California Regional Water Quality Control Board
North Coast Region

CLEANUP AND ABATEMENT ORDER NO. R1-2003-0127

FOR

SIERRA-PACIFIC INDUSTRIES
ARCATA DIVISION SAWMILL
2593[1] NEW NAVY BASE RD.
ARCATA, CALIFORNIA

Humboldt County

The California Regional Water Quality Control Board, North Coast Region (hereinafter Regional Water Board) finds that:

1. The Sierra-Pacific Industries, Arcata Division Sawmill site (Site) is located at 2593 New Navy Base Road, Arcata (Attachment A). The Site was developed into a sawmill around 1950 and has been an active Sierra-Pacific Industries sawmill to the present day. The Mad River Slough borders the eastern side of the Site and construction of the sawmill included filling a portion of the slough.

2. Sierra-Pacific Industries (hereinafter the Discharger) began using wood surface protection chemicals containing pentachlorophenol (PCP) and/or tetrachlorophenol at the Site in the 1960s to prevent staining on milled lumber. A dip tank was located in the middle of the former green chain and was used for the storage and application of wood surface protection chemicals. In 1985 the use of wood surface protection chemicals containing pentachlorophenol and/or tetrachlorophenol was discontinued on the green chain and wood surface protection operations were relocated inside a new dip facility building. In 1987, the old wood surface protection chemicals remaining under the green chain were recycled through the new dip facility and the area under the green chain was cemented. A wood surface protection product called Brightwood S is currently being used at the Site to control staining on some of the milled lumber.

3. After the use of pentachlorophenol and tetrachlorophenol containing wood surface protection chemicals was discontinued on the green chain in 1985, pentachlorophenol and tetrachlorophenol continued to be detected in stormwater runoff from the Site. On December 19, 2000, Regional Water Board staff required the Discharger to conduct a soil and groundwater investigation to determine the source of pentachlorophenol and tetrachlorophenol affecting stormwater runoff.

4. The Discharger conducted a subsurface investigation at the Site in July 2001. The investigation included installation of approximately 40 borings for the collection of soil and groundwater samples. Analytical results of groundwater samples collected from the borings revealed concentrations of pentachlorophenol as high as 100,000 parts-per-billion (ppb).

[1] The U.S. Post Office changed the Arcata Division Sawmill's street address on January 1, 2003. The street address was formerly 2293 Samoa Road.

5. Nine monitoring wells were installed at the Site in March 2002 and ten additional monitoring wells were installed in November 2002 to evaluate the extent of groundwater contamination. The concentration of pentachlorophenol in groundwater samples collected from the nineteen monitoring wells has ranged from below the laboratory detection limit (<1 ppb) to 51,000 ppb.

6. Polychlorinated dibenzodioxins and polychlorinated dibenzofurans are contaminants in pentachlorophenol and are carcinogenic and teratogenic substances. The primary Maximum Contaminant Level (MCL) for 2,3,7,8-tetrachlorodibenzo-p-dioxin (dioxin) in drinking water issued by the U.S. Environmental Protection Agency and the California Department of Health Services is 0.00003 ppb. Proposition 65's Drinking Water Level for this contaminant is 0.0000025 ppb. The U.S. Environmental Protection Agency's National Recommended Ambient Water Quality Criteria for Fresh Water Aquatic Life Protection (Lowest Observed Effect Level of Chronic Toxicity) is less than 0.00001 ppb.

7. Discharge prohibitions contained in the Water Quality Control Plan for the North Coast Region (Basin Plan) apply to the Site. State Water Resources Control Board Resolution 68-16 applies to the Site. State Water Resources Control Board Resolution 92-49 applies to the Site and sets out the "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under Section 13304 of the California Water Code."

8. The California Water Code, and regulations and policies developed thereunder, require cleanup and abatement of discharges and threatened discharges of waste to the extent feasible. Cleanup to background levels is the presumptive standard. Any proposed alternative that will not achieve cleanup to background levels must be supported with evidence that it is technologically or economically infeasible to achieve background levels, and that the pollutant will not pose a substantial present or potential hazard to human health or the environment for the duration of the exceedence of background levels. (SWRCB Res. 68-16 and 92-49, 23 CCR section 2550.4, subdivisions (c), and (d).)

