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

### **Larson Farms 6-24**

### **Frack Report**

**04/03/2012**

Rig up Superior Well Service. Trip in and run Cement bond Logs. Cement was 290' from surface. Anytime Testing pressure tested to 5700 psi. Held for 15 min. Good Test. Superiors T D was 7515', 28' above plug back T D of 7543'. Usually normal. Put on Frack valve with pipe dope only, no tape.

**04/09/2012**

Superior Well Service. Trip in and Perforated Codell 7400.5 - 7412.5, 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.

**04/10/2012**

Rig up Baker Hughes. Started pumping at 7:56 am. Opening pressure was 161 psi. Break was 4100' psi @ 7.6 bpm. Pump casing capacity + 10 bbls = 127 bbls and ISDP = 2983 psi. 5 min = 2538 psi. (445 psi drop). Frack at 18 bpm @ 4000 psi. After frack ISDP = 3393psi, 5 min ISIP = 3296 psi.

Rig up Superior Well Service and trip in and set Cast Iron Flow Thru Plug from Superior at 7340', 106' below bottom of Niobrara and 60' above top of Codell.

Pull up and Perforate Niobrara B Bench from 7218'-7234', 16', 4 shots per ft, 64 total.

Pull up and Perforate Niobrara A Bench from 7110'-7118', 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 2686 psi at 1:18 pm. Break was 3371 psi @ 8.8 bpm. ISDP = 3251 psi. Frack at 55 bpm at 4500psi. Start flush with a 1 lb drop in sand on the inline and clay flow for the first 10 bbls. Over flush by 1 bbl.

After Frack ISDP = 3243 psi. 5 min ISIP = 3114psi.

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