

## INFORMATION SHEET

ORDER R5-2015-XXXX  
SUNSHINE RAISIN CORPORATION DBA NATIONAL RAISIN COMPANY  
EXETER DEHYDRATING FACILITY AND  
ERNEST BEDROSIAN TRUST  
TULARE COUNTY

### **Background**

Sunshine Raisin Corporation doing business as National Raisin Company (hereafter Discharger), owns and operates the Exeter Dehydrating Facility (Facility) at 26783 Road 176 in Tulare County, approximately two miles southwest of Exeter. The Facility is currently regulated by Waste Discharge Requirements (WDRs) Order 80-130, adopted by the Central Valley Water Board on 12 September 1980.

Order 80-130 authorizes a 30-day mean daily flow of up to 30,000 gallons per day (gpd) to two on-site evaporation/percolation ponds.

On 4 December 2000, the Discharger submitted a Report of Waste Discharge (RWD) to increase flows and support the discharge of process wastewater from its dehydrating facility (Facility) to land for dust control. After discussions with Central Valley Water Board staff, the Discharger submitted a revised RWD on 7 April 2015. The revised RWD proposes to increase the average daily flow up to 40,000 gpd with an annual discharge of up to two million gallons per year, and reuse of wastewater for irrigation of crops on approximately 150 acres of adjacent agricultural land. The land application area is owned by the Ernest Bedrosian trust which is named as a co-discharger in this Order.

### **Existing Facility and Discharge**

The Facility takes in grapes and plums from local growers. The fruit is pre-cleaned and washed then placed on drying trays. The drying trays are rolled into the dehydrating tunnels where the fruit is dried to remove moisture to produce raisins and prunes.

The Facility is a seasonal operation that operates for approximately six to eight weeks out of the year from late August through October. Although dehydrators generally operate 24 hours a day seven days a week during the processing season, the majority of the cleaning and washing process occurs during normal work hours between 7:00 am and 4:00 pm.

Wastewater generated at the Facility is a mixture of raisin and prune wash water, and equipment wash down water. Order 80-130 does not require sampling. Samples of the wastewater were collected during the 2014 processing season to characterize the wastewater. Samples of the wastewater were collected from the on-site evaporation/percolation pond at the beginning, middle, and end of the season. Table 1 presents wastewater concentrations for constituents of concern based on data collected during the 2014 season:

TABLE 1. Wastewater Quality

<u>Constituent</u>	<u>Units</u>	<u>2014 Season</u>			<u>Average</u>
Date		8/26/14	9/04/14	9/18/14	
pH	s.u.	4.8	4.0	4.0	4.3
EC	umhos/cm	1,300	1,600	1,600	1,500
Total dissolved solids	mg/L	1,800	2,500	3,200	2,500
Fixed dissolved solids	mg/L	800	910	930	880
Biochemical Oxygen Demand	mg/L	3,900	5,500	5,300	4,900
Bicarbonate	mg/L	na	<10	na	<10
Calcium	mg/L	120	120	130	123
Magnesium	mg/L	38	40	40	39
Sodium	mg/L	74	67	74	72
Potassium	mg/L	na	200	na	200
Chloride	mg/L	17	30	20	22
Sulfate	mg/L	na	200	na	200
Boron	mg/L	0.27	0.33	0.44	0.35
Nitrate as nitrogen	mg/L	<2	<2	<2	<2
Total Kjeldahl Nitrogen	mg/L	34	43	48	42

Process wastewater is collected in drains around the processing area and diverted to a central sump. From the sump the wastewater is pumped through a rotary screen and concrete settling sump to remove solids then flows by gravity to one of the two on-site evaporation/percolation ponds. The dehydrating tunnels are cleaned and washed down on a weekly basis. Wastewater from the dehydrating tunnels is collected separately and pumped through a vibrating screen before being discharged to one of the evaporation/percolation ponds.

The second evaporation/percolation pond is used only intermittently during the processing season to handle overflow from the primary pond. Together the two on-site ponds have a combined storage capacity of approximately 760,000 gallons.

