CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM
FOR
GENERAL ORDER NO. R5-2017-0036-030
WASTE DISCHARGE REQUIREMENTS FOR OIL FIELD DISCHARGES TO LAND
GENERAL ORDER THREE

BALLARD OIL, INC.,
OVERLAND ANDERSON LEASE, CYMRIC OIL FIELD
KERN COUNTY

This Monitoring and Reporting Program (MRP) is required pursuant to Water Code section 13267. Ballard Oil. Inc. (Ballard or 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. Changes to sample location(s) shall be established with concurrence of Central Valley Water Board staff, and a description of the revised locations shall be submitted for approval by the Executive Officer.

This MRP includes Monitoring, Record-Keeping, and Reporting requirements. Monitoring requirements include monitoring of discharges, of produced wastewater, solid waste, and the application of recycled materials (wastewater and solids), as applicable, to determine if the Discharger is complying with the requirements of Waste Discharge Requirements General Order No. R5-2017-0036-029 (Order). 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 a pH meter) 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 State Water Board's Environmental Laboratory Accreditation Program. The Discharger may propose alternative methods for approval by the Executive Officer.

The MRP can be modified if the Discharger provides sufficient data to support the proposed changes. If monitoring consistently shows no significant variation in magnitude of a constituent concentration or parameter after a statistically significant number of sampling events, the Discharger may request this MRP be revised by the Executive Officer to reduce monitoring frequency or minimize the list of constituents. The proposal must include adequate technical justification for a reduction in monitoring frequency.

Monitoring requirements include the periodic visual inspection of the facility to ensure continued compliance with the Order. The MRP also requires submittal of information regarding the use of all chemicals used during well drilling, installation, operation, and maintenance activities associated with each well generating waste materials (liquids and solids) that are discharged to land and regulated under this Order.

This MRP requires the Discharger to keep and maintain records for five years from the date the monitoring activities occurred, and to prepare and submit reports containing the results of monitoring specified below. This period of retention shall be extended during any unresolved litigation regarding this discharge, or when requested by the Central Valley Water Board.

FACILITY MONITORING

Permanent markers in ponds shall be in place with calibrations indicating the water level at design capacity and available operational freeboard (two feet minimum required). The freeboard shall be monitored **monthly** on all ponds to the nearest tenth of a foot.

Annually, prior to the anticipated rainy season, but **no later than 30 September**, the Discharger shall conduct an inspection of the facility. The inspection shall assess repair and maintenance needed for: drainage control systems; slope failure; groundwater monitoring wells, or any change in site conditions that could impair the integrity of the waste management unit or precipitation and drainage control structures; and shall assess preparedness for winter conditions including, but not limited to, erosion and sedimentation control. The Discharger shall take photos of any problems areas before and after repairs. Any necessary construction, maintenance, or repairs shall be **completed by 31 October**. Annual facility inspection reporting shall be **submitted by 30 November**.

The Discharger shall inspect all precipitation diversion and drainage facilities for damage **within 7 days** following major storm events (e.g., a storm that causes continual runoff for at least one hour) capable of causing flooding, damage, or significant erosion. The Discharger shall take photos of any problem areas before and after repairs. Necessary repairs shall commence **within 30 days** of the inspection. Notification and reporting requirements for major storm events shall be conducted as required in

Reporting Requirements of this MRP.

The Discharger shall monitor and record on-site rainfall data using an automated rainfall gauge, or subject to Executive Officer approval other acceptable gauge/monitoring arrangement, or a weather monitoring station within three miles of the facility. Data shall be used in establishing the severity of storm events and wet seasons for comparison with design parameters used for waste management unit design and conveyance and drainage design. Daily data and on-site observation shall be used for establishing the need for inspection and repairs after major storm events. Rainfall data shall be reported in the monitoring reports, as required by this MRP.

CHEMICAL AND ADDITIVE MONITORING

The Discharger shall provide the following for all chemicals and additives[1] used at all leases and facilities that discharge produced wastewater to land:

Requirement	**Frequency**
A list of all chemicals and additives used including chemical formulas and specific chemical names.	Quarterly
The volume of each chemical and additive used in gallons.	Quarterly
A list of the leases/facilities where the chemicals and additives are used.	Quarterly
Material safety data sheets for each chemical and/or additive.	Annually

PRODUCED WASTEWATER MONITORING

Produced wastewater (also referred to as effluent) samples shall be representative of the volume and nature of the discharges. The Discharger shall maintain all sampling and analytical results: date, exact place, and time of sampling; dates analyses were performed; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of five years.

