

**Regional Water Quality Control Board
Central Valley Region
Board Meeting – 31 January/1 February 2013**

**Response to Written Comments for Horizon Nut, LLC and
Global Ag Properties USA, LLC,
Lost Hills Pistachio Processing Plant
Tentative Waste Discharge Requirements**

At a public hearing scheduled for 31 January/1 February 2013, the Regional Water Quality Control Board, Central Valley Region, (Central Valley Water Board) will consider adoption of Waste Discharge Requirements (WDRs) for discharges from the Horizon Nut, LLC, (Horizon) Lost Hills Pistachio Processing Plant to land owned by Global Ag Properties USA, LLC. This document contains responses to written comments received from interested parties regarding the draft tentative WDRs initially circulated on 21 November 2012. Written comments from interested parties were required by public notice to be received by the Central Valley Water Board by 21 December 2012 to receive full consideration. Comments were received from Horizon and Ms. Jo Anne Kipps.

Written comments from the above interested parties are summarized below, followed by the responses of Central Valley Water Board staff. Based on the comments, Central Valley Water Board staff did make some changes to the tentative WDRs. Central Valley Water Board staff also made some changes to correct typographical errors and to improve clarity.

HORIZON COMMENTS

On 21 December 2012, Horizon submitted the following comments via email.

Horizon Comment No. 1: Finding 5, Page 2, please edit as follows:

“The Berrenda Mesa Water District supplies source water to the Plant from the California Aqueduct. The plant disinfects the source water with chlorine gas **or sodium hypochlorite** and then filters it through carbon prior to use for pistachio processing. No other chemicals are added to the waste stream during processing.”

Response: After discussing further, Horizon indicated it primarily uses chlorine gas for disinfection and only uses sodium hypochlorite when chlorine gas is not available. As such, Finding 5 has been modified as follows:

“The Berrenda Mesa Water District supplies source water to the Plant from the California Aqueduct. The plant disinfects the source water with chlorine **gas or sodium hypochlorite when chlorine gas is not available** and then filters it through carbon prior to use for pistachio processing. No other chemicals are added to the waste stream during processing.”

Horizon Comment No. 2: Finding 7, Page 2, please edit as follows:

“All wastewater from the different processes discharges into two 8-ft x 8-ft x 10-ft concrete sumps and then is pumped into the wastewater ponds. There are six unlined wastewater ponds at the Plant with a total combined capacity of approximately 32.8

million gallons. Ponds 1 through 5 were in existence when the original RWD was submitted in 2003. Pond 6 was constructed in 2012. Pond 1 is primarily for settling out solid material (primarily hulls) and Pond 2 discharges to ~~an~~ **any of four** irrigation reservoirs. The remaining four **wastewater** ponds are for emergency storage. All six wastewater ponds are hydraulically connected.”

Response: Finding 7 has been modified as requested by Horizon.

Horizon Comment No. 3: Finding 9, page 2, please edit as follows:

“Solid waste generated at the Plant consists of twigs, leaves, and other debris removed from the waste stream during the pre-cleaning process, and pistachio hulls that settle-out in the wastewater ponds. Solids removed during the pre-cleaning process are moved with the rest of the debris from the pistachio orchards and composted or ~~burned on-site~~ **shipped off-site as a commodity**. The pistachio hulls are removed from the wastewater ponds **annually or once every two years** and evenly applied and incorporated into ~~400~~ **up to 400** acres of open land.”

Response: Finding 9 has been modified as requested by Horizon.

Horizon Comment No. 4: Finding 10, page 2, please edit as follows:

“Wastewater is pumped from Pond 2 to ~~an~~ **any of four** irrigation reservoirs near the wastewater application area, ~~where it is~~ **Based on crop requirements and agricultural suitability, wastewater is** mixed with irrigation water ~~at a rate of approximately 25% wastewater and 75% irrigation water~~ from the Berrenda Mesa Canal **or applied undiluted**. The mixed water is pumped through sand filters before being ~~sprinkler-applied~~ to 1,460 acres of pistachios **via micro-irrigation.**”

Response: Finding 10 has been modified as requested by Horizon.

