

## Central Valley Regional Water Quality Control Board

16 October 2018

Brad Califf, President  
Longbow, LLC  
1701 Westwind Dr. Suite 126  
Bakersfield, California 93301

**CERTIFIED MAIL**  
**7017 3040 0000 4342 4861**

### **NOTICE OF APPLICABILITY (NOA), CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD, ORDER R5-2017-0036, WASTE DISCHARGE REQUIREMENTS FOR OIL FIELD DISCHARGES TO LAND, GENERAL ORDER NUMBER THREE, LONGBOW LLC, MCKITTRICK LEASE, MCKITTRICK OIL FIELD, KERN COUNTY**

On 1 August 2017, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) received a document titled, "*Technical Report For NOI, McKittrick Fee Lease, McKittrick Oil Field, June 2017, Revised July 2017.*" An earlier version of the document was received by the Central Valley Water Board on 20 June 2017 (herein the documents are collectively referred to as the Notice of Intent or NOI). The Notice of Intent was prepared by consultants, WZI Inc. (WZI), for Longbow, LLC (Longbow, or discharger). The NOI was submitted because Longbow is seeking regulatory coverage under Order R5-2017-0036, Waste Discharge Requirements General Order for Oil Field Discharges to Land, General Order Number Three (General Order Three).

Longbow operates the McKittrick Lease, in the McKittrick Oil Field, in Kern County (Lease or Facility). The Lease lies in section 18 of T30S, R22E, MDB&M. The Lease includes a tank farm, flow lines, production wells, and other infrastructure for oil field production activities. The Lease utilizes a single unlined surface impoundment (pond) for the disposal, evaporation, and percolation of oil field produced wastewater (produced water or discharge). The pond is 75 feet by 22 feet, and 4 feet deep. Information included in the NOI, including figures and cross sections provided by WZI, indicates that the pond is constructed in alluvial sediments that are underlain by the Tulare Formation.

General Order Three applies to owners or operators of oil production facilities that:

- a. Primarily discharge produced water to land, but may also discharge produced water for dust control or construction activities;
- b. Exceed the maximum oil field salinity limits contained in the *Water Quality Control Plan for the Tulare Lake Basin, Third Edition, Revised May 2018* (Basin Plan);
- c. Discharge where the first encountered groundwater is of poor quality, does not support beneficial uses as designated by the Basin Plan, or there is no first encountered groundwater; and
- d. Began the discharge prior to 26 November 2014.

This letter serves as formal notice that General Order Three is applicable to the Lease. General Order Number **R5-2017-0036-007** is hereby assigned to all produced wastewater discharges into the pond. Longbow should become familiar with all requirements, time schedules, prohibitions, and provisions of General Order Three, and Monitoring and Reporting Program R5-2017-0036 (MRP).

This letter also serves as formal notice that Cleanup and Abatement Order No. R5-2015-0731 (CAO) is hereby rescinded. The CAO was issued to Longbow for discharges to the pond on 31 August 2015.

General Order Three regulates the discharge of produced water into the pond. As stated in California Water Code (Water Code) section 13263, all discharges of waste into waters of the state are privileges, not rights. General Order Three does not create a vested right for Longbow to continue the discharges of waste to the pond. 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 Resources Control Board (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**

1. Longbow 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. As per Title 23, CCR, section 2200, the discharge shall be given a TTWQ (threat to water quality) and CPLX (complexity rating) of 3C. Longbow is responsible for annual fees associated with this rating, unless conditions or regulatory policies change, or until coverage under General Order Three for the Lease is officially terminated. Longbow must notify the Central Valley Water Board in writing to request termination.
3. Under Discharge Specifications, Item B.2., General Order Three states, *“The discharge flow shall not exceed actual maximum monthly average produced wastewater flow to the 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.”*

Longbow has provided an estimation of the maximum monthly discharge volume of the pond. The NOI states, *“Longbow indicated in July 2017 that the pond is currently 4 feet deep, which gives the pond a current volume of 862 barrels of wastewater. Since the maximum flow to the pond was 9,204 barrels in 2004, then the maximum monthly effluent flow to the pond would be 767 barrels.”*

As stated above, the monthly maximum discharge volume to the pond is 767 barrels (bbls). Longbow shall not exceed this discharge volume.