[1] Chemicals that are a part of trade secrets shall be kept confidential at the Central Valley Water Board. Documents containing trade secrets shall be properly marked on the cover, by the Discharger, prior to submitting the document to the Central Valley Water Board. Individuals that have received permission by the Discharger shall be granted access to view the files at the office.

A complete list of substances that are tested for and reported on by the testing laboratory shall be provided to the Central Valley Water Board. All peaks must be reported. In addition, both the method detection limit (MDL) and the practical quantification limit (PQL) shall be reported. Detection limits shall be equal to or more precise than U.S. EPA methodologies. Analysis with an MDL greater than the most stringent drinking water standard that results in non-detection needs to be reanalyzed with the MDL set lower than the drinking water standard or at the lowest level achievable by the laboratory. All quality assurance/quality control (QA/QC) samples must be run on the same dates when samples were analyzed. Proper chain of custody procedures must be followed, and a copy of the completed chain of custody form shall be submitted with the report. All analyses must be performed by an Environmental Laboratory Accreditation Program (ELAP) certified laboratory.

If the discharge is intermittent rather than continuous, then on the first day of each such intermittent discharge, the Discharger shall monitor and record data for all the constituents listed below, after which the frequencies of analysis given in the schedule shall apply for the duration of each such intermittent discharge.

DISCHARGE 001

Produced wastewater samples shall be collected downstream from the treatment system and prior to discharge to land (roads, ponds, etc.) (Discharge 001). Produced wastewater monitoring for Discharge 001 shall include at least the following:

Constituent/Parameter	Units	Sample	Frequency
Flow	mgd	Metered[2]	Continuous
Table I – Effluent Monitoring	Varies	Grab	Quarterly

DISCHARGE 002

If ponds are used, produced wastewater samples shall be collected in the pond at the distal end of the system (Discharge 002), or if ponds are operated in parallel, in the pond that has contained produced wastewater for the longest period of time (i.e., longest retention time) (Discharge 002). Produced wastewater monitoring for Discharge 002 shall include at least the following:

[2] In accordance to Order Provision E.3, instead of metering an engineered alternative may be used if approved in writing by the Executive Officer.

Constituent/Parameter	Units	Sample Type	Frequency
Table I – Effluent Monitoring	Varies	Grab	Quarterly

SOLID WASTE MONITORING

Solid waste generated at the Facility from production related activities, such as tank or pond maintenance, shall be characterized for disposal. Non-hazardous solid wastes may be disposed on-site, as road or berm construction material, for instance, if such disposal does not pose a threat to water quality and human health.

Hazardous waste (as defined in California Code of Regulations (CCR), title 22, section 66261.1) and designated wastes (as defined in California Water Code (CWC) section 13173) shall be properly disposed at a Facility permitted to accept the waste.

Solid wastes disposed off-site shall be transported to an appropriately permitted facility.

Solid waste volumes, disposal methods, disposal facilities, and analytical results from waste characterization shall be reported in the subsequent monitoring reports.

REPORTING REQUIREMENTS

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 as follows:

First Quarter Monitoring Report (January – March): 1 May

Second Quarter Monitoring Report (April – June): 1 August

Third Quarter Monitoring Report (July – September): 1 November

Fourth Quarter Monitoring Report (October – December): 1 February

Facility Inspection Report (Completed by 30 October): 30 November

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. Reports shall be submitted whether or not there is a discharge.

The following information is to be included on all monitoring reports, as well as report transmittal letters:

Ballard Oil, Inc., Overland Anderson Lease
Waste Discharge Requirements R5-2017-0036-030
Monitoring and Reporting Program R5-2017-0036-030
GeoTracker Site Global ID: T10000007035

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 for all historical and current data. 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 MDL and the Reporting limit (RL) or 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.

If the Discharger monitors any constituent at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the monitoring reports. Such increased frequency shall be indicated on the monitoring reports.

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.

