

BEFORE THE STATE OIL AND GAS BOARD OF MISSISSIPPI

RE: PETITION OF SG RESOURCES MISSISSIPPI, LLC, FOR AUTHORITY TO AMEND THE TOTAL DEPTH OF ITS GAS STORAGE CAVERN WELL NO. 4A IN THE BYRD SALT DOME, SOUTHERN PINES GAS STORAGE FIELD, GREENE COUNTY, MISSISSIPPI

FILED FOR RECORD

MAY 25 2011

STATE OIL AND GAS BOARD  
LISA IVSHIN, SUPERVISOR

DOCKET NO. 53-2011-D

ORDER NO. 121-2011

FINAL ORDER

THIS CAUSE came to be heard on the Petition of SG Resources, Mississippi, LLC ("Petitioner") requesting authority to amend the total depth of its Gas Storage Cavern Well No. 4A in the Byrd Salt Dome, Southern Pines Gas Storage Field, Greene County, Mississippi; and

WHEREAS, the Board finds that due, proper, and legal notice of the meeting of the Board for the purpose of considering and taking action with respect to such matter was given in the manner required by the rules and regulations of the Board; that due, legal, and sufficient proofs of publication and service are on file with the Board; and that the Board has full jurisdiction of the subject matter to hear and determine same; and

WHEREAS, a public hearing was held by said Board at the Robert C. Khayat Law Center, Court Room No. 1, 2<sup>nd</sup> Floor, 481 Coliseum Drive, University, Mississippi 38677, commencing on April 20, 2011, at 10:00 o'clock a.m. at which hearing all persons present who desired to be heard on said matter were heard and all testimony and the evidence were duly considered by those present at said meeting; and

WHEREAS, the Board has fully considered said matter and the evidence and recommendations made in said hearing and finds as follows:

1.

In Docket No. 50-2002-876, the Board created the Southern Pines Gas Storage Field, Greene County, Mississippi for the injection, storage, and withdrawal of natural

gas and for the adoption of Special Field Rules for the Southern Pines Gas Storage Field (“the Field”) and provide for the operation of the Field in Greene County, Mississippi.

2.

Petitioner drilled and completed the Gas Storage Cavern No. 1, Gas Storage Cavern No. 2, and Gas Storage Cavern No. 3. The Field is located on the Byrd Salt Dome in Greene County, Mississippi. Similar applications were approved by the Federal Energy Regulatory Commission.

3.

In Docket No. 427-2010-D, the Board granted a permit to drill, complete, and use the Cavern Well No. 4A. Petitioner is currently drilling the Cavern No. 4A and would like to deepen the permit from 5,950 feet to 6,100 feet. Petitioner has filed a Form 2 for a permit to drill and a Form 2A to create, operate, and maintain the SG Resources Mississippi, LLC - Gas Storage Cavern No. 4A in the Field on lands owned by Petitioner in the NW<sup>1</sup>/<sub>4</sub> of the SW<sup>1</sup>/<sub>4</sub> of Section 16, Township 3 North, Range 7 West, Greene County, Mississippi.

4.

Petitioner is the owner of the Field and constructed ancillary facilities in the Byrd Salt Dome which will be used for injection, withdrawal and storage of natural gas. Petitioner desires to drill the fourth cavern solution well (Gas Storage Cavern Well No. 4A) to a total depth of 6,100 feet at a location 243 feet from the West line and 2,660 feet from the North line of Section 16, Township 3 North, Range 7 West, Greene County, Mississippi, to use for injection and storage of natural gas.

5.

Petitioner has, or will, drill, complete, and operate the Well in conformance with Statewide Rule 64 as presently in force. The drilling, completion and operation program will be as follows:

- (a) A 60 inch conductor casing was driven to 103 feet;
- (b) A 54 inch hole was drilled to 1,033 feet and 48 inch casing was set at 1,016 feet and cemented to surface;

- (c) A 42 inch hole was drilled to 1,550 feet and 36 inch casing set at 1,538 feet and cemented to surface;
- (d) A 30 inch hole was drilled to 2,380 feet and 26 inch casing was set at 2,371 feet and cemented to surface;
- (e) A 22 inch hole was drilled to 3,910 feet and underreamed to 26 inches from a depth of 2,371 feet. 20 inch casing was set to a total depth of 3,900 feet and cemented to surface.
- (f) A 17½ inch hole was drilled to a total depth of 6,100 feet;
- (g) A 16 inch hanging string will be suspended to a depth of approximately 4,765 feet;
- (h) A 10 ¾ leaching string will be suspended to approximately 6,025 feet;
- (i) By injecting raw water under pressure into the Well in such a manner as to wash out a cavity or cavern in such said well, from a depth of 4,200 feet to 6,100 feet, said cavern or cavity to be approximately 300 feet in diameter;
- (j) After said cavity or cavern has been washed out and the saltwater brine produced by the washing process has been removed from the cavity or cavern and injected into Petitioner's saltwater disposal wells, Petitioner will then perform a mechanical integrity test in a manner acceptable to the Board prior to use of said cavern or cavity to inject, store and remove natural gas therein and therefrom.

All measurements are made at ground level.

6.

The above program is in total conformity with Rule 64. When the Well is drilled and completed under the dimensions set forth above, all freshwater and/or hydrocarbon bearing sands will be protected from any contamination whatsoever, and that the bottom of the casing will be landed in the Byrd Salt Dome. No freshwater or hydrocarbon sands will be contaminated or treated upon in any manner. Freshwater source wells and brine disposal wells will be permitted and operated by Petitioner.

7.

Petitioner has performed an investigation regarding the deepening of this gas storage cavern well at the proposed site. The data obtained during the feasibility study has been considered in the design of the solution mine underground storage system. The deepening of the cavern well proposed in this docket can be conducted in a reasonable, prudent, and systematic manner that stresses physical environmental safety and the

prevent of waste. The Well will be operated by Petitioner for the storage of natural gas injected under pressure and removed by gas expansion, requiring the use of brine for the cycling of product.

8.

Because the rig was on location and the well was being deepened by only 150 feet, the Board telephonically granted Petitioner the right to commence drilling operations of this Well on February 28, 2011.

9.

Petitioner will operate the cavern, the freshwater source wells, and the saltwater disposal wells through a closed system.


**IT IS THEREFORE, FINALLY ORDERED AND ADJUDGED** by the State Oil and Gas Board of Mississippi that Petitioner is hereby granted final authority to amend the total depth of its Gas Storage Cavern Well No. 4A in the Byrd Salt Dome, Southern Pines Gas Storage Field, Greene County, Mississippi to a total depth of 6,100 feet.

**IT IS FURTHER ORDERED AND ADJUDGED** that this Order shall be in force and effect from and after April 20, 2011.

**IT IS FURTHER ORDERED AND ADJUDGED** that Petitioner shall acquire any other permits, if any, required by any other permitting authority.

**ORDERED AND ADJUDGED** this 25<sup>th</sup> day of may, 2011.

**STATE OIL AND GAS BOARD OF  
MISSISSIPPI**

  
CHAIRMAN

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