CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2012-XXXX

WASTE DISCHARGE REQUIREMENTS

FOR
POM WONDERFUL, LLC
WHOLE FRUIT AND JUICE EXTRACTION PLANT
FRESNO COUNTY

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

1. On 11 May 2009, POM Wonderful, LLC submitted a Report of Waste Discharge (RWD) that describes expansion of an existing privately owned whole fruit and juice extraction plant. Additional information to complete the RWD was submitted on 9 March 2012.

2. POM Wonderful, LLC (hereafter "Discharger") owns and operates the plant and is responsible for compliance with these Waste Discharge Requirements (WDRs).

3. The plant is at 5286 South Del Rey Avenue in Del Rey (Section 4, T15S, R22E, MDB&M). The plant occupies Assessor's Parcel Numbers (APN) 350-230-01s, 350-230-08, 350-230-09s, 350-230-010, 350-230-11T, 350-230-12T, 350-230-13, 350-230-14s, 350-230-15s, and 350-230-21s. The Land Application Area (LAA) occupies APN 350-031-11, 350-031-13, 350-031-63s, 350-061-06, and 350-061-07. The plant and LAA are shown on Attachment A, which is attached hereto and a part of this Order.

4. WDRs Order 93-126, adopted by the Central Valley Water Board on 5 August 1993, prescribes requirements for the plant. Order 93-126 allows a maximum daily discharge from the plant to treatment ponds of 125,000 gallons per day (gpd) and an annual average daily discharge from the ponds to cropland of 1.256 million gallons per day (mgd). The Discharger proposes to expand operations at the plant. Therefore, Order 93-126 will be rescinded and replaced with this Order.

Existing Plant and Discharge

5. The whole fruit side of the plant includes washing, sorting, grading, packing, and processing whole fruit. The juice extraction side of the plant includes pressing, evaporating, blending, and drumming for juice and tea product lines. The pomegranate juice is processed from October through January, while tea production is processed year round with primary operation from February through September.

6. Industrial wastewater produced by site operations is screened and collected in a sump at the pre-treatment station where pH adjustment with potassium hydroxide and nutrient addition occur as needed. A pump at the pre-treatment station lifts the wastewater from the sump through a 15-inch force main and discharges to a primary aeration pond and then to a secondary facultative pond. During winter months, the treated wastewater is stored in a storage pond. The treated wastewater is reclaimed to irrigate, via flood irrigation, 115 acres of vineyards and 88 acres of alfalfa located adjacent to the ponds. The Discharger has the ability to mix groundwater from the on-site irrigation wells in the ponds prior to discharge to cropland.

7. The storage capacity of the primary, secondary, and storage ponds are 6, 12, and 24 million gallons, respectively. The primary aeration and the secondary facultative ponds were installed in the early 1990's; each with a single layer 40 mil HDPE liner. In 2005, the storage pond was constructed with a primary 80 mil HPDE layer and a secondary 60 mil HDPE layer with a leak detection and recovery system installed between HDPE layers. In 2008 and 2009, the secondary facultative and primary aeration ponds, respectively, were retrofitted with two HPDE layers and leak detection and recovery systems similar to the storage pond. During and following construction of the storage pond, the Discharger submitted technical information, certified by a California registered civil engineer, documenting stability analysis, transmissivity, interface friction, independent laboratory testing of liner material, and construction quality control of liner installation. Following liner retrofit activities for the primary and secondary ponds, the Discharger submitted a letter and photographs summarizing liner installation procedures.

8. Process control improvements were implemented for juice extraction and concentrate operations in 2007 and 2008 that improved the water quality of the waste streams and consist of the following: utilizing partial fruit in the process/juicing operation instead of washing into waste streams; high pressure fruit wash system that utilizes less water; capturing and processing juice from fruit that is waiting to be processed instead of washing into waste streams; sediment traps in the juice extraction plant to collect debris during wash-down; filter retentate system in the juice extraction plant to collect filtering by-products; potable water in the evaporative condensate process is reused as "Leuter Water" for equipment wash-down and clean-up within the plant; valves on dispensing hoses to minimize spillage when filling juice concentrate drums; and a computerized chemical tracking system to reduce over-dosing bottles during bottle sterilization.

9. Effluent samples collected on an annual basis from the ponds prior to irrigating cropland are required by Monitoring and Reporting Program Number 93-126. The treated effluent wastewater analytical results from 2010 and 2011 are summarized below.

Parameter	Units	Number of Samples	Mean Result
Total dissolved solids (TDS)	mg/L	4	492
Fixed dissolved solids (FDS)	mg/L	4	261
Electrical conductivity	umhos/cm	4	609
Nitrate	mg/L	4	2.0
Total nitrogen	mg/L	4	14
Boron	mg/L	4	0.12
Iron	mg/L	4	1.3
Manganese	mg/L	4	0.05
Chloride	mg/L	4	97
Sulfate	mg/L	4	ND
Biochemical Oxygen Demand	mg/L	4	45

10. Storm water is collected and discharged to a separate unlined basin where it percolates to groundwater. Sometimes the first flush of rainfall is diverted to the treatment ponds instead of the unlined storm water pond.

11. The culls and large fruit solids produced by juicing activities are hauled off site and used as cattle silage. During the summer months when irrigation demand is high and the storage pond is empty, sludge is dried in the empty storage pond. The Discharger manually sweeps the dried sludge into windrows and loads it into the bed of a four-wheel all-terrain vehicle equipped with soft turf tires that is driven in and out of the pond on mats to protect the pond liner. The dried sludge is then stockpiled next to the storage pond on dirt that has been covered with an asphalt based sealer. The stockpile is covered with a tarp. Dried sludge is applied to up to 38.97 acres of cropland between monitoring wells MW-4 and MW-8 (see Attachment A). Dried sludge has not been applied to cropland since 2008. The sludge application area also receives treated wastewater.

12. Two soil moisture probes were installed in cropland in the sludge application area to monitor the vadose zone in order to improve irrigation practices at the site.

Planned Changes in the Plant and Discharge

13. The Discharger plans to expand operations at the plant including:

    a. An average daily discharge of 900,000 gpd from the plant to the treatment/storage ponds from October 1 through January 31;

    b. An average daily discharge of 150,000 gpd from the plant to the treatment/storage ponds from February 1 through September 30;

c. A maximum daily discharge of 1,200,000 gpd from the plant to the treatment/storage ponds year round;

d. An average daily discharge (treated wastewater and groundwater) of 1,500,000 gpd from the treatment/storage ponds to cropland;

e. The construction of up to two additional wastewater storage ponds with a combined capacity of 68 million gallons with similar liners and leak detection and recovery systems as the existing ponds; and

f. Wastewater application to 291 acres of alfalfa (with periodic rotation of oats or barley/sudan grass).

14. The Discharger plans to replace the 115 acres of vineyards with alfalfa. In 2006, the Discharger purchased 75-acres of land to the south of its existing land application area (LAA) for the proposed expansion of the plant. These 75 acres have not yet been irrigated with treated wastewater from the plant. In addition, the Discharger owns fallow land adjacent to the existing LAA that it will bring into production. The conversion of vineyards to alfalfa, purchase of the additional 75 acres, and returning fallow land into production will result in at least 291 acres of alfalfa available for irrigation with treated wastewater from the plant. Some of the fallow cropland that will be brought into production is located downgradient of the existing groundwater monitoring well network, particularly monitoring well MW-8. This Order requires the Discharger to install additional monitoring well(s) downgradient of the fallow cropland that will be brought into production prior to irrigating it with treated wastewater.

