

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2019-0037
WASTE DISCHARGE REQUIREMENTS

FOR
TESSENDERLO KERLEY, INC.
TKI FRESNO PLANT
FRESNO COUNTY

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

Background

1. Tessenderlo Kerley, Inc., (TKI or Discharger) owns and operates an industrial and agricultural chemical manufacturing plant (Plant) at 5427 E Central Avenue in Fresno (Section 33, Township 14 South, Range 21 East, MDB&M). The Plant has not previously been regulated by Waste Discharge Requirements (WDRs) from the Central Valley Water Board.
2. On 10 February 2010, the Central Valley Water Board received a Report of Waste Discharge (RWD), submitted by EMC Engineering, Inc. (signed and stamped by Chris Howard, RCE No. 42285) on behalf of TKI. Supplemental information was submitted on 29 July 2010 and 21 September 2018. A Site Location Map and Plant Layout Map are shown in **Attachments A and B**, respectively, and are incorporated by reference and considered a part of this Order.
3. WDRs are needed for the Plant to ensure the discharge will comply with Central Valley Water Board plans and policies.

Plant and Discharge

4. Waste streams generated at the Plant include: steam plant blowdown (boiler blowdown), cooling tower blowdown, and water softener back-flush (regeneration). Collectively all three waste streams are referred to as process wastewater and are discharged to a 1.5 million gallon unlined pond (also referred to as the Storm Water Ponding Basin).
5. TKI produces toll formulations and sulfur-based products. Toll formulations manufactured include: insecticide, fungicide, and herbicide products. All toll formulation are manufactured indoors and in areas with spill containment and air emissions control equipment. Sulfur based products manufactured include: calcium polysulfide solution, calcium thiosulfate solution, potassium thiosulfate solution, magnesium thiosulfate, and sodium polysulfide. Sulfur based products are manufactured outdoors in areas that have spill containment and air emissions control equipment.

6. The estimated flow rates for TKI, as described in the February 2010 RWD, are tabulated in Table 1 below.

Table 1. Estimated Wastewater Flow Rates

<u>Waste Stream</u>	<u>Flow (gal/year)</u>	<u>% of Total Flow</u>
Cooling Tower Blowdown	3,560,000	98.4 %
Water Softener Regeneration	36,600	1.0 %
Boiler Blowdown	20,000	0.5 %
Total	3,616,600	100 %

7. The Discharger currently does not have a method for measuring the wastewater generated and discharged to the Storm Water Ponding Basin. The proposed flows were calculated based on the size of the equipment and blowdown rates as recommended by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers. The February 2010 RWD includes a water balance demonstrating the Storm Water Ponding Basin at the Plant has sufficient storage capacity to accommodate an annual volume of 3.62 million gallons per year of process wastewater along with stormwater from a 100-year storm event. This Order includes a total annual flow limitation of 3.62 million gallons per year of process wastewater as proposed in the February 2010 RWD. In addition, this Order requires the Discharger to install a flow meter(s) at the Plant and meter the wastewater discharged into the Storm Water Ponding Basin.
8. The Discharger has two source water wells at the Plant. Well #1 is the potable water well on the northeast corner of the property. Well #2 has a total depth of 555 feet below ground surface (bgs) and two screen intervals: 100 feet (200 to 300 ft bgs) and 40 feet (495 to 535 ft bgs). Well #2 is the supply well for water used in the operations at the Plant, water quality for this well is tabulated below. The arsenic concentration in the source water (bolded in the table below) exceeds the Primary Maximum Contaminant Level (MCL) of 0.01 mg/L for arsenic.

Table 2. Source Water Quality

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Plant Well #2 (9/4/2018)</u>
Bicarbonate Alkalinity as HCO ₃	mg/L	280
Total Alkalinity as CaCO ₃	mg/L	230
Chloride	mg/L	20
Specific Conductance (EC)	umhos/cm	650
Nitrate as N	mg/L	9.1
Nitrite as N	mg/L	0.97
Total Kjeldahl Nitrogen	mg/L	1.1
Total Nitrogen	mg/L	11
pH	pH Units	7.6

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Plant Well #2 (9/4/2018)</u>
Sulfate as SO ₄	mg/L	59
Total Dissolved Solids	mg/L	480
Arsenic	mg/L	0.023
Calcium	mg/L	51
Copper	mg/L	<0.0050
Total Hardness	mg equiv. CaCO ₃ /L	280
Iron	mg/L	<0.10
Magnesium	mg/L	36
Manganese	mg/L	<0.0050
Potassium	mg/L	4.2
Sodium	mg/L	35
Zinc	mg/L	<0.0050

9. The February 2010 RWD provided analytical data from a 23 December 2009 sampling event characterizing the different waste streams generated at the Plant. On 30 August 2018, Central Valley Water Board staff conducted an inspection of the Plant and collected grab samples of the boiler blowdown, water softener reject, cooling tower blowdown, and comingled wastewater at the unlined pond. TKI also submitted laboratory analytical data for samples collected of these wastes on 4 September 2018. Analytical data for all three sampling events are tabulated in Tables 3, 4, 5 and 6 below. The analytical data are categorized by waste stream. Where bold constituent concentrations exceed listed MCLs.

Table 3. Boiler Blowdown Quality

<u>Constituent/Parameter</u>	<u>Units</u>	<u>12/23/2009</u>	<u>8/30/2018</u>	<u>9/4/2018</u>	<u>MCL</u>
Total Alkalinity as CaCO ₃	mg/L	780	430	410	---
Bicarbonate Alkalinity as HCO ₃	mg/L	<40	<1.3	<1.3	---
Carbonate Alkalinity as CO ₃	mg/L	74	110	120	---
Hydroxide Alkalinity as OH	mg/L	220	84	70	---
Biochemical Oxygen Demand	mg/L	NS	4.3	4.2	---
Total Hardness	mg equiv CaCO ₃ /L	26	2.0	1.6	---
Chloride	mg/L	86	110	35	250 ³
EC	umhos/cm	4,100	2,100	1,700	900 ³
Total Dissolved Solids	mg/L	1,800	1,000	840	500 ³
Nitrate as N	mg/L	NS	18	16	10 ¹
Nitrite as N	mg/L	NS	0.37	<1.2	1 ¹
Total Kjeldahl Nitrogen	mg/L	NS	2.7	2.7	---
Total Nitrogen	mg/L	NS	21	19	---
Total Suspended Solids	mg/L	NS	13	5.2	---
Boron	mg/L	NS	0.031	NS	---

<u>Constituent/Parameter</u>	<u>Units</u>	<u>12/23/2009</u>	<u>8/30/2018</u>	<u>9/4/2018</u>	<u>MCL</u>
pH	pH units	12	NS	11	---
Sulfate as SO ₄	mg/L	210	140	120	250 ³
Arsenic	mg/L	NS	NS	<0.010	0.01 ¹
Calcium	mg/L	7.7	0.54	0.36	---
Copper	mg/L	0.18	NS	0.0076	1.0 ²
Iron	mg/L	1.2	2.2	2.6	0.3 ²
Magnesium	mg/L	1.6	0.16	0.17	---
Manganese	mg/L	0.092	0.055	0.071	0.05 ²
Potassium	mg/L	25	20	19	---
Sodium	mg/L	490	330	270	---
Zinc	mg/L	0.1	NS	<0.0050	5 ²