Horizon Comment No. 5: Wastewater Application Area Specification D.4, page 15, please edit as follows:

“The BOD loading to the wastewater application area calculated as a cycle average as determined by the method described in the attached MRP, shall not exceed ~~400~~ **300** pounds per acre per day.”

This change is requested because although the average daily BOD loading rate should be below the USEPA recommended rate of 100 lbs/day/acre, variations may occur with seasonal sources. USEPA guidance (publication 625/3-77-007) indicates that BOD loading rates in excess of 100 lbs/acre/day are possible if the site is irrigated for only a few weeks each year

and is well maintained. The publication is supported by the Wine Institute Study for Land Disposal of Wine Stillage Waste report, which recommends a daily maximum of 600 lbs/acre/day.

Response: Finding 37 references US EPA guidance, publication No. 625/3-77-007 which indicates BOD loading rates in excess of 100 lbs/acre/day are possible if the site is irrigated for only a few weeks each year and is well maintained. However, though US EPA publication No. 625/3-77-007 indicates that an increase in BOD loading above 100 lbs/acre/day would not cause odor or nuisance conditions, such an increase would not necessarily be protective of groundwater quality. Therefore, Wastewater Application Area Specification D.4 has not been revised. In order for the BOD loading specification to be revised, the Discharger shall submit a technical report justifying how the revision will not degrade or threaten to degrade groundwater quality. Central Valley Water Board would consider any justified change through amendment of the adopted Order.

Horizon Comment No. 6: Solids Disposal Specification E.1, page 15, please update this section to reflect the proposed changes presented in Comment No. 3.

Response: Solids Disposal Specification E.1 has been revised as follows:

“Any drying, handling and storage of solids at the Plant shall be temporary, and controlled and contained in a manner that minimizes leachate formation and precludes the development of odor nuisance conditions and infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations of this Order. Solids removed during the pre-cleaning process shall be collected and composted or ~~burned on-site~~ **shipped off-site as a commodity**. Solids removed from the wastewater ponds shall be evenly applied and incorporated into ~~the 400~~ **up to 400 acres of the** solids application area and shall not be applied to the solids application area within 24 hours of a storm event of measurable precipitation or when soils are saturated. Solids removed from the wastewater ponds shall not be applied to the wastewater application area.”

Horizon Comment No. 7: Source Water Monitoring, page 2 of the MRP, please edit the introductory paragraph as follows:

~~“For each source,~~ **If more than one source supplies source water,** the Discharger shall calculate the flow-weighted average concentrations for the specified constituents utilizing monthly flow data and the most recent chemical analysis conducted in accordance with Title 22 drinking water requirements. Alternatively, the Discharger may establish representative sampling stations within the distribution system serving the same area as is served by the Plant.”

Response: The introductory paragraph of the Source Water Monitoring Section of the MRP has not been revised. The original wording of the paragraph allows flexibility for both flow-weighted average concentrations if more than one source supplies water or concentrations if only one source supplies source water (flow-weighted 100 percent).

Horizon Comment No. 8: Wastewater Pond Monitoring, page 4 of the MRP, please add an exception to monitoring dissolved oxygen in Pond 1 when pistachio hulls have formed a surface barrier preventing safe and representative sampling.

Response: The Discharger has not sufficiently demonstrated that practical engineering control measures cannot be implemented in order to collect a safe and representative dissolved oxygen sample pursuant to the MRP. As such, the tentative Order was not revised to address this comment.

Horizon Comment No. 9: Please incorporate the comments noted above to the Information Sheet and revise Attachment A – Site Location Map to reflect the solids application areas identified on the Assessor's Parcel Map attached to our June 15, 2012 submittal.

Response: The Information Sheet has been revised to reflect the changes noted in the above comments and Attachment A has been revised to identify the correct locations of the Solids Application Areas.

MS. KIPPS COMMENTS

On 21 December 2012, Ms. Kipps submitted the following comments via email.

Ms. Kipps Comment No. 1: Identify in Finding 1 (or the Information Sheet) the discharge flow rates (monthly average, daily maximum, yearly total) and Wastewater Application Area (acres and APNs) proposed in the 2003 RWD and its 2006 and 2009 supplements submitted by A & P Growers.

