

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

WASTE DISCHARGE REQUIREMENTS ORDER R5-2013-_____
FOR
OLAM WEST COAST, INC.
ONION DEHYDRATOR
FRESNO COUNTY

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

Background

1. DeFrancesco and Sons, Inc., (DeFrancesco) owned a dehydrating plant (Plant) at 47641 W Nees Avenue west of Firebaugh that processed garlic, onion, and parsley. The discharge was regulated under Waste Discharge Requirements (WDRs) Order 98-133. DeFrancesco ceased discharging in early part of 2006 and the Plant was shut down. On 6 December 2007, WDRs Order 98-133 were rescinded.
2. Olam West Coast, Inc., (Discharger) purchased the former DeFrancesco Plant. The purchase included the dehydrating plant, wastewater treatment system, and a total of 209 acres of land application area (LAA) in section 34, Township 12 South, Range 12 East, MDB&M in Fresno County. The 209 acres of LAA has a net irrigable area of 188 acres.
3. On 27 January 2009, the Discharger submitted a Report of Waste Discharge (RWD) for the discharge of an average flow of 0.72 million gallons per day (mgd) of onion processing wastewater to 188 net acres of land owned by the Discharger. On 26 June 2009, the RWD was considered complete. On 22 July 2009, the Executive Officer issued Monitoring and Reporting Program (MRP) R5-2009-0837.

Wastewater Generation, Treatment, and Disposal

4. The Plant has two onsite supply wells: a primary supply well, and an emergency supply well. The Discharger obtains most of its supply water from the primary supply well. Supply water is then stored in a 150,000 gallon storage tank where sodium hypochlorite is added prior to use.
5. The current processing at the Plant consists of washing the onions in chlorinated water and then slicing, drying, milling, and packing onions. Wastewater is generated from: washing onions, boiler blowdown, regenerant from an ion-exchange unit; and the cleaning of knives, conveyor belts, and dryers. All of the different waste streams are collected in a sump. A flow meter that is located after the sump and before the treatment ponds measures the total amount of wastewater produced at the Plant.

6. The wastewater treatment process consists of a 1/4-inch auger screen that removes solids from the wastewater, and a 5,000-gallon holding tank where wastewater is stored prior to passing through hydro-sieves. Wastewater then flows to one of the two unlined settling ponds. Only one of the two unlined settling ponds operates each processing season. The settling pond not in service is dredged to remove finer solids that settle at the bottom of the pond. Wastewater is then treated in two unlined aerated ponds operated in series.
7. Residual solids generated from the processing include onion peels and roots, which are sold for livestock feed. Finer settled solids removed from the bottom of the unlined settling pond are primarily silt from washing the onions. Historically, the silt has been used by local farmers as fill material and applied to the LAA. The Discharger currently does not monitor the amount of residual and finer settled solids generated at the Plant. This Order requires the Discharger to provide information to characterize these solids by monitoring in accordance with MRP R5-2013-____. This Order also includes a provision requiring the Discharger to submit a Solids Management Plan that describes how the solids are disposed of.
8. After treatment, the wastewater is routed to a series of ditches and then eventually flows to an unlined storage pond in the northeast corner of the LAA. The LAA is divided into four smaller areas that the Discharger refers to as Cell 1 through Cell 4. Each cell has an irrigation pipe on the southern end of the cell. A local farmer applies the wastewater to the 188 acres of LAA. Wastewater is applied by furrow irrigation. Crops currently grown in the LAA include cotton and sudan grass. Any tailwater that runs off is captured and recirculated back to the unlined storage pond in the northeast corner of the LAA. During the rainy season, rainfall runoff is diverted into the Buick Drain for management and disposal by the Panoche Drainage District. A site map of the Plant is shown on [Attachment A](#), and a flow schematic of the wastewater treatment process is shown on [Attachment B](#), both of which are part of this Order.
9. The Plant does not have an effluent flow meter that measures wastewater applied to each discrete cell of the LAA. The Discharger needs an effluent flow meter at a point in the system following treatment and before discharge of the wastewater to the LAA in order to calculate the appropriate hydraulic and nutrient loading rates to each cell as required in the Land Application Area Monitoring section of MRP R5-2013-____. This Order includes a provision requiring the Discharger to install an effluent flow meter after treatment and before wastewater goes to the LAA.

Wastewater Characteristics

10. The processing season runs from May through October, clean-up of the Plant occurs from November to December, and overhaul sanitizing occurs from January to April (Months are approximate and vary each year).
11. Based on Discharger's self-monitoring reports (SMRs) from January 2010 through December 2012, flows during the processing season range from 0.003 to 1.4 mgd and average 0.32 mgd. Clean-up flows range from 0.0015 to 0.096 mgd and average 0.014 mgd. Overhaul sanitizing flows range from 22 gallons per day to 0.204 mgd and average 0.023 mgd.
12. Annual average wastewater quality based on data contained in the Discharger's SMRs from August 2009 through December 2012, as required by MRP R5-2009-0837, are presented in Table 1.