NS denotes not sampled

1 Denotes Primary Maximum Contaminant Level

2 Denotes Secondary Maximum Contaminant Level

3 Denotes Secondary Maximum Contaminant Level (maximum recommended)

Table 4. Water Softener Regeneration Quality

<u>Constituent/Parameter</u>	<u>Units</u>	<u>12/23/2009</u>	<u>8/30/2018</u>	<u>9/4/2018</u>	<u>MCL</u>
Total Alkalinity as CaCO ₃	mg/L	200	240	240	---
Bicarbonate Alkalinity as HCO ₃	mg/L	250	290	290	---
Carbonate Alkalinity as CO ₃	mg/L	<20	<1.0	<1.0	---
Hydroxide Alkalinity as OH	mg/L	<10	<1.0	<1.0	---
Biochemical Oxygen Demand	mg/L	NS	<3.0	<3.0	---
Total Hardness	mg equiv CaCO ₃ /L	10	220	51	---
Chloride	mg/L	1,700	28	35	250 ³
EC	umhos/cm	4,900	680	730	900 ³
Total Dissolved Solids	mg/L	3,000	460	500	500 ³
Nitrate as N	mg/L	NS	10	9.8	10 ¹
Nitrite as N	mg/L	NS	<0.60	<0.60	1 ¹
Total Kjeldahl Nitrogen	mg/L	NS	1.6	1.9	---
Total Nitrogen	mg/L	NS	12	12	---
Total Suspended Solids	mg/L	NS	1.8	<4.0	---
Boron	mg/L	NS	0.012	NS	---
pH	pH units	8	NS	7.9	---
Sulfate as SO ₄	mg/L	<100	70	65	250 ³
Arsenic	mg/L	NS	NS	<0.010	0.01 ¹
Calcium	mg/L	1.9	40	9.1	---
Copper	mg/L	<0.010	NS	<0.0050	1.0 ²
Iron	mg/L	<0.20	0.023	<0.10	0.3 ²
Magnesium	mg/L	1.4	29	6.9	---
Manganese	mg/L	<0.010	0.0023	<0.0050	0.05 ²

<u>Constituent/Parameter</u>	<u>Units</u>	<u>12/23/2009</u>	<u>8/30/2018</u>	<u>9/4/2018</u>	<u>MCL</u>
Potassium	mg/L	8.8	3.0	1.3	---
Sodium	mg/L	900	66	160	---
Zinc	mg/L	<0.010	NS	<0.0050	5 ²

NS denotes not sampled

1 Denotes Primary Maximum Contaminant Level

2 Denotes Secondary Maximum Contaminant Level

3 Denotes Secondary Maximum Contaminant Level (maximum recommended)

Table 5. Cooling Tower Blowdown Quality

<u>Constituent/Parameter</u>	<u>Units</u>	<u>12/23/2009</u>	<u>8/30/2018</u>	<u>9/4/2018</u>	<u>MCL</u>
Total Alkalinity as CaCO ₃	mg/L	360	390	370	---
Bicarbonate Alkalinity as HCO ₃	mg/L	30	420	430	---
Carbonate Alkalinity as CO ₃	mg/L	34	25	14	---
Hydroxide Alkalinity as OH	mg/L	<10	<1.0	<1.0	---
Biochemical Oxygen Demand	mg/L	NS	<3.0	<3.0	---
Total Hardness	mg equiv CaCO ₃ /L	6.4	490	440	---
Chloride	mg/L	45	39	34	250 ³
EC	umhos/cm	1,100	1,000	980	900 ³
Total Dissolved Solids	mg/L	740	750	770	500 ³
Nitrate as N	mg/L	NS	18	16	10 ¹
Nitrite as N	mg/L	NS	<0.60	1.5	1 ¹
Total Kjeldahl Nitrogen	mg/L	NS	1.6	1.6	---
Total Nitrogen	mg/L	NS	19	19	---
Total Suspended Solids	mg/L	NS	2.4	<4.0	---
Boron	mg/L	NS	0.0081	NS	---
pH	pH units	9	NS	8.4	---
Sulfate as SO ₄	mg/L	97	120	100	250 ³
Arsenic	mg/L	NS	NS	0.023	0.01 ¹
Calcium	mg/L	1.8	100	79	---
Copper	mg/L	<0.010	NS	<0.0050	1.0 ²
Iron	mg/L	<0.20	0.024	<0.10	0.3 ²
Magnesium	mg/L	0.49	56	58	---
Manganese	mg/L	<0.010	<0.0050	<0.0050	0.05 ²
Potassium	mg/L	<2.0	6.5	6.9	---
Sodium	mg/L	210	59	61	---
Zinc	mg/L	0.016	NS	0.0068	5 ²

NS denotes not sampled

1 Denotes Primary Maximum Contaminant Level

2 Denotes Secondary Maximum Contaminant Level

3 Denotes Secondary Maximum Contaminant Level (maximum recommended)

Table 6. Comingled Wastewater Quality (at the Storm Water Ponding Basin)

Constituent/Parameter	units	12/23/2009	8/30/2018	9/4/2018	MCL
Total Alkalinity as CaCO ₃	mg/L	92	360	350	---
Bicarbonate Alkalinity as HCO ₃	mg/L	110	300	290	---
Carbonate Alkalinity as CO ₃	mg/L	<20	67	71	---
Hydroxide Alkalinity as OH	mg/L	<10	<1.0	<1.0	---
Biochemical Oxygen Demand	mg/L	NS	6.2	5.3	---
Total Hardness	mg equiv CaCO ₃ /L	280	410	400	---
Chloride	mg/L	420	84	99	250 ³
EC	umhos/cm	2,100	1,000	1,100	900 ³
Total Dissolved Solids	mg/L	1,200	750	800	500 ³
Nitrate as N	mg/L	NS	10	9.4	10 ¹
Nitrite as N	mg/L	NS	<0.90	1.5	1 ¹
Total Kjeldahl Nitrogen	mg/L	NS	2.3	2.0	---
Total Nitrogen	mg/L	NS	13	13	---
Total Suspended Solids	mg/L	NS	7.6	9.6	---
Boron	mg/L	NS	0.0085	NS	---
pH	pH units	8.8	NS	8.9	---
Sulfate as SO ₄	mg/L	250	120	110	250 ³
Arsenic	mg/L	NS	NS	<0.010	0.01 ¹
Calcium	mg/L	80	76	71	---
Copper	mg/L	0.014	NS	<0.0050	1.0 ²
Iron	mg/L	0.57	0.049	<0.10	0.3 ²
Magnesium	mg/L	20	52	53	---
Manganese	mg/L	0.073	0.0011	<0.0050	0.05 ²
Potassium	mg/L	25	6.9	7.5	---
Sodium	mg/L	280	89	110	---
Zinc	mg/L	0.057	NS	0.0062	5 ²

NS denotes not sampled

1 Denotes Primary Maximum Contaminant Level

2 Denotes Secondary Maximum Contaminant Level

3 Denotes Secondary Maximum Contaminant Level (maximum recommended)

10. As shown on in Table 4, the water softener analytical data significantly varies, specifically between the December 2009 sample and the two samples collected in 2018. Due to this variability, in 23 December 2018, the Discharger took EC measurements every five minutes of the water softener regeneration process. The regeneration process lasted approximately two and half hours. The EC levels ranged from the mid 6,000's µmhos/cm to the high 8,000's µmhos/cm while the brine and rinse cycle generated EC levels ranging from the high 600's to the low 800's µmhos/cm. The samples averaged an EC of 4,353 µmhos/cm.

11. The 4 September 2018 sample of the comingled wastewater at the unlined pond was also tested for Volatile Organic Compounds (VOC's), Organochloride pesticides, and

Polychlorinated Biphenyls (PCB's). Laboratory analytical results for all these constituents were reported as "not detected".

12. Chemicals used at the Plant as it relates to the process wastewater includes: BT-1011 (boiler scale and deposit control) (138 gal/year), BT-LYD (boiler corrosion prevention) (60 gal/year), AC-96 (cooling tower scale, deposit and corrosion control) (1,960 gal/year), and Halogene T-30 (cooling tower biocide) (1,470 gal/year).
13. Domestic wastewater is discharged separately to two existing on-site septic tanks/leachfield systems.

