

**Regional Water Quality Control Board
Central Valley Region
Board Meeting –16/17 April 2015**

**RESPONSE TO WRITTEN COMMENTS ON
TENTATIVE WASTE DISCHARGE REQUIREMENTS FOR
E. & J. GALLO WINERY
FRESNO WINERY
FRESNO COUNTY**

At a public hearing scheduled for 16/17 April 2015, the Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) will consider adoption of Waste Discharge Requirements (WDRs) to regulate the discharge of winery wastewaters from E. & J. Gallo Winery's (Gallo) Fresno Winery (Winery) to approximately 433 acres of surrounding land application areas (cropped with vineyards and/or various cover crops) and an 85-acre composting facility for moisture control of the compost. The Winery, land application areas, and the composting facility are owned by Gallo. Tentative WDRs were circulated for public comment on 5 February 2015, and written comments were to be received by 5:00 p.m. on 9 March 2015 in order to receive full consideration. Comments were received from Ms. Kipps on 9 March 2015 and 10 March 2015. This document contains the response to written comments received from Ms. JoAnne Kipps.

Staff has made some changes to the proposed WDRs, Information Sheet, and the Monitoring and Reporting Program (MRP) based on the comments. Staff has also made changes to the proposed WDRs to increase clarity and fix typographical errors. Where specific changes are presented below, additions are in bold text and deletions are in strike-out.

Ms. KIPPS – 9 March 2015 COMMENTS

Below are Ms. Kipps salient comments followed by staff's responses.

MS. KIPPS – 9 MARCH 2015 COMMENT 1: Ms. Kipps makes a general comment that Gallo's long time waste handling practices have degraded groundwater with salts and have polluted groundwater with nitrates. Ms. Kipps opines that the ongoing discharge will continue to cause degradation and pollution. Ms. Kipps states that adoption of a tentative order in the absence of a formal enforcement order to address groundwater degradation and pollution is inconsistent with the State Water Board's Enforcement Policy.

Response to 9 March 2015 Comment 1: Staff does not disagree with the assessment that Gallo's historic discharges have caused or contributed to groundwater degradation/pollution of underlying groundwater. These conditions are documented in various findings in the proposed WDRs. However, as also documented in the proposed WDRs, Gallo has made many improvements to its waste handling operations. In 2007, it installed an anaerobic treatment system to treat its process wastewater and stillage. This has allowed Gallo to discharge more of its wastewater to the Fresno-Clovis Regional Wastewater Treatment Facility. As a result, Gallo has reduced the volume of wastewater discharged to the land application areas by 60 to 80%. Gallo is proposing to implement additional land management practices to ensure even application of wastes, increased nutrient uptake, and application of waste constituents at agronomic rates. The proposed WDRs include requirements to implement these measures and to monitor their effectiveness.

MS. KIPPS – 9 MARCH 2015 COMMENT 2: Ms. Kipps contends that conditions associated with Gallo's Composting Facility will not allow it to immediately comply with:

1. Discharge Specification C.1, which states, “No waste constituent shall be released, discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations of this Order.”,
2. Discharge Specification C.2, which states, “Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.”
3. Discharge Specification C.8, which states, “Storage of residual solids, including pomace and/or diatomaceous earth on areas not equipped with means to prevent storm water infiltration, or a paved leachate collection system is prohibited.”, and
4. Solids Specification E.1, which states “Any handling and storage of residual solids shall be temporary, and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate Groundwater Limitations of this Order.”

Ms. Kipps notes that shallow soils in the composting facility contain high concentrations of sodium, potassium, and sulfate and groundwater downgradient of the pad contain elevated constituents of winery origin. Ms. Kipps also notes there is not much presented about the construction of the leachate collection sumps that collect runoff from the composting facility, or whether the feedstock and product storage facilities are lined to prevent the migration of leachate to groundwater in quantities that would contribute to groundwater degradation or pollution. Ms. Kipps states that Gallo also stores large quantities of finished compost for long periods, and that practice would violate Solids Specification E.1. Ms. Kipps indicates that Gallo should be put under a formal enforcement order to resolve these issues.