Table 1. Annual Average Effluent Quality

		EC umhos/cm	TDS mg/L	BOD mg/L	TN mg/L	TKN mg/L	Na mg/L	Cl mg/L	Hardness mg/L	Alkalinity mg/L
2009	Min	2,000	1,800	220	12	10	238	132	296	79
	Max	2,400	2,100	710	24	24	503	290	375	332
	Ave	2,180	1,925	520	18	18	394	205	328	194
2010	Min	1,600	1,200	330	7	7	266	94	273	180
	Max	3,300	2,500	1,700	79	79	620	370	420	737
	Ave	2,609	1,873	754	27	26	403	260	342	375
2011	Min	1,600	1,000	150	4	4	270	102	188	31
	Max	3,400	3,000	1,800	46	46	570	368	459	508
	Ave	2,482	1,964	851	17	18	398	230	306	214
2012	Min	2,400	1,800	130	18	18	440	160	180	65
	Max	4,200	2,900	1,900	53	53	800	446	410	816
	Ave	3,008	2,325	824	28	28	558	338	286	562
Average		2,570	2,022	737	23	23	438	258	315	336

13. Average wastewater quality during the processing season based on data from January 2010 through December 2012 are tabulated below.

Table 2. Processing Season Average Effluent Quality

		EC umhos/cm	TDS mg/L	BOD mg/L	TN mg/L	TKN mg/L	Na mg/L	Cl mg/L	Hardness mg/L	Alkalinity mg/L
2010	Min	2,300	1,900	330	10	10	290	299	287	180
	Max	3,300	2,500	1,700	25	25	580	365	420	340
	Ave	2,900	2,100	804	17	17	452	328	357	255
2011	Min	2,500	2,200	450	14	14	324	123	263	31
	Max	3,100	3,000	1,800	46	46	570	368	459	120
	Ave	2,800	2,580	1,060	25	25	441	272	348	75
2012	Min	2,400	2,000	620	20	20	440	160	180	65
	Max	2,900	2,900	1,900	53	53	560	430	260	65
	Ave	2,650	2,500	1,107	30	30	500	292	218	65
Average		2,783	2,393	990	24	24	464	297	308	132

14. Excessive application of food processing wastewater to land can create objectionable odors, soil conditions that are harmful to crops, and degradation of underlying groundwater by overloading the soil profile and causing waste constituents (i.e., organic carbon, nitrates, other salts, and metals) to percolate below the root zone. Typically, irrigation with high-strength wastewater can result in high BOD loading on the day of application, which can deplete oxygen in the soil and lead to anoxic conditions. When insufficient oxygen is present below the ground surface, anaerobic decay of organic matter can create reducing conditions that convert metals 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 reducing conditions do not reverse as the percolate travels 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.
15. 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.

16. 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 100 lbs/acre/day to prevent nuisance, but indicates that loading rates can be even higher under certain conditions. The studies that support this report did not evaluate actual or potential groundwater degradation associated with those loading rates. There are few studies that have attempted to determine maximum BOD loading rates for protection of groundwater quality. Those that have are not readily adapted to varying soil, groundwater, and climate conditions that are prevalent throughout the region.
17. At the proposed flow rate of 0.72 mgd, the annual total nitrogen load to the 188-acre LAA with an average total nitrogen concentration of 24 mg/L is 141 lbs/acre/yr. This is less than the annual nitrogen uptake for cotton and Sudan grass of 180 and 325 lbs/acre/year, respectively, according to the *Western Fertilizer Handbook*, Eighth Edition.
18. With a proposed flow rate of 0.72 mgd, 188 acres of LLA, a minimum and maximum BOD concentration of 467 mg/L and 1800 mg/L, respectively, the BOD loading rate to the LAA ranges between 15 and 58 lbs/acre/day. The average BOD loading rate during the processing season will be about 32 lbs/acre/day.
19. With the short processing season and careful management of the LAA including implementation of best management practices, such as allowing sufficient resting periods and tilling the soil following applications, the discharge is not expected to cause reducing and/or nuisance conditions.
20. Average EC, sodium, and chloride concentrations for source water from the primary supply well are tabulated below.

Table 3. Source Water Quality

	EC umhos/cm	Sodium mg/L	Chloride mg/L
2009	1,900	---	---
2010	2,200	262	81.4
2011	2,364	340	73.1
2012	2,125	420	170

Site-Specific Conditions

21. Land uses in the vicinity of the Plant and LAA are primarily agricultural. The primary crops grown in the area are cotton, alfalfa, tomatoes, safflower, melon, squash, and cucumbers, according to the Fresno County 2010 Land Use Map published by the Department of Water Resources (DWR).
22. The Plant and LAA are located in an arid climate characterized by dry summer and mild winters. The rainy season generally extends from November through April. The nearest weather station is the Los Banos Station approximately 23 miles north of the Plant and LAA. Average annual pan evaporation is about 88 inches according to data in the *National Oceanic and Atmospheric Administration Technical Report NWS 34, Mean Monthly, Seasonal, and Annual Pan Evaporation for the United States*, published by the U.S. Department of Commerce National Oceanic and Atmospheric Administration. The average annual precipitation is about 9 inches based on 107 years of data collected by the Western Regional Climate Center.
23. Soils in the vicinity of the Plant and LAA are predominately Tranquility and Deldota Clay formally included with the Lost Hills series, according to the Web Soil Survey published by the United States Department of Agriculture, Natural Resources Conservation Service. Tranquility and Deldota Clay have a land capacity classification of 3w and 2w, respectively. Soils with "Class 3" have severe limitations that restrict the choice of plants or require special conservation practices, or both. Soils with "Class 2" have moderate limitations that restrict the choice of plants or require moderate conservation practices. The subclass "w" indicates that water in or on the soil interferes with plant growth or cultivation. In some soils the wetness can be partly corrected by artificial drainage. Ponding, a high water table, and/or flooding affect the soils that are assigned this subclass letter.
24. According to the Federal Emergency Management Agency maps (Map Number 06019C1400H) the Plant and LAA are in Zone X. This area is outside the one percent annual chance floodplain.

