

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2004-0124

NPDES NO. CA0004821

WASTE DISCHARGE REQUIREMENTS
FOR
PACTIV CORPORATION
MOLDED PULP MILL
TEHAMA COUNTY

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

BACKGROUND

1. Pactiv Corporation, formerly Tenneco Packaging (hereafter Discharger), submitted a Report of Waste Discharge, dated 26 November 2002, and applied for a permit renewal to discharge waste under the National Pollutant Discharge Elimination System (NPDES) from their molded pulp mill.
2. The Discharger owns and operates a processing plant, wastewater treatment system, and disposal conveyance lines. This 107-acre facility is located on Assessor's Parcel No. 35-08-02 in Section 33, T27N, R3W, MDB&M. The Discharger also leases approximately 4 acres west of their property (portion of APN 35-470-161). The site is bound on the north by the Sacramento River, on the south by a railroad spur and undeveloped property, on the east by Red Bank Creek, and on the west by industrial land where a natural gas-fired power plant and an abandoned sawmill are located. The facility is located on the south bank of the Sacramento River approximately ½ mile upstream of the Red Bluff Diversion Dam. The location of the facility is shown on Attachment A, which is incorporated herein and made part of this Order.
3. The plant uses approximately 20 tons per day of secondary pulp fiber to manufacture paper plates. Manufacturing of egg cartons and other molded paper products (such as berry baskets, cup carriers) was discontinued in May 2004 and September 2003 respectively. Chemicals used in the manufacturing processes include retention aids to retain fines and improve drainage, chemicals to provide water resistance (water hold out properties), and pigments.
4. Process wastewater from the molded pulp mill flows into one of three primary settling basins, which are approximately 15 to 20 feet deep. A fourth pond is only used in emergency situations. The retention time for wastewater in a settling basin is five to six days. When a settling basin is filled with solids, the discharge is re-routed to the next basin in the series and the filled basin is taken out of service for solids drying.

Historically, each basin was used for approximately 18 months before it filled. The facility layout is presented on Attachment B, which is incorporated herein and made part of this Order.

5. Partially settled wastewater from the settling basins flows by gravity to the aeration stabilization basin which contains six aerators. The retention time for wastewater in the aeration basin is five days. From the aeration basin, effluent is pumped to the 75-foot diameter, 400,000 gallon clarifier. The retention time for wastewater in the clarifier is approximately 12 hours. To aid in the settling process, polymers are added to the effluent prior to entering the clarifier. Clarifier sludge is returned to the settling basins inlet stream. Historically, at full operation, clarified effluent was discharged to the Sacramento River at an average monthly rate of 1.9 to 2.2 mgd. The treatment plant design flow rate is 2.7 mgd. A small portion of the effluent is reused in the production process or irrigated on lawns. A summary of effluent data from 2003 (prior to production reduction) is provided in the table below. With only the paper plate production, the Discharger expects to curtail operations of the wastewater treatment plant with 1.7 to 2.1 mgd of effluent discharged. Little or no change in water quality is anticipated. A summary of process water flow through the facility during full operation is presented in shown on Attachment C, which is incorporated herein and made part of this Order. It is expected that there may be some reduction in flow volume, chemical usage, and possibly contaminant mass with the reduction in production.

**Monthly Average Effluent Parameters,
 Pactiv Corporation, Red Bluff, Tehama County**

<u>Parameter</u>	<u>Range</u>	<u>Units</u>
Discharge Flow	1.6 to 2.2	m gd
Summer Temperature (June-August)	88 to 91	°F
Winter Temperature (November-February)	72 to 74	°F
pH	7.4 to 7.7	pH units
Electrical Conductivity	421 to 586	umhos/cm
BOD ¹	2 to 8	mg/L
Total Suspended Solids	5 to 10	mg/L

¹ 5-day, 20°C biochemical oxygen demand

6. Treated wastewater is discharged to the Sacramento River, a water of the United States, at Discharge 001 (latitude 40° 09'10" and longitude 122° 12'20").
7. The Discharger operates a 12-acre Class III landfill located onsite at the northern portion of the facility. Pulp waste from the settling basins is discharged at this landfill. Operation of the landfill is presently regulated under Waste Discharge Requirements Order No. 91-064. Generally at the end of the summer at a frequency of every two years, dry sludge from the settlings basins is disposed at the on-site Class III landfill. The

production of sludge is approximately 2,500-cubic yards per year or 5,000-cubic yards per basin.

8. Five shallow groundwater monitoring wells surround the landfill. Groundwater impacts associated with waste disposal activities have been observed in the vicinity of the landfill. Statistical analysis of groundwater monitoring data has found significant variance between upgradient and downgradient wells for several parameters including: total dissolved solids, manganese, alkalinity, chloride, sulfate, dissolved organic carbon, specific conductivity, and sodium. The Discharger is currently evaluating corrective action responses.
9. The facility terrain is generally flat. A series of open drainage ditches surround the plant and convey storm water runoff to Red Bank Creek at two storm water discharge locations, SW-1 and SW-2. The Discharger samples these two locations annually in accordance with their existing permit. Storm water from adjacent industrial properties located to the west of the facility drains to the Pactiv facility. Via culverts and ditches, the Discharger routes storm water run-on to Red Bank Creek at storm water discharge location SW-1.
10. The Discharger stores diesel, gasoline, coagulant, flocculant, and lubricating oil on-site. All storage units are located in buildings or under cover with secondary containment. A Spill Prevention Control and Countermeasure Plan, which was stamped by a registered civil engineer, was prepared in September 2002. Material Safety Data Sheets are available for all chemicals stored at the facility.
11. Process and domestic water is supplied by two water wells operated by the Discharger. Both are greater than 200 feet in depth. Domestic waste from the plant is treated by four on-site septic tanks, which are between 900 and 7,600 gallons in capacity. No septic tank or leachfield failures have been reported.
12. The Regional Board adopted a *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (hereafter Basin Plan). The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve water quality objectives for all waters of the Basin. This includes plans and policies adopted by the State Water Resources Control Board (SWRCB) and incorporated by reference, such as "Statement of Policy with Respect to Maintaining High Quality of Waters in California" (Resolution No. 68-16). These requirements implement the Basin Plan.
13. The Clean Water Act, Section 303(a-c), required states to adopt numeric criteria where they are necessary to protect designated uses. The Regional Board adopted numeric criteria in the Basin Plan. The Basin Plan is a regulatory reference for meeting the state

and federal requirements for water quality control (40 CFR 131.20). Resolution No. 68-16 does not allow changes in water quality less than that prescribed in Water Quality Control Plans (Basin Plans). The Basin Plan states that; “The numerical and narrative water quality objectives define the least stringent standards that the Regional Board will apply to regional waters in order to protect the beneficial uses.” This Order contains Receiving Water Limitations based on the Basin Plan numerical and narrative water quality objectives for Biostimulatory Substances, Chemical Constituents, Color, Dissolved Oxygen, Floating Material, Oil and Grease, pH, Pesticides, Radioactivity, Salinity, Sediment, Settleable Material, Suspended Material, Tastes and Odors, Temperature, Toxicity and Turbidity.

14. The permitted effluent discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the effluent discharge. The impact on existing water quality will be insignificant.

BENEFICIAL USES OF THE RECEIVING WATER

15. The beneficial uses of the Sacramento River downstream of the discharge as identified in Table II-1 of the Basin Plan are municipal and domestic supply (MUN), agricultural irrigation and agricultural stock watering (AGR), industrial service supply (IND), hydro power generation (POW), body contact water recreation and canoeing and rafting (REC-1), other non-body contact water recreation (REC-2), warm freshwater aquatic habitat (WARM), cold freshwater aquatic habitat (COLD), warm and cold fish migration habitat (MIGR), warm and cold spawning habitat (SPWN), wildlife habitat (WILD), and navigation (NAV).

The Basin Plan on page II-1.00 states: “Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning...” and with respect to disposal of wastewaters states that “...disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.”

EFFLUENT LIMITATIONS AND REASONABLE POTENTIAL

16. Effluent limitations established pursuant to Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), and 304 (Information and Guidelines) of the Clean Water Act (CWA) and amendments thereto are applicable to the discharge.
17. Federal regulations contained in 40 CFR 122.4 (d) require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical

water quality standard. Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs the Regional Board finds that the discharge does have a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for Biochemical Oxygen Demand (BOD), suspended solids, settleable matter, pH, and toxicity. Effluent limitations for these constituents are included in this Order.

- a. Total Suspended Solids (TSS) and Biochemical Oxygen Demand (BOD):** Federal regulations, 40 CFR, Part 430 - Pulp-Paper, and Paperboard Point Source Category; Subpart J - technology based effluent limitation for BOD and TSS based on production. Pursuant to the regulations in Subpart J, the BOD 30-day average and daily maximum discharge limit shall not exceed 7.5 and 14.4 mg/L, respectively, and the TSS 30-day average and daily maximum discharge limit shall not exceed 19 mg/L and 35 mg/L, respectively. The BOD limit is more stringent than the daily maximum BOD limit in the previous Order of 30 mg/L. However, the TSS limit is less stringent than the daily maximum TSS limit in the previous Order of 30 mg/L.
- b. pH:** The Basin Plan provides that the pH of surface waters shall not be depressed below 6.5 nor raised above 8.5 nor shall the discharge alter pH of the receiving water more than 0.5 units. Federal regulations at 40 CFR Part 430 describes the effluent quality for pH to be within 5.0 and 9.0 units at all times. This Order requires the pH of the effluent to be maintained within 6.0 and 9.0 pH units, which is consistent with the previous Order.
- c. Total Settleable Solids.** The Basin Plan states that waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affects beneficial uses. The Order contains monthly average and daily maximum settleable solids limits of 0.1 mL/L and 0.2 mL/L respectively. The settleable solids limits in this permit are based on what can reasonably be achieved in well-designed, constructed and operated pollutant control systems. These limits are consistent with the previous Order.
- d. Toxicity.** The Discharger uses a wide range of chemicals in their production and water quality treatment including coagulants, flocculants, pigments, anti-scaling chemicals, and biocides. The Basin Plan states: *“All waters shall be maintained free of toxic substances... This objective applies regardless of whether the toxicity is cause by a single substance or the interactive effect of multiples substances... In addition, effluent limits based upon acute biotoxicity tests of effluents will be prescribed...”* This Order contains effluent limits for acute toxicity that are consistent with the previous Order.

