

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2008-0094

WASTE DISCHARGE REQUIREMENTS
FOR
SIMPSON PAPER COMPANY
FOR
POST-CLOSURE MAINTENANCE OF DERSCH ROAD CLASS III LANDFILL
SHASTA COUNTY

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

1. Waste Discharge Requirements (WDRs) Order No. 96-079, adopted by the Regional Water Board on 22 March 1996, prescribes requirements for Dersch Road Class III Landfill.
2. Simpson Paper Company (hereafter Discharger) owns and operates the Dersch Road Class III Landfill (Facility) on Assessor's Parcel Number 057-220-046.
3. The 41.64-acre Facility is located approximately five miles east-northeast of the City of Anderson in Section 4, T30N, R3W, MDB&M as shown on Attachment A, which is incorporated herein and made a part of this Order. The Facility consists of seven unlined trenches (Unit) covering approximately 20 acres, as shown on Attachment B, which is incorporated herein and made a part of this Order.
4. In summer 1994, the Unit was closed in accordance with the applicable sections of California Code of Regulations (CCR), Title 23, Division 3, Chapter 15. The purpose of this Order is to rescind WDR Order No. 96-079, prescribe post-closure maintenance requirements and gas condensate discharge specifications for the Facility, and revise the Facility monitoring requirements in accordance with Title 27 of California Code of Regulations, Division 2, Subdivision 1 (hereafter Title 27).

WASTE DESCRIPTION AND UNIT CLOSURE

5. In 1971, the Facility was established as a trench and fill operation, with seven individual trenches (Trenches 1 through 7) ranging from 800 feet to 1,200 feet long, 60 feet to 100 feet wide, and 20 feet to 30 feet deep.
6. Waste disposed at the Facility consists of dewatered sludge from the Discharger's former pulp and paper mill (Mill) wastewater treatment plant and residual solids (dregs and grits) from the Mill recovery boiler and slaker. The dewatered sludge comprised approximately 97 percent of the total volume deposited. Dregs, consisting of unburned carbonaceous particles, and grits consisting of un-reacted particles of calcium carbonate comprised 2 percent of the waste with wood waste comprising approximately 1 percent. Initially, the sludge contained approximately 70 percent water, 18 percent fiber and wood residue, 9 percent ash (clays and inorganics), and 3 percent acid solubles (carbonates). Due to the high moisture content of the sludge, leachate was generated from compaction and dewatering of the waste, and contact with precipitation

on the working face. Leachate was initially allowed to evaporate in the trenches, and later pumped out onto the ground surface and allowed to evaporate. After 1986, leachate was pumped into a tank truck and transported back to the Mill wastewater plant for treatment and disposal. In 1988, a screw press was installed at the Mill, which reduced the liquid content of the sludge to below 50 percent with no free liquid.

7. The Facility received Mill waste from 1971 until August 1990. Over the life of the Facility, approximately 319,325 cubic yards of waste were disposed in the Unit.
8. Final closure of the Unit was completed in summer 1994. The final cover was configured into two elongated mounds running north-to-south with 3% side slopes in order to reduce the length of storm water runoff paths to nearby drainages. The western mound covered five of the trenches, while the eastern mound covered two trenches. The swale in-between the mounds conveyed storm water away from the Unit. The Unit's final cover was placed over approximately 20 acres of the Facility and covered both mounds and the swale in-between. Final cover consisted of, from bottom to top, a two-foot foundation layer, a one-foot thick clay layer with a maximum permeability of 1×10^{-6} cm/sec., and a one-foot thick protective vegetative layer.
9. A series of soil gas probes make up the landfill gas monitoring system. Monitoring is conducted regularly, in accordance with requirements of the California Integrated Waste Management Board (CIWMB) and the Shasta County Solid Waste Local Enforcement Agency (LEA), to evaluate whether gas is migrating beyond the perimeter gas extraction system.
10. In the early 1990s, gas monitoring identified methane concentrations in excess of 5% beyond the Facility boundary and adjacent to two residences. In response, the Discharger installed two temporary gas extraction wells between each residence and the Facility. One of the extraction wells was fitted with a gas extraction blower. In response to the methane migration issues, the Discharger purchased two of the residences on Pork Chop Lane directly east of the Facility. Additionally, in 1992, a perimeter gas extraction system was constructed and installed to control gas migration beyond the Facility boundary.
11. The perimeter gas extraction system consists of extraction wells, a gas collection header pipe, and a blower building. Gas wells were installed at a depth of approximately 55 feet below ground surface (bgs), corresponding to the top of a dense clay layer, which is thought to be a barrier to downward migration of gas. Wells are spaced 60 feet apart.
12. Two landfill gas condensate collection sumps are installed in the perimeter extraction system. In 2004, two 2,500-gallon storage tanks were installed on a raised gravel pad next to the blower building. The condensate is periodically pumped from the sumps into the storage tanks.
13. Prior to 2004, the stored condensate was removed and transported back to the Discharger's former Mill wastewater treatment plant for disposal. On 20 May 2004, the

Mill wastewater treatment plant was sold to another entity, and condensate disposal was no longer authorized.

14. On 25 August 2005, Regional Water Board staff conditionally approved the Discharger's proposal to discharge about 3,000 gallons of stored gas condensate to land near the blower building. During 2006 and 2007, gas condensate was produced at a slow rate and disposal to land did not occur. This Order specifies requirements for potential future gas condensate discharges to land at the Facility.
15. The Discharger is required to maintain financial assurance mechanisms for post-closure maintenance and for corrective action of known or reasonably foreseeable releases from the Unit in accordance with Title 27. The CIWMB administers the financial assurance demonstrations and annual inflation factor calculations required by Title 27. According to a 5 November 2007 CIWMB letter, the Discharger is required to provide two bonds demonstrating post-closure maintenance and corrective action financial assurances in the amounts of \$1,714,170.83 and \$316,381.49, respectively.

