

#### 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**

2101 Webster Street, 12th Floor Oakland, CA 94612 (510) 663-4100 • Fax (510) 663-4141



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 J. Seenso

Ross Steenson, C.HG. Senior Hydrogeologist

Edwan levet

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

RAS/EPC/abr I:\Doc\_Safe\9000s\9329\02-Task\4Q2003\TransmittalLtr.doc

#### 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)

#### Geomatrix Consultants, Inc.

Engineers, Geologists, and Environmental Scientists



#### Fourth Quarter 2003 Groundwater Monitoring Report

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

Prepared for:

**Sierra Pacific Industries** 

Prepared by:

**Geomatrix Consultants, Inc.** 2101 Webster Street, 12th Floor Oakland, California 94612 (510) 663-4100

January 22, 2004

Project No. 9329, Task 2

#### **Geomatrix Consultants**



#### **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.

Eduar Int

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





#### TABLE OF CONTENTS

Р	a	g	e
-	•••	-	•

1.0	INTRODUCTION	1
2.0	SITE BACKGROUND2.1HISTORY2.2LITHOLOGY2.3HYDROGEOLOGY	2
3.0	METHODOLOGY	4
4.0	<ul> <li>RESULTS</li></ul>	
5.0	WASTEWATER DISPOSAL	9
6.0	FUTURE MONITORING SCHEDULE	10
7.0	REFERENCES	11

#### TABLES

- Table 1Monitoring Well Construction Details
- Table 2Summary of Water Level Measurements
- Table 3Summary of Field-Measured Water Quality Parameters and Laboratory Analysis<br/>of Total Dissolved Solids
- Table 4Summary of Chemical Analyses of Groundwater Samples from Monitoring<br/>Wells for Chlorinated Phenols
- Table 5Summary of Chemical Analyses of Groundwater Samples from Monitoring<br/>Wells for Dioxins and Furans
- Table 6Summary of Chemical Analyses of Groundwater Samples from Monitoring<br/>Wells for Geochemical Parameters

#### FIGURES

- Figure 1Site Location Map
- Figure 2 Site Plan
- Figure 3 Former Green Chain Area Plan
- Figure 4 Potentiometric Surface Map of Shallow Groundwater, November 3, 2003
- Figure 5 Potentiometric Surface Map of Deeper Groundwater, November 3, 2003
- Figure 6 PCP Analytical Results for Shallow Groundwater, November 3-4, 2003
- Figure 7 PCP Analytical Results for Deeper Groundwater, November 3-4, 2003



#### TABLE OF CONTENTS (Continued)

Page

#### APPENDICES

- Appendix A Groundwater Sampling Record Field Forms
- Appendix B Laboratory Report and Chain-of-Custody Records for Groundwater Samples
- Appendix C Wastewater Disposal Manifest for Fourth Quarter 2003



#### 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<sup>1</sup> 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.

<sup>&</sup>lt;sup>1</sup> 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<sup>®</sup> 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<sup>®</sup> 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<sup>®</sup> 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 125milliliter (ml) glass vials sealed with Teflon<sup>®</sup> -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<sup>®</sup>-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<sub>3</sub> [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 (fieldmeasured 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 ( $\mu$ g/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	РСР	TSS
Sample	(μg/L)	(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 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<sup>1</sup>

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 <sup>2</sup> (ft bgl)
Shallow Wel	ls								
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		14.0 - 21.5		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.



Well No.	Measurement <sup>1</sup> Date	MP Elevation <sup>2</sup> (ft NAVD 88)	Depth to Water (ft bMP)	Water Level Elevation (ft NAVD 88)
	Measurement Date	(It INAV D 00)	(It DIVIE)	(II INAV D 88)
Shallow Wells MW-1	14-Mar-02	9.56	5.31	4.25
IVI VV - I		9.56		5.04
	18-Jul-02	9.56	4.52	5.19
	16-Sep-02 02-Dec-02	9.56	4.37 4.18	5.38
		9.56		
	18-Mar-03	9.56	4.09	5.47
	31-Mar-03		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



Well No.	Measurement <sup>1</sup> Date	MP Elevation <sup>2</sup> (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



Well No.	Measurement <sup>1</sup> Date	MP Elevation <sup>2</sup> (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
11111	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 <sup>3</sup>	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



#### Sierra Pacific Industries Arcata Division Sawmill Arcata, California

Well No.	Measurement <sup>1</sup> Date	MP Elevation <sup>2</sup> (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.



#### TABLE 3

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

			Laboratory Measurement			
		Tempurature <sup>1</sup>	Specific Conductance <sup>1</sup>	pH <sup>1</sup>	TDS <sup>1</sup>	$TDS^{2}$
WELL NO.	DATE SAMPLED	(°C)	(µmohs/cm)	(std. units)	(mg/L)	(mg/L)
Shallow Wells	20 Mar 02	14	2 (00	( 5		
·	20-Mar-03		2,600	6.5		
MW-1	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
-	20-Mar-03	13	2,100	6.2		
MW-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
	20-Mar-03	13	1,100	6.4		
MW-3	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
	20-Mar-03	14	830	6.5		
MW-4	22-May-03	16	730	6.4	440	420
101 00 -4	27-Aug-03	21	730	6.5	500	340
	03-Nov-03	17.8	758	6.55	516	310
	20-Mar-03	14	670	6.6		
MW-5	22-May-03	14	690	6.6	410	360
IVI VV - 3	27-Aug-03	18	670	6.7	450	360
	03-Nov-03	17.2	661	6.57	450	380
	20-Mar-03	11	950	6.6		
	22-May-03	14	1,000	6.3	620	430
MW-6	27-Aug-03	17	890	6.4	620	410
	04-Nov-03	12.8	918	6.55	634	430
	20-Mar-03	11	910	6.6		
	22-May-03	11	960	6.5		460
MW-7	27-Aug-03	14	840	6.6	580	400
-	03-Nov-03	12.4	869	6.55	597	460
	18-Mar-03	14	730	6.4		
	21-May-03	16	740	6.3	460	390
MW-8	27-Aug-03	21	730	6.2	500	370
	04-Nov-03	17.2	745	6.38	507	380
	18-Mar-03	14	820	6.4		
	23-May-03	16	870	6.6	550	400
MW-9	27-Aug-03	20	830	6.2	570	350
	04-Nov-03	16.7	821	6.57	563	350
	18-Mar-03	14	920	6.4		
·	23-May-03	17	970	6.7		460
MW-10	27-Aug-03	22	860	6.3	600	400
=	04-Nov-03	17.9	878	6.56	604	400
	20-Mar-03	14	878	6.4		
	20-Mar-03 21-May-03	14	870	6.4 6.4	560	460
MW-11	-	23		6.4	600	460
ŀ	27-Aug-03		870			
	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

			Laboratory			
			Measurement			
			Specific			
		Tempurature <sup>1</sup>	Conductance <sup>1</sup>	рН <sup>1</sup>	TDS <sup>1</sup>	TDS <sup>2</sup>
WELL NO.	DATE SAMPLED	(°C)	(µmohs/cm)	(std. units)	(mg/L)	(mg/L)
	18-Mar-03	15	830	6.3		
MW-12	21-May-03	18	840	6.1		460
IVI VV - 1 2	27-Aug-03	23	870	6.2	600	480
	04-Nov-03	18.1	916	6.45	631	480
	20-Mar-03	14	3,200	6.7		
MW-14	22-May-03	15	3,400	6.6		2,100
101 00 - 14	27-Aug-03 <sup>3</sup>	20	3,600	6.6	2,300	1,900
	11/4/2003 3	15.9	3,330	6.64	2,520	2,100
	20-Mar-03	13	980	6.4		
MW-17	22-May-03	15	1,000	6.5		450
IVI VV - 1 /	27-Aug-03	19	860	7	600	420
	04-Nov-03	14.9	920	6.64	635	450
	18-Mar-03	14	1,000	6.5		
MW-18	23-May-03	17	980	6.6	610	640
IVI VV - 18	27-Aug-03	23	1,100	6.3	780	520
	04-Nov-03	16.7	1,092	6.58	760	490
Deep Well						
	20-Mar-03	14	1,200	6.2		
MW-13D	22-May-03	14	1,100	6.2		
MW-13D	27-Aug-03	15	1,100	6.1	750	690
	04-Nov-03	14.8	1,020	6.13		580
	20-Mar-03	13	1,300	6.8		
MW-15D	22-May-03	13	1,300	6.8		800
MW-15D	27-Aug-03	14	1,300	6.3	900	810
	04-Nov-03	14	1,290	6.75		790
	18-Mar-03	14	5,200	7.7		
MW-16D	23-May-03	14	5,200	7.6		3,200
MW-16D	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
	20-Mar-03	16	810	6.7		
MUU 10D	22-May-03	16	860	6.6	520	480
MW-19D	27-Aug-03	17	810	6.5	560	410
	03-Nov-03	16.9	759	6.67	517	370

Abbreviations:

°C = degrees Celsius

 $\mu$ mhos/cm = micromhos per centimeter at 25 °C

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 4CallSUMMARY OF CHEMICALANALYSES OF GROUNDWATERSAMPLESSAMPLESFROM MONITORING WELLS FOR CHLORINATED PHENOLSImage: Coloran color

Sierra Pacific Industries

Arcata Division Sawmill

#### Arcata, California

Concentrations in micrograms per liter (µg/L)

	Date	Penta-	2,4,6- trichloro-	2,3,5,6- tetrachloro-	2,3,4,6- tetrachloro-	2,3,4,5- tetrachloro-
Well Number	Sampled	chlorophenol	phenol	phenol	phenol	phenol
Shallow Wells	1			1	1	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 <sup>2</sup>	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-1	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
	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
MW-2	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
IVI VV -2	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
	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
MW-3	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
IVI VV - 3	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)

			2,4,6-	2,3,5,6-	2,3,4,6-	2,3,4,5-
	Date	Penta-	trichloro-	tetrachloro-	tetrachloro-	tetrachloro-
Well Number	Sampled	chlorophenol	phenol	phenol	phenol	phenol
	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
MW-4	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
101 00 -4	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
	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
MW-5	20-Mar-03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	20-Mar-03 <sup>3</sup>	< 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
	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
MW-6	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 ( $\mu$ g/L)

	Date	Penta-	2,4,6- trichloro-	2,3,5,6- tetrachloro-	2,3,4,6- tetrachloro-	2,3,4,5- tetrachloro-
Well Number	Sampled	chlorophenol	phenol	phenol	phenol	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 <sup>3</sup>	16,000	< 1.0	< 1.0	400	< 100
	22-May-03 <sup>5</sup>	14,000	< 1.0	< 1.0	400	< 100
	27-Aug-03	31,000	< 1.5	41	710	39
	27-Aug-03 <sup>3</sup>	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
	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
MW-8	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
101 00 -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
	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
MW-9	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
141 44 - 2	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 ( $\mu$ g/L)

			2,4,6-	2,3,5,6-	2,3,4,6-	2,3,4,5-
	Date	Penta-	trichloro-	tetrachloro-	tetrachloro-	tetrachloro-
Well Number	Sampled	chlorophenol	phenol	phenol	phenol	phenol
	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
MW-10	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
	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
MW-11	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
	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
MW-12	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
	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
MW-14	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
	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
MW-17	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
	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
MW-18	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						
	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
MW-13D	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 ( $\mu$ g/L)

	Concentrations in micrograms per inter (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							
	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							
MW-15D	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							
	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							
MW-16D	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							
	03-Dec-02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0							
MW-19D	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:

 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			<b>MW-7</b>		MW-7 Groundwater, unfiltered			
Sample Type	Groundw	ater, unfil	tered	Ground	water, unf	ïltered	Ground	lwater, fil	tered				
Sample Date	9/	16/2002		5		5	5/22/2003		11/3/2003				
	Concen-					Concen-			Concen-				
	tration	WHO	TCDD	<b>Concen-tration</b>	WHO		tration	WHO		tration	WHO		
	Congeners	TEFs	Eq.	Congeners	TEFs	TCDD Eq.	Congeners	TEFs	TCDD Eq.	Congeners	TEFs	TCDD Eq.	
	(pg/L)	1998	(pg/L)	(pg/L)	1998	(pg/L)	(pg/L)	1998	(pg/L)	(pg/L)	1998	(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

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.

J = Analyte concentration was below the calibration range. NA = not applicableOCDD = octachlorodibenzo-p-dioxin OCDF = octachlorodibenzofuran PeCDD = pentachlorodibenzo-p-dioxin PeCDF = pentachlorodibenzofuran

pg/L = picograms per literTCDD = tetrachlorodibenzo-p-dioxin TCDF = tetrachlorodibenzofuran TEF = toxicity equivalency factor (unitless) TEQ = toxicity equivalency



#### TABLE 6

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

Sierra Pacific Industries Arcata Division Sawmill

Arcata, California

						Conce	ntrations repor	ted in milligrams	per liter (mg	g/l)							
			Fi	ield Measurem	ients		Laboratory Analysis										
Well	Sample Date	Eh (mV) <sup>2, 3</sup>	Dissolved Oxygen <sup>3</sup>	Specific Conductance (µS/cm) <sup>3</sup>	Temperature (°C) <sup>3</sup>	pH <sup>3</sup>	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 <sup>5</sup>	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	11/04/02	0.50	0.1	(72)	15.6	5.00						1					<b> </b>
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 MW-19D	11/04/03 11/03/03	246 197	0.1	4609 729	15.8 17.5	7.52 6.49	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
IVI W - 19D	11/03/03	197	0.3	129	17.3	0.49	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns

Notes:

 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

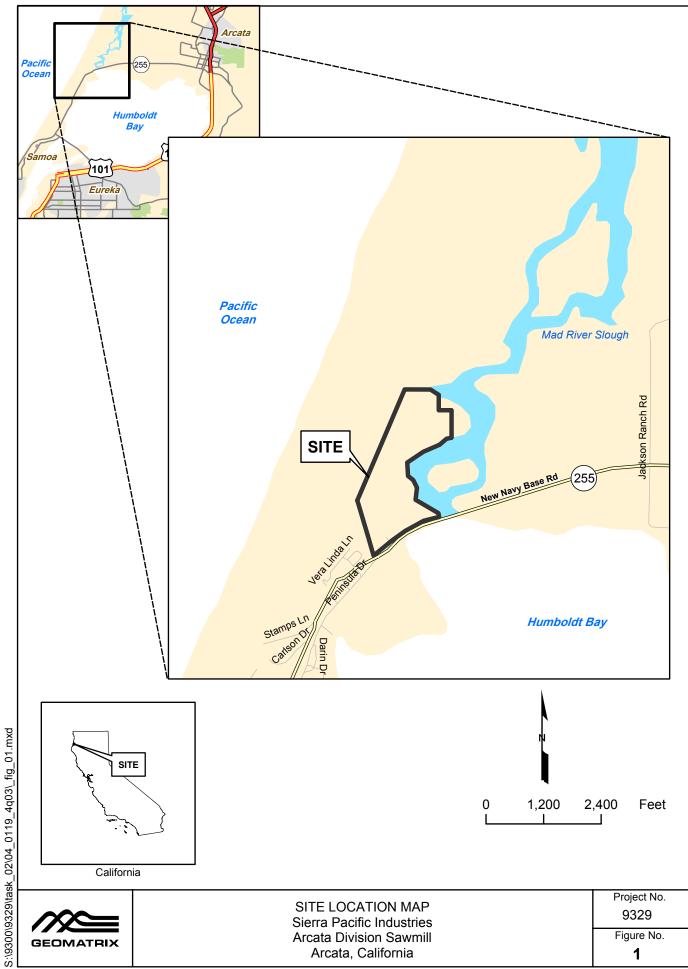
5. - = not sampled

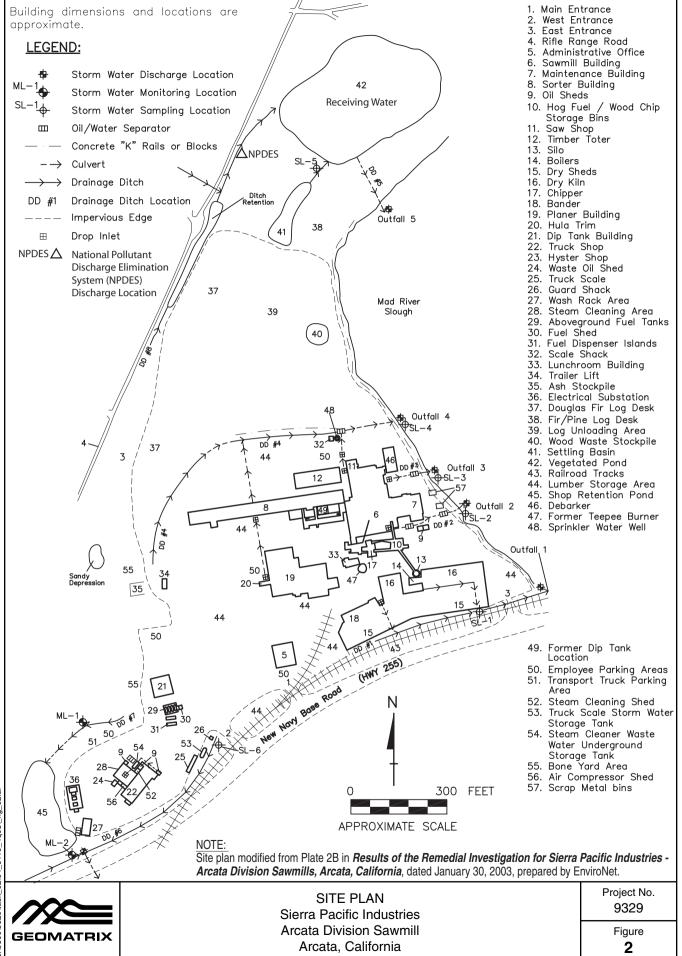
Abbreviations: mV = millivolts  $\mu S/cm = microSiemens per centimeter$  $^{\circ}C = Degrees Celsius$ 





