

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2022-0814  
FOR  
BOUNDARY BEND OLIVES, INC AND SUZANNE HORSLEY  
BOUNDARY BEND OLIVES LAND APPLICATION AREA SITE NO. 2  
YOLO COUNTY

Issued by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) pursuant to Water Code section 13267, subdivision (b)(1), this Order establishes a Monitoring and Reporting Program (MRP) for Boundary Bend Olives, Inc. (Boundary Bend) and Suzanne Horsley, in connection with the land application of residual solid waste generated from the olive oil processing operation regulated under the *Waiver of Waste Discharge Requirements for Small Food Processors, Wineries, and Related Agricultural Processors within the Central Valley Region (Waiver)*, **Order R5-2020-0002-0101**. Boundary Bend owns and operates the Boundary Bend Olives Facility (Facility) located at 455 Harter Avenue in Woodland. Process wastewater generated from the olive oil processing operation is discharged to the City of Woodland Wastewater Treatment Plant. Residual solids (pomace consisting of olive skins, flesh, and pits) are separated from the process wastewater and stored in an above-ground tank at the Boundary Bend Facility. The solids are then applied as a soil amendment to separate properties owned by Boundary Bend and Suzanne Horsley, approximately 883 acres. A summary of the land application areas (LAAs) that may receive residual solids is shown in **Table 1** below.

**Table 1 - Boundary Bend Olives Land Application Area Site No. 2**

<b>Boundary Bend Parcels</b>	<b>Horsley Parcels</b>
061-120-008-000 (159 acres)	061-120-006-000 (320 acres)
049-220-006-000 (263 acres)	---
047-140-047-000 (141 acres)	---

Boundary Bend administers the distribution and application of residual solids and ensures that the application and use of solids is suitable for a direct beneficial use and not disposal. Boundary Bend and Suzanne Horsley are collectively considered the Discharger and responsible for assuring that the material is properly managed and handled to minimize nuisance conditions and prevent discharges into wetlands, surface waters or surface water drainage courses. This MRP may be separately revised by the Executive Officer, in accordance with their delegated authority under Water Code section 13223.

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

## I. GENERAL MONITORING REQUIREMENTS

### A. MONITORING AND SAMPLING LOCATIONS

Samples 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.

**Table 2 – Monitoring Location Designations**

<b>Monitoring Location Name</b>	<b>Monitoring Location Description</b>
PWW-001	Flow meter located in the wastewater area, upstream of the process wastewater discharged into on-site grease traps prior to discharge into the sewer system.
RSW-001	Representative sample of the residual solid waste collected from the above-ground storage tank prior to discharge to the land application areas.

### B. 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 wastewater, soil, and solids/sludges.

The time, date, and location of each sample shall be recorded on the sample chain of custody form. All analyses shall be performed in accordance with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, 1 March 1991 ed. (SPRRs). Field test instruments (such as those used to measure pH, 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 at the manufacturer's recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of the MRP.

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

1. Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater (EPA);
2. Test Methods for Evaluating Solid Waste (EPA);
3. Methods for Chemical Analysis of Water and Wastes (EPA);
4. Methods for Determination of Inorganic Substances in Environmental Samples (EPA); Standard Methods for the Examination of Water and Wastewater (APHA/AWWA/WEF); and
5. Soil, Plant, and Water Reference Methods for the Western Region (WREP 125).

Approved editions shall be those that are approved for use by the U.S. Environmental Protection Agency or the State Water Resources Control Board's Environmental 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 concentrations that implement applicable water quality objectives/limits for the constituents to be analyzed.

