CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2003-0140

WASTE DISCHARGE REQUIREMENTS FOR LOUISIANA-PACIFIC CORPORATION FOR THE CLOSED RED BLUFF CLASS III WOOD WASTE LANDFILL TEHAMA COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Board) finds that:

1. Louisiana-Pacific Corporation (hereafter Discharger) owns a closed wood waste landfill about 2 miles west of Red Bluff, in the western half of Section 23, T27N, R4W, MDB&M, as shown in Attachment A, which is incorporated herein and made part of this Order.

2. The facility consists of two existing unlined waste management units (WMU), an unlined leachate pond, and a sedimentation pond as shown in Attachment B, which is incorporated herein and made part of this Order. The facility is comprised of Assessor's Parcel Numbers (APN) 24-010-31 and 24-010-42. Most of WMU-1 is located on APN 24-010-42, which is owned by Jessie and Debbie Turner. Since the Turners did not place wastes in WMU-1, they are not named as Dischargers. WMU-2 and the leachate pond are located on APN 24-010-31, which is owned by the Discharger.

3. The Discharger operated the landfill from 1973 through 1992 for disposal of wood waste from its Red Bluff sawmill. The wood waste consisted primarily of chips, shavings, bark, sawdust, and log deck debris, which was deposited in canyons. These wastes are classified as non-hazardous solid waste using criteria set forth in Title 27 of the California Code of Regulations (hereafter, Title 27).

4. WMU-1 operated from 1973 through 1982 and WMU-2 operated from 1982 through 1992. WMU-1 (approximately 10 acres in size) was closed in 1982 by covering the waste with native soil as final cover. Since closure was completed prior to adoption and implementation of the regulations governing landfills (former Title 23, California Code of Regulations, Division 3, Chapter 15, which became effective in November 1984, and current Title 27), WMU-1 is exempt from the closure requirements contained within those regulations. However, if it is determined at some point in the future that WMU-1 is impacting surface or groundwater quality, the Regional Board may require the Discharger to implement a corrective action program to prevent further degradation and remediate any observed impacts.

5. Closure of the 12 acre WMU-2 was completed in November 2001. Approximately 8,750 cubic yards of treated soil that had been contaminated with pentachlorophenol and Stoddard solvent from the Discharger's VG Mill and Jamb Plant and sawmill facilities in Red Bluff was used in constructing the two-foot thick foundation layer of the landfill's final cover. After being excavated from the mill site, the contaminated soil was transported to the landfill for treatment and bioremediation. Treatment consisted of adding nitrogen and phosphorus amendments as nutrients, adding bulking agents for moisture control, and arranging the soil in windrows on plastic and covering the soil with plastic to prevent desiccation and erosion of fugitive dust by wind or water. After completing treatment, pentachlorophenol concentrations ranged from 1.4 mg/kg to 3 mg/kg, with an average concentration of 1.9 mg/kg. The remaining final cover was composed of a one-foot thick clay barrier layer with a measured hydraulic conductivity of 1×10^{-6} cm/sec or less constructed over the foundation layer, followed by a one-foot thick soil vegetative layer over the barrier layer.

SITE DESCRIPTION

6. The site is underlain by the Tehama Formation, a well-consolidated deposit consisting of dense to very dense clayey silt, silty clay, and scattered stringers of sandy gravel.

7. There are no known faults at the site. The nearest quaternary fault, the Battle Creek Fault, is located approximately 23 miles northeast of the landfill.

8. Land surrounding the site is used primarily for private livestock grazing. The Bio Industries Petroleum Contaminated Soil Treatment Facility is approximately ¼ mile west of the landfill and the Red Bluff Class III Municipal Solid Waste Landfill is approximately ½ mile northwest of the site. The nearest residence and domestic well is approximately ¼ mile south southeast of the landfill.

9. The facility receives an average of 22 inches of precipitation per year as measured at the Red Bluff Airport Weather Station. The average annual evaporation is approximately 65 inches based on data published by the California Department of Water Resources in Bulletin No. 73-79, *Evaporation from Water Surfaces in California*.

10. The 100-year, 24-hour precipitation event is estimated to be four inches, based on precipitation data published by the California Department of Water Resources, Bulletin No. 195, entitled *Rainfall Analysis for Drainage Design.*

11. The waste management facility is not within a 100-year flood plain.

SURFACE AND GROUND WATER CONDITIONS

12. The *Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin, Fourth Edition* (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.

13. Surface drainage is toward Brickyard Creek, an intermittent tributary of the Sacramento River, in the Red Bluff Hydrologic Area (No. 504.20) of the Sacramento Hydrologic Basin.

14. The Basin Plan states, "The beneficial uses of any specifically identified water body generally apply to its tributary streams." The beneficial uses of Brickyard Creek are not specifically identified in the Basin Plan. Application of the tributary rule requires that the beneficial uses of any specifically identified water body apply to its tributary streams. The Basin Plan does not identify any beneficial uses specifically for Brickyard Creek, but the Basin Plan does identify present and potential uses for the Sacramento River, to which Brickyard Creek is tributary.

15. The designated beneficial uses of the Sacramento River (and Brickyard Creek, using the tributary rule), as specified in the Basin Plan, are municipal and domestic supply; agricultural supply; industrial service supply; hydropower generation; water contact and non-contact recreation; warm and cold fresh water habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; wildlife habitat; navigation; groundwater recharge; and freshwater replenishment.

16. The first encountered groundwater ranges from approximately 31 to 140 feet below the native ground surface. Groundwater elevations range from approximately 257 feet MSL to 340 feet MSL. The depth to groundwater fluctuates seasonally as much as four feet. The direction of groundwater flow is generally towards the southeast

17. Monitoring data indicates background groundwater quality has an electrical conductivity (EC) ranging between 130 and 340 micromhos/cm, with total dissolved solids (TDS) ranging between 140 and 210 mg/l. Currently, there is no indication of groundwater impacts related to waste disposal activities at this site and groundwater quality beneath the site, in general, is good.

18. The designated beneficial uses of the groundwater, as specified in the Basin Plan, are domestic and municipal supply, agricultural supply, industrial service supply, and industrial process supply.

GROUNDWATER MONITORING

19. Four groundwater monitoring wells located around the facility, as shown on Attachment B, make up the groundwater detection monitoring system. Well MW-101 is located hydraulically up gradient of WMU-2 along the west fill boundary. MW-101 is 128 feet deep with a screen interval between 100 and 120 feet below ground surface (BGS). Well MW-102, located east of WMUs 1 and 2, is hydraulically cross gradient of the Units, and is 180 feet deep with a screen interval between 157 and 177 feet BGS. Well MW-103 is located hydraulically up gradient and northeast of the Units across Brickyard Creek. MW-103 is 110 feet deep with a screen interval between 77 and 97 feet BGS. Well MW-104, located northeast of the Units between MW-102 and MW-103, is hydraulically cross gradient of WMUs 1 and 2. MW-104 is 120 feet deep with a screen interval between 97 and 117 feet BGS. An additional groundwater monitoring well, MW-1, is located in the berm between the east and west leachate ponds along the north side of WMU-2. MW-1 is 31 feet deep and assesses shallow groundwater quality beneath the leachate ponds. The screen interval of MW-1 is unknown. Four additional shallow wells are located around WMU-2, but groundwater has never been detected in these and they are not part of the groundwater detection monitoring program.

