21 April 2023

Jo Anne Kipps
Fresno, CA

Patrick Pulupa, Executive Officer
Central Valley Water Quality Control Board

Via email to: centralvalleysacramento@waterboards.ca.gov
cc: Dina.Calanchini@waterboards.ca.gov

Comments— Tentative WDRs for Thomas Alexander, California Concentrate Company, San Joaquin County

This letter transmits my comments on the subject Tentative Order issued 22 March 2023. I am a California registered civil engineer and worked in the Central Valley Regional Water Quality Control Board's Fresno office (1998-2010), mostly in the WDR Program (aka "Non-15 Discharges to Land" Program). The Tentative Order is a slightly revised version that was issued 23 April 2021. I submitted comments on this version by letter dated 22 May 2021.

Preliminaries. The discharge is currently regulated by Waste Discharge Requirements (WDR) Order 98-136 for "California Concentrate Company, Wastewater Treatment and Disposal Facility" (Current Order), Cleanup and Abatement Order R5-2019-0700 (CAO) for "The California Concentrate Company," and 2021-issued Revised Monitoring and Reporting Program Order No. 98-136-02 for "Thomas Alexander, California Concentrates (sic) Company." CIWQS identifies the Discharger (Agency) as "Calf Concentrate Company" and the Facility (Place) as "Grape Processing Facility." The Current Order (Finding 1) states that the property is owned by Dennis and Roberta Alexander.

The Tentative Order identifies the Discharger as "Thomas Alexander" and the Facility as "California Concentrates Company." Its header names only "CALIFORNIA CONCENTRATES (sic) COMPANY." It cites a Report of Waste Discharge (RWD) submitted 30 April 2020 (Finding 1). The Form 200 included in this document is signed by Dominic Alexander, Plant Manager, and dated 30 April 2020. It identifies the owner of both the facility and land as Dennis Alexander and owner type as other: "S CORP." It identifies the facility operator as California Concentrate Company and owner (operator) type as other: "S CORP." Nowhere does the name, "Thomas Alexander," appear on the Form 200.

The California Secretary of State's Business Search website (businesssearch.sos.ca.gov) identifies California Concentrate Company as a California stock corporation with "THOMAS PERRY ALEXANDER" as its Agent for Service of Process (the individual designated to receive official legal documents). It also identifies a California stock corporation named, "Dennis Alexander Group." It would appear that, based on this information, the Tentative Order should be issued to California Concentrate Company and Dennis Alexander Group.

I discussed this issue in my 22 May 2021 letter:

> Typically, the Board issues orders such as WDRs to the legal entity that owns and/or is otherwise responsible for the discharge. Is it is Mr. Thomas Alexander's intent to assume sole legal responsibility for complying with the Tentative Order? If not, I recommend staff request the Discharger to submit a revised Form 200 with the correct information for facility name and owner that is signed by Mr. Thomas Alexander in compliance with Standard Provisions, General Reporting Requirements B.3. And, I recommend the Tentative Order be revised to reflect this revised information.

Again, please confer with the Discharger to confirm the name and owner type of the owner of the discharging facility and of the parcels encompassing the facility and the designated discharge area cited on the Tentative Order's title page. In the event staff determines that the legal names differ from that of the Tentative Order, then staff should correct the Tentative Order accordingly and recirculate it for public comment.

Alternatively, please explain why the Tentative Order identifies Thomas Alexander, California Concentrate Company's Agent of Service of Process, as Discharger, and California Concentrate Company as the Facility.

Discharge of Designated Waste. The Tentative Order is not consistent with the Basin Plan because it authorizes of a discharge of designated waste to unlined ponds located within a regulatory floodway subject to inundation to floods with a 100-year frequency (more on this later). California Water Code section 13173(b) defines designated waste:

> Nonhazardous waste that consists of, or contains, pollutants that, under ambient environmental conditions at a waste management unit, could be released in concentrations exceeding applicable water quality objectives or that could reasonably be expected to affect beneficial uses of the waters of the state as contained in the appropriate state water quality control plan.

