



## 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 on the map 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 top of salt and/or caprock 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.