

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2020-0018

WASTE DISCHARGE REQUIREMENTS

FOR
BARREL TEN QUARTER CIRCLE LAND COMPANY
BARREL TEN QUARTER CIRCLE, ESCALON CELLARS
SAN JOAQUIN COUNTY

Findings

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

1. On 19 July 2019, Barrel Ten Quarter Circle Land Company submitted a Report of Waste Discharge (RWD) that describes an existing winery that generates process wastewater and residual solids that are discharged to land in Escalon, California. Additional information was submitted on 20 October 2019.
2. Barrel Ten Quarter Circle Land Company (hereafter Discharger) owns and operates the facility that generates the waste and the land discharge areas and is responsible for compliance with these Waste Discharge Requirements (WDRs). The Discharger has owned the winery and land application areas (LAAs) since July 2003, but the winery has existed since at least the 1890s.
3. The facility, which includes the winery and LAAs, is at 21801 East Highway 120 in Escalon (Section 36, T1 South, R8 East, MDB&M). The facility occupies Assessor's Parcel Numbers (APN) 205-250-16 and 205-250-06, as shown on Attachment A, which is attached hereto and made part of this Order by reference.
4. WDRs Order R5-2009-0038, adopted by the Central Valley Water Board on 24 April 2009, prescribes requirements for the discharge. Order R5-2009-0038 allows an annual wastewater flow of up to 48 million gallons per year (MGY). The Discharger has expanded the LAAs, which need to be included in an updated Order. Therefore, Order R5-2009-0038 will be rescinded and replaced with this Order.

Existing Facility and Discharge

5. The winery crushes up to 60,000 tons of grapes annually during the crush season (generally August through October) and operates year-round. The grapes are crushed, fermented, pressed and filtered, stabilized, and hauled to other off-site facilities for bottling and packaging. Wine from other facilities is transported to the winery for finishing, stabilization, and storage.
6. Source water for the winery is supplied by three production wells (Wells 1, 3, and 4) and domestic water is supplied by two domestic wells (Wells A and B). Well FW-2 is designated for fire-fighting purposes only.

7. The Discharger uses several chemicals at the facility for the wine making process, cleaning, and sanitation. The Discharger has started using chlorine dioxide and ozone in place of sodium hypochlorite for sanitation. The chemicals and approximate quantities used each year are presented below.

Table 1. Chemicals Used

Chemical	Use	Quantity/Year
Ammonium Hydroxide	Wine IX Neutralizer	42,000 lbs
Sulfuric Acid	Wine IX Column	149,600 lbs
Sodium Chloride	Boiler IX Column	Unknown
Sodium Hydroxide	Sanitation	6,550 lbs
Potassium Hydroxide	Sanitation	1,400 gallons
Sodium Hypochlorite	Disinfection	7,600 gallons

8. Wastewater is generated from the wine making process, equipment and facility cleaning, and rinsing the truck trailer beds. The wastewater treatment system consists of screens, sumps, equalization/blending tanks, and LAAs.
9. Trucks carrying harvested grapes into the facility empty the load into a hopper/conveyor on the crush pad, which is shown on Attachment B. The crush pad consists of the hopper/conveyor, grape presses, fermentation tanks, and sluice and decanter feed tanks.
10. A flush water wash system is located at the crush pad. The system allows the reuse of water generated from tank and equipment cleaning. Hot and cold water wash systems are installed throughout the crush pad, which reduces the amount of chemicals needed for cleaning, and results in reduced water use. An ion exchange water softener is used for softening the source water to the facility's hot water heater. The spent water softener regeneration stream is hauled off-site for disposal at the East Bay Municipal Utilities District (EBMUD). The automated cleaning process for the crush equipment includes timers and controls for managing water use.
11. Wastewater from the crush pad is collected in a flush water sump via trench drains and grade separators. Wastewater from the flush water sump is then pumped through a wire screen to remove solids and then discharged to one of two 80,000-gallon concrete storage tanks for reuse. The odor of the flush water is monitored by facility staff. Once the flush water can no longer be reused, the flush water sump discharges the wastewater to a process water sump (PW sump).
12. The PW sump is equipped with pH and electrical conductivity (EC) meters linked to a programable logic controller (PLC). The PLC directs wastewater to one of four process water tanks, depending on the water quality in the sump and water quality in the tanks. The process water tanks each have pH and EC meters, are connected to the PLC, and are used for equalization, blending, and storage prior to discharging to the LAAs. A wastewater process flow schematic is shown on Attachment C, which is incorporated herein.

13. Wastewater flow rates are measured from the process water sump to the process water tanks, as shown on Attachment C. Flow rates for 2016 through 2018 are summarized below.

Table 2. Flow Rates

Month	2016		2017		2018	
	Total Flow (gallons)	Average Daily Flow (gpd)	Total Flow (gallons)	Average Daily Flow (gpd)	Total Flow (gallons)	Average Daily Flow (gpd)
Jan	3,259,087	105,132	3,262,240	105,234	2,359,231	76,104
Feb	1,440,734	51,544	2,949,736	105,348	2,113,460	75,481
Mar	1,624,820	52,414	2,024,771	65,295	2,574,250	83,040
Apr	1,378,369	45,946	1,497,771	49,926	2,967,910	98,930
May	1,243,216	40,104	1,563,322	50,430	1,984,680	64,022
Jun	1,135,417	37,847	1,624,078	54,136	1,266,433	42,214
Jul	1,767,436	57,014	1,488,789	48,025	1,947,959	62,837
Aug	2,776,066	89,551	2,083,648	67,214	2,107,974	67,999
Sep	2,604,266	86,809	3,168,685	105,623	2,807,082	93,569
Oct	4,117,738	132,830	4,187,715	135,088	3,790,550	122,276
Nov	2,251,171	75,039	1,492,918	49,764	3,731,329	124,378
Dec	2,107,184	67,974	962,880	31,061	2,776,097	89,552
Total	25,705,504		26,305,939		30,426,955	

14. Wastewater samples are collected from the PW sump. Process wastewater quality is summarized below. Analytical data are in milligrams per liter unless noted otherwise.

Table 3. Wastewater Quality

Constituent		2015	2016	2017	2018
BOD	Ave	3,011	2,081	1,682	2,361
	Max	17,000	5,800	5,200	4,100
Nitrate	Ave	8.1	7.9	7.2	8.3
	Max	13	14	11	14
TKN	Ave	80	49	27	50
	Max	280	180	97	230
Total N	Ave	88	58	36	59
	Max	290	190	110	240
TDS	Ave	1,387	1,330	1,226	1,155
	Max	2,400	2,900	2,500	1,800
FDS	Ave	761	785	765	695
	Max	1,300	1,900	1,700	1,200
EC (µS/cm)	Ave	1,419	1,335	1,359	1,326
	Max	2,100	2,300	2,000	1,800
Sodium	Ave	54	47	48	63
	Max	220	63	84	87

Constituent		2015	2016	2017	2018
Chloride	Ave	36	26	35	55
	Max	280	49	86	89

15. Wastewater from the process water tanks is discharged to approximately 95 acres of LAAs, as shown on Attachment B. The LAAs, except for LAA-5, are cropped with Sudan grass in the summer and winter forage in the winter. LAA-5 is currently planted with almond trees but the trees will be removed and converted to a grass crop. The LAAs are flood irrigated using checks.
16. After emptying a load of harvested grapes into the hopper/conveyor at the crush pad, the trucks are routed through a wash system. The wash system has pressure and timer-controlled nozzles that rinse the trailer with a regulated amount of water. Water used in the wash process is collected in a sump and pumped into the flush wash sump where it is then sent to two 80,000-gallon concrete storage tanks for reuse, as shown on Attachment C.
17. Tailwater from the LAAs is collected in ditches located around the LAAs, routed to the onsite tailwater basin, and reapplied to the LAAs. The tailwater basin is located south of LAA 1N in the northern portion of the facility. Water samples are collected from the tailwater basin when water is present. Average yearly concentrations for select constituents for 2016, 2017, and 2018 are summarized below.

Table 4. Tailwater Basin Water Quality

Constituent (mg/L)	2016	2017	2018
BOD	110	160	133
FDS	272	210	256
TDS	398	369	405
Nitrate as N	8.3	1	<1
Chloride	14.1	9.4	21
Sodium	18	13.5	22

18. Pomace and spent diatomaceous earth (DE) generated during the wine making process is placed on the concrete Pomace/DE pad. The pad is equipped with a sump that collects liquid that drains from the material and storm water that falls on the pad. The commingled wastewater is discharged to the wastewater system. Pomace is removed daily during the crush season and DE is removed as needed. The solid waste is hauled offsite for disposal.
19. Grape stems and pomace are transferred from the crusher/destemmer to a truck and hauled to the pomace/DE pad. The stems and pomace contain a small amount of juice that is not captured during the crush process. Approximately 800 gallons of liquid per truck is collected in a separate sump and then sent offsite to a distillation facility for use in the making of distilled spirits.

20. Water balances were included in the 2019 RWD; one for an average rainfall year and one for a 100-year return period annual rainfall event. Based on the water balances, wastewater is being applied at agronomic rates. The total crop demand is generally greater than the volume of wastewater applied; therefore, supplemental irrigation is needed to meet crop demand.
21. A storm water basin was constructed in 2010 to manage storm water at the facility. The basin is approximately 600 feet long, 80 feet wide, and 16 feet deep, with a capacity of 2.1 million gallons. The grape truck staging area, located just south of the storm water basin, is sloped towards the basin. Water from the storm water basin can overflow to the staging area during heavy rainfall events. The staging area has a storage capacity of 2.7 million gallons, resulting in a combined storm water retention capacity of 4.8 million gallons. All storm water remains on site.
22. Domestic wastewater is discharged to an on-site septic system regulated by the San Joaquin County Environmental Health Department.

