

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2003-0141

WASTE DISCHARGE REQUIREMENTS
FOR
CALIFORNIA NATURAL PRODUCTS
WASTEWATER TREATMENT FACILITY
SAN JOAQUIN COUNTY

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

1. California Natural Products (“Discharger” or “CNP”) submitted a Report of Waste Discharge (RWD), dated January 2003, for the land application of industrial wastewater. The RWD was submitted to add a new land application area and reduce the size of an existing land application area. In addition, the Discharger is requesting an increased flow limit based on the acquisition of additional land for wastewater application.
2. The RWD was submitted to revise Waste Discharge Requirements (WDRs) Order No. R5-2002-0071 that were adopted on 26 April 2002.
3. The processing facility is at 1250 E. Lathrop Road at the intersection of McKinley Avenue and Lathrop Road. The processing facility is on Assessor’s Parcel Number 198-040-01; the land application areas are on Assessor’s Parcel Nos. 198-040-01, 198-060-02, 198-100-18, and 198-090-17.
4. The properties are in Sections 25 and 26, T1S, R6E, MDB&M, as shown in Attachment A, which is attached hereto and made part of the Order by reference. The Discharger owns all of the parcels to be used for processing and/or land application.

BACKGROUND

5. The Discharger processes rice and soy into food products such as rice syrup, rice syrup solids, rice milk, soy products, tea, and vegetable soups. Operations are conducted year round, five to seven days a week, three shifts per day, with cleanup operations performed as required, typically not less often than every forty-eight hours.
6. Products are packaged for retail sale on site. Aseptic packaging under sterile conditions requires hot water from boilers and regular acid/caustic tank and equipment cleaning cycles. Reverse osmosis (RO) is used to treat boiler feed water. RO reject water with a total dissolved solids concentration of approximately 1,200 mg/L is discharged to the process wastewater discharge tank.
7. The specific conductance of the water supply before use by the Discharger ranges from 470 µmhos/cm to 660 µmhos/cm. There is approximately a three-fold increase in total dissolved solids concentration in wastewater. In the past, the Discharger switched from ion exchange to reverse osmosis to reduce the amount of total dissolved solids in the process wastewater.

8. The facility is equipped with a Clean In Place (CIP) system. Caustic and acid cleaning solutions (potassium hydroxide solution and nitric acid/phosphoric acid mixture) are recycled several times prior to discharge to the wastewater system. Caustic and acid solutions are neutralized, forming potassium nitrate. The trickling filter then consumes much of the nitrate. Residual potassium and nitrate are further taken up by the cropping activities in the land application areas.
9. CNP has been discharging process wastewater to land since the early 1980s; however, the discharge volume averaged less than 100 gallons per day (gpd) until approximately 1990. Based on the low flow and wastewater characteristics, WDRs were initially waived in accordance with the provisions of Regional Board Resolution 82-036; the Regional Board first adopted WDRs for this discharge in 1998. Much larger flows were discharged to land thereafter.
10. From 1980 to 1997, CNP's disposal area was located near the processing facility. The current and previously used application area locations are presented on Attachment A. The 17.6 acre land application area was developed and irrigation pivots were installed in 1996. In 2002, a 16.0 acre land application area on Louise Avenue was added to the application system.
11. The Discharger plans to sell 7.5 acres of the 17.6 acre land application area. That portion of the 17.6 acre parcel will no longer be used for land application of wastewater. To offset the lost area and develop additional land application area, the Discharger is developing a 29.7 acre parcel for land application of wastewater. This latest parcel is to the north of the 16.0 acre parcel.
12. The City of Lathrop and the City of Manteca have permitted CNP to discharge up to 150,000 gpd of process and domestic wastewater to the Manteca wastewater treatment plant through the City of Lathrop's collection system on an interim basis. However, because of declining capacity at the Manteca treatment plant, a discharge maximum of 60,000 gpd was imposed. CNP typically has discharged approximately 50,000 gpd to the municipal system. The RWD states the Discharger will continue to discharge approximately 60,000 gpd of wastewater to the municipal system, barring further restrictions by the City of Manteca or the City of Lathrop.
13. The flow to the municipal system utilizes capacity that is allocated to the City of Lathrop, but not yet used. CNP has purchased a capacity of 200,160 gpd in the expansion of the Manteca wastewater treatment plant that is currently in progress and is currently scheduled to become available in 2005.
14. Based on projected increases in CNP's wastewater flow rates, additional capacity at treatment plants or additional land application areas will be necessary. CNP has investigated discharging to alternative treatment plants such as the Sharpe Depot wastewater treatment plant or the planned treatment systems proposed in the City of Lathrop. CNP has also considered using interim capacity available in the City of Manteca's expansion project. Wastewater generation at CNP is expected to increase in the future as presented in the table below. The data presented is the total anticipated flow rate and will be split between the land application area and municipal treatment system discharges.

<u>Year</u>	<u>Projected Flow (gpd)</u>	<u>Year</u>	<u>Projected Flow (gpd)</u>
2000 ¹	250,000	2006	420,000
2001 ²	233,874	2007	440,000
2002 ²	254,997	2008	460,000
2003	350,000	2009	480,000
2004	375,000	2010	500,000
2005	400,000		

¹ Metering data unreliable.

² Denotes actual average flow rate.

15. The RWD supports an annual monthly average land application rate of 370,000 gallons per day (gpd) and maximum monthly average land application rate of 429,000 gpd. Based on the current discharge rate of 60,000 gpd of wastewater to the municipal system, the expected annual average and maximum monthly average total wastewater generation rates will be 430,000 and 489,000 gpd, respectively. Because market demand fluctuates during the year, the Discharger has requested flexible flow rate limits to allow the business to respond to the market conditions.

WASTEWATER SYSTEM

16. Process and cleanup wastewater is piped to a central collection sump where it is pumped to the treatment system.
17. Wastewater generated in the processing plant is characterized by a high organic matter and solids content. Effluent concentrations have declined substantially since the optimization of wastewater pretreatment systems. The average concentrations of analytes in the process wastewater and treated wastewater are as follows:

<u>Constituent</u>	<u>Units</u>	<u>Untreated Wastewater</u> ¹	<u>Treated Wastewater</u> ²
Biochemical Oxygen Demand	mg/L	2,205	151
Electrical Conductivity	µmhos/cm	1,550	1,687
Total Dissolved Solids	mg/L	2,190	1,098 ³
Fixed Dissolved Solids	mg/L	1,279	735 ³
Total Nitrogen	mg/L	49.3	15.9
pH	Standard	8.6	7.4

¹ Untreated wastewater data from Wastewater Capacity Plan, 17 January 2000, prepared by B. Dickson.