The Tentative Order presents sufficient evidence to support the Board's classification of the discharge as a discharge of designated waste subject to Title 27 prescriptive containment standards. The classification hinges on the discharge's elevated concentrations of dissolved iron (Fe) and dissolved manganese (Mn). The Region's basin plans establish water quality objectives (WQOs) to protect designated beneficial uses. Among these are primary and secondary Title 22 drinking water standards to protect domestic and municipal beneficial use. Secondary standards include 0.3 mg/L Fe and 0.05 mg/L Mn.

The Facility's upgradient groundwater well (MW-3) is less than 250 feet north of the Mokelumne River channel and about 50 feet south of the Facility's three effluent percolation ponds (Attachment B & Google Earth), which combined encompass 4.6 acres. Its two downgradient groundwater monitoring wells (MW-4 and MW-5) are located less than 100 feet north of its three unlined wastewater treatment ponds, which together encompass 1.7 acres and provide three million gallons capacity.

Groundwater upgradient from the discharge is recharged by low salinity surface water in the adjacent Mokelumne River. The loading of organic carbon and nitrogen from riparian growth cycling out of the "life" part of the life cycle creates reducing conditions in groundwater underlying riparian zones. These conditions are evidenced by very low nitrate and elevated Fe and Mn. Data summarized from 2019 to 2022 presented in Table 8 shows that upgradient groundwater contains very low nitrate-nitrogen (e.g., 0.08 to 0.12 mg/L), elevated Fe (2.9 to 6.2 mg/L), and elevated Mn (0.9 to 1.1 mg/L). This evidence demonstrates that the assimilative capacity of the underlying groundwater is depleted for organic carbon, as well as for Fe and Mn.

The Tentative Order does not characterize groundwater for total organic carbon (TOC), dissolved arsenic, hardness, and total alkalinity, even though these constituents are monitored in groundwater and provide information on the discharge's impact on groundwater resulting from its BOD loadings. Increased concentrations of these constituents in downgradient groundwater signify the discharge's BOD loading is excessive.

Please include data characterizing groundwater for TOC, arsenic, hardness, and total alkalinity in Tables 8, 10, and 11.

Source water Fe and Mn concentrations presented in Finding 10 are well below the WQOs. In 2019, effluent Fe averaged 4.7 mg/L (Table 5), over 90 times source water Fe and 15 times the WQO. Wastewater generated by the Facility, which was established in 1935 (Finding 7), is conveyed through piping materials including "cast iron, ductile iron, PVC, and welded steel pipe" (Finding 12) and dosed with potassium hydroxide "as needed…[to] control low pH conditions" (Finding 13) before and after discharge to Manhole #2 (Attachment C).

The Tentative Order does not characterize wastewater pH prior to adjustment with potassium hydroxide. The lower the pH, the higher the corrosivity of the wastewater and potential for it to dissolve metals from non-corrosion-resistant piping and conveyances. Besides Fe, cast iron contains Mn; white cast iron also contains chromium and nickel. Steel obviously contains Fe and, if corrosion-resistant, also chromium. The Tentative Order briefly describes the risk posed by the use of metallic surfaces that are not corrosion-resistant to convey wastewater with pH values so low it requires dosing (twice) with potassium hydroxide to maintain a pH conducive for biological treatment.

Beginning in 2020, after vinegar processing wastewater was removed from the Facility's wastewater treatment system, effluent Fe decreased to about 2 mg/L, still 40 times source water Fe and almost seven times the WQO. Average annual effluent Mn is steady at 0.1 mg/L, ten times source water Mn and twice the WQO. This is not normal. The Tentative Order (Finding 69.e) attributes the elevated Fe and Mn in the discharge to the corrosivity of vinegar processing wastewater dissolving metals from metallic surfaces within the Facility. However, even after the removal of vinegar processing wastewater from the discharge in 2019, effluent Fe and Mn still exceed the WQOs. Given the Facility's age, it would likely

require a significant investment by the Discharger to retrofit the Facility's wastewater collection and conveyances with corrosion-resistant materials. Without this retrofit, the discharge will continue to contain Fe and Mn in concentrations exceeding the WQOs.