Response: The Information Sheet has been revised to provide the following data:

2003 RWD: maximum daily flow of 1.152 million gallons per day (mgd); total annual flow of 34.56 million gallons; 360 acres of wastewater application area (APN 057-180-41); and 100 acres of solids application area (APN 057-170-27, 057-170-28, 057-170-29, and 057-170-49).

2006 RWD: maximum daily flow of 1.152 mgd; total annual flow of 100 million gallons; 760 acres of wastewater application area (APN 057-180-13 and 057-180-41); and 100 acres of solids application area (APN 057-170-02, 057-170-27, and 057-170-28).

2009 RWD: maximum daily flow of 1.75 million gallons per day (mgd); total annual flow of 130 million gallons; 1,070 acres of wastewater application area (APN 057-180-01, 057-180-13, 057-180-41); and 100 acres of solids application area (APN 057-170-02, 057-170-27, 057-170-28, 057-170-29, 057-170-49, 057-170-52 and 057-180-01).

Ms. Kipps Comment No. 2: Revise Finding 50 and the Information Sheet to provide a discussion explaining in more detail why the discharge qualifies for the “existing facility” exemption. The discussion should compare the Plant’s historic discharge flow rates and disposal area to the increased discharge flow rates and application area identified in the 2006 and 2009 supplements to the RWD and the 2012 technical report cited in Finding 1. The justification should explain why the increased discharge flow rate and disposal area, as proposed in Horizon Nut’s 2012 technical report, do not constitute an expansion of an existing use or comprise minor alterations in the Plant’s operation or otherwise negligible.

Response: The limited processing and discharge season, the significant depth of vadose zone consisting of inter-bedded sand, silts, and clays, the agronomic application of nutrients in wastewater (except for potassium which has limited migration in subsurface soils), and the annual removal of solid material from the wastewater ponds (see response to Ms. Kipps Comment No. 14) meant that the discharges regulated by these WDRs pose a very low threat to water quality. Due to resource constraints, the Board did not prioritize the environmental review of this facility, and therefore the Board’s environmental review began only after the Discharger’s 2012 submittal. Though the construction, initial operation, and expansions of the Plant were essentially unregulated by the Board (and no permits or discretionary actions on the part of Kern County were required for these actions, because they conformed to the County’s General Plan), the expanded Plant and discharge nonetheless forms the environmental “baseline” from which the Board evaluates potentially-significant effects upon the environment. Pursuant to CEQA legal precedent, unpermitted (and even illegal) activities can certainly form the environmental baseline from which a permitting agency evaluates the environmental effects of a proposed action. (*Fat v. County of Sacramento* (2002) 97 Cal.App.4th 1270; *Bloom v. McGurk* (1994) 26 Cal.App.4th 1307.) These WDRs ensure that the operation of the Plant will not have any significant effects on the environment, authorize no additional expansion, and prohibit degradation of groundwater quality. As such, the action of prescribing these WDRs to this existing facility is exempt from the requirements of California Environmental Quality Act in accordance with California Code of Regulations, title 14, section 15301.

Ms. Kipps Comment No. 3: If, upon re-evaluation of the discharge and its potential to violate the Tentative Order and otherwise cause significant environmental effects, staff continues to propose the Regional Board determine that the discharge qualifies for the existing facility exemption; staff should submit a Notice of Exemption to the Governor’s Office of Planning and Research, State Clearinghouse, promptly following order adoption.

Response: As indicated in response to Ms. Kipps Comment No. 2, the discharge qualifies for the existing facility exemption. Therefore, staff plans on submitting a Notice of Exemption to the Governor's Office of Planning Research, State Clearinghouse within the required time period following adoption of the Tentative Order.

Ms. Kipps Comment No. 4: If, upon re-evaluation of the discharge and its potential to cause significant environmental impact (e.g., violating the WDR), staff determines that Regional Board is obliged to assume lead agency status and prepare a CEQA evaluation of the discharge, staff should pull the Tentative Order and re-circulate a revised Tentative Order and accompanying draft CEQA document.

Response: As indicated in response to Ms. Kipps Comment No. 2, the discharge qualifies for the existing facility exemption and further analysis under CEQA is not required.