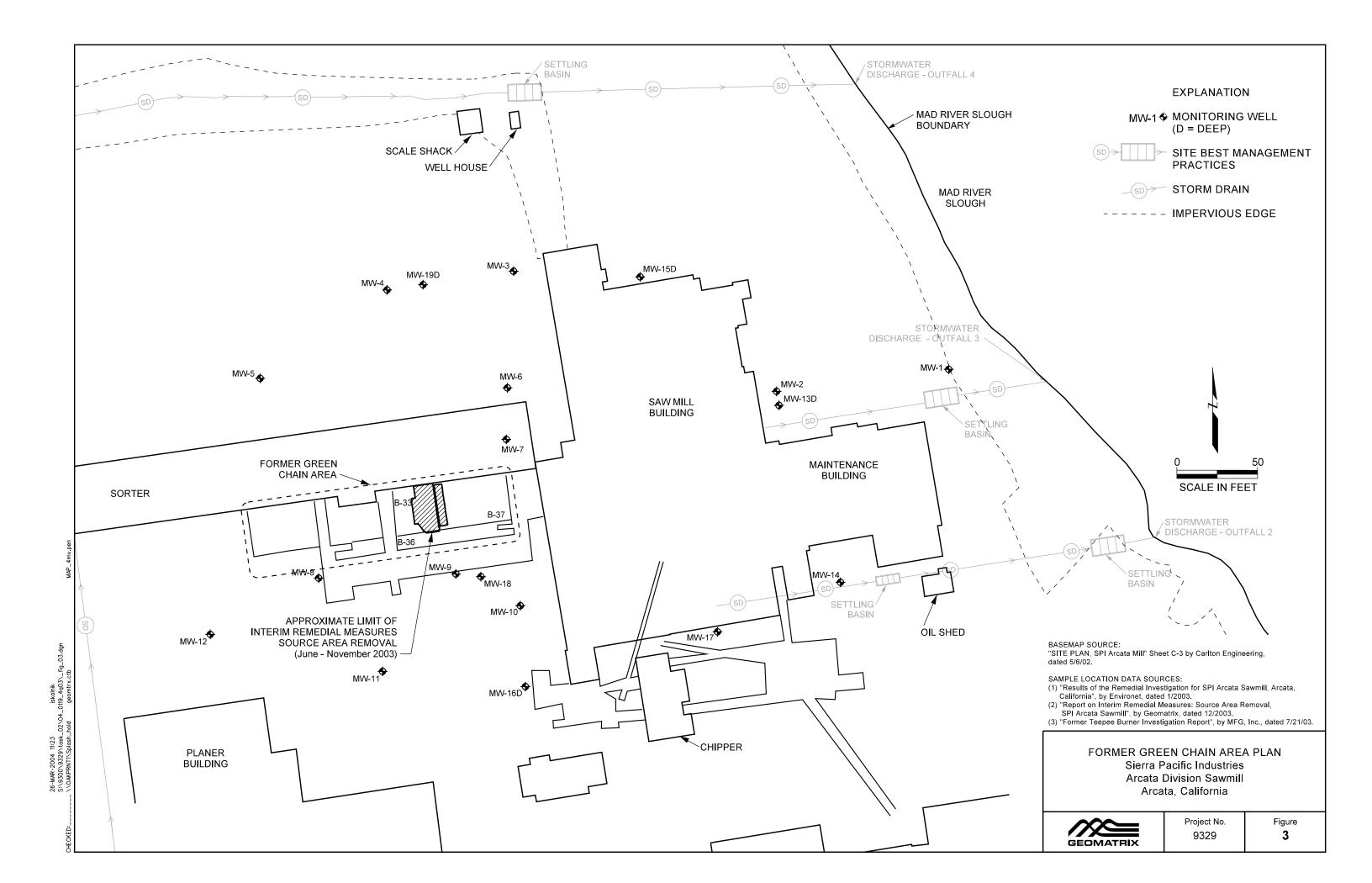
### **FIGURES**

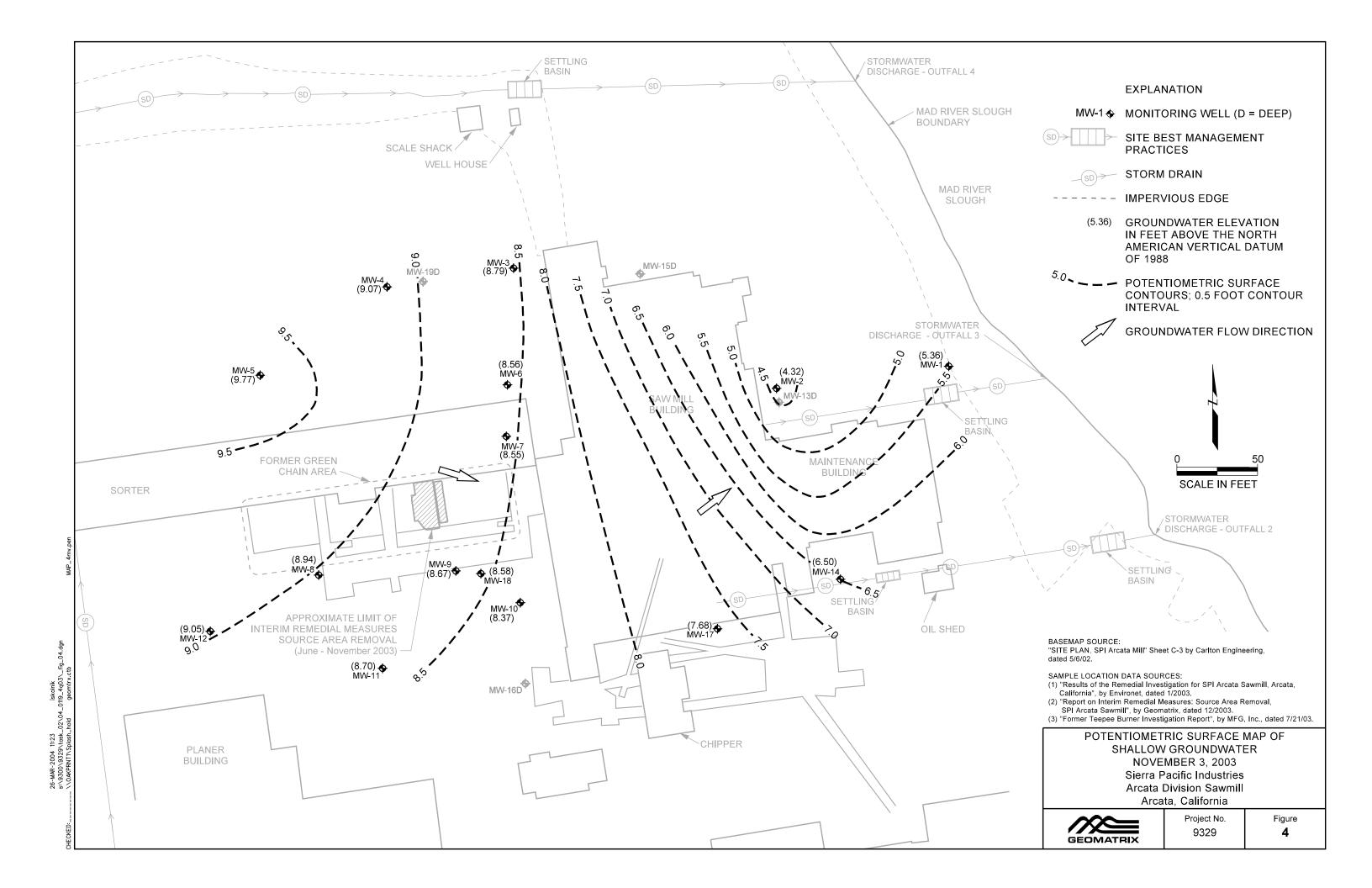


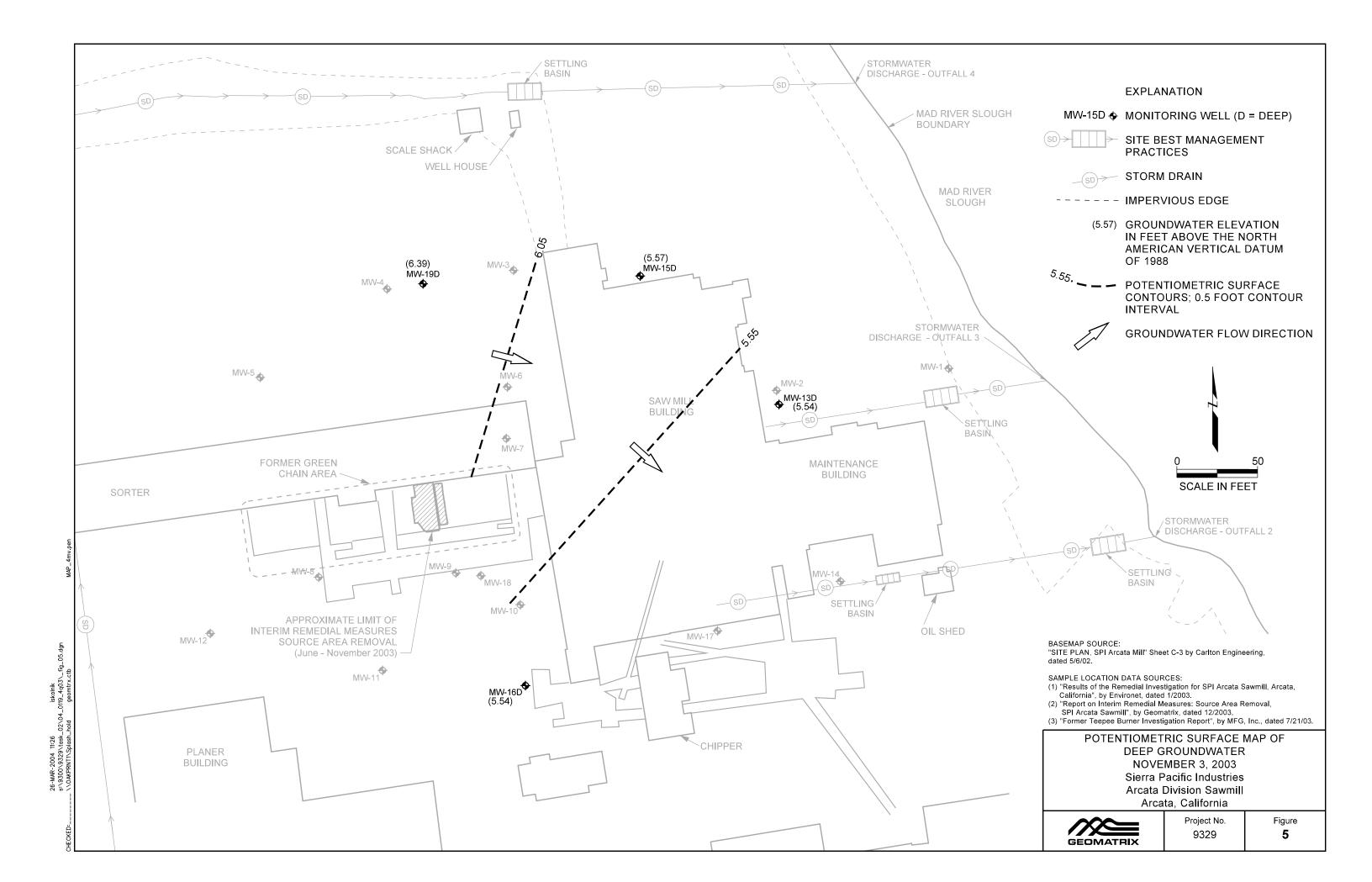


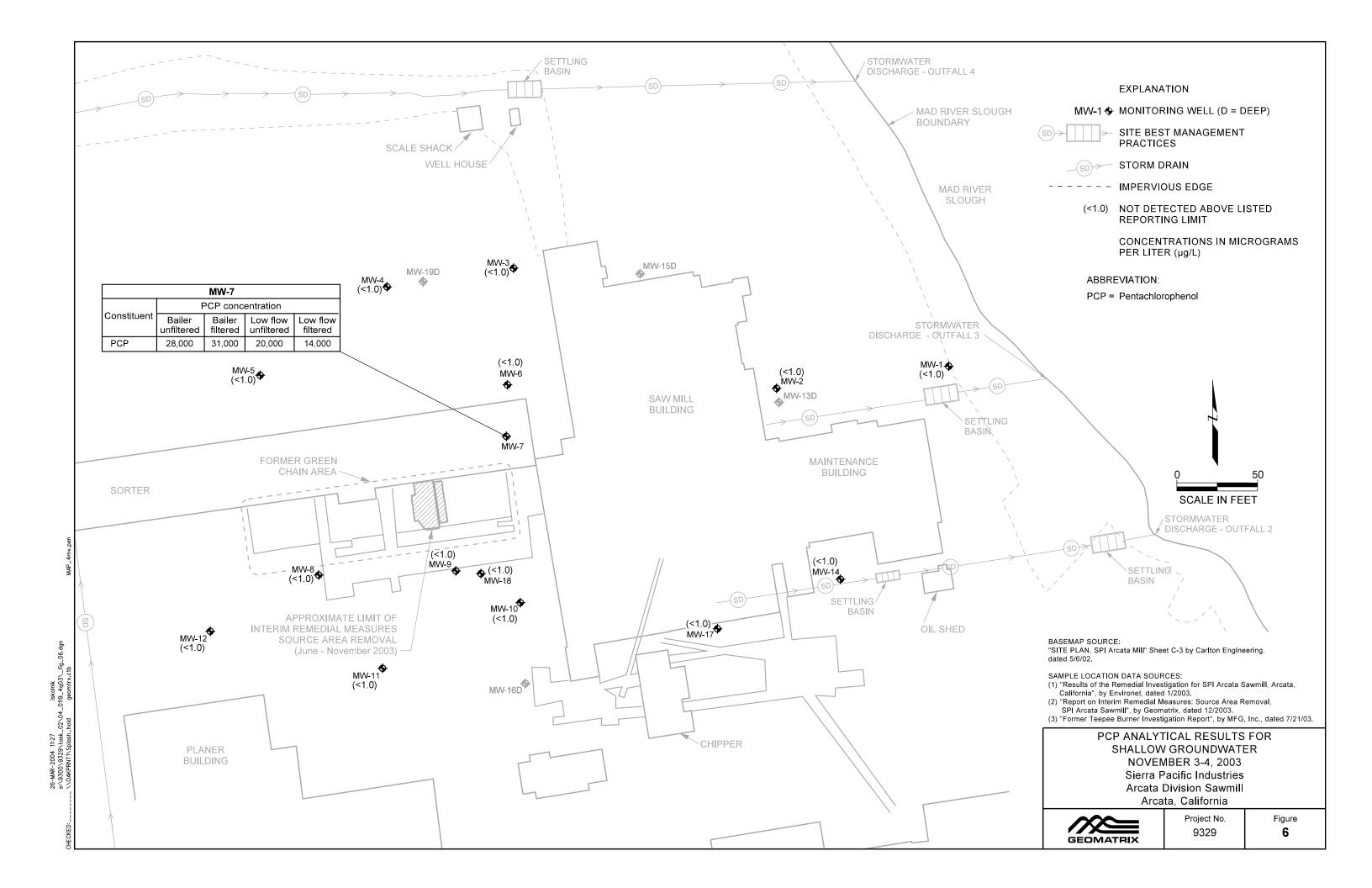
02\04 0119 4q03\ fiq 02.ai

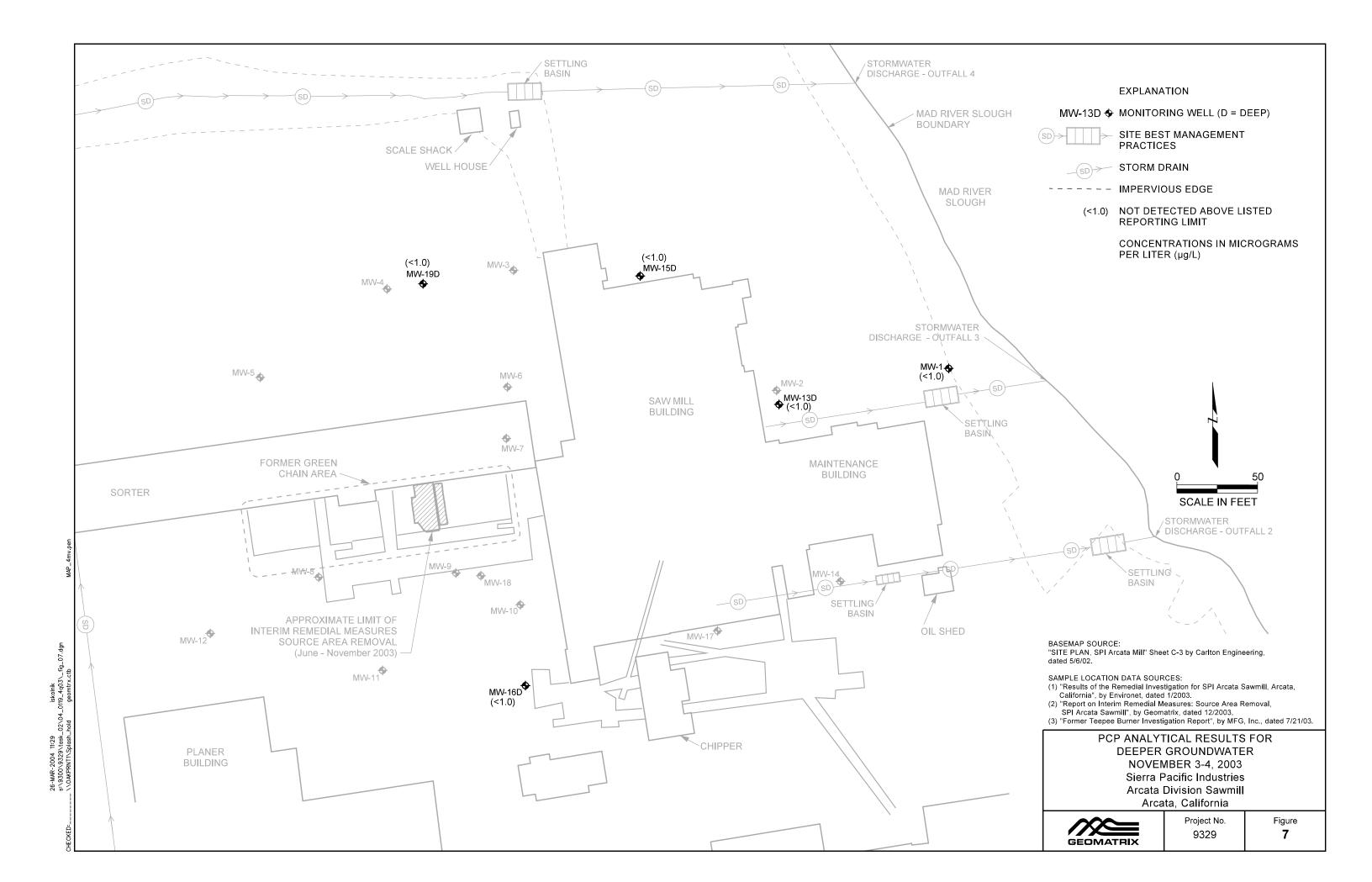
S:\9300\9329\task













## **APPENDIX** A

# Groundwater Sampling Record Field Forms

WELL (feet , NGVD) (feet below MP) DEPTH TO WATER (feet , NGVD) MP BY			*		<b>G</b> RECOR			
Measuring Porice: Invitate LTD, Waterline Model 150         Observations / Optimeta: Invitate LTD, Waterline Model 150         DATE Invitate ELEVATION International Contractions of Contracting Contracting Contractions of Contractions of Contracti	Project N	o: 0302			ata Sawmill		PAGE:	of
Measuring Device:         Envirotech LTD, Waterline Model 150           Observations / Opmenta:           DATE         DEPTH TO Waterline / Opmenta:           DATE         DEPTH TO Waterline / Opmenta:           DATE         DEPTH TO Waterline / Opmenta           DEPTH TO Weil         DEPTH TO Waterline / Opmenta           MW-1 $925$ Add for the Materline / Opmenta           MW-2 $325$ MATERLINE / DepTH TO Waterline / Opmenta           MW-1 $925$ Add for the Materline / DepTH TO Waterline / DepTH TO WW-2 $325$ MATERLINE / DepTH TO Waterline / Materline / DepTH TO Waterline / DepTH TO WW-2 $325$ Materline / DepTH TO Waterline / DepTH TO WW-2 $325$ Materline / DepTH TO Waterline / DepTH TO WW-2 $325$ Materline / DepTH T	Weather	Conditions	<u> </u>	· · · · · · · · · · · · · · · · · · ·		, 		····
Envirotech LTD, Waterline Model 150         Observations / Optiments:         DATE       Weilt The User Marce Conferences of Conference	Measurin	g Point of V	Vəll (MP):			Billy		
Observations / Commensional Constrained on the constrained on th	Menourin		Envirotech L	TD, Waterline N	/lodel 150			
$\begin{array}{c c c c c c c c c c c c c c c c c c c $								
$\sigma$ THE         ELEVATION (tool, NGVD)         WATER (tool, NGVD)         CORRECTIONS TO DEPTH TO WATER (tool, NGVD)         TELEVATION (tool, NGVD)         MEASURED BY           MW-1 $125$ 9.56 $4.20$ $Adf.4$ M.Hillys           MW-2 $9.5$ $4.20$ $Adf.4$ M.Hillys           MW-3 $9.6$ $11.14$ $2.35$ $Adf.4$ M.Hillys           MW-4 $1001$ $1.64$ $Moref.4$ $Moref.4$ $Moref.4$ MW-5 $1014$ $10.69$ $0.902$ $0.072$ $Morf.4$ $Morf.4$ MW-6 $10.21$ $9.77$ $1.21$ $Adf.44$ $Morf.4$ MW-7 $102.3$ $9.68$ $1.175$ $Morf.44$ $Morf.44$ MW-8 $C.56$ $Morf.4$ $Morf.44$ $Morf.44$ $Mw.10$ $75.7$ $9.80$ $1.43$ $Morf.44$ $Morf.44$ $Mw.10$ $75.7$ $9.84$ $4.50$ $Morf.44$ $Morf.44$ $Mw.10$ $75.7$ $9.84$ $4.50$ $Morf.44$ $Morf.44$ $Morf.44$		ions / Com						
WELL       (feet, NaVD)       (feet bolow MP)       DEPTH TO WATER       (feet, NaVD) $\mathcal{M} \mathcal{P}$ BY         MW-1 $9.5$ $9.5$ $4.20$ $\mathcal{M} \mathcal{P}$		TIME					REMARKS	MEASURED
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	WELL			( feet below MP )	DEPTH TO WATER			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		the second se				<del></del>		M.Hillyard
$\begin{array}{c c c c c c c c c c c c c c c c c c c $				· · · · · · · · · · · · · · · · · · ·		•		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			·····					
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				0.92	<b>_</b>	•		
MW-8 $\ell_{2} \leq r_{1}$ 10.30 $l_{1} \geq l_{2}$ $M_{0} = l_{1} \leq l_{1}$ MW-8 $\ell_{2} \leq r_{1}$ 10.30 $l_{1} \geq l_{2}$ $M_{0} = l_{1} \leq l_{1}$ MW-9 $\ell_{1} \leq 3$ 9.86 $l_{1} \leq 9$ $M_{0} = l_{1} \leq l_{1}$ $M_{0} = l_{1} \leq l_{1}$ MW-10 $\beta \leq 7$ 9.80 $l_{1} \leq 4$ $M_{0} = l_{1} \leq l_{1}$ $M_{0} = l_{1} \leq l_{1}$ MW-11 $\beta \leq 7$ 10.26 $l_{1} \leq 6$ $M_{0} = l_{1} \leq l_{1}$ $M_{0} = l_{1} < l_{1}$ MW-12 $\beta \geq 5$ 10.73 $l_{1} \leq 8$ $M_{0} = l_{1} < l_{1}$ $M_{0} = l_{1} < l_{1}$ MW-13D $(l_{2} \leq r)$ 10.73 $l_{1} \leq 8$ $M_{0} = l_{1} < l_{1}$ $M_{0} = l_{1} < l_{1}$ MW-14 $\beta = 9$ $9.02$ $2 \leq r$ $M_{0} = l_{1} < l_{1}$ $M_{0} = l_{1} < l_{1}$ MW-16D $\gamma \ell_{2}$ $3.02$ $\ell_{1} \geq l_{2} < l_{1} < l_{$				[2]				
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$					·			· .
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			·					
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	MW-10	7553						
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$							- ·	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$								
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$					·			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		<u>/</u>						
$\frac{MW-19D}{UC7}   11.00   461   MO+14   MO+14$						•	/	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$							/	
RR 1033 15.70 10.53		0-/		7.61	· · ·		100714	
RR 1033 15.70 10.53	RR	812	15.70	913	<u> </u>			
		1020	15.70					V
					+			
					<u>+</u>			
M-11 Jack						•		
· · · · · · · · · · · · · · · · · · ·	I			L	I I			<u></u>
Measured by: McCulley, Frick & Gilman, Inc.	Aeasured	by:	- 10	ard is	Mo	Culley Frid	vk & Gilman	

/\_\_\_

----

$\begin{array}{c c c c c c c c c c c c c c c c c c c $						ING F			SAM		UMBEF	a: MW-1	
plot by:       Matt Hillyard       Total Depth (R. BMP): $2 \le 5$ Water Control Height (R): $2 \le 2 \le 2 \le 5$ send Interval (R.BGL): $2 \cdot 0 = 8.0$ Casing Diamater (R. D): $2 \cdot 1 = 6 \le 4 \times - 1 \le 6 \le 4 \times - 1 \le 4 \times - 1 \le 6 \le 4 \times - 1 \le 4 \times - 1 \le 6 \le 4 \times - 1 \le 4 \times - 1 \le 6 \le 4 \times - 1 \le 4 \times - 1 \le 6 \le 4 \times - 1 \le 4 \times - 1 \le 6 \le 4 \times - 1 \le 4 \times - 1 \le 4 \times - 1 \le 6 \le 4 \times - 1 \le 4 \times - 1 \le 6 \le 4 \times - 1 \le 4 \times - 1 \le 6 \le 4 \times - 1 \le 4 \times - 1 \le 6 \le 4 \times - 1 \le 4 \times - 1 \le 6 \le 4 \times - 1 \le 4 \times - 1 \le 6 \le 4 \times - 1 \le 4 \times - 1 \le 6 \le 4 \times - 1 \le 4 \times - 1 \le 6 \le 4 \times - 1 \le 4 \times - 1 \le 6 \le 4 \times - 1 \le 4 \times - 1 \le 6 \le 4 \times - 1 \le 4 \times - 1 \le 6 \le 4 \times - 1 \le - 1 \le 6 \le 4 \times - 1 \le - 1 \le 6 \le - 1 \le -$						Arcata S							
plot by:       Matt Hillyard       Total Deph (It, BMP): $2 \le 5$ Water Column Height (It): $2.26$ casing Diamater (It, ID): $2.0-8.0$ Casing Diamater (It, ID): $2.0-16.0$ Mattiplication Factor: $0.163$ send Interval (It, BGL): $2.0-8.0$ Casing Diamater (It, ID): $2.0-6.0$ $2.1-6.0$ $4.2$ $4.2$ ing Stick-UpDown (It): $2.0-8.0$ Water Level (It, BMP) at End of Purge: $4.2$ $4.2$ $4.2$ ing Stick-UpDown (It): $2.0-8.0$ Water Level (It, BMP) at End of Purge: $4.2$ $4$	mplin	g Location	(well (D, etc.)	<u>: MV</u>	<u>V-1</u>		Startin	g Water Lo	vei (ft. I	BMP):_	4.3	39	
seried interval (It BOU): 2.0-8.0 w Pack Interval (It BOU): 1.5-8.0 w Pack Interval (It BOU): 1.5-8.0 water Level (It BMP) at End of Purge: 4.6 - 4.2 water Level (It BMP) at End of Purge: 4.6 - 7 Total Depth (It BMP) at End of Purge: 4.6 - 7 Total Depth (It BMP) at End of Purge: 4.6 - 7 Total Depth (It BMP) at End of Purge: 4.6 - 7 Total Depth (It BMP) at End of Purge: 4.6 - 7 Total Depth (It BMP) at End of Purge: 4.6 - 7 Total Depth (It BMP) at End of Purge: 4.6 - 7 Total Depth (It BMP) at End of Purge: 4.6 - 7 Total Depth (It BMP) at End of Purge: 4.6 - 7 Total Depth (It BMP) at End of Purge: 4.6 - 7 Total Depth (It BMP) at End of Purge: 4.6 - 7 Total Depth (It BMP) at End of Purge: 4.6 - 7 Total Depth (It BMP) at End of Purge: 4.6 - 7 Total Depth (It BMP) at End of Purge: 4.6 - 7 Total Depth (It BMP) at End of Purge: 4.6 - 7 Total Depth (It BMP) at End of Purge: 4.6 - 7 Total Depth (It BMP) at End of Purge: 4.6 - 7 Total Depth (It BMP) at End of Depth (It BMP): 7 Total Depth (It BMP) Bations 4.4 - 7, 10 Total Depth (It BMP) Bations 2.6 - 7, 10 - 7,							Total [	Depth (ft. 8	MP):	7.65	🤦 Wat	er Column Height (ft.): 3, 26	
Water Level (R.BQL):       1.5-8.0         ing Stick-Up/Down (R.L):       Total Depth (R. BMP) at End of Purge:       4.6.2         ing Stick-Up/Down (R.L):       Total Depth (R. BMP) at End of Purge:       4.6.2         ing Stick-Up/Down (R.L):       Total Depth (R. BMP) at End of Purge:       4.6.2         ind Stick-Up/Down (R.L):       Total Depth (R. BMP) at End of Purge:       4.6.2         ind Stick-Up/Down (R.L):       Total Depth (R. BMP) at End of Purge:       4.6.2         ind Stock-Up/Down (R.L):       Total Depth (R. BMP) at End of Purge:       4.6.2         ind Stock-Up/Down (R.L):       Total Depth (R. BMP) at End of Purge:       4.6.2         indext Low:       Disposable Teflon Bailer       sampting: Disposable Teflon Bailer       sampting: Disposable Teflon Bailer         isposate Low:       Total Commetter       Fled Calibration:       4.7.2070 jumhos         tige:       Ultrameter       Fled Calibration:       4.7.2070 jumhos         tige:       TD 5       Ultrameter       Fled Calibration:       4.7.2070 jumhos         tige:       TO 5       Ultrameter       Fled Calibration:       4.6.2000 jpm.         tige:       Total S 7 fled 3       27.2 fled 7.200 jpm.       Samption fled Bailer       3.8.2000 jpm.         tige:       Ultrameter       Fled Calibration:	asuri	ng Point (M	P) of Well:	9.5	6		Casing	) Dlameter	(in. ID):	2-Inc	<u>h</u> Mult	iplication Factor: 0.163	
If Year (above)       Total Opp) / a End of Purge		-					Casing	y Volume (	gal.):	53	<u>2x: 1.e</u>	6 3x 1.6 4x	
ing Stide-Up/Down (1):	lter Pa	ck Interval	(fl.BQL):	ĺ 1.	5-8.0 ·	· .	Water	Level (ft.B	MP) at I	End of l	Purge:	462	
HODS (describe):							1						
Seampling: Disposable Teflon Bailer         Sampling: Disposable Teflon Bailer         Sampling: Disposable Teflon Bailer         Sampling: Disposable Teflon Bailer         Sampling: Disposable Teflon Bailer         Totameter	XJA		SURAN	ICE				•	<u></u>			• • • • • • • • • • • • • • • • • • •	
unging:       Disposable Teflon Bailer       Sampling: Disposable Teflon Bailer         isposa of Olscharged Water:       SS-Gallon Drum         TRUMENT8 (indicate make, model, Ld):       indicate make, model, Ld):         isposa of Disposable Teflon Bailer       The monometar:       Ultrameter         Field Calibration:       Diff. A. 7, 10       Field Calibration:       Diff. A. 7, 10         H Meter:       Ultrameter       Field Calibration:       Diff. A. 7, 10         Conductive Meter:       Ultrameter       Field Calibration:       207, 15 C/0 fp? m         AMPLING MEASUREMENTS       Mater Calibration:       Diff. Calibration:       Diff. Calibration:       Diff. Calibration:       Beening Calibration:					····		,				· · · · · · · · · · · · ·	•	
tigocal of Discharged Water:       55-Gallon Drum         TRUMENTS (ndcate make, model, Ld):       Themometer:       Ultrameter         Field Calibration:       DF4, 7, 10         Conductivity Mater:       Ultrameter       Field Calibration:       DF4, 7, 10         Sher:       TD)       Suff cameter       Field Calibration:       207, 1500 fp/m         AMPLING MEASUREMENTS       Field Calibration:       300, 1500 fp/m       Remarks         Variant Canadow (CO)       Purge       Tend.       PH       Scatter (Statter Calibration:       300, 1500 fp/m         AMPLING MEASUREMENTS       Intake (Cond. Vol.       Purge       Tend.       PH       Scatter (Statter Calibration:       300, 1500 fp/m         AMPLING MEASUREMENTS       Intake (Cond. Vol.       Purge       Tend.       PH       Scatter (Statter Calibration:       300, 1500 fp/m         Variant Aster (Statter Calibration:       Vol.       Purge       Cond.       Remarks       Remarks         Variant Aster (Statter Calibration:       Vol.       Purge       Tend.       Vol.       Remarks         Variant Aster (Statter Calibration:       Vol.       Vol.       Vol.       Scatter Calibration:       Vol.         Variant Aster (Statter Calibration:       Vol.       Vol.       Vol.	Clean	ing Equipm	ent_Liqui	nox de	tergent &								
TRUMENTB (indicate make, model, Ld.):         The with the colspan="2">The monester: Ultrameter         The with the colspan="2">The monester: Ultrameter         The monester: Ultrameter         The monester: Ultrameter         The docalibration: pH 4, 7, 10         Order the first colspan="2">The colspan="2">Order the first colspan="2">The colspan="2">Order the first colspan="2">The colspan="2">Order the first colspan="2">The colspan="2">The colspan="2">The colspan="2" the first colspan="2" th	-	-			· · · ·			Samp	wing: D	ispos	able Te	eflon Bailer	
rater Level: Envirotech LTD, Waterline Model 150 Themometer: Ultrameter: Ultr	•		-			Drum				<u> </u>			
H Meter:       Ultrameter       Field Calibration:       pH 4, 7, 10         conductivity Meter:       Ultrameter       Field Calibration:       447, 2070 µmhos         chem       TD S       Ultrameter       Field Calibration:       300, 1500 µmhos         chem       TD S       Ultrameter       Field Calibration:       300, 1500 µmhos         chem       Temp.       PH       Breating Calibration:       300, 1500 µmhos         chem       Calibration:       Color       Appoint and the color of the calibration:       Color       Appoint and the color of the calibration:         chem       Total of the color of the calibration:       Total of the calibration:       Color       Appoint and the color of the calibration:       Color       Appoint and the calibration:       Color       Intake       Depth and the calibration:       Color       Appoint and the calibration:       Color       Appoint and the calibration:       Color       Intake       Depth and the calibration:       Color       Intake       Depth and the calibration:       Color       Appoint and the calibration:       Color       Intake       Depth and the calibration:       Color       Appoint and the calibration:       Color										<b>.</b>			
conductivity Meter: Ultrameter Wher: TO S Ultrameter Star TO S Ultrameter Star Canad Vol. Purge Temp. PH PH Starting Calibration: $300, 1500 \text{ ppm}$ Approxanse Temp. PH Starting Calibration: $300, 1500 \text{ ppm}$ Remarks Sediment (a Ber) Remarks Sediment (a Ber) Starting Case (Series		_			aterline N	/lodel 15	0			-		and the second secon	
Martin TD S UA canceler       Field Cellipation: 300, 1500 fpm         AMPLING MEASUREMENTS         Temp.       Temp. <th cols<="" td=""><td>•</td><td></td><td>¥ 71.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th>	<td>•</td> <td></td> <td>¥ 71.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	•		¥ 71.									
AMPLING MEASUREMENTS         Price Characteristical Vester of colling Pate         Price Characteristical Vester of colling Col					1100	alar							
Parge       Chartestortettical       Water       Overlity       Parge       Color       Appertance       Intake       Depth       Remarks         (ga)       Rate (gpm)       (C)       pH       pField Temple 25 ° C       Color       & Sedment       (till Sam)         7)       1. C       1/2. %       (G. 5%)       2410       11       Cler       Has Sodour         7)       1. C       1/2. %       (G. 5%)       2410       11       Cler       Has Sodour         71       1. C       1/2. %       (G. 5%)       2410       11       Cler       Has Sodour         71       1. C       1/2. %       (G. 5%)       2420       11       Cler       Has Sodour         72       1. G?       1/2. %       G. 5%       2420       11       Cler       Janyl C         74       1. G?       1/2. %       G. 5%       2420       11       Cler       Janyl C         74       1. G?       1/2. %       1/2. %       1/2. %       Janyl C       Janyl C         74       1. G?       1. %       1. %       1/2. %       Janyl C       Janyl C         75       1. %       1. %       1. %       1. %       Janyl C </td <td>and the second se</td> <td></td> <td></td> <td></td> <td></td> <td>eter</td> <td></td> <td>Field</td> <td>Calibra</td> <td>tion:</td> <td>100</td> <td>17 CO ppm</td>	and the second se					eter		Field	Calibra	tion:	100	17 CO ppm	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	SAM	PLING				Alley Bata					·	<u>,</u>	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	)ate/ Time	••••••	Purge	Temp.	¢₽ DH	ecific Cen (gmhec/	ductance (om)		Turb	dity	Depth	Remarks	
01       1.8 <sup>2</sup> 16.9       0.49       2.430       11       (1)       3ay) (2)         105:184%       105:184%       105:184%       105:184%       105:184%       105:184%         AMPLE INVENTORY       10       10       10       10       10       10         AMPLE INVENTORY       10       10       10       10       10       10       10         Image: Statistic Control state       10	257	0.5		15.9				Hyena	cl.P.	~			
01       1.6 <sup>2</sup> 16.9       6.69       2.400       11       11       3.47/2         105:18%       105:18%       105:18%       11       11       3.47/2         105:18%       105:18%       11       11       3.47/2         105:18%       105:18%       11       11       3.47/2         105:18%       11       11       11       3.47/2         11       11       11       11       11         11       11       11       11       11         11       11       11       11       11         11       11       11       11       11         11       11       11       11       11         11       11       11       11       11         11       11       11       11       11         11       11       11       11       11         11       11       11       11       11       11         11       11       11       11       11       11       11         11       11       11       11       11       11       11       11         11       11	251	1.0		1: 9	6.59		2410	11	c'0	roly		Hasodo.	
AMPLE INVENTORY       ater Level (ft. BMP) Before Sampling:     4.5 2       Recovery %:     72.9       Sample Intake Depth (ft. BMP):       revel (ft. BMP) Before Sampling:     4.5 2       Recovery %:     72.9       Sample Intake Depth (ft. BMP):       revel (ft. BMP) Before Sampling:     4.5 2       Recovery %:     72.9       Sample Intake Depth (ft. BMP):       revel (ft. BMP) Before Sampling:     4.5 2       Remarks     (quality control sample, other)       128     12.4       128     12.4       128     12.4       129     4.10.7       128     12.4       129     4.10.7       129     4.10.7       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5<	: 04	1.87		16.9	6.59		2 (191) C (191)	11	(			say) e	
AMPLE INVENTORY       ater Level (ft. BMP) Before Sampling:     4.5 2       Recovery %:     72.9       Sample Intake Depth (ft. BMP):       revel (ft. BMP) Before Sampling:     4.5 2       Recovery %:     72.9       Sample Intake Depth (ft. BMP):       revel (ft. BMP) Before Sampling:     4.5 2       Recovery %:     72.9       Sample Intake Depth (ft. BMP):       revel (ft. BMP) Before Sampling:     4.5 2       Remarks     (quality control sample, other)       128     12.4       128     12.4       128     12.4       129     4.10.7       128     12.4       129     4.10.7       129     4.10.7       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5       120     10.5<									1050	8.00.		· · · ·	
ater Level (ft. BMP) Before Sampling:       4.52 Recovery %:       92.9       Sample Intake Depth (ft. BMP):         Bettlee Cellected       Filtration       Preservation       Analysis       Remarks         Ime       Volume       Composition (glass, plastic)       Quantity       (Y/N)       (type)       Analysis       (quality control sample, other         108       12*       5 (1***       7       12*       -       (CP/7 CP)         105       12*       5 (1***       -       105       -       105         105       12*       5 (1***       -       105       -       105         105       105*       -       -       105       -       -         In-of-Custody Record No.										//~~			
ater Level (ft. BMP) Before Sampling:       4.52 Recovery %:       92.9       Sample Intake Depth (ft. BMP):         Bettlee Cellected       Filtration       Preservation       Analysis       Remarks         Ime       Volume       Composition (glass, plastic)       Quantity       (Y/N)       (type)       Analysis       (quality control sample, other)         108       12*       5 (1***       7       12*       -       (CP/7CP)         108       12*       5 (1***       1       -       10%       -       10%         108       12*       5 (1***       1       -       10%       -       10%       -         108       12*       5 (1***       1       -       10%       -       10%       -       -       10%       -       -       10%       -       -       10%       -									<b> </b>				
ater Level (ft. BMP) Before Sampling:       4.52 Recovery %: 92.9 Sample Intake Depth (ft. BMP):         Bettlee Cellected       Filtration       Preservation       Analysis       Remarks         Ime       Volume       Composition (glass, plastic)       Quantity       (Y/N)       (type)       Analysis       (quality control sample, other)         108       12.1       5 (11.2)       7       12       -       (TP/7CP)         108       12.1       5 (11.2)       7       12       -       TD5         108       12.1       5 (11.2)       7       12       -       TD5         108       12.9       110.21       -       105       -       TD5         11.2       5 (11.2)       -       -       TD5       -         11.2       9       110.21       -       -       TD5         11.2       9       10.21       -       -       TD5         11.2       10.21       -       -       TD5       -         11.3       10.21       -       -       TD5       -         11.3       -       -       -       TD5       -         11.3       -       -       -       TD5													
ater Level (ft. BMP) Before Sampling:       4.52 Recovery %: 92.9 Sample Intake Depth (ft. BMP):         Bettlee Cellected       Filtration       Preservation       Analysis       Remarks         Ime       Volume       Composition (glass, plastic)       Quantity       (Y/N)       (type)       Analysis       (quality control sample, other)         108       12.1       5 (11.2)       7       12       -       (TP/7CP)         108       12.1       5 (11.2)       7       12       -       TD5         108       12.1       5 (11.2)       7       12       -       TD5         108       12.9       110.21       -       105       -       TD5         11.2       5 (11.2)       -       -       TD5       -         11.2       9       110.21       -       -       TD5         11.2       9       10.21       -       -       TD5         11.2       10.21       -       -       TD5       -         11.3       10.21       -       -       TD5       -         11.3       -       -       -       TD5       -         11.3       -       -       -       TD5													
ater Level (ft. BMP) Before Sampling:       4.52 Recovery %: 92.9 Sample Intake Depth (ft. BMP):         Bettlee Cellected       Filtration       Preservation       Analysis       Remarks         Ime       Volume       Composition (glass, plastic)       Quantity       (Y/N)       (type)       Analysis       (quality control sample, other)         108       12.1       5 (11.2)       7       12       -       (TP/7CP)         108       12.1       5 (11.2)       7       12       -       TD5         108       12.1       5 (11.2)       7       12       -       TD5         108       12.9       110.21       -       105       -       TD5         11.2       5 (11.2)       -       -       TD5       -         11.2       9       110.21       -       -       TD5         11.2       9       10.21       -       -       TD5         11.2       10.21       -       -       TD5       -         11.3       10.21       -       -       TD5       -         11.3       -       -       -       TD5       -         11.3       -       -       -       TD5													
ater Level (ft. BMP) Before Sampling:       4.52 Recovery %: 92.9 Sample Intake Depth (ft. BMP):         Bettlee Cellected       Filtration       Preservation       Analysis       Remarks         Ime       Volume       Composition (glass, plastic)       Quantity       (Y/N)       (type)       Analysis       (quality control sample, other)         108       12*       5 (1***       7       12*       -       (TP/7CP)         108       12*       5 (1***       1       -       10*       10*         108       12*       5 (1***       1       -       10*       10*         108       12*       5 (1***       1       -       10*       10*         108       12**       5 (1***       1       -       10*       10*         108       12**       5 (1***       1       1       1       1         108       12**       10*       1       1       1       1       1         108       10**       1									<b> </b>				
ater Level (ft. BMP) Before Sampling:       4.52 Recovery %: 92.9 Sample Intake Depth (ft. BMP):         Bettlee Cellected       Filtration       Preservation       Analysis       Remarks         Ime       Volume       Composition (glass, plastic)       Quantity       (Y/N)       (type)       Analysis       (quality control sample, other)         108       12*       5 (1***       7       12*       -       (TP/7CP)         108       12*       5 (1***       1       -       10*       10*         108       12*       5 (1***       1       -       10*       10*         108       12*       5 (1***       1       -       10*       10*         108       12**       5 (1***       1       -       10*       10*         108       12**       5 (1***       1       1       1       1         108       12**       10*       1       1       1       1       1         108       10**       1				· ·									
Bestiles Cellested     Filtration     Preservation     Analysis     Remarks       me     Volume     Composition (glass, plastic)     Quantity     (Y/N)     (type)     Analysis     (quality control sample, other)       128     12**     5 (1***)     7     7     7     7     7     7       05     1/2 9**     105***     -     1     7     7     7     7       in-of-Custody Record No.	SAM	IPLE IN	VENTO	RY									
Bettles_Collected     Filtration (type)     Preservation (type)     Analysis (quality control sample, other)       Instruction     12 ··· S (1 ·· S)       Instruction     12 ··· S (1 ·· S)       Instruction     12 ··· S (1 ·· S)       Instruction     12 ··· S (1 ·· S)	Water I	Level (ft. BM	AP) Before S	ampling:	۷	1. <u>6</u> 2 <b>Rec</b>	overy %:	92,0	<u>s</u>	ample	Intake D	epth (ft. BMP):	
Potentie         Confection (gass, passe)         Outer noty         (m)         (type)         (type) <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Filtratio</td> <td></td> <td>vation</td> <td>A</td> <td>hair</td> <td></td>							Filtratio		vation	A	hair		
In-of-Custody Record No.         McCulley, Frick & Gilman, Inc.	Time				ss, plastic)					<b></b>	-	(quality control sample, other	
In-of-Custody Record No	108		1			+	12	<b>_</b>		irp/	17(1)		
McCulley, Frick & Gilman, Inc.	108	191	<i>  a</i>	9416	<u> </u>	<u>  -+</u>	A				05		
McCulley, Frick & Gilman, Inc.		+	+			<b> </b>	<b> </b>						
McCulley, Frick & Gilman, Inc.		L				L	L			l		l	
	hain-of	-Custody R	ecord No				[						
								м		lev.	Frick	& Gilman, Inc.	
GW Bampis Form MACICAD Revised 5-666								ά ΨI	JUU	,		w willing in w	

.