From the ponds the wastewater is pumped into a water truck and applied as dust control on dirt roads within the adjacent orchards controlled by the Discharger. Solid waste generated at the Facility consisting of leaves, sticks, and debris removed during the pre-cleaning process as well as screenings and fine solids removed from the wastewater are collected and taken to the landfill for disposal.

### **Proposed Changes**

Starting with the 2015 season, the Discharger plans to apply wastewater as irrigation water on approximately 150 acres of agricultural land. The land application area is owned by the Ernest Bedrosian trust and is planted with citrus, plums, and grape vines. The wastewater will be pumped to a standpipe connected to the irrigation system and blended with fresh irrigation water prior to application or as sidedress applications from a water truck between the orchard rows. In

addition, a portion of the wastewater may be applied as dust control on dirt roads within the land application area on an as needed basis.

With nitrogen concentrations between 35 and 50 mg/L the nitrogen load to the land application area at an annual discharge of two million gallons would be between 4 and 7 lbs/acre/year. This is significantly below the annual nitrogen uptake for orchard crops and citrus ranging from approximately 90 lbs/acre/year for plums to 265 lbs/acre/year for citrus (Western Fertilizer Handbook, 8<sup>th</sup> edition).

With an average BOD concentration of 5,000 mg/L, the cycle average BOD loading rate at 40,000 gpd would be about 11 lbs/acre/day for the processing season.

This Order sets a cycle average BOD loading limit of 100 lbs/acre/day and includes a Provision that requires the Discharger to submit a Wastewater and Nutrient Management plan to ensure wastewater and nutrient applications to the land application and that used for dust control will be at reasonable rates.

### Groundwater Conditions

According to the Department of Water Resources Groundwater Elevation Maps for 2000 and 2010, first encountered groundwater in the vicinity of the site occurred at about 40 feet below ground surface (bgs) in Spring 2000 and at about 80 feet bgs in Spring 2010. Regional groundwater flow in the area is to the southeast. There are no monitoring wells on-site and no site specific groundwater gradient information is available.

The California Department of Water Resources and United States Geological Survey publish information about groundwater quality. Data that is pertinent to characterizing first-encountered groundwater prior to 1968 is limited due to the wide variability in the screened interval of the wells, sampling protocols, and constituents monitored. The following table compares groundwater data for three wells identified within three miles of the site prior to 1968 with groundwater data collected from the on-site supply well in 2000 and 2014.

TABLE 2. Groundwater Quality

Constituent	Units	Supply Well		19S26E20	19S26E30	19S26E08
		2000	2014	B001M	C002M	H001M
Date		2000	2014	1948	1962	1956
Depth of well	feet	unknown	unknown	unknown	225	unknown
pH	s.u.	7.4	7.9	na	7.7	7.5
EC	umhos/cm	910	870	590	372	523
TDS	mg/L	530	570	Na	248	na
Nitrate as nitrogen	mg/L	12	13	1.5	2.5	5.8
Bicarbonate	mg/L	320	400	271	200	172
Calcium	mg/L	89	87	56	41	26

TABLE 2. Groundwater Quality

<u>Constituent</u>	<u>Units</u>	<u>Supply Well</u>		<u>19S26E20</u>	<u>19S26E30</u>	<u>19S26E08</u>
				<u>B001M</u>	<u>C002M</u>	<u>H001M</u>
Magnesium	mg/L	27	29	18	14	24
Sodium	mg/L	60	54	47	17	48
Potassium	mg/L	4	3.6	3.8	1.6	3.5
Chloride	mg/L	<10	14	13	85	19
Sulfate	mg/L	46	78	19	11	49

Nitrate as nitrogen in the on-site supply well exceed the primary Maximum Contaminant Level (MCL) for nitrate as nitrogen of 10 mg/L in 2000 and in 2014. In addition, the on-site supply well also contains elevated concentrations for EC, total dissolved solids, bicarbonate, calcium, and sulfate possibly from the discharge of wastewater to unlined ponds.

This Order sets a cycle average BOD loading limit of 100 lbs/acre/day to reduce the potential for organic overloading of the land application area, requires wastewater be applied to the land application area at agronomic rates, and requires the Discharger to line the wastewater ponds within three years or implement an acceptable alternative to ensure that the discharge will not cause or contribute to further degradation of groundwater.

