

## INFORMATION SHEET

R5-2012-XXXX  
 LUCERO OLIVE OIL, LLC AND CRANE MILLS, INC.  
 LUCERO OLIVE OIL  
 TEHAMA COUNTY

### Background

Lucero Olive Oil, LLC and Crane Mills, Inc. (collectively referred to as Discharger) operate an olive oil processing plant (Facility) in Corning in Tehama County. From 2005 through 2007, the Discharger milled olives off-site at various local olive oil facilities regulated by the Central Valley Water Board. In 2008, the Discharger obtained coverage under the *Waiver of Waste Discharge Requirements for Small Food Processors, Including Wineries (Resolution R5-2003-0106)* (Waiver) for discharge of wastewater less than 100,000 gallons annually to land. In 2009, the Discharger exceeded the flow criteria for coverage under the Waiver, and submitted a Report of Waste Discharge (RWD) on 5 January 2010 and supplemental information on 24 March 2010 for individual waste discharge requirements; the RWD was deemed complete on 20 April 2010. The following wastewater volumes were generated, discharged, and stored from 2009 through 2011.

Year	Wastewater Generated (gallons)	Wastewater Discharged (gallons)	Wastewater Volume Stored (gallons)
2009	112,900	100,000	12,900
2010	96,375	99,975	9,300
2011	211,525	220,825	0

The Discharger's olive harvest typically begins in mid-September and ends mid-December. During this time, processing occurs approximately eight hours per day, five days a week. Raw olives are unloaded and conveyed to a wash tank where they are cleaned. The washed olives are then conveyed to a crusher, where the pits, meat, stems, and skin of the olives are ground together to form a paste. The paste is transferred to one of six 400-gallon malaxers, where the paste is agitated at a controlled temperature and the oil is separated from the fruit. A boiler is used to heat the malaxers; all boiler washdown and blowdown water is collected and disposed of offsite by a contracted cleaner. The remaining paste is transferred to a decanter to further separate the oil, water, and solids; the water and solids that are separated within the decanter are termed pomace. The pomace is sent to holding tanks or dump end trailers for disposal and the oil is sent to a polisher to further separate the oil and water. Wastewater is sent to storage tanks at the Facility. No chemicals are used at the facility; equipment is cleaned with a pressure washer.

Wastewater flows in 2008, 2009, and 2010 were low due to Facility startup; the Discharger anticipates utilizing the full capacity of the Facility in 2012 and expanding the Facility in the near future. Current and projected wastewater flows are presented below.

	Total Discharge (gallons)	Average Flow (gpd)	Maximum Flow (gpd)
Current Capacity	250,700	3,700	15,300
Future Capacity	835,800	12,300	51,000

Wastewater is transported to a 180-acre almond orchard land application site in Corning via a 4,000 gallon water truck; wastewater is stored within poly tanks at the land application area and metered into the pressurized micro-sprinkler irrigation system depending upon soil and weather conditions. Wastewater is applied at a hydraulic loading rate of 50 gallons per acre per day (current capacity) and 167 gallons per acre per day (future capacity). All solids and pomace are transported off-site to a permitted solar drying facility; the dried solids and pomace are used in cattle feed.

### **Loading Rates**

The Discharger took a composite sample of the wastewater in November 2009. Wastewater is collected and combined within storage tanks located at the Facility prior to land application; thus although there are variations in the volume and quantity of the wastewater generated on a daily basis, the variations are normalized in the storage tanks. Therefore, a composite sample is considered representative of the wastewater discharged to the land application area. The constituents of concern in the discharge are biochemical oxygen demand (BOD), nitrogen, and total dissolved solids (TDS).

The RWD provided an analysis of loading rates for BOD, nitrogen, and TDS. The analysis was performed in accordance with the *Manual of Good Practice for Land Application of Food Processing/Rinse Water (Food Processing Manual)*, published by the California League of Food Processors, which measures the acceptability of wastewater application according to risk categories; a Risk Category 1 is the lowest category and means that loading rates are substantially below agronomic rates and that the risk to groundwater is indistinguishable from good farming practices. It should be noted that although the Food Processing Manual has not been subject to scientific peer review, the Central Valley Water Board was consulted during its preparation. Compliance with the guidelines in the Food Processing Manual demonstrates that the Discharger is implementing treatment and control measures consistent with those promoted by the industry to limit the potential for groundwater degradation.

For a Risk Category 1, the loading rate for BOD must not exceed 50 pounds per acre per day. In addition, BOD loading rates should not exceed 100 lbs per acre per day in order to avoid nuisance conditions (USEPA Publication No. 625/3-77-007C, *Pollution Abatement in the Fruit and Vegetable Industry*). Current capacity BOD loading was calculated based on a hydraulic loading rate of 50 gallons per acre per day; BOD loading would not exceed 2.7 pounds per acre per day. At facility buildout, BOD loading would not exceed 9.1 pounds per acre per day based on a hydraulic loading of 167 gallons per acre per day.