And the second

ROU	INDV	VATE	R SA	MPL	ING R	ECO	RD	SAMP	LE NI	JMBER:	MW-2
-leat Mar	03027*	5.2 Pm	lect Nan	ne: SP	Í Arcata Sa	wmill					Date 11/ 3/03
	ocotion /u	/ell ID, etc.):	MW	1-2		Starting	Water Le	vel (ft. Bl	MP):	5.	17
unpung c	Matt	Hillyard				Total D	epth (ft. Bl	MP):	260	Wate	r Column Height (ft.): 2.43
		) of Well:	9.49	)	·	Casing	Diameter	(in. 10): 2	2-Inc	<u>h</u> Muitij	plication Factor: 0.163
		BGL):				Casing	Volume (ç	pai.): 0 <	4	2x. <u>0.9</u>	3x 1.2 4x
	interval (f		1.4	5-9.0	•		.evel (ft.Bl				····
	ck-Up/Dow					Total D	epth (ft. B	MP) at E	nd of l	Purge:	
		SURAN	CE			·	-				
		1.						11	1		·
Cleanin	g Equipme	nt:Liquinc	<u>ox dete</u>	rgent &	<u>distilled</u> v	vater so	lution fo	ollowed	Dist	<u>nple ri</u>	nse w/ distilled water. Teflon Bailer
Purging		Disposabl					Samp	xing:	Dist	JUSAUIC	Terion Danei
Disposa	of Discha	arged Water:	· )	<u>J-Gallo</u>							
ISTRUM	ENTS (Ind	icate make, virotech L	TD.W	aterline	Model 15	0	Them	nometer:	Ul	tramete	r
pH Mete		Ultrame						Calibrati		pH 4, 7	, 10
•	tivity Mete	7 71	meter				Field	Calibrati	on:	the second s	70 µmhos
Other:	T	<u>05 u</u>	Heran				Field	Calibrati	on:	1300	1500 ppm
		MEASU	REME								
	amul.Vol.	Purge	Temp.		Quality Data Specific Cen (gmheat	ductance	Color	• er e a e e Turbk		intake Depth	Remarks
Time	(gal)	Rate (gpm)	(°C)	рН	• Field Temp.			& Sedir	nent	(IL BMP)	
212	0		15.9	6.27		1607	1+ - 49 ".m.	( Par			
14	Ч		16.1	6.34	·	1590	( •	4			
217	1.5		16.3	6.32		15%	11	51.51 +~L	+'7		Contra ) - C
<u> </u>			102					Tos=	_		
								<u> </u>			
				ļ				<u> </u>			
	<u></u>										
					ł			1			
			<b> </b>							<b>}</b>	
				<u> </u>	<u> </u>		L	1		1	
SAM	PLE IN	VENTO	RY								
Water L	evei (ft. Bl	MP) Before S			Re	covery %:		S	ample	Intake D	epth (ft. BMP):
	L Mahara	Bettles C		ass, plast	ic) Quantity	- Filtratio		prvation ( pe)	An	alysis	Remarks (quality control sample, othe
<b>Time</b>	2-125 N		7/96,6			$\frac{1}{N}$		-	PC	PACP	
2 20				5t.C	1	1				05	
	12 00			<u></u>							
	1										
Chain-of-	-Justocy I	Record No					-	1-0-1	I	<b>(*</b> ! . ! .	A Ollman Inc
				,			ľ	MCCUI	iey,	L-LICK	& Gilman, Inc.
		GW Sample Form						•			

.

5.

Street and

e.

;

I.

GRU		VAIC	R 3/		ING F			SAMF	PLE NUMBE	R: MW-3
Project N	ю <u>: 030275</u>	5.2 Pr	oject Na	me: <u>SP</u> I	Arcata S					Date_11/3 /03
Samplin	Location (w	vell ID, etc.)	<u>. MV</u>	<u>V-3</u>					SMP): 23	
Sampled	by:Matt	Hillyard				Total [	Depth (ft. B	MP):	<u>l. 10</u> We	iter Column Height (ft.): <u>5,3</u> 5
Measuri	ng Point (MP	) of Weil:		.14	, 	Casing	g Diameter	(in. ID):	2-Inch Mu	Itiplication Factor: 0.163
	- d Interval (fl.		2.	0-8.0		Casing	g Volume (	gal.):	7 2X: 1	.8 3x 2-7 4x
Filter Pa	ck interval (f	LBGL):	1.	5-8.5		Water	Level (ft.B	MP) at E	ind of Purge:	
	Stick-Up/Dow					Total	Depth (ft. E	MP) at E	ind of Purge;	
	LITY AS	,,,,,,,,,				<u></u>				••••••••••••••••••••••••••••••••••••••
	DS (describe		UE	- m.e		•	•			•
Clean	DS ( <b>Ges</b> cribe ha Easinmie	n Liqui	nox de	tergent	& distilled	l water	solution	follow	ed by tripl	e rinse w/ distilled wate
Pumir	ing Equipane Arr ]	Disposab	le Tefl	on Baile	г		Sam	olina: D	isposable ]	Teflon Bailer
	eai of Discha									
	MENTS (ind							-		
Water	Level: Env	irotech L	TD, W	aterline	Model 15	0			Ultrame	
рН М	eter:	Ultram	eter						ion:pH 4,	
Cond	uctivity Meter	r <u>Ultra</u>	meter				Field	Calibrat		2070 µmhos
Other	<u>. TV</u>	<u>5 ult</u>	rame	for			Field	Calibrat	ton: 30	0,1500ppm
SAM	PLING N	<b>MEASU</b>	REME							
Date/	Cumul.Vol.	exterteties Purge	Temp.	Water Q pH	uality Data pacific Can (ambas)	ductance (em)	App Color	Turbi	dity Denth	Demodes
Time	(gal)	Rate (gpm)			Field Temp	● 25 ° C.		& Sedi	ment (1. BMP	2
3 3 5	1.0		15.7	6.67		966	Clear	Clear		Has dolar
32.8	2.0		15.9	6.57		982	Haray	Clen	-	
340	30		6.3	6.55		956	24	0		Sanfile
ļ			· · · ·		<u>.</u>			<b> </b>		
									l	
								1		
		·······								
· ·	·		L :	ll		L	<u> </u>	<u> </u>	<u> </u>	
SAN	IPLE IN	VENTO	RY						<u>_</u>	
Water	Level (ft. BM	IP) Before S	ampling		Rec	xvery %:		s	ample Intake	Depth (ft. BMP):
		Bettles C				Filtratio	n Prese	rvation	Analysis	Remarks
Time	Volume			uss, plastic			(1)	pe)		(quality control sample, of
34-	3 2.125		<u>1</u>		2	N,				
347	1/2 601		-11-	3 <sup>1</sup> . c		$\sim$			7115	
			÷			<b> </b>				
	<u> </u>		· · · ,			<u> </u>			<u> </u>	
Chain-c	f-Custody R	ecord No								
							K	lcCul	lev. Fric	k & Gilman, Inc.
•							•1			

I

ŝ

Same and

3RC	DUND	WATE	RS	AMP	LING	REC	ORD	SAN	APLE N	UMBE	PAGE: <u></u> of: <u>1</u> R: MW-4
•			-		PI Arcata	Sawmill					Date 11/3/03
Samplin	ng Location	(well ID, etc.	<u>): M'</u>	<u>W-4</u>		Starti	ng Water L	evei (it	. BMP):_		1.64
		tt Hillyard	1			Total	Depth (ft. E	BMP):	7.6	<u>3</u> Wa	ter Column Height (ft.): 5.
Jeasur	ing Point (N	(P) of Well:	]	10.71	•						tiplication Factor: 0.163
		ft.BGL):		2.0-8.0							$2_{3X}$ 3 $4x$
N		(ft.BGL):		1.5-8.0	•	1	r Level (fLB				
	Stick-Up/De						Depth (ft. E	-			
QUA		SSURAN	ICE		×						
	DS (descrit										•
Clean	ving Equipr	nent <u>Liqu</u>	inox de	tergent	& distilled	water so	lution foll	lowed	by trip	le rinse	e w/ distilled water
		posable Te									Teflon Bailer
Dispo	sal of Disci	narged Wate	r. <u>.5</u>	5-Gallo	on Drum		•				
		dicate make,									
Wate	r Level: En	virotech L	LTD, W	/aterlin	e Model 1	50	Then	nomete	T. Ult	ramete	er
pH M	eter	Ultram	÷			·	Field	Calibra	ation:P	H 4, 7	7, 10
Cond	<b>uctivity Met</b>		ameter		· · · · · · · · · · · · · · · · · · ·		Field	Calibra	ation: 4	47, 20	)70 µmhos
Other	<u>, 11</u>	5 41	dran	eter			Field	Calibra	ation:	300	,1500ppm
SAM	PLING	MEASU	REM	ENTS						7	,
Date/	Purge Cha Cumul.Vol.	raeterletice		The second se	Quality Dat		App			Intake	
Time	(gal)	Purge Rate (gpm)	Temp. (°C)	рH	(µmkos © Field Temp	/em) @ 25 • C.	Color		<b>idity</b>	Depth (IL BMP)	Remarks
139	0.5	·	61	664		759	clar	cle	ar		
441	15		17.1	6.55		805	char	91, is Uo	dy fly		
443	2.5		17.5	6.54		786	Bray	1	/ 1		
444			17.8	6.55		758	Ц	. (	ru,		Sample
								T DSS	51692		
	· · · · · · · · · · · · · · · · · · ·										
				•							
SAM	IPLE IN	VENTO	RY			L1				I	
Water i	Level (ft. Bi	AP) Before S			Re	covery %:	523	s	Sample Ir	ntake D	epth (R. BMP):
Time	Volume	Compos		ss, plastic	c) Quantity	Filtration (Y/N)	n Preserv		Anah	ysis	Remarks (quality control sample, oth
448	125~1		995		2	N	1 (0)		200	FCP	(quanty control sample, on
448	Vzan	1 p1-	5- 6			N			TOC		
····· • • • • • • • • • • • • • • • • •	12.1			· · · · · ·		1	1		<u> </u>		
hain-of	-Custody R	ecord No					M	cCul	ley, F	rick	& Gilman, Inc.
	G	W Sample Form	MACICAD	Revised: 8-8-	6						

-

برا

**.** 

Į

]

					LING R		ł			UMBER	Date_11/3/03	3
	o: <u>03027</u>			me: <u>5r</u> V-5	I Alcala Sa	Starting	Motor L A			0.	92	<u> </u>
		well ID, etc.)		<u>-</u>							er Column Height (ft.): 6.6	8
		t Hillyard	10.69	)	· ·						plication Factor: 0.163	
	-	P) of Well:	2.0-8.0			Casing U	lolume (i	(iii. (0)). nol ): [	1		2 3x 3. 3 4x	
					•							<u> </u>
		(n.BGL):	1.0-0.	<u> </u>		Total De						
	tick-Up/Do					TOUGS DO						
					~	•	•				•	<u></u>
Clean	na Eaulom	ent Liquir	iox dete	ergent &	distilled wa	ter solution	on follo	wed by	triple	e rinse v	w/ distilled water	
Purde	or Dis	posable T	eflon I	Bailer			Samp	king:_D	oispos	sable T	eflon Bailer	<del></del>
		arged Water			n Drum				a - 10		· · · · · · · · · · · · · · · · · · ·	
NSTRU	MENTS (n	dicate make,	model, i	. <b>d.):</b> Zotonliny	Model 15	Λ	_	-	τΠi	tramete	or .	
		Ultram	eter	aternine	e Model 15	v		nometer: Calibrati	·	pH4,7		
•	oter: uctivity Met	T 71 4	meter			<u></u>		Calibrat			)70 µmhos	
Cond Other	$\dot{\tau}$	<del>ا</del> ا	rane	ter				Calibrat			1500 ppm	
		MEASU									7	
		rasteristies			Quality Date		App	• ara Re •		Intake	•	
Date/ Time	Cumul.Vol. (gal)	Purge Rate (gpm)	Temp. (°C)	рH	(µmhes/ O Field Temp		Color	Turbik & Sedia		Depth (IL BMP)	Remarks	
2;54	0,5			6.75		671				·	(lear	
2:57	1.5		166	6,57		263					11	
299	2.5		17,1	6.56		663			,		-بر	1
3:01	3.5		17.2	6.57		631		TD5=	45000		Sent'a	
			[								,	P
			<u> </u>	<u> </u>				1			······	
			<u> </u>	<u> </u>		<del></del>	<u> </u>					
			Į	<u> </u>		<u> </u>				ļ'		
		ļ	ļ					ļ		ļ		
				<u> </u>								
SAN	IPLE IN	IVENTO	RY		·							
Water	Level (R. B	MP) Before S	-		Rec	overy %:			ample	Intake D	Depth (fL BMP):	
Time	Volum	Bottles C B Compo		d ass, plasti	c) Quantity	Filtration (Y/N)		rvation pe)	An	alysis	Remarks (quality control sample, c	other
303	2-12	ini i		9	2	N	-		PCP	17(P		
	1/260			. D	1	N	~		T	05		
						I	<u> </u>					
Chain-	-Custody	Record No			_							
							<b>R</b> .	leCui	lov	Frick	& Gilman, Inc.	
							N		. <b></b>			

Project	<b>vo:</b> 0302	75.2 p	roiect Na	ame: S	PI Arcata S	Sawmill	<b>R</b> .			Date 11/4/03
		(weil ID, etc	-			<u> </u>		evel (ft. BMP)		121
		tt Hillyard				ſ	-	• _ •		ter Column Height (fL): 6.34
		AP) of Well:_		9.77	· · ·					tiplication Factor: 0.163
		(ft.BGL):		2.0-8.0						3X4X
		(ft.BGL):			• .A			SMP) at End o		
		(11.):						SMP) at End o SMP) at End o		
QUA		SSURAN	NCE							
METHO	DS (descrit	<b>):</b>			0. 11. 11. 1		<i></i>			
Clean	ing Equipm		_			water sol	ution fol	lowed by tr	ple rins	e w/ distilled water
		isposable					Sam	pling: Dispo	osable ]	Ceflon Bailer
		harged Wate			on Drum					
		dicate make								
				aterlin	e Model 15	50		nometer: <u>U</u>		
•	eter:	<u>Ultram</u>						Calibration:		
	ctivity Met	~···	-rame		•			Calibration:_	447, 2	070 µmhos
Other:							Field	Calibration:	30	0,1500 ppm
SAM		MEASU						<u> </u>		· · · · ·
	Cumul.Vol.	resteristics Purge	Тетр.	1	Quality Data Bpecific Con	ductance		Turbidity	Intake	Remedie
Time	(gai)	Rate (gpm)		I DH	(jumhee) • Field Temp	• 25 • C.	Color	& Sediment	Depth (IL BMP)	Remarks
237	1.0		11.7	6.95%		591	TYE the	C'er-		
240	2.0		12 4	654		C13	۱۱	cland.	_	
292	3 0		- (		-		11	<u> </u>	Ý	
			12,-1	6.59		913	· · ·	" 11 v		
243	3.3		12.8	155		912	4 S	T.D.S. 634		Sã a pla
								////-	1	
									+	
	_						·····			· · · · · · · · · · · · · · · · · · ·
			·							
SAM	PLE IN	VENTO	<u>Y</u>	1.15				• '		
Water L	evel (ft. BN	IP) Before S	ampling:	<u> </u>	Rec	overy %:_	90	7 Sample	Intake D	epth (ft. BMP);
	1	Bettles C				Filtration	Presen	vation		Remarks
Time	Volume			ss, plastic	) Quantity	(Y/N)	(typ	e) An	alysis	(quality control sample, othe
<u> </u>	125-6	<u> </u>	as(			N	-		TCI	
245	12 51	1 // a	157.0		(	N		- 1	05	
	<b> </b>	<u> </u>			_		<b> </b>			
	1	.1	÷	<del></del>	<u> </u>					
Chain-of-	Custody Re	ecord No				<b>Г</b>	<u> </u>	· · · · · · · · · · · · · · · · · · ·		
								• <b>•••</b>	<b>[</b> "! - 1	0 Ollar 1
							M	cculley,	<b>Frick</b>	& Gilman, Inc.
						1				

						ECO	PN				PAGE:
JRU		VAIE			ING R			SAMP	LEN	UMBEF	a: MW-7
					Arcata Sa						Date_11/3/03
		vell ID, etc.)		<u>V-7</u>	· · · · · · · · · · · · · · · · · · ·		Water Le				.13
Sampleo	by. <u>Mat</u>	t Hillyard				1					er Column Height (ft.): 6.5
Measurir	ng Point (Mi	<sup>2</sup> ) of Well:									iplication Factor: 0.163
Screene	d interval (N	.BGL):		-8.0							12sx 3.18 4X
Filter Pa	ck Interval (	<b>r.BGL):</b>	1.5	-8.0			evel (ft.B	•		-	
Casing 8	stick-Up/Dow	wn (ft.):				Total De	pth (ft. B	MP) at E	ind of	Purge:	
		SURAN				•	-				
VETHO	DS (describ	e): Liquin	iox dete	rgent &	distilled wa	ter soluti	on follo	wed by	triple	e rinse v	w/ distilled water
Cleani	ng Equipme	sable Teflo	on Baile			<u> </u>	Sam		Dis	posable	Teflon Bailer
Diepor	et of Disch	arged Water	5	- 5-Gallor	n Drum			·····			
		icate meke,									
					Model 15	0	Ther	nometer		tramete	
pH Me	ster:	<u>Ultram</u>	eter			<u></u>	_	Calibrat		pH 4, 7	
Cond	Jotivity Mete	r. <u>Ultra</u>	meter					Calibrat	_		)70 µmhos
	TOS						Field	Calibrat	ion:	100	, 1500 GPM
		MEASU			Wallty Data	· .	A			T	
	Cumul.Vol.	Purge Rate (gpm)	Temp.	оH	pecific Cen (µmhee/ P Field Temp.		Color	Turbi & Sedi	dity	Intake Depth (IL BMP)	Remarks
2:08	0		17.1	6.15			lightly Vellow	de	40		7152591 pp-
7:17	1	•	12,3	6.71		870	11	11			· · · · ·
12:16	Z		17.7	6.94		956	11				
12:19	3		17.6	6.61		1009	• (	51,94	17		TOS: 700 ppm
12:72	<u> </u>		12.4	6.55		867	λι			1	+05=597000
12:30											Sample
											24.V.C
								1	<u></u>		
SAM	IPLE IN	VENTO	RY								
Water	Level (ft. Bh	AP) Before S	ampling		Rec	overy %:_		8	ample	Intake [	Depth (it. BMP):
		Bottles C	ellecter			Fitration	. Prese	rvation	Ar	alysis	Remarks
Time	Volume			uss, plastic		(Y/N)		pe)	12-17	Tran	(quality control sample, other)
12:30		· · · · · · · · · · · · · · · · · · ·	495		2	N		-	۲ <u>(</u> )	<u>/ /( ľ'</u>	
17:30	Vrga	' P	last.					·····		//	
					1		1				I
Chain-o	-Custody R	ecord No					N	lcCul	ley,	Frick	c & Gilman, Inc.
				Revined 9-84	-						

•

~ }

•

[**\***]

ROUND	WATE	R S/	AMP	LING F	RECO	RD	SAM	PLE NUMBE	R: MW-8
ect No: 0302				PI Arcata S	awmill				Date_11/4/03
npling Location	(well ID, etc.)	): <u>MV</u>	<u>V-8</u>		-	Water Lo	• •	- / .	.33
npled by: <u>Ma</u>	att Hillyard	L						-	ter Column Height (ft.): 6.3/
suring Point (I		10.3		·	Casing	Diameter	(in. ID)	2-Inch Mu	tiplication Factor: 0.163
sened interval	( <b>n.BGL):</b> 2	2.0-8.0			Casing	Volume (	gal.):	2X:	<u>2 3X 3 4X</u>
er Pack Interva	(ft.BGL):	<u>1.5-8.0</u>		•	Water L	.evel (ft.B	MP) at I	End of Purge:_	1.55
ing Stick-Up/D	own (ft.):				Total D	epth (ft. B	IMP) at	End of Purge:_	
UALITY A	SSURAN	ICE				•			•
THODS (descr	be): Liqu	uinov de	targent	& distilled y	vater solu	ution foll	owed	by triple ring	e w/ distilled water
Heaning Equip	nent								
urging: Disp	osable Teric	on Balle	S Calle	n Drum	•	Samp	oling:	Disposable	e Teflon Bailer
isposal of Disc TRUMENTS (I									
Vater Level: <u>E</u>	virotech I	TD. W	aterlin	e Model 15	50	Therr	nomete	c Ultramet	er
H Meter:	Ultram						Calibra	<b>TTT</b>	······································
conductivity Me	····	ameter		<u></u>		Field	Calibra		070 µmhos
other: TU		ramer			<u>.</u>	Field	Calibra	tion: 300	, 1500 Ppm
AMPLING									
te/ Cumul.Vo	L Purge	Temp.	T	Quality Data Specific Cen	ductance		Turb	Intake	Remarks
ne (gal)	Rate (gpm)	(°C)	pH	C Field Temp.		Color	& Sed		
6 0.5		15.1	6.54		751	+yella	(1.0	1	
815		16.4	6.38		736	-11	S1.94		
0 75	1	170	6.38		739				
0135	+	17,2	<u> </u>		745		-01		
	+	1 (.2	(3 17				107	SP Ppm	sa-p'e
		· ·							
		1	<u> </u>						
			<u> </u>				<u> </u>		
			<u>i</u>				I	<u>,                                     </u>	I
AMPLE I	IVENIO	RY				<b>N</b> (	<u> </u>		
ater Level (ft. i			·	Rec	xvery %:_	16.		Sample Intake [	Depth (it. BMP):
ime Volum				c) Quantity				Analysis	
				2	N			DCPTTCP	
57 125		+ 55		2	- 1,4			PCTARP	Dup MW-A
177 1/2 60	e l	21.1	(	(	N			TOS	
ime Volum 03 125 77 125	Betties C e Compos	ellecte	<b>'</b>	c) Quantity	Filtration (Y/N)	Preser (typ	vation	Analysis PC1/4(P PC-4rf	Remarks (quality control sample, o

Sec. 1

 $\left[ \right]$ 

ROUNDWATER SAMPLING	RECOR	SAMPLE NUMBER	PAGE: : MW-9
roject No: 030275.2 Project Name: SPI Arcata	a Sawmill		Date 11/1/03
ampling Location (well ID, etc.): <u>MW-9</u>		er Level (it. BMP):	16
ampling Location (Weil ID, etc.).			er Column Height (ft.): 6,44
ampled by: Matt Hillyard 9.86		eter (in. ID): <u>2-Inch</u> Multi	
leasuring Point (MP) of Well:		ne (gal.): $1.05 \text{ 2X}$ : 2	1 av 3/15 AV
creened interval (it. DOL).	Casing Volu	ne (gal.): <u>(-)</u> 2X:	127
ilter Pack interval (ft.BGL):1.5-8.0		(it.BMP) at End of Purge:	<u> </u>
Casing Stick-Up/Down (ft.):	Total Depth	(ft. BMP) at End of Purge:	
QUALITY ASSURANCE			
ETHODS (describe): Liquinox detergent & distille	ed water solution	followed by triple rinse	e w/ distilled water
		D: 11	e Teflon Bailer
Purging: Disposable Teflon Bailer		Sampling: Disposabl	
Disposal of Discharged Water: 55-Gallon Drum			· · · · · · · · · · · · · · · · · · ·
NSTRUMENTS (Indicate make, model, Ld.): Water Level: Envirotech LTD, Waterline Model	150 -	hermometer, Ultrameter	er
T TILL A MARKED A		Field Calibration: pH 4, 7	
	· · · · · · · · · · · · · · · · · · ·		)70 µmhos
Other. TDS Witrameter			1500ppm
SAMPLING MEASUREMENTS			, . ,
	Data	Appearanes	
Date/ Cumul.Vol. Purge Temp. pH (pm)	Conductance hee/cm) Co http: @ 25 ° C.	& Sectiment (IL BMP)	Remarks
147 0.5 15.0 655	819 14 >	ie's claar	
1491.5 16.26.56	578 1+91	ay cloudy	
150 2,5 16.4.6,76	824 1	1 4	
152 16.76.57	821 4	705=563 m	sa-p'e
			· · · · · · · · · · · · · · · · · · ·
SAMPLE INVENTORY		· · · · · · · · · · · · · · · · · · ·	
Water Level (ft. BMP) Before Sampling: 1.35	_ <b>Recovery %:</b>	<u>G.7</u> _Sample Intake [	Depth (fl. BMP):
THEN A CONTRACT A CONTRACTA A CONTRACT	ntity (Y/N)	reservation Analysis (type)	Remarks (quality control sample, other
	2 ~	$ P(P/\tau(P$	
Tris 1/2 Gal Mastic		- TDS	1
			<b> </b>
Chain-of-Custody Record No		McCulley, Frick	c & Gilman, Inc.
ON Burnh Form MACICAD Borbard 1-565			<i>•</i>

C. Mark

1 

GRC	DUND	WATE	ER S	AMP	LING	REC	ORD	SAN	MPLE !	NUMBE	PAGE: R: MW-10
Project	No: 03027	<u>75.2</u> p	roject N	ame: <u>S</u> F	PI Arcata	Sawmil	1				Date 11/64/03
Samplir	ng Location	(well ID, etc.	.): <u>M</u>	<u>W-10</u>		Start	ing Water L	.evel (it	. 8MP):		
Sample	d by: Ma	tt Hillyard	1			Tota	Depth (ft. )	BMP):_	7.70	2_ wa	ater Column Height (ft.): 6, 2
	ing Point (M	• –				Casi	ng Diamete	r (in. ID	): <u>2-In</u>	<u>ch</u> Mu	Itiplication Factor: 0.163
Screen	ed Interval (i	1. <b>BGL</b> ):	2.0-8.0	)		Casi	ng Volume	(gai.):_[	1.02	_2X:	2_3x 3_4x
<b>Filter</b> Pa	ack interval	(ft.BGL):	1.5-9.	5	•	Wate	or Level (ft.E	3MP) at	End of	Purge:	2.10
Casing	Stick-Up/Do	wn (ft.):				Total	Depth (ft. l	BMP) at	t End of	Purge;	
QUA	LITY AS	SURAN	NCE				•		- <u>, , , , , , , , , , , , , , , , , , ,</u>		
	OS (describ	•): Lio	winor	detergent	& distiller	l water	solution f		d h		ise w/ distilled water
	<b>ing Equipm</b> ng: Dispo				de distillet						
-	ng: Dispo				n Drum		Sam	pling:	Dis	posabl	e Teflon Bailer
•	MENTS (inc	-									
		-	•		Model 1	50	Then	momete	J. UI	tramet	er
pH M	eter:	Ultram	eter							pH 4,	
Cond	uctivity Mete	r <u>Ultra</u>	meter							the second s	070 µmhos
	TD5	414					Field	Calibra	ation:	30	0,1500 ppm
	PLING I		REMI			·					
Date/	Curnul.Vol.	<u>esteristics</u> Purge	Temp.	l le	vellty Deti Specific Cos	n dectance		• sraae	• idity	Intake	
Time	(gal)	Rate (gpm)	(°C)		D Field Temp.	@ 25 ° C.	Color		liment	Depth (IL BMP)	Remarks
108	.5		17.1	6.94		893	Hyerba	Clea	~		
110	1.5		17.8	6.58		870	Itgray	(10-	dy		
1112	2.5		17.9	6.54		871	11	٦			· · · · · · · · · · · · · · · · · · ·
113	3.0		17.9	6.56		878	IX.	- 26	60400		Sample
				ř – – †				105=	104/		saye
T											
SAM	PLE IN	ENTOF	RY		<u>-</u> 1						
	evel (ft. BMI		· · · · · · · · · · · · · · · · · · ·	210	Dee		89.Z		······		· · · · · · · · · · · · · · · · · · ·
		Bottles Co				Filtratio			ample	ntake D	epth (R. BMP):
Time	Volume			ss, plastic)	Quantity	(Y/N)	(typ		Ana	iy <del>sis</del>	Remarks (quality control sample, oth
115	125 mc	9/9		····	2	N			PCK	1/TCP	
115	1295'	p 1a	st c	· · · ·		N	1		+	D5	
	+						+				) 
	.I	L			- <u>1</u>			l			
nain-ol-	Custody Re	cord No									
							M	cCul	iey, F	rick	& Gilman, Inc.
		Sample Form M				1					

ļ

Marrie and

a Contraction

.