Site-Specific Conditions

14. Land uses in the vicinity of the Plant are primarily agricultural with some industrial facilities nearby. Crops grown in the area include oranges, peaches/nectarines, and plums according to the Fresno County 2000 Land Use Maps published by the Department of Water Resources.
15. The Plant is in an arid climate characterized by dry summers and mild winters. The rainy season generally extends from November through May. Average annual pan evaporation is about 65 inches in Fresno according to data in Bulletin 113-3, *Vegetative Water Use in California*, published by the Department of Water Resources in April 1975. The average annual precipitation is about 11 inches in Fresno according to data obtained from the Western Regional Climate Center.
16. The predominant soil types below the Plant are Hesperia Sandy Loam and Hanford Sandy Loam, according to the Web Soil Survey published by the United States Department of Agriculture, Natural Resources Conservation Service. Hesperia Sandy Loam and Hanford Sandy Loam both have irrigated capability classification of 2s. Soils with "Class 2" have moderate limitations that restrict the choice of plants or require moderate conservation practices. The subclass "s" shows that the soil has limitations within the root zone, such as shallowness of the root zone, a high content of stones, a low available water capacity, low fertility, and excessive salinity or sodicity. Overcoming these limitations is difficult.
17. According to the February 2009 Federal Emergency Management Agency maps (Map Number 06019C2140H), the Plant is in Zone X. Areas in Zone X are outside of the 1 percent annual chance floodplain. No depth or base flood elevations are shown in the FEMA maps for this zone.

Groundwater Considerations

18. The Discharger does not have a groundwater monitoring well network at the Plant.
19. According to the *Lines of Equal Elevation of Groundwater* map published by the Department of Water Resources in Spring 2011, groundwater in the area has an elevation ranging from 240 to 260 feet (ft). Based on a ground elevation of approximately 310 ft, according to *Malaga Quadrangle Topographic Map* from the US. Geological Survey, the calculated depth to groundwater ranges from 50 to 70 feet below ground surface and flows in the southwest direction.

20. Historical groundwater data from nearby wells within a two-mile radius, as shown in Table 7, indicate that shallow groundwater in the area is of good quality with respect to EC and chloride.

Table 7. Groundwater Quality from Nearby Wells

Constituent/Parameter	Units	14S21E21J001M ¹		14S21E27B001M ¹	14S21E27R001M ¹	15S21E3E001M ^{2,3}	15S21E3L004M ^{2,4}
		7/31/1973	5/2/1984	5/8/1952	7/24/1957	7/8/1987	6/8/1989
EC	umhos/cm	374	367	586	469	424	271
Bicarbonate	mg/L	---	---	---	---	542	---
Nitrate as Nitrogen	mg/L	---	---	---	---	1.6	5.1
Hardness as CaCO ₃	mg/L	153	152	178	178	198	104
Calcium	mg/L	25	26	35	38	46	28
Magnesium	mg/L	22	21	22	19	20	8.3
Sodium	mg/L	22	21	60	30	16	18
Potassium	mg/L	---	2.5	3.3	3.8	2.8	2.6
Chloride	mg/L	12	12	22	21	3	5.3
Arsenic	ug/L	---	---	---	---	1	1
Chromium	ug/L	---	---	---	---	3	2
Iron	ug/L	---	---	---	---	<3.0	5
Lead	ug/L	---	---	---	---	<5	<1
Manganese	ug/L	---	---	---	---	<1.0	3
Zinc	ug/L	---	---	---	---	53	<3.0

- 1 California Department of Water Resources, Water Data Library
 2 United States Geological Survey National Water Information System: Mapper
 3 Well depth of 115 feet below ground surface
 4 Well depth of 40.1 feet below ground surface

Basin Plan, Beneficial Uses, and Water Quality Objectives

21. The *Water Quality Control Plan for the Tulare Lake Basin, Third Edition (revised May 2018)* (Basin Plan) designates beneficial uses, establishes narrative and numerical water quality objectives, contains implementation plans and policies for protecting all waters of the basin, and incorporates, by reference plans and policies of the State Water Resources Control Board (State Water Board). In accordance with Water Code section 13263(a), these waste discharge requirements implement the Basin Plan.
22. The Plant is in Detailed Analysis Unit (DAU) No. 233, within the Kings Basin hydrologic unit. The Basin Plan identifies the beneficial uses of groundwater in the DAU as municipal and domestic supply (MUN), agricultural supply (AGR), industrial service supply (IND), industrial process supply (PRO), water contact recreation (REC-1), and non-contact water recreation (REC-2).
23. The Plant is in the Consolidated Hydrologic Area No. 551.70 of the South Valley Floor Hydrologic Unit, as depicted on hydrologic maps prepared by the State Water Board, revised in August 1986. The Basin Plan designates surface waters within Hydrologic

Unit 551 as Valley Floor Waters. As indicated in the Basin Plan, the beneficial uses of Valley Floor Waters are: agricultural supply (AGR); industrial service supply (IND); industrial process supply (PRO); water contact recreation (REC-1); non-water contact recreation (REC-2); warm freshwater habitat (WARM); wildlife habitat (WILD); rare, threatened, or endangered species (RARE); and groundwater recharge (GWR).

24. The Basin Plan establishes narrative water quality objectives for chemical constituents, taste and odors, and toxicity in groundwater. The narrative toxicity objective, in summary, requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial uses.
25. The Basin Plan includes narrative water quality objectives for chemical constituents that, at a minimum, require water designated as domestic or municipal supply to meet the MCLs specified in Title 22 of the California Code of Regulations (hereafter 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.
26. 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 a numerical limitation in order to implement the narrative objective.
27. The Basin Plan identifies the greatest long-term problem facing the entire Tulare Lake Basin as the increase in salinity in groundwater, which has accelerated due to the intensive use of soil and water resources by irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until there is a long-term solution to the salt imbalance. Until then, the Basin Plan establishes several salt management requirements, including:
 - a. Incremental increase in salts from use and treatment must be controlled to the extent possible. The maximum electrical conductivity (EC) in the effluent discharged to land shall not exceed the EC of the source water plus 500 umhos/cm. When the source water is from more than one source, the EC shall be a weighted average of all sources.
 - b. Discharges to areas that may recharge to good quality groundwater; shall not exceed an EC of 1,000 umhos/cm, a chloride of 175 mg/L, or a boron content of 1.0 mg/L. The Basin Plan generally applies these limits to industrial discharges to land.

Antidegradation Analysis

28. State Water Resources Control Board's (State Water Board) *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 such degradation:
 - a. Will not unreasonably affect present and anticipated beneficial uses;

- b. Will not result in water quality less than that prescribed in state and regional policies, (including violation of one or more WQOs);
 - c. Will be minimized by the discharger through best practicable treatment or control (BPTC) to minimize degradation; and
 - d. Will be consistent with the maximum benefit to the people of the State.
29. Constituents of concern that have the potential to degrade and pollute groundwater include salts.
 - a. For salinity, the Basin Plan contains effluent limits of source water EC plus 500 umhos/cm and, for discharges to areas that may recharge to good quality groundwater, a maximum EC of 1,000 μ mhos/cm. The Plant is in an area that appears to have good quality groundwater with respect to EC, with EC ranging from 271 umhos/cm to 586 umhos/cm. The source water plus 500 umhos/cm is 1,150 umhos/cm. Cooling tower blowdown EC ranges from 980 umhos/cm to 1,100 umhos/cm, water softener reject EC ranges from 680 umhos/cm to 4,900 umhos/cm, boiler blowdown EC ranges from 1,700 umhos/cm to 4,100 umhos/cm, and comingled wastewater EC ranges from 1,000 umhos/cm to 2,100 umhos/cm.

It appears that the EC of both the water softener reject and boiler blowdown exceed the Basin Plan EC limits of source water EC plus 500 μ mhos/cm (1,150 μ mhos/cm) and 1,000 μ mhos/cm, maximum. To address the Basin Plan salinity requirements, this Order includes a provision requiring the Discharger to evaluate the segregation of the water softener reject and boiler blowdown waste streams from the comingled wastewater and determine if an alternative disposal method for these waste streams is feasible (Provision E.11.a.). If no alternative means of disposal is feasible, the Discharger is required to prepare and implement a Salinity Reduction Study Work Plan (Provision E.11.c).
30. The Discharger provides, or will provide required by this Order, the following treatment and control of the discharge that incorporates:
 - a. The collection of storm water in the Storm Water Ponding Basin;
 - b. Manufacturing of toll formulations takes place indoors with spill containment to prevent chemical runoff into the Storm Water Ponding Basin;
 - c. Manufacturing of sulfur-based products takes place outdoors in areas with spill containment to prevent chemical runoff into the Storm Water Ponding Basin;
 - d. Limited use of chemicals in the Plant's processes that discharge to the Storm Water Ponding Basin;
 - e. Source water, effluent monitoring (including flow monitoring), and pond monitoring;

- f. Submittal of an Alternative Method of Disposal Study to evaluate the potential options for using an alternative disposal method for the water softener regeneration and boiler blowdown waste streams, as described by Provision E.11.a; and
- g. Submittal of a Salinity Reduction Study Work Plan to evaluate measure to reduce the salinity in the Plant's discharge, as described by Provision E.11.c.

