4	80-120			
Sulfate as SO4	214	10	"	200	ND	107	80-120			
Matrix Spike Dup (AK30404-MSD1)		**Source: A311059-03**		Prepared & Analyzed: 11/04/03						
Nitrate as NO3	230	20	mg/l	222	ND	103	80-120	0.00	20	
Chloride	68.8	10	"	50.0	25	87.6	80-120	0.876	20	
Sulfate as SO4	214	10	"	200	ND	107	80-120	0.00	20	

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

Melanie B. Neece For Sheri L. Speaks
Project Manager

11/11/2003

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

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/11/03 10:32
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311059	11/04/2003 15:05	GEOMAT	

Notes and Definitions

QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance 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

Chain-of Custody Record

016797

Date:

Page 1 of 1

Project No.: 9329.000.016

Samplers (Signature):

Date	Time	Sample Number
11/2/03	205	MW-2-200311
	330	MW-3-200311
	250	MW-5-200311
	1125	MW-7-200311

ANALYSES

	EPA Method 8021 (Full Scan)	EPA Method 8021 (Hal. VOCs only)	EPA Method 8021 (BETX only)	EPA Method 8260	EPA Method 8270 (Full Scan)	EPA Method 8270 SIM (PAHS only)	Method 8015m (Gasoline)	Method 8015m (Diesel)	Method 8015m (Motor Oil)	Silica Gel Cleanup	NITRATE	Mn^{+2} ②	Fe^{+2} ②	CARBON DIOXIDE	METHANE	①
1	-	X									X	X	X	X	X	X
2	-	X									X	X	X	X	X	X
3	-	X									X	X	X	X	X	X
4	-	X									X	X	X	X	X	X

REMARKS

Soil (S), Water (W) Vapor (V), or Other (o)	Filtered	Preserved	Cooled	No. of Containers
W	NO	NO	YES	4
				4
				4
				4

Additional Comments

① Sulfate, Magnesium chloride, Calcium & alkalinity

Nitrate HAS 48 HR HOLD TIME

Send Invoice directly to Sierra Pacific Industries

② Fe^{+2} & Mn^{+2} to be filtered & Acidified By Laboratory

NA PARAMETERS

Laboratory: ALPHA ANALYTICAL

Turnaround Time: NORMAL

Results to: Ross Stronson

Total No. of Containers: 16

Relinquished by (Signature):	Date: 11/3/03	Relinquished by (Signature):	Date: 11/4/03	Relinquished by (Signature):	Date:
Printed Name: James Honnibell	Time: 12:05	Printed Name: Jack Matthews	Time: 15:05	Printed Name:	Time:
Company: Geomatrix		Company: Alpha		Company:	
Received by: J. Matthews	Date: 11/4	Received by: Sheri Speaks	Date: 11/4/03	Received by:	Date:
Printed Name:	Time: 10:55	Printed Name: Sheri Speaks	Time: 15:05	Printed Name:	Time:
Company:		Company: Alpha		Company:	

Method of Shipment: LAB PICKUP BY ALPHA

Laboratory Comments and Log No.: Cooler Temp 2.6

A311059

Geomatrix Consultants
2101 Webster Street, 12th Floor • Oakland, CA 94612
Phone: 510-663-4100 Fax: 510-663-4141

J/M HONNIBALL

SEVERN TRENT STL

Submission#: 2003-11-0235

Alpha Analytical, Inc

November 18, 2003

P.O. Box 1508
Ukiah, CA 95482

Attn.: Sheri L. Speaks

Project#: A311059

Attached is our report for your samples received on 11/06/2003 09:45
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 12/21/2003 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions,

You can also contact me via email. My email address is: ssidhu@stl-inc.com

Sincerely,

Surinder Sidhu

Surinder Sidhu
Project Manager

SEVERN TRENT STL

Submission #: 2003-11-0235

Dissolved Metals

Alpha Analytical, Inc

Attn.: Sheri L. Speaks

P.O. Box 1508
Ukiah, CA 95482
Phone: (707) 468-0401 Fax: (701) 468-5267

Project: A311059

Received: 11/06/2003 09:45

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
A311059-01 MW-2-200311	11/03/2003 14:05	Water	1
A311059-02 MW-3-200311	11/03/2003 14:05	Water	2
A311059-03 MW-5-200311	11/03/2003 14:50	Water	3
A311059-04 MW-7-200311	11/03/2003 14:50	Water	4