	030275	5.2 Proj	ect Nam	e: SPI	Arc	ata Sav	wmill					Date 11/4/03
ect NO:	contion (w	veil ID, etc.):_	MW	-11		[	Starting	Water Le	vei (it. Bi	ИР);	1-6	
noled b	r. Matt	Hillyard					Total D	epth (ft. Bl	ир): <u>8</u>	>	Water	Column Height (ft.): 6.89
naurina	Point (MP	) of Well:	10.26				Casing	Diameter	(in. ID): <u>2</u>	-Inch	_ Multipl	cation Factor: 0.163
reened	nterval (A.	BGL): 2.0	-8.0				Casing	Volume (g	pal.): <u> </u>	<u>C</u> 2	X: <u>L,L</u>	<u>3x 3.374x</u>
ter Pack	interval (f	1.BGL):	.5-8.5		-	[	Water L	evel (ft.B)	VP) at Er	nd of P	urge:	. / .
	ck-Up/Dov				<del></del>		Total D	epth (ft. Bl	MP) at Ei	nd of P	urge:	
		SURAN	CE				•	-				• ·
	S (describe	):	dat	orgent &	die	tilled w	ater solu	ution foll	owed b	y tripl	e rinse v	v/ distilled water
	a Eculome							Samp		<u> </u>	Disposa	ble Teflon Bailer
Purging	Dispos	sable Teflo		Gallo	n Dr	 חוות	<u> </u>	Sand	MII 19			
Dispose	a of Disch	arged Water: Icate make,	model i	d).								
ISTHUM Woter I	evel: Env	virotech L'	TD, W	aterline	<u>Mo</u>	del 150	0				rameter	10
pH Met		Ultrame	eter						Calibrati		H 4, 7,	70 μmhos
•	stvity Mete		meter					_	Calibrati		300,	(500 ppm
Other:				where					Canorau	MII.	//	
		MEASU	TEME	Water	Quall	ty Data		App			Intake	
Date/	Cumul.Vol.	Purge	Temp.	рH	6 <b>p</b> • c	(gmhee/	ductance em}	Color	Turbi & Sedi		Depth (IL BMP)	Remarks
Time	(gal)	Rate (gpm)		11-	e Fie	d Temp	● 25 • C. 877	1+ ye 10-	Cle		<u>,, /</u>	
922	0,9			6.65		ł	-	INVELIN		dy	-+	
924	1.5	·	18.3		<b> </b>		887		1	1	┝──┤	
925	2.5		14,5	G 57	<b> </b>		881	<u> </u>		<del>,</del>		
C176	3.5		18.6	6.57			877	11	TOS=	mer		Sarple
		╂─────			1			1				
			┨────		╂──				1			
			╂	┨────	+				+			
			ļ	<b></b>	+			<u> </u>	+		<b>{</b>	
			<u> </u>	1				<u> </u>		<del>.</del>	<u> </u>	
SAN	IPLE IN	VENTO	RY		<u>,                                    </u>							
Water	Level (ft. E	MP) Before	Sampling	r 1.7	$\mathcal{O}$	Re	covery %			Sample	Intake D	Pepth (ft. BMP):
		Bettles	Collecte	•		Quantity	Filtrati y (Y/N		ervation ype)	An	alysis	Remarks (quality control sample, othe
Time	Volum	the second s		lass, plas		2		<u> </u>		PCP	7TCP	
930	125 1		Play						>	17	05	
( 70	1200	· · · · · · · · · · · · · · · · · · ·	V							ļ		<u> </u>
	+											
Chal	.Cuetorta	Record No.										
	~~~~~~							4				c & Gilman, Inc.

ļ

ł

12.00

Í

Sec. Sec.

5

iRO	UND	WATE	R S/	AMP	LIN	GR	RECO	ORD	SAM	PLE N	UMBEF	PAGE: <u>t</u> of: <u>(</u> R: MW-12
hoject N	o: 03027	7 <u>5.2</u> Pr	oject Na	me: <u>SI</u>	PI Arc	ata S	awmill					Date 11/ 403
ampling	Location	(weli ID, etc.)	: <u>MV</u>	<b>V-12</b>			Startin	g Water L	evel (It. E	3MP):_		55
		tt Hillyard	<u> </u>				Total	- Depth (ft. 8	MP):	.33	Wat	er Column Height (ft.): 6.78
Aeasurin	ng Point (M	P) of Well:	10.73				1	-	• •			iplication Factor: 0.163
			2.0-8.0	<u> </u>	-			• ·				,2 3x 3,3 4x
Pitter Pax	ck Interval	(ft.BGL):	1.5-9.5		•		Water	Level (ft.B	MP) at E	ind of	Purge:	2.8
	stick-Up/Do						Total I	Depth (ft. B	MP) at l	End of	Purge:_	
QUAL		SURAN	ICE				-	•				· ·
AETHOD	DS (describ	•): Liquinc	ox deter	gent & g	distille	d wate	er soluti	on follow	ed by i	riple	rinse w	distilled water
Cleanl	ng Equipm	entosable Teflo	n Baile			-					sposabl	le Teflon Bailer
		arged Water			n Dru	m		<u> </u>	xing:		sposao	
		dicate make,					<u></u>					
		virotech L			e Mod	el 15	0	Them	nometer	<u>Ul</u>	tramete	er
oH Ma	ter:	Ultram	eter							ion:	pH 4, 7	7, 10
Condu	ictivity Met	er. Ultra	meter					Field	Calibrat	ion:		070 µmhos
Other:		DS 47 MEASU	H. a M	X				Field	Calibrat	ion:	'5C"	1, 1500 ppm
		MEASU			Quality	Data		App			1	·····
- · · ·	Cumul.Vol. (gal)		Temp.	рНа	Specifi (#	c Cen mhes/	ductance cm) C 25 ° C.	Color	Turbi & Sedi	dity	Intake Depth	Remarks
30	0.5		150	6.64			828	Clear	de			· · · · · · · · · · · · · · · · · · ·
\$ 33	(. 5		17.2		1	-	907	(+ yellow	Cle.	r		
835	25		17.8	6.45			911	11	"			
376	3.5			6.45			916		TRACK	21.	· ·	<u> </u>
	· · · /		10 4	• • • •						<u>&gt; (p.</u>		Sample
			· · ·									
						Τ						
	•••••••••••••••••••••••••••••••••••••••											
SAM	PLE IN	VENTO	RY	<b>L</b>	•	ł		L	•		J	
		WP) Before S		:	2.8	Rec	overy %:	S1.6	, <u>e</u>	ample	Intake D	epth (it. BMP):
		Bettles C					Filtratio					Remarks
Time	Volume		ition (gla	ss, plast	c) Qu	antity	(Y/N)	(tyr			alysis	(quality control sample, other
640	2.15%	L 0	1 1 1			<u></u>	N				(ic)	ICP4 IP
४५०	1.6-	¥	and.	<u>C </u>		<u>}</u>	$\mathcal{N}$			(	05	-+ Ds
	+											
							<u></u> г					
Jhain-of	-Custody F	lecord No						M	cCul	ley,	Frick	& Gilman, Inc.

\_]

]

.

•

npling l				MPL	ING R	ECO	RD	SAMPLE	NUMBER:	MW-13D
mpling	: 03027	5.2 Pro	ect Narr	•:_ <u>SP</u>	Arcata Sa	awmill			,	Date_11/1/03
	Location (v	veil ID, etc.):	MW	<u>'-13D</u>		Starting	Water Lev	el (ft. BMP)	•	14 71
maieai	m. Matt	Hillyard				Total De	pth (ft. BN	1P): <u>[7.9</u>	Water	Column Height (ft.): <u>14</u> 54
	Point (MP		9.8	4		Casing I	Diameter (	in. 10): <u>2-11</u>	<u>ich</u> Multipli	ication Factor: $0.163$
reened	Interval (ft.	.BGL):	15.0-20			Casing	/olume (gi	al.): <u> </u>	_2X: 0 - C	- 3X 9. 7 4X
lter Pad	k Interval (1	t.BGL):	13.5-2	1.0		Water L	evel (ft.BN	(P) at End (	of Purge:	5.0
	ick-Up/Dov					Total De	opth (ft. BM	(P) at End	of Purge:	
JUAL	ITY AS	SURAN	CE			-				•
	S (describ	e);	determe	nt & die	stilled water	r solution	followed	1 by triple	rinse w/ di	stilled water
Cleanin	g Equipme						Samp		Disposable	Teflon Bailer
Purgin	Dispo	sable Teflo arged Water:		- 5-Gallo	n Drum			······································		
	IENTS (Inc	icate make.	model, i.	.d.):		·				
Water"	Level: En	virotech L	<u>TD, W</u>	aterline	e Model 15	50	Them		Ultrameter	
pH Me		Ultrame	eter						pH 4, 7,	70 μmhos
Condu	ctivity Met		meter					Calibration: Calibration		1,1500ppm
Other:	TUS	Gitra	<u>mete</u> Denae	<u></u>			<b>FIGK</b>	Carbiauon		Antonia
SAMI		MEASU		Water	Quality Dat		App		Intake	
	Cumul.Vol.	Purge	Temp.	pН	Specific Cet (gmhes	Auctones 7em)	Color	Turbidity		Remarks
	(gal)	Rate (gpm)		6.70	Field Temp	625°C.	14 10-	Clea	- <del> </del>	
122	$\frac{10}{5}$		15.5		·	757		1,		H2Sadar
127	3.5	ļ	15.6	6.18	<u> </u>	<u> </u>		1,		
131	5	ļ	14.7	6.09	<u> </u>	779 820		╂────	╧╉╾╍╉	
131	6.5		14.7	6,08			11		╾┼╾╌┤	
136	8. U		14.5	6 08		725	11			
140	90		14.7	6. 17	× 17	785	1-	1		
143	9.5		14,8			1020	• •	4 1		Simple
17	1.5		+	<b>₽</b>						
			╂───	<b></b>						
			<u> </u>	<u> </u>				<u> </u>		
	l									
	APLE IN	VENTO	RY				9	1.		
SAN		MP) Before	Sampling		ටR	ecovery %			nple Intake D	epth (IL BMP):
SAN	Level (ft. 8	Before	Sampling Collecte	) d		Filtratio	n Prese	ervation	npie Intake D Analysis	epth (IL BMP): Remarks (quality control sample, other
SAN Water Time	Level (ft. E Volum	Bettles Bettles Bettles	Sampling Collectonsition (g	•		Filtratic ty (Y/N)	n Prese	ervation (pe)		Bemarks
SAN	Level (ft. 8	IMP) Before Bettles Re Compo	Sampling Collecte	ass, plas	tic) Quanti	Filtratic ty (Y/N)	n Prese	ervation (pe)	Analysis	Bemarks

ł

)RO	DUND\	NATE	RS	AMP	LING F	RECO	ORD	SAM		UMBE	PAGE:of: R: MW-14
Project	No: 03027	5.2 P		ame: SF	PI Arcata S	awmill					Date 11/4/03
•	g Location (						ng Water L	evel (ft.	BMP):	2	55
	d by: Mat						-	•	• •		ter Column Height (ft.): 5.15
•	ng Point (Mf		9.	02							tiplication Factor: 0.163
	interval (fi	-	2.0-8	.0	<u> </u>						7 3X 2.5 4X
	ck Interval (		1.5-8	.0	•						6.62
	Stick-Up/Dov						Depth (ft. E				
QUA	LITY AS	SURAN	ICE		· · · • • • • •	•	•				<u>مېرىمە ئەمەر يەرىمە مەرمەر بەرمەر بەرمەر</u>
NETHO	DS (describe	); I i a		latorgont	& distilled	water	olution fo	llowed	l hu te	inla rin	se w/ distilled water
Clean	ing Equipme	nc		•		water s	·			· · · · · · · · · · · · · · · · · · ·	
	ng: Dispos				n Dauna		Sam	pling:	Dis	posable	Teflon Bailer
•	sal of Discha	-			<u>n Drum</u>					-	
	MENTS (ind				Model 15	0	Them	nometer	<del>г</del> тл	tramete	er
	eter:	Ultram							-	pH 4, 7	
Conda	uctivity Mete	•••••••••••••••••••••••••••••••••••••••	meter								D70 µmhos
Other		4/4	— <u>`</u> ,				Field	Calibra	tion:	300	, 1500 ppm
	PLING N										
Date/ Time	Purgo Char Curnul-Vol. (gai)	<u>exterieties</u> Purge Rate (gpm)	Temp. (°C)	IDHI	2 wality Data Specific Cen (µmhes/ C Field Temp.	ductanoe om) @ 25 * C	App Color	Turbi & Sedi	dity	Intake Depth (1. BMP)	Remarks
1136	0.5		15.9	5.68			Anber	CIA		(	Hz S sodar
438	1.5		16.5	1.52		2990	15	1	١		
139	2.0		69.	6.54		3220	Ŀ,	Clod	× .		
141	2.5		6.9	6 57		328	6	<u></u>	·		NO ACCONTY
500	2.5		159	664		33JU	ander	105-	2520	P/m	
SAM	IPLE IN	/ENTO			4.69			I			
	Level (ft. BM			¥.		overy %:	58,4	S	ample	Intake D	epth (fl. BMP):
Time	Volume	Bettles C		i ss, plastic	:) Quantity	Filtratio (Y/N)			Ana	alysis	Remarks (quality control sample, othe
300	123-6	· · · · · · · · · · · · · · · · · · ·	244	ant birner	7 <b>Z</b>	N	() ()		Pr	111P	(quality control satisfie, our
300	1/2 91		64	٢.		N			1	$\hat{0}$	
				· · · · · · · · · · · ·							
Xhain-of	-Custody Re	L				L	1				
							M	cCul	ley,	Frick	& Gilman, Inc.
						1					

-

		ATEF	SA	MPI	IN	G RE	CO	RD			MBER:	PAGE:of: MW-15D
												Date 11/4/03
ect No:_	030275	5.2 Proj	ect Name	8: <u>SPI</u>	Arc	ata Saw	/ <u>mili</u>	Water Lev		<u></u>	5.	58
npling Lc	ocation (w	reli ID, etc.):_	MW	-150			Starting	- the first of the second s	un, 19.5	7 <i>5</i>	Water	Column Height (fL): 14.17
npied by	<u>. Matt</u>	Hillyard					Total De	pun (n. DM	- 101-2-	Inch		cation Factor: 0.163
esuring F	Point (MP	) of Well:		.08			Casing L	Nameter (I	n. 101: <u>6</u> 	11101	. 4.6	<u>3x 6.9 4x</u>
eened k	nterval (ft.	BGL):		-20.0			Casing	vei (fLBM	N.): <u> </u>	R		5-68
er Pack i	intervai (f	1.BGL):	14.(	0-21.0			Water L	evel (TLBM	(P) at End		niñe:	
		vn (ft.):					Total De	opth (ft. Bl	AP) at End		urge	
UAL	TY AS	SURAN	CE				•	-				· · ·
	(describe	): Liqui	nox dete	ergent &	z dist	illed wa	ter solu	tion follo	owed by	tripl	e rinse v	v/ distilled water
Cleaning		sable Teflo						Samp			Dispos	able Teflon Bailer
Purging:	_Dispos	arged Water:	. 55	-Gallo	n Dr	um						
Disposal	i of Dischi Chillip (nd	icate make,	model. Lu	d):								
5 i HUMi Water i j		virotech L'	TD, W	aterline	<u>Mo</u>	del 150	)				rameter	10
	er:		ter						Calibratio		5H4, 7,	70 μmhos
-	tivity Mete	r Ultra	meter						Calibratio			15 OU PPM
Other:	1.05	al-	fram	the second s				Field	Calibratio	<u>n:</u>	50-1	110 11
		MEAŚU	REME						earante			
	amud Vol.	Pume	Temp.	Water	B po cl	the Cond	telance	Color	Turbid		Intake Depth	Remarks
ime	(gal)	Rate (gpm)	(°C)	рH	0 Fiel	d Temp. 4	25 ° C.		& Sedim		(R. BMP)	·
205	0.5		14.0	6.94			69 5	clar	cle.	~ 		
	2.0		140	6.63		· [	825	(+-1e"a	de	~		
•7	4			-			1263	1	- 1)			
			14.0	6.67	╂───			1 1	11		11	
218	6		14.2	6.7%	<b> </b>		1270					
216	- 7		140	6.75			'z °10	. (	)	·		Sample
		<u> </u>										· · · · · · · · · · · · · · · · · · ·
			┼						1			
		<b></b>	<b> </b>	<b> </b>					+		1	
			<u> </u>					ļ				
								l				
SAM		VENTO	RY									·
					5.6	8 Bec	xvery %	99-	7S	ampl	e inteke [	Depth (IL BMP):
WaterL	-9491 (TL C	MP) Before					Filtratio		ervation	•	nalysis	Remarks
Time	Volum		sition (gl		tic)	Quantity	(Y/N)	0	уре)			(quality control sample, of
5.0	1:5.	11 9	1945			2,	N			<u> </u>	PACP	
2202	1/2 6	q1 (	last	<u>,                                     </u>			1 p			4	<u>v</u> 7	
						•	<u></u>					· · ·
						, ··	1			L		1
Chain-of	-Custody	Record No		. <u></u>						_		
	•							1			and the second second	e Gilman Inc.
								ł	McCu	lley	', <b>Fr</b> ici	k & Gilman, Inc.

ł

]

		VAIE	r 3/			NG R	ECU	RD	SAM		JMBER	: MW-16D
miect No	: 03027	5.2 Pr	oject Nar	ne: <u>SF</u>	ΊA	rcata Sa	wmill					Date 11/ //03
amoling	Location (1	vell ID, etc.):	MW	<u>/-16D</u>		[	Starting	Water L	evel (ft.	BMP):_	42	
ampled t	y. Mat	<u>Hillyard</u>										r Column Height (ft.): 15.07
		?) of Well:	9.80	)			Casing	Diameter	r (in. 10)	<u>2-Inc</u>	<u>h</u> Multij	plication Factor: 0.163
criened	Interval (ft	.BGL):	15.0-20									5_3x 7.4_4x
itter Paci	k Interval (	1.BGL):	14.0-21	.5	•		Water I	.evel (R.B	BMP) at	End of I	Purge:	4.36
	ick-Up/Do						Total D	epth (ft. E	3MP) at	End of	Purge:	· · · · · · · · · · · · · · · · · · ·
QUAL	ITY AS	SURAN	CE				. <b>.</b>	•				· ·
	S (describ	L.101	uinox d	etergent	- & c	listilled	water so	lution fo	ollowed	l by tri	ple rins	e w/ distilled water
Cleanin	<b>g Equipme</b> Dispos	sable Teflo							pling:			ole Teflon Bailer
Dispose	n of Disch	arged Water	· 5	5-Gallo	n D	Drum						
NSTRUM	IENTS (inc	icate meke,	model, i	<i>.</i> ط):			_			* **		
Water L	evel: Env	virotech L		aterlin	e M	odel 15	)				tramete pH 4, 7	
pH Met			eter meter			• 			d Calibra d Calibra			, 10 170 μmhos
	tivity Mete	· · · · · · · · · · · · · · · · · · ·	rane	1.0		• • • • • • • • • • • • • • • • • • •			d Calibra			,1500 ppm
Other: SAME		MEASU									1	
	urge Chat	resteristics		Water	Quel	Ity Date		Ap	Poerene		Intake	Dennelis
Date/ C Time	Cumul.Vol. (gai)	Purge Rate (gpm)	Temp. (°C)	рH	<b>0</b> R	(ganas/		Color	& Sec	xidity timent	Depth (IL BMP)	Remarks
117	0.5		15.4	7.85			4000	d p for	0	Por		
159	1.5		160	7.71			1640			L V		
1201	3.0		15.7	7.5 %			4730	<i>cr</i>	(	1		
207	5.0		15.2	761			4840	1.				
1209	6.5		15.5	7.65			4760		,	(		<b>y</b>
115	7.5		19,5	7.6.4			4770		7 057	3700 ja		s augula
SAM	PLE IN	VENTO	RY							•		
Water L	evel (it. Bl	MP) Before S	Sampling	:	L-	<u>( 36</u> Rec	overy %:	99	<u> </u>	Sample	Intake D	epth (ft. BMP):
Time	Volume			e 1958, plast	ic)	Quantity	Filtratio		ervation ype)	An	alysis	Remarks (quality control sample, oth
1215	126-11	· · · · · · · · · · · · · · · · · · ·	9.65		,	2	N		<u> </u>	PC	1/7CP	
1215	1/4 64		ast	C.		1	$\overline{\mathcal{N}}$			7-	09	
		7					ļ					
	<u> </u>					I	Ļ					I
Chain-of-	-Custody F	Record No										
								[	МсСι	ılley,	Frick	& Gilman, Inc.
	<u></u>	W Sample Form	Martin	Destroit 1								

-

and the second

dim 1994

Parate and

RO	UNDV	VATE	R SA	MPI	ING	RECO	ORD	SAMPL	EN	JMBER:	PAGE: MW-17
Project N	n: 03027	5.2 Pn	siect Nar	ne: SP	I Arcata	a Sawmill					Date 11/4/03
	Lession /	vell ID, etc.)	MW	7-17			ng Water L	evel (ft. Bl	ИР):	1.3	51
sampung	Location (1	Hillyard					Depth (ft. E			Wate	r Column Height (ft.): 6.09
	g Point (MF		9.9	8	<u> </u>	- Casin	a Diameter	r (in. ID): 2	-Incl		blication Factor: 0.163
	-		2.0-8.0	)		- Casin	a Volume i	(aal.):	-	2X: 2	<u>- 3X 3 4X</u>
	d interval (ft		1.5-9.0		•		r Level (fLE				
	ok Interval (		1.5 7.0				Depth (ft. E				
	tick-Up/Dov					- 1004	Depui (ic t				
	_	SURAN	CE				-				
	DS (describ	1 1/111	inox det	tergent d	& distille	d water so	lution fol	lowed by	y trip	le rinse	w/ distilled water
Clean	ng Equipme	sable Teflo			<u></u>			pling:			e Teflon Bailer
Purgin	g_Dispos	arged Water	<u>, 1 Dane</u>	- 5-Gallo	n Drum		Cein	фин ( <u>9</u>		- <b>-</b>	
		icate make,									<u> </u>
Water	Level: Env	virotech L	TD, W	aterline	e Model	150		mometer:	_	ramete	
	eter:	Ultram					Fiek	d Calibratio			
•	uctivity Mete	· · ·	meter				Fiek	d Calibrati			70 µmhos
Other:	: TD9	: ylfr	queto	ir			Fiel	d Calibrati	on:	<u>300</u> +	1500 pm
SAM	PLING I	MEASU	REME	ENTS							
		asterieties		Water	Quality C Booclific	) et e Conductano	4	Turbid	54. c	intake	Remarks
Time	Cumul.Vol. (gal)	Purge Rate (gpm)	Temp. (°C)	рН	(g.m.) Ø Flohi Te	hee/em) mp. @ 25 * C	Color	& Sedin		Depth (IL BMP)	
1230	1.0		14.0	7.14		948	Clerr	clea			
1232	2		(4.6	6.75		916	1+gray	Slight	Y,		
734	#3		14.9	664		960	(1	'			
235	3,5		14.9	6.64	<u> </u>	°120		TOS .	20		Sample
<i>c</i> ) <i>1</i>		L		\$ (C) 7		10.5		1 05* •	3 Yr-	<u> </u>	
			· ·		<u> </u>						
			<b> </b>		<b> </b>						
			<u> </u>								
			<b> </b>						<u> </u>		
		L VENTO		1	<u> </u>		<u> </u>			<b>_</b>	
		AP) Before S		•	21	Recovery %	. 8-	7.0 s	ample	Intake D	Depth (IL BMP):
TTOLDA		Bellies C	ellecte	4		Filtrati		ervation		alysis	Remarks
Time	Volume			ass, plast	<u> </u>			ype)	00		(quality control sample, othe
1234									YL	ATER	
1239	7 1/2 33	P a	61,C	, <u> </u>					1	<u>v)</u>	
	1	1								•	
Chain-o	rf-Custody F	Record No					1	McCul	lev.	Frick	c & Gilman, Inc.
		aW Sample Form	MAC/CAD	Revised \$-	145						

ł

ł

F

<u>.</u>

		ATER										Date 11/4 /03
roject No	<u>: 030275</u>	.2 Pro	ject Nam	e: <u>SPI</u> -18			Startion	Water I a	vei (ft. Bh	(P):	0.9	8
ampling	Location (W	eli ID, etc.):	141 44	-10			Total De	oth (ft. Bl	MP):	.80	) Water	Column Height (ft.): 68
ampled	by. <u>Matt</u>	Hillyard	9 53			·	Casing	Diameter	(in. ID):4	-Inch	Multip	lication Factor: 0.653
leasurin	g Point (MP)	of Well:	0-8.0				Casing	Volume (ç	<b>بها.): لُبُل</b>	452	x:	7 3x 13,4 4x
creened	interval (11.)	.BGL):	5-9.5		-		Water L	evel (ft.Bl	MP) at En	d of P	urge:	1_75
itter Pac	and the form	m (ft.):							MP) at Er			<u></u>
		SURAN										•
	S (describe								11		la rince	w/ distilled water
Cleank	na Faulome	nc			& d	istilled w	ater sol					w/ distilled water
Durain	T Dispos	able Teflo	n Baile	r			<u> </u>	Samp	xiing:	Disp	osable	Teflon Bailer
Dispos	al of Discha	rged Water	<u>. 5</u>	5-Gallo	n D	rum						
INSTRU	MENTS (Ind	icats make, virotech L	model, i. TD W	<b>d.):</b> aterline	M	odel 150	)	Ther	nometer:_	Ult	ramete	r
	1.0m	Ultram	eter	atornite					Calibratic	on:F	<del>oH 4, 7</del> ,	, 10
Cand		r Ultra	meter					Field	Calibratio	on:		$70 \mu\text{mhos}$
Other	<u> (17)</u>	917	gne	ter				Field	Calibrati	on:	700	,1500 BPM
SAM		MEASU										
Date/	Cumul.Vol.	Purge	Temp.	Water o	Bpee	ity Data ific Cond	Tatanoe	Color	Turbid		Intake Depth	Remarks
Time		Rate (gpm)	(~~)	рн	0 Fi	eid Temp			& Sedin	nent	(IL BMP)	
1012	1.0		15.9	6.66			770	1+yell	lleur			
1014	2.5		16.4	6.54		1	009	(,	11			
1018	4.0		16.5	6.54			074	LL_	~ ~			
1019	6			678			1124	11				
1023	B		16.4	6.61	┼─		132	(+	٤,	,		
1025	10		63	6.6	┼─		127	((	· · ·			
					╂──		1097		- <u>r</u> r		1	
1030	12		167	6.59	_							0 1/2
1032	13.5		6.7	6.58	<u> </u>		1092		T03= 7	(Opp-		Sample
			<u> </u>									
SAN	<b>IPLE IN</b>	VENTO	RY									
Water	Level (fL B	MP) Betore	Sampling	;	-7		overy %:	88.	<u>7</u> s	ample	Intake D	epth (ft. BMP):
		Betties	Cellecte	4			Filtratio	n Pres	ervation	An	alysis	Remarks (quality control sample, c
Time				ass, plas	ac)	Quantity	(Y/N)		уре)	00	PITCP	
1035			957-7	,				+->	·	T	ØŠ	
	12.0		<u></u>	*								
	_										<b>b</b>	J
		Record No.										
								; I	McCul	lev.	Frick	& Gilman, Inc.
1												

ł

}

RO	UNDV	VATE	R SA	MPL	NG R	ECO	RD	SAMPL	E NU	IMBER:	PAGE: MW-19D
					Arcata Sa		L				Date 11/3/03
roject No	0: <u>03027.</u>	<u></u> Pio	MW	′-19D		Starting	Water Le	vel (ft. Bh	<b>/P):</b>	4-6	
ampling	Location ()	well ID, etc.):	101.00			Total D	enth (ft Bi	MP1: 1	7.6	Water	Column Height (fL): 15.0 5
		t Hillyard	11.0	<u></u>	· ·						lication Factor: 0.163
		P) of Well:				Casing		(n. 10). <u>-</u>	5	- 100 v. 5-	0 3X 7.5 AX
creened	i interval (ft	_DGL/	5.0-20.			Casing	Volume (g	jai.):		×	<u> </u>
Iter Pac	k interval (	1.BGL):	4.0-21	0							5.23
	tick-Up/Dov					Total D	epth (ft. Bl	MP) at Er	nd of F	ourge:	
		SURAN	CE			- ·	•				
	S (describ		nox det	ergent &	distilled wa	ater solu	tion foll	owed by	/ tripl	le rinse <sup>.</sup>	w/ distilled water
Cleanli	ng Equipmo			a sector and the sector of the					D	isposab	le Teflon Bailer
Purgin	g: Dispo	sable Teflo	n Dalle	Callor	Drum	· · · · ·	Santu	wig			
Dispos	al of Disch	arged Water:	<u> </u>								
ISTRU	MENTS (in	dicate make,	model, I.	<b>d.):</b>	Model 150	า	<b>Th</b>	nometer.	Ţ∏t	ramete	r
				aternne	Model 150	<u>,</u>		nometer: Calibratik		$_{\rm oH}^{\rm 11000}$	. 10
•	xer:	Ultrame	eter meter								70 µmhos
	ctvity Met	· · · · · · · · · · · · · · · · · · ·	_							300	1500 Ppin
Other:	105		anet					Calibrati		- <u> </u>	
SAM		MEASU				r				T	
Date/	Cumul.Vol.	Purge	Temp.	Water Q	pecific Cend	ectance		Turbid	ity	Intake Depth	Remarks
Time	(gal)	Rate (gpm)		PH L	Field Temp	0 25 ° C.	Color	& Sedin	nent	(IL BMP)	·
109	0.5		16.5	683			119mr	51.314			
113	2.0		17.2	467		73	N	R			
116	40		17.0	69		745	1	4			
471	1.0			669		750	• 1	. 1	,		
424	7.5	1			T	759	15				
7.27	1. 5	<b> </b>	16.7	6.67				105-	s'm	1	
			1								·····
			T				1				
		┨─────	<u>+</u>	┠†							
			<b></b>								
	at		<u> </u>				L				
SAN		IVENTO	RY				_				
		MP) Before S		: 5.2	3 Bec	overy %:	95.	9 s	ample	Intake D	epth (ft. BMP):
vvauw	revel (ir p	Betties				Filtratio		rvation		<u></u>	Remarks
Time	Volum			ass, plastic	) Quantity	(Y/N)		(pe)	An	alysis	(quality control sample, other
433	2.12		(955		-E	N	-		PCI	/Tel	
423	1/26.		astic	·		N	-	-	T	105	
	-+	·									
		<b>D</b>				]					
Chain-c	of-Custody	Record No					_		<b>6</b>	<b></b>	
							ľ	McCui	ıey,	FLICK	& Gilman, Inc.
		GW Bample Form	MACICAD	Revised 9-8	<b>4</b> 5						

•

]



#### **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

17 November 2003

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

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-B)

Chlarinated Phenols

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.

Sincerely,

Karen A. Daly For Sheri L. Speaks Project Manager

RECEIVED NOV 2 0 2003 GEOMATRIX CONSULTANTS, INC.



Geomatrix Consultants

Oakland, CA 94612

2101 Webster Street, 12th Floor

Attn: Geomatrix Consultants

Alpha Analytical Laboratories Inc.

Receipt Date/Time

11/05/2003 15:55

Project No: 9329.000.0 16 Project ID: SPI - (GeoMatrix) Client PO/Reference

Report Date: 11/17/03 13:25

208 Mason St. Ukiah, California 95482

Order Number A311112 Client Code GEOMAT

**CHEMICAL EXAMINATION REPORT** 

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

#### 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-I	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

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.

aren aly

Karen A. Daly For Sheri L. Speaks Project Manager 11/17/03

----

1

Page 1 of 12



	CI	HEMICA	L EXAN	MINATIO	N REPORT				Page 2 of 12
Oakland, CA	Street, 12th Floor				Project No	:: 11/17/03 13 :: 9329.000.0 :: SPI - (GeoN	16		
Order Number A311112	Receipt Date/Time 11/05/2003 15:55			ent Code EOMAT		Client PO	/Reference		
		Alpha A	nalytical	Laborato	ries, Inc.				
	METHOD	-		ANALYZED		RESULT		PQL	NOTE
MW-14 (A311112-01)			Sample Ty			npled: 11/04/03 1	5:00		
Chlorinated Phenols by Canadia	an 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			**	н	н	ND "		1.0	
Pentachlorophenol	••	н	**	н	н	ND "		1.0	
Surrogate: Tribromophenol	"	"	"	"		94.8 %	7 <b>9</b> -119		
Conventional Chemistry Param	eters by APHA/EPA Me	ethods							
<b>Total Dissolved Solids</b>	EPA 160.1	AK31019	11/10/03	11/13/03	1	2100 mg/l		10	
MW-6 (A311112-02)			Sample Ty	pe: Water	Sai	npled: 11/04/03 1	4:45		
Chlorinated Phenols by Canadi	an 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	"	M		н	м	ND "		1.0	
2,3,4,6-Tetrachlorophenol	"			н	и	ND "		1.0	
2,3,4,5-Tetrachlorophenol	H	"		"	н	ND "		1.0	
Pentachlorophenol	м	*	*		**	ND "		1.0	
Surrogate: Tribromophenol	н	n	н	"		87.1%	79-119		
Conventional Chemistry Param	neters by APHA/EPA M	ethods							
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	1	430 mg/l		10	
MW-15D (A311112-03)			Sample Ty	pe: Water	Sai	mpled: 11/04/03 1	4:20		
- Chlorinated Phenols by Canadi	ian 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	и	**	**	*	11	ND "		1.0	
2,3,4,6-Tetrachlorophenol	н	*	н	*	u	ND "		1.0	
2,3,4,5-Tetrachlorophenol	n			n	"	ND "		1.0	
Pentachlorophenol	H				<b>n</b>	ND "		1.0	
Surrogate: Tribromophenol	n n	"	"	н		85.9 %	7 <b>9-1</b> 19		
1									

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.

aren aly

Karen A. Daly For Sheri L. Speaks Project Manager

11/17/03



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

	C	HEMIC	AL EXAN	MINATIO	N REPOR	RT		Page 3 of 12
