

California Regional Water Quality Control Board
North Coast Region

MONITORING AND REPORTING PROGRAM NO. R1-2001-61
(As amended by Order No. R1-2008-0100 to reflect new ownership)

FOR

HUMBOLDT REDWOOD COMPANY, LLC
TANK GULCH SITE
UNCLASSIFIED WASTE PILE

Humboldt County

WASTE DISPOSAL AND RECYCLING

Volumes or weights of waste and type of waste, which are deposited or removed, from the landfill shall be reported to the Regional Water Board on a quarterly basis. Data shall be tabulated quarterly. The report shall be submitted 15 days after the end of each quarter, April 15th, July 15th, September 15th, and January 15th, respectively.

GROUNDWATER MONITORING

Monitoring Locations

The groundwater detection monitoring points for the Phase 1 Waste Management Unit (WMU), shown in Attachment C, are as follows:

Background Monitoring Well:	MW-3
Leak Detection (Cross-dip) Monitoring Well:	MW-2
Points of Compliance Wells:	MW-1 (currently dry) and future well

Sampling

MW-3 (Attachment C) and any additional wells that may be installed shall be monitored as follows:

- a. Static water levels shall be recorded quarterly to an increment of 0.01 feet. Top of casing elevation, depth to groundwater and water table elevation shall be reported. Current as well as previous data shall be reported in a tabular format.
- b. On a semi-annual basis during April and October, after properly purging bore hole water from each monitoring well, a sample of inflowing water shall be collected. Purging protocol and field sampling logs, including equilibrium measurements, pumping rate and other appurtenant information shall be submitted. Samples shall be analyzed for the Monitoring Parameters listed in Table 1 of this Order.

- c. By December 2001, in April 2006, in April 2011, and in April every five years thereafter, the Discharger shall analyze samples for all Constituents of Concern in Table 1 of this Order.

MW-1 and MW-2 (Attachment C) shall be monitored as follows:

- a. Static water levels shall be recorded quarterly to an increment of 0.01 feet. Top of casing elevation, depth to groundwater and water table elevation shall be reported. Current as well as previous data shall be reported in a tabular format.
- b. By December 2001, in April 2006, in April 2011, and in April every five years thereafter, the Discharger shall analyze samples for all Constituents of Concern in Table 1 of this Order. After properly purging bore hole water from each monitoring well, a sample of inflowing water shall be collected. Purging protocol and field sampling logs, including equilibrium measurements, pumping rate and other appurtenant information shall be submitted.

SURFACE WATER MONITORING

Surface water samples (Attachment C) shall be collected during or immediately after the first discharge producing storm event of the season and two additional rainfall events in January and April. Location S-3 is a background station. Locations S-1 and S-2 constitute points of compliance for surface waters of the Phase 1 WMU. Samples shall be collected and analyzed as follows:

- S-1: Outlet of main sedimentation basin
- S-2: Outlet of upgradient sedimentation basin
- S-3: Background sample from Tank Gulch Creek

Samples collected from locations S-1, S-2, and S-3 shall be analyzed for constituents listed in Table 2 of this Order.

LYSIMETER MONITORING

Samples from Lysimeter A and Lysimeter B (Attachment C) shall be collected quarterly. Samples shall be analyzed for constituents listed in Table 2 of this Order.

LEACHATE AND LEACHATE COLLECTION AND REMOVAL SYSTEM MONITORING

Samples from the leachate holding tank shall be collected during 2001 and every 5 years thereafter. The Discharger shall analyze samples for all Constituents of Concern listed in Table 1 of this Order.

A tabulation of volume of leachate collected from Leachate Collection and Removal System (LCRS) on a monthly basis with the disposal location noted shall be reported with the regularly scheduled monitoring report in accordance with Section 20340(h), Title 27 CCR.

Annual testing of the LCRS shall be conducted in accordance with Section 20340(d), Title 27 CCR. Results of the annual LCRS system test shall be reported with the Annual Monitoring Report.

DATA ANALYSIS

Data shall be examined to determine if the monitoring parameters or constituents of concern at the downgradient monitoring points exhibit trends or show evidence of a release from the facility.

Sample results from the lysimeters shall be analyzed for trends using the Mann-Kendall test with a significance level of 0.1.

