

COMMENTS AND CORRECTIONS

TENTATIVE WASTE DISCHARGE REQUIREMENTS FOR QUADY WINERY INC.

Finding #1 Remarks: Quady Winery Inc. and/or Andrew and Laurel Quady have owned and operated Quady Winery since 1977. There are parcels which make up the 20 acre block. Andrew and Laurel Quady own 3 of them. Robert and Wendy Gonzalez own the northeast parcel, approx 4 acres. If accuracy is needed, the maps and text should be corrected since they seem to show the Quadys owning the entire 20 acres.

Finding # 24 Remarks: The former Oberti Olive facility and old brine ponds are about 2.5 miles south east, not west of Quady Winery.

Finding # 39 a) Tentative requirements require discharging evenly over the entire 10 acres.

Remarks: The soil types in the 10 acre block are not uniform. As mentioned in findings 21 and 22, there are 2 soil types. This agrees with our experience. Within the 10 acres there is an approximately 3.5 acre section which is poorly drained. The remaining 6.5 acre part of the section could be described as excessively drained. This is the area where we are putting our wastewater. If one looks at the aerial view of the vineyard, it is possible to consider it as two rectangles. The more southern rectangle, about 6.5 acres, is entirely made up of the sandy soil series. The smaller northern rectangle is largely the poorly drained soil series. We do not advise placing the winery waste water in this area because of: risk of odors, risk of damage to vines, ponding problems, and potential to breed mosquitoes.

Request: We request that the requirement that the waste be distributed uniformly over the entire 10 acres be changed to: Distribute the waste water uniformly over the approximate 6.5 acre section (the long row section) to the south.

Finding # 39 a) Requirement that winery filter solids from the waste stream.

Remarks: It is true that the solids removed from the waste stream by filtering would reduce the BOD. However, we have no odors now from our practice where the unfiltered waste stream is irrigated into just a 2 acre portions. Elsewhere the tentative requirements make no mention of filtering the effluent, only screening to remove large particle. As the effluent is run onto the light sandy soil, it is filtered by the soil surface. Smaller particles which pass through the screen become exposed to air on the soil surface, become oxidized and decompose, adding organic material to this organic depleted soil. This is a desirable outcome which does not create nuisance odors or nitrate leaching. Filtering these particles out and redepositing them into the vineyard after composting is unnecessary in this case.

Request: The word “filtered” be replaced with “screened” in #39a)

Finding # 39b) Requires agronomic rates of wastewater application for nutrient and hydraulic loading. Requirement that nitrogen in wastewater be discharged to a vineyard with a cover crop which can utilize up to 100 lbs/ac/yr of nitrogen, or more.

Remarks: We can grow a cover crop throughout the vineyard in the winter and spring. In the summer and fall, the only source of moisture to start a cover crop between the rows is the effluent waste stream. As a practical matter we apply the effluent to a shallow trench between the rows and continue to apply for one day, each day moving the effluent hose to a new dry spot. Using this practice, weeds appear almost immediately in the wetted areas.

According to: Best management Practices for Nitrogen Fertilization of Grapevines; Peacock, Chistensen, and Hirschfeld University of California Cooperative Extension, the fall season just after harvest but while the grapevine canopy is still functioning is an excellent time to apply nitrogen fertilizer because grapevines rapidly assimilate it at this time. Rapid assimilation also occurs in the late spring, from fruit set to veraison. Nitrogen assimilated in the fall is stored in the woody parts of the plant until spring when used for growth providing a tool to control leaching. Peacock et al also point out a second period for high nitrogen uptake, from fruit set to veraison. For a vineyard with high leaching potential, they indicate a split application of nitrogen, after harvest, and at fruit set.

The Water Board has estimated the total nitrogen load of the wastewater at 126 lbs. or 19.4 lbs./acre over the 6.5 acre land application area with most of it being applied during the crush period lasting 10 weeks after beginning of harvest. Although the total amount is below the lower end of the range of a central valley grapevine’s annual needs (Peacock et al give 25 to 50 kg/ha or 22 to 44 lbs per acre as sustainable for a central valley Thompson vineyard), because of the potential for leaching in our application area, sequestering part of the nitrogen into a cover crop which can be disked under in the late spring and available after fruit set when the second period of rapid uptake begins is an objective of the management plan.

Additional nitrogen may be required above that provided by waste water and cover crop which, depending on the type of crop selected, (for example a leguminous type capable of fixing additional nitrogen from the atmosphere) can increase the amount of nitrogen available to the vines. Other cover crop types convert assimilated nitrogen into forms providing more humus and less nitrogen than a leguminous type. Additional factors (for our site) are contributions of nitrogen and humus from composted pomace and from purchased manure, whether to purchase manure. Considering the high leaching potential of the site, increasing soil humus is an objective not only to control leaching, but to improve soil fertility, grapevine health and yields.