Dissolved Metals

Alpha Analytical, Inc

Attn.: Sheri L. Speaks

P.O. Box 1508
Ukiah, CA 95482
Phone: (707) 468-0401 Fax: (701) 468-5267

Project: A311059

Received: 11/06/2003 09:45

Prep(s):	3005A	Test(s):	6010B
Sample ID:	**A311059-01 MW-2-200311**	Lab ID:	2003-11-0235 - 1
Sampled:	11/03/2003 14:05	Extracted:	11/10/2003 11:19
Matrix:	Water	QC Batch#:	2003/11/10-07.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Iron	30	0.20	mg/L	1.00	11/17/2003 13:12	
Manganese	6.0	0.0050	mg/L	1.00	11/17/2003 13:12	

Dissolved Metals

Alpha Analytical, Inc

Attn.: Sheri L. Speaks

P.O. Box 1508
Ukiah, CA 95482
Phone: (707) 468-0401 Fax: (701) 468-5267

Project: A311059

Received: 11/06/2003 09:45

Prep(s):	3005A	Test(s):	6010B
Sample ID:	**A311059-02 MW-3-200311**	Lab ID:	2003-11-0235 - 2
Sampled:	11/03/2003 14:05	Extracted:	11/10/2003 11:19
Matrix:	Water	QC Batch#:	2003/11/10-07.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Iron	9.1	0.20	mg/L	1.00	11/17/2003 13:17	
Manganese	3.9	0.0050	mg/L	1.00	11/17/2003 13:17	

SEVERN TRENT STL

Submission #: 2003-11-0235

Dissolved Metals

Alpha Analytical, Inc
Attn.: Sheri L. Speaks

P.O. Box 1508
Ukiah, CA 95482
Phone: (707) 468-0401 Fax: (701) 468-5267

Project: A311059

Received: 11/06/2003 09:45

Prep(s): 3005A
Sample ID: **A311059-03 MW-5-200311**
Sampled: 11/03/2003 14:50
Matrix: Water

Test(s): 6010B
Lab ID: 2003-11-0235 - 3
Extracted: 11/10/2003 11:19
QC Batch#: 2003/11/10-07.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Iron	0.97	0.20	mg/L	1.00	11/17/2003 13:22	
Manganese	0.42	0.0050	mg/L	1.00	11/17/2003 13:22	

Dissolved Metals

Alpha Analytical, Inc

Attn.: Sheri L. Speaks

P.O. Box 1508
Ukiah, CA 95482
Phone: (707) 468-0401 Fax: (701) 468-5267

Project: A311059

Received: 11/06/2003 09:45

Prep(s):	3005A	Test(s):	6010B
Sample ID:	**A311059-04 MW-7-200311**	Lab ID:	2003-11-0235 - 4
Sampled:	11/03/2003 14:50	Extracted:	11/10/2003 11:19
Matrix:	Water	QC Batch#:	2003/11/10-07.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Iron	13	0.20	mg/L	1.00	11/17/2003 13:27	
Manganese	2.3	0.0050	mg/L	1.00	11/17/2003 13:27	

Dissolved Metals

Alpha Analytical, Inc

Attn.: Sheri L. Speaks

P.O. Box 1508
Ukiah, CA 95482
Phone: (707) 468-0401 Fax: (701) 468-5267

Project: A311059

Received: 11/06/2003 09:45

Batch QC Report

Prep(s): 3005A

Test(s): 6010B

Method Blank

Water

QC Batch # 2003/11/10-07.15

MB: 2003/11/10-07.15-168

Date Extracted: 11/10/2003 11:19

Compound	Conc.	RL	Unit	Analyzed	Flag
Iron	ND	0.20	mg/L	11/14/2003 23:51	
Manganese	ND	0.0050	mg/L	11/14/2003 23:51	

Dissolved Metals

Alpha Analytical, Inc

Attn.: Sheri L. Speaks

P.O. Box 1508
Ukiah, CA 95482
Phone: (707) 468-0401 Fax: (701) 468-5267

Project: A311059

Received: 11/06/2003 09:45

Batch QC Report

Prep(s): 2340B

Test(s): 2340B

Method Blank

Water

QC Batch # 2003/11/10-07.15

MB: 2003/11/10-07.15-174

Date Extracted: 11/10/2003 11:19

Compound	Conc.	RL	Unit	Analyzed	Flag
Iron	ND	0.20	mg/L	11/15/2003	
Manganese	ND	0.0050	mg/L	11/15/2003	

Dissolved Metals

Alpha Analytical, Inc
Attn.: Sheri L. Speaks

P.O. Box 1508
Ukiah, CA 95482
Phone: (707) 468-0401 Fax: (701) 468-5267

Project: A311059

Received: 11/06/2003 09:45

Batch QC Report

Prep(s): 3005A

Test(s): 6010B

Laboratory Control Spike **Water** **QC Batch # 2003/11/10-07.15**

LCS 2003/11/10-07.15-169 Extracted: 11/10/2003 Analyzed: 11/14/2003 23:56

LCSD 2003/11/10-07.15-170 Extracted: 11/10/2003 Analyzed: 11/15/2003 00:00

Compound	Conc. mg/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
Iron	4.63	4.72	5.00	92.6	94.4	1.9	80-120	20		
Manganese	0.461	0.467	0.500	92.2	93.4	1.3	80-120	20		