Response to 9 March 2015 Comment 2: The composting facility and its potential impacts on soils and groundwater are described in Findings 15 through 21, 46, and 71, 87, and 95 of the proposed WDRs. Generally, Board staff share similar concerns regarding the composting facility, and it’s potential to cause groundwater degradation or pollution. That is why Board staff has included in the proposed WDRs a compliance schedule (Provision G.14) that requires Gallo to first characterize all discharges to and from the composting facility and, if this characterization shows that discharges from the composting facility do not comply with applicable groundwater regulations and policies, including the Basin Plan, the State Antidegradation Policy, and Title 27 of the California Code of Regulations, Gallo must upgrade the composting facility. The State Water Board’s Enforcement Policy adopts a strategy of progressive enforcement; including a compliance schedule in waste discharge requirements is an acceptable mechanism under this Policy.

While the tentative WDRs acknowledge that discharges from the composting facility may violate, or threaten to violate, Discharge Specification C.2 in the interim, the compliance schedule in Provision G.14 specifically requires that Gallo take steps to rectify any non-compliance with Discharge Specification C.2, and Groundwater Limitations F.1, F.2, and F.3. Staff has modified Provision G.14 to also refer to Discharge Specification C.8.

Long-term storage of stabilized compost at the site would not violate Solids Specification E.1, as compost is a finished product and not a residual waste. However, leachate and runoff from the stored compost would be considered a waste, and Gallo will have to investigate that issue in order to comply with Provision G.14.

MS. KIPPS – 9 MARCH 2015 COMMENT – 3: Ms. Kipps states that the proposed WDRs do not address the issue of potassium loading in soil that could break through and degrade the underlying groundwater. Ms. Kipps also indicates Gallo will not be able to comply with Land Application Area Specification D.2, which states, “Application of waste constituents to the land application areas shall be at reasonable agronomic rates to preclude creation of a nuisance and unreasonable degradation of

groundwater, considering the crop, soil, climate, and irrigation management system. The annual nutritive loading of the land application areas, including the nutritive value of organic and chemical fertilizers and of the wastewater shall not exceed the annual crop demand.” Ms. Kipps states that a formal enforcement order is necessary to address this issue.

Response to 9 March 2015 Comment 3: No changes were made to the proposed WDRs based on these comments. Land Application Area Specification D.2 applies to all nutrients contained in Gallo’s discharge, including potassium. Gallo has not commented that it cannot comply with the specification. Existing data does not indicate excess potassium concentrations in soil beneath the land application areas. Groundwater monitoring well results for potassium are slightly higher downgradient of the land application areas (1.6 mg/L to 4.8 mg/L upgradient and 4.5 to 9.0 mg/L downgradient), but do not indicate that potassium from the land application areas is significantly contributing to exceedances of water quality objectives. Groundwater data also show that potassium concentrations are decreasing in downgradient wells. Results of Gallo’s 2011 soil investigation, included as Appendix C in the 2012 RWD, do not show concentrations of potassium in soils significantly higher than background samples with the exception of one surface sample from SB-6, which was collected from within the composting facility. The operation of the composting facility is addressed by the compliance schedule in Provision G.14.

MS. KIPPS – 9 MARCH 2015 COMMENT – 4: Ms. Kipps states that Gallo will be unable to comply with Land Application Area Specification D.5, which states “The Discharger shall ensure that water, BOD, and nitrogen are applied and distributed uniformly across each land application area field. The Discharger shall implement changes to the irrigation system and/or operational practices as needed to ensure compliance with this requirement.” The RWD indicates that blocks will receive annual wastewater discharges on the order of one inch. Ms. Kipps reasons that Gallo will be unable to comply with this specification without dilution with supplemental irrigation water and a formal enforcement order is needed to resolve this issue.

Response to 9 March 2015 Comment 4: No changes were made to the proposed WDRs based on these comments. Land Application Area Specification D.5 clearly requires Gallo to evenly distribute its discharge and to modify its practices, if necessary, to comply. To presuppose that Gallo cannot comply is speculative. Gallo has not commented that it cannot comply with the specification. Furthermore, should the Board find that Gallo is not in compliance with Land Application Area Specification D.5, the Board could exercise its enforcement discretion to compel Gallo to take more proactive steps to come into compliance and/or assess administrative civil liability against Gallo for the non-compliance.

MS. KIPPS – 9 MARCH 2015 COMMENT – 5: Ms. Kipps comments that Gallo’s historic discharges have degraded groundwater with salt and polluted it with nitrate. She states that the evaluation of the extent of these impacts is moving too slowly and that the Executive Officer should issue a Cleanup and Abatement Order pursuant to Water Code section 13304.