## II. SPECIFIC MONITORING REQUIREMENTS

### A. PROCESS WASTEWATER FLOW MONITORING (PWW-001)

Process wastewater discharged to the sewer system shall be monitored for the following:

**Table 3 - Process Wastewater Flow Monitoring**

<b>Constituents</b>	<b>Units</b>	<b>Sample Type</b>	<b>Sample Frequency</b>	<b>Reporting Frequency</b>
Total daily flow rate	gpd	Meter	Daily (total daily flow during processing season)	Monthly (during processing season)

### B. RESIDUAL SOLID WASTE MONITORING (RSW-001)

Residual solid waste (RSW-001) shall be analyzed in accordance with Waste Extraction Test (WET), Title 22, California Code of Regulations, section 66700 using de-ionized (DI) water extraction for the constituents specified in **Table 4** and meet the monitoring requirement below.

1. General Minerals include the following parameters: total alkalinity, hardness as CaCO<sub>3</sub>, bicarbonate as CaCO<sub>3</sub>, carbonate as CaCO<sub>3</sub>, calcium, chloride, magnesium, potassium, sodium, sulfate as SO<sub>4</sub>.

**Table 4 - Residual Solid Waste Monitoring**

<b>Constituents</b>	<b>Units</b>	<b>Sample Type</b>	<b>Sample Frequency</b>	<b>Reporting Frequency</b>
Total Solids Generated	tons	N/A	Bi-weekly during processing season	Annually
Moisture Content	Percent weight	Grab	Bi-weekly during processing season	Annually
pH	Std units	Grab	Bi-weekly during processing season	Annually
BOD <sub>5</sub>	mg/L	Grab	Bi-weekly during processing season	Annually
EC	µmhos/cm	Grab	Bi-weekly during processing season	Annually
FDS	mg/L	Grab	Bi-weekly during processing season	Annually
Total Nitrogen	mg/L	Grab	Bi-weekly during processing season	Annually
Nitrate as Nitrogen	mg/L	Grab	Bi-weekly during processing season	Annually
TKN	mg/L	Grab	Bi-weekly during processing season	Annually
Iron	mg/L	Grab	Annually during processing season	Annually
Manganese	mg/L	Grab	Annually during processing season	Annually
General Minerals	mg/L	Grab	Annually during processing season	Annually

**C. RESIDUAL SOLIDS LAND APPLICATION MONITORING**

The Discharger shall monitor each discrete land application area (LAA) where residual solid waste is applied to in accordance with the following:

1. Each discrete LAA shall be identified by name and parcel number. The Discharger shall also provide a map that includes the parcel ID, parcel number, and where the residual solids were applied.
2. Each discrete LAA shall be monitored for the following parameters shown in **Table 5** below. To determine mass loading, concentrations of BOD<sub>5</sub>, FDS, and Total Nitrogen in mg/L shall be based on the total average concentration for each constituent applied per parcel as shown in **Table 1** of this MRP during the processing season.

**Table 5 - Residual Solids Land Application Monitoring**

<b>Constituent/ Parameter</b>	<b>Units</b>	<b>Sample Type</b>	<b>Sample Frequency</b>	<b>Reporting Frequency</b>
Solids Applied	tons	N/A	Daily	Annually
Field Applied with Solids	acres	N/A	Daily	Annually
Total Solids Loading	tons/acre/day	Calculated	Weekly	Monthly, Annually
BOD <sub>5</sub> Mass Loading	lbs/acre	Calculated	Annually	Annually
FDS Mass Loading	lbs/acre	Calculated	Annually	Annually
Total Nitrogen Loading	lbs/acre	Calculated	Annually	Annually

3. For each discrete LAA, provide the crop type(s) grown and any crop rotation.
4. For each discrete LAA, provide name of hauler that will transport solids.
5. For each discrete LAA, identify if parcel is registered under the Irrigated Land Regulatory Program.

In addition, the Discharger shall maintain a log of observations for objectionable odors and indicate the steps taken to reduce such odors and related nuisance

conditions. Records shall be stored onsite and available for review during inspections. A summary of these entries shall be included in the annual report.