Ms. Kipps Comment No. 5: Revise Finding 20 to further describe the discharger's flood protection measures with respect to the irrigation reservoirs and solids application area, and state whether these measures are adequate to comply with Discharge Specification C.6.

Response: The four irrigation reservoirs are located within FEMA Zone A, an area within a 100-year floodplain. However, irrigation of the pistachio trees with effluent from the Plant does not occur past October; therefore, the likelihood of inundation of the irrigation reservoirs by flood waters when they contain Plant effluent is improbable. Solids are removed from the wastewater ponds and incorporated into the solids application area outside of the rainy season. Therefore, additional flood protection demonstration is not warranted.

Ms. Kipps Comment No. 6: Re-examine the discharger's water balance model and, as necessary, reduce the initial discharge flow limits to rates not exceeding wastewater storage and disposal capacity in rainfall years of at least 25-year return frequency. Consider authorizing the proposed flow rates only after the discharger satisfies a new provision requiring certification that the wastewater storage and disposal capacity is sufficient to comply with the WDR in rainfall years of at least 25-year return frequency.

Response: Central Valley Water Board staff updated the water balance model to include total annual precipitation using a return period of 25 years, distributed monthly in accordance with historical rainfall patterns (i.e., 25-year storm). The 25-year storm data was obtained for Bakersfield from the *Department of Water Resources Bulletin No. 195, Rainfall Analysis for Drainage Design, Volume II, Long-Duration Precipitation Frequency Data*. Data was not available for locations closer to Lost Hills. Although the total annual rainfall increased from 5.08 inches (average annual) to 10.8 inches (25-year storm), the evapotranspiration of the pistachio trees during September and October (5.02 inches) is

greater than the volume of wastewater generated at the Plant (3.28 inches) and the rainfall from the 25-year storm (0.69 inches) during the months of September and October.

Assuming no infiltration, sufficient storage capacity is available in the wastewater ponds to handle runoff generated at the Plant (35 acres) from the 25-year storm during the months of September and October (0.69 inches). Therefore, a reduction to the initial discharge flow rate or further revisions to the water balance model are not warranted. Finding 16 was updated to reflect the water balance model was updated with data from the 25-year storm.

Ms. Kipps Comment No. 7: Include information in the findings (e.g., like Finding 28) describing discharge area surface water runoff and receiving waters, and list designated beneficial uses of identified surface waters.

Response: Finding 29 has been added to the Tentative Order that states:

“The discharge is to cropland on the edge of the San Joaquin Valley and any surface drainage would be to Valley Floor Waters. The beneficial uses of Valley Floor Waters within the subject hydrologic area (Antelope Plain Hydrologic Area No. 558.60) are agricultural and industrial service and process supply; water contact and non-contact water recreation; wildlife and warm freshwater habitat; groundwater recharge; and preservation and enhancement of rare, threatened, and endangered species.”

Ms. Kipps Comment No. 8: Revise Finding 8 to provide information on the dimensions on the wastewater ponds near the Plant and the four wastewater ponds in the Waste Application Area that serve as irrigation reservoirs. Using the waste characterization data presented in Finding 12, determine the mass loading of nitrogen released annually to soil from the operation of all wastewater ponds. Re-evaluate whether this mass loading threatens to degrade underlying groundwater.

Response: The limited processing and discharge season; significant depth of vadose zone consisting of inter-bedded sand, silts, and clays; and annual removal of solid material from the wastewater ponds (see response to Ms. Kipps Comment No. 14) should preclude degradation of groundwater by nitrogen. As a result, the Tentative Order has not been revised to include the requested mass loading calculations.

Ms. Kipps Comment No. 9: Revise Attachment A to identify the locations of all irrigation reservoirs. Clearly designate irrigation reservoirs used to impound wastewater as wastewater ponds that are subject to all applicable terms and conditions of the Tentative Order, including its MRP.

Response: Attachment A has been revised to identify the location of the irrigation reservoirs. Provisions G4, G.5, and G.6 have been revised to indicate they are also applicable to the irrigation reservoirs. The Wastewater Pond Monitoring section of the MRP

has been revised to indicate the monitoring requirements are also applicable to the irrigation reservoirs.

