

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2003-0175

WASTE DISCHARGE REQUIREMENTS
FOR
GUENOC WINERY, INC.
GUENOC ESTATE VINEYARDS AND WINERY
LAKE COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Board) finds that:

1. Guenoc Winery, Inc. (hereafter Discharger) submitted a Report of Waste Discharge (RWD) dated 22 May 2001 with supplemental information submitted on 11 December 2002 and 28 July 2003 for the treatment and disposal of winery waste at Guenoc Estate Vineyards and Winery.
2. Guenoc Estate Vineyards and Winery is approximately six miles southeast of Middletown on Butts Canyon Road in Lake County (Assessors Parcel No. 014-310-06) in Section 4, T10N, R6W, MDB&M. The location of the winery and associated facilities is shown on Attachment A, which is attached hereto and made part of this Order by reference.
3. Waste Discharge Requirements Order No. 98-083 prescribed requirements for the land discharge of winery wastewater and was adopted by the Regional Board on 17 April 1998. This Order is neither adequate nor consistent with current plans and policies of the Board.

BACKGROUND

4. Activities at the winery facility include receiving, crushing and pressing of grapes; fermentation; processing into finished wines; and distribution.
5. On an annual basis, the Discharger will crush up to 2,000 tons of grapes during a 60-day crush period to produce up to 130,000 cases of wine.
6. During wine production, various chemicals can be used as either an additive, a fining agent, or as a cleaner/sanitizer. The approximate quantities of additives and chemicals used at this winery are as follows:

<u>Additives/Chemical</u>	<u>Quantity</u>	<u>Units</u>
Chlorinated Trisodium Phosphate	550	Pounds per year
Citric Acid	2,400	Pounds per year
Sulfur Dioxide Gas	100	Pounds per year
Calcium Hypochlorite	20	Gallons per year
Sodium Hydroxide	1,500	Pounds per year
Diatomaceous Earth Filter Powder	3,500	Pounds per year

7. Prior to February 2003, the Discharger was only required to characterize its wastewater for specific conductivity and pH. The table below contains the ranges of constituents that were detected in the wastewater ponds in the year 2002. Until the summer of 2003, the wastewater ponds contained both winery and domestic waste.

<u>Constituent</u>	<u>Units</u>	<u>Concentration Range</u>
pH	pH units	5.5 – 9.65
Specific Conductivity	µmhos/cm	562 – 4,050

8. The Discharger’s effluent monitoring program was expanded beginning in February 2003. Wastewater concentrations for selected constituents collected from February through August 2003 are given below. These data does not include the crush period, when concentrations are generally higher.

<u>Constituent</u>	<u>Units</u>	<u>Non-Crush Concentration Range</u>
pH	pH units	5.6 – 9.65
Specific Conductivity	µmhos/cm	800 – 1,900
Total Dissolved Solids (TDS)	mg/L	470 – 1,500
Biochemical Oxygen Demand (BOD)	mg/L	41 – 470
Chloride	mg/L	48 – 140
Sodium	mg/L	14 – 160
Sulfate as SO ₄	mg/L	2.1 – 100
Nitrate as NO ₃	mg/L	<1.0
Alkalinity (CaCO ₃)	mg/L	300 – 520
Total Kjeldahl Nitrogen (TKN)	mg/L	1.3 – 120

WASTEWATER TREATMENT SYSTEM

9. Wastewater generated from winery processing activities (process/equipment cleaning, washdown operations, and evaporative cooling towers) is collected in a series of floor drains both at the crush pad and inside the winery building. The wastewater then flows by gravity from the winery facility to a series of wastewater ponds. Just prior to entering the ponds, the wastewater passes through a 45-mesh screen and a 1,000 gallon septic tank to screen out and settle solids.
10. Prior to 2003, wastewater was stored in a series of five unlined ponds (ponds Nos. 1 through 5) with an overall capacity of 8.03 million gallons. Ponds Nos. 1 and 2 were used for primary settling, after which the wastewater was stored in Ponds Nos. 3 through 5 before application to a 4.5 acre designated disposal area (DDA-1). No aeration systems were used in the ponds. The wastewater ponds and the original DDA are presented in Attachment B, which is attached hereto and made part of this Order by reference.

11. According to the RWD, the depth of groundwater below the bottom of the wastewater ponds varies seasonally. However, groundwater elevations sometimes exceed the base elevation of the ponds.
12. To increase pond capacity, the Discharger increased the height of the berm surrounding the ponds and has proposed to combine pond Nos. 2 through 5 by removing the interior berms between the ponds. The wastewater in the ponds will not be treated by aeration or other mechanical means. The Discharger also proposes to install a 60 millimeter high-density polyethylene (HDPE) geomembrane liner in the ponds.
13. On 22 May 2001, the Discharger submitted a water-balance for the wastewater treatment, storage, and disposal system. The water balance was based on annual wastewater discharge of 4,000,000 gallons (approximately 11,000 gpd) and 100-year annual return rainfall amounts. The water balance shows that the wastewater ponds have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation for a 100-year return period if (a) wastewater is applied to a minimum seven acres of land, and (b) the containment dike surrounding the ponds is raised to a minimum elevation of 1013.5 feet above mean sea level. The Discharger has already raised the pond berm, and proposes to apply wastewater to an additional 54.3 acres of land (DDA-2) and to an additional 2.5 acres within DDA-1.

LAND APPLICATION SYSTEM

14. After treatment and storage in the pond system, wastewater will be applied to two designated disposal areas (DDA-1 and DDA-2), as shown on Attachment B. While DDA-1 is currently 4.5 acres in size, it will be expanded to 7 acres. DDA-2 will be 54.3 acres.
15. DDA-1 will be irrigated using a series of portable spray irrigation sprinkler units. The RWD indicates that the sprinklers will be periodically moved to different locations within the field to provide an even distribution of wastewater. Tailwater is prevented from leaving this area by berms constructed around the entire field.
16. At DDA-2, irrigation will be by the flood method, in which water will flow from the northwest to the southeast portion of the fields using a "check and border" system. The wastewater applied to DDA-2 will first be mixed with irrigation water from Lake Bordeaux, at a proposed ratio of 1:2 (process wastewater to irrigation water). The water from Lake Bordeaux is initially discharged into a concrete distribution box at the northwest corner of the land application area.
17. Residual tailwater that collects along the east-southeast boundary of DDA-2 will be controlled from entering Bucksnot Creek using a series of discharge culverts equipped with valves to prohibit discharge during periods of wastewater disposal.
18. Application of wastewater to DDA-1 will occur year round, while application of wastewater to DDA-2 will only occur from May through October (the irrigation season). In order to prevent the potential discharge of stormwater mixed with wastewater, this Order prohibits irrigation with wastewater 24 hours before, during, or 24 hours after a rain event, or when soils are saturated.