Site-Specific Conditions

23. Land use surrounding the facility is generally agricultural and residential. There are almond orchards to the north; almond orchards and an elementary school to the south; a fire station, a grape vineyard, and an almond orchard to the west; and an almond orchard, dairies, and seasonal agricultural land to the east.
24. The topography of the surrounding area is relatively flat. Surface water drainage from the facility is to the South San Joaquin Irrigation Canal, a tributary to Lone Tree Creek, and the San Joaquin River in the Sacramento San Joaquin Delta.
25. Precipitation and evapotranspiration data were collected from the California Irrigation Management Information System (CIMIS) Manteca Station. Average rainfall from 1988 through 2017 was 12.3 inches per year, and average reference evapotranspiration (ET_o) during the same time period was 52.3 inches per year. The 100-year annual precipitation was approximately 31.0 inches per year.
26. Three soil map units comprise the LAA soils; Delhi loamy sand, Veritas fine sandy loam, and Madera sandy loam.
27. Based on well logs for the ten on-site groundwater monitoring wells, hardpan is present at approximately 10 feet below ground surface (bgs) and ranges from 1 to 3 feet thick. Beneath the hardpan is a distinct lens of poorly graded sand in the northwestern portion of the facility around MW-5 that extends across the site to MW-3.

Groundwater Conditions

28. The facility has 10 groundwater monitoring wells installed between 2000 and 2017. The well construction details are summarized in the table below and the well locations are shown on Attachment D, which is incorporated herein.

Table 5. Groundwater Monitoring Well Details

Monitoring Well	Construction Date	Screen Interval (feet bgs)	Location
MW-1	6/19/2000	45 – 75	Upgradient
MW-2	6/23/2000	45 – 75	Downgradient of LAAs and adjacent to Storm Water Basin
MW-3	6/23/2000	47 – 77	Downgradient of LAA 4
MW-4	6/23/2000	47 – 77	Downgradient of LAAs
MW-5	6/23/2000	45 – 75	Downgradient of LAAs and adjacent to Tailwater Basin
MW-6 (Well went dry in 2014)	11/18/2003	53.7 – 68.7	Upgradient
MW-6D (Well replaced dry well MW-6)	4/17/2017	70 – 100	Upgradient
MW-7 (Well went dry in 2013)	11/19/2000	52 – 67	Upgradient
MW-8	4/17/2017	69 – 98	Downgradient of LAAs
MW-9	4/17/2017	70 – 100	Downgradient of LAAs

29. In 2018, depth to groundwater beneath the facility ranged from approximately 72 to 77 feet bgs. Depths to groundwater have been increasing over the years, likely due to the overdraft of groundwater for domestic and agricultural uses in the Central Valley.

30. The groundwater flow direction is generally to the northwest with a horizontal gradient of 0.0019 feet per foot.

31. Maximum and average concentrations of select constituents in upgradient monitoring wells are shown below. Data are in mg/L unless otherwise noted.

Table 6. Upgradient Groundwater Quality

Well ID	Ave/Max	EC (µS/cm)	TDS	Nitrate as N	TKN	Total N	Fe	Mn	Na	Cl
MW-1	ave	539	401	19	1.8	20	<0.1	<0.005	11	11
	max	690	480	27	3.6	28	<0.1	<0.005	13	13
MW-6	ave	888	613	27	1	27	<0.1	0.05	27	43
	max	1,100	720	33	1.9	33	<0.1	0.05	29	58
MW-6D	ave	933	604	28	2.0	30	<0.1	<0.005	23	34
	max	970	720	32	4.2	33	<0.1	<0.005	23	35
MW-7	ave	1,610	1,075	52	9	53	<0.1	0.0075	29	115
	max	1,900	1,300	75	9.3	85	<0.1	0.0075	33	120

Note: For MW-1, data were collected between 2015 and 2018. For MW-6, data were collected between 2011 and 2Q2014; well went dry in 3Q2014. For MW-6D, data were collected between 2Q2017 and 2018. For MW-7, data were collected between 2011 and 2Q2013; well went dry in 3Q2013.

32. Maximum and average concentrations of select constituents in downgradient monitoring wells are shown below. Data are in mg/L unless otherwise noted. Data were collected from MW-2 to MW-5 between 2015 and 2018. Data for MW-8 and MW-9 were collected between 2017 and 2018.

Table 7. Downgradient Groundwater Quality

Well ID	Ave/Max	EC (uS/cm)	TDS	Nitrate as N	TKN	Total N	Fe	Mn	Na	Cl
MW-2	ave	359	290	5.1	1.0	6.2	<0.1	<0.005	21	7.4
	max	610	420	9.2	1.7	10	<0.1	<0.005	23	11
MW-3	ave	480	364	5.9	1.3	6.8	<0.1	<0.005	21	6.7
	max	520	540	6.6	4.1	9.8	<0.1	<0.005	23	7.4
MW-4	ave	1,738	1,325	8.1	1.7	9.7	<0.1	0.025	59	76
	max	2,000	1,600	10	2.7	12	<0.1	0.025	66	94
MW-5	ave	1,282	884	9	2.0	12	<0.1	0.021	102	24
	max	2,000	1,400	25	4.8	29	<0.1	0.039	130	37
MW-8	ave	906	617	19	2.1	21	<0.1	0.02	43	32
	max	950	670	21	4.2	23	<0.1	0.02	47	37
MW-9	ave	994	664	16	1.6	18	<0.1	<0.005	41	35
	max	1,000	690	19	2.1	21	<0.1	<0.005	43	34

33. Nitrate as nitrogen concentrations in upgradient wells MW-1, MW-6, MW-6D, and MW-7 exceed the concentration protective of beneficial use of 10 mg/L. Concentrations of nitrogen as nitrate in downgradient wells are generally lower than the upgradient concentrations. In downgradient well MW-4, nitrate shows an increasing trend; however, annual average concentrations have been less than the concentration protective of beneficial use.

34. TDS has been detected at concentrations exceeding the concentration protective of beneficial use of 1,000 mg/L in up and downgradient wells. However, concentrations of TDS are relatively equivalent in the up and downgradient wells and concentration trends show either decreasing trends or stable concentrations over time.

Basin Plan, Beneficial Uses, and Regulatory Considerations

35. *The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fifth Edition, revised May 2018* (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 Board. Pursuant to Water Code section 13263(a), WDRs must implement the Basin Plan.

36. The beneficial uses of the San Joaquin River, as stated in the Basin Plan, are municipal and domestic supply; agricultural supply; industrial service supply; industrial process supply; water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; and wildlife habitat; and navigation.
37. Beneficial uses of underlying groundwater as set forth in the Basin Plan are municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
38. The Basin Plan establishes narrative water quality objectives for chemical constituents, tastes and odors, and toxicity in groundwater. It also sets forth a numeric objective for total coliform organisms.
39. The Basin Plan's numeric water quality objective for bacteria requires that the most probable number (MPN) of coliform organisms over any seven-day period shall be less than 2.2 per 100 mL in MUN groundwater.
40. The Basin Plan's narrative water quality objectives for chemical constituents, at a minimum, require waters designated as domestic or municipal supply to meet the MCLs specified in Title 22 of the California Code of Regulations (Title 22). The Basin Plan recognizes that the Central Valley Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.
41. The narrative toxicity water quality objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, animal, plant, or aquatic life associated with designated beneficial uses.
42. Quantifying a narrative water quality objective requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses. The Basin Plan states that when compliance with a narrative objective is required to protect specific beneficial uses, the Central Valley Water Board will, on a case-by-case basis, adopt numerical limitations in order to implement the narrative objective.
43. In the absence of specific numerical water quality limits, the Basin Plan methodology is to consider any relevant published criteria. General salt tolerance guidelines, such as Water Quality for Agriculture by Ayers and Westcot and similar references indicate that yield reductions in nearly all crops are not evident when irrigation water has an EC less than 700 $\mu\text{mhos/cm}$. There is, however, an eight- to ten-fold range in salt tolerance for agricultural crops and the appropriate salinity values to protect agriculture in the Central Valley are considered on a case-by-case basis. It is possible to achieve full yield potential with waters having EC up to 3,000 $\mu\text{mhos/cm}$ if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop. The list of crops in Finding 15 is not intended as a definitive inventory of crops that are or could be grown in

the area affected by the discharge, but it is representative of current and historical agricultural practices in the area.

44. The Central Valley Water Board adopted Basin Plan amendments incorporating new programs for addressing ongoing salt and nitrate accumulation in the Central Valley at its 31 May 2018 Board Meeting. On 16 October 2019, the State Water Resources Control Board adopted a resolution approving the Central Valley Water Board Basin Plan amendments and also directed the Central Valley Water Board to make targeted revisions to the Basin Plan amendments within one year from the approval of the Basin Plan amendments by the Office of Administrative Law. These programs, once active, could change how the Central Valley Water Board permits discharges of salt and nitrate. The Salinity Control Program currently being developed would subject dischargers who do not meet stringent salinity numeric values (monthly average EC of 700 $\mu\text{mhos/cm}$ to protect AGR beneficial use and annual average EC of 900 $\mu\text{mhos/cm}$ to protect MUN beneficial use) to performance-based salinity requirements and would require those dischargers to participate in a Basin-wide Prioritization and Optimization Study to develop a long term strategy for addressing salinity accumulation in the Central Valley.
45. The level of participation required of dischargers whose discharges do not meet stringent salinity requirements will vary based on factors such as the amount of salinity in the discharge, local conditions, and type of discharge. The Central Valley Water Board anticipates that the Salt and Nitrate Control Program initiative will result in regulatory changes that will be implemented through conditional prohibitions and modifications to many WDRs region-wide, including the WDRs that regulate discharges from the Facility. More information regarding this regulatory planning process can be found on the [Central Valley Water Board CV-SALTS website](https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/) (https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/).
46. For nitrate, dischargers that are unable to comply with stringent nitrate requirements will be required to take on alternate compliance approaches that involve providing replacement drinking water to persons whose drinking water is affected by nitrates. Dischargers will comply with the new nitrate program either individually or collectively with other dischargers. For salinity, dischargers that are unable to comply with stringent salinity requirements would instead need to meet performance-based requirements and participate in a basin-wide effort to develop a long-term salinity strategy for the Central Valley. This Order may be amended or modified to incorporate any newly applicable requirements.
47. The stakeholder-led initiative, Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS), coordinates efforts to implement the new salt and nitrate management strategies. The Central Valley Water Board expects dischargers that may be affected by new salt and nitrate management policies to coordinate with the CV-SALTS initiative.

