

**KENT R. MOORE**

102 52nd Ave.  
Greeley, Co. 80634  
Home (970) 351-8877  
Fax (970) 378-8623  
KRMTaurus@MSN.com

## **St. James Energy Operating Inc.**

### **Larson Farms 4-24 Frack Report**

**03-29-2012**

Rig up Superior Well Service. Trip in and run Cement bond Logs. Cement was 452' from surface. Anytime Testing pressure tested to 5700 psi. Held for 15 min. Good Test.

T D was 7445', 28' above plug back T D of 7473'. Usually normal.

Put on Frack valve with pipe dope only, no tape.

Trip in and Perforated Codell 7316'-7328', 12', 4 shots per ft, 48 total. Used 3 1/8" slick gun with 19 gram 311L charges with a .41" Entry hole, 21.12" of Penetration and 60 degree phasing.

**03-31-2012**

Rig up Baker Hughes. Swedge leaked on top of frack valve and had to take off and clean. I taped it myself and put on my own pipe dope and we put it back on and it held fine. It leaked in the same place on the last job also. Started pumping at 9:53 am.

Opening pressure was 34 psi. Break was 3917 psi @ 4.4 bpm. Pump casing capacity + 10 bbls and ISDP = 3061 psi. 5 min = 2446 psi. (615 psi drop). Frack at 27 bpm @ 3700 psi.

After frack ISDP = 3519psi, 5 min ISIP = 3384.

Rig up Superior Well Service and trip in and set Cast Iron Flow Thru Plug from Superior at 7250', 84' below bottom of Niobrara and 66' above top of Codell.

Pull up and Perforate Niobrara B Bench from 7150'-7166', 16', 4 shots per ft, 64 total. Pull up and Perforate Niobrara A Bench from 7042'-7050', 8', 4 shots per ft, 32 total. 96 Total Shots. Both were Salt and Pepper. Used a 3 1/8" Slick Gun. 2 shots per ft were 20 Gram Big Hole Charges with a .73" Entry Hole and 6.73" of Penetration and 120 Degree Phasing and 2 Shots per ft were 19 Gram Deep Hole Charges with a .41" Entry Hole and 21.12" of Penetration with 120 Degree Phasing for a total of 60 Degree Phasing.

Frack Niobrara. Opening pressure was 3315 psi. Break was 4692 psi @ 4.2 bpm. Pump 266 bbls and ISDP = 3649 psi. Frack at 55 bpm at 4900 psi.

After Frack ISDP = 3626 psi. 5 min ISIP = 3370.

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