29 August 2017

Mark Smith
Engineers Oil Company
14837 Blue Stream Avenue
Bakersfield, CA 93314

**Certified Mail: 7016 0750 0000 7453 0852**

**NOTICE OF APPLICABILITY, CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD, ORDER NUMBER R5-2017-0036, GENERAL ORDER THREE, WASTE DISCHARGE REQUIREMENTS FOR OIL FIELD DISCHARGES TO LAND, ENGINEERS OIL COMPANY, SECTION 14 LEASE, MIDWAY SUNSET OIL FIELD, KERN COUNTY**

Engineers Oil Company (Engineers) operates the Section 14 Lease located in the Midway Sunset Oil Field, east of Highway 33 in section 14, T31S, R22E, MDB&M (Lease).The Lease utilizes surface impoundments (ponds) for the disposal and percolation of oil field production wastewater (discharge). On 30 June 2017, Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff received a Notice of Intent (NOI) for coverage under Waste Discharge Requirements General Order for Oil Field Discharges to Land, General Order Number Three, Order Number R5-2017-0036 (General Order Three). Based on the information provided in the NOI, the first encountered fluid under the ponds is petroleum. The discharge will not percolate into waters of beneficial use as identified in the *Water Quality Control Plan for the Tulare Lake Basin, Second Edition, Revised January 2015* (Basin Plan). Therefore, the Lease is eligible for coverage under General Order Three.

This letter serves as formal notice that General Order Three is applicable to the Lease. The Lease is hereby assigned General Order Number **R5-2017-0036-001**. Engineers should become familiar with all of the requirements, time schedules, prohibitions, and provisions of General Order Three and Monitoring and Reporting Program R5-2017-0036 (MRP).

As stated in Water Code section 13263, the discharge of waste into waters of the state is a privilege, not a right. General Order Three does not create a vested right for Engineers to continue the discharge of waste. Failure to prevent conditions that create or threaten to create pollution or nuisance or cause degradation will be sufficient reason to modify, revoke, or enforce the provisions of General Order Three, as well as prohibit further discharge.

In 2006, the Central Valley Water Board, the State Water Board, and regional stakeholders began a joint effort to address salinity and nitrate problems in the region and adopt long-term solutions that will lead to enhanced water quality and economic sustainability. Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) is a collaborative basin planning effort aimed at developing and implementing a comprehensive salinity and nitrate management program. The CV-SALTS effort might effect changes to the Basin Plan that would necessitate the re-opening of General Order Three.

**FACILITY SPECIFIC REQUIREMENTS**

Engineers will maintain exclusive control of the discharge and shall comply with all of the conditions of General Order Three and the MRP.

The discharge volumes shall not exceed 832 barrels per month (the maximum monthly average produced wastewater flow to ponds between 26 November 2004 and 26 November 2014), or the maximum design flow of the ponds as described in the NOI. If discharge volumes increase, it will be considered a facility expansion. Any increase beyond the monthly average discharge volume constitutes a facility expansion requiring an evaluation under the California Environmental Quality Act (CEQA).

According to the NOI, the discharge does not contain fluids from wells that have been stimulated. If this condition changes, Engineers must inform the Central Valley Water Board. The discharge of fluids used in “well stimulation treatment”, as defined by CCR, title 14, section 1761 (including hydraulic fracturing, acid fracturing, and acid matrix stimulation), to land is prohibited.

According to information submitted in the NOI, the discharge may contain additives or their constituents. The MRP includes monitoring and reporting of chemicals and additives. Engineers should become familiar with those requirements.

The discharge shall remain in the ponds at all times. In the case of emergency, the discharge shall remain within secondary containment structures. Emergencies shall be reported to the California Governor’s Office of Emergency Services (Cal OES). Discharge of wastes other than those described in the NOI is prohibited. If the method of waste disposal changes, Engineers must submit a Report of Waste Discharge (Form 200).

According to information provided in the NOI, the discharge does not leave the ponds and structures are surrounded by berms. Storm water at the Lease is contained. Order Number 2014-0057-DWQ (NPDES General Permit CAS000001) specifies waste discharge requirements for discharges of storm water associated with industrial activities. If the conditions or regulatory policies change, the Lease may need coverage under NPDES General Permit CAS000001. The Lease does not require coverage under NPDES General Permit CAS000001 at this time.

Failure to comply with the requirements in General Order Three and the MRP could result in an enforcement action as authorized by provisions of the California Water Code. A copy of General Order Three and the MRP can be found online at:

http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2017-0036.pdf

The required annual fee specified in the annual billing from the State Water Board shall be paid until coverage under General Order Three is officially terminated. Engineers must notify the Central Valley Water Board in writing to request termination.

The MRP requires extensive monitoring of the Lease and the discharge. Engineers must comply with the Central Valley Water Board's Standard Provisions and Reporting Requirements for Waste Discharge Requirements, dated 1 March 1991 (Standard Provisions). The MRP can be modified if Engineers 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, Engineers may request the 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 reduction in monitoring frequency. A copy of the Standard Provisions can be found online at:

http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/std_provisions/wdr-mar1991.pdf

Within 90 days of receipt of this letter, Engineers shall submit written certification that acceptable flow meters have been installed at a location or locations to ensure the accurate measurement of all discharge flows. The certification shall be accompanied by: (1) a description of the flow metering devices installed, (2) a diagram showing their locations at the Lease, and (3) evidence demonstrating that the devices were properly calibrated. An engineered alternative may be used if approved in writing by the Central Valley Water Board's Executive Officer.
The Central Valley Water Board will review the MRP periodically and revise requirements when necessary.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review this action in accordance with Water Code section 13320 and CCR, 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 Notice of Applicability, except that if the thirtieth day following the date 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.