FACILITY DESCRIPTION

16. The Facility is underlain by sediments from the Tuscan, Tehama, and Red Bluff Formations. The Tuscan and Tehama Formations may interfinger beneath the Facility. The Tehama Formation consists of stream deposits derived from the mountains to the west, while the Tuscan Formation consists of stream and lake deposits derived from volcanic tuffs and mud flows to the east. The overlying Red Bluff Formation consists of poorly sorted alluvium.
17. The closest Holocene fault is the Battle Creek Fault, with surface trace trending east-northeast, west-southwest, less than five miles south and southeast of the landfill. This fault has an average annual slip rate of 0.5 millimeters/year (mm/yr) and characteristic magnitude of 6.5 (characteristic based on paleoseismology observations). Other vicinity Holocene faults are the Rocky Ledge and Hat Creek faults. These have surface traces north-northwest, south-southeast, and are about 50 miles northeast of the site. Hat Creek Fault has an average annual slip rate of 1.5 mm/yr and characteristic magnitude of 7.0 (USGS 1996).
18. The Facility land is zoned Open Space and Design Review. Land uses south of the Facility are Exclusive Agriculture. Land uses east, west, and north of the site are Rural Residential. An occupied residence is located directly north of the Facility boundary. Six additional residences are located within approximately 1,200 feet north and east of the Facility boundary. No information is available regarding how many of these residences are occupied.
19. The Facility receives approximately 37 inches of precipitation per year as measured at the Redding ISE Station. The mean pan evaporation is 60 inches.
20. The 100-year, 24-hour precipitation event is estimated to be 7.07 inches, based on Department of Water Resources' Bulletin No. 195 entitled *Rainfall Analysis for Drainage Design*.

21. The Facility is not within a 100-year flood plain based on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map, Community-Panel Number 060358 0925 B.

SURFACE AND GROUND WATER CONDITIONS

22. The *Water Quality Control Plan for the Sacramento River and 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.
23. Surface drainage is toward the east into Dry Creek, which is tributary to Bear Creek and the Sacramento River in the Enterprise Flat Hydrologic Area (508.10) of the Sacramento Hydrologic Basin.
24. The designated beneficial uses of the Sacramento River apply to its tributaries, including Dry Creek and Bear Creek. The designated beneficial uses of the Sacramento River, as specified in the Basin Plan, are municipal and domestic supply, agricultural supply, industrial service and process supply, water contact and non-contact water recreation, warm and cold fresh water habitat, preservation of rare, threatened, and endangered species, and groundwater recharge.
25. Groundwater occurs approximately 130 feet beneath the Facility in the Tuscan and Tehama Formations. Groundwater elevations range from 394 feet MSL to 403 feet MSL. The depth to groundwater fluctuates very little seasonally, usually only 1 to 2 feet.
26. Monitoring data indicates background groundwater quality has an electrical conductivity (EC) ranging between 152 and 160 micromhos/cm (May 2007), with total dissolved solids (TDS) ranging between 171 and 174 mg/l (May 2007).
27. The direction of groundwater flow is generally toward the west. The groundwater gradient in May 2007 was approximately 0.0044 feet per foot.
28. There are 47 active water supply wells within one mile of the Facility. The Discharger's two domestic supply wells, located directly east of the Facility, have been abandoned. Water supplies for the residences located north and east of the Facility are all provided by individual domestic supply wells.
29. The designated beneficial uses of the groundwater, as specified in the Basin Plan, are domestic and municipal, agricultural, and industrial supply.

GROUNDWATER AND UNSATURATED ZONE MONITORING

30. Six monitoring wells (OB-2, OB-3, OB-6, OB-7, OB-8, and OB-9) are constructed adjacent to the Unit for use in the groundwater detection monitoring system. Wells OB-2 and OB-6 are hydraulically up-gradient and wells OB-3, OB-7, OB-8, and OB-9 are hydraulically down-gradient of the Unit, as shown on Attachment B. Compliance well OB-3 monitors a deeper zone than other wells, and compliance well OB-9 monitors a shallower zone than other wells. Groundwater well construction details are described in the table below:

| Well ID | Type | Top of Casing Elevation (MSL) | Depth (ft bgs) | Screen Interval (feet bgs) |
|---------|------------|-------------------------------|----------------|---|
| OB-2 | Background | 524.69 MSL | 160 ft bgs | 145 to 155 ft bgs |
| OB-3 | Compliance | 523.88 MSL | 225 ft bgs | 175 to 195 ft bgs and 205 to 215 ft bgs |
| OB-6 | Background | 524.11 MSL | 159.5 ft bgs | 149.5 to 159.5 ft bgs |
| OB-7 | Compliance | 524.91 MSL | 168 ft bgs | 158 to 168 ft bgs |
| OB-8 | Compliance | 524.83 MSL | 164 ft bgs | 154 to 164 ft bgs |
| OB-9 | Compliance | 524.61 MSL | 135 ft bgs | 122 to 135 ft bgs |

MSL = Mean Sea Level
 ft bgs = feet below ground surface

31. The Discharger's detection monitoring program for groundwater at the Unit satisfies the requirements contained in Title 27.
32. Nine suction lysimeters (L-1B, L-2B, L-3, L-8B, L-9B, L-9C, L-10, L-11, and L-12) are constructed adjacent to the Unit for use as the unsaturated zone detection monitoring system. The Discharger is proposing to remove five lysimeters (L-1B, L-3, L-9B, L-10, and L-11) due to their location and ineffectiveness. This leaves three lysimeters (L-2B, L-8B, and L-9C) beneath buried waste near Trenches 4 and 5, and one background lysimeter (L-12) in the southeast corner of the Unit. This Order specifies requirements for removal of the lysimeters and continued unsaturated zone monitoring.
33. The Discharger's detection monitoring program for the unsaturated zone at the Unit satisfies the requirements contained in Title 27.