Groundwater Considerations

25. Groundwater in the area of the Plant and LAA is found at a depth between seven to ten feet below ground surface (bgs) and flows in the northeast direction, according to information in the RWD. The Plant and LAA do not have a groundwater monitoring well network. The LAA is tiled drained.

26. The Corcoran Clay extends beneath the Plant and LAA. The depth to the top of the Corcoran Clay layer ranges from 400 to 450 feet bgs, according to the *Depth to top of the Corcoran Clay* map published by the DWR in 1981.
27. Panoche Drainage District collects water quality samples from tile drainage systems in the project area. Sumps DP-30, DP-31, DP-40, and DP-41 surround the LAA. Based on data from 2001 through 2007, the average TDS concentration in these sumps is as follows: 3,998 mg/L (DP-30), 6,978 mg/L (DP-31), 7,051 mg/L (DP-40), and 7,183 mg/L (DP-41). In October 2008, these sumps were sampled for boron, EC, and selenium. Boron, EC, and selenium for each sump are as follows: 10 mg/L (B), 5,300 umhos/cm (EC), 63 ug/L (Se) for DP-30; 17 mg/L (B), 9,100 umhos/cm (EC), 510 ug/L (Se) for DP-31; 11 mg/L (B), 7,900 umhos/cm (EC), 470 ug/L (Se) for DP-40; and 15 mg/L (B), 8,700 umhos/cm (EC), 810 ug/L (Se) for DP-41. The drainage is eventually discharged to Mud Slough and is regulated by WDRs Order 5-01-234 for the Grasslands Bypass Project.
28. Shallow groundwater EC in the vicinity of the discharge ranges from 4,000 to 20,000 umhos/cm, according to the *Areal Distribution of Electrical Conductivity in Shallow Groundwater* map published by the DWR in 2005.
29. Historical groundwater data published by the DWR Water Data Library, shows deeper groundwater in the area has been of poor quality with respect to EC, sodium, and chloride since prior to 1968. Groundwater quality from four wells within one mile from the proposed LAA, screened below the below the Corcoran Clay layer, show EC ranging from 1,500 umhos/cm to 3,080 umhos/cm; sodium from 333 mg/L to 470 mg/L; and chloride from 110 mg/L to 320 mg/L. It is likely that upper groundwater in the area has also been of poor quality since prior to 1968.
30. According to the USGS National Water Information System: Web Interface, groundwater quality based on three shallow groundwater samples taken by the USGS within one mile from the LAA in 1990, shallow groundwater is of poor quality. EC ranging from 7,470 umhos/cm to 13,000 umhos/cm; sodium from 790 mg/L to 2,400 mg/L; chloride from 1,300 mg/L to 2,200 mg/L; and nitrate as nitrogen from 22 mg/L to 120 mg/L.
31. Shallow groundwater in the area is not of high quality with respect to salinity (EC, TDS, sodium, and chloride).
32. With respect to nitrates, areal groundwater may have been of better quality before it was farmed. Tile drains were sampled in the late 1960's and included in *Nutrients From Tile Drainage Systems, May 1971, DWR No. 174-6*, prepared by DWR under the direction of the U.S. Bureau of Reclamation, U.S. Environmental Protection Agency, and DWR. The report found that nitrates as nitrogen in this part of the drainage area were the highest

average in the San Joaquin Valley at 32.8 mg/L. According to the report, high nitrate as nitrogen concentrations in the drainage is attributed to certain alluvial fan soils. Soils beneath the Plant and LAA are older alluvial fan soils with nitrate as nitrogen concentrations of 54 mg/L. It is apparent that first encountered groundwater is not of high quality with respect to nitrates and has not been since before 1968.

Basin Plan, Beneficial Uses, and Water Quality Objectives

33. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition, revised October 2011* (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 Board. In accordance with Water Code section 13263(a), these waste discharge requirements implement the Basin Plan.
34. The Plant and LAA are in the Los Banos Hydrologic Area (No. 541.20) of the Delta-Mendota Canal Hydrologic Unit, as depicted on the hydrologic maps prepared by State Water Resources Control Board. Local drainage is to Buick Drain, a component of the Panoche Drainage District's drainage water collection system. Drainage is eventually discharged to Mud Slough. The beneficial uses as stated in the Basin Plan, are agricultural supply for stock watering; water contact recreation, including non-contact water recreation; warm freshwater habitat; warm spawning; wildlife habitat; commercial and sport fishing; and shellfish harvesting.
35. The Basin Plan designates the beneficial uses of underlying groundwater as municipal and domestic supply, agricultural supply, industrial service and industrial process supply.
36. The Basin Plan includes a water quality objective for chemical constituents that, at a minimum, requires waters designated as domestic or municipal supply to meet the MCLs specified in 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.
37. The Basin Plan establishes narrative water quality objectives for Chemical Constituents, Taste and Odors, and Toxicity. The 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. 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.

Antidegradation Analysis

38. State Water Board Resolution 68-16, the Statement of Policy with Respect to Maintaining High Quality of Waters in California (*Anti-Degradation Policy*) generally prohibits the Central Valley Water Board from authorizing activities that will result in the degradation of high-quality waters unless it has been shown that:
- a. The degradation will 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 will employ 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.
39. The constituents of concern for the discharge from the Plant are salinity (EC, TDS, sodium, and chloride) and nitrates. Historical groundwater data for the site prior to 1968 show that groundwater in the area is not of high quality with respect to salinity (EC, TDS, sodium, and chloride) and nitrate as nitrogen. The discharge will not result in degradation of a high quality water of the State. Therefore, the discharge is not subject to the Antidegradation Policy, but the Discharger is required to implement best efforts to ensure discharges do not cause exceedances of baseline water quality.

