

April 30, 2003
Project Number: M154.1

Ms. Susan A. Warner, Executive Officer
North Coast Regional Water Quality Control Board
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403

Re: Report on the Priority Pollutant Study and Dioxin Study for Sierra-Pacific Industries, Arcata
Division Sawmill (Case No. 1NHU526)

Dear Ms. Warner:

EnviroNet Consulting is pleased to submit the Report on the Priority Pollutant Study and Dioxin Study for the subject site. The Sierra-Pacific Industries (SPI), Arcata Division Sawmill site is located at 2593 New Navy Base Road, Arcata, California as shown on the Site Location Map, Plate 1. General site features are presented on the Site Sampling Plan, Plate 2.

The NCRWQCB is requiring all NPDES permittees to undertake two effluent studies to comply with the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California.

The two effluent studies consist of a priority pollutant study so the NCRWQCB staff can make a determination as to whether effluent limits need to be established for any of the 126 priority pollutants and a dioxin study to assess the presence and amounts of the dioxin congeners being discharged to Waters of the State and for the development of a strategy to control these chemicals.

Two representative effluent samples were to be collected and analyzed for the priority pollutants listed in the NCRWQCB's *Attachment "A", Minimum Levels for Priority Toxic Pollutants*. The effluent sample location is identified as ESL-1 on Plate 2. ESL-1 is proposed where the log deck sprinkler water discharges over a spillway at the northwest corner of the log deck water pond. The log deck water pond has not been constructed as of April 30, 2003. Currently, log deck sprinkler water is retained in a drainage ditch with an earthen dam which effectively prevents a discharge to the vegetated pond.

PACIFIC NORTHWEST ENVIRONET GROUP, INC.

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Samples of the effluent water were not collected and analytical results are not included in this report because there was not a discharge of log deck sprinkler water to the vegetated pond. The current log deck sprinkler operations, in addition to the earthen dam in the drainage ditch that receives the log deck sprinkler water, has effectively prevented any discharge to the vegetated pond.

Two representative receiving water samples were to be collected and analyzed for the priority pollutants listed in the NCRWQCB's *Attachment "A", Minimum Levels for Priority Toxic Pollutants*. The receiving water sample location is identified as RWSL-1. The sampling location for the receiving water at the vegetated pond is shown on Plate 2. RWSL-1 was proposed in the center of the open water in the vegetated pond, north of the log deck water pond. There is no upstream location out of the influence of the effluent discharge. One sample was to be collected during wet weather and one sample was to be collected during dry weather when the effluent flow is not influenced by a rain event and when there is a discharge to surface water.

The receiving waters sample at the vegetated pond was collected during wet weather on March 13, 2003 when there was not an effluent discharge. No receiving water sample was collected during dry weather, due to no occurrence of an effluent discharge. The proposed sample location RWSL-1 of the receiving water at the vegetated pond was located in the center of the vegetated pond, however, this location was too difficult to access. Therefore, the receiving water sample was collected at the southeast corner of the vegetated pond before water flowed into a drainage ditch and through a culvert prior to discharging into the Mad River Slough (Plate 2). There is no significant difference in water quality or water chemistry between the modified sample location RWSL-1 and the initially proposed sample location RWSL-1.

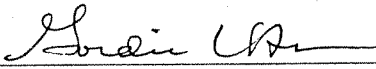
The receiving water sample was collected in sample containers appropriate for analysis and supplied by Alpha Analytical Laboratories, Inc. (Alpha). The samples were labeled, stored under refrigerated conditions, and transported under Chain-of-Custody to Alpha in Ukiah, California. Alpha is a California Department of Health Services certified laboratory for analyses requested. All samples were collected following EnviroNet's Standard Soil and Water Sampling Procedures and QA/QC Protocol (Appendix D).

Analytical results for the samples collected on March 13, 2003 are presented in tables required by the NCRWQCB in Appendix A. A copy of the analytical reports are included in Appendix B.

REPORT CERTIFICATION

I am duly authorized to sign reports required by the Monitoring and Reporting Program (MRP) Order No. R1-2002-0042 for Sierra Pacific Industries - Arcata Division Sawmill. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name: Gordie U Amos

Signature: 

Title: Plant Manager Date: 4/29/03

APPENDICES

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

Appendix A: Analytical Tables

NCRWQCB, Attachment "B"

NCRWQCB, Attachment "C"

Appendix B: Analytical Laboratory Reports

Alpha Analytical Laboratories, Inc., Analytical Report, dated March 24, 2003.

Basic Laboratory, Analytical Report, dated March 24, 2003

Alpha Analytical Laboratories, Inc., Analytical Report, dated April 1, 2003.

Appendix C: Plates

Plate 1: Site Location Map

Plate 2: Site Sampling Plan-Priority Pollutants and Dioxin Congeners

Appendix D: EnviroNet's Standard Soil and Water Sampling Procedures and QA/QC Protocol

DISTRIBUTION LIST

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

U.S. EPA, Region 9
Attn: WTR-7 NPDES/DMR
75 Hawthorne Street
San Francisco, CA 94105

Mr. Gordie Amos
Sierra Pacific Industries
Arcata Division Sawmill
P.O. Box 1189
Arcata, CA 95521

Mr. Bob Ellery
Sierra Pacific Industries
P.O. Box 496011
Redding, CA 96049-6011

Mr. David Dun
Dun & Martinek
2313 I Street
Eureka, CA 95501

Mr. Scott Steever
Lanahan & Reilley
3558 Round Barn Boulevard, Suite 300
Santa Rosa, CA 95403

APPENDIX A

ANALYTICAL TABLES

**California Regional Water Quality Control Board
North Coast Region**

ATTACHMENT "B"

Permittee: Sierra Pacific, Inc., Arcata

Name of Laboratory: Alpha Analytical Labs

WDID No.: 1B830650HUM

ELAP No.: 1551

Contact Name: Linda Mackey, EnviroNet Consulting

Laboratory Contact: Karen Daly

Phone Number: 707-546-9461

Lab Phone Number: 707-468-0401

Type of Sample (Receiving Water vs. Effluent): Receiving

Report Number: A303329-1

*IF RECEIVING WATER SAMPLE, FILL IN THE FOLLOWING INFORMATION:

Water Body: SPI's Vegetated Pond

pH: 6.1

Temp: 49.6 F

Hardness: 136 mg/l

Sample Location: RWSL-1 @ SE Corner

Salinity: <10 g/kg

Flow Rate: N/A

(if a discharge is to a river or creek)

Control #	Constituent	Date Sample Collected	Sample Collection Method	Date Sample Analyzed	USEPA Method Used	Analytical Results (µg/L)	ML ¹ (µg/L)	MDL ² (µg/L)	RDL ³ (µg/L)	Comments
1	Antimony	3/13/2003	Grab	3/31/2003	200.9	ND	6	1.2	1.2	
2	Arsenic	3/13/2003	Grab	3/27/2003	200.9	19	2	0.56	0.56	
3	Beryllium	3/13/2003	Grab	3/20/2003	200.7	ND	1	0.1	0.1	
4	Cadmium	3/13/2003	Grab	3/20/2003	200.7	ND	1	0.2	0.2	
5a	Chromium (total)	3/13/2003	Grab	3/20/2003	200.7	DNQ 5.5	10	1.2	1.2	Est. Conc.
5b	Chromium (VI)	3/13/2003	Grab	3/14/2003	7196	ND	10	5	5	
6	Copper	3/13/2003	Grab	3/20/2003	200.7	ND	9	1	1	
7	Lead	3/13/2003	Grab	3/29/2003	200.9	DNQ 0.69	2	0.34	0.34	Est. Conc.
8	Mercury	3/14/2003	Grab	3/23/2003	1631	0.00421	0.0005	0.0002	0.0002	Analyzed by Basic #1677
9	Nickel	3/13/2003	Grab	3/20/2003	200.7	DNQ 2.8	10	1.3	1.3	Est. Conc.
10	Selenium	3/13/2003	Grab	3/28/2003	200.9	ND	5	0.51	0.51	
11	Silver	3/13/2003	Grab	3/20/2003	200.7	ND	10	1.6	1.6	
12	Thallium	3/13/2003	Grab	3/31/2003	200.9	ND	1	0.36	0.36	
13	Zinc	3/13/2003	Grab	3/20/2003	200.7	DNQ 2.4	20	1.3	1.3	Est. Conc.
14	Cyanide	3/13/2003	Grab	4/1/2003	335.2	ND	3	2	2	
15	Asbestos	3/13/2003	Grab	3/24/2003	100.2	ND	0.021mf/l	0.021mf/l	0.085mf/l	Analyzed by R.J.Lee #2229
16	2,3,7,8-TCDD (Dioxin)	3/13/2003	Grab	3/27/2003	1613	ND	5.OE-06	1.40E-06	1.80E-06	Analyzed by Frontier #2493
17	Acrolein	3/13/2003	Grab	3/18/2003	624	ND	2	0.36	3.6	
18	Acrylonitrile	3/13/2003	Grab	3/18/2003	624	ND	2	0.14	1.4	
19	Benzene	3/13/2003	Grab	3/18/2003	624	ND	0.3	0.08	0.8	
20	Bromoform	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.099	0.99	
21	Carbon Tetrachloride	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.19	1.9	

Control #	Constituent	Date Sample Collected	Sample Collection Method	Date Sample Analyzed	USEPA Method Used	Analytical Results (µg/L)	ML ¹ (µg/L)	MDL ² (µg/L)	RDL ³ (µg/L)	Comments
22	Chlorobenzene	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.075	0.75	
23	Chlorodibromomethane	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.11	1.1	
24	Chloroethane	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.29	2.9	
25	2-Chloroethylvinyl Ether									
26	Chloroform	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.084	0.84	
27	Dichlorobromomethane	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.1	1	
28	1,1-Dichloroethane	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.14	1.4	
29	1,2-Dichloroethane	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.21	2.1	
30	1,1-Dichloroethylene	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.19	1.9	
31	1,2-Dichloropropane	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.13	1.3	
32	1,3-Dichloropropylene	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.12	1.2	
33	Ethylbenzene	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.11	1.1	
34	Methyl Bromide	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.2	2	
35	Methyl Chloride	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.14	1.4	
36	Methylene Chloride	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.16	1.6	
37	1,1,2,2-Tetrachloroethane	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.057	0.57	
38	Tetrachloroethylene	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.21	2.1	
39	Toluene	3/13/2003	Grab	3/18/2003	624	ND	0.3	0.11	1.1	
40	1,2-Trans-Dichloroethylene	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.16	1.6	
41	1,1,1-Trichloroethane	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.13	1.3	
42	1,1,2-Trichloroethane	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.12	1.2	
43	Trichloroethylene	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.13	1.3	
44	Vinyl Chloride	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.17	1.7	
45	2-Chlorophenol	3/13/2003	Grab	3/25/2003	625	ND	5	5	50	Analyzed by McCampbell #1644
46	2,4-Dichlorophenol	3/13/2003	Grab	3/25/2003	625	ND	5	5	50	Analyzed by McCampbell #1644
47	2,4-Dimethylphenol	3/13/2003	Grab	3/25/2003	625	ND	2	2	20	Analyzed by McCampbell #1644
48	2-Methyl-4,6-Dinitrophenol	3/13/2003	Grab	3/25/2003	625	ND	5	5	50	Analyzed by McCampbell #1644
49	2,4-Dinitrophenol	3/13/2003	Grab	3/25/2003	625	ND	5	5	50	Analyzed by McCampbell #1644
50	2-Nitrophenol	3/13/2003	Grab	3/25/2003	625	ND	10	10	100	Analyzed by McCampbell #1644
51	4-Nitrophenol	3/13/2003	Grab	3/25/2003	625	ND	10	10	100	Analyzed by McCampbell #1644
52	3-Methyl-4-Chlorophenol	3/13/2003	Grab	3/25/2003	625	ND	1	1	10	Analyzed by McCampbell #1644
53	Pentachlorophenol	3/13/2003	Grab	3/25/2003	625	ND	5	5	50	Analyzed by McCampbell #1644
54	Phenol	3/13/2003	Grab	3/25/2003	625	ND	1	1	10	Analyzed by McCampbell #1644
55	2,4,6-Trichlorophenol	3/13/2003	Grab	3/25/2003	625	ND	10	10	100	Analyzed by McCampbell #1644
56	Acenaphthene	3/13/2003	Grab	3/25/2003	625	ND	1	1	10	Analyzed by McCampbell #1644
57	Acenaphthylene	3/13/2003	Grab	3/25/2003	625	ND	10	10	100	Analyzed by McCampbell #1644
58	Anthracene	3/13/2003	Grab	3/25/2003	625	ND	10	10	100	Analyzed by McCampbell #1644
59	Benzidine	3/13/2003	Grab	3/25/2003	625	ND	5	5	50	Analyzed by McCampbell #1644
60	Benzo(a)Anthracene	3/13/2003	Grab	3/25/2003	625	ND	10	10	100	Analyzed by McCampbell #1644
61	Benzo(a)Pyrene	3/13/2003	Grab	3/25/2003	625	ND	10	10	100	Analyzed by McCampbell #1644