CEQA AND OTHER CONSIDERATIONS

34. A Notice of Determination for closure of the Facility was approved by Shasta County on 7 December 1990. A Negative Declaration was prepared for the project pursuant to provisions of the California Environmental Quality Act (CEQA).

35. The action to revised waste discharge requirements for this existing Facility is exempt from the provisions of CEQA, Public Resources Code Section 21000, et seq., and the CEQA guidelines, in accordance with Title 14 CCR, Section 15301.
36. 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 Title 27, CCR Division 2, Subdivision 1, Chapters 1 through 7, effective 18 July 1997, and subsequent revisions.
37. Section 13267(b) of the 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 regional 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."
38. The technical reports required by this Order and the attached Monitoring and Reporting Program No. R5-2008-0094 are necessary to assure the compliance with these waste discharge requirements. The Discharger owns the property where wastes have been discharged and is subject to this Order.

PROCEDURAL REQUIREMENTS

39. 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 Facility for the discharges of waste to land stated herein.
40. The Regional Water Board notified the Discharger and interested agencies and persons of its intent to revise waste discharge requirements for this discharge, and has provided them with an opportunity for a public hearing and an opportunity to submit their written comments.
41. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to this Order.
42. Any person adversely affected by this action of the Regional Water Board may petition the State Water Resources Control Board to review the action in accordance with Sections 2050 through 2068, Title 23 CCR. 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 adoption of this Order. Copies of the

laws and regulations applicable to the filing the petition are available on the Internet at http://www.waterboards.ca.gov/water_laws and will be provided upon request.

IT IS HEREBY ORDERED, pursuant to Sections 13263 and 13267 of the California Water Code, that Order No. 96-079 is rescinded, and that Simpson Paper Company, 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', 'designated waste', solid waste, or liquid waste (with the exception of characterized gas condensate) at this Facility is prohibited. For the purposes of this Order, the terms 'hazardous waste' and 'designated waste' are as defined in Division 2 of Title 27 of the CCR.
2. The discharge of waste to surface waters, surface water drainage courses, the vadose zone, or groundwater is prohibited.
3. Water or precipitation ponding over buried wastes or the Unit is prohibited.

B. DISCHARGE AND FACILITY SPECIFICATIONS

1. Gas condensate collected from the on-site perimeter gas extraction system may only be discharged to portions of the Facility that do not have buried wastes. Condensate must be characterized in accordance with Monitoring and Reporting Program No. R5-2008-0094 and be approved for disposal by the Executive Officer prior to its' discharge.
2. Gas condensate may only be discharged during periods of dry weather between **1 July and 1 October annually**. Gas condensate shall only be applied to the southwest corner of the Facility outside of the influence of the Unit and the perimeter gas extraction system. Land application of gas condensate shall not cause free flowing liquid to leave the site and shall be managed to prevent nuisances from occurring.
3. Wastes from this Facility shall not cause pollution or a nuisance as defined by the California Water Code, Section 13050.
4. Wastes at this Facility shall not cause degradation of any water supply.

Protection From Storm Events

5. The Unit shall be maintained to prevent inundation or washout due to flooding events with a 100-year return period.

6. Precipitation and drainage control systems shall be maintained to accommodate the anticipated volume of precipitation and peak flows from surface runoff under 100-year, 24-hour precipitation conditions.
7. Methane and other landfill gases shall be adequately vented, removed from the Unit, or otherwise controlled to prevent the danger of adverse health effects, nuisance conditions, degradation, or the impairment of the beneficial uses of surface water or groundwater due to migration through the unsaturated zone.
8. Annually, prior to the anticipated rainy season and no later than **31 October** of each year, any necessary erosion control measures shall be implemented, and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities or monitoring equipment shall be completed.

Water Quality Protection Standards

9. The concentrations of Constituents of Concern in waters passing through the Points of Compliance shall not exceed the Concentration Limits established pursuant to the Water Quality Protection Standard Report required by Monitoring and Reporting Program No. R5-2008-0094, which is attached to and made part of this Order.
10. The Discharger shall submit for Executive Officer review and approval **by 1 October 2008** a report characterizing background water quality and establishing Water Quality Protection Standards (WQPS) for groundwater and the unsaturated zone that lists all monitoring parameters and constituents of concern, the concentration limit for each monitoring parameter and constituent of concern, the point of compliance, and all water quality monitoring points in accordance with 27 CCR, Section 20390. The WQPS Report shall also include proposed data analysis methods in accordance with 27 CCR, Section 20415(e)(7).
11. The Discharger shall submit a work plan describing proposed destruction of four suction lysimeters formerly used in the unsaturated zone monitoring network. Proof of proper lysimeter destruction shall be provided to the Executive Officer **by 1 December 2008**.

C. FINANCIAL ASSURANCES

1. The Discharger shall submit proof of adequately maintained financial assurances for post-closure maintenance and for initiating and completing corrective action for known or reasonably foreseeable releases from the Facility **in each year's Annual Monitoring Summary Report**.

