

**Official Draft Public Notice Version February Day, 2023**

The findings, determinations, and assertions contained in this document are not final and subject to change following the public comment period.

**FACT SHEET AND STATEMENT OF BASIS  
BIG WEST OIL  
PERMIT: DISCHARGE,  
UPDES PERMIT NUMBER: UT0026174  
MINOR INDUSTRIAL**

**FACILITY CONTACTS**

Person Name: Mike Swanson  
Position: President, Refinery Division  
Phone Number: Phone Number: (801) 296-7716  
Email: [Environmental@bigwestoil.com](mailto:Environmental@bigwestoil.com)

Facility Name: Big West Oil LLC  
Mailing and Facility Address: 333 West Center Street  
North Salt Lake, Utah 84054  
Telephone: (801) 296-7716  
Actual Address: 333 West Center Street

**DESCRIPTION OF FACILITY**

Big West Oil LLC operates an oil refinery in North Salt Lake, Utah. Until recently, Big West obtained all process and fire suppression water from the local municipality (North Salt Lake) and discharged all process water to the local sewer district (South Davis Sewer District). The refinery has added a groundwater extraction and reverse osmosis (RO) treatment system to serve the refinery's process water needs. Process water for the facility from the new extraction and RO treatment system is supplemented with culinary water from the North Salt Lake as needed. Additionally, as a result of new fire regulations, Big West has added a new process using the treated groundwater to deluge existing propane tanks at the facility in the event of a fire.

This permit and the discharge that is authorizes through Outfall 001 are for the single pass engine cooling water and wastewater from the RO process (filtrate) only. No other process water or wastewater are permitted for discharge through Outfall 001.

This permit and discharge are for the new fire suppression process at the refinery, single pass engine cooling water and wastewater from the RO process (filtrate). The propane tanks and discharge are located in the South East and West portion of the property respectively. The source for water is a groundwater well. Water is pumped up to the surface and sent to the reverse osmosis (RO) treatment system. The RO filtrate goes to Outfall 001 and the permeate is sent to utility water system which is supplemented by culinary water from the city system when needed.

Plant utility water is used as makeup water for onsite cooling tower blowdown, process makeup water, and in the fire suppression system. A portion of the utility water from the RO system is directed to a larger reservoir onsite. Water in the reservoir is used in in the fire suppression system. When the fire water (FW) pumps are activated during a fire, they take water from the tank and pump it into the fire suppression system. A portion of this flow is circulated back through the engines as cooling water which will then be discharged through Outfall 001. If there is no fire, but the engines are being tested to ensure their operation, or if they are being operated due to engine maintenance, the fire suppression water is piped back to the reservoir onsite.

The FW pumps are tested for 30 minutes weekly. The test consists of running the engine FW pumps in a recirculating setting. They take water from the treated water tank and pump it back to the tank. A small portion of the water is sent through the motors as cooling water. This cooling water is then discharged at Outfall 001. When the tests are conducted, the FW pumps are run one at a time, and the pumped water recirculates to the onsite storage tank. During a fire emergency at the refinery, the pumps would be run concurrently.

The groundwater well is housed in the same building as all the FW pumps. This will reduce the risk of any leaks or spills of engine fluid from being discharged to the surface water, or carried away during a precipitation event. Located next to the pump building are the reservoir tank (west side), and the RO system building (east side). Floor drains in the buildings are directed to the discharge to the local sewer district.

The RO system has two RO Units that will reject up to 40 gpm. There are currently 5 FW pumps. One pump (P-995) is older, the other four are recently installed and identical.

| Pump Flow Rates        |           |          |           |             |
|------------------------|-----------|----------|-----------|-------------|
| Pump                   | Flow, gpm |          |           |             |
|                        | at 60 °F  | at 80 °F | at 100 °F | Max         |
| RO Pad (2 @ 40 gpm)    | 80        | 80       | 80        | 80          |
| Firewater Pump (P-995) | 40        | 42       | 44        | 80          |
| Firewater Pumps        | 24.8      | 26.4     | 28        | unspecified |

The discharge of process wastewater and sanitary waste through Outfall 001 is prohibited. Big West discharges all sanitary waste and process wastewater to the local sewer district (South Davis Sewer District) and has been permitted to do this through the district Pretreatment Program.