These control practices are reflective of BPTC of the discharge.

- 31. Economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State. The Discharger aids in the economic prosperity of the region by the direct employment and provides a tax base for local and state governments. Provided the discharge complies with State and Central Valley Water Board plans and policies, there is sufficient justification for allowing the limited groundwater degradation that may occur pursuant to this Order.
- 32. This Order establishes terms and conditions to ensure that the discharge does not unreasonably affect present and anticipated future beneficial uses of groundwater or result in groundwater quality worse than background or the water quality objectives set forth in the Basin Plan.
- 33. This Order is consistent with the Antidegradation Policy since: (a) the Discharger has or will implement BPTC to minimize degradation, (b) the limited degradation allowed by this Order will not unreasonably affect present and anticipated future beneficial uses of groundwater, or result in water quality less than water quality objectives, and (c) the limited degradation is of maximum benefit to the people of the State.

Other Regulatory Considerations

- 34. Pursuant to Water Code section 106.3, subdivision (a), it is "the established policy of the state 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 necessarily subject to Water Code section 106.3 because it does not revise, adopt or establish a policy, regulation or grant criterion (see § 106.3, subd. (b)), it nevertheless promotes that policy by requiring discharges to meet MCLs designed to protect human health and ensure that water is safe for domestic use.
- 35. Based on the threat and complexity of the discharge, the Plant is determined to be classified as **2-C** 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 C complexity: "Any discharger for which waste discharge requirements have been prescribed pursuant to Section 13262 of the Water Code not included in Category A or Category B as described above. Included are dischargers having no waste treatment systems or that must comply with best management practices,

dischargers having passive treatment and disposal systems, or dischargers having waste storage systems with land disposal.

Upon successful demonstration that the Discharger has ceased discharge of the water softener regeneration and boiler blowdown waste streams to the Storm Water Ponding Basin (in accordance with Provision E.11) the Plant's threat to water quality rating may be reduced from Category 2 to Category 3.

36. The discharge of waste authorized under this Order is exempt from the prescriptive requirements set forth in California Code of Regulation, title 27, section 20090 et seq. (See Cal. Code. Regs., tit. 27, section 20090, subd. (b).)
37. Because stormwater generated by the Plant is contained on-site and does not discharge to waters of the U.S., (all storm water flows into the on-site Storm Water Ponding Basin) the Discharger, at this time, need not obtain facility coverage under the *Statewide General Permit for Storm Water Discharges Associated with Industrial Activities*, State Water Board Order 2014-0057-DWQ, NPDES Permit No. CAS000001 (Industrial General Permit).
38. Water Code section 13267, subdivision (b)(1) provides as follows:

In conducting an investigation ... the regional board may require that any person who has discharged, discharges, or ... proposes to discharge ... shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.
39. Technical reports required under this Order (and per the separately-issued Monitoring and Reporting Program Order R5-2019-0037) are necessary to assure compliance with these WDRs. Additionally, the burden of producing such reports, as estimated by Central Valley Water board staff, is also reasonably related to the need for such reports.
40. The ability to discharge waste to the waters of the State of California is not a right but a privilege. (See Wat. Code, section 13263, subd. (g).) Accordingly, the adoption of this Order shall not be construed as creating a vested right to continue in any discharges otherwise authorized herein.

CEQA

41. On November 2009, Fresno County, as lead agency under the California Environmental Quality Act (CEQA) prepared Initial Study No. 6156 for Tessengerlo Kerley, Inc. Based on the Initial Study, the potential impacts relating to water quality were determined to be less than significant with mitigation measures incorporated. The two mitigation measures regarding water quality were: 1) prohibit the Discharger from discharging laboratory, processing, storage and/or containment area wastewater into the on-site septic tank and leachfield system, and 2) requires the Discharger to obtain a permit or waiver from the

Central Valley Water Board for the discharge of cooling tower blowdown. Fresno County subsequently filed a Notice of Determination (E200910000364) with the County Clerk and recommended the Mitigated Negative Declaration be approved.

CV-SALTS Reopener

42. 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. These programs, once effective, could change how the Central Valley Water Board permits discharges of salt and nitrate. 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 could comply with the new nitrate program either individually or collectively with other dischargers. For salinity, discharger 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.
43. The stakeholder-led Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative has been coordinating efforts to implement new salt and nitrate management strategies. The Board expects dischargers that may be affected by new salt and nitrate management policies to coordinate with the CV-SALTS initiative.

Public Notice

44. 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.
45. 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.
46. All comments pertaining to the discharge were heard and considered in a public hearing.

IT IS HEREBY ORDERED that pursuant to Water Code sections 13263 and 13267, Tessenderlo Kerley, Inc. (Discharger), its agents, successors, and assigns in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. Discharge of waste to surface waters or surface water drainage courses is prohibited.
2. Discharge of waste classified as 'hazardous', as defined in California Code of Regulations, title 22, section 66261.1 et seq., is prohibited.

3. Treatment system bypass or overflow of untreated wastes is prohibited, except as allowed by Standard Provisions E.2 in *Standard Provisions and Reporting Requirements for Waste Discharge Requirements* (SPRRs), dated 1 March 1991, incorporated herein.
4. Discharge of wastewater in a manner or location other than that described herein or in the RWD is prohibited.
5. Discharge of toxic substances into the unlined pond is prohibited.
6. Discharge of domestic wastewater to the unlined pond or any surface waters is prohibited.
7. Discharge of process wastewater to the domestic wastewater treatment system (septic system) is prohibited.

B. Effluent Limitations

1. The total annual flow discharged to the Storm Water Ponding Basin [**Compliance shall be determined at EFF-001 through EFF-003**] shall not exceed 3.62 million gallons per year (mgy). The Discharger shall install flow meters to determine compliance with this effluent limitation in accordance with Provision E.10.

C. Discharge Specifications

1. No waste constituent shall be released, discharged, or placed where it will cause a violation of 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 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 units 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. As a means of discerning compliance with Discharge Specification C.6, the dissolved oxygen (DO) content in the upper one foot of any wastewater pond shall not be less than 1.0 mg/L for three consecutive sampling events. If the DO in any single pond is below 1.0 mg/L for three consecutive sampling events, the Discharger shall report the

findings to the Central Valley Water Board in writing within 10 days and shall include a specific plan to resolve the low DO results within 30 days.

8. The Discharger shall operate and maintain all ponds sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. Unless a California-registered civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, 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.
9. 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.
10. On or about **1 October** of each year, available capacity shall at least equal the volume necessary to comply with Effluent Limitation B.1 and Discharge Specifications C.8 and C.9.
11. 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.
12. Newly constructed or rehabilitated berms or levees (excluding internal berms that separate ponds or control the flow of water within the pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer.
13. Water contained in the onsite unlined pond shall not have a pH less than 6.0 or greater than 9.0.
14. The Discharger shall implement best management practices (BMPs) to mitigate the contact of storm water with the chemicals used at the facility. This shall include

covering all stored industrial materials that can be readily mobilized by contact with storm water.