Oakland, CA	Street, 12th Floor				Project	ate: 11/17/03 13:25 No: 9329.000.0 16 ID: SPI - (GeoMatri	ix)	
Order Number A311112	Receipt Date/Time 11/05/2003 15:55			ent Code EOMAT		Client PO/Refe	erence	
		Alpha A	Analytical	Laborato	ries, Inc.		<u> </u>	
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-15D (A311112-03)			Sample Ty	pe: Water	5	Sampled: 11/04/03 14:20		
<b>Conventional Chemistry Param</b>	eters by APHA/EPA Me	ethods				-		
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	1	790 mg/l	10	
MW-13D (A311112-04)			Sample Ty	pe: Water	5	Sampled: 11/04/03 13:48		
Chlorinated Phenols by Canadia	an Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AK31314	11/08/03	11/10/03	1	ND ug/1	1.0	
2.3.5,6-Tetrachlorophenol	**	н	н	*	"	ND "	1.0	
2,3,4,6-Tetrachlorophenol	и	n	"		**	ND "	1.0	
2,3,4,5-Tetrachlorophenol	и	n	"		11	ND "	1.0	
Pentachlorophenol	**	н	"		"	ND "	1.0	
Surrogate: Tribromophenol	"	"	"	"		90.8 % 79	-119	
Conventional Chemistry Param	eters by APHA/EPA Me	ethods						
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	1	580 mg/l	10	
MW-1 (A311112-05)			Sample Ty	e: Water	5	Sampled: 11/04/03 13:08		
Chlorinated Phenols by Canadia	an 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	14		м	*	н	ND "	1.0	
2,3,4,6-Tetrachlorophenol	19		*			ND "	1.0	
2,3,4,5-Tetrachlorophenol	н		n		n	ND "	1.0	
Pentachlorophenol	"	*	"		н	ND "	1.0	
Surrogate: Tribromophenol	2	#	"	"		98.0 % 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.

aren aly

Karen A. Daly For Sheri L. Speaks Project Manager



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

						-		D 4 61
Geomatrix Co		HEMICA	AL EXA	MINATIO	N REPOR	ſ		Page 4 of 3
	Street, 12th Floor				Report Dat	te: 11/17/03 13	:25	
Oakland, CA	-					lo: 9329.000.0		
	rix Consultants					D: SPI - (GeoM		
Order Number	Receipt Date/Time		CI	ent Code	-	Client PO/	Deference	
A311112	11/05/2003 15:55			EOMAT			Kelerence	
-		Alpha A	nalytical	l Laborato	ries, Inc.			·
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-1 (A311112-05)			Sample Ty	pe: Water	Sa	mpled: 11/04/03 13	3:08	
Conventional Chemistry Param	eters by APHA/EPA Me	thods						
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	1	1300 mg/l	10	
·MW-17 (A311112-06)			Sample Ty	pe: Water	Sa	umpled: 11/04/03 12	2:38	
Chlorinated Phenols by Canadia	an 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	"	n		"	**	ND "	1.0	
2,3,4,6-Tetrachlorophenol	п	н		п		ND "	1.0	
2,3,4,5-Tetrachlorophenol	μ	*			*1	ND "	1.0	
Pentachlorophenol	н	H	"	n	••	ND "	1.0	
Surrogate: Tribromophenol	н	H	"	M		89.6 %	79-119	
<b>Conventional Chemistry Param</b>	eters by APHA/EPA Me	ethods						
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	1	450 mg/l	10	
MW-16D (A311112-07)			Sample Ty	pe: Water	Sa	ampled: 11/04/03 12	2:15	
Chlorinated Phenols by Canadia	an Pulp Method							
2,4,6-Trichlorophenol	EnvCan	AK31314	11/08/03	11/10/03	1	ND ug/1	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	п	"	"	M	**	ND "	1.0	
Surrogate: Tribromophenol		"				85.1 %	79-119	

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

0 arenaly

Karen A. Daly For Sheri L. Speaks Project Manager



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

Communic C		HEMIC	AL EXA	MINATIO	N REPOR	Т		Page 5 of 12
Geomatrix Co 2101 Webster Oakland, CA		nte: 11/17/03 13:25 No: 9329.000.0 16						
Attn: Geomatrix Consultants					Project	D: SPI - (GeoMatr	ix)	
Order Number A311112	Receipt Date/Time 11/05/2003 15:55	onem coue				erence		
		Alpha A	Analytical	Laborato	ries, Inc.			
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-16D (A311112-07)			Sample Ty			ampled: 11/04/03 12:15		
<b>Conventional Chemistry Param</b>	eters by APHA/EPA Mo				0			
<b>Total Dissolved Solids</b>	EPA 160.1	AK31019	11/10/03	11/13/03	1	2800 mg/l	10	
MW-10 (A311112-08)	Sample Type: Water				S			
Chlorinated Phenols by Canadia	an Pulp Method		• •		~	ampled: 11/04/03 11:15		
2,4,6-Trichlorophenol	EnvCan	AK31314	11/08/03	11/10/03	1	ND ug/l	1.0	
2,3,5,6-Tetrachlorophenol	н		*	"		ND "	1.0	
2.3.4,6-Tetrachlorophenol	#		**	п	**	ND "	1.0	
2,3,4,5-Tetrachlorophenol	11	**	H	"	н	ND "	1.0	
Pentachlorophenol	"		"	"	84	ND "	1.0	
Surrogate: Tribromophenol	"			*	· · · · · · ·	and the second second	.119	
Conventional Chemistry Param	eters by APHA/EPA Me	thods						
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	1	430 mg/l	10	
MW-18 (A311112-09)			Sample Typ	e: Water	S	ampled: 11/04/03 10:35		
Chlorinated Phenols by Canadia	an Pulp Method					inpical 11/04/05 10:55		
2,4,6-Trichlorophenol	EnvCan	AK31314	11/08/03	11/10/03	1	ND ug/l	1.0	
2,3,5,6-Tetrachlorophenol	10	۳	14			ND "	1.0	
2,3,4,6-Tetrachlorophenol	10	"	*			ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	н				ND "	1.0	
Pentachlorophenol	*	"		"		ND "	1.0 1.0	
Surrogate: Tribromophenol	· · · · · · · · · · · · · · · · · · ·	#	<b>#</b>		a an	91.6% 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.

aren aly

Karen A. Daly For Sheri L. Speaks Project Manager



	CI	HEMIC	AL EXAN	MINATIO	N REPORT			Page 6 of 12
Geomatrix Co 2101 Webster Oakland, CA Attn: Geomat		EMICAL EXAMINATION REPORT Report Date: 11/17/03 13:25 Project No: 9329.000.0 16 Project ID: SPI - (GeoMatrix)						
Order Number A311112	Receipt Date/Time 11/05/2003 15:55		Client Code Client PO/Reference GEOMAT					
		Alpha A	alytical	Laborato	ries, Inc.	<u></u>		
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-18 (A311112-09)			Sample Ty	pe: Water	Sam	pled: 11/04/03 10	D:35	
Conventional Chemistry Param	eters by APHA/EPA Me	ethods						
<b>Total Dissolved Solids</b>	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 Canadi	an 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	11	"	м	**	"	ND "	1.0	
2,3,4,6-Tetrachlorophenol	"	н	"			ND "	1.0	
2.3.4.5-Tetrachlorophenol	14		**	**	*	ND "	1.0	
Pentachlorophenol	"	•	н	"	**	ND "	1.0	
Surrogate: Tribromophenol		"	"	"		85.5 %	79-119	
Conventional Chemistry Param	neters by APHA/EPA Me	ethods						
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	1	350 mg/l	10	
MW-11 (A311112-11)			Sample Ty	pe: Water	Sam	pled: 11/04/03 0	9:30	
Chlorinated Phenols by Canadi	an 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	*		-	n	**	ND "	1.0	
2,3,4,6-Tetrachlorophenol	**	"	*	н	••	ND "	1.0	
2,3,4,5-Tetrachlorophenol	*	"		"	••	ND "	1.0	
Pentachlorophenol	"	н	*	*1	**	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.

aren aly

Karen A. Daly For Sheri L. Speaks Project Manager



1

1

	С	неміс	AL EXA	MINATIO	N REPORT			Page 7 of 12
Geomatrix C 2101 Webste Oakland, CA Attn: Geoma		Report Date:         11/17/03 13:25           Project No:         9329.000.0 16           Project ID:         SPI - (GeoMatri				16	1 420 / 01 12	
Order Number A311112	Receipt Date/Time 11/05/2003 15:55					Client PC	D/Reference	
		Alpha A	Analytica	l Laborato	ries, Inc.			·····
	METHOD			) ANALYZED		RESULT	PQL	NOTE
MW-11 (A311112-11)			Sample Ty			pled: 11/04/03 (	the second s	AOTE
Conventional Chemistry Param	neters by APHA/EPA Me	thods			San	picu. 11/04/05 (	19:30	
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	t	450 mg/l	10	
MW-8 (A311112-12)			Sample Ty	ne. Water	5a		0.65	
Chlorinated Phenols by Canadi	an Pulp Method		Semple 1y	PC: WAICI	Sam	pled: 11/04/03 0	9:03	
2,4,6-Trichlorophenol	EnvCan	AK31314	11/08/03	11/10/02				
2,3,5,6-Tetrachiorophenol	Unvean .		"	11/10/03	1	ND ug/1	1.0	
2,3,4,6-Tetrachlorophenol	11		,,		-	ND "	1.0	
2,3,4,5-Tetrachlorophenol	**		н			ND "	1.0	
Pentachlorophenol			11			ND "	1.0	
Surrogate: Tribromophenol						ND "	1.0	
						92.0 %	79-119	
Conventional Chemistry Param	eters by APHA/EPA Me	thods						
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	1	380 mg/l	10	
MW-A (A311112-13)			Sample Ty	ne: Water	Fam			
Chlorinated Phenols by Canadia	an Pulp Method		oumpic ry		540	pled: 11/04/03 0	0:00	
2,4,6-Trichlorophenol	EnvCan	AK31314	11/08/03	11/11/03	1			
2,3,5,6-Tetrachlorophenol		"	"	"	1	ND ug/l	1.0	
2,3,4,6-Tetrachlorophenol		н				ND "	1.0	
2,3,4,5-Tetrachlorophenol	н	"				ND "	1.0	
Pentachlorophenol	"	•		n	"	ND " ND "	1.0	
Surrogate: Tribromophenol	, , , , , , , , , , , , , , , , , , ,	#	· · · · · · · · · · · · · · · · ·			91.6 %	1.0 7 <b>9-119</b>	
MW-12 (A311112-14)		ļ	Sample Typ	ve. Water	S			
Chlorinated Phenols by Canadia	in Pulp Method		pic i yj	N. TRAICI	зящ	oled: 11/04/03 08	5:4V	
2,4,6-Trichlorophenol	-	AK31314	11/08/03	11/10/03	1			
2,3,5,6-Tetrachlorophenol		*	"	"	1	ND ug/l	1.0	
2,3,4,6-Tetrachlorophenol	•					ND "	1.0	
2,3,4,5-Tetrachlorophenol	•	н	**		n	ND "	1.0	
Pentachlorophenol	"	11				ND "	1.0	
Surrogate: Tribromophenol	"	"	"			ND "	1.0	
Sarrogine. Thoromophenol		-				89.2 %	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.

aren aly

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								
						e: 11/17/03 13:25 b: 9329.000.0 16 b: SPI - (GeoMatrix)		
Order Number A311112	Receipt Date/Time 11/05/2003 15:55							
· ···		Alpha A	Analytical	Laborato	ries, Inc.		-	
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-12 (A311112-14)			Sample Ty	pe: Water	Sar	npled: 11/04/03 08:40		
Conventional Chemistry I	Parameters by APHA/EPA Me	thods						
Total Dissolved Solids	EPA 160.1	AK31019	11/10/03	11/13/03	ì	480 mg/i	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.

aren aly

Karen A. Daly For Sheri L. Speaks Project Manager



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

Geomat	CHI rix Consultants	EMICAL I	EXAM	INATION	N REPO	RT				Page 9 of 12		
	ebster Street, 12th Floor				Report I	Date: 1	1/17/03	13.25				
Oakland	l, CA 94612		Project No: 9329.000.0 16 Project ID: SPI - (GeoMatrix)									
Attn: Ge	eomatrix Consultants											
Order Number	Receipt Date/Time		Client	Code				O/Refere				
A311112	11/05/2003 15:55		GEO	MAT								
	Chlorinated Phen	iols by Cai	nadian	Pulp Me		unceResul						
· · · · · · · · · · · · · · · · · · ·				Spike	Source		%REC		RPD			
Analyte(s)	Result	PQL	Units	Level	Result	%REC	Limits	RPD	Limit	Flag		
Batch AK31314 - Sol	vent Extraction									وريني بالمستحين		
Blank (AK31314-BLK	1)			Prepared	: 11/08/03	Analyzed	l: 11/10/03					
2,4,6-Trichlorophenol	ND	1.0	ug/l				······					
2,3,5,6-Tetrachlorophenol	ND	1.0	н									
2,3,4,6-Tetrachlorophenol	ND	0.1	•									
2,3,4,5-Tetrachlorophenol	ND	1.0	**									
Pentachlorophenol	ND	1.0										
Surrogate: Tribromopheno	25.4			24.9		102	7 <b>9-1</b> 19					
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: Tribromopheno	1 27.1			24.9		109	79-119					
Matrix Spike (AK3131	4-MS1) So	ource: A311	112-02	Prenared	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: Tribromopheno	24.8			24.9		99.6	79-119					
Matrix Spike Dup (AK.	31314-MSDI) So	urce: A311 <sup>4</sup>	112_02	Prenared	11/08/03	Analyzad	11/10/03					
2,4,6-Trichlorophenol	4.91	1.0	ug/1	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 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.

aren aly

Karen A. Daly For Sheri L. Speaks Project Manager

11/17/03

ł

ł



Alpha Analytical Laboratories Inc.

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

#### CHEMICAL EXAMINATION REPORT Page 10 of 12 Geomatrix Consultants Report Date: 11/17/03 13:25 2101 Webster Street, 12th Floor Project No: 9329.000.0 16 Oakland, CA 94612 Project ID: SPI - (GeoMatrix) Attn: Geomatrix Consultants Client PO/Reference Client Code Order Number Receipt Date/Time A311112 GEOMAT 11/05/2003 15:55 **Chlorinated Phenols by Canadian Pulp Method - Quality Control** RPD Spike Source %REC %REC Result Limits Analyte(s) Result PQL Units Level RPD Limit

#### **Batch AK31314 - Solvent Extraction**

Matrix Spike Dup (AK31314-MSD1)	Source: A311112-02			Prepared:	11/08/03	Analyzed			
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	۳	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		

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

arenaly

Karen A. Daly For Sheri L. Speaks Project Manager

11/17/03

Flag



11/17/03

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

Receipt Date/Time

11/05/2003 15:55

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

**Client PO/Reference** 

Order Number A311112

Client Code 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	ə: A311'	112-07	Prepared:	11/10/03	Analyzed	: 11/13/03			
Total Dissolved Solids	2980	10	mg/l		2800	-		6.23	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.

aren aly

Page 11 of 12



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

## CHEMICAL EXAMINATION REPORT

Page 12 of 12

2101 We Oakland	rix Consultants ebster Street, 12th Floor I, CA 94612 eomatrix Consultants		Project No:	11/17/03 13:25 9329.000.0 16 SPI - (GeoMatrix)	
)rder Number A311112	Receipt Date/Time 11/05/2003 15:55	Client Code GEOMAT		Client PO/Reference	

#### **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

C	Chain-of Custody Record										(	)1	72	4	2			Da	ate:		11/	4/0	2	Page / of /	
Project No.:	9329,	000,016								AN	ALY	SES	3												REMARKS
Samplers (S	signature:)	the second	$\sim$	00 8021	hod 8021 De only)	hod 8021 Ny)	hod 6260	EPA Method 8270 (Full Scan) EPA Method 8270	tS only)	Method 8015m (Gasoline) Method 8015m (Diasel)		Method But 5m (Motor Un)	altocoli	Slovandarain					l, Water (W) 20 or Other (c)			P		ontainers	Additional Comments
Date	Time	Sample N	Number	EPA Med (Full Sca	EPA Method 8021 (Hai. VOCs only)	(BETX o	EPA Met	EPA Med (Fuil Sca EPA Med	SIM (PA)	Method 1		Memod		_	<u>e</u>				Soli (S		Fattered	Preserve	Cooled	No. of C	Chlorophenols shall beanalyzed by the
11/4/03	3pm	MW-14		1					$\downarrow$			$\downarrow$		Хļ	4			$\bot$	jn i	Ψ	6	16	<b>%</b> 5	3	branalyzed by the
· 1	245 pm	MW-6	_	ュ									12		<u>(</u>				Ш	$\downarrow$	Ш			2	Canudous Pulp Mothod
		MW-15D		3									Ľ		<u> </u>	_			$\downarrow \downarrow$		Ц			3	
	148 pm	MW-13D		H									2	<u>X</u>	<u>x</u>				Ш	_	$\square$			3	Sond Envoire DARA
	108 m	MW-1		5									_	<u>(</u>					₽					3	to Signa Prairie
	123800	MW-17	<u>د_</u>	6									2	X)	1			$\bot$		$\downarrow$	Ц	1		3	Industring
	1215pm	MW-16D		┢	-							_	/2	X J		-+	$\bot$	_			Ц	$\bot$		3	
	1115 Am	MHI-10		8											<u>x  </u>				#	╞	$\square$		_	3	
	1035m	MW-18		19										시	X				Ц		$\square$	$\perp$	μ.	3	
	952 AM	MW-9		- 11						_			·	시	X	_				Щ	$\square$			3	
	930AM	MW-11		-11									2	X  .	X					Ш	$\square$			3	
	903m	MW-8		17										X	X					Щ	Ц			3	
		MW-A	~	-12	>									X							$\square$		Ш	2	
V	840 AM	MW-12		- 44										시	X					4	V	V	V	3	
							-		_		-+		-+	$\pm$			1			1			1		
Laborato	ry: ALPI	HA ANAYT		1	Irnar Orm			ne:				ults S/r	to: אלאק	01		Tota	I No.	of C	onta	lin	ers			41	
Reinquis	shed by TS	gnature);	Date: F	telin	quist	ned	by (	Signat	ure	):	Da	ate:	Re	elind	UIS.	hed	by (S	gnat	ure)	):	7	Date	): 	Meti	And of Shipment:
Primed N		niball	Time:	rint	ed Na	ame	:				╡	me:	Pr	rinte	dN	ame						rime		7	pratory Comments and Log No.:
Company	in this			Comp	any:						1		C	omp	any	:					-			A?	311112
Received	Vpr=4			lece	Ded	py:-	w. Qun				D: /4	nto: 5703	Re	ecei	ved	by:	· · · · ·					Date			
Finted			Time:	field	od N SI	ame			Time: Printed Name:							7	Time	9: [	0	Geometrix Consultants					
Company	/:		10:55		HA	ha		abs	ISSS Company:				:					1			2101 \	Webster Street, 12th Floor + Oskiand, CA 94612 Phone: 510-563-4100 Fax: 510-563-4141			
- 1	1	l L					, )		ا ر			l.,		[		L		[			ι		1		<b>(    </b>

1.0

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

14 November 2003

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

4TH QUARTER 2003 GW MONITORING

MW-2,3,4,5, and 19D Chiomated Phenols

RECEIVED NOV 2 0 2003 GEOMATRIX CONSULTANTS, INC.

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 D. Alecce

Melanie B. Neece For Sheri L. Speaks Project Manager



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

Receipt Date/Time

11/04/2003 15:05

 Report Date:
 11/14/03 16:52

 Project No:
 9329.000.0 16

 Project ID:
 SPI - (GeoMatrix)

Order Number A311060

Client Code GEOMAT Client PO/Reference

Page 1 of 8

### 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

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.

Malanie B. Thece

Melanie B. Neece For Sheri L. Speaks Project Manager

11/14/2003



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

## CHEMICAL EXAMINATION REPORT

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

order NumberReceipt Date/TimeClient CodeClient PO/ReferenceA31106011/04/2003 15:05GEOMAT

		Alpha A	nalytical	Laborato	ries, Inc.		
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL NOT
*W-4 (A311060-01)			Sample Typ	e: Water		Sampled: 11/04/03 16:48	
Chlorinated Phenols by Canadian P	ulp 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	n		и	*	"	ND "	1.0
2,3,4,5-Tetrachlorophenol	"	"	n	11	м	ND "	1.0
Pentachlorophenol	"	н	*		**	ND "	1.0
Surrogate: Tribromophenol	"	n	r	"		92.0 % 79-11	9
<b>Conventional Chemistry Parameter</b>	s by APHA/EPA N	lethods					
Total Dissolved Solids	EPA 160.1	AK31018	11/10/03	11/13/03	1	310 mg/l	10
/W-3 (A311060-02)			Sample Ty	pe: Water		Sampled: 11/04/03 15:43	
Chlorinated Phenols by Canadian P	ulp Method						
2,4,6-Trichlorophenol	EnvCan	AK30702	11/05/03	11/05/03	1	ND ug/l	1.0
2,3,5,6-Tetrachlorophenol	н	"		*		ND "	1.0
2,3,4,6-Tetrachlorophenol	"	"	•			ND "	1.0
2,3,4,5-Tetrachlorophenol	*	"	H	"	н	ND "	1.0
Pentachlorophenol	••	11	*	H	Ħ	ND "	1.0
Surrogate: Tribromophenol	"	"	"	н		83.5 % 79-11	9
Conventional Chemistry Parameter	rs 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 Ty	pe: 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	•	н	H	н		ND "	1.0
- 2,3,4,6-Tetrachlorophenol	**					ND "	1.0
2,3,4,5-Tetrachlorophenol	11					ND "	1.0
Pentachlorophenol	н	н		*	•	ND "	1.0
- Surrogate: Tribromophenol	11	"	"	"		97.2% 79-1	19
Surroguie. Interementation							

-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.

Malanie S. Therea

Melanie B. Neece For Sheri L. Speaks Project Manager

11/14/2003

Page 2 of 8



1

]

1

Geomatrix (	C	HEMIC	'AL EXA	MINATIO	N REPORT			Page 3 of 8
2101 Webst Oakland, CA	er Street, 12th Floor	r			Project No:	11/14/03 16:52 9329.000.0 16 SPI - (GeoMatrix)		
Order Number A311060	Receipt Date/Time 11/04/2003 15:05			ient Code EOMAT		Client PO/Reference	•	
		Alpha A	Analytica	l Laborato	ries, Inc.			
	METHOD			ANALYZED		RESULT	PQL	NOTE
MW-5 (A311060-03)			Sample Ty			led: 11/04/03 15:03		NOTE
<b>Conventional Chemistry Para</b>	meters by APHA/EPA Me	ethods	1 -7	<b>-</b>	Samp	icu: 11/04/03 15:03		
Total Dissolved Solids	EPA 160.1	AK31018	11/10/03	11/13/03	1	380 mg/l	10	
MW-2 (A311060-04)			Sample Ty	ne: Water	Samo	lad. 11/04/02 14 20		
Chlorinated Phenols by Canad	lian Pulp Method			per trace	Samp	led: 11/04/03 14:20		
2,4,6-Trichlorophenol	EnvCan	AK30702	11/05/03	11/05/03	1	ND		
2,3,5,6-Tetrachlorophenol	11	*	н	"	ц т	ND ug/l ND "	1.0	
2,3,4,6-Tetrachlorophenol	u	**	"	**		ND "	1.0	
2,3,4,5-Tetrachlorophenol	"	۳	H			ND "	1.0	
Pentachlorophenol	"	н	**	*	*	ND "	1.0	
Surrogate: Tribromophenol	H	"	#	"		99.2 % 79-119	1.0	
Conventional Chemistry Paran	neters by APHA/EPA Me	thods						
Total Dissolved Solids	EPA 160.1	AK31018	11/10/03	11/13/03	1	760 mg/l	10	
MW-19D (A311060-05)			Sample Typ	ve. Water	Samul	ad. 11/04/02 14 20		
Chlorinated Phenols by Canad	ian Pulp Method				Samp	ed: 11/04/03 14:20		
2,4,6-Trichlorophenol	EnvCan	AK30702	11/05/03	11/05/03	1	ND		
2,3,5,6-Tetrachlorophenol	*	"	"	"		ND ug/l ND "	1.0	
2,3,4,6-Tetrachlorophenol	**	Ħ	**		"	ND "	1.0	
2,3,4,5-Tetrachlorophenol	ю		H	H	"	ND "	1.0	
Pentachlorophenol	"	*		"	"	ND "	1.0 1.0	
Surrogate: Tribromophenol	#		"	"		92.8% 79-119	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.

Malanis S. Trecca

Melanie B. Neece For Sheri L. Speaks Project Manager

11/14/2003



CHEMICAL EXAMINATION REPORT

Geomatrix Consultants Report Date: 11/14/03 16:52 2101 Webster Street, 12th Floor Project No: 9329.000.0 16 Oakland, CA 94612 Project ID: SPI - (GeoMatrix) Attn: Geomatrix Consultants **Client PO/Reference** order Number Receipt Date/Time Client Code A311060 11/04/2003 15:05 GEOMAT Alpha Analytical Laboratories, Inc. RESULT POL NOTE BATCH PREPARED ANALYZED DILUTION METHOD Sampled: 11/04/03 14:20 Sample Type: Water MW-19D (A311060-05) **Conventional Chemistry Parameters by APHA/EPA Methods** 10 370 mg/l **Total Dissolved Solids** EPA 160.1 AK31018 11/10/03 11/13/03 1

\_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.

Malanie L. There

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

Page 4 of 8



CHEMICAL EXAMINATION REPORT Geomatrix Consultants													
	ter Street, 12th Floor			1	Report I	Date: 1	1/14/03	16.52					
Oakland, C							3 <b>29.</b> 000.						
	atrix Consultants						PI - (Geo		)				
Order Number A311060	Receipt Date/Time 11/04/2003 15:05		Client GEON			O/Refere	nce						
					Sou	rceResult							
Chlorinated Phenols by Canadian Pulp Method - Quality Control													
				Spike	Source		%REC		RPD				
Analyte(s)	Result	PQL	Units	Level	Result	%REC	Limits	RPD	Limit	Flag			
Batch AK30702 - Solven	t 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	H										
Surrogate: Tribromophenol	26.3			24.9		106	79-119						
LCS (AK30702-BS1)				Prepared a	& Analvze	d: 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-M	(S1) Sou	rce: A3110	060-01	Prepared a	& Analyze	d- 11/05/0	13						
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			r			
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	н	5.00	ND	93.2	55-124						
Surrogate: Tribromophenol	25.4		N	24.9		102	79-119						
Matuin Suiles Due (A 1/207	02 MED1)		060.04	Dragonal	P. A1								
Matrix Spike Dup (AK307 2,4,6-Trichlorophenol	<u>4.52</u>	rce: A3110 1.0		Prepared a				0.47		<del>_</del>			
2,3,5,6-Tetrachlorophenol	4.32		ug/1 "	5.00	ND	90.4	75-125	8.47	20				
2, J, J, O* I CUACHIOROPHENOI	4./0	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.

Malanie B. Trace

Melanie B. Neece For Sheri L. Speaks Project Manager

11/14/2003

ł



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)

rder 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
atch AK30702 - Solvent Extraction										
Matrix Spike Dup (AK30702-MSD1)	Sour	ce: A311	060-01	Prepared	& Analyze	ed: 11/05/0	03			
.,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	
urrogate: Tribromophenol	23.6			24.9		94.8	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.

Malanis B. There

Melanie B. Neece For Sheri L. Speaks **Project Manager** 

11/14/2003

Page 6 of 8



2101 We Oakland	CHEMICAL EXAMINATION REPORT Geomatrix Consultants 2101 Webster Street, 12th Floor Oakland, CA 94612 Attn: Geomatrix Consultants Project ID: SPI - (GeoMatrix)													
Order Number A311060	Receipt Date/ 11/04/2003 1			Client Code Client GEOMAT					D/Refere					
	Conventional Che	mistr	y Paramete	ers by A	PHA/EP	A Meth	ods - Qi	uality Co	ntrol					
Analyte(s)	]	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag			
Batch AK31018 - Gen	eral Preparation								_					
Blank (AK31018-BLK1	1)				Prepared:	11/10/03	Analyzed	t: 11/13/03						
Total Dissolved Solids		ND	10	mg/l	<b>.</b>									
Duplicate (AK31018-D)	UP1)	S	ource: A311	060-04	Prepared:	11/10/03	Analyzed	l: 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.

Malania B. Trace

Melanie B. Neece For Sheri L. Speaks Project Manager

11/14/2003

8



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

CHEMICAL EXAMINATION REPORT

Page 8 of 8

2101 We Oakland,	x Consultants bster Street, 12th Floor CA 94612 omatrix Consultants		Project No:	11/14/03 16:52 9329.000.0 16 SPI - (GeoMatrix)
