CONFIDENTIAL

RE: Geomechanical Modeling of Hypothetical Low-Pressure Conditions in Westlake Caverns

PPG 6 and PPG 7 at the Sulphur Mines Salt Dome in Calcasieu Parish, Louisiana – Phase 4A (RSI/P-12211)

This letter provides RESPEC Company, LLC's (RESPEC's) proposed scope of work for an alternate Phase 4 of the continued geomechanical study previously outlined in our proposal to Lonquist & Co. LLC (Lonquist) dated May 28, 2025 [Heiberger and Nieland, 2025][1]. The proposed alternate Phase 4 scope (i.e., Phase 4A) is different from the originally proposed Phase 4 scope in that the modeling will not include any new core well data and this scope does include additional review of existing geologic data to better characterize the salt formation and the overlying caprock structure. Furthermore, RESPEC proposes updating the 3D geomechanical model to employ the full Munson-Dawson creep model in this phase of the study.

## PHASE 4A – GEOLOGIC REVIEW AND LONG-TERM CAVERN STABILITY ASSESSMENT

This phase of the geomechanical study will focus on evaluating the long-term stability of all caverns within the salt dome, assuming PPG 6 and PPG 7 are maintained at a hypothetical low-pressure condition to be defined by Lonquist.

### TASK 1 – SALT MASS AND CAPROCK GEOLOGIC CHARACTERIZATION

The proposed geological review will encompass the Sulphur Mines salt dome with a focus on the area immediately surrounding PPG 6, PPG 7, and the neighboring gallery of PPG 2, 4, and 5. RESPEC will review and analyze all available geophysical well logs, historical cavern sonar surveys, core logging and laboratory testing reports, and other publicly available information, including any previously generated geological or geomechanical reports pertaining to the salt dome. RESPEC will review the complete data set for evidence of anomalous salt zones, such as preferred dissolution planes, or boundary shear zones that may be discernable within the salt dome formation. Upon identification of any anomalous geologic features within the salt dome, RESPEC will attempt to develop a 3D model of the discernable features within the salt dome. RESPEC will also capture details such as the geological background, tectonic and structural setting, and other information or potential hazards directly relevant to the caverns

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[1] **Heiberger, K. J. and J. D. Nieland, 2025.** *Core Well Data Review and Geomechanical Modeling of Hypothetical Low-Pressure Conditions in Westlake Caverns PPG 6 and PPG 7 at the Sulphur Mines Salt Dome in Calcasieu Parish, Louisiana (RSI/P-11610)*, RSI(RAP)-996/5-25/22, prepared by RESPEC, Rapid City, SD, for C. Hale, Lonquist & Co. LLC, Houston, TX, May 28.

and potential future operating conditions. RESPEC anticipates collaborating with Lonquist personnel throughout the study to discuss data and findings as the study progresses.

### TASK 2 – GEOMECHANICAL MODELING

RESPEC proposes updating the 3D geomechanical model to employ the full Munson-Dawson (M-D) creep model to represent the creep deformation of the Sulphur Mines salt. The M-D model parameter values previously developed by Heiberger [2015][2] will be adopted for use in the 3D geomechanical modeling proposed in this phase of the study. Including the full M-D creep model in the geomechanical modeling will enhance the fidelity of the analysis in predicting the geomechanical response of the caverns to changing pressure conditions.

The 3D model will also be updated in this task to include all existing caverns in the salt dome and any pertinent information from the geological review that can be incorporated into the 3D model where appropriate. The 3D model will be updated to include end-of-life projected cavern shapes and volumes for the caverns planned for future brine production, specifically PPG 18, PPG 21, and PPG 22. Lonquist will need to provide the solution mining plans and projected end-of-life cavern volumes to be incorporated into the 3D model. Brine-compensated storage caverns can gradually grow over time because the brine used to displace the product in the cavern is typically not fully saturated and some washing of the cavern occurs during brine injections to displace product. Based on the best available information, future cavern growth models will be developed for each active brine-compensated storage cavern in the dome.

The proposed high-level tasks for the Phase 4A geomechanical modeling are summarized as follows:

- Task 2.1: Review and Incorporate Pertinent Data from Geological Review
- Task 2.2: Review Planned Future Development of Caverns and Develop Growth Models
- Task 2.3: Update the 3D Model to Include All Existing Caverns in the Salt Dome
- Task 2.4: Simulate Sustained Low-Pressure Conditions in PPG 6 and PPG 7 for 50 Years
- Task 2.5: Assess Long-Term Impacts on Surrounding Wells, Caverns, and Ground Surface Subsidence

### TASK 3 - REPORTING

After completing the geological review in Task 1, RESPEC will provide an executive level summary of the data reviewed and the findings in a brief technical memorandum. RESPEC will present the geomechanical modeling inputs, assumptions, and 3D model updates during a virtual review with Lonquist and Westlake prior to substantial completion of the geomechanical modeling to ensure that the planned modeling is aligned with the project objectives and expectations. After Task 2 is completed, RESPEC will prepare a technical presentation to support a review meeting with representatives from Lonquist and Westlake. RESPEC will present and discuss the findings of the Phase 4A geomechanical modeling during the review meeting, and we anticipate follow-up efforts to support action item resolution after the meeting. RESPEC will also prepare a summary technical memorandum at the conclusion of Phase 4A, which will initially be delivered in draft form for review. RESPEC will submit a final memorandum incorporating revisions and addressing any review comments received on the draft memorandum.

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[2] **Heiberger, K. J., 2017.** *Geomechanical Evaluation of the Coalesced Caverns in the Sulphur Mines Salt Dome in Calcasieu Parish, Louisiana*, RSI-2574 Revision 1, prepared by RESPEC, Rapid City, SD, for Lonquist & Co. LLC, Houston, TX.

## PROJECT DURATION AND COST

We anticipate that the scope proposed herein can be completed within approximately 12 weeks after receiving notice-to-proceed.

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cc: Project Central File 996-12211