15. Due to the construction of an airstrip in the LAA, the sludge application area will no longer be accessible for wastewater or sludge application.

16. The treated effluent water quality of the proposed expansion is anticipated to be the same quality of the existing discharge. The Discharger is only proposing to increase the volume of wastewater produced at the plant and the volume and location of the wastewater discharged to the LAA.

17. The water balance submitted with the RWD was used to model storage and disposal capacity and utilized monthly mean precipitation plus one standard deviation for 1948 through 2004 (approximately 23 inches) with at least two feet of freeboard in every pond. The model, which is based on the capacity of the ponds and LAA shown on Attachments A, indicate the plant can handle the proposed expansion summarized in Finding 13.

Site-Specific Conditions

18. The potable water supply for the plant comes from the Del Rey Community Services District groundwater wells and distribution system. Two private wells are located in the LAA to supplement treated wastewater irrigation to the LAA.

19. Based on the 2011 Consumer Confidence Report from the Del Rey Community Services District, the chemical character of the potable water supply is summarized below.

Water Supply Analytical Results

Parameter	Units	2011
Total dissolved solids	mg/L	86
Electrical conductivity	umhos/cm	130
Total hardness	mg/L	38.4
Bicarbonate alkalinity	mg/L	57.1
Chloride	mg/L	2.9
Sodium	mg/L	12
Nitrate (NO_3)	mg/L	3.97
Sulfate	mg/L	3.8
Calcium	mg/L	11
Iron	mg/L	0.18
Magnesium	mg/L	2.0

20. The plant and LAA are at an elevation of approximately 340 feet above mean sea level (MSL), and the area around the site is relatively flat. Elevated berms and tail water collection ponds preclude irrigation water from leaving the LAA.

21. Review of the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map Number 06019C2165H, effective 18 February 2009, indicates the site and LAA are located outside of any FEMA designated 100-year flood zones.

22. McCall Ditch intersects the southwestern portion of the LAA and is piped underneath the center of the LAA. Garfield Ditch is along the eastern side of the plant and a portion is piped underneath the western portion of the LAA.

23. According to the Department of Water Resources Land Use Map survey of Eastern Fresno County in 2009, the primary land uses in the vicinity of the site were: vineyards; deciduous fruits and nuts – primarily peaches, nectarines, and almonds; alfalfa; and oranges.

24. Annual precipitation in the vicinity averages approximately 10 inches, the 100-year total annual precipitation is approximately 23 inches, and the reference evapotranspiration rate is approximately 53 inches per year.

25. According to the National Resource Conservation Service, surface soils at the plant and LAA are predominantly Exeter loam. Additional soil types within the LAA consist of Hanford fine sandy loam and sandy loam. The Exeter and Hanford loams are moderately well-drained, non-saline soils. There are no site or crop restrictions due to the soil types that are present.

Groundwater Considerations

26. Five groundwater monitoring wells were installed in 1993 by the previous plant owner (MW-1 through MW-5). The Discharger installed three additional groundwater monitoring wells in May 2005 (MW-6 through MW-8) and two more in January 2012 (MW-9 and MW-10). The last two wells were installed to monitor groundwater upgradient and downgradient of the 75 acres that were purchased in 2006. The monitoring well locations are shown on Attachment A. According to information the Discharger submitted with the RWD, soils encountered in the boreholes for the monitoring wells consisted of silty sands and silts extending to depths varying from approximately 10 to 25 feet below ground surface (bgs). A 1-foot thick layer of hardpan was encountered at the southern portion of the LAA at a depth of approximately 3 feet bgs. Poorly graded sands were encountered below the surficial silty sands and silts that extended to the bottom of the boreholes at depths of 60 to 65 feet bgs. All of the monitoring wells have 25 or 30-foot screens.

27. Monitoring well MW-5 is upgradient of the LAA. Monitoring wells MW-1, MW-2, and MW-3 are downgradient of the treatment/storage ponds. Monitoring well MW-4 is cross gradient of the treatment/storage ponds. Monitoring wells MW-6 and MW-7 are downgradient of cropland where wastewater is applied. Monitoring well MW-8 is downgradient of where wastewater and dried sludge from the storage pond is applied. Monitoring wells MW-9 and MW-10 are downgradient and upgradient, respectively of the 75 acre parcel.

28. An overflow basin associated with McCall Ditch is located near upgradient well MW-5 and may influence groundwater quality in the vicinity of that well by diluting groundwater with very high quality surface water.

29. The Discharger has performed quarterly groundwater monitoring in accordance with Monitoring and Reporting Program Number 93-126. The depth to groundwater near the LAA varies historically from approximately 20 to 50 feet bgs. Groundwater in the region generally flows from the northeast to the southwest at a gradient of approximately 0.0025 to 0.0041.

30. Groundwater analytical data from December 2011 are summarized below. Groundwater samples have not been collected from MW-4 since 2005.

		Analytical Results						
Parameter	Units	MW-1	MW-2	MW-3	MW-5	MW-6	MW-7	MW-8
Electrical Conductivity	umhos/cm	382	161	103	41	754	492	1,002
Total Dissolved Solids	mg/L	240	110	76	87	440	300	630
Boron	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	7.3	3.3	1.7	1.5	21	7.9	17
Copper	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Iron	mg/L	0.12	<0.05	<0.05	0.071	<0.05	<0.05	<0.05
Manganese	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrate (NO_3-N)	mg/L	7.1	1.8	1.2	0.28	6.3	6.6	31
Sulfate	mg/L	34	9.6	3.5	2.0	27	33	40

These data, when considered with the shallow groundwater flow regime discussed above, may indicate that the existing plant has degraded groundwater quality downgradient of the sludge application area (MW-8) with respect to electrical conductivity, total dissolved solids, and nitrate as nitrogen.

Basin Plan, Beneficial Uses, and Regulatory Considerations

31. 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.

32. The Plant is in Detailed Analysis Unit 236 within the Kings 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.

33. The Basin Plan establishes narrative water quality objectives for chemical constituents, tastes and odors, and toxicity in groundwater. The Toxicity objective 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. 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.

34. The Basin Plan identifies the greatest long-term problem facing the entire Tulare Lake Basin as the increase in salinity in groundwater, which has accelerated due to the intensive use of soil and water resources by irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until 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.

35. The Basin Plan allows an exception to the EC limit of source water plus 500 umhos/cm 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 water quality objectives are met. With an average TDS concentration of 492 mg/L and an average FDS concentration of 261 mg/L, the discharge meets the incremental EC limit exemption.

36. 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.

37. In the absence of specific numerical water quality limits, objectives for receiving waters must be considered case-by-case. 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.

38. The list of crops in Finding 22 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. The effluent concentrations for the discharge permitted by this Order are consistent with water quality objectives to support these crops and will not limit the use of shallow groundwater for irrigation on all but the most salt-sensitive crops.

39. With regard to 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.

40. 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.

41. *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.

42. The *Western Fertilizer Handbook*, produced by the California Plant Health Association, indicates alfalfa will take up 480 pounds per acre per year (lbs/acre/yr) of nitrogen.

43. The Discharger estimated that the BOD and nitrogen loading of the LAA will be up to 87 lbs/acre/day and 169 lbs/acre/yr, respectively. According to the data in Finding 29, groundwater concentrations underneath the LAA do not exceed water quality objectives, except in the vicinity of MW-8. Concentrations in groundwater are anticipated to continue to be below water quality objectives when BOD and nitrogen are discharged to the LAA at the estimated loading rates. In addition, this Order

requires the Discharger to review and modify current sludge and wastewater application practices upgradient of MW-8.