Control #	Constituent	Date Sample Collected	Sample Collection Method	Date Sample Analyzed	USEPA Method Used	Analytical Results (µg/L)	ML ¹ (µg/L)	MDL ² (µg/L)	RDL ³ (µg/L)	Comments
62	Benzo(b)Fluoranthene	3/13/2003	Grab	3/25/2003	625	ND	10	10	100	Analyzed by McCampbell #1644
63	Benzo(ghi)Perylene	3/13/2003	Grab	3/25/2003	625	ND	5	5	50	Analyzed by McCampbell #1644
64	Benzo(k)Fluoranthene	3/13/2003	Grab	3/25/2003	625	ND	10	10	100	Analyzed by McCampbell #1644
65	Bis(2-Chloroethoxy) Methane	3/13/2003	Grab	3/25/2003	625	ND	5	5	50	Analyzed by McCampbell #1644
66	Bis(2-Chloroethyl) Ether	3/13/2003	Grab	3/25/2003	625	ND	1	1	10	Analyzed by McCampbell #1644
67	Bis(2-Chloroisopropyl) Ether	3/13/2003	Grab	3/25/2003	625	ND	2	2	20	Analyzed by McCampbell #1644
68	Bis (2-Ethylhexyl) Phthalate	3/13/2003	Grab	3/25/2003	625	ND	5	5	50	Analyzed by McCampbell #1644
69	4-Bromophenyl Phenyl Ether	3/13/2003	Grab	3/25/2003	625	ND	5	5	50	Analyzed by McCampbell #1644
70	Butylbenzyl Phthalate	3/13/2003	Grab	3/25/2003	625	ND	10	10	100	Analyzed by McCampbell #1644
71	2-Chloronaphthalene	3/13/2003	Grab	3/25/2003	625	ND	10	10	100	Analyzed by McCampbell #1644
72	4-Chlorophenyl Phenyl Ether	3/13/2003	Grab	3/25/2003	625	ND	5	5	50	Analyzed by McCampbell #1644
73	Chrysene	3/13/2003	Grab	3/25/2003	625	ND	10	10	100	Analyzed by McCampbell #1644
74	Dibenzo(a,h) Anthracene	3/13/2003	Grab	3/25/2003	625	ND	10	10	100	Analyzed by McCampbell #1644
75	1,2 Dichlorobenzene	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.11	1.1	
76	1,3 Dichlorobenzene	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.11	1.1	
77	1,4 Dichlorobenzene	3/13/2003	Grab	3/18/2003	624	ND	0.5	0.081	0.81	
78	3,3'-Dichlorobenzidine	3/13/2003	Grab	3/25/2003	625	ND	5	5	50	Analyzed by McCampbell #1644
79	Diethyl Phthalate	3/13/2003	Grab	3/25/2003	625	ND	2	2	20	Analyzed by McCampbell #1644
80	Dimethyl Phthalate	3/13/2003	Grab	3/25/2003	625	ND	2	2	20	Analyzed by McCampbell #1644
81	Di-n-Butyl Phthalate	3/13/2003	Grab	3/25/2003	625	ND	10	10	100	Analyzed by McCampbell #1644
82	2,4-Dinitrotoluene	3/13/2003	Grab	3/25/2003	625	ND	5	5	50	Analyzed by McCampbell #1644
83	2,6-Dinitrotoluene	3/13/2003	Grab	3/25/2003	625	ND	5	5	50	Analyzed by McCampbell #1644
84	Di-n-Octyl Phthalate	3/13/2003	Grab	3/25/2003	625	ND	10	10	100	Analyzed by McCampbell #1644
85	1,2-Diphenylhydrazine	3/13/2003	Grab	3/25/2003	625	ND	1	1	10	Analyzed by McCampbell #1644
86	Fluoranthene	3/13/2003	Grab	3/25/2003	625	ND	10	10	100	Analyzed by McCampbell #1644
87	Fluorene	3/13/2003	Grab	3/25/2003	625	ND	10	10	100	Analyzed by McCampbell #1644
88	Hexachlorobenzene	3/13/2003	Grab	3/25/2003	625	ND	1	1	10	Analyzed by McCampbell #1644
89	Hexachlorobutadiene	3/13/2003	Grab	3/25/2003	625	ND	1	1	10	Analyzed by McCampbell #1644
90	Hexachlorocyclopentadiene	3/13/2003	Grab	3/25/2003	625	ND	5	5	50	Analyzed by McCampbell #1644
91	Hexachloroethane	3/13/2003	Grab	3/25/2003	625	ND	1	1	10	Analyzed by McCampbell #1644
92	Indeno(1,2,3-cd)Pyrene	3/13/2003	Grab	3/25/2003	625	ND	10	10	100	Analyzed by McCampbell #1644
93	Isophorone	3/13/2003	Grab	3/25/2003	625	ND	1	1	10	Analyzed by McCampbell #1644
94	Naphthalene	3/13/2003	Grab	3/25/2003	625	ND	1	1	10	Analyzed by McCampbell #1644
95	Nitrobenzene	3/13/2003	Grab	3/25/2003	625	ND	1	1	10	Analyzed by McCampbell #1644
96	N-Nitrosodimethylamine	3/13/2003	Grab	3/25/2003	625	ND	5	5	50	Analyzed by McCampbell #1644
97	N-Nitrosodi-n-Propylamine	3/13/2003	Grab	3/25/2003	625	ND	5	5	50	Analyzed by McCampbell #1644
98	N-Nitrosodiphenylamine	3/13/2003	Grab	3/25/2003	625	ND	1	1	10	Analyzed by McCampbell #1644
99	Phenanthrene	3/13/2003	Grab	3/25/2003	625	ND	5	5	50	Analyzed by McCampbell #1644
100	Pyrene	3/13/2003	Grab	3/25/2003	625	ND	10	10	100	Analyzed by McCampbell #1644
101	1,2,4-Trichlorobenzene	3/13/2003	Grab	3/25/2003	625	ND	5	5	50	Analyzed by McCampbell #1644

Control #	Constituent	Date ⁴ Sample Collected	Sample Collection Method	Date Sample Analyzed	USEPA Method Used	Analytical Results (µg/L)	ML ¹ (µg/L)	MDL ² (µg/L)	RDL ³ (µg/L)	Comments
102	Aldrin	3/13/2003	Grab	3/20/2003	608	ND	0.005	0.0038	0.0038	
103	alpha-BHC	3/13/2003	Grab	3/20/2003	608	ND	0.01	0.0043	0.0043	
104	beta-BHC	3/13/2003	Grab	3/20/2003	608	ND	0.005	0.0027	0.015	
105	gamma-BHC	3/13/2003	Grab	3/20/2003	608	ND	0.01	0.0041	0.0041	
106	Delta-BHC	3/13/2003	Grab	3/20/2003	608	ND	0.005	0.0021	0.0021	
107	Chlordane	3/13/2003	Grab	3/20/2003	608	ND	0.05	0.035	0.035	
108	4,4'-DDT	3/13/2003	Grab	3/20/2003	608	ND	0.01	0.0045	0.0045	
109	4,4'-DDE	3/13/2003	Grab	3/20/2003	608	ND	0.02	0.0033	0.0033	
110	4,4'-DDD	3/13/2003	Grab	3/20/2003	608	ND	0.02	0.0048	0.0048	
111	Dieldrin	3/13/2003	Grab	3/20/2003	608	ND	0.01	0.0033	0.0033	
112	alpha-Endosulfan	3/13/2003	Grab	3/20/2003	608	ND	0.01	0.0042	0.0042	
113	beta-Endosulfan	3/13/2003	Grab	3/20/2003	608	ND	0.01	0.0033	0.0033	
114	Endosulfan Sulfate	3/13/2003	Grab	3/20/2003	608	ND	0.05	0.007	0.007	
115	Endrin	3/13/2003	Grab	3/20/2003	608	ND	0.01	0.0047	0.0047	
116	Endrin Aldehyde	3/13/2003	Grab	3/20/2003	608	ND	0.01	0.0095	0.0095	
117	Heptachlor	3/13/2003	Grab	3/20/2003	608	ND	0.01	0.003	0.003	
118	Heptachlor Epoxide	3/13/2003	Grab	3/20/2003	608	ND	0.01	0.003	0.003	
<i>Polychlorinated biphenyls (PCBs)</i>										
119	PCB Arochlor 1016	3/13/2003	Grab	3/20/2003	608	ND	0.5	0.19	0.19	
120	PCB Arochlor 1221	3/13/2003	Grab	3/20/2003	608	ND	0.5	0.19	0.19	
121	PCB Arochlor 1232	3/13/2003	Grab	3/20/2003	608	ND	0.5	0.19	0.19	
122	PCB Arochlor 1242	3/13/2003	Grab	3/20/2003	608	ND	0.5	0.19	0.19	
123	PCB Arochlor 1248	3/13/2003	Grab	3/20/2003	608	ND	0.5	0.19	0.19	
124	PCB Arochlor 1254	3/13/2003	Grab	3/20/2003	608	ND	0.5	0.19	0.19	
125	PCB Arochlor 1260	3/13/2003	Grab	3/20/2003	608	ND	0.5	0.19	0.19	
126	Toxaphene	3/13/2003	Grab	3/20/2003	608	ND	0.5	0.21	0.21	

**California Regional Water Quality Control Board
North Coast Region
ATTACHMENT 'C'**

Permittee: Sierra Pacific, Inc., Arcata

Name of Laboratory: Alpha Analytical Labs

Report No.: A303329-01

WDID No.: 1B830650HUM

ELAP No.: 1551

Period (Wet or Dry): Wet

Contact Name: Linda Mackey, EnviroNet Consulting

Laboratory Contact: Karen Daly

Phone Number: 707-546-9461

Lab Phone Number: 707-468-0401

Type of Sample: Receiving Waters

(1) Name of Congener	(2) Date Sample Collected	(3) Sample Collection Method	(4) Date Sample Analyzed	(5) USEPA Method Used	(6) Analytical Results (pg/L)	(7) ML (pg/L)	(8) MDL (pg/L)	(9) Measured or Estimated Congener Concentration	(10) TEF	(11) Measured or Estimated Congener Concentration Multiplied by TEF	(12) Comments
2,3,7,8-TCDD	3/13/2003	Grab	3/27/2003	1613	ND	10	4.4	0	1	0	Frontier #2493
1,2,3,7,8-PentaCDD	3/13/2003	Grab	3/27/2003	1613	ND	50	4.4	0	1.0	0	Frontier #2493
1,2,3,4,7,8-HexaCDD	3/13/2003	Grab	3/27/2003	1613	ND	50	4.4	0	0.1	0	Frontier #2493
1,2,3,6,7,8-HexaCDD	3/13/2003	Grab	3/27/2003	1613	ND	50	4.4	0	0.1	0	Frontier #2493
1,2,3,7,8,9-HexaCDD	3/13/2003	Grab	3/27/2003	1613	ND	50	4.4	0	0.1	0	Frontier #2493
1,2,3,4,6,7,8-HeptaCDD	3/13/2003	Grab	3/27/2003	1613	ND	50	4.4	0	0.01	0	Frontier #2493
OctaCDD	3/13/2003	Grab	3/27/2003	1613	ND	100	4.4	0	0.0001	0	Frontier #2493
2,3,7,8-TetraCDF	3/13/2003	Grab	3/27/2003	1613	ND	10	4.4	0	0.1	0	Frontier #2493
1,2,3,7,8-PentaCDF	3/13/2003	Grab	3/27/2003	1613	ND	50	4.4	0	0.05	0	Frontier #2493
2,3,4,7,8-PentaCDF	3/13/2003	Grab	3/27/2003	1613	ND	50	4.4	0	0.5	0	Frontier #2493
1,2,3,4,7,8-HexaCDF	3/13/2003	Grab	3/27/2003	1613	ND	50	4.4	0	0.1	0	Frontier #2493
1,2,3,6,7,8-HexaCDF	3/13/2003	Grab	3/27/2003	1613	ND	50	4.4	0	0.1	0	Frontier #2493
1,2,3,7,8,9-HexaCDF	3/13/2003	Grab	3/27/2003	1613	ND	50	4.4	0	0.1	0	Frontier #2493
2,3,4,6,7,8-HexaCDF	3/13/2003	Grab	3/27/2003	1613	ND	50	4.4	0	0.1	0	Frontier #2493
1,2,3,4,6,7,8-HeptaCDF	3/13/2003	Grab	3/27/2003	1613	ND	50	4.4	0	0.01	0	Frontier #2493
1,2,3,4,7,8,9-HeptaCDF	3/13/2003	Grab	3/27/2003	1613	ND	50	4.4	0	0.01	0	Frontier #2493
OctaCDF	3/13/2003	Grab	3/27/2003	1613	ND	100	4.4	0	0.0001	0	Frontier #2493
Sum Total										0	

APPENDIX B

ANALYTICAL LABORATORY REPORTS



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

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

24 March 2003

Dun & Martinek
Attn: Dun & Martinek
P.O. Box 1266
Eureka, CA 95502

RE: Weekly Monitoring

Work Order: A303322

Enclosed are the results of analyses for samples received by the laboratory on 03/13/03 16:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Melanie B. Neece For Sheri L. Speaks
Project Manager



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

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

CHEMICAL EXAMINATION REPORT

Page 1 of 4

Dun & Martinek
P.O. Box 1266
Eureka, CA 95502
Attn: Dun & Martinek

Report Date: 03/24/03 12:31
Project No: M154.1
Project ID: Weekly Monitoring

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A303322	03/13/2003 16:15	ENVDMAR	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Receiving Waters	A303322-01	Water	03/13/03 10:45	03/13/03 16:15

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

Melanie B. Neece For Sheri L. Speaks
Project Manager

3/24/03



Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

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

CHEMICAL EXAMINATION REPORT

Page 2 of 4

Dun & Martinek
P.O. Box 1266
Eureka, CA 95502
Attn: Dun & Martinek

Report Date: 03/24/03 12:31
Project No: M154.1
Project ID: Weekly Monitoring

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A303322	03/13/2003 16:15	ENVDMAR	

Alpha Analytical Laboratories, Inc.

METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
Receiving Waters (A303322-01)		Sample Type: Water			Sampled: 03/13/03 10:45		
Conventional Chemistry Parameters by APHA/EPA Methods							
Color	EPA 110.2	AC31201	03/14/03	03/14/03	1	200 Color Units	3.0
Dissolved Oxygen	EPA 360.1	AC31405	03/13/03	03/13/03	"	0.13 mg/l	0.10
pH	EPA 150.1	AC31824	03/14/03	03/14/03	"	6.5 pH Units	3.0
Turbidity	EPA 180.1	"	"	"	"	3.5 NTU	0.10

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Melanie B. Neece For Sheri L. Speaks
Project Manager

3/24/03



Alpha Analytical Laboratories Inc.

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CHEMICAL EXAMINATION REPORT

Page 3 of 4

Dun & Martinek
P.O. Box 1266
Eureka, CA 95502
Attn: Dun & Martinek

Report Date: 03/24/03 12:31
Project No: M154.1
Project ID: Weekly Monitoring

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
A303322	03/13/2003 16:15	ENVDMAR	

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
------------	--------	-----	-------	-------------	---------------	------	-------------	-----	-----------	------

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Melanie B. Neece For Sheri L. Speaks
Project Manager

3/24/03



Alpha Analytical Laboratories Inc.