**SUBMISSIONS**

The Central Valley Water Board has gone to a paperless office system. 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 50 MB should be emailed to:
centralvalleyfresno@waterboards.ca.gov.

Documents that are 50 MB or larger should be transferred to a disk and mailed to the Central Valley Water Board office at 1685 E Street, Fresno, CA 93706.

Please review the attached memorandum for more information. If you have any questions regarding this matter, please contact Rebecca T. Asami of this office at (559) 445-5548 or by email at Rebecca.Asami@waterboards.ca.gov.

Clay L. Rodgers

for Pamela Creedon
Executive Officer

Enclosures: 29 August 2017 Memorandum
1 March 1991 Standard Provisions
General Order Three

cc: William V. Pipes, PG, Amec Foster Wheeler Environment and Infrastructure, Fresno

**Central Valley Regional Water Quality Control Board**

**TO:** Clay Rodgers
Assistant Executive Officer

**FROM:** Ronald Holcomb
Senior Engineering Geologist
PG No. 6725

Rebecca T. Asami
Engineering Geologist

**DATE:** 29 August 2017

**SUBJECT:** **NOTICE OF APPLICABILITY, CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD, ORDER NUMBER R5-2017-0036, GENERAL ORDER THREE, WASTE DISCHARGE REQUIREMENTS FOR OIL FIELD DISCHARGES TO LAND, ENGINEERS OIL COMPANY, SECTION 14 LEASE, MIDWAY SUNSET OIL FIELD, KERN COUNTY**

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## BACKGROUND INFORMATION

The Lease utilizes two unlined surface impoundments (ponds) for the disposal and percolation of oil field produced wastewater (discharge). General Order Three regulates oil field wastewater discharges where first encountered groundwater does not support beneficial uses as identified in the *Water Quality Control Plan for the Tulare Lake Basin, Second Edition, Revised January 2015* (Basin Plan), or where there is no first encountered groundwater.

### Pond Dimensions

| Pond | Surface Area* | Volume* | Depth | Units |
|---|---|---|---|---|
| One | 525 | 3,413 | 6.5 | Feet |
| Two | 414 | 2,484 | 6 | Feet |

*Surface area in square feet and volume in cubic feet.

The Lease has wash tanks which are used to separate oil and water. Oil flows to stock tanks and produced wastewater flows to the ponds where the discharge is allowed to evaporate and percolate.

**DISCHARGE CHARACTERISTICS**

A table presented in the NOI shows that since January 2013, the maximum monthly discharge volume to the ponds was about 400 barrels (or approximately 2,570 cubic feet). A water balance table submitted with the NOI shows that the ponds have sufficient capacity to contain the discharge.

A sample of the discharge collected on 17 April 2015, yielded the following results:

| **Constituent** | **Concentration** | **Units** |
|---|---|---|
| Total Dissolved Solids | 19,000 | milligrams per Liter (mg/L) |
| Electrical Conductivity | 30,000 | micromhos per centimeter (µmhos/cm) |
| Chloride | 9,800 | mg/L |
| CAM 17 Metals | Non-Detect – 2.7* | mg/L |

*All CAM 17 Metals were detected under Total Threshold Concentration Limits (TTLCs).

According to the NOI, the discharge is not treated and typically does not include anything with the exception of produced water. However, additives are used at various stages of oil production on the Lease. The additives are not used during regular production, but rather to address specific problems as they arise. For example, additives that may be used include an emulsion breaker, a corrosion inhibitor, and a surfactant. These additives or their constituents may be found in the discharge.

Hazardous wastes are not produced on the Lease. The NOI states that if solids are produced, they will be disposed of offsite according to applicable laws and regulations. In the event that Engineers uses the discharge for dust control, a management plan will be submitted to the Central Valley Water Board at least 90 days prior to the discharge.

**REGIONAL CHARACTERISTICS**

The Lease is situated on a southeasterly plunging syncline in the northern portion of Midway Valley. The NOI states that this portion of the Midway Valley is bound by geologic structures which impede hydraulic communication with waters located in the San Joaquin Valley.

Information in the NOI shows that alluvium beneath the Lease is approximately 400 feet thick. The alluvium is underlain by the Tulare Formation, the uppermost portion of which contains sediments of irreducible water saturation. In the Midway Sunset Oil Field, the Tulare Formation contains oil producing sediments. According to the NOI, the Tulare Formation underlying the ponds does not contain groundwater, and is not in hydraulic communication with the Tulare Formation on the San Joaquin Valley.

No drainages appear to cross the Lease. The Lease is in an area that is outside of a FEMA 0.2 percent annual chance floodplain.

**POTENTIAL THREAT TO WATER QUALITY**

General Order Three applies to operators of existing oil and gas production facilities where conditions are such that the first encountered groundwater is of poor quality or there is no first encountered groundwater.

The NOI includes data which shows that first encountered fluid under the ponds are petroleum and that geologic structures surrounding the Midway Valley impede movement of the percolate under the ponds.

Based on these conditions, coverage under General Order Three for the Lease is appropriate. Also based on these conditions, as per Title 23, California Code of Regulations, section 2200, the discharge shall be given a TTWQ (threat to water quality) and CPLX (complexity rating) of 3C. Engineers is responsible for annual fees associated with this rating unless conditions or regulatory policies change.