2025 SALT CAVERN COMPLIANCE CHECKLIST:			
Operator-of-Record:		**Operator Code:**	
All Cavern Well Serial Number(s) Associated with Facility:			
Associated Conservation Order(s):		**Salt Dome/Field:**	
Contact Name: (If different from the operator)		**Contact Phone Number:**	
		Contact Email:	
Bond/Credit Number Issued by Financial Institution:		**Amount for Each Form of Financial Security**	

Please submit the following only if there have been any changes, revisions or updates made since the last Cavern Compliance Submittal in 2020:

☐ **A. Schematic-Type Cross-Section(s)**

1. Please provide an illustration for each cavern that has less than 500 feet of spacing between the outermost walls of the cavern and the periphery of the salt stock for the entire vertical length of the cavern.
2. Please provide an illustration for each cavern that has less than 300 feet of spacing between adjacent structures within the salt stock.
3. On all illustrations, please use the most recent sonar survey and annotate relevant distances (cavern to cavern and/or cavern to top of salt at closest approach), the date of the sonar survey, and the well Serial Number.

☐ **B. Top of Salt (TOS) – Structure Contour Map**

1. The map must be constructed using most up-to-date subsurface data available (including sonar surveys, seismic, well logs, etc.).
2. The map scale must be no smaller than 1" to 500'.
3. Please include a description of the source(s) of data used to create the map and mapping methodology (may be included in executive summary).
4. Please include a Louisiana Professional Geoscientist (PG) stamp or seal for all geologic interpretations. This also applies to any associated cross-sections.
5. Please include shapefiles (.shp) of top of salt contours and cavern outlines that were used to construct the map.

☐ C. **Updated Table of Minimum Distances** – List all caverns and provide distances to property lines, top or edge of salt at the closest approach from each cavern and also include distances between caverns at the closest approach.

☐ D. **Updated Closure/Post-Closure Plan(s) and Cost Estimate**

☐ E. **Submittal of Any Outstanding or New Variance Requests**

☐ F. **Updated and Accurate OR-1 Filing**

☐ G. **Executive Summary** – Include the following:

1. An overview or outline of all documents and information being submitted.
2. Detailed summary of any operational changes (if any have occurred) since the last cavern compliance submittal in 2020.
3. State whether the cavern facility is manned or operated remotely.
4. For any cavern wells drilled before 2014, please provide a copy of the original drilling and completion report.
5. Natural Gas Operators *ONLY* – Identify your existing or proposed source of brine for any product movement or workover related activities.

☐ If no updates, changes or spacing concerns apply to the existing cavern compliance documentation for any of the existing caverns, the Operator-of-Record (or authorized representative) must sign, date and submit the affidavit portion below. Please be aware that the TOS map should be updated if new information has become available, regardless of cavern spacing.

LAC 43:XVII.305.F, 3305.F, or 3705.F Certification: I certify under penalty of law that I have personally examined and am familiar with the information submitted in this report and all attachments and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment.

OPERATOR OR AUTHORIZED REPRESENTATIVE SIGNATURE AND DATE	TITLE OR POSITION
PRINTED NAME OF OPERATOR OR AUTHORIZED REPRESENTATIVE	EMAIL AND TELEPHONE NUMBER

Please submit all responses electronically by 2/15/2025

SUBMIT TO:

Brittany.George@la.gov

DEPARTMENT OF ENERGY AND NATURAL RESOURCES
OFFICE OF CONSERVATION - INJECTION AND MINING DIVISION

Structure Map Standards for Caverns (Refer to LAC 43:XVII.307.C and 3307.C)

The purpose of a structure map is to display the elevation and extent of the salt stock, generally beneath the surface, using the most up-to-date subsurface data available. Structure maps should be at a scale no smaller than 1 inch to 500 feet. Please ensure that all elements on the map (i.e. illustrations, data, contour lines and text), are clearly legible. Additionally, in order to ensure consistency, please use the following list of items as a reference when reviewing and/or creating structure maps:

1. Geological structure maps should be constructed from data collected from all available sources including boreholes, wells, seismic data, etc., and must be prepared to professional geological standards. At a minimum, map elements shall include: north arrow, map legend, subsea depths, contour interval(s), a bar scale, Louisiana licensed professional geoscientist (PG) stamp or seal, the map preparer's full name, and date of preparation.
    a. A detailed report should accompany the map and should specify the types and sources of data used for determining the periphery of the salt stock as shown on the map. Seismic interpretations need not be included if the information is proprietary but should be discussed in the narrative if used to construct the map. The locations of 2D seismic lines should be depicted on the map, if possible.
    b. The report should include a table which lists all wells and well data used to construct the map. This table should include, for each well, the operator name, well name, well number, state serial number, top of salt depth, top of caprock depth (if applicable), total depth (TVD and MD if directional), and reference elevation.
    c. Negative well data, i.e. from wells that did not penetrate salt, shall be incorporated into the structure map and identified in a separate data table that includes the same types of information as in paragraph 1.b, above.
2. The map legend should include and define all symbols (such as well type and well status) or number tying well to tabular data, colors, and lines used in the drawings. All symbols, colors and lines must be clearly distinguishable.
3. Each well used to construct the structure map must be identified <u>on the map</u> with the state serial number (or other identifying number if the map is too crowded), total depth (TVD and MD if applicable), surface and bottom hole location (if well is directional), and the <u>top of salt and/or caprock</u> depth.
4. Faults, shear zones, overhangs or any other geological feature, if identified or inferred, should be indicated on the structure map.
5. Dashed lines should be used to depict inferred contours in areas where there is little or no data.
6. Contour lines should extend to at least 2000 feet below the base of the deepest cavern or well on the salt dome.
7. Changes in contour intervals should be clearly labeled and differentiated by using different line widths.
8. Structure maps of the top of salt and the top of caprock should be consistent with any current cross-sections of the salt dome.

9. Existing, planned, and future potential cavern(s) should be depicted on the structure map using the maximum cavern diameter and should be identified by the well name(s) and serial number (if applicable).

a. Existing caverns on the dome should depict the maximum lateral extent of the cavern using the most recent sonar image (bird's-eye-view). The date of that sonar survey should be included on the map and/or in the accompanying report.

Geological Cross-Section Standards for Salt Caverns (Refer to LAC 43:XVII.307.C and 3307.C)

Geological cross-sections are important to give a two dimensional view of three-dimensional geological features below ground. Geological cross-sections should be constructed from data that is collected from all available sources including boreholes, wells, seismic data, etc., and must be prepared to professional geological standards. In order to ensure consistency, please use the following list of items as a reference when reviewing and/or creating local or area geological cross-sections:

1. At a minimum, two cross-sections oriented north-south and west-east and centered on the facility must be submitted; however, additional cross-sections may be required in order to fully illustrate subsurface structural features below ground, such as the salt stock and/or caprock;
2. Cross-sections shall be referenced to mean sea level (MSL) and include vertical *and* horizontal scales. All cross-sections submitted within the application package must be consistent, using equivalent scales in order to facilitate the review and comparison;
3. All existing salt caverns with a cavern wall within 1,320 feet of the proposed cavern or facility boundary shall be depicted on the cross-sections using data from the most recent salt cavern sonar with the appropriate cavern orientation. The date of the sonar survey should be shown on the cross-section;
4. A title block which includes: the map preparer's full name and the date of preparation, map title, operator's name, and general location (i.e. name of salt dome);
5. A map legend that shall include and define all symbols, lines, dashes, and colors used on the cross-sections;
6. An index base map (if not included elsewhere) should be included on the cross-section so that the orientation of the cross-sections can be identified as well as the wells used to construct the cross-sections;
7. Cross-sections shall be oriented to indicate the closest approach to surrounding caverns, boreholes, wells, periphery of the salt stock, etc., and shall extend at least 1-mile beyond the edge of the salt stock;
    a. For caverns that are positioned closest to the salt periphery or flank of dome, the distance from the outer wall of the cavern to the periphery of the salt at the cavern's closest approach must be shown on the cross-section;
8. Wells that penetrate the salt and are within close proximity to the proposed well location or area boundary shall be included in at least one cross-section line.
    a. Wells and boreholes within a quarter-mile radius of the proposed cavern should be considered to have the best log control of the area to draw representative cross-sections;
9. Each well used to construct the cross-sections must be identified with operator's name, well name and number, well serial number, well status (i.e. active, inactive, plugged and abandoned, etc.), true vertical depth/