D. Groundwater Limitations

Release of waste constituents from any component of any treatment, storage, delivery system, or land application area associated with the discharge shall not cause or contribute to groundwater containing constituent concentrations in excess of the concentrations specified below or natural background quality, whichever is greater:

1. Nitrate as Nitrogen of 10 mg/L.
2. For constituents identified in Title 22, the MCLs quantified therein.

E. Provisions

1. The Discharger shall comply with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991 (SPRRs), which are part of this Order.
2. The Discharger shall comply with the separately-issued MRP R5-2019-0037, which is part of this Order, and any revisions thereto as adopted by the Central Valley Water Board or approved by the Executive Officer.
3. A copy of this Order, including its MRP, Information Sheet, Attachments, and SPRRs, shall be kept at the Plant for reference by operating personnel. Key operating personnel shall be familiar with its contents.
4. 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 documents 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.
5. 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 only when the operation is necessary to achieve compliance with the conditions of this Order.

6. As described in the SPRRs, 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.
7. 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.
8. In the event of any change in control or ownership of the Plant, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.
9. To assume operation as a 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 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 SPRRs 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.
10. **By 6 April 2020**, the Discharger shall install flow meter(s) at each effluent location that discharges wastewater into the unlined pond and submit a report certifying that it has measures in place to ensure the proper function, maintenance, and periodic calibration of its meter(s). The Discharge shall begin effluent flow monitoring of its wastewater in accordance with Monitoring and Reporting Program R5-2019-0037.
11. The Discharger shall comply with the following schedule:

Task	Description	Due Date
a.	<p>Alternative Method of Disposal Study</p> <p>Submit an Alternative Method of Disposal Study (Disposal Study) to evaluate the potential of segregating the boiler blowdown and water softener waste streams from the comingled wastewater and find alternative means of disposal for the two waste streams. The Disposal Study shall identify potential alternatives for disposal of the two waste streams and provide a feasibility analysis for implementing each alternative.</p> <p>If the Disposal Study concludes that an alternative disposal method is feasible, the Disposal Study shall include a work plan with a proposed timeline for ceasing discharge of the water softener regeneration and boiler blowdown waste streams to the unlined pond. The timeline shall not exceed two years from the effective date of this Order (5 April 2019), as described in Task E.11.b.</p>	<p>By 7 October 2019</p>

Task	Description	Due Date
	<p>Or</p> <p>If the Disposal Study concludes an alternative disposal method is infeasible, the Discharger shall submit a Salinity Reduction Study Work Plan (Salinity Work Plan) as described in Task E.11.c.</p>	
b.	<p>If the approved Alternative Method of Disposal Study identifies a feasible alternative to disposing of the two waste streams, the Discharger shall submit a letter including: (1) confirmation that the discharge of water softener regeneration and boiler blowdown to the Storm Water Ponding Basin has ceased (as proposed in the approved Alternative Method of Disposal Study) and (2) a request for the threat to water quality rating of the Plant to be changed from a "2C" to a "3C" as discussed in Finding 35.</p>	By 5 April 2021
c.	<p>In accordance with Task E.11.a., if the approved Alternative Method of Disposal Study does not identify a feasible alternative for disposing of the boiler blowdown and water softener waste streams, the Discharger shall submit a Salinity Reduction Study Work Plan.</p> <p>The Discharger shall prepare and implement a Salinity Reduction Study Workplan to identify and address sources of salinity to and from the Facility. The Salinity Reduction Study Work Plan shall at a minimum include the following:</p> <ul style="list-style-type: none"> i. Data on current influent and effluent salinity concentrations; ii. Identification of known salinity sources; iii. Description of current plans to reduce/eliminate known salinity sources; iv. Preliminary identification of other potential sources; v. A proposed schedule for evaluating sources; and vi. A proposed schedule for identifying and evaluating potential reduction, elimination, and prevention methods. 	By 5 April 2021
d.	<p>If a Salinity Reduction Study Work Plan is prepared in accordance with Task E.11.c., the Discharger shall submit, annually, an implementation report on the progress of the Salinity Reduction Study Work Plan. The report shall be included in the Annual Monitoring Report as required pursuant to Monitoring and Reporting Program R5-2019-0037.</p>	1 February of each year (beginning February 2021)

12. 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.

13. In accordance with 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 work plans 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.
14. If the Central Valley Water Board determines that the discharge has a reasonable potential to cause or contribute to an exceedance of a water quality objective, or to create a condition of nuisance or pollution, this Order may be reopened for consideration of additional requirements.
15. 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 to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 2050 et seq. The State Water Board must receive the petition by 5:00 p.m., 30 days 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 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filling petitions are published on the Internet (at the address below), and will be provided upon request.

http://www.waterboards.ca.gov/public_notices/petitions/water_quality/

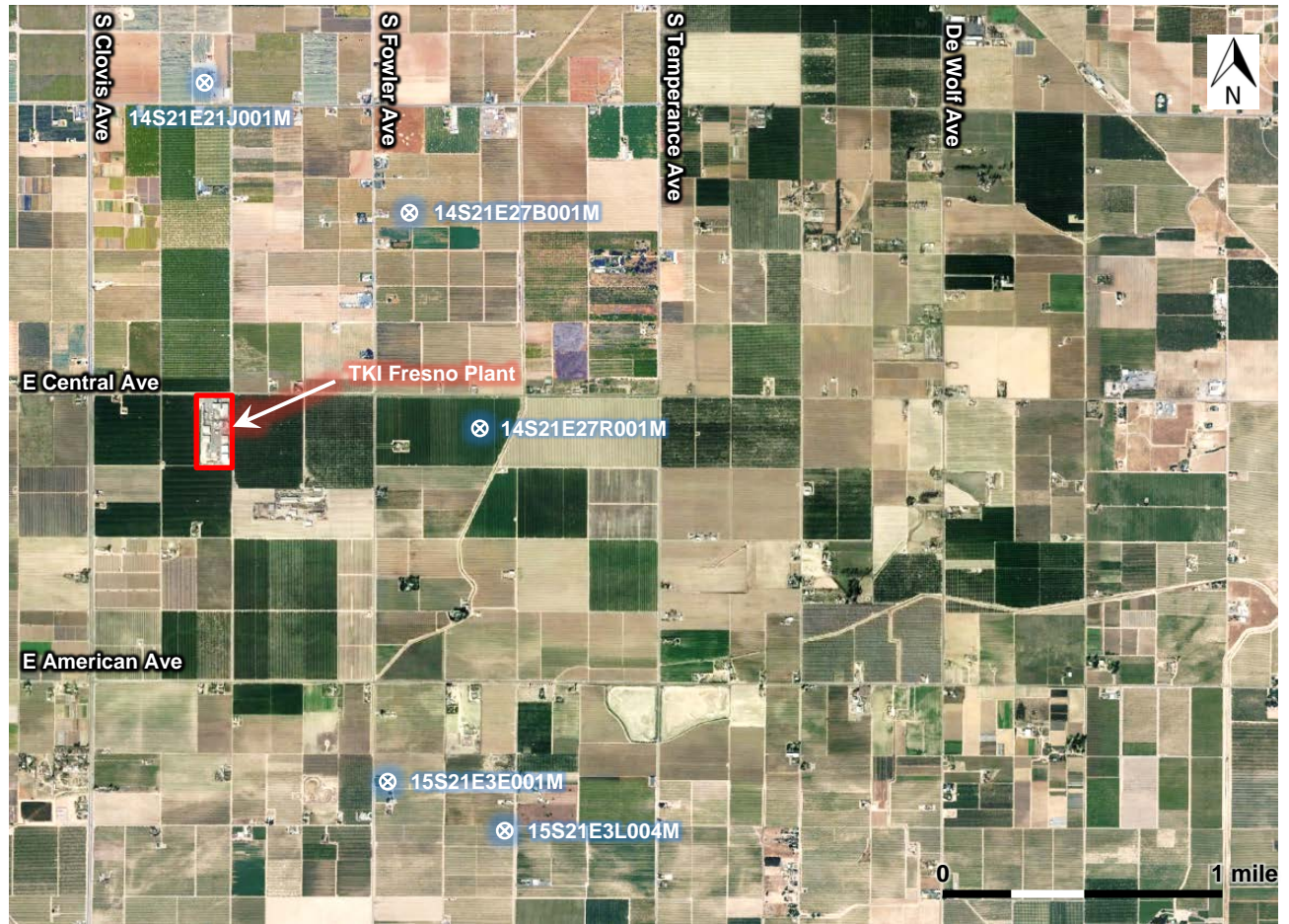
I, PATRICK PULUPA, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 5 April 2019.