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CHEMICAL EXAMINATION REPORT

Page 4 of 4

Dun & Martinek
P.O. Box 1266
Eureka, CA 95502
Attn: Dun & Martinek

Report Date: 03/24/03 12:31
Project No: M154.1
Project ID: Weekly Monitoring

Order Number
303322

Receipt Date/Time
03/13/2003 16:15

Client Code
ENVDMAR

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
PQL Practical Quantitation Limit



www.basiclab.com

voice 530.243.7234 2218 Railroad Avenue
fax 530.243.7494 Redding, California 96001

WATER CODE SECTION 13287 (CTR) - INORGANICS

Report To: ALPHA ANALYTICAL LABORATORIES, INC.
P.O. BOX 1508
UKIAH, CA 95482

Attention: SHERI L. SPEAKS

Lab Number: 0303543
Date: 03/24/03
Phone: 707-468-0401
Date Sampled: 03/14/03
Date Received: 03/17/03
Project No.: A303366
Page 1 of 1 - Inorganics

Description: A303366-01 VPD RECEIVING WATER

<u>CTR No.</u>	<u>Method</u>	<u>Test</u>	<u>Units</u>	<u>Results</u>	<u>Qualifier</u>	<u>CQL</u>	<u>MDL</u>	<u>RL</u>	<u>Date Analyzed</u>
8	1631	Mercury	ng/l	4.21		0.5	0.20	0.50	03/23/03
8	1631	Mercury-Field Blank	ng/l	0.39	DNQ - Est. Conc.	0.5	0.20	0.50	03/23/03

Comments: California D.O.H.S. Cert. #1677.

ND - Not detected. RL - Minimum Level of Quantitation.

MDL- Method Detection Limit. DNQ Est. Conc. - Detected, but not Quantified.

ng/l - Nanogram/liter. ug/l - Microgram/liter. CQL - Criterion Quantitation Limit.

Reported by:



alpha

Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

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

01 April 2003

Dun & Martinek
Dun & Martinek
P.O. Box 1266
Eureka, CA 95502

RE: CTR - SPI, Arcata

Work Order: A303329

Enclosed are the results of analyses for samples received by the laboratory on 03/13/03 16:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Sheri Speaks

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

Dun & Martinek
P.O. Box 1266
Eureka CA, 95502

Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Receiving Waters	A303329-01	Water	03/13/03 10:45	03/13/03 16:15

Alpha Analytical Laboratories, Inc.

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.

Sheri Speaks

Sheri L. Speaks, Project Manager



Alpha Analytical Laboratories Inc.

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Dun & Martinek
P.O. Box 1266
Eureka CA, 95502

Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

Metals by EPA 6000/7000 Series Methods
Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Receiving Waters (A303329-01) Water Sampled: 03/13/03 10:45 Received: 03/13/03 16:15										
Chromium, hexavalent	ND	0.0050	0.010	mg/l	1	AC31402	03/14/03	03/14/03	EPA 7196	A-01

Alpha Analytical Laboratories, Inc.

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Sheri Speaks

Sheri L. Speaks, Project Manager



Alpha

Alpha Analytical Laboratories Inc.

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Dun & Martinek
P.O. Box 1266
Eureka CA, 95502

Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

Metals by EPA 200 Series Methods Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Receiving Waters (A303329-01) Water Sampled: 03/13/03 10:45 Received: 03/13/03 16:15										
Silver	ND	0.0016	0.010	mg/l	1	AC31710	03/17/03	03/20/03	EPA 200.7	
Arsenic	0.019	0.00056	0.0020	"	"	"	"	03/27/03	EPA 200.9	
Beryllium	ND	0.00010	0.0010	"	"	"	"	03/20/03	EPA 200.7	
Cadmium	ND	0.00020	0.0010	"	"	"	"	"	"	
Chromium	0.0055	0.0012	0.010	"	"	"	"	"	"	J
Copper	ND	0.0010	0.0090	"	"	"	"	"	"	
Nickel	0.0028	0.0013	0.010	"	"	"	"	"	"	J
Lead	0.00069	0.00034	0.0020	"	"	"	"	03/29/03	EPA 200.9	J
Antimony	ND	0.0012	0.0060	"	"	"	"	03/31/03	"	
Selenium	ND	0.00051	0.0050	"	"	"	"	03/28/03	"	
Thallium	ND	0.00036	0.0010	"	"	"	"	03/31/03	"	
Zinc	0.0024	0.0013	0.020	"	"	"	"	03/20/03	EPA 200.7	J

Alpha Analytical Laboratories, Inc.

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Sheri Speaks

Sheri L. Speaks, Project Manager



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Dun & Martinek
P.O. Box 1266
Eureka CA, 95502

Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

Organochlorine Pesticides and PCBs by EPA Method 608
Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Receiving Waters (A303329-01) Water Sampled: 03/13/03 10:45 Received: 03/13/03 16:15										
Aldrin	ND	0.0038	0.0050	ug/l	1	AC32014	03/20/03	03/20/03	EPA 608	
HCH-alpha	ND	0.0043	0.010	"	"	"	"	"	"	
HCH-beta	0.012	0.012	0.012	"	"	"	"	"	"	R-01
HCH-gamma (Lindane)	ND	0.0041	0.010	"	"	"	"	"	"	
HCH-delta	ND	0.0021	0.0050	"	"	"	"	"	"	
Chlordane (tech)	ND	0.035	0.050	"	"	"	"	"	"	
4,4'-DDT	ND	0.0045	0.010	"	"	"	"	"	"	
4,4'-DDE	ND	0.0033	0.020	"	"	"	"	"	"	
4,4'-DDD	ND	0.0048	0.020	"	"	"	"	"	"	
Dieldrin	ND	0.0033	0.010	"	"	"	"	"	"	
Endosulfan I	ND	0.0042	0.010	"	"	"	"	"	"	
Endosulfan II	ND	0.0033	0.010	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0070	0.050	"	"	"	"	"	"	
Endrin	ND	0.0047	0.010	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0095	0.010	"	"	"	"	"	"	
Heptachlor	ND	0.0030	0.010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0030	0.010	"	"	"	"	"	"	
PCB-1016	ND	0.19	0.50	"	"	"	"	"	"	
PCB-1221	ND	0.19	0.50	"	"	"	"	"	"	
PCB-1232	ND	0.19	0.50	"	"	"	"	"	"	
PCB-1242	ND	0.19	0.50	"	"	"	"	"	"	
PCB-1248	ND	0.19	0.50	"	"	"	"	"	"	
PCB-1254	ND	0.19	0.50	"	"	"	"	"	"	
PCB-1260	ND	0.19	0.50	"	"	"	"	"	"	
Toxaphene	ND	0.21	0.50	"	"	"	"	"	"	
<i>Surrogate: Dibutylchloroendate</i>		86.9 %	39-150			"	"	"	"	

Alpha Analytical Laboratories, Inc.

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Sheri Speaks

Sheri L. Speaks, Project Manager



Alpha Analytical Laboratories Inc.

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Dun & Martinek
P.O. Box 1266
Eureka CA, 95502

Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

Purgeables by EPA Method 624
Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Receiving Waters (A303329-01) Water										R-04
Sampled: 03/13/03 10:45 Received: 03/13/03 16:15										
Acrolein	ND	3.6	20	ug/l	10	AC31913	03/16/03	03/18/03	EPA 624	
Acrylonitrile	ND	1.4	20	"	"	"	"	"	"	
Benzene	ND	0.80	3.0	"	"	"	"	"	"	
Bromoform	ND	0.99	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.9	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	0.75	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	1.1	5.0	"	"	"	"	"	"	
Chloroethane	ND	2.9	5.0	"	"	"	"	"	"	
Chloroform	ND	0.84	5.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.4	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	2.1	5.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.9	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.3	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.76	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.47	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.1	5.0	"	"	"	"	"	"	
Bromomethane	ND	2.0	5.0	"	"	"	"	"	"	
Chloromethane	ND	1.4	5.0	"	"	"	"	"	"	
Methylene chloride	ND	1.6	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.57	5.0	"	"	"	"	"	"	
Tetrachloroethene	ND	2.1	5.0	"	"	"	"	"	"	
Toluene	ND	1.1	3.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.6	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.3	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.2	5.0	"	"	"	"	"	"	
Trichloroethene	ND	1.3	5.0	"	"	"	"	"	"	
Vinyl chloride	ND	1.7	5.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.1	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.1	5.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.81	5.0	"	"	"	"	"	"	
Surrogate: Dibromofluoromethane		91.8 %	70-130			"	"	"	"	

Alpha Analytical Laboratories, Inc.

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Sheri Speaks

Sheri L. Speaks, Project Manager



Alpha

Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

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Dun & Martinek
P.O. Box 1266
Eureka CA, 95502

Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

Purgeables by EPA Method 624
Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Receiving Waters (A303329-01) Water										R-04
Sampled: 03/13/03 10:45 Received: 03/13/03 16:15										
Surrogate: Toluene-d8	99.4 %		70-130			AC31913	03/16/03	03/18/03	EPA 624	
Surrogate: Bromofluorobenzene	82.2 %		70-130			"	"	"	"	

Alpha Analytical Laboratories, Inc.

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.

Sheri Speaks

Sheri L. Speaks, Project Manager



Alpha Analytical Laboratories Inc.

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Dun & Martinek
P.O. Box 1266
Eureka CA, 95502

Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

Conventional Chemistry Parameters by APHA/EPA Methods
Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Receiving Waters (A303329-01) Water Sampled: 03/13/03 10:45 Received: 03/13/03 16:15										
Cyanide (total)	ND	0.0020	0.0030	mg/l	1	AD30108	03/25/03	04/01/03	EPA 335.2	
pH	6.1		3.0	pH Units	"	AC31824	03/14/03	03/14/03	EPA 150.1	
Salinity	ND	10	10	g/kg	"	AC31909	03/19/03	03/31/03	SM 2520	

Alpha Analytical Laboratories, Inc.

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Sheri Speaks

Sheri L. Speaks, Project Manager



alpha

Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

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Dun & Martinek
P.O. Box 1266
Eureka CA, 95502

Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

Physical Parameters by APHA/ASTM/EPA Methods Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Receiving Waters (A303329-01) Water Sampled: 03/13/03 10:45 Received: 03/13/03 16:15										
Hardness, Total	136		5	mg/l	1	AC31710	03/17/03	03/20/03	SM2340B	

Alpha Analytical Laboratories, Inc.

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Sheri Speaks

Sheri L. Speaks, Project Manager



Alpha

Alpha Analytical Laboratories Inc.

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Dun & Martinek
P.O. Box 1266
Eureka CA, 95502

Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

Metals by EPA 6000/7000 Series Methods - Quality Control Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AC31402 - EPA 7196A Cr6 Water											
Blank (AC31402-BLK1)					Prepared & Analyzed: 03/14/03						
Chromium, hexavalent	ND	0.0050	0.010	mg/l							
LCS (AC31402-BS1)					Prepared & Analyzed: 03/14/03						
Chromium, hexavalent	0.101	0.0050	0.010	mg/l	0.100		101	80-120			
LCS Dup (AC31402-BSD1)					Prepared & Analyzed: 03/14/03						
Chromium, hexavalent	0.0990	0.0050	0.010	mg/l	0.100		99.0	80-120	2.00	20	

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Sheri L. Speaks, Project Manager



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P.O. Box 1266
Eureka CA, 95502

Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

Metals by EPA 200 Series Methods - Quality Control

Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AC31710 - EPA 200.2 Hot Plate

Blank (AC31710-BLK1)

Prepared: 03/17/03 Analyzed: 03/31/03

Antimony	ND	0.0012	0.0060	mg/l							
Arsenic	ND	0.00056	0.0020	"							
Beryllium	0.000175	0.00010	0.0010	"							J
Cadmium	ND	0.00020	0.0010	"							
Chromium	ND	0.0012	0.010	"							
Copper	ND	0.0010	0.0090	"							
Lead	ND	0.00034	0.0020	"							
Nickel	ND	0.0013	0.010	"							
Selenium	ND	0.00051	0.0050	"							
Silver	ND	0.0016	0.010	"							
Thallium	ND	0.00036	0.0010	"							
Zinc	0.00210	0.0013	0.020	"							J

LCS (AC31710-BS1)

Prepared: 03/17/03 Analyzed: 03/31/03

Antimony	0.105	0.012	0.060	mg/l	0.100	105	85-115				
Arsenic	0.00999	0.00056	0.0020	"	0.0100	99.9	85-115				
Beryllium	0.106	0.00010	0.0010	"	0.100	106	85-115				
Cadmium	0.106	0.00020	0.0010	"	0.100	106	85-115				
Chromium	0.104	0.0012	0.010	"	0.100	104	85-115				
Copper	0.106	0.0010	0.0090	"	0.100	106	85-115				
Lead	0.0960	0.0034	0.020	"	0.100	96.0	85-115				
Nickel	0.107	0.0013	0.010	"	0.100	107	85-115				
Selenium	0.00941	0.00051	0.0050	"	0.0100	94.1	73.8-126				
Silver	0.0920	0.0016	0.010	"	0.100	92.0	85-115				
Thallium	0.0959	0.0036	0.010	"	0.100	95.9	56.5-124				
Zinc	0.111	0.0013	0.020	"	0.100	111	89.4-128				

LCS Dup (AC31710-BSD1)

Prepared: 03/17/03 Analyzed: 03/31/03

Antimony	0.103	0.012	0.060	mg/l	0.100	103	85-115	1.92	20		
Arsenic	0.00971	0.00056	0.0020	"	0.0100	97.1	85-115	2.84	20		
Beryllium	0.109	0.00010	0.0010	"	0.100	109	85-115	2.79	20		
Cadmium	0.107	0.00020	0.0010	"	0.100	107	85-115	0.939	20		

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Shari Speaks

Shari L. Speaks, Project Manager



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Dun & Martinek P.O. Box 1266 Eureka CA, 95502	Project: CTR - SPI, Arcata Project Number: M154.1 Project Manager: Dun & Martinek	Reported: 04/01/03 16:04
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Metals by EPA 200 Series Methods - Quality Control
Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AC31710 - EPA 200.2 Hot Plate