#### D. LAND APPLICATION AREA SOIL MONITORING

The Discharger shall perform soil sampling as follows: The collection of three pre-application soil samples within the LAAs that will receive residual solids during the 2022 processing season. The collection of three post-application soil samples shall be obtained after a significant rain event (greater than a half an inch within a 24-hour period) following completion of the operating season or by 1 July 2023, whichever comes first.

Soil samples shall be collected within the LAAs at a depth between 1 to 2 feet below the interval of disturbed soil from ground surface. Each 6-inch sample shall be thoroughly mixed to create a composite sample representative of the depth interval and shall be analyzed for the parameters shown in **Table 6** below. Analysis shall be performed on the extract obtained for the Waste Extraction Test method using distilled water as the extractant. Data shall be submitted in the Annual Report.

**Table 6 - Soil Sampling**

<b>Constituent</b>	<b>Units</b>
Soil Classification (USCS and USDA)	Field Observations
pH	pH Units
Total Nitrogen	mg/kg, mg/L
Nitrate as Nitrogen	mg/kg, mg/L
Total Dissolved Solids	mg/kg, mg/L
Iron	mg/L
Manganese	mg/L

### III. REPORTING REQUIREMENTS

#### A. SUBMITTAL REQUIREMENTS

1. All regulatory documents, submissions, materials, data, monitoring reports, and correspondence should be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50MB should be emailed to: [centralvalleysacramento@waterboards.ca.gov](mailto:centralvalleysacramento@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  
ECM Mailroom  
11020 Sun Center Drive, Suite 200  
Rancho Cordova, California 95670

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

Facility: Boundary Bend Olives Land Application Area Site No. 2  
County: Yolo  
Program: Non-15 Compliance  
Order Number: R5-2020-0002-0101  
CIWQS Place ID: 883144

2. Each report shall be accompanied by a transmittal letter that includes:
  - a. Discharger's name, the facility name and county, monitoring period and type of monitoring report (i.e., monthly or quarterly).
  - b. A statement by the submitting party (or their authorized agent) certifying under penalty of perjury that the report is true, accurate and complete to the best of their knowledge.

## **B. PRELIMINARY/NOTIFICATION REPORTS**

1. **Upon issuance of this MRP and prior to land application**, the Discharger shall submit a list of each land application area anticipated to receive residual solids for the upcoming processing season, including the parcel number, name of the landowner, available acres; and identifying the crop to be grown and proposed solids application rate to meet crop needs based on recommendations from the *Western Fertilizer Handbook* or from historic crop nutrient removal. Provide realistic yield goals for each crop type in each land application area. Industry yield recommendations may be used until documented yield information is available. Information provided will be compared with the results submitted in the Annual Report to verify land application activities and application rates were not in excess of the agronomic rate for crop production. **Beginning in 2023, by 1 August of each year**, the Discharger shall submit the required information as specified in this Section Preliminary/Notification Report B.1.
2. The Discharger shall notify the Central Valley Water Board **within 48-hours** after 800,000 gallons of wastewater has been generated during the processing season associated with the solids to be land-applied under **Order**

**R5-2020-0002-0101.** Tier 3 of the Food Processor Waiver allows land application of up to 1,000,000 gallons of wastewater per year for irrigation of landscaping or crops and land application of residual solids associated with that volume of wastewater. Reporting the wastewater volume is intended only to serve as a means of notifying the Water Board that the permitted flow limitation of 1,000,000 gallons and associated residual solids will soon be met and that any residual solids in excess of those amounts will be disposed of off-site at an appropriately permitted facility or to other land application areas permitted under separate Waiver enrollments of Waste Discharge Requirements. Notification shall also include information regarding where any residual solids associated with wastewater in excess of 1,000,000 gallons will be disposed. If solids are to be land applied under a separate Waiver enrollment, provide applicable Notice of Applicability number.