18. U.S. EPA adopted the *National Toxics Rule* (NTR) on 22 December 1992, which was amended on 4 May 1995 and 9 November 1999, and the *California Toxics Rule* (CTR) on 18 May 2000, which was amended on 13 February 2001. These Rules contain water quality standards applicable to this discharge. The SWRCB adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Policy or SIP) on 2 March 2000, which contains policies and procedures for implementation of the NTR and the CTR.
19. On 8 December 2000, the Discharger was issued a letter under the authority of California Water Code Section 13267 requesting effluent and receiving water monitoring to perform a reasonable potential analysis. The Discharger sampled the effluent and receiving water during six separate sampling events from 2001 to 2003 to determine if the priority pollutants established in the CTR and NTR were detected. Analytical results were submitted for volatile substances, semi-volatile substances, pesticides, metals, asbestos, and 2,3,7,8-TCDD dioxin. The Discharger also performed effluent sampling for sixteen dioxin congeners. With the exception of zinc, neither priority pollutants nor dioxins were detected in the effluent at concentrations that may cause or contribute to an in-stream excursion above a narrative or numerical water quality standard or objective. Sample results are summarized in Attachment D, which is incorporated herein and made part of this Order. The methodology described in Section 1.3 of the SIP was used to evaluate the Discharger's monitoring data and determine reasonable potential. Zinc was detected in the effluent at concentrations that may cause or contribute to an in-stream excursion above a narrative or numerical water quality standard or objective.
20. The Sacramento River from Shasta Dam to Red Bluff was previously listed as an impaired waterbody pursuant to Section 303(d) of the Clean Water Act for cadmium, copper, zinc and unknown toxicity. The listing for metals was mainly a result of long term affects of mining operations at Iron Mountain Mine (located along this reach of river) in addition to other mines upstream of Shasta Dam. Regional Board staff developed a Total Maximum Daily Loads (TMDL) water management strategy for cadmium, copper and zinc loading into the upper Sacramento River. The Board has adopted the technical report, *Upper Sacramento River TMDL for Cadmium, Copper and Zinc*, dated April 2002. There has been a great deal of physical corrective work done at Iron Mountain Mine in the recent years with more work planned in the next few years. An interim TMDL has been developed that focuses on additional copper, cadmium, and zinc removal from Iron Mountain Mine. Five years from development of the interim TMDL a final TMDL, if necessary, will be developed for these metals. The TMDL requires NPDES permitted dischargers to monitor for dissolved metals and Staff is to evaluate the monitoring results and assign wasteload allocations as needed to ensure that the Sacramento River between Keswick Dam and Red Bluff complies with the proposed

numeric targets. The newly adopted 303(d) listing does not include this reach of the river as impaired for these metals.

21. In determining whether a discharge has the reasonable potential to contribute to an in-stream excursion above a narrative or numerical water quality standard (reasonable potential analysis), the dilution of the effluent in receiving water may be considered where areas of dilution are defined. The available dilution may also be used to calculate protective effluent limitations by applying water quality criteria at the edge of the defined mixing zone. In situations where receiving water flows are substantially greater than effluent flows and there is available assimilative capacity, dilution may be considered in establishing effluent limitations.
22. The Discharger has conducted a mixing zone study for their discharge and is requesting that the Regional Board grant a dilution credit for zinc associated with a mixing zone resulting in a 1:13 dilution of effluent to receiving water. This credit represents the dilution achieved 75-feet downstream of the outfall within the near-field mixing zone, during low flow conditions. The study also concluded that maximum effluent concentrations would be diluted to below the hardness-dependant Basin Plan objective for zinc within approximately 20 feet downstream of the outfall at a ratio of 1:3. The Sacramento River is 780 wide at this cross-section; the widths of the plume 20-feet and 75-feet downstream of the outfall are 8 and 25 feet, respectively, leaving an adequate zone of passage in the river at least 750 feet wide.
23. The Regional Board is not obligated to delegate the entire assimilative capacity of receiving waters to a single Discharger. There are other point source and non-point source dischargers along the Sacramento River and its tributaries, including the Red Bluff Treatment Plant located $\frac{3}{4}$ miles upstream of the discharge. The Regional Board has considered the Discharger's request for a dilution credit of 13:1, but after evaluating other considerations, this Order is only allotting the Discharger a portion of the assimilative capacity and a dilution credit of 8:1.
24. Water quality criteria and objectives for metals in the CTR and Basin Plan are presented as dissolved concentrations for zinc and are hardness dependent. Based on receiving water information submitted by the Discharger, the minimum hardness in the Sacramento River upstream of the Dischargers facility is 43 mg/L. Lacking site-specific data, the USEPA recommends conversion factors (translators) to translate dissolved concentrations to total concentrations. The USEPA conversion factors for zinc in freshwater are 0.978 for the acute and 0.986 for the chronic criteria. As reported by the Discharger, total zinc was detected in the effluent at a maximum concentration of 24 $\mu\text{g/L}$. The USEPA CTR aquatic life chronic and acute criteria for total zinc is 51.2 $\mu\text{g/L}$ and the Basin Plan objective for total zinc is 17.4 $\mu\text{g/L}$ for a minimum receiving water hardness of 43 mg/L. The maximum observed upstream receiving water total zinc

concentration was 11 µg/L. The maximum detected concentration of zinc exceeds the Basin Plan objective. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream exceedance of the Basin Plan objective. In determining the Effluent Concentration Allowance (ECA) a dilution credit of 8 was used. For calculation of effluent limits the difference between the river dissolved concentrations and calculated criterion for the measured hardness was evaluated for “C-B” in the ECA equation in step No. 2 of SIP section 1.4.B. An effluent limitation for zinc is included in this Order based on the Basin Plan objective and is established as 34 µg/L as a 30-day average and the daily maximum of 68 µg/L.

GROUNDWATER

25. The beneficial uses of the underlying ground water, as identified in the Basin Plan, are municipal and domestic, industrial service, industrial process, and agricultural supply.
26. Basin Plan water quality objectives to protect the beneficial uses of groundwater include numeric objectives and narrative objectives, including objectives for chemical constituents, toxicity of groundwater, and taste and odor. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, or animals. The chemical constituent objective states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use or that exceed the maximum contaminant levels (MCLs) in Title 22, CCR. The Basin Plan requires the application of the most stringent objective necessary as necessary to ensure that groundwaters do not contain chemical constituents, toxic substances, radionuclides, or taste and odor producing substances in concentrations that adversely affect domestic drinking water supply, agricultural supply, or any other beneficial use.
27. Resolution No. 68-16 requires the Regional Board in regulating discharge of waste to maintain high quality waters of the State until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Regional Board’s policies (e.g., quality that exceeds water quality objectives). Resolution No. 68-16 requires that the discharge be regulated to meet best practicable treatment or control to assure that pollution or nuisance will not occur and the highest water quality consistent with the maximum benefit to the people of the State be maintained. Resolution No. 68-16 applies to both surface water and groundwater.
28. The Regional Board has considered Resolution No. 68-16 and finds that the current discharge may be inconsistent with this policy, and could cause an increase in groundwater constituent concentrations above water quality objectives, specifically: specific conductance, total dissolved solids, and general minerals. Although groundwater

impacts have not been evaluated, it has also not been demonstrated that degradation of groundwater by this discharge would be consistent with the maximum benefit to the people of the State. Therefore to assure that the discharge, as permitted herein, is consistent with Resolution No. 68-16, the Discharger is required to propose and fully implement Best Practicable Treatment or Control (BPTC) measures so that the discharge does not create a condition of pollution or nuisance and that the highest water quality will be maintained.

29. Molded pulp process wastewater contains constituents such as total dissolved solids (TDS), specific conductivity, general minerals and oxygen demanding substances (BOD and COD). The storage of this wastewater in unlined settling ponds may result in percolation of constituents and an increase in the concentration of these constituents in groundwater. Operation of the unlined ponds for settling has a reasonable potential to impact the underlying groundwater. For example, impacts to groundwater from the adjacent landfill (owned and operated by the Discharger and containing sludge from the settling ponds) have been documented. The potential impacts on usable groundwater and the appropriate level of degradation that complies with Resolution No. 68-16 have not been fully evaluated. Additionally, the Discharger has recently reduced their production capacity by 65 percent. The effects of these reductions on untreated wastewater quality has not been fully evaluated. The Discharger's current effort may not constitute BPTC as intended in Resolution No. 68-16.
30. In accordance with Provision G.1, the Discharger shall characterize the quality of wastewater generated under the new reduced production conditions, evaluate the current treatment for process wastewater, assess potential impacts to groundwater based on current treatment, site condition and hydrogeology, and evaluate potential new BPTCs. The results will determine the need to install and sample groundwater monitoring wells. This Order establishes a schedule of tasks to evaluate BPTCs for the treatment of process water, including the operation of the sludge settling basins. Completion of these tasks, and implementation of the approved strategies will ensure that BPTC and the highest water quality consistent with maximum benefit to the people of the State will be achieved. Should full BPTC implementation not be performed, the Regional Board may reopen this Order to reconsider groundwater limitations, groundwater monitoring, and other requirements to comply with Resolution No. 68-16. Accordingly, the discharge is consistent with Resolution No. 68-16.
31. The discharge authorized herein and the treatment and storage facilities associated with the discharge of treated wastewater, except for discharges of residual sludge and solid waste, are exempt from the requirements of Title 27, California Code of Regulations (CCR), section 20005 *et seq.* (hereafter Title 27). The exemption, pursuant to Title 27 CCR section 20090(b), is based on the following:

- a. The Regional Board has issued waste discharge requirements;
 - b. The waste discharge requirements are consistent with water quality objectives;
and
 - c. The wastewater does not need to be managed according to Chapter 11, Division 4.5, Title 22, as a hazardous waste.
32. This Order requires the Discharger to continue groundwater monitoring and includes a regular schedule of groundwater monitoring in the attached Monitoring and Reporting Program. The groundwater monitoring reports are necessary to evaluate impacts to waters of the state to assure protection of beneficial uses and compliance with Regional Board plans and policies, including Resolution No. 68-16. Evidence in the record includes effluent monitoring data that indicates the presence of constituents that may degrade groundwater and surface water.
33. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. Resolution No. 68-16 requires the Regional Board in regulating the discharge of wastes, to maintain high quality waters of the State, not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Regional Board's policies (e.g., quality that exceeds water quality objectives). Providing best practicable treatment for this industrial discharge will protect groundwater quality from being degraded when compared to background water quality. The impact on existing water quality will be insignificant.

INDUSTRIAL STORMWATER

34. Federal Regulations for the water discharges were promulgated by USEPA on 16 November 1990 (40 CFR Parts 122,123, and 124). The regulations require specific categories of facilities, which discharge storm water associated with industrial activity (storm water), to obtain NPDES permits and to implement Best Available Technology Economically Achievable and Best Conventional Pollutant Control Technology to reduce or eliminate industrial storm water pollution.
35. The SWRCB adopted Order No. 97-03-DWQ (General Permit No. CAS000001), on 17 April 1997, specifying waste discharge requirements for discharge of storm water associated with industrial activities, excluding construction activities, that requires submittal of a Notice of Intent, preparation of a Storm Water Pollution Prevention Plan, site map, and monitoring program by industries to be covered under the permit. The facility's Standard Industrial Classification code is 2679, for "Converted Paper and Paperboard Products, Not Elsewhere Classified." The Discharger's facility was covered

by storm water provisions in the previous individual Order No. 98-127. To help ensure that the requirements for storm water monitoring and control are consistent with the SWRCB general permit, the Discharger is being required to obtain coverage under the general storm water permit. This new Order does not include storm water provisions.