LCS Dup (AC31710-BSD1)											
						Prepared: 03/17/03	Analyzed: 03/20/03				
Chromium	0.107	0.0012	0.010	mg/l	0.100		107	85-115	2.84	20	
Copper	0.107	0.0010	0.0090	"	0.100		107	85-115	0.939	20	
Lead	0.0970	0.0034	0.020	"	0.100		97.0	85-115	1.04	20	
Nickel	0.108	0.0013	0.010	"	0.100		108	85-115	0.930	20	
Selenium	0.00924	0.00051	0.0050	"	0.0100		92.4	73.8-126	1.82	20	
Silver	0.0935	0.0016	0.010	"	0.100		93.5	85-115	1.62	20	
Thallium	0.0918	0.0036	0.010	"	0.100		91.8	56.5-124	4.37	20	
Zinc	0.113	0.0013	0.020	"	0.100		113	89.4-128	1.79	20	

Duplicate (AC31710-DUP1)											
						Source: A303329-01	Prepared: 03/17/03 Analyzed: 03/31/03				
Antimony	ND	0.0012	0.0060	mg/l		ND				20	
Arsenic	0.0193	0.00056	0.0020	"		0.019			1.57	20	
Beryllium	ND	0.00010	0.0010	"		ND				20	
Cadmium	ND	0.00020	0.0010	"		ND				20	
Chromium	0.00565	0.0012	0.010	"		0.0055			2.69	20	J
Copper	ND	0.0010	0.0090	"		ND				20	
Lead	0.000835	0.00034	0.0020	"		0.00069			19.0	20	J
Nickel	0.00525	0.0013	0.010	"		0.0028			60.9	20	J
Selenium	ND	0.00051	0.0050	"		ND				20	
Silver	ND	0.0016	0.010	"		ND				20	
Thallium	ND	0.00036	0.0010	"		ND				20	
Zinc	0.00550	0.0013	0.020	"		0.0024			78.5	20	J

Matrix Spike (AC31710-MS1)											
						Source: A303329-01	Prepared: 03/17/03 Analyzed: 03/31/03				
Antimony	0.0960	0.012	0.060	mg/l	0.100	ND	96.0	70-130			
Arsenic	0.0274	0.00056	0.0020	"	0.0100	0.019	84.0	70-130			
Beryllium	0.112	0.00010	0.0010	"	0.100	ND	112	70-130			
Cadmium	0.109	0.00020	0.0010	"	0.100	ND	109	70-130			
Chromium	0.114	0.0012	0.010	"	0.100	0.0055	108	70-130			
Copper	0.109	0.0010	0.0090	"	0.100	ND	109	70-130			
Lead	0.0973	0.0034	0.020	"	0.100	0.00069	96.6	70-130			
Nickel	0.114	0.0013	0.010	"	0.100	0.0028	111	70-130			

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Eureka CA, 95502

Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

Metals by EPA 200 Series Methods - Quality Control

Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AC31710 - EPA 200.2 Hot Plate

Matrix Spike (AC31710-MS1)

Source: A303329-01

Prepared: 03/17/03

Analyzed: 03/28/03

Selenium	0.00818	0.00051	0.0050	mg/l	0.0100	ND	81.8	20.7-155			
Silver	0.0986	0.0016	0.010	"	0.100	ND	98.6	70-130			
Thallium	0.101	0.0036	0.010	"	0.100	ND	101	47-123			
Zinc	0.116	0.0013	0.020	"	0.100	0.0024	114	70-130			

Matrix Spike Dup (AC31710-MSD1)

Source: A303329-01

Prepared: 03/17/03

Analyzed: 03/31/03

Antimony	0.107	0.012	0.060	mg/l	0.100	ND	107	70-130	10.8	20	
Arsenic	0.0279	0.00056	0.0020	"	0.0100	0.019	89.0	70-130	1.81	20	
Beryllium	0.113	0.00010	0.0010	"	0.100	ND	113	70-130	0.889	20	
Cadmium	0.107	0.00020	0.0010	"	0.100	ND	107	70-130	1.85	20	
Chromium	0.115	0.0012	0.010	"	0.100	0.0055	110	70-130	0.873	20	
Copper	0.107	0.0010	0.0090	"	0.100	ND	107	70-130	1.85	20	
Lead	0.0997	0.0034	0.020	"	0.100	0.00069	99.0	70-130	2.44	20	
Nickel	0.114	0.0013	0.010	"	0.100	0.0028	111	70-130	0.00	20	
Selenium	0.00840	0.00051	0.0050	"	0.0100	ND	84.0	20.7-155	2.65	20	
Silver	0.0983	0.0016	0.010	"	0.100	ND	98.3	70-130	0.305	20	
Thallium	0.103	0.0036	0.010	"	0.100	ND	103	47-123	1.96	20	
Zinc	0.116	0.0013	0.020	"	0.100	0.0024	114	70-130	0.00	20	

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Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

Organochlorine Pesticides and PCBs by EPA Method 608 - Quality Control
Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AC32014 - EPA 3510B Water

Blank (AC32014-BLK1)

Prepared & Analyzed: 03/20/03

Aldrin	ND	0.0038	0.0050	ug/l							
HCH-alpha	ND	0.0043	0.010	"							
HCH-beta	ND	0.0027	0.0050	"							
HCH-gamma (Lindane)	ND	0.0041	0.010	"							
HCH-delta	ND	0.0021	0.0050	"							
Chlordane (tech)	ND	0.035	0.050	"							
4,4'-DDT	ND	0.0045	0.010	"							
4,4'-DDE	ND	0.0033	0.020	"							
4,4'-DDD	0.00600	0.0048	0.020	"							J
Dieldrin	ND	0.0033	0.010	"							
Endosulfan I	ND	0.0042	0.010	"							
Endosulfan II	ND	0.0033	0.010	"							
Endosulfan sulfate	0.0350	0.0070	0.050	"							J
Endrin	ND	0.0047	0.010	"							
Endrin aldehyde	ND	0.0095	0.010	"							
Heptachlor	ND	0.0030	0.010	"							
Heptachlor epoxide	ND	0.0030	0.010	"							
PCB-1016	ND	0.19	0.50	"							
PCB-1221	ND	0.19	0.50	"							
PCB-1232	ND	0.19	0.50	"							
PCB-1242	ND	0.19	0.50	"							
PCB-1248	ND	0.19	0.50	"							
PCB-1254	ND	0.19	0.50	"							
PCB-1260	ND	0.19	0.50	"							
Toxaphene	ND	0.21	0.50	"							

Surrogate: Dibutylchlorendate 0.808 " 0.799 101 39-150

LCS (AC32014-BS1)

Prepared & Analyzed: 03/20/03

Aldrin	0.0860	0.0038	0.0050	ug/l	0.200	43.0	0-121
HCH-alpha	0.168	0.0043	0.010	"	0.200	84.0	64-113
HCH-beta	0.216	0.0027	0.0050	"	0.200	108	72-139

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Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

Organochlorine Pesticides and PCBs by EPA Method 608 - Quality Control
Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AC32014 - EPA 3510B Water

LCS (AC32014-BS1)											Prepared & Analyzed: 03/20/03	
HCH-gamma (Lindane)	0.172	0.0041	0.010	ug/l	0.200		86.0	66-118				
HCH-delta	0.164	0.0021	0.0050	"	0.200		82.0	46-165				
4,4'-DDT	0.182	0.0045	0.010	"	0.200		91.0	68-128				
4,4'-DDE	0.169	0.0033	0.020	"	0.200		84.5	50-124				
4,4'-DDD	0.186	0.0048	0.020	"	0.200		93.0	65-147				
Dieldrin	0.181	0.0033	0.010	"	0.200		90.5	71-119				
Endosulfan I	0.186	0.0042	0.010	"	0.200		93.0	71-121				
Endosulfan II	0.177	0.0033	0.010	"	0.200		88.5	53-136				
Endosulfan sulfate	0.195	0.0070	0.050	"	0.200		97.5	77-145				
Endrin	0.186	0.0047	0.010	"	0.200		93.0	76-132				
Endrin aldehyde	0.205	0.0095	0.010	"	0.200		102	69-155				
Heptachlor	0.132	0.0030	0.010	"	0.200		66.0	9-126				
Heptachlor epoxide	0.174	0.0030	0.010	"	0.200		87.0	69-120				
Surrogate: Dibutylchloride	0.932			"	0.799		117	39-150				

Matrix Spike (AC32014-MS1)											Source: A303329-01		Prepared & Analyzed: 03/20/03		QM-05
Aldrin	0.0580	0.0038	0.0050	ug/l	0.200	ND	29.0	0-121							
HCH-alpha	0.0770	0.0043	0.010	"	0.200	ND	38.5	64-113							
HCH-beta	0.121	0.0027	0.0050	"	0.200	0.012	54.5	72-139							
HCH-gamma (Lindane)	0.0840	0.0041	0.010	"	0.200	ND	42.0	66-118							
HCH-delta	0.0840	0.0021	0.0050	"	0.200	ND	42.0	46-165							
4,4'-DDT	0.111	0.0045	0.010	"	0.200	ND	55.5	68-128							
4,4'-DDE	0.0780	0.0033	0.020	"	0.200	ND	39.0	50-124							
4,4'-DDD	0.0860	0.0048	0.020	"	0.200	ND	43.0	65-147							
Dieldrin	0.0860	0.0033	0.010	"	0.200	ND	43.0	71-119							
Endosulfan I	0.0850	0.0042	0.010	"	0.200	ND	42.5	71-121							
Endosulfan II	0.0820	0.0033	0.010	"	0.200	ND	41.0	53-136							
Endosulfan sulfate	0.111	0.0070	0.050	"	0.200	ND	55.5	77-145							
Endrin	0.0880	0.0047	0.010	"	0.200	ND	44.0	76-132							
Endrin aldehyde	0.139	0.0095	0.010	"	0.200	ND	69.5	69-155							
Heptachlor	0.0680	0.0030	0.010	"	0.200	ND	34.0	9-126							

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Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

Organochlorine Pesticides and PCBs by EPA Method 608 - Quality Control
Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AC32014 - EPA 3510B Water

Matrix Spike (AC32014-MS1) Source: A303329-01 Prepared & Analyzed: 03/20/03 **QM-05**

Heptachlor epoxide	0.0860	0.0030	0.010	ug/l	0.200	ND	43.0	69-120			
Surrogate: Dibutylchlorendate	0.718			"	0.799		89.9	39-150			

Matrix Spike Dup (AC32014-MSD1) Source: A303329-01 Prepared & Analyzed: 03/20/03 **QM-05**

Aldrin	0.0800	0.0038	0.0050	ug/l	0.200	ND	40.0	0-121	31.9	44	
HCH-alpha	0.105	0.0043	0.010	"	0.200	ND	52.5	64-113	30.8	21	
HCH-beta	0.164	0.0027	0.0050	"	0.200	0.012	76.0	72-139	30.2	18	
HCH-gamma (Lindane)	0.112	0.0041	0.010	"	0.200	ND	56.0	66-118	28.6	25	
HCH-delta	0.118	0.0021	0.0050	"	0.200	ND	59.0	46-165	33.7	16	
4,4'-DDT	0.119	0.0045	0.010	"	0.200	ND	59.5	68-128	6.96	24	
4,4'-DDE	0.106	0.0033	0.020	"	0.200	ND	53.0	50-124	30.4	22	
4,4'-DDD	0.122	0.0048	0.020	"	0.200	ND	61.0	65-147	34.6	21	
Dieldrin	0.116	0.0033	0.010	"	0.200	ND	58.0	71-119	29.7	18	
Endosulfan I	0.113	0.0042	0.010	"	0.200	ND	56.5	71-121	28.3	21	
Endosulfan II	0.103	0.0033	0.010	"	0.200	ND	51.5	53-136	22.7	19	
Endosulfan sulfate	0.132	0.0070	0.050	"	0.200	ND	66.0	77-145	17.3	21	
Endrin	0.123	0.0047	0.010	"	0.200	ND	61.5	76-132	33.2	24	
Endrin aldehyde	0.143	0.0095	0.010	"	0.200	ND	71.5	69-155	2.84	18	
Heptachlor	0.0920	0.0030	0.010	"	0.200	ND	46.0	9-126	30.0	43	
Heptachlor epoxide	0.116	0.0030	0.010	"	0.200	ND	58.0	69-120	29.7	19	
Surrogate: Dibutylchlorendate	1.03			"	0.799		129	39-150			

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Dun & Martinek P.O. Box 1266 Eureka CA, 95502	Project: CTR - SPI, Arcata Project Number: M154.1 Project Manager: Dun & Martinek	Reported: 04/01/03 16:04
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Purgeables by EPA Method 624 - Quality Control

Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AC31913 - EPA 5030 Water MS

Blank (AC31913-BLK1)

Prepared: 03/16/03 Analyzed: 03/17/03

Acrolein	ND	0.36	2.0	ug/l							
Acrylonitrile	ND	0.14	2.0	"							
Benzene	ND	0.080	0.30	"							
Bromoform	ND	0.099	0.50	"							
Carbon tetrachloride	ND	0.19	0.50	"							
Chlorobenzene	ND	0.075	0.50	"							
Dibromochloromethane	ND	0.11	0.50	"							
Chloroethane	ND	0.29	0.50	"							
Chloroform	ND	0.084	0.50	"							
Bromodichloromethane	ND	0.10	0.50	"							
1,1-Dichloroethane	ND	0.14	0.50	"							
1,2-Dichloroethane	ND	0.21	0.50	"							
1,1-Dichloroethene	ND	0.19	0.50	"							
1,2-Dichloropropane	ND	0.13	0.50	"							
cis-1,3-Dichloropropene	ND	0.076	0.50	"							
trans-1,3-Dichloropropene	ND	0.047	0.50	"							
Ethylbenzene	ND	0.11	0.50	"							
Bromomethane	ND	0.20	0.50	"							
Chloromethane	ND	0.14	0.50	"							
Methylene chloride	ND	0.16	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.057	0.50	"							
Tetrachloroethene	ND	0.21	0.50	"							
Toluene	ND	0.11	0.30	"							
trans-1,2-Dichloroethene	ND	0.16	0.50	"							
1,1,1-Trichloroethane	ND	0.13	0.50	"							
1,1,2-Trichloroethane	ND	0.12	0.50	"							
Trichloroethene	ND	0.13	0.50	"							
Vinyl chloride	ND	0.17	0.50	"							
1,2-Dichlorobenzene	ND	0.11	0.50	"							
1,3-Dichlorobenzene	ND	0.11	0.50	"							
1,4-Dichlorobenzene	ND	0.081	0.50	"							

Alpha Analytical Laboratories, Inc.