Other Regulatory Considerations

40. Based on the threat and complexity of the discharge, the Plant is determined to be classified as 2B as defined below:
- a. Category 2 threat to water quality: "Those discharges of waste that could impair the designated beneficial uses of the receiving water, cause short-term violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance."
 - b. Category B complexity: "Any discharger not included in Category A that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal), or any Class 2 or Class 3 waste management units."

41. California Code of Regulations, Title 27 ("Title 27") contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste, which includes designated waste, as defined by Water Code section 13173. 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 discharges. The exemption, found at Title 27, section 20090, is described below:

(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 regional water quality control board has issued WDRs, reclamation requirements, or waived such issuance;
- (2) The discharge is in compliance with 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.

42. The discharge authorized herein is exempt from the requirements of Title 27 in accordance with Title 27, section 20090(b) because:

- a. The Central Valley Water Board is issuing WDRs.
- b. The discharge is in compliance with the Basin Plan, and;
- c. The treated effluent discharged to the LAA does not need to be managed as hazardous waste.

43. Water Code section 13267(b) states that:

In conducting an investigation specified in subdivision (a), the Central Valley Water Board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region...that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Central Valley Water 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 Central Valley Water 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.

44. The technical reports required by this Order and monitoring reports required by the attached MRP R5-2013-____ are necessary to assure compliance with these waste discharge requirements. The Discharger operates the wastewater treatment facility that discharges the waste subject to this Order.

45. The California Department of Water Resources sets standards for the construction and destruction of groundwater wells (hereafter DWR Well Standards), as described in California Well Standards Bulletin 74-90 (June 1991) and Water Well Standards: State of California Bulletin 94-81 (December 1981). These standards, and any more stringent standards adopted by the state or county pursuant to Water Code section 13801, apply to all monitoring wells used to monitor the impacts of wastewater storage or disposal governed by this Order.
46. To fulfill requirements imposed by the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.), Fresno County circulated an Initial Study and Mitigated Negative Declaration (MND) (SCH # 2013041073) for the discharge of wastewater from the existing vegetable dehydration plant to approximately 208 acres. The Board did not identify any significant environmental effects that could result from the project. Fresno County approved the MND after the conclusion of the public comment period.
47. As a responsible agency, the Central Valley Water Board has responsibility for mitigating or avoiding only the direct or indirect environmental effects of those parts of the project that fall under its authority. The single mitigation measure identified in the MND is not related to the discharge of process wastewater to land.
48. 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.

Public Notice

49. 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 conditions of discharge of this Order.
50. 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.
51. All comments pertaining to the discharge were heard and considered in a public meeting.

IT IS HEREBY ORDERED that pursuant to Water Code sections 13263 and 13267, Olam West Coast, Inc., 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 23, section 2521(a), 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*, dated 1 March 1991.
4. Discharge of wastewater in a manner or location other than that described herein or in the RWD is prohibited.
5. Discharge of domestic wastewater to the process wastewater ponds, LAA or any surface waters is prohibited.

B. Effluent Limitations

1. The monthly average discharge flow shall not exceed 0.72 mgd. **[Compliance shall be determined at PND-004]**
2. Average BOD loading to the LAA shall not exceed 100 lbs/acre/day, both long-term and over the course of any discharge cycle (i.e., the time between successive applications).

C. Discharge Specifications

1. 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 Groundwater Limitations of this Order.
2. The discharge shall not cause degradation of any water supply.
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 treatment/containment structures and LAA's at all times.

5. The Discharger shall operate all systems and equipment to optimize the quality of the discharge.
6. 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.
7. Objectionable odors shall not be perceivable beyond the limits of the Plant or LAA's at an intensity that creates or threatens to create nuisance conditions.
8. As means of discerning compliance with Discharge Specification C.7, 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 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 finding 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.
9. 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.
10. The 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.
11. On or about 1 October of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications C.10.
12. All ponds and open containment structures shall be managed to prevent breeding of mosquitoes. Specifically:

- a. An erosion control plan 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 other 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.
13. Storage of residual solids on areas not equipped with means to prevent stormwater infiltration, or a paved leachate collection system is prohibited.

D. Land Application Area Specifications

1. Application of waste constituents to the LAA shall be at reasonable agronomic rates to preclude creation of a nuisance and 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.
2. Wastewater shall not be discharged to the LAA in a manner that causes wastewater to stand for greater than 48 hours.
3. Any irrigation runoff shall be confined to the LAA and shall not enter any surface water drainage course or stormwater drainage system.
4. Tailwater runoff and spray of recycled water shall not be discharged outside of the LAAs.
5. Land application of wastewater shall be managed to minimize erosion.
6. The LAAs shall be managed to prevent breeding of mosquitos. In particular:
 - a. There shall be no standing water 48 hours after irrigation ceases;
 - b. Tailwater ditches shall be maintained essentially free of emergent, marginal, and floating vegetation; and

- c. Low-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store recycled water.
7. Irrigation of the LAAs shall occur only when appropriately trained personnel are on duty.
8. LAAs shall be inspected as frequently as necessary to ensure continuous compliance with the requirements of this Order.