9. Background groundwater levels for the constituents of concern at the Site are established by considering the background quality of groundwater and surface water (i.e., water that has not been affected by waste constituents). For the contaminants PCP, tetrachlorophenol, polychlorinated dibenzodioxins, polychlorinated dibenzofurans, and petroleum hydrocarbons which are not naturally occurring in groundwater or surface water, background water quality is considered to be at levels below the lowest practical analytical detection limits.

10. The Basin Plan establishes beneficial uses of water, and various water quality objectives that exist to ensure protection of those beneficial uses. The most stringent criteria for a waste constituent that is protective of all of the beneficial uses should be selected in determining appropriate cleanup levels. Alternative cleanup and abatement actions need to be considered that evaluate the feasibility of, at a minimum: (1) cleanup to background levels, (2) cleanup to levels attainable through application of best practicable technology, and (3) cleanup to protective water quality criteria levels.

11. The Site is located in the Eureka Plain Hydrologic Unit. The Site overlies shallow groundwater less than 5 feet below ground surface. The beneficial uses of groundwater in the Eureka Plain Hydrologic Unit include:

    a. municipal supply
    b. agricultural supply
    c. industrial service supply

12. The Site is located over natural and man made drainage courses tributary to the Mad River Slough, which is tributary to Arcata Bay and Humboldt Bay. The beneficial uses of Humboldt Bay as established in the Basin Plan include:

    a. agricultural supply
    b. industrial service supply
    c. navigation
    d. water contact recreation
    e. non-contact water recreation
    f. commercial and sport fishing
    g. cold freshwater habitat
    h. wildlife habitat
    i. rare, threatened or endangered species
    j. marine habitat
    k. migration of aquatic organisms
    l. spawning, reproduction, and/or early development
    m. shellfish harvesting
    n. estuarine habitat
    o. aquaculture

13. The Discharger named in this Order has caused or permitted, causes or permits, or threatens to cause or permit waste to be discharged where it is, or probably will be, discharged into waters of the State and creates, or threatens to create, a condition of pollution or nuisance. The discharge and threatened discharge of contaminants has unreasonably affected water quality in that the discharge or threatened discharge is deleterious to the above described beneficial uses of State waters, and has impaired water quality to a degree which creates a threat to public health and public resources and therefore, constitutes a condition of pollution or nuisance. These conditions threaten to continue unless the discharge or threatened discharge is permanently cleaned up and abated.

14. Water quality objectives exist to ensure the beneficial uses of water. Numerous beneficial uses of water exist, and the most stringent objective for protection of all beneficial uses is selected as protective for water quality. **Exhibit 1** attached to and made part of this Order, sets out the water quality for groundwater and surface water at the Site:

15. Cleanup and Abatement Order No. R1-2001-0200 was issued to the Discharger on October 31, 2001. Since Cleanup and Abatement Order No. R1-2001-0200 was issued, the Discharger has performed the following required activities: (1) submitted a Public Participation Plan, (2) submitted a workplan for a feasibility study to address cleanup and

abatement of discharges to soil, groundwater and surface water; and (3) implemented the feasibility study workplan. In addition, the Discharger has conducted interim remedial measures including source area soil removal.

16. Additional cleanup and abatement activities required by Cleanup and Abatement Order No. R1-2001-0200 that remain to be performed at the Site include preparation and submittal of a Final Feasibility Study Report that describes the study results. This Order is therefore intended to replace Cleanup and Abatement Order No. R1-2001-0200.

17. Discharges of petroleum hydrocarbons, pentachlorophenol, tetrachlorophenol, and their associated impurities are a violation of the basin plan. The discharge and threatened discharge of wood surface protection chemicals and other wastes have unreasonably affected water quality because the wastes are deleterious to the above described beneficial uses and have created or may create a condition of pollution and/or nuisance that threatens to continue unless the discharge or threatened discharge is permanently abated or cleaned up.

