

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2014-XXXX

WASTE DISCHARGE REQUIREMENTS

FOR
BIDART BROS.,
BAKERSFIELD POTATO SHED
KERN COUNTY

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

1. On 9 April 2004, Bidart Bros., submitted a Report of Waste Discharge (RWD) that described potato washing and sorting activities at its potato shed in Bakersfield, Kern County. Additional information to complete the RWD was submitted on 12 May 2004. On 23 June 2004, Central Valley Water Board staff issued Monitoring and Reporting Program (MRP) No. R5-2004-0826 for the potato shed.
2. Bidart Bros., a California Corporation, (hereafter "Discharger") owns and operates the potato shed (hereafter referred to as "facility") that generates the waste and the land application area (hereafter referred to as "LAA") and is responsible for compliance with these Waste Discharge Requirements (WDRs).
3. The facility is at 34702 7th Standard Road in Bakersfield (Section 32, T28S, R27E, MDB&M). The facility occupies Assessor's Parcel Numbers (APN) 482-090-46 and 482-070-22, as shown on Attachment A, which is attached hereto and made part of this Order by reference.

Existing Facility and Discharge

4. The Discharger cultivates, washes, packages, and ships an average of 30,000 tons of potatoes per year for the consumer market. All of these potatoes are processed within an approximate 75-day season from June through July.
5. Prior to initiation of potato processing, water is pumped from the Beardsley Canal, to a 30,000-gallon storage tank. Water then flows by gravity to fill two unlined ponds connected in series. The first pond, or west pond, has an estimated capacity of 400,000 gallons and the second pond, or east pond, has an estimated capacity of 200,000 gallons. Water (primarily from the Beardsley Canal) is pumped from the second pond to the wash flume where potatoes are dumped and simultaneously washed from the side dump trucks. From the flume, the potatoes are floated on conveyors to the interior of the packaging shed where they are graded and packaged into 50-pound cartons or bags. Water from the Oildale Mutual Water District is used for the final rinse of potatoes prior to packaging.

6. All of the wash water is contained in the flume system and recirculated back to the first pond. While in the ponds, chlorine is injected into the process water to reduce odors and control bacteria. The recirculated water also passes through a buffer tank with calcium carbonate rock to maintain a neutral pH. Process wash water also passes through a filter to remove larger plant debris such as potato vines, nut grass, and cotton stocks. The filter is cleaned daily.
7. In order to control the concentration of salts accumulating in the process wash water, the Discharger routinely removes process wash water from recirculation and replaces it with water from the Beardsley Canal and/or the Oildale Mutual Water District. Water from the second pond is pumped, at a rate of 400 gallons per minute for approximately seven hours per day (total of 168,000 gallons per day), to a nearby irrigation reservoir (hereafter referred to as Etchart Reservoir).
8. Process wash water and irrigation water are mixed in the Etchart Reservoir and pumped through a sand filter and drip irrigation system and applied to 40 acres of table grapes and 232 acres of almonds (hereafter referred to as the Land Application Area or LAA). The LAA is approximately 1 mile south of the facility.
9. Effluent monitoring results required by MRP No. R5-2004-0826 are summarized in Table 1 Below.

Table 1 - Average Annual Effluent Monitoring Data

Parameter	Units	2004	2005	2006	2007	2008	2009	2010	2011	2012
# of samples	--	4	4	4	4	4	4	4	7	8
pH	pH units	7.19	6.21	5.37	7.10	6.86	7.24	6.64	5.93	6.58
Electrical Conductivity	umhos/cm	2,608	1,143	1,200	934	872	749	789	947	1,048
Total Dissolved Solids	mg/L	2,585	1,225	1,118	890	820	705	730	1,106	991
Total Suspended Solids	mg/L	13,213	185	180	89	57	193	261	102	36
Settleable Solids	ml/L	58	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	682	278	270	205	220	185	205	214	258
Sulfate	mg/L	197	64	78	70	35	42	47	74	62
Calcium	mg/L	345	150	140	121	108	96	110	127	136
Magnesium	mg/L	35	9.9	11	10	7	7	8	7.7	11
Sodium	mg/L	82	39	37	30	22	23	17	16	28
Potassium	mg/L	53	24	33	21	16	15	15	28	19
Iron	mg/L	283	10.2	0.123	0.061	29	40	67	105	58
Bicarbonate	mg/L	78	56	70	84	36	57	35	34	80
Nitrate as Nitrogen	mg/L	0.4	2.0	3	0.7	1.0	1.0	1.3	1.4	1.2
Total Kjeldahl Nitrogen	mg/L	38	5.1	8.9	4.7	2.8	2.7	3.2	6	3.6

Parameter	Units	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Nitrogen	mg/L	38	21	9.4	5.5	4.1	3.9	--	--	--
Biochemical Oxygen Demand	mg/L	192	37	69	62	9	20	17	71	24

Site Specific Conditions

10. The ground surface elevation is approximately 450 feet above mean sea level, and the topography is relatively flat with a slight slope to the west-southwest.
11. The facility is located in an arid region that receives an average annual precipitation of 6.35 inches and has surface evaporation of approximately 100 inches per year.
12. Surface soils are classified by the Soil Conservation Service as Kimberlina fine sandy loam, with zero to two percent slopes. The soil is moderately deep and well drained with moderate permeability.
13. The facility is approximately four miles north of the Kern River and eight miles south of the smaller Poso Creek.
14. Bordering the facility on the north and east are railroad tracks, to the southeast is an oil field services company, and to the west and southwest are cultivated farmlands. The facility is on the north end of the developed portion of the City of Bakersfield transitioning to agricultural land to the north.
15. According to the Kern County Crop Survey from 2013, the primary crops grown in the vicinity of the facility were: grapes, almonds, alfalfa, potatoes, and oranges.