E. Solids Specifications

1. Collected screenings, sludge's and other solids removed from the liquid waste shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27. Removal for further treatment, disposal, or reuse at sites (i.e., landfill, composting sites, soil amendment sites) operated in accordance with valid waste discharge requirements issued by a regional water quality control board will satisfy this specification.
2. Any proposed change in solids use or disposal practice shall be reported to the Executive Officer at least 90 days in advance of the change.

F. Provisions

1. The Discharger shall comply with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991 (Standard Provisions), which are part of this Order.
2. The Discharger shall comply with MRP R5-2013-____, 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. The Discharger must 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.

4. The Discharger must 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.
5. 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.
6. 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.
7. 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.
8. 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 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.
9. A copy of this Order, including its MRP, Information Sheet, Attachments, and Standard Provisions, shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.

10. **By (120 days following Order adoption)**, the Discharger shall submit a Solids Management Plan for Executive Officer approval that describes how the Discharger plans to handle and dispose of residual and fine settled solids. The Solids Management Plan shall include analyses characterizing the solids for metals (i.e., arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc), total nitrogen, ammonia as nitrogen, nitrate as nitrogen, sodium, chloride, magnesium, calcium, potassium, and total phosphorus, and demonstrate the additional organic load to the LAA, or other disposal areas, will not contribute to the degradation of underlying groundwater.
11. **By (90 days following Order adoption)**, the Discharger shall install an effluent flow meter at a location after the treatment ponds and prior to the LAA and begin effluent flow monitoring in accordance with MRP R5-2013-____.
12. **By (270 days following Order adoption)**, the Discharger shall submit a Salinity Management Plan, which identifies additional cost effective methods that could be used to further reduce the salinity of the discharge to the maximum extent feasible. The Salinity Management Plan shall be subject to review and approval by the Executive Officer.
13. **By (120 days following Order adoption)**, the Discharger shall submit a Nutrient Management Plan for the LAA for Executive Officer approval. The Plan must include procedures of daily monitoring of the LAA, management practices that will ensure wastewater is applied at agronomic rates. The objective of the Plan shall be to identify and utilize site specific data to demonstrate that wastewater loading will occur at reasonable agronomic rates.
14. **By (180 days following Order adoption)**, the Discharger shall submit a work plan and time schedule with dates by which the Discharger will implement a groundwater monitoring alternative analysis to determine methods that will be employed to evaluate any impact of the discharge on underlying groundwater. The Work Plan and time schedule shall be subject to Executive Officer approval.
15. In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for investigations and studies, that describe the conduct of investigations and studies or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly

stated. Each technical report submitted by the Discharger shall bear the professional's signature and stamp.

16. 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 are different than those prescribed herein are appropriate, this Order will be reopened to incorporate such limits.
17. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 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 filling 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 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 _____.

PAMELA C. CREEDON, Executive Officer

Order Attachments:

A Site Location Map

B Flow Schematic

Monitoring and Reporting Program R5-2013-____

Information Sheet

Standard Provisions (1 March 1991)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2013-____
FOR
OLAM WEST COAST, INC.
ONION DEHYDRATOR
FRESNO 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) 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 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 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 [page 11](#).

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

Monitoring Location Name	Monitoring Location Description
PND-001, PND-002, PND-003, PND-004, and PND-005	East Settling Pond (PND-001), West Settling Pond (PND-002), North Aeration Pond (PND-003), South Aeration Pond (PND-004), Northeast Storage Pond (PND-005).
EFF-001	Location where the Plant's total effluent flow can be measured prior to the treatment ponds.
EFF-002	Location where a representative sample of the Plant's effluent can be obtained after treatment and prior to discharge to the LAA.
EFF-003	Location where wastewater flow going to the LAA can be measured.
SLD-001	Finer Settled Solids removed from settling pond (SLD-001) and used by local farmers as fill material or applied to the LAA.
SPL-001 and SPL-002	Water Supply Wells: Primary Well (SPL-001) and Emergency Well (SPL-002).
DP-31	Tile drainage sump, northeast corner of Olam's LAA.
CELL-001 through CELL-004	Discrete areas within the 188 acres of LAA.

POND MONITORING

Permanent markers (e.g., staff gages) shall be placed in all storage ponds. The markers shall have calibrations indicating water level at the design capacity and available operational freeboard. Pond monitoring at PND-001 through PND-005 shall include at least the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Weekly	DO ¹	mg/L	Grab
Weekly	Freeboard	Feet ²	Observation
Weekly	Odors	---	Observation
Weekly	Berm Condition	---	Observation

¹ Should the DO be below 1.0 mg/L during a weekly sampling event, the Discharger shall take all reasonable steps to correct the problem and commence daily DO monitoring in the affected ponds until the problem has been resolved.

² To the nearest tenth of a foot.

The Discharger shall inspect the condition of the ponds weekly and record visual observations in permanent manner accessible to Central Valley Water Board staff upon request (electronic format may be acceptable). 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 pond surface and

their location; whether burrowing animals or insects are present; and the color of the reservoirs (e.g., dark green, dull green, yellow, gray, tan, brown, etc.). A summary of the entries made in the log shall be included in the subsequent monitoring report.

EFFLUENT MONITORING

Effluent samples shall be collected at the following locations: total effluent flow produced by the Plant shall be monitored at EFF-001, representative effluent samples shall be obtained at EFF-002. Time of collection of the samples shall be recorded.