20. Currently, there is no groundwater monitoring well hydraulically down gradient of WMU-1. WMU-1 closed in 1982, and is not subject to the requirements of Title 27. However, pursuant to Sections 13267 and 13360 of the California Water Code, the Regional Board will require an additional groundwater monitoring well be installed at a location that is hydraulically down gradient of WMU-1. This new well will be incorporated into the existing groundwater detection monitoring program and sampled in accordance with Monitoring and Reporting Program No. R5-2003-0140.

21. The vadose zone in the vicinity of the disposal site is more than 50 feet thick, and composed primarily of clay and clayey sands and gravel. Five vadose zone monitoring wells are located around WMU-2. They were installed in 1989 to monitor this zone. However, groundwater has not been detected in these wells and, in general, it has not been possible to extract vadose samples from the wells. Currently, vadose zone monitoring is not part of the detection monitoring program for the site.

22. Volatile organic compounds (VOCs) are often detected in a release from some types of landfills. However, volatile organic compounds are not expected to be found in wood waste. Since volatile organic compounds are not naturally occurring and thus have no background value, they are not amenable to the statistical analysis procedures contained in Title 27 for the determination of a release of wastes from a WMU.

23. Title 27, Sections 20415(e)(8) and (9), provide for the non-statistical evaluation of monitoring data that will provide the best assurance of the earliest possible detection of a

release from a WMU in accordance with Title 27, Section 20415(b)(1)(B)2-4. However, Title 27 does not specify a specific method for non-statistical evaluation of monitoring data.

24. The Regional Board may specify a non-statistical data analysis method pursuant to Title 27, Section 20080(a)(1). Section 13360(a)(1) of the California Water Code allows the Regional Board to specify requirements to protect underground or surface waters from leakage from a solid waste site, which includes a method to provide the best assurance of determining the earliest possible detection of a release.

25. In order to provide the best assurance of the earliest possible detection of a release of non-naturally occurring waste constituents from a WMU, this Order specifies a non-statistical method for the evaluation of monitoring data.

26. The specified non-statistical method for evaluation of monitoring data provides two criteria (or triggers) for making the determination that there has been a release of non-naturally occurring waste constituents from a WMU. The presence of two non-naturally occurring waste constituents above their respective method detection limit (MDL), or one non-naturally occurring waste constituent detected above its practical quantitation limit (PQL), tentatively indicates that a release of waste from a WMU has occurred. Following an indication of a release, verification testing will be conducted to determine whether there has been a release from the Unit, or there is a source of the detected constituents other than the landfill, or the detection was a false detection. Although the detection of one non-naturally occurring waste constituent above its MDL is sufficient to provide for the earliest possible detection of a release, the detection of two non-naturally occurring waste constituents above the MDL as a trigger is appropriate due to the higher risk of false-positive analytical results and the corresponding increase in sampling and analytical expenses from the use of one non-naturally occurring waste constituent above its MDL as a trigger.

CEQA AND OTHER CONSIDERATIONS

27. The action to revise waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resource Code Section 21000, et seq., and the CEQA guidelines, in accordance with Title 14 CCR, Section 15301.

28. This Order implements:

    a. *The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition*; and

b. The prescriptive standards and performance goals of Chapters 1 through 7, Subdivision 1, Division 2, Title 27, of the California Code of Regulations, effective 18 July 1997, and subsequent revisions;

29. Section 13267(b) of California Water Code provides that: "In conducting an investigation specified in subdivision (a), the Regional Board may require that any person who has discharged, discharges, or is suspected of discharging, or who proposed to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who had discharged, discharges, or is suspected of discharging, or who proposed to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. The monitoring and reporting program required by this Order and the attached "Monitoring and Reporting Program No. R5-2003-0140" are necessary to assure compliance with these waste discharge requirements. The Discharger operates the facility that discharges the waste subject to this Order.

PROCEDURAL REQUIREMENTS

30. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.

31. The Regional Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

32. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

33. Any person affected by this action of the Regional Board may petition the State Water Resources Control Board to review the action in accordance with Sections 2050 through 2068, Title 23, California Code of Regulations. The petition must be received by the State Water Resources Control Board, Office of Chief Counsel, P.O. Box 100, Sacramento, California 95812, within 30 days of the date of issuance of this Order. Copies of the laws and regulations applicable to the filing of a petition are available on the Internet at http://www.swrcb.ca.gov/water_laws/index.html and will be provided on request.

IT IS HEREBY ORDERED, pursuant to Sections 13263 and 13267 of the California Water Code, that Order No. 98-188 is rescinded, and that Louisiana-Pacific Corporation, its agents, successors, and assigns, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. The discharge of 'hazardous waste' or 'designated waste' is prohibited. For the purposes of this Order, the term 'hazardous waste' is as defined in Title 23, California Code of Regulations, Section 2510 et seq., and 'designated waste' is as defined in Title 27.

2. The discharge of non-hazardous solid waste at this site is prohibited.

3. The discharge of wastes outside of a WMU or portions of a WMU specifically designed for their containment is prohibited.

4. The discharge of waste to a closed WMU is prohibited.

5. The site shall be maintained so that pollutants or waste constituents are not released in a manner which could cause a condition of nuisance, degradation, contamination, or pollution of groundwater to occur, as indicated by the most appropriate statistical or non-statistical data analysis method and retest method listed in this Order, the Monitoring and Reporting Program, or the Standard Provisions and Reporting Requirements.

6. The discharge of solid or liquid waste or leachate to surface waters, surface water drainage courses, or groundwater is prohibited.

7. No additional pentachlorophenol-contaminated soil shall be incorporated into the foundation layer of the final cover over the waste management units.

B. FACILITY SPECIFICATIONS

1. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at this facility in violation of this Order.

2. The Discharger shall immediately notify the Regional Board of any flooding, unpermitted discharge of waste off-site, equipment failure, slope failure, or other change in site conditions that could impair the integrity of waste or leachate containment facilities or precipitation and drainage control structures.

3. Water used for facility maintenance shall be limited to the minimum amount necessary for dust control, and construction.

4. The Discharger shall maintain in good working order any facility, control system, or monitoring device installed to achieve compliance with the waste discharge requirements.

5. Methane and other landfill gases shall be adequately vented, removed from the WMU, or otherwise controlled to prevent the danger of adverse health effects, nuisance conditions, or the impairment of the beneficial uses of surface water or groundwater due to migration through the unsaturated zone.

