

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

TENATIVE MONITORING AND REPORTING PROGRAM R5-2024-XXXX
FOR
OLAM FOOD INGREDIENTS
HUGHSON NUT PROCESSING FACILITY
MERCED COUNTY

This Monitoring and Reporting Program (MRP), which is separately issued pursuant to California Water Code section 13267 subdivision (b)(1), establishes monitoring and reporting requirements related to the waste discharge(s) regulated under Waste Discharge Requirements (WDRs) Order R5-2024-XXXX (WDRs Order). Each of the Findings set forth in the WDRs Order, including those pertaining to the need for submission of reports, are hereby incorporated as part of this MRP.

Olam Food Ingredients (hereafter OFI or Discharger) owns and operates the Hughson Nut Processing Facility (Facility) and the surrounding land application area. The reuse of process wastewater from the Facility to the land application areas is subject to the WDRs Order. OFI is referred to as Discharger and is responsible for compliance with this MRP. The Discharger shall not implement any changes to this MRP unless and until the Central Valley Regional Water Quality Control Board (Central Valley Water Board) adopts, or the Executive Officer issues, a revised MRP.

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

This MRP may be separately revised by the Executive Officer, in accordance with their delegated authority under Water Code section 13223.

I. GENERAL MONITORING REQUIREMENTS

A. FLOW MONITORING

Hydraulic flow rates shall be measured at the monitoring points specified in this MRP. All flow monitoring systems shall be appropriate for the conveyance system (i.e., open channel flow or pressure pipeline) and liquid type. Flow measurements shall be based on flow meter readings unless specifically stated otherwise. The method of measurement must be specified. Unless otherwise specified, each flow meter shall be equipped with a flow totalizer to allow reporting of cumulative volume as well as instantaneous flow rate. Flow meters shall be calibrated at the frequency recommended by the manufacturer; typically, at least once per year and records of calibration shall be maintained for review upon request.

B. MONITORING AND SAMPLING LOCATIONS

Samples and measurements shall be obtained at the monitoring points specified in this MRP. Central Valley Water Board staff shall approve any proposed changes to sampling locations prior to implementation of the change. The Discharger shall monitor the following locations to demonstrate compliance with the requirements of this MRP:

Table 1 – Monitoring Locations

Monitoring Location	Monitoring Location Description
PND-001	Location where a representative sample of the effluent from the process wastewater pond can be obtained and prior to discharge to the LAA.
SW-001	Location where a representative sample can be obtained from the production well. Any future additional source water wells shall be identified/numbered similarly.
IRR-001	Location where a representative sample of supplemental irrigation water can be obtained prior to discharge to the LAA. Any future additional irrigation water wells shall be identified/numbered similarly.
LAA-001	Existing 7-acre land application area
MW-001, MW-002, MW-003	Groundwater monitoring wells used to evaluate groundwater quality near the wastewater pond and LAA. Any future additional/replacement monitoring wells shall be identified/numbered similarly
SOLIDS	Solids Monitoring

C. SAMPLING AND SAMPLE ANALYSIS

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. Except as specified otherwise in this MRP, grab samples will be considered representative of water, wastewater, soil, solids/sludges and groundwater. The time, date, and location of each sample shall be recorded on the sample chain of custody form.

Field test instruments (such as those used to measure pH, temperature, electrical conductivity, dissolved oxygen, wind speed, and precipitation) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are field calibrated at the frequency recommended by the manufacturer;
3. The instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in the “Reporting” section of this MRP.

Laboratory analytical procedures shall comply with the methods and holding times specified in the following (as applicable to the medium to be analyzed):

- *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 most recently approved for use by the United States Environmental Protection Agency (EPA) or the State Water Resources Control Board (State Water Board), Division of Drinking Water's Laboratory Accreditation Program (ELAP). The Discharger may propose alternative methods for approval by the Executive Officer. Where technically feasible, laboratory reporting limits shall be lower than the applicable water quality objectives for the constituents to be analyzed.