GENERAL

36. The attached Monitoring and Reporting Program No. R5-2004-0124 is necessary to assure compliance with waste discharge requirements and is incorporated by reference herein. The attached Monitoring and Reporting Program is established pursuant to CWC Sections 13267 and 13383.
37. The Regional Board has considered the information in the attached Fact Sheet in developing the Findings of this Order. The Fact Sheet, Monitoring and Reporting Program No. R5-2004-0124, and Attachments A through D are a part of this Order.
38. The discharge is presently governed by Waste Discharge Requirements Order No. 98-127, adopted by the Regional Board on 5 June 1998.
39. The U.S. Environmental Protection Agency (U.S. EPA) and the Regional Board have classified this discharge as a major discharge.
40. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, et seq.), requiring preparation of an environmental impact report or negative declaration in accordance with Section 13389 of the California Water Code.
41. The Regional Board has 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.
42. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.
43. This Order shall serve as an NPDES permit pursuant to Section 402 of the CWA, and amendments thereto, and shall take effect upon the date of hearing provided U.S. EPA has no objections.

IT IS HEREBY ORDERED that Order No. 98-127 is rescinded and Pactiv Corporation, its agents, successors and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions:

1. Discharge of wastewater at a location or in a manner different from that described in Finding 6 is prohibited.
2. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Standard Provision A.13. [See attached “Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)”].
3. Neither the discharge nor its treatment shall create a nuisance as defined in Section 13050 of the California Water Code.

B. Effluent Limitations (Discharge 001):

1. Effluent shall not exceed the following limits:

<u>Constituent</u>	<u>Units</u>	<u>30-Day Average</u>	<u>Daily Maximum</u>
BOD ₅ ¹	lbs/day	138	264
	mg/L		11.4 ²
Suspended Solids	lbs/day	348	648
	mg/L		28.5 ²
Settleable Solids	mL/L	0.1	0.2
Total Zinc	ug/L	34	68

¹ Five-day, 20° Celsius biochemical oxygen demand.

² Based on a maximum capacity of 2.7 mgd; Concentration based effluent limitation is flow dependant.

2. The discharge shall not have a pH less than 6.0 nor greater than 9.0.
3. The maximum daily discharge shall not exceed 2.7 million gallons.
4. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay - - - - - 70%

Median for any three or more consecutive bioassays - - - - 90%

C. Discharge Specifications:

1. Neither discharge nor treatment shall create a nuisance or pollution as defined in Section 13050 of the California Water Code.
2. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the property owned by the Discharger.
3. The discharge shall not cause the degradation of any water supply.
4. The dissolved oxygen content of the wastewater treatment ponds shall not be less than 1.0 mg/L for 16 hours in any 24-hour period.
5. Ponds shall be managed to prevent breeding of mosquitoes. In particular,
 - a. An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.
 - b. Weeds shall be minimized.
 - c. Dead algae, vegetation, and debris shall not accumulate on the water surface.
6. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.
7. Domestic waste shall remain underground at all times.

D. Sludge Disposal:

1. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer, and consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, *et seq.*
2. Any proposed change in sludge use or disposal practice from a previously approved practice shall be reported to the Executive Officer and U.S. EPA Regional Administrator at least **90 days** in advance of the change.
3. By **15 January** of each year, the Discharger shall submit a sludge disposal plan describing the annual volume of sludge generated by the plant and specifying the

disposal practices.

E. Receiving Water Limitations:

Receiving water limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this permit. The discharge shall not cause the following in the Sacramento River:

1. Concentrations of dissolved oxygen to fall below 9.0 mg/L. When natural conditions lower dissolved Oxygen below this level, the concentrations shall be maintained at or above 95 percent of saturation.
2. Oils, greases, waxes, or other materials to form a visible film or coating on the water surface or on the stream bottom.
3. Oils, greases, waxes, floating material (liquids, solids, foams, and scums) or suspended material to create a nuisance or adversely affect beneficial uses.
4. Aesthetically undesirable discoloration.
5. Fungi, slimes, or other objectionable growths.
6. The turbidity to increase as follows:
 - a. More than 1 Nephelometric Turbidity Units (NTUs) where natural turbidity is between 0 and 5 NTUs.
 - b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
 - c. More than 10 NTUs where natural turbidity is between 50 and 100 NTUs.
 - d. More than 10 percent where natural turbidity is greater than 100 NTUs.

In determining compliance with the above limits, appropriate averaging periods may be applied upon approval by the Executive Officer.
7. The normal ambient pH to fall below 6.5, exceed 8.5, or change by more than 0.5 units.
8. Deposition of material that causes nuisance or adversely affects beneficial uses.
9. The normal ambient temperature to be increased more than 5°F, or to higher than 56°F when such an increase will be detrimental to the fishery, whichever is more restrictive.
10. Radionuclides to be present in concentrations that exceed maximum contaminant levels specified in the California Code of Regulations, Title 22; that harm human, plant, animal or aquatic life; or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

11. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.
12. Toxic pollutants to be present in the water column, sediments, or biota in concentrations that adversely affect beneficial uses; that produce detrimental response in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health.
13. Violations of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board pursuant to the CWA and regulations adopted thereunder.
14. Taste or odor-producing substances to impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to cause nuisance or adversely affect beneficial uses.

F. Groundwater Limitations:

1. Discharges from the facility shall not cause underlying groundwater or groundwater downgradient of the facility to:
 - a. Contain waste constituents in concentrations statistically greater than background water quality except that coliform organisms shall not exceed 2.2 MPN/100mL over any seven-day period;
 - b. Exhibit a pH of less than 6.5 or greater than 8.5 pH units;
 - c. Impart taste, odor, toxicity, or color that creates nuisance or impairs any beneficial use.

G. Provisions:

1. Within **24 months** of Order adoption, the Discharger shall submit a *Process Wastewater Evaluation and Treatment Report*. The report shall identify BPTCs to prevent the infiltration to groundwater of contaminants that could impact groundwater. The evaluation shall include an assessment of the implementability, effectiveness, and cost of each BPTC. Effectiveness shall be measured by reduction of impacts to groundwater. Recommended BPTCs based on the BPTC evaluation, as well as an implementation schedule shall be proposed. The component evaluation, recommended improvements, and implementation schedule are subject to the Executive Officer's approval.
2. Should full implementation of BPTCs not be implemented, this Order may be reopened to incorporate groundwater numerical limits, groundwater monitoring

requirements, and/or additional requirements in accordance with Resolution No. 68-16.

3. The Discharger shall conduct the chronic toxicity testing specified in the Monitoring and Reporting Program. If the testing indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the water quality objective for toxicity at the edge of the approved mixing zone (8:1 dilution credit), the Discharger initiate a Toxicity Identification Evaluation (TIE) to identify the causes of toxicity. Upon completion of the TIE, the Discharger shall submit a workplan to conduct a Toxicity Reduction Evaluation (TRE) and, upon Regional Board evaluation, conduct the TRE. This Order may be reopened and a chronic toxicity limitation included and/or a limitation for the specific toxicant identified in the TRE included. Additionally, if a chronic toxicity water quality objective is adopted by the SWRCB, this Order may be reopened and a limitation based on that objective included.
4. The Discharger shall report to the Regional Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986.
5. The Discharger shall comply with all the items of the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)", dated February 2004, which are part of this Order. This attachment and its individual paragraphs are referred to as "Standard Provisions."
6. The Discharger shall comply with Monitoring and Reporting Program No. R5-2004-0124, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.

When requested by U.S. EPA, the Discharger shall complete and submit Discharge Monitoring Reports. The submittal date shall be no later than the submittal date specified in the Monitoring and Reporting Program for Discharger Self Monitoring Reports.

7. This Order expires on **1 September 2009** and the Discharger must file a Report of Waste Discharge in accordance with Title 23, CCR, not later than 180 days in advance of such date in application for renewal of waste discharge requirements if it wishes to continue the discharge.

8. Prior to making any change in the discharge point, place of use, or purpose of use of the wastewater, the Discharger shall obtain approval of, or clearance from the SWRCB, Division of Water Rights.
9. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Regional Board and a statement. The statement shall comply with the signatory paragraph of Standard Provision D.6 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 shall be approved or disapproved in writing by the Executive Officer.

I, THOMAS R. PINKOS, 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 10 September 2004.

THOMAS R. PINKOS, Executive Officer

MEB:

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

NPDES NO. 0004821

MONITORING AND REPORTING PROGRAM NO. R5-2004-0124
FOR
PACTIV CORPORATION
MOLDED PULP MILL
TEHAMA COUNTY

This Monitoring and Reporting Program is issued pursuant to California Water Code §13267 and §13383. This monitoring and reporting program specifies required monitoring and reporting to be conducted by the Discharger and shall not be changed unless a revised monitoring and reporting program is issued by the Executive Officer. Monitoring for the following shall be performed: effluent (Discharge 001), chronic toxicity, receiving water, priority pollutants, above ground storage tanks.

EFFLUENT MONITORING (DISCHARGE 001)

Effluent samples from Discharge 001 shall be collected downstream from the last connection through which wastewater can be admitted into the outfall. Effluent samples should be representative of the volume and nature of the discharge. Samples collected from “Manhole 11” immediately downstream of the clarifier shall be considered adequately composited. The time of collection of a grab sample shall be recorded. The following shall constitute the monitoring program:

<u>Constituent</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Discharge Flow	mgd	Continuous	Continuous
Temperature	°F	Continuous	Continuous
Settleable Solids	mL/L	Grab	Weekly
pH	pH units	Grab	Weekly
Total Suspended Solids	mg/L	24-hr composite	Weekly
Electrical Conductivity	µS/cm at 25°C	Grab	Weekly
BOD	mg/L	24-hr composite	Weekly
Acute Toxicity ¹	% Survival	24-hr composite	Twice per month
Zinc	ug/L	Grab	Monthly ²
Cadmium	ug/L	Grab	Annually ²
Hardness	mg/L	Grab	Monthly ³

¹ 96-hour static bioassay using rainbow trout as the test species.

² In coordination with receiving water sampling for zinc and cadmium.

³ In coordination with zinc and cadmium sampling.

THREE SPECIES CHRONIC TOXICITY

Chronic toxicity monitoring shall be conducted **annually** to determine whether the effluent is contributing toxicity to the Sacramento River at a dilution of 1:8 (effluent to receiving water). The testing shall be conducted as specified in EPA 600/4-91-002, or latest edition.

Chronic toxicity samples shall be collected from Manhole 11, directly downstream of from the clarifier prior to its entering the Sacramento River. Twenty-four hour composite samples shall be representative of the volume and quality of the discharge. Date and time of collection shall be recorded.