C. DETECTION MONITORING SPECIFICATIONS

1. The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater in accordance with Monitoring and Reporting Program No. R5-2003-0140.

2. The Discharger shall install, **by 1 December 2003**, an additional groundwater monitoring well at a location along the hydraulically down gradient boundary of WMU-1.

3. The Discharger shall provide Regional Board staff a minimum of **one week** notification prior to commencing any field activities related to the installation, repair, or abandonment of monitoring devices.

4. The Discharger shall submit, **by 1 December 2003**, for Executive Officer review and approval, a revised Water Quality Protection Standard Report with updated concentration limits and monitoring points in accordance with Title 27 and Monitoring and Reporting Program No. R5-2003-0140.

5. The Discharger shall comply with the Water Quality Protection Standard as specified in this Order, Monitoring and Reporting Program No. R5-2003-0140, and the Standard Provisions and Reporting Requirements, dated April 2000.

6. The Water Quality Protection Standard for organic compounds, which are not naturally occurring and not detected in background groundwater samples, shall be taken as the detection limit of the analytical method used (i.e., US-EPA methods 8260 and 8270). The repeated detection of one or more non-naturally occurring organic compounds in samples above the Water Quality Protection Standard from detection monitoring wells is evidence of a release from the WMU.

7. The concentrations of the constituents of concern in waters passing the Point of Compliance shall not exceed the concentration limits established pursuant to Monitoring and Reporting Program No. R5-2003-0140.

8. For each monitoring event, the Discharger shall determine whether the landfill is in compliance with the Water Quality Protection Standard using procedures specified in Monitoring and Reporting Program No. R5-2003-0140 and Title 27, Section 20415(e).

9. The Discharger shall submit, **by 1 December 2003**, for Executive Officer review and approval, a Sample Collection and Analysis Plan. The Sample Collection and Analysis Plan shall at a minimum include:

    a. Sample collection procedures describing purging techniques, sampling equipment, and decontamination of sampling equipment;

    b. Sample preservation information and shipment procedures;

    c. Sample analytical methods and procedures;

    d. Sample quality assurance/quality control (QA/QC) procedures; and

    e. Chain of Custody control.

10. For any given monitored medium, the samples taken from all monitoring points and background monitoring points to satisfy the data analysis requirements for a given reporting period shall all be taken **within a span not to exceed 30 days**, unless the Executive Officer approves a longer time period, and shall be taken in a manner that ensures sample independence to the greatest extent feasible.

11. Specific methods of collection and analysis must be identified. Sample collection, storage, and analysis shall be performed according to the most recent version of USEPA Methods, such as the latest editions, as applicable, of: (1) Methods for the Analysis of Organics in Water and Wastewater (USEPA 600 Series), (2) Test Methods for Evaluating Solid Waste (SW-846, latest edition), and (3) Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020), and in accordance with the approved Sample Collection and Analysis Plan.

12. If methods other than USEPA-approved methods or Standard Methods are proposed, the exact methodology shall be submitted for review and approval by the Executive Officer prior to use.

13. The **methods of analysis and the detection limits** used must be appropriate for the expected concentrations. For the monitoring of any constituent or parameter that is

found in concentrations which produce more than 90% non-numerical determinations (i.e., "trace" or "ND") in data from background monitoring points for that medium, the analytical method having the lowest method detection limit (MDL) shall be selected from among those methods which would provide valid results in light of any matrix effects or interferences.

14. **"Trace" results** - results falling between the MDL and the practical quantitation limit (PQL) - shall be reported as such, and shall be accompanied both by the estimated MDL and PQL values for that analytical run.

15. **MDLs and PQLs** shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. In relatively interference-free water, laboratory-derived MDLs and PQLs are expected to closely agree with published USEPA MDLs and PQLs.

16. If the laboratory suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived MDL/PQL values, the results shall be flagged accordingly, along with estimates of the detection limit and quantitation limit actually achieved. The **MDL shall always be calculated such that it represents the lowest achievable concentration associated with a 99% reliability of a nonzero result**. The PQL shall always be calculated such that it represents the lowest constituent concentration at which a numerical value can be assigned with reasonable certainty that it represents the constituent's actual concentration in the sample. Normally, PQLs should be set equal to the concentration of the lowest standard used to calibrate the analytical procedure.

17. All **QA/QC data** shall be reported, along with the sample results to which they apply, including the method, analytical detection and quantitation limits, the percent recovery, an explanation for any recovery that falls outside the QC limits, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recoveries. In cases where contaminants are detected in QA/QC samples (i.e., field, trip, or lab blanks), the accompanying sample results shall be appropriately flagged.

18. Unknown chromatographic peaks shall be reported, flagged, and tracked for potential comparison to subsequent unknown peaks that may be observed in future sampling events. Identification of unknown chromatographic peaks that recur in subsequent sampling events may be required.

19. The statistical method shall account for data below the practical quantitation limit (PQL) with one or more statistical procedures that are protective of human health and the environment. Any PQL validated pursuant to Title 27, Section 20415(e)(7) that is used in the statistical method shall be **the lowest concentration (or value) that can be reliably achieved** within limits of precision and accuracy specified in the WDRs for routine laboratory operating conditions that are available to the facility. The Discharger's technical report, pursuant to Title 27, Section 20415(e)(7), shall consider the PQLs listed in Appendix IX to Chapter 14 of Division 4.5 of Title 22, California Code of Regulations, for guidance when specifying limits of precision and accuracy. For any given constituent monitored at a background or downgradient monitoring point, an indication that falls between the MDL and the PQL for that constituent (hereinafter called a "trace" detection) shall be identified and used in appropriate statistical or non-statistical tests. Nevertheless, for a statistical method that is compatible with the proportion of censored data (trace and ND indications) in the data set, the Discharger can use the laboratory's concentration estimates in the trace range (if available) for statistical analysis, in order to increase the statistical power by decreasing the number of "ties".

20. Background for water samples shall be represented by the data from all samples taken from applicable background monitoring points during that reporting period (at least one sample from each background monitoring point).

21. The Discharger may propose an alternate statistical method [to the methods listed under Title 27, Section 20415(e)(8)(A-D)] in accordance with Title 27, Section 20415(e)(8)(E), for review and approval by the Executive Officer. Upon receiving written approval from the Executive Officer, alternate statistical procedures may be used for determining the significance of analytical results for common laboratory contaminants (i.e., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate). Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Regional Board staff.