19. Native grasses grown on the DDAs will be grazed by livestock. The Discharger does not anticipate that mechanical harvesting of the grasses will be necessary.
20. The RWD estimates the following average loading rates to DDA-2 for BOD, total nitrogen, and total dissolved solids (TDS). These loading rates were calculated using wastewater influent results collected on 10 July 2003, an irrigation application rate of 0.17 feet per acre, an average daily discharge of 11,000 gpd to the ponds, a 50% dilution of the wastewater, and 2.7 irrigation cycles to dispose of all the wastewater. It is noted that the concentrations utilized below are at the low range of the concentrations measured in the ponds.

<u>Compound</u>	<u>Concentration (mg/L)</u>	<u>Loading Rate (lbs/acre/application)</u>	<u>Loading Rate (lbs/acre/year)</u>
BOD	190	43.9	119
Total Nitrogen	1.3	0.3	1
TDS	640	147.9	399

21. The above calculations show that there will be less nitrogen in the wastewater than the grass crop on DDA-2 will consume. This is based on a nitrogen demand of 200 lbs/acre/year for native grasses, as contrasted to the expected nitrogen load of at least 1 lb/acre/year in the wastewater. Although grazing livestock will add additional nitrogen to the system, groundwater should not be degraded by nitrogen.

SOLID WASTE

22. Solid/semi-solid wastes such as pomace (skins, seeds, pulp, stems, etc. resulting from the grape crush), and wine settlement and filter cake media (bentonite and diatomaceous earth) are also generated by the processing operations. Such solid/semi-solid wastes are segregated from the process wastewater stream in the facility or using a 45-mesh screen. The pomace is temporarily stockpiled and composted within the boundaries DDA-1. The pomace is then used as a fertilizer/soil amendment in the vineyards and other cultivated areas on the property.

GROUNDWATER CONDITIONS

23. The Discharger abandoned three existing 2-inch groundwater monitoring wells in October 2002 and installed four replacement wells to monitor groundwater conditions around the wastewater storage ponds. The original wells were abandoned and replaced due to a lack of available information regarding their construction details.
24. Hydrologic data collected from the new wells show that groundwater is encountered at a depth of approximately two to 10 feet below ground surface (bgs) and flows northeasterly at a gradient of 0.7 ft/ft. Locations of the monitoring wells are shown in Attachment C, which is attached hereto and made part of this Order by reference.

25. In November 2002, February 2003, June 2003, and September 2003 groundwater samples were collected from the new monitoring wells and analyzed for a number of constituents. Selected results are averaged in the table below. It is noted that MW-4 is assumed to be the upgradient well based on gradient direction; however, due to mounding effects, it may not be outside the influence of the wastewater ponds and MW-1 may better reflect background quality.

<u>Constituents</u>	<u>Units</u>	<u>MW-1 sidegradient</u>	<u>MW-2 downgradient</u>	<u>MW-3 downgradient</u>	<u>MW-4¹ upgradient</u>
pH	pH units	8.2	7.4	8.0	7.0
Specific Conductivity	μ mhos/cm	397	1,706	1,081	881
TDS	mg/L	200	1,128	670	583
Chloride	mg/L	13.6	145	58	14
Sodium	mg/L	15.5	52	43	8.2
Sulfate as SO ₄	mg/L	10.8	32	105	54
Nitrate as N	mg/L	0.3	0.6	1.2	<0.2
TKN	mg/L	1.3	1.4	<1.0	2.2

¹No samples were collected from MW-4 during the 4th Quarter 2002 since the well was dry.

26. The above groundwater results for specific conductivity, TDS, chloride, sodium, and nitrate in downgradient wells MW-2 and MW-3 are significantly higher than those results reported in the upgradient monitoring well.
27. The winery is served by a water supply well approximately 1,000 feet southwest of the ponds. The well is screened from 325 to 365 feet bgs and is constructed with a 50-foot sanitary seal. The supply water is treated using an ozone injection system and multimedia filtration. A groundwater sample was collected from the water supply well (after ozonation) on July 2003 and analyzed for a number of constituents. Selected results are presented in the table below.

<u>Constituents</u>	<u>Units</u>	<u>Water Supply Well</u>
pH	pH units	7.7
Specific Conductivity	μ mhos/cm	680
TDS	mg/L	410
Chloride	mg/L	7.7
Sodium	mg/L	33
Sulfate as SO ₄	mg/L	80
Nitrate as Nitrogen	mg/L	0.34
TKN	mg/L	2.7

SITE SPECIFIC CONDITIONS

28. Lithologic data collected during the installation of monitoring wells indicates that the subsurface geology consists of silty clay and clay ranging in depth from approximately 5 to 10 feet bgs, which is underlain by weathered bedrock.
29. Six test pits (TP-1 through TP-6), excavated to depths ranging from 4.5 to 6 feet bgs in DDA-1, were used to evaluate the soil profile within the land application area. The soils encountered in the test pits consisted of low to medium plasticity silty sandy clay and clayey silt to 6-foot bgs. The upper 8 to 12-inches of the soil profile is characterized by a heavy root and organic zone.
30. The 100-year annual precipitation at Middletown, adjusted to Guenoc Ranch, is 61.45 inches with the highest rainfall (13.27 inches) occurring in January.
31. Evapotranspiration rates for the area range from 0.8 to 8.2 inches per month, with the highest rate occurring in July.
32. The facility is within the Upper Putah Creek Hydrologic Area (No. 512.30), as depicted on interagency hydrologic maps prepared by the Department of Water Resources in August 1986.
33. As of the summer of 2003, sanitary/domestic wastewater from the winery kitchen, winery restroom facilities, and a private residence is collected and disposed of separately from the process winery wastewater in an on-site sewage disposal system. This system is regulated by Lake County Environmental Health Department.
34. A two acre pond west of the winery is used exclusively for fire suppression purposes and is not part of the winery wastewater collection system.