Antidegradation Analysis

44. State Water Resources Control Board Resolution 68-16 (*"Policy with Respect to Maintaining High Quality Waters of the State"*) (hereafter Resolution 68-16 or "Antidegradation Policy") 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 discharger employs best practicable treatment or control (BPTC) to minimize degradation;

    c. The degradation will not unreasonably affect present and anticipated future beneficial uses; and

    d. The degradation is consistent with the maximum benefit of the people of the State.

45. Constituents of concern that have the potential to cause degradation of high quality waters include, in part, organics, nutrients, and salts.

    a. To reduce the organic load of its discharge, the Discharger has added aeration and facultative treatment that reduces the strength of its wastewater, expanded its LAA, and implemented best management practices (BMP) measures (process control improvements summarized in Finding 8 to further reduce strength of wastewater) significantly reducing the organic load to the LAA and minimizing the potential for anoxic and reducing conditions in soil. These measures are expected to prevent odor and nuisance conditions and preclude iron and manganese degradation of groundwater from organic loading.

    b. For nitrogen and nitrates, the application of wastewater at agronomic rates for both nutrient and hydraulic loading should preclude degradation of groundwater to the extent that it exceeds water quality objectives. Groundwater down-gradient of the discharge does not exceed the MCL for NO_3-N of 10 mg/L (except in the vicinity of MW-8), and is not expected to exceed it in the future. This Order includes a time schedule for the Discharger to modify its dried sludge and treated wastewater application practices on the parcels of land upgradient of MW-8 to mitigate current degradation.

    c. For salinity, the discharge with an average EC of 609 umhos/cm meets the Basin Plan limit of a maximum EC of 1,000 umhos/cm for discharges to areas

that may recharge good quality groundwater and is not anticipated to result in the degradation of groundwater exceeding water quality objectives.

46. 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 Plant complies with State and Central Valley Water Board plans and policies, authorized degradation due to the continued operation of the plant is to the maximum benefit to the people of the State.

Treatment and Control Practices

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

a. Screening to remove excess solids from the waste stream,
b. Hauling of solids offsite for use as cattle feed,
c. Computerized chemical tracking during juicing process,
d. Aeration and facultative ponds to reduce effluent BOD concentrations,
e. Treatment and storage ponds double lined with HPDE with a leak detection and recovery system between the two layers,
f. Organic loading rates consistent with EPA recommendations and unlikely to cause unacceptable groundwater degradation,
g. Application of nitrogen at agronomic rates,
h. Hydraulic loading at rates to preclude standing water on the LAA; and
i. Groundwater monitoring to monitor the impact of the discharge on groundwater.

Antidegradation Conclusions

48. 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.

49. The treatment and control measures described above in Finding 47, in combination with the requirements of this Order, represent BPTC. Adoption of this Order will result in the implementation of BPTC.

50. Economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State. As described in Finding 46, The Discharger aids in the economic prosperity of the region by direct employment and supports the local economy. In addition, the use of process wastewater for irrigation in place of higher quality groundwater is of further benefit to people of the State.

51. This Order requires monitoring to evaluate potential groundwater impacts from the discharge and confirm that the BPTC measures are sufficiently protective of groundwater. In addition, this Order includes provisions requiring the Discharger to review and modify its sludge and wastewater application practices upgradient of MW-8 and to prepare and implement a Salinity Control Plan.

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

Water Reuse

53. 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

54. Based on the threat and complexity of the discharge, the plant is determined to be classified as 2A 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 A complexity, defined as: “Any discharge of toxic wastes; any small volume discharge containing toxic waste; any facility having numerous discharge points and groundwater monitoring; or any Class 1 waste management unit.”

55. 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 and reuse. 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.

…

(h) Reuse - Recycling or other use of materials salvaged from waste, or produced by waste treatment, such as scrap metal, compost, and recycled chemicals, provided that discharges of residual wastes from recycling or treatment operations to land shall be according to applicable provisions of this division.

...

56. 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. The discharge to the double lined HDPE ponds is exempt pursuant to Title 27, section 20090(b) because:

        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

    b. The discharge to the LAA is also exempt pursuant to Title 27, section 20090(h) because the wastewater has been treated to make it suitable for direct beneficial reuse and is discharged in a manner consistent with crop requirements.

57. 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 plant is collected and disposed of in an infiltration pond or discharged to the primary treatment pond. The Discharger is therefore not required to obtain coverage under NPDES General Permit CAS000001.

58. 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 R5-2012-XXXX are necessary to ensure compliance with these waste discharge requirements. The Discharger owns and operates the plant that discharges the waste subject to this Order.

59. 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.

60. 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.

CEQA

61. Expansion of the plant, construction of up to two additional treated wastewater storage ponds, and land application of treated wastewater to cropland (including fallow cropland owned by the Discharger and newly purchased cropland) constitutes an expansion of the discharge that triggers the CEQA environmental review process. The Central Valley Water Board, as lead agency, developed an Initial Study and Mitigated Negative Declaration (IS/MND). The Board determined that the project, as mitigated by the requirements in this Order, would not cause any significant environmental impacts. The Board adopted a mitigated negative declaration on _ October 2012 in accordance with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.).

62. The Discharger has agreed to implement the proposed mitigation measures required by the IS/MND and incorporated into this Order.

Public Notice

63. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated herein, were considered in establishing the following conditions of discharge.

64. 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.

65. All comments pertaining to the discharge were heard and considered in a public hearing.

IT IS HEREBY ORDERED that Order No. 93-126 is rescinded except for purposes of enforcement, and, pursuant to Water Code sections 13263 and 13267, the Discharger, 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. Discharge of waste classified as 'designated', as defined in Water Code section 13173, is prohibited.

4. Treatment system bypass of untreated or partially treated waste is prohibited, except as allowed by Standard Provision E.2 of the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*.

5. Discharge of waste at a location or in a manner different from that described in the Findings is prohibited.

6. Discharge of toxic substances into the wastewater treatment system or LAA such that biological treatment mechanisms are disrupted is prohibited.

7. Discharge of domestic wastewater to the process wastewater treatment system is prohibited.

8. Discharge of process wastewater to the domestic wastewater treatment system is prohibited.

9. Discharge of domestic wastewater to the process wastewater ponds, LAA or any surface waters is prohibited.

B. Discharge Specifications

1. The annual average daily discharge from the ponds to the LAA shall not exceed 1.256 mgd until the Discharger has satisfied Provisions H.5, H.6, and H.7, after which, the following discharges shall be permitted:

    a. The average daily flow from the plant to the treatment ponds from October 1 through January 31 shall not exceed 0.9 mgd.

    b. The average daily flow from the plant to the treatment ponds from February 1 through September 30 shall not exceed 0.15 mgd.

    c. The maximum daily flow from the plant to the treatment ponds year round shall not exceed 1.2 mgd.

    d. The average annual flow from the treatment/storage ponds to the LAA shall not exceed 1.5 mgd.

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 treatment/containment structures and LAA 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 systems 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 treatment/storage ponds or the LAA at an intensity that creates or threatens to create nuisance conditions.

8. As a means of discerning compliance with Discharge Specification B.7, the dissolved oxygen (DO) content in the upper one foot of any treatment/storage 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 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.

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).

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 B.9 and B.10.