22. The Discharger shall use the following non-statistical method for all non-naturally occurring analytes that are detected in less than 10% of the background samples. The non-statistical method shall be implemented as follows:

    a. From the Constituent of Concern or Monitoring Parameter list, identify each analyte in the **current** sample that exceeds either its respective MDL or PQL. The Discharger shall conclude that the exceedance provides a preliminary indication of a release or a change in the nature or extent of the release, at that monitoring point, if ***either:***

1) The data contains two or more analytes that are detected in less than 10% of background samples that equal or exceed their respective MDLs; or

2) The data contains one or more analyte that equals or exceeds its PQL.

b. The Discharger shall conduct a **Discrete Retest** in accordance with the following [Title 27, Section 20415(e)(8)(E)]:

1) In the event that the Discharger concludes (pursuant to paragraph 22.a., above) that there is a preliminary indication of a release, then the Discharger shall immediately notify Regional Board staff by phone or e-mail and, within 30 days of such indication, shall collect two new (retest) samples from the monitoring point where the release is preliminarily indicated.

2) For any given retest sample, the Discharger shall include, in the retest analysis, **only the laboratory analytical results for those analytes detected in the original sample**. As soon as the retest data are available, the Discharger shall conclude that there is measurably significant evidence of a release if two or more analytes equal or exceed their respective MDLs, or if one or more analyte equals or exceeds its PQL and shall:

a) **Immediately** notify the Regional Board about any constituent or constituents verified to be present at the monitoring point, and follow up with written notification submitted by certified mail **within seven days** of validation; and

b) Comply with Detection Monitoring Specification C.23, below, if any constituent or constituents were verified to be present.

3) Any analyte that triggers a discrete retest per this method shall be added to the Monitoring Parameter list so that it is monitored during each regular monitoring event.

23. If the Discharger determines that there is measurably significant evidence of a release from the Unit at any monitoring point, the Discharger shall **immediately** implement the requirements of **XI. Response To A Release, C. Release Has Been Verified**, contained in the Standard Provisions and Reporting Requirements.

D. REPORTING REQUIREMENTS

1. In the event the Discharger does not comply or will be unable to comply with any prohibition or limitation of this Order for any reason, the Discharger shall notify the

appropriate Regional Board office by telephone **as soon as** it or its agents have knowledge of such noncompliance or potential for noncompliance, and shall confirm this notification in writing **within two weeks**. The written notification shall state the nature, time, and cause of noncompliance, shall describe the measures being taken to prevent recurrences, and shall include a timetable for corrective actions.

2. The Discharger shall retain records of all monitoring information, including, but not limited to, all calibration and maintenance records and copies of all reports required by this Order. Records shall be maintained throughout the life of the facility including the post-closure maintenance period.

   Such legible records shall show the following for each sample:

   a. Sample identification and the monitoring point or background monitoring point from which it was taken, along with the identity of the individual who obtained the sample;

   b. Date, time, and manner of sampling;

   c. Date and time that analyses were started and completed, and the name of the personnel and laboratory performing each analysis;

   d. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;

   e. Calculation of results; and

   f. Results of analyses, and the MDL and PQL for each analysis.

3. A transmittal letter explaining the essential points shall accompany each report. At a minimum, the transmittal letter shall identify any violations found since the last report was submitted, and if the violations were corrected. If no violations have occurred since the last submittal, this shall be stated in the transmittal letter. The transmittal letter shall also state that a discussion of any violations found since the last report was submitted, and a description of the actions taken or planned for correcting those violations, including any references to previously submitted time schedules, is contained in the accompanying report.

4. Each monitoring report shall include a compliance evaluation summary. The summary shall contain at least:

   a. For each monitoring point and background monitoring point addressed by the report, a description of:

1) The time of water level measurement;

2) The type of pump - or other device - used for purging and the elevation of the pump intake relative to the elevation of the screened interval;

3) The method of purging (the pumping rate; the equipment and methods used to monitor field pH, temperature, and conductivity during purging; the calibration of the field equipment; results of the pH, temperature, conductivity, and turbidity testing; and the method of disposing of the purge water) to remove all portions of the water that was in the well bore while the sample was being taken;

4) The type of pump - or other device - used for sampling, if different than the pump or device used for purging; and

5) A statement that the sampling procedure was conducted in accordance with the approved Sampling and Analysis Plan.

b. A map or aerial photograph showing the locations of observation stations, monitoring points, and background monitoring points.

c. For each groundwater body, a description and graphical presentation of the gradient and direction of groundwater flow under/around the WMU, and the groundwater flow rate, based upon water level elevations taken prior to the collection of the water quality data submitted in the report.

d. Laboratory statements of results of all analyses evaluating compliance with requirements.

e. An evaluation of the effectiveness of the leachate monitoring and control facilities, and of the run-off/run-on control facilities.

f. A summary and certification of completion of all **Standard Observations** for the Unit(s), for the perimeter of the WMU, and for the receiving waters. The Standard Observations shall include:

1) For the WMU:

a) Evidence of ponded water at any point on the facility (show affected area on map);

b) Evidence of odors - presence or absence, characterization, source, and distance of travel from source; and

c) Evidence of erosion and/or of day-lighted refuse.

2) Along the perimeter of the WMU:

a) Evidence of liquid leaving or entering the WMU, estimated size of affected area, and flow rate (show affected area on map);

b) Evidence of odors - presence or absence, characterization, source, and distance of travel from source; and

c) Evidence of erosion and/or of day-lighted refuse.

3) For receiving waters:

a) Floating and suspended materials of waste origin - presence or absence, source, and size of affected area;

b) Discoloration and turbidity - description of color, source, and size of affected area;

c) Evidence of odors - presence or absence, characterization, source, and distance of travel from source;

d) Evidence of water uses - presence of water-associated wildlife;

e) Estimated flow rate; and

f) Weather conditions - wind direction and estimated velocity, total precipitation during recent days and on the day of observation.

g. The quantity and types of wastes discharged and the locations in the WMU where waste has been placed since submittal of the last such report.

5. The Discharger shall report by telephone any seepage from the disposal area **immediately** after it is discovered. A written report shall be filed with the Regional Board **within seven days**, containing at least the following information:

a. A map showing the location(s) of seepage;

b. An estimate of the flow rate;

c. A description of the nature of the discharge (e.g., all pertinent observations and analyses);

d. Verification that samples have been submitted for analyses of the Constituents of Concern and Monitoring Parameters, and an estimated date that the results will be submitted to the Regional Board; and

e. Corrective measures underway or proposed, and corresponding time schedule.

6. The Discharger shall submit an **Annual Monitoring Summary Report** to the Regional Board covering the reporting period of the previous monitoring year. This report shall contain:

a. All Monitoring Parameters and Constituents of Concern shall be graphed so as to show historical trends at each monitoring point and background monitoring point, for all samples taken within at least the previous five calendar years. Each such graph shall plot the concentration of one or more constituents for the period of record for a given monitoring point or background monitoring point, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum, rather than plotting mean values. For any given constituent or parameter, the scale for background plots shall be the same as that used to plot downgradient data. Graphical analysis of monitoring data may be used to provide significant evidence of a release.

b. Unless otherwise exempted by the Executive Officer, all monitoring analytical data obtained during the previous two six-month reporting periods, shall be submitted in tabular form as well as in a digital file format acceptable to the Executive Officer. The Regional Board regards the submittal of data in hard copy and in digital format as "...the form necessary for..." statistical analysis [Title 27, CCR, Section 20420(h)], in that this facilitates periodic review by the Regional Board.

c. A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements.

d. A written summary of the monitoring results, indicating any changes made or observed since the previous annual report.

e. An evaluation of the effectiveness of the leachate monitoring/control facilities.