ORIGINAL SIGNED BY

PATRICK PULUPA, Executive Officer

Order Attachments:

- Attachment A—Site Location Map
- Attachment B—Plant Layout Map
- Monitoring and Reporting Program R5-2019-0037
- Information Sheet
- Standard Provisions and Reporting Requirements (SPRRs) dated 1 March 1991

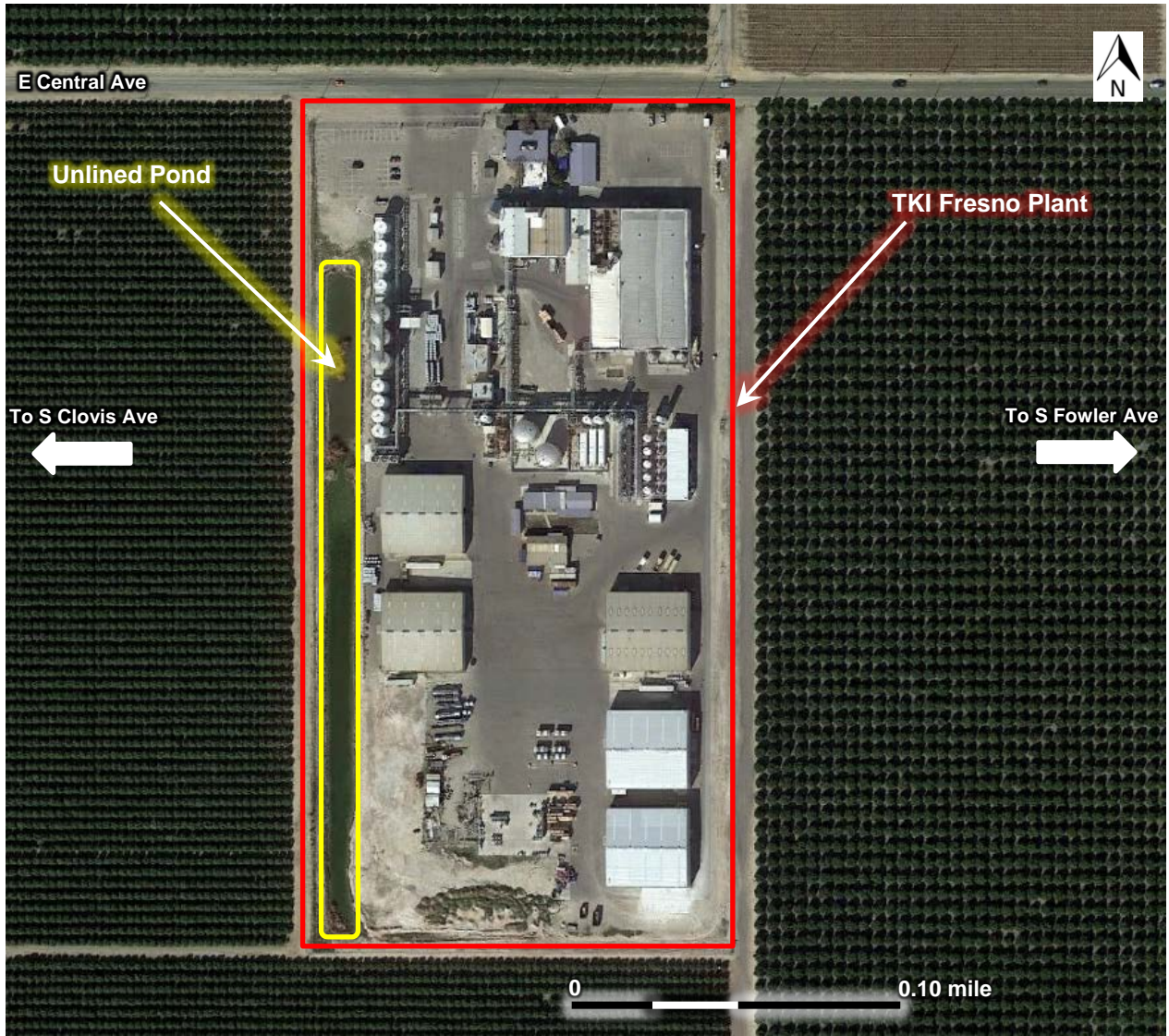


⊗ Well

SITE LOCATION MAP

WASTE DISCHARGE REQUIREMENTS ORDER R5-2019-0037
FOR
TESSENDERLO KERLEY, INC.
TKI FRESNO PLANT
FRESNO COUNTY

ATTACHMENT A



PLANT LAYOUT MAP

WASTE DISCHARGE REQUIREMENTS ORDER R5-2019-0037
FOR
TESSENDERLO KERLEY, INC.
TKI FRESNO PLANT
FRESNO COUNTY

ATTACHMENT B

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2019-0037
FOR
TESSENDERLO KERLEY, INC.
TKI FRESNO PLANT
FRESNO COUNTY

This Monitoring and Reporting Program (MRP) is required pursuant to Water Code section 13267, and establishes monitoring and reporting requirements for Tessengerlo Kerley, Inc. (Discharger or TKI) regarding the operation of the TKI Fresno Plant (Plant) described in Wastewater Discharge Requirements (WDRs) R5-2019-0037. The Discharger shall not implement any changes to this MRP unless and until the Central Valley Water Board adopts or the Executive Officer issues a revised MRP. Changes to sample location shall be established with concurrence of Central Valley Water Board staff, and a description of the revised stations shall be submitted for approval by the Executive Officer. All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. All analyses shall be performed in accordance with **Standard Provisions and Reporting Requirements for Waste Discharge Requirements**, dated 1 March 1991 (SPRRs).

Field test instruments (such as pH, electrical conductivity, and dissolved oxygen) may be used provided that the operator is trained in the proper use of the instrument and each instrument is serviced and/or calibrated at the recommended frequency by the manufacturer and in accordance with manufacturer instructions.

Analytical procedures shall comply with the methods and holding times specified in the following: *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA); *Test Methods for Evaluating Solid Waste* (EPA); *Methods for Chemical Analysis of Water and Wastes* (EPA); *Methods for Determination of Inorganic Substances in Environmental Samples* (EPA); *Standard Methods for the Examination of Water and Wastewater* (APHA/AWWA/WEF); and *Soil, Plant and Water Reference Methods for the Western Region* (WREP 125). Approved editions shall be those that are approved for use by the United States Environmental Protection Agency or the State Water Resources Control Board (State Water Board), Division of Drinking Water Environmental Laboratory Accreditation Program. The Discharger may propose alternative methods for approval by the Executive Officer.

If monitoring consistently shows no significant variation in magnitude of a constituent concentration or parameter after at least 12 months of monitoring, the Discharger may request this MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for the requested reduction in monitoring frequency.

A glossary of terms used within this MRP is included on the last page.

MONITORING AND REPORTING PROGRAM ORDER R5-2019-0037
 TESSENDERLO KERLEY, INC.
 TKI FRESNO PLANT
 FRESNO COUNTY

The Discharger shall monitor the following locations to demonstrate compliance with the requirements of this Order:

Monitoring Location Name	Monitoring Location Description
EFF-001	A location where a representative sample of the cooling tower blowdown can be obtained.
EFF-002	A location where a representative sample of the water softener regeneration can be obtained.
EFF-003	A location where a representative sample of the boiler blowdown can be obtained.
PND-001	Location where a representative sample of the comingled wastewater (cooling tower blowdown, water softener regeneration, and boiler blowdown) in the unlined pond can be obtained. Samples shall be collected opposite the pond inlet at a depth of one foot.
SPL-001	Existing source water well (Well #2) and any other source water wells added to the source water well network.