The chronic flow level for the system is 80 gpm (0.178 cfs) or 0.12 MGD which will be a monthly average flow limit.

The acute flow for the system is expected to occur when the system is undergoing a full load test of the pumps. This would be the base RO system flow plus the cooling water from all five pumps. The acute flow should be 227.6 gpm (0.3277 cfs) or 0.33 MGD which would be a maximum daily flow.

TBPEL considerations.

This facility does not introduce phosphorus or phosphorus containing products into the waste stream. There will be no annual limit for phosphorus in the permit. There will still be monitoring related to the TBPEL rules, but this monitoring will only be on the effluent, and may be reduced or eliminated in the future.

Anti-degradation Review

Since this is a new discharge, the permittee conducted a level II antidegradation review (L2ADR) and submitted it with the application. The L2ADR was conducted using a preliminary WLA supplied by DWQ. The facility will be treating high quality groundwater and discharging the treatment process waste water, and discharging the treated product. The result is that they do not have the expected potential to reduce the assimilative capacity of, and should not negatively impact the receiving water. The L2ADR (and application) is included in Attachment 3 of this FSSOB.

**DISCHARGE**

**DESCRIPTION OF DISCHARGE**

Big West Oil is a new facility so there is no history of discharge.

Outfall

Description of Discharge Point

001

Located at latitude 40°35'12" North and longitude 111°55'31" West. The discharge will be through a pipe to the ground, flowing across to the Salt Lake Sewage Canal and on to the Northwest Drain Canal.

**RECEIVING WATERS AND STREAM CLASSIFICATION**

The discharges will be to the Salt Lake Sewage Canal, which is a Class 2B, 3E, AND 5D according to *Utah Administrative Code (UAC) R317-2-13*:

- Class 2B -- Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.
- Class 3E -- Severely habitat-limited waters. Narrative standards will be applied to protect these waters for aquatic wildlife.
- Class 5D Farmington Bay  
Geographical Boundary -- All open waters at or below approximately 4,208-foot elevation east of Antelope Island and south of the Antelope Island Causeway, excluding salt evaporation ponds.  
Beneficial Uses -- Protected for infrequent primary and secondary contact recreation, waterfowl, shore birds and other water-oriented wildlife including their necessary food chain.

**BASIS FOR EFFLUENT LIMITATIONS**

Limitations on pH are based on current Utah Secondary Treatment Standards, UAC R317-1-3.2. Total suspended solids (TSS), Oil and grease limits are based on best professional judgment (BPJ). Attached is a Wasteload Analysis for this discharge into the receiving water. It has been determined that this discharge will not cause a violation of water quality standards. An Antidegradation Level II review was conducted and shows that water quality impacts are minimal. The permittee is expected to be able to comply with these limitations.

**Reasonable Potential Analysis**

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. RP for this permit renewal was conducted following DWQ's September 10, 2015 Reasonable Potential Analysis Guidance (RP Guidance). There are four outcomes defined in the RP Guidance: Outcome A, B, C, or D. These Outcomes provide a frame work for what routine monitoring or effluent limitations are required.

There is no discharge history at this time to base the RP on. It will be conducted when the permit is renewed. A copy of the RP analysis is included at the end of this Fact Sheet.

The permit limitations are

| Parameter          | Effluent Limitations *a |                    |                |               |               |
|--------------------|-------------------------|--------------------|----------------|---------------|---------------|
|                    | Maximum Monthly Avg     | Maximum Weekly Avg | Yearly Average | Daily Minimum | Daily Maximum |
| Total Flow         | 0.12                    | -                  | -              | -             | 0.33          |
| Oil & Grease, mg/L | -                       | -                  | -              | -             | 10.0          |
| pH, Standard Units | -                       | -                  | -              | 6.5           | 9             |

\*a, See Definitions, Part VIII, for definition of terms.