² Treated wastewater data from monthly average data since January 2001, RWD Table 10, January 2003 except where noted.

³ Data from table titled "Wastewater Flow and Effluent Analysis" in Appendix B. Data from March 2001 to October 2002.

18. CNP's treatment of process wastewater consists of screening using a rotary screen and two 100-micron stainless steel parabolic screens; holding/recycle tank; pH control; Dissolved Air Flotation (DAF) clarifier; a 45-foot diameter, 26-foot high trickling filter; and aerated skimmer. Prior to discharge, the wastewater is stored in a 13,000 gallon tank.

19. The trickling filter operates at 2,500 gpm. Wastewater is recycled approximately ten times through the filter. Because the process wastewater is high in BOD and low in nitrogen, the Discharger adds ammonium nitrate to the wastewater as a nutrient to optimize BOD removal in the trickling filter.
20. Wastewater samples are collected by a time composite sampling device, which collects a 100 ml sample every one-half hour from the 13,000 gallon discharge tank.
21. Solids collected on the screens are placed in containers. Solids that are collected in the aerated skimmer and DAF clarifier are dewatered by a combination of centrifuge and rotary screen. All solids are contained in bins, transported off site, and used for animal feed or landfilled.
22. RO reject water normally is directed to the 13,000 gallon discharge tank but can be discharged to the trickling filter if wastewater becomes too acidic due to an overload of sugar and the resulting organic acids. The Discharger can raise or lower the pH during the treatment process, but has rarely found it necessary to lower the pH.

LAND APPLICATION SYSTEM

23. Wastewater is currently discharged to four land areas, a 3.5 acre landscaped area, a 9.2 acre landscaped area, a 17.6 acre land application area (will be reduced to 10.1 acres), and a 16.0 acre land application area as shown on Attachment B; which is attached hereto and made part of the Order by reference. A new 29.7 acre land application area will be developed for future use. The wastewater application areas are termed "landscaped" if they are planted with perennial grass or other decorative plants and "land application area" if they are cropped with plants such as wheat, barley, oats, rye, corn, or alfalfa.
24. In order to reduce the potential for generation of objectionable odors and to land apply the wastewater in a manner that is more protective of groundwater quality, the Discharger has proposed to increase the total land available for application from 46.3 acres to 68.5 acres. To do so, the Discharger is proposing development of an additional 29.7 acre landscaped area and reduction of the 17.6 acre land application area to 10.1 acres. The new configuration of the land areas are listed in the table below:

<u>Land Area</u>	<u>Acres</u>	<u>Comment</u>
Landscaped Area	3.5	Monitored to prevent runoff
Landscaped Area	9.2	Bermed and monitored to prevent runoff
Field No. 1	10.1	Previously 17.6 acres, sold 7.5 acres for other use
Field No. 2	16.0	Wastewater delivered by pipeline
Field No. 3	29.7	Wastewater delivered by pipeline

25. Wastewater will be delivered to the 16.0 acre and 29.7 acre land application areas via an underground pipeline within the County right-of-way.

26. The 9.2 acre landscaped area is bermed around most of the area; areas that are not bermed will be closely monitored to prevent the generation of runoff. The 3.5 acre landscaped area will not be bermed but will be posted and closely monitored to prevent runoff.
27. To control tailwater, the 10.1 acre, 16.0 acre, and 29.7 acre land application areas will be bermed. Wastewater application will be by flood irrigation. Sprinkler application of wastewater in the land application areas is acceptable if the application is in compliance with Section D, "Land Application Area Specifications" and if the land application area has been adequately prepared to receive sprinkler applied wastewater. The Discharger will grow sudan grass in the summer and a choice of barley, oats, or wheat in the winter. Other crops may be acceptable as long as the discharge complies with the Effluent Limitations.
28. Wastewater will be sprinkler or drip applied to the 3.5 acre and 9.2 acre landscaped areas. Flood irrigation of wastewater in the landscaped areas is not an acceptable application technique. The Discharger states that a full-time groundskeeper will be responsible for making wastewater applications and ensuring that no runoff occurs.
29. The January 2003 RWD presented a water balance which showed adequate land areas with capacity to accept monthly average wastewater flow of 370,000 gpd of wastewater and rainfall (using the 100-year return annual precipitation total). Because adequate land application areas are available, a wastewater storage pond is not required. The Discharger is allowed to discharge wastewater to the land application areas (not the landscaped areas) during rain events provided all requirements of the WDRs are complied with.
30. The Regional Board received odor complaints in October 1987, July 1997, July 1998, March 2000, and July 2000. The odor complaints concerned the Discharger's 17.6 acre land application area. The Discharger has since made improvements to its treatment and disposal system, and odor complaints have not been received for the last two years.
31. Based on the anticipated wastewater quality and volume discharged from the treatment facility when operated properly, discharge of the wastewater should comply with the BOD effluent limitations presented in Section C. Compliance with the effluent limits, combined with careful management of the wastewater application areas, should control objectionable odors.
32. Wastewater application in the land application areas and landscaped areas will be rotated to provide soil drying time and to prevent odors. If odors are detected, the irrigated areas will be allowed to dry out thoroughly. Regular discing activities will be performed between crop activities.
33. Soil borings drilled in the 17.6 acre and 16.0 acre land application areas described soil as silt, sand, and clay mixtures. According to the San Joaquin County Soil Survey, the soils underlying the land application site consist of a loamy coarse sand and a fine sandy loam, with rapid and moderately rapid permeabilities, respectively. The sandy loam soils contain a weakly cemented to a strongly cemented hardpan layer at a depth of four to six feet. Several years ago, the Discharger deep ripped through this hardpan layer to improve percolation.

34. In April 2001, on-site infiltration tests were conducted at the 17.6 acre land application site and at the 16.0 acre land application area. Six double ring infiltrometer tests were performed, using wastewater from the CNP facility. Results ranged from 0.19 to 2.25 in/hr, and averaged 0.80 and 1.09 in/hr at the 17.6 acre site and 16.0 acre site respectively. Based on this information, infiltration rates for the land application area were characterized as moderate.
35. Based on a monthly average application rate of 370,000 gpd and 100-year precipitation data, it is anticipated that less than 2.0 percent of the available infiltration capacity of the application area soil will be utilized during the 100-year precipitation peak month.

OTHER WASTE STREAMS

36. Stormwater collected at paved areas and loading docks is piped to the wastewater treatment system. Stormwater that falls on buildings is discharged to stormwater retention basins.
37. Employee showers and the newer restrooms are piped to the domestic wastewater lift station where it is pumped to the City of Lathrop's wastewater collection system. Some of the older restrooms are connected to septic tanks. It is unclear why the Discharger has not connected all of the restrooms to the City collection system, and therefore the Discharger is required to demonstrate whether the use of the domestic septic systems have the potential to impact water quality. Domestic wastewater is not commingled with the process water that is land applied.