Groundwater Conditions

16. Subsurface conditions in the vicinity of the site consist of silty sand and fine-grained to coarse-grained sands, with intervals of finer grained sandy silts and clays.
17. According to the Kern County Water Agency's, *Improvement District No. 4 Report on Water Conditions 2012*, groundwater occurs in the vicinity of the facility at a depth of approximately 280 feet below ground surface and flows towards the southwest. The nearest known occurrence of perched groundwater is 20 miles to the west at a depth of 20 feet below ground surface in the Goose Lake Slough. No perched groundwater is known to exist in the vicinity of the facility.
18. Review of the March 1980 *Groundwater Pollution Study* prepared by the Kern County Health Department indicates groundwater underneath the two unlined ponds and LAA has a total dissolved solids (TDS) concentration up to 1,500 mg/L and a chloride concentration between 250 and 500 mg/L. Data from the 2011 *Water Supply Report* prepared by the Kern County Water Agency indicates groundwater underneath the unlined ponds and LAA still has a TDS concentration of about 1,500 mg/L.

Basin Plan, Beneficial Uses, and Regulatory Considerations

19. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition* (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Board. Pursuant to Water Code section 13263(a), waste discharge requirements must implement the Basin Plan.
20. The facility is in Detailed Analysis Unit 256 within the Kern County Basin hydrologic unit. The Basin Plan designates the beneficial uses of underlying groundwater as municipal and domestic supply, agricultural supply, industrial service supply and industrial process supply.
21. The Basin Plan establishes narrative water quality objectives for chemical constituents, tastes and odors, and toxicity in groundwater. It also sets forth a numeric objective for total coliform organisms.
22. The Basin Plan's numeric water quality objective for bacteria requires that the most probable number (MPN) of coliform organisms over any seven-day period shall be less than 2.2 per 100 mL in MUN groundwater.
23. The Basin Plan's narrative water quality objectives for chemical constituents, at a minimum, require waters designated as domestic or municipal supply to meet the MCLs specified in Title 22 of the California Code of Regulations (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.
24. The narrative toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, animal, plant, or aquatic life associated with designated beneficial uses.
25. Quantifying a narrative water quality objective requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses. The Basin Plan states that when compliance with a narrative objective is required to protect specific beneficial uses, the Central Valley Water Board will, on a case-by-case basis, adopt numerical limitations in order to implement the narrative objective.
26. The Basin Plan identifies the greatest long-term problem facing the entire Tulare Lake Basin is 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 a valley wide drain is constructed to

carry salts out of the basin. Until the drain is available, the Basin Plan establishes several salt management requirements, including:

- a. The incremental increase in salts from use and treatment must be controlled to the extent possible. The maximum electrical conductivity (EC) in the discharge 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 good quality groundwater shall not exceed an EC of 1,000 umhos/cm, a chloride content of 175 mg/L, or a boron content of 1.0 mg/L.
27. The Basin Plan allows the following exceptions to the EC limit of source water plus 500 umhos/cm:
- a. Where a greater net incremental increase in EC will result in lower mass emissions of salt and in conservation of water, provided that beneficial uses are protected.
 - b. Where the discharge exhibits a disproportionate increase in EC over the EC of source water due to unavoidable concentrations of organic dissolved solids from the raw food product, provided that beneficial uses are protected.
28. In the absence of specific numerical water quality limits, the Basin Plan methodology is to consider any relevant published criteria. General salt tolerance guidelines, such as *Water Quality for Agriculture* by Ayers and Westcot and similar references indicate that yield reductions in nearly all crops are not evident when irrigation water has an EC less than 700 umhos/cm. There is, however, an eight- to ten-fold range in salt tolerance for agricultural crops and the appropriate salinity values to protect agriculture in the Central Valley are considered on a case-by-case basis. It is possible to achieve full yield potential with waters having EC up to 3,000 umhos/cm if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop.
29. The list of crops in [Finding 15](#) is not intended as a definitive inventory of crops that are or could be grown in the area affected by the discharge, but it is representative of current and historical agricultural practices in the area.
30. With regard to biochemical oxygen demand (BOD), excessive application can deplete oxygen in the vadose zone and lead to anoxic conditions. At the ground surface, this can result in nuisance odors and fly-breeding. When insufficient oxygen is present below the ground surface, anaerobic decay of the organic matter can create reducing conditions that convert metals that are naturally present in the soil as relatively insoluble (oxidized) forms to more soluble reduced forms. This condition can be

exacerbated by acidic soils and/or acidic wastewater. If the reducing conditions do not reverse as the percolate travels down through the vadose zone, these dissolved metals (primarily iron, manganese, and arsenic) can degrade shallow groundwater quality. Many aquifers contain enough dissolved oxygen to reverse the process, but excessive BOD loading over extended periods may cause beneficial use impacts associated with these metals.

31. Typically, irrigation with high strength wastewater results in high BOD loading on the day of application. It is reasonable to expect some oxidation of BOD at the ground surface, within the evapotranspiration zone and below the root zone within the vadose (unsaturated) zone. The maximum BOD loading rate that can be applied to land without creating nuisance conditions or leaching of metals can vary significantly depending on soil conditions and operation of the land application system.
32. *Pollution Abatement in the Fruit and Vegetable Industry*, published by the United States Environmental Protection Agency, cites BOD loading rates in the range of 36 to 600 pounds per acre per day (lbs/acre/day) to prevent nuisance, but indicates the loading rates can be even higher under certain conditions. The studies that supported this report did not evaluate actual or potential groundwater degradation associated with those rates. There are few studies that have attempted to determine maximum BOD loading rates for protection of groundwater quality. Those that have been done are not readily adapted to the varying soil, groundwater, and climate conditions that are prevalent throughout the region.
33. With an average BOD concentration of 24 mg/L (based on 2012 data) and approximately 168,000 gallons per day removed from the potato washing process and used to irrigate the LAA, the maximum instantaneous BOD loading from the process wash water rate is less than 0.5 pounds per acre per day.
34. The *Western Fertilizer Handbook*, Eighth Edition, produced by the California Plant Health Association, indicates almonds and grapes will take up 200 pounds per acre per year (lbs/acre/year) and 125 lbs/acre/year, respectively.
35. With an average total nitrogen concentration of 4.8 mg/L (based on 2012 data) and approximately 9.4 million gallons (168,000 gallons per day, 7 days per week, and 8 weeks per season) of process wash water used to irrigate the LAA, the total nitrogen loading from the process wash water to the LAA is 1.3 pounds per acre per year.

