INFORMATION SHEET

ORDER R5-2014-___
RICHARD G. WILBUR
WILBUR PACKING COMPANY
SUTTER COUNTY

Facility Description

Richard G. Wilbur ("Discharger") owns and operates the Wilbur Packing Company facility located at 1500 Eager Road, Yuba City, in Sutter County. The facility includes approximately 130 acres of plum orchards, several administrative and fruit packaging buildings, and three unlined shallow wastewater ponds. The 130 acres of plum orchards are used as Land Application Areas (LAAs) for the discharge of process wastewater. The property has been used for processing and packaging prunes and other dried fruit since 1992. The Discharger submitted RWD on 21 December 2006. Additional information to complete the Report of Waste Discharge was provided in May 2007 and July 2013.

The facility primarily processes dehydrated prunes from an on-site orchard and from other local growers. Dehydrated prunes are rehydrated by steam injection, pitted and sorted, and potassium sorbate is applied prior to packaging. Wastewater at the facility is generated from fruit processing and equipment sanitation/wash water, lubrication water for the pitter, tank and floor cleaning, and equipment maintenance activities (e.g. water softening regeneration, cooling tower and boiler blowdown). Process wastewater is typically high in total dissolved solids (TDS), fixed dissolved solids (FDS), and biochemical oxygen demand (BOD). Stormwater intercepted by paved areas of the facility is collected separately from wastewater and discharged on-site. Domestic wastewater at the facility is discharged to a septic tank and leachfield area regulated by the Sutter County Environmental Health Department.

Current Wastewater Process and Land Application Areas

The facility operates year-round and processes dried prunes on an average of 31 tons/day; with a peak annual volume of up to 7,000 tons. The average process wastewater discharge is approximately 55,000 gallons per day (gpd), with a peak daily flow of 200,000 gpd and an annual total flow of 20 million gallons per year (MGY). Additional wastewater components include various chemicals used to clean and sanitize fruit processing equipment and for the treatment of boiler feed water to prevent scaling. These chemicals include sodium hydroxide, sodium hypochlorite, sodium bisulfate, and caustic potash.

Currently all process wastewater is directed to floor drains that discharge to a collection sump and then is pumped through a solids separation screen before entering two unlined wastewater storage ponds. The two unlined wastewater ponds provide a combined storage capacity of 1.66 million gallons. A third nearby unlined pond is used only for overflow of the two wastewater ponds. The unlined ponds are not aerated and are used as temporary storage before the wastewater is discharged to irrigate a 130-acre plum tree orchard Land Application Area (LAA).

Wastewater discharge was monitored in 2006 and 2013. Wastewater constituent concentrations include an average FDS concentration of 1,900 milligrams per liter (mg/L), Total Dissolved Solids at 3,000 mg/L, and Biological Oxygen Demand (BOD) at 1,400 mg/L. Average wastewater concentrations of sodium and chloride were 200 mg/L and 400 mg/L, respectively.

Planned Facility Expansion

The Discharger is planning to replace the three existing unlined wastewater ponds with a lined 3.9 million gallon wastewater pond. The lined wastewater pond will be constructed with a 60-ml high-density polyethylene lining or other geosynthetic material to prevent percolation and will be equipped with aerators to prevent odors. Upon completion of the new wastewater pond, the three existing unlined wastewater ponds will be abandoned, cleaned out, and closed. At that time all process wastewater will be routed to the new lined pond system.

The Discharger is planning to add 70 acres of plum orchards to the existing 130 acre LAA for wastewater disposal. The expanded 200 acres of LAAs will be flood irrigated with a combination of wastewater and supplemental irrigation from an on-site agricultural well. Discharge to the expanded 200 acres of LAAs will occur between April and October through a series of checks and furrows. Containment berms will be installed around the perimeter of the combined LAA to provide tailwater containment.