River water and Facility source water are of high quality with respect to Fe and Mn (i.e., concentrations are below WQOs), whereas effluent Fe and Mn concentrations exceed the WQOs by a factor of 6.5 and 2, respectively. While Fe and Mn concentrations exceed the WQOs in upgradient well MW-3, the concentrations of these two constituents increase as groundwater passes under the percolation and treatment ponds to levels that exceed the WQOs by a factor of 28 for iron in MW-4 and a factor of 234 in MW-5. The increase in Fe and Mn is partially attributable to the elevated concentrations of these two constituents in the discharge, but mostly to the mobilization of soil Fe and Mn caused by the discharge's excessive BOD loadings.

The Tentative Order, in its Information Sheet, states, in part, that "MW-3 is influenced by the high-quality water from the Mokelumne River and may not represent changes in shallow groundwater quality with respect to discharges to land from the Facility." This statement does not make sense from a water quality perspective, and conflicts with the Antidegradation Policy's requirement for the regional boards to adopt WDRs that protect high quality groundwater. If anything, the high quality of groundwater in MW-3 (except for Fe and Mn) facilitates the identification of the discharge's impacts to groundwater evident in downgradient wells, MW-4 and MW-5. The Tentative Order's suggestion that monitoring data obtained from MW-3 should not be used to evaluate "changes in shallow groundwater" resulting from the discharge is equivalent to suggesting that high-quality upgradient groundwater is not worthy of the Board's protection.

Findings regarding special considerations for high-strength waste are frequently included in WDRs for food processing waste discharges,[1] including this one discussing groundwater impacts from excessive BOD loading:

> Regarding BOD, excessive application can deplete oxygen in the vadose zone and lead to anoxic conditions. At the ground surface, this can result in nuisance odors and fly breeding. When insufficient oxygen is present below the ground surface, anaerobic decay of the matter can create reducing conditions that convert metals that are naturally present in soil as relatively insoluble (oxidized) forms to more soluble reduced forms. This condition can be exacerbated by acidic soils and/or acidic wastewater. If the reducing conditions do not reverse as the percolate travels down through the vadose zone, these dissolved metals (primarily iron, manganese, and arsenic) can degrade shallow groundwater quality. Many aquifers contain enough dissolved oxygen to reverse the process, but excessive BOD loading over extended periods may cause beneficial use impacts associated with these metals.[2]

[1] For example, Findings 60–65 in WDR Order R5-2022-0013 for Eriksson, LLC, Ingleby US Pistachio Plant; Findings 41–49 in WDR Order R5-2020-0053 for Horizon Nut, LLC, Horizon Nut Pistachio Huller; Findings 53–62 in WDR Order R5-2019-0055 for Campbell Soup Supply Company, Dixon Facility.
[2] Finding 62 from WDR Order R5-2022-0013 for Eriksson, LLC, Ingleby US Pistachio Plant

Groundwater monitoring data presented in the Tentative Order indicates that the discharge's BOD loading to groundwater is excessive, evident by increased Fe and Mn in groundwater over background. In addition to the percolation pond discharge, wastewater undergoing treatment in unlined ponds also percolates to groundwater. The Tentative Order does not disclose the estimated hydraulic loading of wastewater undergoing treatment and its associated loadings of BOD, nitrogen, and dissolved solids. It bases its antidegradation analysis exclusively on the quality of effluent discharged to percolation ponds, and ignores groundwater impacts from the percolation of high-BOD wastewater undergoing treatment in unlined ponds.