K PRIME, Inc.
CONSULTING ANALYTICAL CHEMISTS

3621 Westwind Blvd.
Santa Rosa CA 95403
Phone: 707 527 7574
FAX: 707 527 7879

TRANSMITTAL

DATE: 11/17/03

TO: MS. SHERI L. SPEAKS
ALPHA ANALYTICAL LABORATORIES, INC.
P.O. BOX 1508/208 MASON STREET
UKIAH, CA 95482

Phone: 707-468-0401
Fax: 707-468-5267

ACCT: 9984
PROJ: A311059

FROM: Richard A. Kagel, Ph.D.
Laboratory Director RAK my ltr 11/17/03

SUBJECT: LABORATORY RESULTS FOR YOUR PROJECT A311059

Enclosed please find K Prime's laboratory reports for the following samples:

SAMPLE ID	TYPE	DATE	KPI LAB #
MW-2-200311	WATER	11/03/03	43471
MW-3-200311	WATER	11/03/03	43472
MW-5-200311	WATER	11/03/03	43473
MW-7-200311	WATER	11/03/03	43474

The above listed sample group was received on 11/05/03 and tested as requested on the chain of custody document.

Please call me if you have any questions or need further information.
Thank you for this opportunity to be of service.

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A311059

SAMPLE ID:	MW-2-200311
LAB NO:	43471
SAMPLE TYPE:	WATER
DATE SAMPLED:	11/03/03
TIME SAMPLED:	14:05
BATCH ID:	110303W1

METHOD: DISSOLVED GASES
REFERENCE: RSK 175

DATE ANALYZED:	11/11/03
UNITS:	µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
METHANE	74-82-8	7.89	3766

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT, NA - NOT APPLICABLE OR AVAILABLE.

APPROVED BY: _____
DATE: 11/17/03

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A311059

METHOD: DISSOLVED GASES
REFERENCE: RSK 175

SAMPLE ID:	MW-3-200311
LAB NO:	43472
SAMPLE TYPE:	WATER
DATE SAMPLED:	11/03/03
TIME SAMPLED:	14:05
BATCH ID:	110303W1
DATE ANALYZED:	11/11/03
UNITS:	µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
METHANE	74-82-8	7.89	5440

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT, NA - NOT APPLICABLE OR AVAILABLE.

APPROVED BY: MK
DATE: 11/17/03

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A311059

SAMPLE ID:	MW-5-200311
LAB NO:	43473
SAMPLE TYPE:	WATER
DATE SAMPLED:	11/03/03
TIME SAMPLED:	14:50
BATCH ID:	110303W1

METHOD: DISSOLVED GASES
REFERENCE: RSK 175

DATE ANALYZED:	11/11/03
UNITS:	µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
METHANE	74-82-8	7.89	9211

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT. NA - NOT APPLICABLE OR AVAILABLE.

APPROVED BY: _____
DATE: 11/17/03

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A311059

SAMPLE ID:	MW-7-200311
LAB NO:	43474
SAMPLE TYPE:	WATER
DATE SAMPLED:	11/03/03
TIME SAMPLED:	14:50
BATCH ID:	110303W1

METHOD: DISSOLVED GASES
REFERENCE: RSK 175

DATE ANALYZED:	11/11/03
UNITS:	µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
METHANE	74-82-8	7.89	8791

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT, NA - NOT APPLICABLE OR AVAILABLE.

APPROVED BY: MK
DATE: 11/17/03

K PRIME, INC.
LABORATORY METHOD BLANK REPORT

METHOD BLANK ID: MBLK110303W01
SAMPLE TYPE: WATER
BATCH ID: 110303W01

METHOD: DISSOLVED C1-C3 HYDROCARBONS
REFERENCE: RSK 175

DATE ANALYZED: 11/3/03
UNITS: µg/L

COMPOUND NAME	CAS NO.	MDL	MRL	NOTES	SAMPLE CONC
METHANE	74-82-8	0.331	1.58		ND
ETHENE	74-85-1	0.547	2.38		ND
ETHANE	74-84-0	0.278	1.63		ND
PROPANE	74-98-6	0.353	2.21		ND

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED MDL, NA - NOT APPLICABLE OR AVAILABLE, MRL - METHOD REPORTING LIMIT, MDL - METHOD DETECTION LIMIT.