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Sheri Speaks

Sheri L. Speaks, Project Manager



Alpha

Alpha Analytical Laboratories Inc.

208 Mason St. Ukiah, California 95482

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Dun & Martinek
P.O. Box 1266
Eureka CA, 95502

Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

Purgeables by EPA Method 624 - Quality Control Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AC31913 - EPA 5030 Water MS

Blank (AC31913-BLK1)

Prepared: 03/16/03 Analyzed: 03/17/03

Surrogate: Dibromofluoromethane	4.10			ug/l	5.00		82.0	70-130			
Surrogate: Toluene-d8	4.70			"	5.00		94.0	70-130			
Surrogate: Bromofluorobenzene	4.17			"	5.00		83.4	70-130			

LCS (AC31913-BS1)

Prepared: 03/16/03 Analyzed: 03/17/03

Acrolein	2.58	0.36	2.0	ug/l	2.62		98.5	70-130			
Acrylonitrile	1.15	0.14	2.0	"	1.25		92.0	70-130			J
Benzene	1.10	0.080	0.30	"	1.25		88.0	77-127			
Bromoform	1.05	0.099	0.50	"	1.25		84.0	84-121			
Carbon tetrachloride	1.05	0.19	0.50	"	1.25		84.0	76-131			
Chlorobenzene	1.13	0.075	0.50	"	1.25		90.4	83-126			
Dibromochloromethane	1.06	0.11	0.50	"	1.25		84.8	80-126			
Chloroethane	1.20	0.29	0.50	"	1.25		96.0	54-152			
Chloroform	1.06	0.084	0.50	"	1.25		84.8	79-135			
Bromodichloromethane	1.08	0.10	0.50	"	1.25		86.4	81-132			
1,1-Dichloroethane	1.20	0.14	0.50	"	1.25		96.0	82-140			
1,2-Dichloroethane	0.940	0.21	0.50	"	1.25		75.2	79-129			
1,1-Dichloroethene	1.04	0.19	0.50	"	1.25		83.2	84-121			
1,2-Dichloropropane	1.06	0.13	0.50	"	1.25		84.8	80-126			
cis-1,3-Dichloropropene	1.05	0.076	0.50	"	1.25		84.0	84-123			
trans-1,3-Dichloropropene	0.980	0.047	0.50	"	1.25		78.4	84-122			
Ethylbenzene	1.12	0.11	0.50	"	1.25		89.6	86-124			
Bromomethane	1.34	0.20	0.50	"	1.25		107	60-145			
Chloromethane	1.11	0.14	0.50	"	1.25		88.8	62-130			
Methylene chloride	1.03	0.16	0.50	"	1.25		82.4	79-121			
1,1,2,2-Tetrachloroethane	1.09	0.057	0.50	"	1.25		87.2	83-115			
Tetrachloroethene	1.14	0.21	0.50	"	1.25		91.2	75-135			
Toluene	1.21	0.11	0.30	"	1.25		96.8	85-127			
trans-1,2-Dichloroethene	1.07	0.16	0.50	"	1.25		85.6	81-128			
1,1,1-Trichloroethane	1.08	0.13	0.50	"	1.25		86.4	76-130			
1,1,2-Trichloroethane	1.11	0.12	0.50	"	1.25		88.8	70-130			

Alpha Analytical Laboratories, Inc.

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Sheri Speaks

Sheri L. Speaks, Project Manager



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Dun & Martinek
P.O. Box 1266
Eureka CA, 95502

Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

Purgeables by EPA Method 624 - Quality Control
Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AC31913 - EPA 5030 Water MS

LCS (AC31913-BS1)

Prepared: 03/16/03 Analyzed: 03/17/03

Trichloroethene	1.14	0.13	0.50	ug/l	1.25		91.2	82-126			
Vinyl chloride	1.18	0.17	0.50	"	1.25		94.4	70-130			
1,2-Dichlorobenzene	1.12	0.11	0.50	"	1.25		89.6	83-129			
1,3-Dichlorobenzene	1.16	0.11	0.50	"	1.25		92.8	86-132			
1,4-Dichlorobenzene	1.14	0.081	0.50	"	1.25		91.2	84-123			
Surrogate: Dibromofluoromethane	4.08			"	5.00		81.6	70-130			
Surrogate: Toluene-d8	4.81			"	5.00		96.2	70-130			
Surrogate: Bromofluorobenzene	4.61			"	5.00		92.2	70-130			

LCS Dup (AC31913-BSD1)

Prepared: 03/16/03 Analyzed: 03/17/03

Acrolein	2.59	0.36	2.0	ug/l	2.62		98.9	70-130	0.387	25	
Acrylonitrile	1.15	0.14	2.0	"	1.25		92.0	70-130	0.00	25	J
Benzene	1.06	0.080	0.30	"	1.25		84.8	77-127	3.70	25	
Bromoform	1.08	0.099	0.50	"	1.25		86.4	84-121	2.82	25	
Carbon tetrachloride	1.00	0.19	0.50	"	1.25		80.0	76-131	4.88	25	
Chlorobenzene	1.12	0.075	0.50	"	1.25		89.6	83-126	0.889	25	
Dibromochloromethane	1.05	0.11	0.50	"	1.25		84.0	80-126	0.948	25	
Chloroethane	1.13	0.29	0.50	"	1.25		90.4	54-152	6.01	25	
Chloroform	1.02	0.084	0.50	"	1.25		81.6	79-135	3.85	25	
Bromodichloromethane	1.02	0.10	0.50	"	1.25		81.6	81-132	5.71	25	
1,1-Dichloroethane	1.15	0.14	0.50	"	1.25		92.0	82-140	4.26	25	
1,2-Dichloroethane	0.940	0.21	0.50	"	1.25		75.2	79-129	0.00	25	
1,1-Dichloroethene	1.00	0.19	0.50	"	1.25		80.0	84-121	3.92	25	
1,2-Dichloropropane	1.01	0.13	0.50	"	1.25		80.8	80-126	4.83	25	
cis-1,3-Dichloropropene	0.990	0.076	0.50	"	1.25		79.2	84-123	5.88	25	
trans-1,3-Dichloropropene	0.960	0.047	0.50	"	1.25		76.8	84-122	2.06	25	
Ethylbenzene	1.11	0.11	0.50	"	1.25		88.8	86-124	0.897	25	
Bromomethane	1.28	0.20	0.50	"	1.25		102	60-145	4.58	25	
Chloromethane	1.08	0.14	0.50	"	1.25		86.4	62-130	2.74	25	
Methylene chloride	0.990	0.16	0.50	"	1.25		79.2	79-121	3.96	25	
1,1,2,2-Tetrachloroethane	1.11	0.057	0.50	"	1.25		88.8	83-115	1.82	25	

Alpha Analytical Laboratories, Inc.

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Sheri Speaks

Sheri L. Speaks, Project Manager



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Dun & Martinek
P.O. Box 1266
Eureka CA, 95502

Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

Purgeables by EPA Method 624 - Quality Control
Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AC31913 - EPA 5030 Water MS

LCS Dup (AC31913-BSD1)

Prepared: 03/16/03 Analyzed: 03/17/03

Tetrachloroethene	1.09	0.21	0.50	ug/l	1.25		87.2	75-135	4.48	25	
Toluene	1.16	0.11	0.30	"	1.25		92.8	85-127	4.22	25	
trans-1,2-Dichloroethene	0.980	0.16	0.50	"	1.25		78.4	81-128	8.78	25	
1,1,1-Trichloroethane	1.03	0.13	0.50	"	1.25		82.4	76-130	4.74	25	
1,1,2-Trichloroethane	1.17	0.12	0.50	"	1.25		93.6	70-130	5.26	25	
Trichloroethene	1.07	0.13	0.50	"	1.25		85.6	82-126	6.33	25	
Vinyl chloride	1.11	0.17	0.50	"	1.25		88.8	70-130	6.11	25	
1,2-Dichlorobenzene	1.12	0.11	0.50	"	1.25		89.6	83-129	0.00	25	
1,3-Dichlorobenzene	1.17	0.11	0.50	"	1.25		93.6	86-132	0.858	25	
1,4-Dichlorobenzene	1.13	0.081	0.50	"	1.25		90.4	84-123	0.881	25	
Surrogate: Dibromofluoromethane	3.71			"	5.00		74.2	70-130			
Surrogate: Toluene-d8	4.88			"	5.00		97.6	70-130			
Surrogate: Bromofluorobenzene	4.61			"	5.00		92.2	70-130			

Matrix Spike (AC31913-MS1)

Source: A303285-01

Prepared: 03/16/03 Analyzed: 03/17/03

Acrolein	2.53	0.36	2.0	ug/l	2.62	ND	96.6	70-130			
Acrylonitrile	1.14	0.14	2.0	"	1.25	ND	91.2	70-130			J
Benzene	1.13	0.080	0.30	"	1.25	ND	90.4	77-127			
Bromoform	1.05	0.099	0.50	"	1.25	ND	84.0	84-121			
Carbon tetrachloride	1.17	0.19	0.50	"	1.25	ND	93.6	76-131			
Chlorobenzene	1.14	0.075	0.50	"	1.25	ND	91.2	83-126			
Dibromochloromethane	1.10	0.11	0.50	"	1.25	ND	88.0	80-126			
Chloroethane	1.21	0.29	0.50	"	1.25	ND	96.8	54-152			
Chloroform	1.17	0.084	0.50	"	1.25	ND	93.6	79-135			
Bromodichloromethane	1.14	0.10	0.50	"	1.25	ND	91.2	81-132			
1,1-Dichloroethane	1.22	0.14	0.50	"	1.25	ND	97.6	82-140			
1,2-Dichloroethane	0.990	0.21	0.50	"	1.25	ND	79.2	79-129			
1,1-Dichloroethene	1.12	0.19	0.50	"	1.25	ND	89.6	84-121			
1,2-Dichloropropane	1.12	0.13	0.50	"	1.25	ND	89.6	80-126			
cis-1,3-Dichloropropene	1.09	0.076	0.50	"	1.25	ND	87.2	84-123			
trans-1,3-Dichloropropene	1.01	0.047	0.50	"	1.25	ND	80.8	84-122			

Alpha Analytical Laboratories, Inc.

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Sheri Speaks

Sheri L. Speaks, Project Manager



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P.O. Box 1266
Eureka CA, 95502

Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

Purgeables by EPA Method 624 - Quality Control

Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AC31913 - EPA 5030 Water MS

Matrix Spike (AC31913-MS1) **Source: A303285-01** Prepared: 03/16/03 Analyzed: 03/17/03

Ethylbenzene	1.18	0.11	0.50	ug/l	1.25	ND	94.4	86-124			
Bromomethane	1.38	0.20	0.50	"	1.25	ND	110	60-145			
Chloromethane	1.17	0.14	0.50	"	1.25	ND	93.6	62-130			
Methylene chloride	1.04	0.16	0.50	"	1.25	ND	83.2	79-121			
1,1,2,2-Tetrachloroethane	1.15	0.057	0.50	"	1.25	ND	92.0	83-115			
Tetrachloroethene	1.20	0.21	0.50	"	1.25	ND	96.0	75-135			
Toluene	1.26	0.11	0.30	"	1.25	ND	101	85-127			
trans-1,2-Dichloroethene	1.07	0.16	0.50	"	1.25	ND	85.6	81-128			
1,1,1-Trichloroethane	1.14	0.13	0.50	"	1.25	ND	91.2	76-130			
1,1,2-Trichloroethane	1.17	0.12	0.50	"	1.25	ND	93.6	70-130			
Trichloroethene	1.11	0.13	0.50	"	1.25	ND	88.8	82-126			
Vinyl chloride	1.28	0.17	0.50	"	1.25	ND	102	70-130			
1,2-Dichlorobenzene	1.15	0.11	0.50	"	1.25	ND	92.0	83-129			
1,3-Dichlorobenzene	1.20	0.11	0.50	"	1.25	ND	96.0	86-132			
1,4-Dichlorobenzene	1.18	0.081	0.50	"	1.25	ND	94.4	84-123			
Surrogate: Dibromofluoromethane	4.03			"	5.00		80.6	70-130			
Surrogate: Toluene-d8	4.85			"	5.00		97.0	70-130			
Surrogate: Bromofluorobenzene	4.65			"	5.00		93.0	70-130			

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Shari Speaks

Sheri L. Speaks, Project Manager



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Dun & Martinek
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Eureka CA, 95502

Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control
Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch AD30108 - General Preparation

Blank (AD30108-BLK1)					Prepared: 03/30/03 Analyzed: 04/01/03						
Cyanide (total)	ND	0.0020	0.0030	mg/l							
LCS (AD30108-BS1)					Prepared: 03/30/03 Analyzed: 04/01/03						
Cyanide (total)	0.0400	0.0020	0.0030	mg/l	0.0400		100	85-115			
LCS Dup (AD30108-BSD1)					Prepared: 03/30/03 Analyzed: 04/01/03						
Cyanide (total)	0.0391	0.0020	0.0030	mg/l	0.0400		97.8	85-115	2.28	10	

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Eureka CA, 95502

Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Alpha Analytical Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch AC31710 - EPA 200.2 Hot Plate											
Blank (AC31710-BLK1)						Prepared: 03/17/03 Analyzed: 03/20/03					
Hardness, Total	0.00			5 mg/l							
Duplicate (AC31710-DUP1)						Source: A303329-01 Prepared: 03/17/03 Analyzed: 03/20/03					
Hardness, Total	134			5 mg/l		136			1.48	200	

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Eureka CA, 95502

Project: CTR - SPI, Arcata
Project Number: M154.1
Project Manager: Dun & Martinek

Reported:
04/01/03 16:04

Notes and Definitions

- A-01 Result based on Total Chromium analysis
- J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
- R-01 The Reporting Limit for this analyte has been raised to account for matrix interference.
- R-04 The Reporting Limits for this analysis are elevated due to sample foaming.
- 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

Sheri Speaks

Frontier Analytical Laboratory

Project-Sample Tracking Log

FAL Project ID: 1656

Received on: 3/18/03

Project Due: 04/02/03

Storage: R-1

FAL Sample ID	Client Project ID	Client Sample ID	Requested Method/s	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
1656-01-SA	A303329	A303329-01 Receiving	1613	Aqueous	3/13/03	10:45 AM	03/12/04