GROUNDWATER CONDITIONS

38. Three groundwater monitoring wells were installed at the 17.6 acre land application site in July 1988. The locations of the monitoring wells are shown on Attachment B. The Discharger has monitored groundwater levels since June 1994. However, the historic data quality is poor and therefore the data are not reliable. In the year 2001, the existing monitoring wells were resurveyed and Well W-4 was installed at the 17.6 acre land application area. Wells L-1, L-2, and L-3 were installed in the 16.0 acre land application area. Monthly monitoring of all these wells was conducted from May 2001 to February 2002, and quarterly thereafter. In November 2002, Well W-5 was installed as a background well at the 17.6 acre land application area. The Discharger has failed to adequately determine the hydrologic conditions at the land application area and therefore additional analysis of groundwater flow conditions are required in the Provisions section of this Order.
39. The depth to groundwater is approximately 10 to 15 feet bgs and the groundwater gradient is reportedly to the northwest, although locally, groundwater depth and flow may be influenced by local pumping and irrigation patterns.
40. The average analytical results for groundwater samples collected from May 2001 to May 2003 for Wells W-1 through W-5, and L-1 through L-3 are presented below. Earlier analytical data is not presented because it is considered to be poor quality and therefore unreliable.

<u>Analytes</u>	<u>Units</u>	<i>17.6 Acre Area</i>	<i>16.0 Acre Area</i>
		<u>Average (W-1 through W-5)</u>	<u>Average (L-1 through L-3)</u>
TDS	mg/l	1,380	428
NO ₃ as N	mg/l	30	16
Ammonia	mg/l	1.3	0.2
TKN	mg/l	0.8	0.7

TDS denotes Total Dissolved Solids. NO₃ as N denotes Nitrate as Nitrogen. TKN denotes Total Kjeldahl Nitrogen.

41. As indicated in the table above, the average TDS and nitrate as nitrogen concentrations in the groundwater below the 17.6 acre land application area are significantly higher than the groundwater below the 16.0 acre land application area, which has been used for land application only since February 2003. The data indicates that groundwater below the 17.6 acre land application area may be impacted by the discharge of wastewater from the facility. It is noted that Well W-5, installed in January 2003 as the upgradient well for the 17.6 acre land application area, is questionable as to whether or not it is upgradient and out of the influence of wastewater discharge to the land application area. However, a limited number of samples collected from Well W-5 have had lower concentrations of TDS and nitrate as nitrogen (1,050 mg/L and 12.4 mg/L respectively) than the average concentrations reported in the table presented above.
42. These WDRs require monitoring of shallow groundwater conditions, including background water quality and direction of groundwater movement throughout the year.
43. The Discharger has substituted certain chemicals in the processing facility with more environmentally acceptable alternatives (i.e. potassium hydroxide for sodium hydroxide, and nitric/phosphoric acid for CIP solutions) resulting in wastewater with more plant nutrients. This approach should result in lower TDS percolate concentrations when applied to cropped land application areas. In addition, the Discharger began growing crops on the 17.6 acre land application area in the year 2001; both actions should lead to a reduction in TDS and nitrate concentrations beneath the 17.6 acre land application area. If reductions are not observed, the Discharger will have to reduce the groundwater impacts through other alternatives.

SITE SPECIFIC CONDITIONS

44. Local land use consists of industrial, residential, and agricultural operations. The topography of the surrounding area is level.
45. The land application areas are located outside the 100-year flood zone.
46. The City of Lathrop operates three drinking water supply wells, which are located between Lathrop Road, Louise Avenue, McKinley Avenue, and the Western Pacific rail line.
47. The average annual total precipitation for this area of San Joaquin County is 13.12 inches. The 100-year annual total precipitation for this area is 21.83 inches. The peak monthly 100-year precipitation of 5.08 inches occurs in January.

48. The majority of industrial activities at the facility are not exposed to storm water, because they are housed indoors. CNP is coded under the Standard Industrial Classification system as 2099, Food Preparations, Not Elsewhere Classified. Therefore, for the purpose of coverage under the NPDES General Permit for Discharges of Storm Water Associated with Industrial Activity, CNP is considered to be a Conditional Industry. The Discharger has completed and filed a Notice of Non-Applicability that certifies that storm water associated with industrial activity does not discharge to waters of the United States. This stormwater is treated and land applied with process wastewater.
49. Surface water drainage is to the San Joaquin River.

BASIN PLAN, BENEFICIAL USES, AND REGULATORY CONSIDERATIONS

50. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition* (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Resources Control Board. Pursuant to Section 13263(a) of the California Water Code, waste discharge requirements must implement the Basin Plan.
51. The beneficial uses of the San Joaquin River (within the Sacramento San Joaquin Delta Hydrologic Area) are municipal and domestic supply, agricultural irrigation and stock watering, industrial process and service supply, contact recreation, other noncontact recreation, warm fresh water habitat, cold fresh water habitat, warm water migration, cold water migration, warm water spawning, wildlife habitat, and navigation.
52. The beneficial uses of underlying groundwater are municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
53. State Water Resources Control Board (State Board) Resolution No. 68-16 requires that the Regional Board, in regulating the discharge of waste, must 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 State Board's policies (e.g., quality that exceeds water quality objectives). Resolution 68-16 also requires that the discharge be required to meet waste discharge requirements which will result in the best practicable treatment or control (BPTC) of the discharge 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.
54. The Regional Board has considered antidegradation pursuant to State Board Resolution No. 68-16 and finds that not enough data exists to determine whether this discharge is consistent with those provisions. Background groundwater conditions are not yet defined at the 17.6 acre land application area. Therefore, this Order provides a schedule for data collection to determine whether the discharge will cause an increase in groundwater constituents above that of background levels. Because the Discharger has only reestablished cropping at the 17.6 acre land application area in 2001, a decrease in the groundwater concentration over time is anticipated. If the discharge

is causing an increase, then the Discharger may be required to cease the discharge, implement source control, change the method of disposal, or take other action to prevent groundwater degradation. The waste will be applied to land at agronomic rates. This Order establishes effluent limitations that are protective of the beneficial uses of the underlying groundwater, requires a salinity source reduction study and requires groundwater monitoring to evaluate whether the discharge of waste is impacting the groundwater quality.