K PRIME, INC.
LABORATORY QUALITY CONTROL REPORT

SAMPLE ID: LCS110303W01
SAMPLE TYPE: WATER
BATCH #: 110303W01

METHOD: DISSOLVED C1-C3 HYDROCARBONS
REFERENCE: RSK 175

DATE ANALYZED: 11/3/03

COMPOUND NAME	SPIKE % REC	DUP % REC	RPD	QC LIMITS RPD	QC LIMITS % REC
METHANE	72.7	80.2	9.78	30.0	50 - 150
ETHENE	96.8	94.2	1.75	30.0	50 - 150
ETHANE	76.4	83.6	9.05	30.0	50 - 150
PROPANE	69.2	80.5	15.1	30.0	50 - 150

NOTES:
NA - NOT APPLICABLE OR AVAILABLE

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A311059

METHOD: DISSOLVED GASES
REFERENCE: RSK 175

SAMPLE ID:	MW-2-200311
LAB NO:	43471
SAMPLE TYPE:	WATER
DATE SAMPLED:	11/03/03
TIME SAMPLED:	14:05
BATCH ID:	111103W01
DATE ANALYZED:	11/11/03
UNITS:	µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
CARBON DIOXIDE	124-38-9	165	314320

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT, NA - NOT APPLICABLE OR AVAILABLE.

APPROVED BY: MK
DATE: 11/17/03

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A311059

SAMPLE ID:	MW-3-200311
LAB NO:	43472
SAMPLE TYPE:	WATER
DATE SAMPLED:	11/03/03
TIME SAMPLED:	14:05
BATCH ID:	111103W01

METHOD: DISSOLVED GASES
REFERENCE: RSK 175

DATE ANALYZED:	11/11/03
UNITS:	µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
CARBON DIOXIDE	124-38-9	165	173845

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT, NA - NOT APPLICABLE OR AVAILABLE.

APPROVED BY: RK
DATE: 11/17/03

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A311059

METHOD: DISSOLVED GASES
REFERENCE: RSK 175

SAMPLE ID:	MW-5-200311
LAB NO:	43473
SAMPLE TYPE:	WATER
DATE SAMPLED:	11/03/03
TIME SAMPLED:	14:50
BATCH ID:	111103W01
DATE ANALYZED:	11/11/03
UNITS:	µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
CARBON DIOXIDE	124-38-9	165	125486

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT, NA - NOT APPLICABLE OR AVAILABLE.

APPROVED BY: _____
DATE: 11/17/03

K PRIME, INC.
LABORATORY REPORT

K PRIME PROJECT: 9984
CLIENT PROJECT: A311059

METHOD: DISSOLVED GASES
REFERENCE: RSK 175

SAMPLE ID:	MW-7-200311
LAB NO:	43474
SAMPLE TYPE:	WATER
DATE SAMPLED:	11/03/03
TIME SAMPLED:	14:50
BATCH ID:	111103W01
DATE ANALYZED:	11/11/03
UNITS:	µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
CARBON DIOXIDE	124-38-9	165	152071

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT. NA - NOT APPLICABLE OR AVAILABLE.

APPROVED BY: MK
DATE: 11/17/03

K PRIME, INC.
LABORATORY REPORT

LAB NO: MBLK111103W01
BATCH ID: 111103W01

METHOD: DISSOLVED GASES
REFERENCE: RSK 175

DATE ANALYZED: 11/11/03
UNITS: µg/L

COMPOUND NAME	CAS NO.	REPORTING LIMIT	SAMPLE CONC
CARBON DIOXIDE	124-38-9	165	ND

NOTES:
ND - NOT DETECTED AT OR ABOVE THE STATED REPORTING LIMIT, NA - NOT APPLICABLE OR AVAILABLE.

APPROVED BY: MK
DATE: 11/17/03

K PRIME, INC.
LABORATORY QUALITY CONTROL REPORT

SAMPLE ID: LCS111103W01
SAMPLE TYPE: WATER
BATCH #: 111103W01

METHOD: DISSOLVED GASES
REFERENCE: RSK 175

DATE ANALYZED: 11/3/03

COMPOUND NAME	SPIKE % REC	DUP % REC	RPD	QC LIMITS RPD	QC LIMITS % REC
CARBON DIOXIDE	92.5	64.5	35.59	50.0	50 - 150

NOTES:
NA - NOT APPLICABLE OR AVAILABLE

Chain-of Custody Record

016797

Date:

Page 1 of 1

Project No.: 9329.000.016

Samplers (Signature):

Date	Time	Sample Number
11/2/03	205	MW-2-200311
	330	MW-3-200311
	250	MW-5-200311
	1125	MW-7-200311