II. SPECIFIC MONITORING REQUIREMENTS

A. POND MONITORING (PND-001)

The Discharger shall monitor the lined process wastewater pond at Monitoring Location PND-001 when wastewater is present. Any additional wastewater ponds added shall also be monitored per this section and table below. Freeboard shall be measured to the nearest 0.1 foot vertically from the surface of the water to the lowest elevation of the berm. Water quality samples shall be collected at a depth of one foot below the surface of the water opposite the inlet. At a minimum, the pond shall be monitored as specified in Table 2:

Table 2 – Pond Monitoring (PND-001)

Constituent/Parameter	Units	Sample Type	Frequency
Presence/Absence of Water	---	Observation	1/Week
Freeboard	0.1 Feet	Measurement	1/Week
Odors	---	Observation	1/Week
Berm Condition	---	Observation	1/Week
DO (see 1 below)	mg/L	Grab	1/Week (see 2 below)
pH (see 1 below)	Std. Units	Grab	1/Week
Solids Depth (see 3)	0.1 Feet	Observation	1/Year
Flow	gpd	Continuous	Daily
EC	µmhos/cm	Grab	2/Month
BOD ₅	mg/L	Grab	1/Month

Constituent/Parameter	Units	Sample Type	Frequency
Nitrate (as N)	mg/L	Grab	1/Month
TKN	mg/L	Grab	1/Month
Total Nitrogen	mg/L	Grab or Calculation	1/Month
TDS	mg/L	Grab	1/Month
FDS	mg/L	Grab	1/Month
General Minerals (see 4 and 5 below)	mg/L or µg/L	Grab	1/Year

1. Samples for DO and pH shall be collected between 8:00 am and 10:00 a.m. when there is more than one foot of water in the pond. If there is insufficient water in the pond no sample shall be collected, and the Discharger shall report that in the appropriate monitoring report.
2. If offensive odors are detected by or brought to the attention of the Discharger, the Discharger shall monitor the potential source pond at least daily (excluding weekends and holidays) for DO, pH, and odors until the odor issue has been resolved.
3. Thickness of settled solids at the bottom of the pond.
4. See the Glossary for the definition of General Minerals.
5. For constituents with Secondary MCLs listed in California Code of Regulations Title 22 Table 64449-A (e.g., iron, and manganese), samples shall be filtered with a 1.5-micron filter prior to preservation, digestion, and analysis. For all other constituents, samples shall be filtered with a 0.45-micron filter prior to preservation, digestion, and analysis.

B. SOURCE WATER MONITORING (SW-001)

The source water for Facility operations shall be monitored. Samples shall be representative of the source water supplied to the Facility after treatment, if any. If the source water is from more than one source, the results shall be presented as a flow-weighted average of all sources. Source water monitoring shall include at least the following:

Table 3 – Source Water Monitoring (SW-001)

Constituent/Parameter	Units	Sample Type	Frequency
EC	µmhos/cm	Grab	1/Year
Nitrate (as nitrogen)	mg/L	Grab	1/Year
FDS	mg/L	Grab	1/Year

C. SUPPLEMENTAL IRRIGATION WATER MONITORING (IRR-001)

The Discharger shall monitor the irrigation water used to supplement the irrigation of LAA-001. Samples of the irrigation water shall be representative of the irrigation water applied to the LAA. If the irrigation water is from more than one source, samples will be provided from each source. At a minimum, the irrigation monitoring system shall be monitored as specified in Table 4 below:

Table 4 – Irrigation Water Monitoring

Constituent/Parameter	Units	Sample Type	Frequency
EC	µmhos/cm	Grab	1/Year
FDS	mg/L	Grab	1/Year
Nitrate (as nitrogen)	mg/L	Grab	1/Year

D. LAND APPLICATION AREA (LAA-001)

The Discharger shall inspect LAA-001 at least once daily prior to and during irrigation events. Evidence of erosion, field saturation, runoff, or the presence of nuisance conditions (i.e., flies, ponding, etc.) shall be noted in the Facility’s logbook and included as part of the annual monitoring report. In addition, the Discharger shall perform the following routine monitoring and loading calculations for each discrete irrigation area within the LAA each day when wastewater is applied. The data shall be collected and presented in graphical (map) and/or tabular format and shall include the following:

Table 5 - Land Application Area (LAA) Monitoring

Parameter	Units	Sample Type	Frequency
Fields Irrigated	Acres	---	Daily (see 1 below)
Wastewater Flow	gpd	Metered	Daily (see 1 below)
Wastewater Application Loading	Inches/day	Calculated	Daily (see 1 below)
Supplemental Irrigation Flow	Gallons	Metered	Daily
Supplemental Irrigation Application Loading	Inches/day	Calculated	Daily
Precipitation	Inches/day	Rain gauge (see 2 below)	Daily
Total Hydraulic Loading (see 3 below)	Inches per acre month	Calculated	1/Month
BOD Loading (see 4 below)			
Daily Loading	lbs/acre	Calculated	Daily (see 1 below)
Cycle Average (see 5 below)	lbs/ac/day	Calculated	Cycle

Parameter	Units	Sample Type	Frequency
Nitrogen Loading (see 4 below)			
From Wastewater	lbs/ac/year	Calculated	1/Year
From Fertilizers (and any Solids Applied)	lbs/ac/year	Calculated	1/Year
From Supplemental Irrigation Water	lbs/ac/year	Calculated	1/Year
Salt Loading (see 4 below)			
From Wastewater	lbs/ac/year	Calculated	1/Year
From Supplemental Irrigation Water	lbs/ac/year	Calculated	1/Year
Field Conditions			
Nuisance Odor/Vectors	--	Observation	Weekly
Discharge Runoff	--	Observation	Weekly

1. Daily when wastewater is being applied to the LAAs.
2. National Weather Service or CIMIS data from the nearest weather station is acceptable. Report to the nearest 0.01 inch.
3. Combined loading from wastewater, irrigation water, and precipitation.
4. The BOD, nitrogen, and salt loading shall be calculated as specified in Section III of the MRP.
5. A cycle average is calculated by taking the pounds of BOD applied to the LAA in a given period, divided by the sum of the total days wastewater was applied plus the number of days of rest (no application of wastewater or supplemental irrigation water). See section III of this MRP for the calculation.

E. GROUNDWATER MONITORING (MW-001, MW-002, MW-003)

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. Purging shall continue until pH, EC, and turbidity have stabilized. Depending on the hydraulic conductivity of the geologic setting, the volume removed during purging is typically from 3 to 5 casing volumes. Groundwater monitoring shall be conducted semiannually (Spring [March 1 – April 30] and Fall [September 1 – October 31]).

The Discharger shall monitor the proposed groundwater monitoring well network (monitoring wells MW-001 through MW-003) and any subsequent or additional monitoring wells, in or around the Facility and LAA as follows:

Table 6 - Groundwater Monitoring

Constituent/Parameter	Units	Sample Type	Frequency
Depth to Groundwater	0.01 Feet	Measured	2/Year

Constituent/Parameter	Units	Sample Type	Frequency
Groundwater Elevation (see 1 below)	Feet	Calculated	2/Year
Groundwater Gradient	Feet/Feet	Calculated	2/Year
pH	Std. Units	Grab	2/Year
EC	µmhos/cm	Grab	2/Year
TDS	mg/L	Grab	2/Year
Ammonia	mg/L	Grab	2/Year
Nitrate (as nitrogen)	mg/L	Grab	2/Year
TKN	mg/L	Grab	2/Year
Total Nitrogen	mg/L	Calculated	2/Year
Arsenic	mg/L	Grab	2/Year
Iron	mg/L	Grab	2/Year
Manganese	mg/L	Grab	2/Year
General Minerals (see 2 below)	mg/L	Grab	1/Year

1. Groundwater elevation shall be calculated based on depth-to-water measurements from a surveyed measuring point.
2. For constituents with Secondary MCLs listed in California Code of Regulations Title 22 Table 64449-A (e.g., iron, and manganese), samples shall be filtered with a 1.5-micron filter prior to preservation, digestion, and analysis. For all other constituents, samples shall be filtered with a 0.45-micron filter prior to preservation, digestion, and analysis.

In addition, the Discharger shall maintain its groundwater monitoring well network. If a groundwater monitoring well(s) is dry for four consecutive sampling events or is damaged, the Discharger shall submit a work plan and proposed time schedule to replace the well(s). If a monitoring report reports a fourth consecutive dry sampling event for a well or if a well is damaged, the work plan shall be submitted **within 90 days** of submittal of the quarterly monitoring report. The well(s) shall be replaced following written Executive Officer approval of the work plan and time schedule. Once installed, all new monitoring wells shall be added to the existing groundwater monitoring well network.