12. All ponds and open containment structures shall be managed to prevent breeding of mosquitoes.

13. Newly constructed or rehabilitated berms or levees (excluding internal berms that separate ponds or control the flow of water within a pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer.

14. The Discharger shall periodically monitor sludge accumulation in the wastewater treatment and storage ponds and shall remove sludge annually to maintain adequate storage capacity.

C. Mitigation Measures

1. Agricultural Resources

a. The area of APN 350-031-13 that will be converted to a storage pond(s) shall be canceled from Ag Contract #292.

2. Air Quality

a. Incorporate the appropriate control measures for construction emissions listed in Tables 6-2, 6-3, and 6-4 of the San Joaquin Valley Air Pollution Control District's (District), 10 January 2002, *Guide for Assessing and Mitigating Air Quality Impacts*.

3. Biological Resources

a. Project activities including disturbances near, or the removal of, trees being utilized by nesting birds (particularly the Swainson's Hawk), shall take place outside of the breeding bird season to avoid "take". Additional bird surveys shall be conducted prior to and during construction activities if the breeding season cannot be avoided. If avoidance of a known nest tree is not feasible, the Department of Fish and Game shall be notified and an Incidental Take Permit shall be obtained.
b. Trees that must be removed shall be replaced with and appropriate native tree species planting at a ratio of 3:1 that will be protected in perpetuity.

4. Cultural Resources

a. POM shall contact the representatives on Attachment C – Native American Contact List prior to commencing any construction to get their recommendations concerning the proposed project.
b. In the event that cultural resources are unearthed during grading activity, all work shall be halted in the area of the find, and an Archeologist and the Native American Heritage Commission (NAHC) shall be called to evaluate the findings and make any necessary mitigation recommendations. If human remains are unearthed during construction, no further disturbance is to occur until the Fresno County Coroner has made the necessary findings as to the origin and disposition. If such remains are determined to be Native American, the Coroner must notify the NAHC within 24 hours.

5. Hydrology and Water Quality Resources

a. If either of the two proposed ponds is subject to California Department of Water Resources, Division of Safety of Dams jurisdiction, a construction application, together with plans, specifications, and the appropriate filing fee must be filed with the Division of Safety of Dams for this project. All dam safety related issues must be resolved prior to approval of the

application, and the work must be performed under the direct supervision of a Civil Engineer registered in California.

D. Effluent Limitations

1. Effluent discharged to the LAA shall not exceed the following limits:

Constituent	Units	Monthly Average Limit
Electrical Conductivity	umhos/cm	1,000
Chloride	mg/L	175
Boron	mg/L	1.0

2. No wastewater contained in any pond shall have a pH of less than 6.5 or greater than 8.5.

E. 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.

2. Application of waste constituents to the LAA shall be at reasonable agronomic rates to preclude creation of a nuisance or 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 designed to minimize the percolation of wastewater and irrigation water below the root zone (i.e., deep percolation).

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. The resulting effect of the discharge on soil pH shall not exceed the buffering capacity of the soil profile.

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 irrigation runoff shall be confined to the LAA and shall not enter any surface water drainage course or storm water drainage system.

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 irrigation 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.

F. Solids Disposal Specifications

Solids, as used in this document, means culls and large fruit solids produced by juicing activities. Sludge means the solid, semisolid, and liquid residues removed from the storage ponds during the dry season when the ponds are empty of wastewater.

1. Any drying, handling and storage of solids and sludge at the Plant or the LAA 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 shall be collected and shipped off site as cattle feed. Sludge shall be handled pursuant to Provision G.3.

2. Any proposed change in solids or sludge use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

G. Groundwater Limitations

1. Release of waste constituents associated with the discharge shall not cause or contribute to groundwater:

    a. Containing constituent concentrations in excess of the concentrations specified below or natural background quality, whichever is greater:

        (i) Nitrate as nitrogen of 10 mg/L[1].

(ii) Electrical Conductivity of 900 umhos/cm[2].

(iii) For constituents identified in Title 22, the MCLs quantified therein[1,2].

[1] Primary MCLs applied as an instantaneous concentration.

[2] Secondary MCLs applied as an annual average concentration.

b. Containing taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

H. Provisions

1. The Discharger shall comply with Monitoring and Reporting Program R5-2012-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. **By 4 February 2013**, the Discharger shall submit a Workplan that sets forth the scope and schedule for review of current sludge and wastewater application practices upgradient of monitoring well MW-8. The workplan shall propose a time schedule for completing the review and proposing measures or changes to the current sludge and wastewater application practices that will improve groundwater quality. The workplan shall also include the scope for future sludge disposal that is protective of groundwater quality since the current sludge application area will no longer be accessible for wastewater or sludge application due to the construction of an airstrip in that area. The schedule to complete the evaluation shall be as short as practicable, and shall not exceed one year. The proposed measures or modifications shall be implemented following Executive Officer approval.

4. **By 4 March 2013**, the Discharger shall submit a Salinity Control Plan, with salinity source reduction goals and a proposed implementation time schedule for Executive Officer approval. The control plan shall identify any additional methods that could be used to further reduce the salinity of the discharge to the maximum extent feasible (i.e., switch from a sodium based to a potassium based cleaner), include an estimate on load reductions that may be attained through the methods identified, and provide a description of the tasks, cost, and time required to investigate and implement various elements in the Salinity Control Plan. The Discharger shall implement the plan in accordance with the approved schedule.

5. **By 4 April 2013**, the Discharger shall submit a Design Plan with a time schedule for construction of up to two additional wastewater storage ponds. The Design Plan must be prepared by or under the direct supervision of a Civil Engineer registered in California or other persons registered to practice in California pursuant to California Business and Professions Code, and approved by the Executive Officer prior to construction. The design report shall include the following: (a) design calculations demonstrating that adequate containment will be achieved and that the pond liner will be protective of groundwater quality; (b) details on the pond liner and the leak detection and recovery system; and (c) a construction quality assurance plan describing testing and observations needed to document construction of the liner in accordance with the design criteria. Upon written acceptance of the Design Plan by the Executive Officer, the Discharger shall begin construction on the pond improvements to be completed by **1 October 2013**. The Discharger shall submit a post-construction report following completion of the pond(s) construction.

6. **Upon Completion** of replacing the 115 acres of vineyards with alfalfa and planting alfalfa on former fallow land and the recently purchased 75 acres, the Discharger shall submit a report documenting that at least 291 acres of the LAA are available to receive treated wastewater from the plant. The report shall include a map of the LAA showing predominant features, field numbers, and acreage.

7. The Discharger shall install and maintain a sufficient number of groundwater monitoring wells to monitor groundwater downgradient of MW-8 and the previously fallow cropland that will be brought into production. As part of this Provision, the Discharger shall submit a Work Plan and Time Schedule to install the monitoring well(s). The Work Plan shall satisfy the information needs specified in the monitoring well installation section of Attachment B, *Standard Requirements for Monitoring Well Installation Work Plans and Monitoring Well Installation Reports*.

8. New and replacement wells shall comply with appropriate standards as described in *California Well Standards Bulletin 74-90* (June 1991) and *Water Well Standards: State of California Bulletin 94-81* (December 1981), and any more stringent standards adopted by the Discharger or county pursuant to Water Code Section 13801.

The Discharger shall comply with the following compliance schedule in implementing the work required by this Provision.

	Task	Compliance Date
a.	Submit Work Plan and Time Schedule for monitoring well installation.	**90 days prior to discharging treated wastewater to LAA upgradient of new well**
b.	Complete installation of additional monitoring well(s) and collection of one round of groundwater samples in accordance with the MRP.	**Prior to discharging treated wastewater to LAA upgradient of new well**
c.	Submit technical report documenting monitoring well installation.	**Quarterly monitoring report following well installation and sampling.**

9. 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.