18. Reasonable costs incurred by Regional Water Board staff in overseeing cleanup or abatement activities are reimbursable under Section 13304 of the California Water Code.

19. The Regional Water Board will ensure adequate public participation at key steps in the remedial action process, and shall ensure that concurrence with a remedy for cleanup and abatement of the discharges at the Site shall comply with the California Environmental Quality Act (Public Resources Code Section 21000 et seq.) (CEQA).

20. The issuance of this Cleanup and Abatement Order is an enforcement action being taken for the protection of the environment and therefore, is exempt from the provisions of CEQA in accordance with Title 14, California Code of Regulations, Sections 15308 and 15321.

21. Any person affected by this action of the Regional Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with Section 13320 of the California Water Code and Title 23, California Code of Regulations, Section 2050. The State Water Board must receive the petition within 30 days of the date of this Order. Copies of the law and regulations applicable to filing petitions will be provided upon request. In addition to filing a petition with the State Water Board, any person affected by this Order may request the Regional Water Board to reconsider this Order. To be timely, such request must be made within 30 days of the date of this Order. Note that even if reconsideration by the Regional Water Board is sought, filing a petition with the State Water Board within the 30-day period is necessary to preserve the petitioner's legal rights. If you choose to appeal the Order, be advised that you must comply with the Order while your appeal is being considered.

22. Failure to comply with the terms of this Order may result in enforcement under the California Water Code. Any person failing to provide technical reports containing information required by this Order by the required date(s) or falsifying any information in the technical reports is, pursuant to California Water Code Section 13268, guilty of a misdemeanor and may be subject to administrative civil liabilities of up to one thousand

dollars ($1,000.00) for each day in which the violation occurs. Any person failing to cleanup or abate threatened or actual discharges as required by this Order is, pursuant to California Water Code Section 13350(e), subject to administrative civil liabilities of up to five thousand dollars ($5,000.00) per day or ten dollars ($10) per gallon of waste discharged.

THEREFORE, IT IS HEREBY ORDERED that pursuant to California Water Code Section 13267(b) and 13304, Cleanup and Abatement Order No. R1-2001-0200 is hereby rescinded and the Discharger shall cleanup and abate the discharge and threatened discharge of wastes described above and shall comply with the provisions of this Order:

1. The Discharger shall abate the discharges of petroleum hydrocarbons, pentachlorophenol, tetrachlorophenol, and any other toxic compounds to Mad River Slough and groundwater.

2. The Discharger shall comply with any future Waste Discharge Requirements and Monitoring and Reporting Programs issued in connection with the investigation and cleanup of contamination related to the release of wood surface protection chemicals to soil and groundwater in the former dip tank area at the Site.

3. The Discharger shall conduct the investigation and cleanup tasks under the direction of a California registered geologist or registered civil engineer experienced in the area of groundwater pollution cleanup and pentachlorophenol cleanup.

4. The Discharger shall take no action that causes or permits or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be discharged into waters of the state and create, or threaten to create, a condition of pollution or nuisance.

5. On or before **December 2, 2003**, the Discharger shall submit to the Regional Water Board a Final Feasibility Study Report that includes the results of treatability studies, feasibility evaluations, and a proposed final remedy for the Site.

6. Within 90 days of concurrence by the Executive Officer with the Final Feasibility Study Report submitted under No. 5 above, the Discharger shall submit a Remedial Action Plan (RAP) and a time schedule for implementation of the RAP.

7. All future monitoring reports submitted pursuant to Monitoring and Reporting Program R1-2003-0127 shall be complete, accurate, timely, and be in the format specified in the Monitoring and Reporting Program. Any variations from the Monitoring and Reporting Program, including the sampling of additional points, failure to sample at any point, failure to test for any analytes specified, testing for analytes not specified, or any unusual conditions which may have a bearing on the interpretation of the data collected, shall be explained in detail in the monitoring report including the reason for the variance. These monitoring reports shall bear the stamp and signature of a California registered geologist or civil engineer.