In addition, the “design capacity” of the pond is identified in the NOI as being 431 bbls with two feet of freeboard. Two feet of freeboard is required and must be kept at all times. Any increase in discharge volume that would exceed the “design capacity” constitutes a facility expansion requiring an evaluation under the California Environmental Quality Act (CEQA).

4. Longbow shall not discharge produced wastewater outside of the pond unless for permitted dust control use. If Longbow intends to apply for use of produced wastewater for dust control, a proposed management plan as described in Provision E.6 of General Order Three must be submitted at least **90 days prior** to the anticipated discharges.
5. **By 18 January 2019**, Longbow shall, pursuant to Provision E.3 of General Order Three, 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, 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.
6. **By 17 December 2018**, Longbow shall, pursuant to Provision E.4. of General Order Three, submit either:
  - a. The results of a hydrogeological investigation demonstrating that there is no groundwater beneath the Facility discharge areas *and* that produced water and constituents associated with other approved wastes discharged at the Facility will not migrate into areas where there is groundwater with designated beneficial uses. Upon the written concurrence of the investigation results by the Executive Officer, this provision shall be considered satisfied,
  - or
  - b. If there is first encountered groundwater underlying the Facility or the Executive Officer does not concur with the results of the investigation in Provision E.4.a., above, the Discharger shall demonstrate that the natural background groundwater quality for the Facility meets the Sources of Drinking Water Policy exception criteria and/or parallel exception criteria outlined in the General Order and thus the current Basin Plan groundwater beneficial uses are eligible for de-designation in accordance with the compliance schedule provided in Tasks 1 through 10 of Provision 4.b.

The NOI states that “*Sidewall cores taken from nearby well WJ 300 indicate the first encountered fluid below the pond is oil, as close to surface as 80 feet.*” Appendix 7 of the NOI includes core data from the well, which lies approximately 520 feet south of the pond. The shallowest sidewall sample taken is from a depth of 80 feet below ground

surface (bgs). A description of the sample, which is a sidewall sample taken from Getty Oil Company, dated 24 August 1979, reads, "*Oil stained conglomerate, brown, silty, clayey, pebbly, friable, fair to poor P&P, silt pebbles (1/8"), domin, fine to med matrix, subangular to angular, fair odor, even oil staining of matrix, dead oil, no fluorescence, poorly sorted.*"

The description shows that oil staining occurs at relatively shallow depths in the sediments underlying the Lease. The Central Valley Water Boards' staff review of the geophysical log for well WJ 300 indicates that fluids (potentially groundwater) are present at a depth beginning at about 310 feet bgs, and is supported by the Getty Oil Company's log noted above for a sidewall sample collected from a depth of 340 feet bgs which reads, "*Sand, tan, friable, good P&P, fine to v. coarse, domin. Coarse, subang to subrounded, no odor, no oil sat, no fluor, well sorted, wet.*" In addition, staff's review of geophysical logs for other wells near the Lease (e.g. API # 02943896) appear to encounter "water saturated" sediments before the occurrence of oil. Additional analysis is needed to ascertain the depth and quality of first encountered fluids.

The NOI also states that the groundwater flow direction is generally northeast. Regarding regional structures which might impede percolate from the pond to migrate, the NOI states, "*Significant geographic features of the Kern County Basin include the southern portion of the San Joaquin Valley, the Temblor Range to the west, the Tehachapi Mountains to the south, and the southern Sierra Nevada to the east.*"

The NOI does not describe any features that would impede the discharge from migrating into groundwater with beneficial uses.

For Provision 4 of General Order Three to be fully satisfied, Longbow must either make the demonstration that there is no groundwater beneath the Lease and that the discharge will not migrate to areas containing water with beneficial uses; or, obtain a Basin Plan Amendment. If the discharger opts to obtain a Basin Plan Amendment, the discharger will have to follow the prescribed time schedule. The time schedule requires Longbow to complete certain tasks by certain dates as described in General Order Three.