EFFLUENT MONITORING

Effluent samples shall be collected at EFF-001 through EFF-003. If the Discharger ceases discharge at EFF-002 and EFF-003, monitoring at EFF-002 and EFF-003 is no longer. Time of collection of the samples shall be recorded. Effluent monitoring shall include the following:

Frequency	Constituent/Parameter	Units	Sample Type
Continuous	Effluent Flow	mgd	Meter ¹
Weekly	pH	pH Units	Grab
Weekly ²	Electrical Conductivity (EC)	umhos/cm	Grab
Annually	General Minerals ³	various	Grab

1 Effluent flow shall be calculated based on size of the equipment and recommended published blowdown rates. Upon installation of flow meter(s) at EFF-001 through EFF-003 as required by Provision E.10, the Discharger shall begin metering its effluent flow(s).

2 For EFF-002, in addition to collecting weekly EC samples, the Discharger shall at least once per year conduct continuous EC monitoring of a water softener regeneration cycle (e.g., EC reading every five minutes).

3 General Mineral analysis shall include, alkalinity (as CaCO₃), bicarbonate (as CaCO₃), boron, calcium, carbonate (as CaCO₃), chloride, hardness (as CaCO₃), magnesium, nitrate as nitrogen, phosphate, potassium, sodium, sulfate, total dissolved solids, and include verification that the analysis is complete (i.e., cation/anion balance).

POND MONITORING

Pond sampling shall be collected at PND-001. A permanent marker (e.g., staff gages) shall be placed in the unlined pond. The marker shall have calibrations indicating water level at the design capacity and available operational freeboard. Samples shall be representative of the nature of the discharge. Time of collection of the samples shall be recorded. Pond monitoring shall include at least the following:

MONITORING AND REPORTING PROGRAM ORDER R5-2019-0037
 TESSENDERLO KERLEY, INC.
 TKI FRESNO PLANT
 FRESNO COUNTY

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Weekly	Freeboard	Feet	Observation
Monthly	pH	pH Units	Grab
Monthly	Electrical Conductivity (EC)	umhos/cm	Grab
Monthly	Total Dissolved Solids	mg/L	Grab
Monthly	Dissolved Oxygen	mg/L	Grab
Quarterly ¹	General Minerals ²	various ³	Grab
Quarterly ¹	Metals ⁴	various ³	Grab

1. Monitoring frequency may be reduced to once a year if the discharge from EFF-002 and EFF-003 ceases.
2. General mineral analysis shall include, alkalinity (as CaCO₃), bicarbonate (as CaCO₃), boron, calcium, carbonate (as CaCO₃), chloride, hardness (as CaCO₃), iron, magnesium, manganese, nitrate as nitrogen, phosphate, potassium, sodium, sulfate, total dissolved solids, and include verification that the analysis is complete (i.e., cation/anion balance).
3. mg/L or ug/L, as appropriate.
4. Metals include: aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, chromium III, chromium VI, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium and zinc.

The Discharger shall inspect the condition of the unlined pond weekly and record visual observations in a bound logbook. Notations shall include observations of whether weeds are developing in the water or along the bank, and their location; whether grease, dead algae, vegetation, scum, or debris are accumulating on the unlined pond surface and their location; whether burrowing animals or insects are present; and the color of the unlined pond (e.g., dark green, dull green, yellow, gray, tan, brown, etc.). A summary of these entries made in a log shall be included in the subsequent monitoring report.

SOURCE WATER MONITORING

The Discharger shall monitor supply well SPL-001 and any other supply wells/surface water sources added to the source water network and analyze for the constituents specified below. Source water monitoring shall include the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Monthly	Volume	Gallons	Metered ¹
Quarterly ²	EC ³	umhos/cm	Grab
Annually ⁴	General Minerals ⁵	various ⁶	Grab

- 1 Volume of source water obtained from Well #2.
- 2 Samples to be collected in January, April, July, and October.
- 3 If the source water is from more than one source, the electrical conductivity shall be reported as a weighted average and include copies of supporting calculations.
- 4 Samples to be collected in July.
- 5 General mineral analysis shall include, alkalinity (as CaCO₃), bicarbonate (as CaCO₃), boron, calcium, carbonate (as CaCO₃), chloride, hardness (as CaCO₃), iron, magnesium, manganese, nitrate as nitrogen, phosphate, potassium, sodium, sulfate, total dissolved solids, and include verification that the analysis is complete (i.e., cation/anion balance). Samples collected for metals shall be filtered with a 0.45-micron filter prior to preservation, digestion, and analysis.
- 6 mg/L or ug/L, as appropriate.

MONITORING AND REPORTING PROGRAM ORDER R5-2019-0037
TESSENDERLO KERLEY, INC.
TKI FRESNO PLANT
FRESNO COUNTY

REPORTING

All monitoring results shall be reported in **Quarterly Monitoring Reports** which are due by the first day of the second month after the calendar quarter. Therefore, monitoring reports are due as follows:

First Quarter Monitoring Report:	1 May
Second Quarter Monitoring Report:	1 August
Third Quarter Monitoring Report:	1 November
Fourth Quarter Monitoring Report:	1 February

A transmittal letter shall accompany each monitoring report. The transmittal letter shall discuss any violations that occurred during the reporting period and all actions taken or planned for correcting violations, such as operation or Plant modifications. If the Discharger has previously submitted a report describing corrective actions or a time schedule for implementing the corrective actions, reference to the previous correspondence is satisfactory.

The Central Valley Water Board has gone to a Paperless Office System. All regulatory documents, submissions, materials, data, monitoring reports, and correspondence shall be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50MB should be mailed to: centralvalleyfresno@waterboards.ca.gov. Documents that are 50MB or larger should be transferred to a disc and mailed to the appropriate regional water board office, in this case 1685 E Street, Fresno, CA, 93706.

To ensure that your submittals are routed to the appropriate staff, the following information block should be included in any email used to transmit documents to this office:

Program: Non-15, WDID: 5B10NC00097, Facility Name: TKI Fresno Pesticide Manufacturing Plant,
Order: R5-2019-0037, Place ID: 750073

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner that illustrates clearly, whether the Discharger complies with waste discharge requirements, and shall discuss any violations that occurred during the reporting period and all actions taken or planned for correcting violations, such as operation or plant modifications. If the Dischargers have previously submitted a report describing corrective actions or a time schedule for implementing the corrective actions, reference to the previous correspondence is satisfactory.

In addition to the details specified in Standard Provision C.3, monitoring information shall include the method detection limit (MDL) and the reporting limit (RL) or practical quantitation limit (PQL). If the regulatory limit for a given constituent is less than the RL (or PQL), then any analytical results for that constituent that are below the RL (or PQL) but above the MDL shall be reported and flagged as estimated.

MONITORING AND REPORTING PROGRAM ORDER R5-2019-0037
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FRESNO COUNTY

Laboratory analysis reports for all contracted laboratory tests shall be included in the monitoring reports. In addition; the laboratory reports must be retained for a minimum of three years in accordance with Standard Provision C.3.

All monitoring reports shall comply with the signatory requirements in Standard Provision B.3 of the SPRRs.

All monitoring reports that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to Business and Professions Code sections 6735, 7835, and 7835.1.

A. All Quarterly Monitoring Reports shall include the following:

Wastewater Reporting

1. The tabulated results of Effluent and Pond Monitoring specified on page 2 and 3.
2. For each month of the quarter, calculation of the total monthly volume discharged to the unlined pond.
3. Calculation of the 12-month rolling average EC at PND-001 for each month of the quarter using the EC value for that month averaged with the EC values for the previous 11 months.

Source Water Reporting

1. The results of Source Water Monitoring specified on page 3.

B. Fourth Quarter Monitoring Reports, in addition to the above, the Discharger shall submit a Fourth Quarter Monitoring report on **1 February of each year**, and shall include the following:

Plant Information

1. The total annual flow of comingled effluent discharged to the unlined pond and a comparison to the total annual flow limitation.
2. The names and general responsibilities of all persons in charge of wastewater management.
3. The names and telephone numbers of persons to contact regarding the Plant for emergency and routine situations.
4. A statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, including identification of who performed the calibrations (Standard Provision C.4).
5. A summary of any changes in processing that might affect waste characterization and/or discharge flow rates.