Antidegradation Analysis

36. State Water Resources Control Board Resolution 68-16 ("Policy with Respect to Maintaining High Quality Waters of the State") (hereafter Resolution 68-16) prohibits degradation of groundwater unless it has been shown that:
 - a. The degradation does not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives,

- b. The degradation will not unreasonably affect present and anticipated future beneficial uses,
 - c. The discharger employs best practicable treatment or control (BPTC) to minimize degradation, and
 - d. The degradation is consistent with the maximum benefit to the people of the state.
37. Constituents of concern that have the potential to degrade groundwater include, in part, nutrients, organics, and salts.
- a. For nitrogen and organics, the limited processing and discharge season, significant depth of the vadose zone, low concentrations in wastewater, and agronomic application of wastewater to the LAA should preclude degradation of groundwater by nitrates and constituents associated with anoxic and reducing conditions in soil.
 - b. For salinity, this Order establishes two EC limitations. One EC limitation in compliance with the Basin Plan of source water plus 500 umhos/cm for the discharge of combined wastewater and irrigation water to the LAA. The other EC limitation for recirculation water in the unlined ponds will result in the TDS and chloride concentrations in any pond seepage to be less than background groundwater quality.

Treatment and Control Practices

38. The Discharger provides treatment and control of the discharge that incorporates:
- a. Removal of larger plant debris such as potato vines, nut grass, and cotton stalks from wash water,
 - b. pH control of wash water with calcium carbonate,
 - c. Control of salt build-up in the process ponds by bleeding off wash water and replacing it with fresh source water,
 - d. Annual removal of solids from the process ponds,
 - e. Organic loading rates to the LAA consistent with EPA recommendations and unlikely to cause unacceptable groundwater degradation,
 - f. Application of nitrogen at agronomic rates to the LAA, and
 - g. Hydraulic loading at rates to the LAA that preclude standing water.

Antidegradation Conclusions

39. This Order establishes groundwater limitations that allow some degradation, but that will not unreasonably threaten present and future anticipated beneficial uses of groundwater or result in groundwater quality that exceeds water quality objectives set forth in the Basin Plan.

40. The treatment and control measures described above in [Finding 38](#), in combination with the requirements of this Order, represent BPTC. Adoption of this Order will result in the implementation of BPTC.
41. The Discharger aids in the economic prosperity of the region by direct employment and provides a tax base for local and county governments. Provided the discharge from the facility complies with State and Central Valley Water Board plans and policies, authorized degradation due to the continued operation of the facility is to the maximum benefit to the people of the State. In addition, the use of process wastewater for irrigation in place of higher quality groundwater is of further benefit to people of the State.
42. The discharge and the potential for groundwater degradation allowed in this Order is consistent with the Antidegradation Policy since: (a) the limited degradation allowed by this Order will not result in water quality less than water quality objectives, or unreasonably affect present and anticipated beneficial uses of groundwater, (b) the Discharger has implemented BPTC to minimize degradation, and (c) the limited degradation is of maximum benefit to people of the State.

Water Reuse

43. The Basin Plan encourages the reuse of wastewater and identifies crop irrigation as a reuse option where the opportunity exists to replace an existing or proposed use of fresh water with recycled water.

Other Regulatory Considerations

44. In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This order promotes that policy by requiring discharges to ensure that water is safe for domestic use.
45. Based on the threat and complexity of the discharge, the facility is determined to be classified as 2C 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, defined as: "Any discharger for which waste discharge requirements have been prescribed pursuant to Section 13263 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."

46. Title 27 of the California Code of Regulations (hereafter Title 27) contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste. However, Title 27 exempts certain activities from its provisions. Discharges regulated by this Order are exempt from Title 27 pursuant to provisions that exempt wastewater. Title 27, section 20090 states in part:

The following activities shall be exempt from the SWRCB-promulgated provisions of this subdivision, so long as the activity meets, and continues to meet, all preconditions listed:

(b) Wastewater - Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leachfields if the following conditions are met:

- (1) the applicable RWQCB has issued WDRs, reclamation requirements, or waived such issuance;
- (2) the discharge is in compliance with the applicable water quality control plan; and
- (3) the wastewater does not need to be managed according to Chapter 11, Division 4.5, Title 22 of this code as a hazardous waste.

47. The discharge authorized herein, and the treatment and storage facilities associated with the discharge, are exempt from the requirements of Title 27 as follows:
- a. Discharges to unlined process ponds and the LAA are exempt pursuant to Title 27, section 20090(b) because they are discharge of wastewater to land and:
 - i. The Central Valley Water Board is issuing WDRs.
 - ii. The discharge is in compliance with the Basin Plan, and;
 - iii. The treated effluent discharged to the ponds does not need to be managed as hazardous waste.
48. The State Water Board adopted Order 97-03-DWQ (NPDES General Permit CAS000001) specifying waste discharge requirements for discharges of storm water associated with industrial activities, and requiring submittal of a Notice of Intent by all affected industrial dischargers. All storm water from the facility is allowed to percolate on-site and does not discharge into a water of the United States. The Discharger is therefore not required to obtain coverage under the NPDES General Permit CAS000001.