If a sample at a dilution of 1:8 (effluent to receiving water) exhibits toxicity, the Discharger shall sample during the next available discharge event and conduct the test using the dilution series specified below. The results shall be submitted with the monitoring report and include the following:

Species: *Pimephales promelas*, *Ceriodaphnia dubia*,
and *Selenastrum capricornutum*

Frequency: Annually

	Dilutions (%)			Controls	
	<u>12.5</u>	<u>6.25</u>	<u>3.125</u>	<u>Receiving Water</u>	<u>Lab Water</u>
% Discharge Effluent	12.5	6.25	3.125	0	0
% Dilution Water ¹	87.5	93.75	96.875	100	0
% Lab Water	0	0	0	0	100

¹ Dilution water shall be receiving water from the Sacramento River upstream from the discharge point. If the receiving water exhibits toxicity, or if no receiving water is available, the Discharge may be required to use lab water as dilution water. The dilution series may be modified after the initial test upon approval of the Executive Officer.

RECEIVING WATER MONITORING

All receiving water samples shall be grab samples. Receiving water samples shall be collected from the following stations in the Sacramento River and sampled for the following constituents:

<u>Station</u>	<u>Description</u>
R-1	Immediately upstream from the point of discharge
R-2	Within 30 feet downstream from the point of discharge.

<u>Constituent</u>	<u>Station</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Turbidity	R-1 and R-2	NTU	Grab	Weekly
Temperature	R-1 and R-2	°F	Grab	Weekly
pH	R-1 and R-2	pH Units	Grab	Weekly
Specific Conductance	R-1 and R-2	umhos/cm	Grab	Weekly
Zinc	R-1	ug/L	Grab	Monthly ¹
Cadmium	R-1	ug/L	Grab	Annually ¹
Hardness ²	R-1	mg/L	Grab	Monthly ¹

¹ In coordination with effluent sampling of zinc and cadmium.

² In coordination with zinc and cadmium sampling.

In conducting the receiving water sampling, a log should be kept of the receiving water conditions throughout the reach bounded by Stations R-1 and R-2. Notes on receiving water conditions shall be summarized in the monitoring report. Attention should be given to the presence or absence of:

- | | |
|---------------------------------|-----------------|
| a. Floating or suspended matter | d. Aquatic life |
| b. Discoloration | e. Scum or foam |
| c. Bottom deposits | |

PRIORITY POLLUTANT MONITORING

Prior to renewal of this Order, the Discharger shall conduct one sampling event and analysis for priority pollutants. Results shall accompany the Discharger's submittal of a Report of Waste Discharge, in accordance with Provision G.7 of Order No. R5-2004-0124. The Discharger is not required to perform additional asbestos sampling because it has been determined that asbestos does not have a reasonable potential to cause or contribute to a violation of applicable water quality standards. Effluent and upstream samples must also be collected and analyzed for pH and hardness in order to calculate translators, which are needed for metals that are hardness and/or pH dependent. All analyses shall be performed at a laboratory certified by the California Department of Health Services. The laboratory is required to submit the Minimum Level and the Method Detection Limit with the reported results for each of the priority pollutant constituents. Laboratory methods and limits shall be as described in this Monitoring and Reporting Program, and in the 8 December 2000 CTR letter issued to the Discharger, unless a variance has been approved by the Executive Officer.

All organic analyses shall be by Gas Chromatography/Mass Spectrometry, Method 8260B for volatiles and Method 8270C for semi-volatiles. Pesticides shall be analyzed by Method 8081A. Dioxins shall be analyzed by Method 1613/8290. If organic analyses are run by Gas Chromatography methods, any detectables are to be confirmed by Gas Chromatography/Mass Spectrometry. Inorganics shall be analyzed by the following methods:

ICP/MS-EPA Method 1638	Antimony, Beryllium, Cadmium, Copper, Lead, Nickel, Selenium, Silver, Thallium, Total Chromium, Zinc
CVAA-EPA Method 1631	Mercury
HYDRIDE-EPA Method 206.3	Arsenic
FAA-EPA Method 218.4	Chromium VI
Colorimetric-EPA Method 335./ 2 or 3	Cyanide

Abbreviations:

FAA-Flame Atomic Absorption	ICP/MS-Inductively Coupled Plasma/Mass Spectrometry
CVAA-Cold Vapor Atomic Absorption	HYDRIDE-Gaseous Hydride Atomic Absorption

Dioxin congeners analysis shall be performed as described in the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan)* using High Resolution Mass Spectrometry.

ABOVEGROUND STORAGE TANK MONITORING

The Discharger shall conduct inspections and maintenance of the aboveground storage tanks at the facility as specified in the facility's Spill Prevention Control and Countermeasures Plan. A record of the inspections and maintenance shall be retained at the facility.

REPORTING

Unless otherwise specified, monitoring results shall be submitted to the Regional Board by the 1st day of the second month following sample collection (i.e., the January report is due by 1 March).

In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly whether the discharge complies with the waste discharge requirements.

If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.

By **1 March of each year**, the Discharger shall also submit an annual report (calendar year) with both tabular and graphical summaries of the monitoring data obtained during the previous year. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

All reports submitted in response to this Order shall comply with the signatory requirements of Standard Provisions D.6.

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

Ordered by: _____
THOMAS R. PINKOS, Executive Officer

10 September 2004

Date

MEB:

INFORMATION SHEET

ORDER NO. R5-2004-0124
PACTIV CORPORATION
MOLDED PULP MILL
TEHAMA COUNTY

Pactiv owns and operates a molded pulp mill facility. The plant employs approximately 95 people and operates 24 hours a day except during union holidays. This business has been in operation since 1957. The discharge is presently governed by Waste Discharge Requirements Order No. 98-127, adopted by the Regional Board on 5 June 1998.

The 107-acre property, as shown on Attachment A, is owned by the Discharger (Assessor's Parcel No. 35-08-02), in Section 33, T27N, R3W, MDB&M. The Discharger also leases approximately 4 acres from Meyers Motels located west of their property (portion of APN 35-470-161). The leased consists of parking and a 22,000 square foot building used for storing equipment. The site is bound on the north by the Sacramento River, on the south by a railroad spur and undeveloped property, on the east by Red Bank Creek, and on the west by industrial land where a natural gas-fired power plant and an abandoned sawmill are located.

GENERAL INFORMATION

Site Conditions

The facility is located on the south bank of the Sacramento River approximately ½ mile upstream of the Red Bluff Diversion Dam. The site is underlain by a stream/terrace deposit composed of varying mixtures of sand, silt, and clay. Underlying this is a continental alluvial fan deposit composed of gravel with varying amounts of sand and silt. Groundwater is approximately 40 feet below ground surface but conditions are affected by the stages of the Sacramento River and the operation of the dam. During 15 September to 15 May the dam gates are out (up), river stage is lowered, and groundwater flow beneath the facility is naturally north from the facility towards the river. During 16 May to 14 September the dam gates are in (down), river stage is raised, and groundwater flow is generally south towards the facility.

Process and domestic water is supplied by two water wells operated by the Discharger. The wells, designated No. 1 and No. 3, were installed in 1956 and 1960, respectively. Both are greater than 200 feet in depth. Well No. 1 operates continuously and Well No. 3 provides makeup water. Well No. 2, also located on the Discharger's property, is not used by this facility.

Domestic waste from the plant is treated by four on-site septic tanks, which are between 900 and 7,600 gallons in capacity. The tanks are inspected and pumped two times per year. The tanks were installed between 1957 and 1998. No septic tank or leachfield failures have been reported.

The facility terrain is generally flat. A series of open drainage ditches surround the plant and convey storm water runoff to Red Bank Creek at two storm water discharge locations, SW-1 and SW-2. The previous Order No. 98-127 regulated the discharge of storm water and the Discharger sampled these two locations annually. Sampling indicated storm water did not contain process wastes or other pollutants. Therefore, by the 2004/2005 rainy season, the Discharger will seek coverage under the General Industrial Storm Water Permit (Order No. 97-03-DWQ (General Permit No. CAS000001) for the discharge of unpolluted industrial storm water to SW-1 and SW-2.

Class III Landfill

The Discharger operates a 12-acre Class III landfill, which is located onsite at the northern portion of the facility. Since the 1950's, pulp waste from the settling basins has been discharged at this landfill. Operation of the landfill is presently regulated under Waste Discharge Requirements Order No. 91-064. The landfill cap is vegetated. Storm water runoff from the landfill cap drains to and percolates into a swale adjacent to the eastern side of the landfill. The swale, sometimes referred to as the "storm water pond", does not drain off-site. It is lushly vegetated and provides habitat to waterfowl and other animals.

Five shallow groundwater monitoring wells, installed in 1988 and 1989, surround the landfill. Groundwater impacts associated with waste disposal activities have been observed in the vicinity of the landfill. Statistical analysis of groundwater monitoring data has found significant variance between upgradient and downgradient wells for several parameters including: total dissolved solids, manganese, alkalinity, chloride, sulfate, dissolved organic carbon, specific conductivity, and sodium. The Discharger is currently evaluating corrective action responses.

Potential Future Land-Uses

In 2002, in accordance with the California Environmental Quality Act, the Tehama-Colusa Canal Authority and the United States Bureau of Reclamation began evaluating various operating conditions for the Red Bluff Diversion Dam. The objective of this project, referred to as the Fish Passage Improvement Project, is to improve the ability of fish to pass through the Red Bluff Diversion Dam while supplying sufficient water to the Tehama-Colusa and Corning canals. The alternatives considered impact to the Discharger's facility to varying degrees. Depending on the alternative selected, the Discharger may be required to relocate their NPDES discharge outfall at the Sacramento River (Discharge 001) and/or remove a portion of their Class III landfill. In addition, changing the operation of the Red Bluff Diversion Dam will likely affect groundwater movement beneath the Discharger's facility. At the time of permit preparation, an alternative has not been selected and future impacts to the Discharger's operations have not been determined. Should the Fish Passage Improvement Project proceed before the renewal cycle of this Order, the Discharger may need to submit a Report of Waste Discharge for a change in operation.

Molded Fiber Process

Historically, the plant had produced three product lines: paper plates, egg cartons, and other molded paper products (e.g.. berry baskets). Production has been reduced by 65 percent with the discontinuation of the latter two lines in May 2004 and September 2003, respectively. Currently, only paper plates are produced at the Facility, and the Discharger has no immediate future plans to increase production.

The plant currently uses approximately 33 tons per day of pulp fiber to manufacture approximately 30 tons/day of aqueous/fatty food grade paper plates. Roughly 65 percent of this fiber is from

secondary sources. Paper plates manufacturing (also called Duplex manufacturing) is a two-part process consisting of a top liner and a back liner. The top liner is a blend of purchased virgin pulp, which is defibered, refined, and whitened with bluing agent, a blue liquid pigment. It is further modified with chemicals that provide oil and water holdout properties. The back liner consists of white blank news, the unprinted cuttings and sheets of white newsprint or other uncoated white groundwood paper. This fiber is mixed with hot water, defibered, and further modified with chemicals that provide water holdout properties. The top and back liners have separate molding drums, vats, and water systems. Plates are formed when a wire form enters each vat and vacuum is applied. The top liner and bottom liners subsequently are joined between dies and dried.