Qualifier Reference Guide

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

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

**EPA Method 1613/8290 Aqueous MDL
(SPE Extraction)**



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

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

EPA Method 1613
PCDD/F



FAL ID: 1656-01-MB
Client ID: Method Blank
Matrix: Aqueous
Batch No.: 1638

Date Extracted: 3/25/03
Date Received: NA
Amount: 1.000 L

ICal: pcddfal1-3-8
GC Column: db5
Units: pg/L

Acquired: 27-MAR-03
NATO 1989 TEQ: 0.00
WHO 1998 TEQ: 0.00

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	1.81	-	-					
1,2,3,7,8-PeCDD	-	4.51	-	-					
1,2,3,4,7,8-HxCDD	-	3.45	-	-					
1,2,3,6,7,8-HxCDD	-	4.07	-	-	Total Tetra-Dioxins	-	1.81		0
1,2,3,7,8,9-HxCDD	-	3.20	-	-	Total Penta-Dioxins	-	4.51		0
1,2,3,4,6,7,8-HpCDD	-	4.17	-	-	Total Hexa-Dioxins	-	4.07		0
OCDD	-	6.07	-	-	Total Hepta-Dioxins	-	4.17		0
2,3,7,8-TCDF	-	1.52	-	-					
1,2,3,7,8-PeCDF	-	1.84	-	-					
2,3,4,7,8-PeCDF	-	1.97	-	-					
1,2,3,4,7,8-HxCDF	-	1.03	-	-					
1,2,3,6,7,8-HxCDF	-	1.38	-	-					
2,3,4,6,7,8-HxCDF	-	1.44	-	-	Total Tetra-Furans	-	1.52		0
1,2,3,7,8,9-HxCDF	-	1.69	-	-	Total Penta-Furans	-	1.97		0
1,2,3,4,6,7,8-HpCDF	-	1.54	-	-	Total Hexa-Furans	-	1.69		0
1,2,3,4,7,8,9-HpCDF	-	2.33	-	-	Total Hepta-Furans	-	2.33		0
OCDF	-	5.29	-	-					

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	86.5	25.0 - 164	
13C-1,2,3,7,8-PeCDD	86.4	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	94.8	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	90.0	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	88.0	23.0 - 140	
13C-OCDD	76.7	17.0 - 157	
13C-2,3,7,8-TCDF	84.1	24.0 - 169	
13C-1,2,3,7,8-PeCDF	94.5	24.0 - 185	
13C-2,3,4,7,8-PeCDF	89.4	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	93.7	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	89.9	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	91.5	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	84.0	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	92.7	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	81.2	26.0 - 138	
13C-OCDF	82.9	17.0 - 157	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 119 35.0 - 197

Analyst: 6
Date: 3/28/03

Reviewed by: [Signature]
Date: 3/28/03

EPA Method 1613
PCDD/F



FAL ID: 1656-01-OPR
Client ID: OPR
Matrix: Aqueous
Batch No.: 1638

Date Extracted: 3/25/03
Date Received: NA
Amount: 1.000 L

ICal: pcddfal1-3-8
GC Column: db5
Units: ng/mL

Acquired: 27-MAR-03
NATO 1989 TEQ: NA
WHO 1998 TEQ: NA

Compound	Conc	QC Limits
2,3,7,8-TCDD	12.3	6.70 - 15.8
1,2,3,7,8-PeCDD	55.1	35.0 - 71.0
1,2,3,4,7,8-HxCDD	52.8	35.0 - 82.0
1,2,3,6,7,8-HxCDD	54.1	38.0 - 67.0
1,2,3,7,8,9-HxCDD	56.4	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	54.4	35.0 - 70.0
OCDD	110	78.0 - 144
2,3,7,8-TCDF	11.4	7.50 - 15.8
1,2,3,7,8-PeCDF	49.6	40.0 - 67.0
2,3,4,7,8-PeCDF	50.7	34.0 - 80.0
1,2,3,4,7,8-HxCDF	51.0	36.0 - 67.0
1,2,3,6,7,8-HxCDF	52.2	42.0 - 65.0
2,3,4,6,7,8-HxCDF	53.8	39.0 - 65.0
1,2,3,7,8,9-HxCDF	53.9	35.0 - 78.0
1,2,3,4,6,7,8-HpCDF	50.1	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	51.2	39.0 - 69.0
OCDF	108	63.0 - 170
Internal Standards	% Rec	QC Limits
13C-2,3,7,8-TCDD	84.1	20.0 - 175
13C-1,2,3,7,8-PeCDD	81.9	21.0 - 227
13C-1,2,3,4,7,8-HxCDD	66.3	21.0 - 193
13C-1,2,3,6,7,8-HxCDD	64.4	25.0 - 163
13C-1,2,3,4,6,7,8-HpCDD	51.9	26.0 - 166
13C-OCDD	45.4	13.0 - 198
13C-2,3,7,8-TCDF	89.5	22.0 - 152
13C-1,2,3,7,8-PeCDF	77.6	21.0 - 192
13C-2,3,4,7,8-PeCDF	79.2	13.0 - 328
13C-1,2,3,4,7,8-HxCDF	69.1	19.0 - 202
13C-1,2,3,6,7,8-HxCDF	67.7	21.0 - 159
13C-2,3,4,6,7,8-HxCDF	65.1	17.0 - 205
13C-1,2,3,7,8,9-HxCDF	58.4	22.0 - 176
13C-1,2,3,4,6,7,8-HpCDF	50.8	21.0 - 158
13C-1,2,3,4,7,8,9-HpCDF	55.1	20.0 - 186
13C-OCDF	53.5	13.0 - 198
Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	116	31.0 - 191

Analyst: 6
Date: 3/28/03

Reviewed by: [Signature]
Date: 3/28/03

EPA Method 1613
PCDD/F



FAL ID: 1656-01-SA
Client ID: A303329-01 Rec.
Matrix: Aqueous
Batch No.: 1638

Date Extracted: 3/25/03
Date Received: 3/18/03
Amount: 0.956 L

ICal: pcddfal1-3-8
GC Column: db5
Units: pg/L

Acquired: 27-MAR-03
NATO 1989 TEQ: 0.0491
WHO 1998 TEQ: 0.00491

Compound	Conc	DL	Qual	WHO Tox	Compound	Conc	DL	Qual	#Hom
2,3,7,8-TCDD	-	2.39	-	-					
1,2,3,7,8-PeCDD	-	5.03	-	-					
1,2,3,4,7,8-HxCDD	-	5.60	-	-					
1,2,3,6,7,8-HxCDD	-	6.42	-	-	Total Tetra-Dioxins	-	2.39		0
1,2,3,7,8,9-HxCDD	-	5.31	-	-	Total Penta-Dioxins	-	5.03		0
1,2,3,4,6,7,8-HpCDD	-	7.90	-	-	Total Hexa-Dioxins	-	6.42		0
OCDD	49.1	-	J	0.00491	Total Hepta-Dioxins	-	9.85		0
2,3,7,8-TCDF	-	1.90	-	-					
1,2,3,7,8-PeCDF	-	4.41	-	-					
2,3,4,7,8-PeCDF	-	4.37	-	-					
1,2,3,4,7,8-HxCDF	-	1.61	-	-	Total Tetra-Furans	-	1.90		0
1,2,3,6,7,8-HxCDF	-	1.87	-	-	Total Penta-Furans	-	4.41		0
2,3,4,6,7,8-HxCDF	-	2.13	-	-	Total Hexa-Furans	-	2.38		0
1,2,3,7,8,9-HxCDF	-	2.38	-	-	Total Hepta-Furans	-	3.41		0
1,2,3,4,6,7,8-HpCDF	-	2.38	-	-					
1,2,3,4,7,8,9-HpCDF	-	3.41	-	-					
OCDF	-	7.13	-	-					

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	78.5	25.0 - 164	
13C-1,2,3,7,8-PeCDD	76.3	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	80.9	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	83.9	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	72.2	23.0 - 140	
13C-OCDD	73.4	17.0 - 157	
13C-2,3,7,8-TCDF	76.7	24.0 - 169	
13C-1,2,3,7,8-PeCDF	76.3	24.0 - 185	
13C-2,3,4,7,8-PeCDF	76.0	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	84.9	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	86.9	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	80.6	29.0 - 147	
13C-1,2,3,7,8,9-HxCDF	80.8	28.0 - 136	
13C-1,2,3,4,6,7,8-HpCDF	87.6	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	82.4	26.0 - 138	
13C-OCDF	79.0	17.0 - 157	

Cleanup Surrogate

37Cl-2,3,7,8-TCDD 104 35.0 - 197

Analyst: [Signature]
Date: 3/28/03

Reviewed by: [Signature]
Date: 3/28/03



McC Campbell Analytical Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
 Telephone : 925-798-1620 Fax : 925-798-1622
 http://www.mcccampbell.com E-mail: main@mcccampbell.com

Alpha Analytical Laboratories 208 Mason Street Ukiah, CA 95482	Client Project ID: #A303329	Date Sampled: 03/13/03
		Date Received: 03/18/03
	Client Contact: Sheri Speaks	Date Extracted: 03/18/03
	Client P.O.:	Date Analyzed: 03/25/03

Semivolatiles Organics by GC/MS (625 Basic Target List)*

Extraction Method: SW3535A

Analytical Method: SW8270D

Work Order: 0303279

Lab ID	0303279-001A
Client ID	A303329091
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acenaphthene	ND<10	10	1	Acenaphthylene	ND<100	10	10
Anthracene	ND<100	10	10	Benzidine	ND<50	10	5
Benz(a)anthracene	ND<100	10	10	Benzo(h)fluoranthene	ND<100	10	10
Benzo(k)fluoranthene	ND<100	10	10	Benzo(g,h,i)perylene	ND<50	10	5
Benzo(a)pyrene	ND<100	10	10	Bis (2-chloroethoxy) Methane	ND<50	10	5
Bis (2-chloroethyl) Ether	ND<10	10	1	Bis (2-chloroisopropyl) Ether	ND<20	10	2
Bis (2-ethylhexyl) Phthalate	ND<50	10	5	4-Bromophenyl Phenyl Ether	ND<50	10	5
Butylbenzyl Phthalate	ND<100	10	10	4-Chloro-3-methylphenol	ND<10	10	1
2-Chloronaphthalene	ND<100	10	10	2-Chlorophenol	ND<50	10	5
4-Chlorophenyl Phenyl Ether	ND<50	10	5	Chrysene	ND<100	10	10
Dibenzo(a,h)anthracene	ND<100	10	10	Di-n-butyl Phthalate	ND<100	10	10
1,2-Dichlorobenzene	ND<20	10	2	1,3-Dichlorobenzene	ND<10	10	1
1,4-Dichlorobenzene	ND<10	10	1	3,3'-Dimethylbenzidine	ND<50	10	5
2,4-Dichlorophenol	ND<50	10	5	Diethyl Phthalate	ND<20	10	2
2,4-Dimethylphenol	ND<20	10	2	Dimethyl Phthalate	ND<20	10	2
4,6-Dinitro-2-methylphenol	ND<50	10	5	2,4-Dinitrophenol	ND<50	10	5
2,4-Dinitrotoluene	ND<50	10	5	2,6-Dinitrotoluene	ND<50	10	5
Di-n-octyl Phthalate	ND<100	10	10	Fluoranthene	ND<10	10	1
Fluorene	ND<100	10	10	Hexachlorobenzene	ND<10	10	1
Hexachlorobutadiene	ND<10	10	1	Hexachlorocyclopentadiene	ND<50	10	5
Indeno (1,2,3-cd) pyrene	ND<100	10	10	Isophorone	ND<10	10	1
Naphthalene	ND<10	10	1	Nitrobenzene	ND<10	10	1
2-Nitrophenol	ND<100	10	10	4-Nitrophenol	ND<100	10	10
N-Nitrosodimethylamine	ND<50	10	5	N-Nitrosodiphenylamine	ND<10	10	1
N-Nitrosodi-n-propylamine	ND<50	10	5	Pentachlorophenol	ND<50	10	5
Phenanthrene	ND<50	10	5	Phenol	ND<10	10	1
Pyrene	ND<100	10	10	1,2,4-Trichlorobenzene	ND<50	10	5
2,4,6-Trichlorophenol	ND<100	10	10				

Surrogate Recoveries (%)

%SS:	---	%SS:	93.3
%SS:	42.9	%SS:	---
%SS:	65.8	%SS:	---


Comments: j

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit, N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.

 Angela Rydelius, Lab Manager

RJ Lee Group, Inc.

530 McCormick St. • San Leandro, CA 94577
(510) 567-0480 • FAX (510) 567-0488

March 25, 2003

Ms. Sheri Speaks
Alpha Analytical Laboratories Inc.
208 Mason Street
P.O. Box 1508
Ukiah, CA 95482

RE: TEM Asbestos Analysis Results for Samples as Shown on Test Report & Table II
RJ Lee Group Job No.: ATC303205
Customer Project No.: A303329

Dear Ms. Speaks,

Enclosed are the results from the transmission electron microscopy (TEM) asbestos analysis for your above referenced project using EPA-600/R-94/134 (100.2) *Determination of Asbestos Structures over 10µm in length in Drinking Water.*

As per California ELAP accreditation requirements, we are required to inform you that the name of the person that collected the water sample was not written on the chain of custody form submitted with the sample.

Test Report lists each RJ Lee Group sample identification number, client sample number, filter area, sample volume, area analyzed, structure count for chrysotile and amphibole, analytical sensitivity, and the concentration of asbestos. Table II lists the same information for structures equal to or larger than 10µm.

Copies of count sheets are enclosed as Appendix A. Each count sheet contains sample information pertaining to structure identification, dimensions, magnification, filter size and type.

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions and no responsibility or liability is assumed for the manner in which the results are used or interpreted.

If you have any questions, feel free to call me.

Sincerely,


Sean Fitzgerald
Project Manager

SF/sjb
Enclosures

Monroeville, PA • San Leandro, CA • Washington, D.C.

Test Report
Total Asbestos Structure Concentration
TEM Water Analysis
Project ATC303205

RJ Lee Group Sample Number	Client Sample Number	Filter Area (sq mm)	Volume (ml)	Area Analyzed		Structures		Analytical Sensitivity †		Concentration (S/L 10 ⁶)	Analysis Date
				(sq mm)	Dilution	Chr	Amp	(S/sq. mm)	(S/L 10 ⁶)		
1832576CT	A303329-01	385	50.00	0.091	-	0	0	11.00	0.085	<0.085*	3/24/03

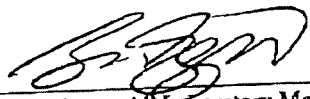
†Analytical sensitivity is the calculated concentration based on one structure in the area analyzed.