rder Number A311060	Receipt Date/Time 11/04/2003 15:05	Client Code GEOMAT		Client PO/Reference

#### **Notes and Definitions**

DET	Analyte DETECTED
٧D	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
iry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
?QL	Practical Quantitation Limit

C	inain-	of Cus	tody	Re	CÖ	rd							01	6	80	0			T	Date	1	11	3/0	23	Page of
		000.0	16							A	NAL	YSE	S						T				<b>,</b>		REMARKS
Samplers (S	signature:)	Mart		hod 8021	nod 8021 Se ontvi	od 8021	od 6260	EPA Method 8270 (Full Scan)	kod 8270 IS only)	Method 8015m (Gasoline)	015m (Diesel)	Method 8015m (Motor Oil)	Silica Gel Cleanup	chlenophone (S					(W)	Vapor (V), or Other (o)				tainers	Additional Comments
Date	Time	Sample	Number	EPA Mod		EPA Met	EPA Met	EPA Met Full Scar	HVH Met Sim (Pah	Method 8	Method 8	Aethod 8	Silica Gel	here	705				ol (S). W	apor (C)	Filtered	Preserved	Cooled	o. of Con	
11/3/07	448	Mw-4	- 1							_					र्ग		1	+	ſ					3	Choisphinals shall be
	343	MW-3	-2											T	ŤŤ		+	$\top$	Ť	<u>i</u>	ī	Ì	1	3	
	303	MIN-5	- 3											11	╈	-+	╉	+-	╈	H	╞┼	+	+	3	analyzed by the Canadian Pulp Met
		MN-2	-4	Τ										11	$\dagger$	+	-	+-	╋		Ħ	$^{\dagger}$	$\uparrow$	3	Lanawas Tulp Inpl
V	433	MW-191	D -5		Τ	Γ									$\mathcal{J}$	+		+	1	$^{\dagger}$	H	11	5	3	
$\geq$																-+-	╈		╀			<u> </u>		$\triangleright$	
																	1		T	T	オ	7			Bill directly to
																	T	$\mathbf{F}$	7	T					Bill directly to Sierra Pacific Indus
				$\mathbf{r}$											7	7	1			T	+				
								$\square$			7	7	1				T		T	T	1				
			-				$\backslash$					$\neg$	$\Box$						T						
				上									Τ	7	$\neg$				T	╈	╈				
														Τ	T		$\top$	$\overline{1}$	T	T	1				
	$\square$																Τ		Г	Τ	$\overline{1}$	$\neg$			
													T	Τ	T		Τ	T	T	T	1				
$\sim$		A Arry		A	rnar OC,	m	<u>۔</u>	-				ults Sh		50¥	7	Total	No.	of Co	onta	ine	rs			15	Bailer
Relinguren		():	Date: F 143/0-F	Relind	$\frac{1}{N}$	ed b UU	y (S	igna	ture)	):	Di	ato: 14	R	elinq	uish	ed by	y (Si	gnatu	re)	:	D	ate:	Ţ	leth	od of Shipment:
Jum	1.me: 25 / for	n. 6.0	Time:	finte	d/Na 44./	IMe:	Har	u/r			- E.	-7 ime:	Pr	inte	d Na	me:					<b> </b>	me:	ľ	abo	ratory Comments and Log No
Сотралу:			1725	Comp	anv:	1/12		<u>~~ )</u>			75		<b>c</b> a	ompa	any:				-		+				der TEMP 26
Received	tued		Date: [	in de l		by:		Qa	}.	Δ		4/0	Re	ceiv	/ed t	oy:		·			Da	ate:	+	A?	311060-
Printed Na			1'7 Time:	sinte	d Ne				ſ		-14	5:0	Fr	inte	d Na	me:				-	-				
Company:			0:55	Onp		$\overrightarrow{A}$	₽	<u> </u>	سل	3	-["	.n <b>y</b> .		mpa								me:	17		Bester Street, 12th Floor + Oakland, CA 9 hone: 510-663-4100 Fax: 510-663-4141

•

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

07 November 2003

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

4TH QUARTER 2003 GW MONITORING

MW-7 Bailer Chlarinated Phenols

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 D. Spece

Melanie B. Neece For Sheri L. Speaks Project Manager

RECEIVED GEOMATRIX CONSULTANTS, INC



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

## 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 A311062 Receipt Date/Time 11/04/2003 15:05

Client Code GEOMAT

#### Client PO/Reference

## 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

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. Trecce

Melanie B. Neece For Sheri L. Speaks Project Manager

11/7/2003

Page 1 of 6



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

## **CHEMICAL EXAMINATION REPORT**

Page 2 of 6

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)

Client Code
GEOMAT

Order Number Receipt Date/Time **Client PO/Reference** A311062 11/04/2003 15:05 Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPAREI	D ANALYZED	DILUTION	RESULT	PQL	NOTE
MW7-200311-B-U (A311062-01)				pe: Water		Sampled: 11/03/03 12:		
Chlorinated Phenols by Canadian Pu	lp Method			Per viace		Sampicu. 11/03/03 12:,	50	
2,4,6-Trichlorophenol	EnvCan	AK30702	11/05/03	11/06/03	10	ND us/	5.0	
2,3,5,6-Tetrachiorophenol	н	*	"	"	10	ND ug/l <b>36 ''</b>	5.0	R-01
2,3,4,6-Tetrachlorophenol	"			11/05/03			1.0	
2,3,4,5-Tetrachlorophenol				11/06/03	H		1.0	
Pentachiorophenol	n		н	"		35 *	1.0	
Surrogate: Tribromophenol		"				28000 "	1.0	
<u> </u>						97.6 %	79-119	
<b>Conventional Chemistry Parameters </b>	DY APHA/EPA N	lethods						
Total Dissolved Solids	EPA 160.1	AK30507		11/07/03	,	460 0		
Total Suspended Solids	EPA 160.2	AK30509	11/05/03	11/06/03	1	460 mg/l	10	
-		140000	11/05/05	11/00/03		230 "	1.0	
MW7-200311-B-F (A311062-02)			Sample Ty	ne: Water	6	ammlad. 11/02/02 10 a	-	
-Chlorinated Phenols by Canadian Pul	p Method		Sumple 13	pe. Water	3	ampled: 11/03/03 12:3	0	
2,4,6-Trichlorophenol	EnvCan	AK30702	11/05/03	11/06/03	10			
2,3,5,6-Tetrachlorophenol					10	ND ug/l	5.0	R-01
2,3,4,6-Tetrachlorophenol	*	н		11/05/03	1	47 "	1.0	
2,3,4,5-Tetrachlorophenol	*	и	H	11/06/03		740 "	1.0	
Pentachloropheno!	н	"		11/06/03		43 "	1.0	
Surrogate: Tribromophenol	#					31000 "	1.0	
-			"	*		102 %	79-119	
Conventional Chemistry Parameters b	V АРНА/ЕРА М	ethods						
Total Suspended Solids	EPA 160.2	AK30509	11/05/03	11/07/00				
-	2171100.2	AK30309	11/05/03	11/06/03	I	6.2 mg/l	1.0	

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

Melanie S. Truca

Melanie B. Neece For Sheri L. Speaks Project Manager



Alpha Analytical Laboratories Inc.

Geoma	CHEMICAL ]	EXAMINATI	ON REPORT		Page 3 of 6
2101 W Oaklan	Vebster Street, 12th Floor d, CA 94612 Jeomatrix Consultants		Project No:	11/07/03 15:07 9329.000.0 16 SPI - (GeoMatrix)	
Order Number A311062	Receipt Date/Time 11/04/2003 15:05	Client Code GEOMAT		Client PO/Reference	
			SourceRe	sult	

# 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)				Prenared	& Analyze	d. 11/05/	0.2			
2,4,6-Trichlorophenol	ND	1.0	ug/l	Treparcu	& Allalyze	a: 11/05/	03			
2,3,5,6-Tetrachlorophenol	ND	1.0	*							
2,3,4,6-Tetrachlorophenol	ND	1.0								
2,3,4,5-Tetrachlorophenol	ND	1.0	н							
Pentachlorophenol	ND	1.0	*							
Surrogate: Tribromophenol	26.3			24.9		106	79-119			
LCS (AK30702-BS1)				Prepared &	& Analuza	d. 11/05/				
2,4,6-Trichlorophenol	4.21	1.0	ug/l	5.00	t Analyze	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	н	5.00		97.0 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		N	24.9		96.8	79-119	·		
Matrix Spike (AK30702-MS1)	Sour	ce: A311	060-01	Prepared 8	Analyzer	1·11/05/0	12			
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	93.0 84.0	66-117			
2,3,4,5-Tetrachlorophenol	4.38	1.0		5.00	ND	84.0 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)	Sour	ce: A3110	60-01	Prepared &	Analyzed	· 11/05/0	3			
2,4,6-Trichlorophenol	4.52	1.0	ug/l	5.00	ND	90.4	5 75-125	8.47	20	
2,3,5,6-Tetrachlorophenol	4.76	1.0		5.00	ND	95.2	69-115	8.47 0.210	20 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 S. Treece

Melanie B. Neece For Sheri L. Speaks Project Manager

11/7/2003



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 R

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)

Client PO/Reference

Order Number	Receipt Date/Time	Client Code	
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
atch AK30702 - Solvent Extraction										
Matrix Spike Dup (AK30702-MSD1)	Sou	rce: A311	060-01	Prepared	& Analyz	ed: 11/05/0	)3			
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			

The results in this report apply to the samples analyzed in accordance with the chain <sup>r</sup>custody document. This analytical report must be reproduced in its entirety.

Malanie B. Therea

Melanie B. Neece For Sheri L. Speaks Project Manager

Page 4 of 6



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

Geomatrix Co	CHEN onsultants	IICAL H	EXAMI	NATION	N REPO	RT				Page 5 of 6
2101 Webster Oakland, CA	Street, 12th Floor				Project	t No: 93	1/07/03 1 329.000.0 PI - (Geo	) 16	)	
Order Number A311062	Receipt Date/Time 11/04/2003 15:05		Client GEOI				Client P	O/Refere	nce	
Conv	entional Chemistry P	aramete	rs by A	PHA/EP	A Meth	ods - Qı	ality Co	ntrol		
Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AK30507 - General I	Preparation									<u> </u>
Blank (AK30507-BLK1)				Prepared:	11/05/03	Analyzed	: 11/07/03			
Total Dissolved Solids	ND	10	mg/l							
Duplicate (AK30507-DUP1)	Sou	rce: A310	586-01	Prepared:	11/05/03	Analyzed	: 11/07/03			
Total Dissolved Solids	5130	10	mg/l	•	5100			0.587	30	
Batch AK30509 - General H	Preparation									
Blank (AK30509-BLK1)				Prepared:	11/05/03	Analyzed	: 11/06/03			
Total Suspended Solids	ND	1.0	mg/l	<b>·</b>						
Duplicate (AK30509-DUP1)	Sour	се: A311(	062-01	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.

Malanie S. Therea

Melanie B. Neece For Sheri L. Speaks Project Manager

11/7/2003

1 1

÷



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

### CHEMICAL EXAMINATION REPORT

Page 6 of 6

	Geomatrix Consultants 2101 Webster Street, 12th Floor Oakland, CA 94612 Attn: Geomatrix Consultants	Project N	te: 11/07/03 15:07 fo: 9329.000.0 16 D: SPI - (GeoMatrix)	
order Number A311062	Receipt Date/Time 11/04/2003 15:05	Client Code GEOMAT	Client PO/Reference	

#### **Notes and Definitions**

- R-01	The Reporting Limit for this analyte has been raised to account for matrix interference.
1.2-01	The reporting Emilt for this analyte has been function to decount for marry metrorence.

- 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

		of Cust	ody	He	CO	rd_	_					01	67	99				Date:					Page of 7
Project No.:	<u>4329,</u>	000.0 16							A	NAI	YSE	S	_										REMARKS
Samplers (S Mad	Signature:)		-	hod 8021	hod 8021 Se only)	hod 8021 Ny)	rod 8250 rod 8270	(Full Scan) EPA Method 8270 SIM (PAHS only)	015m (Gasoline)	015m (Diesel)	Method 8015m (Motor Oil)	Cleanup ALA 1 -	Christian	13				atter (w) or Other (o)				tainers	Additional Comments SENDINUULCE DIABLIC TO Sidrna Pacific Inclucte: 29
Date	Time	Sample	Number	EPA Med	EPA Met (Hal. VO	EPA Med (BETX or	EPA Mett EPA Met	(Full Sca EPA Meth StM (PA-	Method 8	Method 8	Method 8	Silca Gel		Z C						reserved		Co Co	+nouche, PG
10/03	1230	MW7-20031	1-B-U	2 -	.\								K X				Ī	WI	5	6 4	5 4	<del>7</del> 7	Chlorophenels shall b
13/03	<b>^ ^ ^</b>	MW7-200	ſ	7 .	12								X	X				NI	61	5 Ye	۶	3	anuly al by the Canad
$\searrow$				╉	╞							_	_						4	7	1		Pulp Mythod
			<u> </u>	╂─	╞		-+-	┿				-+	+	+	H	4	7	_	╉	+	+	┥	
								-				丁	才					+		+		f	DMW7200311-B-U Shull branalyzdwith
				$\downarrow$						$\square$	7	$\square$	1							T		7	Filtrution.
			<u></u>	+			$\Rightarrow$	${ \leftarrow }$	$\square$			_	_	-			-			4	+	_	
				t	$\ge$	4	+	+				-	╉╌	┼╌			-	+	+	╋	╉	-	DMW7200311-B-F shall by filtered using
			$\checkmark$	1								$\overline{\mathbf{A}}$	Ţ					$\uparrow$					2.7 micronatuss tibe
				┢	$\left  - \right $		-						+	$\mathbf{h}$						_			filterprior to chloro
	$\geq$			$\uparrow$		$\rightarrow$	+	+			-+	+-	┢			$\rightarrow$	+	+	╉	╉	+	-4	and TSS analysis
$\square$											+	╈	1	╉┥			╈	$\rightarrow$	⊁	$\mathbf{t}$	+	╉	······································
	<b>)</b>	A AWALYN	CAL	Tui 49	rnaro S Hy	und	Time: Rus	4		Res	ults CS EEA			Tota	al No	b. of C	Cont	ainer	<u>(-</u> S			打	BAKER Sompling
2		gnature	Date: R	elinq	uistr ND	tth	(Sig	nature	•):	- IDa	ate: 4	Rel	inqui	shed	by (	Signa	ture	):	Da	te:	Me	tho	d of Shipment: A Andy Heal Rufe
ompany:	ime: Cos Hon	n solf	Time	runte	d Na:	mg:	HI.			hτι	me:			Name	:				Tin	ne:	Lab	ora	itory Comments and Log N
(970) lepeived	oy: /			T 177 · · ·		1/pl	<u>69</u>	<del>.</del>			5:05												der Temp 2.6
Vinted Na	me:		////	2117	$\mathcal{M}$		pe De	al	6	-11	-	0		d by: Name	:				Dai	ļ	H	5	1062
ompany:			10:55 C	<u>)//(</u> 9999	211 Iny:	$\frac{S}{A}$	pe	al	5_	- 14	me: 5 0		ipan						Tin				Steel, 12th Floor • Oakland, CA 9



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

07 November 2003

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

4TH QUARTER 2003 GW MONITORING

MW-7 LOW Flow Chlorinated Phanols

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,

Malanie D. Spece

Melanie B. Neece For Sheri L. Speaks **Project Manager** 



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

Receipt Date/Time

11/04/2003 15:05

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

Order Number A311061

**Client Code** GEOMAT

#### Client PO/Reference

#### 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

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 S. There

Melanie B. Neece For Sheri L. Speaks Project Manager

11/7/2003

Page 1 of 6



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

CHEMICAL EXAMINATION REPORT

Page 2 of 6

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 4	Analytica	l Laborato	ries, Inc.			
-	METHOD	BATCH	PREPAREI	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW7-200311-LF-U (A311061-01			Sample Ty	pe: Water		Sampled: 11/03/03 11:		NOTE
Chlorinated Phenols by Canadian P	ulp Method			•		Sampled: 11/05/05 11;	.25	
2,4,6-Trichlorophenol	EnvCan	AK30702	11/05/03	11/06/03	10	ND ug/l		
2,3,5,6-Tetrachlorophenol	*	m	"		1	28 "	5.0	R-01
2,3,4,6-Tetrachlorophenol	**		*	11/05/03			1.0	
2,3,4,5-Tetrachlorophenol			н	11/06/03		450 "	1.0	
Pentachlorophenol	n			H 1700/05		24 "	1.0	
Surrogate: Tribromophenol	"	<i>n</i>	"			20000 "	1.0	
Same				"		107 %	79-119	
<b>Conventional Chemistry Parameters</b>	by APHA/EPA N	lethods						
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 Tyj	De: Water		Formulade 11/02/02 44		
Chlorinated Phenols by Canadian P	Ip Method					Sampled: 11/03/03 11:2	25	
2,4,6-Trichlorophenol	EnvCan	AK30702	11/05/03	11/06/03	10			
2,3,5,6-Tetrachlorophenol	"	н		"	1	ND ug/l	5.0	R-01
2,3,4,6-Tetrachlorophenol	*	*	**	11/05/03		19 "	1.0	
2,3,4,5-Tetrachlorophenol	м			11/05/03		300 "	1.0	
Pentachlorophenol	"	"		"	-	17 "	1.0	
Surrogate: Tribromophenol		"				14000 "	1.0	
om ogale. Interomophenot		"	'n	n		92.8 %	79-119	
Conventional Chemistry Parameters	by APHA/EPA M	ethods						
Total Suspended Solids	EPA 160.2	AK30509	11/05/03	11/06/03				

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

Malanie B. There

Melanie B. Neece For Sheri L. Speaks Project Manager

11/7/2003

	Ur	pha_	
A1.		nalutical	1 -

Alpha Analytical Laboratories Inc.

011111 O . . .

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

-		AICAL H	EXAMI	<b>NATION</b>	REPO	RT				Page 3 of 6
Geomatrix C 2101 Webste Oakland, CA	er Street, 12th Floor						1/07/03			·
	atrix Consultants				Project	·πο: 9	329.000	.016 .) (at-i)	<b>`</b>	
	dia Consultants				Projec	(ID: 2	SPI - (Ge	omatrix	•	
Order Number A311061	Receipt Date/Time			Code			Client I	PO/Refere	nce	
	11/04/2003 15:05		GEO	MAT						
					Sou	rceResu	lt			
	<b>Chlorinated Phenol</b>	ls by Car	nadian	Pulp Met	hod - Q	uality (	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	& Analyze	ed: 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	н							
2,3,4,5-Tetrachlorophenol	ND	1.0	t <del>)</del>							
Pentachlorophenol	ND	1.0	н							
Surrogate: Tribromophenol	26.3			24.9		106	79-119			
LCS (AK30702-BS1)				Prepared	& Analyze	:d: 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		Ħ	24.9		96.8	79-119			
Matrix Spike (AK30702-MS	31) Sour	ce: A311(	060-01	Prepared a	& Analyze	d· 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	н	5.00	ND	95.0	69-115			
2,3,4,6-Tetrachlorophenol	4.20	1.0	н	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		R	24.9		102	79-119			
Matrix Spike Dup (AK30702	2-MSD1) Sour	ce: A311(	)60-01	Prepared a	& Analyze	d: 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.

Malanie B. Trece

Melanie B. Neece For Sheri L. Speaks Project Manager

11/7/2003

\_---

F ( . 1



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

### CHEMICAL EXAMINATION REPORT

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

Receipt Date/Time

11/04/2003 15:05

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

**Client PO/Reference** 

Jrder Number A311061

Client Code 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
_atch AK30702 - Solvent Extraction										
Matrix Spike Dup (AK30702-MSD1)	Sour	ce: A311	060-01	Prepared	& Analyze	ed: 11/05/0	03			
:,3,4,6-Tetrachlorophenol	4.62	1.0		5.00	ND	92.4	66-117	9.52	20	
•	4.62 4.35	1.0 1.0	*	5.00 5.00	ND ND	92.4 87.0	66-117 70-115	9.52 0.687	20 20	
:,3,4,6-Tetrachlorophenol ,3,4,5-Tetrachlorophenol Pentachlorophenol									-	

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

Melanie B. There

Melanie B. Neece For Sheri L. Speaks Project Manager 11/7/2003

Page 4 of 6

alpha	
Alpha Analytical Laboratories Inc.	<b>208 Mason St. Ukiah, California 95482</b> • Phone: (707) 468-0401 • Fax: (707) 468-5267
CHEMICAL EXAM Geomatrix Consultants	INATION REPORT Page 5 of
2101 Webster Street, 12th Floor Oakland, CA 94612	Report Date: 11/07/03 10:25 Project No: 9329.000.0 16
Attn: Geomatrix Consultants	Project ID: SPI - (GeoMatrix)

Order Number	Receipt Date/Time	Client Code
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				11/00/05			······································
Duplicate (AK30509-DUP1)	Sour	ce: A311(	062-01	Prepared:	11/05/03	Analyzed:	11/06/03			
Total Suspended Solids	230	1.0	mg/l		230			0.00	30	

Malanie S. Therea

Client PO/Reference

Melanie B. Neece For Sheri L. Speaks Project Manager

11/7/2003

ź



-----

#### CHEMICAL EXAMINATION REPORT

Page 6 of 6

Drder Number A311061	Receipt Date/Time 11/04/2003 15:05	Client Code GEOMAT	Client PO/Reference
	Attn: Geomatrix Consultants	Project ID:	SPI - (GeoMatrix)
-	Oakland, CA 94612	<b>J</b>	9329.000.0 16
	2101 Webster Street, 12th Floor	-	11/07/03 10:25
	Geomatrix Consultants		

#### \_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
1.5	

- **Relative Percent Difference** RPD
- **PQL Practical Quantitation Limit**

Chain-of Custody F	200	COI	rd		_				<u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>	6	798	<u>,</u>			Da	te: 🧳	7	7	2	Page / of /
Project No.: 9329,000,0 16	T		-				ANA	LYSI		01	30	)			<b> </b>	1	1/3	10	2	REMARKS
Sampienr (Signature:)	n)	vod 8021 Ja only)	Nod BO21 Ny)	od 6260	00 8270	eoline)	()	tor Oil)		Chleroparals		(613			Soli (S), Watter (W) Vapor (V), or Other (o)				Containers	Additional Comments
Date Time Sample Number 11/3/03 1125 MW7-200311-2F-1	EPA Method 8021 (Full Scan)	EPA Met (Hai. VOC	EPA Met (BETX or	EPA Meth	(Full Scan) (Full Scan) EPA Method 8270	Method 801	Method 8015m (D	Method 8015m (Mo	_	_	135	EPA.					Preserved	Cooled	No. of	
11/3/03 1125 MW-7-200311-LF-F										x // x //	$\langle  $				とと	20 20	No No	413 413	3	chlorophinols shall be analyzed by the
				-+		+-						╢					2	$\triangleleft$		Canadian Pulp Motion
					+							∄		$\leq$						Mw-7-200311-2F-U Shall bo amily zed
			$ \rightarrow $	+					4	1										Without FiltRAtion 2 MN-7-200311-2F-F
		4	4		≰.	$\models$														Shall be filtered using a O.7 micronglass fiber
									$\downarrow$	+	$\downarrow$					$\exists$				filter prior to chloropha TSS analysis, After
														4	$\exists$			1		filtention submil 2x1 bottles to Frontion for
$\bigcap$	Turn 481		und T					uits		sor	7 To	tal N	o. of .	Cont	tain	ers				EPA 1613 analysis Low FLOW SAMPLING
Heinguished by (Signature):     Date:     Rel       Printed Name:     16/03       Printed Name:     172       Company:     172		Nah	A by all	(Sig head	unatur S	B):		nte: /4 me: 5:05	Pri	nted	ished Namo		Signa	ature	ə):	-	ate: ime:	Ä.	etho L <i>Ph</i>	atory Comments and Log No.: Der TEMP 2:6
1/4	pted	( L .	Sp Ne:1	RC	uk.			14.	Re	ceive	d by: Name						ate:			311061
Company: D'55 Com	LQ FIL	$\frac{1}{2h}$	1 A	<u>)</u> ea	<u>ل</u>	7	-15	me: 5205	Ł	mpar							ime:	210		Decomatrix Consultants baler Street, 12th Floor + Oakland, CA 9461 hone: 510-663-4100 Fax: 510-663-4141



November 20, 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,

all

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

الاعمادان فعرف فالمحا

## Sample Tracking Log

## FAL Project ID: 2318

Received on: 11/07/2003

مىلىپىلىپى مەلەر مەلەر ئەيچىلەت ئەركىپىلەت ئەركىپىلەت ئەركىپىلەت ئەركىپىلەت ئەركىپىلەت ئەركىپىلەت ئەركىپىلەت ئە تەركىپىلەت ئەركىپىلەت ئەركىپىلەت ئەركىپىلەت ئەركىپىلەت ئەركىپىلەت ئەركىپىلەت ئەركىپىلەت ئەركىپىلەت ئەركىپىلەت ئ

Project Due: 11/24/2003 Storage: R1

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



# **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<sup>‡</sup> 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

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



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.

[]

[]

;

f. -

## EPA Method 1613 PCDD/F



1

1

к 3

<u>1</u>-1

FAL ID: 2318-001-MB Client ID: Method Blank		Date Extrac Date Receiv		/13/03	ICal: pcddfal1-11-( GC Column: db5	06-03	Acquire	d: 14-1	IOV-03
Matrix: Aqueous		Amount: 1.0			Units: pg/L			- 0 00	
Extraction Batch No.: 0120			00 L		MS/MSD Batch No.: I	0126	WHO TEG	: 0.00	
Compound	Conc	DL	Qual	WHO Tox	Compound	Con	c D	L Qua	al #Hom
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		· _	Total Tetra-Dioxins		- 3.	56	0
1,2,3,7,8,9-HxCDD	-	9.64		-	Total Penta-Dioxins			79	0
1,2,3,4,6,7,8-HpCDD	-	11.0		-	Total Hexa-Dioxins			.6	0
OCDD	-	21.0		-	Total Hepta-Dioxins		- 11		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		-	Total Tetra-Furans		2	7/	•
1,2,3,4,6,7,8-HpCDF	-	3.35		-	Total Penta-Furans		- 2.		0
1,2,3,4,7,8,9-HpCDF	-	3.80		-	Total Hexa-Furans		- 6. - 4		0
OCDF	-	17.8		-	Total Hepta-Furans		- 4. - 3.		0 0
Internal Standards	% Rec	QC Limits	Qua	al					
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							
3C-1,2,3,4,6,7,8-HpCDF	71.9	28.0 - 143							
3C-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: 17/03 Date: //

Reviewed by:\_ Date: 11/20

## EPA Method 1613 PCDD/F



-	FAL ID: 2318-001-OPR Client ID: OPR Matrix: Aqueous Extraction Batch No.: 012	8	Date Extracted: 11/13/03 Date Received: NA Amount: 1.000 L
: 	Compound	Conc	QC Limits
3	2,3,7,8-TCDD	10.3	6.70 - 15.8
1	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
4	1,2,3,7,8,9-HxCDD	48.6	32.0 - 81.0
j	1,2,3,4,6,7,8-HpCDD	44.7	35.0 - 70.0
	OCDD	94.8	78.0 - 144
i I	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
- E	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
	OCD F	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 - 19 <b>3</b>
	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
1	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
~			

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

Cleanup	Surrogate
3701-2,3	5,7,8-TCDD

1.4

65.3 31.0 - 191

Analyst: Date: 11/17/03

Reviewed by: Date: 11/20/03

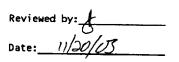
## EPA Method 1613 PCDD/F



# MW-7-200311-LF-F

FAL ID: 2318-001-SA		Date Extrac			ICal: pcddfal1-11-	06-03 Acc	quired:	14-NOV-03
Client ID: A311061-02		Date Receiv		7/03	GC Column: db5			
Matrix: Aqueous		Amount: 0.9	'65 L		Units: pg/L		D TEQ: 0	.00411
Extraction Batch No.: 0128					MS/MSD Batch No.: (	0126		
Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual #Hor
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	-	4.04 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
							4.46	U
Internal Standards	% Rec	QC Limits	Qua	al				
13C-2,3,7,8-TCDD	92.1	25.0 - 164	4					
13C-1,2,3,7,8-PeCDD	149	25.0 - 18						
13C-1,2,3,4,7,8-HxCDD	77.2	32.0 - 141	1					
13C-1,2,3,6,7,8-HxCDD	75.5	28.0 - 130	)					
3C-1,2,3,4,6,7,8-HpCDD	96.0	23.0 - 140						
13C-OCDD	100	17.0 - 157	7					
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						
3C-1,2,3,4,6,7,8-HpCDF	104	28.0 - 143						
3C-1,2,3,4,7,8,9-HpCDF	76.8	26.0 - 138						
13C-OCDF	99.3	17.0 - 157						
Cleanup Surrogate								

Analyst: Date: 11/17/01