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Continuous	Total Effluent Flow ¹	mgd	Meter
Weekly	pH	pH Units	Grab
Weekly	EC	umhos/cm	Grab
Weekly	BOD ₅ ²	mg/L	Grab
Monthly	Total Suspended Solids	mg/L	Grab
Monthly	Total Dissolved Solids	mg/L	Grab
Monthly	Fixed Dissolved Solids	mg/L	Grab
Monthly	Total Kjeldahl Nitrogen (TKN)	mg/L	Grab
Monthly	Nitrate as Nitrogen	mg/L	Grab
Monthly	Ammonia as Nitrogen	mg/L	Grab
Monthly	Total Nitrogen	mg/L	Computed
Monthly	Chloride	mg/L	Grab
Monthly	Sodium	mg/L	Grab
Biannually ³	General Minerals	mg/L	Grab

¹ Total effluent produced at the Plant shall be monitored at EFF-001.

² Five-day, 20°C biochemical oxygen demand (BOD₅)

³ Biannually monitoring shall consist of two samples per year.

SOURCE WATER MONITORING

The Discharger shall monitor each water supply well, SPL-001 and SPL-002. For each source (either well or surface water supply), 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. Alternatively, the Discharger may establish representative sampling stations within the distribution system serving the same area as in served by the Plant.

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Quarterly	Flow-Weighted EC	umhos/cm	Computed Average
Quarterly	General Minerals ¹	mg/L	Grab

¹ With the exception of wastewater samples, samples must be filtered. If field filtering is not feasible, samples shall be collected in unpreserved containers and submitted to the laboratory within 24 hours with a request (on the chain-of-custody form) to immediately filter then preserve the sample.

GROUNDWATER MONITORING

The Discharger shall monitor tile drainage sump DP-31 and additional wells or sumps, as approved by the Executive Officer for the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Quarterly	EC	umhos/cm	Grab
Quarterly	TDS	mg/L	Grab
Quarterly	Nitrate as nitrogen	mg/L	Grab
Quarterly	TKN	mg/L	Grab
Quarterly	Total Nitrogen	mg/L	Computed
Annually	General Minerals	mg/L	Grab

SOLIDS AND SOLIDS APPLICATION AREA MONITORING

The Discharger shall perform the following routine monitoring and loading calculations for solids (SLD-001) and the solids application areas. In addition, the Discharger shall keep a log of routine monitoring observations of the solids application area (e.g. odors and/or flies within the solids application area). Data shall include the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Annually	Solids pH	pH	Grab
Annually	Solids EC	umhos/cm	Grab
Annually	Organic Matter Content	%	Grab
Each application	Application location	n/a	n/a
Each application	Application area	Acres	n/a
Each application	Solids applied	Tons	n/a
Each application	Solids loading	Tons per acre	Calculated

LAND APPLICATION AREA MONITORING

The Discharger shall perform the following routine monitoring and loading calculations for the discrete irrigation areas (CELL-001 through CELL-004) within the LAA. Effluent flow going to the LAA shall be monitored at EFF-003. In addition the Discharger shall keep a log of routine monitoring observations (e.g. areas of ponding, broken irrigation pipes, odors and/or flies within the LAA, etc.). 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>
Daily	Application Location	n/a	n/a
Daily	Application Area	Acres	n/a
Daily	Wastewater Flow ¹	Gallons	Metered
Daily	Wastewater Loading	Inches/day ²	Calculated
Daily	Precipitation	Inches ²	Rain gage ³
<u>BOD₅ Loading Rates:</u>			
Daily	Day of Application ⁴	lbs/acre	Calculated
Daily	Cycle Average ⁵	lbs/acre-day	Calculated
<u>Nitrogen Loading Rates:</u>			
Monthly	From Wastewater ⁶	lbs/acre	Calculated
Monthly	From Fertilizer ⁶	lbs/acre	Calculated
Annually	Cumulative Nitrogen Loading	lbs/acre-year	Calculated
<u>Salt Loading Rates:</u>			
Monthly	From Wastewater ⁶	lbs/acre	Calculated
Annually	Cumulative Salt Loading	lbs/acre-year	Calculated

¹ Begin flow monitoring upon satisfaction of Provision F.11 at EFF-03.

² Report to the nearest 0.01 inch.

³ National Weather Service data from the nearest weather station is acceptable.

⁴ Loading rates to be calculated using the applied volume of wastewater, applied acreage, and average of the three most recent concentrations for BOD₅.

⁵ The cycle average BOD₅ loading rates shall be calculated using applied volume of wastewater, applied acreage, and average of the three most recent concentrations for BOD₅ and divided by the number of days between applications.

⁶ Nitrogen and salt shall be calculated using the applied volume of wastewater, applied acreage, and average of the three most recent concentrations for total nitrogen and Fixed Dissolved Solids.

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 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 monitoring and annual reports, as well as report transmittal letters, submitted to the Central Valley Water Board:

- Discharger Name
- Facility Name
- MRP Number
- 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 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 Quarterly Monitoring Reports shall include the following:

Wastewater Reporting

1. The results of Pond and Effluent Monitoring specified on [page 2 and 3](#).
2. For each month of the quarter, calculation of the maximum daily flow and the monthly average flow.
3. For each month of the quarter, calculation of the monthly average effluent EC and BOD₅ concentrations.
4. A summary of the notations made in the pond monitoring log during each quarter. Copies of log pages covering the quarterly reporting period shall not be submitted unless requested by Central Valley Water Board staff.

Source Water Reporting

1. The results of Source Water Monitoring specified on [page 4](#).

Groundwater Reporting

1. The results of Groundwater Monitoring specified on [page 4](#).

Solids Reporting

1. The results of Solids Monitoring specified on [page 4](#).
2. A description of solids application method.
3. Provide a Site Map of the solids application areas showing predominant features, including field number (if applicable) where solids were applied.