SPECIAL CONSIDERATIONS FOR FOOD PROCESSING WASTE

35. Excessive application of high-strength food processing wastewater to land application areas can create objectionable odors and degradation of the underlying groundwater by overloading the shallow soil profile and causing waste constituents (organic carbon, nitrate, other salts, and metals) to percolate below the effective treatment zone. Additionally, reducing conditions caused by the excessive application of degradable organic matter can mobilize iron and manganese from the soil to groundwater. However, because the Discharger has the ability to apply the wastewater to approximately 60 acres of land, objectionable odors and degradation of the groundwater underlying the DDAs should not be a concern, if the discharge is properly managed.
36. According to *Pollution Abatement in the Fruit and Vegetable Industry*, published by the United States Environmental Protection Agency (US EPA Publication No. 625/3-77-0007), in applying food-processing wastewater to land for biological treatment, the loading of BOD₅ should not

exceed 100 lbs/acre/day (as a cycle average) to prevent nuisance odors. The Discharger proposes a loading that is well below this guidance value.

37. Acidic soil conditions can be detrimental to land treatment system function, and may also cause groundwater degradation. However, the wastewater characterization presented in the RWD indicates that the discharge should not create acidic soil conditions.

BASIN PLAN, BENEFICIAL USES, AND REGULATORY CONSIDERATIONS

38. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition*, (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Resources Control Board. Pursuant to §13263(a) of the California Water Code (CWC), waste discharge requirements must implement the Basin Plan.
39. Surface water drainage is to Bucksnot Creek, which is a tributary to Putah Creek, which is tributary to Lake Berryessa.
40. The beneficial uses of Lake Berryessa are municipal and domestic supply; agricultural supply; power generation; water contact recreation; noncontact water recreation; warm freshwater habitat; cold freshwater habitat; migration of warm and cold freshwater aquatic organisms; spawning, reproduction and/or early development of warm freshwater aquatic organisms; and wildlife habitat.
41. The beneficial uses of underlying groundwater are municipal and domestic water supply, agricultural supply, industrial service supply, and industrial process supply.
42. The Basin Plan's numeric and narrative water quality objectives represent the maximum threshold quality that is necessary to protect each beneficial use, and the most stringent threshold quality governs. Appropriate groundwater limitations based on a Basin Plan narrative water quality objective in any particular situation must be translated as prescribed in the Basin Plan using appropriate references and guidelines by authorities that have conducted research and evaluated the risks of various waste constituents to a beneficial use. For example, the drinking water maximum contaminant levels (MCLs) for specific conductivity (900 umhos/cm recommended) and TDS (500 mg/L recommended) are the numeric water quality objective for municipal or domestic supply. The MCL for nitrate as nitrogen is 10 mg/L and is the appropriate numeric water quality objective for protection of municipal or domestic supply. The translated numeric groundwater limitation for protection of agricultural beneficial use from a Basin Plan narrative objective for chemical constituents derives from *Water Quality for Agriculture, Irrigation and Drainage Paper No. 29, Rev. 1*, published by the Food and Agriculture Organization of the United Nations in 1985. For sensitive crop use, the specific conductivity cannot exceed 700 umhos/cm and the TDS cannot exceed 450 mg/L. Chloride, derived in a similar manner, would result in a groundwater limitation of 106 mg/L. Background water quality, assuming that MW-4 represents true background, appears to average a specific conductivity of 881 umhos/cm, TDS of 583 mg/L, chloride of 14 mg/L, and total nitrogen of 2.4 mg/L. These values are based on three quarters of monitoring, which is not enough data to provide a true statistical analysis. Therefore, the Discharger has requested that background concentrations be based on maximum detected values (electrical conductivity of 970

umhos/cm, TDS of 660 mg/L, chloride of 16 mg/L, and total nitrogen of 3.5 mg/L). This request is acceptable at this time, but final background concentrations will be reevaluated and may be revised after the Discharger installs another upgradient well and determines background concentrations using statistical methods.

43. Water Code Section 13173 defines “designated waste” to include “[n]on hazardous waste that consists of, or contains, pollutants that, under ambient environmental conditions at a waste management unit, could be released in concentrations that exceed applicable water quality objectives or that could reasonably be expected to affect beneficial uses of waters of the state as contained in the appropriate state water quality control plan.”
44. The Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste, as set forth in Title 27, California Code of Regulations (CCR), Division 2, Subdivision 1, Section 20005, et seq., (hereafter Title 27) prescribes specific containment and other requirements for the discharge of designated liquid wastes to surface impoundments.
45. State Water Resources Control Board (State Board) Resolution No. 68-16 requires that the discharge of waste must maintain high quality waters of the state until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Basin Plan. Resolution No. 68-16 requires that waste constituents that may result in degradation of state waters be subject to best practicable treatment and control.
46. State regulations that prescribe procedures for detecting and characterizing the impact of waste constituents from waste management units on groundwater are found in Title 27. The data analysis methods of Title 27 may be appropriate for determining whether the discharge complies with the groundwater protection requirements specified in this Order.
47. Section 13267(b) of California Water Code provides that: *“In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.”*

The technical reports required by this Order and the attached “Monitoring and Reporting Program No. R5-2003-0175” are necessary to assure compliance with these waste discharge requirements.

48. California Department of Water Resources standards for the construction and destruction of groundwater wells (hereafter DWR Well Standards), is described in *California Well Standards Bulletin 74-90* (June 1991) and *Water Well Standards: State of California Bulletin 94-81*

(December 1981). These standards, and any more stringent standards adopted by the state or county pursuant to CWC section 13801, apply to all monitoring wells.