Groundwater Quality

The Discharger currently maintains four shallow-interval groundwater monitoring wells at and around the facility. Two of the monitoring wells are located adjacent to the unlined wastewater ponds while two are located generally downgradient and upgradient of the 130 acre LAA. Limited groundwater monitoring conducted in September 2006 and May 2013 indicates that the approximate depth to groundwater at the site is 20 to 21 feet bgs and that the downgradient direction of the shallow water table ranges from northwest to southwest. Because one monitoring well on the upgradient side of the 130-acre LAA is within the orchard, it does not represent upgradient groundwater conditions. Additionally, one monitoring well is several hundred feet downgradient of the current LAA and is likely influenced from off-site irrigation practices. There currently no background groundwater monitoring wells at the facility.

Available groundwater monitoring data collected in 2006 and 2013 indicate strong evidence of pollution from the existing wastewater ponds when compared with groundwater data from monitoring wells in the LAA. Specifically, groundwater near the existing unlined wastewater ponds exceeds water quality objectives for TDS, sodium, chloride, and manganese. Nitrate concentrations in groundwater monitoring from the LAA exceed water quality objectives, but the monitoring well network is not sufficient to accurately characterize background groundwater quality or evaluate potential degradation from discharges to the LAA. Additional monitoring wells and monitoring data are necessary to define background conditions and evaluate compliance with the groundwater limitations of this Order.

Based on the planned modifications to the wastewater management system and expanded LAAs, groundwater quality with respect to TDS, sodium, chloride, and manganese is expected to improve over time, but it is not possible to predict the level of improvement that can achieved or when it might occur. Therefore, this Order sets a groundwater limitation for TDS, sodium, chloride, and manganese that prohibit any increase. This Order also includes a time schedule in the Provisions that requires the Discharger to complete the lined wastewater storage pond and determine background groundwater conditions. If the required improvements do not result in significantly improved groundwater quality within four years of adoption of this Order, the Provisions require that the Discharger implement additional treatment or control as necessary to bring the discharge into compliance with the Basin Plan water quality objective.

Basin Plan, Beneficial Uses, and Regulatory Considerations

The facility is located within the Sutter Bypass Hydrologic Unit (520.3). Regional surface drainage is to the Feather River, approximately one mile east of the facility. The *Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Fourth Edition for The Sacramento River Basin and the San Joaquin River Basin* (Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin. Beneficial uses often determine the water quality objectives that apply to a water body. The receiving water for this discharge is groundwater. The receiving water for this discharge is groundwater and the applicable beneficial uses as set forth in the Basin Plan are: municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

Antidegradation

State Water Resources Control Board (State Board) Resolution 68-16 (the Antidegradation Policy) allows the degradation of groundwater quality if the Central Valley Water Board determines that:

- The degradation is consistent with the maximum benefit to the people of the State.
- The degradation will not unreasonably affect present and anticipated future beneficial uses.
- The degradation does not cause exceedance of one or more water quality objectives.
- The discharger employs best practicable treatment and control to minimize degradation.

The following treatment and control practices will be implemented at the site:

- Wastewater collected in the sump will be treated using mechanical processes to reduce residual solids.

- A new lined wastewater pond will be constructed and replace the existing unlined wastewater ponds.

- Wastewater flows will be equalized in the lined pond using aerators prior to discharge to LAA. The lined pond will be equipped with a leak detection system.

- Approximately 200 acres of plum orchards will be used as a LAA for the application of treated wastewater. Crops planted in the LAA will take up the waste constituents found in the wastewater. This Order limits land application of nitrogen to agronomic rates.

- Fruit processing sludge and other solids will be removed from sumps, screens, wastewater ponds, etc. as needed to ensure optimal operation and adequate hydraulic capacity. Waste solids will be composted or hauled off-site for reuse or disposal to a permitted disposal facility.

- This Order requires periodic groundwater and wastewater effluent monitoring.