7. The discharge of wastes other than those described in the NOI is prohibited. Longbow shall operate and maintain the pond sufficiently to protect the integrity of containment and berms and prevent overtopping and/or structural failure. Discharges not authorized by General Order Three and not described in the NOI should be reported to the Central Valley Water Board. If the method of waste disposal changes, Longbow must submit a Report of Waste Discharge (Form 200).
8. If Longbow wishes to reuse solids produced at the Lease then, **by 17 December 2018**, Longbow shall, pursuant to Provision E.7 of General Order Three, submit a solids management plan for approval by the Executive Officer. This plan shall include the information required by Provision E.7. Longbow shall also include the information described in General Order Three, Attachment B, Information Needs Sheet, Item B.8. (a. – c.).

In addition, Longbow shall submit a solids management plan **180 days prior** to any solids reuse as road mix. New reuse shall not commence prior to obtaining the written approval of the solids management plan from the Executive Officer.

9. If the discharger wishes to use produced water in construction activities, then a management plan must be submitted to the Executive Officer **90 days prior** to the anticipated discharge. The discharge shall not occur without written approval by the Executive Officer.
10. According to information provided with the NOI, the discharge is contained within the pond. The NOI reports that, *"The Longbow facility is exempt from the Industrial Storm Water General Permit. As a result of the exemption for the Industrial Storm Water General Permit, Longbow will be applying for No Exposure Certification (NEC) coverage using the SMARTS system."* Order Number 2014-0057-DWQ (NPDES General Permit CAS000001) specifies waste discharge requirements for discharges of storm water associated with industrial activities. Information submitted in the NOI indicates that coverage under NPDES General Permit CAS000001 is not needed for the Lease. If the conditions at the Lease or regulatory policies change, Longbow will need coverage under NPDES General Permit CAS000001.

The MRP requires extensive monitoring requirements. 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: [https://www.waterboards.ca.gov/centralvalley/board\\_decisions/adopted\\_orders/general\\_orders/r5-2017-0036.pdf](https://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. Longbow 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 Longbow 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, Longbow 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.

Longbow 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](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 California 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

Documents that are less than 50 MB shall be sent via electronic mail to: [centralvalleyfresno@waterboards.ca.gov](mailto:centralvalleyfresno@waterboards.ca.gov). Documents that are 50 MB or larger shall be mailed to the Central Valley Water Board office at: 1685 E Street, Fresno, CA 93706.

In addition, Longbow 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\\_submission/index.shtml](http://www.waterboards.ca.gov/ust/electronic_submission/index.shtml).

A frequently asked question document for GeoTracker can be found at [http://www.waterboards.ca.gov/ust/electronic\\_submission/docs/faq.pdf](http://www.waterboards.ca.gov/ust/electronic_submission/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. The discharger should note that only PDFs can be submitted to GeoTracker. The GeoTracker site Global I.D. number that is associated with this NOA is **T10000006768**.

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](mailto:Rebecca.asami@waterboards.ca.gov).



*for* Patrick Pulupa  
Executive Officer

Enclosures: 16 October 2018 Memorandum  
General Order Three  
1 March 1991 Standard Provisions

cc: Cameron Campbell, Chief Deputy of the California Division of Oil Gas and Geothermal Resources, Bakersfield (NOA and Memorandum only, Via email)  
Mary Jane Wilson, President of WZI, Bakersfield  
Keith Nakatani, Oil and Gas Program Manager of Clean Water Action  
(NOA and Memorandum only, Via Email)  
Andrew Grinberg, National Campaign Special Program Manager of Clean Water Action  
(NOA and Memorandum only, Via Email)  
Bill Allayaud, California Director of Government Affairs of Environmental Working Group  
(NOA and Memorandum only, Via Email)



## Central Valley Regional Water Quality Control Board

**TO:** Clay Rodgers  
Assistant Executive Officer

W. Dale Harvey  
Supervising Engineer  
RCE No. 55628

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

Rebecca T. Asami *RT*  
Engineering Geologist

**DATE:** 16 October 2018

**SUBJECT:** NOTICE OF INTENT REVIEW, CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD, ORDER R5-2017-0036, WASTE DISCHARGE REQUIREMENTS GENERAL ORDER FOR OIL FIELD DISCHARGES TO LAND, GENERAL ORDER NUMBER THREE, LONGBOW LLC, MCKITTRICK LEASE, MCKITTRICK OIL FIELD, KERN COUNTY

On 1 August 2017, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) received a document entitled, *Technical Report for NOI, McKittrick Fee Lease, McKittrick Oil Field, June 2017, Revised July 2017*. An earlier version of the document was submitted to the Central Valley Water Board on 20 June 2017 (herein the documents are collectively referred to as the Notice of Intent or NOI). The document was prepared by consultants WZI Inc. (WZI), for Longbow, LLC (Longbow or "discharger"). The NOI was submitted as a request for regulatory coverage under Order R5-2017-0036, Waste Discharge Requirements General Order for Oil Field Discharges to Land, General Order Number Three (General Order Three).