49. Water Code section 13267(b) states:

In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of discharging, or who proposes to discharge within its region ... shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

The technical reports required by this Order and the attached Monitoring and Reporting Program No. R5-2014-XXXX are necessary to ensure compliance with these waste discharge requirements. The Discharger owns and operates the facility that discharges the waste subject to this Order.

50. Pursuant to Water Code section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

California Environmental Quality Act

51. The facility has been in operation since at least 2004, as documented by the issuance of MRP No. R5-2004-0826. Kern County has previously determined that the operation of this facility does not require the County to undertake a discretionary approval under the California Environmental Quality Act ("CEQA")(Pub. Resources Code, § 21000 et seq.). All wastewater management systems at the facility have already been installed and are currently in use. This Order places additional requirements on the continued operation of the facility in order to ensure the protection of waters of the state. The issuance of this Order is therefore exempt from the provisions of CEQA in accordance with California Code of Regulations, title 14, section 15301, which exempts the "operation, repair, maintenance, [and] permitting ... of existing public or private structures, facilities, mechanical equipment, or topographical features" from environmental review.

Public Notice

52. 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.
53. 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.

54. 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, Bidart Bros., its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted hereunder, shall comply with the following:

A. Discharge Prohibitions

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. Discharge of waste classified as 'hazardous', as defined in the California Code of Regulations, title 23, section 2510 et seq., is prohibited.
3. Bypass of untreated or partially treated waste is prohibited, except as allowed by Standard Provision E.2 of the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*.
4. Discharge of waste at a location or in a manner different from that described in the RWD and Findings herein, is prohibited.

B. Discharge Specifications

1. As determined by collecting samples at monitoring location PND-002¹, process wash water in the process ponds shall not exceed an electrical conductivity of 2,000 umhos/cm.
2. No waste constituent shall be released, discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations of this Order.
3. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.
4. The discharge shall remain within the permitted waste containment structures and LAA at all times.
5. The Discharger shall operate all systems and equipment to optimize the quality of the discharge.

¹ Monitoring location PND-002 is described in Monitoring and Reporting Program R5-2014-XXXX.

6. Objectionable odors related to the discharge shall not be perceivable beyond the limits of the property where the waste is generated, treated, and/or discharged at an intensity that creates or threatens to create nuisance conditions.
7. The discharge shall be distributed uniformly on adequate acreage within the LAA.

C. Effluent Limitations

1. As determined by collecting samples from monitoring location EFF-001¹, the 12-month rolling average EC of the discharge of comingled process wash water and irrigation water applied to the LAA shall not exceed the 12-month rolling average EC of the source water plus 500 umhos/cm. When source water is from more than one source, the EC shall be a weighted average of all sources.

D. Land Application Area Specifications

1. Crops shall be grown in the LAA. Crops shall be selected based on nutrient uptake, consumptive use of water, and irrigation requirements to maximize crop uptake of water and nutrients.
2. Application of waste constituents to the LAA shall be at reasonable agronomic rates to preclude creation of a nuisance or unreasonable degradation of groundwater, considering the crop, soil, climate, and irrigation management system. The annual nutritive loading of the LAA, including the nutritive value of organic and chemical fertilizers and of the wastewater, shall not exceed the annual crop demand.
3. Hydraulic loading of wastewater and irrigation water shall be at reasonable agronomic rates.
4. The BOD loading to the LAA calculated as a cycle average as determined by the method described in the attached Monitoring and Reporting Program, shall not exceed 100 pounds per day per acre.
5. Land application of wastewater shall be managed to minimize erosion.
6. The Discharger may not discharge process wastewater to the LAA within 24 hours of a storm event of measurable precipitation or when soils are saturated.
7. Any runoff of wastewater or irrigation shall be confined to the LAA and shall not enter any surface water drainage course or storm water drainage system.

¹ Monitoring location EFF-001 is described in Monitoring and Reporting Program R5-2014-XXXX.

8. Discharge of process wastewater to any LAA not having a fully functional tailwater/runoff control system is prohibited.
9. The LAA shall be managed to prevent breeding of mosquitos. More specifically:
 - a. All applied water must infiltrate completely within 48-hours;
 - b. Ditches not serving as wildlife habitat shall be maintained free of emergent, marginal, and floating vegetation; and
 - c. Low-pressure and unpressurized pipeline and ditches accessible to mosquitos shall not be used to store recycled water.
10. The LAA shall be inspected as frequently as necessary to ensure continuous compliance with the requirements of this Order.

E. Solids Disposal Specifications

Solids generated at the facility consist of potato vines, nut grass, cotton stalks, and other debris removed from the waste stream during the potato washing process and residual material removed from the process ponds during the dry season when the ponds are empty of process wash water.

1. Any drying, handling and storage of solids at the facility shall be temporary, and controlled and contained in a manner that minimizes leachate formation and precludes the development of odor nuisance conditions and infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations of this Order. Solids removed during the potato washing process and removed from the process wash water ponds shall be applied as grading material on farm roads owned and operated by the Discharger.
2. Any proposed change in solids use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

F. Groundwater Limitations

Release of waste constituents associated with the discharge shall not cause or contribute to groundwater containing constituent concentrations in excess of the concentrations specified below or in excess of natural background quality for the specified constituents, whichever is greater:

- i. Nitrate as nitrogen of 10 mg/L.
- ii. For constituents identified in Title 22 of the California Code of Regulations, the MCLs quantified therein.

