



EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

8 February 2018

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P.O. Box 22050
Bakersfield, CA 93390

CERTIFIED MAIL
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NOTICE OF APPLICABILITY (NOA), CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD, ORDER NUMBER R5-2017-0036, GENERAL ORDER THREE, WASTE DISCHARGE REQUIREMENTS FOR OIL FIELD DISCHARGES TO LAND, CENTRAL CALIFORNIA OIL COMPANY, GETTY, BOCQUERAZ, AND SB LEASES, PYRAMID HILLS OIL FIELD, KINGS COUNTY

Central California Oil Company (CCOC) operates the Getty Lease, the Bocqueraz Lease and the SB Lease in the Pyramid Hills Oil Field, west of Highway 33 (Lease or Leases). The Leases utilize six surface impoundments (ponds) for the disposal of produced wastewater (discharge). The Getty Lease ponds are in sections 7 and 18 of T24S, R18E MDB&M. The Bocqueraz and SB Lease ponds are in section 17 of T24S, R18E MDB&M.

On 24 July 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 by CCOC, the first encountered fluid under the ponds is petroleum. The ponds are constructed in surface exposures of the McLure Shale formation and wastewater disposal is accomplished primarily through evaporation. The available data indicates that the discharge will not migrate into waters that have beneficial uses as identified in the Water Quality Control Plan for the Tulare Lake Basin, Second Edition, Revised January 2015 (Basin Plan). Therefore, the existing ponds on the leases are eligible for coverage under General Order Three.

This letter serves as conditional notice that General Order Three is applicable (NOA) to the Leases (see the FACILITY SPECIFIC REQUIREMENTS, below). The Leases are hereby assigned General Order Number **R5-2017-0036-002**. CCOC 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).

Additionally, this letter serves as "*written concurrence of the investigation results by the Executive Officer*" that CCOC has satisfied the requirements of Provision 4.a. of General Order Three. No further action is required with regards to other Provision 4 requirements.

This letter also serves as formal notice that Cleanup and Abatement Orders R5-2015-0724 and R5-2015-0725 (CAOs) are hereby rescinded along with their respective reporting requirements.

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 CCOC 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 or revoke coverage under General Order Three, or otherwise enforce provisions of General Order Three, as well as prohibit further discharge.

In 2006, the Central Valley Water Board, the State Water Resources Control 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

1. CCOC shall maintain exclusive control of the discharge and shall comply with all of the requirements and timelines of General Order Three, and the MRP.
2. CCOC shall submit, **by 13 April 2018**, a water balance and capacity analysis, as required by General Order Three, Attachment B, Items A.7.(a - g) and B.4. Failure to do so may result in the modification or rescission of this NOA. Information that needs to be included in the water balance capacity analysis is discussed in the "WATER BALANCE AND POND CAPACITY ANALYSIS REQUIREMENTS" section of the enclosed memorandum. The water balance and capacity analysis shall establish and report the allowable maximum monthly flow volumes to the ponds. The allowable maximum monthly flow of produced wastewater to the ponds shall conform to the following:
 - a. A minimum of two feet of freeboard must be maintained, within each of the ponds, at all times, unless a California-registered civil engineer certifies that less freeboard is adequate, and
 - b. The allowable maximum monthly flow shall not exceed: 462 barrels (bbls) for the Getty Lease; 121 bbls for the Bocqueraz Lease; and 1,491 bbls for the SB Lease. These are the maximum reported monthly flow of produced wastewater to ponds between 26 November 2004 and 26 November 2014. Any increase beyond these reported maximum monthly flow volumes constitutes a facility expansion requiring an evaluation under the California Environmental Quality Act (CEQA).
3. **By 12 March 2018** CCOC shall inform the Central Valley Water Board, in writing, as to whether the ponds accept produced wastewater discharge from any wells that have undergone a "well stimulation treatment," as defined by California Code of Regulations (CCR), title 14, section 1761 (including hydraulic fracturing, acid fracturing, and acid matrix stimulation). If it is determined that the ponds do accept wastewater from wells that accept produced wastewater discharge from any wells that have undergone a "well

stimulation treatment,” then CCOC shall comply with the compliance schedule in General Order Three, Provision E.8. and, **by 9 May 2018**, submit either: 1) a work plan to conduct studies necessary to demonstrate that the discharges of produced wastewater from wells that have been stimulated do not contain well stimulation treatment fluids in concentrations that could adversely affect beneficial uses of waters; or, 2) a work plan for an alternate disposal method for wastewater discharges from wells with a history of, or are planned to receive a “well stimulation treatment.”