The Tentative Order identifies area soils are a mixture of "Columbia and Tokay fine sandy loams" (Finding 36), but does not disclose information describing the soils' drainage and permeability. The Official Series Description defines the drainage and permeability of Tokay series soils as "Well drained; slow runoff; moderately rapid permeability"[3] and of Columbia series soils as "Moderately well drained; negligible to medium runoff; moderately rapid permeability."[4]

Please include information in Finding 36 regarding the drainage and permeability of Columbia and Tokay series soils and, somewhere in the Tentative Order, provide estimates for the annual hydraulic loadings (feet/year) of wastewater to the unlined treatment and percolation ponds, and for associated annual loadings of BOD, nitrogen, and dissolved solids.

The Tentative Order includes the template's abbreviated version of the Title 27 exemption finding that in older WDRs provide the full definition of the Title 27 section 20090(b) exemption for wastewater:

> Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leach fields if the following conditions are met: (1) the applicable Regional Water Board has issued WDRs,…; (2) the discharge is in compliance with the applicable water quality control plan; and (3) the wastewater does not need to be managed according to Chapter 11, Division 4.5, Title 22 of this code as a hazardous waste.

The only two criteria that the discharge satisfies are (1) and (3). The discharge does not satisfy condition (2) because it is not in compliance with the Basin Plan, which includes the State Antidegradation Policy. Compliance with the Antidegradation Policy requires that discharges to high quality water do not result in exceedances of WQOs. Upgradient groundwater is of high quality for salinity and nitrate. The Antidegradation Policy states, in part, that:

> Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high

[3] https://soilseries.sc.egov.usda.gov/OSD_Docs/T/TOKAY.html
[4] https://soilseries.sc.egov.usda.gov/OSD_Docs/C/COLUMBIA.html

> quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.
>
> Any activity which produces or may produce a waste or in creased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

Many WDRs include language further describing the Board's responsibility to protect high quality waters in accordance with the Antidegradation Policy. In general, the policy generally prohibits the Board from authorizing activities that will degrade high-quality waters unless it has been shown that:

- The degradation will not result in water quality less than that prescribed in the Basin Plan, including violation of one or more WQOs
- The degradation will not unreasonably affect present and anticipated future beneficial uses
- The discharge will employ best practicable treatment or control (BPTC) to minimize degradation; and
- The degradation is consistent with the maximum benefit to the people of the state

To summarize, evidence that the discharge is inconsistent with the Antidegradation Policy include the following:

- Concentrations of Fe and Mn in upgradient groundwater already exceed the WQOs
- Concentrations of Fe and Mn in the discharge exceed WQOs and, occasionally, upgradient groundwater.
- The discharge to unlined ponds results in the release of additional Fe and Mn to groundwater due to the
    - Elevated Fe and Mn in the discharge itself
    - Percolation of high BOD wastewater from unlined treatment and disposal ponds that creates reducing conditions conducive for the mobilization of Fe and Mn, which are then released to groundwater

An important strategy in the Region's basin plans is to stress prevention of degradation and the importance of treatment and control methods that minimize or prevent degradation. The Tentative Order does not establish discharge specifications requiring the Discharger to implement BPTC of the discharge to preclude the release of Fe and Mn to groundwater in concentrations exceeding WQOs. Setting aside the issue of discharging waste to ponds within a regulatory floodplain (discussed next), the Tentative Order should require the Discharger to implement the following BPTC measures for discharge to be justified as complying with the Antidegradation Policy:

- Replace non-corrosion-resistant metallic surfaces identified as the sources of Fe and Mn in the Facility's wastewater piping and conveyances

- Provide protection of treatment and disposal ponds from inundation from floods of a 100-year frequency (i.e., by raising the elevation of pond berms above the regulatory floodplain elevation)

- Provide containment of wastewater undergoing treatment (i.e., by equipping treatment ponds with liner with a maximum hydraulic conductivity of 10^{-6} cm/sec, similar to State Board's Winery General Order)

- Establish effluent limitations of 0.3 mg/L for Fe and 0.05 mg/L for Mn.