### EPA Method 1613 PCDD/F



	FAL ID: 2302-001-MS/MSD Client ID: S3J0138-04 Matrix: Aqueous Extraction Batch No.: 0120	Dat Sam S MS .	e Extracted: 11/5/0 e Received: 10/29/0 ple Amount: 0.997 Amount: 0.998 L Amount: 1.009 L	3	ICal: PCDDFAL1-11-06-03 GC Column: cfb5 Units: pg MS/MSD Batch No.: 0126	MS Acquired: 8-NOV MSD Acquired: 8-NO WHO TEQ: NA	
	Compound	Amount Spiked	Sample Amount	MS Amount	MSD Amount	% RSD Qual	
ر	2,3,7,8-TCDD	200	-	192	182	5.35	
	1,2,3,7,8-PeCDD	1000	-	894	854	4.58	
7	1,2,3,4,7,8-HxCDD	1000	-	915	900	1.65	
1	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	
n	1,2,3,7,8-PeCDF	1000	-	904	870	3.83	
ł	2,3,4,7,8-PeCDF	1000	•	908	905	0.330	
i.	1,2,3,4,7,8-HxCDF	1000	-	870	861	1.04	
	1,2,3,6,7,8-HxCDF	1000	-	867	832	412	
1	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	
-	OCD F	2000	-	1870	1830	2.16	
.)	Internal Standards		% Rec	% Rec	% Rec	<b>QC</b> 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	
ł	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	
а	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	
ن	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	
ŗ	13C-1,2,3,4,7,8-HxCDF	2000	57.6	71.7	57.0	25.0 - 150	
1	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	
ز	13C-1,2,3,4,7,8,9-HpCDF	2000	70.7	88.8	68.8	25.0 - 150	
. 1	13C-0CDF	4000	81.2	72.9	60.3	25.0 - 150	
	Cleanup Surrogate						
٦.	37Cl-2,3,7,8-1CDD	800	82.6	87.1	84.8	25.0 - 150	
i							

Analyst: \_\_\_\_\_\_ Date: \_\_\_\_\_\_

Reviewed by: Date: 11/20/03

	ين ويعتبون عالم الم معالية في المراجع ( المراجع ( المراجع ( المحاصية المجلَّم المحاصية المحاصية المحاصية الم	-m	
En la serie de la	SUBCONTRACT ORDER	transfer 7 /	
and the second	Alpha Analytical Laboratories,		
1.1	Alpha Analytical Laboratories, A311061	1 27/ 20	
	A311001	/ 3	
SENDING LABORATORY:	RECEIVING L	ABORATORY:	<b></b>
Alpha Analytical Laboratories, Inc.	Frontier Analyt	ical Laboratory	
- P.O. Box 1508 (208 Mason St.)	5172 Hillsdale		
Ukiah, CA 95482	El Dorado, CA		
Phone: (707)468-0401 Fax: (707)468-5267	Phone :916-934 Fax: 916-934-0		
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 13 11/06/03 15:00	11/02/04 11:25		
Containers Supplied:			
[]			
Report to State			
System Name:	Employed by:		
User ID:	Sampler:		
System Number:	_ `		
			÷
			1
TIESUITS & INFSI.	LI IC		5. **
Thesults to MFG, : Inv. to Silerra	Pacific,		
اسمها			
ui - h			
$\sim$			
Sher Deals 11	-603 Muth	1meun 11/7/03 @ 074	\$
Released By Date	Received By	Date	
<u></u>			
Released By Date	the Received By	Date	
		0000 <del>99</del> ge	i <b>1</b> 08 <b>6</b> 61 1



## Frontier Analytical Laboratory

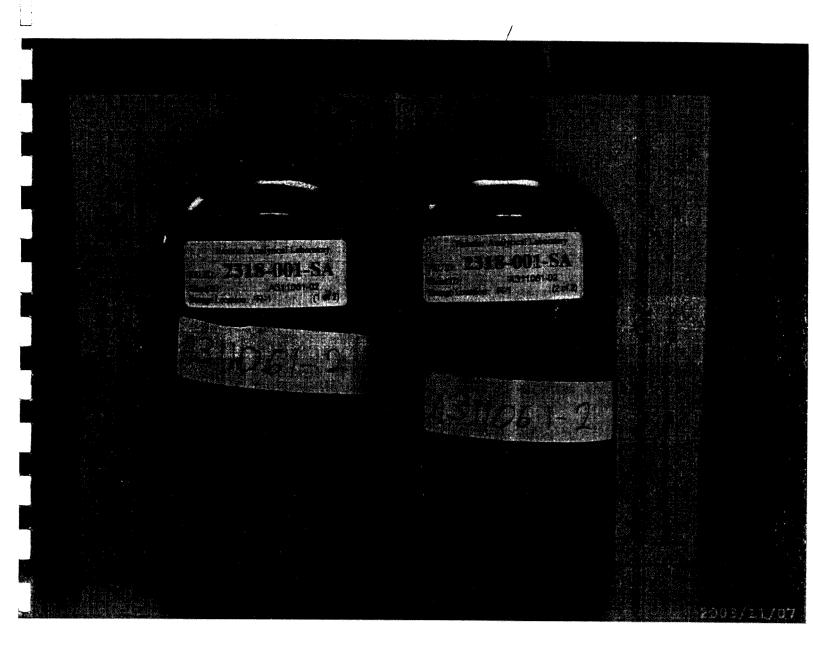
Sample Login Form

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:	<u> </u>







Alpha VAnalytical 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

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

MW-2, 3, 5, and 7 Geochemical parameters

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 D. Spece

Melanie B. Neece For Sheri L. Speaks **Project Manager** 

RECEIVED NOV 13 2003 GEOMATRIX CONSULTANTS, INC



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

**Client PO/Reference** 

208 Mason St. Ukiah, California 95482

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

Receipt Date/Time

11/04/2003 15:05

#### CHEMICAL EXAMINATION REPORT

Project No: 9329.000.0 16 Project ID: SPI - (GeoMatrix)

Order Number A311059

Client Code 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	7
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	

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 S. There

Melanie B. Neece For Sheri L. Speaks Project Manager

11/11/2003

Page 1 of 7

. .

i



- Geomatrix Cons		HEMIC	AL EXA	MINATIO	N REPORT			Page 2 of
	treet, 12th Floor 1612	r			Project No:	11/11/03 10:32 9329.000.0 16 SPI - (GeoMatrix)		
Order Number A311059	Receipt Date/Time 11/04/2003 15:05			ient Code EOMAT		Client PO/Reference	e	
1		Alpha A	Analytica	l Laborato	ries, Inc.			
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-2-200311 (A311059-01) Metals by EPA 200 Series Methods	5		Sample Ty	pe: Water	Samp	led: 11/03/03 14:05		<u> </u>
Calcium	EPA 200.7	AK30501	11/05/03	11/10/03	1	66 mg/l	1.0	
Magnesium	H		"	**	"	40 "	1.0	
Conventional Chemistry Paramete	rs by APHA/EPA Me	ethods						
Total Alkalinity as CaCO3	SM2320B	AK30414	11/04/03	11/04/03	1	520 mg/l	1.0	
Carbonate Alkalinity as CaCO3	•	"	*	*	n	ND "	1.0	
Bicarbonate Alkalinity as CaCO	3 "				H	520 "	1.0	
Hydroxide Alkalinity as CaCO3		"		н	н	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	n			11/04/03	1	2.8 "	1.0	
Sulfate as SO4	"	•		"		ND "	0.50	
			Sample Ty	pe: Water	Samp	led: 11/03/03 15:30		
Calcium	EPA 200.7	AK30501	11/05/03	11/10/03	1	55 mg/t	1.0	
Magnesium	*	"	н	"	*	36 "	1.0	
Conventional Chemistry Parameter	rs by APHA/EPA Me	thods						
Total Alkalinity as CaCO3	SM2320B	AK30414	11/04/03	11/04/03	1	460 mal	1.0	
Carbonate Alkalinity as CaCO3	"	"	*	N 170-1705	<b>1</b> н	<b>460 mg/l</b> ND "	1.0	
Bicarbonate Alkalinity as CaCO	3 "	н	*	H	11	460 "	1.0	
Hydroxide Alkalinity as CaCO3			P2	19		400 <sup>a</sup> ND "	1.0 1.0	

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

Malanie B. There

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 ţ

Ľ, γ

: 1

r

Commutin Com		HEMIC	AL EXA	MINATIO	N REPORT			Page 3 of 7
Geomatrix Cons 2101 Webster S Oakland, CA 94 Attn: Geomatrix	treet, 12th Floor 612	r			Project No:	11/11/03 10:32 9329.000.0 16 SPI - (GeoMatrix)		
Order Number A311059	Receipt Date/Time 11/04/2003 15:05			ient Code EOMAT		Client PO/Reference	•	
		Alpha A	Analytica	l Laborato	ries, Inc.			··
	METHOD	BATCH	PREPAREI	O ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-3-200311 (A311059-02) Anions by EPA Method 300.0			Sample Ty	pe: Water	Sam	pled: 11/03/03 15:30		
Chloride	EPA 300.0	AK30404	11/04/03	11/04/03	25	37 mg/l	12	
Nitrate as NO3	۳.		*	11/04/03	1	4.6 "	1.0	
Sulfate as SO4	н		"		•	ND "	0.50	
MW-5-200311 (A311059-03) Metals by EPA 200 Series Methods	i.		Sample Ty	pe: Water	Samp	bled: 11/03/03 14:50		
Calcium	EPA 200.7	AK30501	11/05/03	11/10/03	1	28 mg/l	1.0	
Magnesium	•	н	*	"		45 "	1.0	
Conventional Chemistry Parameter	rs by APHA/EPA M	ethods						
Total Alkalinity as CaCO3	SM2320B	AK30414	11/04/03	11/04/03	1	350 mg/l	1.0	
Carbonate Alkalinity as CaCO3	**	"	n			ND "	1.0	
Bicarbonate Alkalinity as CaCO	3 "		"	11	n	350 "	1.0	
Hydroxide Alkalinity as CaCO3	**	**		н.,	н	ND "	1.0	
Anions by EPA Method 300.0				i.				
Chloride	EPA 300.0	AK30404	11/04/03	11/04/03	20	36		
Nitrate as NO3		"	"	11/04/03	1	25 mg/l ND "	10	
Sulfate as SO4	*		••	11/04/03	1	ND "	1.0 0.50	
MW-7-200311 (A311059-04)		:	Sample Ty	pe: Water	Samo	led: 11/03/03 11:25		
Metals by EPA 200 Series Methods				-	<b>-</b>			
Calcium	EPA 200.7	AK30501	11/05/03	11/10/03	1	26 mg/l	1.0	
Magnesium	-	*	н	17	"	42 "	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.

Malanie S. There

Melanie B. Neece For Sheri L. Speaks Project Manager

11/11/2003



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

**Client PO/Reference** 

Page 4 of 7

#### **CHEMICAL EXAMINATION REPORT**

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

Receipt Date/Time

11/04/2003 15:05

)rder Number

A311059

 Report Date:
 11/11/03 10:32

 Project No:
 9329.000.0 16

 Project ID:
 SPI - (GeoMatrix)

Client Code GEOMAT

### Alpha Analytical Laboratories, Inc.

			······		,			
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-7-200311 (A311059-04)			Sample Ty	pe: Water		Sampled: 11/03/03 11:25		
Conventional Chemistry Parameters by	у АРНА/ЕРА М	1ethods		-		-		
- Total Alkalinity as CaCO3	SM2320B	AK30414	11/04/03	11/04/03	1	420 mg/t	1.0	
Carbonate Alkalinity as CaCO3	*	*	۳			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	н	"	**	11/04/03	1	ND "	1.0	
Sulfate as SO4		"	*			ND "	0.50	

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

Melanie B. There

Melanie B. Neece For Sheri L. Speaks Project Manager

11/11/2003



Coordination		AICAL H	EXAMI	NATION	REPO	RT				Page 5
2101 Web Oakland, (	c Consultants oster Street, 12th Floor CA 94612 matrix Consultants				Project	t No: 9	1/11/03 1 329.000.0 PI - (Geol	16	)	
Order Number A311059	Receipt Date/Time 11/04/2003 15:05		Client GEOI				Client PC	D/Refere	nce	
	Metals by EF	PA 200 S	eries M	ethods -		rceResul Contro				
Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
atch AK30501 - EPA	3005A SoftDigest									
Blank (AK30501-BLK1)				Prepared	11/05/03	Analyze	d: 11/10/03			
Calcium	ND	1.0	mg/l							
Aagnesium	ND	1.0	"							
LCS (AK30501-BS1)				Prepared:	11/05/03	Analyze	d: 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-BSI	D1)			Prepared:	11/05/03	Analyze	d: 11/10/03			
Calcium	10.5	1.0	mg/l	10.0		105	85-115	1.89	20	
Aagnesium	9.88	1.0	н	10.0		98.8	85-115	3.19	20	
Duplicate (AK30501-DU	P1) Sou	rce: A311	059-01	Prepared:	11/05/03	Analyzed	d: 11/10/03			
alcium	70.4	1.0	mg/l	· · · · · · · · · · · · · · · · · · ·	66			6.45	20	
fagnesium	42.5	1.0	"		40			6.06	20	
atrix Spike (AK30501-	MS1) Sou	rce: A311	059-01	Prepared:	11/05/03	Analyzed	d: 11/10/03			
alcium	80.3	1.0	mg/l	10.0	66	143	70-130			QM-4X
1agnesium	52.6	1.0		10.0	40	126	70-130			
Aatrix Spike Dup (AK30	Sour	rce: A311	059-01	Prepared:	11/05/03	Analyzed	d: 11/10/03			
alcium	78.4	1.0	mg/l	10.0	66	124	70-130	2.39	20	
lagnesium	51.2	1.0		10.0	40	112	70-130	2.70	-	

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.

Malanie B. There

Melanie B. Neece For Sheri L. Speaks Project Manager

11/11/2003

i

. .

i i

1

1.1

1.1



**Drder** Number

A311059



Alpha Analytical Laboratories Inc.

#### 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)

Receipt Date/Time	Client Code	Client PO/Reference
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
atch AK30404 - General Preparatio	n	-								
Blank (AK30404-BLK1)				Prepared	& Analyze	ed: 11/04/0	)3			
Vitrate as NO3	ND	1.0	mg/l							
Chloride	ND	0.50								
Sulfate as SO4	ND	0.50	**							
LCS (AK30404-BS1)				Prepared	& Analyze	ed: 11/04/(	)3			
Nitrate as NO3	4.41	1.0	mg/l	4.43		99.5	90-110			
Chloride	2.94	0.50	17	3.00		98.0	90-110			
Sulfate as SO4	7.97	0.50	*	8.00		99.6	90-110			
LCS Dup (AK30404-BSD1)				Prepared	& Analyze	ed: 11/04/0	)3			
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. <b>2</b>	90-110	0.377	20	
Duplicate (AK30404-DUP1)	Sou	rce: A311	059-03	Prepared	& Analyze	ed: 11/04/0	)3			
vitrate 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)	Sou	rce: A311	059-03	Prepared	& Analyze	d: 11/04/0	)3			
Nitrate as NO3	230	20	mg/l	222	ND	103	80-120		· · · ·	
Chloride	68.2	10	"	50.0	25	86.4	80-120			
ulfate as SO4	214	10	Ħ	200	ND	107	80-120			
Matrix Spike Dup (AK30404-MSD1)	Sou	rce: A311	059-03	Prepared	& Analyze	:d: 11/04/0	)3			
litrate 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 f custody document. This analytical report must be reproduced in its entirety.

Melanis B. There

Melanie B. Neece For Sheri L. Speaks Project Manager

11/11/2003

Page 6 of 7



Alpha Analytical Laboratories Inc.

#### Page 7 of 7 CHEMICAL EXAMINATION REPORT Geomatrix Consultants 2101 Webster Street, 12th Floor Report Date: 11/11/03 10:32 Project No: 9329.000.0 16 Oakland, CA 94612 Attn: Geomatrix Consultants Project ID: SPI - (GeoMatrix) Order Number Client Code Client PO/Reference Receipt Date/Time A311059 11/04/2003 15:05 GEOMAT

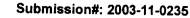
#### **Notes and Definitions**

- 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
- Sample results reported on a dry weight basis dry
- RPD **Relative Percent Difference**
- PQL **Practical Quantitation Limit**

1

C	Chain-	of Cus	tody F	200	103	٠d			Т			(	01	.6	79	7				Date	8:				Page / of /
			16	Τ						A	NAL	ALYSES											REMARKS		
Samplers (S		i	2	othod 8021	ethod 8021 DCs only)	EPA Method 8021 (BETX only)	thod 8260	ethod 6270 an)	AHS only)	Method 8015m (Gasoline)	Method 8015m (Diesel)	Method 8015m (Motor Oil)	Silica Gel Cleanup	WITRATE	F2 (2)	5 (E)	GAR BON DIOXIDE	METHANE		), Water (W) (V), or Other (o)	Ð	pev	P	Containers	Additional Comments
Date	Time	Sample	Number	EPA M (Fuil Sc	EPA M (Hal. V	EPA M (BETX	EPA M	EPA M (Full Sc	EPA M SIM (P	Method	Methoc	Method	Silica (	NTIN	S.W.	F.	CAR	ME	0	Sol (S Vapor	Fittere	Preser	Cooled	No. of	D sultate, Magne
11/2/03	205	MW-2-2	00311	-	l.									X	X	X	X	X	X	Ÿ	NO	M	12	4	chloride, calcium
· )	330	MW-3-20	03/1	-	2									X	X	X	X	X	X				$\parallel$	4	alkullarly
		MW-5-20		-	3									X	X	X	X	X	X				II_	4	/
Ý		MW-7-2		-	LI									メ	メ	X	X	X	X		6	V	♥	4	Nitrate HAS48H
~			•														<b></b>	<b></b>						K	LHOLD TIME
																	ļ					$\lor$	[		
																L		-		Ł		<b> </b>	<u> </u>		ford In bic Parece
			$\geq$															Ł		<b> </b>	<b> </b>		_	<u> </u>	to Sierra Printik
				$\Gamma$	$\succ$	$\succ$				ļ	ļ				$\leq$			ļ		<b> </b>		╞			Industrips
							$\square$	$\succ$			Ł	凵				ļ			<u> </u>		<u> </u>	<b> </b>	<b> </b>		
			·				Ł			$\square$		Ы					ļ	ļ_		L	<b> </b>	┢	$\downarrow$		Fot 2 mm +2 to be
			$\sim$	1	$\Box$				<b> </b>					$\triangleright$							_	┢		<b> </b>	
																$\square$	$\triangleright$	┝			_	┢	╞	-	By Laborahar
																	$\bot$		$\square$	⊾			$\vdash$	ļ	
																							$\mathbf{F}$	Þ	11A MAAMATCA C
Laborato	ry: Acpi	+14 Anny	TICAL			rouni CMJ		ne:				isults			1	То	tal M	No. c	of Co	ntai	ners	;		16	NA PARAMETERS
Refinquia		ignature):	Date: 112/03	Relin					atur	e):		Date:		Relir	nquia	shec	i by	(Sig	natu	re):		Date	9:	Mati	hod of Shipment: LAB
Printed #	ame:, /			Print	eď N	ame	: 1					79/ Time:		Print	ed I	Nam	<b>e</b> :					Tim		Lab	oratory Comments and Log
Company	5 / 1011	. (				1 <u>#11</u>	170	<u>~^</u> ^		<u> </u>		15:0	5	Com	pany	y:			. <u>.</u>					CC	voler temp 2.6
Received	by:	n	Date:	Comp Rege	ived	<u>h</u> by: ,	0~			~		Date:		Rece	eiveo	d by	:			<b></b> •		Date	9:	A <sup>-</sup>	311059
	R/inted/Name:		RAINT	ed N	lame	-		1			•		Print	led I	Nam	e:					Tim	e:	0	Geometrix Consu	
Company	•		Time: 	S	$\checkmark$	¥L <	S	200		$\infty$		Time:  5:0	is	Com	pany	<del>y:</del>								2101	Webster Street, 12th Floor • Oekland, Phone: 510-663-4100 Fax: 510-663-4

JIM	HONNIBALL
- ,	



#### Alpha Analytical, Inc

STL

SEVERN

T R F N

P.O. Box 1508 Ukiah, CA 95482 Attn.: Sheri L. Speaks Project#: A311059 November 18, 2003

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,

minder Sichy.

Surinder Sidhu Project Manager

> Severn Trent Laboratories, Inc. STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566 Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496



#### **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

A part of Severn Trent Pic

Ý I

1

ł

1

4

-9 5 j

: 1

٠.

· · · · ·

# TRENT STL

#### **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-2-20	0311		Lab ID:	2003-1	2003-11-0235 - 1 11/10/2003 11:19 2003/11/10-07.15			
Sampled: Matrix:	11/03/2003 14:05 Water			Extracted: QC Batch#					
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			

11/18/2003 11:46

Page 2 of 8



#### **Dissolved Metals**

Alpha Analytical, Inc Attn.: Sheri L. Speaks

Manganese

P.O. Box 1508 Ukiah, CA 95482 Phone: (707) 468-0401 Fax: (701) 468-5267 Project: A311059

Received: 11/06/2003 09:45

1.00

11/17/2003 13:17

Prep(s):	3005A			Test(s):	6010B					
Sample ID:	A311059-02 MW-3-200	311	Lab ID:	2003-1	1-0235 - 2					
Sampled:	11/03/2003 14:05			Extracte	ed: 11/10/	11/10/2003 11:19				
Matrix:	Water			QC Bate	ch#: 2003/1	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				

0.0050

mg/L

3.9

A part of Severn Trent Pic

1.1

2

 $\widehat{\mathbf{N}}$ - 3

1.1

Ĵ.

÷.È

-

5

.



**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

Manganese

Received: 11/06/2003 09:45

Prep(s): Sample ID: Sampled:	3005A A311059-03 MW-5-20 11/03/2003 14:50	0311		Test(s): Lab ID: Extracted QC Batc	d: 11/10/2	6010B 2003-11-0235 - 3 11/10/2003 11:19 2003/11/10-07.15			
Matrix:	Water	Conc.	RL		Dilution	Analyzed	Flag		
Compound Iron Manganese		0.97	0.20	mg/L mg/L	1.00 1.00	11/17/2003 13:22 11/17/2003 13:22			

1	1/1	8/2003	11	⊡46

Severn Trent Laboratories, Inc. STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566 Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

A part of Severn Trent Pic

Page 4 of 8



#### **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-7-20	0311		Lab ID:	2003-1	2003-11-0235 - 4			
Sampled:	npled: 11/03/2003 14:50				id: 11/10/	2003 11:19			
Matrix:	Water	Water				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			

A part of Severn Trent Pic

Severn Trent Laboratories, Inc. STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566 Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496 11/18/2003 11:46

 $\left\{ \right\}$ 

11/14/2003 23:51

11/14/2003 23:51

1

- 2

-

. •

ا ز 1 ئ

]

# TRENT STL

#### **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

Iron

Manganese

Received: 11/06/2003 09:45

mg/L

mg/L

	Bat	ch QC Report							
Prep(s): 3005A Method Blank		Water		Test(s): 6010l QC Batch # 2003/11/10-07.1					
MB: 2003/11/10-07.15-168				Date Extracted: 11/10/	2003 11:19				
Compound	Conc.	RL	Unit	Analyzed	Flag				

0.20

0.0050

ND

ND



#### **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

Manganese

€÷.

1

ł

ſ.

٩.

Received: 11/06/2003 09:45

mg/L

11/15/2003

	Batch QC Report											
Prep(s): 2340B Method Blank		Water		Test(s): 234 QC Batch # 2003/11/10-07								
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								

0.0050

ND

A part of Severn Trent Pic

Severn Trent Laboratories, Inc. STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566 Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496 11/18/2003 11:46



#### **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 Re	port								
Prep(s):	3005A									Test(s):	6010B		
Laborate	ory Control Spike			Water			QC Batch # 2003/11/10-07.15				0-07.15		
LCS	2003/11/10-07.	15-169	Extracted: 11/10/2003					Analyzed: 11/14/2003 23:56					
LCSD	2003/11/10-07.1	15-170	Extracted: 11/10/2003				Analyzed: 11/15/2003 00						
Compound	Compound Conc.		mg/L	Exp.Conc.	Recovery %		RPD	Ctrl.Lim	its %	Fla	ags		
Compound					lics	LCSD	%	Rec.	RPD	LCS	LCSD		

Compound		mg/L ]	Exp.Conc.		ery 76	RFD	Curcum			<u> </u>
	s	LCSD		LCS	LCSD	%	Rec.	RPD	LCS	LCSD
iron 4.6	63	4.72 0.467	5.00 0.500	92.6 92.2	94.4 93.4	1.9 1.3	80-120 80-120	20 20		

11/18/2003 11:46

A part of Severn Trant Pic

Page 8 of 8

P. 01/14

		CAL CHEMISTS	Santa Rosa Phone: 7(	)7 527 7574
		TRANSMITTAL	FAX: 70	7 527 7879
DATE:	11/17/03			
TO;	ALPHA ANA	L. SPEAKS LYTICAL LABORATORIES, INC. 1508/208 MASON STREET 95482	ACCT; PROJ:	9984 A311059
	Phone: Fax:	707-468-0401 707-468-5267		

SUBJECT: LABORATORY RESULTS FOR YOUR PROJECT

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

SAMPLE ID	<b>TYPE</b>	DATE	KPI LAB #
MW-2-200311	WATER	11/03/03	
MW-3-200311	WATER	11/03/03	43171
MW-5-200311	WATER		43472
MW-7-200311	WATER	11/03/03 11/03/03	43473 43474

A311059

The above listed sample group was received on on the chain of custody document.

11/05/03 and tested as requested

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

,

K PRIME, INC.		SAMPLE ID;	MW-2-200311
LABORATORY REPORT		LAB NO:	43471
		SAMPLE TYPE:	WATER
K PRIME PROJECT: 9984	D	ATE SAMPLED:	11/03/03
CLIENT PROJECT: A311059	٦	IME SAMPLED;	14:05
		BATCH ID:	110303W1
METHOD: DISSOLVED GASES	DA	TE ANALYZED:	11/11/03
REFERENCE: RSK 175		UNITS:	µg/L
	CAS NO.	REPORTING	SAMPLE Conc
METHANE	74-82-8	7.89	3766

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_ 1117103

f | |

ليا

-

l

Ľ

Ĺ

1

K PRIME, INC.		SAMPLE ID:	MW-3-200311
LABORATORY REPORT		LAB NO;	43472
K DRIME DOD SOT AND		SAMPLE TYPE:	WATER
K PRIME PROJECT: 9984		ATE SAMPLED;	11/03/03
CLIENT PROJECT: A311059		TIME SAMPLED:	14:05
		110303W1	
METHOD: DISSOLVED GASES REFERENCE: RSK 175	DA	TE ANALYZED: UNITS:	11/11/03 µg/L
	CAS NO.	REPORTING	SAMPLE CONC
METHANE	74-82-8	7.89	5440

NOTES:

110 APPROVED BY: \_\_\_\_\_ 11/17/03

.

K PRIME, INC.		SAMPLE ID:	MW-5-200311
LABORATORY REPORT		LAB NO:	43473
		SAMPLE TYPE:	WATER
K PRIME PROJECT: 9984	D	ATE SAMPLED:	11/03/03
CLIENT PROJECT: A311059	1	IME SAMPLED:	14:50
		BATCH ID:	110303W1
METHOD: DISSOLVED GASES	DA	TE ANALYZED;	11/11/03
REFERENCE: RSK 175		UNITS:	µg∕L
	CAS NO.		SAMPLE CONC
METLIANE	74-82-8	7.89	9211

MM( APPROVED BY: DATE: 1112/01

K PRIME, INC.		SAMPLE ID:	MW-7-200311
LABORATORY REPORT		LAB NO:	43474
		SAMPLE TYPE:	WATER
K PRIME PROJECT: 9984	D	ATE SAMPLED:	11/03/03
CLIENT PROJECT: A311059	٦	IME SAMPLED:	14:50
		BATCH ID:	110303W1
METHOD: DISSOLVED GASES	DA	TE ANALYZED:	11/11/03
REFERENCE: RSK 175		UNITS;	μg/L
COMPOUND NAME	CAS NO.	REPORTING	SAMPLE
METHANE			CONC
	74-82-8	7.89	8791

#### NOTES:

f

Ţ

Ē

• ----

1 .

\_\_\_\_

1

ŊК APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_ 11/17/03

K PRIME, INC. LABORATORY METHOD BLANK REPORT		METHOD BLANK ID; SAMPLE TYPE: BATCH ID;		MBLK110303W01 WATER 110303W01	
METHÓD: DISSOLVED C1-C3 REFERENCE: RSK 175	HYDROCARBONS	D/	ATE AN/	UNITS:	11/3/03 µg/L
COMPOUND NAME	CAS NO.	MDL	MRL	NOTES	SAMPLE CONC
	74-82-8	MDL 0.331	MRL 1.58	NOTES	
				NOTES	CONC
METHANE	74-82-8	0.331	1.58	NOTES	

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

MÉTHOD: DISSOLVED C1-C3 HYDROCARBONS REFERENCE: RSK 175 DATE ANALYZED: 11/3/03

				QC	LIMITS
COMPOUND NAME	SPIKE % REC	DUP % REC	RPD	RPD	% REC
METHANE	72.7	80.2	9.78	30.0	50 - 150
ETHENE	95.8	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.		SAMPLE ID:	MW-2-200311
LABORATORY REPORT		LAB NO:	43471
		SAMPLE TYPE:	WATER
K PRIME PROJECT: 9984	D,	ATE SAMPLED:	11/03/03
CLIENT PROJECT: A311059	Т	IME SAMPLED:	14:05
		BATCH ID:	111103W01
METHOD; DISSOLVED GASES	DA	TE ANALYZED:	11/11/03
REFERENCE: RSK 175		UNITS:	µg/L
	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: 111763 DATE:

---- -

P. 09/14

K PRIME, INC.		SAMPLE ID:	MW-3-200311
LABORATORY REPORT		LAB NO:	43472
	:	SAMPLE TYPE;	WATER
K PRIME PROJECT: 9984	D	ATE SAMPLED:	11/03/03
CLIENT PROJECT: A311059	т	IME SAMPLED:	14:05
		BATCH ID:	111103W01
METHOD: DISSOLVED GASES	DA	TE ANALYZED:	11/11/03
REFERENCE: RSK 175		UNITS:	µg/L
	CAS NO.	REPORTING LIMIT	SAMPLE CONC
CARBON DIOXIDE	124-38-9	165	173945

NOTES:

APPROVED BY: 141 (2102 M

Ρ.	10/14
•••	

K PRIME, INC.		SAMPLE ID:	MW-5-200311
LABORATORY REPORT		LAB NO;	43473
		SAMPLE TYPE:	WATER
K PRIME PROJECT: 9984	D	ATE SAMPLED:	11/03/03
CLIENT PROJECT: A311059	т	IME SAMPLED;	14:50
		BATCH ID;	111103W01
METHOD; DISSOLVED GASES	DA	TE ANALYZED:	11/11/03
REFERENCE: RSK 175		UNITS:	µg/L
	CAS NO.	REPORTING LIMIT	SAMPLE Conc
CARBON DIOXIDE	124-38-9	165	125486

APPROVED BY: \_ 11/12/03 DATE:

K PRIME, INC.			
LABORATORY REPORT		SAMPLE ID:	MW-7-200311
		LAB NO:	43474
		SAMPLE TYPE:	WATER
K PRIME PROJECT: 9984	D	ATE SAMPLED:	11/03/03
CLIENT PROJECT: A311059	٦	TIME SAMPLED:	14:50
		BATCH ID;	111103W01
METHOD: DISSOLVED GASES REFERENCE: RSK 175	DA '	TE ANALYZED; UNITS:	11/11/03 µg/L
	CAS NO.	REPORTING LIMIT	SAMPLE CONC
CARBON DIOXIDE	124-38-9	165	152071
			1340/1

APPROVED BY: DATE: 1117/07

.

K PRIME, INC.	LAB	NO: MBLK111103W01
LABORATORY REPORT	BATC	HID: 111103W01
METHOD: DISSOLVED GASES	DATE ANALY	ZED: 11/11/03
REFERENCE: RSK 175		ITS; µg/L
COMPOUND NAME	CAS NO. REPORT	••••
	LIMI	CONC
CARBON DIOXIDE	124-38-9 165	ND

AK ( APPROVED BY: \_ 1117107 DATE:

1 -4 5 ; ÷

K PRIME, INC.

1

	SAMPLE ID:	LCS111103W01
RY QUALITY CONTROL REPORT	SAMPLE TYPE:	WATER
	BATCH #:	111103W01

METHOD: DISSOLVED GASES REFERENCE: RSK 175

DATE ANALYZED: 11/3/03

COMPOUND NAME	C DU/			QC	LIMITS
	SPIKE % REC	DUP % REC	RPD	RPD	% REC
