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State of Louisiana
DEPARTMENT OF NATURAL
RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

April 19, 2023

Mr. Joshue Bradley
Eagle US 2, LLC (E208)
1300 PPG Drive
Westlake, LA 70669

Re: Review of Westlake's Notice of Deficiencies Response
First Supplement to Compliance Order No. IMD 022-027
Sulphur Mines Salt Dome, Calcasieu Parish

Dear Mr. Bradley:

The Injection and Mining Division (IMD) has received and reviewed the March 13, 2023 submission of Westlake US 2, LLC's (Westlake) response to the Notice of Deficiencies issued by IMD on March 3, 2023. IMD is forwarding a compiled list of responses for which the presented plan has been either been accepted or not accepted, or additional information or revisions are required.

In order to keep track of additions, modifications, etc., please submit all requested responses and clarifications in one package and include the revision date on the lower right hand corner of each page.

I. Review of Westlake's NOD Response:

Attachment A:

1. Numbers 1 through 7 of Attachment A satisfy the NOD and are hereby accepted.
2. For Number 8 of Attachment A, please refer to Number 25 of this review.
3. For Number 9 of Attachment A, the wells selected for monitoring are not representative of the area of investigation and are therefore not sufficient to satisfy this NOD. Eagle is required submit a plan to install a minimum of three (3) monitoring wells in and about the area of investigation. These monitoring wells must be screened in representative intervals of the Chicot aquifer. Please refer to the Second Supplement to Compliance Order No. 2022-027. Additionally, the water well survey is to begin as soon as possible upon receipt of this NOD review, and the timeline for completion shall be included in the Gantt chart.

4. Number 10 of Attachment A, the proposed quarterly sampling of water wells does not satisfy the NOD and therefore will not be accepted by IMD. Eagle is required to sample all accessible water wells within the area of investigation, with final laboratory results and an interpretive report submitted to IMD on a biweekly basis.
5. Number 11 of Attachment A satisfies the NOD and is hereby accepted. However, for any future sampling, Westlake is to include nickel and vanadium in measured parameters.
6. Numbers 12 through 14 of Attachment A, do not satisfy the NOD at this time. It is not acceptable to disregard areas where gas is known to be escaping from the subsurface due to standing water not being present. Please provide a plan to capture and sample the gas utilizing a gas cap or other similar method used to detect gas escaping to the surface.
 - a) Additionally, gas sampling does not appear to isolate atmospheric gas constituents from the targeted constituents. Therefore, samples taken thus far are not representative of the hydrocarbons coming to surface. Eagle is to provide and deploy a new method to isolate atmospheric gases from the targeted samples (such as a gas cap).
7. Number 15 of Attachment A satisfies the NOD and is hereby accepted.
8. For Number 16 of Attachment A, the capture zone analysis was not requested by IMD, and it has been deemed not necessary for the investigation at this time.
9. Number 17 of Attachment A, does not satisfy the NOD at this time. Upon determination of the USDW and installation of monitoring wells in accordance with the Second Supplement to Compliance Order No. IMD 2022-027, this NOD will be expected to be fulfilled.
10. Number 18 of Attachment A, does not satisfy the NOD at this time. For isotopic analysis of dissolved gases, sampling does not appear to isolate atmospheric gas constituents from the targeted constituents. Therefore, sampling thus far has not been representative of what is escaping from the subsurface. Please refer to item #6 (above).
11. Number 19 of Attachment A, does not satisfy the NOD at this time. The referenced "Environmental Remediation Evaluation Report" which was requested via public records request and received by Eagle on or about the week of March 13, 2023 was not used as part of the evaluation. Please perform a study to fulfill the requirements of the Order.
12. Number 20 of Attachment A, does not satisfy the NOD at this time. The final laboratory reports and analysis reports need to be expedited to end of April 2023. Additionally, only four final lab sampling results for groundwater and surface water from the Eagle's NOD response have been received by IMD: Bubbling locations #9 (Brine Pond 4) and #10 (1101529-BS), and Brine Well 007-B (3000') and Brine Well 7B-BS. Please provide delinquent final laboratory results.
13. Number 21 of Attachment A, does not satisfy the NOD at this time. Please see #6 of this review.
14. Number 22 of Attachment A, does not satisfy the NOD at this time. Eagle will be required to provide methodology for collecting water quality readings and creating the surface water profile. Readings are to be taken at the deepest points in Central Lake, with one reading of each from the lower, middle

and upper sections of the water column. Readings are to be taken weekly, with interpretive reports due to IMD on a biweekly basis.

