



**JOHN BEL EDWARDS**  
GOVERNOR

**State of Louisiana**  
DEPARTMENT OF NATURAL RESOURCES  
OFFICE OF CONSERVATION

**THOMAS F. HARRIS**  
SECRETARY

**RICHARD P. IEYOUB**  
COMMISSIONER OF CONSERVATION

**INJECTION AND MINING DIVISION**

**INTRA-OFFICE POLICY STATEMENT**

**POLICY NO.:** IMD-GS-14

**EFFECTIVE DATE:** January 9, 2023

**SUBJECT:** Minimum standards for sonar caliper survey reports in solution-mined salt caverns (Class III-BR, Class II-HSW, and Class V-Storage)

**BACKGROUND:**

The Injection and Mining Division (IMD) of the Louisiana Office of Conservation regulates cavern configuration and capacity measurements for each solution-mined salt cavern using the general standards found in LAC 43:XVII.329 (Chapter 3), 43:XVII.3329 (Chapter 33), and 43:XVII.3729 (Chapter 37). In addition to the general regulatory standards, this Policy will add more specific and detailed requirements of this Office.

**POLICY:**

In order to ensure that Class III-BR, Class II-HSW, and Class V-Storage wells and associated caverns are consistently and adequately surveyed for cavern configuration and capacity measurements as prescribed, the following standards have been set forth:

Once a work permit has been obtained by operator and work has been completed, sonar caliper survey reports are to be submitted in electronic format. Electronic reports shall be submitted using the IMD Uploader Tool.

**Definitions:**

**5-year sonar caliper survey:** shall be conducted using horizontal shots every 10 feet of vertical depth beginning at the effective casing shoe or blanket interface and ending as close to the cavern PBD as feasibly possible. This survey shall also include tilted/angled shots of the cavern floor.

**10-year sonar caliper survey (for brine mining, gas, and liquid storage):** shall be conducted using horizontal shots every 10 feet of vertical depth beginning at the effective casing shoe and ending as close to the cavern PBD as feasibly possible. This survey shall also include tilted/angled shots of the cavern floor and cavern roof.

**15-year sonar caliper survey** (for natural gas storage): shall be conducted using horizontal shots every 10 feet of vertical depth beginning at the effective casing shoe and ending as close to the cavern PBTD as feasibly possible. This survey shall also include tilted/angled shots of the cavern floor and cavern roof.

The sonar caliper survey reports at a minimum shall include:

A. Administrative Information:

1. Cover or summary page with the following information:

- a. Cavern Operator Name and Louisiana Operator Code;
- b. Well Name and Well Number;
- c. State-assigned Serial Number;
- d. Date of sonar caliper survey;
  - i. All data presented in the report should have the date of collection identified.
- e. Name of surveying company and contact information;
- f. Name of site personnel who approved and/or witnessed the survey and contact information;
- g. Depths surveyed within wellbore and cavern at the time of current survey;
- h. Depths and size of any hanging strings, tubing, or cemented casing at the time of survey;
- i. If a material interface (e.g. oil-brine) is present at the time of survey, the interface type and depth shall be clearly indicated on the cover page;
- j. Survey material medium (e.g. through tubing, through gas, brine-filled, etc.);
- k. Elevation and datum reference; and
- l. sonar orientation calibration

2. On the vertical cross-sections, the following must be included:

- a. At least three (3) consecutive historical overlays, if available, using contrasting colors;
  - i. If data are merged to create one complete survey, this should be clearly identified.
- b. If present, material interface depth(s) within the cavern at the time of survey;
- c. If present, hanging string depth(s) during the time of the survey;
- f. Enlarged or “close-up” views of the cavern base and/or roof if the image is not clearly viewable due to small scale.
- g. Enlarged or “close-up” views of any anomalous salt, zones of preferential leaching, or known washouts.

3. Horizontal Surveys:

- a. Must begin at the deepest effective cemented casing shoe, if feasibly possible. The horizontal shots need to capture the entire open interval including the cavern neck.

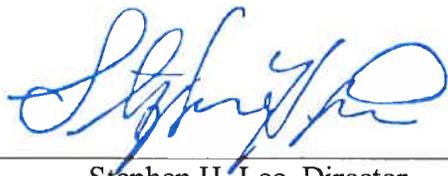
B. Data Parameters

1. Survey Guidelines

- a. Angled floor shots shall be included for all sonar surveys per §329.B, §3329.B, and §3729.B. If unable to collect these data, a written explanation should be included with the sonar.
- b. Current and previous sonar caliper surveys shall not be merged in order to fulfill the full cavern sonar requirement listed in §329.B, §3329.B, or §3729.B without prior approval from the Commissioner.

- c. Sonar caliper surveys run through multiple hanging strings shall not count as a 5-year sonar survey in fulfillment of §329.B (hydrocarbon storage) or §3729.B (storage) without prior approval of the Commissioner.

APPROVED BY:



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Stephen H. Lee, Director  
Injection & Mining Division



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Richard P. Ieyoub  
Commissioner of Conservation