F. SOLIDS MONITORING

The Discharger shall maintain detailed records for disposal and/or recycling of residual solids removed from the Facility. The record should include information on quantity, storage, method of disposal (i.e., livestock feed, soil amendment, composting, etc.)

and receipts (if applicable). A summary of the information shall be included in the Annual Report.

III. REPORTING REQUIREMENTS

All monitoring reports should be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50MB should be emailed to: centralvalleyfresno@waterboards.ca.gov. Documents that are 50 MB or larger should be transferred to a CD, DVD, or flash drive and mailed to the following address:

Central Valley Regional Water Quality Control Board
Region 5 – Fresno Office
1685 “E” St.
Fresno, California 93706

To ensure that your submittal is routed to the appropriate staff person, the following information should be included in the body of the email or transmittal sheet:

Program: Non-15
Facility: Hughson Nut Processing Facility
Order: MRP R5-2024-XXXX
County: Merced
Place ID: 882552

A transmittal letter shall accompany each monitoring report. The letter shall include a discussion of all violations of this MRP during the reporting period and actions taken or planned for correcting each violation. If the Discharger has previously submitted a report describing corrective actions taken and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain a statement by the Discharger or the Discharger’s authorized agent certifying under penalty of perjury that the report is true, accurate and complete to the best of the signer’s knowledge.

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, groundwater, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported in the next scheduled monitoring report.

Laboratory analysis reports shall be included in the monitoring reports. All laboratory reports must also be retained for a minimum of three years. For a discharger conducting any of its own analyses, reports must also be signed and certified by the chief of the laboratory.

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.

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.

A. QUARTERLY MONITORING REPORTS

Quarterly monitoring reports shall be prepared and submitted to the Central Valley Water Board by the **1st day of the second month after the quarter** (i.e., the 1st Quarter [January – March] quarterly report is due 1st May). Each Quarterly Monitoring Report shall include the following:

1. Results of the **Pond Monitoring** as specified in Section II.A, including:
 - a. Calculation of the maximum daily and monthly average flow for each month of the quarter.
 - b. Calculation of the 12-month rolling average FDS of the discharge for each month of the quarter using the FDS value for that month averaged with the FDS values for the previous 11 months.
2. Results of the **Source Water Monitoring** as specified in Section II.B. If the source water supply is from more than one source, the Discharger shall calculate the flow-weighted average concentration for each constituent monitored (include supporting calculations).
3. Results of **Supplemental Irrigation Water Monitoring** as specified in Section II.C.
4. Results of the **Land Application Area Monitoring** as specified in Section II.D.
 - a. A summary of the LAA inspection activities conducted by the Discharger.
 - b. Calculate the cycle average BOD₅ loading rates for the LAA.

The mass of BOD₅ applied to each discrete irrigation area within the LAA on a cycle average basis shall be calculated using the following formula:

$$M = \frac{8.345(CV)}{A}$$

Where: M = Mass of BOD₅ applied to each discrete LAA field in lbs/ac/day

C = Concentration of BOD₅ in mg/L based on the average concentration for the month

V = Total volume of wastewater applied to the LAA field(s) during the irrigation cycle, in millions of gallons

A = Area of the LAA field in acres

T = Irrigation cycle length in days (from the first day wastewater was applied to the last day of the drying time [prior to subsequent application of process wastewater or supplemental irrigation water])

8.345 = Unit conversion factor.

5. Results of the **Groundwater Monitoring** as specified in Section II.E., including:
 - a. A narrative description of all preparatory, monitoring, sampling, and sample handling for groundwater monitoring.
 - b. A field log for each well documenting depth to groundwater; sample preparation (e.g., filtering); and sample preservation. For each sampling event, the Discharger may provide a table summarizing this information for all groundwater monitoring wells sampled in lieu of providing a field log for each well. The field logs should be made available on request of the Central Valley Water Board.
 - c. Calculation of groundwater elevation at each monitoring well, and determination of groundwater flow direction and gradient on the date of the measurement.
 - d. For each monitoring well, a table showing groundwater depth, elevation, and constituent concentrations for the five previous years, up through the current quarter.
 - e. A scaled map showing relevant structures and features of the Facility, the locations of monitoring wells, surface waters, and groundwater elevation contours referenced to an appropriate datum (e.g., National Geodetic Vertical Datum).
6. A comparison of monitoring data to the flow limitations and discharge specifications and an explanation of any violation of those requirements.
7. Copies of all laboratory analytical reports.
8. A discussion of annual chemical usage at the Facility (e.g., chemical name, purpose, and quantity used).