10. 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.

11. 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.

12. 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.

13. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with this Order.

14. 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.

15. 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.

16. In the event of any change in control or ownership of the plant, 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.

17. 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.

18. A copy of this Order including the MRP, Information Sheet, Attachments, and Standard Provisions, shall be kept at the discharge plant for reference by operating personnel. Key operating personnel shall be familiar with its contents.

19. 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.

20. 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.

21. 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 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 XX October 2012.

PAMELA C. CREEDON, Executive Officer

Order Attachments:

A. Site Map
B. Standard Monitoring Well Provisions for Waste Discharge Requirements
C. Native American Contact List

Monitoring and Reporting Program R5-2012-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 R5-2012- XXXX

FOR
POM WONDERFUL, LLC
WHOLE FRUIT AND JUICE EXTRACTION PLANT
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 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 months of monitoring, the Discharger may request this MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency.

A glossary of terms used within this MRP is included on page 10.

INFLUENT MONITORING

Influent samples shall be collected prior to discharge to the treatment/storage ponds and shall include at least the following:

Frequency	Constituent/Parameter	Units	Sample Type
Continuous	Flow	mgd	Metered
Weekly	BOD_5	mg/L	24-hr Composite

EFFLUENT MONITORING

Effluent samples shall be collected after treatment, just prior to discharge to the Land Application Area (LAA), and shall be collected on the same day as influent samples for direct comparison. Effluent monitoring shall include at least the following:

Frequency	Constituent/Parameter	Units	Sample Type
Continuous	Flow	mgd	Meter
Weekly	pH	pH Units	Grab
Weekly	EC	umhos/cm	Grab
Weekly	BOD_5	mg/L	24-hr Composite
Monthly	Nitrate as N (NO_3-N)	mg/L	Grab
Monthly	TKN	mg/L	Grab
Monthly	Total Nitrogen	mg/L	Computed
Monthly	Total Dissolved Solids	mg/L	Grab
Monthly	Fixed Dissolved Solids	mg/L	Grab
Semiannually	Cations/Anions[1]	mg/L	Grab
Every Five Years[2]	General Minerals[3]	mg/L	Grab

1. Cation/Anions shall include: bicarbonate (as $CaCO_3$), calcium, carbonate (as $CaCO_3$), chloride, magnesium, potassium, sodium, and sulfate. Results shall include a cation/anion balance.
2. Samples shall be collected once every 5 years or following a process change that would affect water quality of the effluent.
3. General minerals include: alkalinity (as $CaCO_3$), aluminum, bicarbonate (as $CaCO_3$), boron, calcium, carbonate (as $CaCO_3$), chloride, copper, hardness (as $CaCO_3$), iron, magnesium, manganese, phosphate, potassium, sodium, and sulfate. General minerals analysis results shall include a cation/anion balance. Samples collected for metals shall be filtered with a 0.45 micron filter prior to preservation, digestion, and analysis.

GROUNDWATER MONITORING

After measuring water levels and prior to collecting samples, each monitoring well shall be adequately purged to remove water that has been standing within the well screen and casing that may not be chemically representative of formation water. Depending on the hydraulic conductivity of the geologic setting, the volume removed during purging is typically from 3 to 5 volumes of the standing water within the well casing and screen, or filter pack pore volume.

The Discharger shall monitor all wells in its Groundwater Monitoring Well Network, and any subsequent additional wells, for the following:

Frequency	Constituent/Parameter	Units	Sample Type
Quarterly	Depth to groundwater	Feet[1]	Measured
Quarterly	Groundwater Elevation	Feet[2]	Computed
Quarterly	pH	pH Units	Grab
Quarterly	Temperature	°C	Grab
Quarterly	Oxidation/Reduction Potential	mV	Grab
Quarterly	Electrical Conductivity	umhos/cm	Grab
Quarterly	Dissolved Oxygen	mg/L	Grab
Semiannually	Nitrate as N	mg/L	Grab
Semiannually	TKN	mg/L	Grab
Semiannually	Total Nitrogen	mg/L	Computed
Semiannually	Total Dissolved Solids	mg/L	Grab
Semiannually	General Minerals[3]	mg/L	Grab

1. To nearest tenth of a foot
2. Groundwater elevation shall be determined based on depth-to-water measurements from a surveyed measuring point.
3. General minerals include: bicarbonate (as $CaCO_3$), calcium, carbonate (as $CaCO_3$), chloride, iron, magnesium, manganese, potassium, sodium, and sulfate. General minerals analysis results shall include a cation/anion balance. Samples collected for metals shall be filtered with a 0.45 micron filter prior to preservation, digestion, and analysis.

The Discharger shall maintain its groundwater monitoring well network. If a groundwater monitoring well(s) are dry for more than two consecutive sampling events, the Discharger shall submit a work plan and proposed time schedule to replace the well(s). The well(s) shall be replaced following written Executive Officer approval of the work plan and time schedule.

SOURCE WATER MONITORING

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 is served by the Plant.

Frequency	Constituent/Parameter	Units	Sample Type
Quarterly	Flow-Weighted EC	µmhos/cm	Computed average
Every Five Years[1]	General Minerals[2]	mg/L	Grab

1. The initial round of sampling shall be conducted within 12 months of adoption of the Order.
2. General minerals include: alkalinity (as $CaCO_3$), aluminum, bicarbonate (as $CaCO_3$), boron, calcium, carbonate (as $CaCO_3$), chloride, copper, hardness (as $CaCO_3$), iron, magnesium, manganese, phosphate, potassium, sodium, and sulfate. General minerals analysis results shall include a cation/anion balance. Samples collected for metals shall be filtered with a 0.45 micron filter prior to preservation, digestion, and analysis.

LAND APPLICATION AREA MONITORING

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:

Frequency	Constituent/Parameter	Units	Sample Type
Daily	Application Area	Field # / Acreage	n/a
Daily	Wastewater flow	Gallons	Metered
Daily	Wastewater loading	inches/day	Calculated
Daily	Supplemental irrigation	Gallons	Metered
Daily	Precipitation	inches	Rain gage[1]
	BOD loading rate[2]		
Daily	day of application	lbs/acre	Calculated
Daily	cycle average	lbs/acre-day	Calculated
	Nitrogen loading		
Monthly	from wastewater[3]	lbs/acre	Calculated
Monthly	from fertilizer	lbs/acre	Calculated
Annually	Cumulative nitrogen loading	lbs/acre-year	Calculated
Monthly	Salt loading[3]	lbs/acre	Calculated
Annually	Cumulative Salt loading	lbs/acre-year	Calculated

[1] National Weather Service data from the nearest weather station is acceptable.

[2] Loading rates to be calculated using the applied volume of wastewater, applied acreage, and average of the three most recent concentrations for BOD. The BOD loading rate shall be divided by the #days between applications to determine cycle average.

[3] Nitrogen and salt loading shall be calculated using the applied volume of wastewater, applied acreage, and average of the three most recent concentrations for total nitrogen and FDS.