CARBON DIOXIDE	92,5	64.5	35.59	50.0	50 - 150
					00 - 100

NOTES: NA - NOT APPLICABLE OR AVAILABLE

C	Chain-	of Cus	tody F	lec	or	d	_		Τ				01	6	79	7				Date	):				Page of / ·		
Project No.: 9329,000,0 16						ANALYSES											— r		r			REMARKS					
		-	/	thod 8021 en)	thod 8021 Ca only)	EPA Method 8021 (BETX only)	thod 5260	ithod 8270 an)	EPA Method 8270 SIM (PAHS only)	i 8015m (Gasoline)	Method 8015m (Diesef)	Method 8015m (Motor Off)	Silica Gel Cleanup	LATE	Mn + 2 2	2	CAR BON DIOXIDE	METHANE		Soli (S), Water (W) Vapor (V), or Other (o)	R	pev	R	Containers	Additional Comments		
Date	Time	Sample	Number	EPA Me	EPA Me (Hal. VC	EPA Me (BETX	EPA	EPA Ma (Fuli Sc	RPA M SIM (P	Method	Method	Method	Silice (	VII/	W	친	ŝ	ME	0	Sol (S Vepor	Fitter	Prese	Cook	No o	D sultate, Maynesium		
2/13	205.	MW-2-2	00311	-	۱									X	X	X	1	X	X	Ψ	MO	Mo	17	4	chloride, calcium		
1	1	MW-3-20	-		ン									X	٨	X	X	X	X	$\square$		$\parallel$	₩-	4	alkulin 14		
		MW-5-70		Ŀ	2							ļ		X	X	1	X	۲,	X	Н	$\parallel$	╟		4	All to MASING 14		
0	1125	MW-7-2	00311	ļ.	11	د.		<u> </u>				┣_		스	$\mathbf{P}$	X	<u>K</u>		<u>^</u>		<b>.</b>	<b> </b> ≁	┣┻	4	NHEATE HAS 44 HL.		
		<b></b>		_		<b> </b>	<u> </u>	╞		┣—							-	┝─┤					$\vdash$	F			
	>	<u> </u>		-	_		-	╞		-	<u> </u>	+	<u> </u>	┢		ана — а - 1				$\mathbf{r}$	$\mathbf{F}$	ľ.			Said Invoice practly		
				╂─	┼─	+	┢	┼─	┼╌	┢─	┼─	┼╌		┼─	┼─			$\mathbf{r}$		1-					to giorra Pritic		
				┢	$\mathbf{k}$	+	╀╴	┼──	┼─	-	┼──	╀──	┼╴	た	$\vdash$	>	ſ					Γ			Sond Invoice preitly to giverna Prictic Industries		
	+			╈	┼╌	P	$\uparrow$	卞	t	t	F	F	7	T	$\uparrow$										<b>b</b>		
-13	.03-0	9:30-R		1	╀╴	L	ト	F	1													-	$\downarrow$	$\downarrow$	Fot2 Mm +2 to be filtion of Aciditied		
SSA	led M	AFE O		F	1		Τ						$\square$	$\mathbb{P}$	$\blacktriangleright$		<b> </b>	_	<u> </u>	-	_	╞	+	╇			
sp)	rup y	or An	Henn	.h	J)						╞	<u> </u>			1	$\square$	$\geq$	┝	$\vdash$	-	+	╄	╀	╋	ByLabscolor		
	$\mathbf{\nabla}$	0			1_	1	╞	╞	<u>_</u>		1		╞	+-	-	╇	+-	╋	$\vdash$	⋡	╇	+	+	╉╴	+		
aborate	ory: ACP	1+14 Anuar	TICAL			rour Rm		ime:					its to Shi		ー ^	Та		 No. (	of C	onta	iner	s					
efingui	shed by (	- Signature):	Date;		-		•	(Sig	natu	re):		Dat	e:			ishe	d by	(Si	gnat	ure)	:	Da	te :	Me	Sthod of Shipment: LAB KKUP BY ALPHA		
inted .	15/100	n.S.M	Date: 110/03 Time:	Print Jai	<u>av //</u> ed N ( / /		e: the	w ws		(//t/)   Time: 					Printed Name:						Time:				Laboratory Comments and Log No. CUGLES TEMP 2.6		
ceive	So		Date:	Com Rece	eived	1 by:	~			Date:/ Received by:										Da	ate: A311059						
<u>X: NY</u> rinted	Name:		///// Time:	Prin				~	در در		<u>ייי</u> כ כ	Trin		Pri		Nar	ne;	<					me:	210	Webster Street, 12th Floor - Oskiand, CA 9		
ompar	י <b>יי</b> :		10:55	Com	pan	<b>y</b> : (						″		C o	mpa	ny:									Phone: 519-663-4100 Fax: 510-863-4141		

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

10 November 2003

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

4TH QUARTER 2003 GW MONITORING

MW-2,3,5,7 TOTAL ORGANIC CARBON

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 D. Trece

Melanie B. Neece For Sheri L. Speaks Project Manager

RECEIVED GEOMATRIX CONSULTANTS, 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 A311119 11/04/2003 15:05

GEOMAT

#### Client PO/Reference

#### 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	

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.

Malanis S. Trece

Melanie B. Neece For Sheri L. Speaks Project Manager

11/10/2003

-

Page 1 of 4



#### CHEMICAL EXAMINATION REPORT

Page 2 of 4

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

Order Number A311119

Receipt Date/Time

11/04/2003 15:05

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

**Client PO/Reference** 

Client Code
GEOMAT

		Alpha A	Analytical	Laborato	ries, Inc.		
· _	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL NOTE
MW-2 200311 (A311119-01)			Sample Ty	pe: 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
1W-3 200311 (A311119-02) Organic Carbon by 415.1			Sample Ty	pe: Water		Sampled: 11/03/03 15:30	
Total Organic Carbon	EPA 415.1	AK30614	11/06/03	11/07/03	1	18.0 mg/l	1.00
<b>1W-5 200311 (A311119-03)</b> Organic Carbon by 415.1			Sample Ty	pe: Water		Sampled: 11/03/03 14:50	
Total Organic Carbon	EPA 415.1	AK30614	11/06/03	11/07/03	1	9.36 mg/l	1.00
1W-7 200311 (A311119-04) Organic Carbon by 415.1			Sample Ty	pe: Water		Sampled: 11/03/03 11:25	
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 f custody document. This analytical report must be reproduced in its entirety.

Malanie B. There

Melanie B. Neece For Sheri L. Speaks Project Manager



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

		CHEM	IICAL E	XAMI	NATION	REPOI	RT				Page 3 of 4
Geomatrix Consultants 2101 Webster Street, 12th Floor Oakland, CA 94612 Attn: Geomatrix Consultants											
Order Number A311119	Receipt Da 11/04/2003			Client GEON				Client PO	D/Referen	nce	
						Sou	rceResult				
		Organic	Carbon	by 415.	1 - Quali	ty Cont	rol				
Analyte(s)		Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AK30614 - Ger	neral Prep										
Blank (AK30614-BLK	(1)				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-B	<b>ISD</b> 1)				Prepared:	11/06/03	Analyzed	: 11/07/03			
Total Organic Carbon	<u>, , , , , , , , , , , , , , , , , , , </u>	9.52	1.00	mg/l	10.0		95.2	85-115	1.16	20	
Dunlianto (AV20614 F		Sou	rce: A310	554_01	Prenared	11/06/03	Analyzed	: 11/07/03			
Duplicate (AK30614-I Total Organic Carbon		3.42	1.00	mg/l	Першен	3.75	<u>/ indi j 200</u>		9.21	20	
Motuin Suite (AV206)	14 1401)	Sou	rce: A310	554-01	Prenared	11/06/03	Analyzed	l: 11/07/03			
Matrix Spike (AK306) Total Organic Carbon	14-14151)	11.0	1.00	mg/l	10.0	3.75	72.5	70-130			QM-04
·		e	rce: A310	=	Dromared	11/06/07	Analyzed	11107/02			
Matrix Spike Dup (Al Total Organic Carbon	\$30014-MSD1)	14.3	1.00	mg/l	10.0	3.75	106	1: 11/07/03 70-130	26.1	20	OM-04
Tom organic curbon		1.1.5	1.50			5.75					<b>.</b>

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.

Malanie B. There

Melanie B. Neece For Sheri L. Speaks Project Manager

11/10/2003



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

Page 4 of 4

#### CHEMICAL EXAMINATION REPORT Geomatrix Consultants Report Date: 11/10/03 08:11 2101 Webster Street, 12th Floor Project No: 9329.000.0 16 Oakland, CA 94612 Project ID: SPI - (GeoMatrix) Attn: Geomatrix Consultants Client Code Client PO/Reference Receipt Date/Time -rder Number GEOMAT 11/04/2003 15:05 A311119

#### Notes and Definitions

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

DET A	analyte DETECTED
-------	------------------

- Analyte NOT DETECTED at or above the reporting limit ND
- Not Reported NR
- Sample results reported on a dry weight basis dry
- **Relative Percent Difference** RPD
- Practical Quantitation Limit PQL

		of Cust	<u>.oay</u>		col	ď								100	302				Dat	e. /	'/ <i>D</i>	103	3	Page / of /
		,000,01	6		<b>.</b>			ANALYSES					REMARKS				REMARKS							
A	Signature:)	Hand S		hod 8021	hod 8021 Ce only)	EPA Method 8021 (BETX only)	hod 8280	hod 8270 n)	hod 8270 48 only)	015m (Gasoline)	015m (Diesel)	Method 8015m (Motor Oil)	Silica Gel Cleanup						Soli (S). Water (W) Vapor (V), or Other (o)				ntainers	
Date	Time	Sample		EPA Met Full Sca	EPA Met (Hal. VO	EPA Mor (BETX o	EPA Met	EPA Met (Fuil Sca	EPA Met Sim (Pat	Method 8	Method 8015m (	Method 8	Silica Ge	70C					Soli (S). V Viepor (V)	Denet		Cooled	No. of Containe	HOCD
10/22	205	MW-2.200	311 -	- 1										X		Τ				No	No	10	1	
	330	MW-3200	311	-2										X		Γ					1	1	1	B' (Insolut
	250	MW-520	0311	-3										X		Τ			7		$\Pi$	T	1	Badly to Sirica
V		MW-720		-4										X					¥	4	V	1	$\overline{\Delta}$	Party to Sirica Partic Industries
$\geq$																								
																					$\nearrow$	1		
																			$\neg$					
			$\geq$													P								
				$\Box$									$\sum$	$\square$										
									$\sum$	X														PER JAMES HOND
							$\square$					$\square$												RUN TOC, USE 12
			$\checkmark$	1			_								$\Box$	$\mathbf{F}$								Amber that we
																								exptra From Env
																				$\mathbf{Y}$	$\square$			A311000. 11-6-03
																						$\checkmark$		A311061 11.6.0
		stica	(			ound My					Re: Ka	suits	10: / A.	1501	7 Тс	tal N	lo. of	Con	tain	ers			4	
tinted N	hed by (Si	gnature):	Date: F	Reling	uish M	ab	y AS	igna M	ture /	):	/	ate:	L		uishe		(Sigr	atur	<b>e)</b> :	D	ate:	M	eth M	od of Shipment:
<u>In</u>	2516	IN IBBIL	Time:	Printe 0 aC	d Na	me: /////	the	ws	•		- h	'ime: (5" '			d Narr	e:	_			T	ime:			ratory Comments and Log No
A Dany	3 trix		1720	Compa	<u> 11</u>	shq						'5: <sub>0</sub>	_	Compa	iny:									oler TEMP Zib
received	tthin	D	11/4 L		QV	1,	30	)e	<u>i</u>	عد	y P	1/0-	5 F	-	red by					D	ate:	]۴	13	31119
Printed N			Time:	SU	d Na <u>OV</u> I	.me: S	<u>)</u>	Ał	55		₽	5.'( ime	6 P	rinte	d Nam	e:				T	ime:		X	Geometrix Consultan
company			10:55 0	in the	iny:	4					1		Ō	Compa	iny:	_						210		ebster Street, 12th Floor + Oakland, CA 94 hone: 510-563-4100 Fax: 510-563-4141

•



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

4TH QUARTER 2003 GW MONITORING

21 November 2003

MW-2, 3, 5, 7

Geochemical Parameters

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 A. Daly For Sheri L. Speaks Project Manager



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

Client PO/Reference

#### CHEMICAL EXAMINATION REPORT

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

Receipt Date/Time

11/13/2003 10:00

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

Order Number A311273

Client Code GEOMAT

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory [D	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.

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.

dly aren

Karen A. Daly For Sheri L. Speaks Project Manager

11/21/03

Page | of 4



#### CHEMICAL EXAMINATION REPORT

Page 2 of 4

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 A	nalytical	Laborato	ries, Inc.			
	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
MW-2-200311 ( Ref # A311059-	-1) (A311273-01)		Sample Ty	pe: Water		Sampled: 11/03/03 14:05		
Metals (Dissolved) by EPA 200 Se	eries Methods							
Iron, dissolved	EPA 200.7	AK31108	11/14/03	11/14/03	1	7.7 mg/l	0.10	
Manganese, dissolved	**	"	и		"	6.2 "	0.020	
4W-3-200311 (Ref # A311059-	2) (A311273-02)		Sample Ty	pe: Water		Sampled: 11/03/03 15:30		
Metals (Dissolved) by EPA 200 Se	eries Methods							
Iron, dissolved	EPA 200.7	AK31108	11/14/03	11/14/03	l	ND mg/l	0.10	
Manganese, dissolved	"	п	"	"	••	3.9 "	0.020	
4W-5-200311 (Ref # A311059-	-3) (A311273-03)		Sample Ty	pe: Water		Sampled: 11/03/03 14:50		
Metals (Dissolved) by EPA 200 Se	eries Methods							
Iron, dissolved	EPA 200.7	AK31108	11/14/03	11/14/03	1	ND mg/l	0.10	
Manganese, dissolved		"	и	"	*1	0.43 "	0.020	
MW-7-200311 ( Ref # A311059	-4) (A311273-04)		Sample Ty	pe: Water		Sampled: 11/03/03 11:25		
Metals (Dissolved) by EPA 200 Se	eries 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	

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.

aren aly

Karen A. Daly For Sheri L. Speaks Project Manager



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

Order Number A311273

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

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

SourceResult

#### 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			
tron, dissolved	ND	0.10	mg/ì							
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)	Sou	rce: A311	088-02	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)	Sou	rce: A311	088-02	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)	Sou	irce: A311	088-02	Prepared	11/11/03	Anaiyzed	: 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	

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.

aren aly

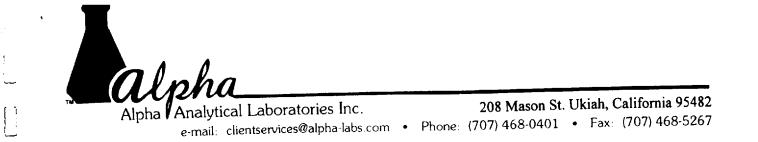
Karen A. Daly For Sheri L. Speaks Project Manager

11/21/03

Ż

Page 3 of 4

..... 1 3



### CHEMICAL EXAMINATION REPORT

Page 4 of 4

	Geomatrix Consultants 2101 Webster Street, 12th Floor Oakland, CA 94612 Attn: Ross Steenson	Project No:	11/21/03 14:03 9329.000.0 16 SPI - (GeoMatrix)
A311273	Descint Data/Time	<u>Client Code</u> GEOMAT	Client PO/Reference

-----

#### **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
:	POL	Practical Quantitation Limit

۰.

Č	Chein-	of Cust	odv R	180	por	ъ							01	6	79	7				Date	9:				Page
	9329	4								A	NAL	YSE		<u> </u>	<u> </u>										REMARKS
Samplers (S				hod 8021 m)	EPA Method 5021 (Hal. VOCe only)	hod 8021 nly)	hod 8280	hod 8270 n)	hod 8270 HS only)	Method 8015m (Gasoline)	Method 8015m (Diesel)	Method B015m (Motor Oll)	Silica Gel Cleanup	ATE	5	6	AL BON DIOXIDE	METHANE	0	Watter (W) ), or Other (o)		P		Containers	Additional Comments
Date	Time	Sample		EPA Med (Fuil Sca	EPA Met (Hal. VO	EPA Mot (BETX o	EPA Met	EPA Met (Full Sca	EPA Mai Sim (Pa)	Method	Method	Method	Silica G	VIIN	M.+2 (	7 7 7	Ĩ	MET	0	Sol (S) Vepor (	Filtered	Preserv		No. of	
12/03	205	MW-2-20	00311	A	Z	16	F	3-	- [					X	X	X	1	X	X	W	MO	<b>N</b> :	1/2		chlorid P. Calcium1 s
1		MW-3-70			2			١	ス					X	X	X	X	X	X				μ.	4	alkylin. Hy
1		MW-5-20						-	3					X	X	X	X	٨	X	Ш		μ_	↓	4	· · · · · · · · · · · · · · · · · · ·
V		MW-7-20				Ň		_	ч					1	7	Х	Х	1	X			1	¥	4	Nitrate 14A544 14
$\leq$																						<b> </b>	-		HOLD THE
	//																					$\nvdash$	1_		
																				$\square$		<u> </u>		-	Spid In wice Diesti
										<b>_</b>			<b> </b>	ļ				$\leq$	ļ		ļ		┼╌	–	to Simma Partie
					$\geq$	⊾	Ļ		<u> </u>		ļ		_		$\bowtie$	-					┣	<b> </b>	┢	┢	Industrie's
				L	<b>_</b>						1		<b> </b>	ļ						┣—		┝	+	╀╌	2
		9:30-R					⇇	Ĺ	-		1	╞		<u> </u>	<u> </u>	_	┝			┣—	┢	┼┈	┢	┼╌	Fot2q Alm to be
Assal	ed M	4 Fe o	N_	Ĺ		_		ļ	ļ			-	<u> </u>	$\vdash$	┝		<b> </b>			┣	╞		+-	┢	filten of the isting
Sep 1	kp Y	2 Arn	Henn	fl.	<u>qU</u>	ļ					<b> </b>	∔	-	_	_		1	┝┈			┢┈	┢	+-	+	ByLaborator
·		· · · · ·		-			$\downarrow$	_		<b> </b>		┨	┢	╞	╂		_			4		Ł	+	╋	
	1						L				-					┣—								₽	NA PARAMETER S
	ry: AZP	1+14 Aiwigs	TICAL		urnai NOA			ne:				esuit 1755 .	541	3150	-				f Co					VE	2
Relingui	shed by (S	Signature):	Date: R	elin	quis m lá	hed t//i	by (		atur	e):		Date		Reil	nqui	shed	i by	(Sig	natu	r <b>e)</b> :		Dat	le:	Mei Ph	thod of Shipment: LAR (Kup By ALPITA
Pfinted J		. 14	-1/2/03 P Time:	rint	ed N	ame	11.					Time		Prin	ted I	Nam	<b>8</b> :					Tim	ne:	Lab	poratory Comments and Log I
Company	/:	. (		om	pany	:						4 L	05	Con	npan	y:						1		. 1	a lan 19 digi 2010
Receive			Date: F		ived	by:	·		ł			Date		Rec	eive	d by	:					Da	te:	A	2112531
Printed	auntun Name:		/// [	<u>) </u> Print	ed N	_	<u>بہ</u> :	<u>ر جلب (</u> ر	<u> ( 4</u>	<u>ز. م</u>		Uje. Tim	- 1	Prin	ted	Nam	<b>0</b> :					Tin	ne:		Geometrix Consult
Compan		· · · · · · · · · · · · · · · · · · ·	Time:		<u>vu</u> pany		يلي الم	) Lice	<u>_</u> .t	<u>.</u>		745	16	Con	npan	<b>v</b> :						$\left\{ \begin{array}{c} \\ \end{array} \right\}$		2101	Webster Sirest, 12th Floor + Oakland, CA Phone: 510-663-4100 Fax: 510-663-414



# **APPENDIX C**

## Wastewater Manifest for Fourth Quarter 2003

UNIFORM HAZARDOUS	1, Generalor's US EPA ID No.	Manifest Documen	I No.	2, Page 1		acramento, Calife i in the shaded or red by Federal la
WASTE MANIFEST		3 8 7	5 5	1,0		nu cy recerci n
3. Generator's None and Molling Address SIERRA PACIFIC INDUSTRIES - A P.O. BOX 1189 ARCATA	RCATA CA 95518			Manifest Document N Generator's ID	lumber 2	33387
4. Generator's Phane   707 443-3111 5. Transporter 1 Company Name	6. US EPA ID Number			Transporter's ID [Res-	<u> </u>	<u>i l l</u>
ASBURY ENVIRONMENTAL SERV		17 10 13 16		porter's Phone	(800)974	LAADS
7. Transporter 2 Company Name	8. US EPA ID Number		E. State	Transporter's ID [Res		
		1111	l	sotiat's Phone		
9. Designated Facility Name and Site Address DEMENNO / KERDOON	10. US EPA ID Number		G, Slate	Facility's ID		1111
2000 NORTH ALAMEDA STREET COMPTON CA	20222 FAPPPP	នុន្ទ្រ ខ្	H. focili (310)	y's Phone 37-7100		
11. US DOT Description (Including Proper Shipp		- I - I	ntoinars Type	13. Total Quantity	14, Unit WI/Vol	I. Waste Numb
NON RCRA HAZARDOUS WASTE	LIQUID, (OILY WATER )			11		Slote 223
	Market 1.1.	ØØ3	DM	00166	4	NONE NON
* MON RUEA HAZAKKO		d.d.		4.	Δ	SHOWAY- 34
WATER WITH TRACE F	ENTACH WROPHEWOL)	ppi	ΠP	1001130	9	PARKE
						State EPA/Other
d.			<u> </u>			State
						EPA/Other
J. Additional Descriptions for Motorials Listed Al 11A) 238242, 3 X 50 G	Stova	<u></u>	K. Handi	ing Codes for Waster	L Listed Abor	•
and a second sec	TOTE		a, ·		b.	
			¢.		d.	
15. Special Handling Instructions and Additione USE, PPE		Y CONTACT	CHEM	REC 1-800-424	0200	
NAERG # 11A. 171 11 8, 171					-9000	
SITE 2593 NEW NAVY PASE PO		35015	Terretoria antica			
SITE. 2593 NEW NAVY BASE HO	NUMPERING THE COMMENTS OF INTE CONSTRUMENTS FOR A UNIVERSITY	I OCCUI GIERY GREETI	nternatione	l and national gover	umeni teguk	ations,
SITE: 2593 NEW NAVY BASE RU 16. GENERATOR'S CERTIFICATION: I heraby di merked, and labeled, and are in all respect		W in abburgable i				ممط اس اس سمير م
SITE: 2593 NEW NAVY BASE RU 16. GENERATOR'S CERTIFICATION: I heraby di merked, and labeled, and are in all respect		W in abburgable i	ista genera ma which	ted to the degree I h minimizes the presen	are determined and future	threat to human
SITE: 2593 NEW NAVY BASE RO 16. GENERATOR'S CERTIFICATION: I heraby do merked, and labeled, and are in all respect If I am a large quantity generator, I certify practicable and that I have selected the pro- and the environment; OR, if I am a small q evaluable to me and that I can efferd. Printed/Typed Name	that I have a program in place to reduce the volume clicable method of treatment, storage, or disposal curr jantity generator, I have made a good faith effort to p	W in abburgable i	ista genero ma which a generatio	ted to the degree 1 h minimizes the presen n and select the best	are determi 1 and future 1 waste man	threat to human agement mathad
SITE: 2593 NEW NAVY BASE HU 16. GENERATOR'S CERTIFICATION: I heraby de marked, and labeled, and are in all respect If I am a large quantity generator, I certify practicable and that I have selected the pro- and the environment; OR. If I am a small ge available to me and that I can afferd. Printed/Typed Name 	that I have a program in place to reduce the volume clicable method of treatment, storage, or disposal curr untity generator, I have made a good faith effort to t Signature	W in abburgable i		ted to the degree i h minimizes the presen n and select the best	are determine i and future l waste man	threat to human agement mathad
SITE: 2593 NEW NAVY BASE FLO 16. GENERATOR'S CERTIFICATION: I heraby di marked, and labeled, and are in all respect If I am a large quantity generator, I certify practicable ond that I have selected the pro- and the environment; OR, if I am a small ge available to me and that I can efferd. Printed/Typed Name 17. Transporter 1 Acknowledbament of Receipt a Printed/Typed Name	that I have a program in place to reduce the volume clicable method of treatment, storage, or disposal curr untity generator, I have made a good faith effort to t Signature	and taxicity of we antly available to minimize my wast		ted to the degree i h minimizes the presen n and select the best	are daterni) I and huture I waste mani Mon Mon	har to be human agement method h Day
SITE: 2593 NEW NAVY BASE HO 16. GENERATOR'S CERTIFICATION: I heraby di merked, and labeled, and are in all respect If I am a large quantity generator, I certify practicable and that I have selected the pro- and the environment; OR. If I am a small ge- available to me and that I can efferd. Printed/Typed Name IT. Transporter 1 Acknowledgement of Receipt a Printed/Typed Name IT. KILL HAUL/I 18. Transporter 2 Acknowledgement of Receipt a	that I have a program in place to reduce the volume clicable method of treatment, storage, or disposal curr iantity generator, I have made a good faith effort to p Signature I Maferials I Materials	and taxicity of we antly available to minimize my wast		ted to the degree I h minimizes the presen n and select the best	are determine i and future waste man Mani	he to be defined to human agement mathed h   Day   Day
SITE. 2593 NEW NAVY BASE HO 16. GENERATOR'S CERTIFICATION: I heraby di merked, and labeled, and are in all respect If I am a large quantity generator, I certify practicable and that I have selected the pra- and the environment; OR. If I am a small and available to me and that I can efferd. Printed/Typed Name T. Transporter 1 Acknowledgement of Receipt a Printed/Typed Name 11.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1	that I have a program in place to reduce the volume clicable method of treatment, storage, or disposal curr yantity generator, I have made a good faith effort to r Signature Maferials Signature	and taxicity of we antly available to minimize my wast		ted to the degree I h minimizes the presen n and select the best	are datarmi I and tuture I waste mani Mani Mani	1   1 <u>1</u> 1 1   <u>1 1</u> 1 1   <u>1 1 1 1</u> 1 1   <u>1 1 1 1</u> 1   <u>1 1 1 1 1</u> 1   <u>1 1 1 1 1 1 1</u> 1   <u>1 1 1 1 1 1 1 1 1 1 1   <u>1 1 1 1 1 1 </u></u>
SITE: 2593 NEW NAVY BASE HO 16. GENERATOR'S CERTIFICATION: I heraby di merked, and labeled, and are in all respect If I am a large quantity generator, I certify practicable and that I have selected the pro- and the environment; OR. If I am a small ge- available to me and that I can efferd. Printed/Typed Name IT. Transporter 1 Acknowledgement of Receipt a Printed/Typed Name IT. KILL HAUL/I 18. Transporter 2 Acknowledgement of Receipt a	that I have a program in place to reduce the volume clicable method of treatment, storage, or disposal curr iantity generator, I have made a good faith effort to p Signature I Maferials I Materials	and taxicity of we antly available to minimize my wast		ted to the degree i h minimizes the presen n and select the best	0" 0"	
SITE. 2593 NEW NAVY BASE HO 16. GENERATOR'S CERTIFICATION: I heraby di merked, and labeled, and are in all respect If I am a large quantity generator, I certify practicable and that I have selected the pra- and the environment; OR. If I am a small and available to me and that I can efferd. Printed/Typed Name T. Transporter 1 Acknowledgement of Receipt a Printed/Typed Name 11.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1	that I have a program in place to reduce the volume clicable method of treatment, storage, or disposal curr iantity generator, I have made a good faith effort to p Signature I Maferials I Materials	and taxicity of we antly available to minimize my wast		ted to the degree i h minimizes the presen n and select the best	0" 0"	
SITE. 2593 NEW NAVY BASE HO 16. GENERATOR'S CERTIFICATION: I heraby d merked, and labeled, and are in all respect If I am a large quantify generator, I certify practicable and that I have selected the pro- and the environment; OR. If I am a small q available to me and that I can efferd. Printed/Typed Name IT. Transporter 1 Acknowledgement of Receipt a Printed/Typed Name III.L.KILL III. Transporter 2 Acknowledgement of Receipt a Printed/Typed Name 19. Discrepancy Indication Space	that I have a program in place to reduce the volume clicable method of treatment, storage, or disposal curr iantity generator, I have made a good faith effort to p Signature I Maferials I Materials	and toxicity of we onthy available to minimize my wast	erj H	ted to the degree i h minimizes the presen n and select the best	0" 0"	