4. A summary of the notations made in the solids application area monitoring log during routine observations.

Land Application Area Reporting

1. The results of the routine monitoring and loading calculations for BOD, nitrogen, and salts as specified on [page 5](#).
2. Provide a Site Map of the LAA showing predominant features, and include field numbers (if applicable) and acreage where wastewater was applied.
3. For each month that wastewater is applied to the LAA, calculation of the monthly hydraulic load for wastewater and supplemental irrigation water (in million gallons) to each discrete irrigation area.
4. A summary of the notations made in the LAA monitoring log during each quarter. The entire contents of the log do not need be submitted.

B. Fourth Quarter Monitoring Reports, in addition to the above, shall include the following:

Plant Information

1. The names and general responsibilities of all persons in charge of wastewater treatment and disposal.
2. The names and telephone numbers of persons to contact regarding the Plant for emergency and routine situations.
3. 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).
4. A summary of any changes in processing that might affect waste characterization and/or discharge flow rates.

Solids Reporting

1. Annual production total solids (excluding trash and recyclables) in dry tons or cubic yards.
2. A description of disposal methods, including the following information related to the disposal methods used. If more than one method is used, include the percentage disposed of by each method.

- a. For landfill disposal, include: the name and location of the landfill, and the Order number of WDRs that regulate it.
- b. For land application, include: the location of the site, and the Order number of any WDRs that regulate it.
- c. For incineration, include: the name and location of the site where incineration occurs, the Order number of WDRs that regulate the site, the disposal method of ash, and the name and location of the facility receiving ash (if applicable).
- d. For composting, include: the location of the site, and the Order number of any WDRs that regulate it.

Land Application Area Reporting

1. The type of crop(s) grown in the LAA, planting and harvest dates, and the quantified nitrogen and fixed dissolved solids uptakes (as estimated by technical references or, preferably, determined by representative plant tissue analysis).
2. The monthly and annual discharge volume during the reporting year expressed in million gallons and inches.
3. A monthly balance for the reporting year that includes:
 - a. Monthly crop uptake
 - i. Crop water utilization rates are available from a variety of publications available from the local University of California Davis extension office.
 - ii. Irrigation efficiency – Frequently, engineers include a factor for irrigation efficiency such that the application rate is slightly greater than the crop utilization rate. A conservative design does not include this value.
 - (a) Monthly average precipitation – this data is available at
<http://www.cimis.water.ca.gov/> or at <http://www.ncdc.noaa.gov>
 - (b) Monthly average and annual average discharge flow rates from the wastewater treatment area.
 - (c) Monthly estimates of the amount of wastewater percolating below the root zone (i.e., amount of wastewater applied in excess of crop requirements)
4. A summary of average and cycle BOD₅ loading rates.

5. The total pounds of nitrogen applied to the LAA, as calculated from the sum of the monthly loadings, and the total annual nitrogen loading to the LAA in lbs/acre-year.
6. The total pounds of fixed dissolved solids that have been applied to the LAA, as calculated from the sum of the monthly loadings, and the total annual fixed dissolved solids loading to the LAA in lbs/acre-year.

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

Ordered by: _____
PAMELA C. CREEDON, Executive Officer

(Date)

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.		
Twice Monthly	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		
General Minerals	Analysis for General Minerals shall include at least the following:		
	Alkalinity	Chloride	Sodium
	Bicarbonate	Hardness	Sulfate
	Calcium	Magnesium	TDS
	Carbonate	Potassium	Nitrate
	General Minerals analyses shall be accompanied by documentation of cation/anion balance.		

INFORMATION SHEET

INFORMATION SHEET-ORDER R5-2013-____
OLAM WEST COAST, INC.
FOOD DEHYDRATOR
FRESNO COUNTY

Background

Olam West Coast, Inc., (Discharger) purchased the former DeFrancesco dehydrating plant (Plant) at 47641 W. Nees Avenue, Firebaugh in Fresno County. On 27 January 2009, the Discharger submitted a Report of Waste Discharge proposing to reactivate the former Plant and mill onions to produce sliced, chopped, ground, granulated, and powder onion products. The Discharger proposes to discharge approximately 0.72 million gallons per day (mgd) of onion wastewater to 188 acres (net) of Land Application Area (LAA), adjacent to the Plant. On 22 July 2009, the Executive Officer issued Monitoring and Reporting Program R5-2009-0837, requiring effluent, pond, and source water monitoring at the Plant.

Onions are washed in chlorinated water and then sliced, dried, milled, and packed. Wastewater at the Plant is generated from: washing onions, and cleaning knives and conveyor belts. The wastewater treatment process consists of passing the wastewater through a ¼-inch auger screen then it is store in a 5,000-gallon holding tank, wastewater then passes through hydro-sieves. Wastewater then flows to one of two unlined settling ponds prior to going to two aerated ponds operated in series. After treatment, wastewater gravity flows to a storage pond located on the northeast corner of the LAA. Wastewater is applied to 188 acres where cotton and sudan grass are grown. Residual solids generated from the operations include onion peels and roots that will be sold for animal feed. Finer settled solids removed from the bottom of the unlined settling pond are applied to the Discharger's LAA. The finer settle solids have also historically been applied by local farmers as fill material.

Groundwater Conditions

According to the RWD, depth to groundwater in the area of the Plant and LAA ranges between seven to ten feet below ground surface (bgs) and flows in the northeast direction.