G. Provisions

1. The Discharger shall comply with Monitoring and Reporting Program (MRP) R5-2014-XXXX, which is part of this Order, and any revisions thereto as ordered by the Executive Officer. The submittal dates of Discharger self-monitoring reports shall be no later than the submittal date specified in the MRP.
2. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements", dated 1 March 1991, which are attached hereto and made a part of this Order. This attachment and its individual paragraphs are commonly referenced as "Standard Provisions."
3. As a means of discerning compliance with [Discharge Specification B.6](#), the dissolved oxygen (DO) content in the upper one foot of the process wash water in the process ponds shall not be less than 1.0 mg/L for three consecutive weekly 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.
4. The Discharger shall operate and maintain all process wash water 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).
5. **By 30 January 2015**, the Discharger shall submit a plan and schedule to explore cost effective alternatives or reductions to the concentration of chlorine used for control of odor and bacteria in the process wash water. The plan and schedule shall be subject to review by the Executive Officer.
6. Any new construction or rehabilitation of berms or levees (excluding internal berms that separate ponds or control the flow of water within a pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer.
7. In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain 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.

8. 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.
9. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports. On or before each report due date, the Discharger shall submit the specified document to the Central Valley Water Board or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Discharger shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board in writing when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
10. 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 includes 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.
11. As described in the Standard Provisions, the Discharger shall report promptly to the Central Valley Water Board any material change or proposed change in the character, location, or volume of the discharge.
12. **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.
13. In the event of any change in control or ownership of the facility, the Discharger must notify the succeeding owner or operator of the existence of this Order by

letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.

14. To assume operation as Discharger under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. If approved by the Executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.
15. A copy of this Order including the MRP, Information Sheet, Attachments, and Standard Provisions, shall be kept at the Potato Shed for reference by operating personnel. Key operating personnel shall be familiar with its contents.
16. 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.
17. The Central Valley Water Board is currently implementing the CV-SALTS initiative to develop a Basin Plan amendment that will establish a salt and nitrate management plan for the Central Valley. Through this effort the Basin Plan will be amended to define how the narrative water quality objectives are to be interpreted for the protection of agricultural use. If new information or evidence indicates that groundwater limitations different than those prescribed herein are appropriate, this Order will be reopened to incorporate such limits.
18. 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 or with the WDRs 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, sections 2050 and following. 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 thirtieth day following the date of this Order 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 filing petitions may be found on the Internet at:

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

or will be provided upon request.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board on XX June 2014.

PAMELA C. CREEDON, Executive Officer

Order Attachments:

A. Site Location Map

Monitoring and Reporting Program R5-2014-XXXX
Information Sheet

Standard Provisions (1 March 1991) (separate attachment to Discharger only)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2014-XXXX

FOR
BIDART BROS.,
BAKERSFIELD POTATO SHED
KERN COUNTY

This Monitoring and Reporting Program (MRP) is required pursuant to Water Code section 13267.

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 (Standard Provisions).

Field test instruments (such as pH, temperature, dissolved oxygen (DO), and electrical conductivity (EC)) 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 or 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 California Department of Public Health's 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 sampling events, the Discharger may request this MRP be revised to reduce monitoring and/or reporting frequency. The proposal must include adequate technical justification for reduction in monitoring and/or reporting frequency.

A glossary of terms used within this MRP is included on [page 7](#).

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

MONITORING LOCATIONS

<u>Monitoring Location Name</u>	<u>Monitoring Location Description</u>
EFF-001	Combined process wash water and irrigation water that is mixed in the Etchart Reservoir and applied to the Land Application Area (LAA).
LAA-001	40 acres of table grapes and 232 acres of almonds where water from the Etchart Reservoir is applied. Also referred to the Land Application Area or LAA.
PND-001	First pond (or west pond) in series following the 30,000 gallon storage tank. This pond is unlined and has an estimated capacity of 400,000 gallons.
PND-002	Second pond (or east pond) in series following the first pond. This pond is unlined and has an estimated capacity of 200,000 gallons.
SPL-001	Source water used to wash potatoes.

EFFLUENT MONITORING EFF-001

Effluent samples shall be collected after wash water from the facility and irrigation water are mixed in Etchart Reservoir and prior to discharge to the LAA and shall include at least the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Continuous	Flow ¹	mgd	Meter
2/Season ²	Five-day Biochemical Oxygen Demand (BOD ₅)	mg/L	Grab
2/Season ²	Total Nitrogen	mg/L	Grab
2/Season ²	Alkalinity	mg/L	Grab
2/Season ²	Calcium	mg/L	Grab
2/Season ²	Chloride	mg/L	Grab
2/Season ²	Electrical Conductivity	umhos/cm	Grab
2/Season ²	pH	pH Units	Grab
2/Season ²	Sodium	mg/L	Grab
2/Season ²	Sulfate	mg/L	Grab
2/Season ²	Total Dissolved Solids	mg/L	Grab
2/Season ²	Fixed Dissolved Solids	mg/L	Grab

1. Flow of wash water pumped from potato washing process to the Etchart Reservoir.
 2. One sample collected at the beginning and one sample collected at the end of the potato processing season.