49. Federal regulations for storm water discharges were promulgated by the U.S. Environmental Protection Agency on 16 November 1990 (40 CFR Parts 122, 123, and 124). The State Board adopted Order No. 97-03-DWQ (General Permit No. CAS000001) specifying waste discharge requirements for discharges of storm water associated with industrial activities, and requiring submittal of a Notice of Intent by all affected industrial dischargers. The Discharger has obtained coverage under General Permit No. CAS000001.
50. The action to update waste discharge requirements for Guenoc Winery, Inc. is exempt from the provisions of the California Environmental Quality Act, in accordance with Title 14, CCR, Section 15302 (c).
51. Pursuant to California Water Code Section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

POLICY IMPLEMENTATION

52. The Discharger has not established that (a) degradation of groundwater quality from an ongoing discharge is of maximum benefit to the people of the State, (b) it has implemented best practicable treatment and control (BPTC) for the degrading waste constituents, (c) the degradation will not unreasonably affect beneficial uses, or (d) that degradation will not result in water quality less than that described in the Basin Plan. At this time, the appropriate interim groundwater limitations consistent with no degradation are a specific conductivity of 970 umhos/cm, TDS of 660 mg/L, chloride of 16 mg/L, and total nitrogen of 3.5 mg/L. However, these values may decrease if it is shown that MW-4 does not monitor true background conditions and/or if a statistical analysis of data from MW-4 and the new upgradient well provide different values.
53. Conservative calculations of the potential impact from the discharge based on concentrations in Finding No. 8 yield the following loading rates:

<u>Compound</u>	<u>Concentration (mg/L)</u>	<u>Loading Rate (lbs/acre/application)</u>	<u>Loading Rate (lbs/acre/year)</u>
BOD	500	115	280
Total Nitrogen	120	27.7	67
TDS	2,000	462	1,124

These calculations indicate that nitrogen in the wastewater is less than the grass crop demand on DDA-2 based on a nitrogen demand of 200 lbs/acre/year for native grasses. Grazing livestock will add some additional nitrogen. However, given the application method and loading, groundwater should not be degraded by nitrogen.

54. Application of the winery wastewater to DDA-2 should not cause an increase in the salt (measured as specific conductivity, TDS, or chloride concentrations) in the underlying groundwater. The

“total dissolved solids” component of the wastewater is composed of both volatile dissolved solids (VDS) and inorganic dissolved solids (IDS). The proportion of VDS to IDS in wastewater varies with the source, but usually 50% of the TDS in winery wastewater is in the volatile form. These volatile dissolved solids are broken down by soil microorganisms in a well managed land application system and do not reach groundwater. Therefore, of the 1,124 pounds of TDS in the wastewater applied per acre in DDA-2, about 560 pounds are expected to be in the inorganic fraction. Because plants can take up to 2,000 pounds of salt/acre/year, the Discharger maintains that the proposed loading rate should not degrade the underlying groundwater. However, success is highly dependent on wastewater management and the blending of irrigation water. Accordingly, groundwater monitoring is appropriate to detect whether management of DDA-2 ensures that groundwater degradation does not occur.

55. The discharge to DDA-2 is exempt from the requirements of Title 27. The exemption, pursuant to Section 20090(b), is based on the following:
 - a. The Regional Board is issuing waste discharge requirements,
 - b. The discharge complies with the Basin Plan, and
 - c. The wastewater does not need to be managed according to Title 22 CCR, Division 4.5, and Chapter 11, as a hazardous waste.
56. Data from monitoring wells MW-2 and MW-3 show that groundwater exceeds the Groundwater Limitations of Finding No. 52, and water quality objectives as set forth in Finding No. 42. The quality of wastewater discharged to the ponds and to DDA-1 exceeds water quality objectives for certain waste constituents. Data from MW-2 and MW-3 appear to demonstrate that waste discharge to ponds has caused violations of water quality objectives. Given the character of the waste, other waste constituents may exceed applicable water quality objectives as well. The situation has not been fully characterized. The discharge to the ponds and DDA-1 must be classified as a discharge of designated waste. The exceedance of water quality objectives and exceedance of groundwater limitations for groundwater are subject to cleanup and abatement, as set forth by procedures in State Board Resolution No. 92-49.
57. The pond liner proposed by the Discharger does not comply with the prescriptive standards of Title 27 and has not been demonstrated to be a suitable engineered alternative as required by Title 27. DDA-1 has not been demonstrated to be a qualified Land Treatment Unit under Title 27. Neither the ponds nor DDA-1 qualify for exemption from Title 27. Accordingly, the discharge to the ponds and DDA-1 as characterized and proposed by the Discharger must be prohibited.
58. It is reasonable that a period of time be granted to the Discharger to remedy its deficiencies by either upgrading the ponds and DDA-1 to comply with Title 27 or altering the character and management of its wastewater to qualify for exemption from Title 27. Continued discharge in the interim will not significantly alter the responsibility of the Discharger to assess and cleanup the impacts that have already occurred, a condition which the Discharger does not dispute. Altering the character of the wastewater will require various controls and possibly treatment, which must

qualify as BPTC if the Discharger wishes consideration of use of assimilative capacity (where available). The approach taken within this Order:

- a. Prohibits discharge to ponds and land that does not comply with or qualify as exempt from Title 27;
 - b. Establishes a schedule for compliance;
 - c. Establishes interim effluent and groundwater limitations;
 - d. Requires groundwater monitoring in DDA-2; and
 - e. Requires further assessment of groundwater in the area of the ponds and DDA-1 and an evaluation of cleanup consistent with Resolution 92-49.
59. Continued discharge to the ponds and DDA-1 without containment will require that the wastewater be treated to reduce salinity to levels comparable to groundwater limitations, as the soil profile offers no attenuation for conservative waste constituents, or, where there is assimilative capacity (e.g., chloride) to a quality to be determined by satisfying the criteria of Resolution No. 68-16 for the highest quality possible and by satisfying the criteria of Resolution No. 92-49 to restore background water quality to the extent feasible. As both Resolutions No. 68-16 and No. 92-49 have yet to be satisfied, for continued discharge the average salinity in the ponds and DDA-1 cannot exceed groundwater limitations. Accordingly, the Discharger must compensate for the concentrating effect of evaporation and irrigation.
60. The Discharger must develop and submit an Engineering Feasibility Study that evaluates methods for remediating groundwater, then develop and establish a Corrective Action Program contained in a Corrective Action Plan that proposes implementation of the best remedy from the Engineering Feasibility Study.
61. This Order is intended as interim waste discharge requirements to obtain and analyze information sufficient for the Discharger and this Regional Board to make long-term decisions regarding this discharge. Discharge is a privilege. If the Discharger fails to follow through as directed herein, enforcement may be taken and the privilege curtailed or revoked.