The LAA is tiled drained. The Panoche Drainage District collects water quality samples from the tile drainage systems in the project area. Sumps DP-30, DP-31, DP-40, and DP-41 surround the LAA. The drainage is eventually discharged to Mud Slough and is regulated by WDRs Order 5-01-234 for the Grassland Bypass Project.

The Department of Water Resources, Water Data Library has published historical groundwater quality from four deep wells within one mile from the Plant and LAA. As shown in the table below, deeper groundwater in the area has been of poor quality since 1968.

Well #	Date Sampled	Perforated ft bgs	EC umhos/cm	TDS mg/L	Na mg/L	Cl mg/L	NO ₃ (N) mg/L	NO ₃ mg/L
013S012E02F001M	2/5/1948	400-1164	---	1,616	450	219.9	---	---
	8/14/1951		2,400	---	445	215	---	---
013S012E02D001M	8/14/1951	502.20-1046.40	2,350	---	440	222	---	---
	3/6/1958		2,510	---	479	223	---	1.2
	9/10/1968		2,660	1,760	500	320	---	1.2
012S012E34P001M	8/14/1951	506-1057	2,160	---	415	141	---	---
	3/6/1958		3,080	---	333	132	---	15
	10/20/1965		2,380	1,580	448	208	---	2.2
012S012E34N001M	3/22/1940	320-?	---	1,200	---	110	---	---
	4/25/1940		---	1,200	350	110	---	---
	8/31/1940		---	1,200	---	120	---	---
	12/26/1940		---	1,200	---	110	---	---
	1/24/1945		---	1,300	---	110	---	---
	3/28/1945		---	1,300	---	150	---	---
	5/2/1946		1,950	1,286	369.8	134.7	---	0.6
	11/26/1947		2,100	1,300	---	120	---	---
	2/5/1948		---	1,293	365.1	138.3	---	---
	5/25/1948		2,000	1,300	360	120	---	1.2
	8/14/1951		2,190	---	445	207	---	---
9/1/1955	1,959	---	359	147	---	---		
7/13/1957	2,240	1,480	391	---	---	---		

The USGS National Water Information System: Web interface has published shallow groundwater quality data from three shallow groundwater samples within one mile for the Plant and LAA. The table below shows quality of shallow groundwater as being of poor quality.

Sample Location	Date Sampled	Depth of Sample ft bgs	EC umhos/cm	Na mg/L	Cl mg/L	NO ₃ (N) mg/L	NO ₃ mg/L
012S012E27H004M	5/9/1990	14.8	13,200	2,400	2,200	89	394
013S013E06D001M	5/9/1990	19	12,100	2,400	1,300	120	531
012S013E31R001M	5/9/1990	19	7,470	790	1,400	22	97.4

Groundwater in the vicinity of the Plant and LAA is not of good quality with respect to salinity and nitrates.

Basin Plan, Beneficial Uses, and Regulatory Considerations

The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition, revised October 2011* (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. The beneficial uses of the underlying groundwater are municipal and domestic supply, agricultural supply, industrial service and industrial process.

Antidegradation

The constituents of concern for the discharge from the Plant are salinity (EC, TDS, sodium, and chloride) and nitrates. Historical groundwater data for the site prior to 1968 shows that groundwater in the area is not of high quality with respect to salinity (EC, TDS, sodium, and chloride) and nitrate as nitrogen. The permitted discharge will not result in degradation of a high quality water of the State. Therefore, the discharge is not subject to the Antidegradation Policy, but the Discharger is required to implement best efforts to ensure discharges do not cause exceedances of baseline water quality.

CEQA

Fresno County adopted an Initial Study and Mitigated Negative Declaration (MND) (SCH # 2013041073) for the discharge of wastewater from the existing Plant to approximately 208 acres.

The MND has a mitigation measure requiring the Discharger to contact the Central Valley Water Board regarding the development on property that could obstruct groundwater assessment/cleanup activities related to the existing contamination by petroleum products and volatile organic compounds within the area of the existing Plant.

Central Valley Water Board staff reviewed the MND and concurs that the project will have a less than significant impact on water quality.

Title 27

Unless the Board finds that the discharge of designated waste is exempt from Title 27 of the California Code of Regulations, the release of designated waste is subject to full containment requirements. Here, the discharge is exempt from the requirements of Title 27 pursuant to the sewage and wastewater exemptions found at Title 27, sections 20090 (b).

Proposed Order Terms and Conditions

Discharge Prohibitions, Specifications and Provisions

The proposed Order prohibits the discharge of waste to surface waters and to surface water drainage courses.

The proposed Order restricts the discharge to a monthly average daily flow limit of 0.72 mgd. This Order sets effluent limit on BOD₅ loading of 100 lbs/acre/day, seasonally and over any particular discharge cycle.

The proposed Order's provisions regarding storage pond dissolved oxygen and freeboard are consistent with Central Valley Water Board policies for the prevention of nuisance conditions, and are applied to all similarly-situated facilities.

The proposed Order prescribes groundwater limitations that ensure the discharge does not affect present and anticipated beneficial uses of groundwater.

The proposed Order includes provisions that require the Discharger to submit a Solids Management Plan, install an effluent flow meter, submit a Salinity Management Plan, a Nutrient Management Plan, and a work plan and time schedule to implement a groundwater monitoring alternative.

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 waters of the State.

The proposed Order includes pond monitoring requirements, effluent monitoring, source water monitoring, groundwater monitoring, solids and solid application area monitoring, and land application area monitoring. This monitoring is necessary to characterize the discharge, evaluate compliance with effluent limitations prescribed by the Order, and evaluate groundwater quality and the extent of degradation, if any, caused by the discharge.

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.