LAND APPLICATION AREA MONITORING LAA-001

The Discharger shall perform the following routine monitoring and loading calculations for the LAA. In addition, the Discharger shall keep a log of routine monitoring observations for example: areas of ponding, broken irrigation pipes, odors and/or flies within the LAA. Data shall be collected and presented in tabular format and shall include the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
1/Day	Location of process wash water application area	Field # & Acreage	n/a
1/Day	Process wash water flow	gpd	Metered
1/Day	Process wash water loading	inches/day	Calculated
1/Day	Supplemental irrigation ¹	gpd	Metered
1/Day	Precipitation ¹	inches	Rain gauge ²
1/Day	BOD ₅ loading (day of application) ³	lbs/acre	Calculated
1/Day	BOD ₅ loading (cycle average) ³	lbs/acre-day	Calculated
1/Month	Nitrogen loading from wastewater ⁴	lbs/acre	Calculated
1/Month	Nitrogen loading from fertilizer	lbs/acre	Calculated
1/Year	Cumulative nitrogen loading ¹	lbs/acre-year	Calculated
1/Month	Salt loading ⁴	lbs/acre	Calculated
1/Year	Cumulative salt loading ¹	lbs/acre-year	Calculated

- Supplemental irrigations, precipitation, cumulative nitrogen loading, and cumulative salt loading shall be monitored for the entire year, not just during the potato processing season.
- National Weather Service data from the nearest weather station is acceptable.
- BOD loading rates shall be calculated using the applied volume of process wash water and irrigation water, applied acreage, and the average of the two samples of BOD collected during the current potato processing season from monitoring location EFF-001. The BOD loading rate shall be divided by the number of days between applications to determine cycle average.
- Nitrogen and salt loading shall be calculated using the applied volume of process wash water and irrigation water, applied acreage, and the average concentration of the two samples of total nitrogen and FDS collected during the current potato processing season from monitoring location EFF-001.

UNLINED POND MONITORING PND-001 AND PND-002 (PROCESS WASH WATER)

Pond monitoring shall be in effect so long as the ponds contain process wash water and shall include at least the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
1/Week	Freeboard	feet	Measured
1/Week	Dissolved Oxygen	mg/L	Grab
1/Week	Visual Inspection ¹	--	--
1/Week	Electrical Conductivity	umhos/cm	Grab
1/Season ²	Five-day Biochemical Oxygen Demand (BOD ₅)	mg/L	Grab
1/Season ²	Total Nitrogen	mg/L	Grab

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
1/Season ²	Alkalinity	mg/L	Grab
1/Season ²	Calcium	mg/L	Grab
1/Season ²	Chloride	mg/L	Grab
1/Season ²	pH	pH Units	Grab
1/Season ²	Sodium	mg/L	Grab
1/Season ²	Sulfate	mg/L	Grab
1/Season ²	Total Dissolved Solids	mg/L	Grab
1/Season ²	Fixed Dissolved Solids	mg/L	Grab

1. Visual inspection shall include observing the pond sides and surface area from items such as: weeds, algae, animal holes, and erosion.
2. One sample collected at the end of the potato processing season and only needs to be collected from PND-002 (second or east pond).

UNLINED POND MONITORING PND-001 AND PND-002 (RESIDUAL SOLIDS)

A composite sample of dried residual solids remaining in the ponds following the potato processing season shall be analyzed for the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
1/Season ¹	Total Organic Carbon	mg/kg	Composite
1/Season ¹	Nitrate as Nitrogen	mg/kg	Composite
1/Season ¹	Total Kjeldahl Nitrogen	mg/kg	Composite
1/Season ¹	Total Nitrogen	mg/kg	Calculated

1. Residual solids sample shall be collected at the end of the potato processing season.

In addition, the Discharger shall record the quantity of residual solids removed from the ponds and location of disposal.

SOURCE WATER MONITORNG SPL-001

For each source, the Discharger shall calculate the flow-weighted average concentrations for the specified constituents utilizing monthly flow data and the most recent chemical analysis conducted in accordance with Title 22 drinking water requirements. Publically available data (such as a Drinking Water Consumer Confidence Report) may be used in lieu of collecting and analyzing samples of each water source.

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
2/Season ¹	Alkalinity	mg/L	Grab
2/Season ¹	Calcium	mg/L	Grab
2/Season ¹	Chloride	mg/L	Grab
2/Season ¹	Electrical Conductivity	umhos/cm	Grab
2/Season ¹	pH	pH Units	Grab
2/Season ¹	Sodium	mg/L	Grab

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
2/Season ¹	Sulfate	mg/L	Grab
2/Season ¹	Total Dissolved Solids	mg/L	Grab

1. One sample collected at the beginning and one sample collected at the end of the potato processing season.

REPORTING

All monitoring results shall be reported in an **Annual Monitoring Report** which is due by 1 February of the year following the year the monitoring was conducted.

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 facility 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 following information is to be included on all annual reports, as well as any report transmittal letters, submitted to the Central Valley Water Board:

Discharger: Bidart Bros.
Facility: Bakersfield Potato Shed
MRP: R5-2014-XXXX
Contact Information (telephone number and email)

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.

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.

Laboratory analysis reports do not need to be included in the monitoring reports; however, 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.

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 California Business and Professions Code sections 6735, 7835, and 7835.1.

At any time henceforth, the State or Central Valley Regional Water Board may notify the Discharger to electronically submit monitoring reports using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>) or similar system. Until such notification is given, the Discharger shall submit hard copy monitoring reports.

A. All Annual Monitoring Reports, shall include the following:

Effluent reporting

1. The results of effluent monitoring from sample location EFF-001 specified on [page 2](#).
2. The names and general responsibilities of all persons in charge of wastewater treatment and disposal.
3. The names and telephone numbers of persons to contact regarding the facility for emergency and routine situations.
4. A statement certifying when the flow meter(s) 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.

Land Application Area reporting

1. The results of the routine monitoring and loading calculations for BOD, nitrogen, and salts as specified on [page 3](#).
2. Provide a Site Map of the LAA showing predominant features, and include field numbers and applied acreages.
3. A summary of the notations made in the LAA monitoring log during each quarter. The entire contents of the log do not need to be submitted.