### **C. GENERAL REPORTING REQUIREMENTS**

1. If any laboratory analyses are not performed by an outside ELAP-certified laboratory, the report shall be signed and certified by the submitting party's chief of laboratory.
2. Laboratory analysis reports need to be included in the monitoring reports.
3. All laboratory reports associated with analyses performed under this MRP must be retained for a minimum of three years.
4. All field monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated prior to each monitoring event to ensure their continued accuracy.
5. In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, pond, etc.), and reported analytical result for each sample are readily discernible. The results of any monitoring done more frequently than required at the locations specified in the MRP shall be reported to the Central Valley Water Board.
6. 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.
7. All monitoring reports that involve planning, investigation, evaluation or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to Business and Professions Code sections 6735, 7835 and 7835.1.



8. Preliminary and Notification Reports shall be submitted to the Non-15 Compliance and Enforcement Unit.

#### D. MONITORING REPORT DUE DATES

Monitoring reports are due as described in **Table 7**.

**Table 7 - Monitoring Report Due Dates**

<b>Monitoring Report</b>	<b>Monitoring Period</b>	<b>Report Due Date</b>
Monthly	1 September to 1 December	1st day of the second month following the end of the reporting period (i.e. September Report is due by 1 November)
Annual	1 January to 31 December	1 February

#### E. MONTHLY MONITORING REPORTS

The Discharger shall submit as part of the Monthly Report to include the following:

1. Cumulative flow to date discharged into the sewer system as specified in **Process Wastewater Flow Monitoring** Section II.A of this MRP.
2. Total solids loading to date at each designated LAA as specified in **Residual Solids Land Application Monitoring** Section II.C of this MRP.

#### F. ANNUAL MONITORING REPORTS

The Annual Report may include the requirements of the December Monitoring Report and the following:

1. Results of **Residual Solids Waste Monitoring** as specified in Section II.B of this MRP.
2. Results of **Residual Solids Land Application Monitoring** as specified in Section II.C of this MRP, including:
  - a. A map showing the location of all discrete LAAs receiving solids.
  - b. If solids are temporarily stored on-site, describe how the solids are managed to control and contain leachate.

- c. Discussion on best practicable treatment and controls implemented to manage the solids during application; minimize over-application of waste; and prevent runoff of solids offsite or discharged into surface waters.
3. Results of **Land Application Area Soil Monitoring** as specified in Section II.D of this MRP, including a discussion comparing pre-application data to post-application data within each discrete LAA.
4. Nitrogen mass balance for the calendar year including supporting data and calculations to show that solids application was performed at agronomic rates. If it is determined that the application was in excess of the agronomic rate for crop production for a discrete area, include a discussion of any corrective action performed during the year, and/or include a plan and schedule for additional corrective actions to be performed.

Any person aggrieved by this Central Valley Water Board action may petition the State Water Resources Control Board for administrative review in accordance with Water Code section 13320, and California Code of Regulations, title 23, section 2050 et seq. The State Water Resources Control Board must receive the petition by 5:00 p.m. on the 30th day after the date of this MRP, except that if the 30th day falls on a Saturday, Sunday or state holiday, the petition must be received by 5:00 p.m. on the next business day. Laws and regulations applicable to filing petitions are published on the [Internet](http://www.waterboards.ca.gov/public_notices/petitions/water_quality) (at the address below), and will be provided upon request.  
([http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality))

This Order is issued under authority delegated to the Executive Officer by the Central Valley Water Board pursuant to Resolution R5-2018-0057 and is effective upon signature. This Order is effective as of the date below.

---

for PATRICK PULUPA, Executive Officer

October 10, 2022

---

Date

## GLOSSARY

BOD <sub>5</sub>	Five-day Biochemical Oxygen Demand
EC	Electrical Conductivity at 25° C
EPA	Environmental Protection Agency
ELAP	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
TSS	Total Suspended Solids
Daily	Every day except weekends or holidays
Weekly	Once per week
Bi-Weekly	Once every two weeks
Monthly	Once per calendar month
Quarterly	Once per calendar quarter
Semiannually	Once every six calendar months (i.e., two times per year) during non-consecutive quarters
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]