Special Considerations for High Strength Waste

48. For the purpose of this Order, high strength waste is defined as wastewater that contains concentrations of readily degradable organic matter that exceed typical concentrations for domestic sewage. Such wastes contain greater than 500 mg/L BOD and often contain commensurately high levels of total Kjeldahl nitrogen (TKN), which is a measure of organic nitrogen and ammonia nitrogen. Typical high strength wastewaters include septage, some food processing wastes, winery wastes, and rendering plant wastes.
49. Excessive application of high organic strength wastewater to land can create objectionable odors, soil conditions that are harmful to crops, and degradation of underlying groundwater with nitrogen species and metals, as discussed below. Such groundwater degradation can be prevented or minimized through implementation of best management practices which include planting crops to take up plant nutrients and maximizing oxidation of BOD to prevent nuisance conditions.
50. Unless groundwater is very shallow, groundwater degradation with nitrogen species such as ammonia and nitrate can be prevented by minimizing percolation below the root zone of the crops and ensuring that the total nitrogen load does not exceed crop needs over the course of a typical year. Where there is sufficient unsaturated soil in the vadose zone, excess nitrogen can be mineralized and denitrified by soil microorganisms.
51. Regarding BOD, excessive application can deplete oxygen in the vadose zone and lead to anoxic conditions. At the ground surface, this can result in nuisance odors and fly-breeding. When insufficient oxygen is present below the ground surface, anaerobic decay of the organic matter can create reducing conditions that convert metals that are naturally present in the soil as relatively insoluble (oxidized) forms to more soluble reduced forms. This condition can be exacerbated by acidic soils and/or acidic wastewater. If the reducing conditions do not reverse as the percolate travels down through the vadose zone, these dissolved metals (primarily iron, manganese, and arsenic) can degrade shallow groundwater quality. Many aquifers contain enough dissolved oxygen to reverse the process, but excessive BOD loading over extended periods may cause beneficial use impacts associated with these metals.
52. Typically, irrigation with high strength wastewater results in high BOD loading on the day of application. It is reasonable to expect some oxidation of BOD at the ground surface, within the evapotranspiration zone and below the root zone within the vadose (unsaturated) zone. The maximum BOD loading rate that can be applied to land without creating nuisance conditions or leaching of metals can vary significantly depending on soil conditions and operation of the land application system.
53. *Pollution Abatement in the Fruit and Vegetable Industry*, published by the United States Environmental Protection Agency, cites BOD loading rates in the range of 36 to 600 lb/acre-day to prevent nuisance conditions, but indicates the loading rates can be even

higher under certain conditions. The studies that supported this report did not evaluate actual or potential groundwater degradation associated with those rates. There are few studies that have attempted to determine maximum BOD loading rates for protection of groundwater quality. Those that have been done are not readily adapted to the varying soil, groundwater, and climate conditions that are prevalent throughout the region.

54. The California League of Food Processors' *Manual of Good Practice for Land Application of Food Processing/Rinse Water* proposes risk categories associated with particular BOD loading rate ranges as follows:
- a. Risk Category 1: (less than 50 lb/ac/day; depth to groundwater greater than 5 feet) Indistinguishable from good farming operations with good distribution important.
 - b. Risk Category 2: (less than 100 lb/ac/day; depth to groundwater greater than 5 feet) Minimal risk of unreasonable groundwater degradation with good distribution more important.
 - c. Risk Category 3: (greater than 100 lb/ac/day; depth to groundwater greater than 2 feet) Requires detailed planning and good operation with good distribution very important to prevent unreasonable degradation, as well as use of oxygen transfer design equations that consider site-specific application cycles and soil properties and special monitoring.

The *Manual of Good Practice* recommends allowing a 50 percent increase in the BOD loading rates in cases where sprinkler irrigation is used but recommends that additional safety factors be used for sites with heavy and/or compacted soils. The Manual of Good Practice also states that the use of surface irrigation (border check method) makes uniform application difficult, especially for coarse textured soils.

55. Although it has not been subject to a scientific peer review process, the Manual of Good Practice provides science-based guidance for BOD loading rates that, if fully implemented, are considered a best management practice to prevent groundwater degradation due to reduced metals.
56. This Order sets an irrigation cycle average BOD loading rate for the LAAs of 100 lb/ac/day consistent with Risk Category 2 in the Manual of Good Practice and requires the Discharger to ensure the even application of wastewater over the available land application areas.

Antidegradation Analysis

57. The State Water Resources Control Board's Statement of *Policy with Respect to Maintaining High Quality Waters of the State, Resolution 68-16 (Antidegradation Policy)* prohibits degradation of groundwater unless it has been shown that:
- a. The degradation is consistent with the maximum benefit to the people of the state.

- b. The degradation will not unreasonably affect present and anticipated future beneficial uses.
- c. The degradation does not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives, and
- d. The discharger employs best practicable treatment or control (BPTC) to minimize degradation.

58. Degradation of groundwater by some of the typical waste constituents associated with discharges from a winery, after effective source control, treatment, and control measures are implemented, is consistent with the maximum benefit to the people of the state. The Discharger’s operation employs approximately 50 employees. The economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State and provides sufficient justification for allowing the limited groundwater degradation that may occur pursuant to this Order.

59. The Discharger has been monitoring groundwater quality at the site since 2000. Based on the data available, it is not possible to determine pre-1968 groundwater quality. Therefore, determination of compliance with Resolution 68-16 for this facility must be based on existing background groundwater quality.

60. Constituents of concern that have the potential to degrade groundwater include salts (primarily TDS, sodium, and chloride), and nitrate as nitrogen as discussed below. Average concentrations for each constituent are shown below and data are in mg/L unless otherwise noted.

For effluent results, a flow-weighted average was calculated using data collected between 2014-2018, including crush and non-crush season discharges. Concentrations protective of beneficial use (CPBU) are based on the following: Secondary Maximum Contaminant Upper Level for TDS; Primary Maximum Contaminant Level for nitrate as nitrogen; Lowest agricultural water quality goal for sodium; and Upper Level Secondary Maximum Contaminant Level for chloride. CPFUs have not been established (NE) for BOD and FDS.

Table 8. Antidegradation Summary

Constituent	Effluent	Upgradient GW (MW-1 and MW-7; data from 2015-2018)	Upgradient GW (MW-6 and MW-6D; data from 2011-2014)	Downgradient GW (MW-2 through MW-5, MW-8, and MW-9 from 2015-2018)	CPBU
BOD	2,306	Not analyzed	Not analyzed	Not analyzed	NE
TDS	1,272	738	609	691	1,000
FDS	753	Not analyzed	Not analyzed	Not analyzed	NE
Nitrate as N	8	36	28	11	10
Sodium	50	20	25	48	69

Constituent	Effluent	Upgradient GW (MW-1 and MW-7; data from 2015-2018)	Upgradient GW (MW-6 and MW-6D; data from 2011-2014)	Downgradient GW (MW-2 through MW-5, MW-8, and MW-9 from 2015-2018)	CPBU
BOD	2,306	Not analyzed	Not analyzed	Not analyzed	NE
Chloride	35	63	39	30	500

a. **Total Dissolved Solids.** For the purpose of evaluation, TDS is representative of overall salinity. FDS is the inorganic fraction of TDS that has the potential to percolate or leach to groundwater. Therefore, the best measure of salinity in process wastewater is FDS and in groundwater, TDS is the best measure of salinity. TDS concentrations in groundwater are generally higher in upgradient wells when compared to downgradient concentrations, indicating poor-quality groundwater upgradient of the facility. FDS concentrations in process wastewater are within the same order of magnitude as TDS in groundwater. The higher concentrations of TDS in upgradient groundwater indicate the groundwater has likely been impacted by upgradient, off-site activities, including dairies and the long-term use of the area for agricultural purposes. TDS concentration trends in each well show either decreasing trends or stable concentrations over time. It does not appear that discharges from the facility to the LAAs with respect to TDS are contributing to groundwater degradation.

For the continued protection of groundwater, this Order requires continued monitoring of groundwater and does not allow an exceedance of the concentration protective of beneficial use or a statistically significant increase in groundwater concentrations for TDS. A specific numerical FDS effluent limit or loading rate for the facility does not appear necessary at this time because upgradient groundwater with respect to TDS is considered poor quality and the depth to groundwater (approximately 70 feet bgs) is not considered shallow groundwater. Discharges from the facility do appear to be impacting groundwater beyond existing conditions and TDS limitations set in this Order will ensure the continued protection of groundwater.

b. **Nitrate.** For nutrients such as nitrate, the potential for groundwater degradation depends on wastewater quality; crop uptake, and the ability of the vadose zone below the LAAs to support nitrification and denitrification to convert the nitrogen to nitrogen gas before it reaches the water table. Total nitrogen concentrations in the effluent are considered high (up to 240 mg/L in 2018); however, it appears that the vadose zone is allowing sufficient time for nitrification and denitrification to occur because concentrations of nitrate in groundwater are less in downgradient wells than in upgradient wells. The upgradient groundwater quality is considered poor with respect to nitrate because concentrations exceed the primary MCL of 10 mg/L in upgradient monitoring wells. The poor-quality groundwater is likely due to the predominantly agricultural land use in the area and the presence of dairies upgradient from the facility. Nitrate concentrations in groundwater downgradient of the LAAs are generally less than

upgradient concentrations. Discharges of process wastewater to the LAAs with respect to nitrate have not degraded groundwater beyond existing conditions.

For the continued protection of groundwater, this Order requires that nutrients associated with the wastewater and other sources be applied to the LAAs at rates consistent with crop demand; wastewater be applied to the LAAs as evenly as possible to prevent areas of excessive nutrient loading and to ensure sufficient time for nitrification and denitrification; and does not allow an exceedance of the concentration protective of beneficial use or a statistically significant increase in groundwater concentrations.