Ms. Kipps Comment No. 10: Revise Finding 10 to include a description of how sand filter backwash wastewater is managed and discharged.

Response: Finding 10 has been revised to indicate the sand filters are backflushed approximately every three hours of operation. The backflush water is recirculated to an irrigation reservoir.

Ms. Kipps Comment No. 11: Include a discharge specification that requires the discharge to be managed in a manner that precludes the development of objectionable odors or vectors perceivable beyond the discharger's property (e.g., "Objectionable odors originating at this facility shall not be perceivable beyond the limits of the property owned by the Discharger.").

Response: Discharge Specification C.7 states, "Objectionable odors shall not be perceivable beyond the limits of the wastewater ponds or the wastewater and solids application areas at an intensity that creates or threatens to create nuisance conditions." As such, no additional revisions have been made.

Ms. Kipps Comment No. 12: Include a requirement for flushing with fresh (canal) water all pressurized pipelines conveying wastewater upon completion of waste application to preclude the generation of objectionable odors perceivable beyond the discharger's property (e.g., "Irrigation pipelines shall be flushed with fresh water after wastewater application as often as needed to ensure continuous compliance with [the Discharge Specification regarding objectionable odors perceivable beyond the discharger's property.]").

Response: Wastewater Application Area Specification D.9 has been added which states:

"Irrigation pipelines shall be flushed with fresh water after wastewater application as often as needed to ensure continuous compliance with Discharge Specification C.7."

Ms. Kipps Comment No. 13: Include a Discharge Prohibition addressing discharge on windy days (e.g., "Application of treated wastewater to the Wastewater Application Area using sprinkler irrigation is prohibited when wind velocities exceed 20 miles per hour.").

Response: Additional information received from Horizon (see Horizon Comment No. 4 above) indicates the pistachio orchard is irrigated with micro-irrigation. As such wind-blown mist from irrigation practices is not anticipated and a discharge prohibition precluding irrigation on windy days is not warranted.

Ms. Kipps Comment No. 14: Revise Discharge Specification C.9 to stipulate that solids shall be removed from wastewater ponds annually by 1 August. Increasing the frequency with which sludge is removed from wastewater ponds should result in lower concentrations of certain waste constituents in pond seepage, and should be implemented as a practicable control measure.

Response: Discharge Specification C.9, which is now C.10, has been revised as follows:

“The Discharger shall periodically monitor solids accumulation in the wastewater ponds and shall remove solids to maintain adequate storage capacity. Solids shall ***be removed from the wastewater ponds and incorporated into the solids application areas annually outside of the rainy season and before the beginning of the pistachio processing season.***” ~~not be stored in the wastewater ponds for more than two years.~~

Ms. Kipps Comment No. 15: Revise the Tentative Order’s MRP to require at least one soil profile monitoring location in each wastewater pond used during the season for wastewater treatment or storage, and monitoring of that station before the start of the processing season for applicable waste constituents of concern.

Response: The limited processing and discharge season, significant depth of vadose zone consisting of inter-bedded sand, silts, and clays, and annual removal of solid material from the wastewater ponds (see response to Ms. Kipps Comment No 14) should preclude degradation of groundwater. Therefore, the Tentative Order’s MRP has not been revised to include soil profile monitoring of the wastewater ponds.

Ms. Kipps Comment No. 16: Include a provision requiring the discharger to submit a technical report within 180 days of Order adoption describing a feasibility study of implementing pretreatment (e.g., screening) to remove solids from wastewater before it is discharged to ponds. Adding solids removal pretreatment will greatly reduce the sludge accumulation rate in Pond 1 and should reduce the concentrations of certain waste constituents in Pond 1 seepage.

Response: The discharge is neither anticipated to cause, nor does the Tentative Order allow groundwater degradation. The Tentative Order has been revised to require annual removal of solids from the wastewater ponds. Including a Provision in the Tentative Order to provide further screening of solids is not warranted.