Unlined Pond reporting

1. The results of the routine monitoring specified on [pages 3 and 4](#).

Source Water reporting

1. The results of the routine monitoring specified on [page 4](#).

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

PAMELA C. CREEDON, Executive Officer

MONITORING AND REPORTING PROGRAM R5-2014-XXXX
BIDART BROS.
BAKERSFIELD POTATO SHED
KERN COUNTY

-7-

(Date)

GLOSSARY

BOD ₅	Five-day biochemical oxygen demand
DO	Dissolved oxygen
EC	Electrical conductivity at 25° C
FDS	Fixed dissolved solids
TKN	Total Kjeldahl nitrogen
TDS	Total dissolved solids
Continuous	The specified parameter shall be measured by a meter continuously.
1/Season	Samples shall be collected once at the end of the potato processing season.
2/Season	Samples shall be collected once at the beginning and once at the end of the potato processing season.
1/Day	Samples shall be collected every day except weekends or holidays.
1/Week	Samples shall be collected at least once per week.
1/Month	Samples shall be collected at least once per month.
1/Year	Samples shall be collected at least once per year.
gpd	Gallons per day
mg/L	Milligrams per liter
umhos/cm	Micromhos per centimeter
mk/kg	Milligrams per kilogram

INFORMATION SHEET

ORDER R5-2014-XXXX
BIDART BROS.
BAKERSFIELD POTATO SHED
KERN COUNTY

BACKGROUND

In September 2003, Central Valley Water Board staff inspected the Bidart Bros., Potato Shed (hereafter referred to as facility) in Bakersfield, Kern County. The inspection was conducted in response to an odor complaint from nearby businesses that was forwarded to Central Valley Water Board staff by the Kern County Environmental Health Services Department. It was determined that the source of the odors was from rotten potato material in the process ponds. As a result of the inspection, the facility was issued a Notice of Violation on 3 December 2003 for discharging waste without filing a Report of Waste Discharge (RWD) with the Central Valley Water Board.

On 9 April 2004, Bidart Bros., (Bidart) submitted a RWD that described potato washing and sorting activities at the facility. Additional information to complete the RWD was submitted on 12 May 2004. On 23 June 2004, Central Valley Water Board staff issued Monitoring and Reporting Program (MRP) No. R5-2004-0826 for the potato shed. Since 2004, Bidart has been submitting annual monitoring reports as required by the MRP.

FACILITY DESCRIPTION

The facility only washes and packages potatoes for commercial sale during an approximate 6 to 8 week period in June and July each year. The source of water for potato washing is either the Beardsley Canal or the Oildale Mutual Water District. At the beginning of the processing season, water from the Beardsley Canal is pumped into a 30,000 gallon storage tank and two holding ponds in series. The first pond (or west pond) acts as a settling basin and has an estimated capacity of 400,000 gallons. The second pond (or east pond) has an estimated capacity of 200,000 gallons. From the second pond, water (primarily from the Beardsley Canal) is filtered and treated with chlorine and is used primarily for washing the potatoes when they first arrive at the potato shed. Water from the Oildale Mutual Water District is used for the final rinse of the potatoes before packaging. All wash water is contained in the flume system and recirculated back to the first pond. . The process water also passes through a buffer tank containing calcium carbonate rock for pH control. In order to manage the salt build-up in the process water, it is routinely pumped out of the second pond and used to supplement irrigation of nearby cropland and new source water (from the Beardsley Canal and/or the Oildale Mutual Water District) is added to the potato washing process. Approximately 168,000 gallons per day of process water are discharged from the potato washing process to an irrigation pond identified as the Etchart Reservoir. Process wash water and irrigation water from the nearby Beardsley Canal (Kern River Water) are mixed in the Etchart Reservoir and pumped through a sand filter and drip irrigation system and applied to 40 acres of table grapes and 232 acres of almonds (also referred to as the Land Application Area or LAA).

Analytical data from samples collected from process wash water discharged from pond 2 to Etchart Reservoir are summarized in Table 1 below.

Table 1 - Average Annual Effluent Water Quality

Parameter	Units	2004	2005	2006	2007	2008	2009	2010	2011	2012
# of samples	--	4	4	4	4	4	4	4	7	8
pH	pH units	7.19	6.21	5.37	7.10	6.86	7.24	6.64	5.93	6.58
Electrical Conductivity	umhos/cm	2,608	1,143	1,200	934	872	749	789	947	1,048
Total Dissolved Solids	mg/L	2,585	1,225	1,118	890	820	705	730	1,106	991
Total Suspended Solids	mg/L	13,213	185	180	89	57	193	261	102	36
Settleable Solids	ml/L	58	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	682	278	270	205	220	185	205	214	258
Sulfate	mg/L	197	64	78	70	35	42	47	74	62
Calcium	mg/L	345	150	140	121	108	96	110	127	136
Magnesium	mg/L	35	9.9	11	10	7	7	8	7.7	11
Sodium	mg/L	82	39	37	30	22	23	17	16	28
Potassium	mg/L	53	24	33	21	16	15	15	28	19
Iron	mg/L	283	10.2	0.123	0.061	29	40	67	105	58
Bicarbonate	mg/L	78	56	70	84	36	57	35	34	80
Nitrate as Nitrogen	mg/L	0.4	2.0	3	0.7	1.0	1.0	1.3	1.4	1.2
Total Kjeldahl Nitrogen	mg/L	38	5.1	8.9	4.7	2.8	2.7	3.2	6	3.6
Total Nitrogen	mg/L	38	21	9.4	5.5	4.1	3.9	--	--	--
Biochemical Oxygen Demand	mg/L	192	37	69	62	9	20	17	71	24

Average source water EC between 2004 and 2012 was 629 umhos/cm.

Solids that accumulate in the ponds are removed at the end of each season when the ponds are dry and applied on farms roads as grading material. In 2012, the residual solids had a total organic carbon content of 700 mg/kg. No other analytical data or quantity of residual solids removed from the ponds were reported.