E. PROVISIONS

1. The Discharger shall maintain a copy of this Order at the facility or their Red Bluff I- Joist Plant and make it available to operating personnel, who shall be familiar with its contents, and to regulatory agency personnel.

2. The Discharger shall comply with all applicable provisions of Title 27 that are not specifically referred to in this Order.

3. The Discharger shall comply with Monitoring and Reporting Program No. R5-2003-0140, which is incorporated into and made part of this Order.

4. The Discharger shall comply with the applicable portions of the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Title 27 and/or Subtitle D (Title 27 CCR Section 20005 et seq. and 40 CFR 258 et seq.)*, dated April 2000, which are hereby incorporated into this Order.

5. All reports and transmittal letters shall be signed by persons identified below:

   a. For a corporation: by a principal executive officer of at least the level of senior vice-president.

   b. For a partnership or sole proprietorship: by a general partner or the proprietor.

   c. For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected or appointed official.

   d. A duly authorized representative of a person designated in a, b or c above if;

      1) The authorization is made in writing by a person described in a, b, or c of this provision;

      2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a WMU, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

      3) The written authorization is submitted to the Regional Board.

   e. Any person signing a document under this Section shall make the following certification:

      "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am

aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

6. The Discharger shall take all reasonable steps to minimize any adverse impact to waters of the State resulting from noncompliance with this Order. Such steps shall include accelerated or additional monitoring as necessary to determine the nature, extent, and impact of the noncompliance.

7. The owner of the waste management facility shall have the continuing responsibility to assure protection of waters of the state from discharged wastes and from gases and leachate generated by discharged waste during the active life, closure, and post-closure maintenance period of the WMU(s) and during subsequent use of the property for other purposes.

8. The fact that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this Order shall not be regarded as a defense for the Discharger's violation(s) of the Order.

9. To assume ownership or operation under this Order, the succeeding owner or operator must apply in writing to the Regional Board requesting transfer of the Order within 14 days of assuming ownership or operation of this facility. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Regional Board, and a statement. The statement shall comply with the signatory requirements contained in Provision E.5 above and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer of this Order shall be approved or disapproved by the Regional Board.

10. The Discharger shall maintain assurances of financial responsibility for initiating and completing corrective action for all known or reasonably foreseeable releases from the landfill in an amount approved by the Executive Officer, and shall submit the financial assurance mechanism to the Executive Officer for review and approval **by 1 January 2004**.

11. The Discharger is required to maintain financial assurance mechanisms for post-closure maintenance costs as specified in Chapter 6 of Title 27. The Discharger is required to submit the financial assurance mechanism to the Executive Officer **by 1 January 2004** so a determination can be made as to whether the mechanism meets the requirements of Chapter 6, Title 27, and if the amount of coverage is adequate.

12. The Discharger shall complete the tasks contained in these waste discharge requirements in accordance with the following time schedule:

Task	Compliance Date
A. Monitoring Well Installation	
Install an additional groundwater monitoring well at a location along the hydraulically down gradient boundary of WMU-1. (See Detection Monitoring Specifications C.2)	**1 December 2003**
B. Water Quality Protection Standard Report	
Submit a revised Water Quality Protection Standard Report with updated concentration limits and monitoring points. (See Detection Monitoring Specifications C.4)	**1 December 2003**
C. Sample Collection and Analysis Plan	
Submit a Sample Collection and Analysis Plan. (See Detection Monitoring Specifications C.9)	**1 December 2003**
D. Financial Assurances	
Submit financial assurances for initiating and completing corrective actions associated with known or foreseeable releases from the landfill and for post-closure maintenance costs using one of the acceptable mechanisms in accordance with Title 27, Division 2, Subdivision 1, Chapter 6. (See Provisions E.10 and E.11)	**1 January 2004**

I, THOMAS R. PINKOS, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 5 September 2003.

original signed by

_____

THOMAS R. PINKOS, Executive Officer

DPS: 7/18/2003

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2003-0140

LOUISIANA-PACIFIC CORPORATION
FOR THE CLOSED
RED BLUFF CLASS III WOOD WASTE LANDFILL
TEHAMA COUNTY

Compliance with this Monitoring and Reporting Program, with Title 27, California Code of Regulations, Section 20005, et seq. (hereafter Title 27), and with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Discharges Regulated by Title 27 and/or Part 258 (27 CCR §20005 et seq. and 40 CFR 258 et. Seq.)*, dated April 2000, is ordered by Waste Discharge Requirements Order No. R5-2003-0140. This wood waste landfill is an industrial landfill regulated under Title 27. However, the wood waste landfill is not subject to regulation under Subtitle D, because it did not receive municipal solid waste.

A. REQUIRED MONITORING REPORTS

	Report	Due
1.	Groundwater Monitoring (Section D.1)	**See Table I**
2.	Annual Monitoring Summary Report (Standard Provisions and Reporting Requirements)	**31 January, Annually**
3.	Leachate Monitoring (Section D.2)	**See Table II**
4.	Facility Monitoring (Section D.3)	**15 November, Annually**
5.	Response to a Release (Standard Provisions and Reporting Requirements)	**As necessary**

B. REPORTING

The Discharger shall report monitoring data and information as required in this Monitoring and Reporting Program, as required in Order No. R5-2003-0140, and the Standard Provisions and Reporting Requirements. Reports that do not comply with the required format will be **REJECTED** and the Discharger shall be deemed to be in noncompliance with the waste discharge requirements. In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data

shall be summarized in such a manner so as to illustrate clearly the compliance with waste discharge requirements or the lack thereof. Each monitoring report shall include a compliance evaluation summary. Data shall also be submitted in a digital format acceptable to the Executive Officer.

Field and laboratory tests shall be reported in each monitoring report. Semiannual and annual monitoring reports shall be submitted to the Regional Board in accordance with the following schedule for the calendar period in which samples were taken or observations made.

Sampling Frequency	Reporting Frequency	Reporting Periods End	Report Date Due
Semiannually	Semiannually	30 June	**31 July**
		31 December	**31 January**
Annually	Annually	31 December	**31 January**

Semiannual samples shall be collected during April and October of each year.

The Discharger shall submit an **Annual Monitoring Summary Report** to the Regional Board covering the previous monitoring year. The annual report shall include graphs of all Monitoring Parameters and Constituents of Concern that show historical trends at each monitoring point and background monitoring point for all samples obtained during the last five calendar years. Additionally, the annual report shall provide a comprehensive discussion of the compliance record and any corrective actions taken or planned, which may be necessary to bring the Discharger into full compliance with the waste discharge requirements.