Ms. Kipps Comment No. 17: Include a provision requiring the discharger to submit a technical report, when directed in writing by the Executive Officer, describing a project to line wastewater ponds in the event soil monitoring shows excessive waste constituent concentrations with depth in pond bottom soils. Require the discharger to line the wastewater

ponds within 120 days following issuance of written notice by the Executive Officer that pond lining is necessary to comply with the WDR. Require the discharger to submit a technical report prepared by a California registered civil engineer within 45 days of project completion certifying that the pond liners were installed as approved.

Response: Revising the tentative Order to include this revision is not necessary since soil monitoring in each wastewater pond is not required (see Response to Ms. Kipps Comment No. 15).

Ms. Kipps Comment No. 18: Revise Finding 45 to delete the reference to Title 27, section 20090(h) (Reuse), and prohibit the discharge of residual solids to uncultivated land. Or, revise the Tentative Order to require all Solids Application Areas be cultivated and otherwise be subject to the same applicable specifications as the Wastewater Application Area (D.1, D.2, D.3, D.6, D.7, D.8, and D.9).

Response: The tentative Order has been revised to find that the wastewater discharged to the wastewater ponds and to the pistachio orchards is exempt from the requirements of Title 27 pursuant to the wastewater exemption found at Title 27, section 20090(b). While the Board does not necessarily agree that the reuse exemption cannot be used in this context, the wastewater exemption provides sufficient justification for not regulating these discharges pursuant to Title 27, so the reuse exemption citation was deleted. Furthermore, Title 27 only applies to discharges of "solid waste to land where water quality could be affected as a result of such discharge." (Cal. Code Regs., tit. 27, §21710(a).) Since there is no evidence in the Board's files that the seasonal land application of solids accumulated in the wastewater ponds threatens groundwater, nor is it the professional judgement of the Board's staff that these wastes could cause any impacts to groundwater, regulating these discharges pursuant to Title 27 is inappropriate. Finding 48 has been added indicating the solids application to the solids application area is not subject to the requirements of Title 27. Furthermore, Provision G.10 has been added – this provision requires the Discharger to submit a Solids Beneficial Use Plan that characterizes the solids removed from the wastewater ponds for nutrients, salts, and metals and evaluates possible reuse options to be implemented at the Plant for the solids material. The solids characterization portion of the Solids Beneficial Use Plan has been added in lieu of the solids and solids application area monitoring portions of the MRP.

Ms. Kipps Comment No. 19: Include a finding that describes onsite pond sludge handling methods and area(s); characterizes the residual solids discharge for appropriate waste constituents of concern, including metals; and estimates the loading rates of nitrogen and salinity to areas receiving periodic pond sludge discharges.

Response: Approximately 500 tons of solids have been removed during each of the historic cleaning of the wastewater ponds which occurred once every two years. The

amount of solids removed from the ponds on an annual basis is anticipated to be less. Data to further characterize the solids are currently unavailable. Solids characterization will be completed as part of the Solids Beneficial Use Plan required by Provision G.10.

Ms. Kipps Comment No. 20: If the Tentative Order allows the discharge of residual solids to uncultivated land, provide justification for this apparent inconsistency with Title 27 requirements and revise the Tentative MRP to require monitoring of solids prior to land application for nitrogen compounds, major salinity constituents (e.g., sodium and potassium), and metals.

Response: This comment has been addressed in response to Ms. Kipps Comment No. 18.

Ms. Kipps Comment No. 21: Revise Finding 12 to include pH, and to describe the method used to determine mean pH. Include a finding that provides technical justification for the proposed effluent limitation for pH, and includes information regarding soils in the Waste Application Area showing that they have sufficient buffering capacity to receive low or high pH waste without excessive soil amendment applications to adjust for soil pH.

Response: Data are currently not available to characterize the effluent for pH and to revise Finding 12 as identified in the comment above. Effluent Limitation B.1 has been changed to an instantaneous limit with a range of 4.5 to 9.0 pH units. Although site specific pH data is not currently available, the Discharger has indicated that pH values less than 4.5 but greater than 4.0 may occur at the Plant, based on data from other similar pistachio processing facilities. In order for the pH limit to be revised, the Discharger shall submit a technical report justifying how the revision will not degrade or threaten to degrade groundwater quality. Central Valley Water Board would consider any justified change through amendment of the adopted Order.