#### SELF-MONITORING AND REPORTING REQUIREMENTS

The permit will require reports to be submitted monthly and annually, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period. Effective January 1, 2017, monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception. Big West has not petitioned for an exemption to this requirement. Lab sheets for biomonitoring must be attached to the biomonitoring DMR. Lab sheets for metals and toxic organics must be attached to the DMRs.

| Effluent Self-Monitoring and Reporting Requirements *a |            |                |       |
|--|------------|----------------|-------|
| Parameter  | Frequency  | Sample Type    | Units |
| Total Flow *b  | Continuous | Recorder       | MGD   |
| pH   | Weekly     | Grab           | SU    |
| DO   | Weekly     | Grab           | mg/L  |
| Oil & Grease   | Monthly    | Grab           | mg/L  |
| TDS  | Monthly    | Composite      | mg/L  |
| TSS  | Monthly    | Composite      | mg/L  |
| Orthophosphate (as P)                                  | Monthly    | Composite *c   | mg/L  |
| Total Phosphorus (as P)                                | Monthly    | Composite *c   | mg/L  |
| Temperature  | Weekly     | Grab           | °C    |
| Metals *d  | Annually   | Composite/Grab | mg/L  |
| Organic Toxics   | Once       | Grab           | mg/L  |

\*a, See Definitions, Part VIII, for definition of terms.

\*b, If the rate of discharge is controlled, the rate and duration of discharge shall be reported.

\*c, In R317-1-3.3, D, 3 the rule states that all monitoring (TBPEL related) shall be based on 24-hour composite samples by use of an automatic sampler or a minimum of four grab samples collected a minimum of two hours apart.

\*d, See Metals Monitoring Table Below for list of metals to monitor for.

| Metals Monitoring Table |             |
|-------------------------|-------------|
| Parameter               | Sample Type |
| Total Arsenic           | Composite   |
| Total Cadmium           |             |
| Total Chromium          |             |
| Total Copper            |             |
| Total Lead              |             |
| Total Molybdenum        |             |
| Total Nickel            |             |
| Total Selenium          |             |
| Total Silver            |             |
| Total Zinc              |             |
| Total Cyanide           |             |
| Total Mercury           | Grab        |

### **BIOSOLIDS**

The State of Utah has adopted the 40 CFR 503 federal regulations for the disposal of sewage sludge (biosolids) by reference. However, this facility does not generate, receive, treat or dispose biosolids. Therefore 40 CFR 503 does not apply.

### **STORM WATER**

Separate storm water permits may be required based on the types of activities occurring on site.

Permit coverage under the Multi Sector General Permit (MSGP) for Storm Water Discharges from Industrial Activities is required based on the Standard Industrial Classification (SIC) code for the facility and the types of industrial activities occurring. If the facility is not already covered, it has 30 days from when this permit is issued to submit the appropriate Notice of Intent (NOI) for the MSGP or exclusion documentation.

Permit coverage under the Construction General Storm Water Permit (CGP) is required for any construction at the facility which disturb an acre or more, or is part of a common plan of development or sale that is an acre or greater. A Notice of Intent (NOI) is required to obtain a construction storm water permit prior to the period of construction.

Information on storm water permit requirements can be found at <http://stormwater.utah.gov>

### **PRETREATMENT REQUIREMENTS**

The sanitary wastewater and some of the process wastewater from the facility are discharged to a Publicly Owned Treatment Works (POTW) which is owned and operated by South Davis Sewer District. The permittee must continue to meet the requirements to discharge into the POTW.