- c. **Sodium and Chloride.** Sodium and chloride are known to be key salinity constituents in winery wastewater. Concentrations of sodium and chloride in the upgradient and downgradient monitoring wells and in the process wastewater are within the same order of magnitude and generally less than the concentrations protective of beneficial uses of 69 mg/L for sodium and 250 mg/L for chloride, with the exception of sodium in MW-5. Sodium and chloride concentration trends in all downgradient wells, except for MW-5, show decreasing or stable trends. In MW-5, sodium exceeds 69 mg/L and shows an increasing concentration trend. The source of the sodium exceedances is unknown, as TDS and nitrate as nitrogen concentrations in the same well show stable concentrations. In addition, MW-5 is located adjacent to the tailwater basin. Sodium concentrations in wastewater samples collected from the basin are less than concentrations reported in groundwater. The source of the sodium may not be associated with the discharges to the LAAs or the tailwater basin. However, sodium and chloride will continue to be monitored in groundwater. Because TDS represents the overall salinity in groundwater, a TDS groundwater limitation is required in this Order for the protection of groundwater.

61. The Discharger provides treatment and control of the discharge that incorporates:
- a. the use of hot water for cleaning which reduces chemical usage for cleaning;
 - b. reuse of process water;
 - c. has initiated the use of chlorine dioxide and zone in place of sodium hypochlorite which is expected to reduce the cleaning-chemical related constituents in wastewater;
 - d. capture, segregation, and off-site disposal of drainage from stems and pomace;
 - e. ongoing employee training;
 - f. segregation of off-site disposal of wine ion exchange regeneration stream; and
 - g. segregation and off-site disposal of water softening ion exchange regeneration reject.

The Board finds that these treatment and control practices are reflective of BPTCs.

Other Regulatory Considerations

62. In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. Although this Order is not subject to section 106.2, it nevertheless promotes that policy by requiring discharges to meet maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.
63. Based on the threat and complexity of the discharge, the facility is determined to be classified as 2B as defined below:
- a. Category 2 threat to water quality: *“Those discharges of waste that could impair the designated beneficial uses of the receiving water, cause short-term violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance.”*
 - b. Category B complexity, defined as: *“Any discharger not included [as Category A] that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal) or any Class 2 or Class 3 waste management units.”*
64. As authorized under this Order, discharges of wastewater and decomposable food processing residual solids to land are exempt from the prescriptive requirements of California Code of Regulation, title 27 (Title 27). See Title 27, §20090, subds. (b)-(d).
65. Statistical data analysis methods set forth in the USEPA’s *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* (Unified Guidance) are appropriate for determining whether the discharge complies with Groundwater Limitation of this Order.
66. The State Water Board adopted Order 2014-0057-DWQ (NPDES General Permit 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. All storm water at the facility is collected in the storm water basin or commingled with process wastewater and discharged to the LAAs. Storm water is not discharged offsite or discharged to waters of the U.S. Coverage under the NPDES General Permit CAS000001 is not required at this time.
67. Water Code section 13267, subdivision (b)(1) states:
- “[T]he 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... shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports 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 **R5-2020-0018** are necessary to ensure compliance with these waste discharge requirements. The Discharger owns and operates the facility that discharges the waste subject to this Order.

68. The California Department of Water Resources sets standards for the construction and destruction of groundwater wells (DWR Well Standards), as 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 Water Code section 13801, apply to all monitoring wells used to monitor the impacts of wastewater storage or disposal governed by this Order.
69. The action to adopt waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality (CEQA), in accordance with the California Code of Regulations, title 14, section 15301.
70. Pursuant to Water Code section 13263, subdivision (g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

Public Notice

71. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.
72. The Discharger and interested agencies and persons have been notified of the Central Valley Water Board’s intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity to submit written comments and an opportunity for a public hearing.
73. All comments pertaining to the discharge were heard and considered in a public hearing.

IT IS HEREBY ORDERED that Order R5-2009-0038 is rescinded and, pursuant to Water Code sections 13263 and 13267, Barrel Ten Quarter Circle Land Company, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted hereunder, shall comply with the following:

A. Discharge Prohibitions

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.

2. Discharge of waste classified as 'hazardous', as defined in the California Code of Regulations, title 22 (Title 22), section 66261.1 et seq., is prohibited.
3. Discharge of waste classified as 'designated', as defined in Water Code Section 13173, in a manner that causes violation of groundwater limitations, is prohibited.
4. Treatment system bypass of untreated or partially treated waste is prohibited, except as allowed by Standard Provision E.2 of the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements (SPRRs or Standard Provisions)*.
5. Discharge of waste at a location or in a manner different from that described in the Findings is prohibited.
6. Discharge of toxic substances into any wastewater treatment system or land application area such that biological treatment mechanisms are disrupted is prohibited.
7. Application of residual solids to the land application areas is prohibited.
8. Discharge of domestic wastewater to the process wastewater treatment system is prohibited.
9. Discharge of process wastewater to the domestic wastewater treatment system (septic system) is prohibited.
10. Discharge of domestic wastewater to the process wastewater system, land application area, or any surface waters is prohibited.

B. Flow Limitations

1. **Effectively immediately**, flows from the process water sump to the process water tanks, as shown on Attachment C, shall not exceed the following limits:

Table 9. Flow Limits

Flow Measurement	Flow Limit
Total Annual Flow	35 MG As determined by the total flow for the calendar year.
Maximum Average Daily Flow	160,000 gpd As determined by the total flow during the calendar month divided by the number of days in that month.

C. Mass Loading Limitations

1. The blend of treated wastewater, storm water, and supplemental irrigation water applied to the LAAs shall not exceed the following mass loading limits:

Table 10. Loading Limits

Constituent	Units	Irrigation Cycle Average	Annual Maximum
BOD Mass Loading	lb/ac/day	500	--
Total Nitrogen Mass Loading	lb/ac/year	--	Crop Demand

Compliance with the above requirements shall be determined as specified in the Monitoring and Reporting Program

D. Discharge Specifications

1. No waste constituent shall be released, discharged, or placed where it will cause a violation of the Groundwater Limitations of this Order.
2. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.
3. The discharge shall remain within the permitted waste treatment/containment structures and land application areas at all times.
4. The Discharger shall operate all systems and equipment to optimize the quality of the discharge.
5. All conveyance, treatment, storage, and disposal systems shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
6. Objectionable odors shall not be perceivable beyond the limits of the property where the waste is generated, treated, and/or discharged at an intensity that creates or threatens to create nuisance conditions.
7. The Discharger shall design, construct, operate, and maintain all ponds sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. The operating freeboard in any pond shall never be less than two feet (measured vertically from the lowest possible point of overflow). As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each pond a permanent staff gauge with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard.

8. Wastewater treatment, storage, and disposal ponds or structures shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during the winter while ensuring continuous compliance with all requirements of this Order. 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.
9. On or about 1 October of each year, available pond capacities shall at least equal the volume necessary to comply with Discharge Specifications D.7 and D.8.
10. All ponds and open containment structures shall be managed to prevent breeding of mosquitoes. Specifically:
 - a. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.
 - b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.
 - c. Dead algae, vegetation, and debris shall not accumulate on the water surface.
 - d. The Discharger shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.
11. Newly constructed or rehabilitated berms or levees (excluding internal berms that separate ponds or control the flow of water within a pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer.
12. The Discharger shall monitor sludge accumulation in the tailwater pond at least every five years beginning in **2026** and shall periodically remove sludge as necessary to maintain adequate storage capacity.
13. 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.

E. Groundwater Limitations

Release of waste constituents from any portion of the facility shall not cause groundwater to:

1. Contain any of the specified constituents in a concentration statistically greater than the maximum allowable concentration tabulated below. The wells to which these requirements apply are specified in the Monitoring and Reporting Program.

Table 11. Groundwater Limits

Constituent	Maximum Allowable Concentration
TDS	Current Groundwater Quality or Concentration Protective of Beneficial Use, whichever is greater
Nitrate as Nitrogen	Current Groundwater Quality or Concentration Protective of Beneficial Use, whichever is greater

Note: Current groundwater quality will be defined using approved statistical methods described in an approved Groundwater Limitation Compliance Assessment Plan (Provision H.1.a).

2. For all compliance monitoring wells, except as specified in E.1 above, shall not contain constituents in concentrations that exceed either the Primary or Secondary MCLs established in Title 22.
3. For all compliance monitoring wells, except as specified in E.1 above, shall not contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.
4. Compliance with these limitations shall be determined annually as specified in the Monitoring and Reporting Program using approved statistical methods.

F. Land Application Area Specifications

1. Crops or other vegetation (which may include pasture grasses, Sudan grass, winter forage, native grasses and trees, and/or ornamental landscaping) shall be grown in the LAAs.
2. Wastewater shall be distributed uniformly on adequate acreage within the LAAs to preclude the creation of nuisance conditions or unreasonable degradation of groundwater.
3. The Discharger shall maximize the use of the available LAAs to minimize waste constituent loading.
4. Hydraulic loading of wastewater and irrigation water shall be at reasonable agronomic rates.
5. Land application of wastewater shall be managed to minimize erosion.
6. The LAAs, including tailwater ditches, shall be managed to prevent breeding of mosquitoes or other vectors.
7. LAAs shall be designed, maintained, and operated to comply with the following minimum irrigation setback requirements:

- a. Edge of LAA to property boundary = 25 feet.
 - b. Edge of LAA to property boundary = 25 feet.
 - c. Edge of LAA to domestic water supply well = 100 feet.
8. LAAs shall be inspected periodically to determine compliance with the requirements of this Order. If an inspection reveals noncompliance or threat of noncompliance with this Order, the Discharger shall temporarily stop discharging immediately and implement corrective actions to ensure compliance with this Order.
 9. Any irrigation runoff (tailwater) shall be confined to the LAAs or returned to the tailwater pond and shall not enter any surface water drainage course or storm water drainage system.

G. Solids Disposal Specifications

Sludge, as used in this document, means the solid, semisolid, and liquid organic matter removed from wastewater treatment, settling, and storage vessels or ponds. Solid waste refers to solid inorganic matter removed by screens and soil sediments from washing of unprocessed fruit or vegetables. Residual solids mean organic food processing byproducts such as culls, pulp, stems, leaves, and seeds that will not be subject to treatment prior to disposal or land application.