PUBLIC NOTICE

62. All the above and the supplemental information and details in the attached Information Sheet, incorporated by reference herein, were considered in establishing the following conditions of discharge.
63. The Discharger and interested agencies and persons were notified of the intent to prescribe WDRs for this discharge and provided an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

64. In a public meeting, all comments pertaining to the discharge were heard and considered.

IT IS HEREBY ORDERED that pursuant to Sections 13263 and 13267 of the California Water Code, Order No. 98-083 is rescinded and Guenoc Winery, Inc., its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

[Note: Other prohibitions, conditions, definitions, and some methods of determining compliance are contained in the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated 1 March 1991.]

A. Discharge Prohibitions:

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. Operation of a distillery at the facility is prohibited.
3. Bypass or overflow of untreated or partially treated waste is prohibited.
4. Discharge of designated waste, and of waste that has the potential to degrade groundwater, to the ponds and to DDA-1 is prohibited effective **1 November 2005**.
5. Discharge of waste classified as 'hazardous,' as defined in Section 20164 of Title 27, CCR, is prohibited.
6. The discharge of winery wastewater to the domestic wastewater system is prohibited.
7. The discharge of domestic waste to the process wastewater treatment system is prohibited.
8. Discharge of wastewater to other than the designated disposal areas shown on Attachment B is prohibited.

B. Discharge Specifications:

1. The monthly average discharge into the wastewater pond system shall not exceed 11,000 gpd. Higher monthly average flows are allowed during the crush season (generally mid-September through mid-November), as long as the total yearly flow does not exceed 11,000 gpd.
2. No waste constituent shall be released or discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations.
3. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the property owned by the Discharger.

4. As a means of discerning compliance with Discharge Specification No. 3, the dissolved oxygen content in the upper zone (one foot) of all wastewater storage ponds shall not be less than 1.0 mg/L.
5. The Discharger shall operate all systems and equipment to maximize treatment of wastewater and optimize the quality of the discharge.
6. The wastewater treatment and storage ponds shall not have a pH of less than 6.5 or greater than 8.4.
7. The ponds shall be managed to prevent the breeding of mosquitoes. In particular,
 - a. An erosion control program should assure that small coves and irregularities are not created around the perimeter of the waste surface.
 - b. Weeds shall be minimized through control of water depth, harvesting, and/or herbicides.
 - c. Dead algae, vegetation, and debris shall not accumulate on the water surface.
8. No physical connection shall exist between wastewater piping and any domestic water supply or other domestic/industrial supply well without an air gap or approved reduced pressure device.
9. The wastewater treatment and land application system shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
10. The freeboard in all ponds shall never be less than two feet, as measured vertically from the water surface to the lowest point of overflow.
11. The wastewater treatment, storage, and land application system shall have sufficient capacity to accommodate wastewater flow and seasonal precipitation. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.
12. On or about **15 October** each year, available pond storage capacity shall at least equal the volume necessary to comply with Discharge Specifications No. 10 and No. 11.

C. Effluent Limitations:

1. Wastewater discharged from the storage ponds to the DDAs shall not exceed the following monthly average effluent limits, or such concentrations as the Discharger determines necessary to ensure compliance with the Groundwater Limitations:

<u>Constituent</u>	<u>Units</u>	<u>Concentration</u>
BOD	mg/L	500

<u>Constituent</u>	<u>Units</u>	<u>Concentration</u>
Total Dissolved Solids	mg/L	2,000
Total Nitrogen	mg/L	120

D. Land Application Area Requirements:

1. The discharge shall be distributed uniformly on adequate acreage in compliance with the Discharge Specifications and Effluent Limitations.
2. Crops shall be grown on the land application areas. Crops shall be selected based on nutrient uptake capacity, tolerance to high soil moisture conditions, and consumptive use of water and irrigation requirements. Cropping activities shall be sufficient to take up all the nitrogen applied.
3. Discharge of process wastewater, including runoff, spray or droplets from the irrigation system, shall not occur outside the boundaries of the land application area.
4. Hydraulic loading of process wastewater and irrigation water shall be at reasonable agronomic rates designed to maximize uptake and breakdown of waste constituents in the root zone and minimize the percolation of waste constituents below the root zone.
5. Wastewater conveyance lines shall be clearly marked as such. Process wastewater controllers, valves, etc. shall be affixed with reclaimed water warning signs, and these and quick couplers and sprinkler heads shall be of a type, or secured in such a manner, that permits operation by authorized personnel only. If wastewater and irrigation water utilize the same pipeline, then backflow prevention devices shall be installed to protect the potable water supply
6. Application of wastewater to DDA-1 is prohibited when wind velocities exceed 30 mph.
7. Application of wastewater to the designated disposal areas shall not be performed within 24 hours before a predicted precipitation event, during precipitation, or within 24 hours after any precipitation event, nor shall it be performed when ground is saturated.
8. Public contact with wastewater shall be precluded through such means as fences, signs, and irrigation management practices. Signs with proper wording of sufficient size shall be placed at areas of access and around the perimeter of the land application areas to alert the public of the use of wastewater.
9. The land application areas shall be managed to prevent breeding of mosquitoes. In particular:
 - a. There shall be no standing water on the irrigation parcel areas 24 hours after effluent application to a parcel ceases;
 - b. Ditches must be maintained essentially free of emergent, marginal, and floating vegetation, and;

- c. Low pre-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store effluent.
10. A 50-foot buffer zone shall be maintained between any watercourse and the wetted area produced during irrigation used for process wastewater effluent disposal.
11. A 100-foot buffer zone shall be maintained between any spring, domestic well or irrigation well and the wetted area produced during irrigation used for process wastewater effluent disposal.
12. Discharges to land application areas shall be managed to minimize both erosion and runoff from the irrigated area.
13. The resulting effect of the wastewater discharge on the soil pH shall not exceed the buffering capacity of the soil profile.

E. Solids/Sludge Disposal Requirements:

1. Collected screenings, sludge, and other solids removed from winery wastewater shall be disposed of in a manner that is consistent with Title 27, Division 2, Subdivision 1 of the CCR and approved by the Executive Officer.
2. Winery sludge and other solids shall be removed from the process equipment, sumps, etc. as needed to ensure optimal operation and adequate hydraulic capacity. Winery solids drying operations, if any, shall be designed and operated to prevent leachate generation.
3. Storage and disposal of domestic wastewater sludge (septage) shall comply with existing Federal, State, and local laws and regulations, including permitting requirements and technical standards.
4. Sludge and other solids shall be removed from septic tanks as needed to ensure optimal operation and adequate hydraulic capacity. Sludge, septage, and domestic wastewater shall be hauled by a duly authorized carrier.
5. Any proposed change in solids use or disposal practice from a previously approved practice shall be reported to the Executive Officer at least 90 days in advance of the change.