Process Wastewater Treatment

Process wastewater from the molded pulp mill flows from two sumps into one of three primary settling basins which are approximately 15 to 20 feet deep. The retention time for wastewater in the settling basin is five to six days. When the settling basin is filled with solids, the discharge is re-routed to the next basin in the series and the filled basin is taken out of service for solids drying. Each basin was historically used for approximately 18 months before it filled. There is a fourth pond but due to its proximity to the road, it is only used in emergency situations to control odors. Basin areas and volumes are summarized in the table below.

Settling Basin Volume and Size, Pactiv Corporation, Red Bluff, Tehama County

Settling Basin	Volume (million gallons)	Area (acres)
1	8.1	3
2	4.6	1.75
3	4.6	1.75
4	13.1	6.7
<u>Aeration Basin</u>	16.7	5.1

Note: Pond 4 is only used during emergencies.

Generally at the end of the summer at a frequency of every two years, dry sludge from the basins is disposed at the on-site Class III landfill. The production of sludge is approximately 2,500-cubic yards per year or 5,000-cubic yards per bed.

Pulp fines that exert a biological oxygen demand (BOD) are the primary constituents of concern in the wastewater. In addition, there are primarily polymers included in the wastewater coagulation process. Because of the sulfur present in the pulp there is also the potential for the generation of mercaptans and associated odor problems. The discharger states that the sludge generally accumulates from the surface level downwards, but turns over after approximately one week. Although odors are most prominent after the turnover, no complaints have been received.

Partially settled wastewater from the settling basins flows by gravity to the aeration stabilization basin. The retention time for wastewater in the aeration basin is five days. The basin contains

three 40-horsepower aerators and one 15-horsepower aerator, which are distributed around the pond. Two solar powered aerators with 110 volt back-up were installed in 2001 and upgraded in January 2004. The purpose of the aeration basin is to reduce the BOD and to some extent the suspended solids. The aerators are Archimedes screw type aerators.

From the aeration basin, effluent is pumped to the 75-foot diameter, 400,000 gallon clarifier. The retention time for wastewater in the clarifier is approximately 12 hours. Polymers are added to the effluent prior to entering the clarifier to aid in the settling process. Clarifier sludge is returned to the settling basins inlet stream. Historically, at full operation, clarified effluent was discharged to the Sacramento River at an average monthly rate of 1.9 to 2.2 mgd. A small portion of the effluent is reused in the production process or irrigated on lawns. The clarity of the effluent averages three to four NTU. A summary of effluent data from 2003 (prior to production reduction) is provided in the table below. With only paper plate production, the Discharger expects to curtail operations of the wastewater treatment plant with 1.7 to 2.1 mgd of effluent discharged. Little or no change in water quality is anticipated. Process water flow through the facility during full operation is presented in Attachment C. It is expected that there may be some reduction in flow volume, chemical usage, and possibly contaminant mass with the reduction in production.

Monthly Average Effluent Parameters, Pactiv Corporation, Red Bluff, Tehama County

<u>Month</u>	<u>Flow (mgd)</u>	<u>pH</u>	<u>Settleable Solids (mL/L)</u>	<u>Biochemical Oxygen Demand (mg/L)</u>	<u>Suspended Solids (mg/L)</u>	<u>Specific Conductivity (umhos/cm)</u>
January 2003	1.9	7.6	<0.1	7	7	456
February 2003	1.9	7.5	<0.1	8	10	494
March 2003	2.0	7.5	<0.1	4	7	516
April 2003	1.9	7.6	<0.1	3	6	534
May 2003	1.8	7.7	<0.1	2	5	532
June 2003	1.6	7.7	<0.1	2	6	518
July 2003	2.0	7.6	<0.1	3	8	501
August 2003	1.7	7.5	<0.1	2	7	504
September 2003	2.0	7.5	<0.1	3	7	586
October 2003	2.0	7.4	<0.1	3	7	481
November 2003	2.2	7.5	<0.1	4	7	421
December 2003	2.2	7.4	<0.1	4	7	424

Materials Management

A summary of the primary materials stored onsite is provided in the following table.

Materials Storage, Pactiv Corporation, Red Bluff, Tehama County			
<u>Chemical</u>	<u>Volume (gallons)</u>	<u>Storage Containers</u>	<u>Storage Location</u>
Diesel	555	250 gallon AST Five 55-gallon drums One 30-gallon drum	North of former pulp mill building, under cover with secondary containment.
Gasoline	20	Four 5-gal. containers	NE corner of effluent bldg under cover.
Coagulant	8,000	10,600 gallon AST	Located in effluent building under cover. Any spills would flow to process drain and treatment system.
Flocculant	250	One 250 gallon tote	Effluent plant under cover within containment vessel.
Lubricating Oil	2,500	1,000 gallon AST Three 500 gallon totes	Basement of main building. Under cover, spills would flow to process drain and treatment system.

BENEFICIAL USES

The beneficial uses of the Sacramento River downstream of the discharge as identified in Table II-1 of the Basin Plan are municipal and domestic supply (MUN), agricultural irrigation and agricultural stock watering (AGR), industrial service supply (IND), hydro power generation (POW), body contact water recreation and canoeing and rafting (REC-1), other non-body contact water recreation (REC-2), warm freshwater aquatic habitat (WARM), cold freshwater aquatic habitat (COLD), warm and cold fish migration habitat (MIGR), warm and cold spawning habitat (SPWN), wildlife habitat (WILD), and navigation (NAV).

The Basin Plan on page II-1.00 states: “Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning...” and with respect to disposal of wastewaters states that “...disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.”

ANTIDEGRADATION

Resolution No. 68-16 requires the Regional Board, in regulating the discharge of waste, to maintain high quality waters of the state unless it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Regional Board’s policies (e.g., quality that exceeds water quality objectives). Resolution No. 68-16 applies to both surface water and groundwater. The Regional Board finds that discharge in compliance with the prohibitions, limitations, specifications, and provisions in this Order is consistent with Resolution No. 68-16. The impact on water quality will be insignificant.

REASONABLE POTENTIAL ANALYSIS

Federal regulations contained in 40 CFR 122.4 (d) require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above a narrative or numerical water quality standard. U.S. EPA adopted the *National Toxics Rule* (NTR) on 22 December 1992, which was amended on 4 May 1995 and 9 November 1999, and the *California Toxics Rule* (CTR) on 18 May 2000, which was amended on 13 February 2001. These Rules contain water quality standards applicable to this discharge. The SWRCB adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Policy or SIP) on 2 March 2000, which contains policies and procedures for implementation of the NTR and the CTR.

On 8 December 2000, the Discharger was issued a letter under the authority of California Water Code Section 13267 requesting effluent and receiving water monitoring to perform a reasonable potential analysis. Federal regulations contained in 40 CFR 122.4 (d) require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above a narrative or numerical water quality standard. The Discharger sampled the effluent and receiving water during six separate sampling events from 2001 to 2003 to determine if the priority pollutants established in the CTR and NTR were detected. Analytical results were submitted for volatile substances, semi-volatile substances, pesticides, metals, asbestos, and 2,3,7,8-TCDD dioxin. The Discharger also performed effluent sampling for sixteen dioxin congeners. The sampling schedule is summarized in the table below.

Summary of Priority Pollutant Sampling Pactiv Corporation, Red Bluff, Tehama County

<u>Status</u>	<u>Effluent and Receiving Water</u>						<u>Effluent Only</u>
	<u>Inorganics (#1-14)</u>	<u>Asbestos (#15)</u>	<u>Dioxins (#16)</u>	<u>VOCs (#17 to 44)</u>	<u>SVOCs (#45 to 101)</u>	<u>Pesticides/PCBs (#102 to 126)</u>	<u>Dioxin Cogeners</u>
4/23/01	X	X		X	X	X	.
7/12/01	X	X	X	X	X	X	X
11/28/01	X	X	X	X	X	X	X
2/27/02	X	X	X	X	X	X	.
7/23/02	X		X				X
12/19/02	X						X
7/10/03							X
Dec 03							X

The methodology described in Section 1.3 of the SIP was used to evaluate the Discharger's monitoring data to determine for what water quality constituents reasonable potential exists to cause or contribute to an instream excursion above a narrative or numerical water quality standard

or objective. Zinc was detected in the effluent at concentrations that may cause or contribute to an in-stream excursion above a narrative or numerical water quality standard or objective.

With the exception of zinc, neither priority pollutants nor dioxins were detected in the effluent at concentrations that may cause or contribute to an in-stream excursion above a narrative or numerical water quality standard or objective. Results are summarized in Attachment D.

BASIS FOR PERMIT CONDITIONS

The Regional Board adopted a *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (hereafter Basin Plan). The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve water quality objectives for all waters of the Basin. This includes plans and policies adopted by the SWRCB and incorporated by reference, such as "Statement of Policy with Respect to Maintaining High Quality of Waters in California" (Resolution No. 68-16). These requirements implement the Basin Plan.

The permit conditions meet the guidelines set by the Basin Plan for the Sacramento River. The conditions are based on past performance by the Discharger and effluent limitations established by 40 CFR 430 - Pulp-Paper, and Paperboard Point Source Category; Subpart J for the application of the best practicable control technology currently available.

The Sacramento River from Shasta Dam to Red Bluff was previously listed as an impaired water body pursuant to Section 303(d) of the Clean Water Act for cadmium, copper, zinc, and unknown toxicity. The listing for metals was mainly a result of long term effects of mining operations at Iron Mountain Mine (located along this reach of river) in addition to other mines upstream of Shasta Dam. Regional Board staff developed a Total Maximum Daily Loads (TMDL) water management strategy for cadmium, copper and zinc loading into the upper Sacramento River. The Board has adopted the technical report, *Upper Sacramento River TMDL for Cadmium, Copper and Zinc*, dated April 2002. There has been a great deal of physical corrective work done at Iron Mountain Mine in the recent years with more work planned in the next few years. An interim TMDL has been developed that focuses on additional copper, cadmium, and zinc removal from Iron Mountain Mine. Five years from development of the interim TMDL a final TMDL, if necessary, will be developed for these metals. The newly adopted 303(d) listing does not include this reach of the river as impaired for these metals.

Discharge Prohibitions.

The Basin Plan provides that all waters shall be maintained free of toxic substances. Water treatment chemicals used in maintaining the manufacturing process or wastewater treatment process may cause toxicity to aquatic life. The Order prohibits the discharge of hazardous or toxic substances (including water treatment chemicals) to surface waters or drainage courses.

The Basin Plan states that surface water shall not cause oils, greases, or other materials in concentrations that cause nuisance or result in a visible film or coating on the surface of the water. This Order prohibits the discharge of petroleum products (including oil, grease, gasoline, and diesel) to surface waters or surface water drainage courses.

Dilution Credit and Mixing Zone

In determining whether a discharge has the reasonable potential to contribute to an in-stream excursion above a narrative or numerical water quality standard (reasonable potential analysis), the dilution of the effluent in receiving water may be considered where areas of dilution are defined. The available dilution may also be used to calculate protective effluent limitations by applying water quality criteria at the edge of the defined mixing zone. In situations where receiving water flows are substantially greater than effluent flows and there is available assimilative capacity, dilution may be considered in establishing effluent limitations.