D. PROVISIONS

1. The Discharger shall comply with applicable portions of the Standard Provisions and Reporting Requirements for Nonhazardous Solid Waste Discharges Regulated by Title 27 and/or Subtitle D, dated April 2000, which are hereby incorporated into this Order. The Standard Provisions and Reporting Requirements contain important provisions and requirements with which the Discharger must comply. A violation of any of the Standard Provisions and Reporting Requirements is a violation of these waste discharge requirements.
2. The Discharger shall comply with Monitoring and Reporting Program No. R5-2008-0094, which is attached to and made part of this Order.
3. The Discharger shall comply with the Water Quality Protection Standard as specified in this Order, Monitoring and Reporting Program No. R5-2008-0094, and the Standard Provisions and Reporting Requirements dated April 2000.
4. The Discharger shall comply with all applicable provisions of Title 27 that are not specifically referred to in this Order.
5. The Discharger shall record with the Shasta County Recorder's Office **by 1 December 2008**, a deed restriction that runs with the land, that identifies the exact location of the landfill, and that restricts activities that will impact the integrity of the cap of the Unit. The deed restriction must indicate that the restrictions may not be removed without approval of the Regional Water Board. Prior to recording the deed restriction, the Discharger shall submit the proposed deed restriction to the Regional Water Board Executive Officer for approval prior to recording.
6. The Discharger shall ensure that 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 described 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 Unit, 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 Water 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."
7. The Discharger shall take all reasonable steps to minimize any adverse impact to the 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.
 8. To assume ownership or operation under this Order, the succeeding owner or operator must apply in writing to the Regional Water 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 Water Board, and a certification statement. The certification statement shall comply with the signatory requirements contained in Provision D.6 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 Water Board.
 9. The Regional Board will review this Order periodically and may revise requirements when necessary.

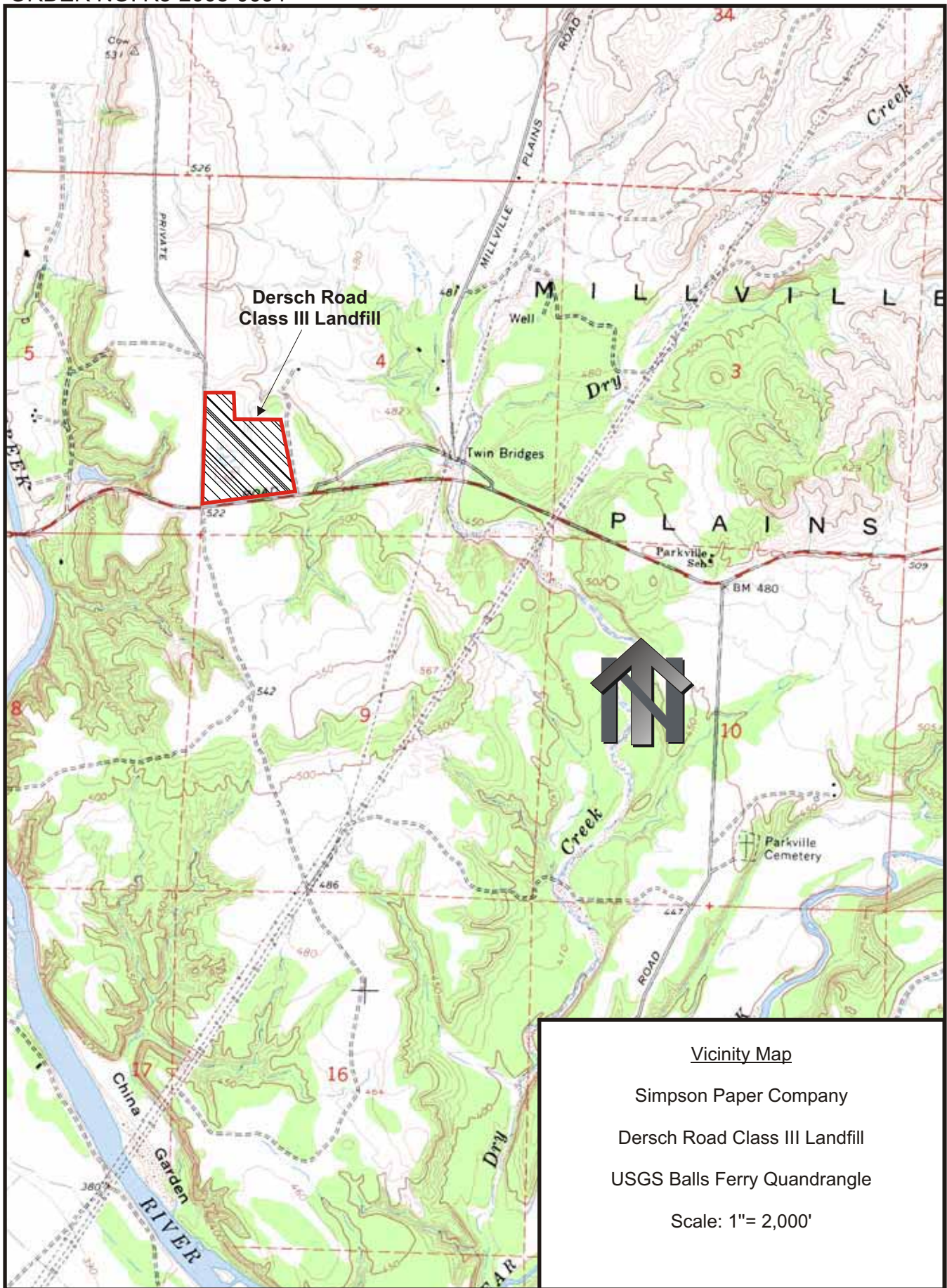
10. The Discharger shall complete the tasks outlined in these WDRs and the attached Monitoring and Reporting Program No. R5-2008-0094 in accordance with the following time schedule:

| <u>Task</u> | <u>Compliance Date</u> |
|---|------------------------|
| a. Submit a report characterizing background water quality conditions and establishing water quality protection standards (See Discharge and Facility Specifications B.10). | 1 October 2008 |
| b. Provide proof of proper lysimeter destruction (See Discharge and Facility Specifications B.11). | 1 December 2008 |
| c. Provide proof of deed restriction with Shasta County Recorder's Office(See Provision D.5). | 1 December 2008 |

I, Pamela C. Creedon, Executive Officer, do hereby certify 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 12 June 2008.