### BACKGROUND INFORMATION

General Order Three regulates oil field produced wastewater discharges where: 1) produced wastewater exceeds the maximum oil field discharge limits for electrical conductivity, chloride, and boron contained in the *Water Quality Control Plan for the Tulare Lake Basin, Second Edition, Revised May 2018* (Basin Plan); and 2) there is no first encountered groundwater or first encountered groundwater is of poor quality and does not support beneficial uses of municipal and domestic supply (MUN), or agricultural supply (AGR), or industrial service supply (IND) or industrial process supply (PRO), as designated by the Basin Plan.

## SUBMITTED INFORMATION

### Lease and Pond Characteristics

Longbow operates the McKittrick Lease in the McKittrick Oil Field in section 18, T30S, R22E, MDB&M (Facility or Lease). The Lease includes flow lines, gathering lines, production wells, separator vessels, production tanks, wastewater tanks, and associated oilfield equipment. According to NOI, there are nine oil producing wells on the Lease, all of which use conventional oil recovery methods. The Lease produces approximately 4,605 barrels (bbls) of oil per year and utilizes a single unlined surface impoundment (pond) for the evaporation, percolation, and disposal of oil field produced wastewater (produced water or discharge). Pond dimensions follow:

| Length (feet) | Width (feet) | Depth (feet) | Total Capacity (cubic feet or ft <sup>3</sup> ) | Total Capacity with Two Feet of Freeboard (ft <sup>3</sup> ) |
|---------------|--------------|--------------|---|--|
| 55            | 22           | 4            | 4,840   | 2,420  |

### Discharge Characteristics

The NOI states, *“The pond holds approximately 1,078 barrels (bbls) of water at two feet of freeboard. In order to comply with General Order Three, the pond must not go above this volume. The total volumetric capacity of the pond is 1,509 bbls using the dimensions of the pond. In 2014, the pond accumulated a total volume of 9,204 bbls, which is the highest since 2004. Since the calculated total possible disposal volume (without percolation) is 6,083 bbls, the average annual total possible percolation must therefore be 3,121 bbls, which yields an average daily rate of 8.55 bbl/day. Longbow indicated in July 2017, that the pond is currently 4 feet deep, which gives the pond a current volume of 862 bbls of wastewater. Since the maximum flow to the pond was 9,204 bbls in 2004, then the maximum monthly effluent flow to the pond would be 767 bbls.”*

Under Discharge Specifications, Item B.2., General Order Three states, *“The discharge flow shall not exceed actual maximum monthly average produced wastewater flow to the 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.”*

Under Discharge Specifications, Item 12, General Order Three states, *“Produced wastewater treatment, storage, and disposal units shall have sufficient capacity to accommodate allowable wastewater flow, design, seasonal precipitation, and ancillary flow and infiltration during the winter while ensuring continuous compliance with all requirements of this General Order. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.”*



Longbow must not allow the pond to overtop, even during heavy rain events. Produced wastewater must not be allowed to flow outside of the pond. General Order Three prohibits produced wastewater discharges outside of the pond.

### Produced Water Quality

The Basin Plan's implementation policy sets forth maximum salinity limits (effluent limits) for specific waste constituents for discharges of oil field wastewater to ponds overlying groundwater with existing and future probable beneficial use:

| Constituent             | Unit                        | Concentration |
|-------------------------|-----------------------------|---------------|
| Electrical Conductivity | Micromohs/cm                | 1,000         |
| Chloride                | Milligrams per Liter (mg/l) | 200           |
| Boron                   | mg/l                        | 1             |

General Order Three applies to discharges that exceed the maximum oil field discharge salinity limits for electrical conductivity, chloride, and boron contained in the Basin Plan.