F. Interim Groundwater Limitations:

The discharge of wastewater shall not cause underlying groundwater to contain waste constituents in concentrations greater than background water quality, as set forth below. These values will be reevaluated and may be revised after the Discharger installs another upgradient well and determines background concentrations using statistical methods.

<u>Constituent</u>	<u>Units</u>	<u>Concentration</u>
Electrical conductivity	mg/L	970
Total dissolved solids	mg/L	660
Chloride	mg/L	16
Total nitrogen	mg/L	3.5

G. Provisions:

1. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code §6735, 7835, and 7835.1. To demonstrate compliance with §415 and 3065 of Title 16, CCR, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
2. Groundwater adversely affected by past and ongoing wastewater discharge up to November 2005 shall be restored to a quality determined to be consistent with State Board Resolution No. 92-49 and with State Board Resolution No. 68-16, as determined by the Regional Board after receipt of appropriate technical investigations and reports. Unless present facts are altered, groundwater shall be restored to comply to the background groundwater quality determined as a result of the report due by Provision 3.g.
3. All of the following reports shall be submitted pursuant to §13267 of the CWC, and shall be prepared by a California registered professional as described in Provision G.1.
 - a. By **1 February 2004**, the Discharger shall submit a Groundwater Well Installation Workplan and a Groundwater Sampling and Analysis Workplan prepared in accordance with, and including the items listed in, Sections 1.0 and 2.0 of Attachment D: *“Monitoring Well Installation Workplan and Monitoring Well Installation Report of Results.”* The workplan shall propose the installation of an additional background groundwater monitoring well and adequate wells to monitor the groundwater beneath the two land application areas. All wells shall be designed to yield samples representative of the uppermost portion of the first aquifer. The workplan shall also specify proposed sampling techniques designed to ensure that representative samples of sufficient volume are obtained and analyzed.
 - b. By **1 February 2004**, the Discharger shall submit a Title 27 Compliance Report that commits to a program and schedule that will result in lining of the ponds per Title 27 standards by **1 November 2005** or to a reduction in the concentrations of waste constituents entering the ponds such that the waste constituents either (a) do not result

in groundwater degradation of background water quality or (b) do not result in degradation that exceeds a water quality objective and has been limited to the extent feasible by best practicable treatment and control.

- c. By **1 April 2004**, the Discharger shall submit a pH Neutralization Evaluation Report that contains an evaluation of whether a pH neutralization system is necessary to ensure that the wastewater discharge complies with Discharge Specification No. B.6. If it is determined that such a system is necessary, then it shall be installed no later than 1 September 2004.
- d. By **1 April 2004**, the Discharger shall submit a DDA-2 Modification Report that shows that the berms at the lower end of DDA-2 have been constructed as described in this Order.
- e. By **1 April 2004**, the Discharger shall submit and implement an Operation and Management Plan (O&M Plan) that addresses operation of the wastewater treatment and disposal facility. At a minimum, the O&M Plan will describe (a) the daily operation and maintenance of the treatment system, (b) the practices used to treat the wastewater within limits specified in this Order, (c) the locations of the land application areas, and procedures used for the disposal of wastewater to these areas to prevent excessive BOD, nitrogen, and salt over the loading limits specified in this Order, (d) procedures used to determine when the valves at the bottom end of DDA-2 may be opened to allow tailwater discharge to the creek, (e) the locations of flow and effluent sampling points, (f) quality control sampling procedures necessary to obtain representative samples, (g) practices used to maintain the land application areas, and (h) the locations of the solid waste disposal areas, methods of disposal, and the daily practices associated with the disposal of the solid waste. A copy of the O&M Plan shall be kept at the facility for reference by operating personnel and they shall be familiar with its contents.
- f. By **1 July 2004**, the Discharger shall submit a Groundwater Well Installation Report of Results that contains the information in Section 3 of Attachment D.
- g. By **1 November 2004**, the Discharger shall submit a Background Groundwater Quality Determination Report. The report shall evaluate the quality and flow direction of the groundwater in the new background monitoring well as well as in the existing monitoring wells, and shall propose final background values for electrical conductivity, TDS, chloride, and total nitrogen. The proposed values shall include the use of appropriate statistical methods, based on data quality.
- h. By **1 November 2004**, the Discharger shall either submit (a) a Report of Waste Discharge containing a design for a pond liner system and land treatment unit that complies with Title 27 and a timeline that shows that that compliance will be achieved by **1 November 2005**, or (b) a Report of Waste Discharge containing a technical report demonstrating what has been and will be done to modify the waste stream so that background water quality will be maintained or limited to degradation consistent with

State Board Resolution No. 68-16. If the latter, the Report of Waste Discharge shall also describe the technical justification and contain project steps with a proposed timeline to demonstrate that all necessary treatment and control measures to ensure no degradation, and all BPTC measures to ensure minimal degradation, shall be implemented no later than **1 November 2005**.

- i. By **1 November 2005**, the Discharger shall fully comply with Prohibition A.4. In addition, the Discharger shall submit a technical report by **15 December 2005** with documentation certifying whether compliance was achieved with this provision.
- j. The Discharger shall submit the following technical reports by the required dates to address the groundwater corrective actions described in the Findings:
 - (a) By **1 February 2005**, an Engineering Feasibility Study (EFS) that assesses the feasibility and effectiveness of various remedial options to return salt impacted groundwater to background levels as measured in background monitoring well(s).
 - (b) By **1 July 2005**, a Corrective Action Plan (CAP) to implement the best remedy selected from the EFS to return salt impacted groundwater to background levels as measured in background monitoring well(s). The CAP shall be implemented no later than **1 September 2005**.
4. The Discharger shall comply with the Monitoring and Reporting Program No. R5-2003-0175, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.
5. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements", dated 1 March 1991, which are attached hereto and by reference a part of this Order. This attachment and its individual paragraphs are commonly referenced as "Standard Provision(s)."
6. In the event of any change in control or ownership of land or waste discharge facilities described herein, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.
7. The Discharger shall submit to the Regional Board on or before each compliance report due date the specified document, or if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is reported, then the Discharger shall state the reasons for noncompliance and shall provide a schedule to come into compliance.
8. The Discharger shall report to the Regional Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to §313 of the "Emergency Planning and Community Right to Know Act of 1986."