PAMELA C. CREEDON, Executive Officer

DPS/KLC: sae
4/24/2008



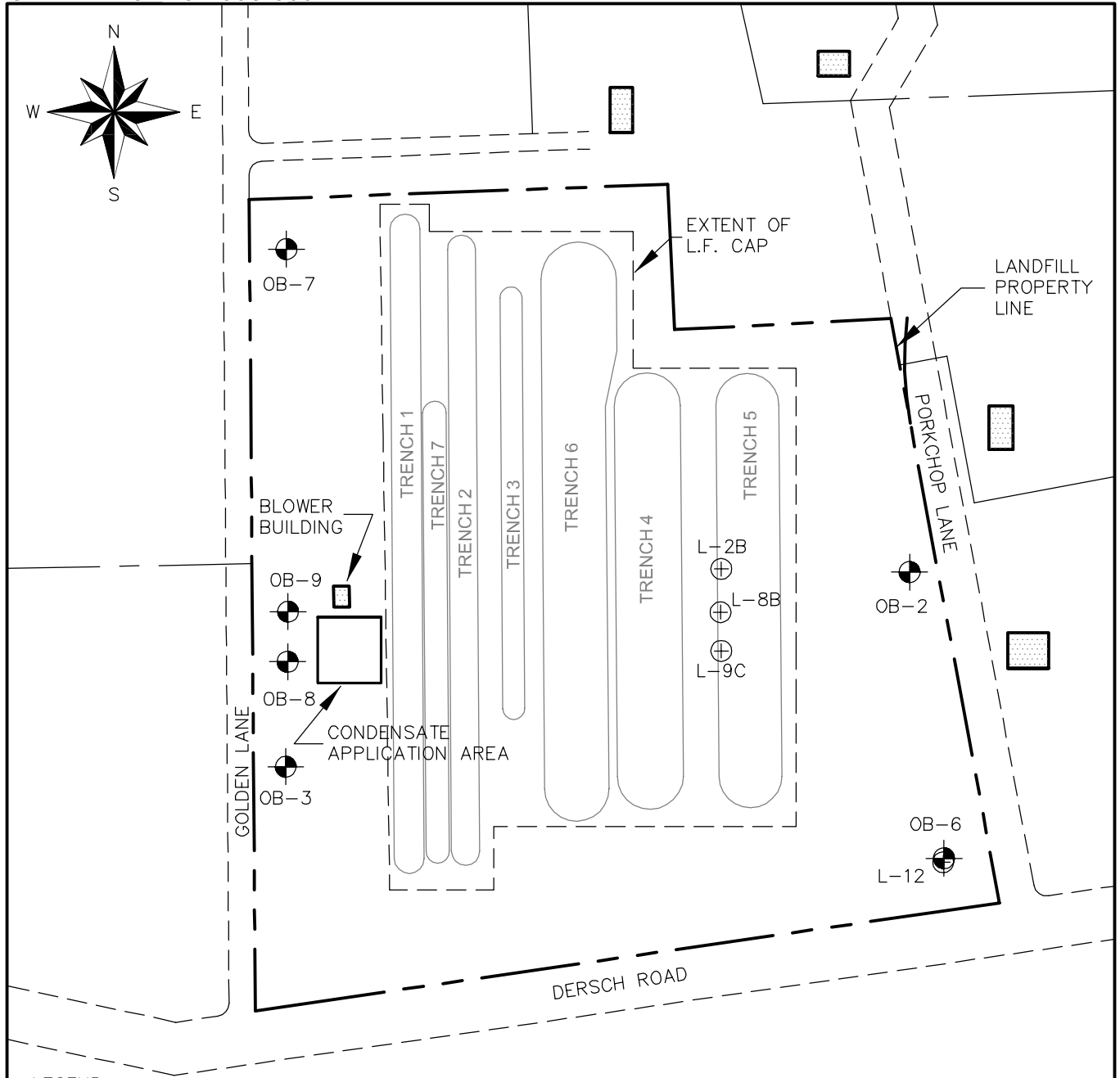
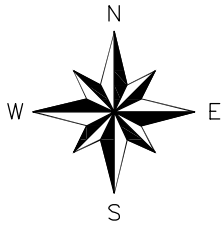
Vicinity Map

Simpson Paper Company






Dersch Road Class III Landfill

USGS Balls Ferry Quadrangle

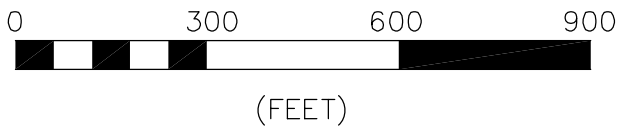
Scale: 1"= 2,000'



LEGEND

-  OB-8 GROUNDWATER MONITORING WELL
-  L-9C LYSIMETER
-  BUILDING LOCATIONS
-  DERSCH ROAD LANDFILL PROPERTY BOUNDARY
-  ADJACENT PROPERTY BOUNDARY

GRAPHICAL SCALE



Site Map

Simpson Paper Company
Dersch Road Class III Landfill

Shasta County

Approximate Scale: 1"=300'

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2008-0094

FOR
SIMPSON PAPER COMPANY
FOR
POST-CLOSURE MAINTENANCE OF DERSCH ROAD CLASS III LANDFILL
SHASTA COUNTY

Compliance with this Monitoring and Reporting Program, and with the companion Standard Provisions and Reporting Requirements, is ordered by Waste Discharge Requirements (WDR) Order No. R5-2008-0094. Failure to comply with this Program, or with the Standard Provisions and Reporting Requirements dated April 2000, constitutes noncompliance with the WDRs and with the Water Code, which can result in the imposition of civil monetary liability.