measured depth (TVD/MD), perforated interval, and if available a reference elevation (i.e. RKB, GL, or SS) of the wells.

   a. A separate page may be included if needed to detail this information;

10. The distance between the wellheads of any caverns and/or wells used to construct the cross-sections should be indicated on each cross-section;

11. Scaled copies of the electrical logs of all wells shall be included on the cross-sections in order to illustrate the stratigraphic correlations between wells. Please be sure that all electrical log headers shown on the cross-sections are legible.

   a. For any well used to create the cross-section that penetrates the salt stock and/or caprock, an e-log showing the lithology from surface down to the top of salt must be included, if available;

12. Dashed lines can be used to represent wells that are not in the same plane of the cross-sections but may provide lateral control for the geologic mapping of the flank of the salt stock;

13. Solid vertical lines can be used to represent proposed well locations;

14. The horizontal extent of all major topographic features (such as rivers, springs or other surficial water bodies) must be illustrated on the cross-sections;

15. The quarter-mile Area of Review (AOR) from the proposed cavern location(s) or area boundary must be marked on the cross-sections;

16. Faults, shear zones, unconformities, or any other geological features, if present or inferred, must be illustrated on the cross-sections.

   a. Known faulting in the area shall be illustrated on the cross-sections such that the displacement of the subsurface formations is accurately depicted;

17. The occurrence of the base of the Underground Source of Drinking Water (USDW), as well as any other aquifer systems that may be present (top and bottom of the units) shall be properly correlated and marked across the length of the cross-sections;

18. The age of major geological units (i.e. Pleistocene, Pliocene, Miocene, etc.) should be indicated on all cross-sections. Usually this information is indicated next to the depth scale along one side of the cross-sections;