Ms. Kipps Comment No. 22: Revise Effluent Limitation B.1 to specify the discharge as the discharge to the irrigation reservoirs.

Response: The Effluent Monitoring Section of the MRP indicates pH shall be collected after the wastewater ponds and prior to discharge to the irrigation reservoirs. As such, the Tentative Order has not been revised to address this comment.

Ms. Kipps Comment No. 23: If there are available data, revise Finding 12 (and the Information Sheet) to characterize effluent for metals (i.e., aluminum, chromium, copper, lead, molybdenum, nickel, and zinc). If the effluent has not yet been characterized for metals, revise the Tentative MRP to require effluent monitoring for metals at least three times in non-consecutive weeks during the first processing season following order adoption. If reported values are non-detect, reduce effluent monitoring frequency for metals to once every three

years. Also revise the Tentative MRP to include metals in the suite of waste constituents monitored in the solids discharge.

Response: Data are currently not available to characterize the effluent for metals and to revise Finding 12 as identified in the comment above. The MRP has been revised to require aluminum, chromium, copper, lead, molybdenum, nickel, and zinc sampling and analysis within the first year following permit adoption for effluent samples. Continued monitoring can be required as necessary following review of the initial submittal of data. As indicated in response to Ms. Kipps Comment No. 18, solids characterization will be accomplished by the submittal of the Solids Beneficial Use Plan.

Ms. Kipps Comment No. 24: Revise Finding 38 to characterize the discharge's instantaneous BOD loading for the irrigation method used in the Reuse Area (i.e., sprinkler), and the resting intervals that typify the discharge operation. The finding should also describe how crop cultivation practices (e.g., nut harvest) would not limit the use of the Wastewater Application Area during the discharge season.

Response: Finding 39 has been added to indicate the Discharger has reported its standard irrigation practice is to irrigate 90 acre sections with fan jet irrigation systems and 200 acre sections with drip irrigation systems. The fan jet systems utilize 0.11 acre-feet/acre of water for 24 hours and the drip irrigation systems utilize 0.05 acre-feet/acre of water for 24 hours. Following irrigation cycles, the sections of land are allowed to rest (between four and ten days) in order to reduce the cycle average BOD loading to approximately 100 lbs/acre/day. Pistachios are harvested during the rest period for each section. Standard practice for pistachio harvesting is to not allow the pistachios to come in contact with the ground.

Ms. Kipps Comment No. 25: Include a discharge specification that states, "The discharge of process wastewater shall be distributed uniformly on adequate acreage in compliance with the Discharge Specifications."

Response: Discharge Specification C.8 has been added as follows:

"The discharge of process wastewater shall be distributed uniformly on adequate acreage in compliance with the Discharge Specifications."

Ms. Kipps Comment No. 26: Evaluate the discharge's potential for chronically exceeding the annual crop demand for potassium in violation of Wastewater Application Area Specification D.2. Evaluate whether excessive potassium loading to pistachio reduces yield (or otherwise diminishes uptake of other applied waste constituents). Evaluate whether authorizing potassium storage in the vadose zone is a waste discharge practice consistent with applicable

laws and regulations and Regional Board plans and policies. Revise Wastewater Application Area Specification D.2 as appropriate based on the results of these evaluations.

Response: The Discharger's agronomist has reported that a reduction in yield has not been observed from the use of the Plant effluent to irrigate the pistachio trees. Also, as indicated in Finding 39.c, now Finding 41.c, of the Tentative Order, "The limited processing and discharge season, significant depth of vadose zone, and limited migration of potassium in subsurface soils should preclude degradation of groundwater by potassium. As a result, Wastewater Application Area Specification D.2 has been revised as follows.

"Application of waste constituents to the wastewater application area shall be at reasonable agronomic rates to preclude creation of a nuisance or degradation of groundwater, considering the crop, soil, climate, and irrigation management system. The annual nutritive loading of the wastewater application area, including the nutritive value of organic and chemical fertilizers and of the wastewater, shall not exceed the annual crop demand, **except for potassium.**"

Ms. Kipps Comment No. 27: Revise Finding 1 (or the Information Sheet) to indicate whether the discharger's 2003 RWD (and supplements) included an antidegradation analysis and, if correct, identify staff as responsible for conducting the antidegradation analysis summarized in Findings 39 through 41. Please include in the Staff Response to Comments a discussion explaining staff's procedures for processing reports of waste discharge that lack an antidegradation analysis, and any updates on staff's efforts to prepare an Information Needs Sheet for Antidegradation Analysis.