The WDRs allows the Discharger to blend wastewater with supplemental irrigation water to meet LAA crop demands. Effluent limitations were established to prevent further groundwater degradation. The Discharger will implement the following treatment or control measures:

- One HDPE-lined wastewater pond will be constructed;

- The existing unlined wastewater ponds will be taken out of use, residual sediment and waste constituents in the underlying soil removed and disposed, and the area backfilled and restored to prevent future percolation;

- The existing LAA of 130 acres of plum orchards will be increased to 200 acres, inclusive of irrigation management and tailwater controls;

- Seasonal crops planted in 200 acres of cropped LAAs will take up some of the waste constituents in the treated wastewater; and

- Waste solids (i.e. pomace and other residual or separable waste solids associated with fruit handling processes) will be separated and hauled off-site for recycling or disposal.

Based on the forgoing, these measures appear to constitute best practicable treatment or control. Because background groundwater quality has not been defined, additional groundwater monitoring is needed to evaluate whether further treatment or control is necessary to ensure compliance with the Antidegradation Policy. This Order requires evaluation and implementation of additional measures as needed.

Flow and Effluent Limitations

Effectively immmediately, discharge from existing unlined wastewater ponds to the 130 acres of LAAs shall not exceed an average daily flow of 55,000 gallons per day, or 21 million

gallons annually. Wastewater discharge limits for the LAAs include a cycle average maximum loading rate BOD limit of 10 lb/ac/day and an annual flow-weighted FDS concentration average of 1,500 mg/L. Annual average nitrogen loading rate shall not exceed agronomic rates. Supplemental irrigation water will be used to meet crop demands and to provide dilution.

A discharge of wastewater that overloads soils with nutrients and organics can result in anaerobic conditions in the soil profile, which in turn can create organic acids and decrease soil pH. Under conditions of low soil pH (below 5), iron and manganese compounds in the soil can solubilize and leach these metals into groundwater. Eliminating the percolation of wastewater constituents from the unlined ponds and overloading discharge to the LAA is preventable. Based on the aforementioned measures to be implemented as part of this Order, local soils are expected to provide adequate buffering of acidic or basic wastewater.

Because there is not adequate data collected to date to characterize whether wastewater constituents have impacted groundwater conditions beneath the LAA, is not possible to predict the level of improvement that can achieved or when it might occur. Therefore, a background groundwater study is required as part of this Order. This Order also sets groundwater triggers to provide a proactive method of monitoring the effectiveness of improvements made to wastewater control and discharge.

If the annual evaluation of groundwater quality performed shows that the annual average of one or more of the trigger concentrations has been exceeded in any LAA compliance monitoring well during the calendar year, the Discharger shall perform a technical evaluation of the reason[s] for the increase of each constituent and demonstrate whether the increase is more than expected in one or more compliance wells. The Discharger shall also demonstrate if continuing the discharge without additional treatment or control will not result in exceedance of the applicable groundwater limitation. If such a determination cannot be made, an Action Plan will be submitted providing a systematic technical evaluation of each component of the facility's waste treatment and disposal system to determine what additional treatment or control is necessary and feasible for each waste constituent that exceeds a trigger concentration.

Groundwater Limitations

Effective immediately, the discharge shall not cause an increase in waste constituent concentrations in the monitoring wells around the existing unlined wastewater ponds. With respect to monitoring wastewater constituents in compliance wells associated with the LAA, the discharge shall not cause groundwater to contain waste constituent concentrations that exceed either the Primary or Secondary MCLs established in Title 22 of the California Code of Regulations, or contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

The Order requires quarterly groundwater monitoring and reporting, and submittal of an annual report. The annual report will include a comprehensive evaluation of the effectiveness

of the past year's wastewater application operations in terms of odor control and groundwater protection, including consideration of application management practices (e.g., waste constituent and hydraulic loadings, application cycles, drying times, and cropping practices), and groundwater monitoring data. The annual report will also include tabular and graphical summaries of total loading rates for BOD and total nitrogen, and any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.