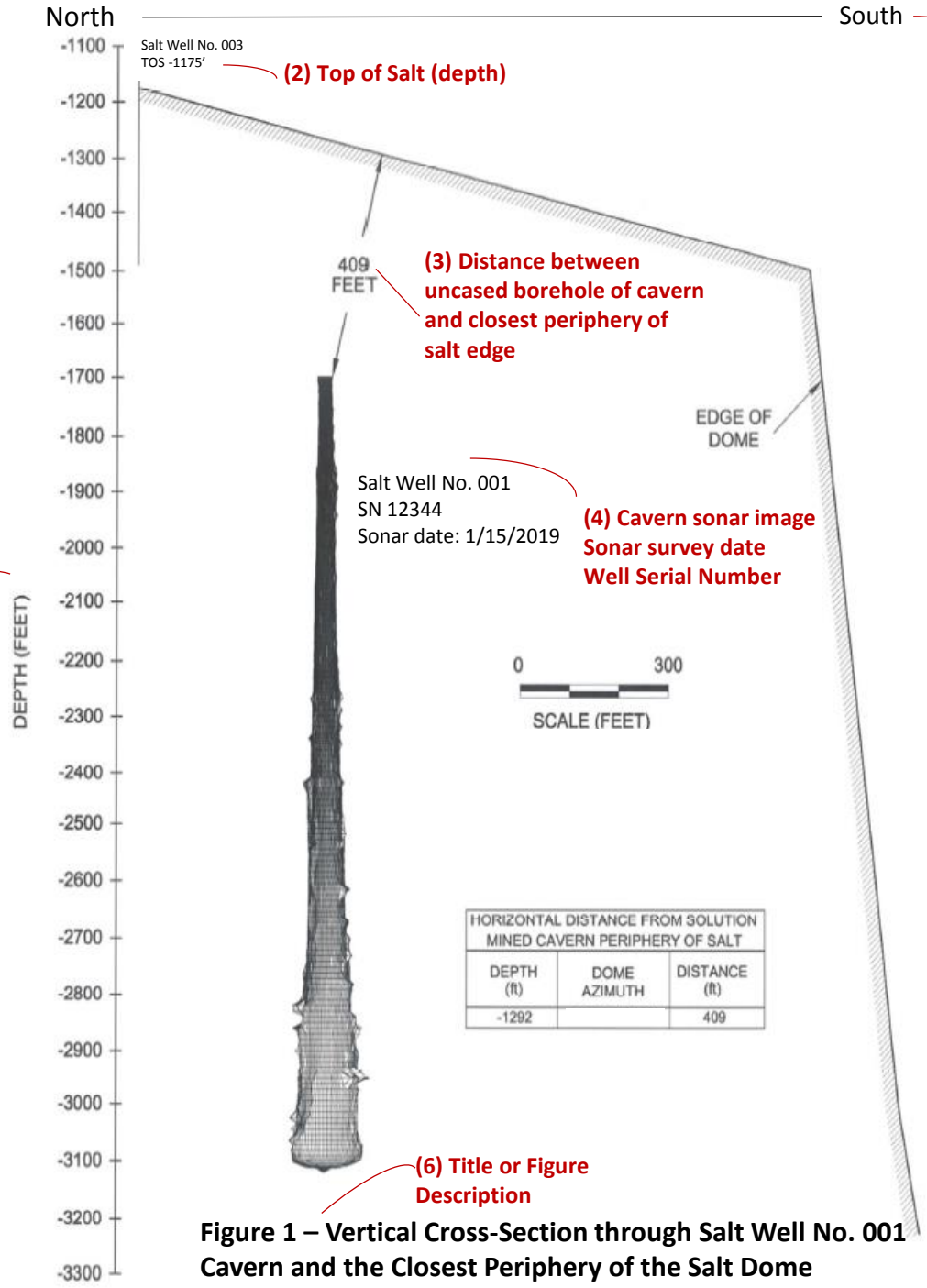
19. Stratigraphic correlations based on particular stratigraphic units (groups, formations or members) should be marked clearly throughout the cross-sections.

   a. When correlating formations or depicting the caprock and/or salt stock, inferred correlations should be depicted with dashed lines;

20. Cross-sections drawn to portray the position and shape of a salt dome should correlate to the structure maps drawn for the top of salt and the top of caprock; and

21. All geological interpretations, including cross-sections must include a licensed Louisiana Professional Geoscientist (PG) stamp/seal with the name and date of the geoscientist who either prepared or approved the map.