- Discharge treatment pond effluent in a manner conducive for soil BOD treatment (i.e., by establishing a discharge cycle average loading limit for BOD of 100 lbs/acre/day and other discharge specifications established to ensure optimal land treatment (discussed later)

Granted, it is appropriate and necessary to update the Current Order, especially following the CAO issuance in 2019. However, unless and until the Tentative Order is revised to establish requirements reflecting BPTC, it will authorize an existing discharge that will continue to contribute to a condition of pollution and unreasonably affect present and future beneficial uses of underlying groundwater.

Additionally, the Tentative Order does not provide supporting evidence to justify the degradation pollution caused by the discharge as consistent with maximum benefit to the people of the State. It merely states, "The economic prosperity of Central Valley communities and associated industry is a maximum benefit to the people of the State and provides justification for allowing the limited groundwater degradation that may occur pursuant to this Order." First, the Tentative Order does not provide evidence that the groundwater degradation (and pollution) caused by the discharge is "limited." Second, it does not provide information on the Facility's staffing to inform the Board of the Discharger's economic contribution to the local economy. Third, the Discharger has a history of chronic noncompliance with the Current Order, detailed at length in the CAO. This poor compliance track record should not give the Board confidence that the Discharger will consistently comply with updated WDRs.

Until the Board amends the Basin Plan to accept degradation and pollution from unlined industrial food processing wastewater treatment and disposal ponds as a normal societal and environmental cost of providing "economic prosperity of Central Valley communities and associated industry," the Tentative Order should establish a time schedule for the Discharger to cease the discharge and prescribe effective treatment and control methods (described above) to minimize degradation and pollution until the discharge ceases.

Please consider revising the Tentative Order as described above, and establish a reasonable time schedule for the Discharger to either implement the cited BPTC measures or to cease discharge to land.

Discharge to Ponds in the Mokelumne River's Regulatory Floodplain. The Mokelumne River flows west adjacent to the Facility property's southern border. Finding 34 indicates that the treatment and percolation ponds are located within the Mokelumne River's floodplain (FEMA Zone AE). It also states that the top elevation of the "berms surrounding the wastewater treatment facilities" are two feet ***lower*** than the base flood elevation of about 53 feet. Finding 10 in the Current Order discloses that the "disposal ponds were inundated with Mokelumne River water because the inner levee protecting this area was breached" in the winter and spring of both 1995 and 1997.

The Tentative Order establishes a new waste discharge requirement for flood protection, Discharge Specification E.5: "All conveyance, treatment, storage, and disposal systems for wastewater shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency." It would appear that the Discharger cannot comply with Discharge Specification E.5.

The prevention of inundation or washout due to floods with a 100-year return frequency is a fundamental control measure common to WDRs for discharges of waste to land not requiring containment (i.e., the Non-15 Discharges to Land Program). While regular berm inspection and maintenance are necessary best management practices, they are inadequate to prevent the Facility's berms from being overtopped during a 100-year flood event. The Tentative Order does not address this apparent violation, nor does it explain why this discharge is not subject to regulation under the National Pollutant Discharge Elimination System (NPDES) as is the discharge of treated municipal wastewater by the Linda County Water District to disposal ponds within the Feather River floodplain (WDR Order R5-2022-0070 / NPDES No. CA0079651).

In my letter commenting on the earlier version of the Tentative Order, I described evidence visible on Google Earth images of a major spill from the treatment and disposal ponds:

> The Google Earth image of the discharge area dated 5/17/2017 below [not included to limit PDF file size] shows the entire disposal area inundated and what appears to be evidence of a major spill from the treatment and disposal ponds. The area that appears affected by the spill encompasses over 20 acres of the adjoining parcel.