SOIL MONITORING

The Discharger shall continue to monitor the existing five locations within the LAA (B-1 through B-5). Once wastewater is applied to the parcel of land where the existing background sample B-6 is located, a new background sample location shall be established. Location B-6 shall continue to be monitored. The samples shall be collected and analyzed for the constituents and frequencies specified below:

Frequency	Constituent/Parameter	Units	Sample Type
Annually	Moisture Content	% volume	Composite[1]
Annually	Cation Exchange Capacity	meq/100 grams	Composite[1]
Annually	Soil pH	pH units	Composite[1]
Annually	Buffer pH	mg/kg as CaCO3	Composite[1]
Annually	Nitrate as N	mg/kg	Composite[1]
Annually	TKN	mg/kg	Composite[1]

[1] Samples shall be collected at 0, 2, 4, 6, 8, and 10 feet. Individual samples at each depth interval shall be composited into one sample for analysis.

TREATMENT AND STORAGE POND MONITORING

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

Frequency	Constituent/Parameter	Units	Sample Type
Daily	Freeboard	feet	Measured
Daily	Dissolved Oxygen	mg/L	Grab
Weekly	pH	pH units	Grab
Monthly	Visual Inspection[1]	--	--
Monthly	Presence of leachate in LDRS[2]	--	--
Monthly	Volume of leachate removed[3]	gallons/month	--
Monthly	Top Liner Leakage Rate[3,4]	gallons/acre/day	Calculated

[1] Visual inspection shall include observing the pond sides and surface area from items such as: weeds, algae, animal holes, and erosion.
[2] LCRS = leak detection and recovery system.
[3] If leachate is not present in the LDRS, the monitoring report shall so state and this sampling/reporting is not required.
[4] Top Liner Leakage Rate = (gallons of leachate removed) / (size of pond acres) / (number of days in reporting month).

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 any report transmittal letters, submitted to the Central Valley Water Board:

Discharger: POM Wonderful, LLC
Facility: Whole Fruit and Juice Extraction Plant
MRP: R5-2012-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 Quarterly Monitoring Reports, shall include the following:

Wastewater reporting

1. The results of influent and effluent monitoring specified on page 2.
2. For each month of the quarter, calculation of the maximum daily flow, monthly average flow, and cumulative annual flow.
3. For each month of the quarter, calculation of the average monthly effluent EC and BOD.

Groundwater reporting

1. The results of groundwater monitoring specified on page 3. If there is insufficient water in the well(s) for sampling the monitoring well(s) shall be reported as dry for that quarter.
2. For each monitoring well, a table showing groundwater depth, elevation, and constituent concentrations for at least five previous years, up through the current quarter.
3. A groundwater contour map based on groundwater elevations for that quarter. The map shall show the gradient and direction of groundwater flow under/around the LAA. The map shall also include the locations of all monitoring wells and wastewater storage and/or discharge areas.

Source Water reporting

1. For each quarter include the results of monitoring for EC

Land Application Area reporting

1. The results of the routine monitoring and loading calculations for BOD, nitrogen, and salts as specified on page 4.
2. Provide a Site Map of the LAA showing predominant features, and include field numbers and applied acreages.

3. For each month of the quarter, calculation of the monthly hydraulic load on each individual section for wastewater and supplemental irrigation water in millions of gallons.
4. 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.

Pond Monitoring reporting

1. The results of the routine monitoring specified on page 5.

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

Wastewater

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/Sludge Monitoring

1. Annual production totals in dry tons or cubic yards.
2. A description of disposal methods, including location, and Order number of regulatory permit (if appropriate). If more than one method is used, include the percentage disposed of by each method.

Soil Sampling

1. The results of soil monitoring specified on pages 5. The analytical results shall be presented in tabular form and include depth of sample. If no sample is collected at a specified depth it shall be noted in the table along with the reason no sample was collected.

2. A site map showing the location of each sampling point. The map shall also include the locations of all monitoring wells and wastewater storage and/or discharge areas.

Source Water

1. Include the results of monitoring for General Minerals specified on Page 4.

Land Application Area

1. The type of crop(s) grown, 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). Include any soil and/or tissue sampling results.
2. The monthly and annual discharge volumes during the reporting year expressed as 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 from irrigation efficiency such that the application rate is slightly greater than the crop utilization rate. A conservative design does not include this value.
    b. Monthly average precipitation – this data is available at http://www.cimis.water.ca.gov/ or at http://www.ncdc.noaa.gov/oa/climate/online/ccd/nrmlprcp.html.
    c. Monthly average and annual average discharge flow rates.
    d. 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 BOD 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 (FDS) that have been applied to the LAA, as calculated from the sum of the monthly loadings, and the total annual FDS loading to the LAA in lbs/acre-year.

C. Mitigation Reporting, shall include a demonstration that the mitigation measures have been implemented and shall be submitted within 60 days of completion of construction activities associated with the expansion of the Plant.

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

_____

(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-hr Composite	Samples shall be a flow-proportioned composite consisting of at least eight aliquots.
Daily	Samples shall be collected every day except weekends or holidays.
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 March, June, September, and December.
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 June and December.
Annually	Samples shall be collected at least once per year. Unless otherwise specified or approved, samples shall be collected in June.
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

INFORMATION SHEET

R5-2012-XXXX
POM WONDERFUL, LLC
WHOLE FRUIT AND JUICE EXTRACTION PLANT
FRESNO COUNTY

BACKGROUND

Waste Discharge Requirements (WDRs) Order No. 93-126 was originally issued to Met West Agribusiness for the discharge of waste to land from combined waste streams from apple juice and fruit slice and dice processing and fruit packing processing operations at a facility located at 5286 Del Rey Avenue in Fresno County. Subsequent name change orders were issued for the change in ownership of the facility to Del Rey Juice Company (2002) and to POM Wonderful, LLC (POM) (2008). In May 2009, POM submitted a Report of Waste Discharge (RWD) and Technical Report for expansion of its whole fruit and juice extraction of pomegranates at the facility. POM submitted additional information to supplement the 2009 RWD in March 2012. POM's existing operations include pomegranate whole fruit packing, juice extraction and concentration, bottling facilities, tea production, wastewater treatment, and land application of treated wastewater.

The operational parameters of WDRs Order No. 93-126 include a maximum daily discharge limit of 0.125 million gallons per day (mgd) from the combined waste streams to the treatment/storage ponds and an annual average daily discharge limit up to 1.256 mgd from the treatment/storage ponds to cropland (115 acres of vineyards and 88 acres of alfalfa). Waste application rates at the land application site, "shall not exceed the environmental conditions at the site or 100 lbs BOD/acre/day, whichever is less."

The juicing process includes pressing, evaporating, blending, and drumming for the juice and tea product lines. Juice is processed from October through January. Tea is produced year round with primary operation from February through September. Process control improvements were implemented for juice extraction and concentrate operations during 2007 and 2008 that improved the water quality of the waste streams. These improvements include:

- Utilizing partial fruit in the processing/juicing operation instead of washing into waste streams,
- High pressure fruit wash system that utilizes less water,
- Capturing juice from fruit that is waiting to be processed instead of washing juice to waste streams,
- Sediment traps in the juice extraction plant that collect debris during washdown,
- Filter retentate system in the juice extraction plant to collect filtering by-products. POM reports a 50% reduction in BOD_5 as a result. Collected by-product is shipped off-site for disposal,
- "Leuter Water" reuse system. Potable water in the evaporative condensate process is reused as Leuter Water for equipment washdown and clean-up within the plant. POM reports a 30% reduction in hydraulic loading as a result,
- Valve on dispensing hose to minimize spillage when filling juice concentrate drums,

- Computerized chemical tracking system to reduce over-dosing bottles during the bottle sterilization process, resulting in the reduction of TDS in the waste stream.