55. Section 13267(b) of California Water Code provides that: *“In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.”*

The monitoring and reporting program required by this Order and the attached Monitoring and Reporting Program No. R5-2003-0141 are necessary to assure compliance with these WDRs. The Discharger operates the facility that discharges the waste subject to this Order

56. Excessive application of food processing wastewater to land application areas can create objectionable odors, soil conditions that are harmful to crops, and degradation of underlying groundwater by overloading the shallow soil profile and causing pollutants (organic carbon, nitrate, dissolved solids, and metals) to percolate below the root zone. If sufficient information becomes available, this Order may be revised to increase or further reduce loading rates as appropriate. If the Discharger is unable to modify its waste stream or application methods such that groundwater quality will not be impacted, then the Regional Board would be required to classify the waste as a designated waste and require full containment under Title 27 of the California Code of Regulations, Division 2, Subdivision 1, beginning with Section 20005 (hereafter Title 27).
57. State regulations pertaining to water quality monitoring for waste management units are found in Title 27, California Code of Regulations (CCR), Section 20380 et seq., (hereafter Title 27 monitoring). These regulations prescribe procedures for detecting and characterizing the impact of waste constituents on groundwater. While the facility is currently exempt from Title 27, the data analysis methods of Title 27 monitoring are appropriate for determining whether the discharge complies with the terms for protection of groundwater specified in this Order.
58. According to *Pollution Abatement in the Fruit and Vegetable Industry*, published by the United States Environmental Protection Agency (US EPA Publication No. 625/3-77-0007) (hereafter *Pollution Abatement*), in applying food processing wastewater to land for biological treatment, the

loading of BOD₅ should not exceed 100 lbs/acre/day (average) to prevent development of nuisance conditions.

59. Acidic soil conditions can be detrimental to land treatment system function, and may also cause groundwater degradation. If the buffering capacity of the soil is exceeded and soil pH decreases below 5, naturally occurring metals (including iron and manganese) may dissolve and degrade underlying groundwater. *Pollution Abatement* recommends that water applied to crops have a pH between 6.4 and 8.4 to protect crops from damage by food processing wastewater. Near neutral pH is also required to maintain adequate active microbial populations in the soil.
60. The California Department of Water Resources sets standards for the construction and destruction of groundwater wells (hereafter DWR Well Standards), as described in *California Well Standards Bulletin 74-90* (June 1991) and *Water Well Standards: State of California Bulletin 94-81* (December 1981). These standards, and any more stringent standards adopted by the State or County pursuant to CWC section 13801, apply to all monitoring wells.
61. The action to adopt WDRs for this existing facility is exempt from the provisions of the California Environmental Quality Act (CEQA), in accordance with Title 14, California Code of Regulations (CCR), Section 15301. On 14 January 2003, the City of Lathrop issued a Notice of Exemption for the installation of a pipeline in order to utilize wastewater to irrigate the 29.7 acre land application area. The City determined that the project is exempt from the provisions of the CEQA, in accordance with Title 14, CCR, Section 15301.
62. This discharge is exempt from the requirements of *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., (hereafter Title 27). The exemption pursuant to Section 20090(b), is based on the following:
 - a. The Regional Board is issuing waste discharge requirements,
 - b. The discharge complies with the Basin Plan, and
 - c. The wastewater does not need to be managed according to Title 22 CCR, Division 4.5, and Chapter 11, as a hazardous waste.
63. Pursuant to California Water Code Section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

PUBLIC NOTICE

64. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.
65. The Discharger and interested agencies and persons have been notified of the intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

66. All comments pertaining to the discharge were heard and considered in a public meeting.

IT IS HEREBY ORDERED that Order No. R5-2002-0071 is rescinded and pursuant to Sections 13263 and 13267 of the California Water Code, California Natural Products, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

Note: Other prohibitions, conditions, definitions, and the method of determining compliance are contained in the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated 1 March 1991.

A. Discharge Prohibitions:

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. The discharge shall not cause the degradation of any water supply.
3. Bypass or overflow of untreated or partially treated waste is prohibited. Bypassing partially treated wastewater is further discussed in the attached *Standard Provisions and Reporting Requirements Conditions Section E2 and General Reporting Requirements Section B1*. In general, bypass of wastewater past the treatment system requires immediate notification to the Regional Board and a written report within 14 days. Bypass can result in enforcement actions against the Discharger.
4. Discharge of waste classified as hazardous, as defined in Sections 2521(a) of Title 23, CCR, Section 2510, et seq., (hereafter Chapter 15), or 'designated', as defined in Section 13173 of the California Water Code, is prohibited.
5. The discharge of toxic substances into the Discharger's wastewater system such that biological mechanisms are disturbed is prohibited.
6. Discharge of water other than facility generated process water to the process wastewater treatment system or septic tanks is prohibited.
7. Discharge of domestic wastewater to the process wastewater treatment system, land application sites, or landscaped areas is prohibited.
8. Discharge of process water to areas other than the designated land areas described in the "Land Application System" section of the Findings, or to a municipal wastewater treatment system that has not permitted the discharge, is prohibited.
9. Excessive irrigation with wastewater that results in tailwater runoff is prohibited.
10. Flood irrigation of landscaped areas is prohibited.
11. Irrigation of landscaped areas with wastewater during periods of precipitation is prohibited.

B. Discharge Specifications:

1. Until improvements are made to the proposed 29.7 acre land application area, the annual average wastewater flow to the land application areas shall not exceed 250,000 gpd and the maximum monthly average flow to the land application areas shall not exceed 290,000 gpd. These flow limits will remain in effect until the additional land application areas improvements are completed and a technical report (as described in Provision G.2.a) has been submitted and approved by the Executive Officer. Upon approval of the technical report, the Discharger's flow limits will be as follows:
 - a. The annual average wastewater discharge to land shall not exceed 370,000 gpd. The annual average flow rate shall be calculated on a calendar year basis.
 - b. The maximum monthly average wastewater discharge to land shall not exceed 429,000 gpd.
2. Neither the treatment nor the discharge shall cause a condition of pollution or nuisance as defined by the California Water Code, Section 13050.
3. No waste constituent shall be released or discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitation, Section F.
4. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the property owned by the Discharger.
5. As a means of discerning compliance with Discharge Specification No. B.4, the dissolved oxygen content of any ponded water shall not be less than 1.0 mg/L at any time.
6. The Discharger shall operate all systems and equipment to maximize treatment of wastewater and optimize the quality of the discharge.
7. The Discharger's wastewater treatment system and land application system shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

C. Effluent Limitations

1. The maximum total nitrogen loading to the land application areas shall not exceed the agronomic rate for plant available nitrogen (PAN) for the type of crop to be grown, as specified in the most recent edition of the Western Fertilizer Handbook. PAN shall be calculated as 100 percent of the total nitrogen content of the waste, unless and until the Discharger demonstrates that another proportion is technically justified, as described in Provision G.14.
2. The maximum BOD₅ loading to the land application areas shall not exceed any of the following:
 - a. 300 lbs/acre on any single day;

- b. 100 lbs/acre•day as a 7-day average;
 - c. The maximum loading rate that ensures that the discharge will not create a nuisance.
3. Wastewater discharged to the land application area shall not have a pH of less than 6.5 or greater than 8.4.

