



JOHN BEL EDWARDS  
GOVERNOR

State of Louisiana  
DEPARTMENT OF NATURAL RESOURCES  
OFFICE OF CONSERVATION

THOMAS F. HARRIS  
SECRETARY

MONIQUE M. EDWARDS  
COMMISSIONER OF CONSERVATION

October 25, 2023

Mr. Joshua Bradley  
Westlake US 2, LLC (W1039)  
1300 PPG Drive  
Westlake, LA 70669

Re: PPG Well No. 006-X, Serial No. 57788 (Cavern Code No. 10-01-05);  
PPG Well No. 006-Y, Serial No. 58711 (Cavern Code No. 10-01-05);  
PPG Well No. 006-Z, Serial No. 971287 (Cavern Code No. 10-01-05);  
PPG Well No. 007A, Serial No. 67269 (Cavern Code No. 10-01-06);  
PPG Well No. 007B, Serial No. 67270 (Cavern Code No. 10-01-06);  
PPG Well No. 007C, Serial No. 971288 (Cavern Code No. 10-01-06)  
Sulphur Mines Salt Dome (8759), Calcasieu Parish, Louisiana

\*\*\*\*\* THIRD SUPPLEMENT TO COMPLIANCE ORDER NO. IMD 2022-027 \*\*\*\*\*

Dear Mr. Bradley:

This Third Supplement to Compliance Order No. IMD 2022-027 is issued under the general authority of the Minerals, Oil and Gas and Environmental Quality Law, La. R.S. 30:1 *et seq.*, and under the specific authority set forth in La. R.S. 30:6(G), La. R.S. 30:6.1, and La. R.S. 30:18.

FINDINGS OF FACT

The Office of Conservation (“Conservation”) has determined that Westlake US 2, LLC (“Westlake”) has violated the Conservation Law and regulations thereunder, specifically Statewide Order No. 29-M-3 (Subpart 5 of LAC 43:XVII), in the following particulars:

1. Westlake is the current operator of record for the following cavern wells at the Sulphur Mines Salt Dome facility:

SERIAL NO.	WELL NAME/NO.	CURRENT STATUS	STATUS DATE
57788	PPG Well No. 006-X	Inactive	February 19, 2015
58711	PPG Well No. 006-Y	Dry and Plugged	July 13, 2017
971287	PPG Well No. 006-Z	Dry and Plugged	July 19, 2017
67269	PPG Well No. 007A	Dry and Plugged	October 23, 2018
67270	PPG Well No. 007B	Inactive	February 19, 2015
971288	PPG Well No. 007C	Dry and Plugged	October 23, 2018

2. As of September 31, 2023, Westlake has removed approximately 54,600 barrels of crude oil from PPG Well No. 007B.
3. As of September 29, 2023, Westlake has injected approximately 2,440,000 barrels of brine into PPG Well No. 007B in order to maintain pressure stability of the cavern.
4. As of October 22, 2023, twenty-seven bubbling locations and/or sheen locations have been observed and reported by Westlake personnel across the Sulphur Mines Salt Dome.
5. From approximately August 2023 to October 20, 2023, multiple satellite (InSAR) reports have indicated deviation from measured subsidence trends.
6. To date, Westlake has not acceptably complied with all of the requirements of Compliance Order No. IMD 2022-027 and two subsequent supplements thereto.

### **ORDERS**

Under the statutory authority cited above and given the apparent loss of mechanical integrity that PPG Well No. 007B is experiencing, Westlake is hereby ORDERED to comply fully and timely with all of the following:

1. Until further notice, Westlake must submit daily reports of all measureable microseismic events, including magnitude and three-dimensional (3D) location information, to Conservation's Injection and Mining Division ("IMD").
2. Westlake must as soon as possible, but in no event later than seven (7) days after receipt of this Supplement, collect a brine sample from brine to be injected into PPG Well No. 007B and analyze for Hydrogen, Carbon, and Oxygen stable isotopes.
3. Westlake must as soon as possible, but in no event later than thirty (30) days after receipt of this Supplement, submit all of the following to IMD:
  - a. An identification of the potential path(s) of migration for liquids from within Caverns 6 and 7 to the outside of the salt stock;
  - b. All available historical sonar data prior to 1993 for PPG Caverns Nos. 2, 4, 5, 6, and 7;
  - c. InSAR reports with an expanded subsidence area of interest which incorporates all Westlake caverns;
  - d. A plan to sample and monitor all residential and domestic water wells within two (2) miles of the wellhead of PPG Well No. 007B;
  - e. A plan to install tiltmeters on all accessible Westlake cavern wellheads by the end of calendar year 2023, including specifications of the tiltmeters used and a data reporting schedule;
  - f. An area-wide decommissioning plan for Westlake's facility at the Sulphur Mines Salt Dome;