1. Sludge and solid waste shall be removed from screens, sumps, ponds, and clarifiers as needed to ensure optimal operation and adequate storage capacity.
2. Any handling and storage of sludge, solid waste, and residual solids shall be 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 the groundwater limitations of this Order.
3. If removed from the site, sludge, solid waste, and residual solids shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27, division 2. Removal for reuse as animal feed, or land disposal at facilities (i.e., landfills, composting facilities, soil amendment sites operated in accordance with valid waste discharge requirements issued by a Regional Water Board) will satisfy this specification.
4. Any proposed change in solids use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

H. Provisions

1. The following reports shall be submitted pursuant to Water Code section 13267 and shall be prepared as described in Provision H.5:

- a. **By 1 December 2020**, the Discharger shall submit a *Groundwater Limitations Compliance Assessment Plan*. The Plan shall propose and justify the values to be used to determine “current groundwater quality” (as defined in Groundwater Limitations E.1) for each of the compliance wells listed in the Monitoring and Reporting Program (MRP) using intrawell evaluations. In addition, the plan shall propose and justify the statistical methods used to evaluate compliance with the Groundwater Limitation of this Order for the compliance wells and constituents specified in the MRP. Compliance shall be determined using appropriate statistical methods that have been selected based on site-specific information and the U.S. EPA Unified Guidance document cited in Finding 63 of this Order. The report shall explain and justify the selection of the appropriate statistical methods.
 - b. **By 1 December 2020**, the Discharger shall submit a *Nutrient and Salt Management Plan* that evaluates the nutrient load to each land application area and develops and implements pollution prevention management practices to restrict nutrient loading for the specified crop and ensures compliance with this Order.
2. If groundwater monitoring results show that the discharge of waste is causing groundwater to contain waste constituents in concentrations statistically greater than the Groundwater Limitation of this Order based on intrawell evaluations, within 120 days of the request of the Executive Officer, the Discharger shall submit a BPTC Evaluation Workplan that sets forth the scope and schedule for a systematic and comprehensive technical evaluation for each component of the facility's waste treatment and disposal system to determine best practicable treatment and control for each constituent that exceeds a Groundwater Limitation. The workplan shall contain a preliminary evaluation of each component of the wastewater treatment system and propose a time schedule for completing the comprehensive technical evaluation. The schedule to complete the evaluation shall be as short as practicable and shall not exceed one year after receipt of comments on the workplan. Alternatively, if it can be shown that the increase is the result of activities outside the Discharger's control, a technical report shall be submitted that justifies and supports that determination.
3. A discharger whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment, collection, and disposal facilities. The projections shall be made in January, based on the last three years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in four years, the discharger shall notify the Central Valley Water Board by **31 January**.
4. In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the

fields pertinent to the required activities. All technical reports specified herein that contain workplans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall bear the professional's signature and stamp.

5. The Discharger shall submit the technical reports and work plans required by this Order for consideration by the Executive Officer and incorporate comments the Executive Officer may have in a timely manner, as appropriate. Unless expressly stated otherwise in this Order, the Discharger shall proceed with all work required by the foregoing provisions by the due dates specified.
6. The Discharger shall comply with Monitoring and Reporting Program **R5-2020-0018**, which is part of this Order, and any revisions thereto as ordered by the Executive Officer. The submittal dates of Discharger self-monitoring reports shall be no later than the submittal date specified in the MRP.
7. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements", dated 1 March 1991, which are attached hereto and made part of this Order by reference. This attachment and its individual paragraphs are commonly referenced as "Standard Provision(s)."
8. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports. On or before each report due date, the Discharger shall submit the specified document to the Central Valley Water Board or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Discharger shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board in writing when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
9. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger when the operation is necessary to achieve compliance with the conditions of this Order.

10. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with this Order.
11. Per the Standard Provisions, the Discharger shall report promptly to the Central Valley Water Board any material change or proposed change in the character, location, or volume of the discharge.
12. In the event that the Discharger reports toxic chemical release data to the State Emergency Response Commission (SERC) pursuant to section 313 of the Emergency Planning and Community Right to know Action (42 U.S.C. § 11023), the Discharger shall also report the same information to the Central Valley Water Board within 15 days of the report to the SERC.
13. At least 90 days prior to termination or expiration of any lease, contract, or agreement involving disposal or recycling areas or off-site reuse of effluent, used to justify the capacity authorized herein and assure compliance with this Order, the Discharger shall notify the Central Valley Water Board in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this Order.
14. In the event of any change in control or ownership of the facility, the Discharger must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.
15. To assume operation as Discharger under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. If approved by the Executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.
16. A copy of this Order including the MRP, Information Sheet, Attachments, and Standard Provisions, shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.
17. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.

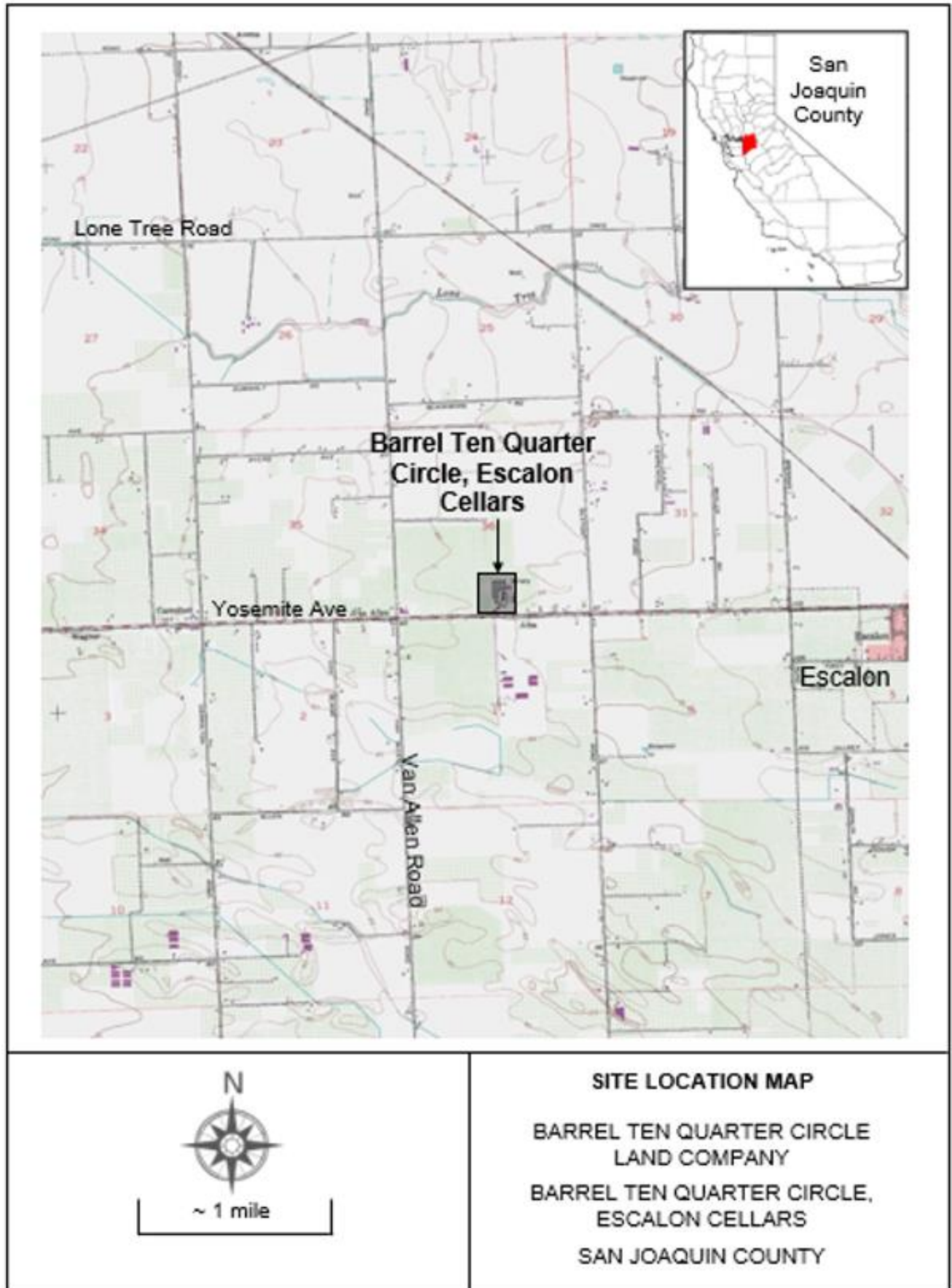
If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other

enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board for administrative review in accordance with Water Code section 13320, and California Code of Regulations, title 23, section 2050 et seq. To be timely, the State Water Board must receive the petition by 5pm on the 30th day after the date of this Order, except that if the 30th day falls on a Saturday, Sunday or State Holiday, the petition must be received by the State Water Board by 5pm on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the [Water Boards' Webpage for Public Notices](https://www.waterboards.ca.gov/public_notices/petitions/water_quality) (https://www.waterboards.ca.gov/public_notices/petitions/water_quality).

I, PATRICK PULUPA, Executive Officer, do hereby certify the foregoing is a full and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region on 16 April 2020.