15. Number 23 of Attachment A, does not satisfy the NOD at this time. IMD was not provided with specifics on the utility or construction of the Central Lake pond pumps, please provide this information. Pump capability and flow rates should also be included.
16. For Numbers 24 through 27 of Attachment A, please see item #25 of this review.
17. Number 28 of Attachment A, concerning the 2017 geomechanical report on coalesced caverns (RSI 2574) was submitted to IMD on March 7, 2023, and therefore satisfies the NOD.
18. Numbers 29 through 38 of Attachment A, satisfy the NOD and are hereby accepted.
19. For Numbers 39 through 41 of Attachment A, please see item #26 of this review.
20. For Number 42 of Attachment B, please see item #28 of this review.
21. Number 43 of Attachment B satisfies the NOD at this time. However, upon receipt of this NOD review, Eagle is to provide IMD with the Serial Number for the sampled Yellow Rock Well No. 69.
22. Number 44 of Attachment C satisfies the NOD and is hereby accepted. Eagle shall provide projected time of completion.
23. In Attachment A of the submittal, a plan to investigate any impacts to the USDW and surrounding surface waters was provided, however, no date was provided for execution and completion of the plan. Eagle will be required to submit a determination for the USDW in accordance with the Second Supplement to Compliance Order No. IMD 2022-027.

Attachments B through H:

24. **Attachment B** of the submittal (Emergency Response Plan), will be evaluated and a response given under separate cover.
25. In **Attachment C** of the submittal, a plan to conduct a geomechanical analysis of the salt dome was provided, however, the plan does not satisfy the NOD at this time. All caverns (active, inactive or plugged) shall be included in the geomechanical analysis. Additionally, a more representative core sample shall be used either in comparison or in lieu of the the proposed core sample for the geomechanical evaluation.
26. **Attachments D, E, and F** of the submittal were approved by IMD on March 21, 2023, and therefore satisfy the NOD.
27. **Attachment G** of the submittal cannot be accepted by IMD at this time. It was previously requested by IMD that Westlake provide the TRE Altimira (TREA) InSAR evaluation report of the Sulphur Mines dome in its entirety, including any recommendations or determinations made by TREA. Westlake has not satisfied this request and has seven (7) days to provide IMD with the full report.

28. **Attachment H** of the submittal satisfies the NOD and is hereby accepted.

II. Additional Action Items Required for Eagle:

29. Visual observations of Central Lake are to continue to be performed daily. Very few bubbling locations are visible from the bank of the lake. Eagle is required to secure an airboat or other acceptable method of inspection for this purpose within **fourteen (14) days** of receipt of this letter.
30. Daily FID or (preferably) PID readings need to be implemented at each well pad and bubbling locations, with data communicated to IMD with daily reports. Eagle is required to secure a device capable of monitoring and detecting VOC's within **fourteen (14) days** of receipt of this letter.

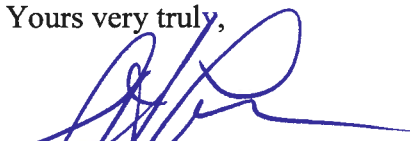
All documents prepared in response to this list shall be submitted within **thirty (30) days** of receipt of this letter, unless otherwise noted. Implications of the approved plans should begin as soon as possible.

The Commissioner of Conservation reserves the right to require further investigative and remediation as may be deemed necessary, including but not limited to modifications of these approved plans as data become available during plan implementation. Furthermore, this list of deficiencies should not necessarily be considered complete. If additional deficiencies become apparent, either in newly submitted information or part of the original Compliance Order, additional information, revisions, or clarifications will be requested.

Failure to comply with a Compliance Order shall subject Eagle to civil penalties of not more than \$32,500 per day for each day of continuing violation and for each individual violation as provided in RS 30:18 in addition to any other appropriate regulatory sanctions as provided by law.

Should you have any questions concerning these matters, please contact Corey Shircliff at (225) 342-5586 or email Corey.Shircliff@la.gov between the hours of 8:00 a.m. and 4:00 p.m., Monday through Friday.

Yours very truly,



Stephen H. Lee, Director
Injection & Mining Division