Wastewater treatment includes four screening stations within the production facility, pH adjustment and nutrient addition, a primary treatment pond (aeration) and a secondary treatment pond (facultative) prior to discharge to either a storage pond or cropland for irrigation. Screening stations are located at the effluent of juice concentration, juice extraction, fresh fruit packing, and cold storage. pH adjustment utilizing potassium hydroxide and nutrient addition occurs as needed prior to the discharge to ponds. The storage capacity of the primary treatment, secondary treatment, and storage pond are 6, 12, and 24 million gallons, respectively. The primary aeration and the secondary facultative ponds were installed in the early 1990's; each with a single layer 40 mil HDPE liner. In 2005, the storage pond was constructed with a primary 80 mil HPDE layer and a secondary 60 mil HDPE layer with a leak detection and recovery system installed between HDPE layers. In 2008 and 2009, the secondary facultative and primary aeration ponds, respectively, were retrofitted with two HPDE layers and leak detection and recovery systems similar to the storage pond. During and following construction of the storage pond, POM submitted technical information, certified by a California registered civil engineer, documenting stability analysis, transmissivity, interface friction, independent laboratory testing of liner material, and construction quality control of liner installation. Following liner retrofit activities for the primary and secondary ponds, POM submitted a letter and photographs summarizing liner installation procedures.

Storm water is collected and discharged to a separate unlined basin where it percolates to groundwater. POM has indicated that it sometimes diverts the first flush of rainfall runoff to the treatment ponds instead of the unlined storm water pond.

The culls and large fruit solids produced by juicing activities are hauled off site and used as cattle silage. During the summer months when irrigation demand is high and the storage pond is empty, sludge is dried in the empty storage pond. POM manually sweeps the dried sludge into windrows and loads it into the bed of a four-wheel all-terrain vehicle equipped with soft turf tires that is driven in and out of the pond on mats to protect the pond liner. The dried sludge is then stockpiled next to the storage pond on dirt that has been covered with an asphalt based sealer. The stockpile is covered with a tarp. Dried sludge is applied to up to 38.97 acres of cropland between monitoring wells MW-4 and MW-8. Dried sludge has not been applied to cropland since 2008. The sludge application area also receives treated wastewater.

Two soil moisture probes are installed in cropland in the sludge application area to monitor the vadose zone in order to improve irrigation practices at the site.

In 2006, POM purchased a 75-acre parcel of land for additional acreage for wastewater application in anticipation of expansion of production at the facility.

The expansion and corresponding effluent limits requested by POM are in its RWD are summarized below:

- Average daily discharge of 900,000 gallons per day (gpd) from the facility to the treatment/storage ponds from October 1 through January 31,
- Average daily discharge of 150,000 gpd from the facility to the treatment/storage ponds from February 1 through September 30,
- Maximum daily discharge of 1,200,000 gpd from the facility to the treatment/storage ponds year round,
- Annual average daily discharge (treated wastewater and groundwater) of 1,500,000 gpd from treatment/storage ponds to cropland (POM has the ability to add groundwater to the ponds prior to discharge to cropland),
- pH of treatment/storage ponds to be between 6.5 and 8.5,
- Dissolved oxygen at top 1-foot of treatment/storage ponds $\geq$ 1.0 mg/L,
- Instantaneous BOD_5 loading rate to cropland $\leq$ 100 lbs/acre/day,
- Nutrient loading rate to cropland shall not exceed crop demand,
- Construction of up to two additional wastewater storage ponds with a combined capacity of 68 million gallons with similar liners and leak detection and recovery systems as the existing ponds; and
- Wastewater application to 291 acres of alfalfa (with periodic rotation of oats or barley/sudan grass).

Wastewater
Wastewater at the Plant generated from the fresh fruit side of the business includes washing, sorting, grading, packing, and processing of the fruit for the various product lines. Wastewater generated from the juice extraction includes pressing, evaporating, blending, drumming, and equipment cleaning. The wastewater is screened to remove solids before it drains into a concrete “pre-treatment” sump where pH adjustment with potassium hydroxide and nutrient addition occur as needed, from which it is pumped to a primary aeration pond and a secondary facultative pond before being discharged to a storage pond or cropland.

The following data depicts POM’s treated wastewater concentrations based on analytical data from 2010 and 2011:

Parameter	Units	Number of Samples	Mean Result
Total dissolved solids (TDS)	mg/L	4	492
Fixed dissolved solids (FDS)	mg/L	4	261

Parameter	Units	Number of Samples	Mean Result
Electrical conductivity	umhos/cm	4	609
Nitrate	mg/L	4	2.0
Total nitrogen	mg/L	4	14
Boron	mg/L	4	0.12
Iron	mg/L	4	1.3
Manganese	mg/L	4	0.05
Chloride	mg/L	4	97
Sulfate	mg/L	4	ND
Biochemical Oxygen Demand	mg/L	4	45

Source Water: Source water is provided by the Del Rey Community Services District's groundwater wells and distribution system. The 2011 Consumer Confidence Report indicates that the source water is very good, with an EC of 130 umhos/cm, and nitrate as (NO_3) of 3.97 mg/L. There are two additional supply wells on-site within the Land Application Area (LAA) that are used for irrigation.

Disposal Methods

Solids and sludge: Solids removed during processing of pomegranates are collected in storage bins and sold for use as cattle feed. Sludge is removed from the storage pond, dried, and applied to the LAA.

Reuse: After treatment, the wastewater is distributed to an irrigation system and used to irrigate 115 acres of vineyards and 88 acres of alfalfa. In order to handle the additional wastewater from the expansion of the facility, POM proposes to remove the 115 acres of vineyards and plant with alfalfa, plant alfalfa in previously fallow cropland, and plant alfalfa on a recently purchased 75 acres parcel of land. In total, there will be 291 acres of alfalfa in the LAA.

GROUNDWATER CONDITIONS

Based on groundwater monitoring performed by POM in accordance with the Monitoring and Reporting Program 93-126, depth to groundwater underneath the LAA varies historically from 20 to 50 feet below ground surface and generally flows in a west-southwesterly direction; with a gradient of approximately 0.0025 to 0.0041.

Five groundwater monitoring wells were installed in 1993 by the previous plant owner (MW-1 through MW-5). POM installed three additional groundwater monitoring wells in May 2005 (MW-6 through MW-8) and two more in January 2012 (MW-9 and MW-10). The last

two wells were installed to monitor groundwater upgradient and downgradient of the 75 acres that were purchased in 2006. According to information POM submitted with the RWD, soils encountered in the boreholes for the monitoring wells consisted of silty sands and silts extending to depths varying from approximately 10 to 25 feet below ground surface (bgs). A 1-foot thick layer of hardpan was encountered at the southern portion of the LAA at a depth of approximately 3 feet bgs. Poorly graded sands were encountered below the surficial silty sands and silts that extended to the bottom of the boreholes at depths of 60 to 65 feet bgs. All of the monitoring wells have 25 or 30-foot screens.

POM Wonderful Groundwater Quality – December 2011

	MW-1	**MW-2**	**MW-3**	**MW-5**	**MW-6**	**MW-7**	**MW-8**
EC (umhos/cm)	382	161	103	41	754	492	1,002
DO (mg/L)	6.9	6.5	6.3	6.9	6.1	6.1	7.9
ORP (mV)	100	78	98	98	69	92	86
Boron (mg/L)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01
Chloride (mg/L)	7.3	3.3	1.7	1.5	21	7.9	17
Copper (mg/L)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Iron (mg/L)	0.12	<0.05	<0.05	0.071	<0.05	<0.05	<0.05
Manganese (mg/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
NO_3-N (mg/L)	7.1	1.8	1.2	0.28	6.3	6.6	31
SO_4 (mg/L)	34	9.6	3.5	2.0	27	33	40
TDS (mg/L)	240	110	76	87	440	300	630

Soils within the area where wastewater is applied consist of loam, fine sandy loam, and sandy loam. Permeability of these soils range from 2.5 to 5.0 inches per hour.

