

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. _____

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-_____ 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. _____ 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- _____ - _____, 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. _____, 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-_____, 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. _____ 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 _____.

PAMELA C. CREEDON, Executive Officer

DPS/KLC: sae
4/24/2008