The Discharger has conducted a mixing zone study for their discharge and is requesting that the Regional Board grant a dilution credit for zinc associated with a mixing zone resulting in a 1:13 dilution of effluent to receiving water. This credit represents the dilution achieved 75-foot downstream of the outfall within the near-field mixing zone, during low flow conditions. The study also concluded that maximum effluent concentrations would be diluted to below the hardness-dependant Basin Plan objective for zinc within approximately 20 feet downstream of the outfall at a ratio of 1:3. The Sacramento River is 780 wide at this cross-section; the widths of the plume 20-feet and 75-feet downstream of the outfall are 8 and 25 feet, respectively, leaving an adequate zone of passage in the river at least 750 feet wide.

The Regional Board is not obligated to delegate the entire assimilative capacity of receiving waters to a single Discharger. There are other point source and non-point source dischargers along the Sacramento River and its tributaries, including the Red Bluff Treatment Plant located $\frac{3}{4}$ miles upstream of the discharge. The Regional Board has considered the Discharger's request for a dilution credit of 13:1, but after evaluating other considerations, this Order is only allotting the Discharger a portion of the assimilative capacity and a dilution credit of 8:1.

Metals Translators

Water quality criteria and objectives for metals in the CTR and Basin Plan are presented as dissolved concentrations for zinc and are hardness dependent. Based on receiving water information submitted by the Discharger, the minimum hardness in the Sacramento River upstream of the Dischargers facility is 43 mg/L. Lacking site-specific data, the USEPA recommends conversion factors (translators) to translate dissolved concentrations to total concentrations. The USEPA conversion factors for zinc in freshwater are 0.978 for the acute and 0.986 for the chronic criteria.

Zinc Effluent Limitations

Based on analytical results of effluent samples collected by the Discharger and the procedures presented in the SIP, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above either the CTR standards or Basin Plan objectives for zinc; therefore, effluent limitations for zinc are included in the Order. Effluent results submitted by the Discharger are summarized in the table below:

Total Zinc Concentrations			
<u>Date</u>	Pactiv Effluent Zinc (<u>ug/L</u>)	Sacramento River Zinc (<u>ug/L</u>)	River Hardness (<u>mg/L</u>)
4/23/01	9	9	49
7/12/01	24	9	43
11/28/02	21	9	56
2/27/02	14	11	54
7/23/02	9	8	43
12/19/02	12	8	54
Average	15	9	50
Minimum	9	8	43
Maximum	24	11	56
Coefficient of Variation ^a	0.6	--	--

^aDefault C_v in SIP for number of samples less than 10 is 0.6

Zinc toxicity is hardness dependent. For a minimum hardness of 43 mg/L, the CTR and Basin Plan criteria for zinc are presented in the table below.

Receiving Water Criteria/Objectives for Zinc		
<u>Basis</u>	Dissolved (<u>ug/L</u>)	Total Recoverable (<u>ug/L</u>)
CTR _{CCC}	50.5	51.2
CTR _{CMC}	50.1	51.2
Basin Plan	17.0	17.4

Criteria are for river hardness = 43 mg/L

The CTR Criteria and Basin Plan objective for zinc were not exceeded in the upstream Sacramento River samples analyzed over the period from April 2001 to December 2002. Following are the steps, as presented in section 1.4.B of the SIP, to calculate the effluent limits for zinc at discharge 001:

Step 1: Applicable water quality criteria (C)

CTR criteria and the Basin Plan objective are a function of receiving water hardness and are given by the following equations (note: criterion continuous concentration (CCC), criterion maximum concentration (CMC)):

$$\begin{aligned} \text{CCC (chronic)} &= e^{(0.8473 \cdot \ln(\text{hardness}) + 0.884)} * (0.986) \text{ as dissolved fraction} \\ \text{CMC (acute)} &= e^{(0.8473 \cdot \ln(\text{hardness}) + 0.884)} * (0.978) \text{ as dissolved fraction} \\ \text{Basin Plan objective for zinc} &= e^{(0.830 \cdot \ln(\text{hardness}) - 0.289)} \text{ as dissolved fraction} \end{aligned}$$

Using the river hardness data for July 2001 through October 2002, the minimum hardness of 43 mg/L gives the following **dissolved** criteria:

$$\begin{aligned} \text{CCC} &= 57.8 \text{ } \mu\text{g/L} \\ \text{CMC} &= 57.3 \text{ } \mu\text{g/L} \\ \text{Basin Plan} &= 17 \text{ } \mu\text{g/L} \end{aligned}$$

Applying the translator of 0.986 for chronic and 0.978 for acute gives the following **total** criteria:

$$\begin{aligned} \text{CCC} &= 57.0 \text{ } \mu\text{g/L} \\ \text{CMC} &= 56.0 \text{ } \mu\text{g/L} \\ \text{Basin Plan} &= 17.4 \text{ } \mu\text{g/L (using acute multiplier)} \end{aligned}$$

Step 2: Calculate the ECA

$$\text{ECA} = \text{Effluent Concentration Allowance} = C + D \cdot (C - B)$$

$$\begin{aligned} \text{Where: } D &= \text{dilution credit} = 8 \\ B &= \text{background} = 11 \text{ } \mu\text{g/L} \end{aligned}$$

$$\begin{aligned} \text{ECA}_{\text{CCC}} &= 51.2 + 8 * (51.2 - 11) = 425 \text{ } \mu\text{g/L} \\ \text{ECA}_{\text{CMC}} &= 51.2 + 8 * (51.2 - 11) = 416 \text{ } \mu\text{g/L} \\ \text{ECA}_{\text{BP}} &= 17.4 + 8 * (17.4 - 11) = 69 \text{ } \mu\text{g/L} \end{aligned}$$

Step 3: Determine long-term average (LTA)

$$C_V = 0.6$$

$$\text{ECA multiplier}_{\text{chronic}99} = 0.527$$

$$\text{ECA multiplier}_{\text{acute}99} = 0.321 \text{ (Used also for Basin Plan objective)}$$

$$\begin{aligned} \text{LTA}_{\text{CCC}} &= \text{ECA}_{\text{CCC}} * 0.527 = 224 \text{ } \mu\text{g/L} \\ \text{LTA}_{\text{CMC}} &= \text{ECA}_{\text{CMC}} * 0.321 = 134 \text{ } \mu\text{g/L} \\ \text{LTA}_{\text{BP}} &= \text{ECA}_{\text{BP}} * 0.321 = 22 \text{ } \mu\text{g/L} \end{aligned}$$

Step 4: Select lowest LTA: $\text{LTA}_{\text{BP}} = 22 \text{ } \mu\text{g/L}$

Step 5: Calculate water quality based effluent limits

$C_v = 0.6$; AMEL multiplier₉₅ = 1.55 (n=4 for less than 4 samples per month)
 MDEL multiplier₉₉ = 3.11

Average Monthly Effluent Limit = 1.55 * LTA = 34 µg/L

Maximum Daily Effluent Limit = 3.11 * LTA = 68 µg/L

Effluent Limitations for Other Constituents and Parameters

All of the Discharger’s products are produced from molded pulp and no deinking processes are used. Effluent limitations for this type of operation are governed by 40 CFR 430, Subpart J - Secondary Fiber Non-Deink Subcategory – facilities where molded products from waste paper are produced without deinking. With few exceptions, the Discharger operates continuously. Based on Subpart J, effluent limits for continuous dischargers are as follows:

**Best Practicable Control Technology currently Available (BPT)
 Effluent Limits (kg/kkg product)**

	Maximum for any 1 day	Average daily values for 30 consecutive days
BOD5	4.4	2.3
TSS	10.8	5.8
pH	Within the range of 5.0 and 9.0 at all times	

Pactiv produces 900 tons (1.8 million pounds) of product per month and operates daily, resulting in an average daily production of 6,000 pounds.

In a letter dated March 18, 2004, the Discharger has certified that they do not use chlorophenolic-containing biocides. Consequently in accordance with CFR 430.104, best available technology economically achievable (BAT) effluent limitations for pentachlorophenol and trichlorophenol are not applicable.

BOD₅: The Basin Plan states that waters shall not contain biostimulatory substances in concentrations that cause nuisance or adversely affects beneficial uses. The daily maximum BOD₅ limit in the previous permit was 30 mg/L, which is consistent with benchmark values established by the USEPA. Based on the guidelines in 40 CFR 430 and the Discharger’s historic production rates, the maximum amount of BOD5 in the effluent is as follows:

Maximum day BOD₅
 6,000 pounds of product/day x 4.4 pounds/1000 pounds product = 264 pounds/day

30-day average BOD₅
 6,000 pounds of product/day x 2.3 pounds/1000 pounds product = 138 pounds/day

Suspended Solids: The Basin Plan states that waters shall not contain suspended material in concentrations that cause nuisance or adversely affects beneficial uses. The daily maximum suspended solids limit in the previous permit was of 30 mg/L. Based on the guidelines in 40 CFR 430 and the Discharger's historic production rates, the maximum amounts of suspended solids in the effluent is as follows:

Maximum day suspended solids
6,000 pounds of product/day x 10.8 pounds/1000 pounds product = 648 pounds/day

30-day average suspended solids
6,000 pounds of product/day x 5.8 pounds/1000 pounds product = 348 pounds/day

Settleable Solids: The Basin Plan states that waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affects beneficial uses. The Order contains 30-day average and daily maximum settleable solids limits of 0.1 mL/L and 0.2 mL/L respectively. The settleable solids limits in this permit are based on what can reasonably be achieved in well-designed, constructed and operated pollutant control systems. These limits are consistent with the previous Order.

pH Limit: This Order requires the effluent pH to remain between 6.0 and 9.0 units. These limits are consistent with the previous Order, as well as the Basin Plan. However, these limits are more restrictive than those contained in 40 CFR 430, Subpart J, which requires the pH of effluent to be between 5.0 and 9.0.

Acute Toxicity Limits: The Discharger uses a wide range of chemicals in their production and water quality treatment including coagulants, flocculants, pigments, anti-scaling chemicals, and biocides. The Basin Plan states: "*All waters shall be maintained free of toxic substances... This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances... In addition, effluent limits based upon acute biotoxicity tests of effluents will be prescribed...*" This Order contains effluent limits for acute toxicity that are consistent with the previous Order.

Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay - - - - - 70%
Median for any three or more consecutive bioassays - - - - 90%

IMPACTS TO GROUNDWATER

Resolution No. 68-16 requires the Regional Board in regulating discharge of waste to maintain high quality waters of the State until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Regional Board's policies

(e.g., quality that exceeds water quality objectives). Resolution No. 68-16 requires that the discharge be regulated to meet best practicable treatment or control to assure that pollution or nuisance will not occur and the highest water quality consistent with the maximum benefit to the people of the State be maintained. Resolution No. 68-16 applies to both surface water and groundwater.