8. Any excavation of contaminated material shall not be performed unless done in accordance with a workplan that has received, in writing, the concurrence of the Regional Water Board

staff. Any excavated materials must be properly contained so that there is no possibility of contamination being released from the soil pile.

9. The Discharger shall promptly pay invoices for reimbursing Regional Water Board oversight costs in accordance with the terms specified on the billing invoice.

10. If for any reason, the Discharger is unable to perform any activity or is unable to submit any document in compliance with the schedule set forth herein or in compliance with any work schedule submitted pursuant to this Order and concurred with by the Executive Officer, the Discharger may request, in writing, an extension of time. The extension request must be submitted at least ten days in advance of the due date in question and shall include justification for any delay including a description of the good faith effort performed to achieve compliance with the due date. The extension request shall also include a proposed time schedule with new performance dates for the due date in question and all dependent dates. An extension may be granted for good cause, as determined by the Executive Officer in his or her sole discretion, by which this Order will be accordingly revised.

Ordered by Catherine Kuhlman

Catherine E. Kuhlman
Executive Officer

November 13, 2003

(DLP:tmk:spicao102003/has a m&r order)

Exhibit 1

Groundwater
Water Quality Objectives

Constituent of Concern	*Practical Quantitation Limit (µg/l)*[2]	*Water Quality Objective (µg/l)*	*Citation*
Pentachlorophenol	0.2	1.0	California Department of Health Services Maximum Contaminant Level
Tetrachlorophenol	0.2	1.0	Taste and Odor Threshold per USEPA Red Book applied to the TASTE AND ODOR water quality objective in the Basin Plan
2,3,7,8-TCDD (dioxin)[3]	Variable[4]	0.00003	California Department of Health Services Maximum Contaminant Level

[2] Practical quantitation limits are based on current technology. For instances where technology cannot achieve the water quality objective, the practical quantitation limit will be used.

[3] Toxicity equivalency factors (TEFs) are used to determine the relative toxicity of chlorinated dibenzodioxin (CDD) and chlorinated dibenzofuran (CDF) congeners. The following table represents applicable isomer groups and their associated TEF.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDD	0.1
2,3,7,8-hepta CDD	0.01
Octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDF	0.1
2,3,7,8 hepta CDF	0.01
Octa CDF	0.001

[4]The concentration of dioxin in a sample is determined by adding the concentrations of the individual congeners after the concentrations have been converted to their relative toxicity of dioxin using TEFs. Since Practical Quantitation Limits vary for individual CDD and CDF congeners, the Practical Quantitation Limit for dioxin varies for each sample.

Surface Water
Water Quality Objectives

Constituent of Concern	*Practical Quantitation Limit (ug/l)*[1]	*Water Quality Objective (ug/l)*	*Citation*
Pentachlorophenol	0.2	7.9	California Toxic Rule, Enclosed Bays and Estuaries, Salt Water Aquatic life Protection, Continuous Concentration (4-day average), applied to the narrative TOXICITY objective in the Basin Plan
Pentachlorophenol	0.2	Variable depending on pH 2.4 (pH 6.0) to 50 (pH of 9.0)	California Toxic Rule, Inland Surface Waters, Freshwater Aquatic Life Protection, Continuous Concentration (4-day average), applied to the narrative TOXICITY objective in the Basin Plan
Tetrachlorophenol	0.2	1.0	Taste and Odor Threshold per USEPA Red Book applied to the TASTE AND ODOR water quality objective in the Basin Plan
2,3,7,8-TCDD (dioxin)[2]	Variable[3]	0.000000014	California Toxic Rule, Human Health (30-day average, aquatic consumption only), applied to the narrative TOXICITY objective in the Basin Plan