### Source Water

Source water for the Facility is provided by an on-site well. Samples from the well were collected on 26 December 2000 and 4 September 2014. The source water is relatively good except for nitrate, with an electrical conductivity (EC) ranging from 870 to 910 umhos/cm, total dissolved solids (TDS) ranging from 530 to 570 mg/L. Nitrate as nitrogen (NO<sub>3</sub>-N) in the source water well exceeded the primary MCL of 10 mg/L with concentrations ranging from 12 mg/L in December 2000 to 13 mg/L in September 2014.

### Basin Plan, Beneficial Uses, and Regulatory Considerations

The Facility and land application area lie within the Kaweah Delta Hydrologic Area (558.1) of the South Valley Floor Hydraulic Unit. Local drainage is by sheet flow to the southwest toward Outside Creek and the valley floor.

The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition*, revised January 2004 (Basin Plan) designates beneficial uses, establishes numerical and narrative water quality objectives, contains implementation plans and policies for protecting all waters of the basin, and incorporates by reference plans and policies of the State Water Board. Beneficial uses often determine the water quality objectives that apply to a water body. The receiving water for this discharge is groundwater. The beneficial uses of groundwater in the area are municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply. The Basin Plan identifies the greatest long-term water quality problem facing the entire Tulare Lake Basin is increasing salinity in groundwater, a process accelerated by man's activities and

particularly affected by intensive irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until there is a long-term solution to the salt imbalance. Until then, the Basin Plan establishes several salt management requirements, including the following discharge limits:

- a. The incremental increase in salts from use and treatment must be controlled to the extent possible. Dischargers are required to limit the increase in EC of a point source discharge to land to a maximum of 500 umhos/cm.
- b. Discharges to areas that may recharge good quality groundwater shall not exceed and EC of 1,000 umhos/cm, a chloride content of 175 mg/L, or boron content of 1.0 mg/L

According to the Basin Plan effluent limits established for Municipal discharges “generally” apply to industrial discharges. The Basin Plan does allow for an exception to the incremental EC increase limit for food processing industries that discharge to land, where the discharge exhibits a disproportionate increase in EC over source water due to unavoidable concentrations of organic dissolved solids, provided the Discharger implements BPTC to minimize the salinity of the discharge and beneficial uses are protected. Based on sampling for total and fixed dissolved solids collected in 2014, the discharge shows a 40 to 70 percent increase in TDS due to the presence of organic dissolved solids similar to what has been seen in data collected from other wineries. Thus, the discharge is eligible for the Basin Plan exception. Given this, it is not appropriate to generally apply the 1,000 umhos/cm EC limit to this industrial discharge.

The Order requires effluent monitoring for EC, TDS, and FDS to ensure the exception eligibility continues, and requires the Discharger to prepare and implement a Salinity Control Plan to minimize the salinity of its discharge to the extent practicable.

### **Antidegradation**

State Water Board Resolution 68-16, the Statement of Policy with Respect to Maintaining High Quality of Waters in California (Anti-Degradation Policy), requires the regional water boards to maintain high quality waters of the State until it is demonstrated that any change in quality will not result in water quality less than that described in State and Regional Water Board policies or exceed water quality objectives, will not unreasonably affect beneficial uses and is consistent with the maximum benefit to the people of the State.

As discussed in the Findings in the WDRs the discharge as authorized by this Order is not expected to unreasonably affect present and anticipated future beneficial uses or result in groundwater quality that exceeds water quality objectives. The Discharger provides or will provide as a condition of this Order treatment and control measures intended to minimize degradation to the extent feasible.

With wastewater application at the loading rates authorized by this Order, appropriate application and resting periods, and reuse of wastewater on crops, and elimination of the discharge to unlined ponds, the discharge will not cause impermissible degradation of the underlying groundwater.

Degradation of groundwater by some of the typical waste constituents released with discharge from a food processing facility after effective source reduction is consistent with maximum benefit to the people of the State. The Facility contributes to the economic prosperity of the region by direct employment, and provides a tax base for local and state governments. Economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State, and therefore sufficient reason to accommodate growth and groundwater degradation provided terms of the Basin Plan are met.