- Cavern well <**500** ft. from the closest periphery of the salt dome



LOUISIANA BOARD OF PROFESSIONAL GEOSCIENTISTS
JOSEPH
595
Est. 2011

(7) PG – stamp/seal with signature and date

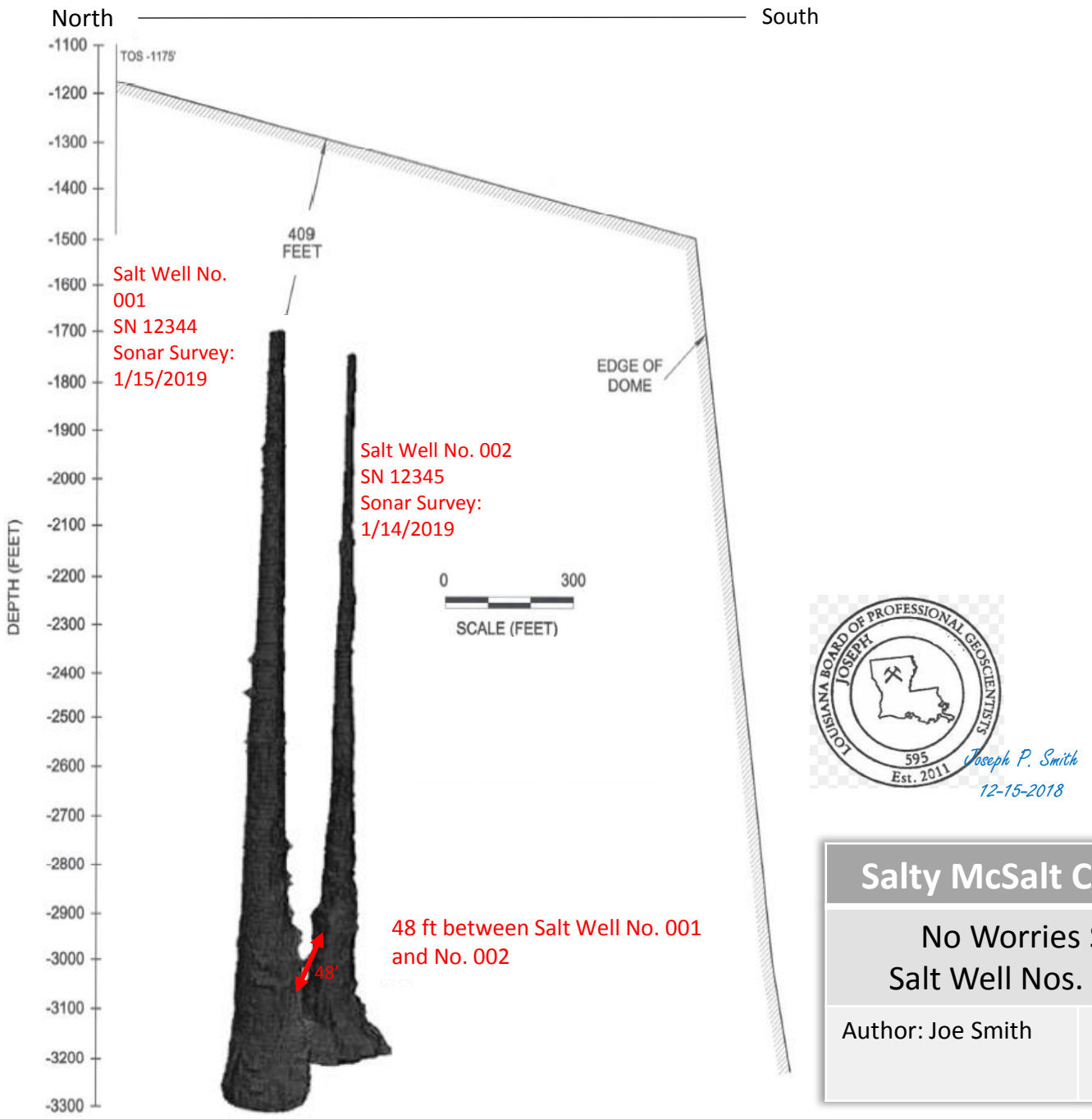
Joseph P. Smith
12-15-2018

(8) Title Block with pertinent information

Salty McSalt Company, LLC (S2019)	
No Worries Salt Dome Salt Well No. 001 – SN 12344	
Author: Joe Smith	Date: 12/15/2018

Figure 1 – Vertical Cross-Section through Salt Well No. 001 Cavern and the Closest Periphery of the Salt Dome

- Adjacent cavern wells with less than 300 feet of separation



Joseph P. Smith
12-15-2018

Salty McSalt Company, LLC	
No Worries Salt Dome Salt Well Nos. 001 and 002	
Author: Joe Smith	Date: 12/15/2018

Figure 2 - Proximity between adjacent caverns - Salt Well No. 001 and Salt Well No. 002