The results of **all monitoring** conducted at the site shall reported to the Regional Board in accordance with the reporting schedule above for the calendar period in which samples were taken or observations made.

C. WATER QUALITY PROTECTION STANDARD AND COMPLIANCE PERIOD

1. Water Quality Protection Standard Report

The Discharger shall submit a revised Water Quality Protection Standard Report in accordance with the schedule listed in Order No. R5-2003-0140. The Water Quality Protection Standard Report shall be maintained and updated as necessary.

For each waste management unit (WMU), the Water Quality Protection Standard shall consist of all Constituents of Concern, the concentration limit for each constituent of concern, the point of compliance, and all water quality monitoring points.

The Executive Officer shall review and approve the Water Quality Protection Standard, or any modification thereto, for each monitored medium.

The report shall:

a. Identify **all distinct bodies of surface and groundwater** that could be affected in the event of a release from a Unit or portion of a Unit. This list shall include at least the uppermost aquifer and any permanent or ephemeral zones of perched groundwater underlying the facility.

b. Include a map showing the monitoring points and background monitoring points for the leachate monitoring program and groundwater monitoring program. The map shall include the point of compliance in accordance with §20405 of Title 27.

c. Evaluate the perennial direction(s) of groundwater movement within the uppermost groundwater zone(s).

If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the site, the Discharger may request modification of the Water Quality Protection Standard.

2. Constituents of Concern

The Constituents of Concern include all waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Unit. The Constituents of Concern for all Units at the facility are those listed in Tables I through III for the specified monitored medium. The Discharger shall monitor all Constituents of Concern every five years, or more frequently as required in accordance with a Corrective Action Program.

a. Monitoring Parameters

Monitoring Parameters are Constituents of Concern that are the waste constituents, reaction products, hazardous constituents, and physical

parameters that provide a reliable indication of a release from a Unit. The Monitoring Parameters for all Units are those listed in Tables I through III for the specified monitored medium.

3. Concentration Limits

For each naturally occurring Constituent of Concern, the concentration limit shall be determined as follows:

a. By calculation in accordance with a statistical method pursuant to §20415 of Title 27; or

b. By an alternate statistical method acceptable to the Executive Officer in accordance with §20415 of Title 27.

4. Point of Compliance

The point of compliance for the water standard at each Unit is a vertical surface located at the hydraulically down gradient limit of the Unit that extends through the uppermost aquifer underlying the Unit.

5. Compliance Period

The compliance period for each Unit shall be the number of years equal to the active life of the Unit plus the closure period. The compliance period is the minimum period during which the Discharger shall conduct a water quality monitoring program subsequent to a release from the Unit. The compliance period shall begin anew each time the Discharger initiates an evaluation monitoring program.

D. MONITORING

The Discharger shall comply with the Detection Monitoring Program provisions of Title 27. All monitoring shall be conducted in accordance with a Sample Collection and Analysis Plan, which includes quality assurance/quality control standards, that is acceptable to the Executive Officer.

All point of compliance monitoring wells established for the detection monitoring program shall constitute the monitoring points for the groundwater Water Quality Protection Standard. All detection monitoring program groundwater monitoring wells and leachate monitoring points shall be sampled and analyzed for Monitoring Parameters and Constituents of Concern as indicated and listed in Tables I through III.

Method detection limits and practical quantitation limits shall be reported. All peaks shall be reported, including those that cannot be quantified and/or specifically identified. Inorganics shall be analyzed in accordance with the methods listed in Table III.

The Discharger may, with the approval of the Executive Officer, use alternative analytical test methods, including new USEPA approved methods, provided the methods have detection limits equal to or lower than the analytical methods specified in this Monitoring and Reporting Program.

1. Groundwater

Five groundwater monitoring wells make up the groundwater monitoring system for the landfill. Currently, there is not a good monitoring point located down gradient of WMU-1 or WMU-2. Order No. R5-2003-0140 requires installation of an additional monitoring well hydraulically down gradient of WMUs 1 and 2.

Wells MW-101 and MW-103 are hydraulically up gradient of the WMUs. Well MW-103 is located across Brickyard Creek from the site and access can be challenging during periods of high flow. Well MW-101 shall suffice as the primary background up gradient monitoring point. In accordance with this Monitoring and Reporting Program, well MW-103 is not required to be monitored as a background up gradient monitoring point.

Wells MW-102 and MW-104 are located hydraulically cross gradient of the WMUs. Wells MW-102, MW-104, and the new well to be installed hydraulically down gradient of the WMUs shall serve as the point-of-compliance groundwater monitoring points.

One other groundwater monitoring well, MW-1, is located on the berm between the east and west leachate ponds. This well assesses groundwater quality and potential impacts beneath the leachate ponds.

The groundwater Detection Monitoring Program shall utilize wells MW-101, MW-102, MW-104, the new well to be installed hydraulically down gradient of the WMUs, and MW-1. Groundwater samples shall be collected from these wells and any additional wells added as part of the approved groundwater monitoring system. Samples shall be collected and analyzed for the Monitoring Parameters and Constituents of Concern in accordance with the methods and frequency specified in Table I.

The Discharger shall operate and maintain the groundwater detection monitoring system in compliance with applicable provisions of §20415 and §20420 of Title 27 and in accordance with a Detection Monitoring Program approved by the Executive Officer. The Discharger shall collect, preserve, and transport groundwater samples in accordance with the approved Sample Collection and Analysis Plan.

The Discharger shall determine the groundwater flow rate and direction in the uppermost aquifer, in any zones of perched water, and in any additional zone of saturation monitored pursuant to this Monitoring and Reporting Program. Results shall be reported semiannually.

Cross sections of the WMUs shall be submitted each semiannual reporting period showing each well and the elevation of groundwater with respect to the elevations of the top and bottom of the screened interval and the elevation of the pump intake. Hydrographs of each well shall be prepared quarterly and submitted annually.

The Monitoring Parameters shall also be evaluated after each 5-year COC sampling event with regards to the cation/anion balance, and the results shall be graphically presented using a Stiff diagram, a Piper graph, or a Schoeller plot. Samples for the Constituents of Concern specified in Table I shall be collected and analyzed in accordance with the methods listed in Table III every five years.

2. Leachate Monitoring

All Unit leachate collection and removal systems shall be inspected monthly for leachate generation during the wet season (1 November through 1 May or whenever ponds contain liquids). Upon detection of leachate in a previously dry leachate collection and removal system, a sample shall be collected **immediately** and analyzed for the constituents listed in Table II. Samples of leachate shall be collected from monitoring point SP-01 directly out of the pipe discharging to the ponds. Leachate shall then be sampled and analyzed annually during the first quarter thereafter, with a retest during the following second quarter if constituents are detected that have not been previously detected. Leachate samples shall be collected and analyzed for the listed constituents in accordance with the methods and frequency specified in Table II. The Constituents of Concern list shall include all constituents listed in Tables II and III. The quantity of leachate discharged to the leachate ponds shall be estimated and reported monthly as Leachate Flow Rate (in gallons/day).