A. REPORTING

The Discharger shall report monitoring data and information as required in this Monitoring and Reporting Program and as required in 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 WDRs. 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 that it clearly illustrates compliance with the waste discharge requirements or the lack thereof. Historical and current monitoring data shall be graphed for each semiannual monitoring event. Graphs for the same constituent shall be plotted at the same scale to facilitate visual comparison of monitoring data. A short discussion of the monitoring results, including notations of any water quality violations shall precede the tabular summaries. Data shall also be submitted in a digital format acceptable to the Executive Officer

Method detection limits and practical quantitation limits shall be reported. 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. Field and laboratory tests shall be reported in the quarterly monitoring reports. The results of any monitoring done more frequently than required at the locations specified herein shall be reported to the Board.

B. REQUIRED MONITORING REPORTS AND SUBMITTAL DATES

The following required monitoring reports shall be submitted in accordance with the schedule and due dates listed below in Table B-1, Report Submittal Requirements:

1. Semiannual Groundwater and Unsaturated Zone Monitoring Reports

Semiannual monitoring reports shall include all observations and water quality data collected during the reporting period. Data collected through the groundwater

monitoring program, unsaturated zone monitoring program, and gas condensate monitoring program shall be provided as required.

2. Annual Monitoring Summary Report

The Discharger shall submit an Annual Monitoring Summary Report to the Regional Water Board covering the previous monitoring year. The annual report shall contain the information specified in Reporting Requirements E.5 below, and a discussion of compliance with the WDRs and the Water Quality Protection Standard.

3. Facility Monitoring

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, gas extraction and monitoring equipment, groundwater monitoring equipment (including wells, etc.), and shall include the Standard Observations contained in Reporting Requirements E.3f below. Any necessary construction, maintenance, or repairs shall be completed by 31 October annually. Results of the Facility monitoring shall be included with the second semiannual monitoring report and the Annual Monitoring Summary Report each year.

a. Storm Events

A Facility inspection, including the Standard Observations, shall also occur within 2 days after each major storm event of 1.5 inches or greater of precipitation within a 24 hour period. Necessary repairs shall be completed within 30 days of the inspection. If additional time is needed to complete the repairs, then the Discharger shall request in writing an extension for completing the work and provide details of the reason why the extension is necessary. Storm event monitoring results shall be included with each corresponding semiannual monitoring report. Storm event monitoring shall include the inspection date(s), name of the person conducting the inspection, and the amount of precipitation received within the 24 hour period. If no precipitation event of 1.5 inches or greater within a 24 hour period occur during the reporting period, then the storm event monitoring results shall state such.

4. Response to a Release

If the Discharger determines that there is significant statistical evidence of a release (i.e. the initial statistical comparison or non-statistical comparison indicates, for any Constituent of Concern or Monitoring Parameter, that a release is tentatively identified), the Discharger shall immediately notify the Board verbally as to the Monitoring Point(s) and constituent(s) or parameter(s) involved, shall provide written notification by certified mail within seven days of such determination and implement Response to Release section of the Standard Provisions and Reporting Requirements (April 2000).

TABLE B-1, REPORT SUBMITTAL REQUIREMENTS

| Reporting Type | Sampling or Observation Frequency | Reporting Period | Report Date Due |
|---|--|---|-------------------------------------|
| Groundwater and Unsaturated Zone Monitoring Report | Semiannually | 1 January – 30 June 1 July – 31 December | 31 July 31 January |
| Facility Monitoring Report | Annually | By 30 September annually | 31 January |
| Storm Event Monitoring | As needed (see B.3.a above) | 1 January – 30 June 1 July – 31 December | 31 July 31 January |
| Annual Monitoring Summary Report | Annually | 1 January – 31 December | 31 January |
| Response to a Release | As necessary | As necessary | As necessary |

C. WATER QUALITY PROTECTION STANDARD AND COMPLIANCE PERIOD

The Discharger shall submit a Water Quality Protection Standard Report in accordance with Discharge and Facility Specifications B.10 of WDR Order No. R5-2008-0094. For the Unit, the Water Quality Protection Standard (WQPS) shall consist of all monitoring parameters and constituents of concern, the concentration limits for each monitoring parameter and constituent of concern, the point of compliance, and all water quality monitoring points for each monitored medium. The WQPS, or any modification thereto, shall be submitted in a report to the Executive Officer for review and approval.

The WQPS Report shall include, at a minimum, the following information:

1. Water Quality Protection Standard Report

For the Unit, 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 report shall:

- a. Identify **all distinct bodies of surface and/or 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 groundwater monitoring program and the unsaturated zone 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 the 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 the Unit at the Facility are those listed in Tables D-1 through D-3 for the specified monitored medium.

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 D-1 through D-3 for the specified monitored medium.

3. Concentration Limits

For a naturally occurring constituent of concern, the concentration limit for each constituent of concern 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.

For non-naturally occurring constituents of concern, the concentration limit shall be the analytical reporting limit of each respective constituent.

4. Point of Compliance

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

5. Compliance Period

The compliance period for the 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 monitoring program provisions of Title 27 for groundwater and the unsaturated zone, in accordance with Monitoring Specifications in the Standard Provisions and Reporting Requirements (April 2000). 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 unsaturated zone monitoring devices shall be sampled and analyzed for monitoring parameters and constituents of concern as indicated and listed in Tables D-1 and D-2. Method detection limits and practical quantitation limits shall be reported.