PATRICK PULUPA, Executive Officer



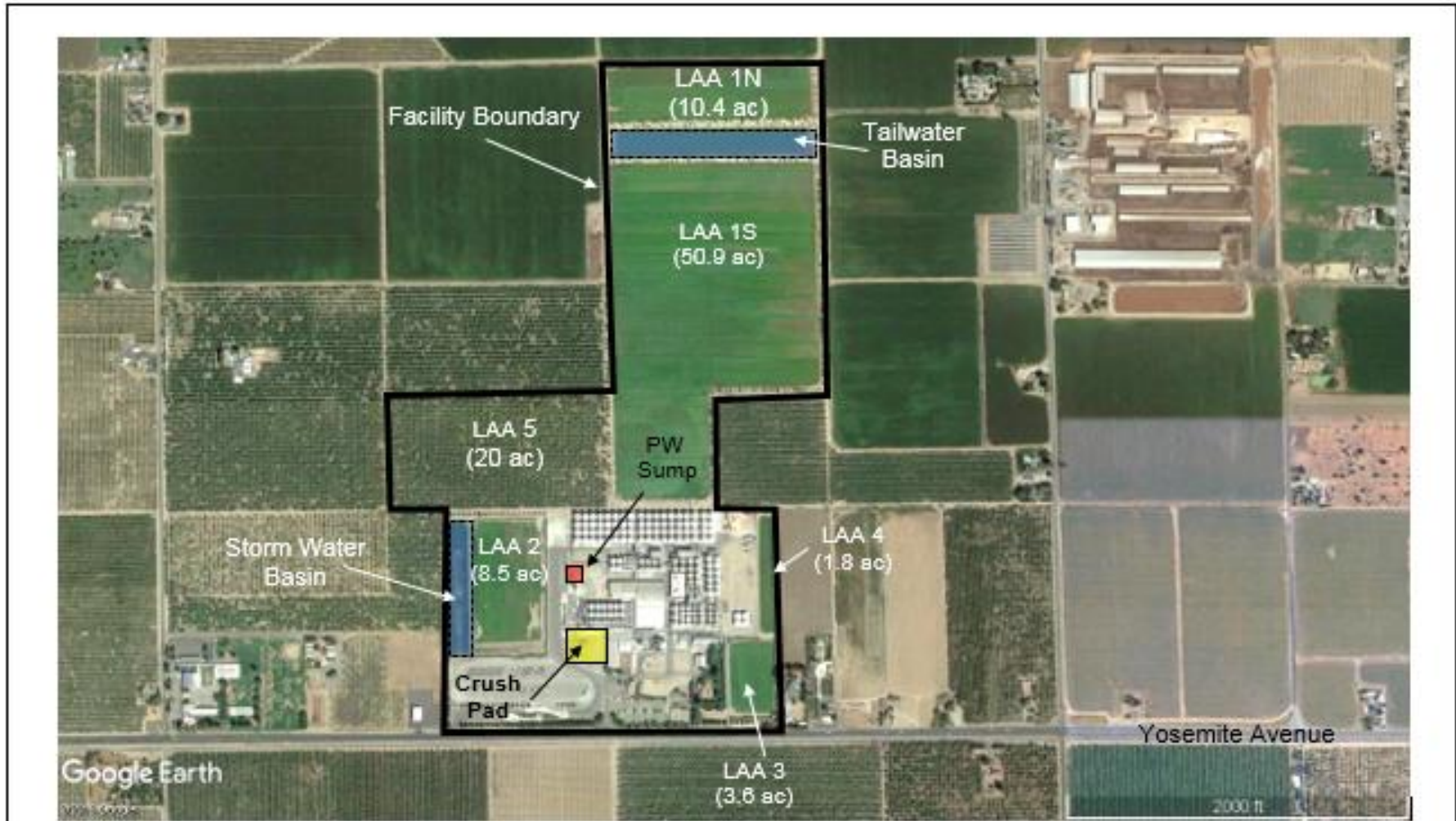
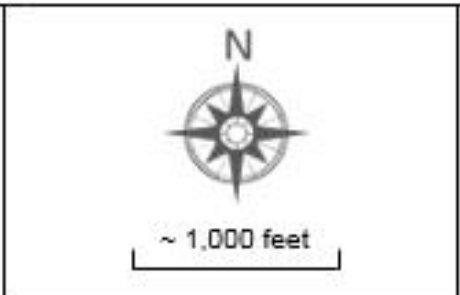
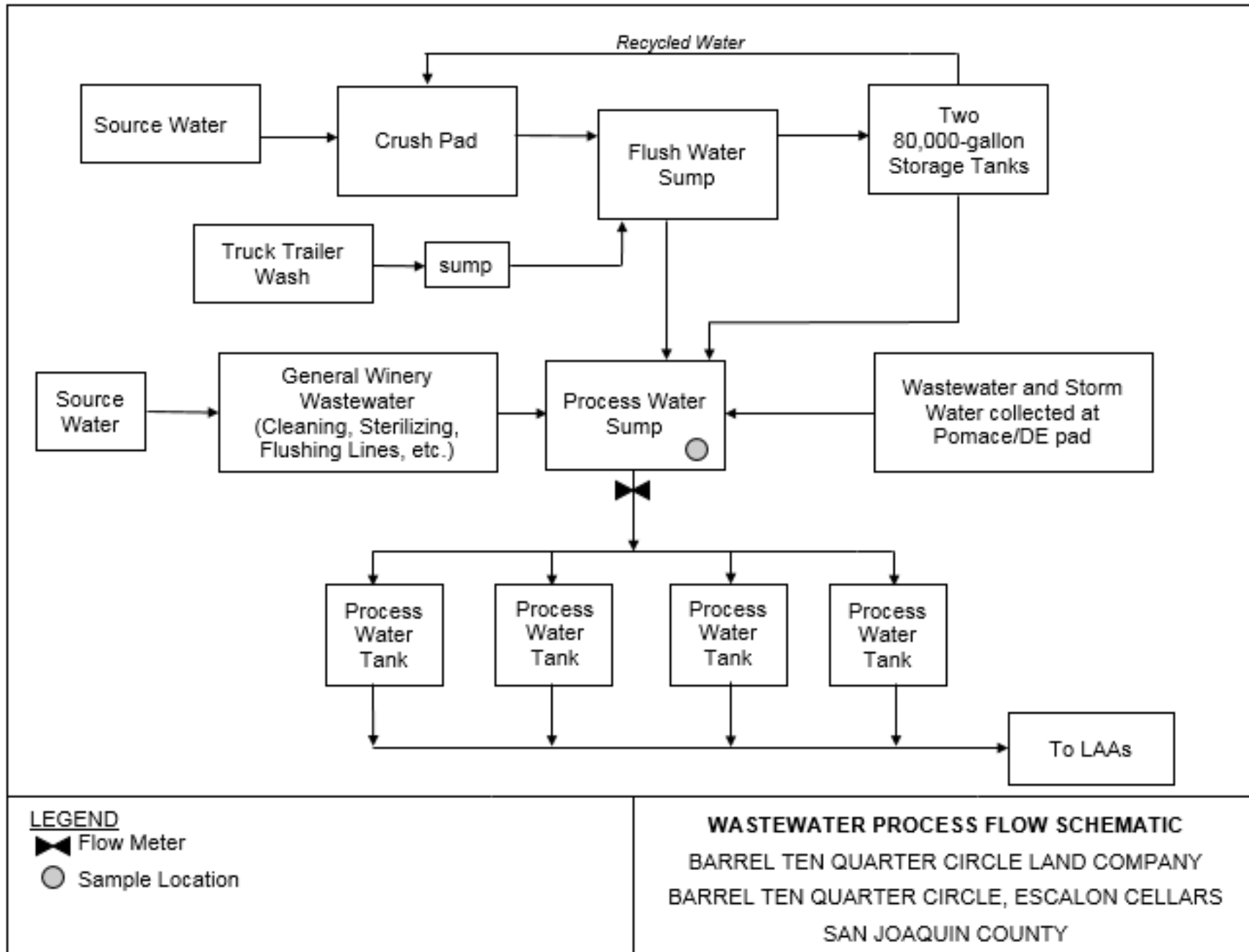
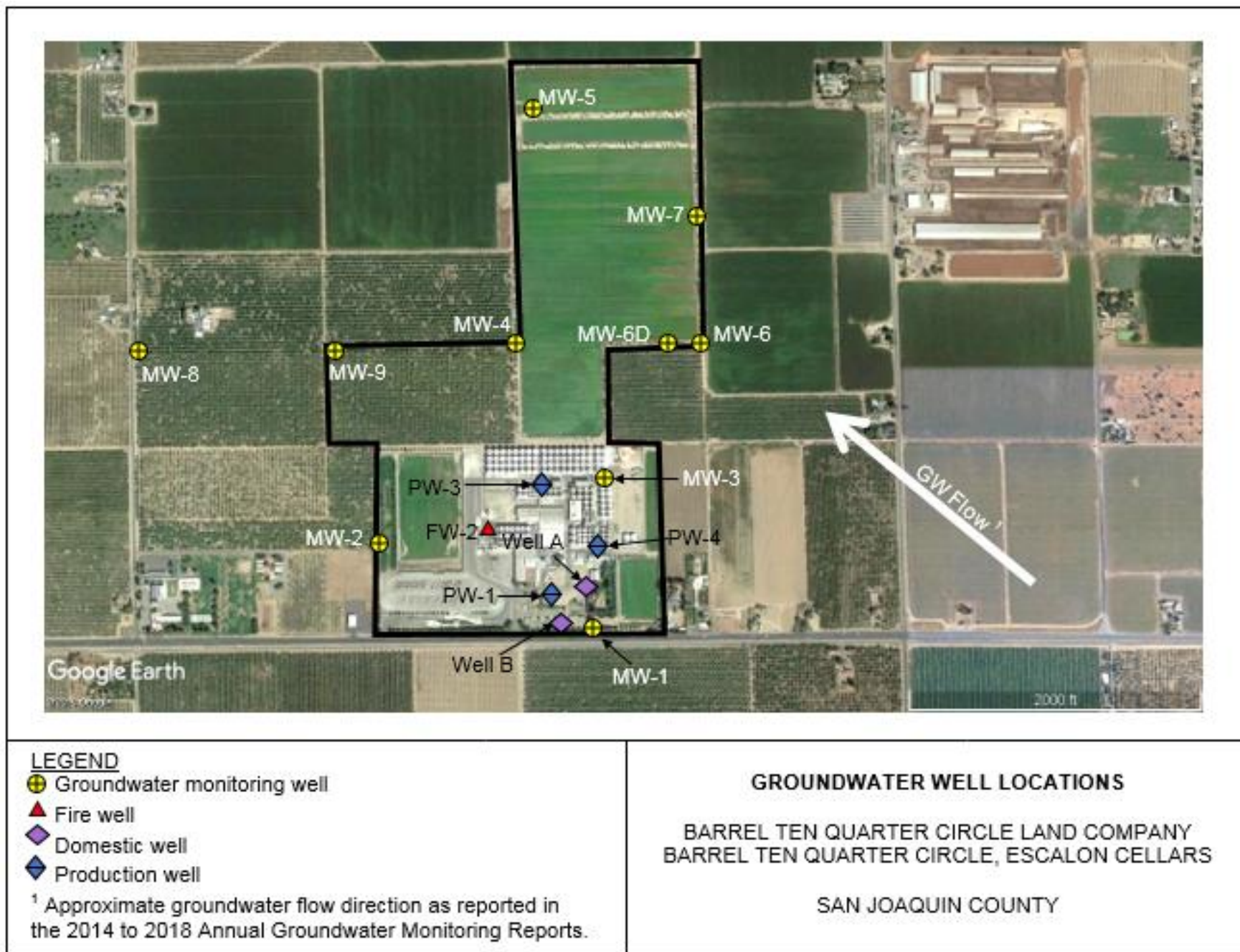