The Regional Board has considered Resolution No. 68-16 and finds that the current discharge may be inconsistent with this policy, and could cause an increase in groundwater constituent concentrations above water quality objectives, specifically: specific conductance, total dissolved solids, and general minerals. Although groundwater impacts have not been evaluated, it has also not been demonstrated that degradation of groundwater by this discharge would be consistent with the maximum benefit to the people of the State. Therefore to assure that the discharge, as permitted herein, is consistent with Resolution No. 68-16, the Discharger is required to propose and fully implement Best Practicable Treatment or Control (BPTC) measures so that the discharge does not create a condition of pollution or nuisance and that the highest water quality will be maintained.

Molded pulp process wastewater contains constituents such as total dissolved solids (TDS), specific conductivity, general minerals and oxygen demanding substances (BOD and COD). The storage of this wastewater in unlined settling ponds may result in percolation of constituents and an increase in the concentration of these constituents in groundwater. Operation of the unlined ponds for settling has a reasonable potential to impact the underlying groundwater. For example, impacts to groundwater from the adjacent landfill (owned and operated by the Discharger and containing sludge from the settling ponds) have been documented. The potential impacts on usable groundwater and the appropriate level of degradation that complies with Resolution No. 68-16 have not been fully evaluated. Additionally, the Discharger has recently reduced their production capacity by 65 percent; the effects of these reductions on untreated wastewater quality has not been fully evaluated. The Discharger's current effort may not constitute BPTC as intended in Resolution No. 68-16.

In accordance with Provision G.1, the Discharger shall characterize the quality of wastewater generated under the new reduced production conditions, evaluate the current treatment for process wastewater, assess potential impacts to groundwater based on current treatment, site condition and hydrogeology, and evaluate potential new BPTCs. The results will determine the need to install and sample groundwater monitoring wells. This Order establishes a schedule of tasks to evaluate BPTCs for the treatment of process water, including the operation of the sludge settling basins. Completion of these tasks, and implementation of the approved strategies will ensure that BPTC and the highest water quality consistent with maximum benefit to the people of the State will be achieved. Should full BPTC implementation not be performed, the Regional Board may reopen this Order to reconsider groundwater limitations, groundwater monitoring, and other requirements to comply with Resolution No. 68-16. Accordingly, the discharge is consistent with Resolution No. 68-16.

INDUSTRIAL STORMWATER

This new Order does not include authorization for the discharge or monitoring of industrial storm water. Because the Discharger will continue to discharge unpolluted industrial storm water from storm water discharge locations SW-1 and SW-2, prior to the 2004/2005 rainy season, the Discharger will submit a Notice of Intent and seek coverage under the Discharges of Storm Water Associated with Industrial Activities (General ISW Permit). The facility's Standard Industrial Classification code is 2679, for "Converted Paper and Paperboard Products, Not Elsewhere Classified." Monitoring required under the General ISW Permit includes: pH, total suspended solids, oil and grease, and electrical conductivity.

MONITORING AND REPORTING

Effluent (Discharge 001) Monitoring: Effluent monitoring for pH, suspended solids, BOD₅, settleable solids, and toxicity remains from the previous Order to determine compliance with Effluent Limitations. Frequency of daily sampling for most constituents was reduced to weekly because effluent limitation violations were not observed in the last five years. During priority pollutant sampling, cadmium was detected but not quantified once in the discharge and receiving waters at concentrations above water quality criteria; annual effluent and receiving water monitoring for cadmium is performed to confirm the presence or absence of cadmium in the discharge and receiving water. Zinc sampling has been added to determine compliance with a zinc effluent limitation which has been added to this Order since it has been determined that zinc has a reasonable potential to impact water quality. Hardness sampling is required because zinc and cadmium concentrations are hardness-dependant.

Three Species Chronic Toxicity. This Order requires monitoring for chronic toxicity annually. This requirement is consistent with those for similar facilities. If initial and confirmation testing indicates that the discharge causes, has the reasonable potential to cause or contributes to an in-stream excursion above the water quality objective for toxicity at the edge of the approved mixing zone (8:1 dilution credit), then the Discharger shall initiate a Toxicity Identification Evaluation (TIE) to identify the causes of toxicity. Upon completion of the TIE, the Discharger shall submit a work plan to conduct a toxicity reduction evaluation (TRE), and upon approval conduct the TRE. This Order will be reopened to include a chronic toxicity limitation and/or a limitation for the specific toxicant identified in the TRE. Additionally, if a chronic toxicity water quality objective is adopted by SWRCB, this Order may be reopened to include a limitation based on that objective.

Receiving Water. Visual monitoring of the receiving water continues from the previous Order. Receiving water monitoring for turbidity, pH, temperature, and electrical conductivity is continued to determine compliance with Receiving Water Limitations.

Priority Pollutant Monitoring (Effluent and Receiving Water). The Discharger uses a wide variety of chemicals in their process and to treat water. Chemical usage and processes may change in the future. This Order requires monitoring once prior to permit renewal to determine if

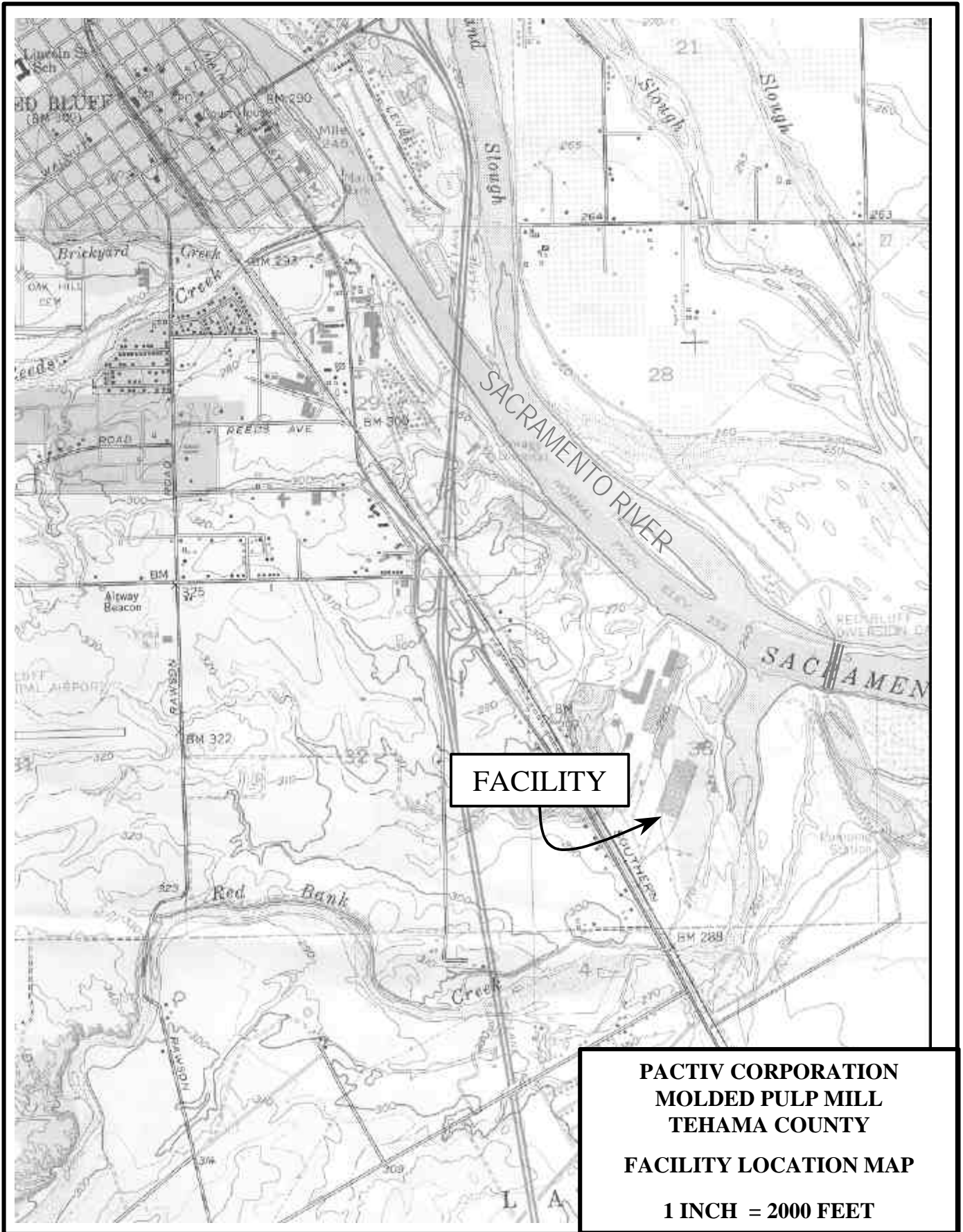
these chemicals cause the discharge to have a reasonable potential to impact water quality. The sampling event and analysis of the discharge and receiving water shall be conducted according to the same requirements as the sampling events described in the 8 December 2000 California Toxics Rule / National Toxics Rule letter sent to the Discharger by the Regional Board.