9. The Discharger shall report promptly to the Board any material change or proposed change in the character, location, or volume of the discharge.
10. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by this Order and by the Executive Officer pursuant to Section 13267 of the California Water Code. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or recession of this Order.
11. A copy of this Order shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.
12. The Regional Board will review this Order periodically and will revise requirements when necessary.

I, THOMAS R. PINKOS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 5 December 2003.

THOMAS R. PINKOS, Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2003-0175

FOR
GUENOC WINERY, INC
GUENOC ESTATE VINEYARDS AND WINERY
LAKE COUNTY

This monitoring and reporting program (MRP) incorporates requirements for monitoring of the process wastewater, ponds, land application areas, solids, and groundwater. This MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

All wastewater samples should be representative of the volume and nature of the discharge. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form. Process wastewater flow monitoring shall be conducted continuously using a flow meter and shall be reported in cumulative gallons per day.

Field test instruments (such as pH and dissolved oxygen) may be used provided that:

1. The operator is trained in the proper use of the instrument;
2. The instruments are field calibrated prior to each use;
3. Instruments are serviced and/or calibrated at the frequency recommended by the manufacturer;
and
4. Field calibration reports are submitted as described in the "Reporting" section of this MRP.

INFLUENT MONITORING

Process wastewater samples shall be collected prior to entering the wastewater treatment ponds. Influent monitoring for the process wastewater system shall include at least the following:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow	Gallons	Metered	Continuous ¹	Monthly
BOD ₅ ²	mg/L	Grab	Monthly	Monthly

¹. Continuous monitoring requires daily meter reading or automated data collection.

². Five-day, 20° Celsius Biochemical Oxygen Demand.

POND MONITORING

Samples shall be collected from an established sampling station located in an area that will provide a sample representative of the water in each storage pond. Freeboard shall be measured vertically from the surface of the pond water to the lowest elevation of the surrounding berm and shall be measured to the nearest 0.1 feet. Monitoring of each pond shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Dissolved Oxygen ¹	mg/L	Grab	Weekly	Monthly
Freeboard	feet (±0.1)	Measurement	Weekly	Monthly
Odors	--	Observation	Weekly	Monthly

¹ Samples shall be collected at a depth of one foot from each pond in use, opposite the inlet. Samples shall be collected between 0700 and 0900 hours.

EFFLUENT MONITORING

Effluent samples shall be collected from storage pond No. 2 and shall be representative of the volume and nature of the discharge. (Until the storage ponds have been reconfigured, effluent samples shall be collected from Pond No. 4.) Effluent monitoring shall include at a minimum the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
pH	pH units	Grab	Weekly	Monthly
Specific Conductivity	µmhos/cm	Grab	Monthly	Monthly
BOD ₅ ¹	mg/L	Grab	Monthly	Monthly
Nitrates as Nitrogen	mg/L	Grab	Monthly	Monthly
Total Kjeldahl Nitrogen	mg/L	Grab	Monthly	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly
Sulfate	mg/L	Grab	Monthly	Monthly

¹ Five-day, 20° Celsius Biochemical Oxygen Demand.

DISPOSAL AREA MONITORING

The Discharger shall conduct monitoring of process wastewater discharged to the Designated Disposal Areas (DDAs). Monitoring shall be conducted daily during process wastewater discharge to that area, and the results shall be included in the monthly monitoring report. Loading rates for each designated disposal area(s) shall be calculated. Monitoring of DDA(s) shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow to DDA	Gallons	Continuous ¹	Daily	Monthly
Local Rainfall	inches	Measurement	Daily	Monthly
Acreage Applied ²	Acres	Calculated	Daily	Monthly
Application Rate	gal/acre/day	Calculated	Daily	Monthly
Total Nitrogen Load Rate ³	lbs/acre/month ⁴	Calculated	Monthly	Monthly

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Total Dissolved Solids Loading Rate	lbs/acre/month ⁴	Calculated	Monthly	Monthly
BOD ₅ Loading Rate	lbs/acre/day ⁵	Calculated	Monthly	Monthly

- ¹ Continuous monitoring requires daily meter reading or automated data collection.
² DDA(s) in use shall be identified by name or number and the acreage provided. If a portion of an area is used, then the acreage shall be estimated.
³ Total nitrogen applied from all sources, including fertilizers and supplemental irrigation water if used.
⁴ Report monthly total and cumulative annual to date.
⁵ Report 7-day average and maximum daily loading.

The Discharger shall also visually monitor the irrigated DDA(s) daily during any period of process wastewater discharge. Observations shall include presence of solids buildup, standing water, observed runoff, presence of nuisance such as odors, vectors or insects, and other relevant physical conditions. Notes on disposal area conditions shall be recorded, and submitted in the regular monitoring reports.

SOLIDS MONITORING

The Discharger shall record and report monthly the quantity, disposal location, and method of disposal of solids disposed of during the processing season, as well as during the off-season, if applicable. If solid waste is shipped offsite, then a description of the quantity of each type of waste shipped offsite and the location of the disposal area(s) shall be included with the report.

GROUNDWATER MONITORING

Prior to construction and/or sampling of any groundwater monitoring wells, the Discharger shall submit plans and specifications to the Board for review and approval. Once installed, all new wells shall be added to the MRP and shall be sampled and analyzed according to the schedule below. All samples shall be collected using approved EPA methods and water table elevations shall be calculated and used to determine groundwater gradient and direction of flow.

Prior to sampling, the groundwater elevations shall be measured and the wells shall be purged at least three well volumes until temperature, pH, and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet. Groundwater monitoring shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling and Reporting Frequency</u>
Depth to Groundwater	0.01 feet	Measurement	Quarterly
Groundwater Elevation ¹	0.01 feet	Calculated	Quarterly
Gradient	feet/feet	Calculated	Quarterly
Gradient Direction	degrees	Calculated	Quarterly
pH	std.	Grab	Quarterly

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling and Reporting Frequency</u>
Nitrate as Nitrogen	mg/L	Grab	Quarterly
Total Kjeldahl Nitrogen	mg/L	Grab	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly
Sulfate	mg/L	Grab	Quarterly
Standard Minerals ²	mg/L	Grab	Quarterly

¹ Groundwater elevation shall be determined based on depth-to-water measurements from a surveyed measuring point elevation on the well.

