STATE OF SOUTH DAKOTA
SECRETARY OF THE
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

IN THE MATTER OF THE APPLICATION OF LUFF EXPLORATION COMPANY, DENVER, COLORADO, FOR APPROVAL OF A MAJOR MODIFICATION OF ITS PERMIT TO INJECT FOR DISPOSAL OF PRODUCED WATER INTO THE INYAN KARA FORMATION, AN EXEMPT AQUIFER BY BOARD ORDER NO. 12-86, AT A DEPTH OF 4,700 TO 4,860 FEET BELOW LAND SURFACE THROUGH THE EXISTING M-21 STEARNS WELL LOCATED IN SW ¼ SW ¼ SECTION 21, TOWNSHIP 22 NORTH, RANGE 4 EAST, IN THE NORTH BUFFALO RED RIVER UNIT, HARDING COUNTY, SOUTH DAKOTA.	NOTICE OF RECOMMENDATION FOR A MAJOR MODIFICATION OF PERMIT TO INJECT CASE NO. 12-2010

Notice is hereby given to the public and to all interested persons that pursuant to South Dakota Codified Laws (SDCL) Chapter 1-26 and Chapter 45-9 and further pursuant to the Administrative Rules of South Dakota (ARSD) Article 74:10, the above described application has been filed with the Department of Environment and Natural Resources.

The M-21 Stearns well was originally completed as an oil production well with 2,058 feet of 8 5/8-inch steel surface casing cemented to the surface and 9,150 feet of 5 ½-inch steel production casing cemented from 4,100 feet to the bottom of the hole at 9,152 feet below land surface to protect drinking water. The well was converted to an injection well for produced water disposal in 1986. The injection zone encompasses a one mile radius around the M-21 Stearns well at depths from 4,700 to 4,860 feet below land surface in the Inyan Kara Formation. This zone was approved as an exempt aquifer by Board of Minerals and Environment Order No. 12-86. No water wells are located within the one-half mile radius area of review. Since 2001, the well has been used as a source of water for enhanced oil recovery, and an unsuccessful attempt was made to convert it to a horizontal oil production well. Luff now proposes to reenter the well and convert it back to a produced water disposal well.

The major modification request includes extending the life of the permit another 15 years, increasing the maximum permitted injection pressure from 500 to 1,200 pounds per square inch, increasing the maximum permitted injection volume from 1,000 to 1,500 barrels of water per day, and re-perforating previously cemented injection/water production perforations.

The Secretary recommends approval of the major modification request with the following conditions:

1) Injection operations authorized by the Secretary must be conducted in accordance with SDCL Chapter 45-9, ARSD Article 74:10, and any other applicable order or rule promulgated by the board;

2) The life of the permit shall not exceed 15 years;

3) The maximum surface injection pressure must not exceed 1,200 pounds per square inch during injection operations;

4) The maximum injection volume must not exceed 1,500 barrels of water per day during injection operations;

5) A mechanical integrity test must be successfully conducted prior to the commencement of injection activity. The well must pass the mechanical integrity test at 1,000 pounds per square inch surface pressure. The operator is required to notify the department a minimum of 48 hours prior to running a mechanical integrity test;

6) Once mechanical integrity is established, the well must be retested at least once every five years to ensure that mechanical integrity of the well is maintained, unless the department indicates differently;

7) In the event that an unsuccessful pressure test result occurs, the operator must cease operations immediately if it is deemed the injection may threaten any underground source of drinking water. If the failure does not threaten an underground source of drinking water, the operator must cease operations within 48 hours after receipt of the department secretary's notice, and take corrective action on the well as soon as feasible. Corrective action options include repairing the well so a successful test result can be obtained, plugging and abandoning the well, or any other action approved by the department.

Authority for the Secretary to approve this application is contained in ARSD 74:10:09 and 74:10:11.01. Unless a person files a petition requesting a hearing on the above application, pursuant to the provisions of ARSD 74:09:01 on or before July 13, 2010, the Secretary's recommendation will be considered final and the Secretary will approve the application in accordance with the recommendation.

The application and notice of recommendation are posted on the department's website at http://denr.sd.gov/des/og/oghome.aspx. For additional information regarding the application, please contact Fred V. Steece, Oil and Gas Supervisor, 2050 West Main Street, Suite #1, Rapid City, SD 57702, telephone 605-394-2229.

June 9, 2010

Steven M. Pirner
Secretary

Published twice at the total approximate cost of _____.

RECEIVED
JUN 07 2010
DEPT OF ENVIRONMENT & NATURAL RESOURCES - RAPID CITY

LUFF
EXPLORATION Co.

RECEIVED
MAY 05 2010
DEPT. OF ENVIRONMENT & NATURAL RESOURCES, GROUND WATER PROGRAM

May 4, 2010

Via Federal Express Overnight Package

Mr. Sheldon Hamann
South Dakota Department of
Environment and Natural Resources
523 East Capitol Avenue
Pierre, South Dakota 57501

RE: Request for Major Modification
Stearns M-21
North Buffalo Red River Unit
Buffalo Field
Harding County, South Dakota

Dear Mr. Hamann:

Luff Exploration Company has both a water supply permit and a Underground Injection Control (UIC) permit for the above captioned well. This well is currently employed as a water supply well, but Luff intends to return it to produced salt water disposal (SWD) service well. Luff also desires to increase the maximum daily injection rate to the following:

1,500 Barrels per day

By this letter, Luff is also requesting that this request be considered a major modification for Underground Injection Control (UIC) permit purposes.

For now, Luff wishes to leave the approved maximum surface injection pressure at the existing value of 500 psi. If a higher surface injection pressure is required, we will contact you at a future date.

We acknowledge that a mechanical integrity test will be required after coated tubing and a coated packer are run in the well. We will submit a Sundry Notice to the SD-DENR, Oil & Gas Program for this well work.

Please let me know if you have questions or comments.

Very Truly Yours,

LUFF EXPLORATION COMPANY

Richard D. George
Manager of Engineering

Cc Fred Steece, SD-DENR, Oil & Gas Program
John Morrison, Fleck Mather & Strutz

1580 LINCOLN STREET • SUITE 850 • DENVER, COLORADO • 80203 • 303.861.2468 • FAX 303.861.2481