For a Risk Category 1, the loading rate of nitrogen must be less than half of the agronomic rate of the crop on an annual basis; the typical nitrogen requirement for almonds is 200 lbs per acre per year (California Fertilizer Association, *Western Fertilizer Handbook*). At current Facility capacity, the RWD estimated the nitrogen loading at 0.26 pounds per acre per year. When the plant is expanded, the nitrogen loading will be 0.87 lbs per acre per year. All nitrogen that is applied in the wastewater is taken up by the crop and there is an overall net nitrogen deficiency.

The inorganic dissolved solids (FDS) concentration of the wastewater was 318 mg/L. The FDS concentration of the wastewater falls within the TDS range for irrigation water in the general area, which ranged from 144 mg/L to 656 mg/L; therefore, the wastewater meets the criteria for a Risk Category 1. In addition, wastewater is applied at less than half an inch annually and supplemented with 46 inches of irrigation water annually.

According to the *Food Processing Manual*, the loading rates calculated in the RWD for BOD, nitrogen, and TDS are significantly below the threshold for a Risk Category 1; meaning that the risk to groundwater from the discharge is indistinguishable from good farming practices and that the discharge will not result in any measureable groundwater degradation.

### **Groundwater Conditions**

Local groundwater quality was obtained from the source well at the Facility and irrigation wells at the land application area; the TDS concentrations ranged from 158 mg/L to 230 mg/L. Additional groundwater data for TDS was obtained from the Department of Water Resources (DWR) and the City of Corning; the TDS concentrations ranged from 144 mg/L to 656 mg/L. The wells ranged in depth from 104 to 650 feet deep.

### **Antidegradation**

The antidegradation directives of State Water Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality Waters in California," or "Antidegradation Policy" require that waters of the State that are better in quality than established water quality objectives be maintained "consistent with maximum benefit to the people of the State." Waters can be of high quality for some constituents or beneficial uses and not others. Policy and procedures for complying with this directive are set forth in the Basin Plan.

The discharge is consistent with the Antidegradation Policy because:

- a. The discharge is consistent with the maximum benefit to the people of the State because the Discharger provides jobs in a small economically disadvantaged community. In addition, the use of wastewater for irrigation of crops results in the Discharger using less supplemental irrigation well water which is a benefit to the people of the State;
- b. The discharge will not unreasonably affect present and anticipated beneficial uses because the discharge will not result in any measurable groundwater degradation. Wastewater is land applied below agronomic loading rates and supplemented with fresh irrigation water;
- c. The discharge will not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives. Groundwater under the land application area is not and will not be impacted by the discharge and does not exceed water quality objectives;

- d. The Discharger implements BPTC by removing solids and excess oil from the wastewater, disposal of high salinity boiler waste offsite by an independent contractor, not using chemicals, storage of wastewater in aboveground tanks, application of wastewater below agronomic loading rates, and daily inspection of the land application area during the discharge season.

## **Title 27**

The California Code of Regulations, title 27 ("Title 27") contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste. However, Title 27 exempts certain activities from its provisions. Discharges regulated by this Order are exempt from Title 27 pursuant to provisions that exempt wastewater. The exemption, found at Title 27, section 20090(b), is described below:

(b) Wastewater – Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leachfields, if the following conditions are met:

- (1) The applicable regional water quality control board has issued WDRs, or waived such issuance;
- (2) The discharge is in compliance with the applicable water quality control plan; and
- (3) The wastewater does not need to be managed ... as a hazardous waste.

The discharge authorized by this Order is exempt from Title 27 because:

- The Central Valley Water Board is issuing waste discharge requirements that will be protective of groundwater. The antidegradation analysis provided in the RWD demonstrated that the discharge will not result in any measureable groundwater degradation;
- The discharge complies with the Basin Plan; groundwater quality below the land application site does not exceed water quality objectives. The Discharger has demonstrated that the application of wastewater below agronomic loading rates to 180 acres of almond trees for a short period of time (approximately 90 days annually) will not result in measureable groundwater degradation;
- The discharge is not considered a hazardous waste and does not need to be managed according to Title 22.

## **CEQA**

The action to adopt waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality (CEQA), in accordance with California Code of Regulations, title 14, section 15301.

## **Proposed Order Terms and Conditions**

The proposed Order includes an annual wastewater flow limit of 251,000 gallons per year for the Facility as-built. The proposed Order includes an annual wastewater flow limit of 836,000 gallons per year once the Facility is expanded.

The proposed Order limits BOD loading at the land application area to 100 lbs/acre/day, both long-term and over the course of any discharge cycle.

### **Monitoring Requirements**

Water Code section 13267 authorizes the Central Valley Water Board to require monitoring and technical reports as necessary to investigate the impact of a waste discharge on waters of the State. In recent years there has been an increased emphasis on obtaining all necessary information, assuring the information is timely, as well as representative and accurate, and thereby improving accountability of any discharger for meeting the conditions of discharge. Water Code section 13268 authorizes the assessment of civil administrative liability where appropriate.

The proposed Order includes wastewater monitoring requirements, supply water monitoring, irrigation supply monitoring, land application area monitoring, and solids monitoring.