A produced water sample was taken on 10 April 2015. Analytical results from the sample are as follows:

| Constituent            | Unit                        | Concentration |
|------------------------|-----------------------------|---------------|
| Total Dissolved Solids | mg/l                        | 10,000        |
| Chloride               | mg/l                        | 3,300         |
| Sodium                 | mg/l                        | 4,100         |
| Boron                  | mg/l                        | 54            |
| Barium                 | mg/l                        | 1.3           |
| Calcium                | mg/l                        | 49            |
| Strontium              | mg/l                        | 2.8           |
| Benzene                | Micrograms per liter (ug/l) | 7.0           |
| Ethylbenzene           | ug/l                        | 2.0           |
| Toluene                | ug/l                        | Non-Detect    |
| Total Xylenes          | ug/l                        | 24            |

The constituents in the produced water exceed salinity limits in the Basin Plan.

### Produced Water and Solids Reuse

Discharge Specification B.16 of General Order Three requires that produced water application rates, on the Lease property where the produced water is generated for dust control or construction activities, shall be applied at the minimum hydraulic loading rates necessary to perform the intended purpose and shall be consistent with an approved management plan in accordance with Provision E.6 of General Order Three. With regards to the use of wastewater for dust control, the Notice of Intent states, "*Longbow does not plan to apply for dust control activities at this time*".

Discharge Specification B.16 of General Order Three requires that the discharger monitor the accumulations of solids within the pond and as necessary, remove them. Additional General Order Three requirements for solids are in Section D, titled *“Solids Disposal Specifications.”*

General Order Three stipulates that solids from the Lease be managed in accordance with a solids management plan approved by the Executive Officer in accordance with Provision E.7. of General Order Three. Handling and application practices shall be designed to ensure that oil field wastes do not migrate once placed.

With regards to solid wastes generated at the Lease the NOI states, *“The Lease does not generate solid waste.”*

### **Hydrogeological Conditions**

According to the NOI, the pond is situated in alluvial sediments which are approximately 500 feet thick and overlie oil-bearing portions of the Tulare Formation. The Tulare Formation is said to be comprised of low permeability sediments, which will impede the flow of percolate from the pond into underlying the Olig Formation. The NOI states that groundwater flow from the pond is anticipated to be towards the northeast.

Regarding the geological conditions surrounding the pond, the NOI states, *“The study area is situated within the western edge of the Tulare Lake Hydrologic Region within the Kern County Basin. The western basin edge approximately coincides with the surface exposure of the Tulare Formation. Significant geographic features of the Kern County Basin include the southern portion of the San Joaquin Valley, the Temblor Range to the west, the Tehachapi Mountains to the south, and the southern Sierra Nevada to the east. Groundwater on the west-side has a high total dissolved solids (TDS) content attributed to recharge of stream flow originating from marine sediments in the Coast Range.”*

With regards to sediments immediately underlying the ponds, the NOI states: *“The pond location overlies unsaturated (with water) alluvium and oil containing Tulare sands that are also unsaturated with water. This overlying air-filled interval is approximately 500 feet thick. The Tulare oil productive sands are beneath the unsaturated intervals. Any water that percolates through the bottom of the pond will percolate into the air-filled alluvium and Tulare oil sands.”*

With regards to first encountered groundwater in the sediments underlying the pond, the NOI states that oil can occur in shallow sediments underlying the Lease. Sidewall sample information submitted with the NOI shows that oil staining occurs in shallow alluvial sediments. An oil-stained conglomerate is identified in Getty Oil Company’s “sidewall sample descriptions” of well WJ 300 dated, 24 August 1979. The oil stained conglomerate occurs at 80 feet below ground surface (bgs). Central Valley Water Boards’ staff review of the available geophysical logs for well WJ 300 indicates that first encountered fluids were present at about 310 feet bgs. This is confirmed by the Getty Oil Company’s “sidewall sample descriptions” for a sample collected at 340 feet bgs, which reads, *“Sand, tan, friable, good P&P, fine to v. coarse, domin. coarse, subang to subrounded, no odor, no oil sat., no fluor., well sorted, wet.”* Central Valley Water Board staff reviewed geophysical logs for wells nearby the Lease. In several of the logs,

groundwater appears to be encountered before oil. For example, a well operated by Longbow (API # 02943896) encounters sediments with “high water saturation” at 585 feet bgs, before encountering an oil sand at 652 feet bgs. The presence or absence of groundwater in the sediments underlying the ponds needs to be further assessed.