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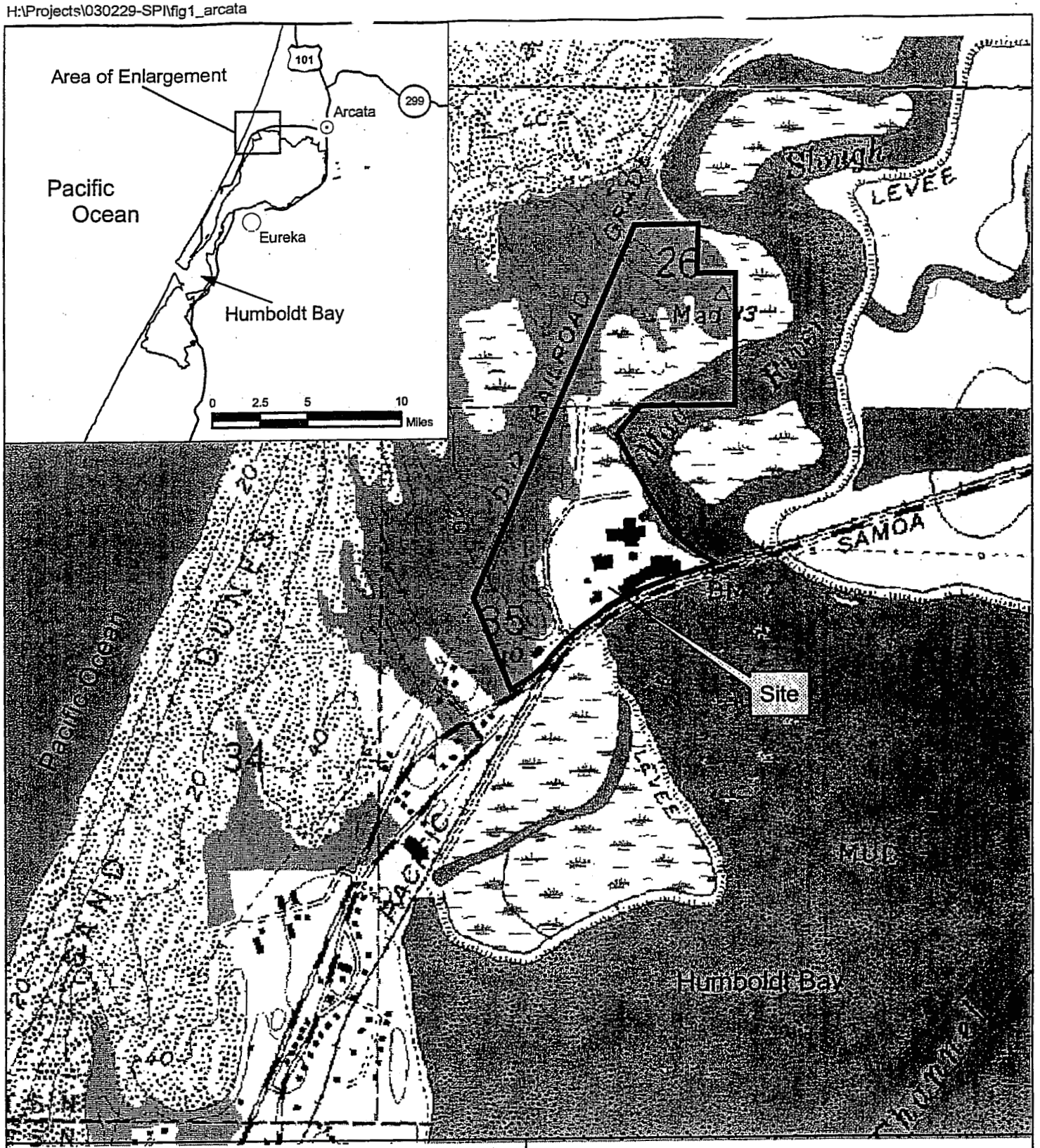

Source: USGS 24k Digital Raster Graph,
Eureka Quadrangle, Year - 1972

Site Boundary

0 500 1,000 2,000
Feet
Approximate Scale

LOCATION MAP

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

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

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ATTACHMENT A

California Regional Water Quality Control Board
North Coast Region

MONITORING AND REPORTING PROGRAM NO. R1-2003-0127

FOR

SIERRA-PACIFIC INDUSTRIES
2593 New Navy Base Road
Arcata

Humboldt County

Groundwater Monitoring

1. Monitoring and Reporting Program R1-2003-012 applies only to those monitoring wells installed at the site for purposes related to the investigation and cleanup of the release of wood surface protection chemicals in the former dip tank area (Attachment 1).