POM proposes to bring recently fallow cropland, located downgradient of monitoring well MW-8, into production and incorporate it into the LAA. As such, the proposed Order requires POM to install a sufficient number of groundwater monitoring wells downgradient of this recently fallow cropland prior to discharging treated groundwater to this area.

Basin Plan, Beneficial Uses, and Regulatory Considerations

The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition,* revised January 2004 (hereafter Basin Plan) designates beneficial uses, establishes narrative and numerical water quality objectives, contains implementation plans and policies for protecting all waters of the Basin, and incorporates, by reference, plans and policies of the State Water Resources Control Board (State Water Board). Pursuant to Water Code section 13263(a), these requirements must implement the Basin Plan.

The Basin Plan indicates the greatest long-term problem facing the entire Tulare Lake Basin is increasing salinity in groundwater, a process accelerated by man's activities and particularly affected by intensive irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until there is a long-term solution to the salt imbalance. The Central Valley Water Board encourages proactive management of waste streams by dischargers to control addition of salt through use, and has established an incremental EC limitation of 500 umhos/cm over source water or a maximum of 1,000 umhos/cm, as the measure of the permissible addition of
salt constituents through use. In addition, 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.

Treatment and Control Practices
POM provides treatment and control of the discharge that incorporates: (a) screening to remove excess solids from the waste stream, (b) hauling solids offsite for use as cattle feed, (c) primary aeration and secondary facultative ponds to reduce effluent BOD concentrations, (d) double lining of the treatment and storage ponds with 60 and 80 mil HDPE liners and leak detection systems, (e) organic loading rates consistent with EPA recommendations; (f) application of nitrogen at agronomic rates; (g) hydraulic loading at rates to preclude standing water on the LAA; and (h) groundwater monitoring to monitor the impact of the discharge on groundwater. 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.

Constituents of concern that have the potential to cause degradation of high quality waters include, in part, organics, nutrients and salts.

a. To reduce the organic load of its discharge, POM has added treatment and reduced the strength of its wastewater and implemented BPTC measures, significantly reducing the organic load to the LAA and minimizing the potential for anoxic or reducing conditions in soil. These measures are expected to prevent odor and nuisance conditions and to preclude iron and manganese degradation of groundwater from organic loading. This Order requires POM to modify its sludge and wastewater application procedures upgradient of monitoring well MW-8 in order to protect groundwater and to submit a Salinity Control Plan for the facility.

b. For nitrogen and nitrates, reduction of nitrogen through treatment and application of wastewater at agronomic rates for both nutrient and hydraulic loading should preclude degradation of groundwater exceeding water quality objectives. Groundwater down-gradient of the discharge does not exceed (except MW-8) the MCL for nitrate as nitrogen (NO_3-N) of 10 mg/L, and is not expected to exceed it in the future. As stated above, POM will be required to investigate the groundwater degradation in the vicinity of MW-8 and modify its waste application practices accordingly in order to protect water quality.

c. For salinity, the effluent limit of 1,000 umhos/cm meets the Basin Plan requirement for food processors where a disproportionate increase in EC of the discharge over the EC of source water is due to organic dissolved solids from the raw food product and is not anticipated to result in the degradation of groundwater exceeding water quality objectives.

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

The discharge and the potential for groundwater degradation allowed by the proposed Order is consistent with the Antidegradation policy since: (a) The Order will result in POM's implementation of BPTC to minimize degradation, (b) the limited degradation allowed by this Order will not unreasonably affect present and anticipated beneficial uses of groundwater, or result in water quality less than water quality objectives, and (c) the limited degradation is of maximum benefit to people of the State, as the facility supports the local economy. In addition, the use of process wastewater for irrigation in place of higher quality groundwater will preserve a water resources, which is of further 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) and pursuant to the reuse exemption found at Title 27, section 20090(h).

CEQA
On XX October 2012, the Central Valley Water Board adopted a Mitigated Negative Declaration in conjunction with adopting this Order for the expansion of the facility.

The proposed Order includes specific conditions intended to mitigate or avoid environmental effects on water quality. Specifically, the proposed Order:

a. Sets limits for flow, EC, chloride, and BOD loading;

b. Requires application of wastewater at agronomic rates;

c. Establishes groundwater limits;

d. Establishes a monitoring and reporting program; and

e. Requires POM to investigate the cause of groundwater degradation in the vicinity of MW-8 and to modify its waste application procedures accordingly and submit a Salinity Control Plan.

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 proposed Order incorporates the current flow limits of Order No. 93-126 until POM demonstrates the construction of an additional storage pond(s), installation of the appropriate number of groundwater monitoring wells downgradient of fallow cropland that will be brought into production, and sufficient cropland is available in the LAA. Upon completion of the above items, the proposed Order sets the flowing effluent flow limits:

a. Average flow from the plant to ponds from October 1 through January 31 of 0.9 mgd;

b. Average flow from the plant to ponds from February 1 through September 30 of 0.15 mgd;

c. Maximum year round daily flow from plan to ponds of 1.2 mgd; and

d. Annual average daily flow from ponds to cropland of 1.5 mgd.

The proposed Order sets limits for EC, chloride, and boron such that the monthly average of the discharge shall not exceed 1,000 umhos/cm, 175 mg/L, and 1.0 mg/L, respectively consistent with the Basin Plan. The proposed Order also requires POM to prepare and implement a Salinity Control Plan to control the salinity of the discharge.

To address the potential for the discharge to impact groundwater quality due to organic loading or the creation of nuisance conditions, the proposed Order will set a BOD loading limit to the LAA of 100 lbs/acre/day.

The proposed Order would prescribe groundwater limitations that implement water quality objectives for groundwater from the Basin Plan. The limitations require that the discharge not cause or contribute to exceedances of these objectives or natural background water quality, whichever is greater.

The proposed Order sets site specific groundwater limits for nitrate and EC. The nitrate as nitrogen limit is set as the Primary MCL of 10 mg/L. The predominant crops for the area can tolerate irrigation water with an EC up to 1,000 umhos/cm with no reduction in crop yield. Considering predominant crop types and irrigation methods, the proposed Order sets a groundwater limit for EC of 900 umhos/cm, which should preclude impairment of agricultural beneficial uses and is the secondary MCL for EC consistent with beneficial uses for municipal and domestic supply. For constituents identified in Title 22, the MCLs quantified therein also apply as groundwater limitations. For primary MCLs, the groundwater limitation is an instantaneous concentration and for secondary MCLs, the groundwater limitation is an annual average concentration.

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. In recent years there has been increased emphasis on obtaining all necessary information, assuring the information is timely as well as representative and accurate, and thereby improving accountability of any discharger for meeting the conditions of discharge. Water Code section 13268 authorizes the assessment of administrative civil liability for failure to submit required monitoring and technical reports.

The proposed Order includes influent and effluent monitoring requirements, soil sampling, and groundwater monitoring. In addition, the proposed Order requires monitoring of the LAA and loading calculations for organics, nutrients, and salts. 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.