11-13-03-09:30-Rcvd
Dissolved Mn & Fe on
Sep rep per Jim Hammond

ANALYSES

Sample Number	EPA Method 8021 (Full Scan)	EPA Method 8021 (Hal. VOCs only)	EPA Method 8021 (BETX only)	EPA Method 8260	EPA Method 8270 (Full Scan)	EPA Method 8270 SIM (PAHS only)	Method 8015m (Gasoline)	Method 8015m (Diesel)	Method 8015m (Motor Oil)	Silica Gel Cleanup	NITRATE	Mn+2 (2)	Fe+2 (2)	CARBON DIOXIDE	METHANE	(1)
MW-2-200311	-	1									X	X	X	X	X	X
MW-3-200311	-	DV									X	X	X	X	X	X
MW-5-200311	-	2									X	X	X	X	X	X
MW-7-200311	-	11									X	X	X	X	X	X

Sample Number	Soil (S), Water (W) Vapor (V), or Other (o)	Filtered	Preserved	Cooled	No. of Containers
MW-2-200311	W	NO	NO	YO	4
MW-3-200311					4
MW-5-200311					4
MW-7-200311			V		4

REMARKS

Additional Comments

(1) Sulfate, Magnesium chloride, Calcium & alkalinity

Nitrate HAS 48 HR. HOLD TIME

Send Invoice directly to Sierra Pacific Industries

(2) Fe^{+2} & Mn^{+2} to be filtered & Acidified By Laboratory

NA PARAMETERS

Laboratory: ALPHA ANALYTICAL

Turnaround Time: NORMAL

Results to: Ross Stanson

Total No. of Containers: 16

Relinquished by (Signature)	Date	Relinquished by (Signature)	Date	Relinquished by (Signature)	Date
Printed Name: James Hammond	Time: 17:05	Printed Name: Jack Mathews	Time: 15:05	Printed Name:	Time:
Company: Sierra Pacific		Company: Alpha		Company:	
Received by: J Mathews	Date: 11/4	Received by: Sheri Speaks	Date: 11/4/03	Received by:	Date:
Printed Name:	Time: 10:55	Printed Name: Sheri Speaks	Time: 15:05	Printed Name:	Time:
Company:		Company: Alpha		Company:	

Method of Shipment: LAB PICKUP BY ALPHA

Laboratory Comments and Log No.:
Cooler TEMP 2.6
A311059

Geomatrix Consultants
2101 Webster Street, 12th Floor • Oakland, CA 94612
Phone: 510-663-4100 Fax: 510-663-4141

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

4TH QUARTER 2003 GW MONITORING
MW-2, 3, 5, 7
TOTAL ORGANIC CARBON

10 November 2003

Geomatrix Consultants
Attn: Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
RE: SPI - (GeoMatrix)
Work Order: A311119

Enclosed are the results of analyses for samples received by the laboratory on 11/04/03 15:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Melanie B. Neece

Melanie B. Neece 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

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/10/03 08:11
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311119	11/04/2003 15:05	GEOMAT	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-2 200311	A311119-01	Water	11/03/03 14:05	11/04/03 15:05
MW-3 200311	A311119-02	Water	11/03/03 15:30	11/04/03 15:05
MW-5 200311	A311119-03	Water	11/03/03 14:50	11/04/03 15:05
MW-7 200311	A311119-04	Water	11/03/03 11:25	11/04/03 15:05

Melanie B. Neece For Sheri L. Speaks 11/10/2003
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

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/10/03 08:11
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311119	11/04/2003 15:05	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-2 200311 (A311119-01)			**Sample Type: Water**			**Sampled: 11/03/03 14:05**		
Organic Carbon by 415.1								
Total Organic Carbon	EPA 415.1	AK30614	11/06/03	11/07/03	1	**33.9 mg/l**	**1.00**	
MW-3 200311 (A311119-02)			**Sample Type: Water**			**Sampled: 11/03/03 15:30**		
Organic Carbon by 415.1								
Total Organic Carbon	EPA 415.1	AK30614	11/06/03	11/07/03	1	**18.0 mg/l**	**1.00**	
MW-5 200311 (A311119-03)			**Sample Type: Water**			**Sampled: 11/03/03 14:50**		
Organic Carbon by 415.1								
Total Organic Carbon	EPA 415.1	AK30614	11/06/03	11/07/03	1	**9.36 mg/l**	**1.00**	
MW-7 200311 (A311119-04)			**Sample Type: Water**			**Sampled: 11/03/03 11:25**		
Organic Carbon by 415.1								
Total Organic Carbon	EPA 415.1	AK30614	11/06/03	11/07/03	1	**28.1 mg/l**	**1.00**	

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

Melanie B. Neece For Sheri L. Speaks
Project Manager

11/10/2003

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

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/10/03 08:11
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311119	11/04/2003 15:05	GEOMAT	