D. Land Application Areas/Landscaped Areas Specifications

1. The discharge shall be distributed uniformly on adequate acreage in compliance with the Discharge Specifications.
2. Crops shall be grown on the application areas and landscaped areas. Crops shall be selected based on nutrient uptake capacity, tolerance to high soil moisture conditions, and consumptive use of water and irrigation requirements. Cropping activities shall be sufficient to take up all the nitrogen applied. Crops shall be harvested and removed from the land application areas and landscaped areas.
3. Hydraulic loading of wastewater and irrigation water shall be at reasonable agronomic rates designed to minimize the percolation of process wastewater and irrigation water below the root zone (i.e., deep percolation).
4. The discharge of process wastewater, including runoff, spray or droplets from the irrigation system, shall not occur outside the boundaries of the land application or landscaped areas.
5. Wastewater conveyance lines shall be clearly marked as such. Wastewater controllers, valves, etc. shall be posted with advisory signs; all equipment shall be of a type, or secured in such a manner, that permits operation by authorized personnel only.
6. No physical connection shall exist between wastewater piping and any domestic water supply or other domestic/industrial supply well without an air gap or approved reduced pressure device.
7. Pipelines installed to convey wastewater shall be clearly labeled or constructed of purple pipe. All modifications to existing pipelines shall use purple pipe or be labeled as reclaimed water.
8. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.
9. The land application area shall be managed to prevent breeding of mosquitoes. More specifically:
 - a. All applied irrigation water must infiltrate completely within 24 hours.
 - b. Ditches not serving as wildlife habitat should be maintained free of emergent, marginal, and floating vegetation.
 - c. Low pressure pipelines, unpressurized pipelines, and ditches that are accessible to mosquitoes shall not be used to store wastewater.

10. Discharges to the land application area shall be managed to minimize both erosion and runoff from the land application area.
11. Application of wastewater to the land application areas via flood irrigation shall only occur on furrows graded so as to achieve uniform distribution, minimize ponding and provide for tailwater control. Furrow runs shall be no longer and slopes shall be no greater than what permits reasonably uniform infiltration and maximum practical irrigation efficiency. The minimum furrow slope shall not be less than 0.2 percent.
12. Wastewater application areas shall be allowed to dry for at least 72 hours from the end of wastewater application.
13. The land application facility shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with the historical rainfall patterns.
14. There shall be no standing water in the land application areas or landscaped areas 24 hours after wastewater is applied, except during periods of heavy rains sustained over two or more consecutive days.
15. Wastewater discharge shall not occur within a 50-foot wide buffer zone along any property lines adjacent to properties developed with residences.
16. The perimeter of the land application areas shall be bermed or graded to prevent ponding along public roads or other public areas. Landscaped areas that are not bermed shall be closely monitored to control runoff.
17. The resulting effect of the wastewater discharge on the soil pH shall not exceed the buffering capacity of the soil profile.

E. Solids Disposal:

1. Collected screenings, sludge, and other solids removed from wastewater shall be disposed of in a manner that is consistent with Title 27, Division 2, Subdivision 1 of the CCR and approved by the Executive Officer.
2. Sludge and other solids shall be removed from wastewater treatment equipment, sumps, etc. as needed to ensure optimal plant operation and adequate hydraulic capacity. Drying operations shall take place such that leachate does not impact the quality of groundwater or surface water.
3. Storage and disposal of domestic wastewater sludge (septage) shall comply with existing Federal, State, and local laws and regulations, including permitting requirements and technical standards.

4. Sludge and other solids shall be removed from septic tanks as needed to ensure optimal operation and adequate hydraulic capacity. A duly authorized carrier shall haul sludge, septage, and domestic wastewater.
5. Any proposed change in solids use or disposal practice from a previously approved practice shall be reported to the Executive Officer at least 90 days in advance of the change.

F. Groundwater Limitations:

The discharge, in combination with other sources, shall not cause underlying groundwater to contain waste constituents in concentrations statistically greater than natural background water quality.

G. Provisions:

1. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1. To demonstrate compliance with sections 415 and 3065 of Title 16, CCR, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
2. All of the following reports shall be submitted pursuant to Section 13267 of the California Water Code and shall be prepared by a registered professional as described by Provision G.1.
 - a. **At least 30 days** before the Discharger wishes to increase the annual average flow rate above 250,000 gpd and the monthly maximum average flow rate above 290,000 gpd, the Discharger shall submit a report describing completion of improvements to the designated land application areas to ensure compliance with this order and allow wastewater application to the 29.7 acre land application area. The improvements shall include, but not be limited to, installation of fencing or notification signs, installation of berms to prevent surface water runoff in land application areas, and reconfiguration of checks to improve application rate.
 - b. **By 4 December 2003**, the Discharger shall submit a *Groundwater Characterization Workplan*. The workplan shall describe the installation of additional wells to allow evaluation of groundwater quality upgradient (and out of the influence of wastewater application) and downgradient at each of the application areas. In addition, the workplan shall include an evaluation of the groundwater flow directions and monitoring networks at the 29.7 acre, 16 acre, and 10.1 acre (formerly 17.6 acre) land application areas. Monitoring wells shall be constructed to yield representative samples from the uppermost layer of the uppermost aquifer and to comply with applicable well standards. The workplan

shall be consistent with, and include the items listed in, the first section of Attachment C, “*Items to be Included in a Monitoring Well Installation Workplan and a Monitoring Well Installation Report of Results.*”