Leachate that seeps to the surface from the Unit shall be sampled and analyzed for the constituents listed in Table II upon detection. The quantity of leachate shall be *estimated* and reported as Leachate Flow Rate (in gallons/day).

3. Facility Monitoring

a. **Facility Inspection**

Annually, prior to the anticipated rainy season, but no later than **30 September**, the Discharger shall conduct an inspection of the facility. The inspection shall assess damage to the drainage control system, groundwater monitoring equipment (including wells, etc.), and shall include the Standard Observations contained in Section D.4.f of Order No. R5-2003-0140. Any necessary construction, maintenance, or repairs shall be completed **by 31 October**. **By 15 November** of each year, the Discharger shall submit an annual report describing the results of the inspection and the repair measures implemented, including photographs of problems and repairs.

b. **Storm Events**

The Discharger shall inspect all precipitation, diversion, and drainage facilities for damage **within 7 days** following *major storm events*. A major storm event is defined as 1.5 inches or more of precipitation falling within a 24 hour period. Necessary repairs shall be completed **within 30 days** of the inspection. The Discharger shall report any damage and subsequent repairs within 45 days of completion of the repairs, including photographs of the problem and the repairs.

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

original signed by

Ordered by:_____
THOMAS R. PINKOS, Executive Officer

5 September 2003

TABLE I

GROUNDWATER DETECTION MONITORING PROGRAM

Parameter	Units	Frequency
Field Parameters		
Groundwater Elevation	Ft. & hundredths, M.S.L.	Quarterly
Temperature	^{o}C	Semiannual
Electrical Conductivity	µmhos/cm	Semiannual
pH	pH units	Semiannual
Turbidity	Turbidity units	Semiannual
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Semiannual
Chloride	mg/L	Semiannual
Sulfate	mg/L	Semiannual
Pentachlorophenol (USEPA Method 8270)	µg/L	Semiannual
Stoddard solvent (USEPA Method 8015M)	µg/L	Semiannual
Tannins and Lignins	mg/L	Semiannual
Constituents of Concern		
Carbonate		5 years
Bicarbonate		5 years
Nitrate – Nitrogen		5 years
Calcium		5 years
Magnesium		5 years
Potassium		5 years
Sodium		5 years
Total Organic Carbon	mg/L	5 years
Inorganics (dissolved – see Table III)	mg/L	5 years
Volatile Organic Compounds (USEPA Method 8260, see Table III)	µg/L	5 years
Semi-Volatile Organic Compounds (USEPA Method 8270C – see Table III)	µg/L	5 years

TABLE II

LEACHATE DETECTION MONITORING PROGRAM

Parameter	Units	Frequency
Field Parameters		
Total Flow	Gallons	Monthly
Flow Rate	Gallons/Day	Monthly
Electrical Conductivity	µmhos/cm	Monthly
pH	pH units	Monthly
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Annually
Chloride	mg/L	Annually
Sulfate	mg/L	Annually
Carbonate	mg/L	Annually
Bicarbonate	mg/L	Annually
Nitrate – Nitrogen	mg/L	Annually
Calcium	mg/L	Annually
Magnesium	mg/L	Annually
Potassium	mg/L	Annually
Sodium	mg/L	Annually
Total Organic Carbon	mg/L	Annually
Tannins and Lignins	mg/L	Annually
Constituents of Concern		
Inorganics (dissolved – see Table III)	mg/L	Annually
Volatile Organic Compounds (USEPA Method 8260, see Table III)	µg/L	Annually
Stoddard solvent (USEPA Method 8015M)	µg/L	Annually
Semi-Volatile Organic Compounds (USEPA Method 8270C – see Table III)	µg/L	Annually

TABLE III

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Inorganics (dissolved):	**USEPA Method**
Aluminum	6010
Antimony	7041 or 6010 (Trace ICP) and 200.8 (ICP/MS)
Barium	6010
Beryllium	6010
Cadmium	7131A or 6010 (Trace ICP) and 200.8 (ICP/MS)
Chromium	6010
Cobalt	6010
Copper	6010
Silver	6010
Tin	6010
Vanadium	6010
Zinc	6010
Iron	6010
Manganese	6010
Arsenic	7062 or 6010 (Trace ICP) and 200.8 (ICP/MS)
Lead	7421 or 6010 (Trace ICP) and 200.8 (ICP/MS)
Mercury	7470A
Nickel	7521 or 6010 (Trace ICP) and 200.8 (ICP/MS)
Selenium	7742 or 6010 (Trace ICP) and 200.8 (ICP/MS)
Thallium	7841 or 6010 (Trace ICP) and 200.8 (ICP/MS)
Cyanide	9010B
Sulfide	9030B

Volatile Organic Compounds:

USEPA Method 8260

Acetone
Acetonitrile (Methyl cyanide)
Acrolein
Acrylonitrile
Allyl chloride (3-Chloropropene)
Benzene
Bromochloromethane (Chlorobromomethane)
Bromodichloromethane (Dibromochloromethane)
Bromoform (Tribromomethane)
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane (Ethyl chloride)
Chloroform (Trichloromethane)
Chloroprene
Dibromochloromethane (Chlorodibromomethane)
1,2-Dibromo-3-chloropropane (DBCP)

TABLE III

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Continued

1,2-Dibromoethane (Ethylene dibromide; EDB)
o-Dichlorobenzene (1,2-Dichlorobenzene)
m-Dichlorobenzene (1,3-Dichlorobenzene)
p-Dichlorobenzene (1,4-Dichlorobenzene)
trans- 1,4-Dichloro-2-butene
Dichlorodifluoromethane (CFC 12)
1,1 -Dichloroethane (Ethylidene chloride)
1,2-Dichloroethane (Ethylene dichloride)
1,1 -Dichloroethylene (1, l-Dichloroethene; Vinylidene chloride)
cis- l ,2-Dichloroethylene (cis- 1,2-Dichloroethene)
trans- l ,2-Dichloroethylene (trans- 1,2-Dichloroethene)
1,2-Dichloropropane (Propylene dichloride)
1,3-Dichloropropane (Trimethylene dichloride)
2,2-Dichloropropane (Isopropylidene chloride)
1,1 -Dichloropropene
cis- 1,3-Dichloropropene
trans- l ,3-Dichloropropene
Di-isopropylether (DIPE)
Ethanol
Ethyltertiary butyl ether
Ethylbenzene
Ethyl methacrylate
Hexachlorobutadiene
Hexachloroethane
2-Hexanone (Methyl butyl ketone)
Isobutyl alcohol
Methacrylonitrile
Methyl bromide (Bromomethane)
Methyl chloride (Chloromethane)
Methyl ethyl ketone (MEK; 2-Butanone)
Methyl iodide (Iodomethane)
Methyl t-butyl ether
Methyl methacrylate
4-Methyl-2-pentanone (Methyl isobutyl ketone)
Methylene bromide (Dibromomethane)
Methylene chloride (Dichloromethane)
Naphthalene
Propionitrile (Ethyl cyanide)
Styrene
Tertiary amyl methyl ether
Tertiary butyl alcohol
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene; PCE)