SourceResult

Organic Carbon by 415.1 - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AK30614 - General Prep										
Blank (AK30614-BLK1)				Prepared: 11/06/03 Analyzed: 11/07/03						
Total Organic Carbon	ND	1.00	mg/l							
LCS (AK30614-BS1)				Prepared: 11/06/03 Analyzed: 11/07/03						
Total Organic Carbon	9.41	1.00	mg/l	10.0		94.1	85-115			
LCS Dup (AK30614-BSD1)				Prepared: 11/06/03 Analyzed: 11/07/03						
Total Organic Carbon	9.52	1.00	mg/l	10.0		95.2	85-115	1.16	20	
Duplicate (AK30614-DUP1)	**Source: A310554-01**			Prepared: 11/06/03 Analyzed: 11/07/03						
Total Organic Carbon	3.42	1.00	mg/l		3.75			9.21	20	
Matrix Spike (AK30614-MS1)	**Source: A310554-01**			Prepared: 11/06/03 Analyzed: 11/07/03						
Total Organic Carbon	11.0	1.00	mg/l	10.0	3.75	72.5	70-130			QM-04
Matrix Spike Dup (AK30614-MSD1)	**Source: A310554-01**			Prepared: 11/06/03 Analyzed: 11/07/03						
Total Organic Carbon	14.3	1.00	mg/l	10.0	3.75	106	70-130	26.1	20	QM-04

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

Melanie B. Neece For Sheri L. Speaks
Project Manager

11/10/2003

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

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Geomatrix Consultants

Report Date: 11/10/03 08:11
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311119	11/04/2003 15:05	GEOMAT	

Notes and Definitions

QM-04	High RPD and/or poor percent recovery may reflect sample non-homogeneity.
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

Chain-of Custody Record

016802

Date: 11/3/03

Page 1 of 1

Project No.: 9329,000,016

Samplers (Signature:)

Matt Wilson

Date	Time	Sample Number	EPA Method 8021 (Full Scan)	EPA Method 8021 (Hal. VOCs only)	EPA Method 8021 (BETX only)	EPA Method 8260	EPA Method 8270 (Full Scan)	EPA Method 8270 SIM (PAHS only)	Method 8015m (Gasoline)	Method 8015m (Diesel)	Method 8015m (Motor Oil)	Silica Gel Cleanup	TOC	Soil (S), Water (W) Vapor (V), or Other (o)	Filtered	Preserved	Cooled	No. of Containers
11/3/03	705	MW-2200311 -1											X	W	No	No	Yes	1
	330	MW-3200311 -2											X					1
	250	MW-5200311 -3											X					1
	1125	MW-7200311 -4											X					1

ANALYSES

REMARKS

Additional Comments

HOLD

Bill Invoice Directly to Shell Pacific Industries

PER James Hannibal RUN TOC, USE 125 mL Amber that was extra from ENVCAN

A311060. 11-6-03 9:30

A311061 11-6-03

Laboratory: Accutest Analytical

Turnaround Time: Normal

Results to: Ross Stevenson

Total No. of Containers: 4

Relinquished by (Signature):	Date:	Relinquished by (Signature):	Date:	Relinquished by (Signature):	Date:	Method of Shipment:
Printed Name: James Hannibal	Time: 1720	Printed Name: Jack Matthews	Time: 15:05	Printed Name:	Time:	Laboratory Comments and Log No.: Cooler Temp 2.6
Company: Geomatrix		Company: Alpha		Company:		A31119
Received by: J. Matthews	Date: 11/4	Received by: Shevi Speaks	Date: 11/4/03	Received by:	Date:	
Printed Name:	Time: 10:55	Printed Name: Shevi Speaks	Time: 15:16	Printed Name:	Time:	
Company:		Company: Alpha		Company:		

Geomatrix Consultants
2101 Webster Street, 12th Floor • Oakland, CA 94612
Phone: 510-663-4100 Fax: 510-663-4141

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

4TH QUARTER 2003 GW MONITORING

MW-2, 3, 5, 7

Geochemical Parameters

21 November 2003

Geomatrix Consultants
Attn: Ross Steenson
2101 Webster Street, 12th Floor
Oakland, CA 94612
RE: SPI - (GeoMatrix)
Work Order: A311273

Enclosed are the results of analyses for samples received by the laboratory on 11/13/03 10:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karen Daly

Karen A. Daly 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

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Ross Steenson

Report Date: 11/21/03 14:03
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311273	11/13/2003 10:00	GEOMAT	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-2-200311 (Ref # A311059-1)	A311273-01	Water	11/03/03 14:05	11/13/03 10:00
MW-3-200311 (Ref # A311059-2)	A311273-02	Water	11/03/03 15:30	11/13/03 10:00
MW-5-200311 (Ref # A311059-3)	A311273-03	Water	11/03/03 14:50	11/13/03 10:00
MW-7-200311 (Ref # A311059-4)	A311273-04	Water	11/03/03 11:25	11/13/03 10:00

Receive date indicates date additional analyses requested. Actual receive date was 11-4-03.

