

Jones, William V, EMNRD

Logged in 1/29/15
Denied 1/30/15

From: Jones, William V, EMNRD
Sent: Friday, January 30, 2015 10:01 AM
To: 'Ben Stone'
Cc: Sanchez, Daniel J., EMNRD; Goetze, Phillip, EMNRD; 'efernand@blm.gov'; McMillan, Michael, EMNRD
Subject: Endurance Resources, LLC: Pressure Increase Request for the Hinkle B Federal SWD Well No. 19 30-015-24527

(682 psi currently)

Hello Mr. Stone,

Yesterday we received an application from you on behalf of the above named company to increase the allowable surface injection pressure on the above named Pressure Maintenance well.

This well was permitted for injection as the first injection well within the Hinkle B Federal Pressure Maintenance Project which was permitted by the Division on August 13, 2012, in Case No. 14799 with Order R-13615.

There was not a wellbore diagram included with this application showing placement of tubing and packer and sizes of each – please include this in future IPI requests.

There was also no mention of the Case Number or Order number – or a summary of this project's injection-withdrawal to date.

The application we just received showed both Surface and Bottom Hole pressures while pumping at a final rate of over 4000 barrels of water per day.

Your cover letter asks for permission to inject at a pressure which could be equivalent to 4000 barrels per day – while this lease only makes 320 barrels per day.

The straight line behavior of the bottom hole gauge indicates there are only friction impediments to increasing injection rates – or the gauge is incorrect.

If we had the size and type of tubing, one could calculate a bottom hole pressure to compare with the measured bottom hole pressures.

The surface pressure gauge does show a break in slope around 1350 psi or 500 barrels of water per day – which is equivalent without safety factor to 0.4 psi per foot gradient at a top perf depth of 3410 feet.

And this fracture gradient or less is sometimes seen in depleted reservoirs awaiting fill up – but these reservoirs are vulnerable to being fractured and losing sweep efficiency at this stage of depletion.

So it is best to remain below this in this particular well – and in fact keep the injection volumes as they are currently.

At first glance, it seems that Endurance should stand up at another Examiner hearing and convert this project from a pressure maintenance project to a waterflood project – and propose and implement injection patterns to achieve fill up and to sweep and recover some secondary oil.

This federal lease has numerous production wells making 1 barrel of oil and seems to be at the economic limit pending addition of more injection wells arranged in patterns designed to recover secondary oil.

The total lease production for November 2014 was reported to be 320 barrels of water per day.

The total disposal volume reported into this well for November 2014 was reported to be 460 barrels of water per day.

Therefore there must be off lease waters being injected into this one and only injector within this pressure maintenance project.

And, based on these reported volumes, there is no need for additional injection pressure limit in this well – the well can easily handle all water being produced on this lease.

This administrative application is being denied.

I am copying Ed Fernandez with the BLM as an engineer working for the Lessor of this lease.
Please share this with Randall Harris and/or the engineer in charge of this project.

Regards,

Will Jones

William V. Jones PE

EMNRD/OCD District IV Supervisor

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Oil & Gas Accounting - Regulation - Processing Assistance - Oil Field Technical Assistance

January 23 2015

New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Attn: Mr. Will Jones, Engineering Bureau

R-13615
Case 14799
UNIT Leader D
(460) 13764 BWPD in MV-14
(320) 9564 BWPD Prod From Lease

Re: Request of Endurance Resources, LLC for an injection pressure increase on its
Hinkle 'B' Federal Well No.19 SWD, API No.30-015-24527, located in Section 34,
Township 18 South, Range 31 East, NMPM, Eddy County, New Mexico.

Dear Mr. Jones,

Endurance Resources, LLC recently conducted a step rate test on the subject well. The well is permitted by R-13615 and is currently injecting at the original permitted pressure of 682 psi (2 psi/ft.).

Cardinal Surveys Company conducted the step rate test on December 11, 2014. The test progressed to a maximum surface injection pressure of 1750 psi and indicated that formation parting pressure was never obtained. *(Please note that the step rate test title shows the operator as Tritex Energy which was the previous operator of the well. Tritex Resources and Endurance maintain an agreement for certain activities related to various aspects of corporate and operational management. OCD records correctly show Endurance as the operator of record.)*

Endurance Resources seeks to optimize efficiency, both economically and operationally, of its operations and approval of an increase in surface injection pressure on its Hinkle 'B' SWD well would be in line with that goal. Based on the results of the step rate test, we hereby request that the well be allowed to inject at a surface pressure of 1700 psi, keeping the well set 50 psi below what the data indicates and thereby preventing any damage to the formation.

I respectfully request that the approval of this injection pressure increase proceed swiftly and if you require additional information or have any questions, please do not hesitate to call or email me.

Best regards,

Ben Stone, Partner
SOS Consulting, LLC
Agent for Endurance Resources, LLC



Tritex Energy Hinkle B. Fed # 19
Step Rate Test 12-11-2014