Figure Reference: Google Earth, 2018



SITE FEATURES MAP
BARREL TEN QUARTER CIRCLE LAND COMPANY
BARREL TEN QUARTER CIRCLE,
ESCALON CELLARS
SAN JOAQUIN COUNTY





CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

STANDARD PROVISIONS AND REPORTING REQUIREMENTS
FOR
WASTE DISCHARGE REQUIREMENTS

1 March 1991

A. General Provisions:

1. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, or protect the Discharger from liabilities under federal, state, or local laws. This Order does not convey any property rights or exclusive privileges.
2. The provisions of this Order are severable. If any provision of this Order is held invalid, the remainder of this Order shall not be affected.
3. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
 - a. Violation of any term or condition contained in this Order;
 - b. Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts;
 - c. A change in any condition that results in either a temporary or permanent need to reduce or eliminate the authorized discharge;
 - d. A material change in the character, location, or volume of discharge.
4. Before making a material change in the character, location, or volume of discharge, the discharger shall file a new Report of Waste Discharge with the Regional Board. A material change includes, but is not limited to, the following:
 - a. An increase in area or depth to be used for solid waste disposal beyond that specified in waste discharge requirements.
 - b. A significant change in disposal method, location or volume, e.g., change from land disposal to land treatment.
 - c. The addition of a major industrial, municipal or domestic waste discharge facility.
 - d. The addition of a major industrial waste discharge to a discharge of essentially domestic sewage, or the addition of a new process or product by an industrial facility resulting in a change in the character of the waste.

Waste Discharge to Land

5. Except for material determined to be confidential in accordance with California law and regulations, all reports prepared in accordance with terms of this Order shall be available for public inspection at the offices of the Board. Data on waste discharges, water quality, geology, and hydrogeology shall not be considered confidential.
6. The discharger shall take all reasonable steps to minimize any adverse impact to the waters of the state resulting from noncompliance with this Order. Such steps shall include accelerated or additional monitoring as necessary to determine the nature and impact of the noncompliance.
7. The discharger shall maintain in good working order and operate as efficiently as possible any facility, control system, or monitoring device installed to achieve compliance with the waste discharge requirements.
8. The discharger shall permit representatives of the Regional Board (hereafter Board) and the State Water Resources Control Board, upon presentations of credentials, to:
 - a. Enter premises where wastes are treated, stored, or disposed of and facilities in which any records are kept,
 - b. Copy any records required to be kept under terms and conditions of this Order,
 - c. Inspect at reasonable hours, monitoring equipment required by this Order, and
 - d. Sample, photograph and video tape any discharge, waste, waste management unit, or monitoring device.
9. For any electrically operated equipment at the site, the failure of which would cause loss of control or containment of waste materials, or violation of this Order, the discharger shall employ safeguards to prevent loss of control over wastes. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means.
10. The fact that it would have been necessary to halt or reduce the permitted activity in Order to maintain compliance with this Order shall not be a defense for the discharger's violations of the Order.
11. Neither the treatment nor the discharge shall create a condition of nuisance or pollution as defined by the California Water Code, Section 13050.
12. The discharge shall remain within the designated disposal area at all times.

B. General Reporting Requirements:

1. In the event the discharger does not comply or will be unable to comply with any prohibition or limitation of this Order for any reason, the discharger shall notify the Board by telephone at **(916) 464-3291**
[Note: Current phone numbers for all three Regional Board offices may be found on the Central Valley Waterboards' website (http://www.waterboards.ca.gov/centralvalley/about_us/contact_us/)]
as soon as it or its agents.

Waste Discharge to Land

have knowledge of such noncompliance or potential for noncompliance, and shall confirm this notification in writing within **two weeks**. The written notification shall state the nature, time and cause of noncompliance, and shall include a timetable for corrective actions.

2. The discharger shall have a plan for preventing and controlling accidental discharges, and for minimizing the effect of such events.

This plan shall:

- a. Identify the possible sources of accidental loss or leakage of wastes from each waste management, treatment, or disposal facility.
- b. Evaluate the effectiveness of present waste management/treatment units and operational procedures, and identify needed changes of contingency plans.
- c. Predict the effectiveness of the proposed changes in waste management/treatment facilities and procedures and provide an implementation schedule containing interim and final dates when changes will be implemented.

The Board, after review of the plan, may establish conditions that it deems necessary to control leakages and minimize their effects.

3. All reports shall be signed by persons identified below:
 - a. For a corporation: by a principal executive officer of at least the level of senior vice-president.
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor.
 - c. For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected or appointed official.
 - d. A duly authorized representative of a person designated in 3a, 3b or 3c of this requirement if;
 - (1) the authorization is made in writing by a person described in 3a, 3b or 3c of this provision;
 - (2) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a waste management unit, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - (3) the written authorization is submitted to the Board

Any person signing a document under this Section shall make the following certification:

“I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of the those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.”

4. Technical and monitoring reports specified in this Order are requested pursuant to Section 13267 of the Water Code. Failing to furnish the reports by the specified deadlines and falsifying information in the reports, are misdemeanors that may result in assessment of civil liabilities against the discharger.
5. The discharger shall mail a copy of each monitoring report and any other reports required by this Order to:

California Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670-6114

Note: Current addresses for all three Regional Board offices may be found on the Central Valley Waterboard website (http://www.waterboards.ca.gov/centralvalley/about_us/contact_us) or the current address if the office relocates.

C. Provisions for Monitoring:

1. All analyses shall be made in accordance with the latest edition of: (1) *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA 600 Series) and (2) *Test Methods for Evaluating Solid Waste* (SW 846-latest edition). The test method may be modified subject to application and approval of alternate test procedures under the Code of Federal Regulations (40 CFR 136).
2. Chemical, bacteriological, and bioassay analysis shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. In the event a certified laboratory is not available to the discharger, analyses performed by a noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Board staff. The Quality Assurance-Quality Control Program must conform to EPA guidelines or to procedures approved by the Board.

Unless otherwise specified, all metals shall be reported as Total Metals.

3. The discharger shall retain records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to

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complete the application for this Order. Records shall be maintained for a minimum of three years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board Executive Officer.

Record of monitoring information shall include:

- a. the date, exact place, and time of sampling or measurements,
 - b. the individual(s) who performed the sampling of the measurements,
 - c. the date(s) analyses were performed,
 - d. the individual(s) who performed the analyses,
 - e. the laboratory which performed the analysis,
 - f. the analytical techniques or methods used, and
 - g. the results of such analyses.
4. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated at least yearly to ensure their continued accuracy.
 5. The discharger shall maintain a written sampling program sufficient to assure compliance with the terms of this Order. Anyone performing sampling on behalf of the discharger shall be familiar with the sampling plan.
 6. The discharger shall construct all monitoring wells to meet or exceed the standards stated in the State Department of Water Resources *Bulletin 74-81* and subsequent revisions, and shall comply with the reporting provisions for wells required by Water Code Sections 13750 through 13755.22

D. Standard Conditions for Facilities Subject to California Code of Regulations, Title 23, Division 3, Chapter 15 (Chapter 15)

1. All classified waste management units shall be designed under the direct supervision of a California registered civil engineer or a California certified engineering geologist. Designs shall include a Construction Quality Assurance Plan, the purpose of which is to:
 - a. demonstrate that the waste management unit has been constructed according to the specifications and plans as approved by the Board.
 - b. provide quality control on the materials and construction practices used to construct the waste management unit and prevent the use of inferior products and/or materials which do not meet the approved design plans or specifications.
2. Prior to the discharge of waste to any classified waste management unit, a California registered civil engineer or a California certified engineering geologist must certify that the waste management unit meets the construction or prescriptive standards and performance goals in Chapter 15, unless an engineered alternative has been approved by the Board. In the case of an engineered alternative, the registered civil engineer or a certified engineering geologist must

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certify that the waste management unit has been constructed in accordance with Board-approved plans and specifications.

3. Materials used to construct liners shall have appropriate physical and chemical properties to ensure containment of discharged wastes over the operating life, closure, and post-closure maintenance period of the waste management units.
4. Closure of each waste management unit shall be performed under the direct supervision of a California registered civil engineer or a California certified engineering geologist.

E. Conditions Applicable to Discharge Facilities Exempted from Chapter 15 Under Section 2511

1. If the discharger's wastewater treatment plant is publicly owned or regulated by the Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to California Code of Regulations, Title 23, Division 4, Chapter 14.
2. By-pass (the intentional diversion of waste streams from any portion of a treatment facility, except diversions designed to meet variable effluent limits) is prohibited. The Board may take enforcement action against the discharger for by-pass unless:
 - a. (1) By-pass was unavoidable to prevent loss of life, personal injury, or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a by-pass. Severe property damage does not mean economic loss caused by delays in production); and
 - (2) There were no feasible alternatives to by-pass, such as the use of auxiliary treatment facilities or retention of untreated waste. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a by-pass that would otherwise occur during normal periods of equipment downtime or preventive maintenance; or
 - b. (1) by-pass is required for essential maintenance to assure efficient operation; and
 - (2) neither effluent nor receiving water limitations are exceeded; and
 - (3) the discharger notifies the Board ten days in advance.