Karen A. Daly For Sheri L. Speaks
Project Manager

11/21/03

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

CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Ross Steenson

Report Date: 11/21/03 14:03
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311273	11/13/2003 10:00	GEOMAT	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-2-200311 (Ref # A311059-1) (A311273-01)			**Sample Type: Water**			**Sampled: 11/03/03 14:05**		
Metals (Dissolved) by EPA 200 Series Methods								
Iron, dissolved	EPA 200.7	AK31108	11/14/03	11/14/03	1	**7.7 mg/l**	**0.10**	
Manganese, dissolved	"	"	"	"	"	**6.2 "**	**0.020**	
MW-3-200311 (Ref # A311059-2) (A311273-02)			**Sample Type: Water**			**Sampled: 11/03/03 15:30**		
Metals (Dissolved) by EPA 200 Series Methods								
Iron, dissolved	EPA 200.7	AK31108	11/14/03	11/14/03	1	ND mg/l	0.10	
Manganese, dissolved	"	"	"	"	"	**3.9 "**	**0.020**	
MW-5-200311 (Ref # A311059-3) (A311273-03)			**Sample Type: Water**			**Sampled: 11/03/03 14:50**		
Metals (Dissolved) by EPA 200 Series Methods								
Iron, dissolved	EPA 200.7	AK31108	11/14/03	11/14/03	1	ND mg/l	0.10	
Manganese, dissolved	"	"	"	"	"	**0.43 "**	**0.020**	
MW-7-200311 (Ref # A311059-4) (A311273-04)			**Sample Type: Water**			**Sampled: 11/03/03 11:25**		
Metals (Dissolved) by EPA 200 Series Methods								
Iron, dissolved	EPA 200.7	AK31108	11/14/03	11/14/03	1	**0.32 mg/l**	**0.10**	
Manganese, dissolved	"	"	"	"	"	**2.3 "**	**0.020**	

Karen A. Daly For Sheri L. Speaks
Project Manager

11/21/03

Alpha Analytical Laboratories Inc.
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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Ross Steenson

Report Date: 11/21/03 14:03
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311273	11/13/2003 10:00	GEOMAT	

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AK31108 - EPA 200 Series										
Blank (AK31108-BLK1)				Prepared: 11/11/03		Analyzed: 11/14/03				
Iron, dissolved	ND	0.10	mg/l							
Manganese, dissolved	ND	0.020	"							
LCS (AK31108-BS1)				Prepared: 11/11/03		Analyzed: 11/17/03				
Iron, dissolved	1.99	0.10	mg/l	2.00		99.5	85-115			
Manganese, dissolved	0.195	0.020	"	0.200		97.5	85-115			
LCS Dup (AK31108-BSD1)				Prepared: 11/11/03		Analyzed: 11/17/03				
Iron, dissolved	1.95	0.10	mg/l	2.00		97.5	85-115	2.03	20	
Manganese, dissolved	0.196	0.020	"	0.200		98.0	85-115	0.512	20	
Duplicate (AK31108-DUP1)	**Source: A311088-02**			Prepared: 11/11/03		Analyzed: 11/14/03				
Iron, dissolved	0.0234	0.10	mg/l		ND				20	
Manganese, dissolved	0.818	0.020	"		0.80			2.22	20	
Matrix Spike (AK31108-MS1)	**Source: A311088-02**			Prepared: 11/11/03		Analyzed: 11/17/03				
Iron, dissolved	2.02	0.10	mg/l	2.00	ND	99.6	70-130			
Manganese, dissolved	1.01	0.020	"	0.200	0.80	105	70-130			
Matrix Spike Dup (AK31108-MSD1)	**Source: A311088-02**			Prepared: 11/11/03		Analyzed: 11/17/03				
Iron, dissolved	2.02	0.10	mg/l	2.00	ND	99.6	70-130	0.00	20	
Manganese, dissolved	1.00	0.020	"	0.200	0.80	100	70-130	0.995	20	

Karen A. Daly For Sheri L. Speaks
Project Manager

11/21/03

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208 Mason St. Ukiah, California 95482
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CHEMICAL EXAMINATION REPORT

Geomatrix Consultants
2101 Webster Street, 12th Floor
Oakland, CA 94612
Attn: Ross Steenson

Report Date: 11/21/03 14:03
Project No: 9329.000.0 16
Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A311273	11/13/2003 10:00	GEOMAT	

Notes and Definitions

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

Chain-of Custody Record

016797

Date:

