

ITEM: 17

SUBJECT: Harris Woolf California Almonds, Ballico Processing Facility, Merced County

BOARD ACTION: *Consideration of Waste Discharge Requirements*

BACKGROUND: Harris Woolf California Almonds (Harris Woolf) owns and operates the Ballico Almond Processing facility (Facility) about a ¼ mile northwest of the community of Ballico. Harris Woolf does not have Waste Discharge Requirements, but submitted a Report of Waste Discharge in 2009. Harris Woolf or its predecessor has been sampling effluent and groundwater since 2009.

The wastewater is generated from the processing (blanching, slicing, and grinding) of almonds and the washing of almond processing equipment. Wastewater is routed to a retention pond prior to being discharged for reuse on a 14 acre land application area planted with almonds. The volume of the discharge currently averages about 22,500 gallons per day.

Effluent monitoring since 2009 indicates the average electrical conductivity (EC) of the discharge is good at 672 micromhos per centimeter (umhos/cm) and is useable for the irrigation of the most salt sensitive crops. The average organic matter content as measured by biochemical oxygen demand (BOD) is relatively high: 549 milligrams per liter (mg/L). The average total nitrogen concentration is 55 mg/L. The proposed discharge will add about 217 pounds per acre per year (lbs/ac/yr) of nitrogen and about 1,170 lbs/ac/yr of salt to the land application areas (LAAs). The discharge BOD loading rate will be eight pounds per acre per day to the LAAs.

Groundwater occurs in an unconfined aquifer and the depth to water is currently about 75 feet below ground surface. Harris Woolf monitors groundwater quality in a three well groundwater monitoring well network (MW-1 through MW-3). The direction of groundwater flow is generally to the east. The best water quality is observed in downgradient well MW-2, and the results in upgradient MW-1 and downgradient MW-3 are nearly identical with MW-1 having slightly higher values for most of the constituents. Nitrate as nitrogen results from all of the wells exceed the Primary MCL of 10 mg/L. Nitrate as nitrogen in groundwater is a regional problem.

The United States Geological Survey (USGS) monitors or has monitored several groundwater monitoring wells near the Facility. Two USGS wells are about two miles west and generally upgradient of the Facility. The results from the USGS wells are nearly identical to the results from MW-1

ISSUES: Comments were received by Harris Woolf and Ms. JoAnne Kipps. Revisions were made to address some of the comments. Full responses to comments are included in the Response to Comments in the agenda package. Staff has addressed Harris Woolf's comments. A short summary of the remaining issues and Staff's responses follow:

1. Ms. Kipps requests that the proposed WDRs require the Discharger to line the wastewater retention pond. Ms. Kipps questions groundwater monitoring well MW-1 being characterized as an upgradient well citing that sodium concentrations in MW-1 are higher than the sodium concentrations of the other wells and also notes the nitrate as nitrogen concentrations in all wells exceed the water quality objective.

No changes were made to the proposed WDRs because the existing data does not show unreasonable degradation by the discharge and that the lining of the wastewater pond is necessary. The average sodium concentration in effluent is about half of the average sodium concentration in MW-1. Conversely, the average chloride concentration in the effluent is about double the chloride concentration in MW-1. If the discharge to the unlined wastewater pond was affecting MW-1, then the sodium concentrations in MW-1 would be lower and closer to that of the effluent and chloride concentrations would be higher and closer to the concentrations of the effluent. The groundwater quality in MW-1 is representative of regional groundwater quality, not the discharge of wastewater to the wastewater pond.

With respect to nitrate as nitrogen concentrations in groundwater, nitrate as nitrogen concentrations in USGS wells (32 to 38 mg/L) two miles upgradient of the Facility are similar to those in onsite wells and MW-1 (17 to 40 mg/L), and the lowest concentrations are observed in a monitoring well downgradient of the orchard used for the recycling of almond processing wastewater. Nitrate as nitrogen in groundwater is a regional problem, not the result of the discharge of almond processing wastewater to the unlined wastewater pond.

2. Ms. Kipps requests the Threat to Water Quality described in the proposed WDRs be changed from a level 3 to a level 2 based on the potential for the almond processing wastewater contained in the wastewater retention pond to create objectionable odors and threaten nuisance conditions.

The change is not appropriate. The Facility has been in operation since 1994 and Harris Woolf has been submitting self-monitoring reports since 2009. The Central Valley Water Board record does not contain a single complaint regarding the Facility and no offensive odors were detected during the pre-WDR inspection conducted in 2012.

RECOMMENDATION Adopt the proposed WDRs.

Mgmt. Review _____
Legal Review PEP

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