Response: Though it was Board staff that completed the anti-degradation analysis in this instance (based on the information and data presented in the RWD, addendums, and on other information in the Board's files), the Board appreciates that the commenter is calling attention to the fact that it is ordinarily the *Discharger's* obligation to provide this analysis. However, owing to the fact that this requirement has not been emphasized until relatively recently, it is reasonable for Board staff to assist here, as it is ultimately the Board's responsibility to ensure that the WDRs it issues contain legally-adequate anti-degradation findings. Board staff notes that there has been increasing emphasis placed on ensuring that the Dischargers provide the anti-degradation analysis along with the RWDs that are submitted to this Board. No change was made to address this comment.

Ms. Kipps Comment No. 28: Re-evaluate Finding 39.c to account for the apparent fact that the discharge's annual potassium loading to the Waste Application Area exceeds reasonable agronomic demand. Consider whether authorizing the discharger to store increasing quantities of potassium in the vadose zone is consistent with applicable laws and regulations and Regional Board plans and policies.

Response: This comment has been addressed in response to Ms. Kipps Comment No. 26.

Ms. Kipps Comment No. 29: Revise the Tentative Order's MRP to require the discharger to establish at least one soil profile monitoring station per 40 acres of Wastewater Application Area and at least three representative background soil profile locales for use in evaluating all soil monitoring data.

Response: Soil monitoring is not warranted in the wastewater application area due to the short-term duration of the discharge, significant depth of the vadose zone consisting of alluvium of inter-bedded sands, silts and clays, and application of wastewater at agronomic rates (except for potassium which is anticipated to have limited migration in subsurface soils). In addition, groundwater in the vicinity of the Plant is saline and generally of poor quality, which is characteristic of the west side of the San Joaquin Valley.

Ms. Kipps Comment No. 30: Require composite sampling of each profile monitoring station in order to provide data that better represent the discharge's effect on soil quality.

Response: Since soil profile sampling is not required in the wastewater application area, no change was made to address this comment.

Ms. Kipps Comment No. 31: Because of the inherent difficulty of evaluating soil monitoring data and interpreting the data with respect to the discharge's potential to affect water quality, revise the Tentative Order to require the discharger to (1) submit at least three months prior to the first soil sampling event a written soil sampling plan prepared by a California registered civil engineer with experience in evaluating the impacts to soil and groundwater from discharges of food processing waste, and (2) include in each Annual Monitoring Report an evaluation by a California registered civil engineer of monitoring data (effluent, solids, Wastewater Application Area, Solids Application Area, and soil) for the past processing season and previous processing seasons (as appropriate) that shows the discharge is being conducted in compliance with the order.

Response: The submittal of a soil sampling plan is not necessary. As indicated in Response to Ms. Kipps Comment No. 18, the solids application to the solids application area is not subject to regulation by Title 27 and solids characterization as part of the Solids Beneficial Use Plan has been added in lieu of the solids and solid application area monitoring sections of the MRP.

Ms. Kipps Comment No. 32: Delete Finding 42. It cites State Water Resources Control Board Resolution 77-1, *Policy with Respect to Water Recycling in California*. However, this policy does not apply to this discharge because the high-strength wastewater applied to the

Wastewater Application Area is not recycled water as defined in California Water Code, section 13050(n).

Response: This Finding has been removed from the Tentative WDRs.

Ms. Kipps Comment No. 33: Finding 7 clearly characterizes Pond 1 as a wastewater treatment pond (settleable solids removal). This type of treatment requires periodic sludge removal, drying, and disposal, and should be considered sufficiently complicated on an operation and maintenance basis to classify the discharge as Category B complexity. Revise Finding 44.b to change the complexity of the discharge to from Category C to Category B.

Response: Although solid material is removed from the waste stream in Pond 1, it is a passive treatment system not meeting the intended definition of Category B complexity. No change has been made to address this comment.