Samples received on: Tuesday, March 18, 2003

Chr - Chrysotile, Amp - Amphibole

* Results Less Than Analytical Sensitivity.

N/A - Sample not analyzed.

Authorized Signature 
 Sean Fitzgerald, Laboratory Manager
 Date Monday, March 24, 2003

RJ Lee Group, Inc.
Bay Area Lab

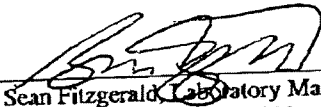
530 McCormick Street
 San Leandro, CA 94577
 Test Report Page: 1 of 1

Phone (510) 567-0480
 Fax (510) 567-0488

Table II
Asbestos Concentration for Structures $\geq 10 \mu\text{m}$ in Length
TEM Water Analysis
Project ATC303205

RJ Lee Group Sample Number	Client Sample Number	Filter Area (sq mm)	Volume (ml)	Area Analyzed (sq mm)	Dilution	Structures $\geq 10 \mu\text{m}$		Analytical Sensitivity † (S/sq. mm)	Analytical Sensitivity † (S/L 10^6)	Concentration for Structures $\geq 10 \mu\text{m}$ (S/L 10^6)	Analysis Date
						Chr	Amp				
1832576CT	A303329-01	385	50.00	0.091	-	0	0	11.00	0.085	<0.085*	3/24/03

†Analytical sensitivity is the calculated concentration based on one structure in the area analyzed.
 Samples received on: Tuesday, March 18, 2003
 Chr - Chrysotile, Amp - Amphibole
 * Results Less Than Analytical Sensitivity.
 N/A - Sample not analyzed.

Authorized Signature 
 Date Monday, March 24, 2003
 Sean Fitzgerald, Laboratory Manager

RJ Lee Group, Inc.
Bay Area Lab

530 McCormick Street
 San Leandro, CA 94577
 Table II Page: 1 of 1

Phone (510) 567-0480
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Table VI
Poisson Asbestos Concentrations for Structures $\geq 10 \mu\text{m}$ in Length
TEM Water Analysis
Project ATC303205

Sample Number	Client Sample Number	Actual Counts	Poisson Range		Lower Concentration Bounds ‡		Upper Concentration Bounds ‡		Analysis Date
			Lower	Upper	S/sq mm	S/cc	S/sq mm	S/cc	
1832576CT	A303329-01	0	0	4	<10.99*	<84.6154*	43.96	338.4615	3/24/03

‡ Volumes provided by Alpha Analytical Laboratories Inc. for Project A303329 were used to calculate analytical results and sensitivities.

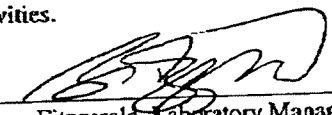
† Analytical sensitivity is the calculated concentration based on one structure in the area analyzed.

Samples received on: Tuesday, March 18, 2003

Chr - Chrysotile, Amp - Amphibole

* Results Less Than Analytical Sensitivity.

N/A - Sample not analyzed.

Authorized Signature 
 Date Monday, March 24, 2003
 Sean Fitzgerald, Laboratory Manager

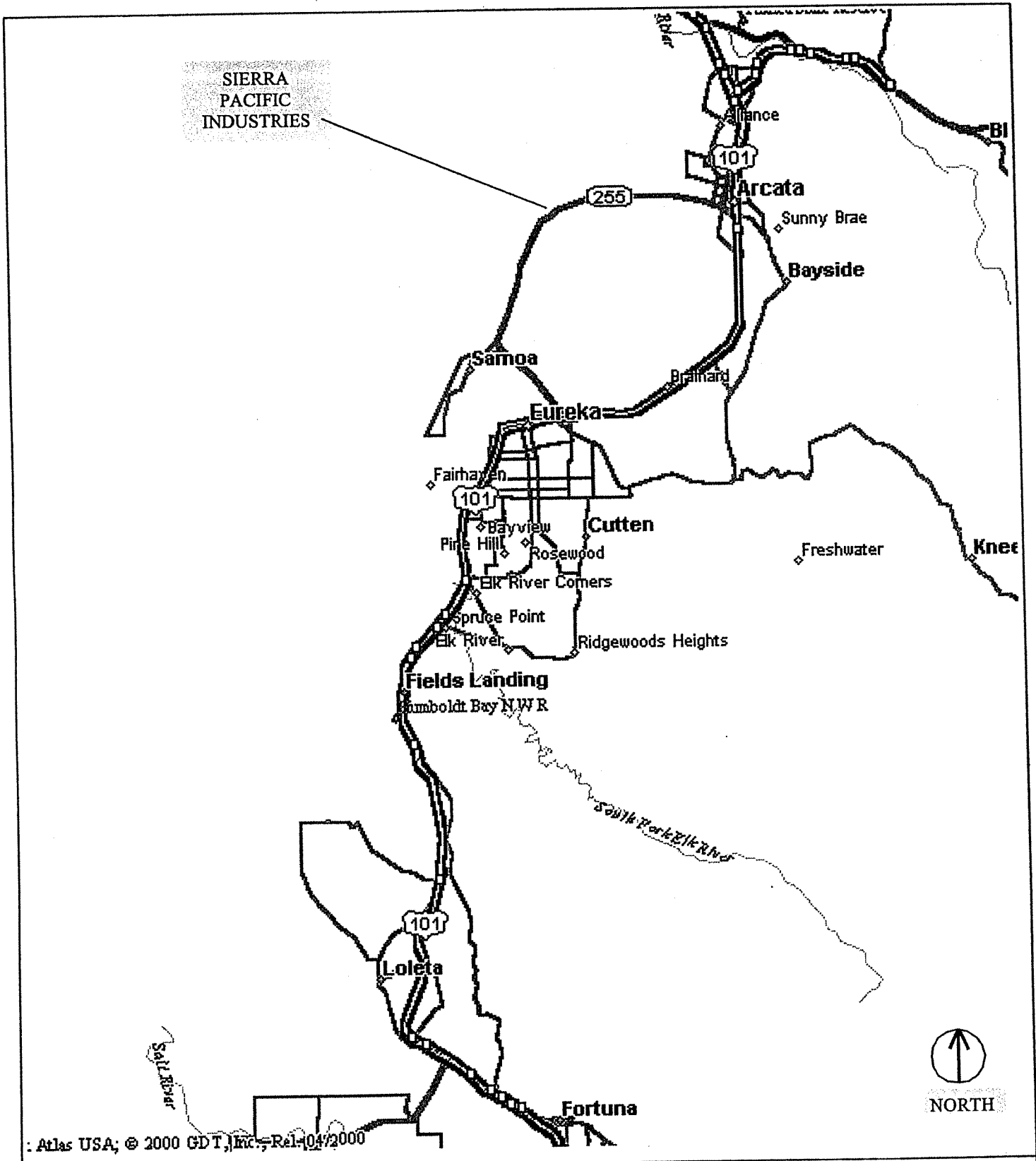
RJ Lee Group, Inc.
 Bay Area Lab

530 McCormick Street
 San Leandro, CA 94577

Phone (510) 567-0480
 Fax (510) 567-0488

APPENDIX C

PLATES



EnviroNet 
 CONSULTING

Site Location Map

Sierra Pacific Industries - Arcata Mill
 2593 New Navy Base Road
 Arcata, California

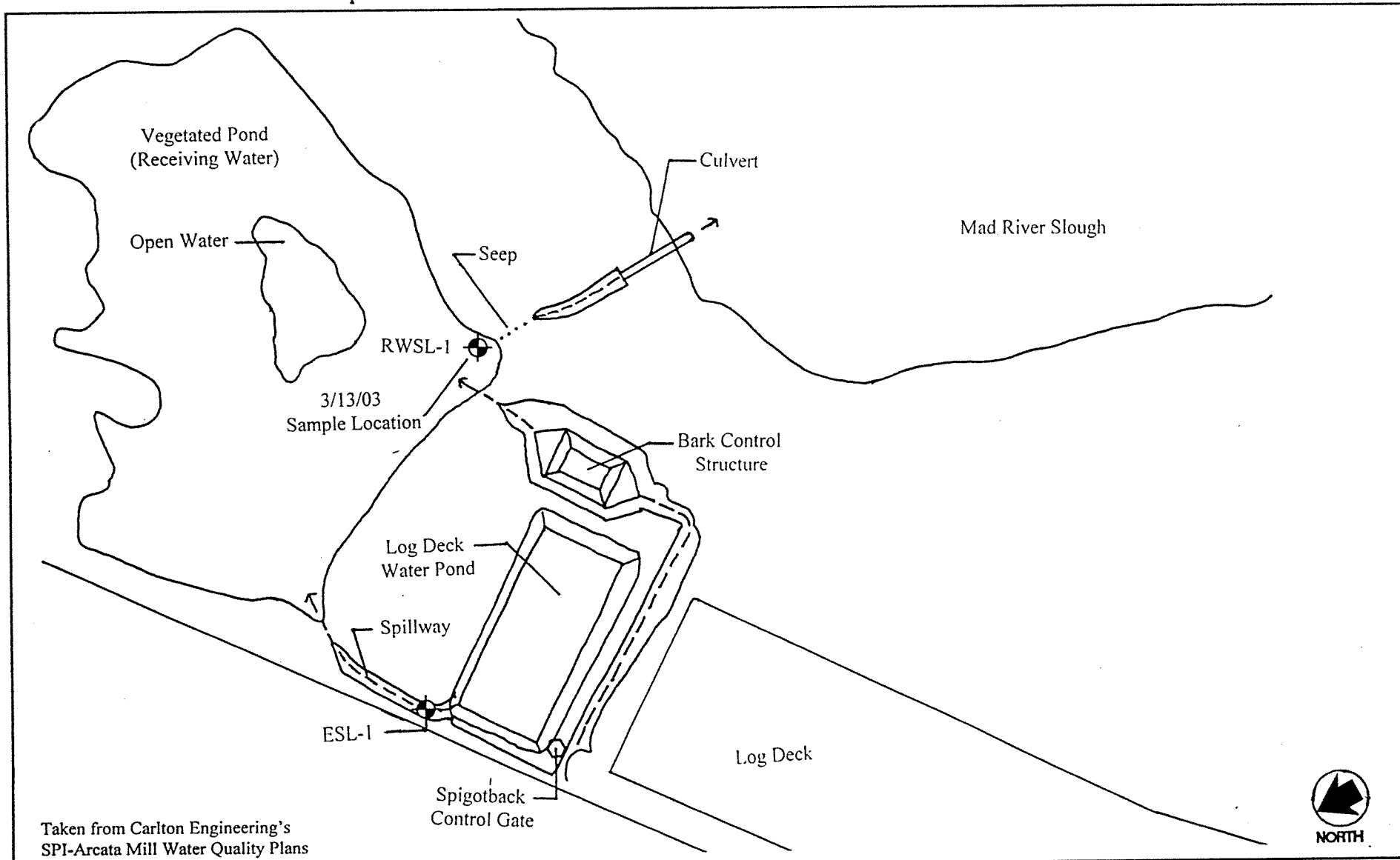
PLATE
1

Drawn by:
 MRO

File Name:
 M154.1 SiteLoc

Job Number:
 M154.1

Date:
 December 19, 2000



Taken from Carlton Engineering's
SPI-Arcata Mill Water Quality Plans



Site Sampling Plan - Priority Pollutants and Dioxin Congeners

Sierra Pacific Industries - Arcata Division Sawmill
2293 Samoa Boulevard
Arcata, California

PLATE
2

Drawn by: MRO	File Name: M154.1 SamplePlan	Job Number: M154.1	Date: April 26, 2002
------------------	---------------------------------	-----------------------	-------------------------

APPENDIX D

ENVIRONET'S STANDARD SOIL AND WATER SAMPLING PROCEDURES AND QA/QC PROTOCOL

**STANDARD
SOIL AND WATER SAMPLING PROCEDURES
AND QA/QC PROTOCOL**

MARCH 28, 2003

ENVIRONET

STANDARD SOIL SAMPLING PROCEDURES

The following outline describes the standard equipment and procedures used by EnviroNet personnel for the collection of soil samples for laboratory analysis.

Equipment

Modified California split-spoon drive sampler, standard penetration sampler, or direct push core barrel (Drill rig sampling)

Drive sampler (hand auger samples)

Typical 1.5-inch to 2.0-inch diameter by 6.0 inch long brass or stainless steel liners and plastic end-caps. Teflon sheets or aluminum foil will also be used for samples suspected of containing volatile compounds (gasoline, aromatic hydrocarbons, solvents, etc.)

Appropriate sample holders will be used for samples suspected of containing volatile compounds (gasoline, aromatic hydrocarbons, solvents, etc.) when EPA Method 5035 sampling is required by the regulatory agency. Standard sample containers will be used when field preservation occurs for EPA Method 5035 compliance.

Typical 1.5-inch to 2.5-inch diameter by 6.0 inch long plastic or metal liners for direct push core barrel.

PID organic vapor analyzer (OVA) or equivalent Field Detector

Sampler and Sample Container Cleaning Equipment:

Stiff-bristle brushes

Buckets

Detergent (Non-phosphate detergent recommended)

Deionized/potable water

Insulated sample storage and shipping containers (ice chests) and blue ice

Insulated sample storage and shipping containers (ice chests) and dry ice for EPA Method 5035 sample holders which cannot be delivered to the laboratory within 48 hours for preservation

Personal protective equipment (generally level D protection).

General Sampling Procedures

Soil samples are collected in accordance with regulatory guidance. Soil sampling procedures are updated as new guidance is provided by regulatory agencies.

Sampling equipment (i.e., sample liners, auger bits, sampling devices) are pre-washed as necessary with a brush in a detergent solution, followed by double rinsing with distilled or deionized water prior to each sampling event. All new sample liners will have been pre-washed prior to use. All samples are collected in such a manner as to minimize the volatilization or oxidation due to agitation and/or mixing upon handling.