The Discharger shall submit electronic copies of all work plans, reports, analytical results, and groundwater elevation data over the Internet to the State Water Board Geographic Environmental Information Management System database (GeoTracker) at http://www.waterboards.ca.gov/ust/electronic_submittal/index.shtml.
A frequently asked question document for GeoTracker can be found at http://www.waterboards.ca.gov/ust/electronic_submittal/docs/faq.pdf.
Electronic submittals shall comply with GeoTracker standards and procedures, as specified on the State Water Board's web site. Uploads to GeoTracker shall be completed on or prior to the due date.

In addition, a copy of each document shall be sent via electronic mail to

CentralValleyFresno@waterboards.ca.gov. Include a copy of the transmittal letter. Laboratory reports submitted in compliance with this MRP shall be accompanied by an Excel file that includes the analytical data found in the laboratory report. Excel files shall be either generated by the laboratory or compiled by the Discharger. At a minimum, the Excel file shall include the constituent names, sample location, sample name, sample date, analysis date, analytical method, result, unit, MDL, RL, and dilution factor.

A. The Quarterly Monitoring Reports shall include the following:

Facility reporting:

1. Monthly freeboard results as specified on MRP page 2.
2. The results of Facility inspections conducted during the quarterly monitoring period as specified on MRP page 2.
3. Rainfall data as specified on MRP pages 2 and 3.

Chemical and Additive reporting:

1. The data required as specified on MRP page 3.

Produced Wastewater reporting:

1. Tabular summary of current and historical results of effluent discharges as specified on MRP pages 3, 4, and 5.
2. For each month of the quarter, calculation of monthly effluent flow and the historical monthly effluent flow for the last 12-months.
3. For each quarter, include a current and historical table for each effluent sample point for EC, boron, chloride, and sodium.

Solid Waste reporting:

1. The results of solid Waste monitoring specified on MRP page 5, including the nature, volume, and weight in dry tons of solid waste produced during the quarter.
2. Analytical results characterizing the solid waste, and particularly, whether the waste is hazardous as defined in CCR, title 22, section 66261.1).
3. The method of disposal and disposal locations of the solid wastes.
4. If wastes are hauled to a disposal facility, evidence that the disposal facility is properly permitted.

B. The Fourth Quarter Monitoring Report, in addition to the above, shall also contain the following:

Production Facility information:

1. The names and general responsibilities of all persons employed to operate the produced wastewater treatment systems.

2. The names and telephone numbers of persons to contact regarding the Facility for emergency and routine situations.
3. If field meters are used, then a statement certifying when the flow meters and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration (Standard Provision C.4).
4. A summary of all spills/releases, if any, that occurred during the year at the facility, tasks undertaken in response to the spills, and the results of the tasks undertaken.
5. A summary of the chemical and additive data collected under the Chemical and Additive Monitoring section, the required MSDS sheets, chemical formulas and specific chemical names, and a discussion of whether any of the chemicals or additives were found in effluent discharges.
6. A flow chart (i.e., diagram that clearly illustrates all processes that produced wastewater undergoes from well extraction to discharge to land) and map of the following:
    - Facility within the oil field.
    - Facility/Lease boundaries.
    - Production and wastewater distribution network with all stock tanks, and transfer pipes, and discharge points to the ponds or land.
7. Annual report in tabular form for all the effluent and domestic water supply well data, if applicable.

Requesting Administrative Review by the State Water Board. Any person aggrieved by an action of the Central Valley Water Board that is subject to review as set forth in Water Code section 13320(a), may petition the State Water Board to review the action. Any petition must be made in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 2050 and following. The State Water Board must receive the petition within thirty (30) days of the date the action was taken, except that if the thirtieth day following the date the action was taken falls on a Saturday, Sunday, or state holiday, then the State Water Board must receive the petition by 5:00 p.m. on the next business day. Copies of the laws and regulations applicable to filing petitions may be found on the internet at http://www.waterboards.ca.gov/public_notices/petitions/water_quality/index.shtml or will be provided upon request.

Modifications. Any modification to this Monitoring and Reporting Program shall be in writing and approved by the Assistant Executive Officer, including any extensions. Any written extension request by the Discharger shall include justification for the delay.

The Discharger shall commence implementing the above monitoring program on the date signed by the Executive Officer, below.