- g. A itemized delineation with a map of all existing infrastructure and utilities located at Westlake's Sulphur Mines Salt Dome facility;
  - h. A feasibility study for the incorporation of thermography cameras (forward-looking infrared cameras or other comparable devices) into daily observational scope;
  - i. A plan to construct a containment structure around the potential affected area at the surface; and
  - j. A plan to collect and sample gas over known or suspected bubble sites or sites where gas is present using a gas cap or other mechanical capturing device.
4. Westlake must as soon as possible, but in no event later than thirty (30) days after receipt of this Supplement, install metering devices for each groundwater extraction well to measure rates and volumes of freshwater withdrawal on a per-well basis.
5. Westlake must as soon as possible, but in no event later than sixty (60) days after receipt of this Supplement, submit all of the following to IMD:
  - a. An assessment for the use of an alternate source of freshwater, such as surface water, in lieu of withdrawing from the Chicot Aquifer for Westlake's operations at its Sulphur Mines Salt Dome cavern facility; and
  - b. A plan for back-filling for cavern stability.
6. Westlake must as soon as possible, but in no event later than ninety (90) days after receipt of this Supplement:
  - a. Install artificial reflectors in areas of poor satellite point coverage within the boundary of the InSAR survey area; and
  - b. Submit to IMD a plan to protect and/or remediate the public freshwater supplied by the Chicot Aquifer in the event of the introduction of constituents of concern into the aquifer sands.
7. Westlake must submit all laboratory analyses and reports of field samples to IMD within forty-eight (48) hours of receipt. All samples must comply with appropriate quality assurance/quality control standards in accordance with Statewide Order No. 29-B (Subpart 1 of LAC 43:XIX) and/or the Risk Evaluation / Corrective Action Program (RECAP).
8. On or before December 1, 2023, Westlake must install the proposed monitor wells in accordance with the revised and approved monitor well installation plan submitted in response to the Second Supplement to Compliance Order No. IMD 2022-027.

All documents (written responses, forms, logs, pictures, diagrams, etc.) prepared by Westlake in response to this Supplement must be submitted to Stephen H. Lee, Director of IMD. Please reference the order and supplement number (Third Supplement to Compliance Order No. IMD 2022) in documents submitted.

**Failure to comply with this Supplement shall subject Westlake to additional civil penalties of not more than thirty-two thousand, five hundred dollars (\$32,500.00) per day for each day of continuing violation**


**and for each individual violation as provided in La. R.S. 30:18(A)(6), in addition to any other appropriate regulatory sanctions as provided by law.**

The Commissioner of Conservation (“Commissioner”) reserves the right to require further investigative and remedial actions as may be deemed necessary and in the public interest.

Within seven (7) days after receipt of this Supplement, Westlake may make a written request for an informal conference with the Commissioner and/or Conservation staff at no charge. Within twenty (20) days after receipt of this Supplement, Westlake may make a written request for a public hearing pursuant to La R.S. 30:6(G). A public hearing request must be accompanied by a check or money order in the non-refundable amount of seven hundred fifty-five dollars (\$755.00) as provided by Statewide Order No. 29-R (Chapter 7 of LAC 43:XIX), or the request for a hearing will not be considered. If a public hearing is requested, a request for an informal conference will be denied.

Should Westlake have any questions concerning this Supplement, please contact Crystal Deroche at (225) 342-9054 or by e-mail at [crystal.deroche@la.gov](mailto:crystal.deroche@la.gov).

ISSUED THIS DATE PURSUANT TO LAW.

  
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MONIQUE M. EDWARDS  
COMMISSIONER OF CONSERVATION

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