- c. By **4 December 2003**, the Discharger shall submit a *Salinity Reduction Workplan* that identifies ways to reduce the salinity of wastewater discharged to the land application areas. The workplan shall identify high strength waste streams and means to remove or reduce their loading rate to the wastewater system, alternative chemicals that can be substituted that will result in better crop uptake, and opportunities to reuse/recycle high strength wastewater that will result in reduced loading rates. The workplan shall include an implementation schedule.
- d. By **5 January 2004**, the Discharger shall submit an *Operation and Maintenance (O&M) Plan* for the wastewater treatment facility land application areas and landscaped areas. The O&M Plan shall instruct field personnel on how to manage the day-to-day discharge operations to comply with the terms and conditions of this order and how to make field adjustments, as necessary, to preclude nuisance conditions (e.g., standing water, runoff from landscaped areas, and objectionable odors from ponded wastewater). It shall also include a nuisance condition troubleshooting flowchart and a description of notification requirements if bypass occurs. Operating personnel shall keep a copy of the O&M Plan at the facility for reference. Key operating personnel shall be familiar with its contents.
- e. By **5 January 2004**, the Discharger shall submit an evaluation of the *Septic Tank Use* and condition. The evaluation should describe the use of the tanks, types and volume of wastewater discharged to the tanks, describe the size and construction of the tanks and leachfields, and summarize maintenance of the tanks and leachfields. If the tanks are deemed inadequate for the intended purpose and may cause degradation of groundwater quality, a schedule for improvement of the septic tanks or connection to the City wastewater system shall be provided. Alternatively, in lieu of submitting the evaluation, the Discharger may submit a schedule for connection of all domestic waste streams to the City wastewater system.
- f. By **2 April 2004**, the Discharger shall submit a *Groundwater Well Installation Report*. The report shall be consistent with, and include the items listed, in the second section of Attachment C.
- g. By **30 June 2004**, the Discharge shall submit a *Salinity Reduction Implementation Report* that describes the improvements that have been constructed or procedures implemented, which result in reduced wastewater salinity.
- h. By **1 June 2005**, the Discharger shall submit a *Groundwater Quality Study Report*. For each groundwater monitoring parameter/constituent identified in the MRP, the report shall present a summary of monitoring data, calculation of the concentration in background monitoring wells, and comparison of background groundwater quality to that in wells used to monitor all four land disposal areas. Determination of background quality shall be made

using the methods described in Title 27, Section 20415(e)(10), and shall be based on data from at least four consecutive quarterly (or more frequent) groundwater monitoring events. For each monitoring parameter/constituent, the report shall compare measured concentrations for compliance monitoring wells with the calculated background concentration.

If the *Background Groundwater Quality Study Report* shows that the wastewater discharge has impacted, or is likely to impact groundwater quality, then upon request by the Executive Officer the Discharger shall submit *Groundwater Mitigation Plan* which shall evaluate contaminant control alternatives, describe a preferred alternative, and proposed a timeline to meet the Groundwater Limitations of this Order. The selected contaminant control alternative must comply with State Water Resources Control Board Resolution No. 68-16 and be consistent with the most recent Basin Plan.

3. The Discharger shall comply with the Monitoring and Reporting Program No. R5-2003-0141, which is a part of this Order, and any revisions thereto as ordered by the Executive Officer.
4. The Discharger shall comply with the “Standard Provisions and Reporting Requirements for Waste Discharge Requirements”, dated 1 March 1991, which are attached hereto and by reference a part of this Order. This attachment and its individual paragraphs are commonly referenced as “Standard Provision(s).”
5. If the Groundwater Monitoring Report or monitoring data shows that wastewater application has impacted groundwater quality, then within **90 days** of receiving notification from the Executive Officer, the Discharger shall submit a salinity reduction workplan, which identifies methods the Discharger will implement to reduce the dissolved solids loading of land application areas. Failure to reduce the dissolved solids loaded could result in reclassification of the wastewater as designated waste and/or result in a requirement to cease the discharge.
6. At least 90 days prior to termination or expiration of any lease, contract, or agreement involving the land application or landscaped areas used to justify the capacity authorized herein and assure compliance with this Order, the Discharger shall notify the Regional Board in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this Order.
7. The Discharger shall submit to the Regional Board on or before each compliance report due date the specified document, or if appropriate, a written report detailing compliance or noncompliance with the specific scheduled date and task. If noncompliance is reported, then the Discharger shall state the reasons for noncompliance and shall provide a schedule to come into compliance.
8. The Discharger shall use the best practicable cost effective control technique(s) currently available to comply with discharge limits specified in this order.

9. The Discharger shall report promptly to the Regional Board any material change or proposed change in the character, location, or volume of the discharge.
10. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, then the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to this office.
11. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
12. A copy of this Order shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.
13. If the Discharger can demonstrate to the satisfaction of the Executive Officer that higher BOD loadings than that specified in Effluent Limitation No. C.2 will not cause or contribute to cause waste constituents to leach into and degrade underlying groundwater, or cause any other violation of the terms and conditions of this Order, then this Order may be reopened for consideration of revision of BOD loading limits. The demonstration shall include the submittal of a technical report that describes, at a minimum, the results of a field demonstration project conducted over the course of at least two years on similar soil types as those in the land application areas and using similar food processing wastewater as that described in the Findings. Any proposed field demonstration project will be regulated under the terms and conditions of separate waste discharge requirements. As such, at least 120 days prior to conducting the field demonstration project, the Discharger (and/or other reasonable party) must submit a complete Report of Waste Discharge for the proposed field demonstration project.
14. If the Discharger can demonstrate to the satisfaction of the Executive Officer that higher nitrogen loadings than that specified in Effluent Limitation No. C.1 will not cause or contribute to cause waste constituents to leach into and degrade underlying groundwater, or cause any other violation of the terms and conditions of this Order, then this Order may be reopened for consideration of revision of nitrogen loading limits. The demonstration shall include the submittal of a technical report that describes, at a minimum, the results of a field demonstration project conducted over the course of at least two years on similar soil types as those in the land application areas and using similar food processing wastewater as that described in the Findings. Any proposed field demonstration project will be regulated under the terms and conditions of separate waste discharge requirements. As such, at least 120 days prior to conducting the field demonstration project, the Discharger (and/or other reasonable party) must submit a complete Report of Waste Discharge for the proposed field demonstration project.
15. The Regional Board will review this Order periodically and may revise requirements when necessary.

WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2003-0141
CALIFORNIA NATURAL PRODUCTS
WASTEWATER TREATMENT FACILITY
SAN JOAQUIN COUNTY

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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 5 September 2003.

original signed by

THOMAS R. PINKOS, Executive Officer

TRO: 9/5/03

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2003-0141

FOR
CALIFORNIA NATURAL PRODUCTS
WASTEWATER TREATMENT FACILITY
SAN JOAQUIN COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring industrial wastewater and groundwater. This MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer. Specific sample station locations shall be approved by Regional Board staff prior to implementation of sampling activities.

All samples should be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each sample shall be recorded on the sample chain of custody form.

Field test instruments (such as those used to test pH and dissolved oxygen) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are calibrated prior to each monitoring event;
3. Instruments are serviced and/or calibrated by the manufacturer, or manufacturer approved repair shop, at the recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of this MRP.