The Order establishes effluent and groundwater limitations for the Facility that will not unreasonably threaten present and anticipated beneficial uses or result in groundwater quality that exceeds water quality objectives set forth in the Basin Plan.

#### **Title 27**

Title 27 of the California Code of Regulations, section 20005 et seq (Title 27) contains regulations to address certain discharges to land. Title 27 establishes a waste classification system, specifies siting and construction standards for full containment of classified waste, requires extensive monitoring of groundwater and the unsaturated zone for any indication of failure of containment, and specifies closure and post-closure maintenance requirements. Generally, no degradation of groundwater quality by any waste constituent in a classified waste is acceptable under Title 27 regulations.

Unless exempt, release of designated waste is subject to full containment pursuant to Title 27 requirements. Title 27 Section 20090(b) exempts discharges of designated waste to land from Title 27 containment standards and other Title 27 requirements provided the following conditions are met:

- a. The applicable regional water board has issued waste discharge requirements, or waived such issuance;
- b. The discharge is in compliance with the applicable basin plan; and
- c. The waste is not hazardous waste and need not be managed according to Title 22, CCR, Division 4.5, Chapter 11, as a hazardous waste.

The discharge meets the above requirements and is therefore exempt from Title 27.

#### **CEQA**

Waste Discharge Requirements for this Facility were first adopted in 1980. All wastewater management systems and agricultural land application areas are in use. The increase in the average daily flow limit from 30,000 gpd to 40,000 gpd will allow additional flexibility for the

Facility's operations and with the annual limit cap of two million gallons per year does not represent a significant increase in operations or flows. This Order places additional requirements on the continued operation of this Facility to ensure the protection of waters of the State. The adoption of this Order for an existing facility is exempt from the provisions of the California Environmental Quality Act in accordance with California Code of Regulations, Title 14, section 15301, which exempts the "operation, repair, maintenance, [and] permitting... of existing public or private structures, facilities, mechanical equipment, or topographical features" from environmental review.

### **Proposed Order Terms and Conditions**

#### **Discharge Prohibitions, Effluent Limitations, Discharge Specifications, and Provisions**

The proposed Order would prohibit discharge to surface waters and surface water drainage courses.

The proposed Order would set a 30-day average daily flow of 40,000 gpd (or 0.04 mgd), and sets a maximum annual flow limit of 2 million gallons per year.

The proposed Order sets an average BOD loading limit of 100 lbs/acre/day, and requires that wastewater be applied to crops at agronomic rates. The proposed Order also includes provisions requiring the Discharger to prepare and implement a Salinity Control Plan, and a Wastewater and Nutrient Management Plan that requires the Discharger to evaluate loading conditions associated with the application of wastewater for dust control to ensure the discharge does not cause or contribute to nuisance conditions or groundwater degradation. In addition, the proposed Order includes a time schedule requiring the Discharger to line its wastewater ponds or implement an acceptable alternative, such as installing an aboveground tank or discharging directly into the irrigation system, within three years.

The proposed Order would prescribe groundwater limitations that implement water quality objectives for groundwater from the Basin Plan. The limitations require that the discharge not cause or contribute to exceedance of these objectives or natural background water quality, whichever is greatest, and sets a specific limit for NO<sub>3</sub>-N of 10 mg/L consistent with the Primary MCL.

#### **Monitoring Requirements**

Section 13267 of the CWC authorizes the Central Valley Water Board to require monitoring and technical reports as necessary to investigate the impact of waste discharges on waters of the State. Water Code Section 13268 authorizes assessment of civil administrative liability where appropriate.

The proposed Order includes effluent, source water, irrigation water, and land application area monitoring. This monitoring is necessary to evaluate the potential for degradation resulting from the discharge.

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**Reopener**

The conditions of discharge in the proposed Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. The proposed Order would set limitations based on the information provided thus far. If applicable laws and regulations change, or once new information is obtained that will change the overall discharge and its potential to impact groundwater, it may be appropriate to reopen the Order.