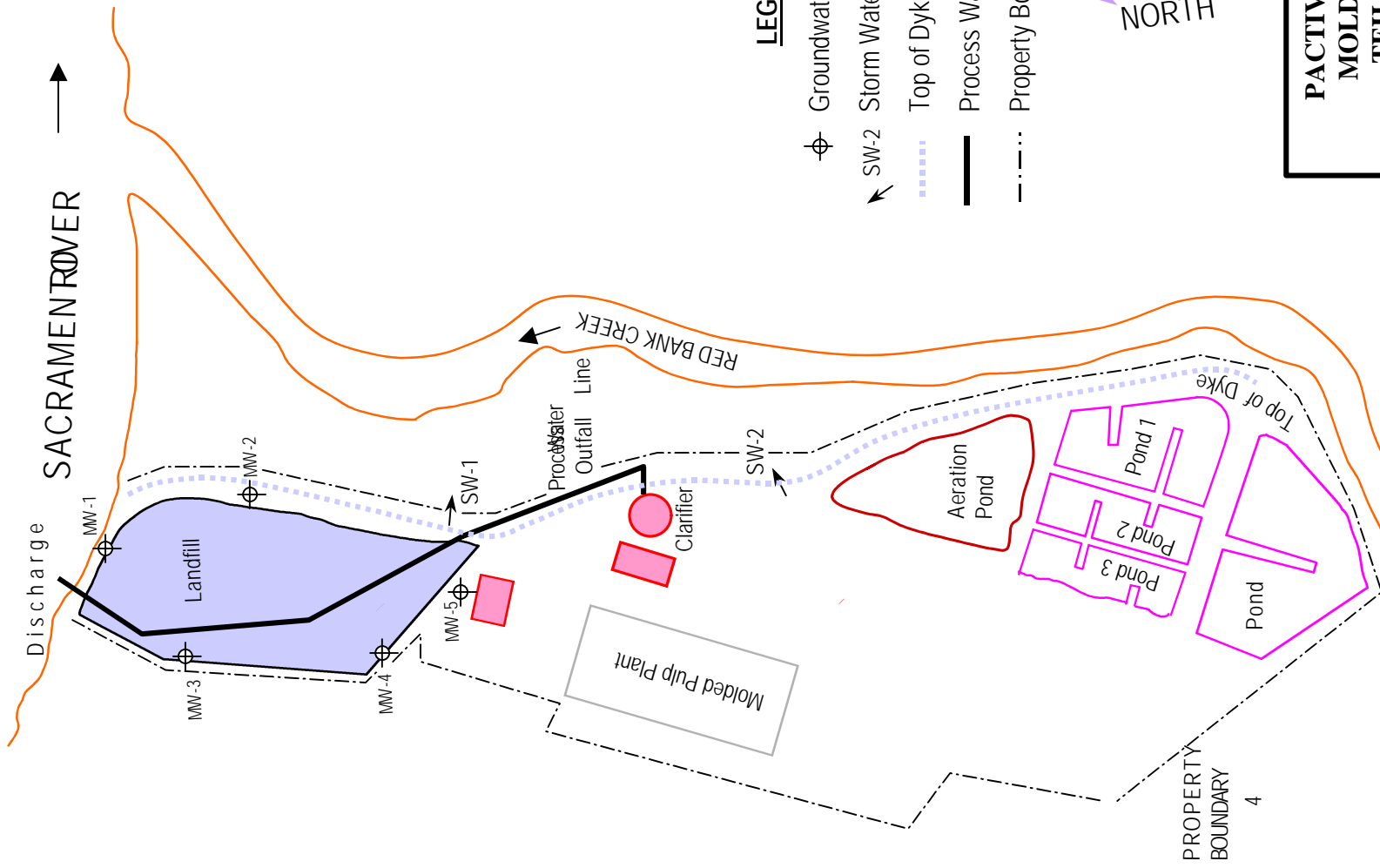
PERMIT REOPENER

If after a review of any monitoring results, it is determined that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above water quality objectives, this Order may be reopened and limitations based on those objectives included. Additionally, if pollutants are detected in discharges from the Discharger's facility, but insufficient information exists to establish an effluent limit or determine if an effluent limit is necessary, then additional monitoring will be required to provide sufficient information.

The Regional Board may also reopen this Order to reconsider groundwater limitations, groundwater monitoring, and other requirements to comply with Resolution No. 68-16 should full BPTC implementation not be performed.

The Discharger may conduct studies pertaining to Facility operations, the effluent discharge, and the receiving water. For example, such studies may include a site-specific metals translator study, or a mixing zone and dilution study. If requested, the Regional Board will review such studies and if warranted, will reopen this permit to make appropriate changes.



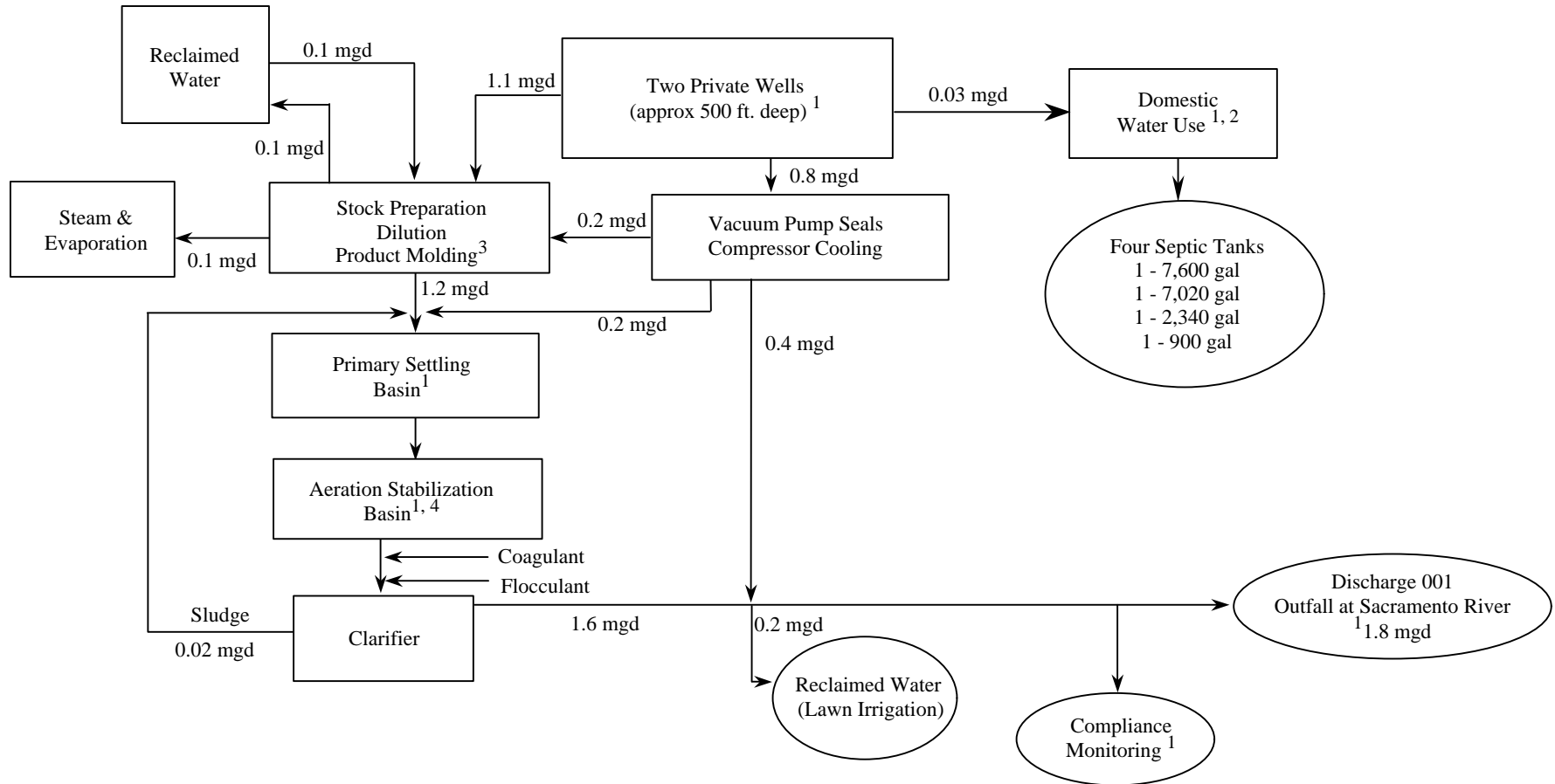


LEGEND

- ⊕ Groundwater Monitoring Wells
- ↙ SW-2 Storm Water Discharge Locations
- ⋯ Top of Dyke
- Process Water Outfall Line
- - - - Property Boundary



**PACTIV CORPORATION
 MOLDED PULP MILL
 TEHAMA COUNTY
 SITE MAP
 NOT TO SCALE**



LEGEND

- 1 Indicates locations where samples are collected and testing conducted.
- 2 Supply water is chlorinated for domestic use.
- 3 Process chemicals include sizing agents, retention aids, fluorochemicals colorants, wax, wet strength agents, and biocide.
- 4 The aeration stabilization basin is used to control flow to the clarifier. Due to the reduction in plant operations, current wastewater treatment plant operations are on a curtailed schedule of approximately 5 days per week, resulting in the effluent flow rate being higher than the influent flow rate.

**PACTIV CORPORATION
 MOLDED PULP MILL
 TEHAMA COUNTY
 PROCESS WATER
 FLOW DIAGRAM
 NOT TO SCALE**

Inorganic CTR Priority Pollutant Results, Pactiv Corporation, Red Bluff, Tehama County

	4/23/01		7/12/01		11/28/01		2/27/02		7/23/02		12/19/02	
	RW	Effluent	RW	Effluent	RW	Effluent	RW	Effluent	RW	Effluent	RW	Effluent
Hardness	49	154	43	192	56	180	54	190	43	191	54	154
pH	7.75	7.52	7.36	7.38	7.37	7.24	7.4	7.17	7.44	7.17	7.78	7.73
1 Antimony	ND	ND	ND	ND	0.07	0.08	* 0.08	* 0.12	* 0.06	* 0.09	* <0.02	* <0.02
2 Arsenic	2	1	3	1	1.8	1.1	1.1	1.4	1.4	1	1	1.3
3 Beryllium	ND	0.33	* ND	ND	ND	ND	ND	ND	ND	ND	<0.1	<0.1
4 Cadmium	0.36	* 0.35	* ND	ND	ND	ND	0.04	* ND	0.03	* 0.02	* <0.02	<0.02
5a Chromium	1	1	0.7	* 0.5	* 0.3	* 0.2	* 0.5	0.1	* 0.6	0.1	* 1.6	<0.1
5b Hex Chromium	ND	ND	-	-	ND	ND	ND	ND	ND	ND	ND	ND
6 Copper	4	4	2	0.4	* 1.9	2.5	3.2	1.3	1.5	2.5	3.5	1.1
7 Lead	0.69	* 0.53	* ND	ND	0.35	* 0.47	* 0.12	* 0.21	0.08	0.09	* 0.32	* 0.13
8 Mercury	0.9	0.7	3.9	3.3	0.8	1.5	1.17	0.88	* 1.01	1.1	0.92	4.78
Mercury - Field Dup.	-	-	-	-	-	-	1.12	0.76	1	1.15	-	-
Mercury - Eq. Blank	-	-	-	-	-	-	ND	ND	0.48	* 0.45	* 0.25	0.33
9 Nickel	2	4	0.7	* 4	1	4	1	5	1	4	4	4
10 Selenium	ND	ND	ND	ND	0.2	* 0.5	* 0.3	* 0.7	* 0.2	* 0.5	* 0.2	* 0.6
11 Silver	0.32	* 0.31	* ND	ND	ND	ND	ND	ND	ND	ND	<0.08	<0.08
12 Thallium	0.25	* 0.24	* ND	ND	ND	0.01	* ND	ND	ND	ND	<0.01	<0.01
13 Zinc	9	9	9	24	9	21	11	14	8	9	8	12
14 Cyanide	ND	ND	6	ND	ND	ND	2	3	ND	ND	ND	ND

Organic CTR Priority Pollutant Results, Pactiv Corporation, Red Bluff, Tehama County

Date	bis(2-ethylhexyl)phthalate		di-n-butylphthalate		OctaCDD	
	Effluent	RW	Effluent	RW	Effluent	RW
04/23/01	ND	2	* ND	ND	-	-
07/12/01	ND	ND	ND	ND	ND	ND
11/28/01	ND	3	* 2	* 2	8E-10	ND
02/27/02	ND	ND	ND	ND	-	-
07/23/02	-	-	-	-	ND	ND
12/19/02	-	-	-	-	ND	ND
7/10/03	-	-	-	-	ND	-
Dec 03	-	-	-	-	ND	-

NOTES

1. All concentrations in ug/L, except mercury which is in ng/L
2. "-" indicates sampling was not performed.
3. "ND" indicates Not Detected
4. "***" indicates Estimated Concentration, detected but not Quantified.
5. Bis-(2-ethylhexyl) phthalate, di-n-butylphthalate, and the dioxin cogener OctaCDD were the only CTR Organic Priority Pollutants detected in either the effluent or receiving water.
- 6 RW indicates Receiving Water