

SOLUTION MINING RESEARCH INSTITUTE

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SMRI Request for Proposals (RFP2017-1)

“Collection, Storage, and Distribution of Standard Rock Salt Specimens”

Background

This Request for Proposals (RFP) is issued based on SMRI's Research Committee and Executive Committee approvals at their April 2017 meetings in Albuquerque, New Mexico. Essentially, considerable laboratory-testing research has been done both through SMRI contracts and privately using rock-salt specimens collected from the Avery Island (Louisiana) salt mine. These salt specimens were originally 0.35-m (14-inch) diameter cores drilled from the floor of the mine, sealed with melted wax, and shipped to and stored in metal containers at RESPEC, Rapid City, South Dakota. The cores were originally collected in the early 1980s as part of a nuclear-waste disposal research program, which was later suspended. Over the subsequent 30 years, RESPEC and others, who requested cores, used the rock salt for several material-law development testing programs both for SMRI, other sponsored research, and their private needs. Unfortunately, the inventory of Avery Island salt is almost gone.

The SMRI Research Committee asserts a need for SMRI to maintain an inventory of a standard rock-salt for its research projects. Ideally, the standard rock-salt would continue to be the Avery Island domal salt because of its prominence in past research and material-properties characterization. Other domal salts would be considered, if the rationale were favorable for changing the source of the standard rock salt. Unless another method would be more favorable, the salt will be collected as large-diameter cores drilled in a conventional underground salt mine with steps taken to preserve its natural moisture and integrity. Because of the exceptional variation in bedded rock salts, a bedded-salt standard is not being considered (at least at this time).

Scope of Work

Proposals submitted in response to this RFP must answer or discuss (at a minimum) the following questions or points related to two tasks:

Task 1: Specimen Collection

1. What is the source of the rock salt, including the salt-mine and operator names, salt-dome name, location, and depth for the collection (workings level).
2. Describe the relationship between the mining company and the proposer, in particular a tentative written agreement that the mining company will indeed allow and assist the proposer in collecting, hoisting, and shipping the cores from their facilities. Demonstrating a past-relationship for similar underground work is deemed beneficial.
3. Describe the type of drilling proposed including type of drill, core barrels, proposed drilling fluids, orientation, depths from mine surfaces (e.g., depth below floor or distance into rib), and core retrieval method. If an alternative to drilling is proposed, provide similar information about the alternative collection method.

4. Describe the core identification and preservation methods to be used underground.
5. Describe the anticipated methods for hoisting and transporting salt to the distribution facility.

Task 2: Specimen Inventory, Storage, and Distribution

1. Describe the methods or procedures for placing identified core into inventory (e.g., labeling, photographing, waxing, etc.)
2. Describe the type of storage being proposed (especially temperature and humidity control)
3. Briefly describe how requests for core from SMRI's inventory will be handled
4. Describe what other services (beyond merely shipping the large diameter cores) could be provided to the requester, presumably on a cost-reimbursable basis.
5. Describe the rationale for calculating an "annual" cost to be charged to SMRI for storage and distribution.

SMRI's desire is to build an inventory of standard-salt core that will sustain its research needs for the next 30 years. For example, eight, 100-mm diameter by 250-mm long test specimens can be re-cored from one 14-inch diameter by 2-foot long core (the size of the previous Avery Island cores). If SMRI researchers need one such large core every other year and non-SMRI researchers request and "purchase" another such core every other year, the bases for the project cost should be collecting, storing, and distributing 30 similarly-sized large-diameter cores or that equivalent volume of salt. The proposer should present their preferred field-collection size and their capabilities for sub-coring or re-coring to smaller size(s).

Proposal Instructions

Responses to this RFP should be a reasonably brief proposal (less than 5 pages) describing the proposed effort, a succinct discussion of the technical approach, the project schedule and cost, and the proposer's qualifications for executing the effort. The separate statement of agreement by the mining company can be in the form of an attachment identifying the company representative and contact information.

This RFP anticipates the collection of large diameter cores in the mine that allow re-coring in the laboratory to required test specimen sizes and shapes. The previous Avery Island cores were 14-inch (0.3-m) diameter by 22-inch (0.55-m) long cores. The proposer should propose their own preferred core size, considering the desire to maximize the re-coring yield of typically sized laboratory-test specimens (100-mm diameter by 250-mm long.)

Proposals should be submitted in electronic form via email to Dr. Leo L. Van Sambeek, SMRI Research Coordinator, (LeoVS@solutionmining.org), by August 31, 2017. Before August 10, 2017, please email your interest or intentions to respond to this RFP so you receive timely updates to this RFP. Any questions relating to the RFP should be directed in writing (via email) to the Research Coordinator. Answers to questions that apply to all potential proposers may be forwarded to all identified proposers. Please state in your proposal whether or not SMRI may make your proposal (or portions thereof) available to our members and/or the public.

Contract Award and Contract Specifics

Proposals will be evaluated on the basis of the submitted proposals. The proposer selected for negotiation of a contract will be the one that best meets SMRI's needs and is economically sound. SMRI has the right to select or reject any or all proposals.

The research contract will be negotiated between the selected contractor and SMRI. The contractor will be solely responsible for coordination of any subcontracted work and for all payments to any subcontractor, including any costs charged by the mining company.

1. SMRI contract for this Work will be fixed-sum for the defined amount of salt cores meeting the agreed-upon diameter and length. The proposed fixed sum payment and amount of core involved must be clearly defined in the proposal. Payment will be made upon successful completion of placing core in inventory. No other progress or interim payments for salt collection (Task 1) will be made.
2. Propose on-going cost for storage and distribution (Task 2) either in terms of an annual lump-sum fee or an annually-invoiced fee based on a fixed unit-costs per specimen stored and/or distributed during the year.
3. The proposer should propose their Task 1 cost based on a quantity of 30 large-diameter cores (all-inclusive of mobilization, collection, preserving, demobilization, shipping, and receiving into storage). A proposed Task 1 cost that includes an (optional) additional 30 cores should also be provided. The additional quantity of core should not materially affect the Task 2 cost, but if it does, please explain why and by how much.
4. Task 1 is to be completed within 12 months; use an anticipated start date of 1 January 2018.
5. No oral research report or attendance at SMRI Research Committee meetings is required.
6. A final research report is required that provides a pedigree for the standard salt suitable for citation and description of the salt when used in future research. This research report is to be intentionally brief and could presumably be copied in its entirety into other reports. Hence, a less-than 5-page report would describe the salt dome, the mining company and its underground mine, the specific location(s) in the mine where specimens were collected, any unique features where the salt was collected (geology, mine geometry, time since mining), the basic steps taken in the collection and preservation, and the identifiers applied to the core, storage conditions, and distribution methods.
7. SMRI retains ownership of all salt cores collected for the fixed-sum payment. However, SMRI does not anticipate any requirements for post-test retrieval and retention of tested specimens by the proposer.
8. For the core inventory, storage, and distribution (Task 2), an annual update of how core was distributed (to whom, for what purpose, amount, and shipping method) and the core remaining in inventory. The cost for this update should be included in the annual fee for this task.

The enclosed Standard Terms and Conditions for SMRI Research Contracts, 30 June 2017, shall apply.

SMRI's Project Sponsor will be named after contractor selection. The project sponsor will be the contact for any project-related communications.

Leo L. Van Sambeek
Research Coordinator

Enclosures:

Standard Terms and Conditions for SMRI Research Contracts, dated 30 June 2017

cc: John O. Voigt, Executive Director
Fritz Wilke, SMRI President
Klaus Buschbom, SMRI Research Chairman
Members of the SMRI Research Committee