Ideal management practice consists of storing excess nitrogen delivered in the fall as covercrop until incorporated into the soil in the spring when needed for uptake by the vines. The cover crop begins to germinate immediately after seeding in areas where waste water is being applied. The first fall rains, which may occur before end of crush, result in germination of the entire area. Until onset of dormancy, both cover crop and vines uptake nitrogen. After the vines enter dormancy, only the cover crop is active.

Composted pomace from the prior year along with purchased manure should be incorporated just prior to late summer seeding which for our vineyard should be in early August so that assimilation and sequestering of nitrogen into cover crop and vines takes place as moisture, canopy conditions, and cover crop growth stage allow. Management techniques can be adjusted based on measurements of plant nitrogen status (either by petiole or whole leaf) in the spring.

We do not agree that a cover crop requiring 100 lbs/acre of nitrogen uptake capability should be mandated. Such a cover crop, if planted in the middles of the rows in the 6.5 acres could utilize roughly 325 pounds of nitrogen, 2.6 times the amount of estimated to be present in the waste water. Using the Peacock et al estimates, a 6.5 acre vineyard would be expected up need between 143 and 286 pounds of nitrogen. The vines will likely take up a large part of the 126 pounds by themselves. At this time, there are too many unknowns as to which type of cover crop is indicated. A different plant, possibly leguminous, could provide protection against winter leaching while at the same time sequestering some of the nitrogen applied by the fall wastewater stream until needed by the vines the following year.

Request: The winery is mandated to grow a cover crop in the land application area. Data from analysis of nitrogen status in the grapevines (whole leaf or petiole), the seasonal nitrogen loading of the wastewater, calculated nitrogen from composted pomace and added manure, and the nitrogen uptake and recycling characteristics of available cover crops are to be considered in selecting a cover crop with the objectives of: minimal nitrogen leaching; grapevine health and yield; and obviating the need to apply additional inorganic nitrogen.

Finding #42 e, Finding # 47 c. and Provision F 10 We are confused about these mandates: Finding #42 e mandates the winery prepare and provide a **Land Application Management Plan**, Finding # 47c Mandates that Winery submit a **Wastewater Management Plan** by 1 December 2012. Provision F 10 mandates that the winery submit an **Irrigation Management Plan** report detailing its proposed method to evenly apply wastewater by 15 April 2013.

Remarks: Jeff Pyle told me by telephone on Friday, August 3, that these three plans are actually the same thing, a plan to distribute the wastewater over the 10 acres. To us, the titles imply an overlapping of planning.

Request: Clarify the plans in the text. If they are the same, then use one name. If the board wants different plans, then detail what each one should contain and when it is required, December 2012 or April 15, 2013. Perhaps what we should prepare is a Wastewater Management Plan which includes a Land Application Management Plan which includes a plan to distribute the winery wastewater evenly over the 6.5 acres?

Finding # 53 states that "Hilmar Cheese" operates the facility....

Correction: replace Hilmar Cheese with Quady Winery

Discharge specification C 12 mandates that irrigation using wastewater shall not be performed within 24 hours of forecasted rain, during rainfall, within 24 hours after any measurable rainfall event, or when the ground is saturated.

Remarks: Our effluent plan is designed to handle up to 450,000 gallons of effluent per year. During the crush period (mid August to late October) we generate about 3000 gallons per day. Typically during the crush season there are a few rainy days. But the vineyard is so dry then that even if there were .25 inch or even 1 inch of rain falling, (1" is rare), that the water would soak right in to the sandy soil. Also, the property being nearly flat, the risk of precipitation causing runoff of waste water from the land application area is very small. Only once in the 35 years we have lived at this location have I seen standing water after a rainstorm in the 6.5 acre section we intend to use for irrigation of winery waste. And even then, the water disappeared in a matter of hours. Further, bear in mind that we are distributing our waste water over the 6.5 acres. As a practical matter this means that each day, a hose will be moved from one spot to another. The soils in the land application area absorb the water almost as fast as it is applied such that when the hose is moved to another area, there would normally be only a small puddle of water standing, near the hose outlet. Because of our rapid infiltration rate, rain would simply move the waste lower in the soil profile, and there is minimal risk of it washing off of the land application area.

Request: Mandate: If the Land Application Area becomes saturated or close to saturated or according to the weather forecast is likely to become saturated with rain, all irrigation shall cease until the Land Application Area can accept irrigation water without ponding.

Discharge specification C 13 mandates: Storage of pomace and/or diatomaceous earth on areas not equipped with means to prevent storm water infiltration, or a paved leachate collection system is prohibited.

Remarks: We will keep the pomace pile(s) covered with large plastic tarps.

Provision F. 3 mandates: Quady shall keep at the winery a copy of this Order including its MRP, Information Sheet, attachments, and Stand Provisions, for reference by operating personnel. Key operating personnel shall be familiar with its contents. And: Provision F. 11 mandates the same thing except that "discharge plant" appears instead of "winery".

Remarks: We think this is an error since we have no discharge plant.

Request: delete Provision F 11.