> Some of the perimeter of the apparent spill is adjacent to the Mokelumne River, so it is possible that some of the spill reached the surface water. The Tentative Order does not mention this apparent spill. At a minimum, the Tentative Order should describe this spill and disclose whether the rainfall amounts leading up to it approached (or exceeded) the 100-year event. If staff determines that the rainfall totals that preceded this spill are less than the 100-year event, then it appears that the Discharger threatens to violate this discharge specification. If so, the Tentative Order should address this threat of noncompliance.

The Tentative Order does not provide any information regarding this apparent spill.

Please provide information on the apparent spill evident on Google Earth satellite imagery (either in the Tentative Order or Response to Comments). And, please consider including a Provision requiring the Discharger to submit a flood prevention work plan to identify and implement within two years corrective measures necessary to ensure compliance with Discharge Specification E.5.

Alternatively, explain why the Discharger will not be in immediate violation of Discharge Specification E.5 and explain why the discharge should not be subject to regulation under the NPDES Program like other discharges of waste to percolation ponds within a regulatory floodplain.

Specific Comments. The PDF files of recently-adopted WDR orders that use the WDR Program template identify and link in the table of contents referenced items such as Attachments (e.g., Location Map, Site Map, Flow Schematic), Information Sheet; and sometimes a Monitoring and Reporting Program. The Tentative Order's Table of Contents includes a TABLE INDEX, but not a list identifying and linking attachments. Instead, it identifies these in Findings 5 and 6 without providing links to allow for quick access. I hope that this is not a trend for future tentative WDRs, because it is helpful for the template's Table of Contents to identify and link the order's attachments included in the PDF file.

Finding 11 indicates that the Discharger is phasing out the use of sodium hydroxide for pH adjustment, as well as sodium-based cleaners. Elsewhere the Tentative Order indicates that the Discharger is replacing sodium-based chemicals with potassium-based chemicals (e.g., potassium hydroxide for pH adjustment). Effluent quality data in Finding 21 shows significant decreases in sodium concentrations, from an average of about 450 mg/L in 2019 to about 30 mg/L in 2022. But, decreases in sodium effluent concentrations are likely offset by increases in effluent potassium concentrations. The Current Order does not require monitoring for potassium.

Please revise the tentative Monitoring and Reporting Program to include monitoring of potassium monthly in effluent and quarterly in groundwater.

Finding 18 provides information on the treatment ponds, their operation and dimensions, volume, and depth. Finding 24 provides information on the percolation ponds (surface area and dimensions). These findings should also identify the elevations in feet above mean sea level (amsl) of each pond's bottom (invert) and berm, and approximate the minimum

vertical separation distance between treatment pond bottoms and highest anticipated groundwater. Finding 3 of the CAO discloses that groundwater occurs about 10 feet below the base of the unlined wastewater ponds.

Please revise Findings 18 and 24 to identify the elevations in feet amsl of each pond's bottom (invert) and berm, and approximate the minimum vertical separation distance between pond bottoms and highest anticipated groundwater.

Finding 22 does not include nitrogen (as TKN) in the list of constituents of concern. TKN converts to nitrate-nitrogen for which there is a WQO of 10 mg/L. Also, the list should also contain potassium due to the naturally high concentrations of potassium in grape processing wastewater and the Discharger's replacement of sodium-based chemicals with potassium-based chemicals,

Please revise Finding 22 to include nitrogen and potassium as constituents of concern.

Finding 25 lists possible causes for diminished percolation rates over time as including "Soil porosity and permeability losses due to compaction" and "Soil cementation from precipitation of effluent constituents, such as calcium carbonate."

What are the sources of compaction cited in Finding 25? What technical literature did staff consult to support its suggestion that calcium carbonate in the effluent precipitates and reduces pond percolation rates? Has staff considered high discharge sodium (at least until 2020) relative to calcium and magnesium (i.e., through calculation of the discharge's Sodium Adsorption Ratio) as contributing to decreased pond percolation rates?

Effluent Limitation D.1 establishes an annual flow-weighted BOD effluent limitation of 650 mg/L for discharge to percolation ponds. The Tentative Order does not provide any technical justification this limit.