4. CCOC shall not discharge produced wastewater outside of the ponds. Wastewater use for dust control on the Leases is not permitted and all discharges outside of the ponds are prohibited.
5. CCOC shall operate and maintain all ponds sufficiently to protect the integrity of containment and berms and prevent overtopping and/or structural failure. 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, CCOC must submit a Report of Waste Discharge (Form 200).
6. 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. CCOC must notify the Central Valley Water Board in writing to request termination.
7. Within **90 days** of receipt of this letter, CCOC shall also 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.

According to information provided with the NOI, the discharges are contained within the ponds. A storm water permit does not appear to be required for the Lease facility. 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 Leases may need coverage under NPDES General Permit CAS000001. The Leases do not require coverage under NPDES General Permit CAS000001 at this time.

The MRP requires extensive monitoring of the Lease and the discharge. 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 is included with the enclosures to this notice. A copy can also be found online at: http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2017-0036.pdf.

The MRP includes monitoring and reporting of chemicals and additives. CCOC should become familiar with those requirements. The Central Valley Water Board will review the MRP periodically and revise requirements when necessary. The MRP can be modified if

CCOC 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, CCOC 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.

CCOC must comply with the Central Valley Water Board's Standard Provisions and Reporting Requirements for Waste Discharge Requirements, dated 1 March 1991 (Standard Provisions). A copy of the Standard Provisions is included with the enclosures to this notice. A copy can also be found online at:

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

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, division 3, chapter 6, section 2050 and those that follow. 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.

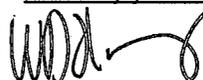
SUBMISSIONS

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 Zachary Jarvie of this office at (559) 445-5455 or at zachary.jarvie@waterboards.ca.gov.



- For -
Pamela Creedon,
Executive Officer

Enclosures: 22 January 2018 Memorandum
1 March 1991 Standard Provisions
General Order Three

cc: Gary Brierley, Professional Geologist, EnviroTech Consultants Inc., Bakersfield



EDMUND G. BROWN JR.
GOVERNOR



MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

TO: Clay Rodgers
Assistant Executive Officer

FROM: Michael L. Pfister *MLP*
Senior Engineering Geologist
PG No. 5946

Zachary J. Jarvie *ZJJ*
Engineering Geologist

DATE: 8 February 2018

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, CENTRAL CALIFORNIA OIL COMPANY, GETTY, BOCQUERAZ, AND SB LEASES, PYRAMID HILLS OIL FIELD, KINGS COUNTY

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BACKGROUND INFORMATION

The Leases utilize a total of six ponds for the disposal of oil field produced wastewater. Each Lease has wash tanks that 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. The Getty Lease has three ponds, the Bocqueraz Lease has two ponds, and the SB Lease has a single pond. 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.

Submitted Information and Recent Regulatory History

On 4 February 2015, Central Valley Water Board staff (Staff) conducted inspections of the ponds on the Getty Lease, the Bocqueraz Leases and the SB Lease. As a result of the inspections, Staff issued three Notices of Violation (NOVs): one dated 24 March 2015, for unregulated wastewater discharges on the SB Lease Facility; and, the others each dated 25 March 2015, for unregulated wastewater discharges on the Bocqueraz lease and the Getty Lease Facilities.

On 1 April 2015, Staff issued “*California Water Code Directive Pursuant to Section 13267*” (13267 Order), which required that the Dischargers “*Collect representative samples of wastewater within each of the ponds.*” In response, analytical results from samples collected on 14 April 2015 were provided in reports dated 18 May 2015 and 12 June 2015.

On 27 August 2015, Staff issued Cleanup and Abatement Order (CAO) R5-2015-0724 to Compass Global Resources, LLC (Compass) for the SB Lease pond; and CAO R5-2015-0725 to CCOC for the ponds on the Getty and Bocqueraz Leases.

In response to the CAOs, EnviroTech Consultants, Inc. (EnviroTech), prepared two work plans (Work Plans) for the ponds. The first was titled “*Compass Global Resources LLC, Work Plan, CAO R5-2015-0724, GeoTracker Site Global ID: T10000006738, SB Lease, ...*” and dated 27 October 2015. The second was titled “*Central California Oil Company, Work Plan, CAO R5-2015-0725, GeoTracker Global ID: T10000006737, GeoTracker Global ID: T10000006736, Bocqueraz and Getty Leases, ...*” and dated 29 October 2015. The Work Plans report that the McClure Shale is “*...underlain by an unconformity that separates overlying McClure from the lower Miocene and Oligocene vertically dipping beds. Oil is trapped within sands that are truncated by the basal McClure unconformity, indicating that the lower McClure shale is impermeable and forms a hydrocarbon trap.*”