² Standard Minerals shall include the following: boron, calcium, iron, magnesium, potassium, sodium, chloride, total alkalinity (including alkalinity series), and hardness.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., process wastewater effluent, groundwater well, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported in the next scheduled monitoring report.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all Groundwater Monitoring Reports shall be prepared under the direct supervision of a Registered Engineer or Geologist and signed by the registered professional.

A. Monthly Monitoring Reports

Monthly reports shall be submitted to the Regional Board by the **1st day of the second month** following the end of the reporting period (i.e. the August monthly report is due by 1 October). The monthly reports shall include the following:

1. Results of influent, pond, effluent, disposal area, and solids disposal monitoring;
2. A comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements. Data shall be presented in tabular format;
3. If requested by staff, copies of laboratory analytical report(s);
4. A calibration log verifying calibration of all hand held monitoring instruments and devices used to comply with the prescribed monitoring program;
5. The total pounds of total dissolved solids (year to date) that have been applied to the DDA(s), as calculated from the sum of the monthly loadings; and
6. The total pounds of nitrogen in fertilizer applied to the DDA(s) for the month.

B. Quarterly Report

The Discharger shall establish a quarterly sampling schedule for groundwater monitoring such that samples are obtained approximately every three months. Quarterly monitoring reports shall be submitted to the Board by the **1st day of the second month after the quarter** (i.e. the January-March quarter is due by May 1st) each year. The results of regular monthly monitoring reports for March, June, September, and December may be incorporated into their corresponding quarterly monitoring report. The Quarterly Report shall include the following:

1. Results of groundwater monitoring;
2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDR, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged;
3. Calculation of groundwater elevations, an assessment of groundwater flow direction and gradient on the date of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends if any;
4. A narrative discussion of the analytical results for all groundwater locations monitored including spatial and temporal trends, with reference to summary data tables, graphs, and appended analytical reports (as applicable);
5. A comparison of monitoring data to the groundwater limitations and an explanation of any violation of those requirements;
6. Summary data tables of historical and current water table elevations and analytical results;
7. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum; and
8. Copies of laboratory analytical report(s) for groundwater monitoring.

C. Annual Report

Beginning with the year 2004, an Annual Report shall be prepared as the December monthly monitoring report. The Annual Report shall include all monitoring data required in the monthly and quarterly schedule. The Annual Report shall be submitted to the Regional Board by **1 February** each year. In addition to the data normally presented, the Annual Report shall include the following:

1. If requested by staff, tabular and graphical summaries of all data collected during the year;

2. Tabular and graphical summaries of historical monthly total loading rates for water (hydraulic loading in gallons and inches), BOD, total nitrogen, and total dissolved solids.
3. A comprehensive evaluation of the effectiveness of the past year's wastewater application operation in terms of odor control and groundwater protection, including consideration of application management practices (i.e.: waste constituent and hydraulic loadings, application cycles, drying times, and cropping practices), soil profile monitoring data and groundwater monitoring data;
4. A summary of the quantity of solid waste (lees, stems, pomace, etc) generated and disposed of both on and off the site;
5. An evaluation of the groundwater quality beneath the ponds and the DDA(s);
6. Estimated monthly flows for the next calendar year;
7. A discussion of compliance and corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements; and
8. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program;

A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain a statement by the discharger, or the discharger's authorized agent, under penalty of perjury, that to the best of the signer's knowledge the report is true, accurate and complete.

The Discharger shall implement the above monitoring program as of the date of this Order.

Ordered by: _____
THOMAS R. PINKOS, Executive Officer

5 December 2003

(Date)

INFORMATION SHEET

ORDER NO. R5-2003-0175
GUENOC WINERY, INC.
GUENOC ESTATE VINEYARDS AND WINERY
LAKE COUNTY

Guenoc Winery, Inc. owns and operates Guenoc Estate Vineyards and Winery. The facility is located approximately six miles southeast of Middletown on Butts Canyon Road in Lake County. The winery is situated on approximately 23,000 acres, which includes approximately 300 acres of vineyards. The winery processes up to 2,000 tons grapes per year to produce fermented, bottled wines for export and local sale.

Wastewater flows, as averaged throughout the year, will be up to 11,000 gallons per day (gpd); however, higher flows are allowed during the two month crush period. Wastewater currently flows to a series of ponds prior to discharge to approximately 4.5 acres of pasture (DDA-1). The Discharger is proposing to increase the disposal area to approximately 60 acres of pasture.

Four groundwater monitoring wells surrounding the ponds show that the groundwater beneath the pond and DDA-1 is polluted with salt constituents. Therefore, the discharge to the ponds and DDA-1 must be classified as a discharge of designated waste. Although the Discharger has proposed installation of a pond liner, the proposed design does not comply with the prescriptive standards of Title 27 of the CCR, nor has it has not been demonstrated to be an engineered alternative to Title 27. In addition, the Discharger has not demonstrated that DDA-1 is a qualified Land Treatment Unit under Title 27. Accordingly, the discharge to the ponds and DDA-1 as proposed by the Discharger must be prohibited. However, it is reasonable that the Discharger be granted a period of time to remedy its deficiencies by either upgrading the ponds to comply with Title 27 or altering the character of its wastewater to qualify for an exemption to Title 27. The approach taken within this Order:

- a. Prohibits discharge to ponds and land that does not comply with, or qualify as exempt from, Title 27;
- b. Establishes a schedule for compliance;
- c. Establishes interim effluent and groundwater limitations;
- d. Requires groundwater monitoring in DDA-2; and
- e. Requires further assessment of groundwater in the area of the ponds and DDA-1 and an evaluation of cleanup consistent with Resolution 92-49.

This Order is intended to act as interim waste discharge requirements while the Discharger obtains and analyzes information sufficient for long-term decisions. The Discharger is required to submit a Title 27 Compliance Report by 1 February 2004 in which it states whether it will either commit to a program to line the ponds to Title 27 standards by 1 November 2005 or whether it will commit to a program to reduce the waste strength such that groundwater is not degraded, or if degradation occurs, then only to levels that do not exceed water quality objectives and that have been limited to the extent feasible by best practicable treatment and control. The Discharger is also required to submit a Report of Waste Discharge by 1 November 2004 to implement the above decision.