GROUNDWATER CONDITIONS

Review of the March 1980 *Groundwater Pollution Study* prepared by the Kern County Health Department indicates groundwater underneath the two unlined ponds and LAA has a total dissolved solids (TDS) concentration up to 1,500 mg/L and a chloride concentration between 250 and 500 mg/L. Data from the 2011 *Water Supply Report* prepared by the Kern County Water Agency indicates groundwater underneath the unlined ponds and LAA

still has a TDS concentration of about 1,500 mg/L. According to the *Improvement District No. 4, Report on Water Conditions 2012* prepared by the Kern County Water Agency, depth to groundwater in spring 2012 in the vicinity of the facility was approximately 280 feet below ground surface.

REGULATORY CONSIDERATIONS

Because of the nuisance conditions that prompted the site inspection in 2003, the threat to water quality of this discharge is classified as a Category 2.

Basin Plan

The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition* (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Board. Pursuant to Water Code section 13263(a), waste discharge requirements must implement the Basin Plan. The facility is in Detailed Analysis Unit 256 within the Kern County Basin hydrologic unit. The Basin Plan designates the beneficial uses of underlying groundwater as municipal and domestic supply; agricultural supply; and industrial service and process supply.

Treatment and Control Practices

The Discharger provides treatment and control of the discharge that incorporates:

- a. Removal of larger plant debris such as potato vines, nut grass, and cotton stalks from process wash water,
- b. pH control of wash water with calcium carbonate,
- c. Control of salt build-up in the process ponds by bleeding off wash water and replacing it with fresh source water,
- d. Annual removal of solids from the process ponds,
- e. Organic loading rates to the LAA consistent with EPA recommendations and unlikely to cause unacceptable groundwater degradation,
- f. Application of nitrogen at agronomic rates to the LAA, and
- g. Hydraulic loading at rates to the LAA that preclude standing water.

In combination with the requirements of this Order, these treatment and control measures represent best practicable treatment and control (BPTC).

Antidegradation

The antidegradation directives of State Water Board Resolution No. 68-16, "*Statement of Policy with Respect to Maintaining High Quality Waters in California*," or "Antidegradation Policy" require that waters of the State that are better in quality than established water quality objectives be maintained "consistent with the maximum benefit to the people of the

State.” Policy and procedures for complying with this directive are set forth in the Basin Plan.

The discharge and the potential for groundwater degradation allowed in this Order is consistent with the Antidegradation Policy since: (a) the limited degradation allowed by this Order will not result in water quality less than water quality objectives, or unreasonably affect present and anticipated beneficial uses of groundwater, (b) the Discharger has implemented BPTC to minimize degradation, and (c) the limited degradation is of maximum benefit to people of the State.

Title 27

Unless exempt, the release of designated waste is subject to full containment pursuant to Title 27 requirements. Here, the discharge is exempt from the requirements of Title 27 pursuant to the wastewater exemption found at Title 27, section 20090(b).

California Environmental Quality Act

The facility has been in operation since at least 2004, as documented by the issuance of MRP No. R5-2004-0826. Kern County has previously determined that the operation of this facility does not require the County to undertake a discretionary approval under the California Environmental Quality Act (“CEQA”)(Pub. Resources Code, § 21000 et seq.). All wastewater management systems at the facility have already been installed and are currently in use. This Order places additional requirements on the continued operation of the facility in order to ensure the protection of waters of the state. The issuance of this Order is therefore exempt from the provisions of CEQA in accordance with California Code of Regulations, title 14, section 15301, which exempts the “operation, repair, maintenance, [and] permitting ... of existing public or private structures, facilities, mechanical equipment, or topographical features” from environmental review.

PROPOSED ORDER TERMS AND CONDITIONS

Discharge Prohibitions, Effluent Limitations, Discharge Specifications, and Provisions

The proposed Order prohibits discharge to surface waters and drainage courses.

The Discharger can control the electrical conductivity (EC) of the recirculation wash water and discharge to the Etchart Reservoir based on the volume of wash water removed from recirculation and replenished with source water. However, this may not be the best use of source water, particularly during times of severe drought. This Order includes two EC limitations. One EC limitation for the combined wash water and irrigation water applied to the LAA based on the Basin Plan requirement of source water plus 500 umhos/cm. The other EC limitation for the recirculation wash water is set so the corresponding TDS and chloride concentrations are less than or equal to 1,500 mg/L and 500 mg/L, respectively, which are background groundwater concentrations. Review of effluent data indicate the ratio of EC to calculated TDS is approximately 1.9 and the ratio of EC to chloride is approximately 4.2. An EC of 2,850 umhos/cm would equate to a calculated TDS

concentration of 1,500 mg/L and an EC of 2,100 umhos/cm would equate to a chloride concentration of 500 mg/L. This Order includes an EC limitation for recirculation wash water of 2,000 umhos/cm.

Application of waste constituents to the LAA shall be at reasonable agronomic rates to preclude creation of a nuisance or unreasonable degradation of groundwater, considering the crop, soil, climate, and irrigation management system. The annual nutritive loading of the wastewater application area, including the nutritive value of organic and chemical fertilizers, manure from non-commercial livestock, and of the wastewater, shall not exceed the annual crop demand.

Monitoring Requirements

Water Code section 13267 authorizes the Central Valley Water Board to require monitoring and technical reports as necessary to investigate the impact of a waste discharge on waters of the State. Water Code section 13268 authorizes the assessment of administrative civil liability for failure to submit required monitoring and technical reports.

The proposed Order includes monitoring requirements for combined wash water and irrigation water discharged to the LAA, the unlined wash water process ponds, and residual solids in the ponds. In addition, the proposed Order requires monitoring of the wastewater loading calculations for organics, nutrients, and salts to the LAA. This monitoring is necessary to characterize the discharge, and evaluate compliance with effluent limitations and discharge specifications prescribed in the Order.

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 provided or if applicable laws and regulations change.