INDUSTRIAL WASTEWATER EFFLUENT MONITORING

Wastewater effluent samples shall be collected prior to discharge to the land application or landscape areas. Effluent monitoring shall include, at a minimum, the following:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
BOD ₅	mg/l	Composite	Weekly	Monthly
Total Settleable Solids	ml/l	Composite	Monthly	Monthly
Nitrate as Nitrogen	mg/l	Composite	Monthly	Monthly
Total Kjeldahl Nitrogen	mg/l	Composite	Monthly	Monthly
pH	S.U.	Composite	Monthly	Monthly
Fixed Dissolved Solids	mg/l	Composite	Monthly	Monthly
Total Dissolved Solids	mg/l	Composite	Monthly	Monthly
Total Coliform	MPN/100 ml	Composite	Monthly	Monthly
Flow to 29.7-acre Site	gpd	Continuous	Daily	Monthly
Flow to 10.1-acre Site	gpd	Continuous	Daily	Monthly
Flow to 16.0-acre Site	gpd	Continuous	Daily	Monthly
Flow to 9.2-acre Site	gpd	Continuous	Daily	Monthly

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow to 3.5-acre Site	gpd	Continuous	Daily	Monthly
Monthly Average Flow	gpd	Continuous	Daily	Monthly
Annual Average Flow	gpd	Continuous	Daily	Monthly
Flow to Manteca WWTP	gpd	Continuous	Daily	Monthly

LAND APPLICATION AREA MONITORING

Application of wastewater to the land application areas and landscaped area shall be monitored to prevent overloading the area with wastewater constituents, which can cause objectionable odors and/or groundwater degradation. For each application site, the following parameters shall be calculated and reported in the monthly monitoring reports.

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Application Area	acres	Measured	Daily	Monthly
Hydraulic Loading Rate	inches/acre•month	Calculated	Daily	Monthly
BOD ₅ Loading Rate	lbs/acre•day	Calculated ¹	Weekly	Monthly
Total Nitrogen Loading Rate	lbs/acre•month	Calculated ²	Monthly	Monthly
Cumulative Nitrogen Load	lbs/acre•year	Calculated	--	Monthly
Total Dissolved Solids	lbs/acre•year	Calculated	Monthly	Monthly
Runoff	Visual Inspection	Observation	Daily ³	Monthly

¹ BOD₅ loading shall be calculated using the daily applied volume of wastewater, estimated daily application area, and the most recent results of effluent BOD₅.

² Total nitrogen loading rates shall be calculated using the daily applied volume of wastewater, estimated daily application area, and the most recent results of total nitrogen.

³ Runoff monitoring of the landscaped areas shall be performed when irrigation of the areas occurs. Frequency of monitoring during the day shall be sufficient to determine if runoff is occurring.

In addition, the Discharger shall maintain a log of discharges to the land application area and landscaped area. Observations shall be noted and shall record which check is receiving wastewater, observations of ponding water, soil clogging, odors, insects, or other potential nuisance conditions. The notations shall also document any corrective actions taken. A copy of the notations recorded each month shall be submitted along with monthly monitoring reports.

LAND APPLICATION AREA SOILS MONITORING

The Discharger shall establish, with concurrence of Board staff, four soil profile monitoring locations and one representative background location (i.e., in an area that historically has not received process wastewater) in the 29.7, 10.1 and 16.0 acre land application areas. The samples shall be collected and analyzed for at least the following constituents, and at the following frequency:

<u>Constituents</u>	<u>Units</u>	<u>Soil Profile</u>	<u>Sampling and Reporting Frequency</u>
Soil pH	pH	Standard ¹	Annually ²
Volatile Solids	% Total Weight	Standard ¹	Annually ²
Cation Exchange Capacity	meq/100 g	Standard ¹	Annually ²
Nitrate (as N)	mg/kg	Standard ¹	Annually ²
Total Kjeldahl Nitrogen	mg/kg	Standard ¹	Annually ²

¹ Samples shall be collected at 0.5 feet, 3 feet, and 6 feet in depth.

² Samples shall be collected in September.

GROUNDWATER MONITORING

Prior to completion and/or sampling of any groundwater monitoring wells, the Discharger shall submit plans and specifications to the Board for review and approval. Once installed, all new wells shall be added to the MRP and shall be sampled and analyzed according to the schedule below.

Prior to sampling or purging, equilibrated groundwater elevations shall be measured to the nearest 0.01 foot. Depth to groundwater measurements shall be collected from all wells on the same day. The wells shall be purged at least three well volumes until pH and electrical conductivity have stabilized. Sample collection shall follow standard EPA analytical method protocols. Groundwater monitoring shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Depth to Groundwater	0.01 ft	Measurement	Quarterly	Quarterly
Groundwater Elevation	0.01 ft	Calculated	Quarterly	Quarterly
Gradient	ft/ft	Calculated	Quarterly	Quarterly
Gradient Direction	Degrees	Calculated	Quarterly	Quarterly
pH	S.U.	Grab	Quarterly	Quarterly
Total Dissolved Solids	mg/l	Grab	Quarterly	Quarterly
Nitrate as Nitrogen	mg/l	Grab	Quarterly	Quarterly
Total Kjeldahl Nitrogen	mg/l	Grab	Quarterly	Quarterly
Ammonia as Nitrogen	mg/l	Grab	Quarterly	Quarterly
Total Coliform Organisms	MPN/100 ml	Grab	Quarterly	Quarterly
Trihalomethanes ¹	µg/l	Grab	Annual ²	Annual ²

¹ Analysis for this parameter shall be performed using EPA Method 8010 or equivalent.

² Annual samples shall be collected in the first quarter (January-March) sampling event.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, groundwater, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done

more frequently than required by the Monitoring and Reporting Program, including wastewater data collected for industrial wastewater discharge permits, shall be reported in the next scheduled monitoring report. All analytical data collected that is required by this MRP shall be analyzed by a California licensed laboratory.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all groundwater monitoring reports shall be prepared under the direct supervision of a California Registered Engineer or Geologist and signed by the registered professional.

A. Monthly Monitoring Reports

Monthly reports shall be submitted to the Regional Board on the **1st day of the second month following sampling** (i.e. the January Report is due by 1 March). At a minimum, the reports shall include:

1. Results of effluent and land application monitoring.
2. Land application area notations and calculations.
3. A comparison of monitoring data to the effluent limitations and an explanation of any violation of those requirements. Data shall be presented in tabular format.
4. If requested by staff, copies of laboratory analytical reports.
5. Industrial discharge permit monitoring.