Page

Project No.: 9329.000.0 16

Samplers (Signature):

ANALYSES

REMARKS

Date	Time	Sample Number	EPA Method 8021 (Full Scan)	EPA Method 8021 (Hal. VOCs only)	EPA Method 8021 (BETX only)	EPA Method 8260	EPA Method 8270 (Full Scan)	EPA Method 8270 SIM (PAHS only)	Method 8015m (Gasoline)	Method 8015m (Diesel)	Method 8015m (Motor Oil)	Silica Gel Cleanup	NITRATE	Mn^{+2} ②	Fe^{+2} ②	CARBON DIOXIDE	METHANE	①	Soil (S), Water (W) Vapor (V), or Other (o)	Filtered	Preserved	Cooled	No. of Containers	Additional Comments
11/13/03	205	MW-2-200311	A	3			3-1						X	X	X	X	X	X	W	NO	NO	YES	4	① sulfate, Magnesium
	330	MW-3-200311					-2						X	X	X	X	X	X					4	chloride, calcium &
	250	MW-5-200311					-3						X	X	X	X	X	X					4	alkalinity
↓	1125	MW-7-200311					-4						X	X	X	X	X	X	↓	↓	↓	↓	4	Nitrate HAS 44 HC
																								1 for D TDLE
																								Send Invoice Directly to Sierra Pacific Industries
																								② Fe^{+2} & Mn^{+2} to be filtered & acidified By Laboratory
11-13-03-09:30-Rw																								
Dissolved Mn & Fe on																								
Sep rep per Jim Hammond																								

Laboratory: ALPHA ANALYTICAL

Turnaround Time: NORMAL

Results to: ROSS STANSON

Total No. of Containers: 16

NA PARAMETERS

Relinquished by (Signature):	Date: 11/21/03	Relinquished by (Signature):	Date:	Relinquished by (Signature):	Date:
Printed Name:	Time: 1705	Printed Name:	Time:	Printed Name:	Time:
Company:		Company:		Company:	
Received by:	Date: 11/21	Received by:	Date:	Received by:	Date:
Printed Name:	Time: 1705	Printed Name:	Time:	Printed Name:	Time:
Company:		Company:		Company:	

Method of Shipment: LAB PICKUP BY ALPHA

Laboratory Comments and Log No.:

A311531

Geometrix Consultants
2101 Webster Street, 12th Floor • Oakland, CA 94612
Phone: 510-663-4100 Fax: 510-663-4141

APPENDIX C

Wastewater Manifest for Fourth Quarter 2003

State of California—Environmental Protection Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-99)
Please print or type. Form designed for use on elite (12-pitch) typewriter.

See Instructions on back of page 6.

Department of Toxic Substances Contro
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAD047103695 | Manifest Document No. 387555 | 2. Page 1 of 1 | Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
SIERRA PACIFIC INDUSTRIES - ARCATA
P.O. BOX 1189
ARCATA CA 95518
4. Generator's Phone (707 443-3111

A. State Manifest Document Number 23338755
B. State Generator's ID

5. Transporter 1 Company Name: ASBURY ENVIRONMENTAL SERVICES
6. US EPA ID Number: CAD028277036
C. State Transporter's ID [Reserved.]
D. Transporter's Phone (800)874-4405

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID [Reserved.]
F. Transporter's Phone

9. Designated Facility Name and Site Address
DEMENNO / KERDOON
2000 NORTH ALAMEDA STREET
COMPTON CA 90222
10. US EPA ID Number: CAT080013352
G. State Facility's ID
H. Facility's Phone (310)537-7100

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. NON RCRA HAZARDOUS WASTE LIQUID, (OILY WATER)	003	DM	00166	G	State 223 EPA/Other NONE
b. NON RCRA HAZARDOUS WASTE LIQUID (WATER WITH TRACE PENTACHLOROPHENOL)	001	TP	00130	G	State CAL 343 EPA/Other NONE
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above
11A) ZSR242, 3 X 55 G
11B) 1 X 275 G TOTE

K. Handling Codes for Wastes Listed Above
a. b. c. d.

15. Special Handling Instructions and Additional Information
USE PPE
NAERG #. 11A. 171, 11B, 171
SITE: 2593 NEW NAVY BASE ROAD, ARCATA, CA 95518
EMERGENCY CONTACT: CHEMTREC 1-800-424-9300
Trip 250154 15

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by high-way according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
JAY [illegible]	[signature]	01	19	04

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
SHERIE ARANDA	[signature]	01	19	04

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

DO NOT WRITE BELOW THIS LINE.

GENERATOR — TRANSPORTER — FACILITY

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7550

DTSC 8022A (1/99)
EPA 8700—22

Yellow: GENERATOR RETAINS