The permittee shall submit notice of an unanticipated by-pass as required in paragraph B.1. above.

3. A discharger that wishes to establish the affirmative defense of an upset (see definition in E.6 below) in an action brought for noncompliance shall demonstrate, through properly signed, contemporaneous operating logs, or other evidence, that:

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- a. an upset occurred and the cause(s) can be identified;
- b. the permitted facility was being properly operated at the time of the upset;
- c. the discharger submitted notice of the upset as required in paragraph B.1. above; and
- d. the discharger complied with any remedial measures required by waste discharge requirements.

In any enforcement proceeding, the discharger seeking to establish the occurrence of an upset has the burden of proof.

4. A discharger whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment, collection, and disposal facilities. The projections shall be made in January, based on the last three years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in four years, the discharger shall notify the Board by **31 January**.
5. Effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to disposal. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.
6. Definitions
 - a. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper action.
 - b. The monthly average discharge is the total discharge by volume during a calendar month divided by the number of days in the month that the facility was discharging. This number is to be reported in gallons per day or million gallons per day.

Where less than daily sampling is required by this Order, the monthly average shall be determined by the summation of all the measured discharges by the number of days during the month when the measurements were made.
 - c. The monthly average concentration is the arithmetic mean of measurements made during the month.
 - d. The "daily maximum" **discharge** is the total discharge by volume during any day.

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- e. The “daily maximum” **concentration** is the highest measurement made on any single discrete sample or composite sample.
- f. A “grab” sample is any sample collected in less than 15 minutes.
- g. Unless otherwise specified, a composite sample is a combination of individual samples collected over the specified sampling period;
 - (1) at equal time intervals, with a maximum interval of one hour
 - (2) at varying time intervals (average interval one hour or less) so that each sample represents an equal portion of the cumulative flow.

The duration of the sampling period shall be specified in the Monitoring and Reporting Program. The method of compositing shall be reported with the results.

7. Annual Pretreatment Report Requirements:

Applies to dischargers required to have a Pretreatment Program as stated in waste discharge requirements.)

The annual report shall be submitted **by 28 February** and include, but not be limited to, the following items:

- a. A summary of analytical results from representative, flow-proportioned, 24-hour composite sampling of the influent and effluent for those pollutants EPA has identified under Section 307(a) of the Clean Water Act which are known or suspected to be discharged by industrial users.

The discharger is not required to sample and analyze for asbestos until EPA promulgates an applicable analytical technique under 40 CFR (Code of Federal Regulations) Part 136. Sludge shall be sampled during the same 24-hour period and analyzed for the same pollutants as the influent and effluent sampling analysis. The sludge analyzed shall be a composite sample of a minimum of 12 discrete samples taken at equal time intervals over the 24-hour period. Wastewater and sludge sampling and analysis shall be performed at least annually. The discharger shall also provide any influent, effluent or sludge monitoring data for nonpriority pollutants which may be causing or contributing to Interference, Pass Through or adversely impacting sludge quality. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto.

- b. A discussion of Upset, Interference, or Pass Through incidents, if any, at the treatment plant which the discharger knows or suspects were caused by industrial users of the system. The discussion shall include the reasons why the incidents occurred, the corrective actions taken and, if known, the name and address of the industrial user(s) responsible. The discussion shall also include a review of the applicable pollutant limitations to determine whether any

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additional limitations, or changes to existing requirements, may be necessary to prevent Pass Through, Interference, or noncompliance with sludge disposal requirements.

- c. The cumulative number of industrial users that the discharger has notified regarding Baseline Monitoring Reports and the cumulative number of industrial user responses.
- d. An updated list of the discharger's industrial users including their names and addresses, or a list of deletions and additions keyed to a previously submitted list. The discharger shall provide a brief explanation for each deletion. The list shall identify the industrial users subject to federal categorical standards by specifying which set(s) of standards are applicable. The list shall indicate which categorical industries, or specific pollutants from each industry, are subject to local limitations that are more stringent than the federal categorical standards. The discharger shall also list the noncategorical industrial users that are subject only to local discharge limitations. The discharger shall characterize the compliance status through the year of record of each industrial user by employing the following descriptions:
 - (1) Complied with baseline monitoring report requirements (where applicable);
 - (2) Consistently achieved compliance;
 - (3) Inconsistently achieved compliance;
 - (4) Significantly violated applicable pretreatment requirements as defined by 40 CFR 403.8(f)(2)(vii);
 - (5) Complied with schedule to achieve compliance (include the date final compliance is required);
 - (6) Did not achieve compliance and not on a compliance schedule;
 - (7) Compliance status unknown.

A report describing the compliance status of any industrial user characterized by the descriptions in items (d)(3) through (d)(7) above shall be **submitted quarterly from the annual report date** to EPA and the Board. The report shall identify the specific compliance status of each such industrial user. This quarterly reporting requirement shall commence upon issuance of this Order.

- e. A summary of the inspection and sampling activities conducted by the discharger during the past year to gather information and data regarding the industrial users. The summary shall include but not be limited to, a tabulation of categories of dischargers that were inspected and sampled; how many and how often; and incidents of noncompliance detected.

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- f. A summary of the compliance and enforcement activities during the past year. The summary shall include the names and addresses of the industrial users affected by the following actions:
- (1) Warning letters or notices of violation regarding the industrial user's apparent noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the apparent violation concerned the federal categorical standards or local discharge limitations;
 - (2) Administrative Orders regarding the industrial user's noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations;
 - (3) Civil actions regarding the industrial user's noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations;
 - (4) Criminal actions regarding the industrial user's noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.
 - (5) Assessment of monetary penalties. For each industrial user identify the amount of the penalties;
 - (6) Restriction of flow to the treatment plant; or
 - (7) Disconnection from discharge to the treatment plant.
- g. A description of any significant changes in operating the pretreatment program which differ from the discharger's approved Pretreatment Program, including, but not limited to, changes concerning: the program's administrative structure; local industrial discharge limitations; monitoring program or monitoring frequencies; legal authority of enforcement policy; funding mechanisms; resource requirements; and staffing levels.
- h. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases.
- i. A summary of public participation activities to involve and inform the public.
- j. A description of any changes in sludge disposal methods and a discussion of any concerns not described elsewhere in the report.

Duplicate signed copies of these reports shall be submitted to the Board and:

Regional Administrator
U.S. Environmental Protection Agency W-5
75 Hawthorne Street
San Francisco, CA 94105

and

State Water Resource Control Board
Division of Water Quality
P.O. Box 100
Sacramento, CA 95812

Revised January 2004 to update addresses and phone numbers

INFORMATION SHEET

WASTE DISCHARGE REQUIREMENTS ORDER R5-2020-0018
BARREL TEN QUARTER CIRCLE LAND CO.
BARREL TEN QUARTER CIRCLE, ESCALON CELLARS
SAN JOAQUIN COUNTY

Facility Description

The Barrel Ten Quarter Circle, Escalon Cellars facility consists of a winery and land application areas (LAAs). The winery crushes up to 60,000 tons of grapes annually during the crush season (generally August through October) and operates year-round. The grapes are crushed, fermented, pressed and filtered, and stabilized, and then hauled off-site to other facilities for bottling and packaging. Wine from other facilities is transported to the winery for finishing, stabilization, and storage.

WDRs Order R5-2009-0038, adopted on 24 April 2006, prescribes requirements for the discharge of wastewater to LAAs. Barrel Ten Quarter Circle, Escalon Cellars (Discharger) owns and operates the winery that generates the waste and is responsible to compliance with this Order.

The Discharger has expanded the LAAs, which need to be included in an updated Order. Therefore, Order R5-2009-0038 will be rescinded and replaced with this Order.

Process Wastewater

Wastewater is generated from the wine making process, equipment and facility cleaning, and rinsing the truck trailer beds. The wastewater treatment system consists of screens, sumps, equalization/blending tanks, and LAAs.

Wastewater is collected in a flush water sump via trench drains and grade separators. Wastewater from the flush water sump is then pumped through a wire screen to remove solids and then collected in one of two 80,000-gallon concrete storage tanks for reuse.

Once the wastewater can no longer be reused, the water is directed to a process water sump which directs wastewater to one of four process water tanks for equalization, blending, and storage prior to discharging to the LAAs.

Wastewater is used to irrigate 95 acres of LAAs cropped with Sudan grass in the summer and winter forage in the winter. The LAAs are flood irrigated and all runoff is collected in a tailwater basin and reapplied on the LAAs.

Annual wastewater flow rates measured between 2016 and 2018 ranged from approximately 26 million gallons to 31 million gallons. Supplemental irrigation water is needed to meet crop demands.

Site-Specific Conditions

Surrounding land uses are predominately agricultural lands and residences. The annual average precipitation in the area is approximately 12.3 inches and the 100-year annual precipitation is approximately 31 inches. Based on data published by the California Irrigation management Information System (CIMIS) for the Manteca Station, the reference evapotranspiration rate is approximately 53 inches per year.

Groundwater Conditions

The facility has 10 groundwater monitoring wells. In 2018, depth to groundwater beneath the facility ranged from 72 to 75 feet below ground surface (bgs). The local gradient typically flows from the northwest.

Concentration trends generally show stable or decreasing trends for select constituents in groundwater. Upgradient groundwater quality in the area is considered poor with respect to TDS and nitrate as nitrogen. The discharge of wastewater to the LAAs does not appear to be degrading groundwater beyond existing upgradient/background conditions.

Legal Effect of Rescission of Prior WDRs or Orders on Existing Violations

The Board's rescission of prior waste discharge requirements and/or monitoring and reporting orders does not extinguish any violations that may have occurred during the time those waste discharge requirements or orders were in effect. The Central Valley Water Board reserves the right to take enforcement actions to address violations of prior prohibitions, limitations, specifications, requirements, or provisions of rescinded waste discharge requirements or orders as allowed by law.

Monitoring and Reporting Program

The Monitoring and Reporting Program is designed to verify compliance with effluent limitations and operational requirements of the WDRs.