Any process wastewater that the permittee discharges to a POTW, either as a direct discharge or as a hauled waste, is subject to federal, state, and local pretreatment regulations. Pursuant to section 307 of the Clean

Water Act, the permittee shall comply with all applicable federal general pretreatment regulations promulgated, found in 40 CFR 403, the pretreatment requirements found in UAC R317-8-8, and any specific local discharge limitations developed by the POTW accepting the waste.

In addition, in accordance with 40 CFR 403.12(p)(1), the permittee must notify the POTW, the EPA Regional Waste Management Director, and the State hazardous waste authorities, in writing, if they discharge any substance into a POTW which if otherwise disposed of would be considered a hazardous waste under 40 CFR 261. This notification must include the name of the hazardous waste, the EPA hazardous waste number, and the type of discharge (continuous or batch).

### **BIOMONITORING REQUIREMENTS**

As part of the nationwide effort to control toxics, biomonitoring requirements are being included in all major permits and in minor permits for facilities where effluent toxicity is an existing or potential concern. Authorization for requiring effluent biomonitoring is provided for in UAC R317-8-4.2 and R317-8-5.3. The Whole Effluent Toxicity (WET) Control Guidance Document, February 15, 1991, outlines guidance to be used by Utah Division of Water Quality staff and by permittee's for implementation of WET control through the UPDES discharge permit program.

Big West Oil is a minor facility with no reasonable potential for toxicity in the effluent. As a result, biomonitoring of the effluent will not be required. However, the permit will contain a WET reopener provision.

**PERMIT DURATION**

It is recommended that this permit be effective for a duration of five (5) years.

Drafted by  
Daniel Griffin, Discharge, Reasonable Potential Analysis  
Jennifer Robinson, Pretreatment  
Lonnie Shull, Biomonitoring  
Carl Adams, Storm Water  
Suzan Tahir, Wasteload Analysis  
Utah Division of Water Quality, (801) 536-4300

**PUBLIC NOTICE**

Began: February Day, 2023  
Ended: March Day, 2023

Comments will be received at: 195 North 1950 West  
PO Box 144870  
Salt Lake City, UT 84114-4870

The Public Noticed of the draft permit was published on the Division of Water Quality Public Notice Webpage.

During the public comment period provided under R317-8-6.5, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments will be considered in making the final decision and shall be answered as provided in R317-8-6.12.

**ADDENDUM TO FSSOB**

During finalization of the Permit certain dates, spelling edits and minor language corrections were completed. Due to the nature of these changes they were not considered Major and the permit is not required to be re Public Noticed.

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**ATTACHMENT 1**

*Wasteload Analysis*

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**ATTACHMENT 2**

*Reasonable Potential Analysis*

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## REASONABLE POTENTIAL ANALYSIS

Water Quality has worked to improve our reasonable potential analysis (RP) for the inclusion of limits for parameters in the permit by using an EPA provided model. As a result of the model, more parameters may be included in the renewal permit. A Copy of the Reasonable Potential Analysis Guidance (RP Guide) is available at water Quality. There are four outcomes for the RP Analysis<sup>1</sup>. They are;

- Outcome A: A new effluent limitation will be placed in the permit.
- Outcome B: No new effluent limitation. Routine monitoring requirements will be placed or increased from what they are in the permit,
- Outcome C: No new effluent limitation. Routine monitoring requirements maintained as they are in the permit,
- Outcome D: No limitation or routine monitoring requirements are in the permit.

This is a new discharger therefore there is no data to run the RP against. We can however determine from the processes involved, one can reasonably determine possible pollutants of concern for the permit.

There is a potential for there to be a concentration of dissolved solids as a result of the reverse osmosis system, so the permit will include monitoring for total dissolved solids and metals.

Due to the use of the water as cooling for internal combustion engines, there is a potential for the water to come into contact with oil and grease as well an increase in the temperature of the water. Therefore, the permit will be included monitoring for both parameters and an effluent limit

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<sup>1</sup> See Reasonable Potential Analysis Guidance for definitions of terms

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**ATTACHMENT 3**

*Application and Level IIADR*

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