Please revise the Tentative Order to provide a technical justification for its annual flow-weighted BOD effluent limitation of 650 mg/L.

Discharge Specification E.1 states, "No waste constituent shall be released, discharged, or placed where it will cause a violation of the Groundwater Limitation of this Order." Discharge Specification E.2 states, "Wastewater treatment, storage, and disposal shall not cause pollution, or a nuisance as defined by Water Code section 13050."

Please explain why the use of unlined ponds for wastewater treatment does not threaten to violate Discharge Specifications E.1 and E.2.

Discharge Specification E.13 states, "The Discharger shall monitor sludge accumulation in the wastewater treatment/storage ponds at least every **five years** beginning in **2024**, and

shall periodically remove sludge as necessary to maintain adequate storage capacity. Sludge removed from ponds will be hauled off-site for disposal."

Please explain why the authorization to store sludge indefinitely in treatment ponds until accumulations reduce design storage capacity does not represent a threatened violation of Discharge Specifications E.1 and E.2.

Treatment and Percolation Pond Specification G.2 states, "Wastewater shall be distributed uniformly within the percolation ponds to preclude the creation of nuisance conditions or unreasonable degradation of groundwater."

This specification implies that effluent discharged to "percolation ponds" is conducted in a manner more reflective of the operation of "rapid infiltration basins." The RWD actually characterizes the percolation pond discharge as such:

> Each percolation pond filled to a depth of between 1 to 2 feet before effluent is diverting to another pond. If adequate dissolved oxygen concentrations cannot be maintained (i.e. nuisance odor conditions develop), then it may be beneficial to divert flow to another pond until the level reaches below 1 foot, to reduce the time that the water is in the pond. Percolation pond cycling is based on maximizing the percolation rate. Cycling periods may be 1 to 3 days application in the summer and winter with 5 days drying in the summer and up to 10 days drying in the winter. Actual application rates will depend on the pond-specific percolation rate, disposal surface area, and volume characteristics. On average, the CCCo percolation ponds may fill to a depth of about 1 to 1.5-foot depth. This should be the normal operating depth objective for percolation disposal with effluent cycled to ponds P-2 and P-3. Pond P-1 is normally not used unless emergency disposal of effluent is required. Use of P-1 is avoided in an attempt to minimize the potential nuisance odors from affecting the residents of the neighboring property to the west of CCCo
>
> Complete drying of each check is allowed between applications to allow the underlying soils to maintain aerobic conditions and prevent nuisance odor conditions from developing.[5]

It would appear that the Tentative Order should include Land Application Area Specifications that reflect the discharge as described above and are as stringent as recently-adopted WDRs for food processing wastewater discharges such as WDR Order R5-2022-0013 for Eriksson, LLC, Ingleby US Pistachio Plant, Land Application Area Specifications F.1 through F.10.

Please revised the Tentative Order to include Land Application Area Specifications at least as stringent as those in WDR Order R5-2022-0013 for Eriksson, LLC, Ingleby US Pistachio Plant, Land Application Area Specifications F.1 through F.10.

[5] Process Wastewater Facility Report of Waste Discharge, California Concentrate Company, Acampo, California, prepared by Kjeldsen, Sinnock & Neudeck, Inc. April 2020. Page 2-17.

Treatment and Percolation Pond Specification G.3 states, "Discharge to the percolation ponds shall not be initiated when the ground is saturated."

The very name, "percolation pond," implies that effluent is discharged to the ponds for disposal by percolation. The discharge to percolation ponds, then, will almost always occur when soils are saturated through the ponds' use for percolation.

Please explain how the Discharger is supposed to comply with this specification? Perhaps the term, "Percolation Pond," does not accurately characterize the effluent discharge and that the term, "Land Application Area," is a better fit to how the discharge is actually conducted.