B. Quarterly Monitoring Reports

The Discharger shall establish a quarterly sampling schedule for groundwater monitoring such that samples are obtained approximately every three months. Quarterly reports shall be submitted to the Regional Board on the **1st day of the second month after the quarter** (i.e. the January – March quarterly report is due by 1 May). Quarterly reports shall be submitted by 1 February, 1 May, 1 August, and 1 November. At a minimum, the Quarterly Report shall include:

1. Results of groundwater monitoring. The results of regular monthly monitoring reports for March, June, September, and December may be incorporated into their corresponding quarterly monitoring report.
2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDR, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged.
3. Calculation of groundwater elevations, an assessment of groundwater flow direction and gradient on the date of measurement, a groundwater elevation contour map, comparison of previous flow direction and gradient data, and discussion of seasonal trends if any.

4. A narrative discussion of the analytical results for all media and locations monitored including spatial and temporal trends, with reference to summary data tables, graphs, and appended analytical reports (as applicable).
5. A comparison of monitoring data to the groundwater limitations and an explanation of any violation of those requirements.
6. Summary data tables of historical and current water table elevations and analytical results.
7. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum.
8. Copies of laboratory analytical report(s) for groundwater.

C. Annual Report

The Annual Report will include all monitoring data required in the monthly schedule. The Annual Report shall be submitted to the Regional Board by **1 February** each year. In addition to the data normally presented, the Annual Report shall include the following:

1. Tabular summaries of all data collected during the year.
2. The results of land application soils monitoring, including a map depicting sample locations.
3. An evaluation of the groundwater quality at the wastewater treatment facility.
4. A summary of the monthly average flow rates and the annual average flow rate.
5. A discussion of compliance and the corrective action taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.
6. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.
7. A summary of the amount of solids generated and disposed. Identify the name of the solids hauler and the disposal facility.
8. An evaluation of future wastewater flow rates. If within the next two years, the flow rate is projected to increase above the permitted flow rate contained within this Order, then the Discharger shall also submit a plan and timeline describing how and when it will obtain additional disposal land or secure additional disposal capacity within an existing municipal wastewater treatment plant.

A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory.

The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions General Reporting Requirements Section B.3.

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

Ordered by: original signed by
THOMAS R. PINKOS, Executive Officer

5 September 2003
(date)

TRO: 9/5/03

INFORMATION SHEET

ORDER NO. R5-2003-0141
CALIFORNIA NATURAL PRODUCTS
WASTEWATER TREATMENT FACILITY
SAN JOAQUIN COUNTY

California Natural Products (CNP) processes rice and soy into food products such as rice syrup, rice milk, and rice syrup solids; to a lesser extent they process tea and vegetable soups. The facility is located in Lathrop with surface water drainage to the San Joaquin River. Water is provided by the City of Lathrop's municipal supply.

The plant does aseptic packaging under sterile conditions, requiring heated water from boilers and regular acid/caustic tank and equipment cleaning cycles. Reverse osmosis is used to treat boiler feed water. Operations are conducted year round, five to seven days a week with three shifts per day, with cleanup operations performed as required. CNP has been operating and discharging process wastewater to land since 1985; however, until 1990 the discharge volume averaged less than 100 gallons per day and the wastewater was land applied to two disposal areas within 14 acres of land located adjacent to the processing facility. The food processing facilities and wastewater discharge volume has grown greatly since the mid-1990s.

The wastewater generated from the site activities is characterized by a high organic matter and solids content. CNP constructed a pretreatment facility in 1999 and 2000 to reduce the organic load in the process wastewater. Treatment of process wastewater consists of a holding/recycle tank; pH control, Dissolved Air Flotation (DAF) clarifier; a 45-foot diameter, 26-foot high trickling filter; an aerated skimmer; and a combination centrifuge and rotary screen to dewater the solids from the skimmer and the DAF units. Prior to discharge, the wastewater is stored in a 13,000 gallon tank. Solids are contained in bins, transported off-site, and used for animal feed. The Discharger optimized operation of the treatment system equipment in 2001, resulting in significant reductions in the BOD concentration of wastewater applied to land.

Treated wastewater is currently discharged to 17.6 acre and 16.0 acre land application areas and a 3.5 acre and 9.2 acre landscaped area. The Discharger has proposed to reconfigure the land areas, selling 7.5 acres of the 17.6 acre land area and adding a new 29.7 acre land application area. The changes will result in a net increase of land area from 46.3 acres to 68.5 acres. The Discharger plans to flood irrigate the land application areas and sprinkler or drip irrigate the landscaped areas.

The current average wastewater generation rate is approximately 240,000 gpd. Accounting for near-term growth of the facility, the Discharger anticipates an average generation rate of 430,000 gpd. The Discharger currently has an agreement with the City of Manteca to discharge up to 60,000 gpd of wastewater to the municipal system. Based on the anticipated discharge of at least 60,000 gpd of wastewater to the municipal system, the expected annual average and maximum monthly average flow rates to the land application areas are 370,000 and 429,000 gpd respectively. However, until improvements are made to the proposed additional land application areas and the Executive Officer approves a technical report describing the improvements, the

annual average flow to the existing land areas shall not exceed 250,000 gpd and the monthly average flow shall not exceed 290,000 gpd.

Groundwater at the 17.6 acre land application area has been monitored by groundwater monitoring wells since 1988. Additional monitoring wells were installed in 2001 and 2002; two wells were installed in the existing 17.6 acre (to be reconfigured to 10.1 acre) land application area and three wells in the 16.0 acre land application area. The depth to groundwater is approximately 10 to 15 feet below ground surface and the groundwater gradient is reportedly to the west-northwest. Higher concentrations of dissolved solids have been reported in samples collected from the 17.6 acre land application area than in the proposed 16.0 acre land application area. Further evaluation of groundwater conditions, including better definition of groundwater quality upgradient of the land application areas is required to establish background groundwater concentrations and determine if the application of wastewater has impacted groundwater quality.

The Discharger installed a reverse osmosis for the boiler feed water. The RO unit replaced regenerative water softening equipment. In addition, the Discharger uses potassium hydroxide as a caustic cleaning chemical and nitric/phosphoric acid as acidic cleaners. The neutralization of the acid caustic chemicals results in plant macro-nutrients that are more likely to be taken up by cropping activities rather than percolate to groundwater.

These waste discharge requirements contain hydraulic, organic, and nutrient loading limits for the land application areas, a time schedule for preparation of an Operation and Maintenance Plan, a reporting requirement for completion of improvements to the land application areas, installation of additional groundwater monitoring wells, a groundwater quality evaluation, and if needed based on the results of additional groundwater characterization, a salinity reduction study.

TRO: 8/6/2003