2. The depth to groundwater in all monitoring wells shall be determined to at least 0.01-foot increments quarterly. The results of quarterly elevation measurements shall be reported in tabular form indicating the surveyed elevation of the monitoring wells and the associated groundwater elevation measurements. The data generated from the elevation measurements must be referenced to mean sea level.

3. All monitoring wells shall be adequately purged prior to sampling. Monitoring wells shall be considered adequately purged after a minimum of three well casing volumes have been removed from the well or after the field measurements of temperature, pH and specific conductance taken during the purging process show that all of these parameters have stabilized in groundwater to within ten percent of their previous measurement. Field data sheets shall be completed for each monitoring well and shall clearly demonstrate the wells were adequately purged prior to sample collection. All purge water shall be stored in appropriate containers and shall be disposed of properly.

4. Groundwater in all monitoring wells shall be measured on a semiannual basis for field parameters temperature, pH and specific conductance.

5. The following shallow zone groundwater monitoring wells shall be sampled on a quarterly basis and analyzed for pentachlorophenol and tetrachlorophenol by the Canadian Pulp Method, EPA Method 8151M, or other method approved by the Executive Officer:

   MW-2
   MW-6
   MW-7
   MW-8
   MW-9

6. The following shallow zone groundwater monitoring wells shall be sampled on a semi-annual basis and analyzed for pentachlorophenol and tetrachlorophenol by the Canadian Pulp Method, EPA Method 8151M, or other method approved by the Executive Officer:

MW-1	MW-11
MW-3	MW-12
MW-4	MW-14
MW-5	MW-17
MW-10	MW-18

7. The following deep zone groundwater monitoring wells shall be sampled on a semi-annual basis and analyzed for pentachlorophenol and tetrachlorophenol by the Canadian Pulp Method, EPA Method 8151M, or other method approved by the Executive Officer:

MW-13D
MW-15D
MW-16D
MW-19D

8. Any new monitoring wells installed at the site in conjunction with the investigation and cleanup of the release of wood surface protection chemicals in the vicinity of the former dip tank shall be monitored and sampled on a quarterly basis in accordance with paragraphs 2 and 3, and shall be analyzed for pentachlorophenol and tetrachlorophenol by the Canadian Pulp Method, EPA Method 8151M, or other method approved by the Executive Officer:

Reporting

Quarterly monitoring reports shall include quarterly sampling data and groundwater gradient data in tabular form, historical analytical data in tabular form, a groundwater sample location map, and groundwater elevation contour maps shall be included semiannually. Quarterly monitoring reports shall also include a status report and analytical data associated with the operation of any interim remediation measures implemented at the site to abate discharges to surface water. Quarterly monitoring reports shall be submitted to this office in accordance with the following schedule:

Reporting Period	**Due Date**
First Quarter = January, February, March	Report Due April 30th
Second Quarter = April, May, June	Report Due July 30th
Third Quarter = July, August, September	Report Due October 30th
Fourth Quarter = October, November, December	Report Due January 30th

Ordered by Catherine Kuhlman

Catherine E. Kuhlman
Executive Officer

November 13, 2003

(DLP:tmk\SPIm&r102003/associated with Cleanup and Abatement Order)