Groundwater Limitations F.1 and F.2 are similar to those established in other WDRs for food processing wastewater discharges and are a vast improvement over the excessively complicated groundwater limitations proposed in the Tentative Order's previous version (thanks to Clay Rodgers, I suspect).

Provision I.1.b requires the Discharger to submit a Sludge Cleanout Plan.

If possible, please describe how the Discharger plans to remove sludge without violating the terms and conditions of the Tentative Order regarding groundwater protection and odor nuisance.

The Tentative MRP does not require influent monitoring. Influent BOD monitoring will inform on the BOD loading to the active treatment ponds to ensure it does not overwhelm the capacity of the ponds' existing aeration systems. Influent BOD monitoring would have been useful in efforts to resolve odor nuisance conditions created by the wastewater ponds to confirm the suggestion by the Discharger's consultant that the BOD loading to the… ponds may be more than twice the predicted level in the WDRs" (CAO R5-2019-0700, Finding 14). Influent Fe and Mn monitoring will inform on the extent to which the Facility's wastewater collection and distribution infrastructure and/or wastewater pH adjustment efforts are inadequate to preclude the dissolution of Fe and Mn from metallic surfaces and cause influent Fe and Mn concentrations to exceed WQOs.

Please revise the Tentative MRP to require monthly monitoring of influent for BOD, Fe, and Mn. Specify the monitoring location as Manhole #2 and the sample type as composite over a duration of time equivalent to the Facility's wastewater generation hours. Identify, somewhere in the Tentative Order, the usual hours of Facility operation to justify the time duration required for representative composite sampling of treatment pond influent.

The list of constituents monitored in effluent monitoring does not include potassium and metals that may be dissolved from metallic surfaces. These include chromium and nickel.

Please revise the Tentative MPR to include potassium, chromium, and nickel in the list of constituents to be monitored monthly in effluent and in the list of constituents to be monitored quarterly in groundwater.

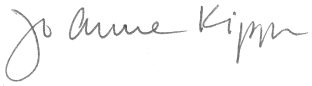
The Tentative MRP repeatedly cites the same list of constituents comprising Standard Minerals in sections for source water, effluent, and groundwater. Sulfate is added to the effluent standard minerals list with no explanation why.

Please consider defining standard minerals in the MRP's Glossary and include, besides those already identified, sulfate and potassium. Source water sulfate is necessary to evaluate increases in wastewater sulfate from processing operations. Groundwater sulfate is necessary to monitor for anaerobic conditions in groundwater resulting from organic overloading. [Low sulfate in downgradient groundwater compared to upgradient is evidence of anaerobic conditions brought on by excessive BOD loading.] Grapes are an excellent source of dietary potassium. It is logical to assume that wastewater generated by the processing of grapes is also high in potassium. Monitoring for potassium is necessary because the Discharger has phased out the use of sodium-based chemicals with potassium-based chemicals. The resulting increase in potassium in the discharge from this change needs to be monitored to assess its contribution to overall wastewater TDS.

Lastly, I find that the Tentative Order is not all that different from the 2021 version, except that it does not take the previous version's novel and ill-advised approach for establishing groundwater limitations that would have made it virtually impossible for staff to evaluate for compliance. Staff ignored many of my suggestions to confirm the accuracy of entities named in the Tentative Order as responsible for the discharge, and to prepare and circulate an accompanying enforcement order (or establish within the WDRs an internal time schedule) to require the Discharger to implement specific BPTC measures that I identified as including equipping all treatment ponds with a liner of sufficiently low permeability to preclude exceedances of groundwater limitations (similar to the State Winery General Order) and disposing of all treatment pond effluent via crop irrigation at agronomic rates.

In closing, the Board should not adopt the Tentative Order in its current form. Please be advised that, should the Board do so, I intend to petition State Board within 30 days of order adoption to review the adopted order for consistency with State laws, regulations, the Basin Plan, and the State Antidegradation Policy.

Thank you for the opportunity to submit these comments.



JO ANNE KIPPS
RCE 49278