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TKI FRESNO PLANT
FRESNO COUNTY

6. A discussion and summary of the compliance record for the reporting period. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with this Order.
7. An annual update to the Salinity Reduction Study Work Plant (as required by Provision E.11.c of WDRs Order R5-2019-0037)

The Discharger shall implement the above monitoring program on the first day of the month following adoption of this Order.

I, PATRICK PULUPA, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of a Monitoring and Reporting Program issued by the California Regional Water Quality Control Board, Central Valley Region on 5 April 2019.

ORIGINAL SIGNED BY

PATRICK PULUPA, Executive Officer

MONITORING AND REPORTING PROGRAM ORDER R5-2019-0037
 TESSENDERLO KERLEY, INC.
 TKI FRESNO PLANT
 FRESNO COUNTY

GLOSSARY

BOD ₅	Five-day biochemical oxygen demand
CBOD	Carbonaceous BOD
DO	Dissolved oxygen
EC	Electrical conductivity at 25° C
FDS	Fixed dissolved solids
NTU	Nephelometric turbidity unit
TKN	Total Kjeldahl nitrogen
TDS	Total dissolved solids
TSS	Total suspended solids
Continuous	The specified parameter shall be measured by a meter continuously.
24-Hour Composite	Samples shall be a flow-proportioned composite consisting of at least eight aliquots.
Daily	Samples shall be collected at least every day.
Twice Weekly	Samples shall be collected at least twice per week on non-consecutive days.
Weekly	Samples shall be collected at least once per week.
2/Month	Samples shall be collected at least twice per month during non-consecutive weeks.
Monthly	Samples shall be collected at least once per month.
Bimonthly	Samples shall be collected at least once every two months (i.e., six times per year) during non-consecutive months.
Quarterly	Samples shall be collected at least once per calendar quarter. Unless otherwise specified or approved, samples shall be collected in January, April, July, and October.
Semiannually	Samples shall be collected at least once every six months (i.e., two times per year). Unless otherwise specified or approved, samples shall be collected in April and October.
Annually	Samples shall be collected at least once per year. Unless otherwise specified or approved, samples shall be collected in October.
mg/L	Milligrams per liter
mL/L	milliliters [of solids] per liter
ug/L	Micrograms per liter
umhos/cm	Micromhos per centimeter
mgd	Million gallons per day
MPN/100 mL	Most probable number [of organisms] per 100 milliliters

WASTE DISCHARGE REQUIREMENTS ORDER R5-2019-0037
TESSENDERLO KERLEY, INC.
TKI FRESNO PLANT
FRESNO COUNTY

INFORMATION SHEET

Background

Tessenderlo Kerley, Inc., (TKI) owns and operates an industrial and agricultural chemical manufacturing plant (Plant) at 5427 East Central Avenue in Fresno. The Plant has not previously been regulated by Waste Discharge Requirements (WDRs) from the California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board).

On 10 February 2010, the Central Valley Water Board received a Report of Waste Discharge (RWD), submitted by EMC Engineering, Inc. (signed and stamped by Chris Howard, RCE No. 42285) on behalf of TKI.

By letter dated 4 March 2010, the Central Valley Water Board notified TKI the February 2010 RWD was incomplete and outlined technical information needed to complete the RWD such as a Form 200, monthly water balance, and quality of first encountered groundwater.

On 29 July 2010, the Central Valley Water Board received supplemental information that included a Form 200 and a monthly water balance. The technical information was submitted by EMC Engineering, Inc. (signed and stamped by Chris Howard, RCE No. 42285) on behalf of TKI. The monthly water balance demonstrates the unlined pond with a total capacity of 1.5 million gallons (or 0.94 million gallons with two feet of freeboard) has sufficient storage capacity to accommodate a proposed total annual flow of 3.62 million gallons.

On 5 July 2018, Central Valley Water Board staff requested (via email) TKI take additional samples to characterize the different waste streams generated at the Plant. On 21 September 2018, TKI submitted laboratory analytical results requested in July 2018.

On 30 August 2018, Central Valley Water Board staff inspected the Plant and collected grab samples of the boiler blowdown, water softener regeneration, cooling tower blowdown, and the comingled wastewater at the unlined pond. Central Valley Water Board staff observed how cooling tower blowdown had a dedicated above ground outfall pipe discharging directly into the unlined pond, while the boiler blowdown and water softener regeneration waste streams comingled in a sump prior to being discharge into the unlined pond from an underground outfall pipe that was not visible at the time of the inspection.

Discharge

TKI manufactures industrial and agricultural chemicals at the Plant. Waste streams generated at the plant are cooling tower blowdown, water softener reject, and boiler blowdown. The comingled waste streams are discharged to a 1.5-million-gallon unlined pond.

Soil and Groundwater Conditions

Soils below the Plant are Hesperia Sandy Loam and Hanford Sandy Loam, according to the Web Soil Survey published by the United States Department of Agriculture, Natural Resources Conservation Service.

The Discharger does not have a groundwater monitoring well network in the vicinity of the Plant.

The calculated depth to groundwater ranges from 50 to 70 feet below ground surface (bgs) and flows in the southwest direction. Historical groundwater data from nearby wells within a two-mile radius, indicate that shallow groundwater in the area is of good quality with respect to EC and chloride.

The Basin Plan contains effluent limits of source water EC plus 500 $\mu\text{mhos/cm}$ and, for discharges to areas that may recharge to good quality groundwater and a maximum EC of 1,000 $\mu\text{mhos/cm}$. The Plant is in an area that appears to have good quality groundwater with respect to EC, with EC ranging from 271 $\mu\text{mhos/cm}$ to 586 $\mu\text{mhos/cm}$.

It appears that the EC of both the water softener reject and boiler blowdown exceed the Basin Plan EC limits of source water EC plus 500 $\mu\text{mhos/cm}$ (1,150 $\mu\text{mhos/cm}$) and 1,000 $\mu\text{mhos/cm}$, maximum. This Order does not include salinity limits in anticipation of CV-SALTS initiative. However, to address the Basin Plan salinity requirements, this Order includes a provision requiring the Discharger to evaluate the segregation of the water softener reject and boiler blowdown waste streams from the comingled wastewater and determine if an alternative disposal method for these waste streams is feasible. If no alternative means of disposal is feasible, the Discharger is required to prepare and implement a Salinity Reduction Study Work Plan.

Monitoring Requirements

Section 13267 of the Water Code authorizes the Central Valley Water Board to require the Discharger to submit monitoring and technical reports as necessary to investigate the impact of a waste discharge on water of the State. The proposed Order includes effluent monitoring, pond monitoring, and source water monitoring. This monitoring is necessary to characterize the discharge and evaluate compliance with effluent limitations and specifications prescribed by this Order.

CV-SALTS Regulatory Considerations

The Central Valley Water Board adopted Basin Plan amendments incorporating new programs for addressing ongoing salt and nitrate accumulation in the waters and soils of the Central Valley at its 31 May 2018 Board Meeting. These programs once effective, could change how the Central Valley Water Board permits discharges of salt and nitrate. The Salinity Control Program currently being developed would subject dischargers that do not meet stringent salinity numeric values (700 $\mu\text{S/cm}$ EC as a monthly average to protect the AGR beneficial use and 900 $\mu\text{S/cm}$ EC as an annual average to protect the MUN beneficial use) to performance-based salinity requirements, and would require these 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.

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 Board anticipates that the CV-SALTS 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 Plant. More information regarding this regulatory planning process can be found at the following link:
https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/

Reopener

The conditions of discharge in the proposed Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans and are intended to assure conformance with them. It may be appropriate to reopen the Order if new technical information is received or if applicable laws and regulations change.

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 internet at http://www.swrcb.ca.gov/rwqcb5/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 internet at http://www.swrcb.ca.gov/rwqcb5/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

Waste Discharge to Land

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