On 17 May 2016, the Staff received two reports containing additional information for the Leases (Reports). The first Report is dated 5 May 2016, and titled “*Compass Global Resources, LLC, SB Lease, GeoTracker Site Global ID: T10000006738, Response to Central Valley Regional Water Quality Control Board CAO R5-2015-0724, Issued on August 27, 2015, Additional Information, Pyramid Hills Oil Field ...*” The second Report is dated 9 May 2016, and titled “*Central California Oil Company, Getty Lease, GeoTracker Site Global ID: T10000006737, Bocqueraz Lease, GeoTracker Site Global ID: T10000006736, Response to Central Valley Regional Water Quality Control Board CAO R5-2015-0725 Issued on August 27, 2015, Additional Information Pyramid Hills Oil Field ...*”

On 1 December 2016, CCOC acquired the SB Lease pond from Compass, and is the current operator for the three Leases.

On 19 October 2017, Staff received an e-mail from EnviroTech containing monthly water production and discharge volumes from January 2004 through December 2014 for the Getty and Bocqueraz Leases, and from January 2006 through December 2014 for the SB Lease.

POND CHARACTERISTICS

The reported dimensions and coordinate locations for the ponds are summarized in **Table 1**, below.

Table 1 Pond Information for the Bocqueraz, Getty, and SB Leases.

Lease	Pond I.D.(s)	Dimensions (ft.)			Coordinates (NAD 83)	Notes
		Length	Width	Depth	Latitude, Longitude	
Getty	Pond A	36	30	8	35.84689, -120.05913	unlined
	Pond B	36	24	10	35.84694, -120.05932	unlined
	Pond C	72	36	10	35.84708, -120.05947	unlined
Bocqueraz	Pond A	9	9	6	35.83911, -120.05436	in-ground tank
	Pond B	33	9	6	35.83907, -120.05426	unlined
SB	Pond	75	15	8	35.84314, -120.05353	unlined

Under Discharge Specifications, Item B.11., General Order Three states *“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).”*

DISCHARGE CHARACTERISTICS

Flow Volumes

The ten year average monthly volumes of produced wastewater discharged to the ponds are reported as being 194 barrels (bbls) for the Getty Lease, 22 bbls for the Bocqueraz Lease, and 64 bbls for the SB Lease.

Under Discharge Specifications, Item B.2., General Order Three states *“The discharge flow shall not exceed actual maximum monthly average produced wastewater flow to pond between 26 November 2004 and 26 November 2014. The discharge flow also shall not exceed the maximum design flow of the Facility’s limiting unit as described by the technical data in the NOI.”* The maximum monthly volume of produced wastewater and discharge reported for the Getty lease is 462 bbls in December 2004. The maximum monthly volume of produced wastewater and discharge reported for the Bocqueraz lease is 121 bbls in February 2013. The maximum monthly volume of produced wastewater and discharge reported for the SB lease is 1,491 bbls in June 2006.

Wastewater must not be allowed to over top and flow outside of the ponds, and again within each of the ponds General Order Three requires a minimum of two feet of freeboard at all times. The monthly discharges, up to and including the above noted maximum monthly volumes cannot be used to justify a violation of the General Order’s requirements. The General Order also prohibits all wastewater discharges outside of the ponds. Wastewater is not used or permitted for dust control on the Leases.

Waste Constituents

The NOI states that hazardous wastes are not produced on the Leases. The disposal methods for accumulated solids are not reported. Discharge Specifications, Item B.16., of General Order Three requires that CCOC monitor the accumulations of solids within the ponds and as necessary remove and dispose of them in accordance with Section D., Solids Disposal Specifications, of General Order Three.

Wastewater characterization samples were collected on 14 April 2015. **Table 2**, below, summarizes salinity concentrations measured in milligrams per liter (mg/L), benzene and selected polynuclear aromatic hydrocarbons (PAH) constituent concentrations measured in micrograms per liter (µg/L), and Gross Alpha particle radioactivity measured in picocuries per liter (pCi/L).

Table 2 Salinity data from wastewater samples collected in April 2015.