Soil samples collected by hand augering for lithologic logging, and for chemical and physical analyses are typically obtained by pounding the sample tube into the soil being tested. If an auger hole is drilled, samples are either collected of the auger cuttings or a drive sampler is driven approximately 8 inches below the depth of the auger bit. The sampling methodology is determined

on a case-by-case basis, depending on the suspected contaminant(s). Where required, EPA Method 5035 sample holders will be filled as rapidly as possible to prevent volatilization from either a sample sleeve or directly from the formation where feasible.

Soil samples collected from a backhoe bucket or from an accessible pit or excavation (ramped or shored) are collected by removing excess material to expose as fresh as possible soil. The sample liner is then pushed into the soil until the liner is full. Where required, EPA Method 5035 sample holders will be filled as rapidly as possible to prevent volatilization directly from the formation or from the backhoe bucket after a small amount of material is removed to expose a fresh surface where feasible.

Standard metal liners will be submitted for analysis in those circumstances where EPA Method 5035 sample holders are deemed to be unusable (gravel or extremely dense material). EPA Method 5035 preservation times will still be required of the laboratory.

When utilizing the split spoon sampler with a drill rig, the portions of the soil sample recovered in additional liners are also examined and noted for any contamination and/or changes in lithology. The soils, when required, are classified in accordance with the Unified Soil Classification System (USCS). Sample liner ends selected for analysis are covered with aluminum foil or teflon sheets and sealed with plastic end caps, stored in a cooler (4° C), and transported to a California Department of Health Services Certified Analytical Laboratory for the requested analyses (except where there is no State certification for the analysis being conducted). If storage is required prior to delivery to the laboratory or laboratory courier, the samples are stored in a secure refrigerator prior to delivery.

EPA Method 5035 sample holders used to comply with EPA Method 5035 sample collection procedures will be collected and stored in a cooler (4° C), and transported to a California Department of Health Services Certified Analytical Laboratory for preservation within 48 hours of sample collection. In the event the samples cannot be delivered to the Laboratory to meet the 48 hour preservation requirement, the samples will be placed in an ice chest with dry ice and kept frozen either in the ice chest with adequate dry ice or in a secure freezer until they can be delivered to the Laboratory for proper preservation. The Laboratory may receive the samples at the job site for field preservation, in which case standard sample tubes will be used.

All sample containers are labeled in the field. The sample labels will typically contain the following information:

- Sample identification number (including depth and stratigraphic position where applicable)
- Project name
- Project address
- Sampler initials
- Date of collection
- Other pertinent information

Chain-of-Custody documents are completed in the field and accompany the samples to the laboratory. The Chain-of-Custody document will typically contain the following information:

- Sample identification number (including depth and stratigraphic position where applicable)
- Project name
- Project address
- Project number
- Sampler (printed and signed)
- Date and time of collection (for each sample)
- Matrix type (soil, water, etc.)
- Analyses and turn-around-time requested
- Billing Information
- Other pertinent information

Stockpile Sampling

Discrete samples from thin stockpiles are collected in brass or stainless steel liners, by removing 6 inches to 1 foot of soil and driving the brass or stainless steel liner into the stockpile. Soil samples are collected from thick stockpiles containing volatile contaminants by either augering or otherwise excavating approximately one third to one half way into the pile and then driving the sample liner into the soil in the hole, or collecting a sample from the backhoe bucket. Surface or near surface samples will be collected from homogenized stockpiles containing non-volatile contaminants such as metals, motor oil, or oil and grease.

For final verification characterization, discrete soil samples will be collected at intervals required by regulation, or by the lead regulator for the disposal or treatment option selected.

EPA Method 5035 sampling procedures, as indicated above, will be followed for discrete and/or verification sampling when directed by the regulatory agency and/or the receiving facility. EPA Method 5035 sampling procedures, as described above, will not be followed for composite sampling for disposal unless directed by the landfill(s) in order to profile the soil for disposal.

STANDARD GROUNDWATER SAMPLING PROCEDURES

The following outline describes the standard equipment and procedures which are used by EnviroNet personnel for the collection of groundwater samples for laboratory analysis.

Monitoring Well Development

After monitoring wells are installed and prior to initial sampling of the wells, well development is conducted. Well development is conducted to create an effective filter pack around the well screen, to optimize hydraulic communication between the formation and the well screen, and to assist in restoring the natural water quality near the well. Well development is also conducted to remove fines and to remove any foreign materials introduced during drilling.

Well development will be conducted as follows:

1. Record the static water level and total well depth.
2. Set the pump and record the pumping rate. Pump until the turbidity reaches the desired level, typically measured using a turbidity meter.
3. Discontinue pumping and begin surging using a properly designed surge block and proper surging technique.
4. Measure and record well depth to determine the amount of fines and repeat Step 2.
5. Repeat surging and pumping until the well yields water of acceptable turbidity at the beginning of a pumping cycle.

Depending on the depth of the water, the hydraulic conductivity of the aquifer, and the diameter of the well, pumping may effectively achieve well development. Wells completed in very silty geologic units also may produce consistently turbid samples. Wells of this type will normally be considered to have been properly installed and developed and turbid water samples will be considered representative of mobile constituents in the aquifer.

Monitoring Well Sampling

Groundwater sampling and evaluation of monitoring wells begins by removal of the well caps and measuring water levels in all monitoring wells at a site with a water level indicator. The fluid in the well is then monitored for the presence of free floating material. If free product is present in the well, its thickness is measured using an oil-water interface probe. A program of free product removal may be initiated. A groundwater sample is typically not collected from any well with confirmed free floating product unless a directive to do so is received from the regulatory agency. All monitoring wells are typically checked for free product until authorization has been received from the lead regulatory agency that checking for free product is no longer necessary. Water levels will continue to be checked until field measurements indicate that equilibrium has been achieved from which to compute the groundwater flow direction and gradient.

If free product is not present in the well being monitored, the well is purged, with groundwater parameters such as pH, conductivity, and temperature measured after each well volume removed. This process continues until parameters being measured such as pH, conductivity, and temperature, have generally stabilized (reproducible within 10%) and a minimum of 3 well casing volumes or 5 gallons of water have been removed, whichever is greater. Wells will be purged from least to most contaminated after the initial round of sampling. The purge pump will be placed near the top of the measured water table to assure that fresh water from the formation will move upward in the screen. Water will be purged from the well at a rate that does not cause recharge water to be excessively agitated. The purge pump will be lowered into the well as necessary to achieve the desired removal of groundwater.

Once a well has been adequately purged, a groundwater sample is collected using a disposable or pre-cleaned bailer. The groundwater sample is collected from the well in containers appropriate to the analyses being conducted. As examples, 1 liter amber bottles are used for diesel/motor

oil/kerosene and oil and grease analyses, 40 milliliter volatile organic analysis vials are used for gasoline BTEX, 8010, 8240, and 8260 analyses, and plastic containers are used for total and/or dissolved metals. Volatile organic analysis vials will be immediately capped after collection and placed on ice to minimize loss of volatiles. All other groundwater sample containers collected will be capped and placed in a storage container in a timely manner and as appropriate for the analysis being conducted. Proper containers, sampling collection procedures, and storage requirements will be verified with the analytical laboratory prior to sample collection. Monitoring wells at a site are purged prior to collection of samples, unless the regulatory agency has approved non-purge samples.

After the wells have been adequately purged, they will be allowed to recover to 80% of their original volume prior to sampling. Any well purged to dryness will be sampled after a sufficient volume of groundwater has entered the well to enable the collection of the necessary groundwater samples.

All collected groundwater samples are stored in an ice chest on blue ice and transported under Chain-of-Custody documentation. The samples are either transported directly to the analytical laboratory on the day of collection, delivered to the laboratory courier on the day of collection, or are returned to EnviroNet's office where they are stored in a secure refrigerator and then delivered to a California Department of Health Services Certified Analytical Laboratory or a laboratory courier for the requested analyses (except where there is no State certification for the analysis being conducted). Every effort will be made to assure that sample storage will not exceed 72 hours before delivery of the samples to either the laboratory or the laboratory courier. Samples being analyzed for constituents with a longer holding time, such as metals, may be stored for a longer period of time, provided the holding time is not exceeded, before delivery to the laboratory.

Where more than one site is sampled on the same day by the sampler, samples from each site will be stored in separate ice chests. If feasible, samples suspected of being highly impacted will be stored separately from samples which are presumed to be clean. To the extent feasible, samples will be separated based on site and suspected degree of impact while awaiting delivery to or pick up by the analytical laboratory.

All purged fluid is stored on-site in DOT 55-gallon drums pending analysis. The drums and the fluid in the drums are the exclusive property and responsibility of the responsible party. EnviroNet typically samples the drums and arranges for disposal at the appropriate time.

Grab Water Samples

Grab water samples may be collected from the pits, borings, discrete sampler borings, creeks, ponds, and any other bodies or vessels containing water. If the water sample can be safely collected by hand, it will be, otherwise, a disposable bailer will typically be used to collect the sample.

All collected grab water samples will be stored on ice and transported under Chain-of-Custody documentation. The samples will either be delivered directly to the analytical laboratory or to the analytical laboratory courier on the day of the collection, or they will be returned to EnviroNet's office where they will be stored in a secure refrigerator a maximum of 72 hours, and then delivered to a California Department of Health Services Certified Analytical Laboratory for the requested analyses (except where there is no State certification for the analysis being conducted) or the

laboratory courier. Again, samples being analyzed for constituents with a longer holding time, such as metals, may be stored for a longer period of time before delivery to the laboratory.

Typically, no purge water will be generated during grab water sampling. Should purging occur, the purge water will be stored on-site in either a DOT 55-gallon drum, or other appropriate vessel, pending analysis. Industry standards are that drums and all produced water are the exclusive property and responsibility of the responsible party. EnviroNet will typically sample such containers and arrange for disposal at the appropriate time.

Sample Handling-QA/QC Elements

Sample Handling

The elapsed time between sample collection and delivery to the laboratory or the laboratory courier will typically not exceed 72 hours. Again, samples being analyzed for constituents with a longer holding time, such as metals, may be stored for a longer period of time before delivery to the laboratory, providing the holding time is not exceeded.

Sealed sample containers will only be opened by laboratory personnel during the specified sample extraction process.

Chain-of-Custody

In order to document and trace sample possession from time of collection, a Chain-of-Custody record will be filled out on the Chain-of-Custody document by the sampler for each sample collected. The Chain-of-Custody document will accompany the sample(s) through laboratory analysis. The completed Chain-of-Custody record for each sample will be included in the analytical report from the laboratory.

Blanks

Blanks will be used or collected as part of the sampling program at the discretion of the project manager and/or the lead regulatory agency. Trip and/or field blanks will be supplied and analyzed along with the samples, at the discretion of the project manager and/or the lead regulatory agency.

Modifications

Any modification to the standard sampling procedures and QA/QC protocol outlined in this document for either soil or water samples will be noted and fully explained in the sampling report.

PERSONAL PROTECTION

Sampling at environmental sites increases the chance of exposure of the sampling technician to chemicals which pose a threat to the environment and may pose a threat to the sampler's short-term and/or long-term health at the concentrations present. Each site will be evaluated prior to conducting any field work to ascertain the chemicals detected in the past, the chemicals likely to be detected in the future, and the likely concentrations of those chemicals to be detected. The chemicals will be evaluated for possible routes of exposure at the concentrations likely to be

encountered. Appropriate personal protective equipment to prevent contact with contaminants shall be used. Appropriate chemical-specific gloves shall be worn and changed between sampling events.

In the event the sampler observes or detects activities occurring on or around the site which could cross contaminate collected samples, the sampler will suspend sampling until the activities which may lead to cross contamination cease. If necessary, the sampler will abort the sampling event. Any aborted sampling event will be rescheduled after the suspicious activities are indicated to have ceased, or the activities can be halted during the sampling event. Any suspension or aborting of sampling will be immediately reported to the appropriate registered professional.

Site-specific protection measures are outlined in the Site Health and Safety Plan, where active investigation and/or remediation is occurring.

Active Investigation and/or Remediation
(Refer to Site Specific Health and Safety Plan)

Required personal protective equipment:

Hardhats
Steel toed boots

Recommended personnel protective equipment:

Eye protection
Hearing protection
Gloves to protect against dermal contact with contaminants
Skin protection from sunlight
Photoionization detector/Gas Tech
Respirator (NIOSH approved with appropriate filters for contaminants detected or expected)
Detergent wash and rinse water
First aid kit
Fire extinguisher
Route map to and phone number of nearest hospital

As indicated above, each site must be evaluated on a case-by-case basis to determine the appropriate personal protection materials to use and personal protection activities to implement in the field. As an example, several sun tan lotions contain chemicals which are detected in the diesel range. Care must be taken to prevent cross contamination by sun tan lotion at diesel impacted sites.

Passive Investigation

Recommended personnel protective equipment:

Skin protection
Eye protection
Gloves to protect against dermal contact with contaminants
Detergent wash and rinse water
First aid kit
Fire extinguisher
Route map to and phone number of nearest hospital

As indicated above, each site must be evaluated on a case-by-case basis to determine the appropriate personal protection materials to use and personal protection activities to implement in the field. If a site is known to be heavily impacted, wells should be sampled from the cleanest to most impacted to minimize the potential for cross contamination. The potential for cross contamination can be further minimized by wearing disposable gloves and disposing of gloves after each sample is collected. As an alternative, hands can be washed and rinsed between each sampling event. Where contaminants are non-volatile and do not migrate readily, such as metals, personal protection can be modified to match the primary routes of exposure, which are inhalation and ingestion. In this case it may be appropriate to wear a dust mask if excessive dust is created during sampling. Washing of hands and face before eating or drinking is highly recommended. Protection of clothing by wearing Tyveks is also to be considered, along with washing clothing after each use in conditions where significant dust is created.

Personal protection is designed to prevent or minimize the exposure to the sampler of chemicals or substances which may adversely impact either the short-term or long-term health of the sampler. It is the sampler's responsibility to adequately protect themselves from exposure. All samplers are encouraged to protect themselves and their health to the extent feasible while in the field. All materials necessary to provide adequate protection are available and should be utilized as appropriate.

Cross contamination is to be minimized at all times while sampling. In some instances, proper use and implementation of personal protection will also aid in minimizing cross contamination. The sampler is very highly encouraged to implement proper personal protection, especially where it further minimizes the risk of cross contamination of samples.