Regarding water supply wells in the area, the NOI states, *“While the nearest agricultural area is located approximately six miles as-the-crow-flies to the north, the flow pattern would carry the water to the northeast through a major portion of the of the McKittrick Oil Field (and its associated structural features) cross the aqueduct eight miles away to reach the agricultural area nine miles away, defined by the west-side canal.”*

### **Industrial Storm Water Discharges**

On 1 April 2014, the State Water Board adopted Order 2014-0057-DWQ (NPDES General Permit CAS000001), specifying waste discharge requirements for discharges of storm water associated with industrial activities. Order 2014-0057-DWQ became effective 1 July 2015 and requires all applicable industrial dischargers, including oil facilities, to apply for coverage. However, if storm water is captured and contained onsite or comingled with produced water before being discharged to the pond, the Lease will not be required to obtain coverage under NPDES General Permit CAS000001.

In regard to storm water on the Lease, the NOI states, *“Under the Clean Water Act, section 402 (1)(2), the EPA shall not require a section 402 permit for discharges of storm water runoff from oil and gas exploration, production, processing or treatment operations that do not come into contact with waste products located on-site. The list of exempt facilities includes well sites, access roads, gathering line systems, storage tanks, oil-water separators, and gas and oil treatment and conditioning equipment; all of which make up the Longbow facility. Therefore, the Longbow facility is exempt from the Industrial Storm Water General Permit. As a result of the exemption for the Industrial Storm Water General Permit, Longbow will be applying for No Exposure Certification coverage using the SMARTS system.”*

Based on information included in the NOI, the Lease does not need coverage under NPDES General Permit CAS000001. If regulations or conditions at the Lease change, then Longbow may need to apply for coverage under NPDES General Permit CAS000001.

### **Provision 4 of General Order Three**

Provision 4 of General order Three requires that Longbow either: 1) demonstrate 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,”* or 2) obtain a Basin Plan amendment under the timeline outlined in General order Three Provision 4.b.

The NOI states that, *“Due to the lack of groundwater and evidence of oil staining, Longbow is applying for coverage under General Order Three and will specifically apply “best efforts” to minimize water quality degradation.”*

Central Valley Water Board staff reviewed the logs submitted with the NOI (mentioned above). These logs show that sediments containing oil stained sediments in the areas surrounding the pond at a well (API# 02959559), were first encountered at depths between 80 and 100 feet bgs. The same well also shows that wet (saturated) sediments were identified 340 feet bgs. Other wells on and near the Lease (e.g. API # 02943896) appear to encounter “water saturated” sediments before the occurrence of oil. Additional analysis is needed to ascertain accurately the depth intervals where first encountered fluids are present, and what the quality of first encountered fluids are.

The NOI includes a list of potential structural barriers surrounding the Lease. No structural barriers are identified immediately to the northeast of the pond, which is presumed to be groundwater flow direction. It is unclear at this time if percolate from the ponds has the potential to migrate. This needs to be addressed.

### **STAFF CONCLUSIONS**

Based on information submitted with the NOI, coverage under General Order Three appears appropriate for the Lease. However, Provision 4 of General Order Three must still be satisfied. Specifically, Longbow must either demonstrate that there is no groundwater beneath the pond and that the discharge will not migrate to areas with groundwater of beneficial use; or, obtain a Basin Plan Amendment. If Longbow opts to pursue a Basin Plan Amendment, then Longbow shall follow the time schedule outlined in General Order Three. The time schedule requires Longbow to complete specific tasks by specific dates. If Longbow cannot obtain a Basin Plan Amendment within **60 months** of the issuance of a Notice of Applicability for General Order Three, then the discharge must cease.

If Longbow does not choose to pursue a Basin Plan Amendment, and instead chooses to demonstrate that first encountered fluids are hydrocarbons and that the discharge will not migrate to waters of beneficial uses, then that demonstration must be provided by **17 December 2018**. Hydrogeological information that supports the demonstration must be provided.