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

1. Groundwater

The Discharger shall operate and maintain a groundwater monitoring system that complies with the applicable provisions of §20415 of Title 27 in accordance with a 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 and in any zones of perched water and in any additional zone of saturation monitored pursuant to this Monitoring and Reporting Program, and report the results semiannually, including the times of highest and lowest elevations of the water levels in the wells.

Hydrographs of each well shall be submitted showing 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 semiannually and submitted with each Annual Monitoring Summary Report.

Groundwater samples shall be collected from the point-of-compliance wells, background wells, and any additional wells added as part of the approved groundwater monitoring

system. Samples shall be collected and analyzed for the monitoring parameters in accordance with the methods and frequency specified in Table D-1.

The monitoring parameters shall also be evaluated each reporting period 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.

The existing groundwater monitoring system at Simpson Dersch Road Class III Landfill consists of six monitoring wells, with two background up-gradient wells (OB-2 and OB-6), and four compliance or down-gradient wells (OB-3, OB-7, OB-8, and OB-9). These wells shall be sampled semiannually for the parameters and constituents of concern and at the frequencies listed in Table D-1 below.

| Table D-1 - Groundwater Monitoring | | |
|--|------------------------|------------------|
| <u>Field Parameters</u> | <u>Units</u> | <u>Frequency</u> |
| Groundwater Elevation | Ft., & hundredths, MSL | Semiannually |
| Temperature | °C & °F | Semiannually |
| Turbidity | NTUs | Semiannually |
| Specific Conductance | µmhos/cm | Semiannually |
| pH | pH Units | Semiannually |
| <u>Monitoring Parameters</u> | | |
| Total Dissolved Solids | mg/L | Semiannually |
| Chloride | mg/L | Semiannually |
| Nitrate – Nitrogen | mg/L | Semiannually |
| Chemical Oxygen Demand | mg/L | Semiannually |
| Tannins and Lignins | mg/L | Semiannually |
| Sulfates | mg/L | Semiannually |
| Calcium | mg/L | Semiannually |
| Magnesium | mg/L | Semiannually |
| Potassium | mg/L | Semiannually |
| Sodium | mg/L | Semiannually |
| Total Alkalinity | mg/L | Semiannually |
| <u>Constituents of Concern</u> | | |
| Phenols | µg/L | 5-Years |
| Dioxins, Furans, & Congeners ¹ | pg/L | 5-Years |
| Dissolved Metals ² (EPA Method 6010 and 7000 series) | µg/L | 5-Years |

¹ Toxicity Equivalent Quotients for Dioxins, Furans, and 17 Congeners shall be calculated using 2005 or more recent World Health Organization procedures.

² Metals include Arsenic, Barium, Cadmium, Chromium, Chromium VI, Iron, Lead, Manganese, Mercury, Nickel, Selenium, and Silver

2. Unsaturated Zone Monitoring

The Discharger shall operate and maintain an unsaturated zone detection monitoring system that complies with the applicable provisions of §20415 of Title 27 in accordance with a monitoring plan approved by the Executive Officer. The Discharger shall collect, preserve, and transport samples in accordance with the quality assurance/quality control standards contained in an approved Sample Collection and Analysis Plan.

Unsaturated zone monitoring reports shall be included with the corresponding semiannual groundwater monitoring report and shall include an evaluation of potential impacts of the Facility on the unsaturated zone and compliance with the Water Quality Protection Standard. All monitoring parameters shall be graphed to show historical trends at each monitoring point.

After the Discharger abandons five of the existing suction lysimeters, there will still be four remaining lysimeters making up the unsaturated zone monitoring system. The four remaining lysimeters consist of L-2B located 27 feet below old Trench 5 in the eastern portion of the site, L-8B located 45 feet below Trench 5, L-9C located 64 feet below Trench 5, and L-12 located outside of the waste disposal area in the southeast corner of the site. These lysimeters shall be sampled and analyzed for the monitoring parameters and constituents of concern and at the frequencies listed in Table D-2 below.

| Table D-2 - Unsaturated Zone Monitoring | | |
|--|--------------|------------------|
| <u>Field Parameters</u> | <u>Units</u> | <u>Frequency</u> |
| Temperature | °C & °F | Semiannually |
| Specific Conductance | µmhos/cm | Semiannually |
| pH | pH Units | Semiannually |
| <u>Monitoring Parameters</u> | | |
| Total Dissolved Solids | mg/L | Semiannually |
| Chloride | mg/L | Semiannually |
| Nitrate – Nitrogen | mg/L | Semiannually |
| Chemical Oxygen Demand | mg/L | Semiannually |
| Tannins and Lignins | mg/L | Semiannually |
| Sulfates | mg/L | Semiannually |
| Calcium | mg/L | Semiannually |
| Magnesium | mg/L | Semiannually |
| Potassium | mg/L | Semiannually |
| Sodium | mg/L | Semiannually |
| Total Alkalinity | mg/L | Semiannually |

| Table D-2 - Unsaturated Zone Monitoring | | |
|--|--------------|------------------|
| <u>Constituents of Concern</u> | <u>Units</u> | <u>Frequency</u> |
| Phenols | µg/L | 5-Years |
| Dioxins, Furans, & Congeners ¹ | pg/L | 5-Years |
| Dissolved Metals ² (EPA Method 6010 and 7000 series) | µg/L | 5-Years |

¹ Toxicity Equivalent Quotients for Dioxins, Furans, and 17 Congeners shall be calculated using 2005 or more recent World Health Organization procedures.