All quarterly reports shall include summary data tables of analytical results and observations collected or conducted during the quarter.

B. FOURTH QUARTER MONITORING REPORT

In addition to the above information, the fourth quarter monitoring report, due **1st February of each year**, shall include the following:

1. Total annual effluent flow and the average monthly flows for each month of the year expressed as millions of gallons per day.
2. For the LAA, a chronological log of dates of fertilizer application, residual solids application, irrigation, precipitation, and runoff control operations. Nitrogen and salt loading calculations shall be included as follows:
 - a. The mass of total nitrogen and FDS applied to each LAA on an annual basis shall be calculated using the following formula and compared to published crop demand for the crops grown:

$$M = \sum_{i=1}^{12} \frac{(8.345(C_i V_i) + M_x)}{A}$$

- Where:
- M = Mass of total nitrogen/FDS applied to each discrete LAA field in lbs/ac/year
 - C_i = Flow-weighted average concentration of total nitrogen/FDS for the month in mg/L of the blended wastewater and irrigation water
 - V_i = Total volume of wastewater applied to the LAA field(s) during the irrigation cycle, in millions of gallons
 - A = Area of the LAA field irrigated in acres
 - I = The number of the month (e.g., January = 1, February = 2, etc.)
 - M_x = Nitrogen/FDS from other sources (e.g., fertilizer and compost) in pounds

3. The types of crop(s) grown, planting and harvest dates, and the quantified nitrogen and fixed dissolved solids uptakes including potassium (as estimated by technical references or, preferable, defined by representative plant tissue analysis).
4. Calculation of the annual average FDS for Monitoring Location PND-001. Include a comparison of the annual average concentration to the Performance-Based Effluent Limit specified in the WDRs.
5. Tabular and graphical summaries of all data collected during the year.

6. Names, title, and contact information for persons to contact regarding the Facility for emergency and routine situations.
7. A summary of the handling and disposal of solids removed from the Facility during the calendar year as specified in Section II.F.
8. A calibration log verifying calibration of all hand-held monitoring instruments and devices used to comply with the prescribed monitoring program.
9. Statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, include identification of who performed the calibrations (SPRRs C.4).
10. A discussion of compliance and corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the WDRs Order.

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

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Resources Control Board to review the action in accordance with California Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Resources Control Board must receive the petition by 5:00 p.m., 30 days after the date of this MRP, 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 Resources Control 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 (http://www.waterboards.ca.gov/public_notices/petitions/water_quality) or will be provided on request.

The Discharger shall implement the above monitoring program **starting 1 January 2025**.

I, PATRICK PULUPA, Executive Officer, do hereby certify the forgoing is a full, true and correct copy of the Monitoring and Reporting Program R5-2024-XXXX issued by the California Regional Water Quality Control Board, Central Valley Region, on XX December 2024.

PATRICK PULUPA, Executive Officer

IV. GLOSSARY

BOD ₅	Five-day Biochemical Oxygen Demand
CIMIS	California Irrigation Management Information System DODissolved oxygen
EC	Electrical conductivity at 25° C
EPA	Environmental Protection Agency
	State Water Resources Control Board's Environmental Laboratory Accreditation Program
FDS	Fixed Dissolved Solids
MRP	Monitoring and Reporting Program
MW	Monitoring Well
MCL	Maximum Contaminant Level per Title 22
N	Nitrogen
N/A	Not Applicable
TKN	Total Kjeldahl Nitrogen
TDS	Total Dissolved Solids
Daily	Every day except weekends or holidays
Weekly	Once per week
Monthly	Once per calendar month
Quarterly	Once per calendar quarter
Annually	Once per year
gpd	Gallons per day
µg/L	Micrograms per liter
µmhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter
MG[D]	Million gallons [per day]
General Minerals	Analysis shall include alkalinity (as CaCO ₃), bicarbonate (asCaCO ₃), carbonate (as CaCO ₃), hardness, dissolved arsenic, boron, calcium, chloride, dissolved arsenic, dissolved iron, magnesium, dissolved manganese, nitrate as N, phosphate, potassium, sodium, sulfate, and verification that the analysis is complete (i.e., cation/anion balance)