Surface water data from location SW-1 shall be analyzed using the following formula:

$$U.L. = X + 2r$$

where,
UL = upper limit
X = mean background [C]
r = Standard deviation

Background values for the mean and standard deviation shall be derived from data from location SW-3. The background mean and standard deviation shall be updated in July 2002 and every two years thereafter. Prior to updating the background mean and standard deviations values for a specific constituent, the Discharger shall evaluate the data for trends and seasonality. Outlying data points shall be removed before updating the background data set.

In the event that the calculated mean background value is below the Method Detection Limit (MDL), the upper compliance limit shall be established at 2.5 times the MDL.

REPORTING

Monitoring data shall be arranged in a tabular fashion so that the date, constituent, and concentrations are readily discernible. The monitoring reports shall be transmitted in accordance with specifications of Resolution No. 71-5, adopted by the Regional Water Board on February 3, 1971. Reports that do not comply with the required format will be rejected and the Discharger shall be deemed to be in noncompliance with the WDRs.

ANNUAL MONITORING REPORT

By **July 1** of each year, the Annual Monitoring Report shall be submitted. The report shall include monitoring from May 1st of the prior year to April 30th of the year of submittal. The Annual Monitoring Report shall include data from all groundwater, surface water, lysimeter, LCRS (volumes and observations), and leachate testing and monitoring conducted during the reporting period. This report shall also report the results of the annual LCRS system test conducted in accordance with Section 20340(d), Title 27 CCR. In addition, any information regarding financial assurance as required by the Waste Discharge Requirements shall be included.

Monitoring reports shall contain any information from monitoring performed more frequently than requested or at locations not required by this Monitoring and Reporting Program. The report shall include a figure showing all sampling locations and any changes to the facility from the prior year.

Each report shall contain graphs and tabular presentation of all data for each monitoring point. Data shall be examined for seasonality and trends. Data from downgradient monitoring locations shall be analyzed using the appropriate statistical methodology. Any statistically significant exceedance(s) of background water quality values shall be reported.

The Annual Monitoring Report shall contain an evaluation of the performance of the Leachate Collection and Removal System. The LCRS evaluation shall contain tabulation on a monthly basis, of volumes removed from the leachate tank and disposal location. Results from annual testing of the LCRS and their comparison with earlier tests shall be reported.

WINTERIZATION PLAN

The Discharger shall submit a Winterization Plan by **September 1, annually**. This plan shall describe measures planned to prepare the site and conduct operations during the upcoming wet season. By **December 1, annually**, the Discharger shall submit a report to the Executive Officer describing measures taken to comply with this specification. The report shall include, at a minimum, intelligible photographs of the facility from the winterization inspection and of any follow-up work done for winterization.

WASTE DISPOSAL AND RECYCLING REPORTING

Volumes or weights of waste and type of waste, which are deposited or removed, from the landfill shall be reported to the Regional Water Board on a quarterly basis. Data shall be tabulated on a quarterly basis. The report shall be submitted 15 days after the end of each quarter, April 15th, July 15th, September 15th, and January 15th, respectively.

The Discharger shall implement the above monitoring program on the effective date of this Order.

Ordered by _____

Lee A. Michlin
Executive Officer

June 28, 2001

(MRPR1-2001-0061 amended)

**TABLE 1
 GROUNDWATER AND LEACHATE MONITORING**

COMPOUND	MONITORING PARAMETER	CONSTITUENT OF CONCERN
Chemical Oxygen Demand	X	X
Alkalinity	X	X
Chloride		X
Electrical Conductivity	X	X
Fluoride		X
Sulfate		X
Total Dissolved Solids	X	X
Turbidity	X	X
pH	X	X
Cadmium		X
Calcium		X
Chromium		X
Copper		X
Iron		X
Lead		X
Magnesium		X
Manganese		X
Mercury		X
Nickel		X
Potassium	X	X
Sodium		X
Zinc		X

TABLE 2
SURFACE WATER AND LYSIMETER MONITORING

COMPOUND	SURFACE WATER MONITORING	LYSIMETER MONITORING
Chemical Oxygen Demand	X	X
pH	X	X
Electrical Conductivity	X	X
Total Dissolved Solids	X	--
Alkalinity	X	X
Potassium	X	X
Sulfate	--	X
Settleable Solids	X	--
Turbidity	X	--