Response to 9 March 2015 Comment 5: The speed at which Gallo investigates and, if necessary, rectifies polluted groundwater lies within the Board’s discretion. The proposed tentative WDRs acknowledge Gallo’s contributions to groundwater degradation/pollution in the area, and propose what Board staff considers to a reasonable timeline to assess and modify existing operations, as appropriate. Board staff also note that the Board’s Enforcement Team has used Water Code section 13267 to order Gallo to produce technical reports to delineate the extent of groundwater degradation in the past (14 February 2012), and could also propose the issuance of a Cleanup and Abatement Order if warranted.

MS. KIPPS – 9 MARCH 2015 COMMENT – 6: Ms. Kipps recommends expanding the vadose zone monitoring program to include all double cropped land application areas and for Gallo to monitor nitrogen constituents in soil-pore liquid in the root zone. Ms. Kipps bases this requirement on the existing extent of nitrate pollution in groundwater and notes that nitrogen analyses require a smaller sample volume than does BOD analyses.

Response to 9 March 2015 Comment 6: No changes were made to the proposed WDRs based on these comments. The vadose zone monitoring program as proposed already includes all double cropped land application areas (59-acre land application area No. 1, and 89-acre land application area No. 2). The main purpose of the vadose zone monitoring system is to monitor potential impact from the higher BOD application rates to these parcels. As discussed in Finding 33 of the tentative WDRs, the nitrogen loading of the proposed discharge is well below the potential uptake of the cover crops proposed to be grown in the land application areas, making it unlikely that proposed nitrogen load will threaten underlying groundwater quality. Nitrogen monitoring of the pore-water from the vadose zone is not warranted at this time.

MS. KIPPS – 9 MARCH 2015 COMMENT – 7: Ms. Kipps recommends that the proposed Order be revised to include information identifying the block numbers used by Gallo to further define the land application areas. Additionally, Ms. Kips notes the presence of what appear to be disposal ponds just north of the San Joaquin Valley Concentrate facility and requests that if wastewater is discharged to these ponds they be included in the proposed WDRs.

Response to 9 March 2015 Comment 7: Central Valley Water Board staff added Attachment E, a map showing the land application area with the Gallo's block numbers shown. Discussions with Gallo staff indicate the ponds in question are storm water ponds for the San Joaquin Valley Concentrate facility and they do not receive wastewater from Gallo. The San Joaquin Valley Concentrate facility is not part of the tentative WDRs.

MS. KIPPS – 9 MARCH 2015 COMMENT – 8: Ms. Kipps notes that the RWD shows several production wells on the Gallo property, but data is only provided for PW-5 through PW-8. If the wells are still operational, Ms. Kipps states that all of the production wells should be included in the Source Water Monitoring program included in the Monitoring and Reporting Program (MRP), not just those currently used.

Response to 9 March 2015 Comment 8: Central Valley Water Board staff contacted Gallo staff to inquire about the additional production wells. Wells PW-1 through PW-4 are either dry or non-operational at this time. Whether or not to destroy the wells will be addressed in the groundwater monitoring network evaluation required by Provision G.15.

MS. KIPPS – 9 MARCH 2015 COMMENT – 9: Ms. Kipps recommends that a provision be included into the proposed Order that requires Gallo to investigate whether irrigation well No. 1 (IW-1) is a conduit that could transmit wastes to underlying groundwater.

Response to 9 March 2015 Comment 9: No changes were made to the proposed WDRs based on this comment. The proposed Order contains Provision G.15 that requires Gallo to submit a work plan to replace wells that are dry or are going dry, as well as to propose additional wells to monitor the land application areas. IW-1 will be addressed as part of work conducted to comply with Provision G.15.

MS. KIPPS 10 March 2015 COMMENTS

On 10 March 2015, Ms. Kipps submitted another comment letter regarding the proposed WDRs for Gallo Fresno Winery.

MS. KIPPS - 10 MARCH 2015 COMMENT – 1: Ms. Kipps recommends adding a finding regarding the potential impacts of acidic winery waste discharges on application area soils, and an accompanying specification that proscribes the discharge from adversely affecting soil pH to a degree that it mobilizes significant quantities of soil constituents such as iron and manganese. The finding and specification are typically included in WDRs for wineries.

