General

Luff Exploration Company respectfully requests permission to inject water long-term into the EHSRRU J-30H, a medium-radius horizontal Red River “B” well. This well is within the East Harding Springs Red River Unit (EHSRRU) in the East Harding Springs Field, Harding County, South Dakota. This secondary recovery unit was approved, based on technical and economic merit, by the South Dakota Board of Minerals and Environment (SD-BME) in March 2003 (Oil & Gas Case Number 2-2003). The Bureau of Land Management also approved the unit.

The unit was expanded in May 2010 by the SD-BME (Oil & Gas Case Number 6-2010). The EHSRRU J-30H horizontal well is in the expansion area.

This application is submitted pursuant to SDCL Chapter 45-9, Section 45-9-13.

Tab sections, reflecting South Dakota application requirements (outlined in 74:10:09:02) organize this application.

The EHSRRU J-30H was drilled for the purpose of water injection, but has been producing for several months. Producing wells drilled for water injection purposes is standard procedure in secondary recovery projects operated by Luff Exploration Company. Converting this well to injection is the next logical step, and is consistent with the proposed Plan of Development presented at the May 2010 unit expansion hearing.

The requested maximum injection rate and maximum surface injection pressure values are consistent with approved values for the existing injection wells in the East Harding Springs Red River Unit.

Luff may request a higher surface injection pressure at a later date.

The requested duration of this application is 4,930,000 barrels of cumulative water injection. This is a conservative (high) estimate of cumulative injection for the life of the secondary recovery project.
Area of Review - EHSRRU J-30H
Sec. 30, T23N, R6E
Harding County, South Dakota

Legend

Wellbores
- PxA - Dry Hole
- POW
- PxA - Oil

Laterals
- WIW
- WDW
- WSW
- Water Well (never produced)

Roads
- RR B
- Hwy
- Paved
- Unpaved

Boundaries
- State Boundary
- 1/2 Mile Radius Buffer
- Townships
- Sections
- Quarters