Ordered by: 

FOR PATRICK PULUPA, Executive Officer
June 23, 2025

(Date)

Table I-Effluent Monitoring

Parameters	**Units**	**US EPA or other Method**[9]	**Reporting Frequency**
Field Parameters			
Temperature	°F[1]	Meter	Quarterly
Electrical Conductivity	µmhos/cm[2]	Meter	Quarterly
pH	pH units	Meter	Quarterly
Monitoring Parameters			
Total Dissolved Solids (TDS)	mg/L[3]	160.1	Quarterly
Total Suspended Solids (TSS)	mg/L	160.2	Quarterly
Electrical Conductivity	µmhos/cm	2510B	Quarterly
Total Organic Carbon (TOC)	mg/L	415.3	Quarterly
Boron, dissolved	mg/L	6010B	Quarterly
Standard Minerals			
Alkalinity as CaCO3	mg/L	310.1	Quarterly
Bicarbonate Alkalinity as CaCO3	mg/L	310.1	Quarterly
Carbonate Alkalinity as CaCO3	mg/L	310.1	Quarterly
Hydroxide Alkalinity as CaCO3	mg/L	310.1	Quarterly
Sulfate, dissolved	mg/L	300.0	Quarterly
Nitrate-N, dissolved	mg/L	300.0	Quarterly
Calcium, dissolved	mg/L	6010B	Quarterly
Magnesium, dissolved	mg/L	6010B	Quarterly
Sodium, dissolved	mg/L	6010B	Quarterly
Potassium	mg/L	6010B	Quarterly
Chloride	mg/L	300.0	Quarterly
PAHs[4]	µg/L[5]	8270	Quarterly
Total Petroleum Hydrocarbons (TPH)	µg/L	418.1	Quarterly
Volatile Organic Compounds			
Full Scan	µg/L	8260B	Quarterly
Oil and Grease	mg/L	1664A	Quarterly
Stable Isotopes			
Oxygen (^{18}O)	pCi/L[6]	900.0	Quarterly
Deuterium (Hydrogen 2, ^{2}H, or D)	pCi/L	900.0	Quarterly
Radionuclides			
Radium-226	pCi/L	SM[7] 7500-Ra	Quarterly
Radium-228	pCi/L	SM 7500-Ra	Quarterly
Gross Alpha particle	pCi/L	SM 7110	Quarterly
Uranium	pCi/L	200.8	Quarterly

Parameters	**Units**	**US EPA or other Method**[9]	**Reporting Frequency**
Constituents of Concern			
Lithium	mg/L	200.7	Quarterly
Strontium	mg/L	200.7	Quarterly
Iron	mg/L	200.8	Quarterly
Manganese	mg/L	200.8	Quarterly
Antimony	mg/L	200.8	Quarterly
Arsenic	mg/L	200.8	Quarterly
Barium	mg/L	200.8	Quarterly
Beryllium	mg/L	200.8	Quarterly
Cadmium	mg/L	200.8	Quarterly
Chromium (total)	mg/L	200.8	Quarterly
Chromium (hexavalent)	mg/L	7196A	Quarterly
Cobalt	mg/L	200.8	Quarterly
Copper	mg/L	200.8	Quarterly
Lead	mg/L	200.8	Quarterly
Mercury	mg/L	7470A	Quarterly
Molybdenum	mg/L	200.8	Quarterly
Nickel	mg/L	200.8	Quarterly
Selenium	mg/L	200.8	Quarterly
Silver	mg/L	200.8	Quarterly
Thallium	mg/L	200.8	Quarterly
Vanadium	mg/L	200.8	Quarterly
Zinc	mg/L	200.8	Quarterly
Oil Production and Process Chemicals and Additives[8]	µg/L	As Appropriate[9]	Quarterly

1 Degrees Fahrenheit

2 Micromhos per centimeter

3 Milligrams per liter

4 Polycyclic aromatic hydrocarbons

5 Micrograms per liter

6 Picocuries per liter

7 Standard Methods

8 The Discharger shall provide analytical results for all chemicals and additives used in the exploration, production, and/or processing of all oil and the treatment of produced wastewater discharged to land (e.g., ponds, roads, etc.) as described under the Chemical and Additive Monitoring section of the MRP for which there are ELAP approved analyses. For those constituents for which there are not ELAP approved analytical methods, the Discharger shall submit a technical report describing how it intends to address this issue.

9 Appropriate analytical methods may be proposed by the Discharger but are subject to the approval of the Executive Officer