Response to 10 March 2015 Comment 1: Based on the existing soil and wastewater data and the depth to water being on the order of 70 feet below the ground surface, Central Valley Water Board staff does not believe that the discharge will exceed the buffering capacity of the underlying soils. However, the suggested language is applicable to Gallo's discharge, so Central Valley water Board staff added Finding 40 (page 13) and Land Application Area Specification D.14 (page 35) as follows:

40. Acidic and/or reducing soil conditions can be detrimental to land treatment system function, and may cause groundwater degradation if the buffering capacity of the soil is exceeded. If soil pH decreases below 5 and the soil remains in a reducing state for prolonged periods, naturally occurring metals (including iron and manganese) could dissolve and degrade underlying groundwater. In practice, prolonged reducing conditions may not occur because: a) the annual cycle of lowered pH during loading with either wastewater or fertilizer is followed by pH recovery during cropping and organic matter cycling and, b) the dose and rest cycling for wastewater application either in spreading basins or using irrigation creates alternate anoxic and aerobic conditions. *Pollution Abatement* recommends that water applied to crops have a pH within 6.4 to 8.4 to protect crops. The soils and underlying groundwater are expected to adequately buffer the discharge.

14. The resulting effect of the wastewater discharge on the soil pH shall not exceed the buffering capacity of the soil profile and shall not cause significant mobilization of soil constituents such as iron and manganese.

MS. KIPPS - 10 MARCH 2015 COMMENT – 2: Ms. Kipps requests Land Application Area Specification D.2 be modified to ensure that nutrients from all sources (e.g., irrigation water, etc.) are addressed.

Response to 10 March 2015 Comment 2: Central Valley Water Board staff modified Land Application Area Specification D.2 as follows:

2. Application of waste constituents to the land application areas shall be at reasonable agronomic rates to preclude creation of a nuisance and unreasonable degradation of groundwater, considering the crop, soil, climate, and irrigation management system. The annual nutritive loading of the land application areas, including the nutritive value of organic

and chemical fertilizers and of the wastewater **and nutrients in applied irrigation water and available in the root zone** shall not exceed the annual crop demand.

MS. KIPPS - 10 MARCH 2015 COMMENT – 3: Ms. Kipps request the Monitoring and Reporting Program be modified to include production wells PW-1 through PW-4.

Response 10 March 2015 Comment 3: See response to Response 9 March 2015 Comment 7.

MS. KIPPS - 10 MARCH 2015 COMMENT – 4 and 5: Ms. Kipps recommends that frequency of EC monitoring of the anaerobic treatment system effluent in the MRP be changed from twice monthly to continuous and that the proposed WDRs include a requirement for 24-hour composite sampling once the EC exceeds 3,000 umhos/cm. Ms. Kipps (Comment 5) also recommends that the frequency of monitoring the crusher/press and anaerobic treatment system wastewaters for sodium, potassium, and sulfate be increased to twice monthly.

Response to 10 March 2015 Comment 4 and 5: No changes were made to the proposed WDRs based on these comments. Sampling of the anaerobic treatment system has been conducted weekly since at least January 2011 (over 190 samples). While there are variations in the EC results, the overall average changes very little on a yearly basis. Proposed general mineral monitoring of the crusher/press includes sodium, potassium, and sulfate analyses. Sampling of the crusher/press wastewater has been conducted monthly since 1995 and the data base is robust (> 200 samples) and the sampling frequency of the anaerobic wastewater for general minerals was conducted weekly since 2011, as described above. With large data sets for each waste stream and considering the expanded analytical suites for all of Gallo's discharges under this proposed Order, twice monthly sampling will provide sufficient coverage for the analysis of general minerals in the discharge of both the crusher/press and the anaerobic treatment system wastewaters. The proposed monitoring and reporting program also requires 24-hour composites for both discharges.

MS. KIPPS - 10 MARCH 2015 COMMENT – 6: Ms. Kipps recommends including total organic carbon (TOC) in the analytical suite for groundwater monitoring.

Response to 10 March 2015 Comment 6: TOC has been added to the constituents monitored in groundwater.

MS. KIPPS - 10 MARCH 2015 COMMENT – 7: Ms. Kipps recommends revising the MRP to require Gallo to submit a map or maps of the individual land application areas and/or blocks, and the individual checks within each block.

Response to 10 March 2015 Comment 7: No changes were made to the proposed WDRs based on these comments. Gallo already submits the volume of the effluent applied to the land application areas, the specific parcels to which it is applied, the acreage to which it is applied, and the type of crops grown on each parcel. The proposed Order continues this requirement on a quarterly basis.