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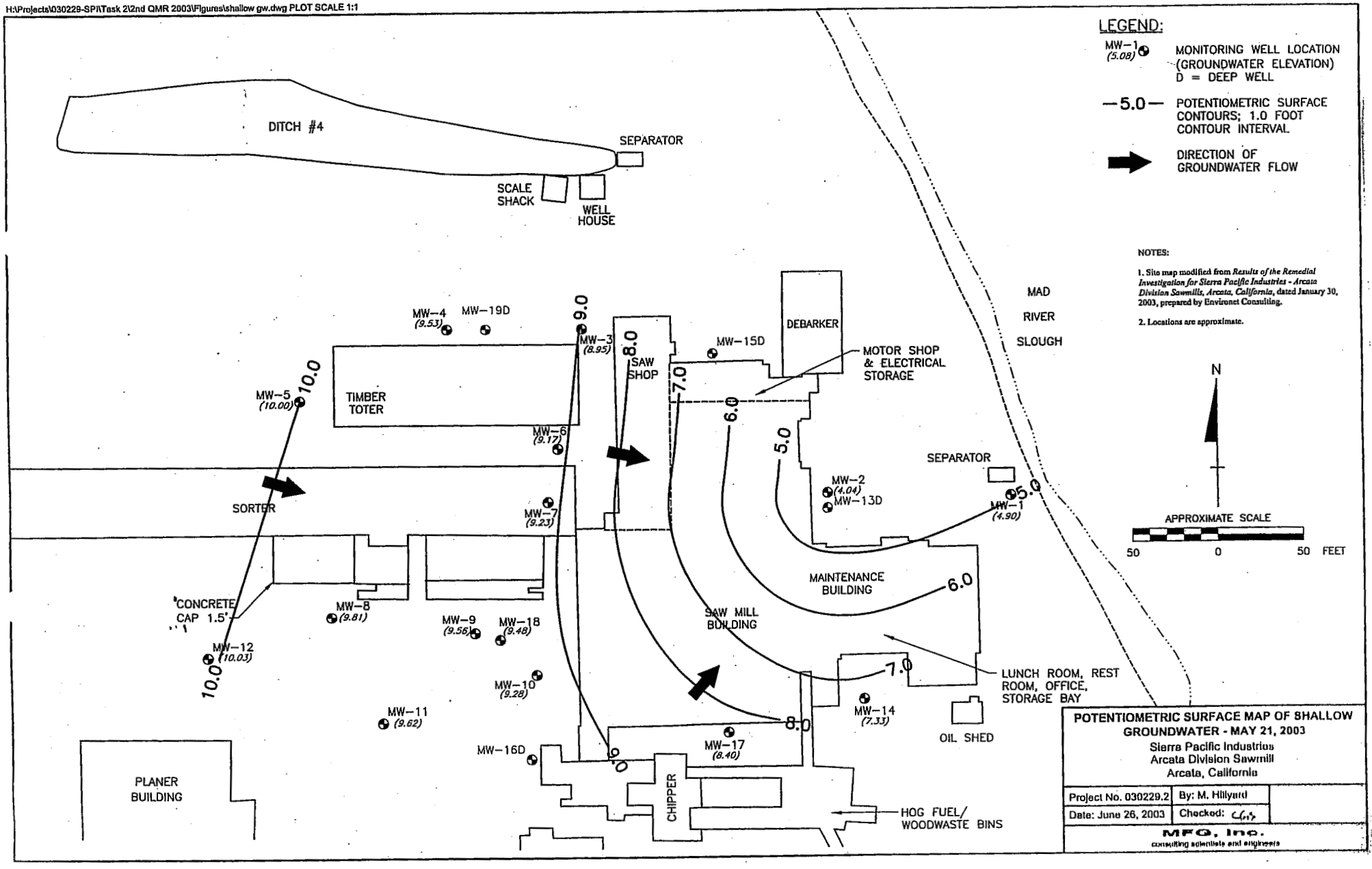

POTENTIOMETRIC SURFACE MAP OF SHALLOW GROUNDWATER - MAY 21, 2003

Sierra Pacific Industries
Arcata Division Sawmill
Arcata, California

Project No. 030229.2	By: M. Hillyard
Date: June 26, 2003	Checked:

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ATTACHMENT 1