² Metals include Arsenic, Barium, Cadmium, Chromium, Chromium VI, Iron, Lead, Manganese, Mercury, Nickel, Selenium, and Silver

3. Gas Condensate Monitoring

The gas extraction system condensate sumps shall be inspected at least semiannually for liquid. Liquids shall be transferred from the sumps to the above ground storage tanks near the blower building as needed. The total volume of liquids removed from the sumps shall be reported in each corresponding semiannual monitoring report. Gas condensate shall be sampled and analyzed for the following constituents prior to discharging through the land application sprinkler system:

| Table D-3 – Gas Condensate Monitoring | | |
|--|--------------|---------------------------|
| <u>Parameters</u> | <u>Units</u> | <u>Frequency</u> |
| <u>Field Parameter</u> | | |
| Volume collected from sumps | gallons | As needed |
| Temperature | °C | As needed |
| Specific Conductance | µmhos/cm | As needed |
| pH | pH number | As needed |
| <u>Monitoring Parameters</u> | | |
| Total Dissolved Solids | mg/L | Prior to land application |
| Chloride | mg/L | application |
| Nitrate – Nitrogen | mg/L | * |
| Chemical Oxygen Demand | mg/L | * |
| Tannins and Lignins | mg/L | * |
| Sulfates | mg/L | * |
| Calcium | mg/L | * |
| Magnesium | mg/L | * |
| Potassium | mg/L | * |
| Sodium | mg/L | * |
| Total Alkalinity | mg/L | * |

| Table D-3 – Gas Condensate Monitoring | | |
|--|--------------|---------------------------|
| <u>Constituents of Concern</u> | <u>Units</u> | <u>Frequency</u> |
| Phenols | µg/L | Prior to land application |
| Dioxins, Furans, & Congeners ¹ | pg/L | |
| Dissolved Metals ² (EPA Method 6010 and 7000 series) | µg/L | |

¹ Toxicity Equivalent Quotients for Dioxins, Furans, and 17 Congeners shall be calculated using 2005 or more recent World Health Organization procedures.

² Metals include Arsenic, Barium, Cadmium, Chromium, Chromium VI, Iron, Lead, Manganese, Mercury, Nickel, Selenium, and Silver

Gas condensate sample results shall be submitted to the Executive Officer for review and approval prior to discharging liquids at the Facility. If the concentration of gas condensate constituents of concern remains below laboratory reporting limits for three consecutive sampling events (three years minimum), then the Discharger may request revision of this Monitoring and Reporting Program to eliminate sampling for those constituents.

E. REPORTING REQUIREMENTS

1. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained throughout the life of the Facility including the post-closure 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.
2. 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.

3. 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 Unit, 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 run-off/run-on control facilities.
 - f. A summary and certification of completion of all **Standard Observations** for the Unit(s) and for the perimeter of the Unit. Standard observations for inactive or closed landfill units shall be conducted **monthly** during the wet season (1 October to 30 April) and **quarterly** during the dry season (1 May to 30 September). The Standard Observations shall include:

- 1) For the Unit:
 - 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 Unit:
 - a) Evidence of liquid leaving or entering the Unit, 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.
4. 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 Water 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 Monitoring Parameters and Constituents of Concern listed in Table D-I of this MRP, and an estimated date that the results will be submitted to the Regional Water Board; and
 - e. Corrective measures underway or proposed, and corresponding time schedule.
5. The Discharger shall submit an **Annual Monitoring Summary Report** to the Regional Water 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 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 down-gradient data. Graphical analysis of monitoring data may be used to provide significant evidence of a release.

- b. All historical monitoring data, including data for the previous year, shall be submitted in tabular form as well as in a digital file format. The Regional Water 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 Water 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.

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

Ordered by: _____
PAMELA C. CREEDON, Executive Officer

12 June 2008

Date

DPS/KLC: sae
4/24/2008

INFORMATION SHEET

ORDER NO. R5-2008-0094
SIMPSON PAPER COMPANY
FOR POST-CLOSURE MAINTENANCE OF
DERSCH ROAD CLASS III LANDFILL
SHASTA COUNTY

Simpson Paper Company's Dersch Road Class III Landfill Facility is located approximately five miles east-northeast of the City of Anderson, Shasta County. Simpson Paper Company (Discharger) owns and operates the Facility, which completed final closure in 1994. Facility operations began in 1971 and waste disposal activities ceased in 1990.

The 41.64-acre Facility consists of seven unlined trenches that were used for disposal of dewatered sludge from the Discharger's pulp and paper mill wastewater treatment plant and residual solids (dregs and grits) from their recovery boiler and slaker. Approximately 319,325 cubic yards of wastes were disposed on-site. In 1993, a perimeter gas extraction system was installed to control methane migration away from the Facility. Final closure activities, including capping the trenches with a low-permeable clay liner, were completed in 1994.

The Facility is underlain by sediments from the Tuscan, Tehama, and Red Bluff Formations. The Tuscan and Tehama Formations may interfinger beneath the Facility. The Tehama Formation consists of stream and lake deposits derived from volcanic tuffs and mud flows to the east. The overlying Red Bluff Formation consists of poorly sorted alluvium.

Six groundwater monitoring wells and four active suction lysimeters are constructed for groundwater and unsaturated zone monitoring. First encountered groundwater occurs approximately 130 feet beneath the Facility. Groundwater flow at the Facility is generally toward the west-southwest.

The purpose of this Order is to rescind WDR Order No. 96-079, prescribe post-closure maintenance requirements and gas condensate discharge specifications for the Facility, and revise the Facility monitoring requirements in accordance with Title 27 of California Code of Regulations, Division 2, Subdivision 1.

DPS/KLC: sae
4/24/2008