TABLE III

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Continued

Toluene
1,2,4-Trichlorobenzene
1,1,1 -Trichloroethane, Methylchloroform
1,1,2-Trichloroethane
Trichloroethylene (Trichloroethene; TCE)
Trichlorofluoromethane (CFC- 11)
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride (Chloroethene)
Xylene (total)

Semi-Volatile Organic Compounds:

USEPA Method 8270 - base, neutral, & acid extractables

Acenaphthene
Acenaphthylene
Acetophenone
2-Acetylaminofluorene (2-AAF)
Aldrin
4-Aminobiphenyl
Anthracene
Benzo[a]anthracene (Benzanthracene)
Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzo[g,h,i]perylene
Benzo[a]pyrene
Benzyl alcohol
Bis(2-ethylhexyl) phthalate
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC (Lindane)
Bis(2-chloroethoxy)methane
Bis(2-chloroethyl) ether (Dichloroethyl ether)
Bis(2-chloro-1-methyethyl) ether (Bis(2-chloroisopropyl) ether; DCIP)
4-Bromophenyl phenyl ether
Butyl benzyl phthalate (Benzyl butyl phthalate)
Chlordane
p-Chloroaniline
Chlorobenzilate
p-Chloro-m-cresol (4-Chloro-3-methylphenol)
2-Chloronaphthalene
2-Chlorophenol
4-Chlorophenyl phenyl ether

TABLE III

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Continued

Chrysene
o-Cresol (2-methylphenol)
m-Cresol (3-methylphenol)
p-Cresol (4-methylphenol)
4,4'-DDD
4,4'-DDE
4,4'-DDT
Diallate
Dibenz[a,h]anthracene
Dibenzofuran
Di-n-butyl phthalate
3,3'-Dichlorobenzidine
2,4-Dichlorophenol
2,6-Dichlorophenol
Dieldrin
Diethyl phthalate
p-(Dimethylamino)azobenzene
7,12-Dimethylbenz[a]anthracene
3,3'-Dimethylbenzidine
2,4-Dimehtylphenol (m-Xylenol)
Dimethyl phthalate
m-Dinitrobenzene
4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-n-octyl phthalate
Diphenylamine
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Ethyl methanesulfonate
Famphur
Fluoranthene
Fluorene
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorocyclopentadiene
Hexachloropropene
Indeno(1,2,3-c,d)pyrene
Isodrin

TABLE III

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Continued

Isophorone
Isosafrole
Kepone
Methapyrilene
Methoxychlor
3-Methylcholanthrene
Methyl methanesulfonate
2-Methylnaphthalene
1,4-Naphthoquinone
1-Naphthylamine
2-Naphthylamine
o-Nitroaniline (2-Nitroaniline)
m-Nitroaniline (3-Nitroaniline)
p-Nitroaniline (4-Nitroaniline)
Nitrobenzene
o-Nitrophenol (2-Nitrophenol)
p-Nitrophenol (4-Nitrophenol)
N-Nitrosodi-n-butylamine (Di-n-butylnitrosamine)
N-Nitrosodiethylamine (Diethylnitrosamine)
N-Nitrosodimethylamine (Dimethylnitrosamine)
N-Nitrosodiphenylamine (Diphenylnitrosamine)
N-Nitrosodipropylamine (N-Nitroso-N-dipropylamine; Di-n-propylnitrosamine)
N-Nitrosomethylethylamine (Methylethylnitrosamine)
N-Nitrosopiperidine
N-Nitrosospyrrolidine
5-Nitro-o-toluidine
Pentachlorobenzene
Pentachloronitrobenzene (PCNB)
Pentachlorophenol
Phenacetin
Phenanthrene
Phenol
p-Phenylenediamine
Polychlorinated biphenyls (PCBs; Aroclors)
Pronamide
Pyrene
Safrole
1,2,4,5-Tetrachlorobenzene
2,3,4,6-Tetrachlorophenol
o-Toluidine
Toxaphene
2,4,5-Trichlorophenol
0,0,0-Triethyl phosphorothioate
sym-Trinitrobenzene

INFORMATION SHEET

ORDER NO. R5-2003-0140
LOUISIANA-PACIFIC CORPORATION
FOR THE CLOSED
RED BLUFF CLASS III WOOD WASTE LANDFILL
TEHAMA COUNTY

Louisiana-Pacific Corporation (Discharger) operated the Red Bluff Class III Wood Waste Landfill from 1973 to 1992. The landfill is located in open grassland approximately two miles west of Red Bluff.

The landfill consists of two unlined waste management units (WMU), an unlined leachate pond, and a sedimentation pond. Wastes disposed at the site consisted primarily of wood chips, shavings, bark, sawdust, and log deck debris. Most of the landfill is located on property owned by the Discharger. However, the majority of older WMU-1 is located on an adjacent parcel owned by Jessie and Debbie Turner.

WMU-1, covering approximately 10 acres, was operated from 1973 to 1982. WMU-1 was closed by placing native soil over the Unit. WMU-1 was closed prior to enactment of State waste disposal regulations and therefore is exempt from those requirements.

WMU-2, covering approximately 12 acres, operated between 1982 and 1992. WMU-2 completed closure activities in November 2001. Soil contaminated with pentachlorophenol and Stoddard solvent from the Discharger's VG Mill and Jamb Plant and their sawmill facilities in Red Bluff was used to construct a foundation layer beneath the final cover. A bioremediation project was conducted to reduce contaminant concentrations prior to incorporating the soil into the foundation layer. After completing treatment, pentachlorophenol concentrations ranged from 1.4 mg/kg to 3 mg/kg, with an average concentration of 1.9 mg/kg. The remaining final cover was composed of a one-foot thick clay barrier layer with a measured hydraulic conductivity of 1×10^{-6} cm/sec or less constructed over the foundation layer, followed by a one-foot thick soil vegetative layer over the barrier layer.

The site receives an average of 22 inches of precipitation per year. The average annual evaporation is approximately 65 inches. Surface drainage is towards Brickyard Creek, an intermittent tributary of the Sacramento River. Depth to groundwater ranges from 31 to 140 feet below ground surface, depending upon topography. Four groundwater monitoring wells are used for the detection monitoring program. A fifth groundwater monitoring well is required to be installed hydraulically down gradient of WMU-1, pursuant to these revised waste discharge requirements. One other monitoring well is located on the soil berm between the east and west leachate ponds.

This Order revises Waste Discharge Requirements Order No. 98-188 to allow for an alternative monitoring schedule and installation of an additional groundwater monitoring well hydraulically down gradient of WMU-1.

DPS: 7/18/2003