Sample Source	Wash Tank, for the Getty Lease Ponds	Wash Tank, for the Bocqueraz Lease Ponds	Wash Tank, for the SB Lease Pond	
Lab Sample ID	1504158-01	1504157-01	1504159-01	
Constituents of Salinity				Units
Total Dissolved Solids (TDS)	11,000	12,000	10,000	mg/L
Chloride	3,700	3,800	4,500	mg/L
Boron	12	15	13	mg/L
Benzene and selected PAH				
Benzene	87.9	<5.00	<5.00	µg/L
Naphthalene	26.7	<10.0	<10.0	µg/L
Phenanthrene	7.9	<10.0	<10.0	µg/L
Pyrene	<10.0	<10.0	6.8	µg/L
Chrysene	<10.0	<10.0	7.7	µg/L
Radioactivity				
Gross Alpha	78.8	94.5	59.6	pCi/L

REGIONAL CHARACTERISTICS

The Ponds are constructed in the surface exposure of the McLure Shale on the western flank of the Pyramid Hills Anticline. The information provided has shown that McLure Shale has a low permeability and has a thickness of approximately 575 ft. beneath the Bocqueraz Lease Ponds, and a thickness of approximately 700 ft. beneath both the Getty and the SB Lease Ponds. First encountered fluids beneath the ponds are reported to be immediately below the McLure shale, within the oil field production zone.

The valley to the west of the Pyramid Hills and down slope from the ponds is within the boundaries of Detailed Analysis Unit 245 of the Basin Plan. The Basin Plan lists the following beneficial uses for groundwater within Detailed Analysis Unit 245: Municipal and Domestic Supply; Agricultural Supply; and Industrial Service Supply. If produced wastewater is discharged outside of the ponds, it could flow into hillside drainages and onto the valley floor alluvium.

WATER BALANCE AND POND CAPACITY ANALYSIS REQUIREMENTS

The CCOC has not submitted an adequate water balance and analysis of its total on site water storage capacity as required by General Order Three. The information described in General Order Three, Attachment B, Items A.7.a. through A.7.g., and Item B.4. is needed to determine if the pond holding capacities are sufficient for containing the reported maximum monthly average produced wastewater flows.

Information provided by CCOC indicates that evaporation is the primary mode of wastewater loss. When submitting the water balance capacity analysis (Item A.7.g., referenced above) all tables need to be provided in a spreadsheet format (such as Microsoft Excel). Additionally, a narrative explanation of all assumptions, variables, and calculations needs to be provided. The water balance and pond capacity analysis specifically needs to include the following:

1. The total volumetric capacity for wastewater storage at each Lease, including:
 - a. the volume of available tank space for storage of produced wastewater, and
 - b. the calculated volumetric capacity of each pond, at two feet of freeboard, taking into account any significantly sloped side walls;
2. All fluid inflows into each pond, including:
 - a. monthly wastewater production volumes,
 - b. expected monthly precipitation volumes, both for an average rainfall year and the “100-year return period total annual precipitation,” and
 - c. any other fluid source to the ponds;
3. All fluid outflows for each pond, including:

- a. expected monthly evaporation volumes for each pond,
 - b. estimated percolation amounts, even if negligible, and;
 - c. any other process by which fluid is lost or removed from the ponds;
4. A factor that reasonably accounts for the slower evaporating rate of waters with elevated salt contents and oil residues;
 5. An accounting of any fluid volume not lost through evaporation at the end of each month.

The water balance capacity analysis must be signed and stamped by a California registered professional with expertise in water balance capacity analyses.

SUMMARY AND 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 showing that the McLure Shale does not contain fluids. First encountered fluids beneath the ponds are encountered in the oil bearing formations beneath the McLure Shale.

The shale formation in which the ponds are constructed has a low permeability. Data Available indicates that wastewater fluids are contained within the ponds and lost via evaporation. The ponds do not, therefore, appear to pose a threat to the nearby alluvial groundwater.

Based on the conditions described above, coverage under General Order Three is appropriate for the ponds of the Getty, Bocqueraz, and SB Leases. In addition, CCOC has in previous submittals, demonstrated compliance with Provision 4.a. of General Order Three which requires that CCOC *“Provide by (60 days of issuance of the NOA), as directed in the NOA issued for coverage under this General Order, the results of a hydrogeological investigation demonstrating that there is no groundwater beneath the Facility discharge areas and that produced wastewater and constituents associated with other approved wastes discharged at the Facility will not migrate into areas that there is groundwater with designated beneficial uses.”*

The ponds are clustered within an area that is approximately 3,100 ft. (north-south) by 1,800 ft. (east-west). There are no public roadways separating the ponds, other than access roads used for oil field equipment. For these reasons it is appropriate to issue a single NOA for the three Leases and to regulate their collective ponds as a single facility, under a single fee structure.

Based on these conditions, as per Title 23, CCR, section 2200, the discharge shall be given a TTWQ (threat to water quality) and CPLX (complexity rating) of 3C. CCOC is responsible for annual fees associated with this rating, unless conditions or regulatory policies change.